



World Vision International World Vision Afghanistan Badghis Zonal Office



WASH Sector
DAWAM WASH Project

Design and Drawing for Solar Powered Water Supply Network by Water Source of Spring

Project Name: Sharshara Solar Powered Water Supply Network

By water source of spring

Village: Sharshara

District: Jawand

Province: Badghis

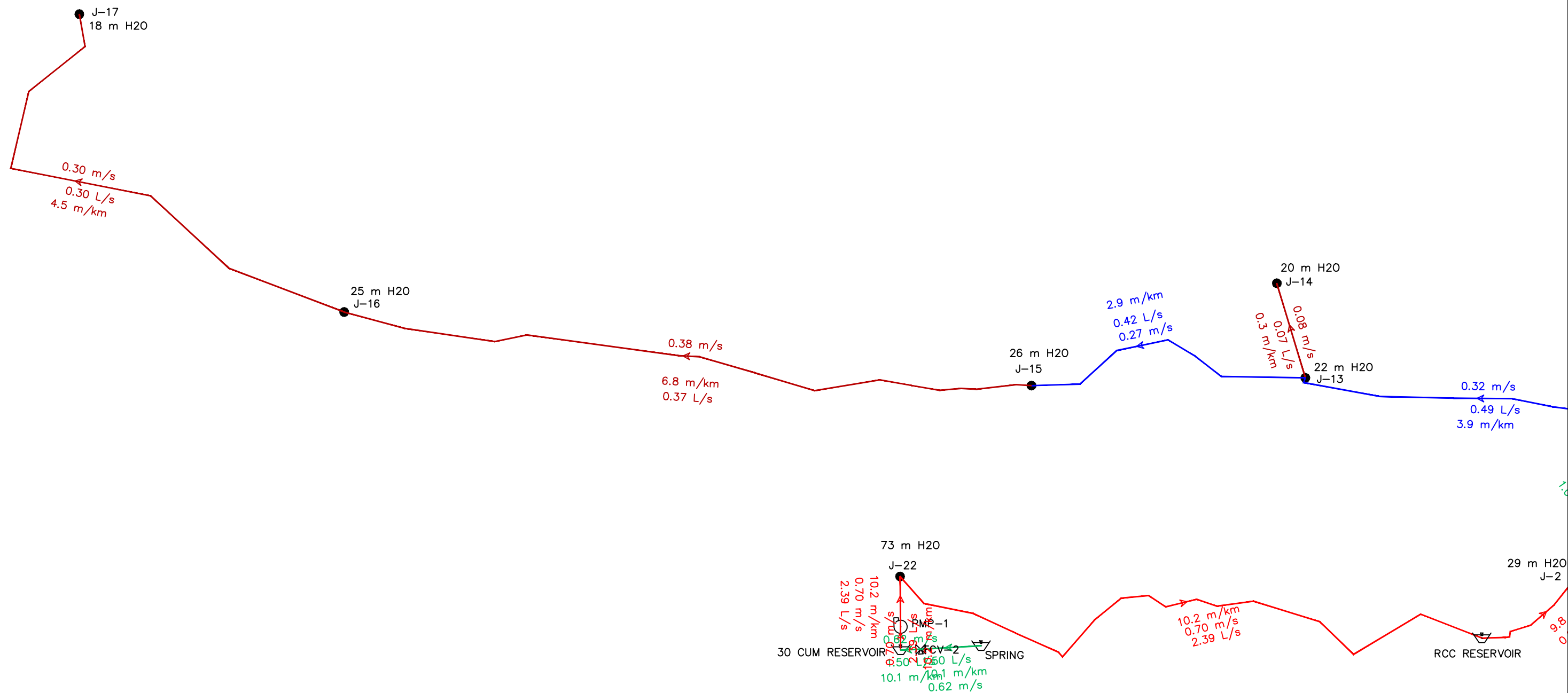
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Bill of Quantity	3	Sheets
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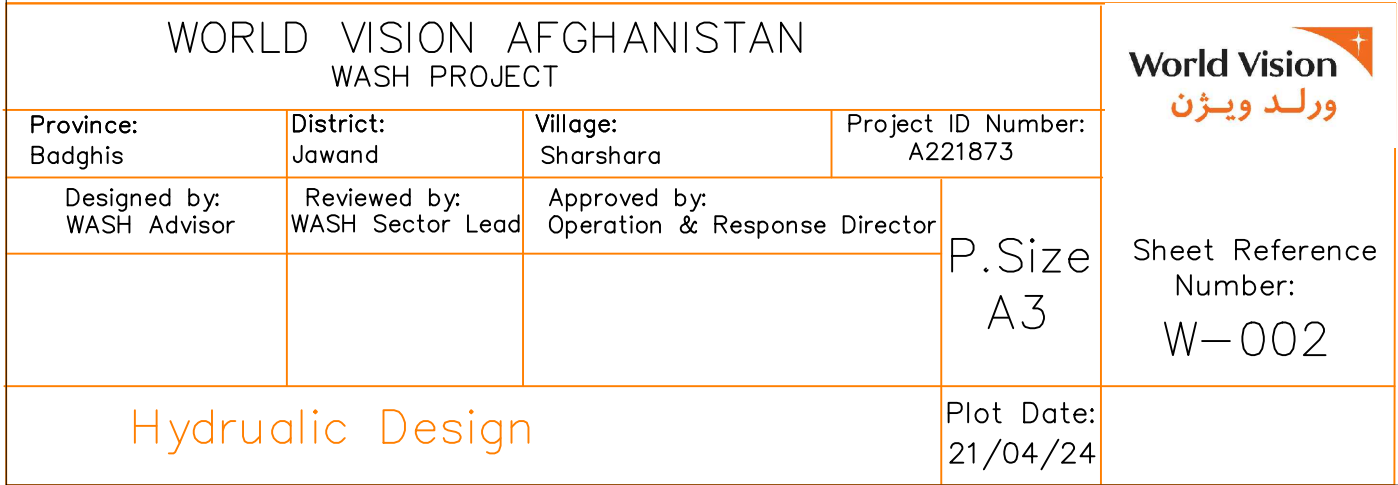
Project Information

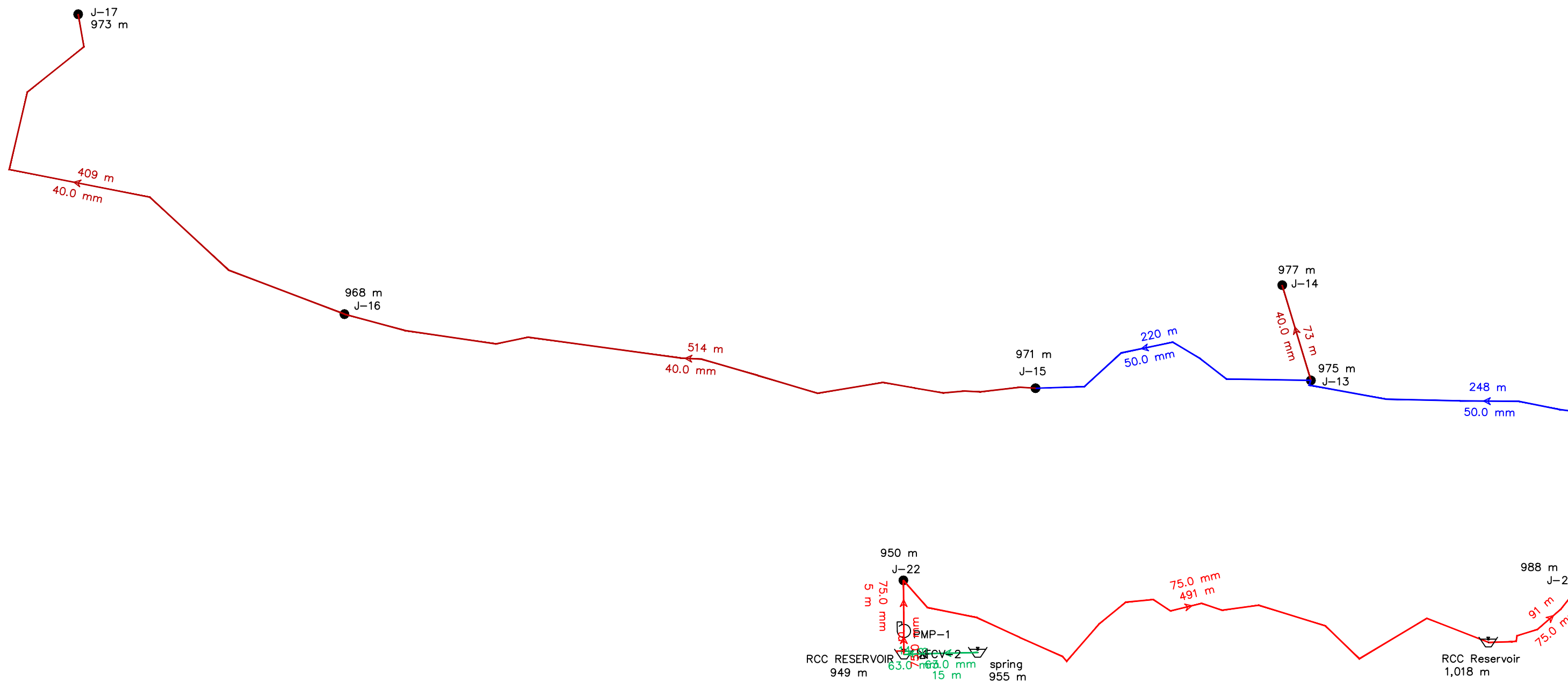
Project Information	
Number of Families	134
Number of House Holds (Meter)	50
Source Discharge Required	48 m ³ /day
Length of Network	3.802 km
Number of Solar Panels 270 Watt	20 Panels
Work Days	90 days
RCC Water Reservoir	30 M ³
Pump house with RCC Water Reservoir	30 M ³



