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

(6/6)

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 3)

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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PRP-17	Profile of Line:PKG3-F1 from Sta 0+000 to 0+1+015.48
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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
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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

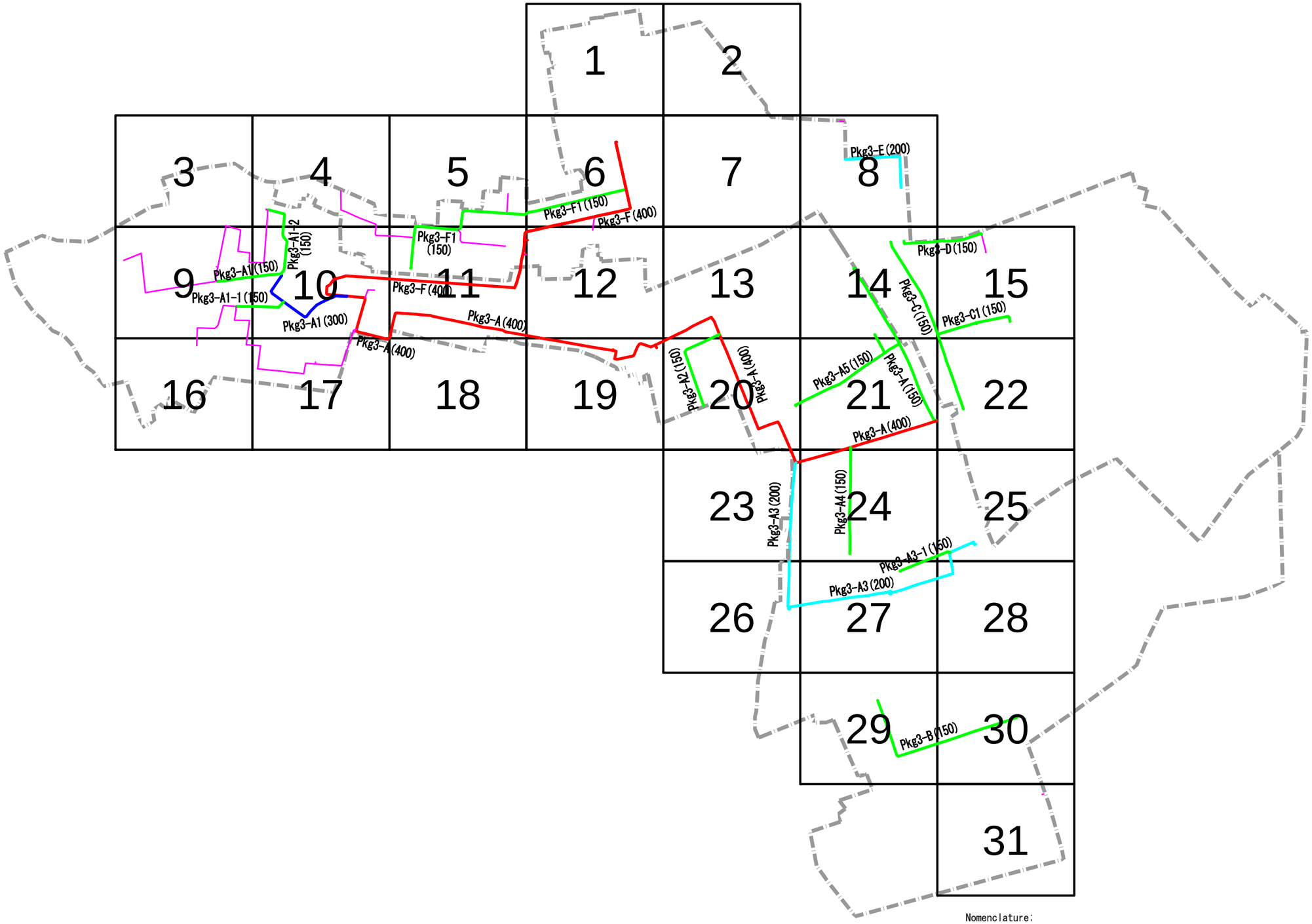
Project Title

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

List of Drawings

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



Nomenclature:
Pkg3-B(150) : Package number - Pipeline name (Diameter)

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.

N

KEY PLAN

500m 0 250m 500m

SCALE 1:10,000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title
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Drawing Title
Project Layout Key Map
(Pumping System) PACKAGE3

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

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 juridiction 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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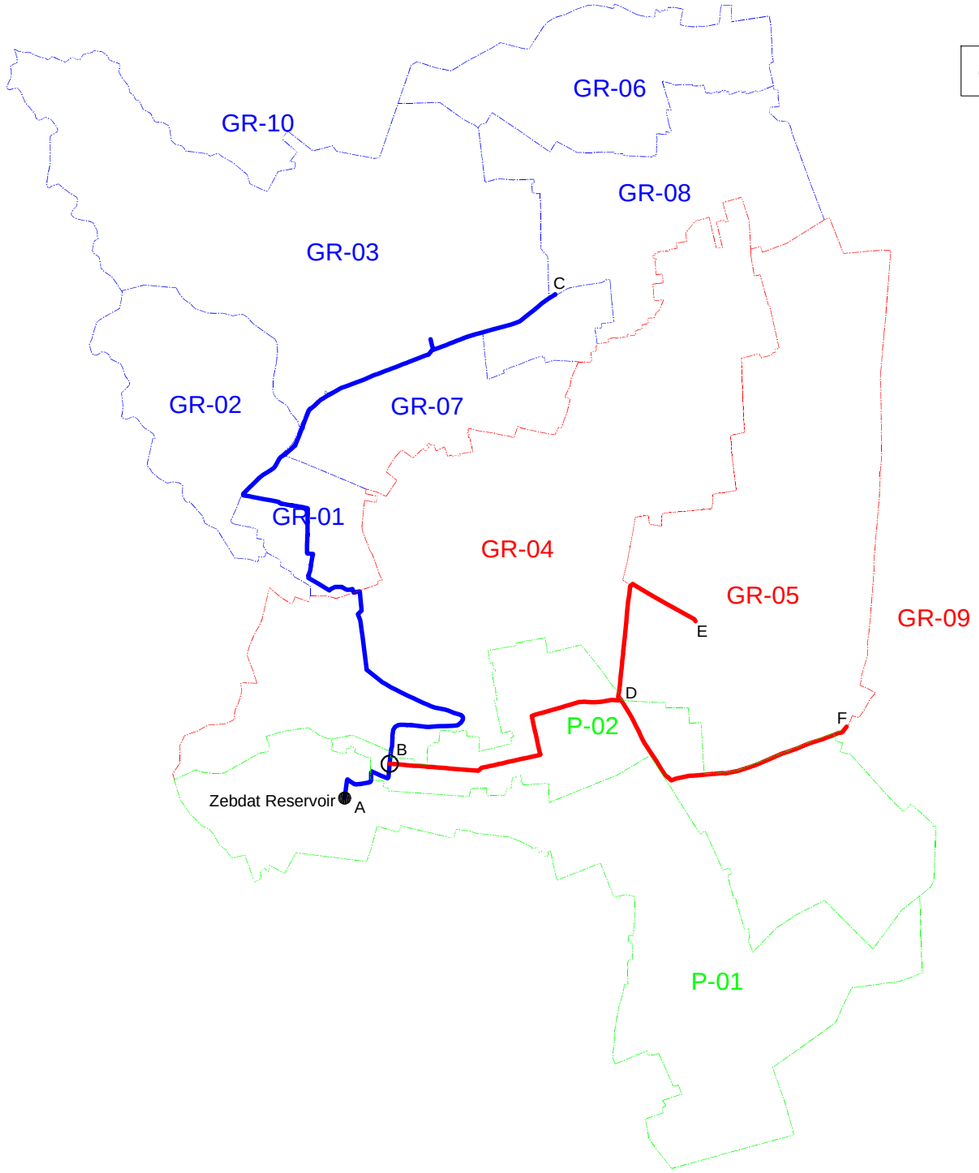
Drawing Title
General Notes

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

REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title
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Drawing Title
General Notes

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

Consultant

TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title

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Drawing Title

General Notes

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

Point	Easting	Northing	Elevation	Name
132	230307.36	217396.11	569.5	M105
133	230461.48	217394.48	570.66	M106
134	230926.83	216652.16	583.79	M107
135	231038.22	216472.52	586.07	M108
136	231189.08	216186.72	591.84	M109
137	231324.58	215980.11	593.39	M110
138	231362.78	215918.18	593.54	M111
139	231456.82	215764.07	593.79	M112
140	231616.29	215512.63	595.75	M113
141	231807	215118.41	599.46	M114
142	228280.67	219089.59	510.2	M116
143	228331.28	219148.07	512.38	M117
144	228558.15	219305.71	507.39	M118
145	228689.3	219327.99	507.95	M119
146	228923.98	219432.18	505.6	M120
147	229124.66	219511.3	503.81	M121
148	229333.01	219596.95	501.05	M122
149	229393.29	219617.83	500.91	M123
150	229349.17	219638.19	499.56	M124
151	229605.07	219694.02	499.68	M125
152	229853.06	219769.41	498.81	M126
153	230084.88	219828.42	497.93	M127
154	230355.81	220062.7	501.89	M128
155	230340.4	220160.27	498.2	M129
156	229371.99	219330.78	510.93	M130
157	229268.57	219306.21	511.31	M131
158	229177.44	219211.67	515.16	M132
159	228889.79	219114.09	518.14	M133
160	228925.47	219103.1	518.79	M134
161	229048.02	218961.57	526.77	M135
162	228715.25	218878.33	531.33	M136
163	228558.19	218973.29	522.16	M137
164	229096.16	218287.17	532.65	M138
165	229198.88	218379.88	546.23	M139
166	229288.22	218479.57	553.03	M140
167	229117.86	218610.63	550.66	M141
168	229014.28	218672.5	547.9	M142
169	229309.53	219001.37	526.04	M143
170	229428.68	219034.33	524.65	M144
171	229445.16	218876.91	534.29	M145
172	229486.26	219162.92	518.3	M146
173	229505.06	219032.06	525.16	M147
174	229555.05	218905.18	533.31	M148
175	229630.69	218937.52	532.19	M149
176	229583.56	219202.84	517.07	M150
177	229809.45	219291.85	514.97	M151
178	229926.59	219329.19	513.82	M152
179	230133.14	219409.77	512.91	M153
180	230111.75	219267.04	519.13	M154

Point	Easting	Northing	Elevation	Name
181	230198.67	219233.41	521.51	M155
182	230504.55	219177.04	532.7	M156
183	230452.42	219031.06	537.41	M157
184	230156.9	219097.19	527.35	M158
185	230874.99	219645.51	543.53	M159
186	230705.23	219495.1	540.17	M160
187	230581.49	219377.5	538.46	M161
188	230542.29	219165.47	538.3	M162
189	230501.11	218894.03	547.75	M163
190	230360.05	218713.88	552.38	M164
191	230281.67	218615.7	558.05	M165
192	230234.08	218561.81	561.11	M166
193	229975.7	217996.44	553.76	M167
194	229845.27	217984.45	549.95	M168
195	229715.99	218016.62	546.1	M169
196	229471.82	218120.55	540.31	M170
197	229154.13	218174.29	530.69	M171
198	228686.42	219528.57	501.08	M172
199	228872.72	219560.97	501.28	M173
200	228662.15	219640.83	498.47	M174
201	228458.24	219726.36	494.26	M175
202	228428.34	219628.14	495.29	M176
203	228563.63	219977.78	494.77	M177
204	228601.76	220237.29	488.07	M178
205	228278.29	220309.19	495.31	M179
206	227826.77	220456.79	511.61	M180
207	227645.08	220511.81	513.56	M181
208	227561.27	220319.09	519.86	M182
209	227378.15	220521.47	509.51	M183
210	227295.98	220619.12	503.1	M184
211	227092.32	220824.41	490.7	M185
212	227036.86	221030.45	484.43	M186
213	226830.6	221115.04	477.17	M187
214	226670.38	221282.77	467.64	M188
215	226481.08	221520.97	458.57	M189
216	226615.9	221365.66	464.37	M190
217	228117.13	220136.98	507.09	M191
218	228019.61	220173.16	509.65	M192
219	228866.68	220218.58	483.84	M193
220	229177.01	220204.22	482.22	M194
221	229216.11	220237.44	481.64	M195
222	229165.86	220480.99	475.56	M196
223	228959.74	220706.54	476.94	M197
224	228826.95	220926.09	483.64	M198
225	228698.01	221071.41	484.75	M199
226	228417.04	221241.47	487.19	M200
227	228131.95	221472.61	484.74	M201
228	230883.4	220235.96	527.74	M202
229	230964.94	220266.5	534.33	M203
230	230974.64	220097.72	535.62	M204

Point	Easting	Northing	Elevation	Name
231	231005.21	219854.32	531.97	M205
232	230884.6	220411.57	540.06	M206
233	230882.88	220610.04	554.68	M207
234	231296.6	220362.12	548.62	M208
235	231471.11	220362.35	547.6	M209
236	231744.02	220360.88	543.72	M210
237	231878.62	220402.89	541.57	M211
238	232498.51	220463.11	534.79	M212
239	232571.82	220149.19	537.17	M213
240	232625.38	219862.82	540.97	M214
241	230931.78	218272.42	564.55	M215
242	231197.17	218296.5	565.41	M216
243	231319.94	218310.03	566.11	M217
244	231263.66	218346.44	565.89	M218
245	231241.29	218566.76	563.43	M219
246	231467.65	218326.66	564.54	M220
247	231726.28	218366.7	560.98	M221
248	232326.36	218521.66	558.08	M222
249	232308.02	218698.03	555.44	M223
250	232395.08	219095.27	553.12	M224
251	232645.98	219209.39	550.26	M225
252	232686.42	218370.81	561.81	M226
253	232691.59	218279.95	561.85	M227
254	231720.68	218265.29	560.66	M228
255	231503.92	218235.22	563.14	M229
256	231334.48	218220.42	566.28	M230
257	231289.27	217967.2	567.93	M231
258	231259.49	217715	567.48	M232
259	231224.82	217812.95	569.29	M233
260	231476.19	217387.6	564.36	M234
261	231242.38	217492.37	566.25	M235
262	231042.32	217611.81	569.93	M236
263	230754.09	217797.05	567.85	M237
264	230614.95	217863.99	566.69	M238
265	230471.43	217954.6	564.77	M239
266	230082.45	218027.11	557	M240
267	231006.99	217452.63	571.26	M241
268	230982.23	217146.13	575.13	M242
269	230780.93	216643.69	585.4	M243
270	230601.29	216641.13	587.81	M244
271	230187.05	216516.63	593.31	M245
272	230229.14	216404.24	596.21	M246
273	231510.29	213722.11	618.79	M247
274	231589.68	213446.91	630.46	M248
275	231866.37	213532.05	617.69	M249
276	227201.55	219505.65	507.41	M250
277	227018.72	219540.33	498.29	M251

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

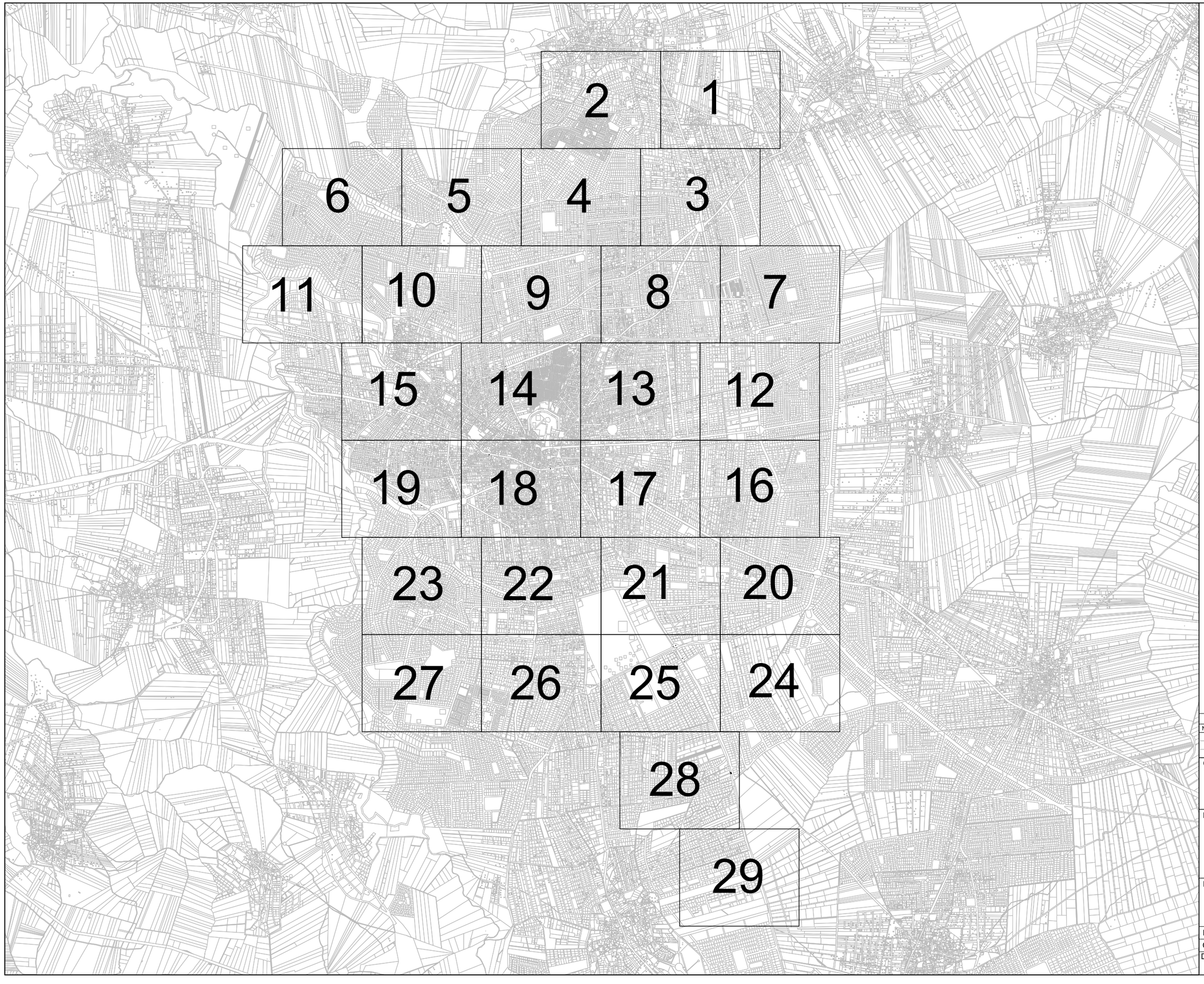
Project Title

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

General Notes

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. GN-04	Scale		Size A1



N

1,000m 0 500m 1,000m

SCALE 1:20,000

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	
Checked By		Date	Mar. 2017

Drawing No.	Scale	Size
SU-00	1/20,000	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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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

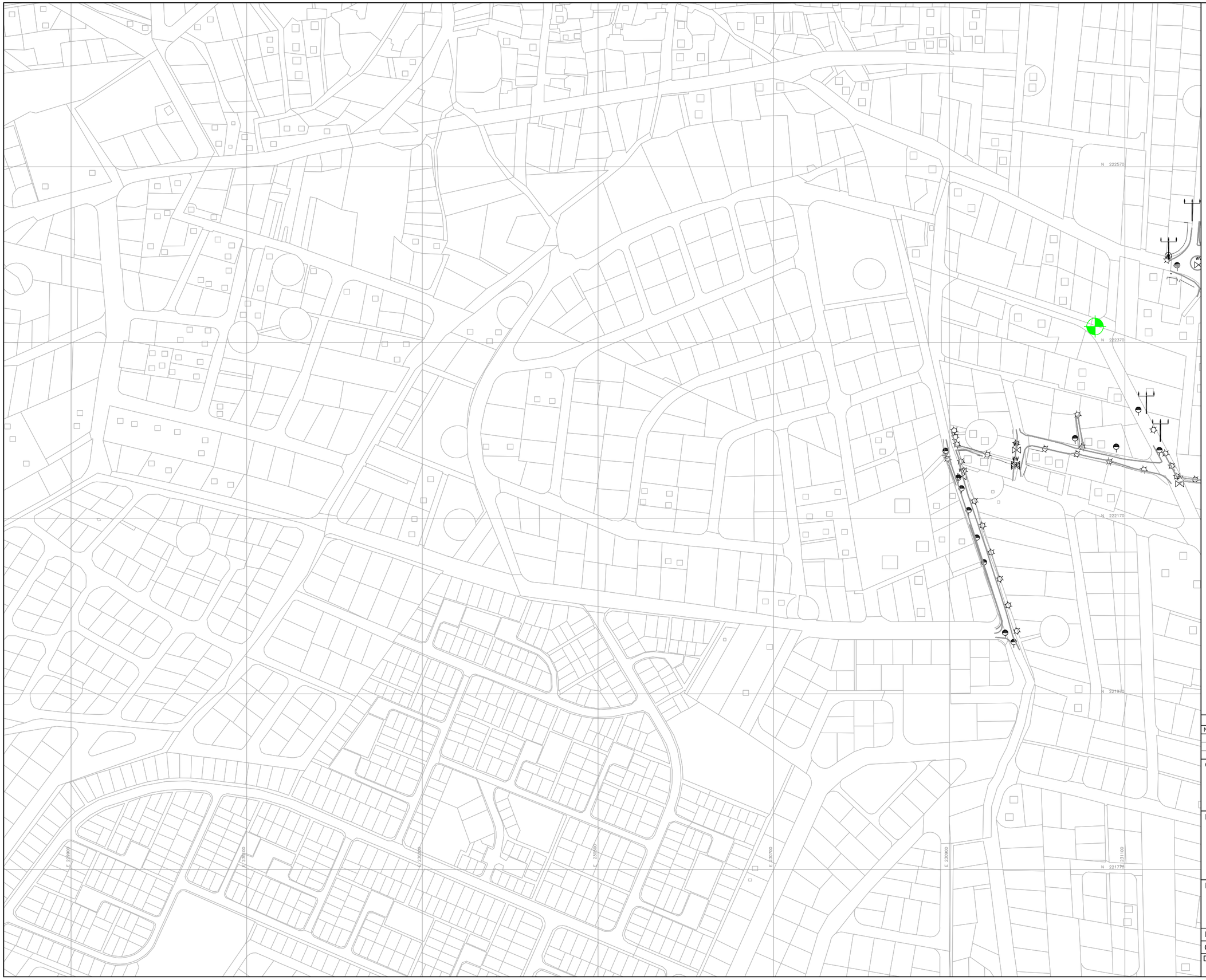
Project Title

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 (01of 29)

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



Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

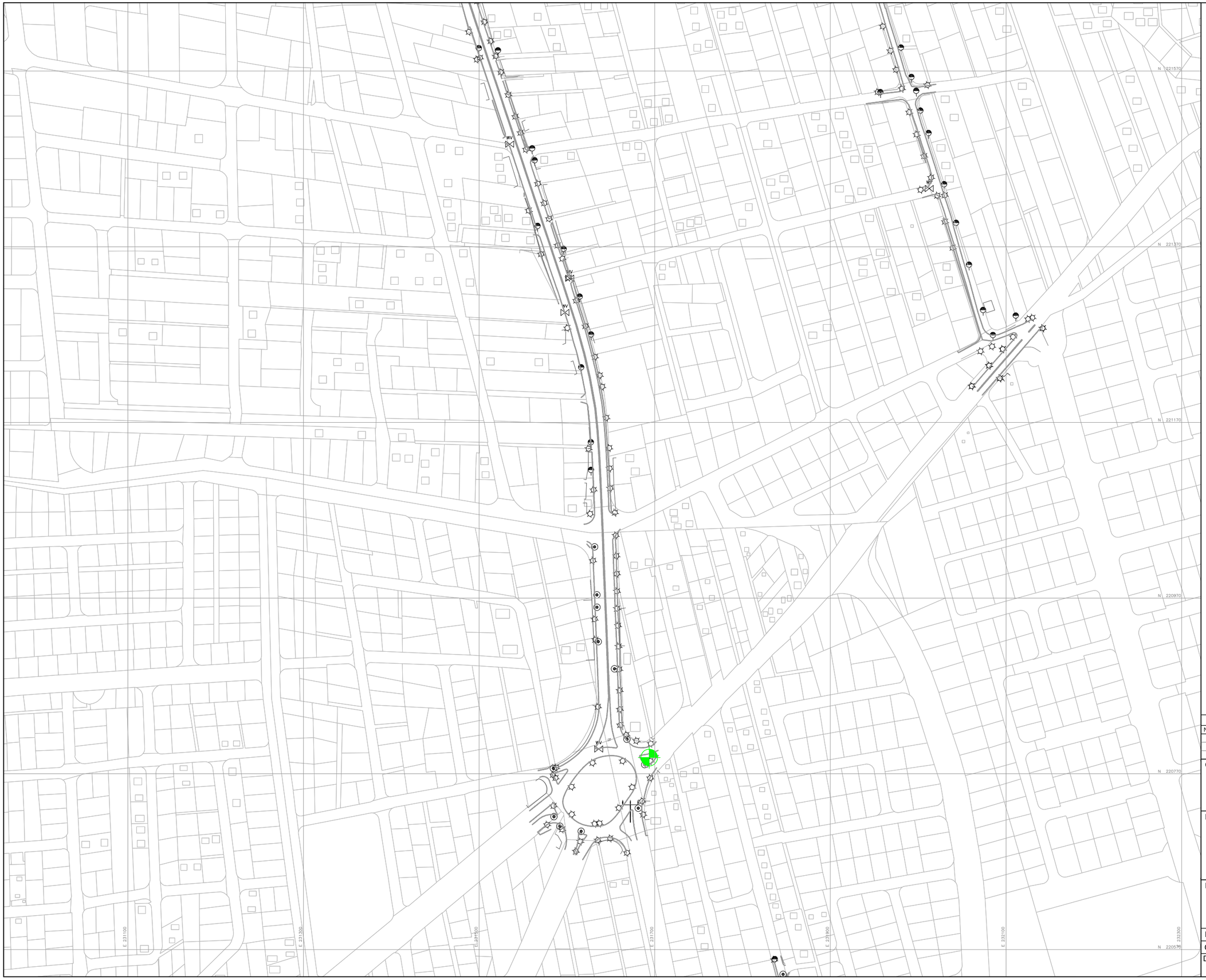
Project Title

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 (02 of 29)

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

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (03 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
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
- WV — EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST

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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (04 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-04	Scale 1/2000		Size A1

M200

M199

IR71

M198

M197

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
- WV EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST

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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (05 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-05	Scale 1/2000		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
- WV EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST

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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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. SU-06	Scale 1/2000		Size A1

M211

M212

M213

M214

N 220370

N 220170

N 219970

N 219770

N 219570

E 231900

E 232100

E 232300

E 232500

E 232700

E 232900

E 233100

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
- WV EXISTING WATER VALVE
- EXISTING MANHOLE
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- HIGH ELECTRIC POST

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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (07 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
SU-07	1/2000	A1

M206
M208
M209
M210
M203
M202
M204
M205
M159
M160
N 220370
N 220170
N 219970
N 219770
N 219570
E 230700
E 230900
E 231100
E 231300
E 231500
E 231700

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
- WV EXISTING WATER VALVE
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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (08 of 29)

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

M196
M195
M194
M129
M128
IR91
M127
M126
M125
M124
M123
M122

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
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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (09 of 29)

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

KEY PLAN

SCALE 1:2000

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 (10 of 29)

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

M183

M181

M182

M251

M250

N 220370

N 220170

N 219970

N 219770

N 219570

E 226700

E 226900

E 227100

E 227300

E 227500

E 227700

Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (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

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						29				

N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (12 of 29)

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

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

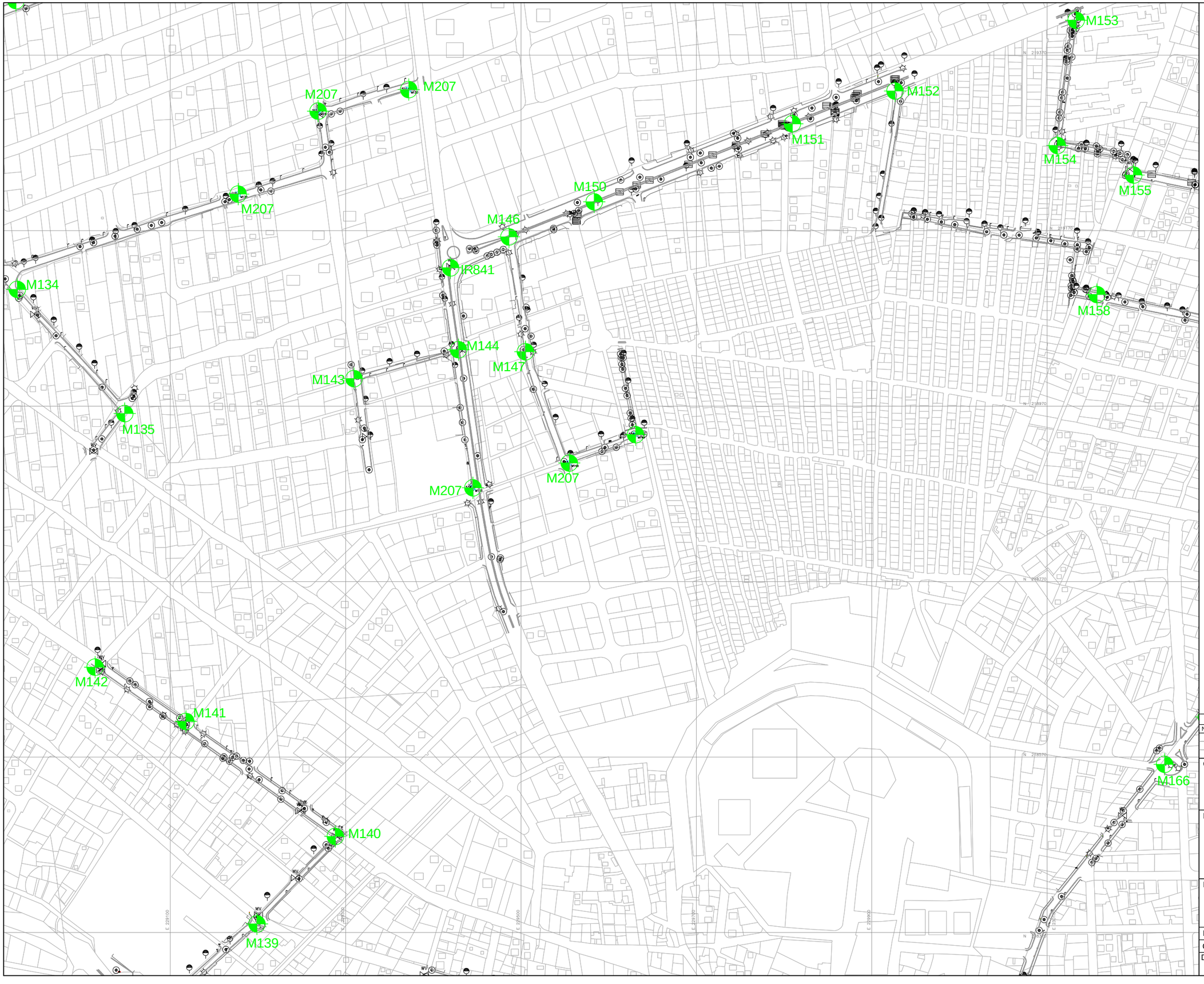
Project Title

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 (13 of 29)

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

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

Project Title

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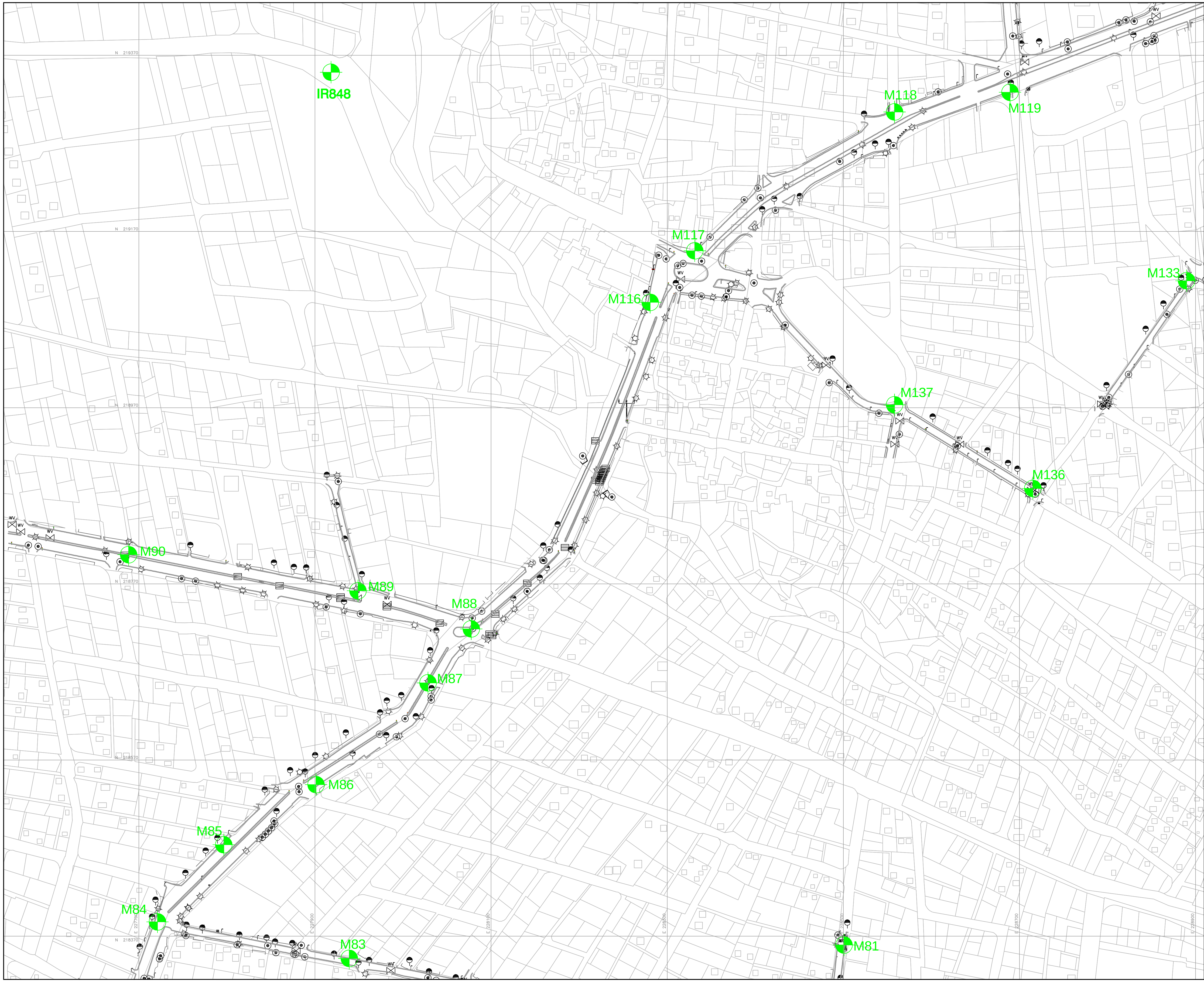
Drawing Title

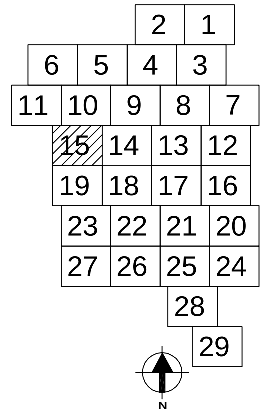
Survey Works
Sheet (14 of 29)

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



KEY PLAN

SCALE 1:2000 (40m 0 20m 40m)

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 (15 of 29)

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

40m 0 20m 40m

SCALE 1:2000

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 (16 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-16	Scale 1/2000		Size A1

M215 M216 M217 M230 M229 M231 M239 M238 M237 M233 M232 M236 M241 M235 M234 M105 M106

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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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (17 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-17	Scale 1/2000	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
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- HIGH ELECTRIC POST

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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (18 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-18	Scale 1/2000		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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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

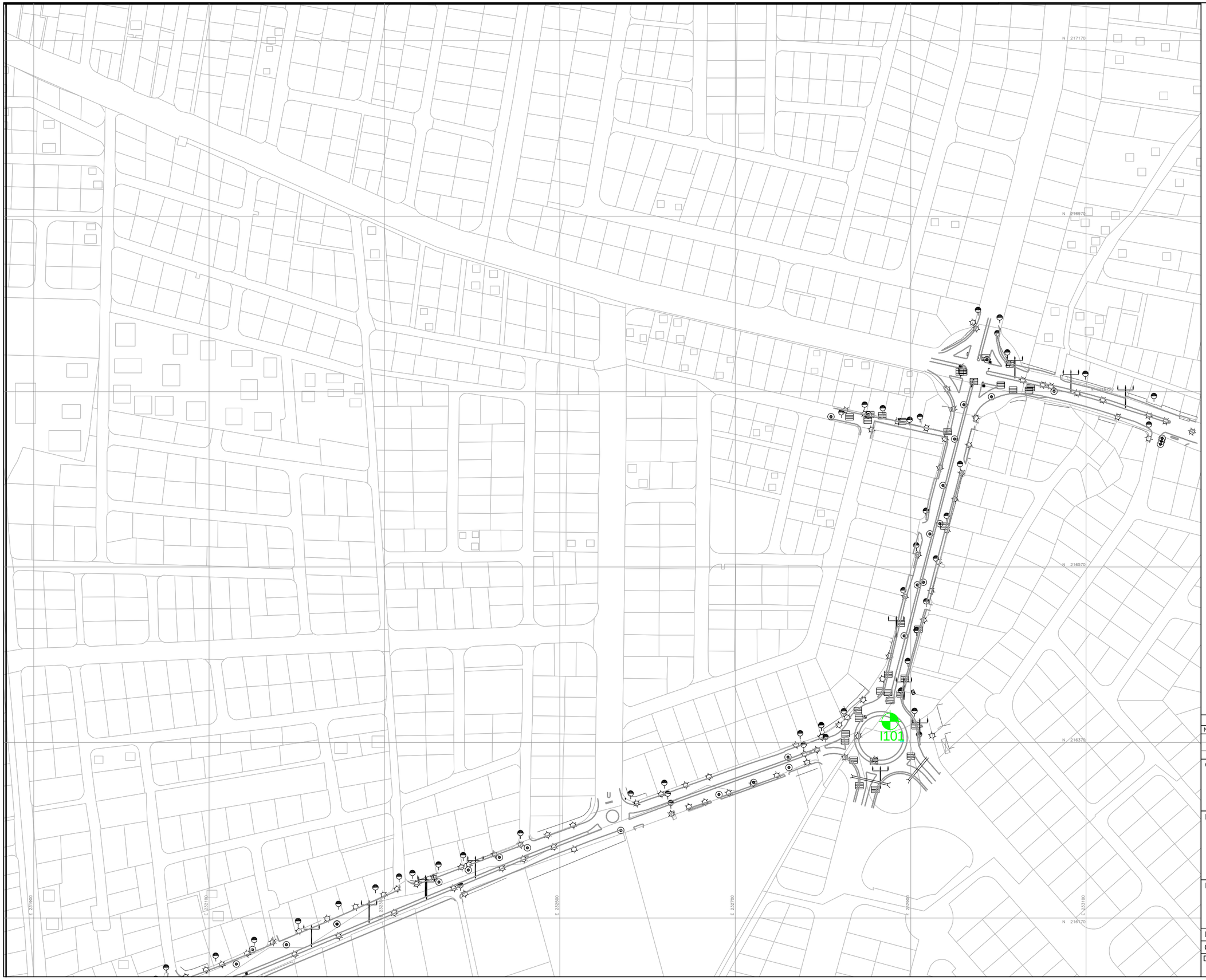
Project Title

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 (19 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-19	Scale 1/2000		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
- WV EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST

