

ARAB REPUBLIC OF EGYPT
ASWAN GOVERNORATE



ASWAN WATER AND SANITATION COMPANY

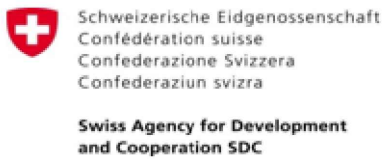
POTABLE WATER MANAGEMENT PROGRAMME IN UPPER EGYPT – PHASE 2

(PWMP 12) - Ezzbet Al Soneya DISTRIBUTION NETWORK



MAR 2025

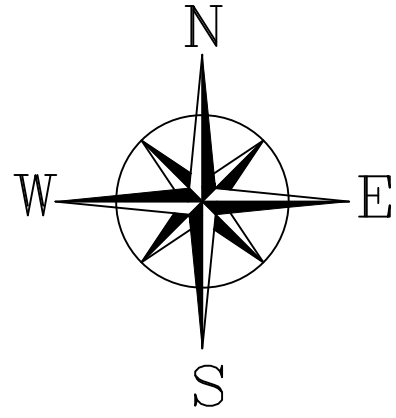
LIST OF DRAWINGS				
SERIAL	DWG. NO.	TITLE	PAPER SIZE	SCALE
LIST OF DRAWINGS				
00	P12-LOD	LIST OF DRAWINGS	A1	N.T.S.
WATER DISTRIBUTION NETWORK				
(AL-SONEYA)				
01	P12-C-GN-00	GENERAL LAYOUT FOR MAIN WATER DISTRIBUTION NETWORK	A1	1:1350
02	P12-C-CR-01	DETAILS OF CROSSING (1) ABOVE AL SAIL DRAIN	A1	N.T.S.
VALVE CHAMBER DETAILS				
03	P12-C-VC-01	GENERAL VALVE CHAMBERS DETAILS	A1	1:50
STANDARD DETAILS				
04	P12-C-DT-01	THRUST BLOCK DETAILS (1-2)	A1	N.T.S.
05	P12-C-DT-02	THRUST BLOCK DETAILS (2-2)	A1	N.T.S.
06	P12-C-DT-03	TRENCH DETAILS	A1	N.T.S.
07	P12-C-DT-04	GENERAL DETAILS	A1	N.T.S.
STRUCTURAL DRAWINGS				
08	P12-S-VC-01	VALVE CHAMBERS STRUCURE DETAILS	A1	1:40
09	P12-S-CR-01	STR. OF CROSSING (GENERAL DETAIL) (1-3)	A1	1:50
10	P12-S-CR-02	STR. OF CROSSING (GENERAL DETAIL) (2-3)	A1	1:50
11	P12-S-CR-03	STR. OF CROSSING (GENERAL DETAIL) (3-3)	A1	1:50



Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
List Of Drawings

Design : PWMP (12)		List Of Drawings	
DESIGN BY : Mostafa Fathy	Format : A1	Scale: N.T.S	DWG. NO: P12-LOD
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmlí	



NOTES:

- 1-ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
- 2-ALL PIPE DIAMETERS ARE IN MILLIMETERS.
- 3-ALL PROPOSED PIPES AND FITTINGS SHOULD BE INSTALLED AS PN10.
- 4-THE CONTRACTOR SHOULD CONFIRM THE COMPLETE ISOLATION OF DMA NETWORK FROM OTHER NETWORKS.
- 5-FOR PROFILES, THE HORIZONTAL SCALE IS 1:1000 & THE VERTICAL SCALE IS 1:100
- 6-ALL THE SHOWN EXISTING UTILITIES LOCATION & ELEVATIONS ARE TENTATIVE AND THE CONTRACTOR HAVE TO VERIFY THESE LOCATIONS & ELEVATIONS AND UPDATE THE DRAWINGS ACCORDINGLY AND SUBMIT FOR THE SUPERVISION ENGINEER FOR APPROVAL BEFORE START OF WORK
- 7-ALL CONTROL VALVES HAVE BEEN SELECTED ACCORDING TO ASWAN WATER AND WASTE WATER COMPANY VISION TO LIMIT THE NUMBER OF CLOSING VALVES WHEN NEEDED TO FACILITATE THE NETWORK OPERATION AND MAINTENANCE

LEGEND:

- Water Pipe 110 mm
- Water Pipe 160 mm
- Water Pipe 225 mm
- Pipe line in other contract
- Isolation Valve
- End Plug
- Fire Hydrant
- Isolating & Wash Valve Chamber Model (1)
- Flow Meter Chamber Model (2)
- Isolation Valve Chamber IN OTHER CONTRACT (PWMP-11)



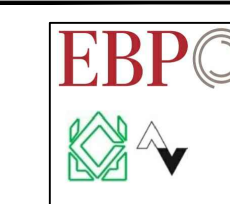
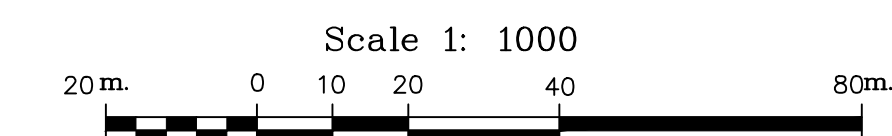
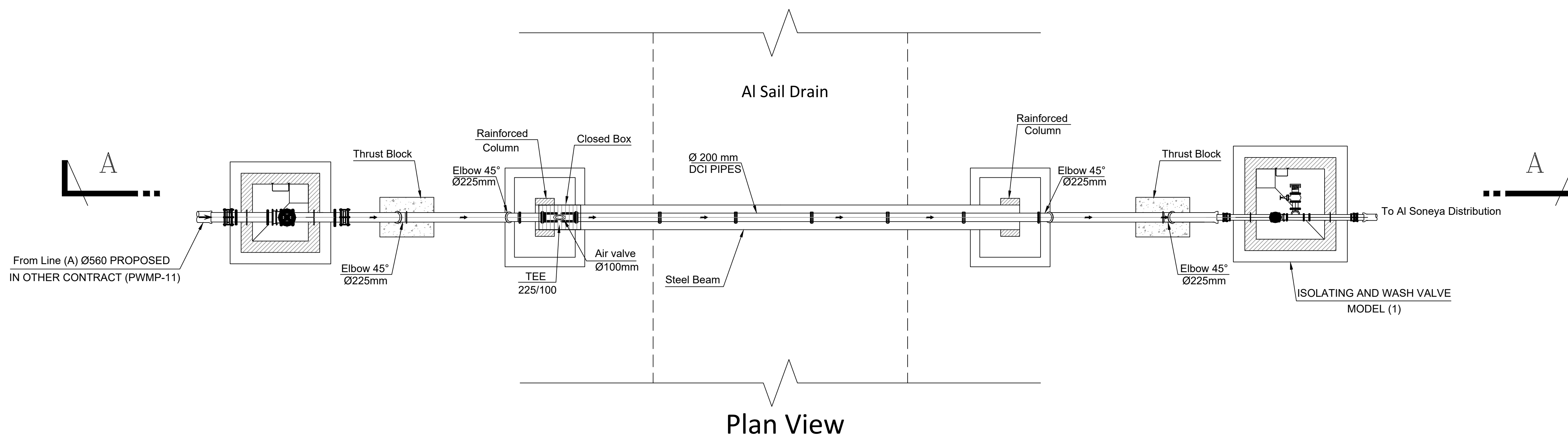
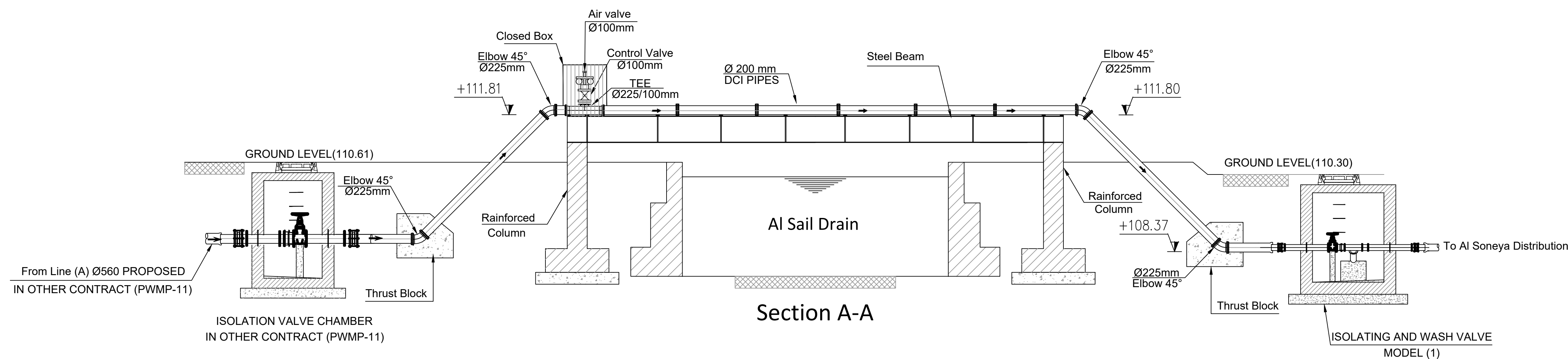
Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
AL-SONEYA
GENERAL LAYOUT FOR MAIN WATER DISTRIBUTION NETWORK

Design : PWMP (12) Final Design		Plan View	
DESIGN BY : Abdelaziz Ehab	Format : A1	Scale: 1:1350	DWG. NO: P12-C-GN-00
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmlí	

NOTES:

- 1-ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
- 2-ALL PIPE DIAMETERS ARE IN MILLIMETERS.
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- 4-FOR PROFILES, THE HORIZONTAL SCALE IS 1:1000 & THE VERTICAL SCALE IS 1:100
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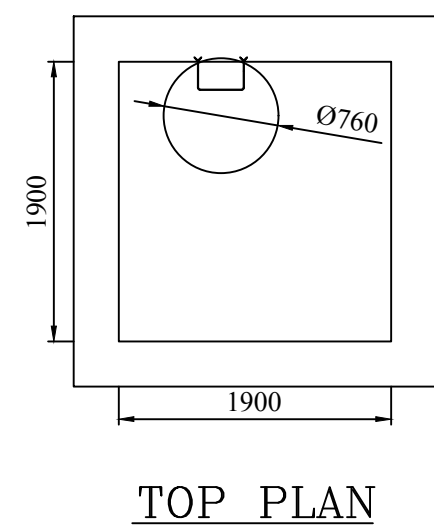
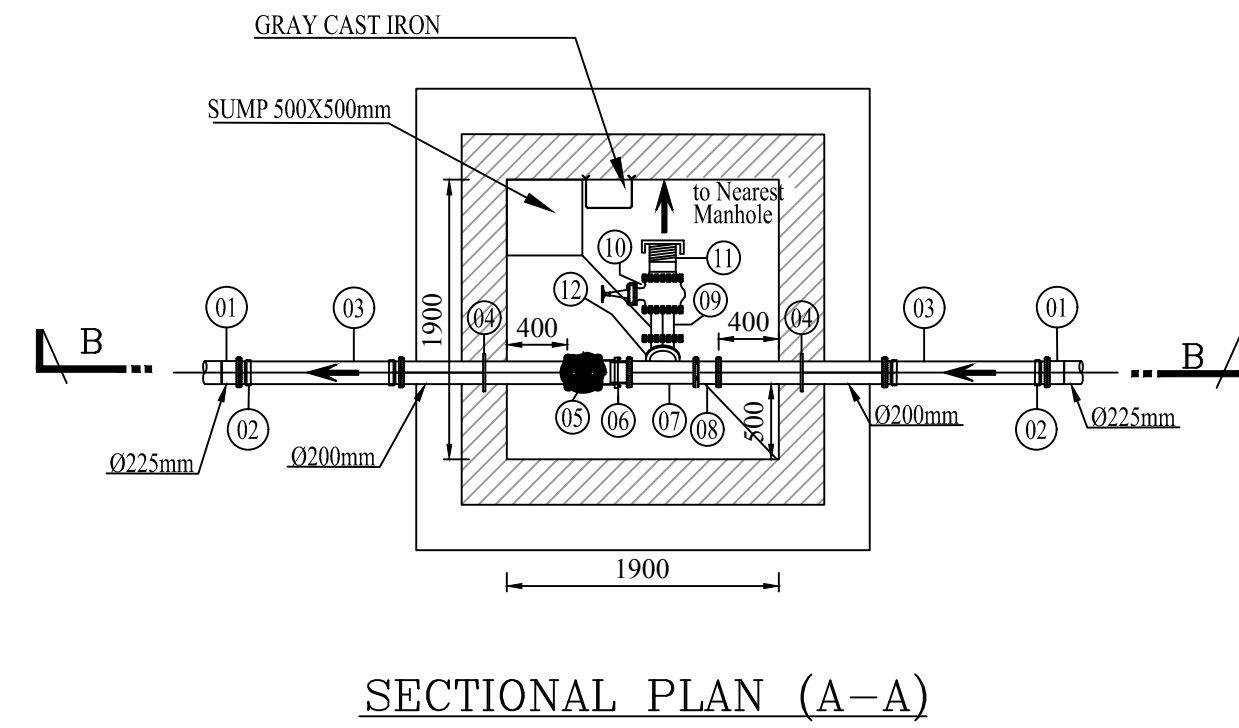
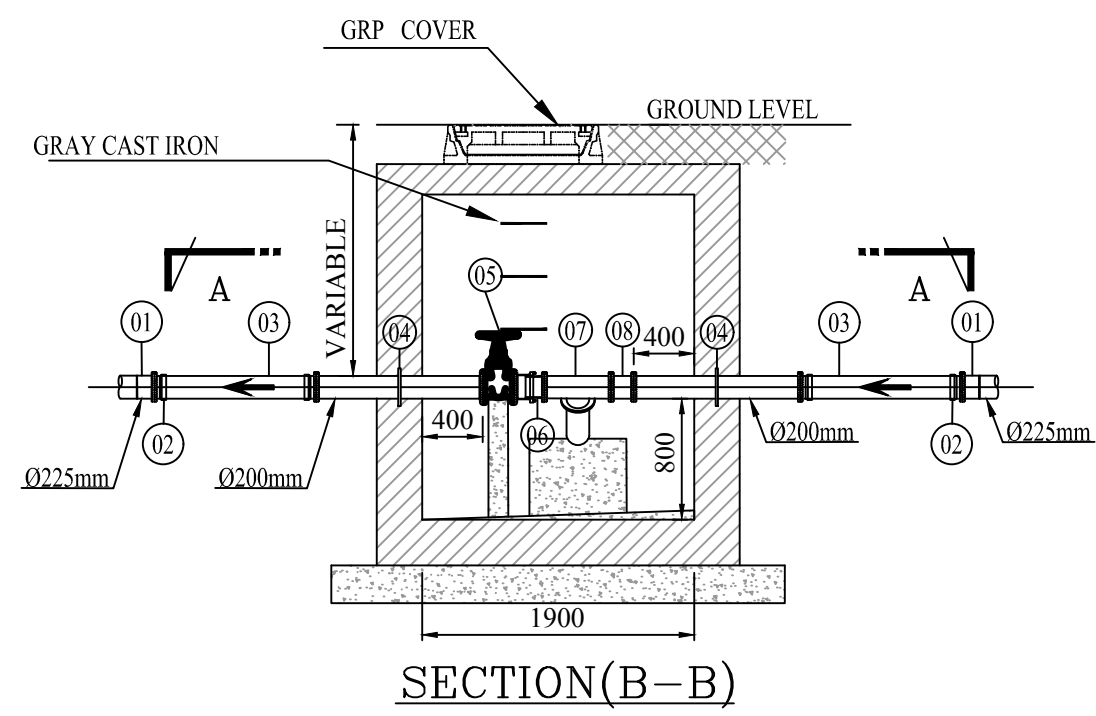
Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
AL SONEYA
DETAILS OF CROSSING (1) ABOVE AL SAIL DRAIN

Design : PWMP (12) Final Design		PLAN & CROSS SECTION Detail No.1	
DESIGN BY : Abdelaziz Ehab	Format : A1	Scale: N.T.S	DWG. NO: P12-C-CR-01
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmlí	