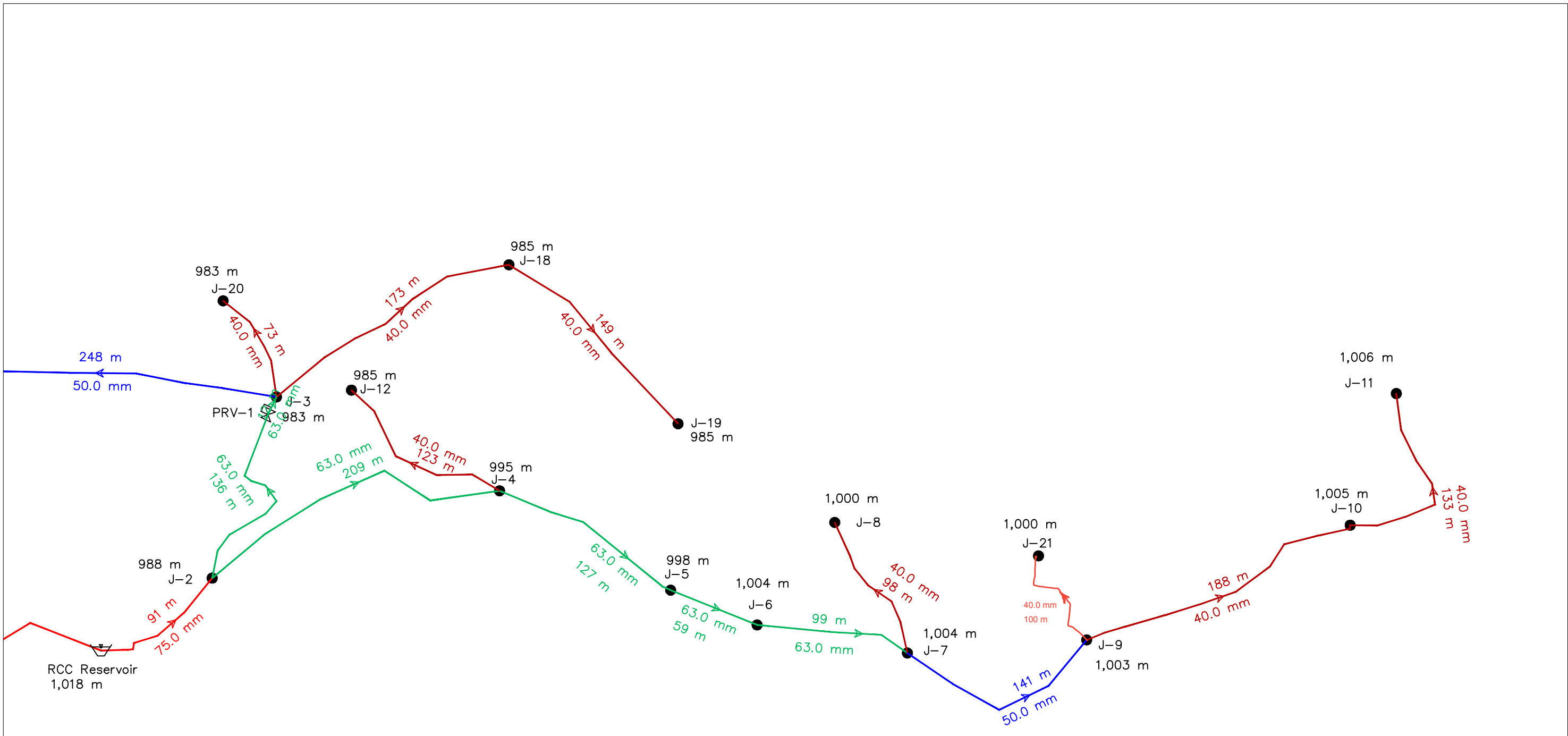


WORLD VISION AFGHANISTAN WASH PROJECT				 Sheet Reference Number: W-001
Province: Badghis	District: Jawand	Village: Sharshara	Project ID Number: A221873	
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	P.Size A3	
Hydrualic Design			Plot Date: 21/04/24	

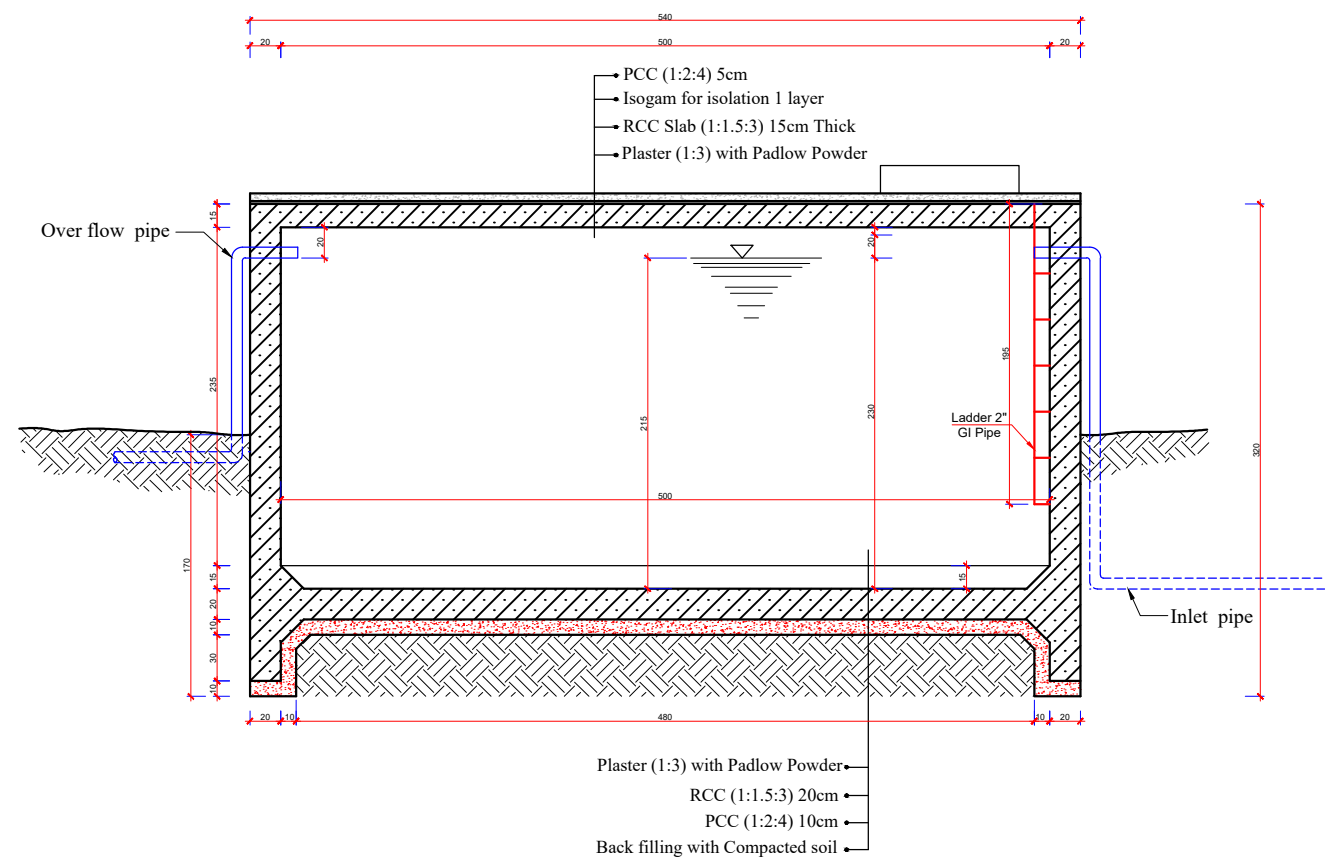




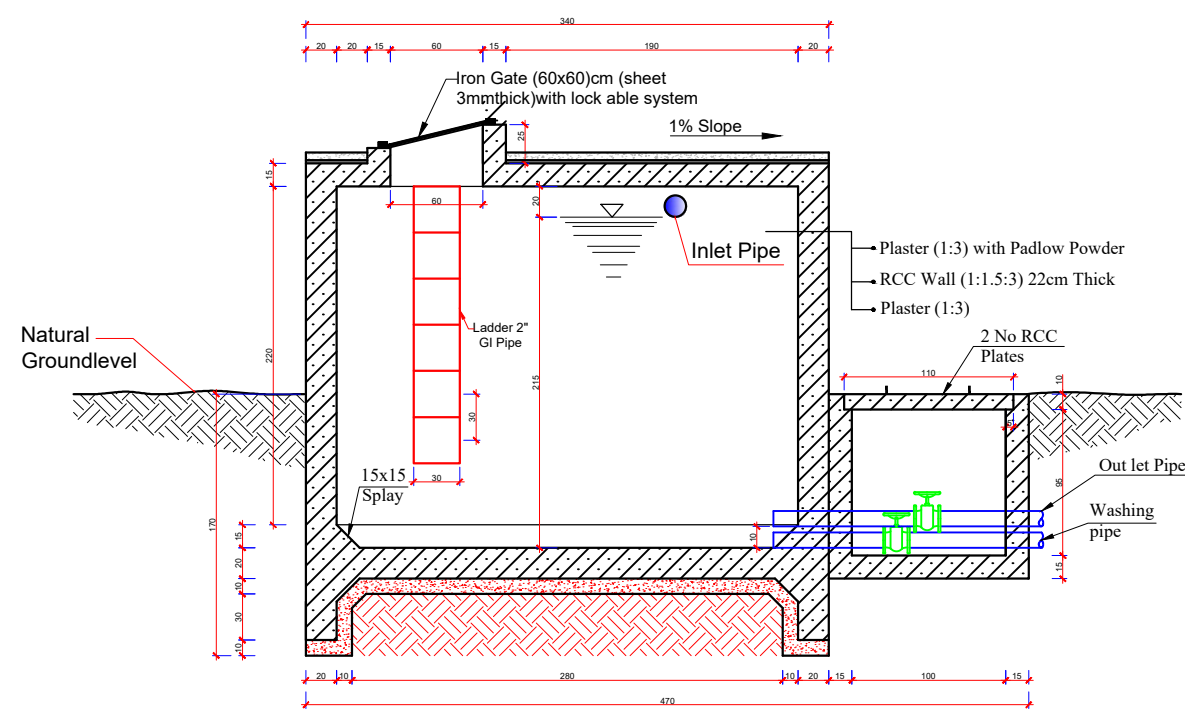
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Province: Badghis	District: Jawand	Village: Sharshara	Project ID Number: A221873	
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	P.Size A3	
LENGTH AND DIAMETER			Plot Date: 21/04/24	