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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (20 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-20	Scale 1/2000		Size A1

M242
M244
M243
M107
M108
M109
A7
A5
N 217170
N 216970
N 216770
N 216570
N 216370
N 216170
E 230700
E 230900
E 231100
E 231300
E 231500
E 231700

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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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (21 of 29)

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

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

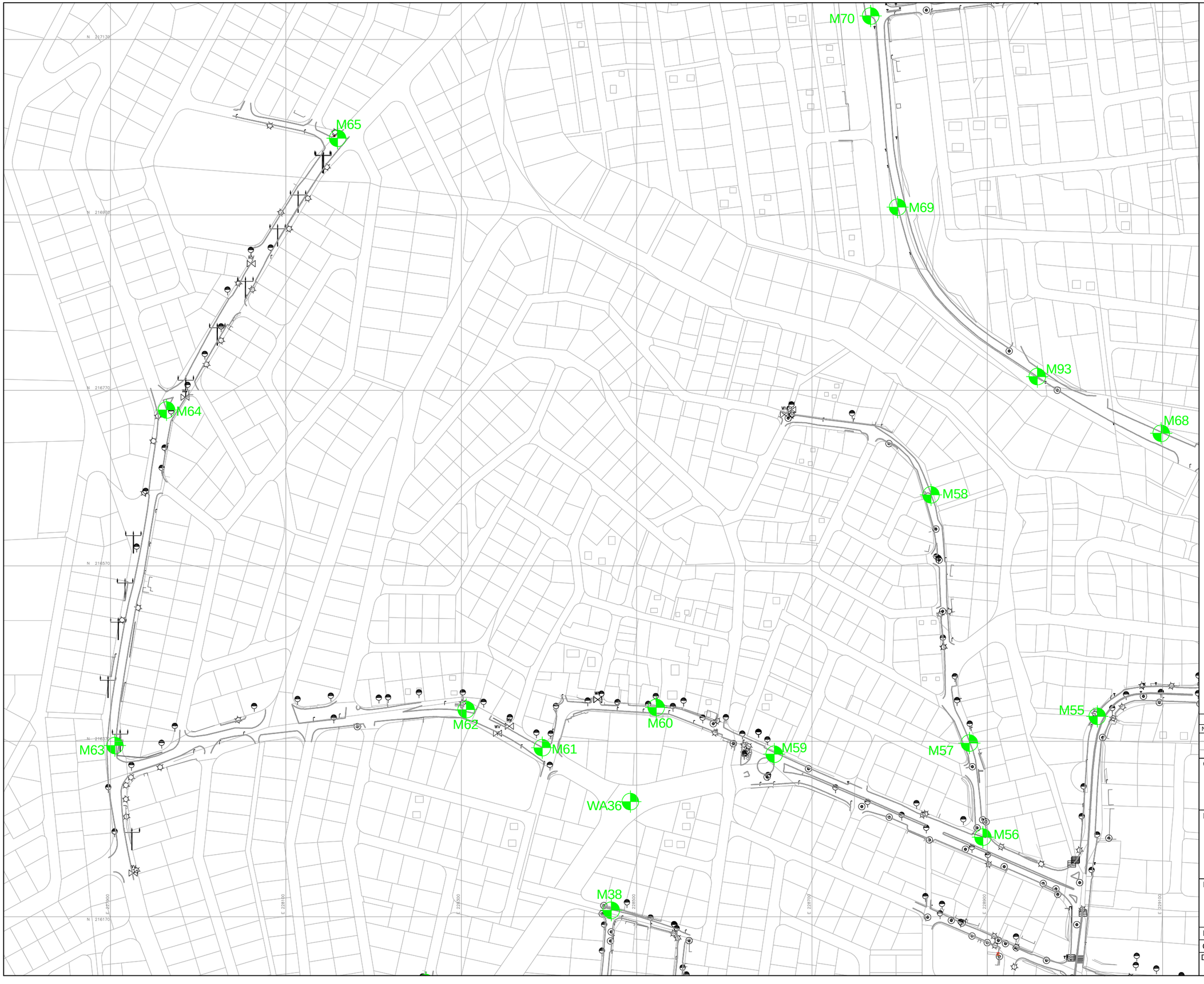
Project Title

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 (22 of 29)

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

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

Project Title

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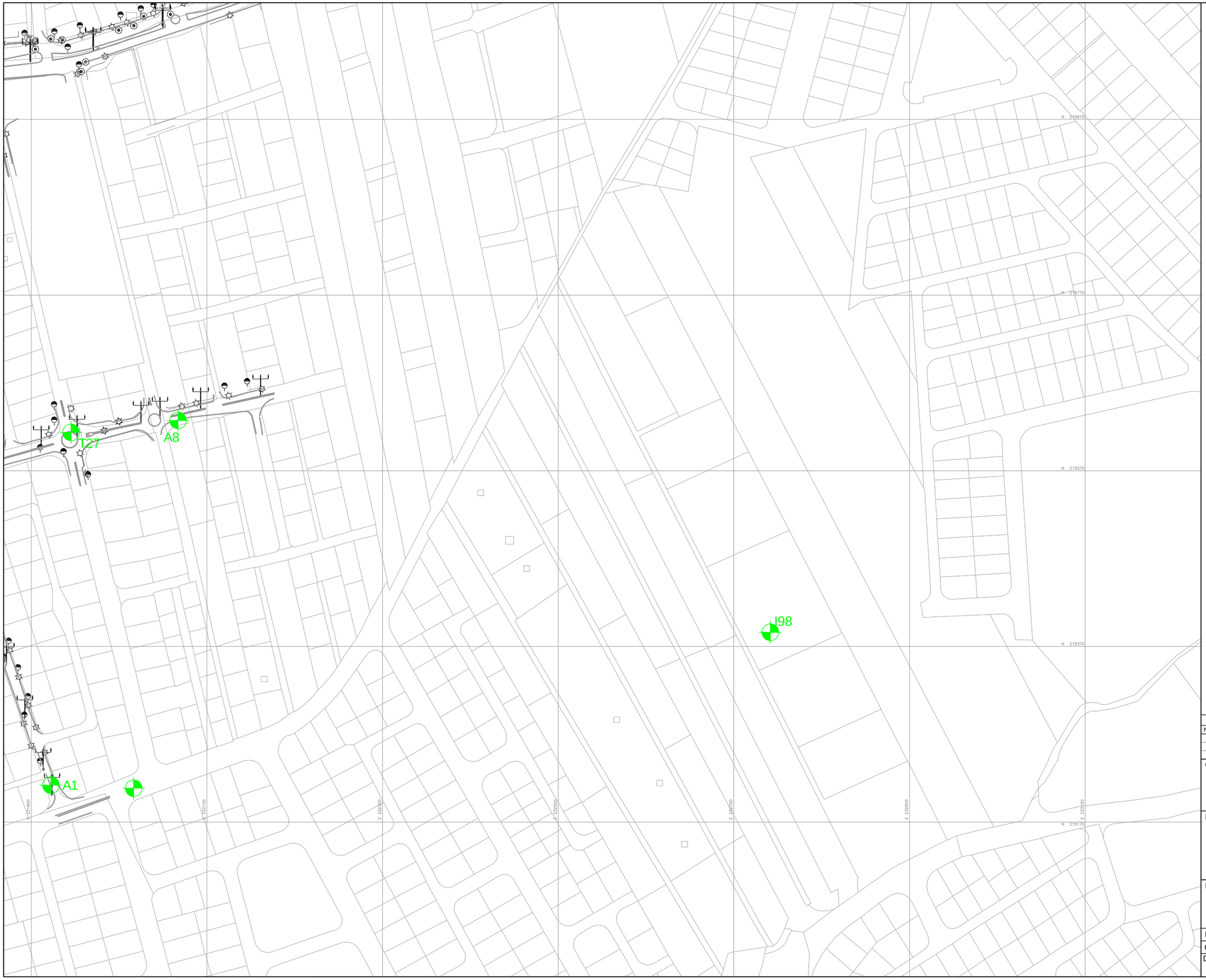
Drawing Title

Survey Works
Sheet (23 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-23	Scale 1/2000		Size A1



Legend:

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

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KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

Project Title

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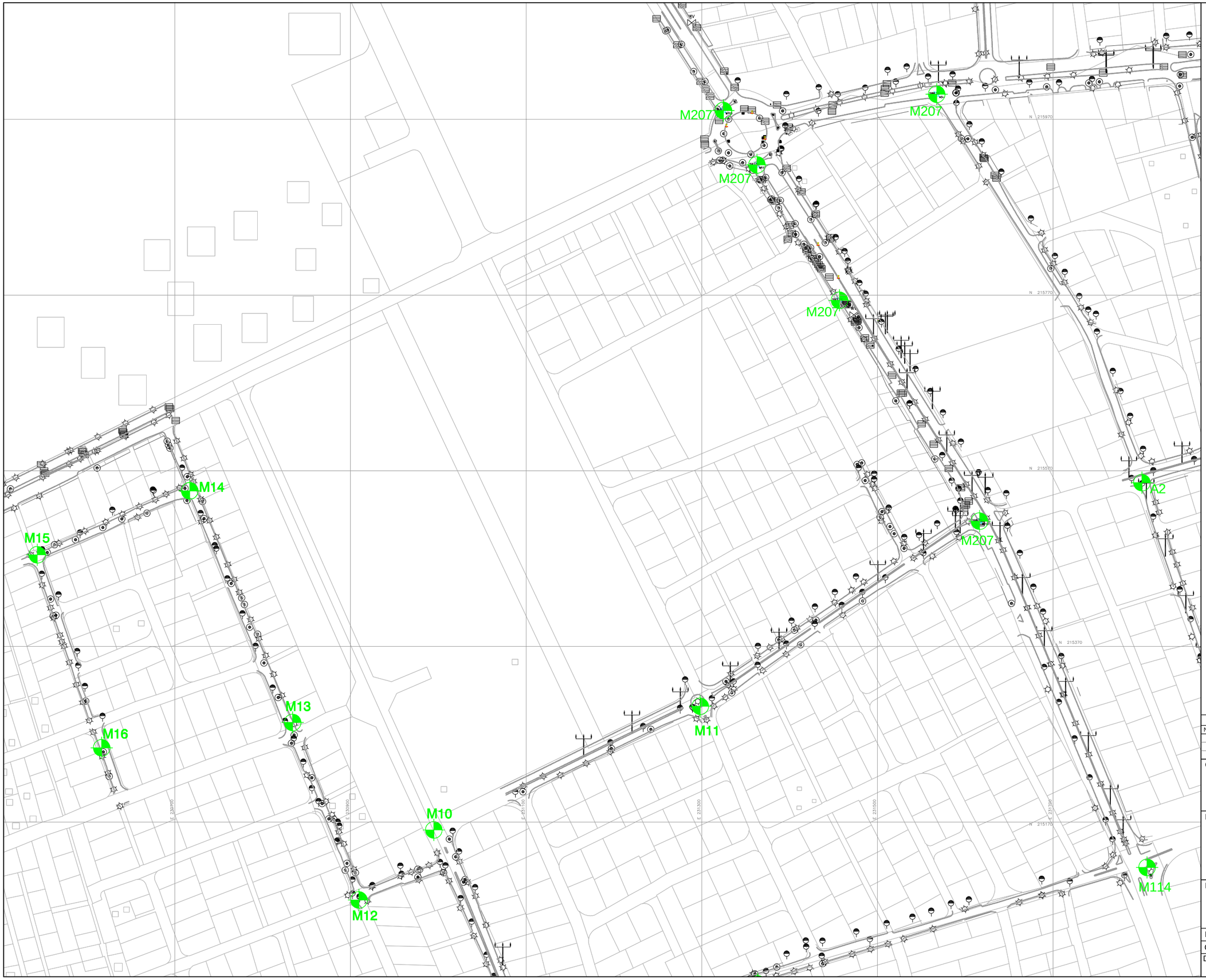
Drawing Title

Survey Works
Sheet (24 of 29)

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

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (25 of 29)

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

M44
M45
M43
M46
M47
M22
M21
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M17
M18

N 215970
N 215770
N 215570
N 215370
N 215170
E 229300
E 229500
E 229700
E 229900
E 230100
E 230300
E 230500

Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
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- EXISTING MANHOLE
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N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

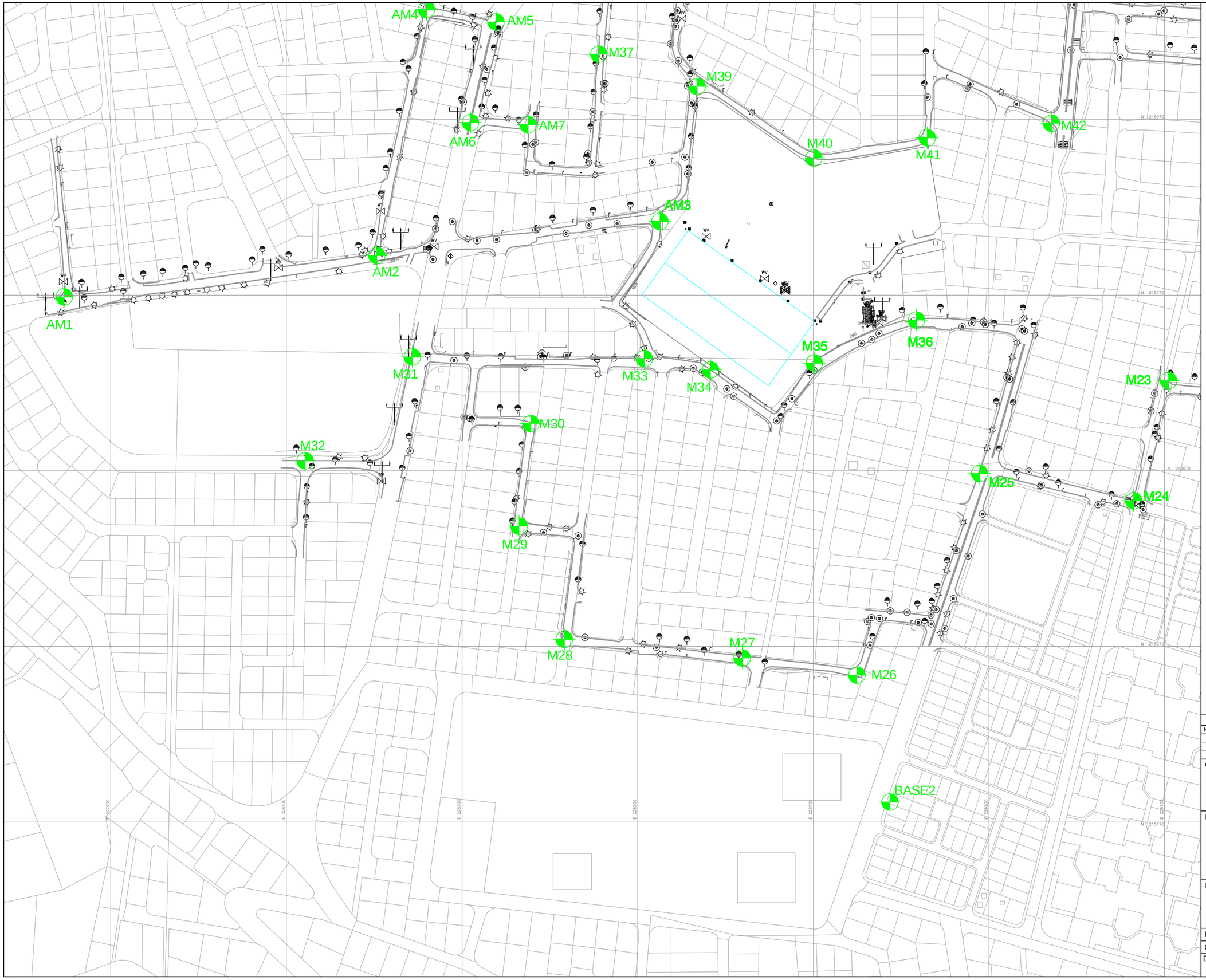
Project Title

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 (26 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-26	Scale 1/2000		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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		6	5	4	3		
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	15	14	13	12			
	19	18	17	16			
	23	22	21	20			
	27	26	25	24			
			28				
			29				

N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (27 of 29)

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

M1
M2
M3
M4
M5
M6
M7
M8

N 214970
N 214770
N 214570
N 214370
N 214130
N 213970
E 230900
E 231100
E 231300
E 231500
E 231700
E 231900

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
- WV EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST

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		23	22	21	20
		27	26	25	24
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				29

N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

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 (28 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-28	Scale 1/2000		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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	19	18	17	16
	23	22	21	20
	27	26	25	24
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		29		

N

KEY PLAN

40m 0 20m 40m

SCALE 1:2000

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

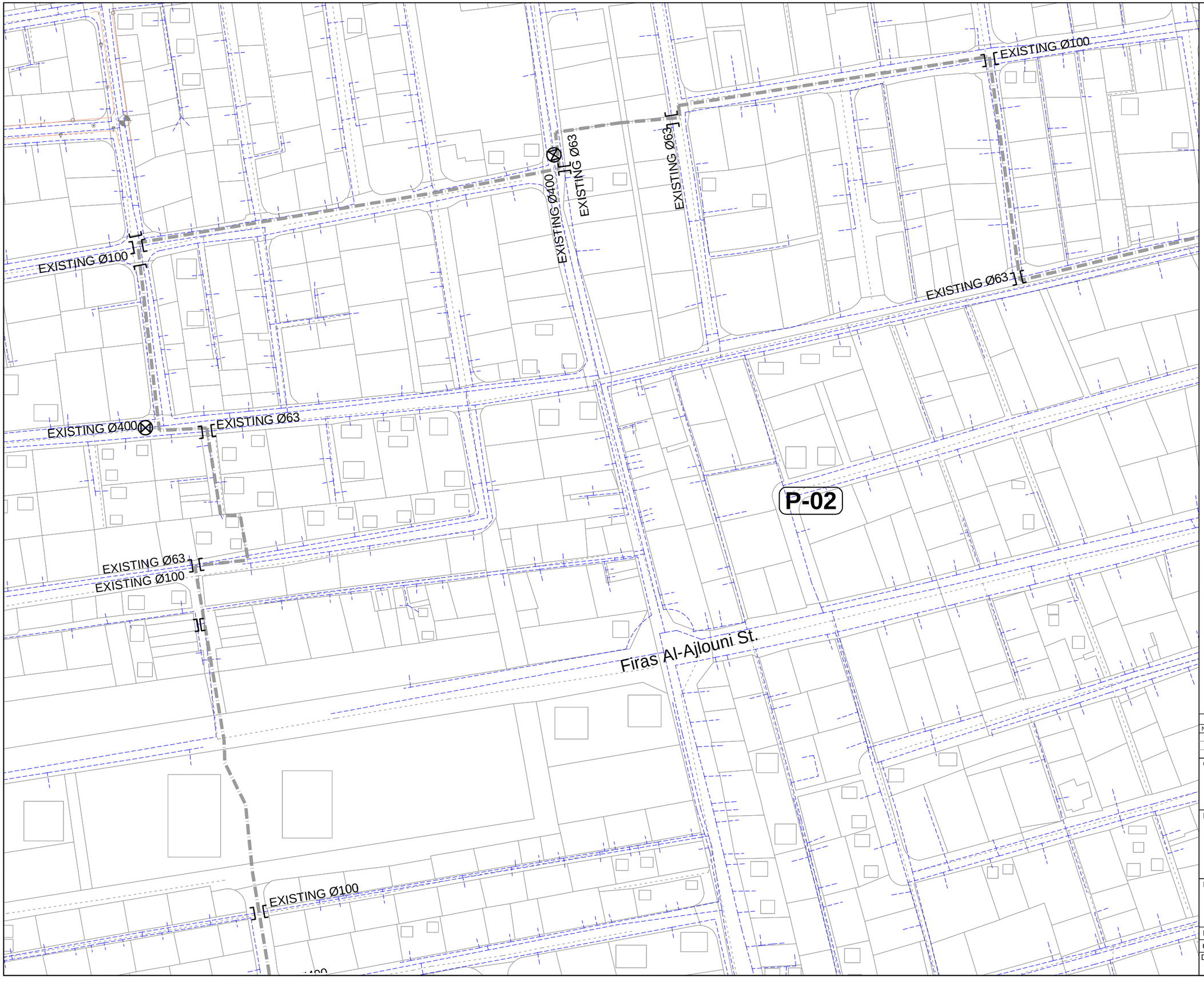
Project Title

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 (29 of 29)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. SU-29	Scale 1/2000		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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				26	27	28	
					29	30	
						31	

N

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

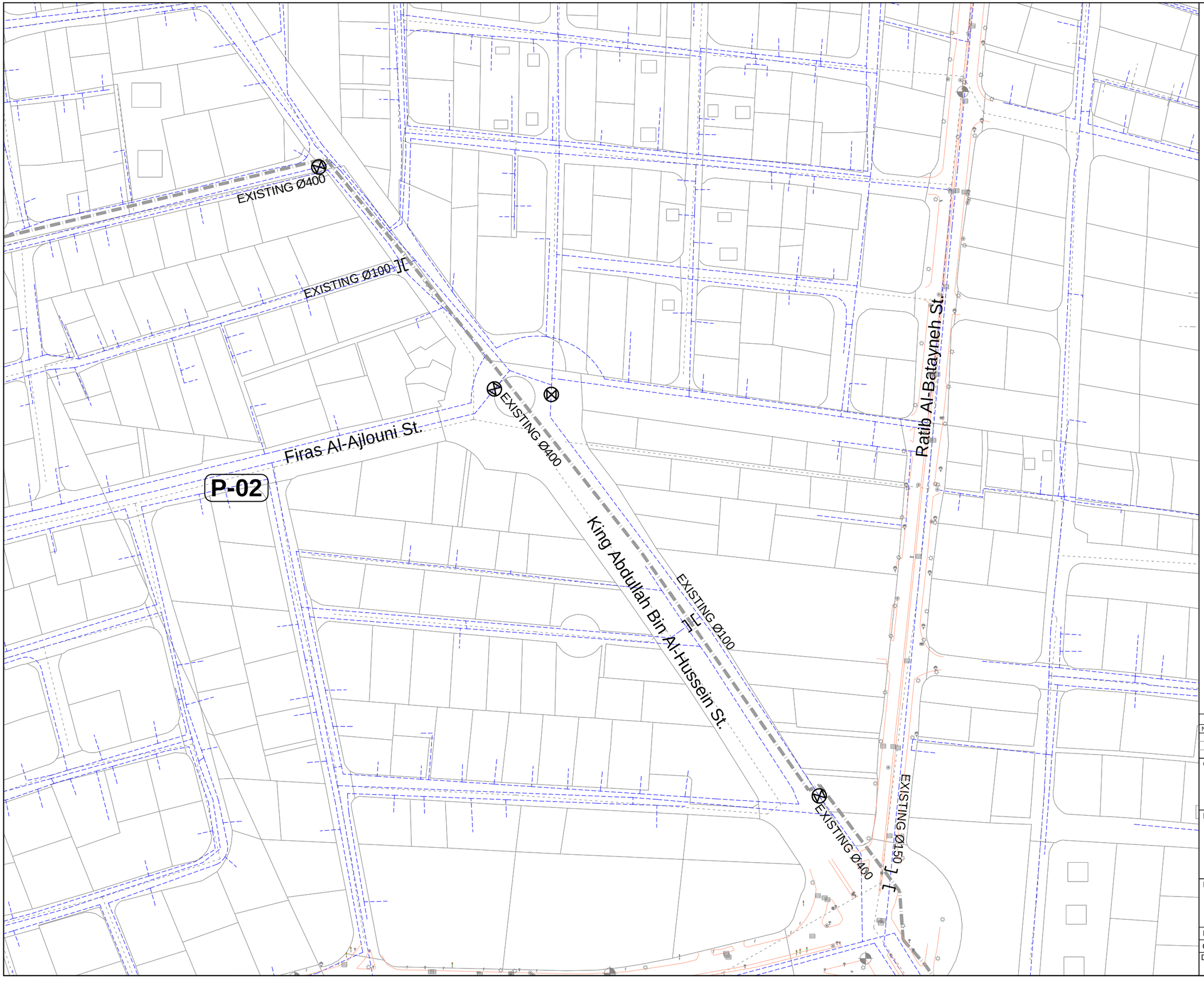
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Water Network Layout
Pumping System
Sheet(01 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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9	10	11	12	13	14	15	
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				26	27	28	
					29	30	
						31	

N

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

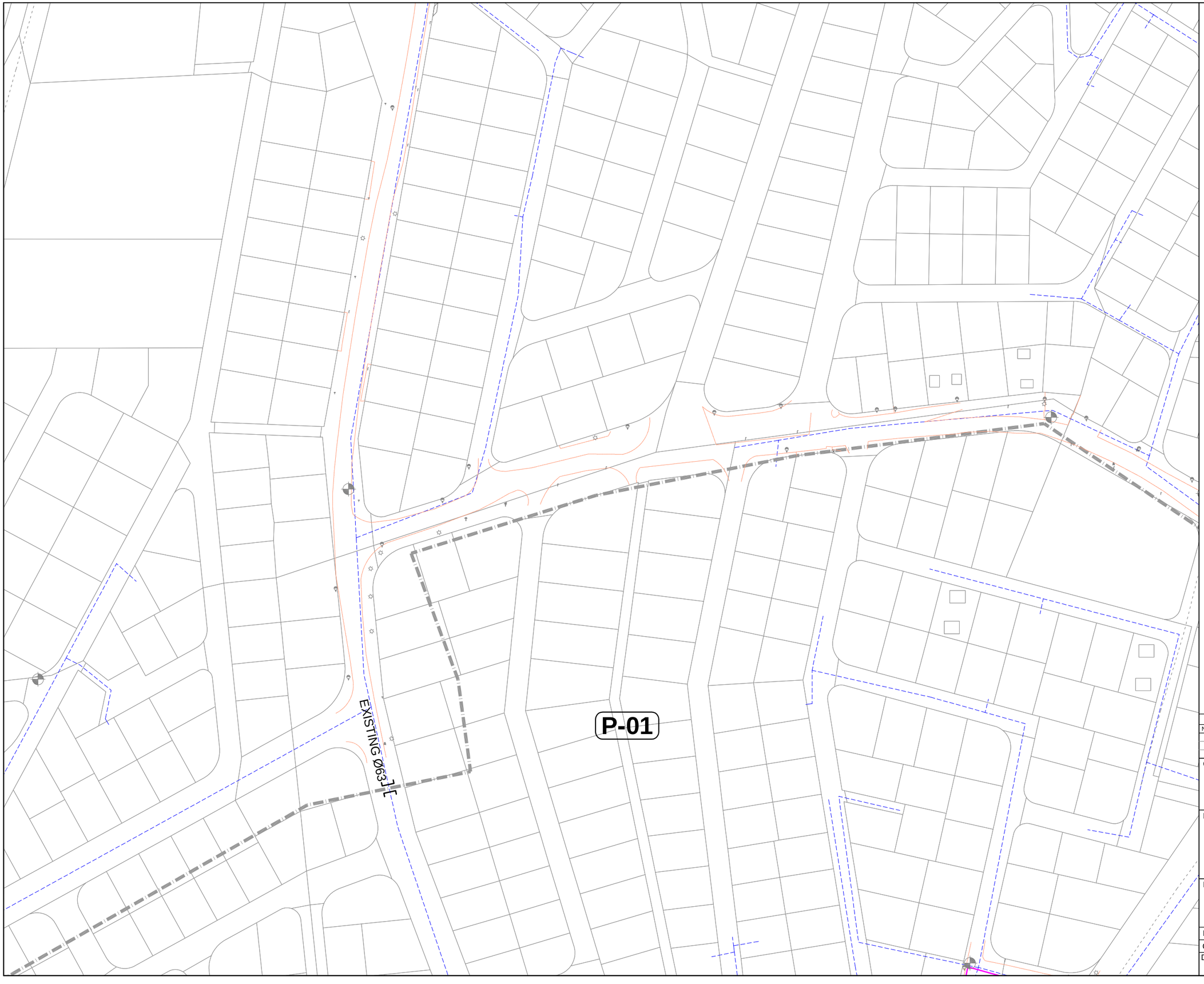
Project Title

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
Pumping System
Sheet(02 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-02	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

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

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3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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

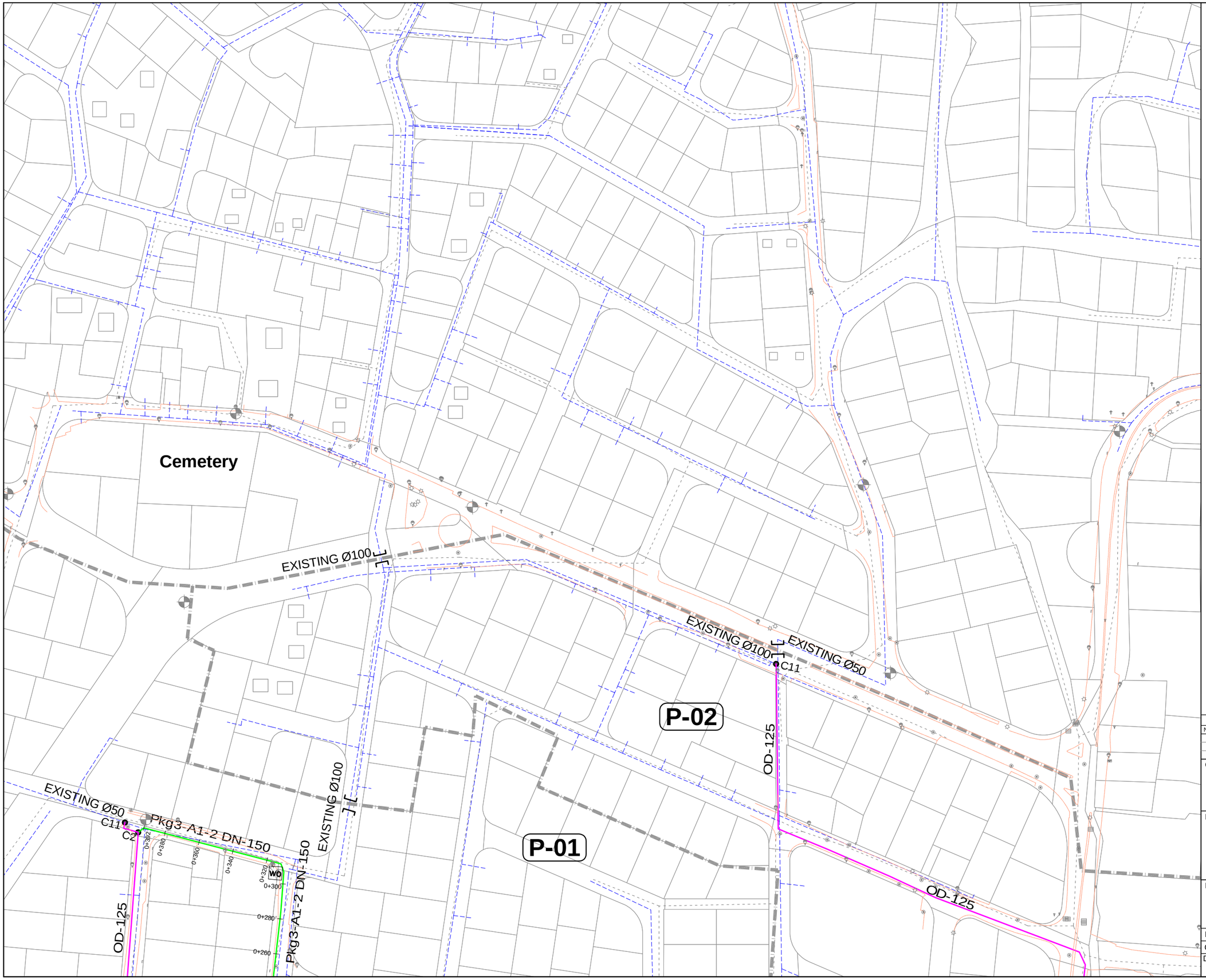
Project Title

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
Pumping System
Sheet(03 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-03	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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

		1	2			
3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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

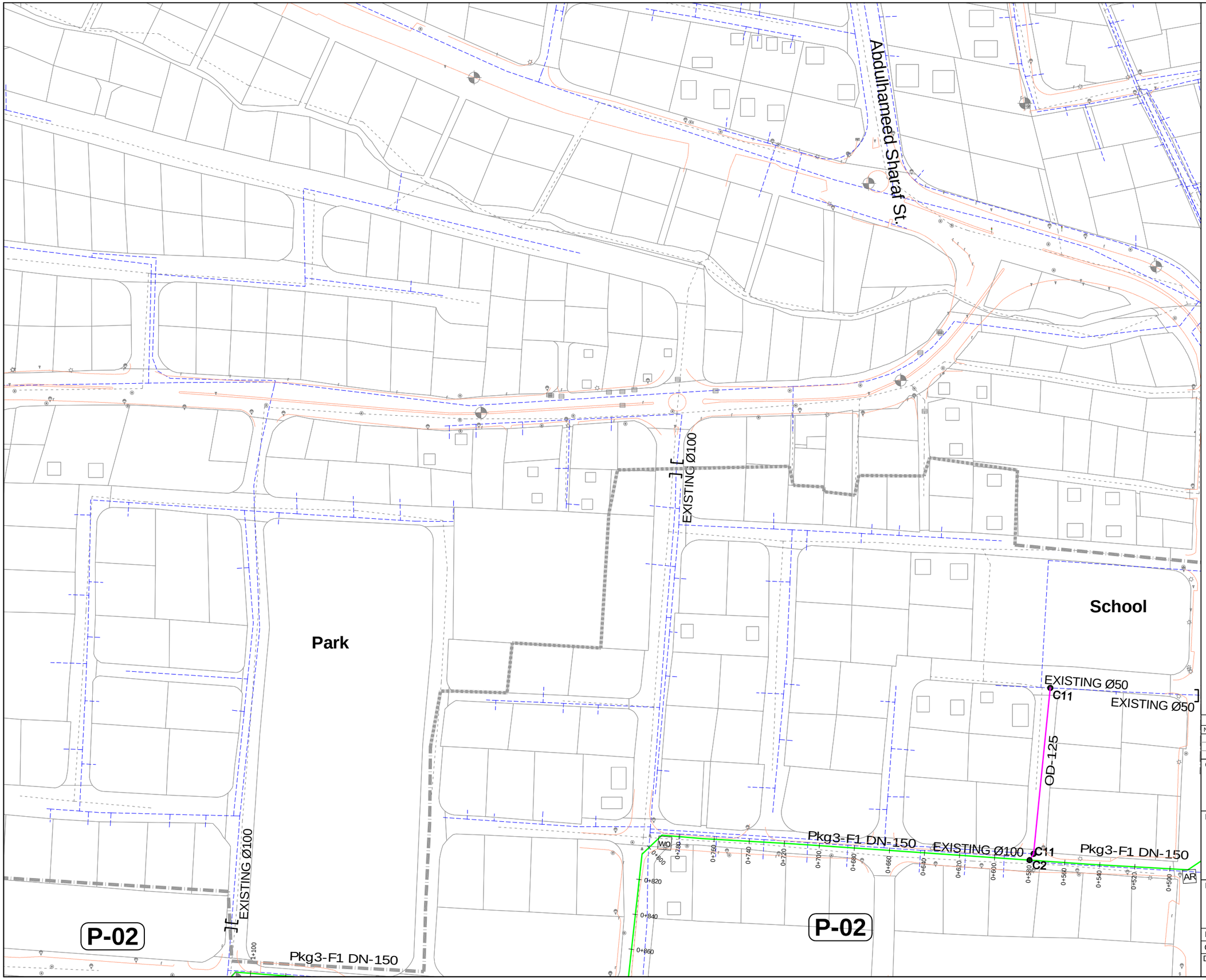
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Water Network Layout
Pumping System
Sheet(04 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-04	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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(05 of 31)

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

EXISTING Ø400
EXISTING Ø63
EXISTING Ø100
EXISTING Ø63
EXISTING Ø600
EXISTING Ø600
Abdulqader Al-Tal St.
Al-Yarmouk University
King Faisal First St.
Pkg3-F DN-400
Pkg3-F1 DN-150
Pkg3-F DN-400
Pkg3-F1 DN-150
EXISTING Ø100
EXISTING Ø150
EXISTING Ø100
EXISTING Ø100
EXISTING Ø63
OD-125
C1
C2
C2
C2
C2
WO
WO
WO
AR
P-02