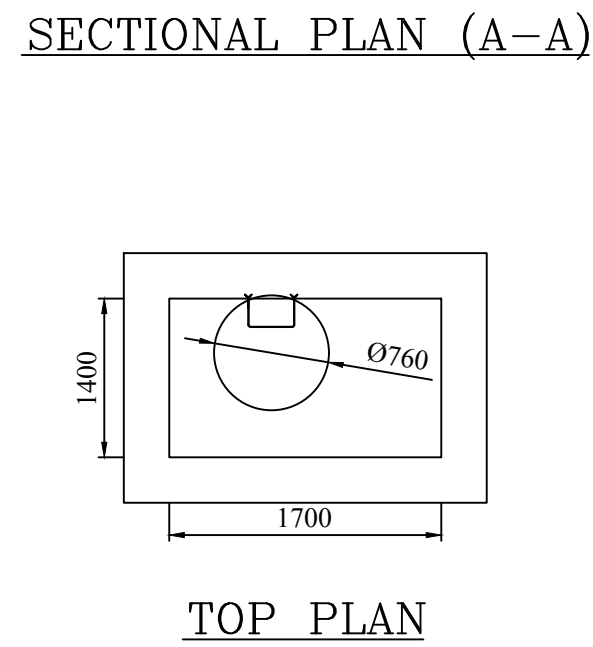
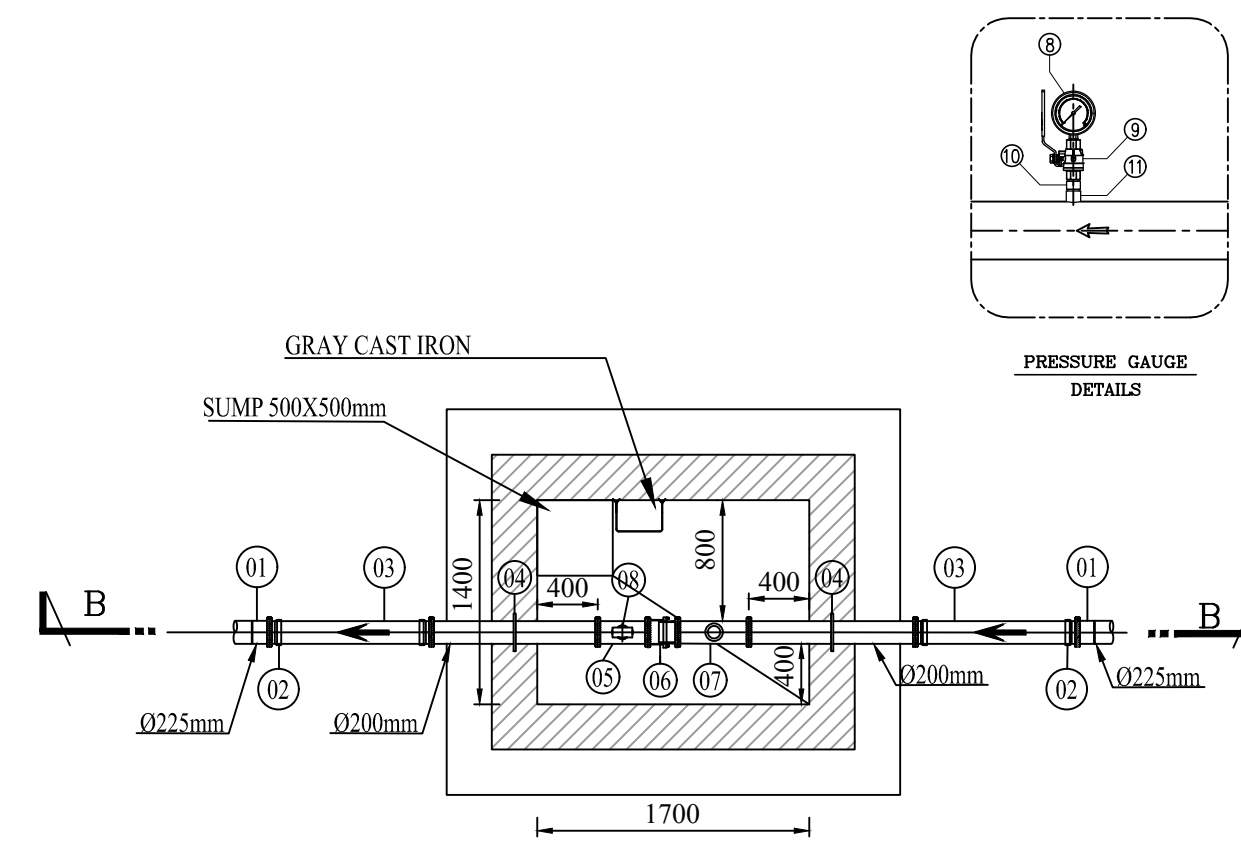
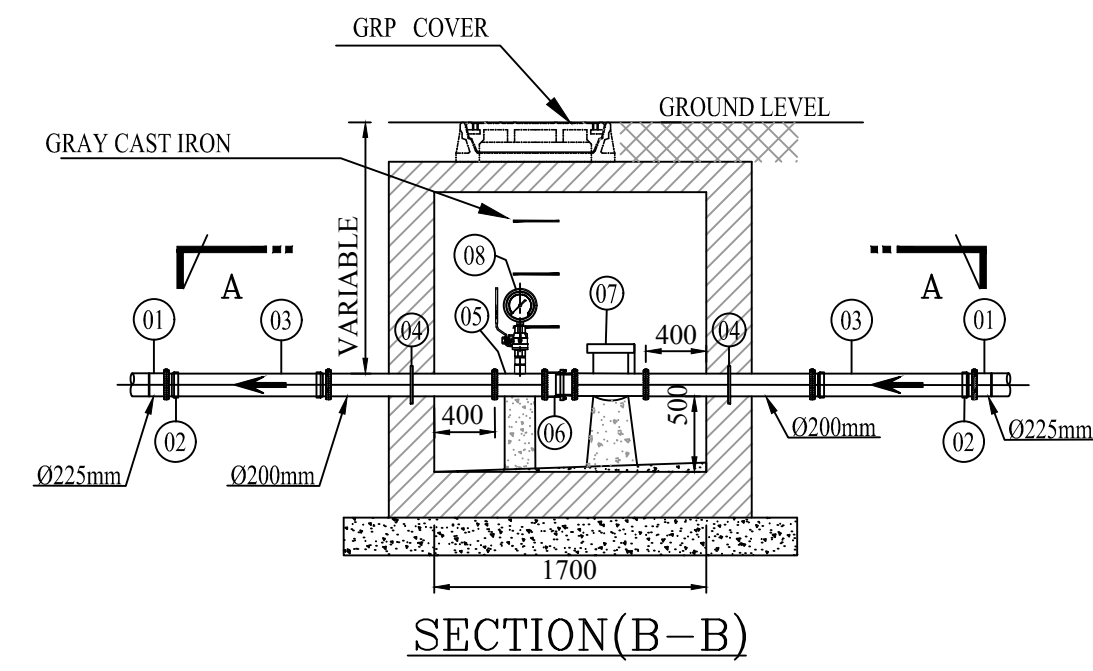
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MODEL (1)
ISOLATING & WASH VALVE

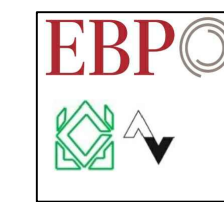
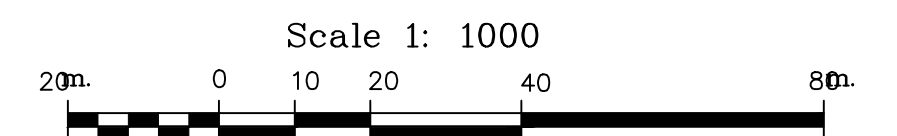


NO.	DESCRIPTION	DN	LENGTH IN mm	MATERIAL	QTY
01	INJECTION FLANGE ADAPTER WITH STEEL FLANGE	225	---	UPVC / HDPE	2
02	FLANGE SOCKET	200	140	DCI	1
03	DI PIPE PIECE	200	1000	DCI	1
04	WALL PIECE	200	1100	DCI	2
05	GATE VALVE	200	230	--	1
06	DISMANTLING PIECE	200	220	--	1
07	TEE JOINT	200/150	520	DCI	1
08	PIPE PIECE	200	130	DCI	1
09	PIPE PIECE	150	190	DCI	1
10	GATE VALVE	150	210	--	1
11	QUICK FIT COUPLING	150	250	DCI	1
12	45°DOUBLE FLANGED ELBOW	150	---	DCI	1

MODEL (2)
Flow & Gauge Meter Valve Chamber



NO.	DESCRIPTION	DN	LENGTH IN mm	MATERIAL	QTY
01	INJECTION FLANGE ADAPTER WITH STEEL FLANGE	225	---	UPVC / HDPE	2
02	FLANGE SOCKET	200	140	DCI	1
03	DI PIPE PIECE	200	1000	DCI	1
04	WALL PIECE	200	1100	DCI	2
05	PIPE PIECE	200	330	--	1
06	DISMANTLING PIECE	200	220	--	1
07	ELECTROMAGNETIC FLOWMETER	200	350	DCI	1
08	PRESSURE GAUGE 1/2"				1
09	BALL VALVE 1/2"				1
10	NIPPLE 1/2"				1
11	SOCKET 1/2"				1

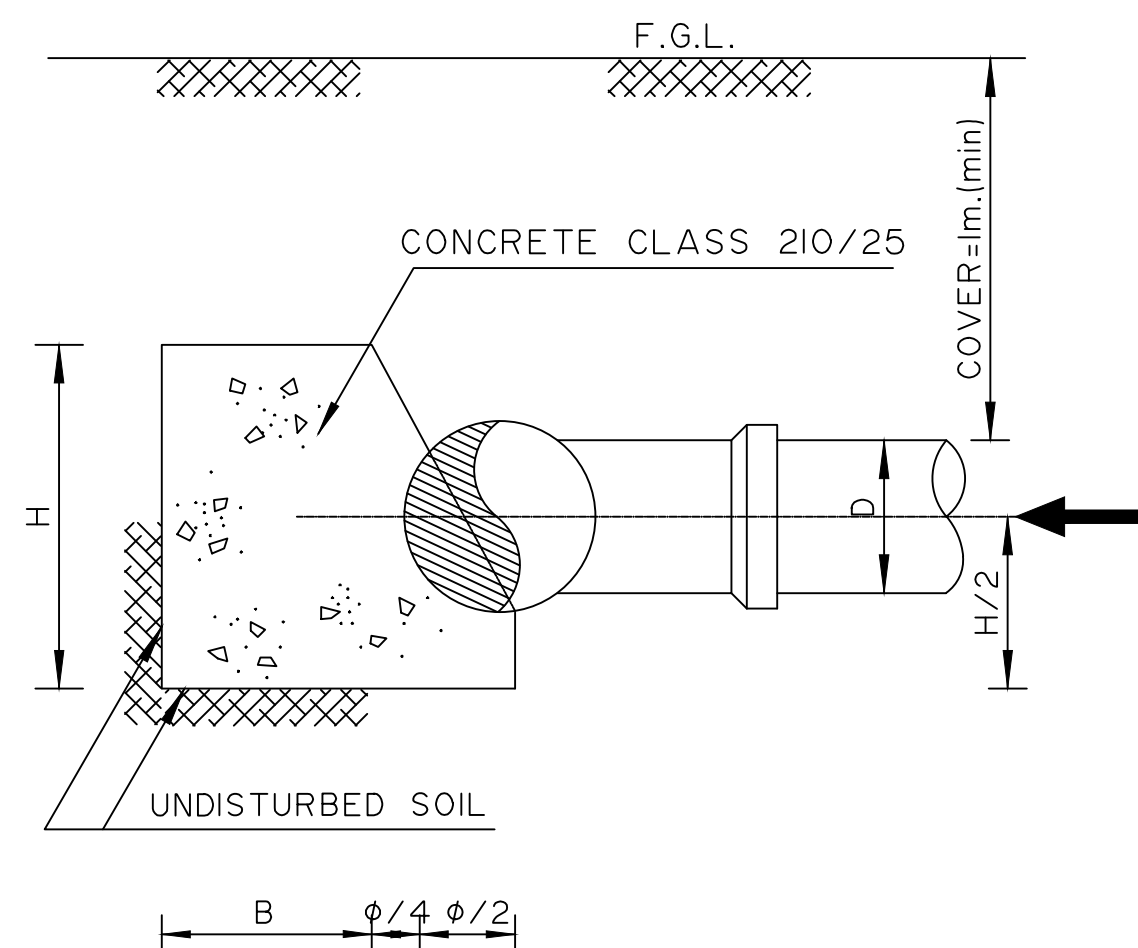
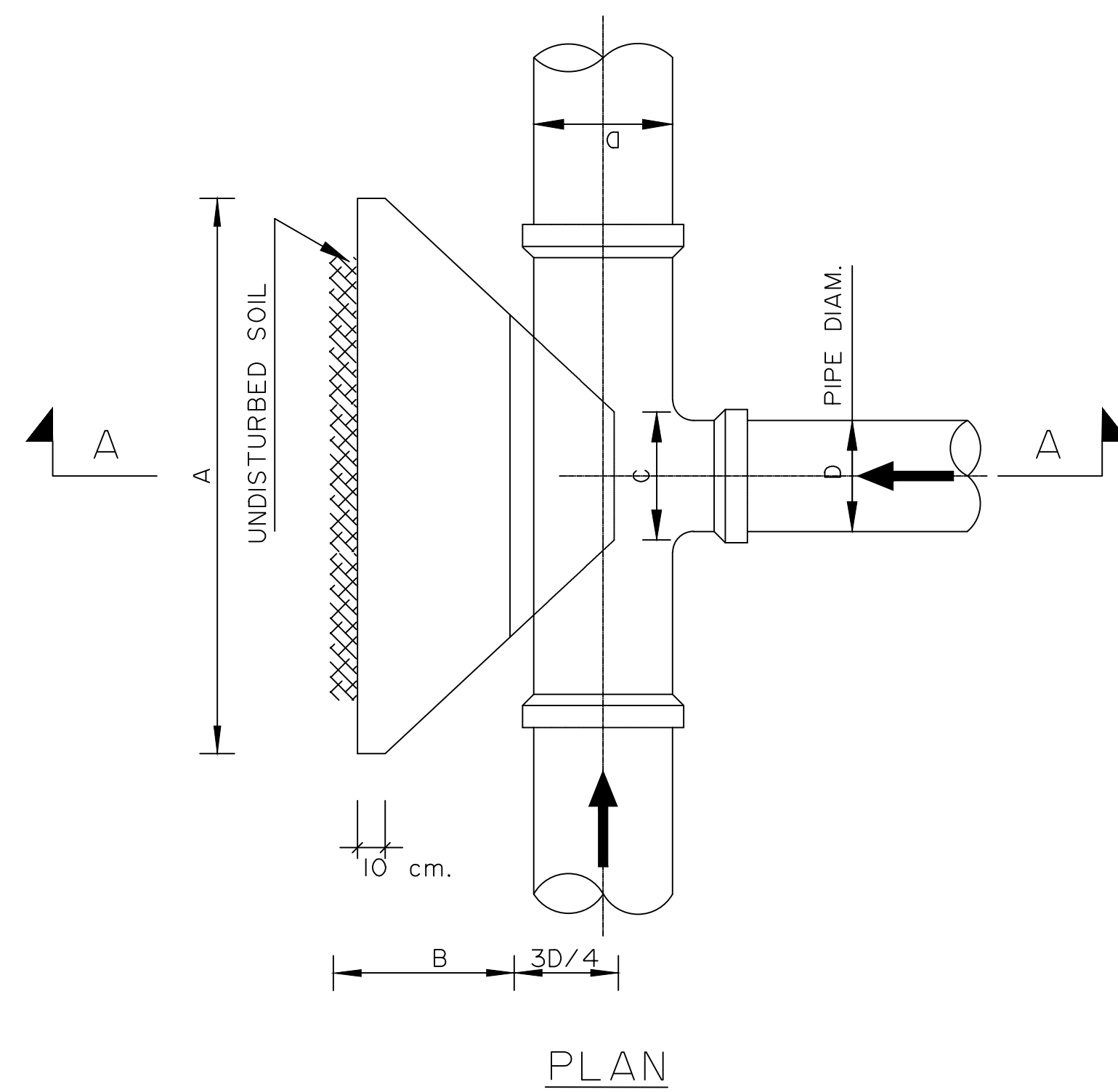
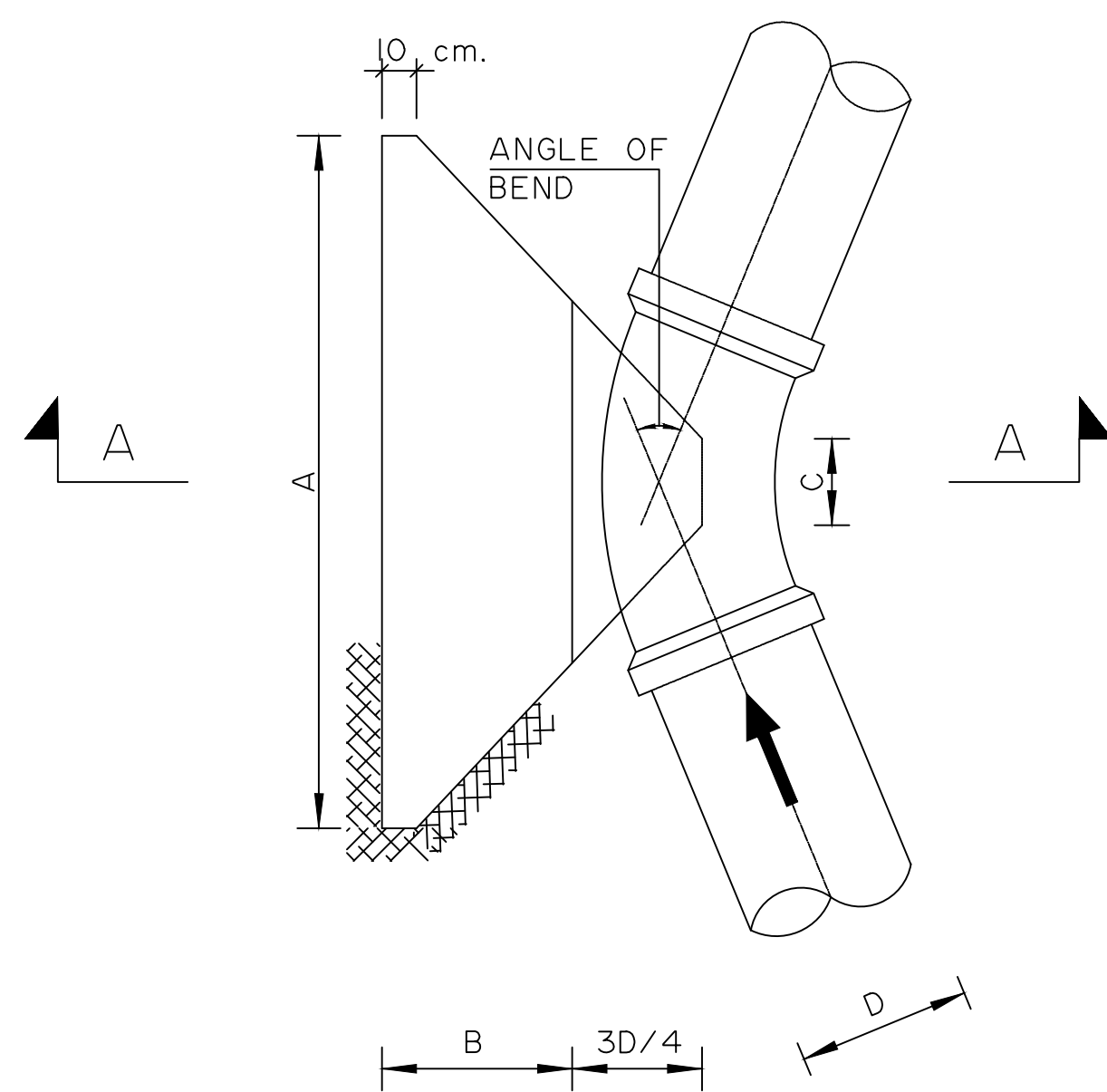


Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
GENERAL VALVE CHAMBERS DETAILS

Design : PWMP (12) Final Design		CROSS SECTION	
DESIGN BY : Ziad Alnaggar	F mat : A1	Scale: 1:50	DWG. NO: P12-C-VC-01
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmli	

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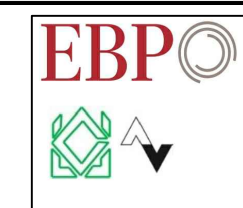


SECTION A-A

PIPE DIAM. m.m	THRUST BLOCK FOR HORIZONTAL BENDS																P working = 10 kg/cm2				P TEST = 15 kg/cm2			
	11.25° BEND				22.5° BEND				45° BEND				TEE				BLANK FLANGE							
	H mm	A mm	B mm	C mm	H mm	A mm	B mm	C mm	H mm	A mm	B mm	C mm	H mm	A mm	B mm	C mm	H mm	A mm	B mm	C mm	H mm	A mm	B mm	C mm
80	450	650	300	100	450	600	250	100	400	500	200	100	500	500	200	100	500	500	200	100				
110	500	700	300	100	500	600	250	100	550	550	200	150	900	500	200	100	900	500	200	100				
160	600	700	300	100	500	600	250	100	800	750	250	250	1300	650	250	150	1300	650	250	150				
225	650	700	300	100	700	750	300	150	1000	1000	350	300	1450	1000	400	200	1450	1000	400	200				
250	750	700	300	100	750	900	350	200	1250	1150	400	350	1450	1350	550	250	1450	1350	550	250				
280	800	700	300	100	950	1100	350	250	1750	1250	400	450	1500	1800	750	300	1500	1800	750	300				
355	1000	700	300	100	950	1500	650	250	1750	1600	550	500	1550	2200	950	350	1550	2200	950	350				
450	1250	850	350	150	1050	1900	800	350	1750	2350	850	650	1350	3650	1600	450	1350	3650	1600	450				
560	1350	1200	500	200	1500	2100	900	450	1950	3000	1150	850	1600	4300	1900	550	1600	4300	1900	550				