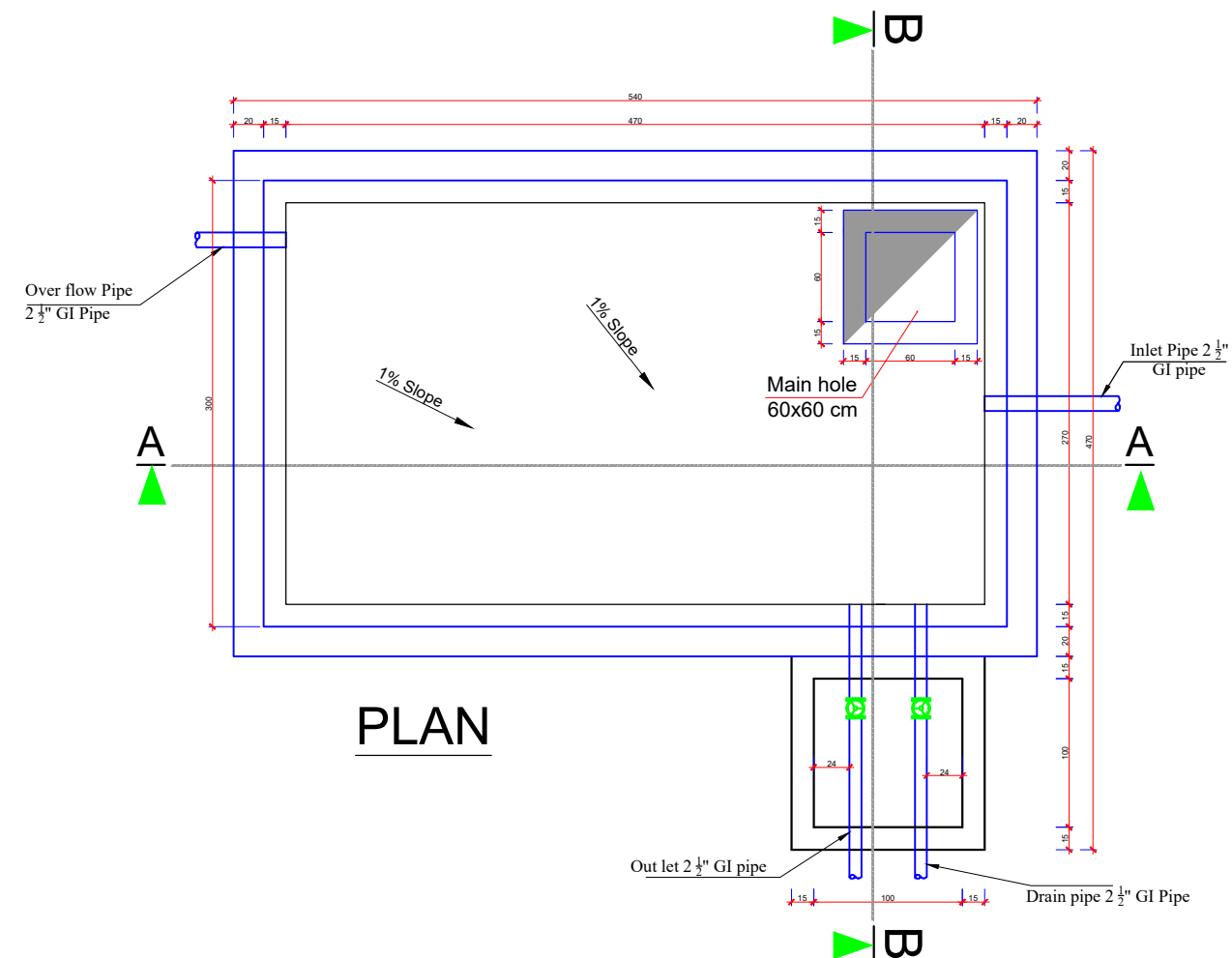
WORLD VISION AFGHANISTAN WASH PROJECT				<div>World Vision</div> <div>ورلد ویژن</div> <div>Sheet Reference Number: W-002</div>
Province: Badghis	District: Jawand	Village: Sharshara	Project ID Number: A221873	
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	P.Size A3	
LENGTH AND DIAMETER			Plot Date: 21/04/24	



SECTION A-A



SECTION B-B

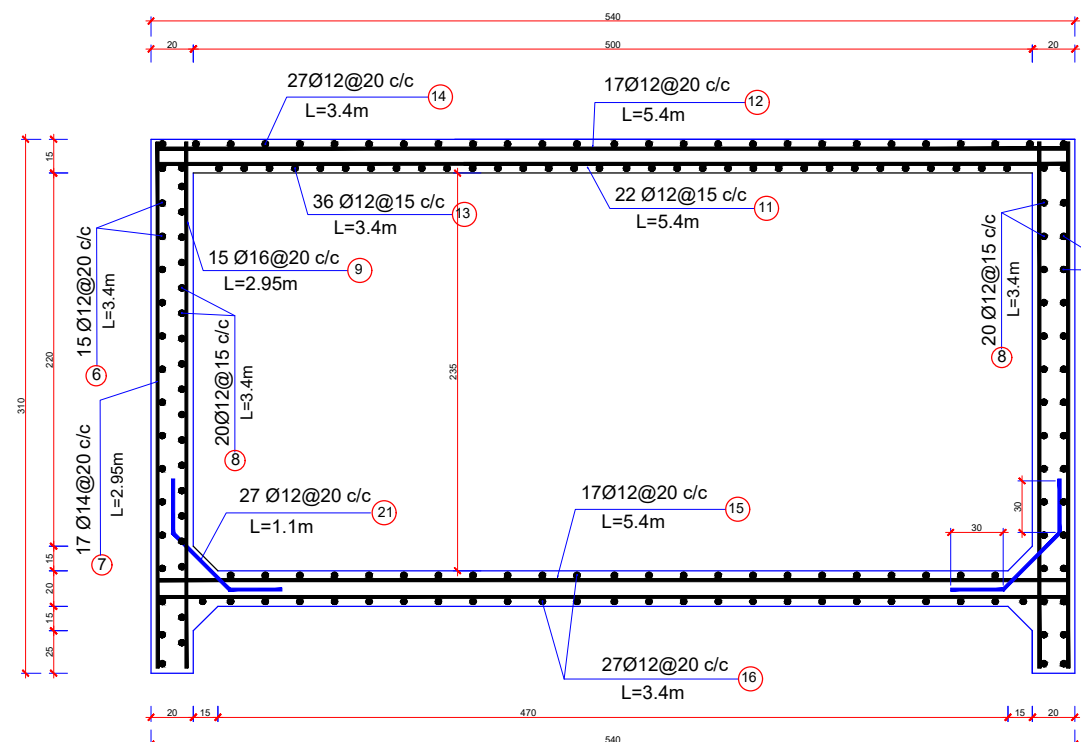


PLAN

Note:

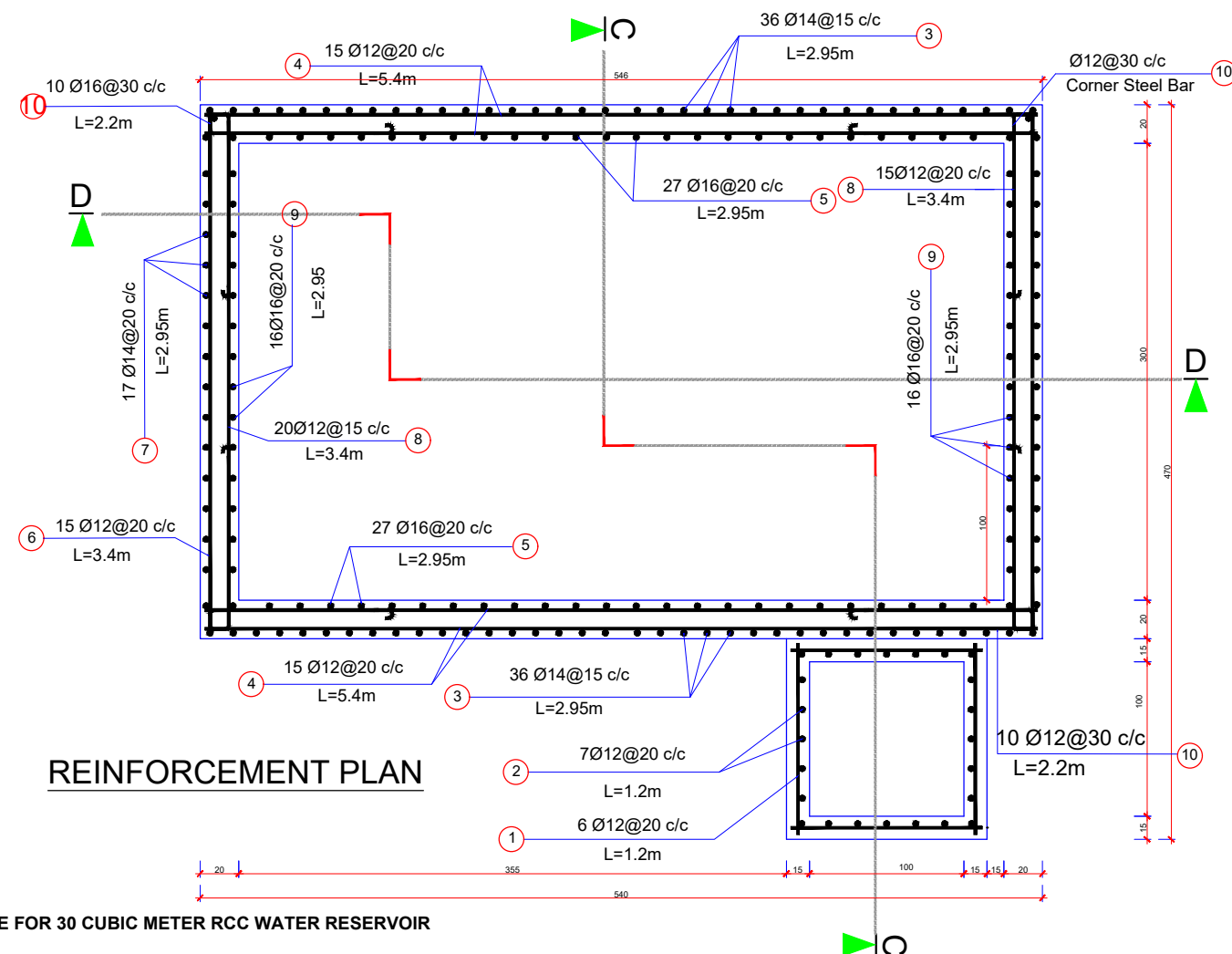
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- 7- Curing must be continued upto 28 days.
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DAWAM WASH PROJECT			
Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name: Drawing.dwg
			Map Size: A3
30 m3 RCC Water Reservoir			Plot Date: 22-04-2024
			Plot Scale: NTS