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

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX *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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9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
				23	24	25	
				26	27	28	
					29	30	
						31	

KEY PLAN

50m 0 25m 50m

SCALE 1:1000

REVISIONS

No.	DESCRIPTION	BY	DATE

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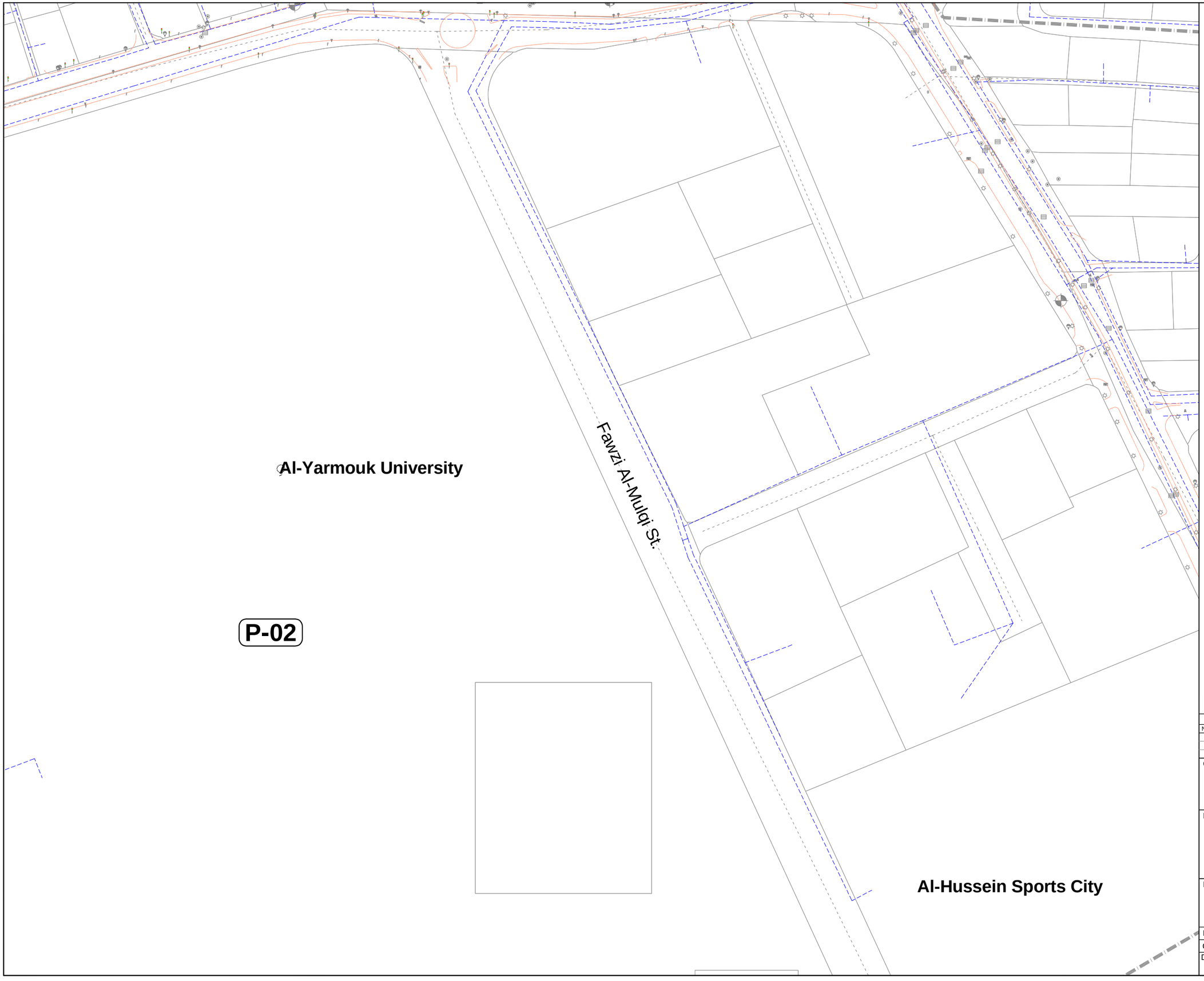
ARABTECH JARDANEH, JORDAN

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
Pumping System
Sheet(06 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-06	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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				26	27	28
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						31

N

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

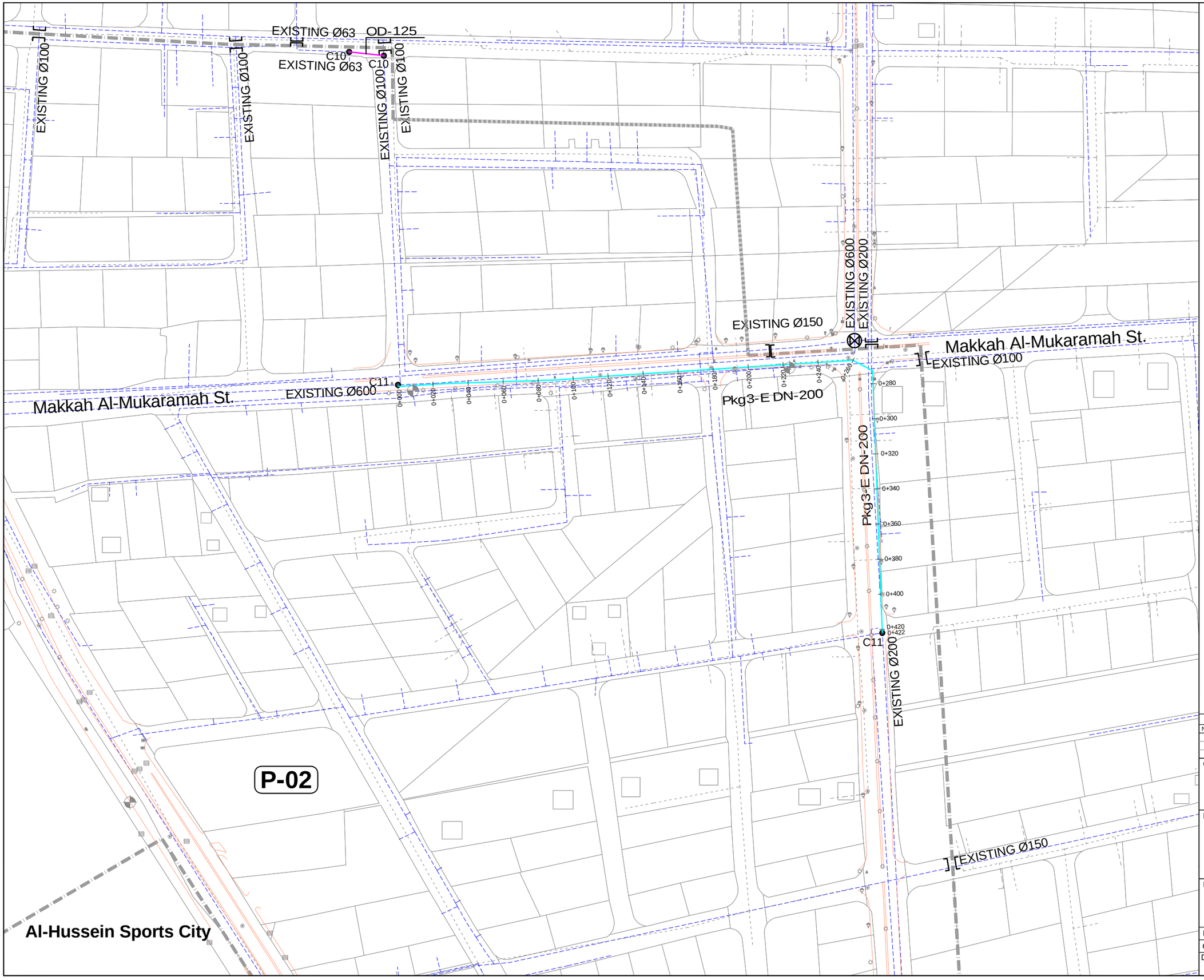
Project Title

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
Pumping System
Sheet(07 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-07	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				23	24	25
				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(08 of 31)

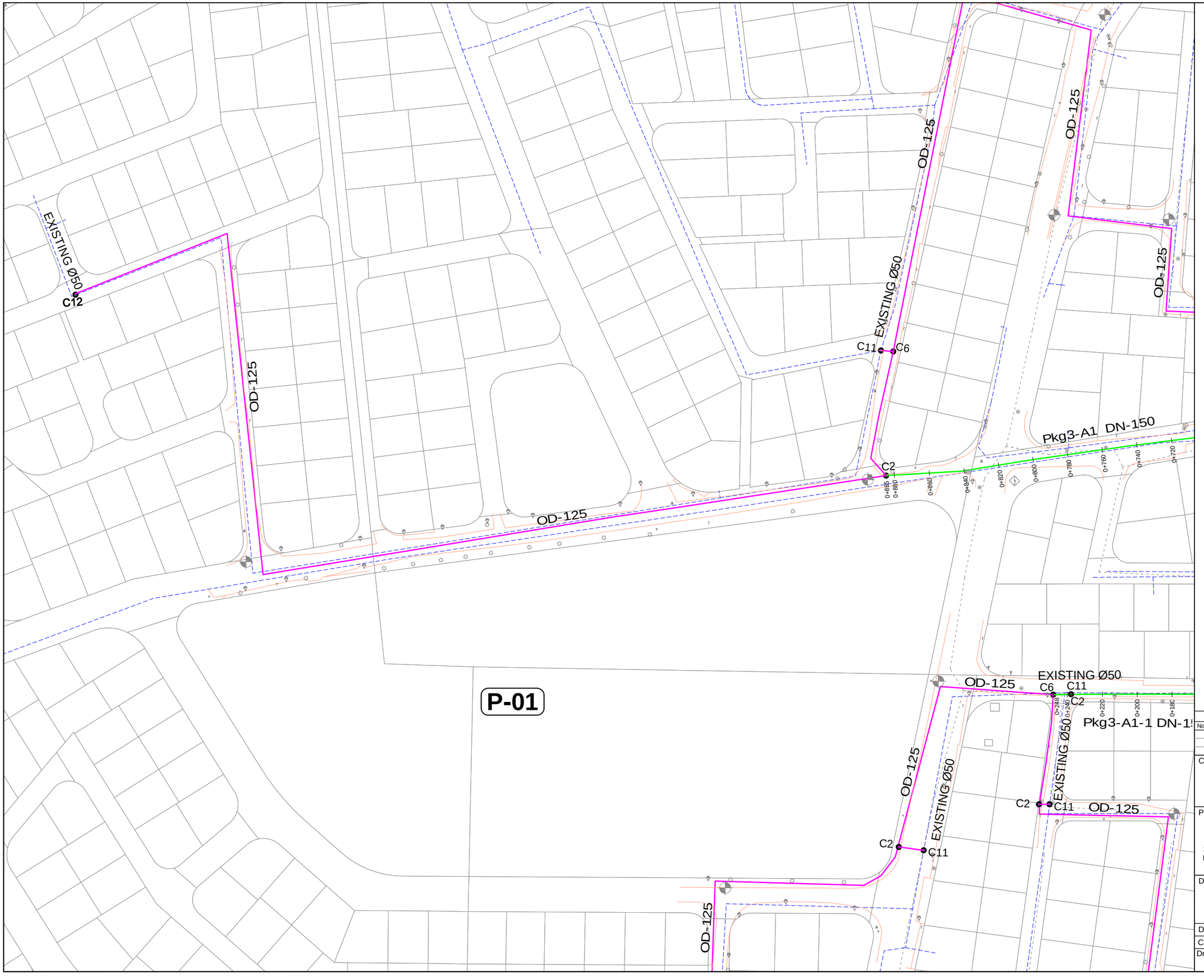
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-08	Scale 1/1000		Size A1

NOTES:

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

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX *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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N

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

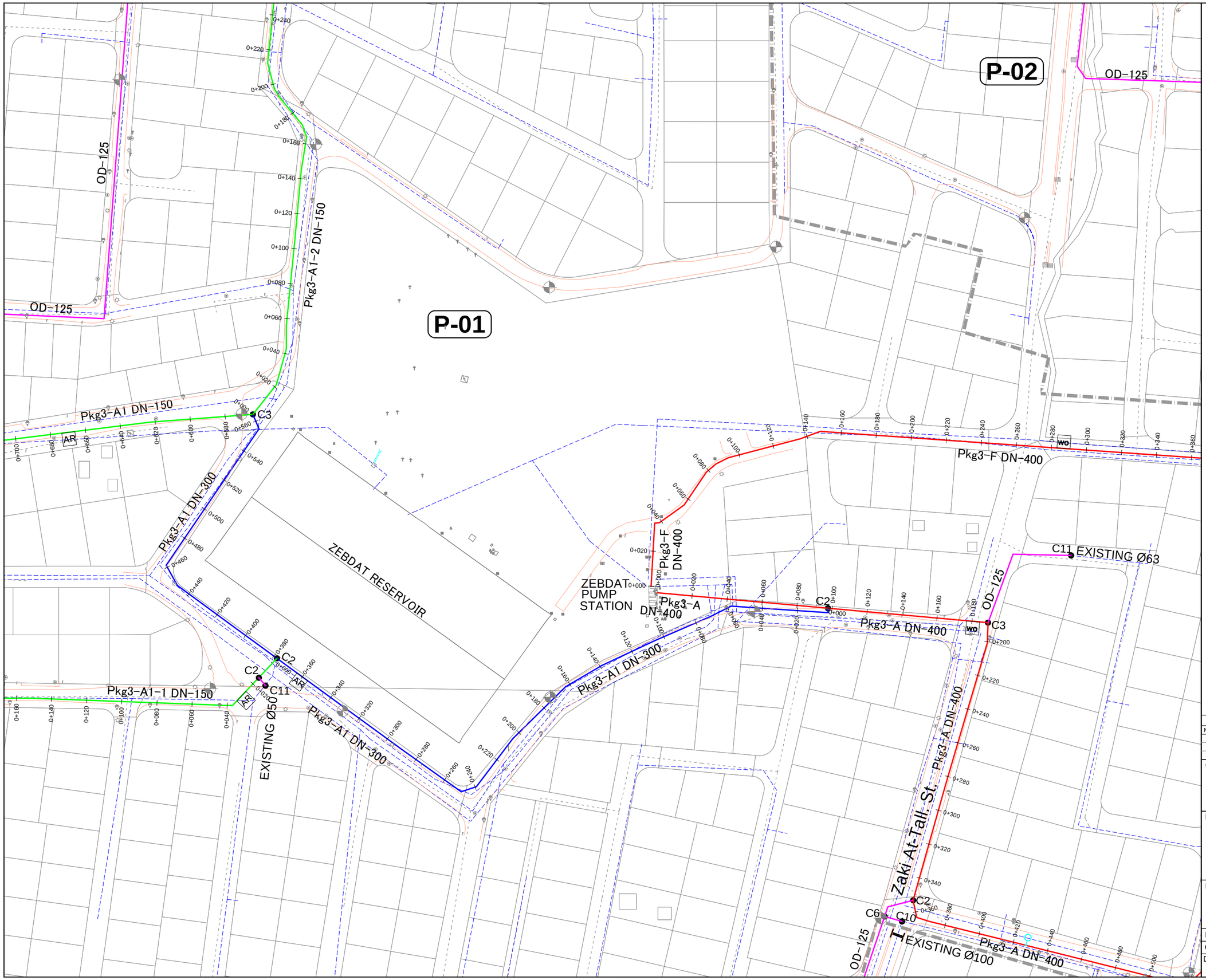
Project Title

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
Pumping System
Sheet(09 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-09	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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N

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
Pumping System
Sheet(10 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-10	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX *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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				26	27	28	
					29	30	
						31	

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
Pumping System
Sheet(11 of 31)

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

Pkg3-F
DN-400

AR

C100

EXISTING Ø50

EXISTING Ø50

EXISTING Ø125

Al-Yarmouk University

P-02

EXISTING Ø200
to AlYarmouk University

King Faisal First St.

P-01

DN-400

Pkg3-A

NOTES:

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

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

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

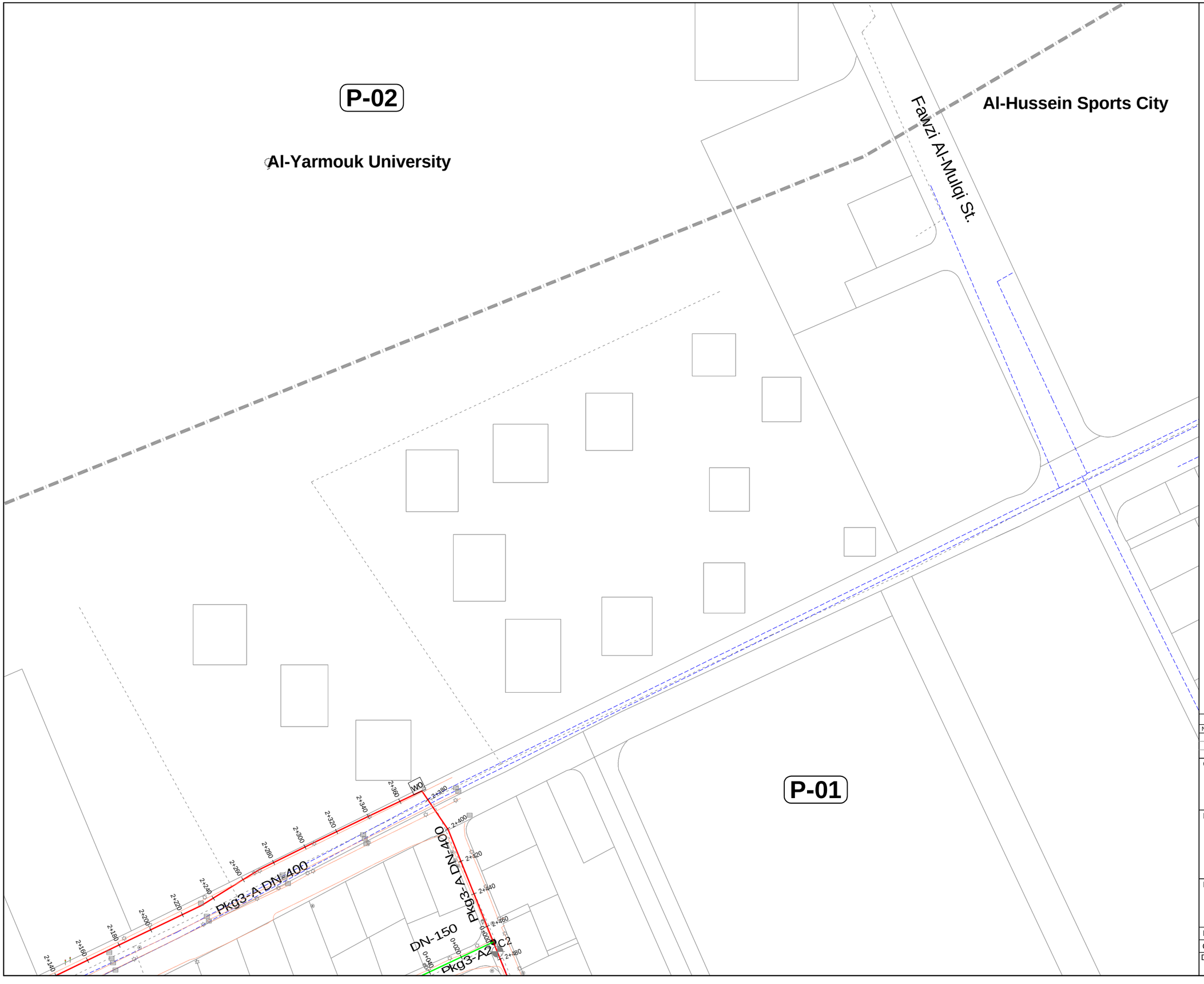
Project Title

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
Pumping System
Sheet(12 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No.	P-12	Scale	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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

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

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				26	27	28
					29	30
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N

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

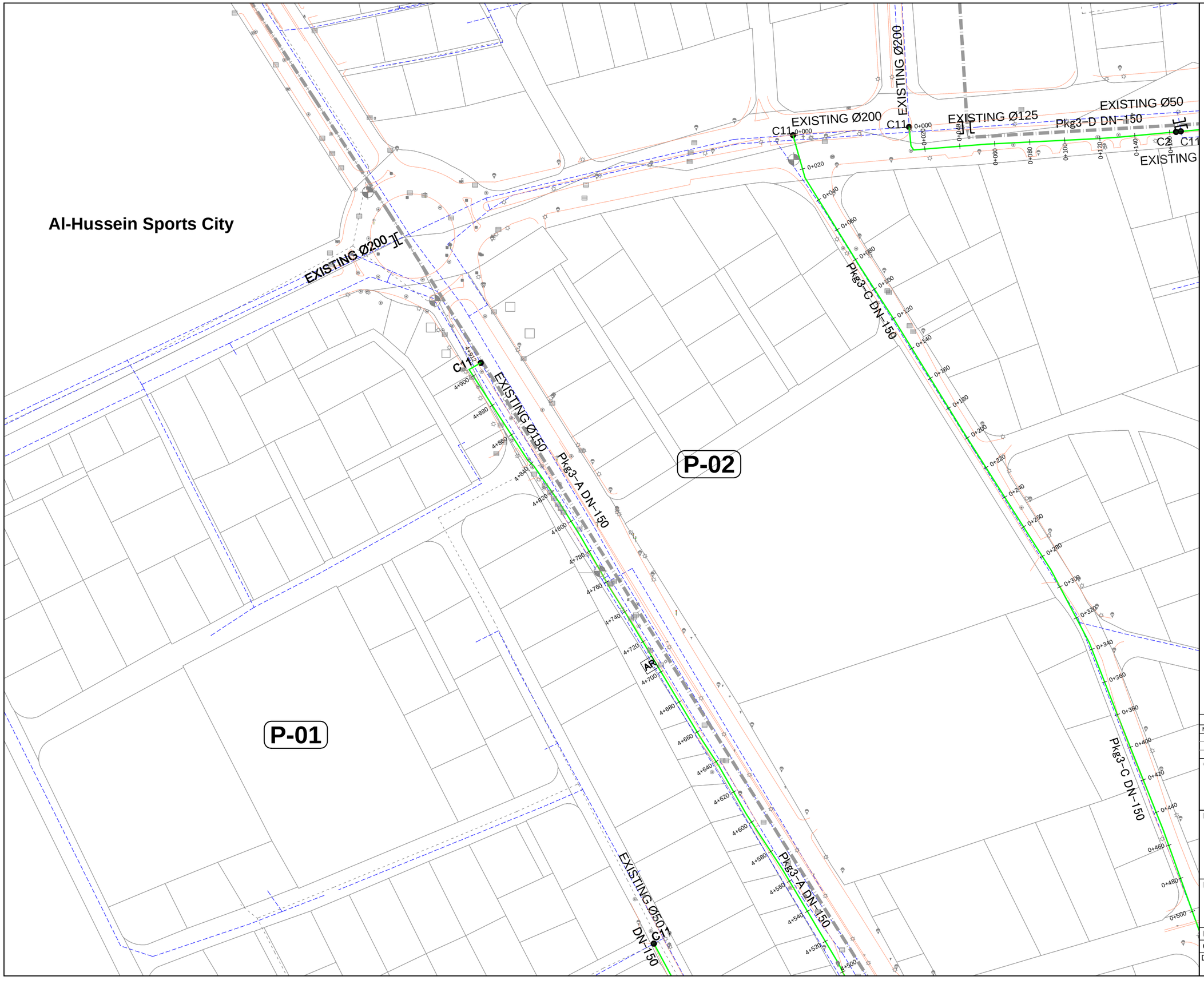
Project Title

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
Pumping System
Sheet(13 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-13	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				26	27	28
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N

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

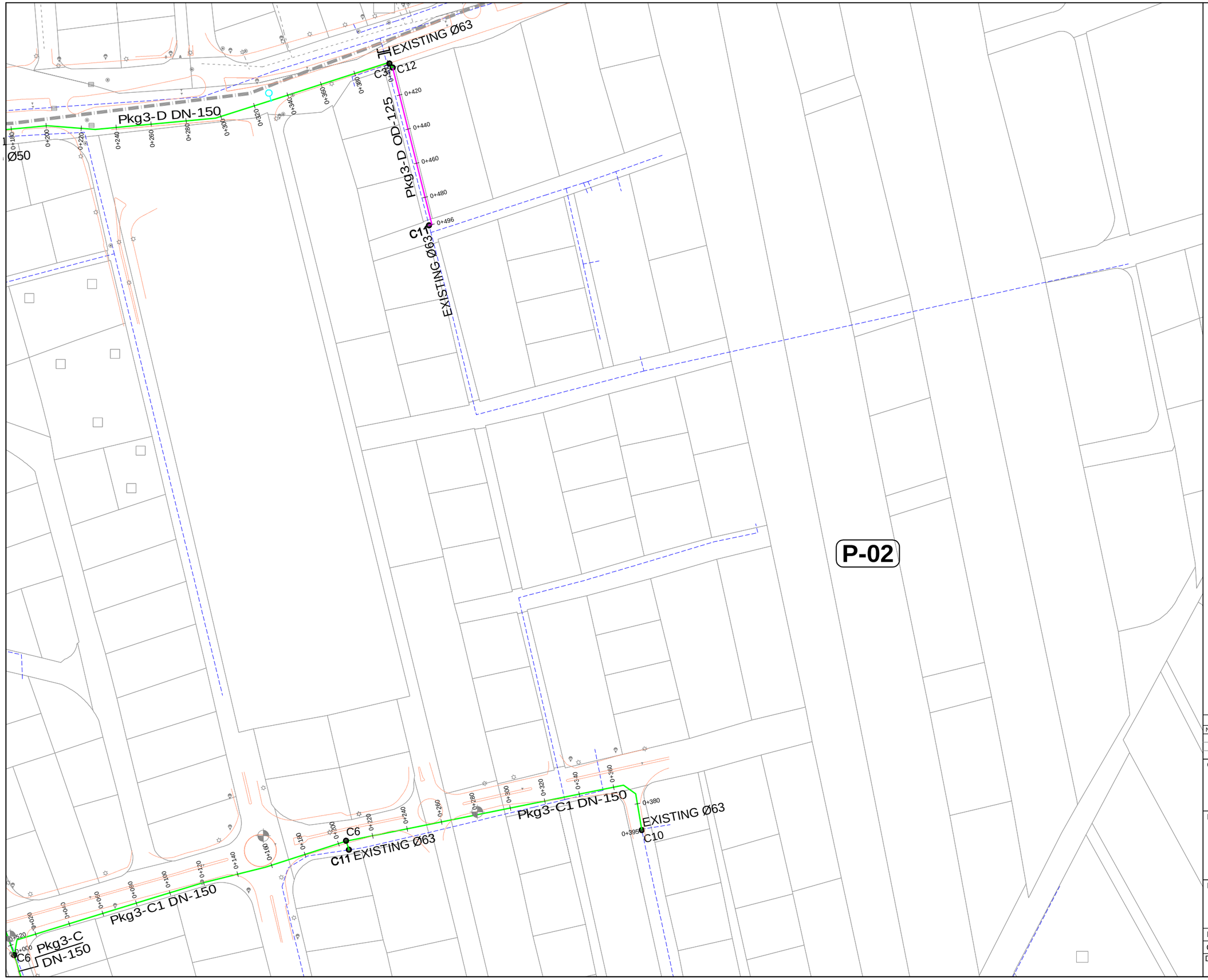
Project Title

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
Pumping System
Sheet(14 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-14	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

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

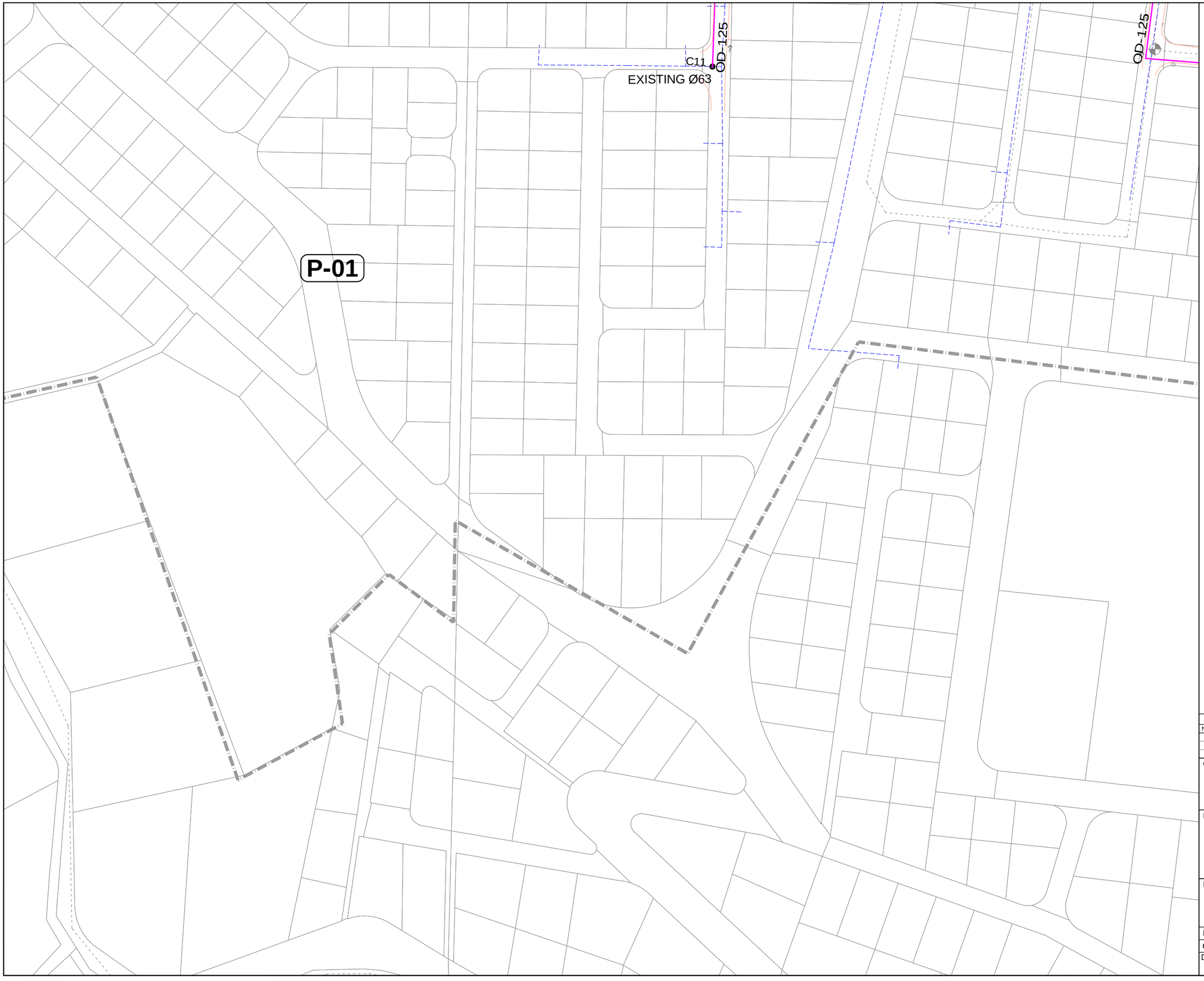
Project Title

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
Pumping System
Sheet(15 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-15	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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N

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

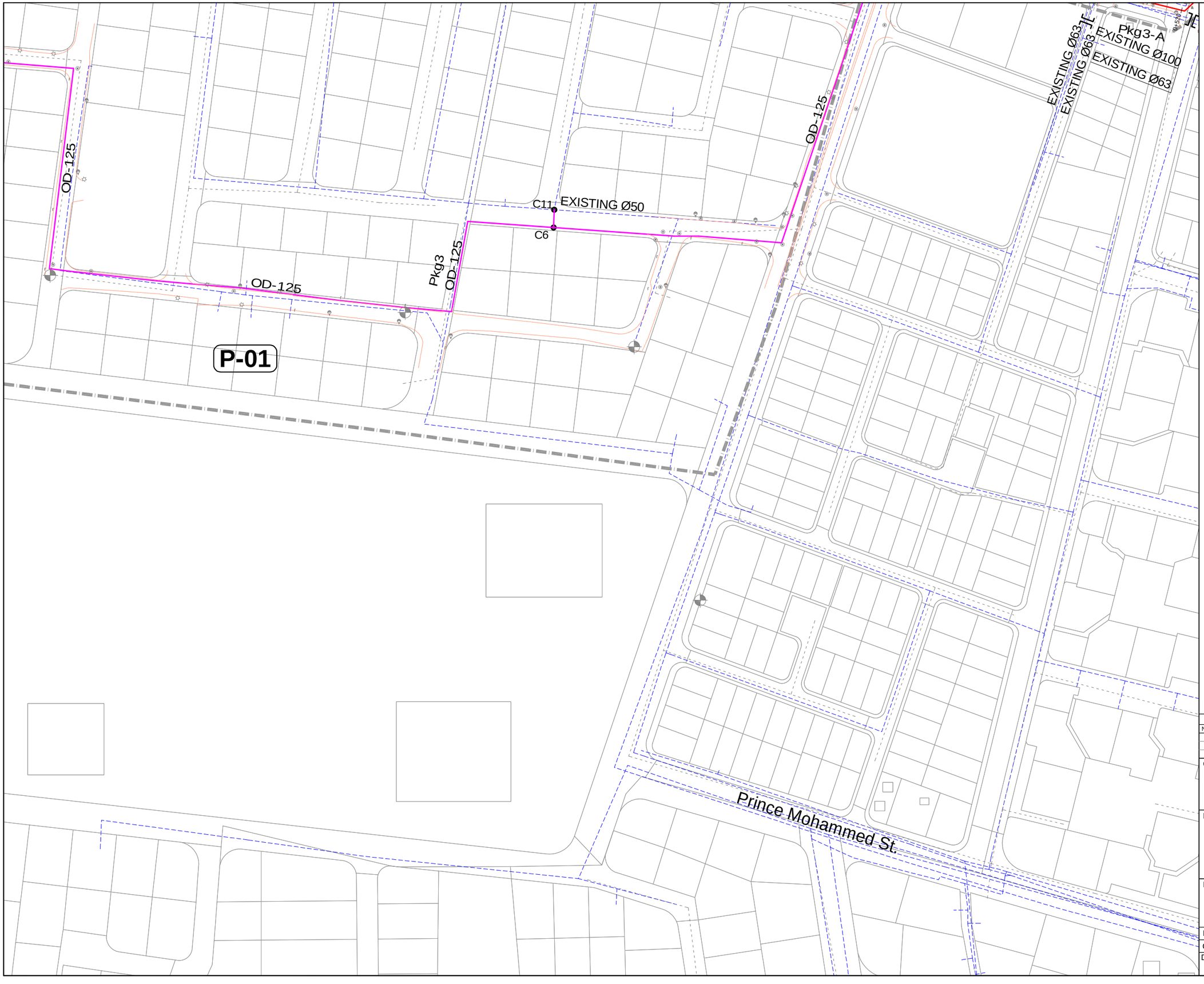
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Water Network Layout
Pumping System
Sheet(16 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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N

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

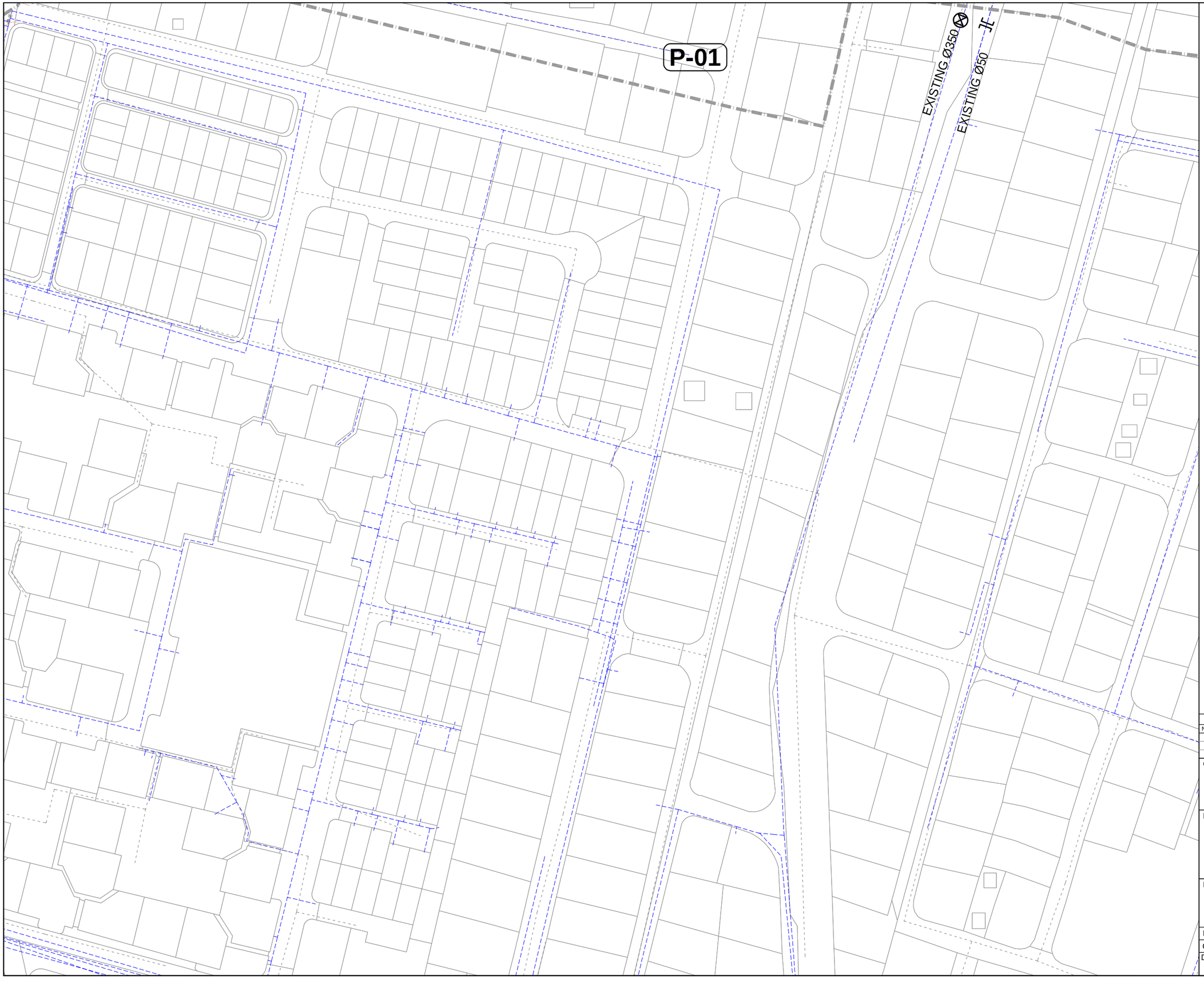
Project Title

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
Pumping System
Sheet(17 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-17	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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					31	