تفاصيل كتل التثبيت الخرسانية للأكواع الأفقية

THRUST BLOCKS FOR HORIZONTAL BENDS

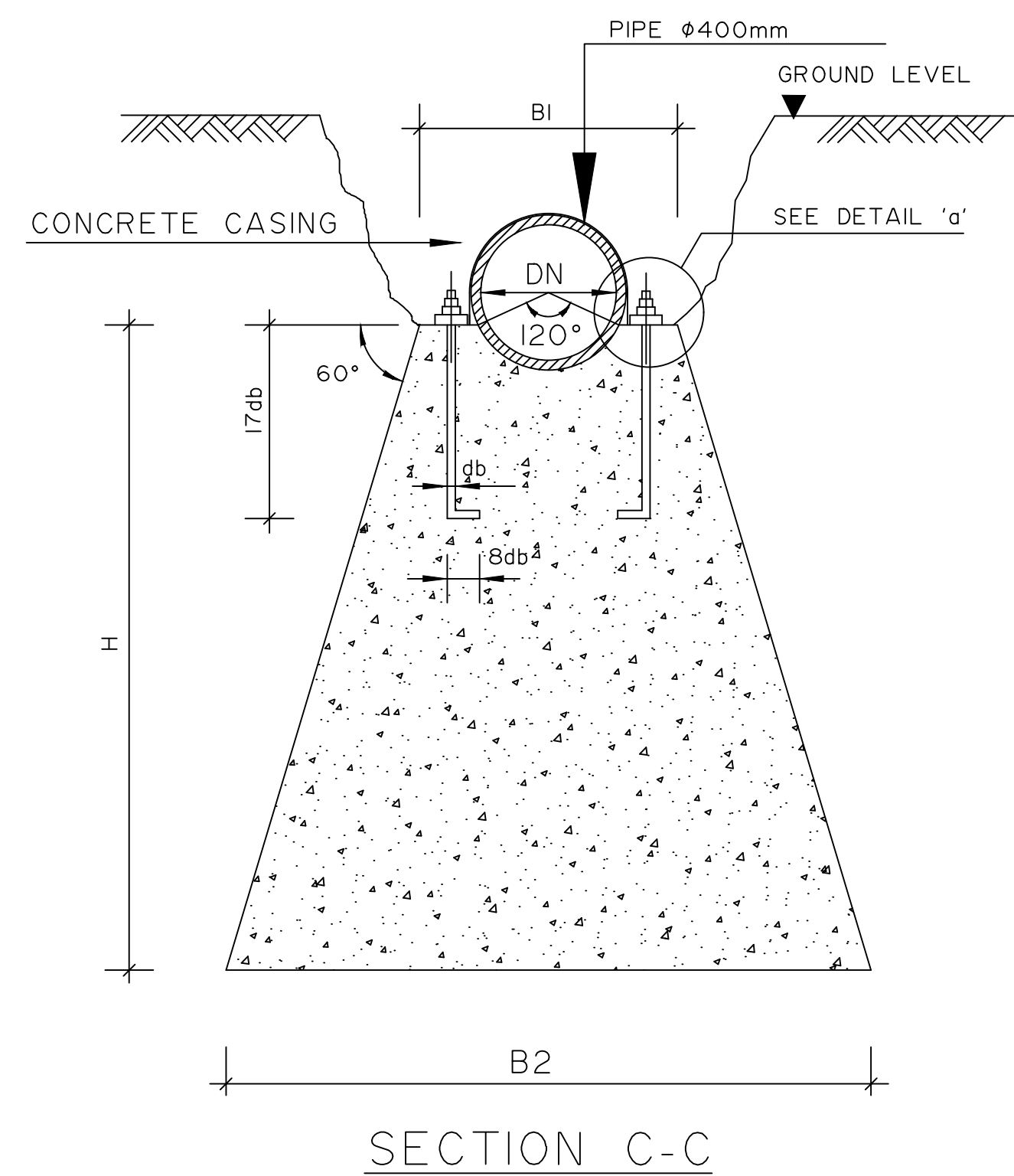
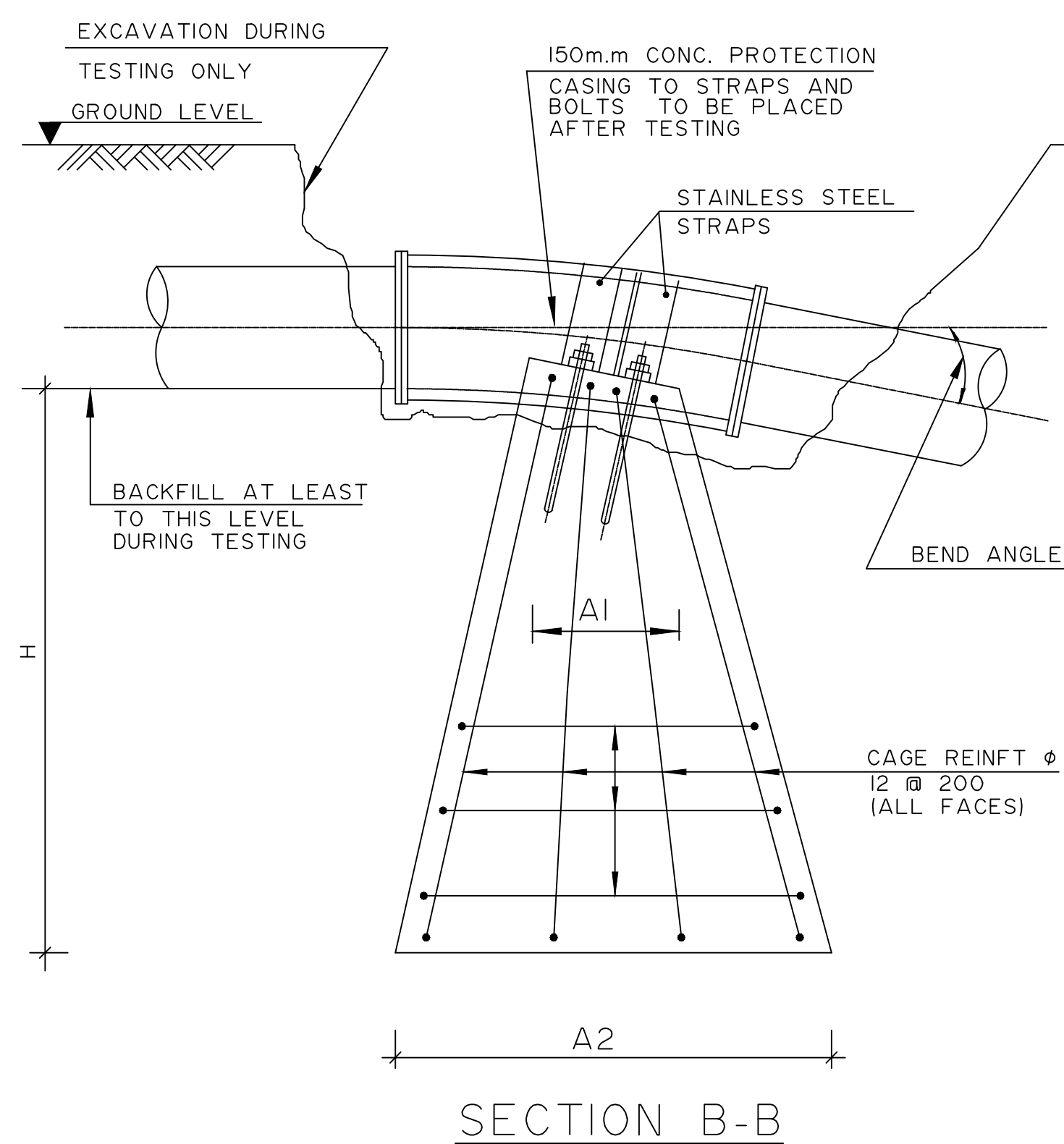
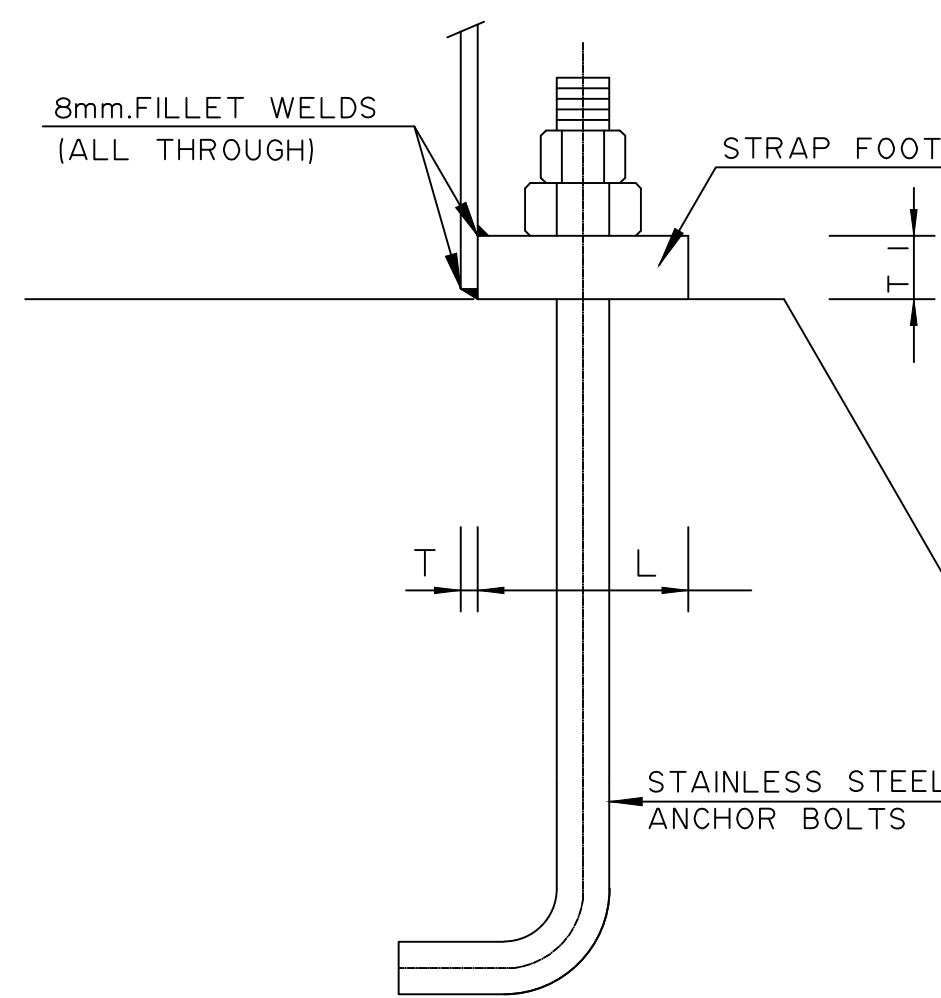
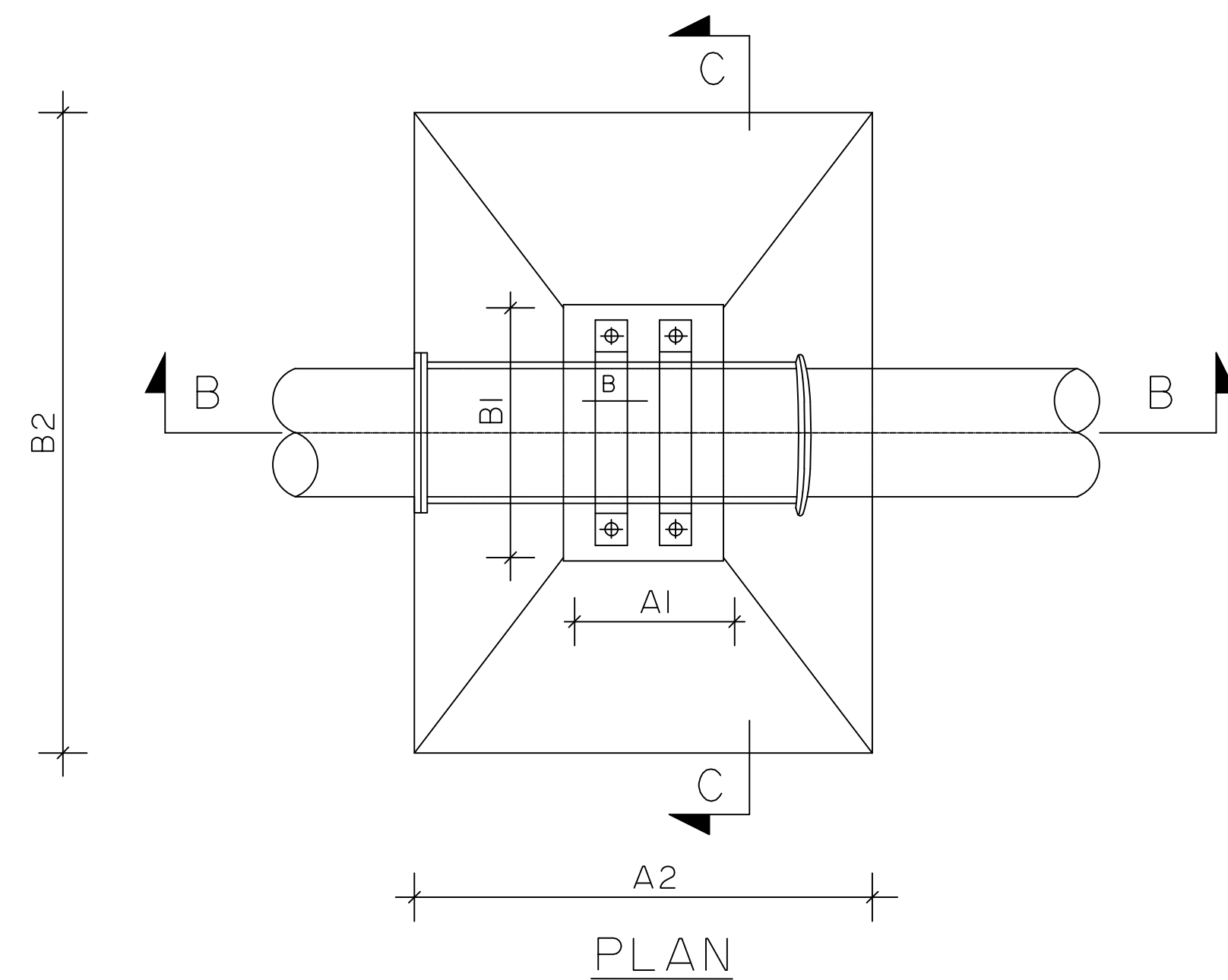


Potable Water Management Program In Upper Egypt - Phase2

Drawing Title : Thrust Block Details (1-2)

Design : PWMP (12) Final Design		Cross-Detail	
DESIGN BY : Mostafa Fathy	Format : A1	Scale: N.T.S	DWG. NO: P12-C-DT-01
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmli	

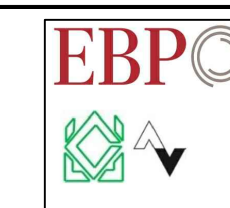
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BEND ANGLE	THRUST ANCHORS FOR VERTICAL BENDS FOR TEST PRESSURE 16 BARS						STRAP(S) No. x B (mm) x T (mm)	STRAP FOOT L x B x Tl (mm)	BOLTS
	DN(mm)	AI(mm)	A2(mm)	BI(mm)	B2(mm)	H(mm)			
11 15 °	355	250	1600	750	2000	1400	1 x 100 x 8	80 x 100 x 22	2 M20
22 30 °	355	250	2000	750	2500	1800	1 x 100 x 8	120 x 100 x 37	2 M30
45 00 °	355	400	2900	750	3200	2500	2 x 100 x 8	120 x 100 x 37	4 M30
11 15 °	450	200	1350	750	1900	1150	1 x 100 x 10	64 x 100 x 20	2 M16
22 30 °	450	230	1560	750	2100	1350	1 x 100 x 10	80 x 100 x 26	2 M20
45 00 °	450	230	1650	750	2200	1400	1 x 100 x 10	80 x 100 x 26	2 M20