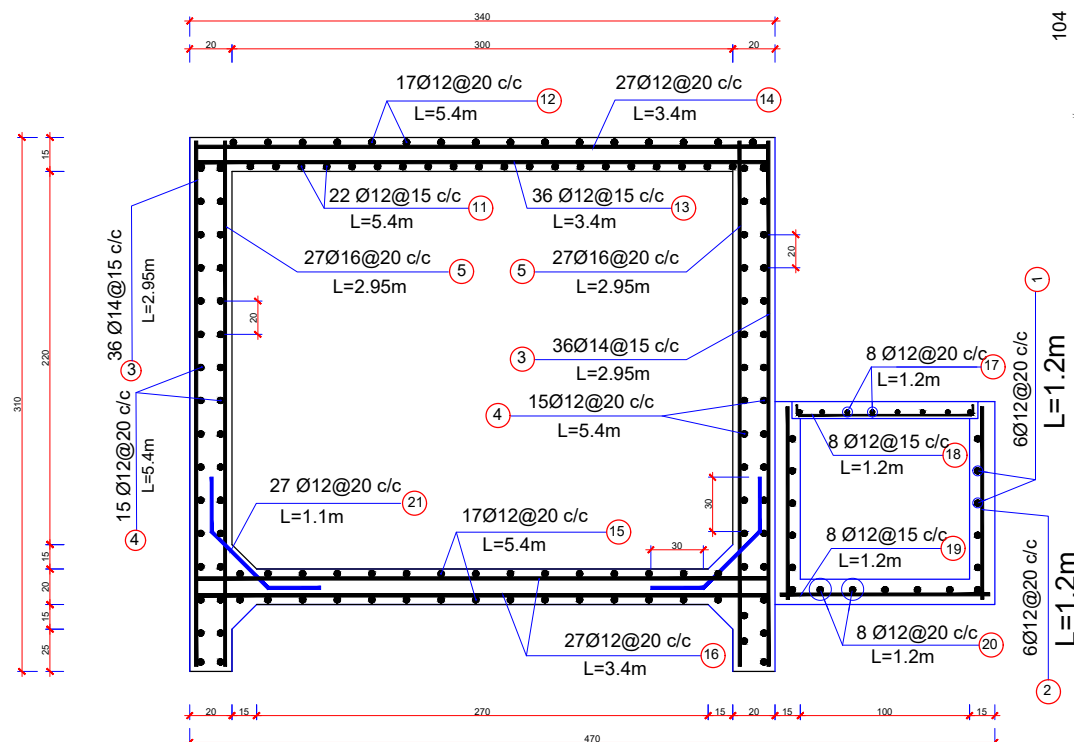


SECTION D-D

Corner Steel Bar
Ø12 @30 c/c
L=220cm



REINFORCEMENT PLAN



SECTION C-C

STEEL BAR SCHEDULE FOR 30 CUBIC METER RCC WATER RESERVOIR

Shape of bar	Bar No	Bar Dia (mm)	Number of Bars	Length (m)	Total Length (m)	Weight (kg/m)	Total weight (kg)	Total weight +5% (kg)
1	1	12	24	1.2	28.8	0.888	25.6	26.9
2	2	12	28	1.2	33.6	0.888	29.8	31.3
3	3	14	72	2.95	212.4	1.2	255	268
4	4	12	60	5.4	324	0.888	288	302
5	5	16	54	2.95	159.3	1.579	252	264
6	6	12	30	3.4	102	0.888	90.6	95.12
7	7	14	34	2.95	100.3	1.2	120.36	126.4
8	8	12	40	3.4	136	0.888	120.2	126.9
9	9	16	32	2.95	94.4	1.579	149	156.5
10	10	12	58	2.2	127.6	0.888	114	120
11	11	12	22	5.4	118.8	0.888	105.5	110.76
12	12	12	17	5.4	91.8	0.888	81.5	85.59
13	13	12	36	3.4	122.4	0.888	108.69	114.13
14	14	12	17	3.4	57.8	0.888	51.33	53.89
15	15	12	34	5.4	183.6	0.888	163	172
16	16	12	54	3.4	183.6	0.888	163	173
17	17	8	8	1.2	9.6	0.888	8.5	9.0
18	18	12	8	1.2	9.6	0.888	8.5	9.0
19	19	12	8	1.2	9.6	0.888	8.5	9.0
20	20	12	8	1.2	9.6	0.888	8.5	9.0
21	21	12	88	1.1	96.8	0.888	85.96	90.26
Total Weight Bar +5% (Kg)							2444.31 kg	

Bar Dia (mm)	Total Length (m)	Weight (kg/m)	Total weight (kg)	Total weight +5% (kg)
14	312.7	1.2	375.24	394
12	1533.7	0.888	1504	1362
16	254	1.579	400	420

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			Plot Date: 22-04-2024	Plot Scale: NTS

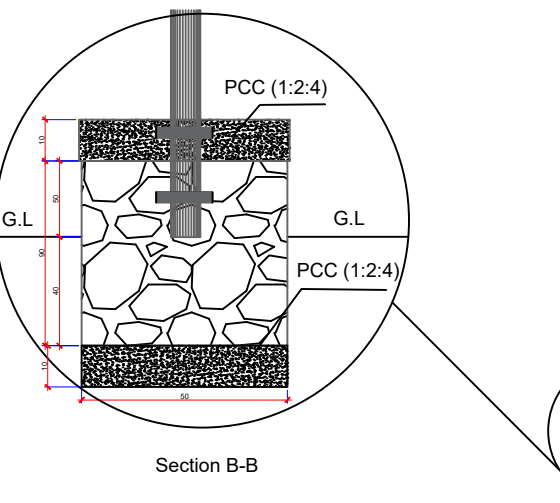


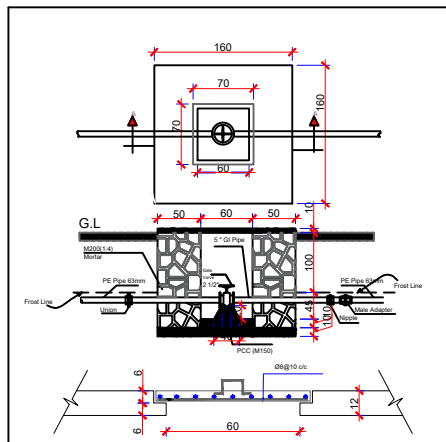
Diagram illustrating the layout of a solar panel area for a well. The area is enclosed by a Boundary Fencing. The layout includes four Solar Panels arranged in two rows of two. A Fence Gate is located on the right side. A note specifies: "Note: The exact dimensions of the fencing area and the final location of the panel, fence gate and the well need to be determined as per site observation and after pump sizing. Pouring 10cm Crushed Gravel for finishing of solar area." The diagram also shows dimensions: 20m for the width and 10m for the height.

Note:
The exact dimensions of the fencing area and the final location of the panel, fence gate and the well need to be determined as per site observation and after pump sizing.
Pouring 10cm Crushed Gravel for finishing of solar area.

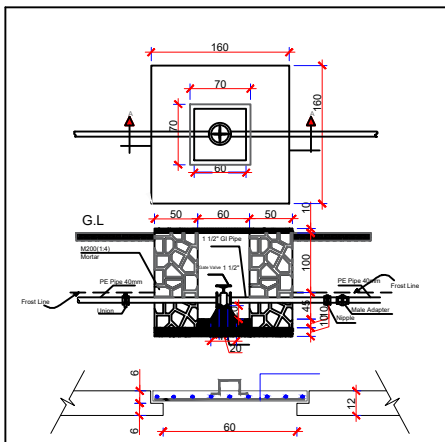
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DAWAM WASH PROJECT					
Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873		
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name: Drawing. dwg		
Boundary Fencing & PV Stand Details			Map Size:	A3	
			Plot Date: 22-04-2024	Plot Scale: NTS	

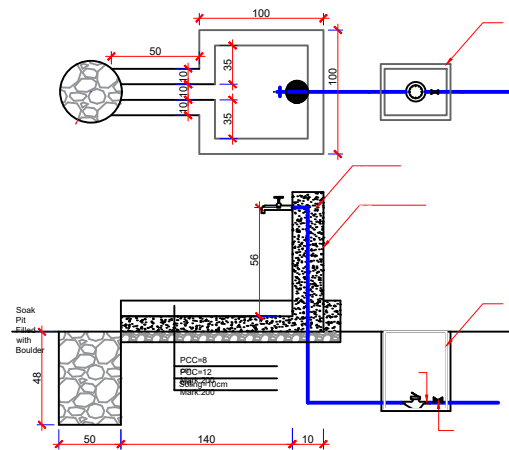
Gate Valve Box-2 Details (1 PCS)



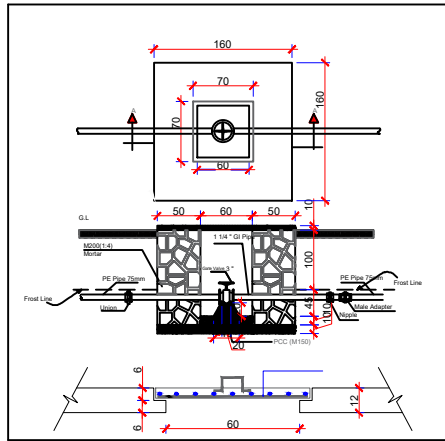
Gate Valve Box-1 Details (1 PCS)



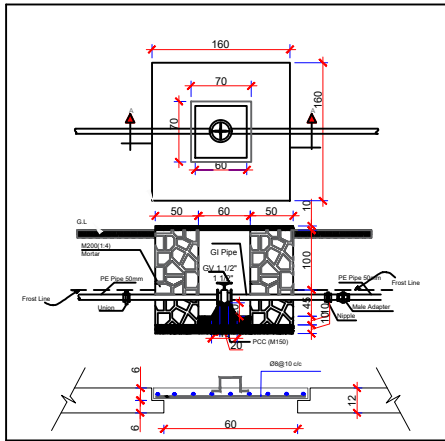
Stand Post Details



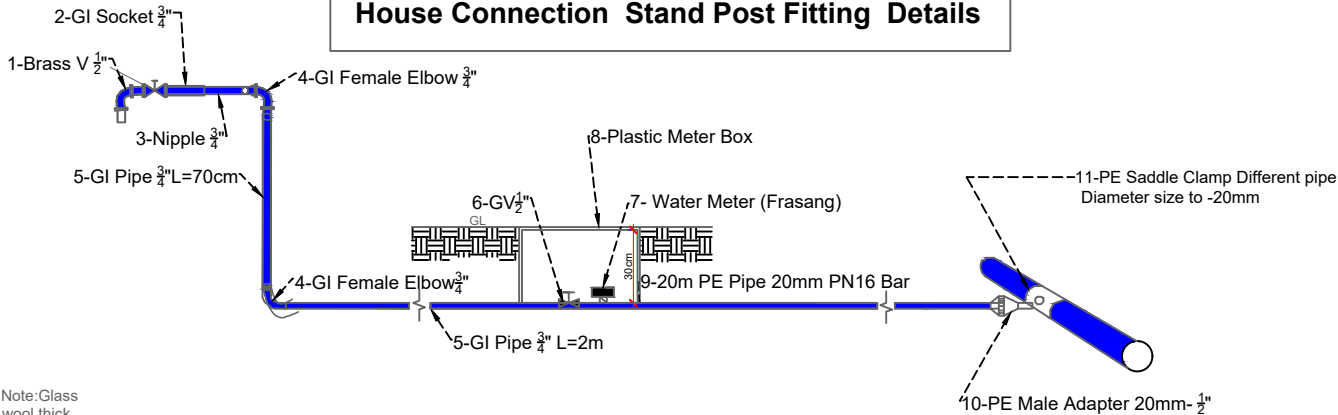
Gate Valve Box-4 Details (1 PCS)



Gate Valve Box-3 Details (3 PCS)



House Connection Stand Post Fitting Details

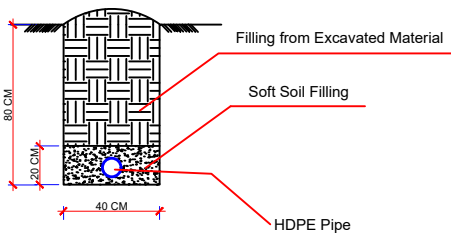


Note: Glass wool thick 2mm

TABLE 1 (TP FITTINGS DETAILS for TP 1)