N

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

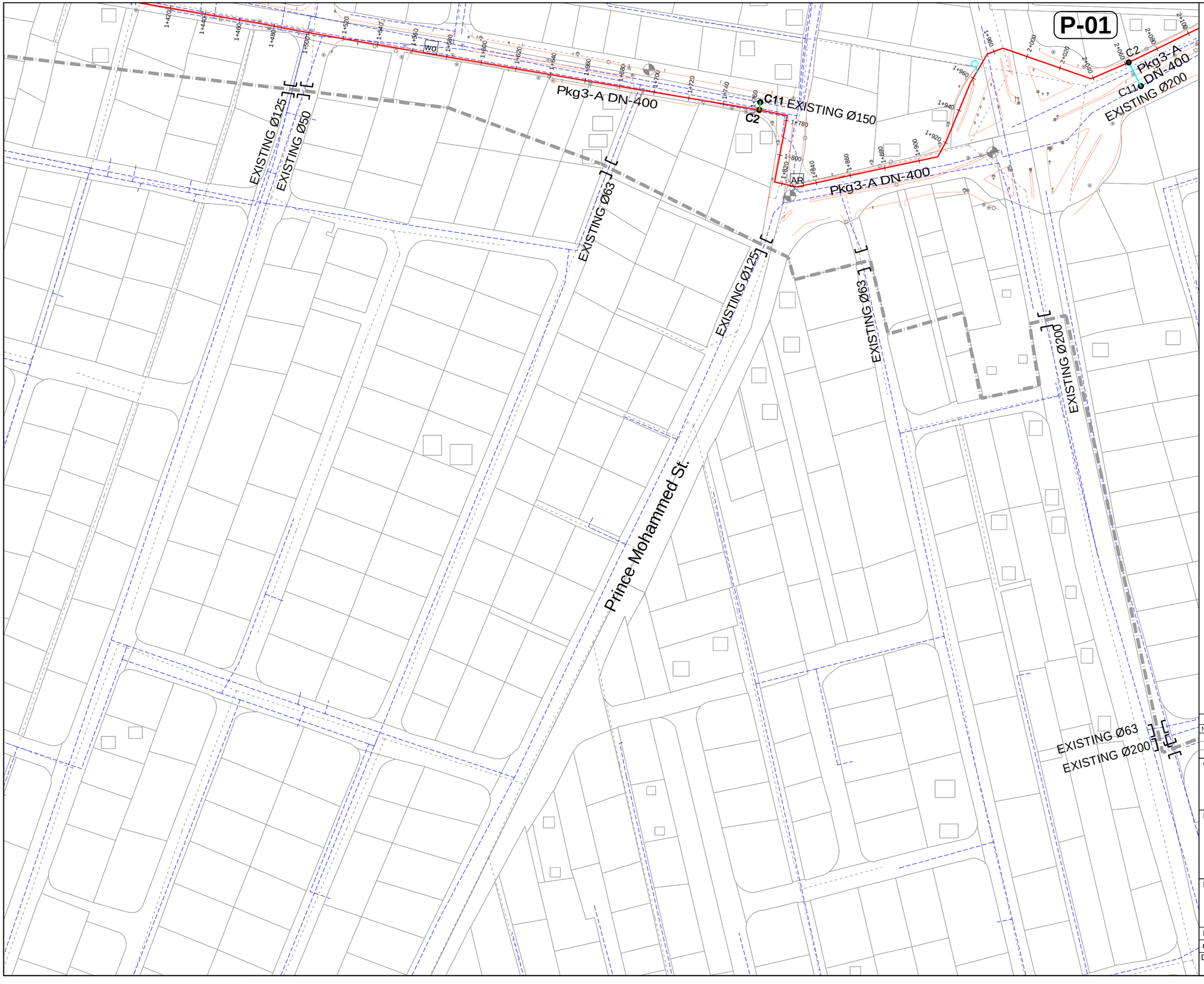
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Water Network Layout
Pumping System
Sheet(18 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-18	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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
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				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(19 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-19	1/1000	A1

P-01

Pkg3-A DN-400

Pkg3-A2 DN-150

Pkg3-A2 DN-150

Pkg3-A DN-400

EXISTING Ø125

EXISTING Ø50

EXISTING Ø63

EXISTING Ø50

EXISTING Ø63

Pkg3-A DN-400

Pkg3-A DN-400

EXISTING Ø50

Pkg3-A5 DN-150

C12

AR

AR

NOTES:

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

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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16	17	18	19	20	21	22	
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					29	30	
						31	

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
Pumping System
Sheet(20 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-20	Scale 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.Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX *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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9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
				23	24	25	
				26	27	28	
					29	30	
						31	

N

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
Pumping System
Sheet(21 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-21	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FCV — FLOW CONTROL VALVE
- PRV — PRESSURE REDUCING VALVE
- CX — CONNECTION TYPE CX *CONNECTION TYPE is shown in Drawing No.ST-01,02
- NORMALLY CLOSED VALVE
- DISCONNECTION
- AIR — AIR VALVE CHAMBER
- WCI — WASHOUT CHAMBER
- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POLE
- TEL MH — EXISTING TELEPHONE MANHOLE
- WV — EXISTING WATER VALVE
- STORM WATER MANHOLE
- ELC — ELECTRICAL MANHOLE
- EXISTING LIGHT POLE
- BENCHMARK

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16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(22 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

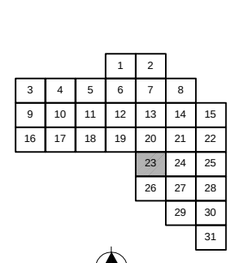
Drawing No.	Scale	Size
P-22	1/1000	A1

NOTES:

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

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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



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

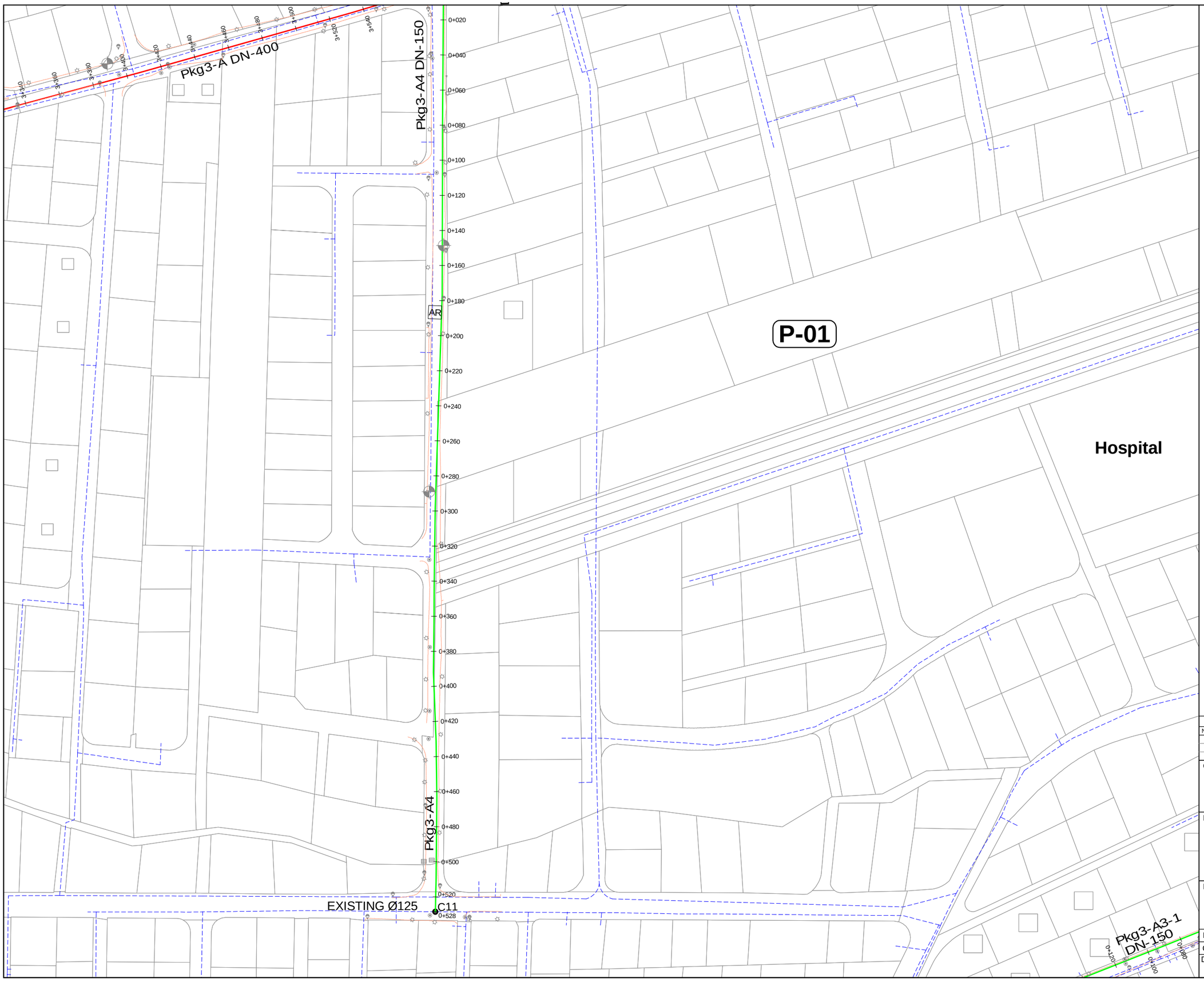
Project Title

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
Pumping System
Sheet(23 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-23	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				26	27	28
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						31

N

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

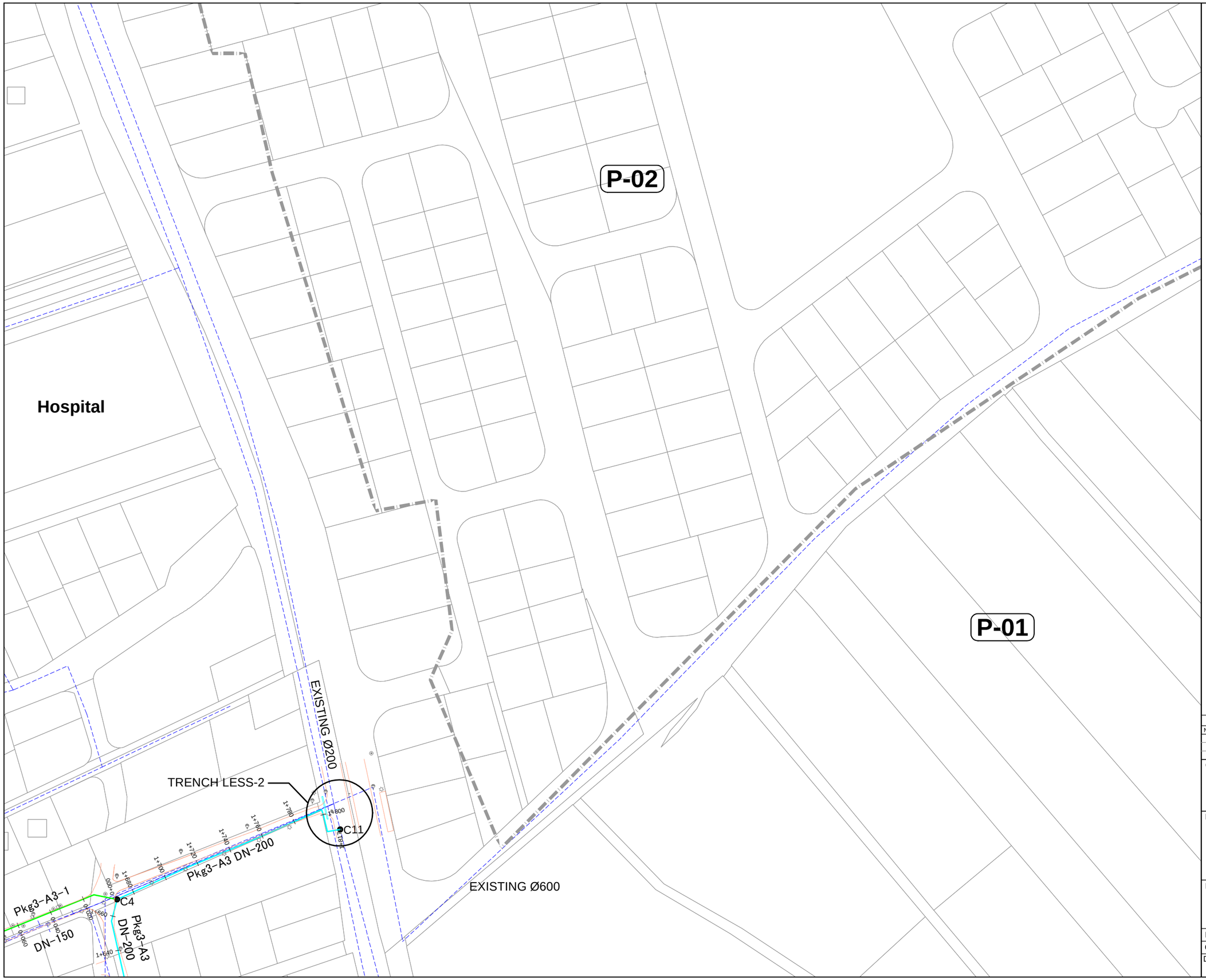
Project Title

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
Pumping System
Sheet(24 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-24	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(25 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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
Pumping System
Sheet(26 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-26		Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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

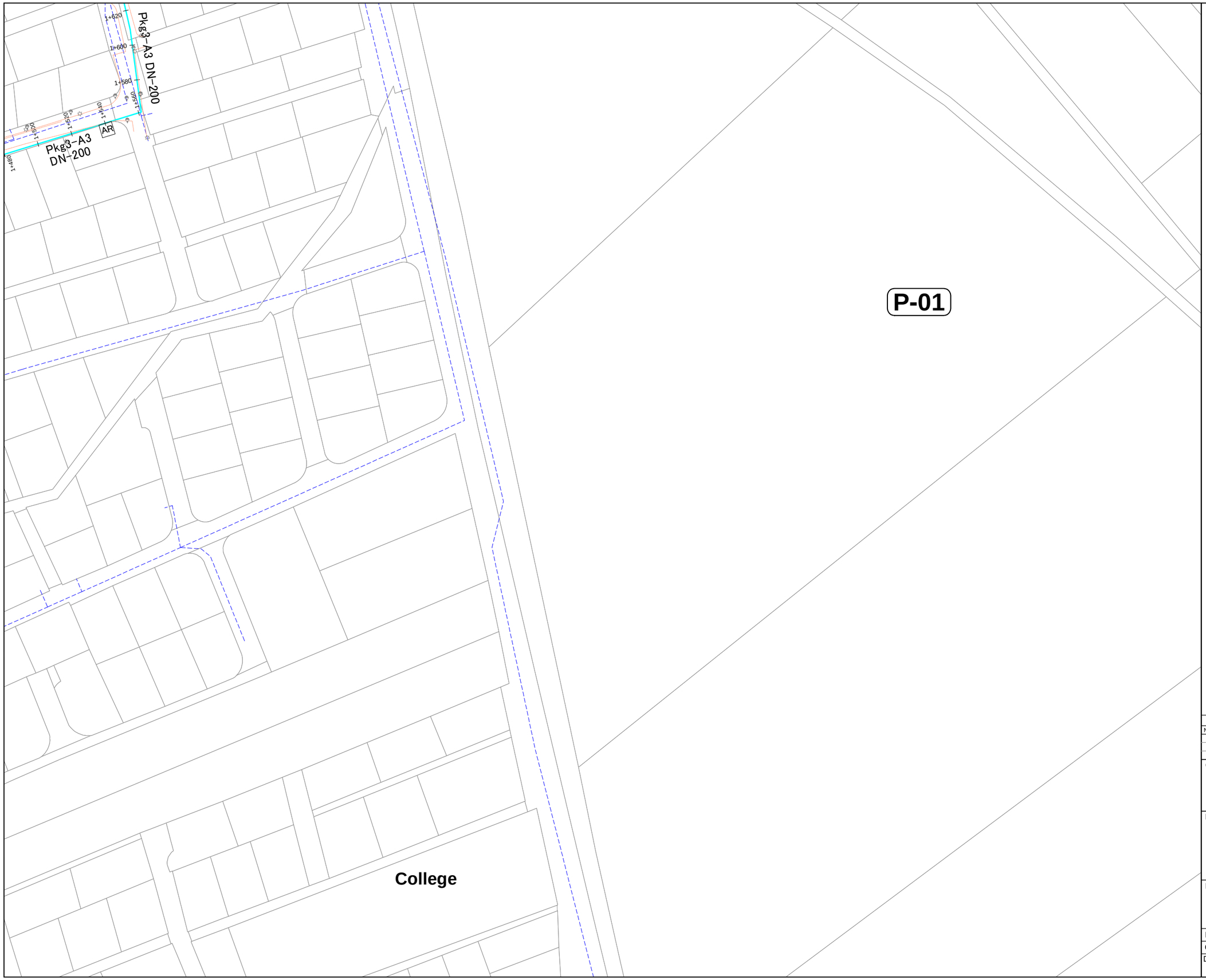
Project Title

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
Pumping System
Sheet(27 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-27	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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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16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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

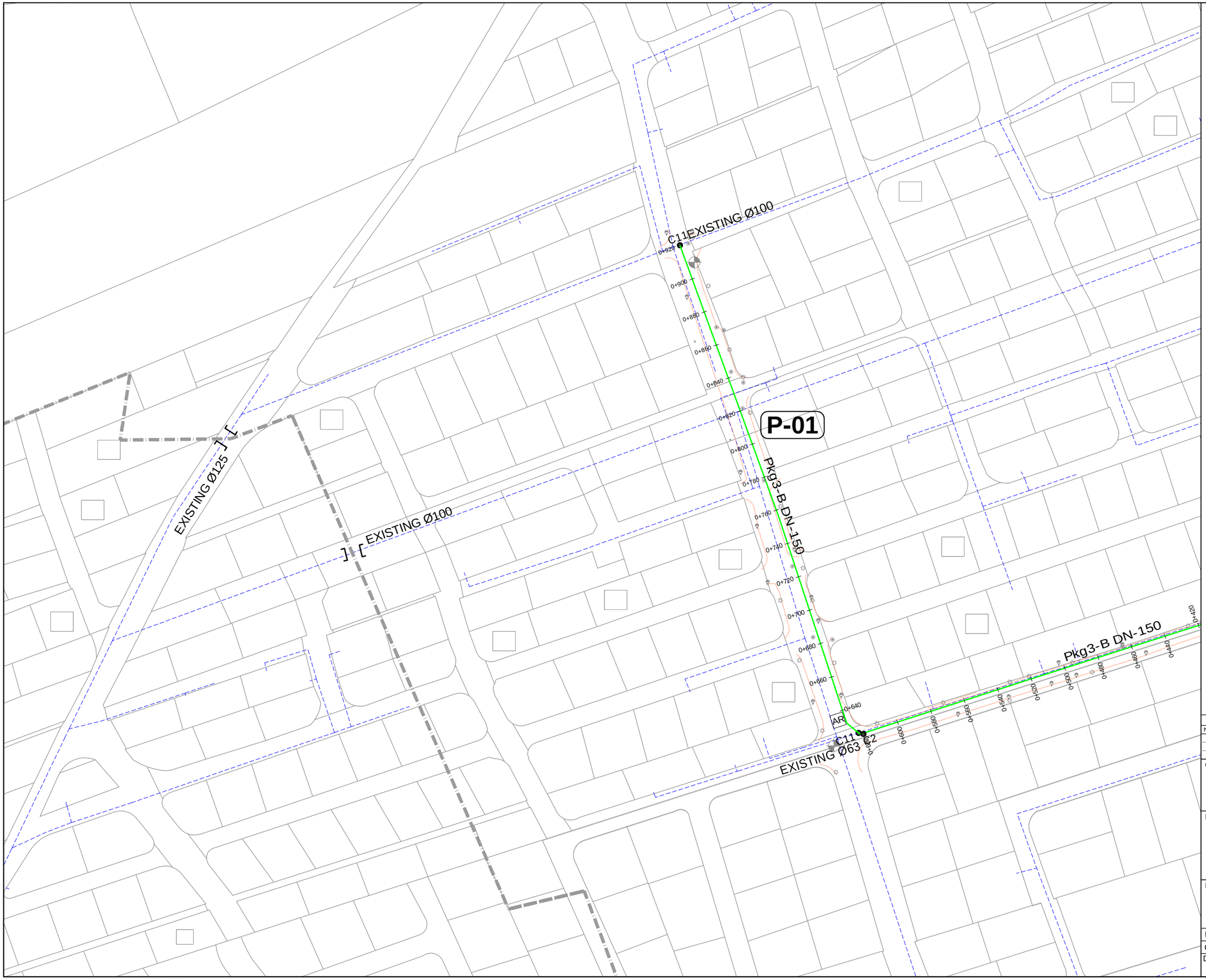
Project Title

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
Pumping System
Sheet(28 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. P-28	Scale 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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				26	27	28
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						31

N

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
Pumping System
Sheet(29 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  *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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				23	24	25
				26	27	28
					29	30
						31

N

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

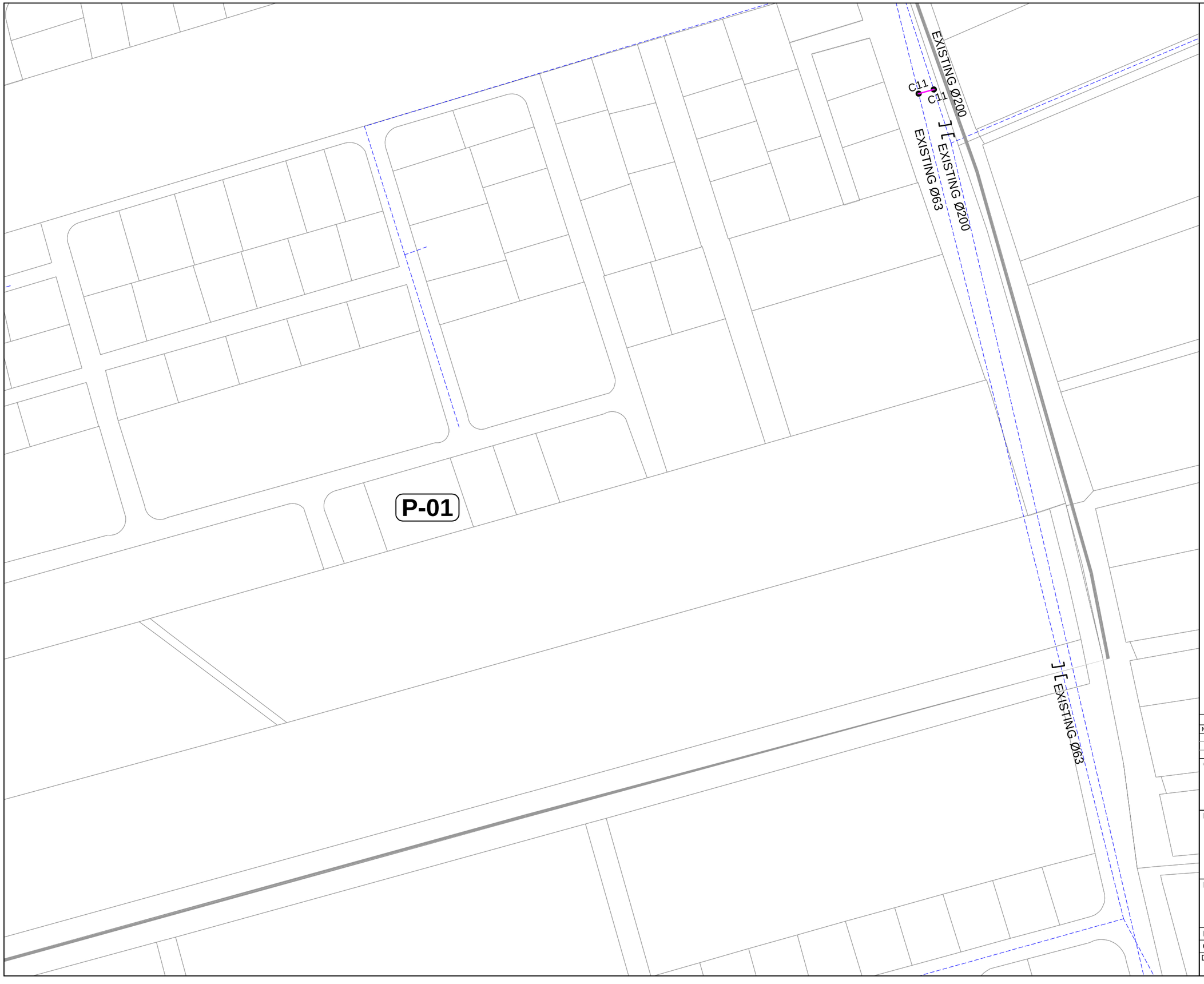
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Water Network Layout
Pumping System
Sheet(30 of 31)

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
P-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. Arrangment of the Connection to Existing Pipelines Shall be Verified by the Contractor.

LEGEND:

- 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
- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE CX
  ***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

			1	2		
3	4	5	6	7	8	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
				23	24	25
				26	27	28
					29	30
						31

N

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

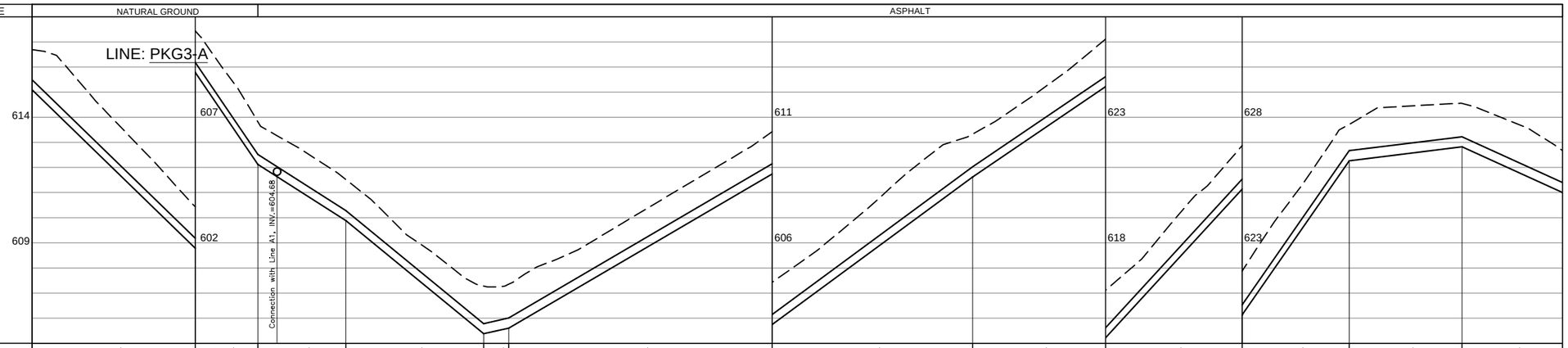
Project Title

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

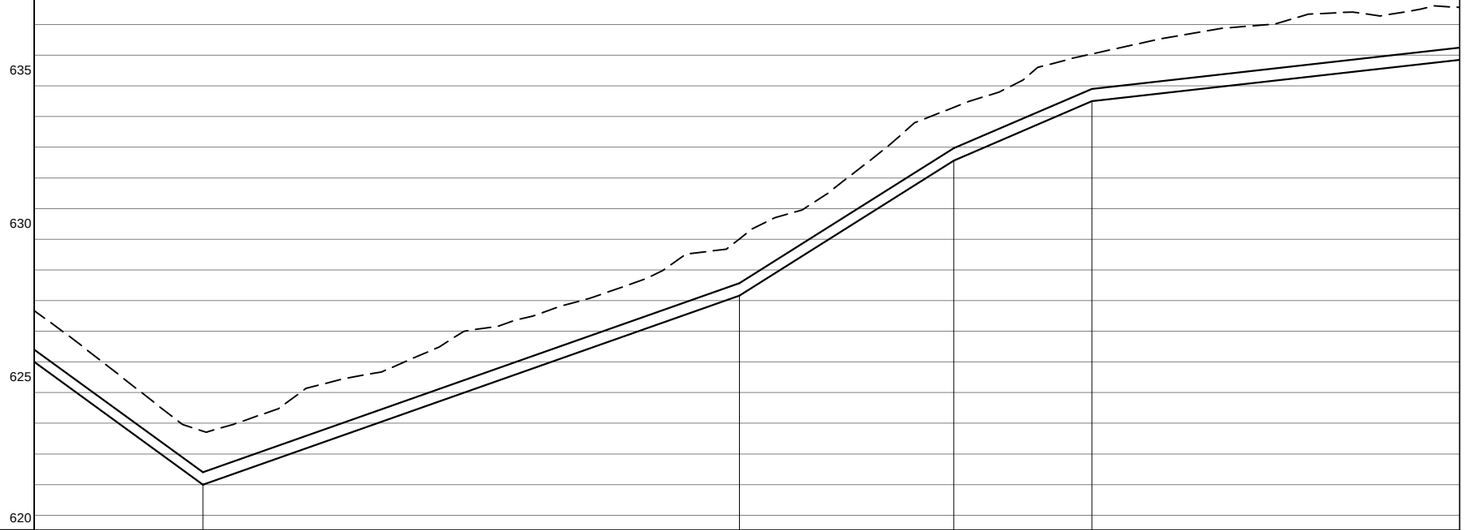
Drawing Title

Water Network Layout
Pumping System
Sheet(31 of 31)

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



GROUND SURFACE	NATURAL GROUND		ASPHALT									
DIAMETER/MATERIAL	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI
LENGTH	65.00	25.00	35.00	55.00	10.00	105.00	79.92	52.96	54.41	42.71	44.99	40.01
SLOPE (mm/m)	97.0	146.5	63.9	81.9	22.6	58.5	73.6	67.9	108.7	143.6	12.3	45.5
GROUND ELEVATION	616.69	610.44	606.82	606.30	604.53	600.28	600.35	606.43	612.33	616.11	621.84	627.71	628.56	626.67
INVERT ELEVATION	615.09	608.79	605.12	604.63	602.89	598.38	598.61	604.74	610.62	614.22	620.14	626.27	626.82	625.00
STATION	0+000.00	0+065.00	0+090.00	0+097.63	0+125.00	0+180.00	0+190.00	0+295.00	0+374.92	0+427.88	0+482.29	0+525.00	0+569.99	0+610.00
PIPE FITTINGS														



GROUND SURFACE	ASPHALT				
DIAMETER/MATERIAL	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI
LENGTH	55.00	175.00	70.00	45.00	120.00
SLOPE (mm/m)	72.7	35.2	62.9	43.0	11.3
GROUND ELEVATION	626.67	622.75	629.01	633.30	635.04	636.56
INVERT ELEVATION	625.00	621.00	627.17	631.57	633.50	634.85
STATION	0+610.00	0+665.00	0+840.00	0+910.00	0+955.00	1+075.00
PIPE FITTINGS						

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

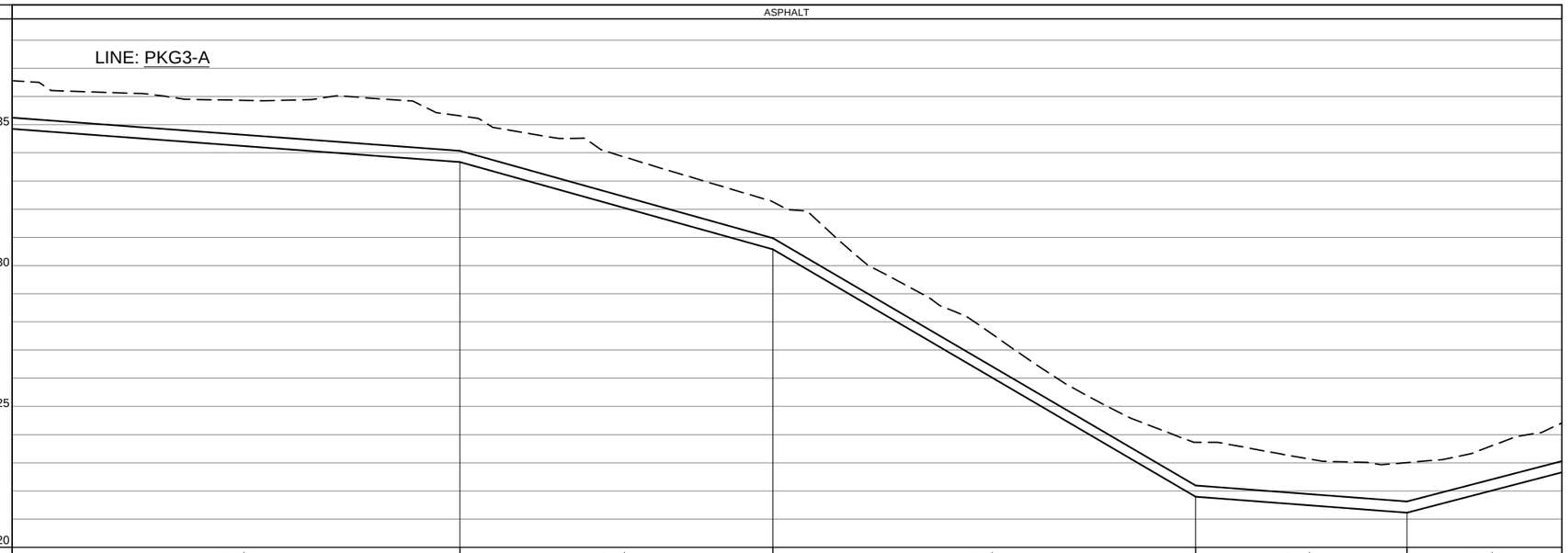
No.	DESCRIPTION	BY	DATE

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

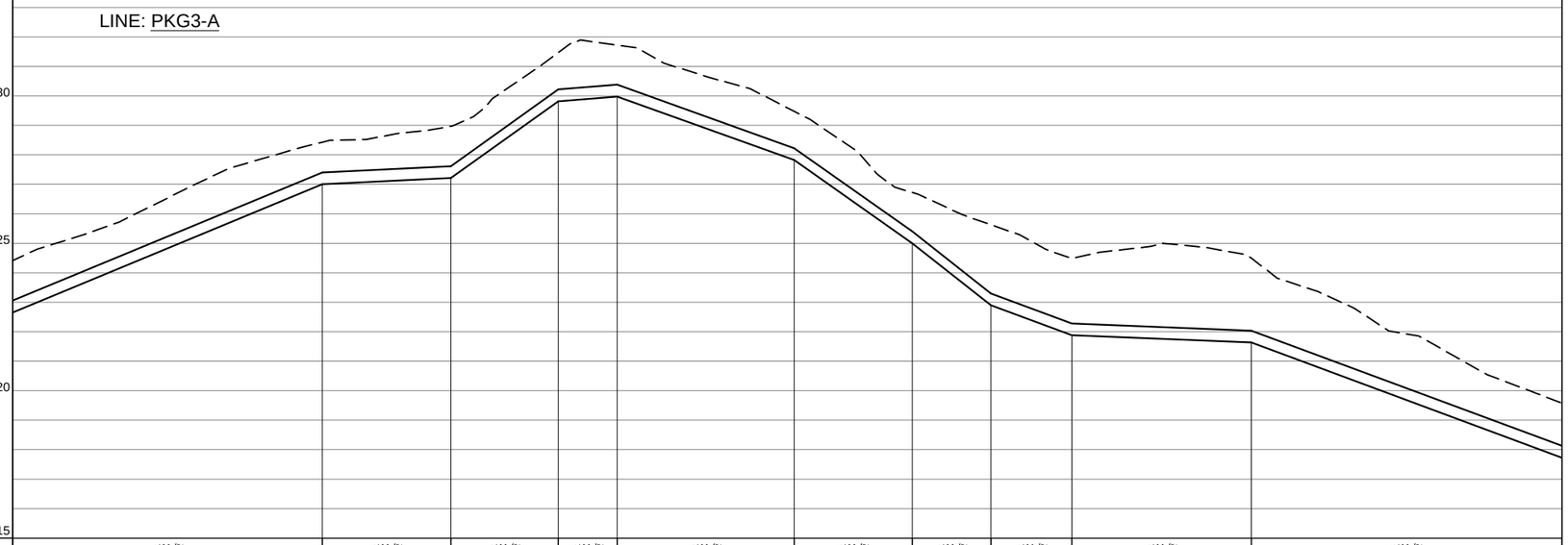
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A from Sta.0+00 to 1+075.00

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-01	Scale H:1/1000 V:1/100		Size A1



DIAMETER/MATERIAL	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	
LENGTH	158.89	111.11	150.00	75.00	55.00	
SLOPE (mm/m)	7.4	27.9	58.5	7.6	25.9	
GROUND ELEVATION	636.56	635.31	632.29	623.72	623.00	624.41
INVERT ELEVATION	634.85	633.67	630.57	621.80	621.23	622.66
STATION	1+075.00	1+233.89	1+345.00	1+495.00	1+570.00	1+625.00
PIPE FITTINGS						