تفاصيل كتل التثبيت الخرسانية للأكواع الرأسية

THRUST BLOCKS FOR VERTICAL BENDS

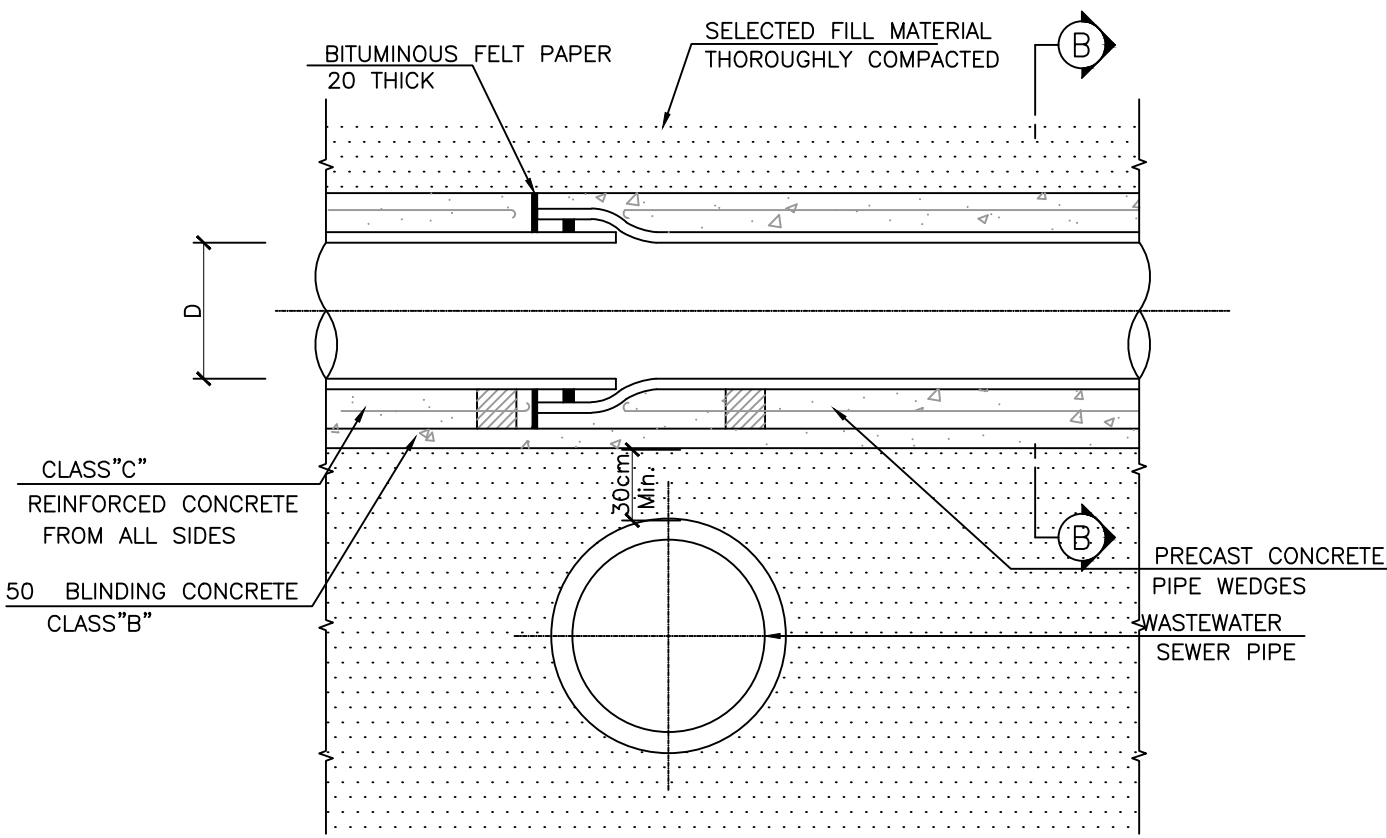


Potable Water Management Program In Upper Egypt - Phase2

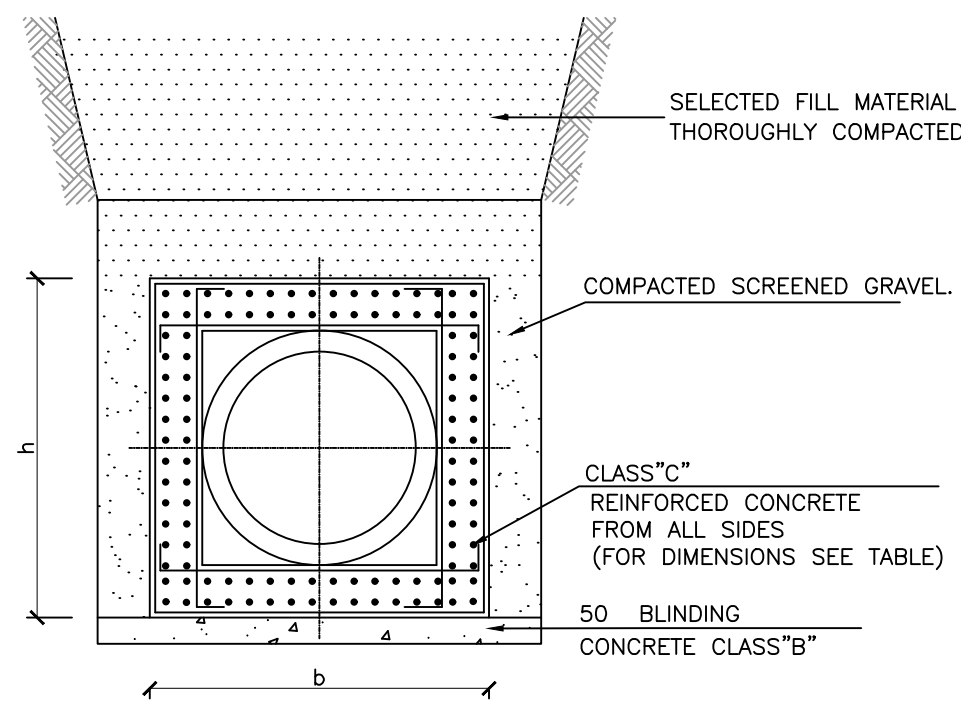
Drawing Title :
Thrust Block Details (2-2)

Design : PWMP (12) Final Design		Cross-Detail	
DESIGN BY : Mostafa Fathy	Format : A1	Scale: N.T.S	DWG. NO: P12-C-DT-02
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmli	

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WATER PIPE CROSSING WITH SEWER PIPE

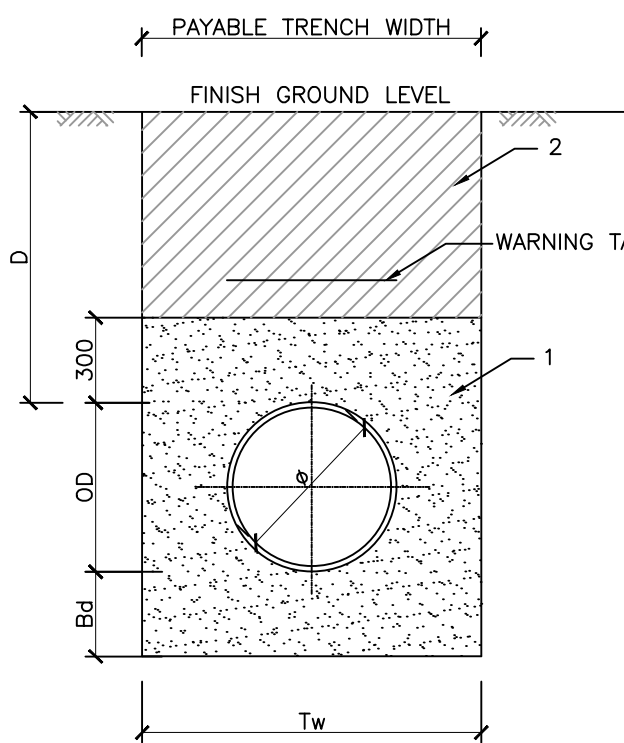


SECTION B-B
REINFORCED CONCRETE ENCASEMENT
FOR WATER PIPE CROSSING WITH SEWER PIPE

SIZING OF CONCRETE ENCASEMENT

NOTE : PRECAST WEDGES ARE NOT SHOWN HERE FOR CLARITY

PIPE DIAMETER mm	CONCRETE ENCASEMENT		
	b cm	h cm	STEEL
100	50	50	2ø10@15
110	50	50	2ø10@15
150	50	50	2ø10@15
160	50	50	2ø10@15
200	65	65	2ø10@15
225	65	65	2ø10@15
280	80	80	2ø10@15
355	90	90	2ø10@15
450	105	105	2ø10@15
560	125	125	2ø10@15

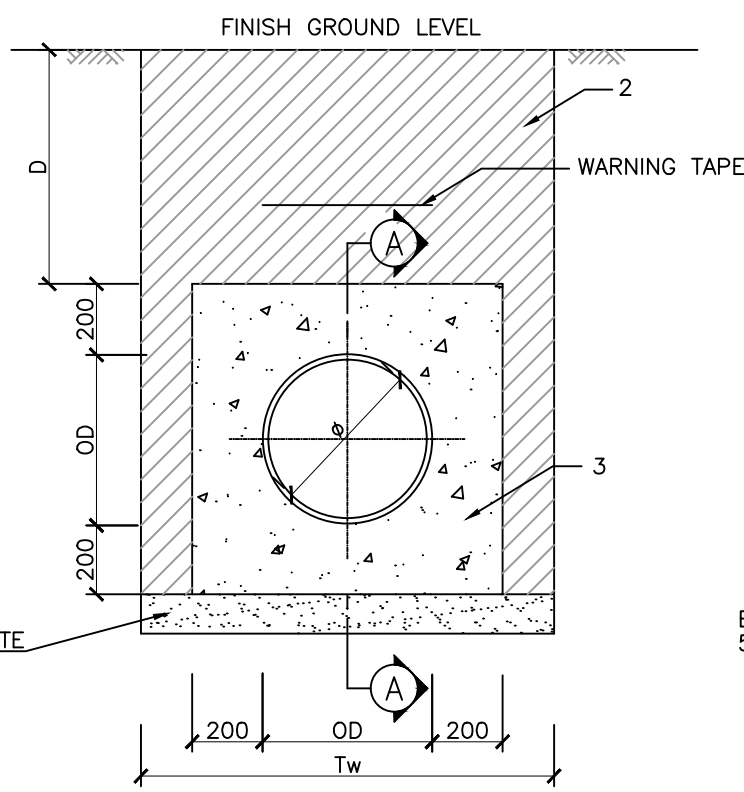


TYPE "A"

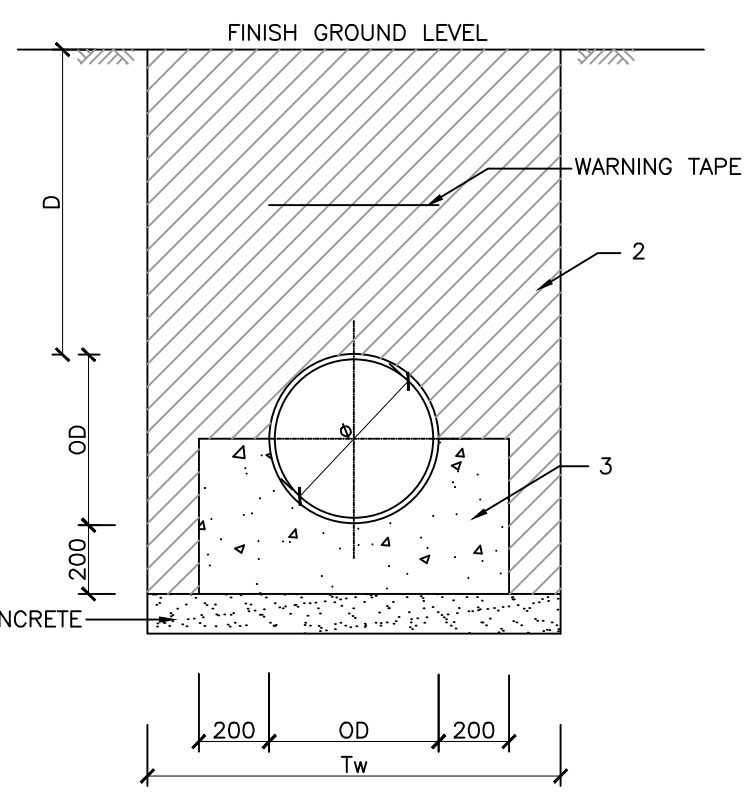
NOTES:

- 1- OD = EXTERNAL DIAMETER OF PIPE.
- 2- D = DEPTH OF COVER (m.) REFER TO PROFILES.
- 3- DEPTH OF BEDDING = Bd
Bd = REFER TO THE FOLLOWING TABLE:

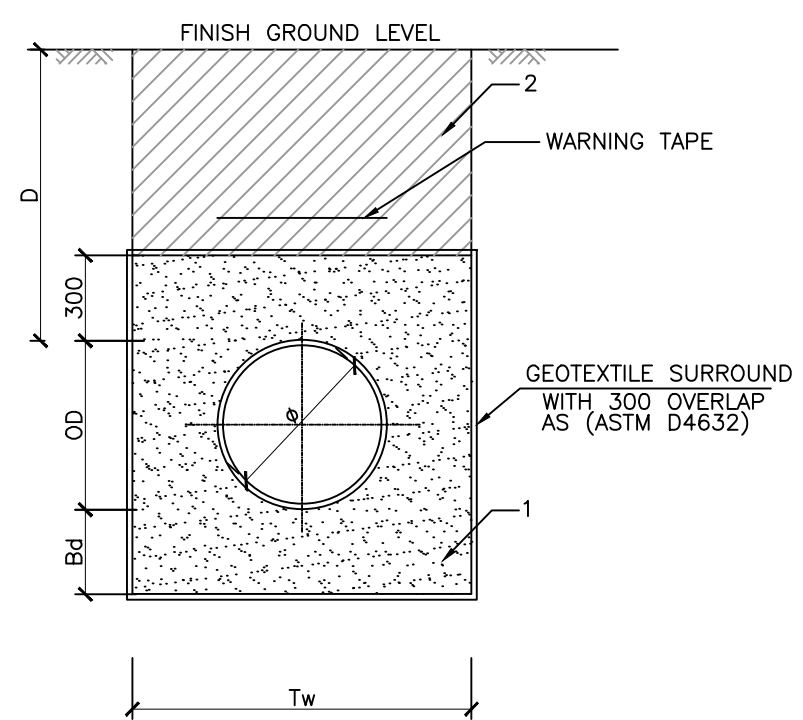
Bd (Cm)	CASE
75	IN THE CASE OF CLAY SOIL (TAPLA)
30	FOR ANY OTHER SOIL



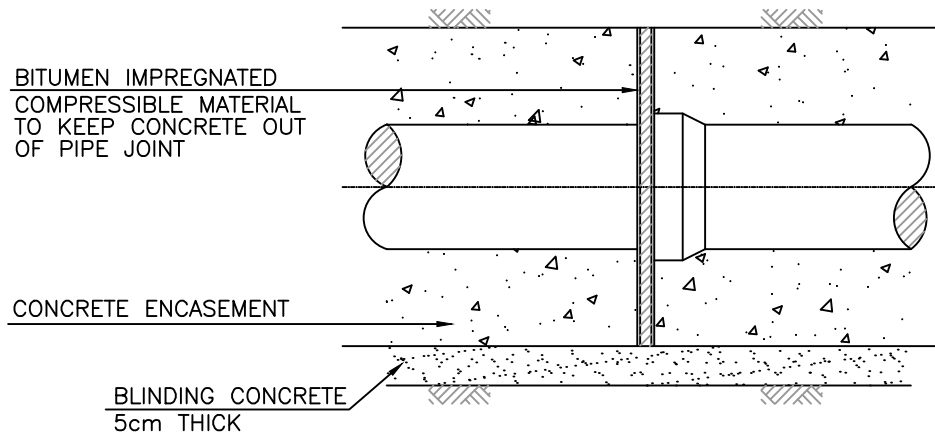
TYPE "B"



TYPE "C"



في حالة وجود مياه جوفية
IN CASE OF GROUNDWATER EXISTING

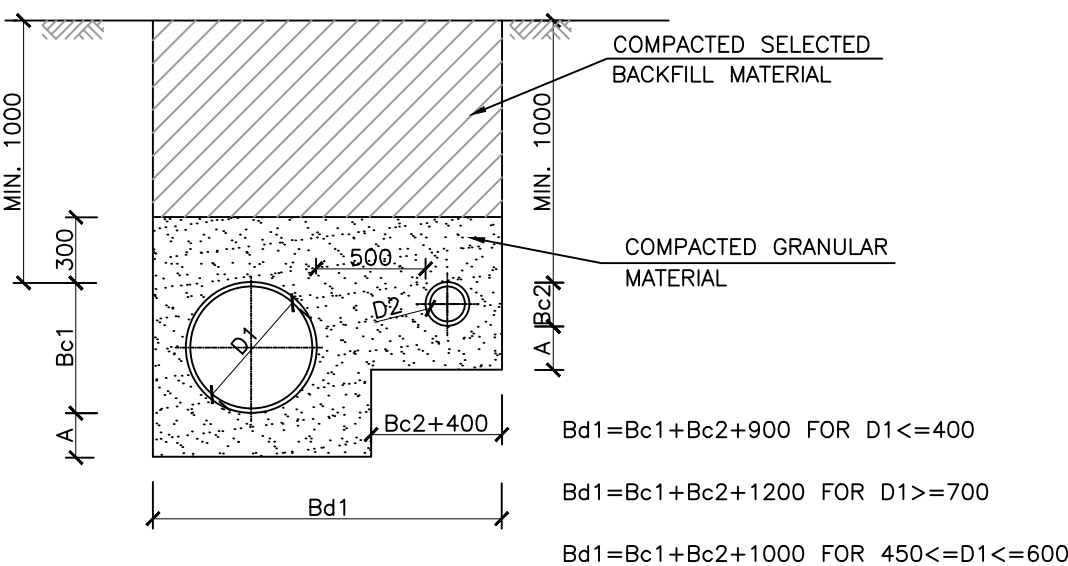


SECTION A-A

FLEXIBLE JOINT FOR CONCRETE SURROUND

TYPE OF BEDDING / FILLING MATERIAL	
1	GRANULAR MATERIAL WELL COMPACTED UNDER AND AROUND THE PIPE, OR CRUSHED AGGREGATE (REFER TO SPECIFICATION FOR GRADATION)
2	MATERIAL SELECTED FROM TRENCH EXCAVATION WELL COMPACTED TO 95 % OF MAXIMUM DRY DENSITY
3	MASS CONCRETE CLASS 110/25

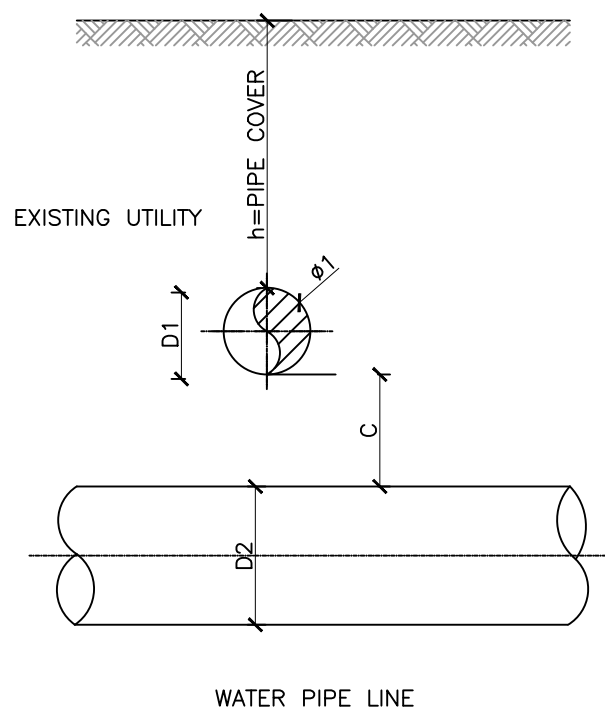
تفاصيل الخنادق لمسورة واحدة
TRENCH DETAILS FOR SINGLE PIPE