No	Description	Unit	Quantity/tap	Total	Remarks
1	House Connection	No	1	1	
2	GI Tap 1/2"	No	1	1	
3	GI Socket 3/4"	No	1	1	
4	Nipple 3/4"	No	1	1	
5	GI Female Elbow 3/4"	No	2	2	
6	GI Pipe 3/4"	M	3	3	
7	Stainless Steel GV 1/2"	No	1	1	
8	Water Meter (Frasang)	No	1	1	
9	Plastic Meter Box	No	1	1	
10	PE Pipe 20mm PN16 Bar	M	20	20	
11	PE Male Adapter 20mm- 3/4"	No	1	1	
12	PE Saddle Clamp Different pipe Diameter size to -20mm	No	1	1	As per pipe networks layout

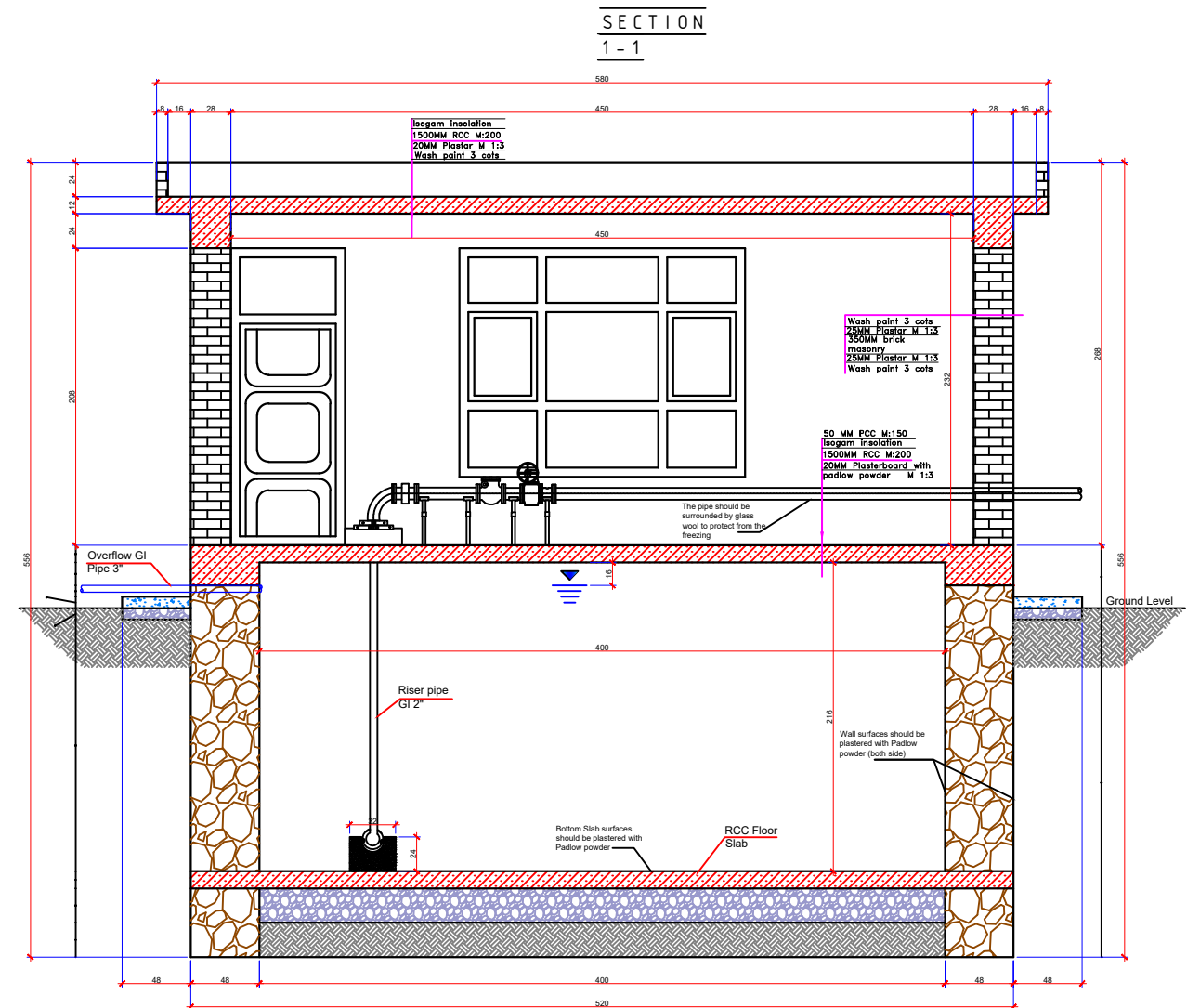
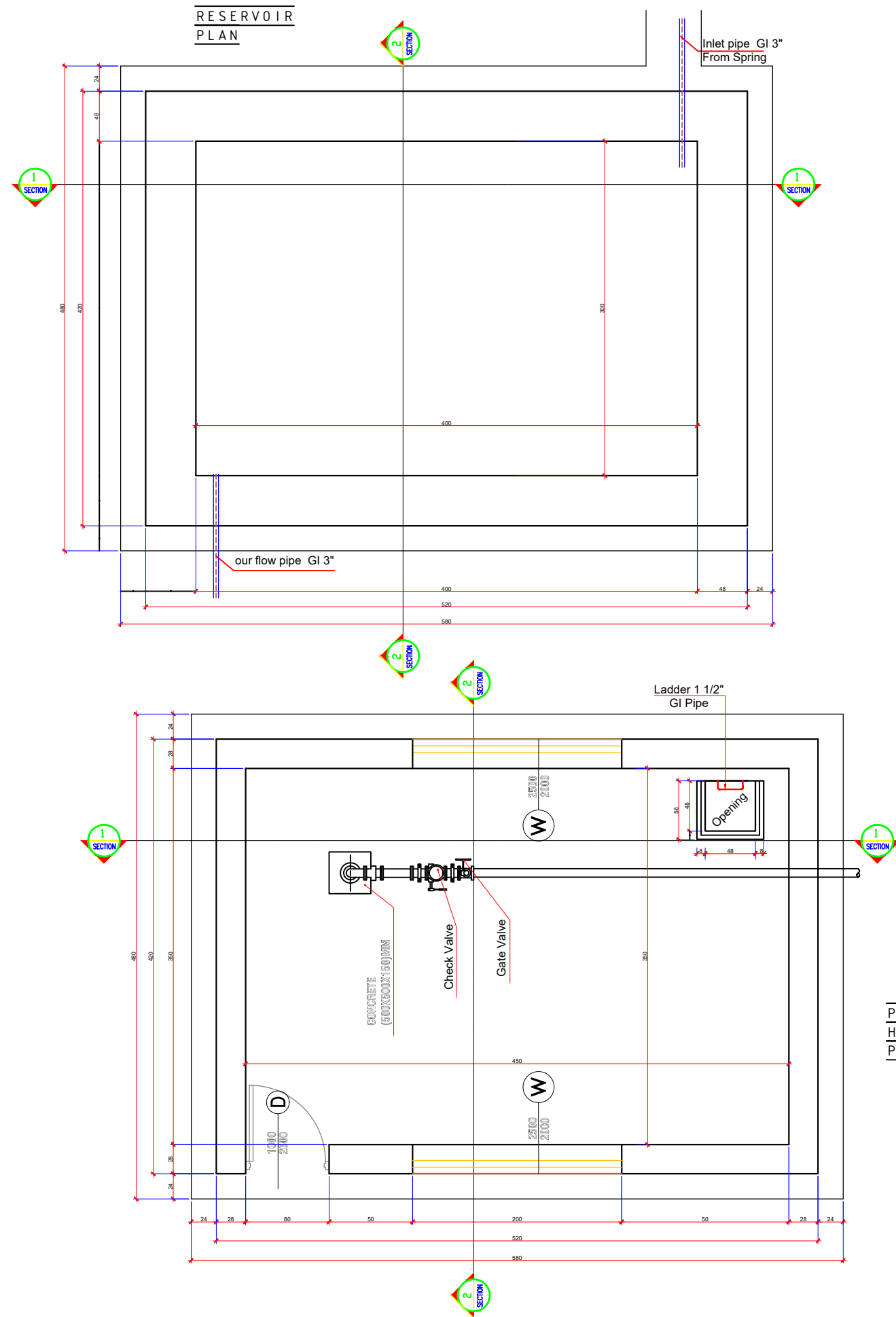
Trench Details



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DAWAM WASH PROJECT

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Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name: Drawing.dwg
Stand Post & Valve Box Details			Map Size: A3
			Plot Date: 22-04-2024
			Plot Scale: NTS

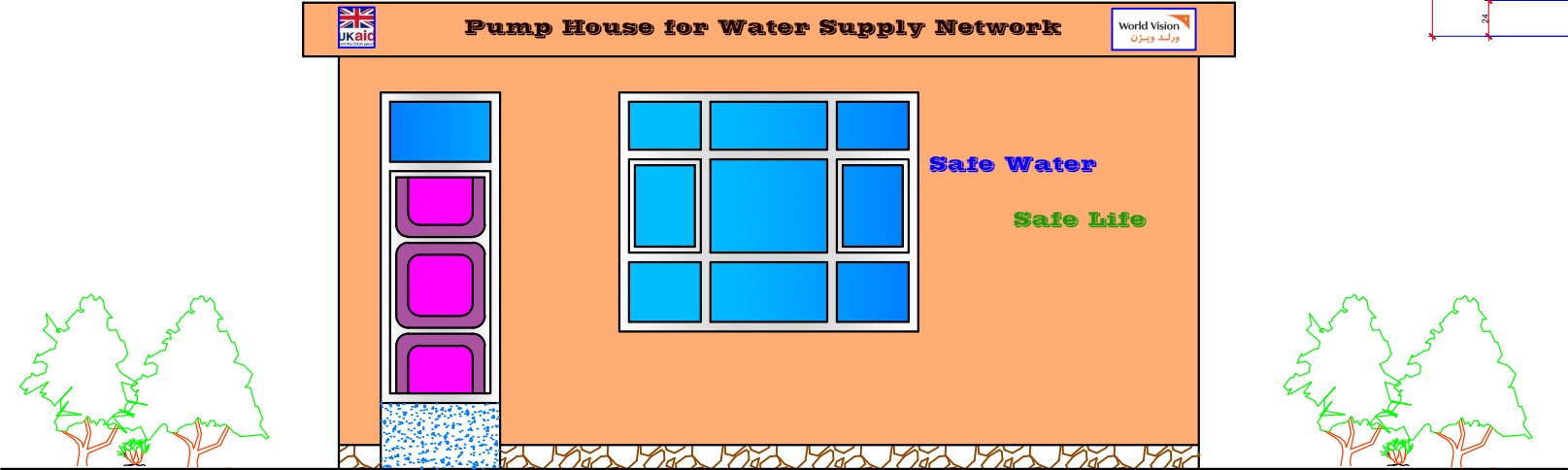


Note:

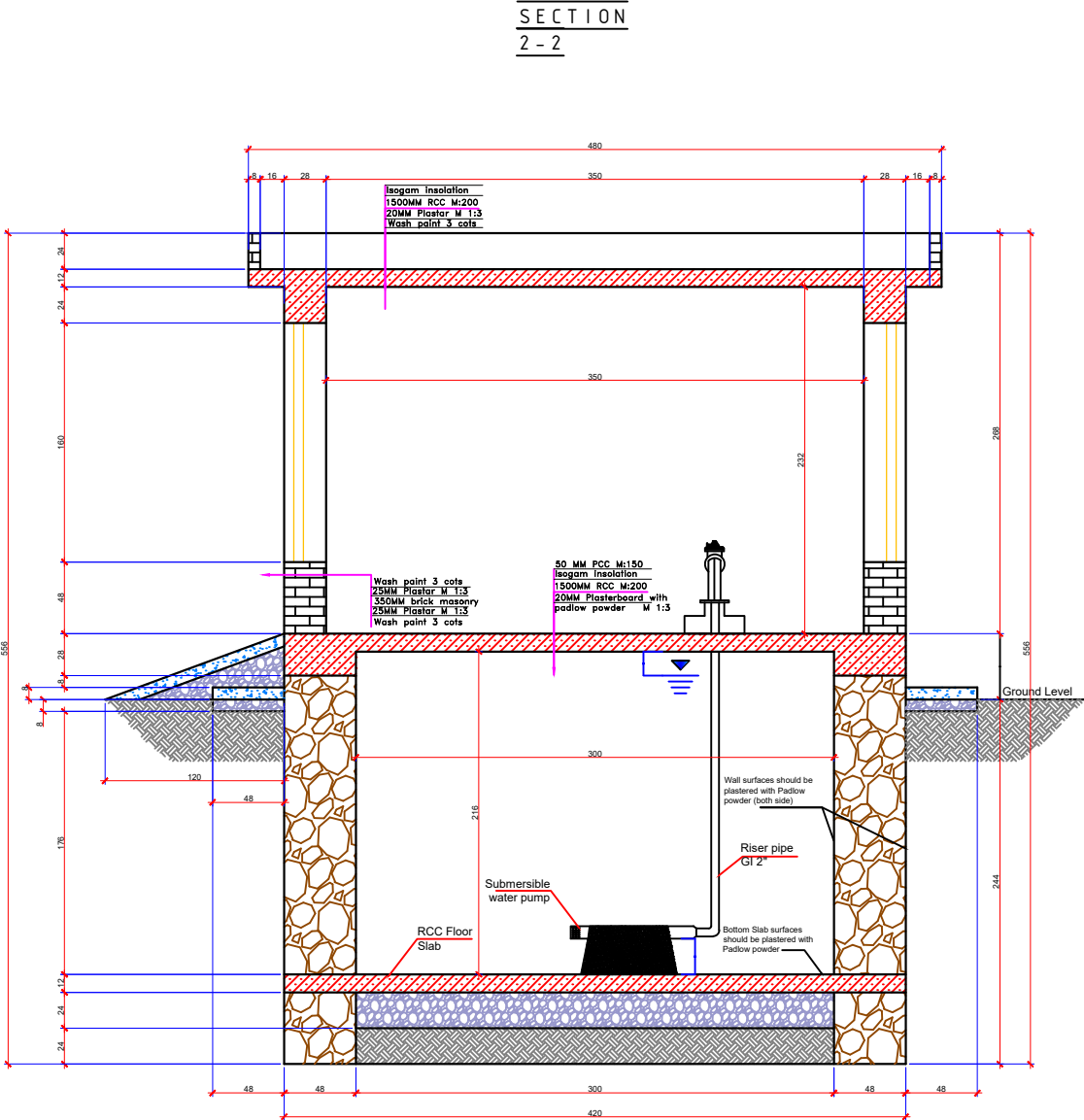
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DAWAM WASH PROJECT			
Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name: Drawing.dwg
Pump House with 30 m3 Water Reservoir			Map Size: A3
			Plot Date: 22-04-2024
			Plot Scale: NTS

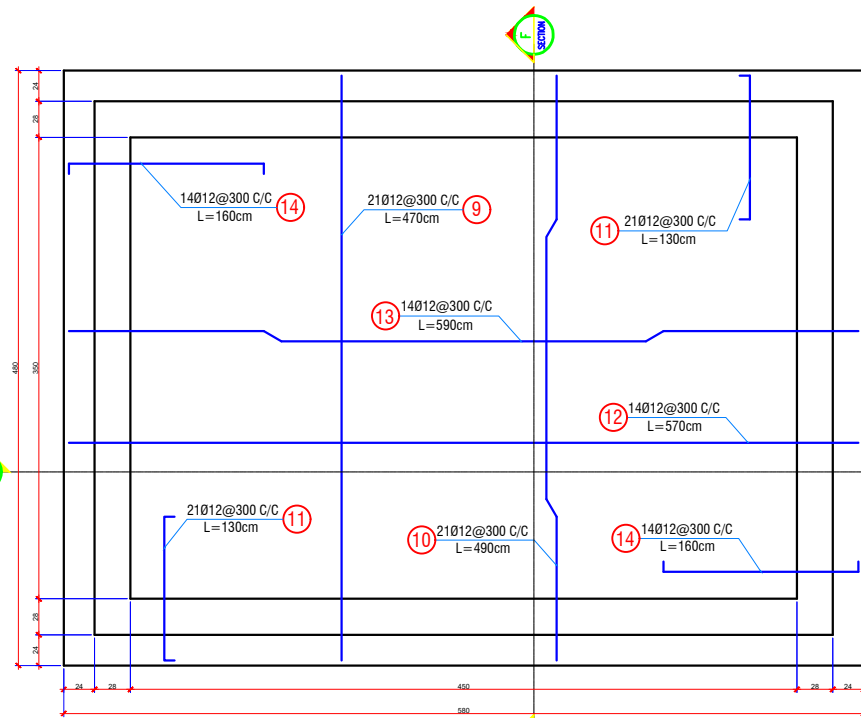
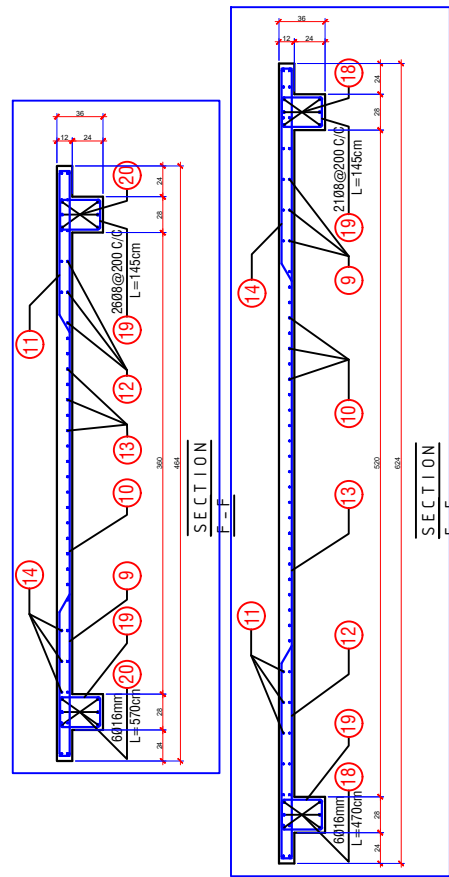
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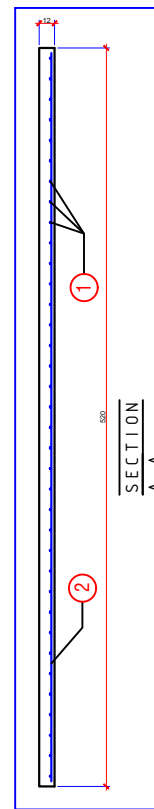
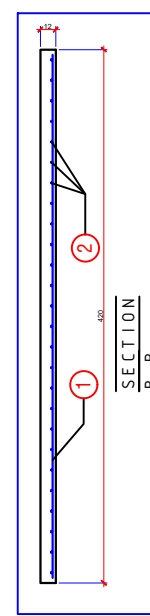
FRONT
ELEVATION



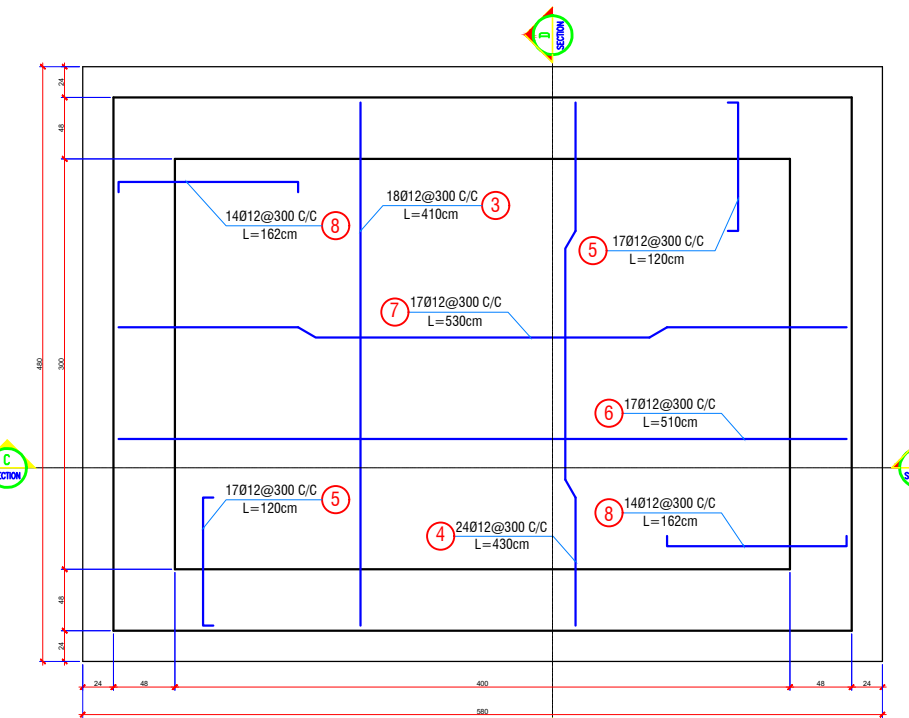
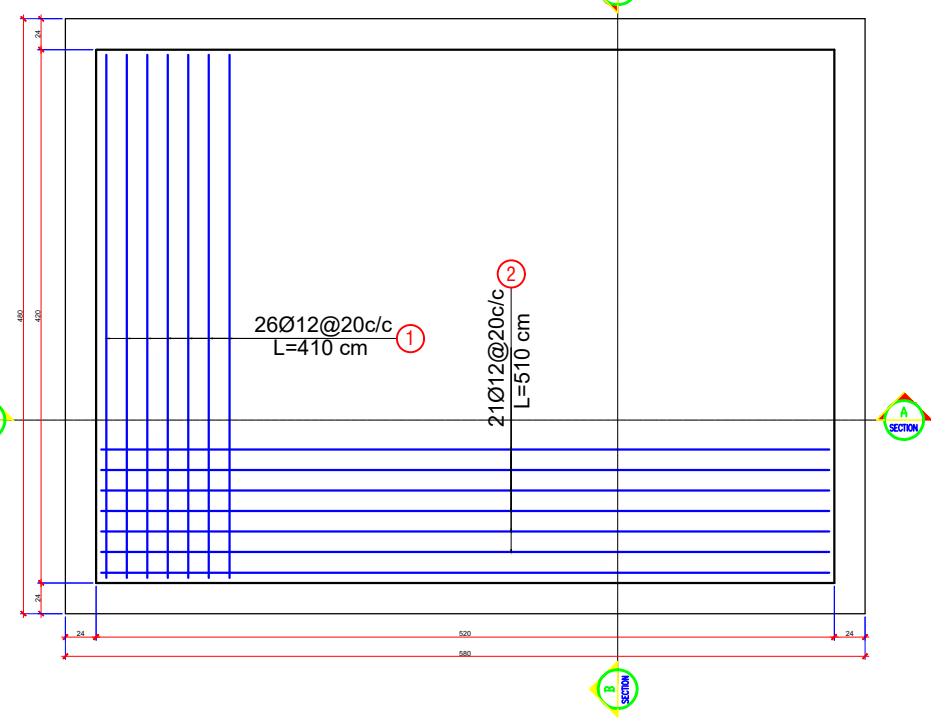
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DAWAM WASH PROJECT				ورلد ویژن
Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873	
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name: Drawing.dwg	
Pump House with 30 m3 Water Reservoir			Map Size:	A3
			Plot Date: 22-04-2024	Plot Scale: NTS