DIAMETER/MATERIAL	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI	ø400/DI
LENGTH	105.00	43.54	36.46	20.00	60.00	40.00	26.74	27.38	60.88	105.31
SLOPE (mm/m)	41.4	4.9	71.4	8.1	35.9	70.6	78.6	37.0	4.1	37.1
GROUND ELEVATION	624.41	628.43	628.98	631.47	631.72	629.48	626.72	625.63	624.48	624.49	619.57
INVERT ELEVATION	622.66	627.00	627.22	629.82	629.98	627.82	625.00	622.90	621.88	621.64	617.73
STATION	1+625.00	1+730.00	1+773.54	1+810.00	1+830.00	1+890.00	1+930.00	1+956.74	1+984.12	2+045.00	2+150.31
PIPE FITTINGS											

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

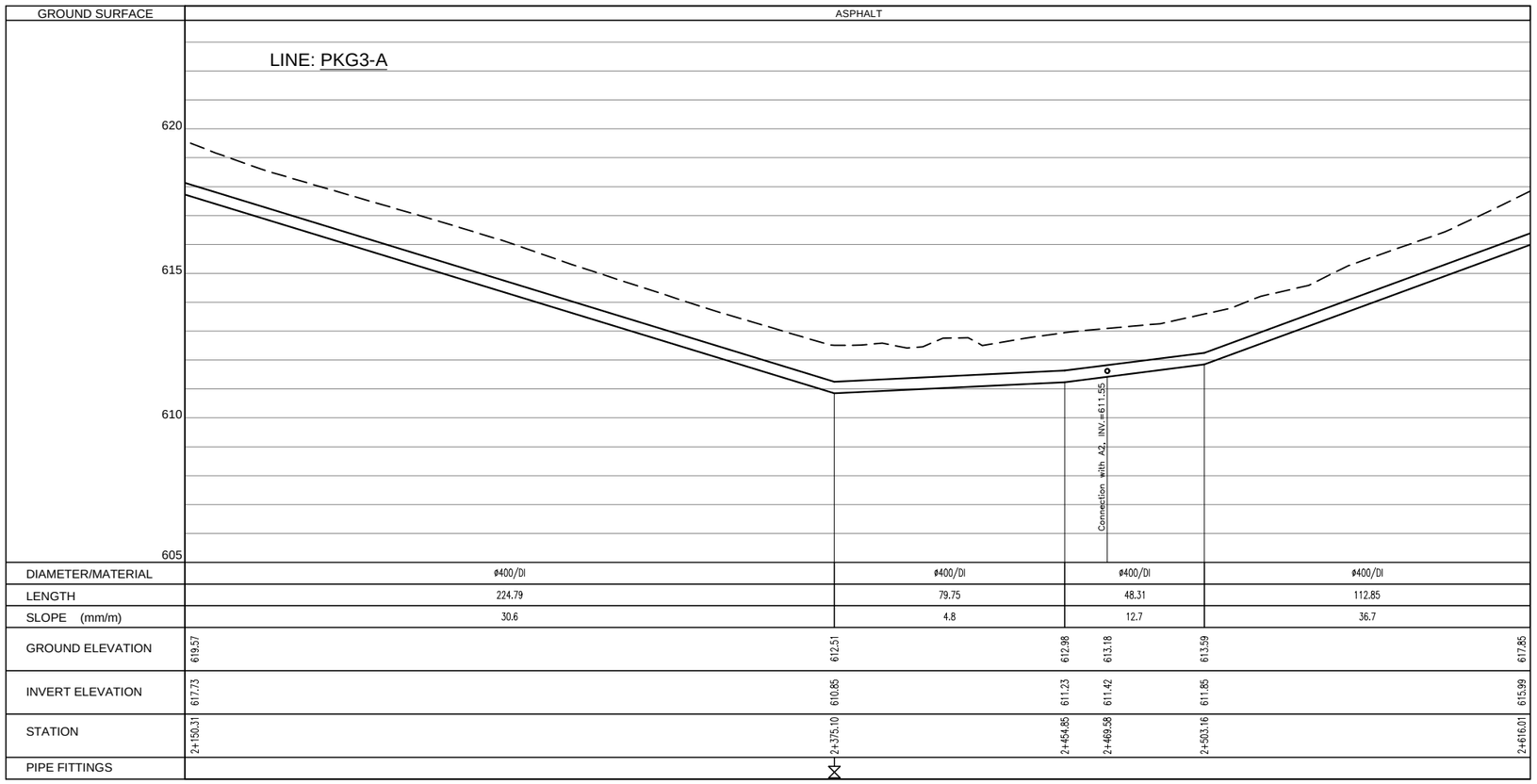
No.	DESCRIPTION	BY	DATE

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

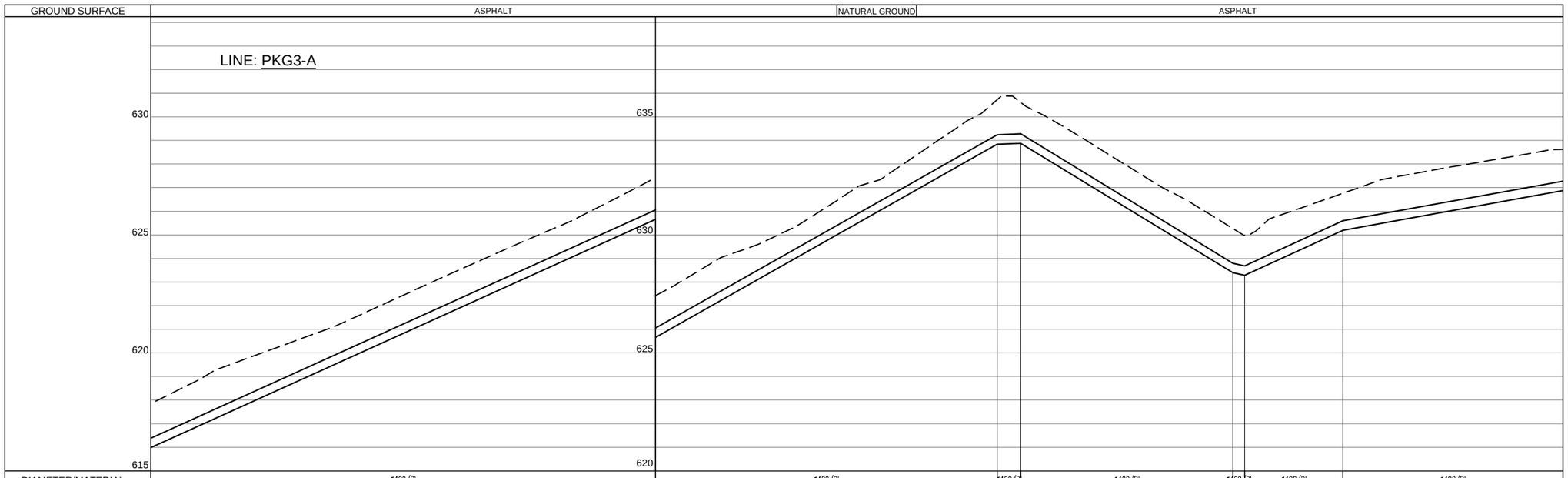
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A from Sta.1+075.00 to 2+150.31

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



DIAMETER/MATERIAL	ϕ400/DI	ϕ400/DI	ϕ400/DI	ϕ400/DI
LENGTH	224.79	79.75	48.31	112.85
SLOPE (mm/m)	30.6	4.8	12.7	36.7
GROUND ELEVATION	619.57	612.51	612.98 613.18	613.59 617.85
INVERT ELEVATION	617.73	610.85	611.23 611.42	611.85 615.99
STATION	2+150.31	2+375.10	2+454.85 2+469.58	2+503.16 2+616.01
PIPE FITTINGS				



DIAMETER/MATERIAL	ϕ400/DI	ϕ400/DI	ϕ400/DI	ϕ400/DI	ϕ400/DI	ϕ400/DI	ϕ400/DI
LENGTH	213.99	145.00	10.00	90.00	5.00	41.63	93.37
SLOPE (mm/m)	45.2	56.5	3.5	60.9	21.6	45.9	18.0
GROUND ELEVATION	617.85	627.42	635.73 635.61		630.27 629.99	631.76	633.62
INVERT ELEVATION	615.99	625.65	633.84 633.88		628.39 628.29	630.20	631.87
STATION	2+616.01	2+830.00	2+975.00 2+985.00		3+075.00 3+080.00	3+121.63	3+215.00
PIPE FITTINGS							

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

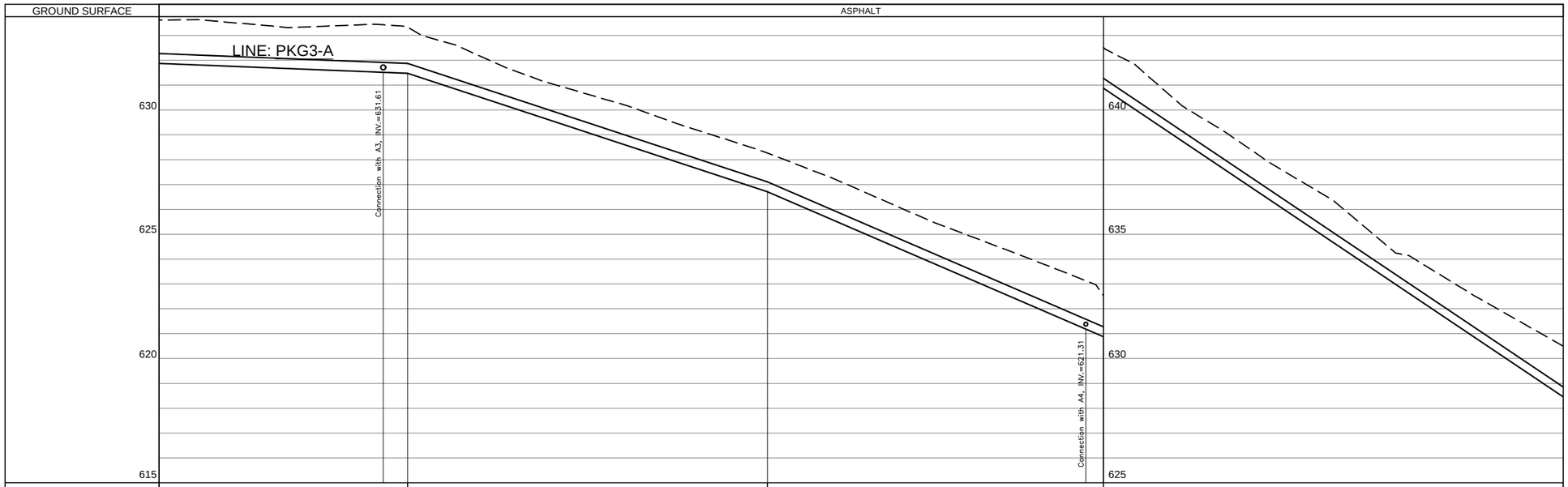
No.	DESCRIPTION	BY	DATE

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

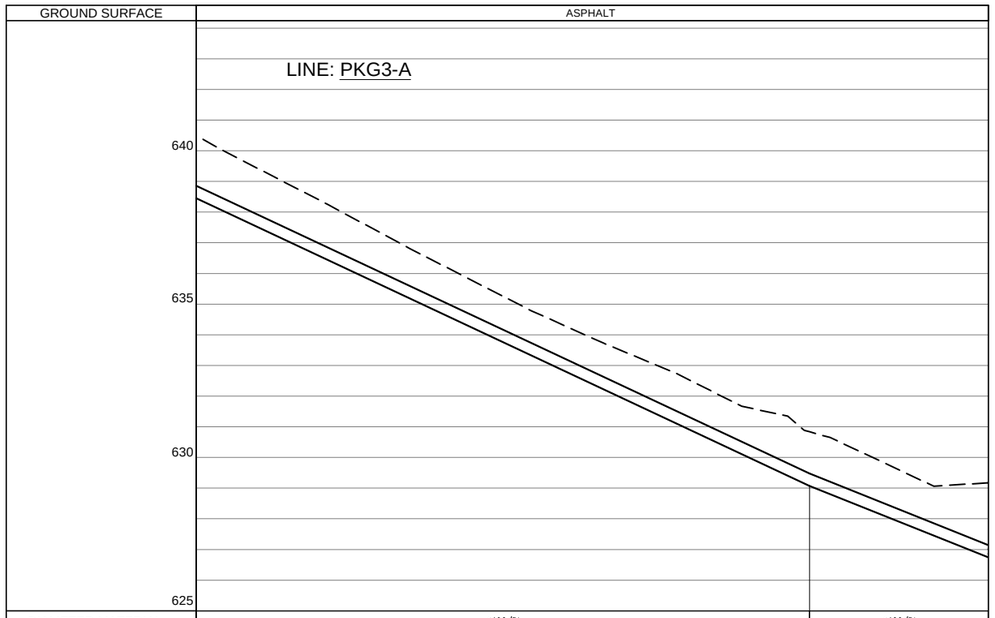
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A from Sta.2+150.31 to 3+215.00

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



DIAMETER/MATERIAL	ø400/DI	ø400/DI	ø400/DI	ø400/DI
LENGTH	100.00	144.77	135.23	185.00
SLOPE (mm/m)	4.0	32.9	43.1	67.1
GROUND ELEVATION	633.62 / 633.40	633.33 / 628.27	623.12 / 622.52	610.49
INVERT ELEVATION	631.87 / 631.51	631.47 / 626.71	621.18 / 620.88	608.46
STATION	3+215.00 / 3+305.18	3+315.00 / 3+459.77	3+587.87 / 3+595.00	3+780.00
PIPE FITTINGS				



DIAMETER/MATERIAL	ø400/DI	ø400/DI
LENGTH	200.01	58.40
SLOPE (mm/m)	46.9	40.0
GROUND ELEVATION	610.49 / 600.84	599.17
INVERT ELEVATION	608.46 / 599.07	596.74
STATION	3+780.00 / 3+980.01	4+038.41
PIPE FITTINGS		

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

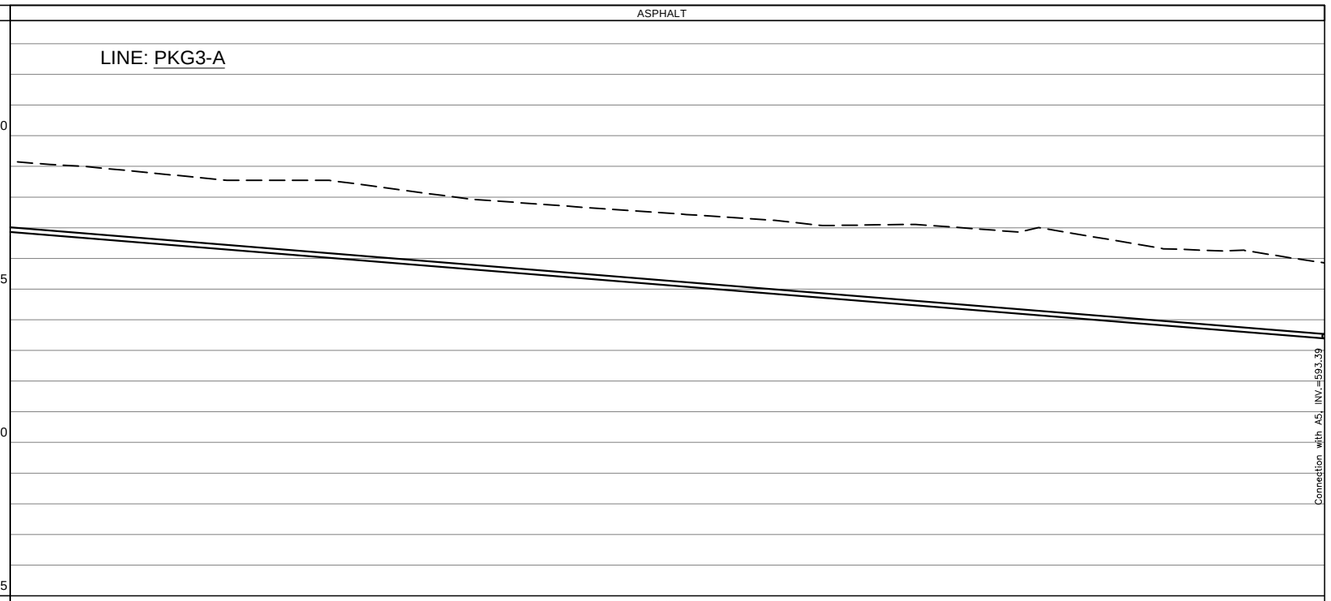
No.	DESCRIPTION	BY	DATE

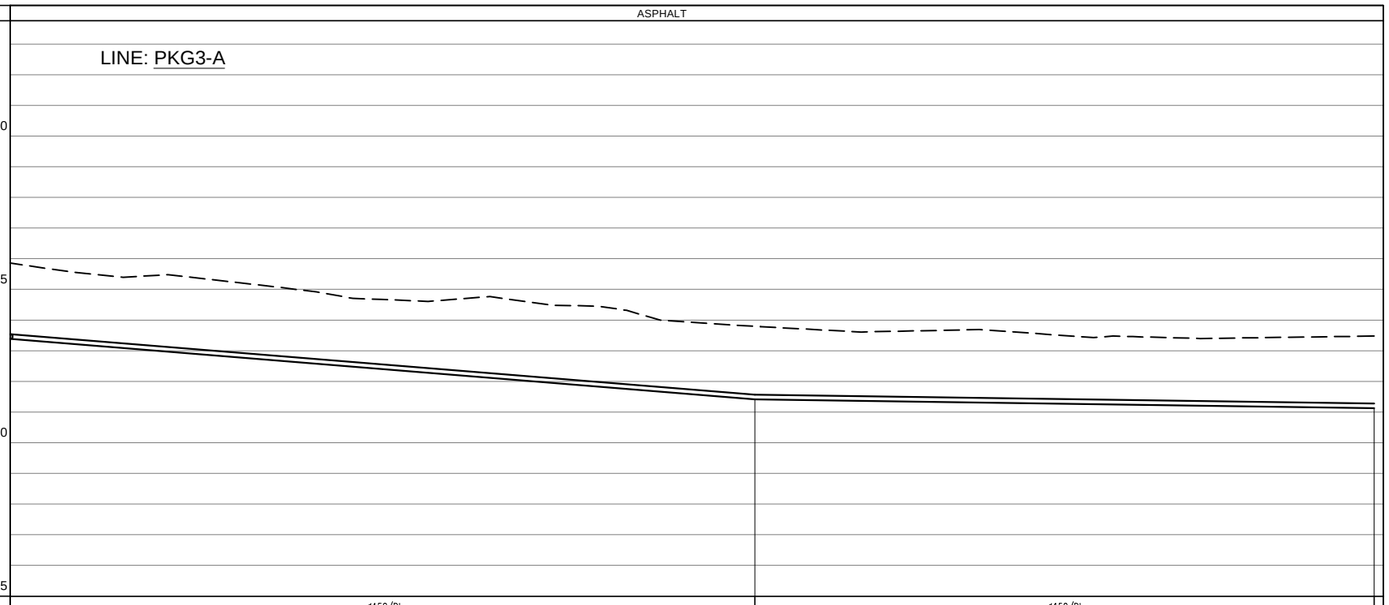
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

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
PUMPING SYSTEM
Profile of Line: PKG3-A from Sta.3+215.00 to 4+038.41

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

GROUND SURFACE	ASPHALT
	
DIAMETER/MATERIAL	ø150/DI
LENGTH	671.59
SLOPE (mm/m)	7.9
GROUND ELEVATION	599.17 595.86
INVERT ELEVATION	596.87 593.39
STATION	4+038.41 4+467.12
PIPE FITTINGS	

GROUND SURFACE	ASPHALT
	
DIAMETER/MATERIAL	ø150/DI ø150/DI
LENGTH	671.59 201.99
SLOPE (mm/m)	7.9 1.4
GROUND ELEVATION	595.86 593.79 593.48
INVERT ELEVATION	593.39 591.42 591.13
STATION	4+467.12 4+710.00 4+911.99
PIPE FITTINGS	

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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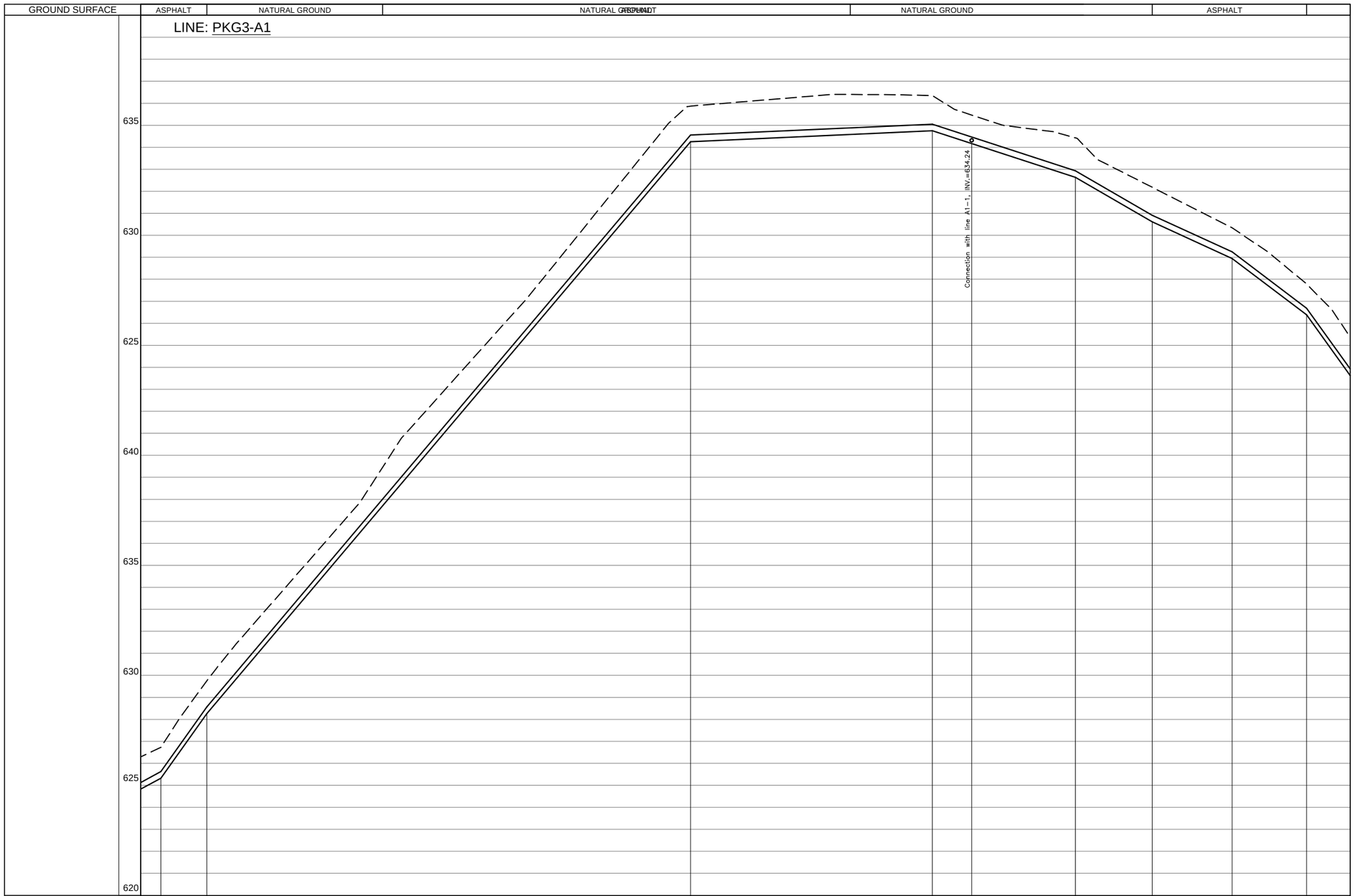
Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A from Sta.4+038.41 to 4+911.99

Design By		Reviewed By	
Checked By		Date	Mar. 2017

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



DIAMETER/MATERIAL	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI	ϕ300/DI
LENGTH	9.11	20.89	220.00	110.00	65.00	35.00	36.28	33.89	19.83	
SLOPE (mm/m)	53.78	140.6	118.2	4.5	32.6	57.8	45.8	75.7	138.8	
GROUND ELEVATION	606.30	606.72	609.75	635.87	636.35	635.49	634.43	632.18	630.34	627.79	625.37
INVERT ELEVATION	604.68	605.32	608.26	634.26	634.75	634.17	632.63	630.61	628.95	626.38	623.63
STATION	0+000.00	0+009.11	0+030.00	0+250.00	0+360.00	0+377.86	0+425.00	0+460.00	0+496.28	0+530.17	0+550.00
PIPE FITTINGS										

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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Project Title

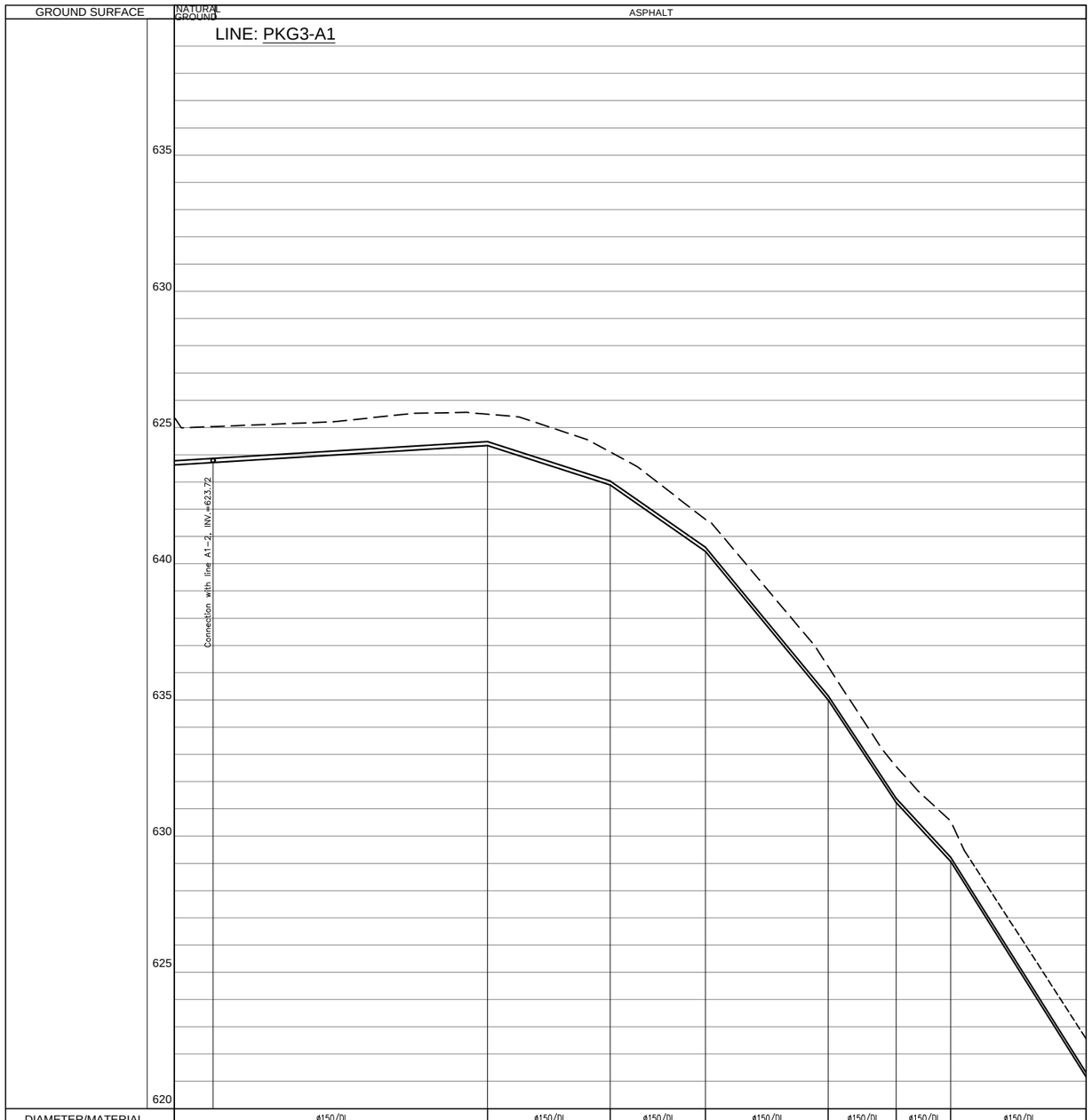
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

PUMPING SYSTEM

Profile of Line: PKG3-A-1 from Sta.0+000 to 0+550.00

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-06	Scale H:1/1000 V:1/100		Size A1



DIAMETER/MATERIAL	ϕ150/DI		ϕ150/DI	ϕ150/DI	ϕ150/DI	ϕ150/DI	ϕ150/DI	ϕ150/DI
LENGTH	115.00		45.00	35.00	45.00	25.00	20.00	49.74
SLOPE (mm/m)	6.1		32.1	69.6	121.2	150.8	107.9	159.1
GROUND ELEVATION	625.37	625.00	625.49	624.10	621.63	616.22	612.55	610.55	602.56
INVERT ELEVATION	623.63	623.72	624.33	622.89	620.45	615.00	611.23	609.07	601.16
STATION	0+550.00	0+564.19	0+665.00	0+710.00	0+745.00	0+790.00	0+815.00	0+835.00	0+884.74
PIPE FITTINGS			⋈						

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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
PUMPING SYSTEM
Profile of Line: PKG3-A-1 from Sta.0+550.00 to 0+884.74

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-07	Scale H:1/1000 V:1/100		Size A1

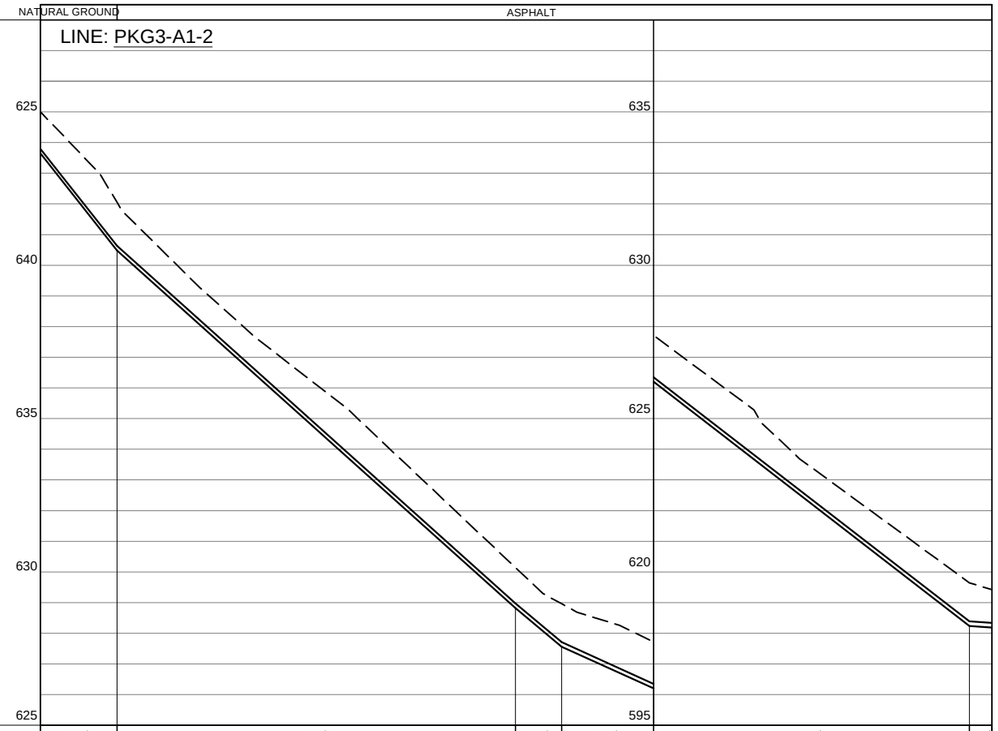
LINE: PKG3-A1-1

GROUND SURFACE: NATURAL GROUND | ASPHALT

DIAMETER/MATERIAL	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI
LENGTH	9.35	25.65	25.00	55.00	70.00	40.00	23.05
SLOPE (mm/m)	191.44	66.5	23.8	47.7	54.5	124.1	157.8
GROUND ELEVATION	635.49	637.32	638.98	638.50	635.85	632.00	627.18	623.66
INVERT ELEVATION	634.24	636.11	637.81	637.22	634.60	630.78	625.82	622.18
STATION	0+000.00	0+009.35	0+035.00	0+060.00	0+115.00	0+185.00	0+225.00	0+248.05
PIPE FITTINGS								

LINE: PKG3-A1-2

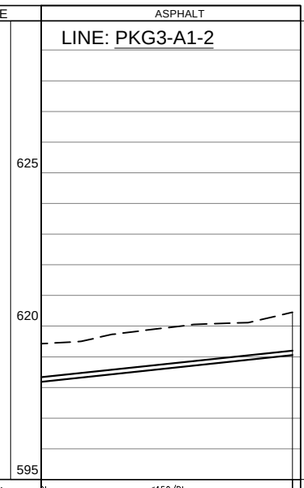
GROUND SURFACE: NATURAL GROUND | ASPHALT



DIAMETER/MATERIAL	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/
LENGTH	25.00	130.00	15.00	30.00	103.08	7.35
SLOPE (mm/m)	126.5	89.7	84.1	45.2	77.3	7.2
GROUND ELEVATION	625.00	622.05	610.14	608.96	607.72	599.65	599.43
INVERT ELEVATION	623.72	620.48	608.82	607.56	606.20	598.24	598.19
STATION	0+000.00	0+025.00	0+155.00	0+170.00	0+200.00	0+303.08	0+310.43
PIPE FITTINGS							

LINE: PKG3-A1-2

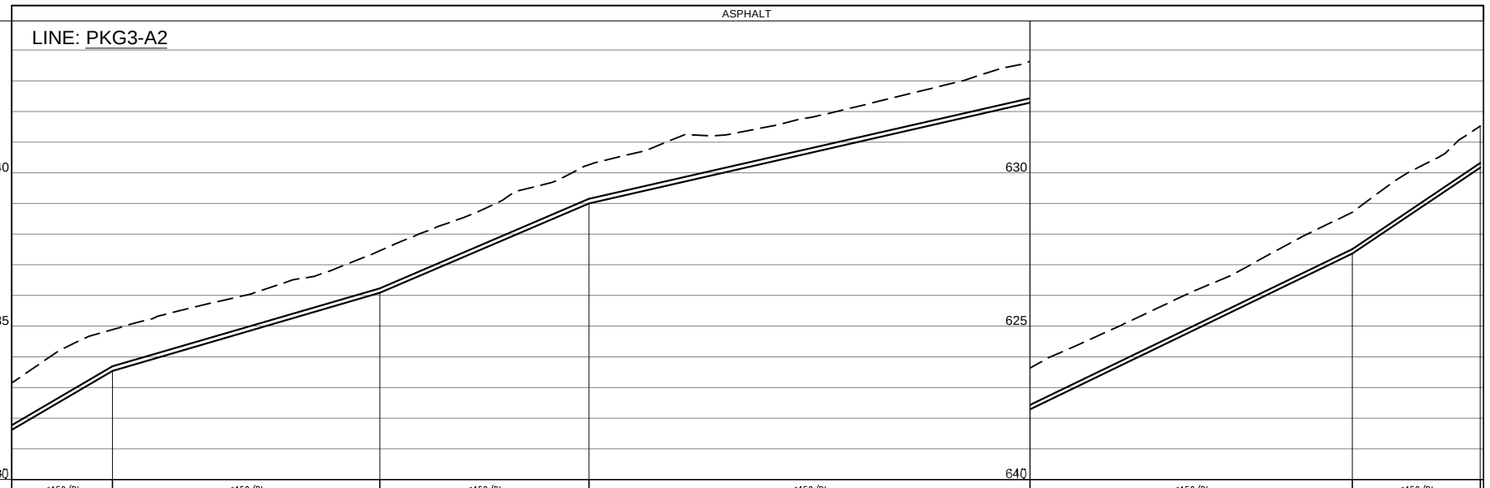
GROUND SURFACE: ASPHALT



DIAMETER/MATERIAL	DI	ø150/DI
LENGTH		81.98
SLOPE (mm/m)		10.6
GROUND ELEVATION	599.43	600.45
INVERT ELEVATION	598.19	599.05
STATION	0+310.43	0+392.41
PIPE FITTINGS		

LINE: PKG3-A2

GROUND SURFACE: ASPHALT



DIAMETER/MATERIAL	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI
LENGTH	32.83	87.17	68.26	143.90	105.12	41.76	
SLOPE (mm/m)	58.48	29.2	42.7	22.8	48.3	67.3	
GROUND ELEVATION	613.18	614.89	617.46	620.26	623.63	628.71	631.52
INVERT ELEVATION	611.55	613.54	616.09	619.00	622.28	627.36	630.17
STATION	0+000.00	0+032.83	0+120.00	0+188.26	0+332.16	0+437.28	0+479.04

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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
PUMPING SYSTEM
Profile of Line: PKG3-A-1-1 ,PKG3-A-1-2,PKG3-A2

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

GROUND SURFACE	ASPHALT				NATURAL GROUND		ASPHALT			
DIAMETER/MATERIAL	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI
LENGTH	55.04	119.96	70.00	50.00	55.00	55.00	50.00	50.00	55.00	30.00
SLOPE (mm/m)	8.54	54.4	52.0	26.8	47.6	23.0	10.6	44.7	6.5	36.7
GROUND ELEVATION	633.40	632.51	626.02	622.43	620.98	618.48	619.69	620.28	622.36	623.06	623.91
INVERT ELEVATION	631.61	631.24	624.72	621.08	619.73	617.12	618.38	618.91	621.15	621.50	622.60
STATION	0+000.00	0+055.04	0+175.00	0+245.00	0+295.00	0+350.00	0+405.00	0+455.00	0+505.00	0+560.00	0+590.00
PIPE FITTINGS										

GROUND SURFACE	ASPHALT		NATURAL GROUND	ASPHALT	
DIAMETER/MATERIAL	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI
LENGTH	125.00	115.00	70.00	75.00	150.00
SLOPE (mm/m)	4.7	48.7	30.8	39.5	30.2
GROUND ELEVATION	623.91	624.71	618.91	616.75	613.74	609.24
INVERT ELEVATION	622.60	623.19	617.59	615.43	612.46	607.93
STATION	0+590.00	0+715.00	0+830.00	0+900.00	0+975.00	1+125.00
PIPE FITTINGS						