- 1- Bc EXTERNAL DIAMETER OF PIPE.
- 2- Bd WIDTH OF TRENCH.
- 3- D1 LARGER DIAMETER.
- 4- A DEPTH OF BEDDING

TYPICAL TRENCH AND PIPE BEDDING DETAILS FOR 2 PIPES

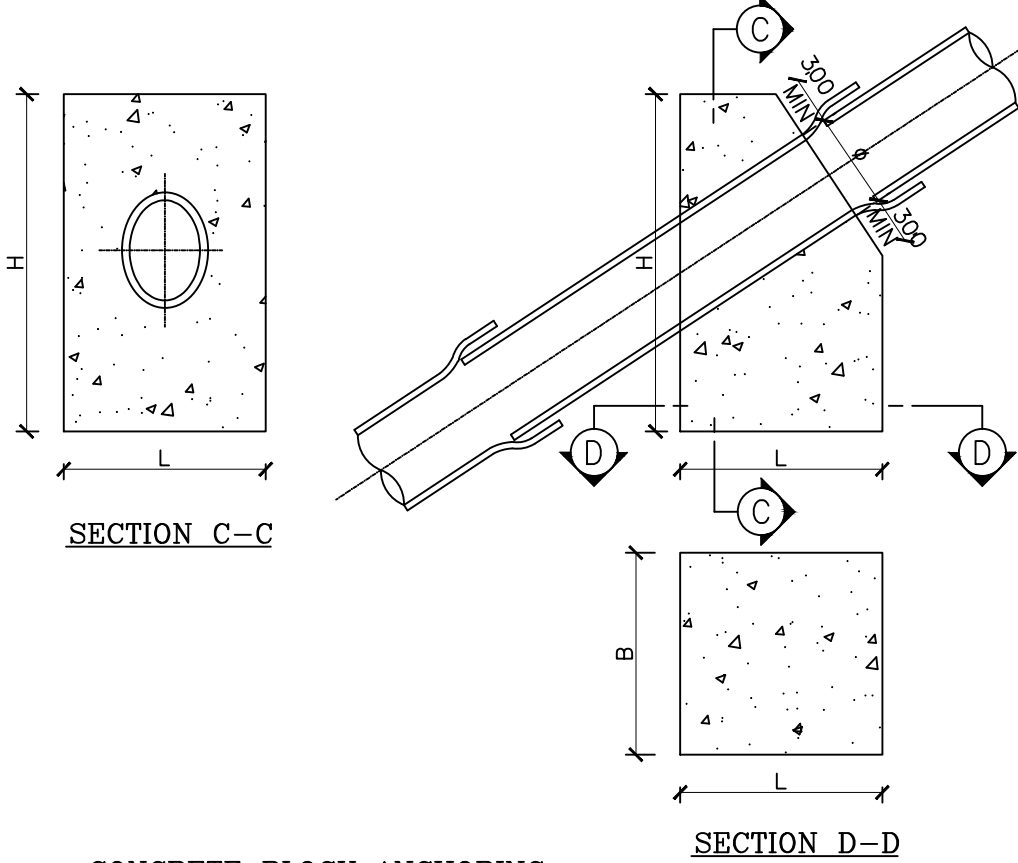
تفاصيل الخنادق لمسورتين
TRENCH DETAILS FOR 2 PIPES



PIPE CROSSING EXISTING UTILITY

CRITERIA FOR SPACING FOR PIPE CROSSING

TYPE OF CROSSING UTILITY	C SEPARATION DISTANCE BETWEEN UTILITY AND PIPE (m)
WET UTILITIES	0.3
TELEPHONE	0.5
ELECTRIC CABLE	0.5
POWER CORRIDOR	0.5
HP GAS PIPE	1
WATER PIPE	(D1+D2)/2



CONCRETE BLOCK ANCHORING
FOR SLOPES STEEPER THAN 25%

PIPE DIAMETER (mm)	PIPE SLOPE (%)	THRUST BLOCK DIMENSIONS (mm)		
		H	B	L
≤ 200	25 ≤ S ≤ 30	700	700	700
	≤50	700	700	700
	≤75	800	800	800
	≤100	900	900	900
	≤150	1000	1000	1000
> 200 - 355	25 ≤ S ≤ 30	850	850	850
	≤50	850	850	850
	≤75	950	950	950
	≤100	1050	1050	1050
	≤150	1200	1200	1200
> 355 - 560	25 ≤ S ≤ 30	850	850	850
	≤50	950	950	950
	≤75	1100	1100	1100
	≤100	1250	1250	1250
	≤150	1400	1400	1400

* ALL CALCULATIONS ARE BASED ON PIPE LENGTH 6m.



Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :

Trench Details

Design :

PWMP (12)
Final Design

Cross-Detail

DESIGN BY :

Format :

Scale:

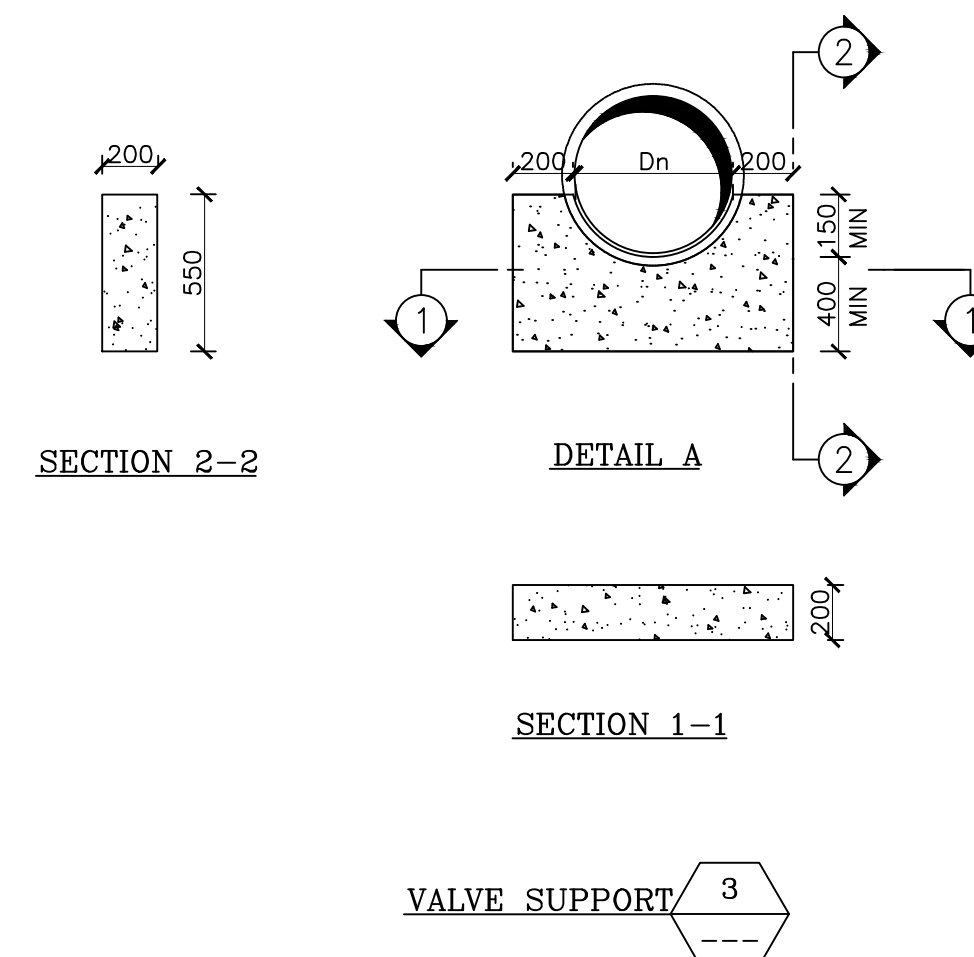
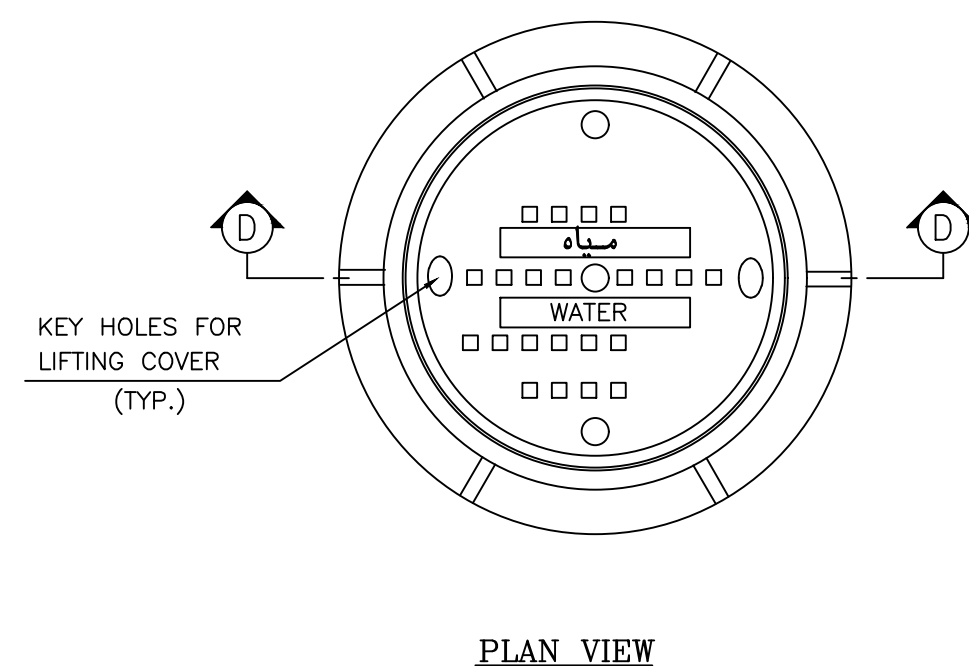
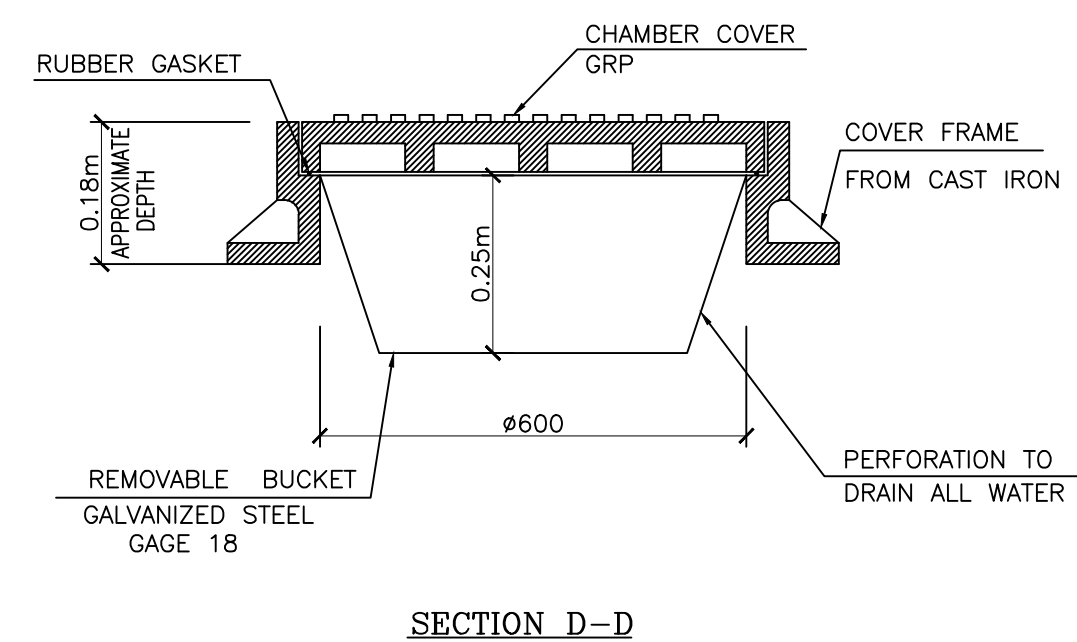
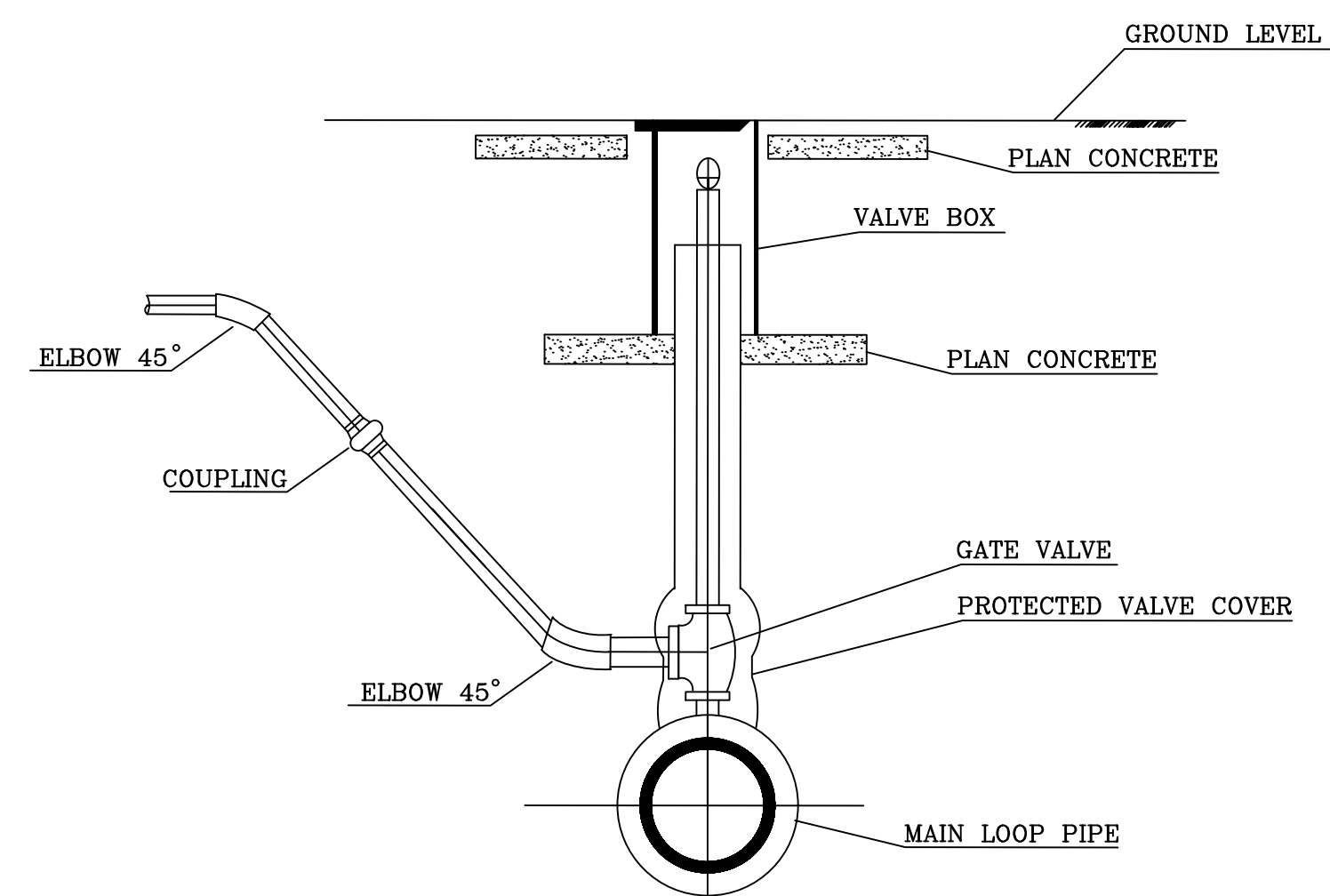
DWG. NO:

Approval Date :