PUMP
HOUSE'S
SLAB
REINFORCEMENT
PLAN

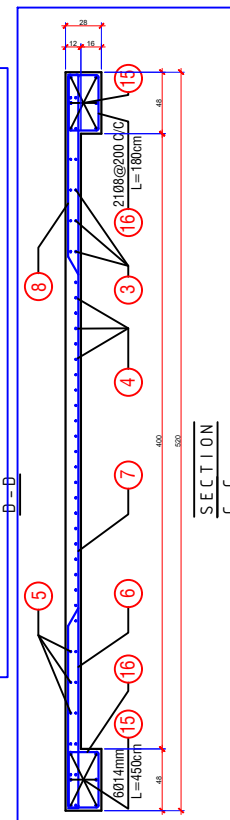
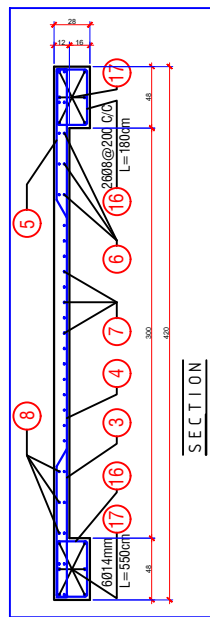


RESERVOIR
BOTTOM
REINFORCEMENT
PLAN

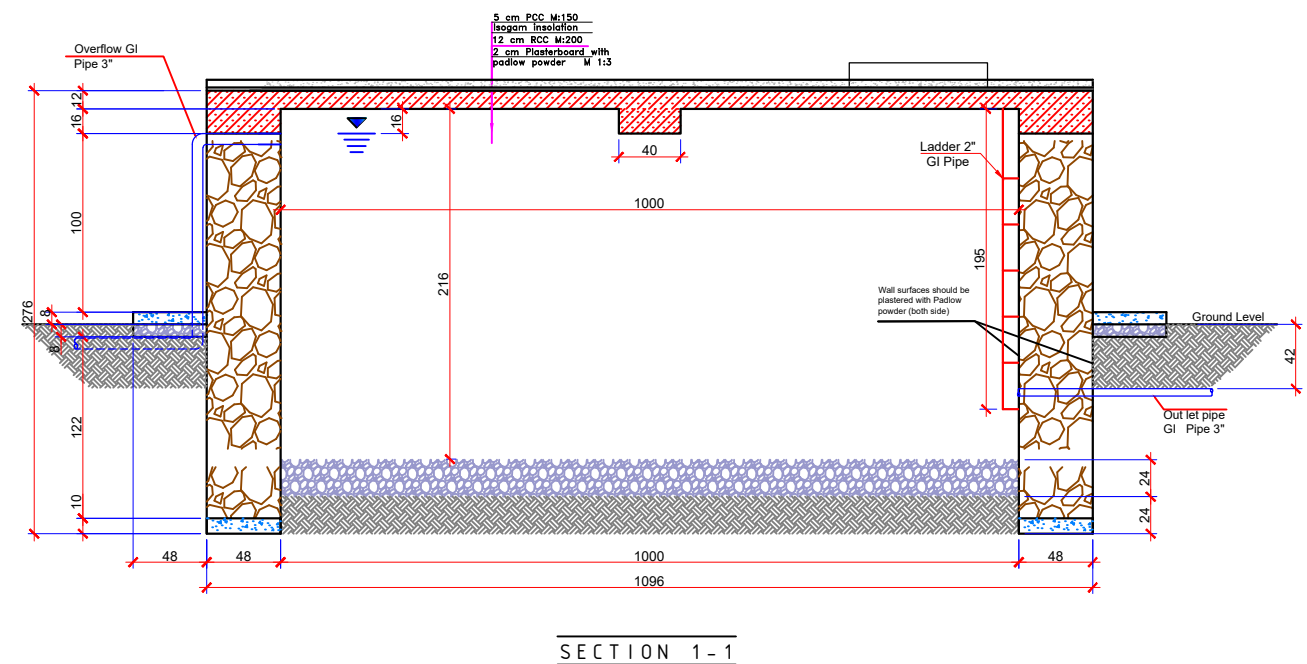
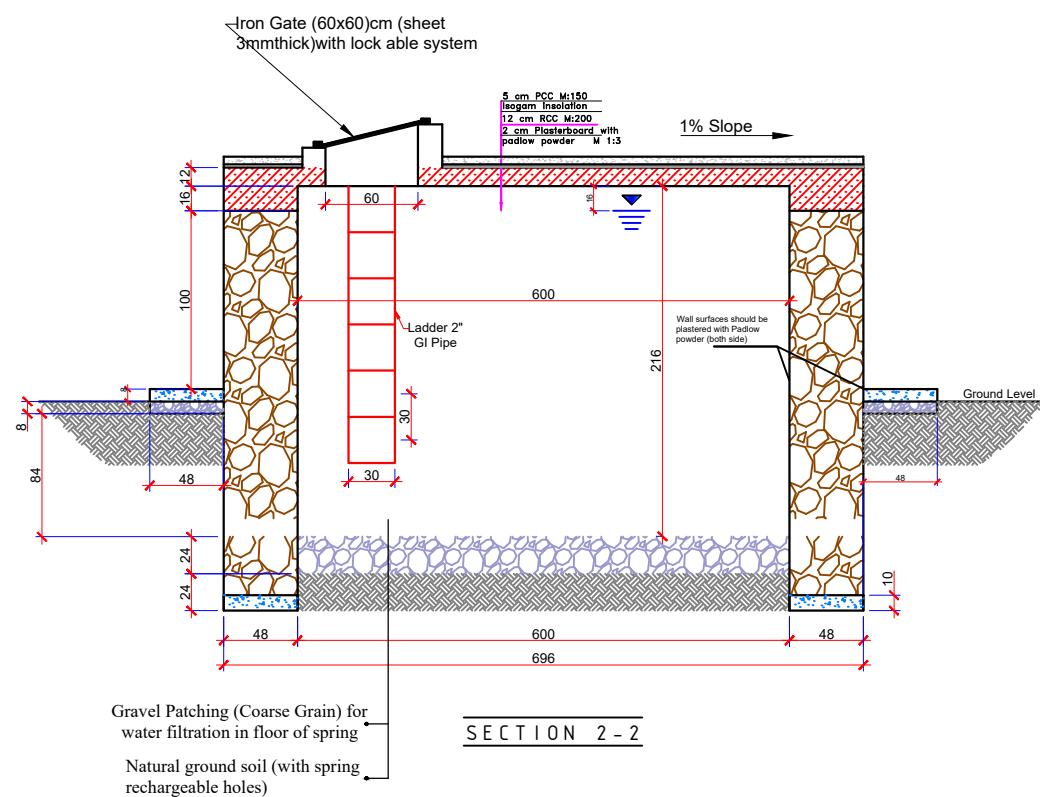
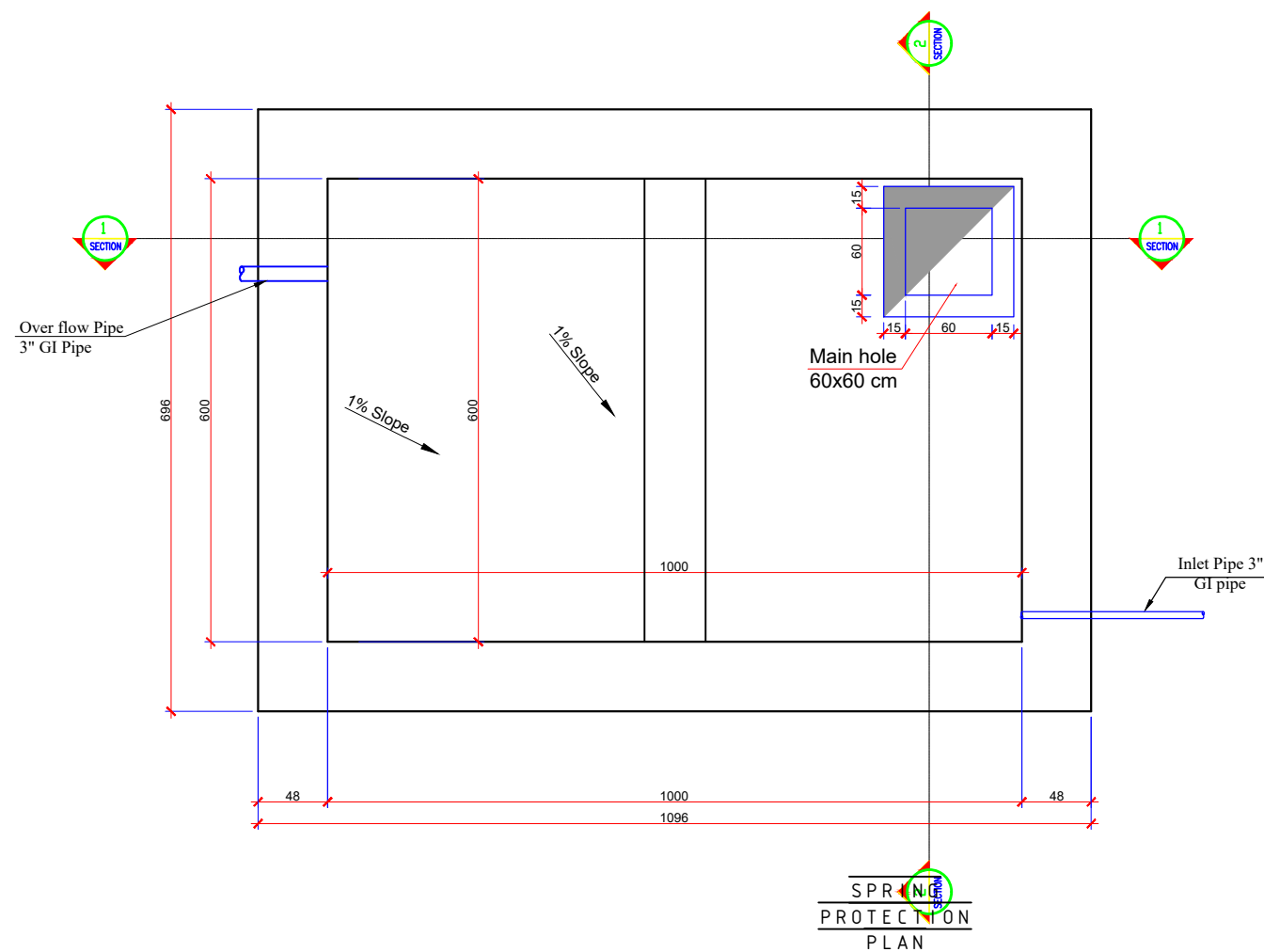