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

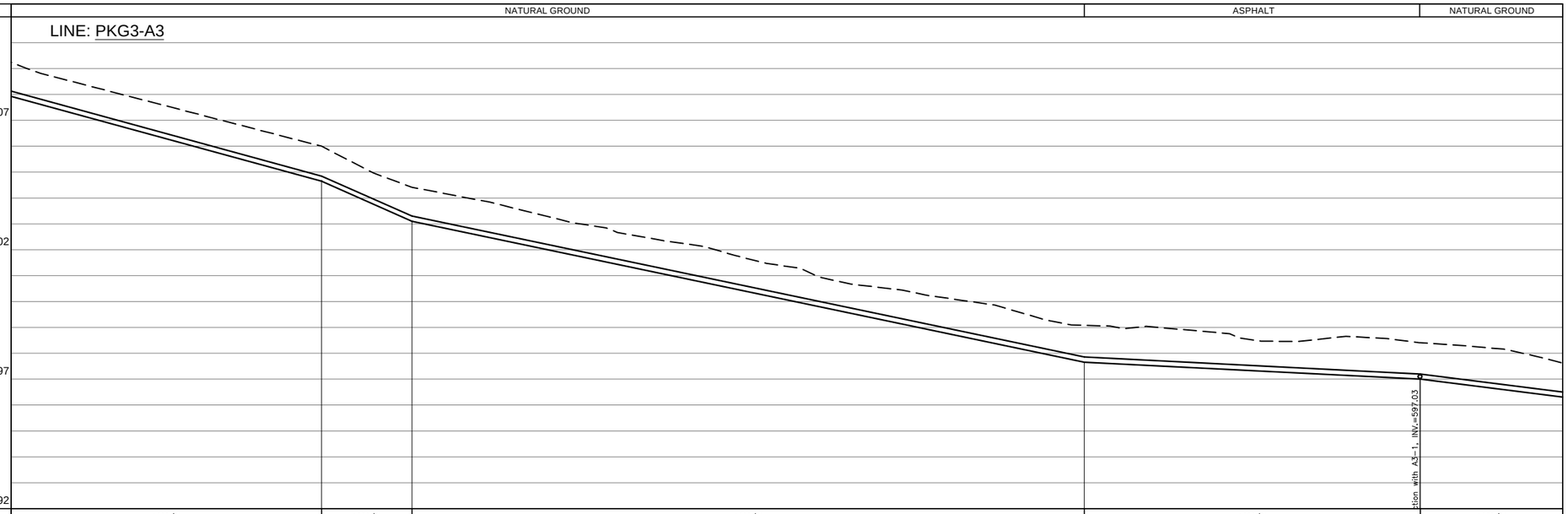
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

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

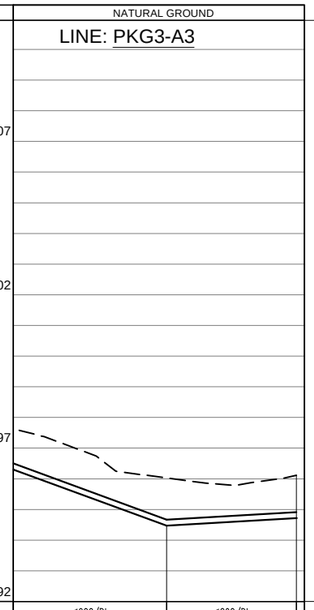
Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A-3 from Sta.0+000 to 1+125.00

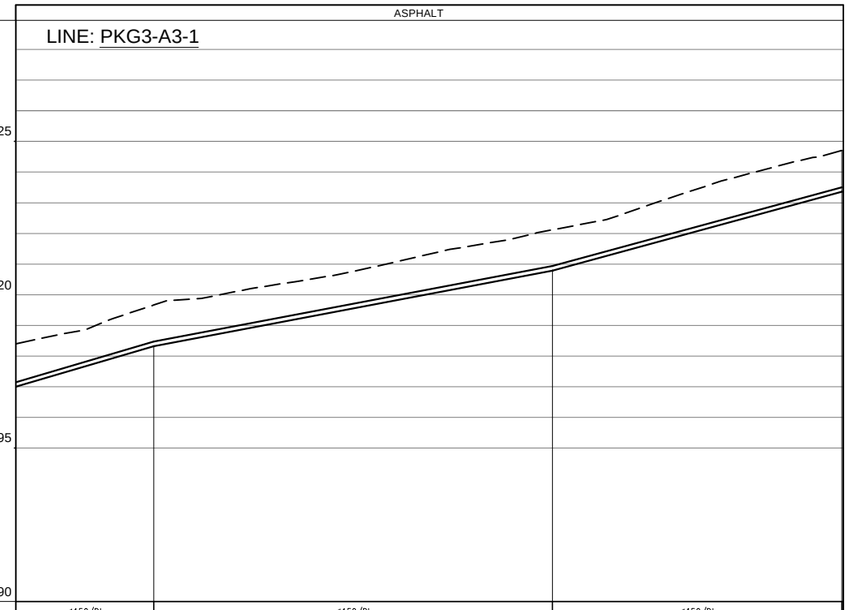
Design By		Reviewed By	
Checked By		Date	Mar. 2017

Drawing No.	Scale	Size
PRP-09	H:1/1000 V:1/100	A1



GROUND SURFACE	NATURAL GROUND			ASPHALT	NATURAL GROUND
DIAMETER/MATERIAL	ø200/DI	ø200/DI	ø200/DI	ø200/DI	ø200/DI
LENGTH	120.00	35.00	260.00	130.00	55.00
SLOPE (mm/m)	27.3	44.2	20.9	5.0	12.6
GROUND ELEVATION	609.24	606.00	604.41	599.08	598.41	597.63
INVERT ELEVATION	607.93	604.65	603.10	597.66	597.00	596.31
STATION	1+125.00	1+245.00	1+280.00	1+540.00	1+670.00	1+725.00
PIPE FITTINGS						





GROUND SURFACE	NATURAL GROUND		ASPHALT		
DIAMETER/MATERIAL	ø200/DI	ø200/DI	ø150/DI	ø150/DI	ø150/DI
LENGTH	50.00	42.33	45.00	130.03	94.46
SLOPE (mm/m)	36.7	5.8	27.33	18.9	27.2
GROUND ELEVATION	597.63	596.03	596.12	598.40	599.67	602.12	604.71
INVERT ELEVATION	596.31	594.47	594.72	597.03	598.33	600.79	603.36
STATION	1+725.00	1+775.00	1+817.33	0+000.00	0+045.00	0+175.03	0+269.49
PIPE FITTINGS							

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

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

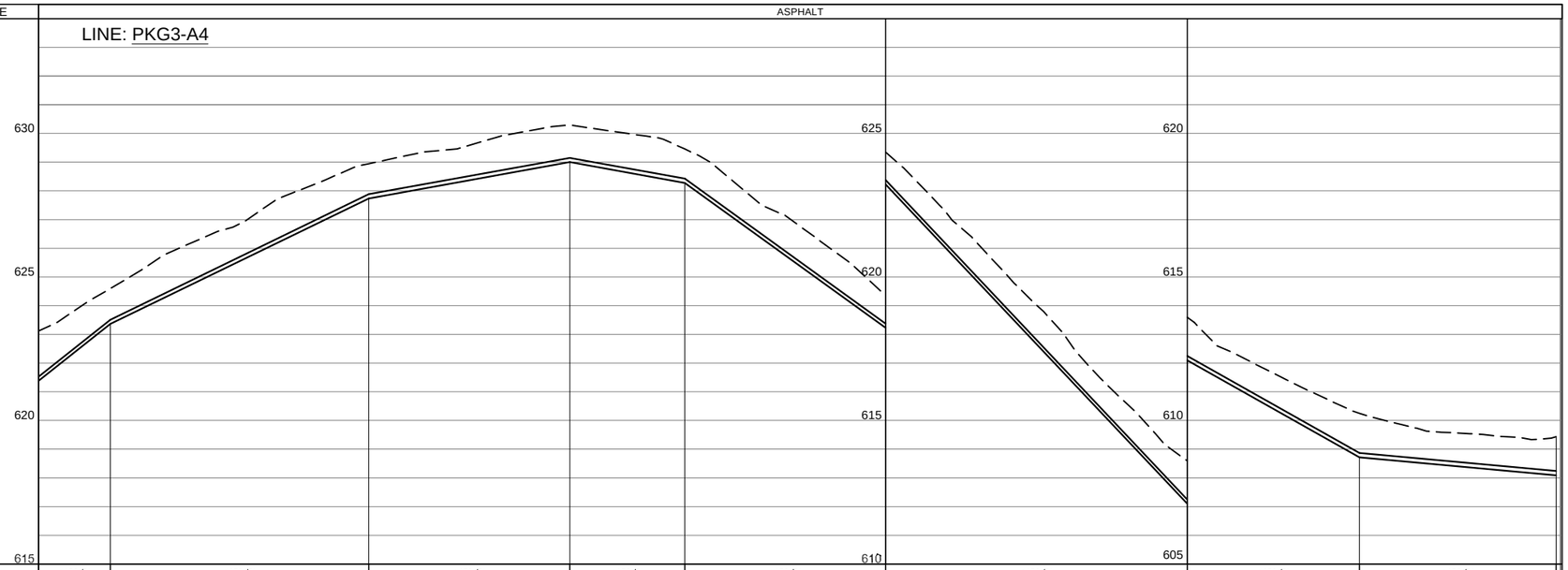
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-A-3 from Sta.1+125.00 to 1+817.33, PKG3-A-3-1

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-10	Scale H:1/1000 V:1/100		Size A1

GROUND SURFACE | ASPHALT

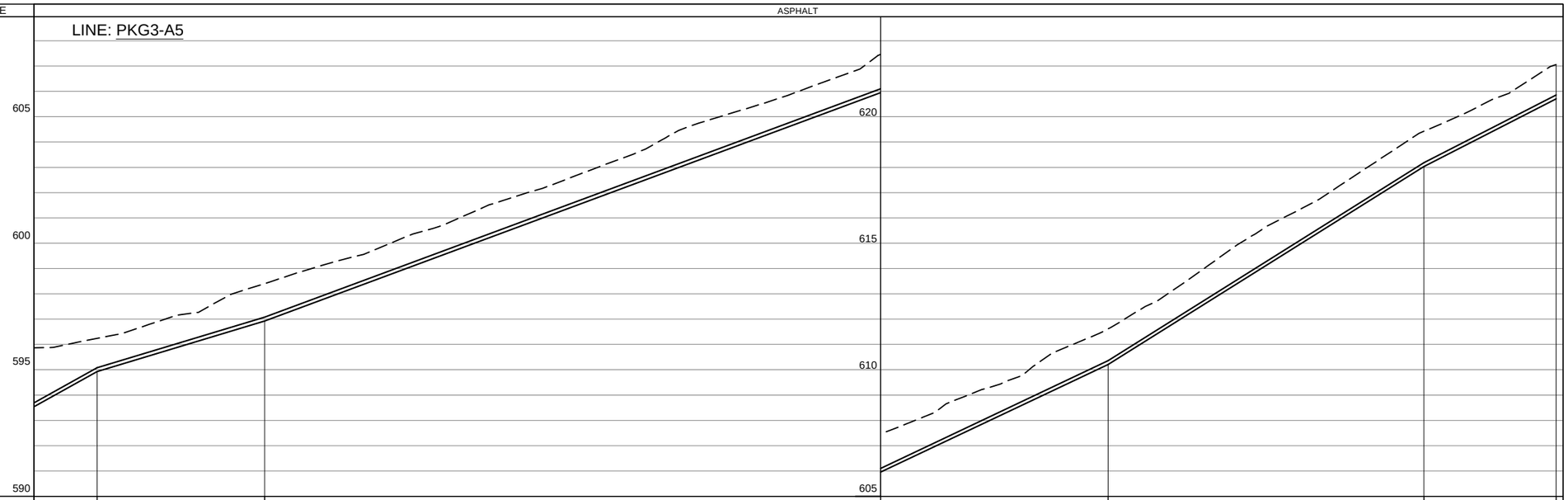
LINE: PKG3-A4



DIAMETER/MATERIAL	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI
LENGTH	25.00	90.00	70.00	40.00	70.00	105.00	60.00	68.46
SLOPE (mm/m)	79.2	48.6	18.1	18.1	72.1	106.0	56.3	9.1
GROUND ELEVATION	623.12	624.60	628.95	630.29	629.46	624.36	613.59	610.25	609.44
INVERT ELEVATION	621.31	623.36	627.73	629.00	628.27	623.23	612.10	608.72	608.09
STATION	0+000.00	0+025.00	0+115.00	0+185.00	0+225.00	0+295.00	0+400.00	0+460.00	0+528.46
PIPE FITTINGS									

GROUND SURFACE | ASPHALT

LINE: PKG3-A5



DIAMETER/MATERIAL	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	ø150/DI	
LENGTH	25.00	66.29	243.71	90.00	125.00	52.29	
SLOPE (mm/m)	55.6	30.1	37.0	47.2	62.6	51.2	
GROUND ELEVATION	595.87	596.24	598.40	607.46	611.61	619.43	622.06
INVERT ELEVATION	593.54	594.93	596.93	605.95	610.21	618.03	620.71
STATION	0+000.00	0+025.00	0+091.29	0+335.00	0+425.00	0+550.00	0+602.29
PIPE FITTINGS							

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

Project Title

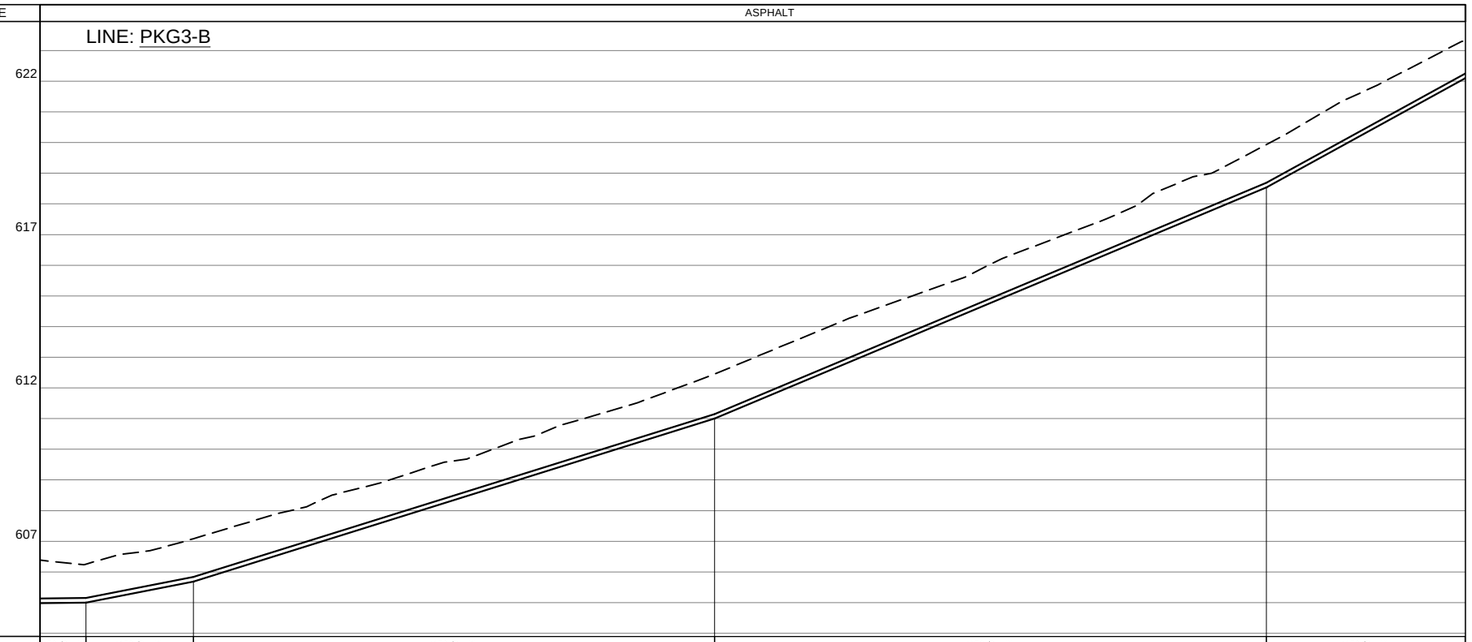
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

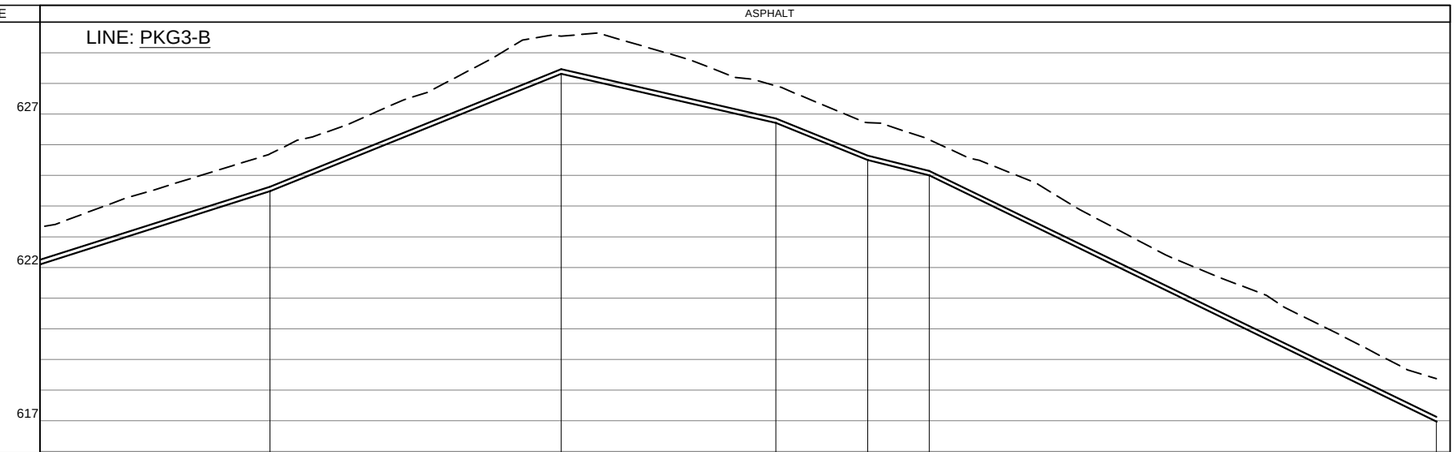
PUMPING SYSTEM

Profile of Line: PKG3-A-4 ,PKG3-A-5

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



GROUND SURFACE	ASPHALT					
DIAMETER/MATERIAL	150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	
LENGTH	15.00	35.00	170.00	180.00	65.00	
SLOPE (mm/m)	0.9	19.7	31.2	41.9		
GROUND ELEVATION	606.39	606.26	607.08	612.45	619.93	623.32
INVERT ELEVATION	604.99	605.00	605.69	611.00	618.54	622.10
STATION	0+000.00	0+015.00	0+050.00	0+220.00	0+400.00	0+465.00
PIPE FITTINGS						



GROUND SURFACE	ASPHALT					
DIAMETER/MATERIAL	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	75.00	95.00	70.00	30.00	20.00	165.44
SLOPE (mm/m)	31.7		22.9	40.4	25.0	
GROUND ELEVATION	623.32	625.68	629.54	627.92	626.72	626.23	618.38
INVERT ELEVATION	622.10	624.48	628.31	626.71	625.50	625.00	616.88
STATION	0+465.00	0+540.00	0+635.00	0+705.00	0+735.00	0+755.00	0+920.44
PIPE FITTINGS							

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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
PUMPING SYSTEM
Profile of Line: PKG3-B

Design By		Reviewed By	
Checked By		Date	Mar. 2017

Drawing No.	Scale	Size
PRP-12	H:1/1000 V:1/100	A1

GROUND SURFACE	ASPHALT		NATURAL GROUND	ASPHALT	
DIAMETER/MATERIAL	ø150/Ductile		ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	130.00		255.00	51.80	93.25
SLOPE (mm/m)	8.1		2.1	3.3	15.5
GROUND ELEVATION	588.58	587.50	587.80	588.04	589.48 589.53
INVERT ELEVATION	587.13	586.08	586.61	586.78	588.16 588.23
STATION	0+000.00	0+130.00	0+385.00	0+436.80	0+525.95 0+530.05
PIPE FITTINGS					

LINE: PKG3-C

598
593
588
583

line PKG3-C-1, INV.=588.16

GROUND SURFACE	ASPHALT		NATURAL GROUND	ASPHALT	
DIAMETER/MATERIAL	ø150/Ductile		ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	159.95		79.41	60.17	82.27
SLOPE (mm/m)	22.9		2.1	12.4	6.4
GROUND ELEVATION	589.53	593.13	593.25	594.00	594.73
INVERT ELEVATION	588.23	591.89	592.05	592.80	593.33
STATION	0+530.05	0+690.00	0+769.41	0+829.58	0+911.85
PIPE FITTINGS					

LINE: PKG3-C

598
593
588
583

GROUND SURFACE	ASPHALT			
DIAMETER/MATERIAL	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	60.00	20.00	85.00	25.00
SLOPE (mm/m)	15.9	32.7	6.7	36.6
GROUND ELEVATION	589.54	588.49	587.73	587.33 586.25
INVERT ELEVATION	588.16	587.14	586.48	585.92 585.00
STATION	0+000.00	0+060.00	0+080.00	0+165.00 0+190.00

LINE: PKG3-C1

595
590
585
580

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

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

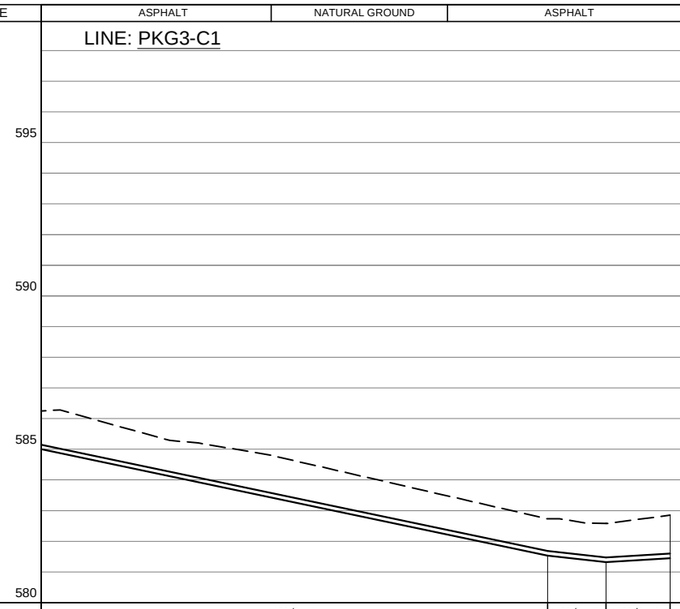
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-C,PKG3-C-1 From 0+000 to 0+190.00

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

GROUND SURFACE	ASPHALT	NATURAL GROUND	ASPHALT

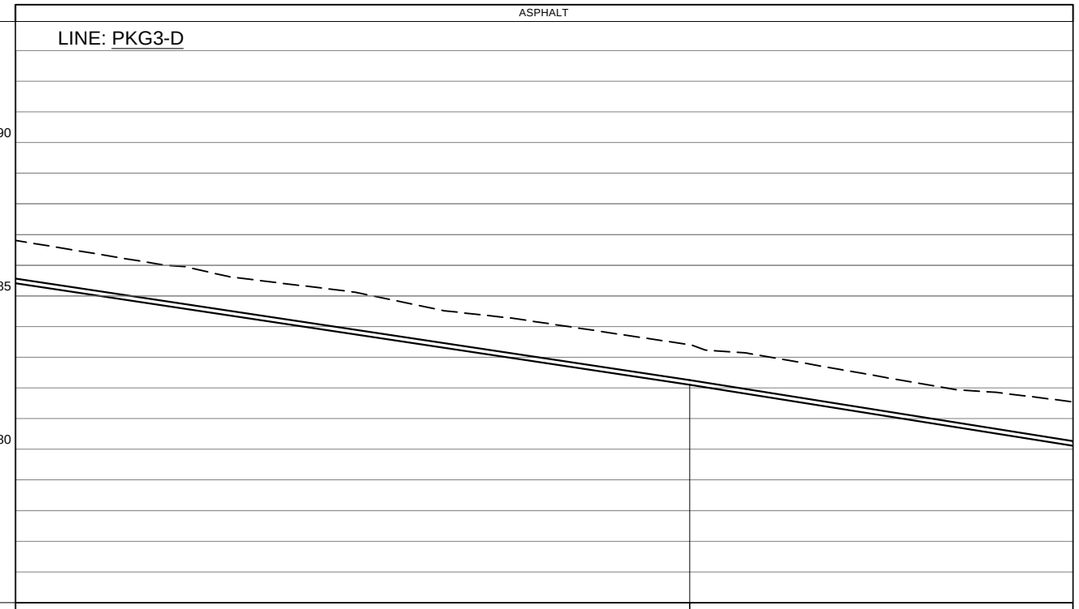
LINE: PKG3-C1



DIAMETER/MATERIAL	ø150/Ductile		ø150/Ductile	ø150/Ductile
LENGTH	165.14		19.07	20.92
SLOPE (mm/m)	21.0		11.1	6.2
GROUND ELEVATION	586.25		582.73	582.58 / 582.85
INVERT ELEVATION	585.00		581.53	581.32 / 581.45
STATION	0+190.00		0+355.14	0+374.21 / 0+395.13
PIPE FITTINGS				

GROUND SURFACE	ASPHALT

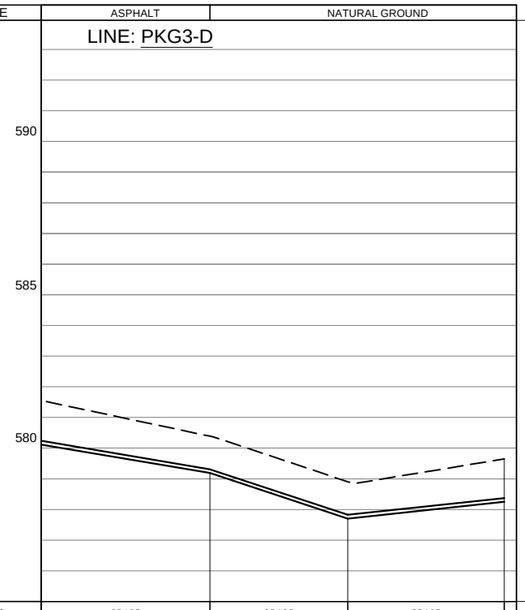
LINE: PKG3-D



DIAMETER/MATERIAL	ø150/Ductile	ø150/Ductile
LENGTH	220.00	125.00
SLOPE (mm/m)	15.0	15.9
GROUND ELEVATION	586.81	583.41 / 581.55
INVERT ELEVATION	585.41	582.10 / 580.12
STATION	0+000.00	0+220.00 / 0+345.00

GROUND SURFACE	ASPHALT	NATURAL GROUND

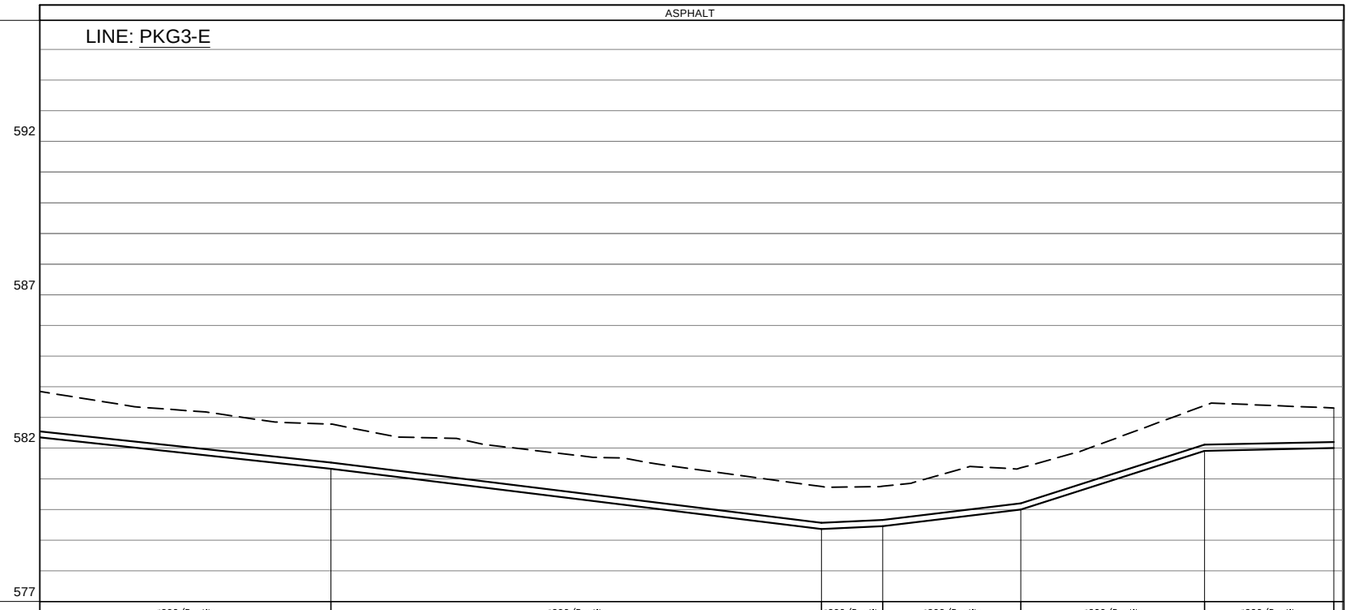
LINE: PKG3-D



DIAMETER/MATERIAL	OD125	OD125	OD125
LENGTH	55.00	45.00	50.99
SLOPE (mm/m)	16.9	33.0	10.7
GROUND ELEVATION	581.56	580.39	578.91 / 579.65
INVERT ELEVATION	580.12	579.19	577.70 / 578.25
STATION	0+345.00	0+400.00	0+445.00 / 0+495.99
PIPE FITTINGS			

GROUND SURFACE	ASPHALT

LINE: PKG3-E



DIAMETER/MATERIAL	ø200/Ductile	ø200/Ductile	ø200/Ductile	ø200/Ductile	ø200/Ductile	ø200/Ductile
LENGTH	95.00	160.00	20.00	45.00	60.00	42.12
SLOPE (mm/m)	10.8	12.3	4.7	12.0	31.9	2.0
GROUND ELEVATION	583.85	582.78	580.75	580.76	581.36	583.39 / 583.31
INVERT ELEVATION	582.35	581.33	579.36	579.46	580.00	581.91 / 582.00
STATION	0+000.00	0+095.00	0+255.00	0+275.00	0+320.00	0+380.00 / 0+422.12

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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
PUMPING SYSTEM
Profile of Line: PKG3-C-1 from Sta 0+190 to 0+395.13 ,PKG3-D,PKG3-E

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-14	Scale H:1/1000 V:1/100		Size A1

GROUND SURFACE	ASPHALT											
DIAMETER/MATERIAL	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile
LENGTH	29.28	98.26	26.12	25.46	70.15	32.75	14.53	23.20	48.20	48.12	32.35	128.53
SLOPE (mm/m)	1.1	127.7	82.5	110.2	62.4	8.4	47.6	114.9	148.1	98.4	49.2	15.1
GROUND ELEVATION	616.49	616.15	603.75	601.59	598.77	594.60	594.11	594.80	597.43	604.61	609.35	611.02	612.99
INVERT ELEVATION	614.79	614.76	602.21	600.06	597.25	592.88	592.60	593.29	595.96	603.10	607.83	609.42	611.37
STATION	0+000.00	0+030.01	0+128.27	0+154.39	0+179.85	0+250.00	0+282.75	0+297.28	0+320.48	0+368.68	0+416.80	0+449.15	0+577.68
PIPE FITTINGS													

GROUND SURFACE	ASPHALT									
DIAMETER/MATERIAL	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile
LENGTH	9.95	60.32	43.23	27.45	41.11	31.20	122.81	43.05	33.20	134.34
SLOPE (mm/m)	80.2	30.4	6.5	17.6	8.6	20.1	3.4	17.1	3.0	69.0
GROUND ELEVATION	612.99	613.67	615.49	615.80	616.26	615.92	615.29	614.88	615.85	615.61	606.24
INVERT ELEVATION	611.37	612.17	614.00	614.28	614.76	614.41	613.78	613.36	614.10	614.00	604.74
STATION	0+577.68	0+587.63	0+647.95	0+691.18	0+718.63	0+759.74	0+790.94	0+913.75	0+956.80	0+990.00	1+124.34
PIPE FITTINGS											

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

No.	DESCRIPTION	BY	DATE

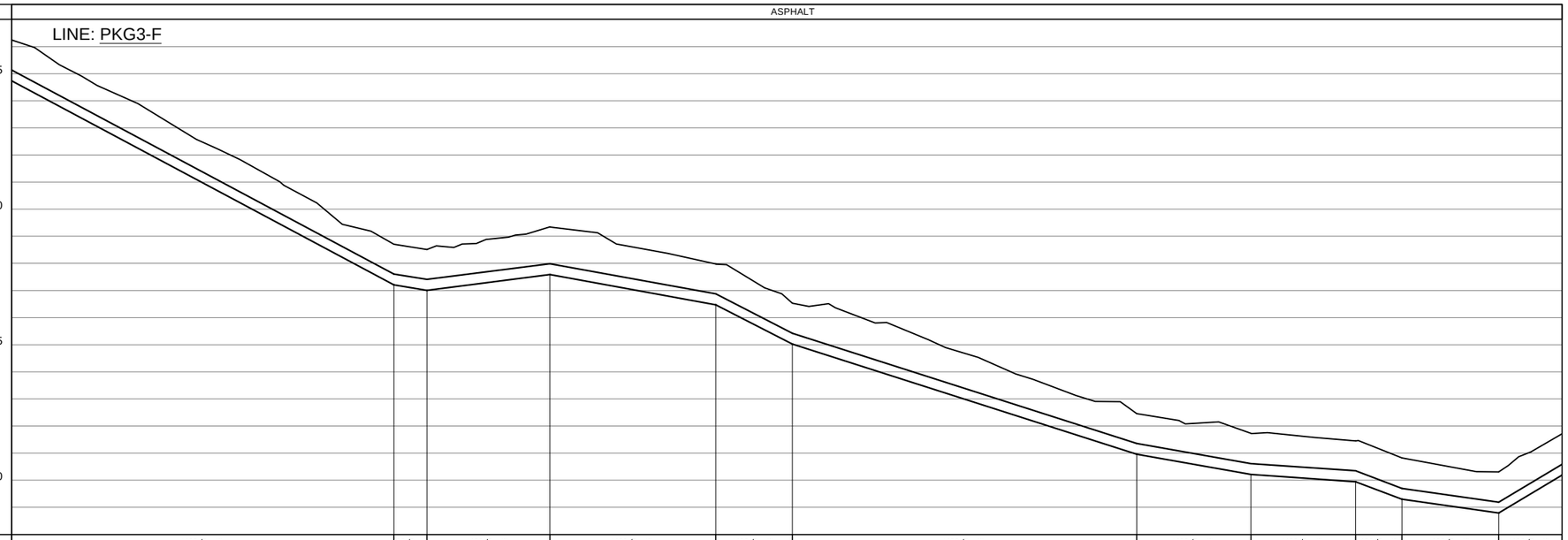
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

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

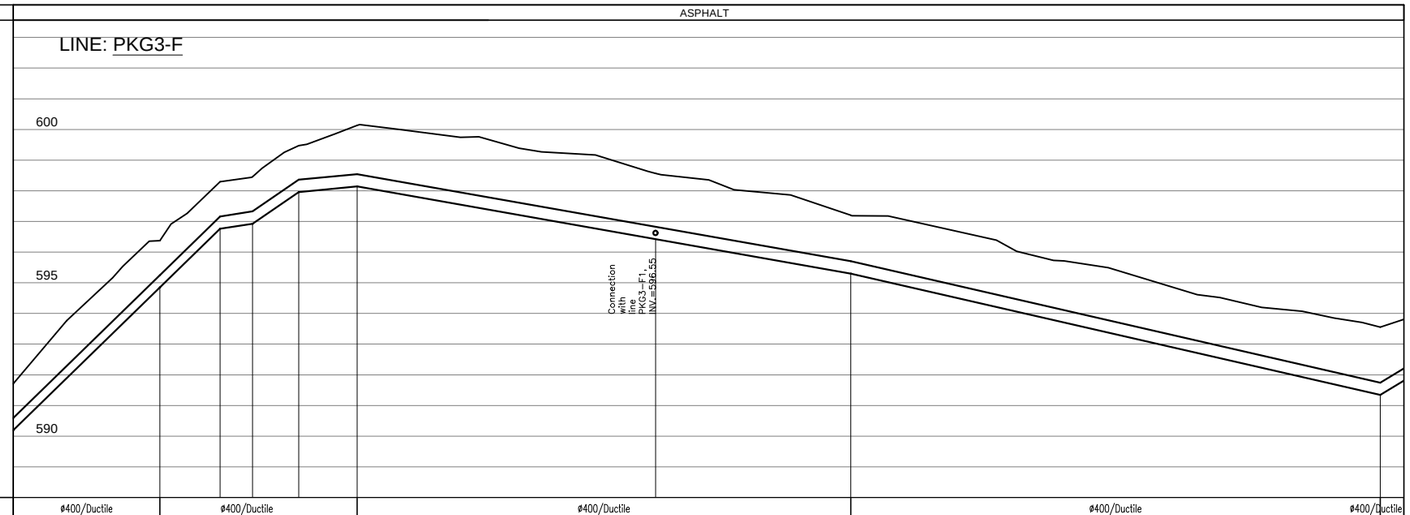
Drawing Title
PUMPING SYSTEM
Profile of Line: PKG3-F from Sta 0+000 to 1+124.34

Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No. PRP-15	Scale H:1/1000 V:1/100		Size A1

GROUND SURFACE	ASPHALT										
DIAMETER/MATERIAL	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile	ø400/Ductile
LENGTH	141.08	12.13	45.36	61.29	28.21	127.13	42.18	38.57	17.10	35.73	23.34
SLOPE (mm/m)	53.4	16.7	12.8	18.1	51.5	32.0	17.7	6.9	37.7	14.3	60.1
GROUND ELEVATION	606.24	598.71	598.51	599.34	597.97	596.53	592.46	591.73	591.45	590.82	590.31	591.71
INVERT ELEVATION	604.74	597.21	597.01	597.59	596.48	595.02	590.96	590.21	589.95	589.30	588.79	590.19
STATION	1+124.34	1+265.42	1+277.55	1+322.91	1+384.20	1+412.41	1+539.54	1+581.72	1+620.29	1+637.39	1+673.12	1+696.46
PIPE FITTINGS												



GROUND SURFACE	ASPHALT							
DIAMETER/MATERIAL	ø400/Ductile	ø400/Ductile				ø400/Ductile	ø400/Ductile	ø400/Ductile
LENGTH	47.81	19.64	10.56	15.14	19.01	161.04	172.69	7.71
SLOPE (mm/m)	97.4	97.4	15.6	68.3	9.5	17.6	22.9	60.2
GROUND ELEVATION	591.71	596.37	598.30	598.44	599.47	600.16	597.20	597.20	593.55	593.81
INVERT ELEVATION	590.19	594.85	596.76	596.93	597.96	598.14	596.43	595.30	591.35	591.81
STATION	1+696.46	1+744.27	1+763.91	1+774.47	1+789.61	1+808.62	1+905.96	1+969.66	2+142.35	2+150.06
PIPE FITTINGS										



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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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
PUMPING SYSTEM
Profile of Line: PKG3-F from Sta 1+124.34 to 2+150.06

Design By		Reviewed By	
Checked By		Date	Mar. 2017

Drawing No.	Scale	Size
PRP-16	H:1/1000 V:1/100	A1

GROUND SURFACE	ASPHALT		NATURAL GROUND	ASPHALT			NATURAL GROUND
	LINE: PKG3-F		LINE: PKG3-F1				
DIAMETER/MATERIAL			ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH			27.71	18.67	57.94	21.62	24.17	31.74	43.95
SLOPE (mm/m)			19.84	69.8	128.4	47.2	8.6	22.8	2.0
GROUND ELEVATION			597.25	596.40	595.07	587.66	586.64	586.43	587.35	587.25
INVERT ELEVATION			595.75	595.20	593.89	586.46	585.44	585.23	585.95	586.04
STATION			0+000.00	0+027.71	0+046.38	0+104.32	0+125.94	0+150.11	0+181.85	0+225.80
PIPE FITTINGS										

GROUND SURFACE	ASPHALT													
	LINE: PKG3-F1													
DIAMETER/MATERIAL	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	144.62	33.59	23.18	35.37	27.18	22.64	87.82	32.66	23.21	58.52	75.26	14.36		
SLOPE (mm/m)	2.4	34.8	46.8	3.1	45.3	56.4	34.6	6.8	24.6	10.7	26.4	27.4		
GROUND ELEVATION	587.25	587.72	588.79	589.89	589.96	591.20	589.91	586.57	586.66	586.08	585.45	583.47	583.87	
INVERT ELEVATION	586.04	586.39	587.56	588.65	588.76	589.99	588.71	585.67	585.45	584.88	584.25	582.26	582.66	
STATION	0+225.80	0+370.42	0+404.01	0+427.19	0+462.56	0+489.74	0+512.38	0+600.20	0+632.86	0+656.07	0+714.59	0+789.85	0+804.21	
PIPE FITTINGS														

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

REVISIONS

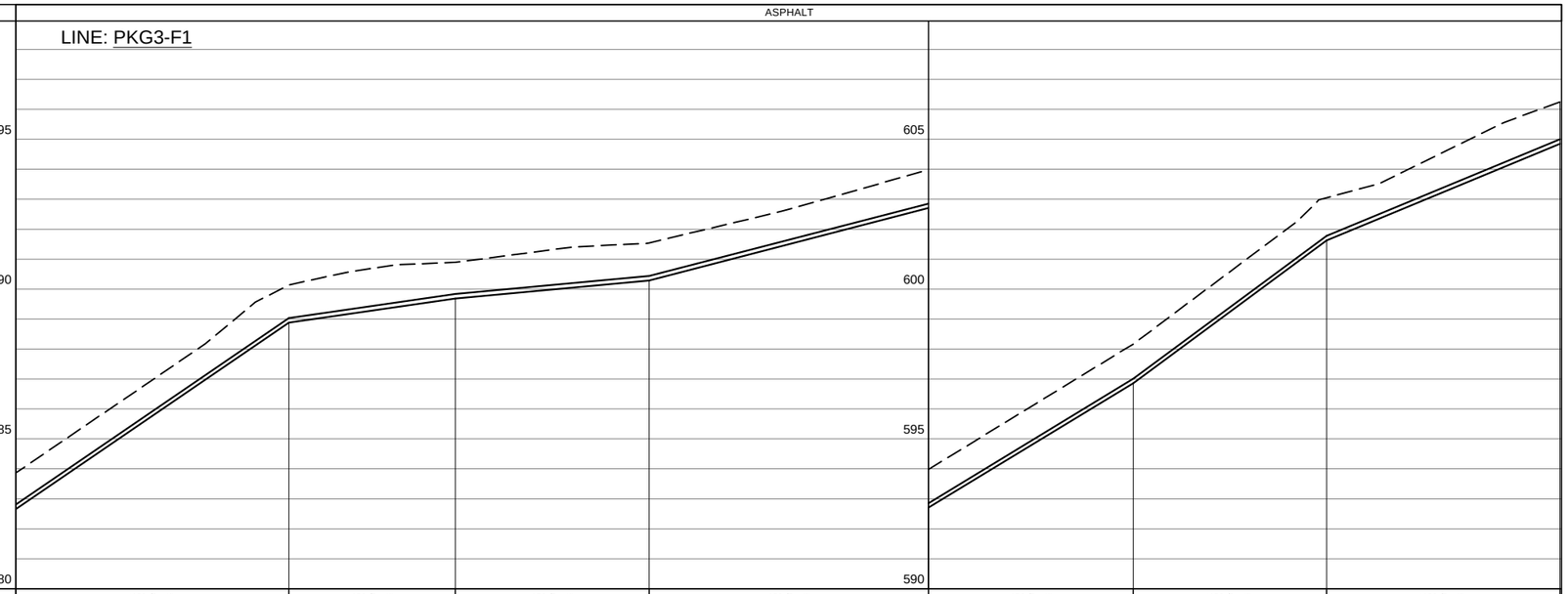
No.	DESCRIPTION	BY	DATE

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
PUMPING SYSTEM
Profile of Line: PKG3-F from Sta 1+014.86 to 1+370.04
,PKG3-F-1 from Sta 0+000 to 0+804.21

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



GROUND SURFACE	ASPHALT						
DIAMETER/MATERIAL	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile	ø150/Ductile
LENGTH	91.12	55.48	64.67	93.28	68.33	64.48	77.90
SLOPE (mm/m)	68.3	14.6	9.2	25.9	60.8	73.9	41.4
GROUND ELEVATION	583.87	590.14	590.89	591.54	593.98	598.17	603.05	606.25
INVERT ELEVATION	582.66	588.88	589.69	590.29	592.71	596.86	601.63	604.85
STATION	0+804.21	0+895.33	0+950.81	1+015.48	1+108.76	1+177.09	1+241.57	1+319.47
PIPE FITTINGS								

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

40m 0 20m 40m
HORIZONTAL SCALE 1:1000

4m 0 2m 4m
VERTICAL SCALE 1:100

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

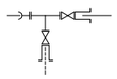
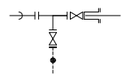
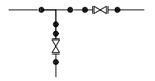
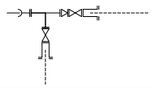
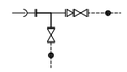
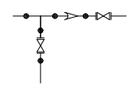
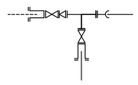
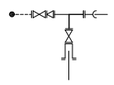
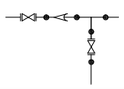
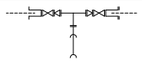
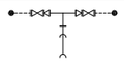
PUMPING SYSTEM

Profile of Line:PKG3-F-1 from Sta 0+804.21 to 1+319.47

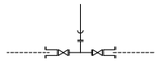
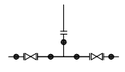
Design By		Reviewed By	
Checked By		Date	Mar. 2017

Drawing No.	Scale	Size
PRP-18	H:1/1000 V:1/100	A1

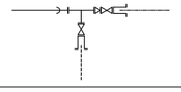
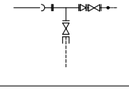
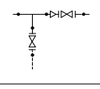
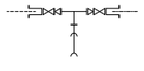
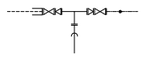
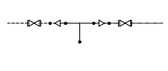
DETAIL CONNECTIONS OF NEW PIPELINES WITH TWO DIFFERENT DIAMETERS

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	DN1 — DN2		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	DN1 — DN1 DN2		PERPENDICULAR PIPELINES 1 ALL FLANGED TEE DN1/DN2 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 1 FLANGED ADAPTER DN1 1 FLANGED ADAPTER DN2 1 FLANGED SOCKET 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 ADAPTOR 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	DN1 — DN2 DN2		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	DN2 — DN1 DN1		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 FLANGED ADAPTER DN2 1 FLANGED REDUCER DN1/DN2		1 ALL FLANGED TEE DN1 1 FLANGED SOCKET DN1 1 FLANGED GATE DN1 1 FLANGED GATE 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	DN2 — DN2 DN1		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 REDUCER DN1/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	DN1 DN2		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	DN1 — DN3 DN2		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 FLANGED ADAPTER DN3 1 REDUCER FLANGED DN1/DN3		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 FLANGED GATE VALVE 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	DN2 — DN3 DN1		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 FLANGED ADAPTER DN3 1 REDUCER FLANGED DN1/DN2 1 REDUCER FLANGED DN1/DN3		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 FLANGED ADAPTER DN2 1 ELECTRO FUSION FLANGED ADAPTER 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

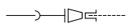
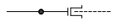
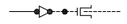
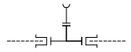
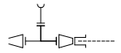
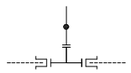
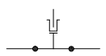
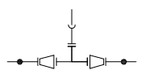
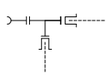
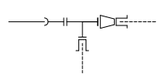
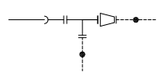
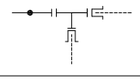
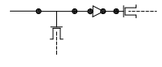
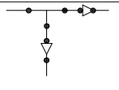
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Standard Details
Schedule of Connection Details

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. ST 01	Scale N.T.S		Size 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	DN1 DN2	DI	DI		1 COUPLER DN1		1 FLANGE SOCKET DN1 1 FLANGED ADAPTER DN2 1 FLANGE REDUCER DN1/DN2
	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
	DN1 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
	DN1 DN2	PE	PE		1 ELECTRO FUSION COUPLER DN1		1 ELECTRO FUSION REDUCER DN1/DN2
	DN1 DN2	DI	DI		1 FLANGED GATE VALVE DN1 2 FLANGED ADAPTER DN1		
C11	DN1 DN2 DN2	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
	DN1 DN2 DN2	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
	DN1 DN2 DN2	PE	PE		1 ELECTRO FUSION TEE DN1		1 ELECTRO FUSION TEE DN1 2 ELECTRO FUSION REDUCER DN1/DN2
	DN1 DN2 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	DN1 DN2 DN2	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
	DN1 DN2 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
	DN1 DN2 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
	DN1 DN2 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

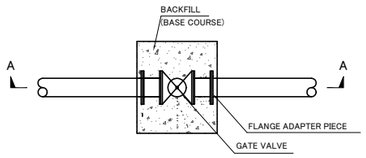
Project Title

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

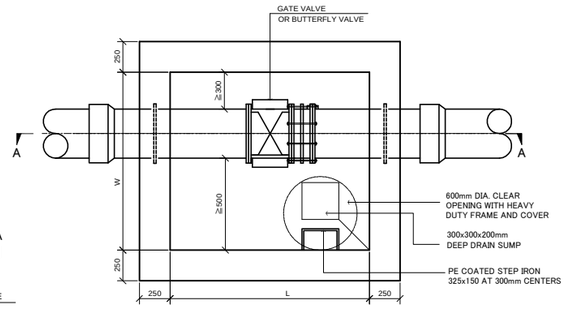
Drawing Title

Standard Details
Schedule of Connection Details

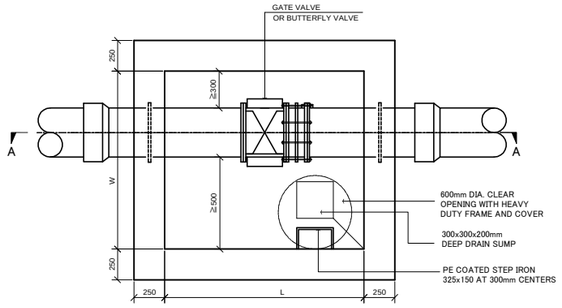
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. ST 02	Scale N.T.S		Size A1



PLAN



PLAN



PLAN

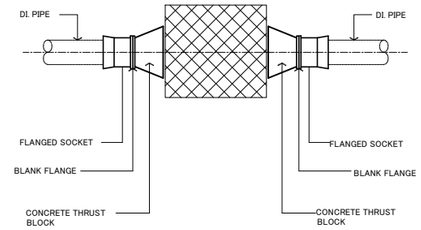
NOTES:

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

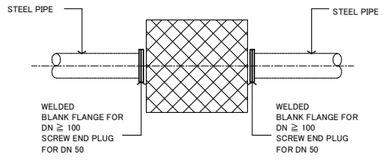
*DESIGN OF THRUST BLOCK FOR DISCONNECTION SHALL BE SAME AS THE THRUST BLOCK FOR GATE VALVES SHOWN IN Drawing N0.ST 15

* ⊠ AREA SHALL BE RESTORED LIKE IN PIPE CONSTRUCTION.

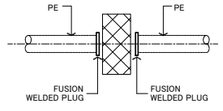
*BUTTERFLY VALVE for DISCONECTION SHALL BE USED IN CASE OF DIAMETER 300mm OR MORE.



DISCONNECTION TYPE1

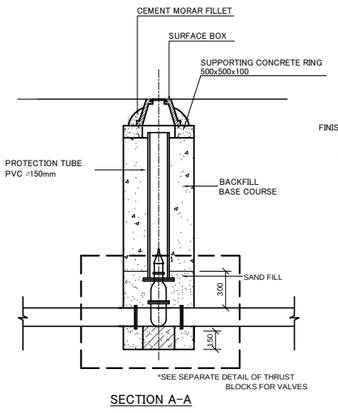


DISCONNECTION TYPE 2



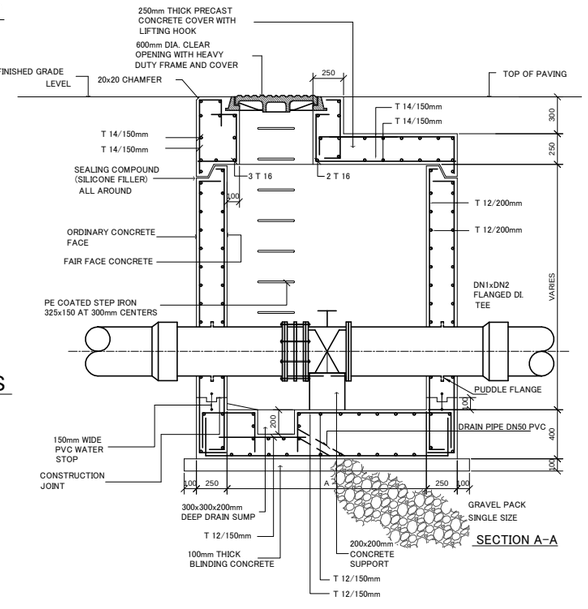
DISCONNECTION TYPE 3

DISCONNECTION DETAILS

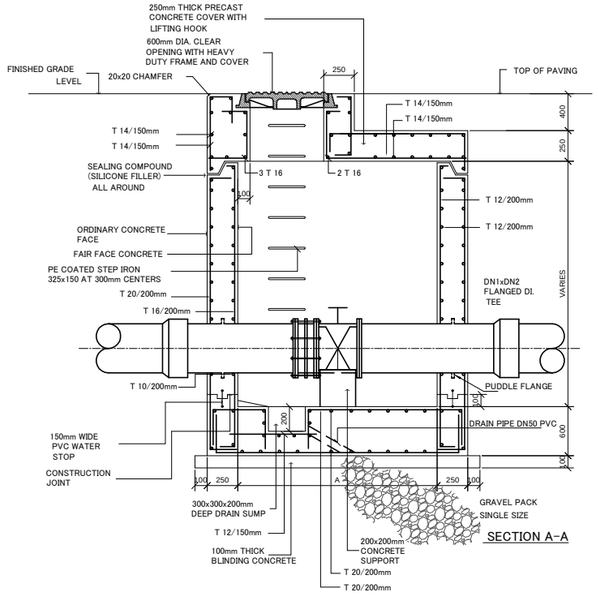


SECTION A-A

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
ARABTECH JARDANEH, JORDAN

Project Title

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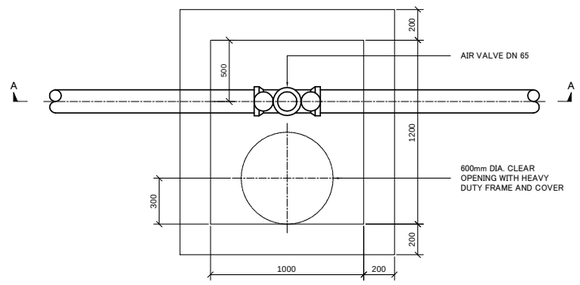
Drawing Title

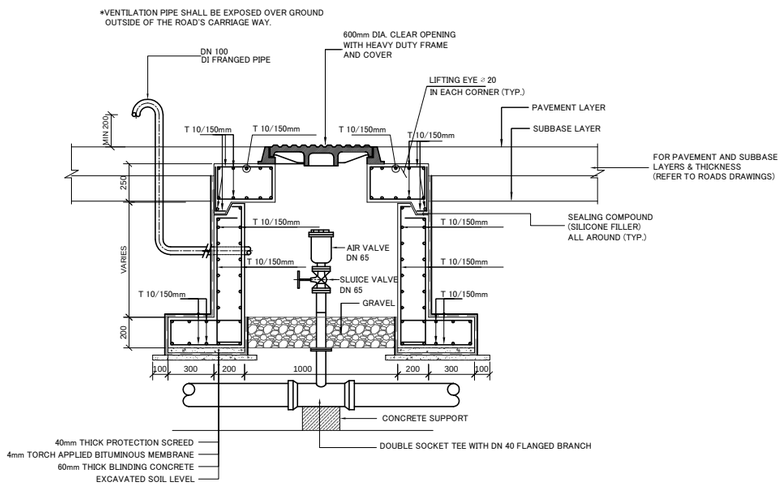
Standard Details
Connection Structural Chamber & Disconnection Details

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
ST 03	N.T.S	A1



TOP PLAN



SECTION A-A

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

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
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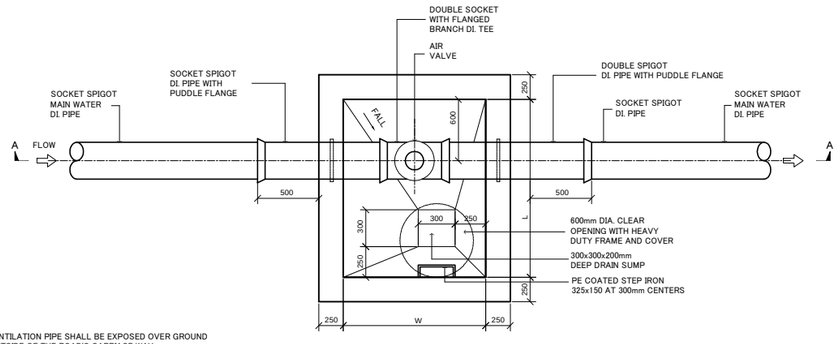
ARABTECH JARDANEH, JORDAN

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
Air Valve Chambers

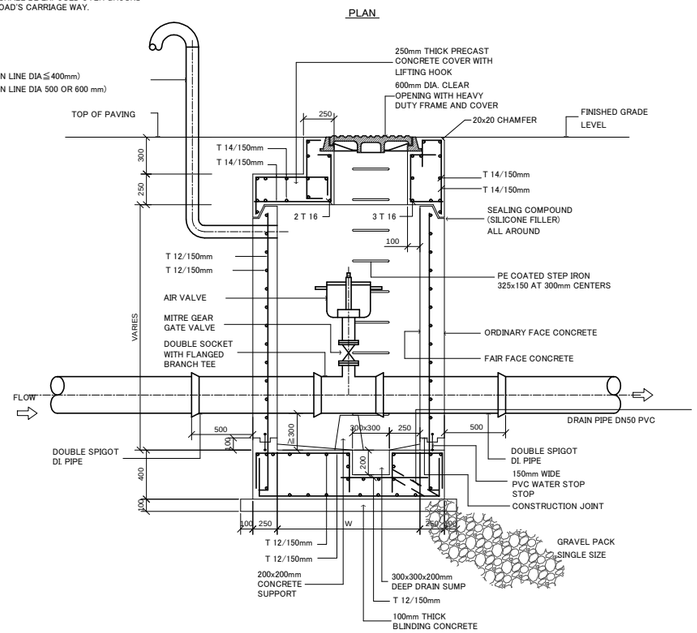
Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
ST 04	N.T.S	A1



PLAN

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

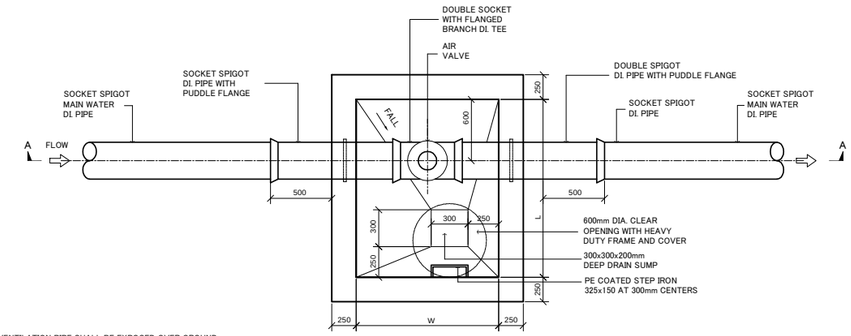


SECTION A-A

AIR VALVE CHAMBERS SCHEDULE

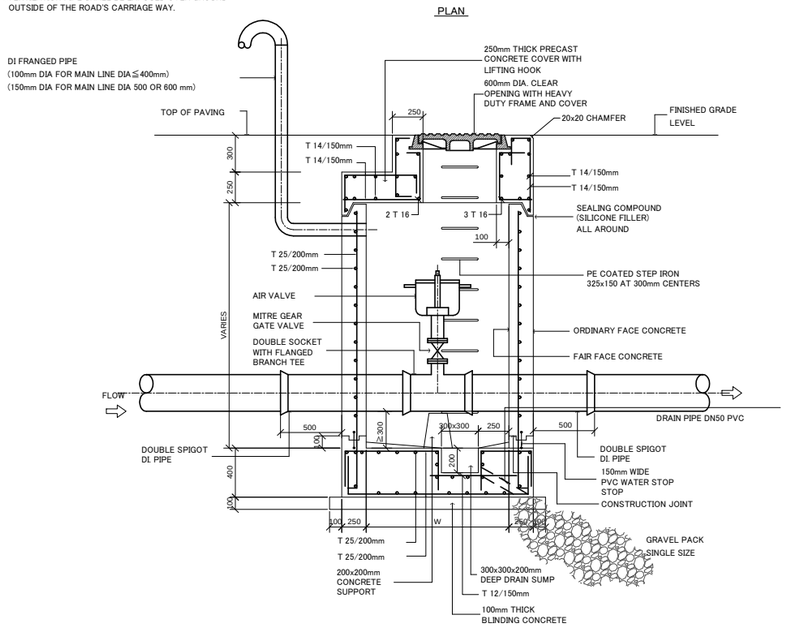
TYPE OF AIR VALVE	MAIN LINE DN IN mm	AIR VALVE DIA IN mm	CHAMBER SIZE	
			L IN mm	W IN mm
DOUBLE AIR VALVE	200	80	1500	1200
DOUBLE AIR VALVE	250	80	1500	1200
DOUBLE AIR VALVE	300	80	1600	1200
DOUBLE AIR VALVE	400	100	1600	1400

AIR VALVE CHAMBER FOR DI. MAIN LINES DN ≧ 200 & ≦ 400



PLAN

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



SECTION A-A

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

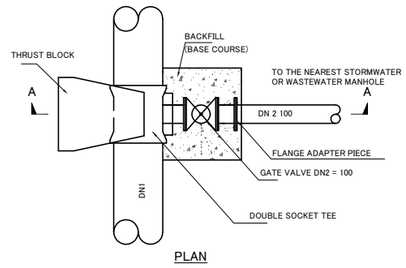
Project Title

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

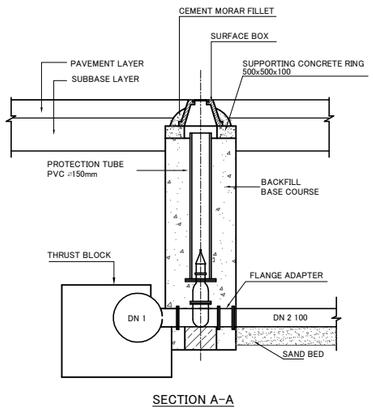
Drawing Title

Standard Details
Air Valve Chambers

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



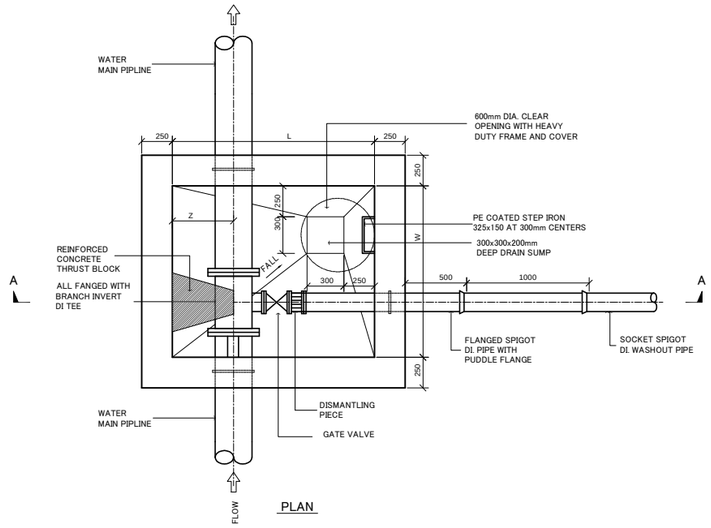
PLAN



SECTION A-A

WASHOUT TYPE (1) CHAMBER DETAILS
FOR PIPES ≦ 200mm

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



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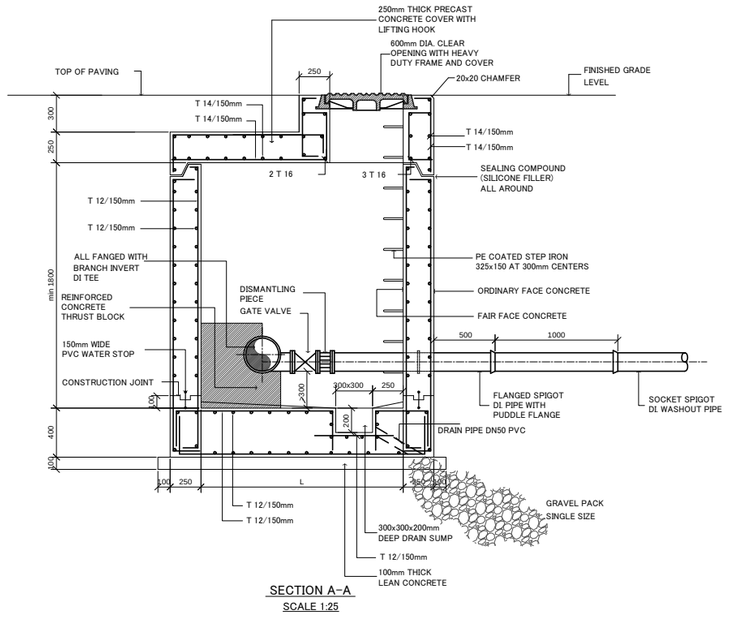


SECTION A-A
SCALE 1:25

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	1600	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.

REVISIONS

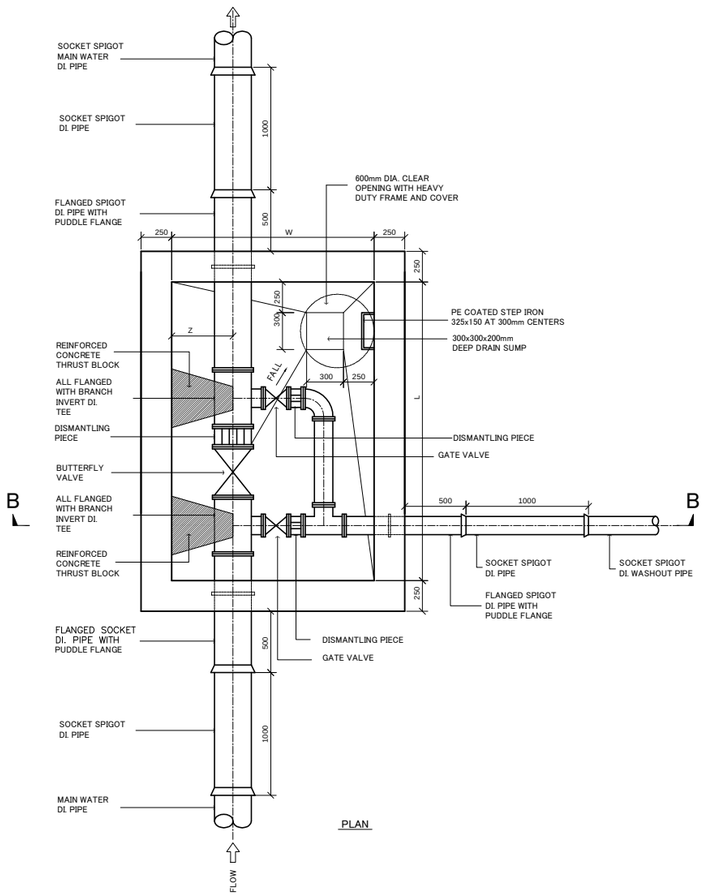
No.	DESCRIPTION	BY	DATE

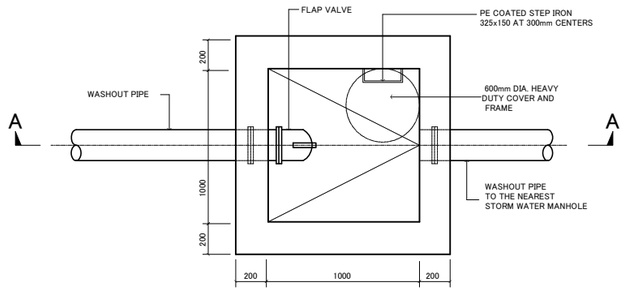
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

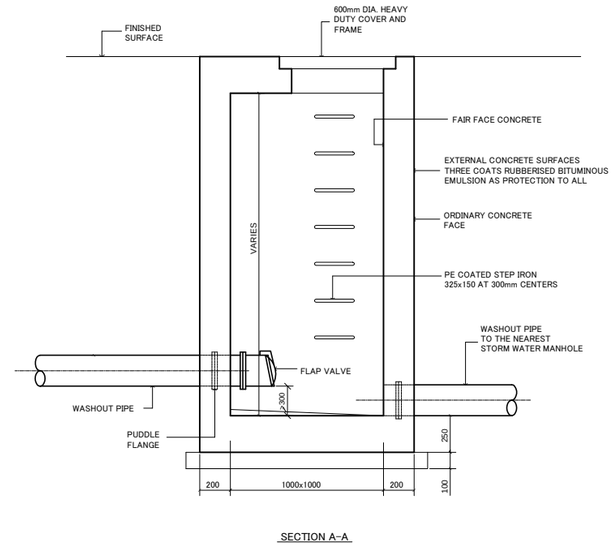
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Washout Chambers

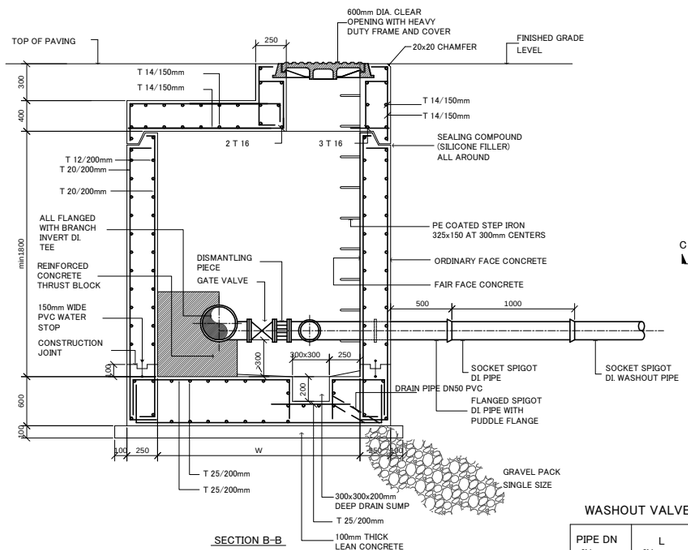
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. ST 06	Scale N.T.S		Size A1

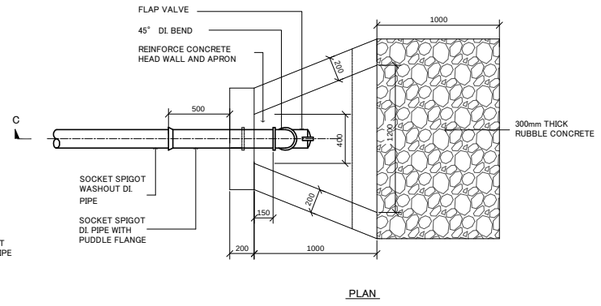


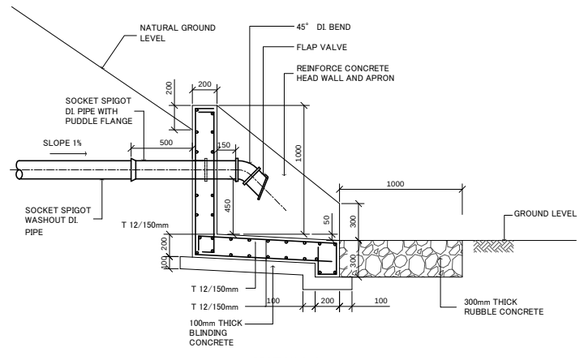




WASHOUT COLLECTION MANHOLE DETAILS







WASHOUT DISCHARGE HEADWALL AND APRON DETAILS

WASHOUT TYPE (3) CHAMBER DETAILS FOR DI PIPES ≧ 500mm

WASHOUT VALVE CHAMBER SCHEDULE

PIPE DN IN mm	L IN mm	W IN mm	Z IN mm	ISOLATING VALVE TYPE	WASHOUT PIPE & VALVE DIAMETER
600	3320	2950	750	BUTTERFLY VALVE	200
800	3380	3215	800	BUTTERFLY VALVE	250
1000	4000	3580	900	BUTTERFLY VALVE	300
1200	4620	3900	1100	BUTTERFLY VALVE	300

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

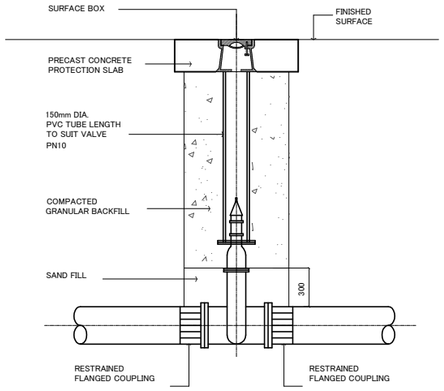
No.	DESCRIPTION	BY	DATE

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

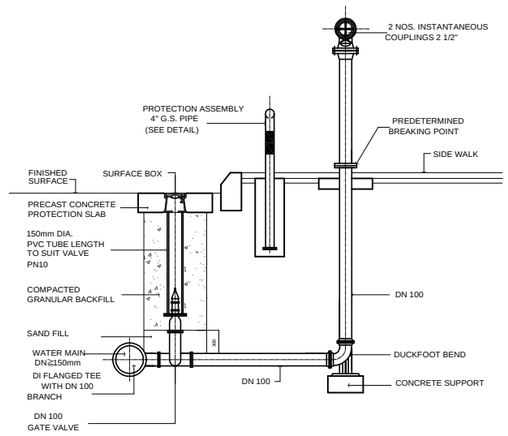
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Washout Chambers

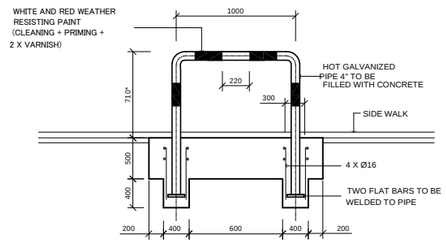
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. ST 07	Scale N.T.S		Size A1