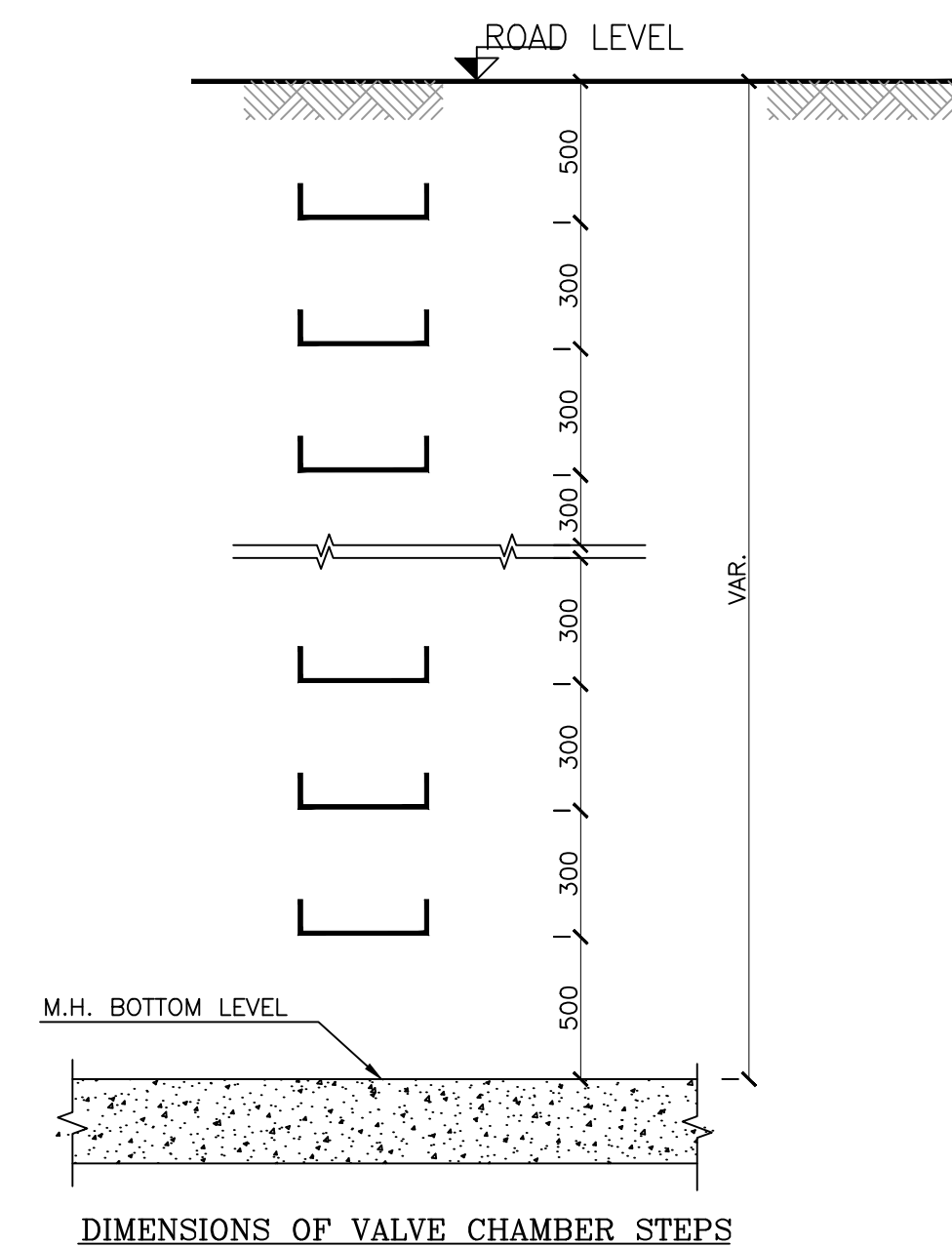
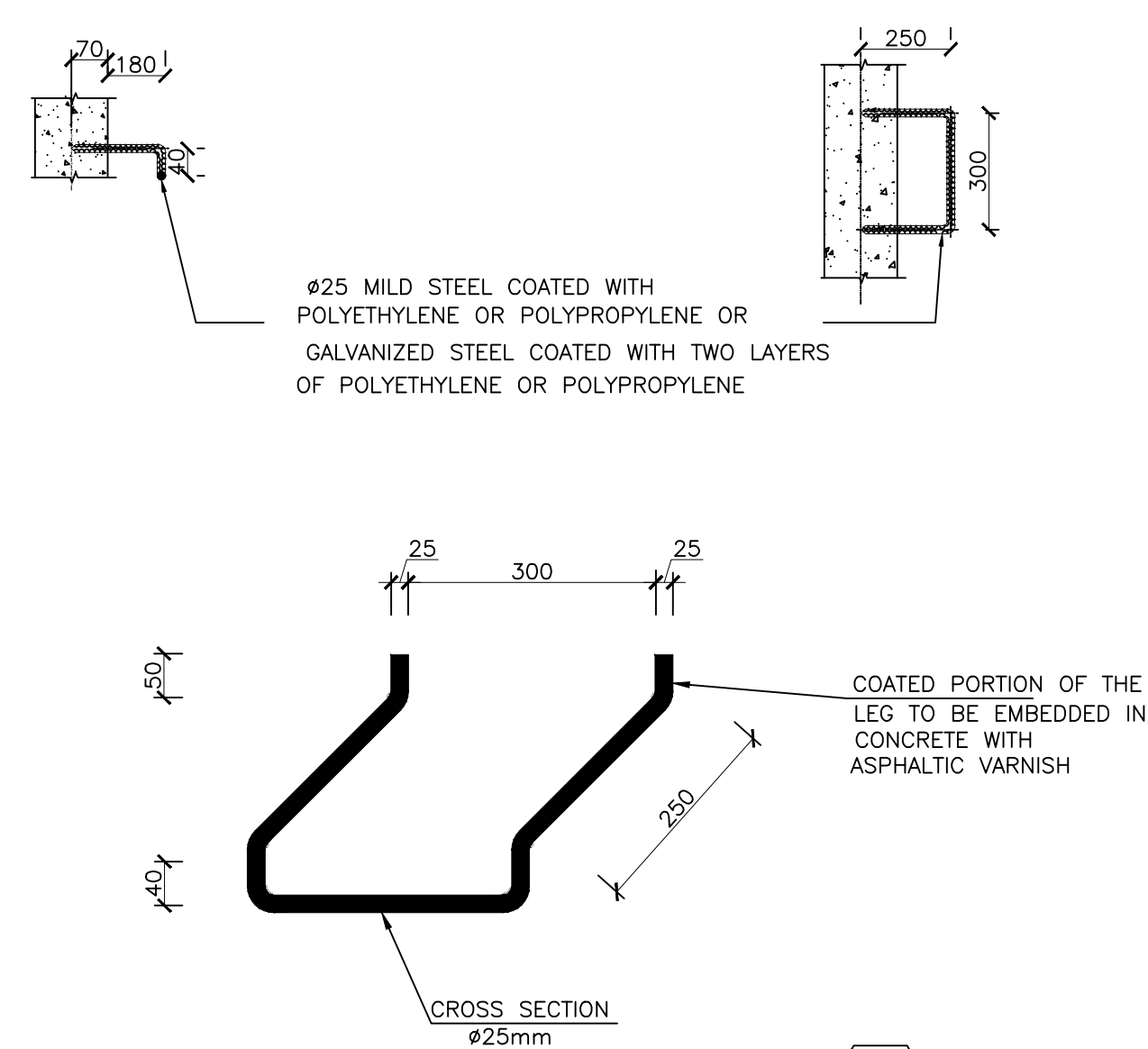
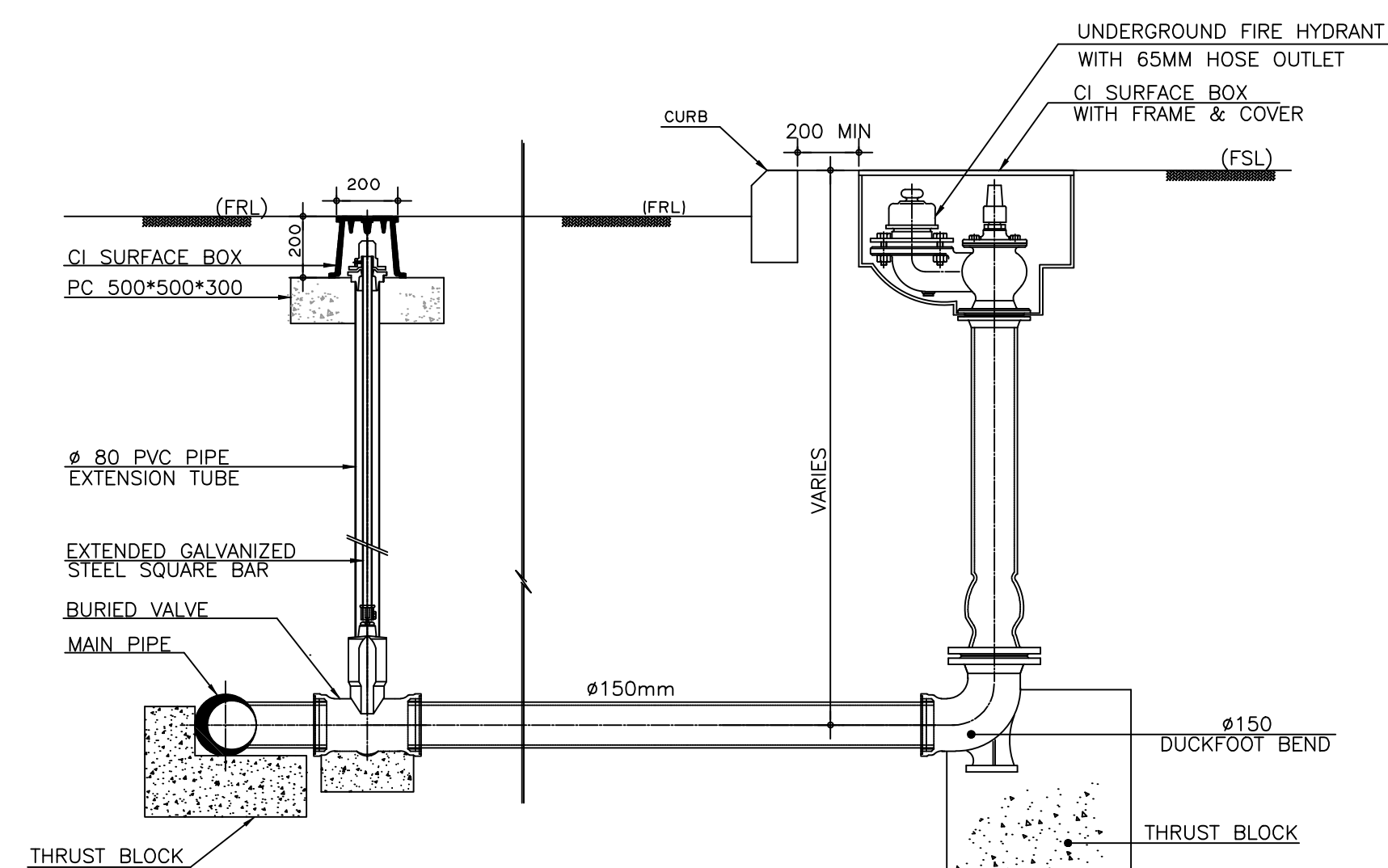
Revision No.:

Approval By :

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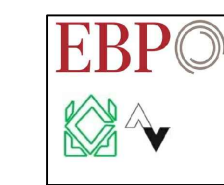


WATER HOUSE CONNECTION DETAILS



UNDERGROUND FIRE-HYDRANT

DETAIL OF GALVANIZED STEEL STEPS



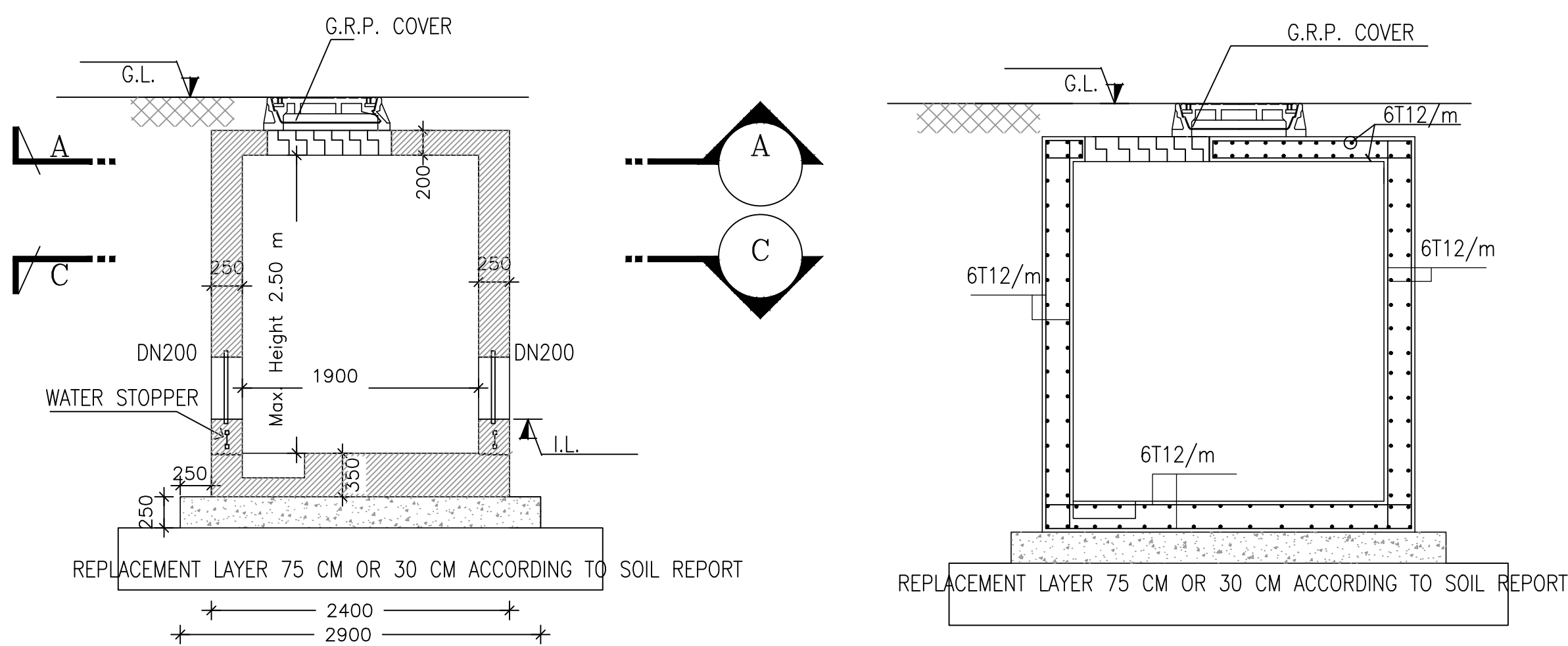
Potable Water Management Program In Upper Egypt - Phase2

Drawing Title : General Details

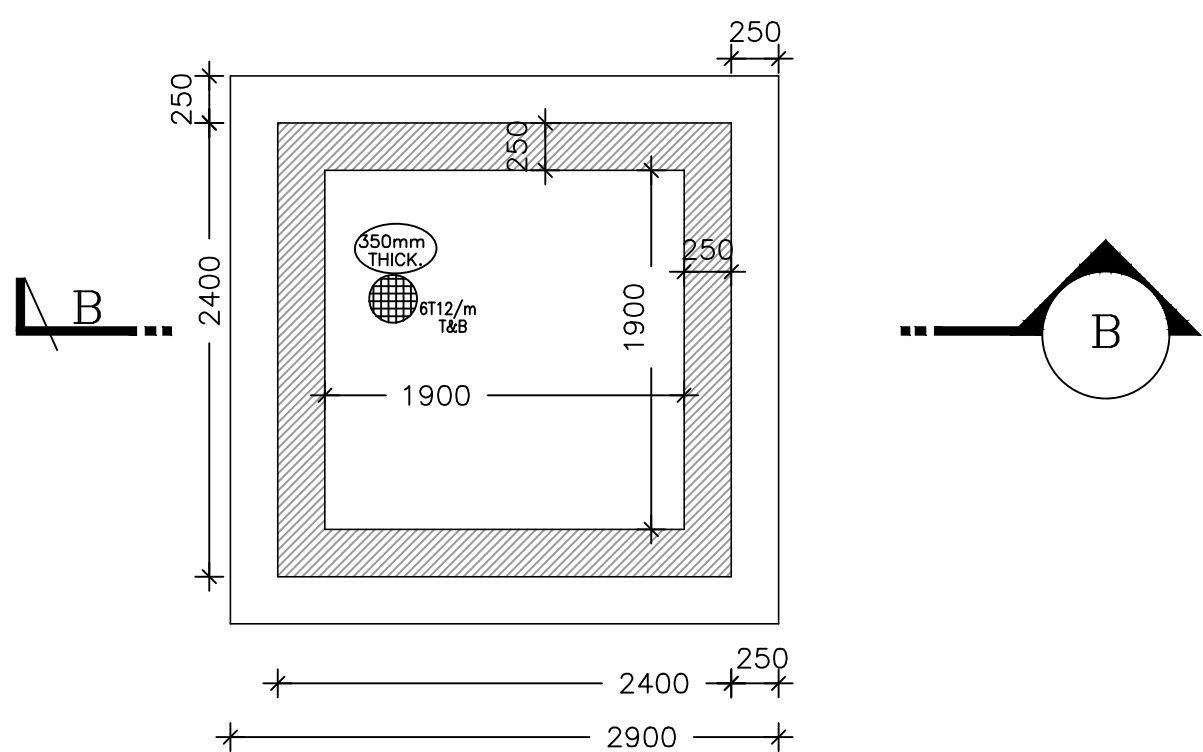
Design : PWMP (12) Final Design		Cross-Detail	
DESIGN BY : Mostafa Fathy	Format : A1	Scale: N.T.S	DWG. NO: P12-C-DT-04
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölml	

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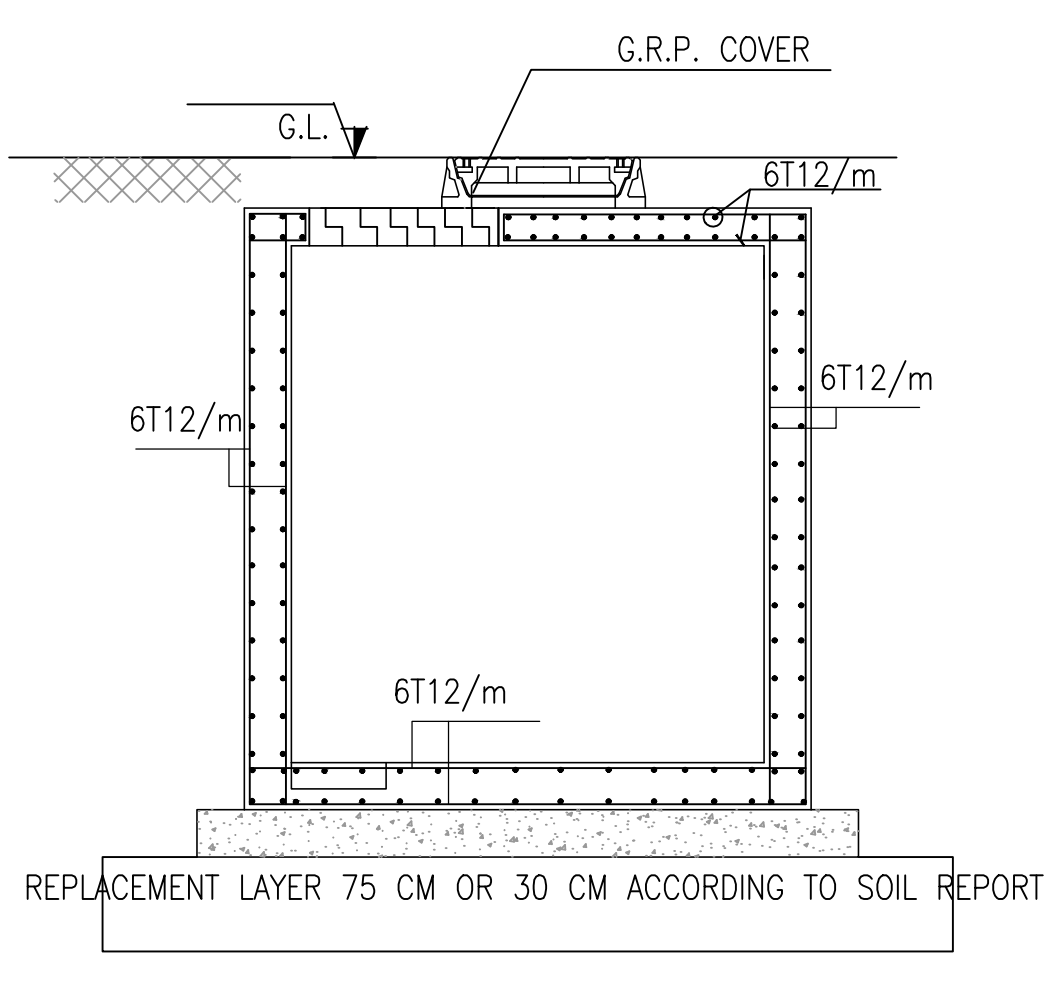
MODEL (01)
ISOLATING & WASH VALVE



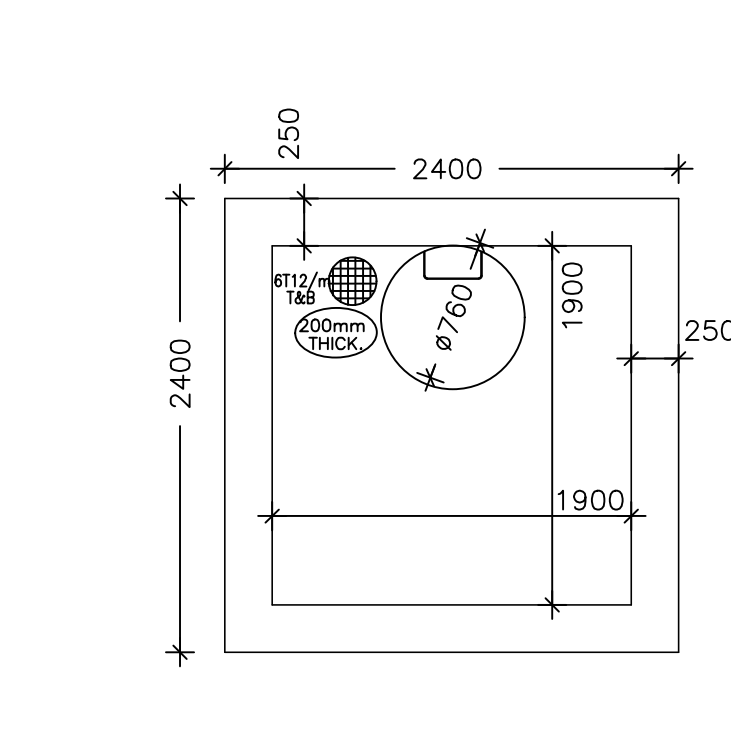
SECTION(B-B)