RESERVOIR'S
SLAB
REINFORCEMENT
PLAN

STEEL BAR SCHEDULE FOR PUMP HOUSE AND RESERVOIR									
No	Shape of bar	Diameter (mm)	No. of bars	Total No.	Length (m)	Total Length	weight (Kg)	Total weight (Kg)	Total weight + 5% (Kg)
1		12	26	26	4.1	106.6	0.888	94.661	99.394
2		12	21	21	5.1	107.1	0.888	95.105	99.860
3		12	18	18	4.1	73.8	0.888	65.534	68.811
4		12	24	24	4.3	103.2	0.888	91.642	96.224
5		12	17x2	34	1.2	40.8	0.888	36.230	38.042
6		12	17	17	5.1	86.7	0.888	76.990	80.839
7		12	17	17	5.3	90.1	0.888	80.009	84.009
8		12	14x2	28	1.62	45.36	0.888	40.280	42.294
9		12	21	21	4.7	98.7	0.888	87.646	92.028
10		12	21	21	4.9	102.9	0.888	91.375	95.944
11		12	21x2	42	1.3	54.6	0.888	48.485	50.909
12		12	14	14	5.7	79.8	0.888	70.862	74.406
13		12	14	14	1.6	22.4	0.888	19.891	20.886
14		12	14x2	28	1.6	44.8	0.888	39.782	41.772
15		14	6x2	12	4.5	54	1.209	65.268	68.531
16		8	21x2 + 26x2	94	1.8	169.2	0.395	66.778	70.116
17		14	6x2	12	5.5	66	1.209	79.772	83.761
18		16	6x2	12	4.7	56.4	1.579	89.037	93.489
19		8	21x2 + 26x2	94	1.45	136.3	0.395	53.793	56.483
20		16	6x2	12	5.7	68.4	1.579	107.981	113.380
TOTAL WIDGHT OF 8MM STEEL BAR									126.599
TOTAL WIDGHT OF 12MM STEEL BAR									985.416
TOTAL WIDGHT OF 14MM STEEL BAR									152.292
TOTAL WIDGHT OF 16MM STEEL BAR									206.868
TOTAL WIDGHT OF ALL STEEL BARS									1471.176



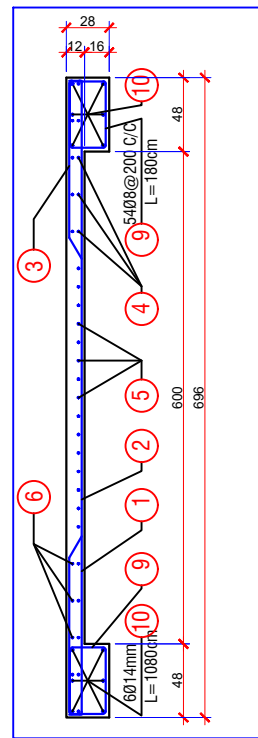
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			Plot Date: 22-04-2024	Plot Scale: NTS



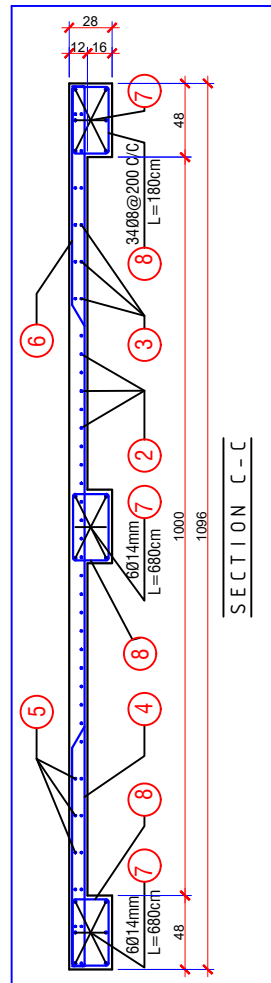
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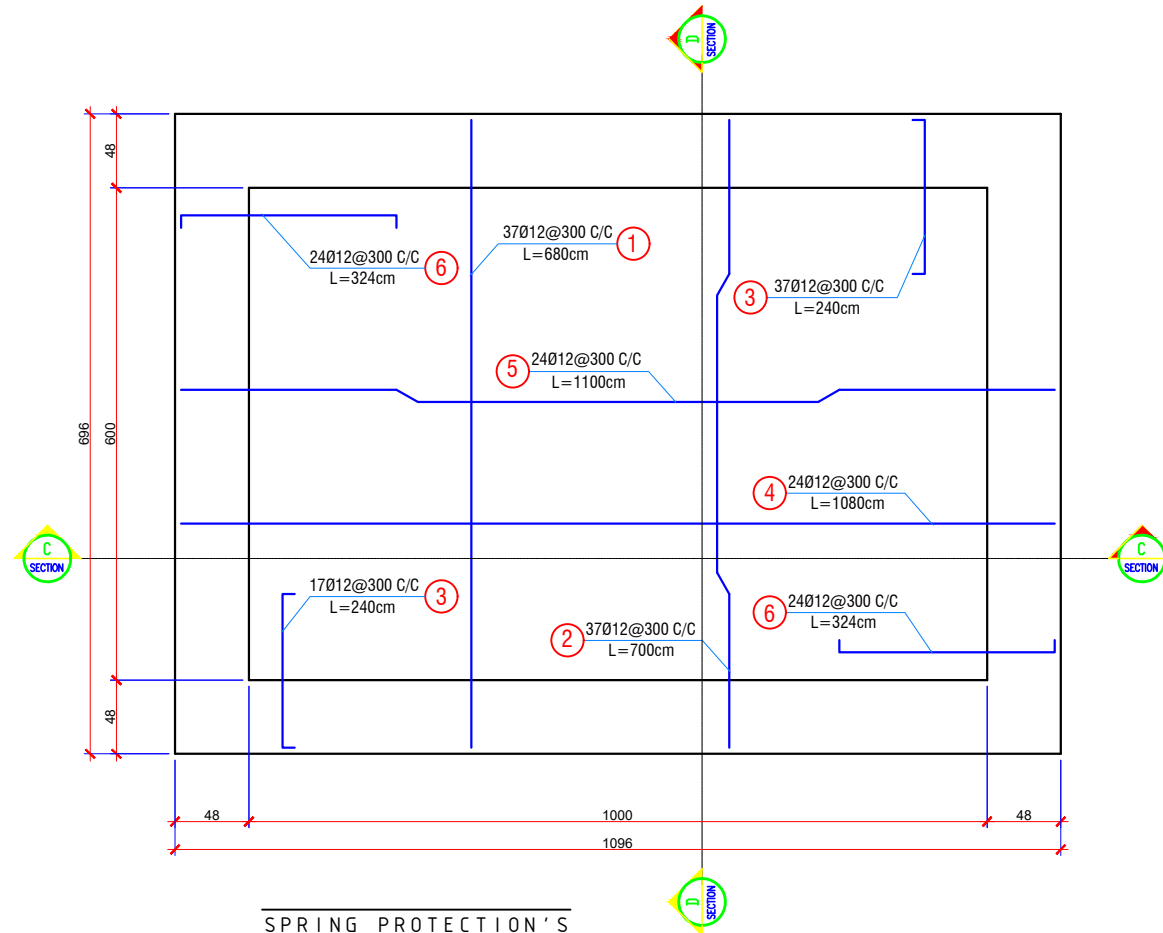
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Spring Protection (10x6 m2)			Map Size:	A3
			Plot Date: 22-04-2024	Plot Scale: NTS



SECTION D - D



SECTION C - C



SPRING PROTECTION'S
SLAB REINFORCEMENT
PLAN

STEEL BAR SCHEDULE FOR PUMP HOUSE AND RESERVOIR									
No	Shape of bar	Diameter (mm)	No. of bars	Total No.	Length (m)	Total Length	weight (Kg)	Total weight (Kg)	Total wieght + 5% (Kg)
1		12	37	37	6.8	251.6	0.888	223.421	234.592
2		12	37	37	7	259	0.888	229.992	241.492
3		12	37*2	74	2.4	177.6	0.888	157.709	165.594
4		12	24	24	10.8	259.2	0.888	230.170	241.678
5		12	24	24	11	264	0.888	234.432	246.154
6		12	24*2	48	3.24	155.52	0.888	138.102	145.007
7		14	6*3	18	6.8	122.4	1.209	147.941	155.338
8		8	34*3	102	1.8	183.6	0.395	72.461	76.084
9		8	54*2	108	1.8	194.4	0.395	76.723	80.559
10		14	6*2	12	10.8	129.6	1.209	156.643	164.475
TOTAL WIEDGHT OF 8MM STEEL BAR									156.643
TOTAL WIEDGHT OF 12MM STEEL BAR									1274.516
TOTAL WIEDGHT OF 14MM STEEL BAR									319.813
TOTAL WIEDGHT OF ALL STEEL BARS									1750.973

Note:

- 1- All dimensions are in cm unless otherwise stated.
- 2- During RCC work vibrator must be used to avoid water leakage from reservoir.
- 3- All PCC works should be with 1:2:4 mortar unless otherwise stated.
- 4- All RCC works should be with 1:1.5:3 mortar.
- 5- Isolation material is glass wool.
- 7- Curing must be continued upto 28 days.
- 8- Clear and Clean water must be used every where.
- 9- The inlet, outlet, overflow and washing pipes should be adjusted according to site condition.

WORLD VISION AFGHANISTAN				World Vision
DAWAM WASH PROJECT				ورلد ویژن
Province Badghis	District Jawand	Village Sharshara	Project ID Number: A221873	
Designed by: WASH Advisor	Reviewed by: WASH Sector Lead	Approved by: Operation & Response Director	File Name:	Drawing. dwg
			Map Size:	A3
Spring Protection (10x6 m2)			Plot Date: 22-04-2024	Plot Scale: NTS