GATE VALVE WITH SURFACE BOX DETAIL FOR DN100mm



FIRE HYDRANT
TYPICAL INSTALLATION



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

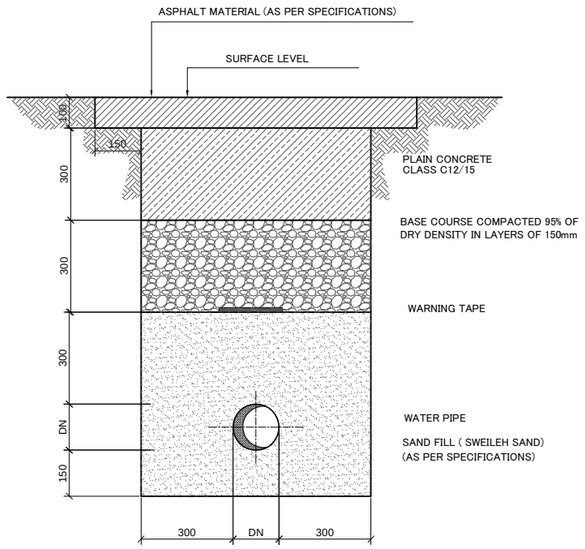
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Fire Hydrant

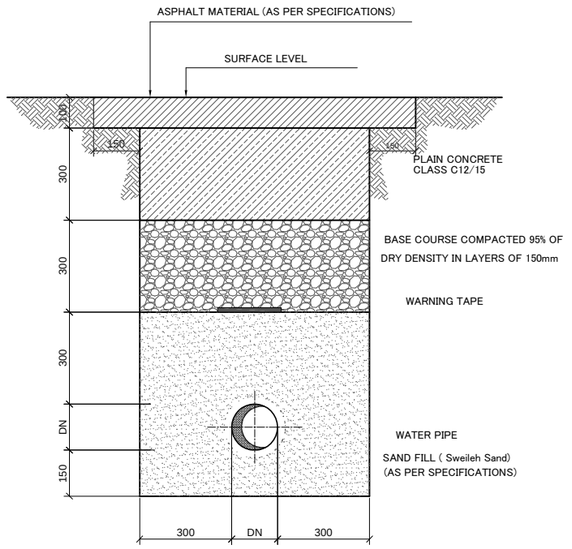
Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
ST 08	N.T.S	A1

Typical Trench Cross Sections Details within Irbid Municipality Roads

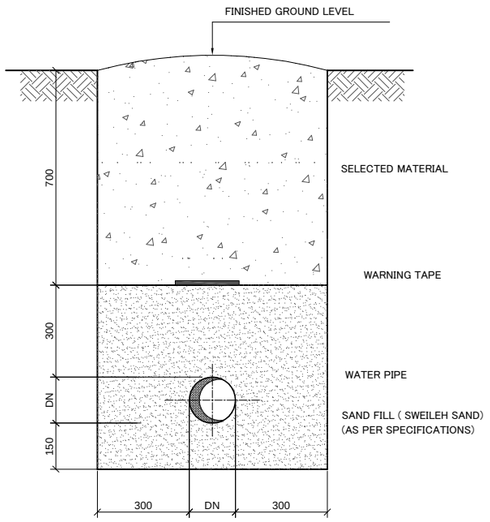


ALONG ROADS WITH ASPHALT SURFACE

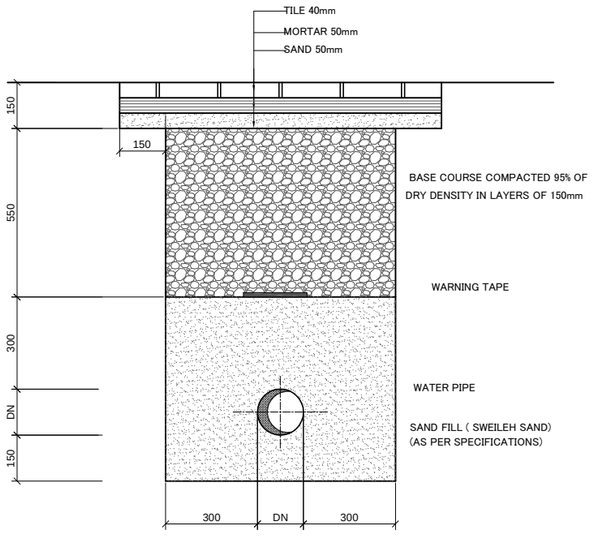


FOR PIPES CROSSING ROADS WITH

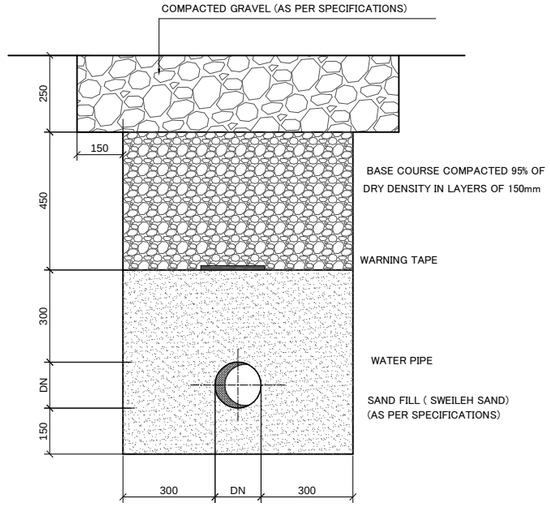
ASPHALT SURFACE AT SKEW OR RIGHT ANGLES



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

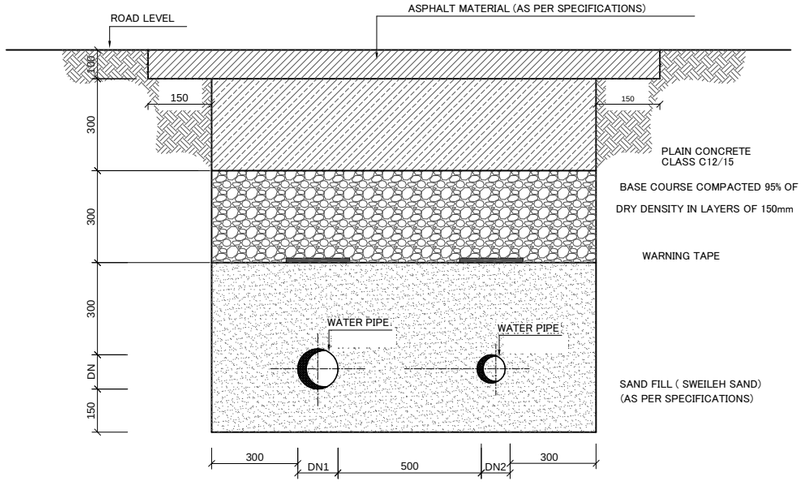
Drawing Title

Standard Details

Typical Trench Cross Sections For Ductile Iron Pipes And Pe Dn ≥ 90

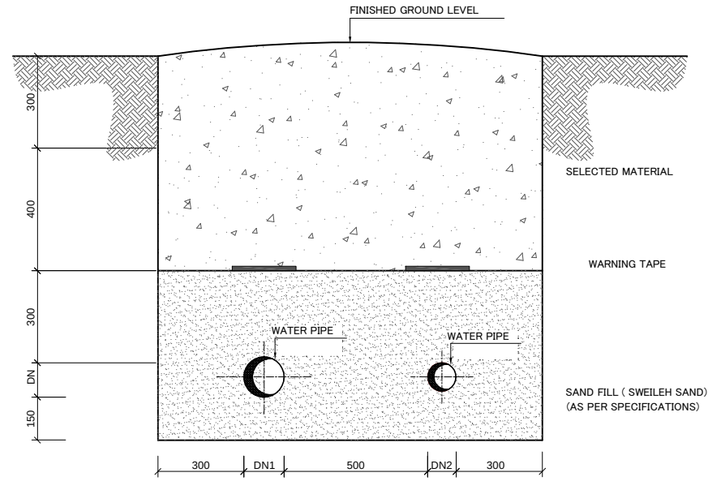
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No. ST 09	Scale 1:10		Size A1

Typical Trench Cross Sections Details within Irbid Municipality Roads

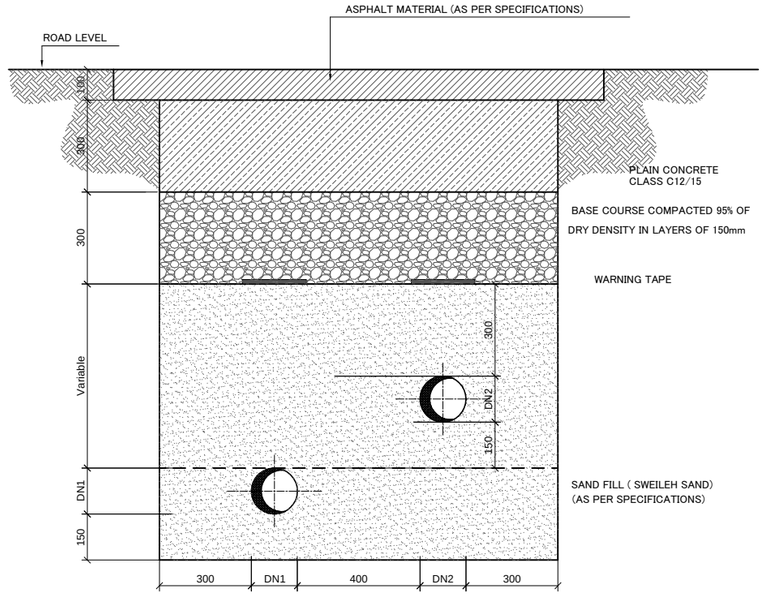


ALONG ROADS WITH ASPHALT SURFACE

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

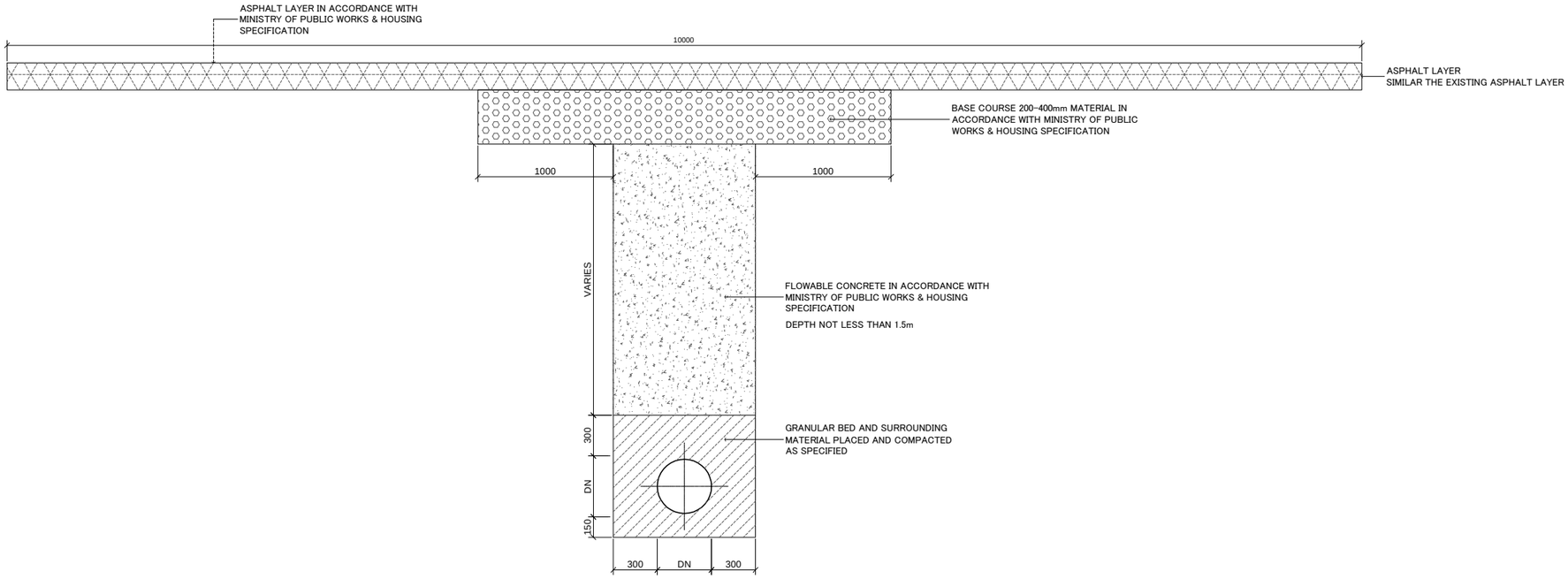
Drawing Title

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

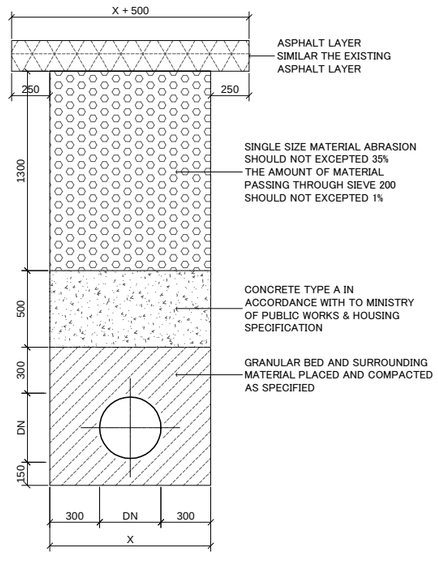
Design By		Reviewed By	
Checked By		Date	Mar.2017

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

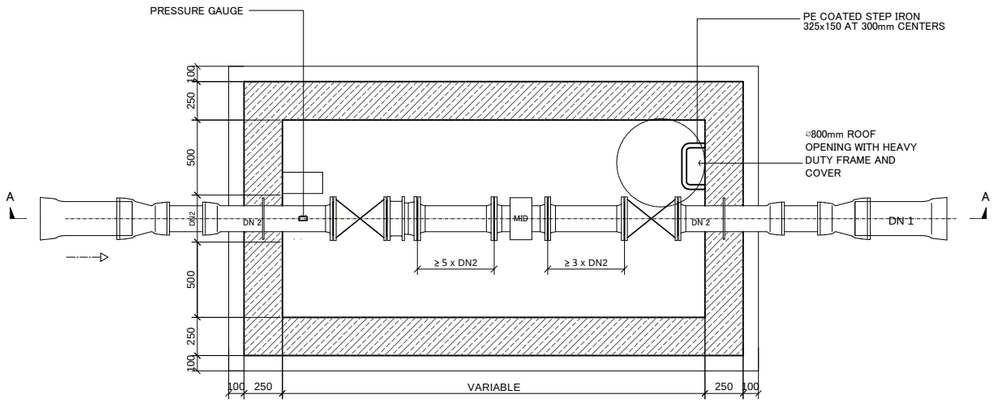
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

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

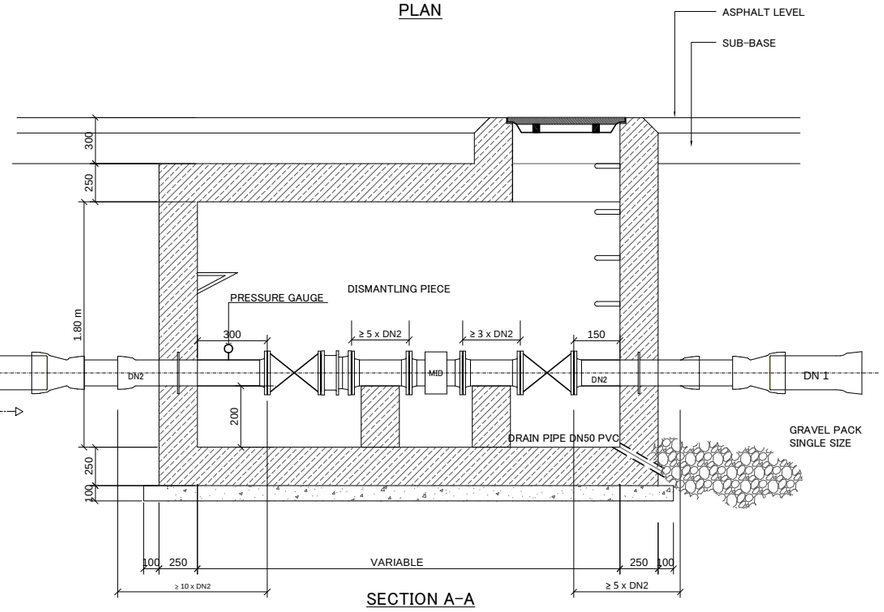
Drawing Title
Standard Details
Cross Section For Road Crossing Pipeline

Design By		Reviewed By	
Checked By		Date	Mar.2017

Drawing No.	Scale	Size
ST 11	N.T.S	A1

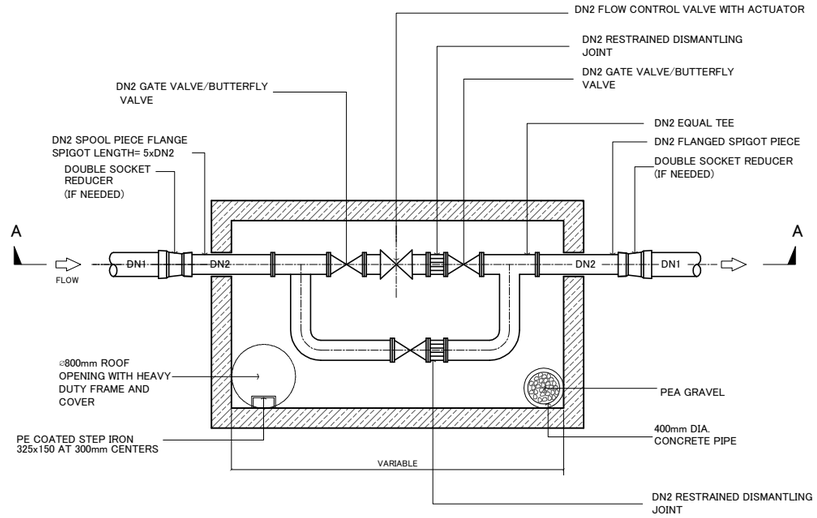


PLAN

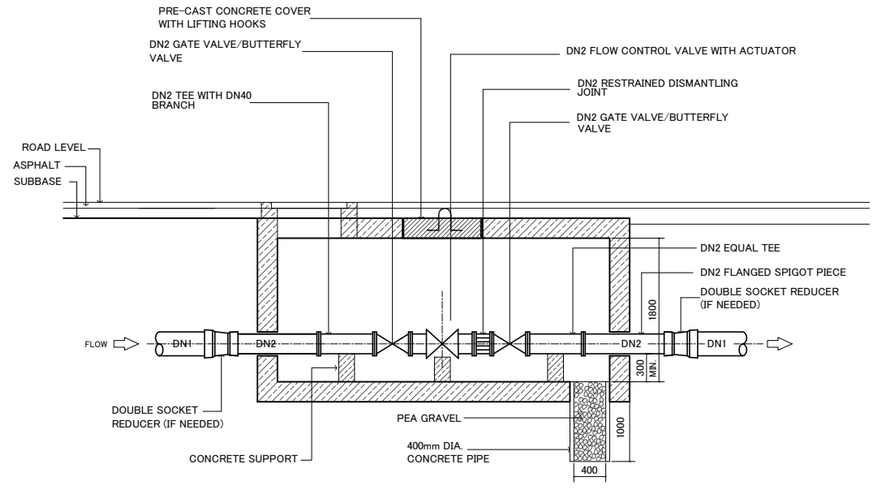


SECTION A-A

ELECTRO MAGNETIC FLOW METER



PLAN



SECTION A-A

FLOW CONTROL VALVE

REVISIONS

No.	DESCRIPTION	BY	DATE

Consultant

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

Project Title

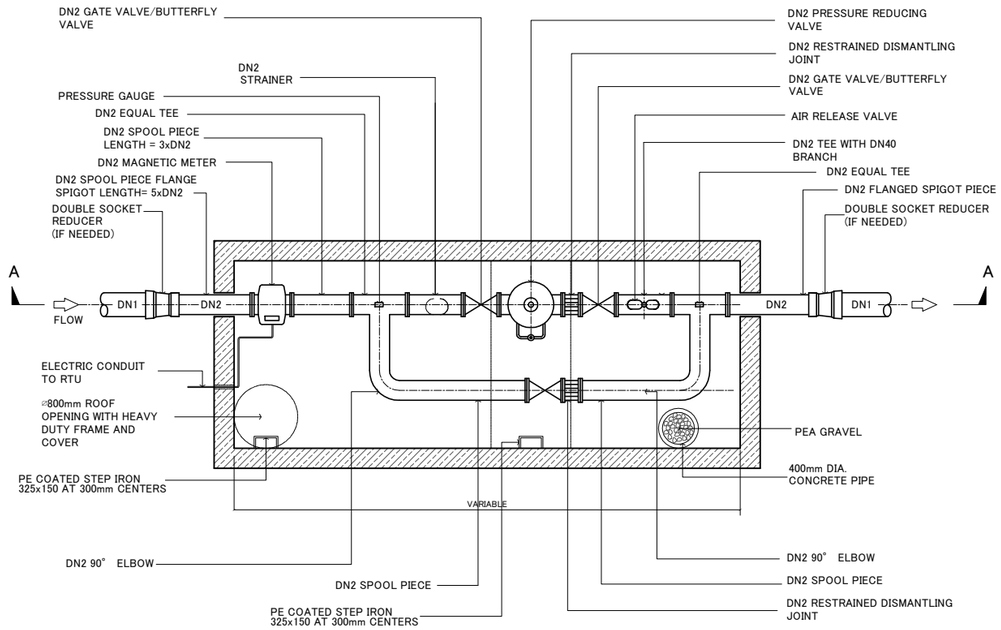
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title

Standard Details
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



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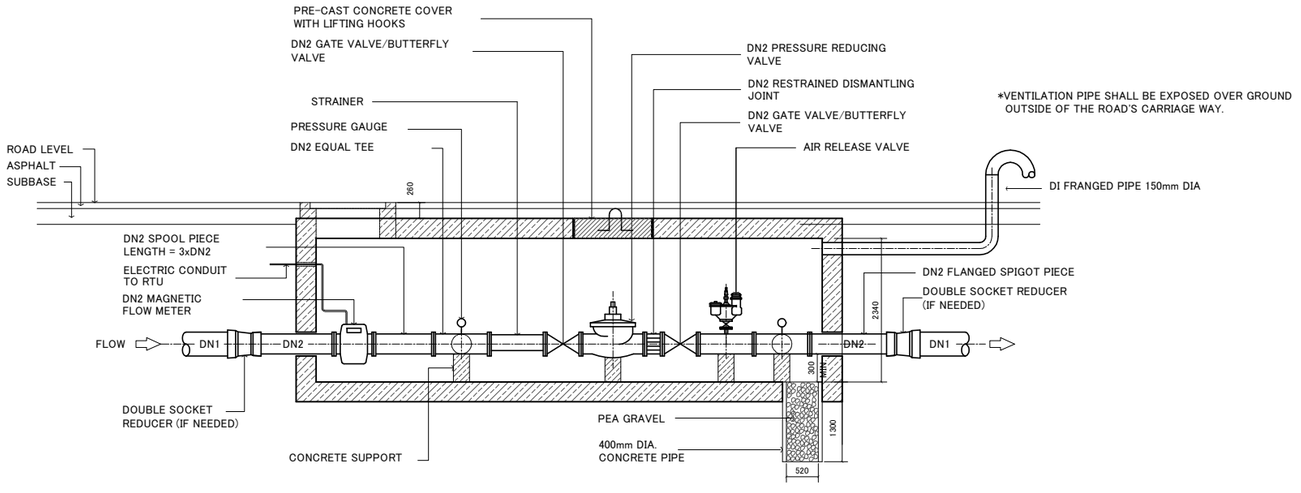


SECTION A-A

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

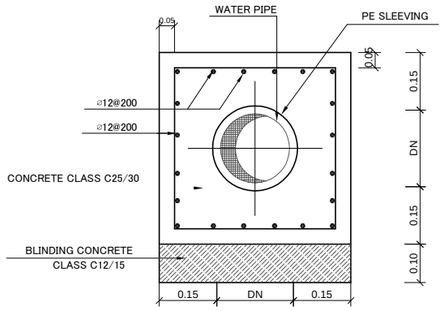
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

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

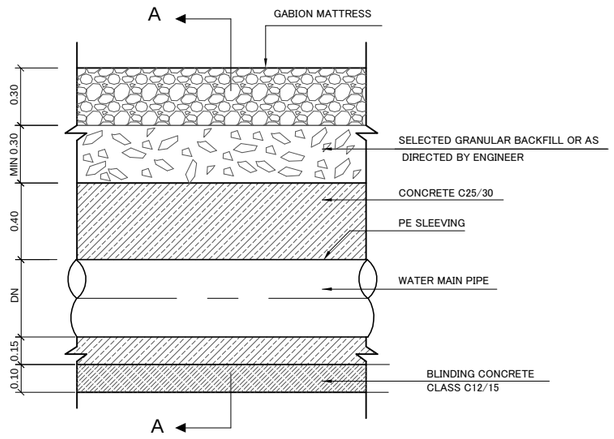
Drawing Title
Standard Details
Pressure Reducing Station Valve

Design By		Reviewed By	
Checked By		Date	Mar.2017

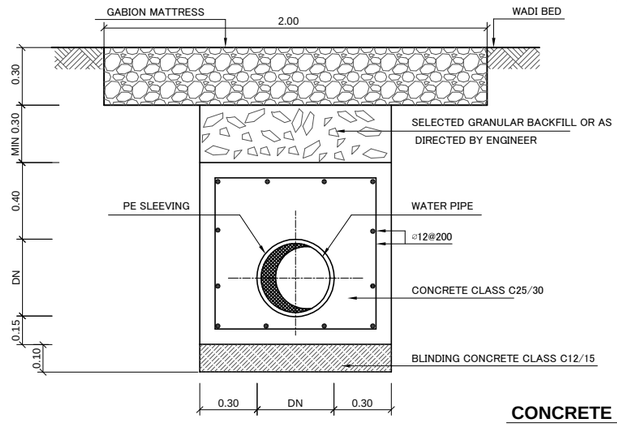
Drawing No.	Scale	Size
ST 13	N.T.S	A1



PIPE ENCASEMENT DETAILS



LONGITUDINAL SECTION

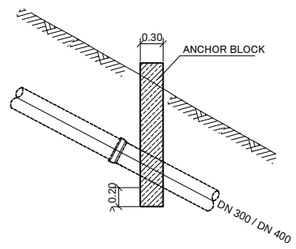


SECTION A-A

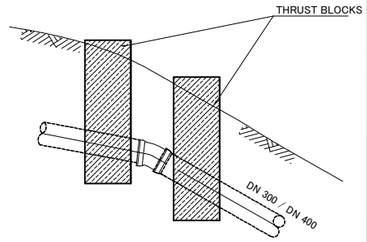
CONCRETE ENCASEMENT AND WADI CROSSING DETAILS

TOP VIEW

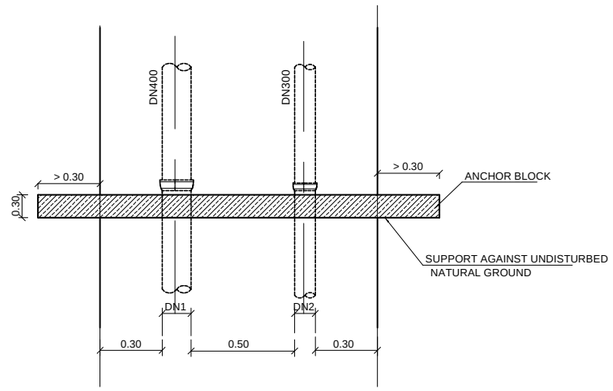
TYPICAL DETAILS - PIPE INSTALLATION ON STEEP SLOPE



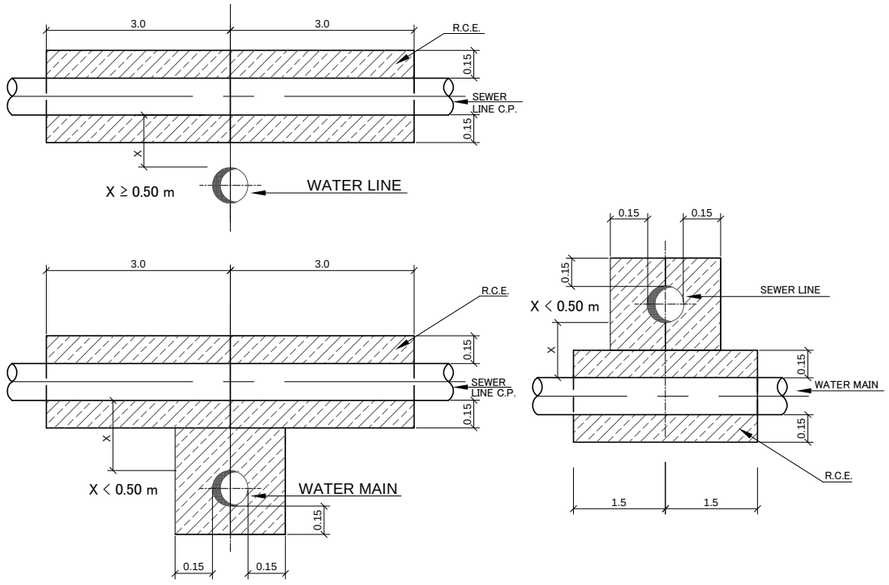
LONGITUDINAL SECTION



INSTALLATION OF VERTICAL BEND

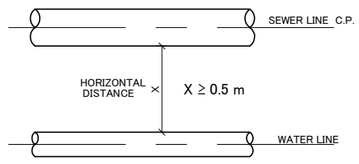


WATER LINE CROSSING BELOW SEWERS

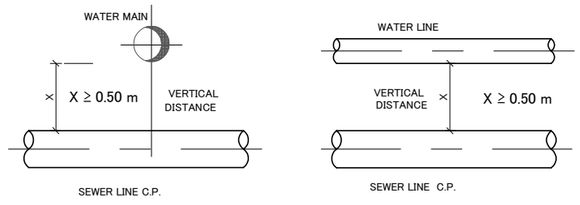


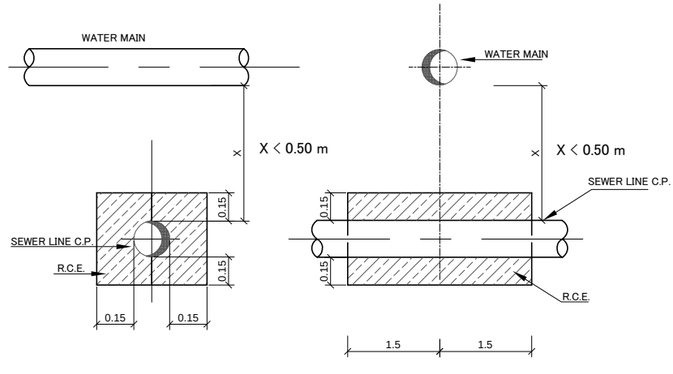
Note: In case X < 0.5m depending on site condition, encasement of water pipe is necessary.

WATER LINE IN PARALLEL TO SEWER LINE



WATER LINE CROSSING OVER SEWERS





Note: In case X < 0.5m depending on site condition, encasement of sewer pipe is necessary.

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

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
Installation Of Di Pipes On Slope And Crossing Sewer Line

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

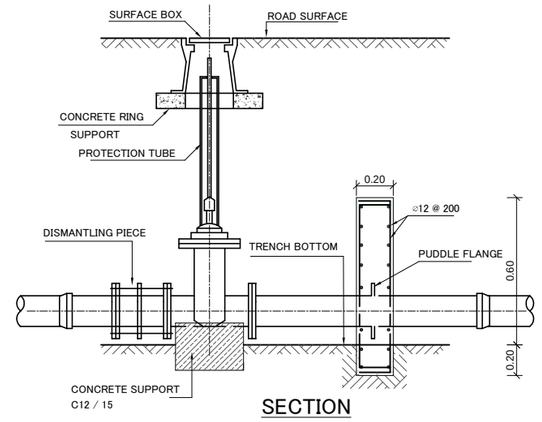
DIMENSIONS OF THRUST BLOCKS FOR PIPE BENDS AND TEES
BASED ON TEST PRESSURE OF 16 BAR AND SOIL BEARING CAPACITY OF 10N/cm²

	90 ° BENDS			45° BENDS			30 ° BENDS			22.5 ° BENDS			11.25 ° BENDS		
DIAMETER	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	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	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	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	1.12	1.32	1.75	0.56
DN1200	6.15	3.90	3.31	4.33	3	2.26	3.33	2.64	1.68	2.76	2.40	1.35	1.58	2.10	0.67

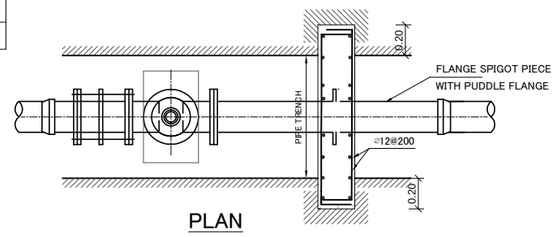
NOTE: CONTRACTOR TO RECALCULATE VALUES CONSIDERING PREVAILING SOIL BEARING CAPACITY AND TEST PRESSURE.

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)	HIGHT 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

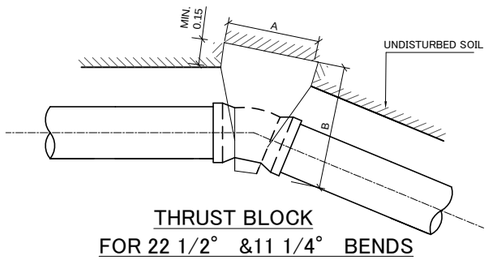


SECTION

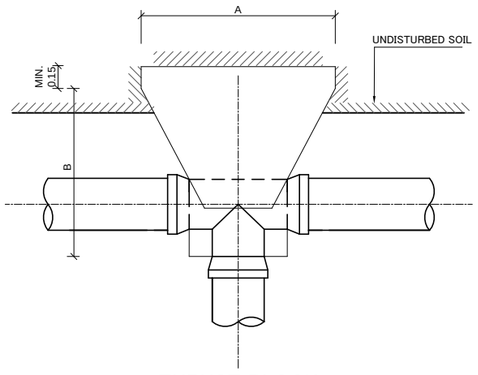


PLAN

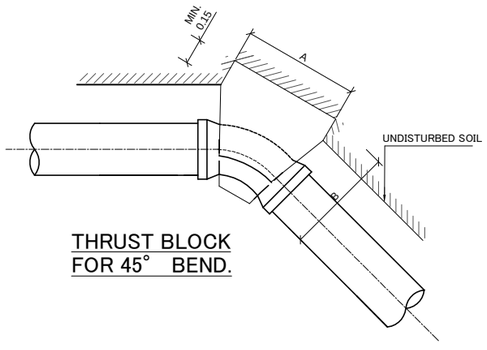
THRUST BLOCK FOR GATE VALVES DN ≦ 200



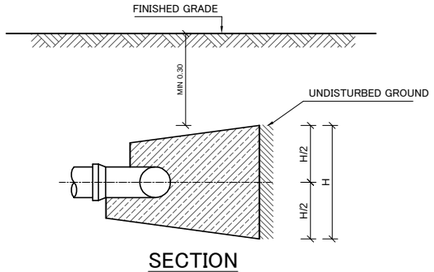
THRUST BLOCK
FOR 22 1/2° &11 1/4° BENDS



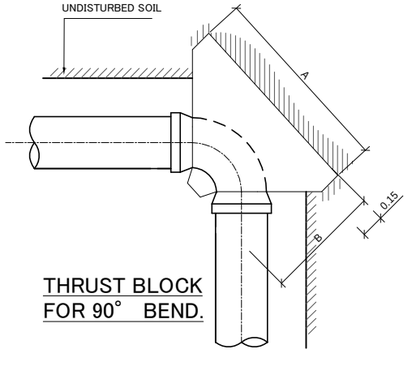
THRUST BLOCK
FOR TEE



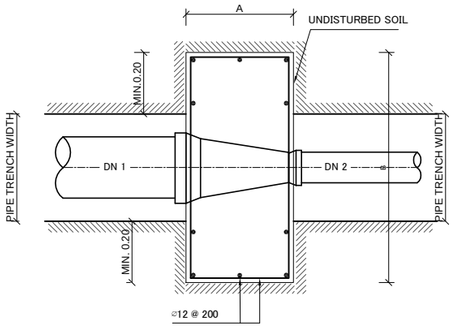
THRUST BLOCK
FOR 45° BEND.



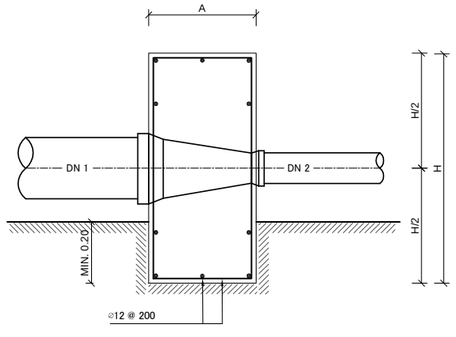
SECTION
THRUST BLOCK FOR BEND OR TEE



THRUST BLOCK
FOR 90° BEND.

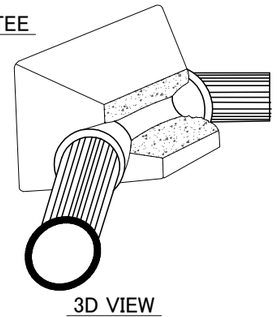


PLAN

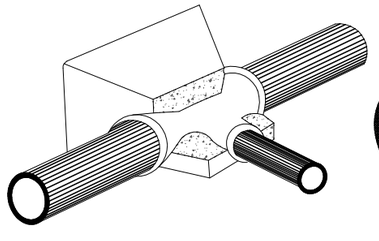


SECTION

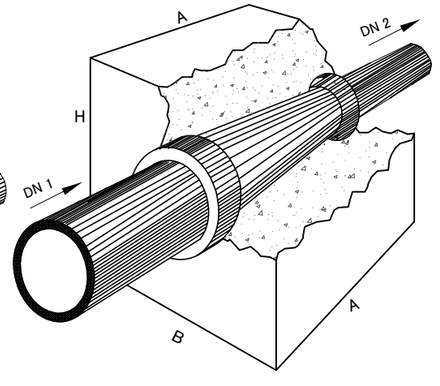
THRUST BLOCK FOR REDUCER



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 .

REVISIONS

No.	DESCRIPTION	BY	DATE

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

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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. ST 15	Scale N.T.S		Size A1