SECTIONAL PLAN C-C

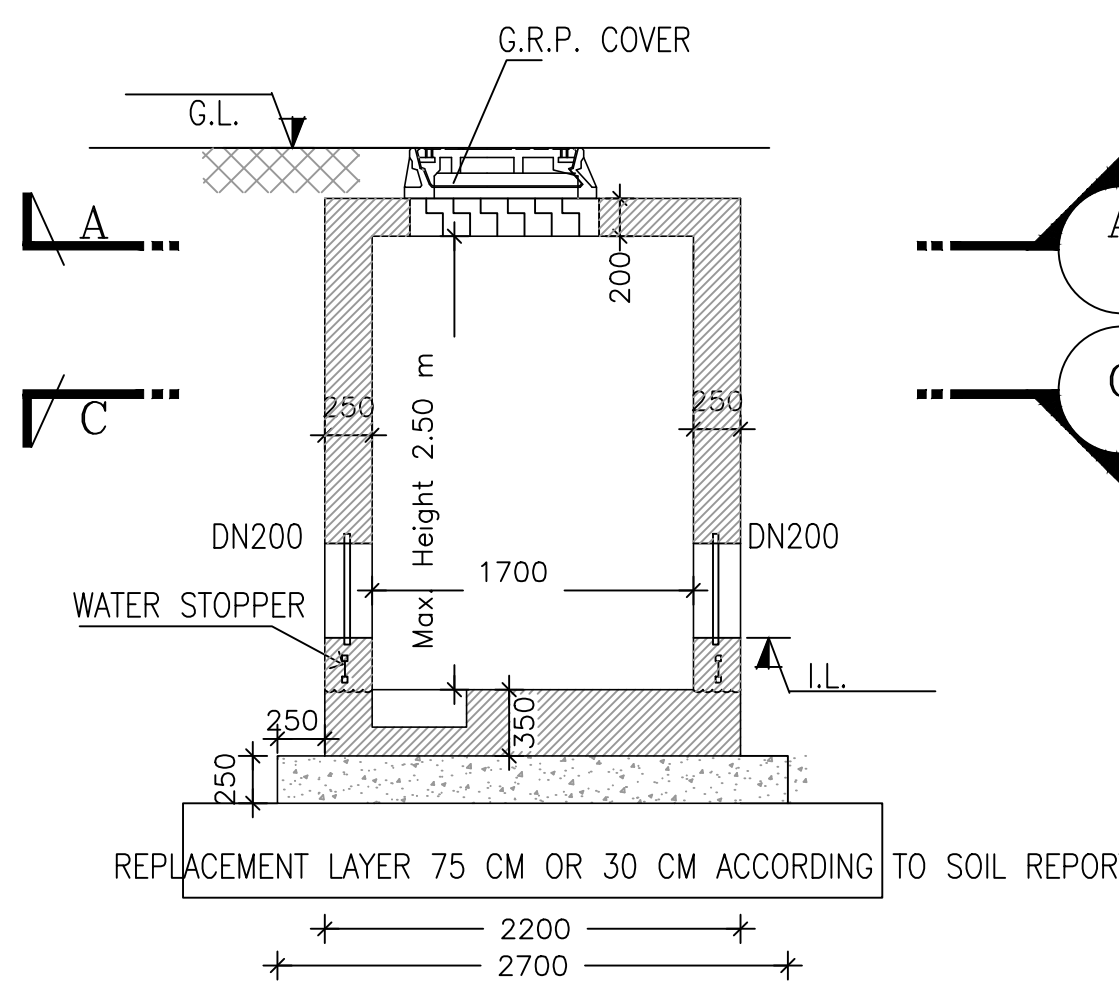


SECTION(B-B)

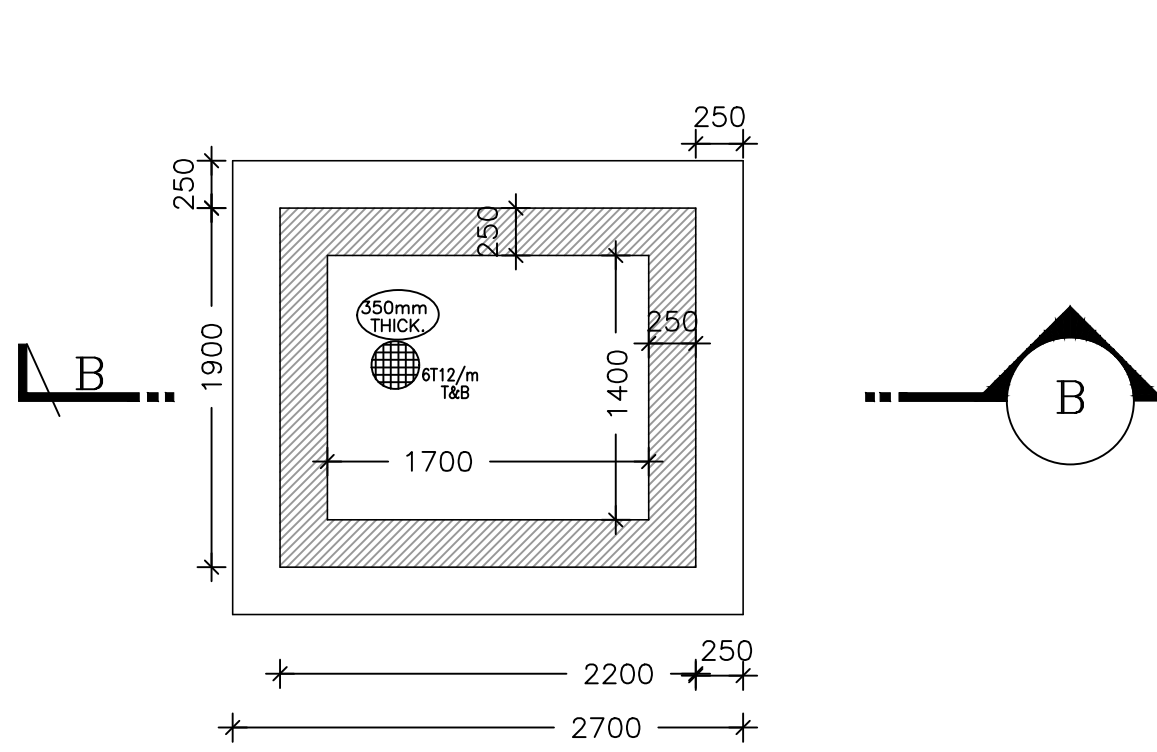


SECTIONAL PLAN A-A

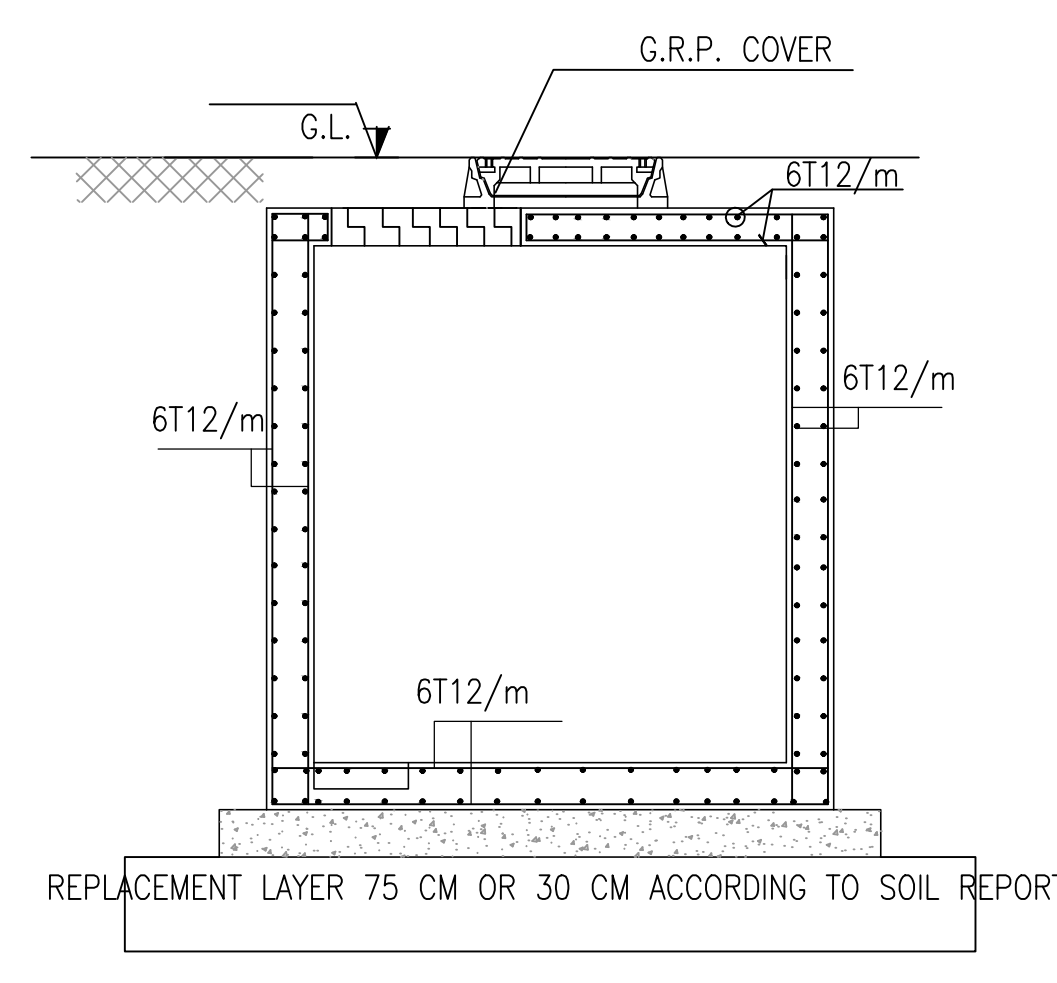
MODEL (02)
Flow & Gauge Meter Valve Chamber



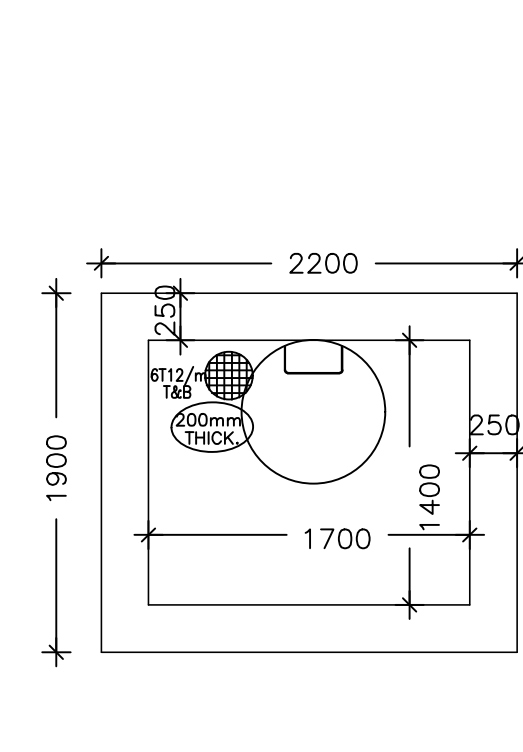
SECTION(B-B)



SECTIONAL PLAN C-C



SECTION(B-B)

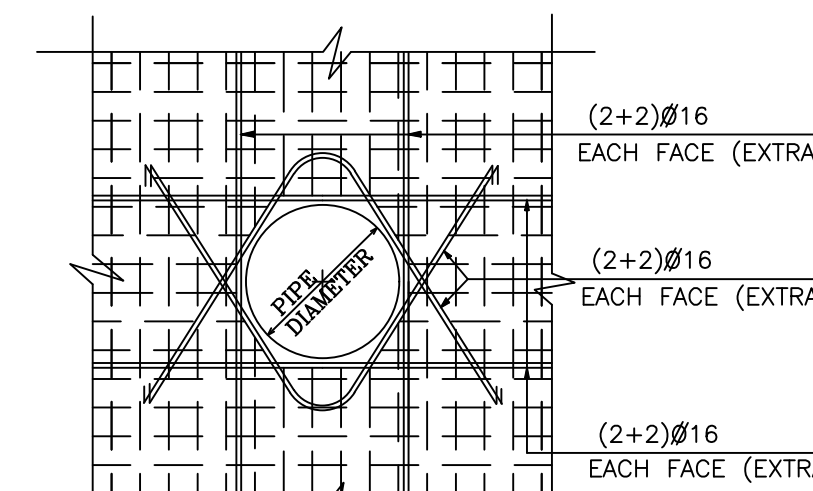


SECTIONAL PLAN A-A

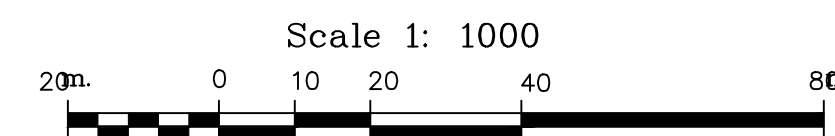
- NOTES :**
- 1- ALL DIMENSION AND LEVELS MUST BE CHECKED WITH THE MECHANICAL DRAWINGS
 - 2- THE NET BEARING CAPACITY OF THE SOIL AT FOUNDATION LEVEL IS ASSUMED TO BE 0.60 KG/CM². CONTRACTOR TO CHECK SOIL ON SITE BEFORE STARTING IMPLEMENTATION BY PLATE LOAD TEST OR ANY OTHER APPROVED TEST.
 - 3- THE COMPRESSIVE STRENGTH OF CONCRETE AFTER 28 DAYS FROM CASTING SHOULD NOT BE LESS THAN 300 kg/cm².
 - 4- STEEL USED IS HIGH STRENGTH STEEL (36/52).
 - 5- CEMENT CONTENT FOR R.C NOT LESS THAN 400 KG/M³ , FOR P.C NOT LESS THAN 300 KG/M³
 - 6- CEMENT CONTENT FOR R.C (IN CASE OF CONTACT WITH SOIL OR GROUND/SANITARY WATER) NOT LESS THAN 400 KG/M³ (SULFATE RESISTANT TYPE) , FOR P.C NOT LESS THAN 300 KG/M³
 - 7- WATER STOPS ARE TO BE PROVIDED AT CONSTRUCTION JOINTS AND THE LOCATION OF THESE JOINTS IS AS SHOWN OR REQUIRED BY ENGINEER .
 - 8- ALL OPENINGS MUST BE SERROUNDED BY 3 Ø16 AT EACH FACE UNLESS OTHERWISE MENTIONEND.
 - 9- THE MECH. CONSULTANT HAVE TO CHECK ALL PIPES OPENINGS AND LEVELS ON THE FORMWORK BEFORE BORING CONCRETE.
 - 10- ALL ELEMENT UNDER GROUND MUST BE ISOLATED BY APPROVED MATERIAL ACCORDING TO SPECS.
 - 11- Concrete cover = 5 Cm for any underground element.

LEGEND :-

⊗ T (XX) / m
— Dia. of steel bar in mm
— High Tensile Strength Steel bars
— No. of steel bars



TYPICAL REINF. DETAILS
FOR OPENINGS IN WALLS



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
**Swiss Agency for Development
and Cooperation SDC**

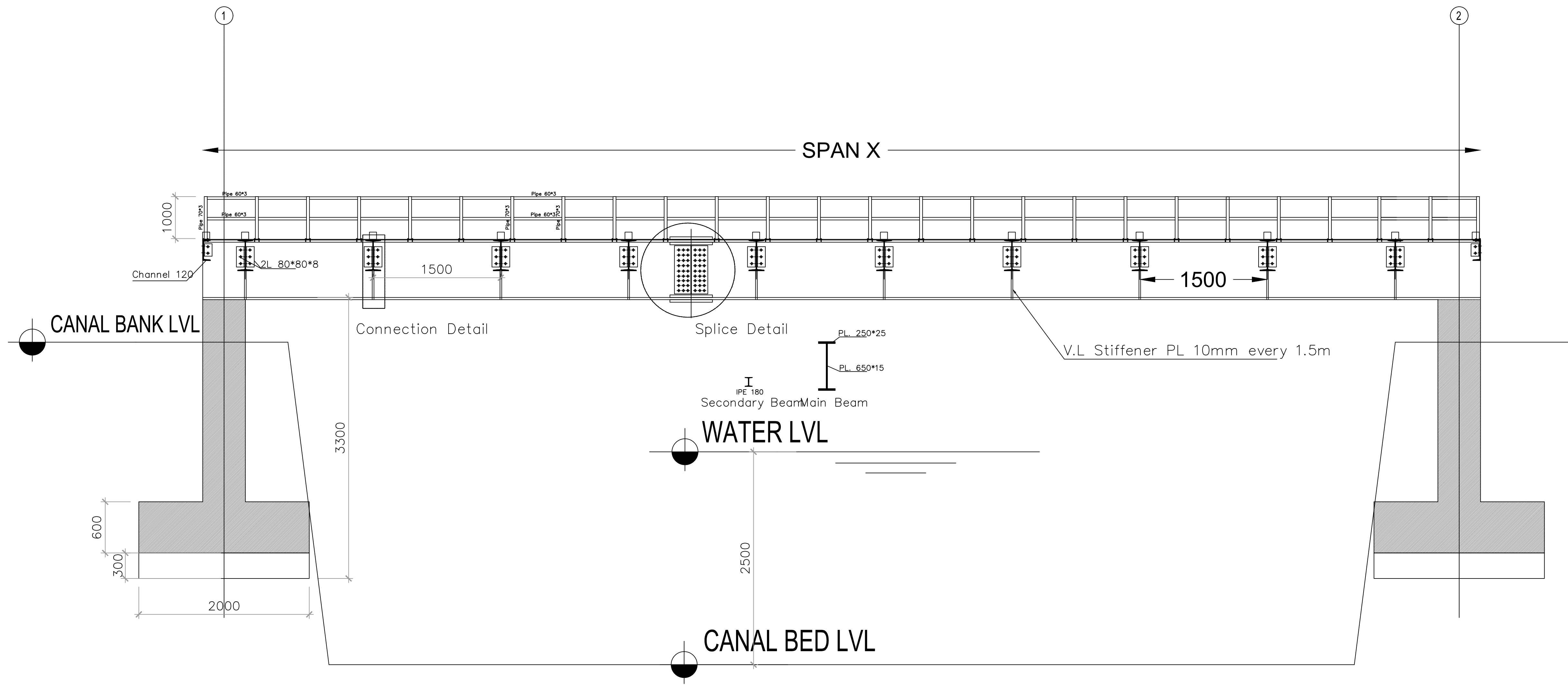


Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
VALVE CHAMBERS STRUCTURE DETAILS (1-2)

Design : PWMP (12) Final Design		CROSS SECTION	
DESIGN BY : M abdallah	Format : A1	Scale: 1:40	DWG. NO: P12-S-VC-01
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Föllmi	

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Elevation



PLAN

THIS DRAWING IS CONCEPTUAL DESIGN.
ACTUAL SECTIONS,DIMENSIONS,LENGTHS ACCORDING TO SITE CONDITION

- NOTES :**
- 1- ALL DIMENSION AND LEVELS MUST BE CHECKED WITH THE MECHANICAL DRAWINGS
 - 2- THE NET BEARING CAPACITY OF THE SOIL AT FOUNDATION LEVEL IS ASSUMED TO BE 0.60 kg/cm2 .
 - 3- BEFORE BEGINNING THE IMPLEMENTATION WORKS, THE CONTRACTOR MUST INSPECT THE SITE TO ENSURE THE APPROPRIATE LENGTH OF ALL DRAIN CROSSINGS AT EL-SAIL AND EZAB KIMA

CONCRETE

FCU = 225 KG/CM2 for Plain Concrete
FCU = 300 KG/CM2 for Reinforced Concrete
Cement Content not less than 350 KG/m3

STEEL REINFORCEMENT

GRADE IS (36/52)

STEEL ELEMENTS

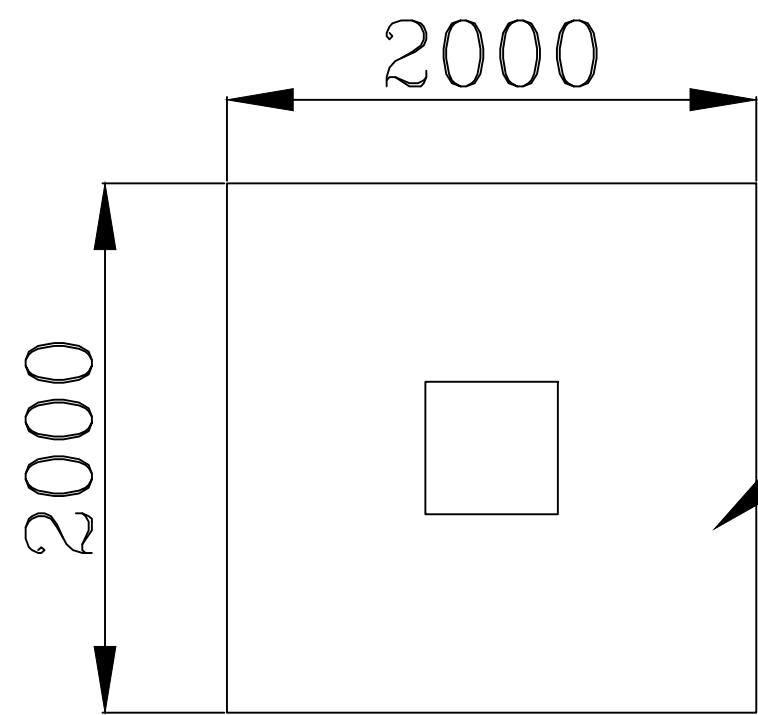
GRADE IS 44
Bolts is 10.9
Any weld not less than 8mm



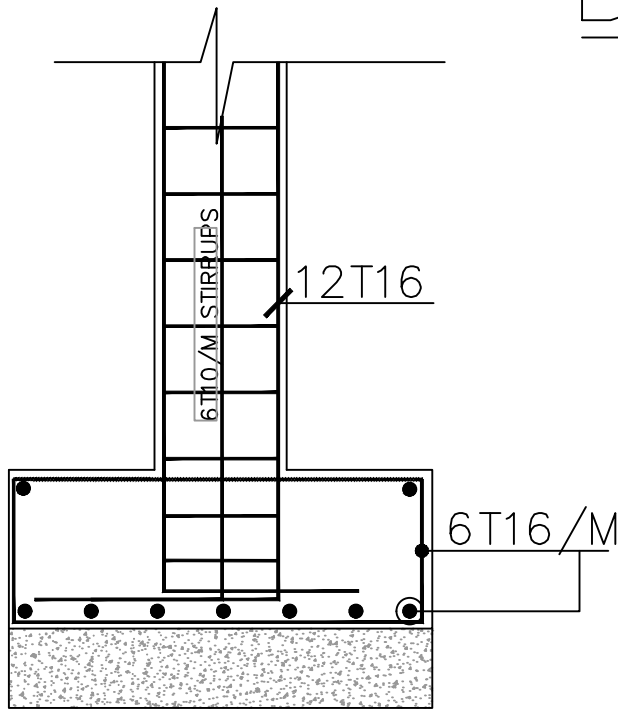
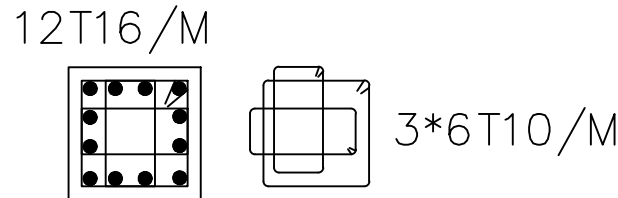
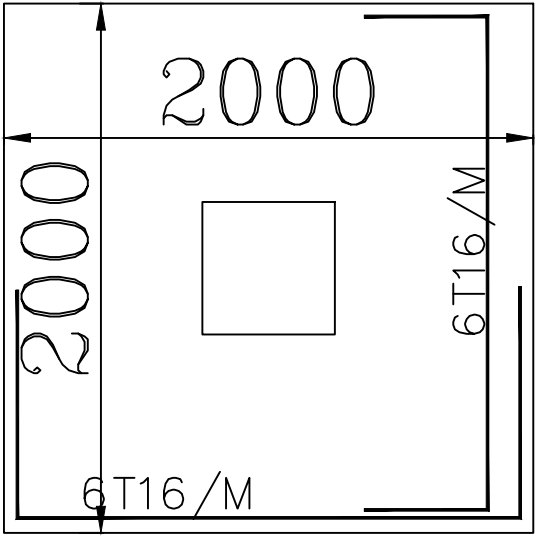
Potable Water Management Program In Upper Egypt - Phase2

Drawing Title : STR. OF CROSSING (GENERAL DETAIL)
1/3

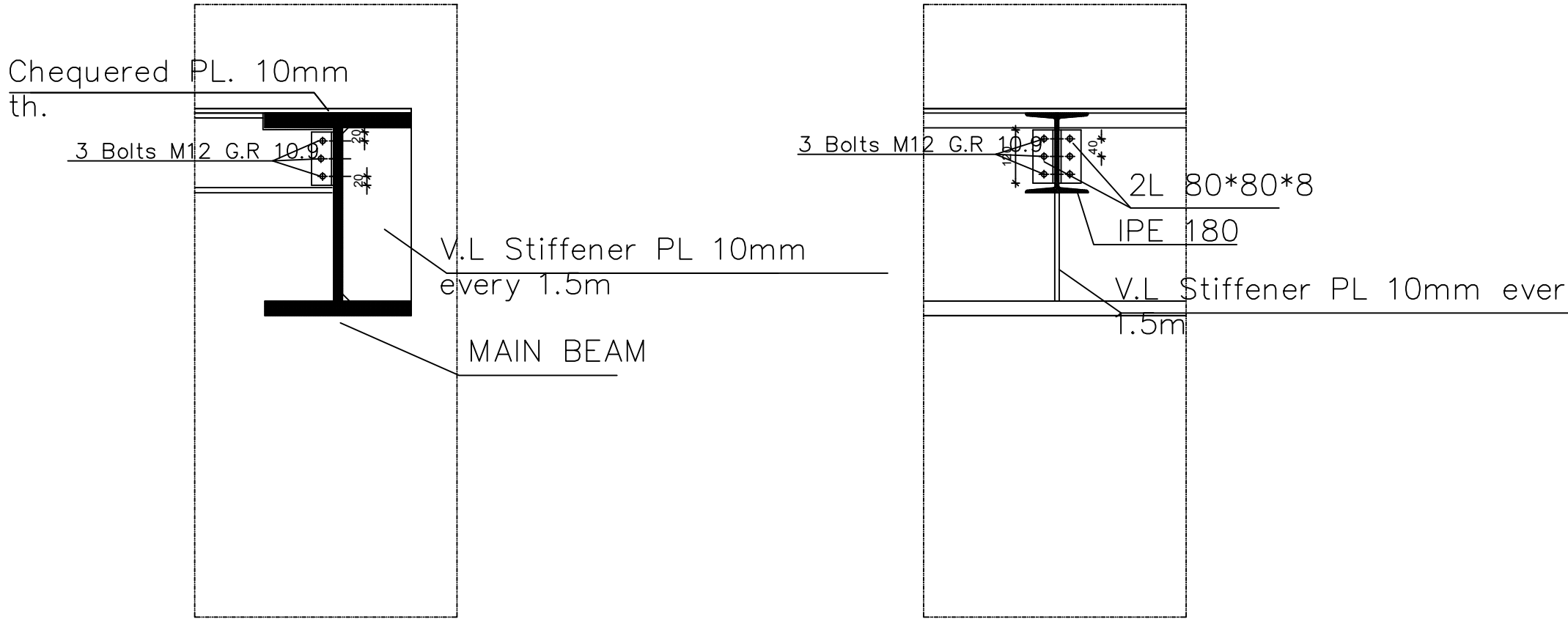
Design : PWMP (12) Final Design		CROSS SECTION	
DESIGN BY : M abdallah	Format : A1	Scale: NTS	DWG. NO: P12-S-CR-01
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmlí	



COL 500*500 (12T16 + 6T10/M STIRRUPS)
RC FOOTIN 2000*2000*600
PC FOOTING 2000*2000*300

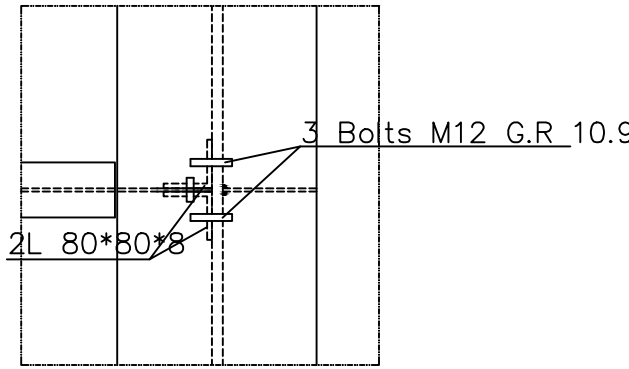


DETAILS OF FOOTING&COLUM



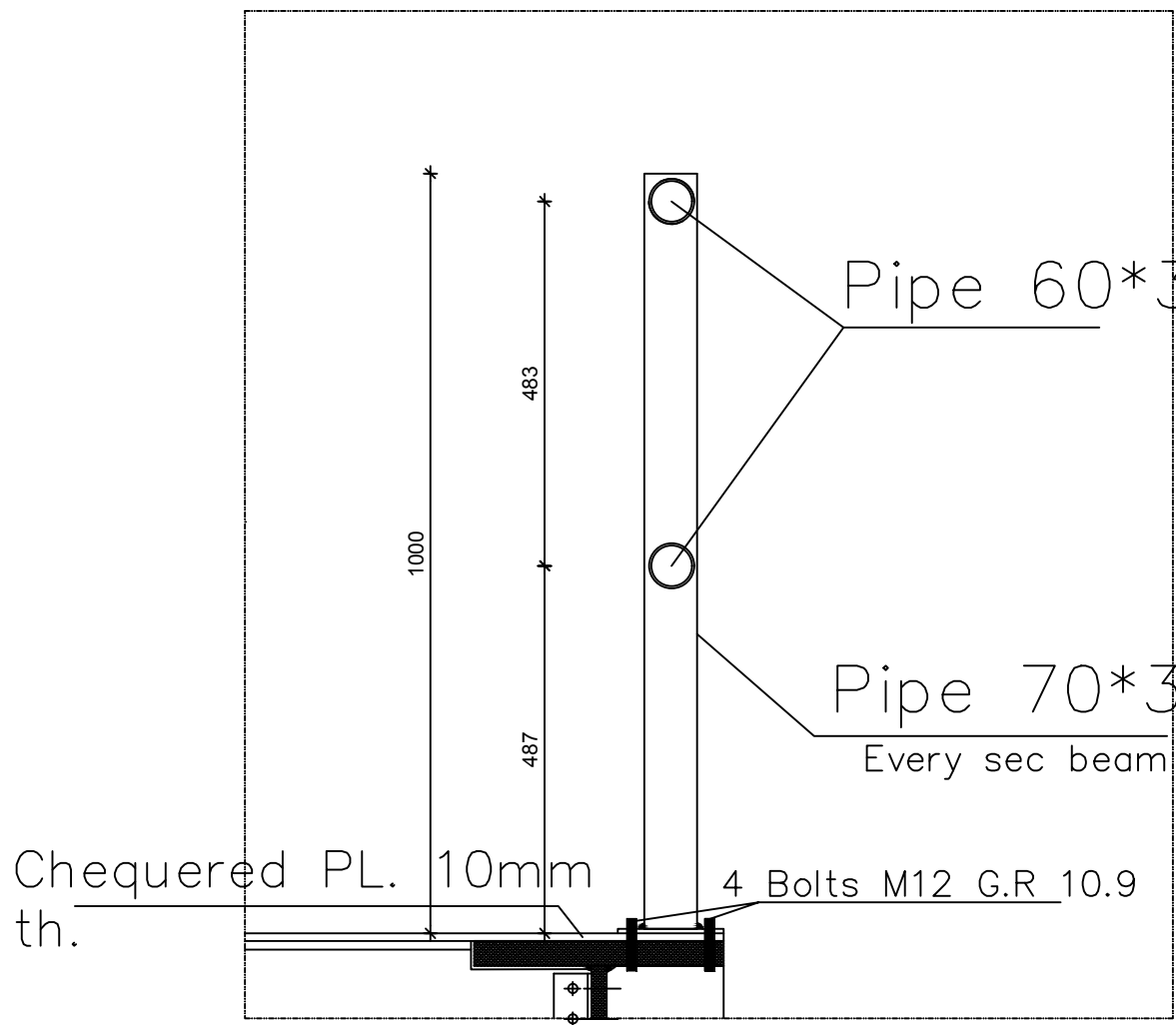
Side View

Elevation

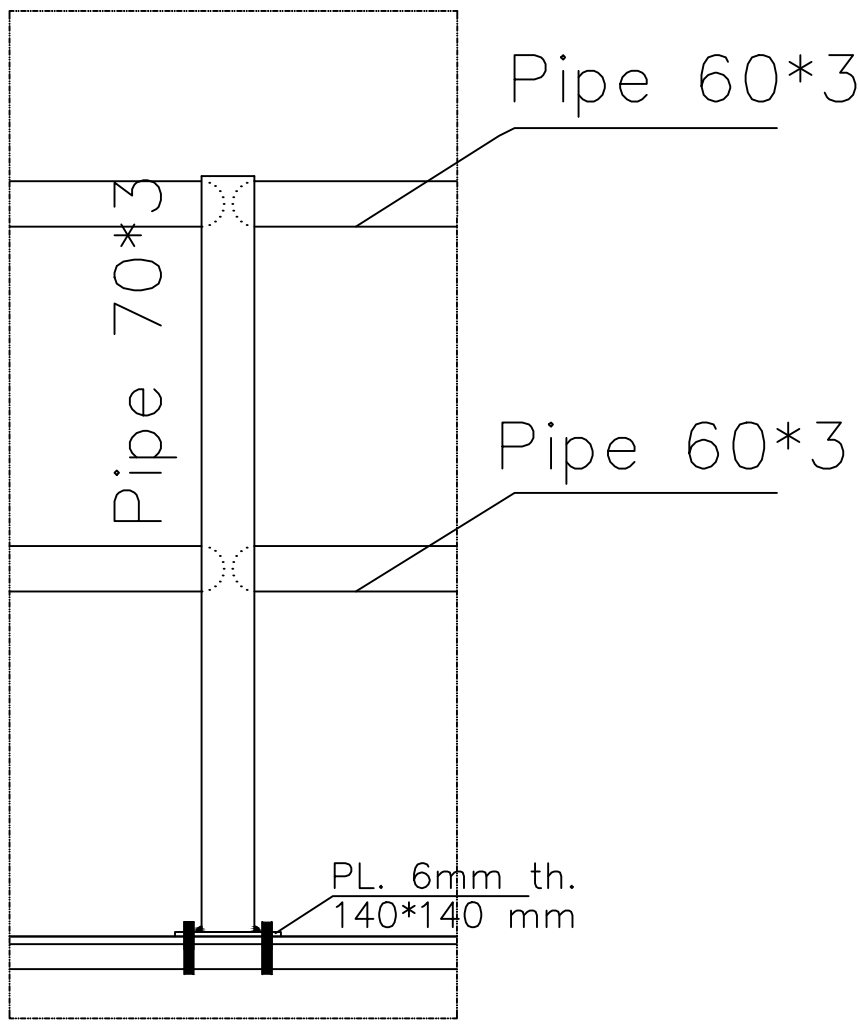


Plan

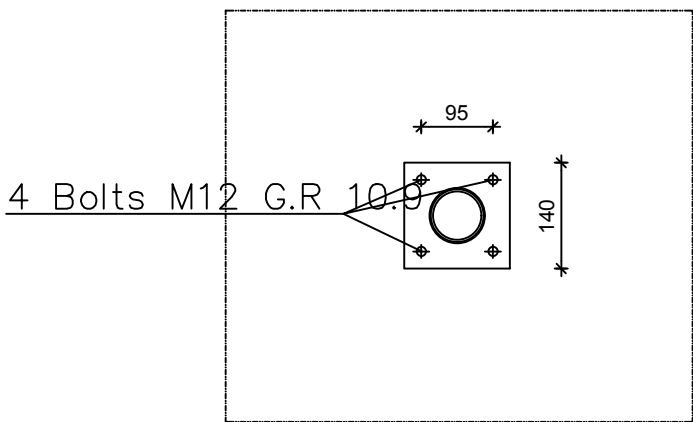
Connection Detail



Side View



Elevation



Plan

Handrail Detail

THIS DRAWING IS CONCEPTUAL DESIGN.
ACTUAL SECTIONS,DIMENSIONS,LENGTHS ACCORDING TO SITE CONDITION

NOTES :

- 1- ALL DIMENSION AND LEVELS MUST BE CHECKED WITH THE MECHANICAL DRAWINGS
- 2- THE NET BEARING CAPACITY OF THE SOIL AT FOUNDATION LEVEL IS ASSUMED TO BE 0.60 kg/cm2 .
- 3- BEFORE BEGINNING THE IMPLEMENTATION WORKS, THE CONTRACTOR MUST INSPECT THE SITE TO ENSURE THE APPROPRIATE LENGTH OF ALL DRAIN CROSSINGS AT EL-SAIL AND EZAB KIMA

CONCRETE

FCU = 225 KG/CM2 for Plain Concrete
FCU = 300 KG/CM2 for Reinforced Concrete
Cement Content not less than 350 KG/m3

STEEL REINFORCEMENT

GRADE IS (36/52)

STEEL ELEMENTS

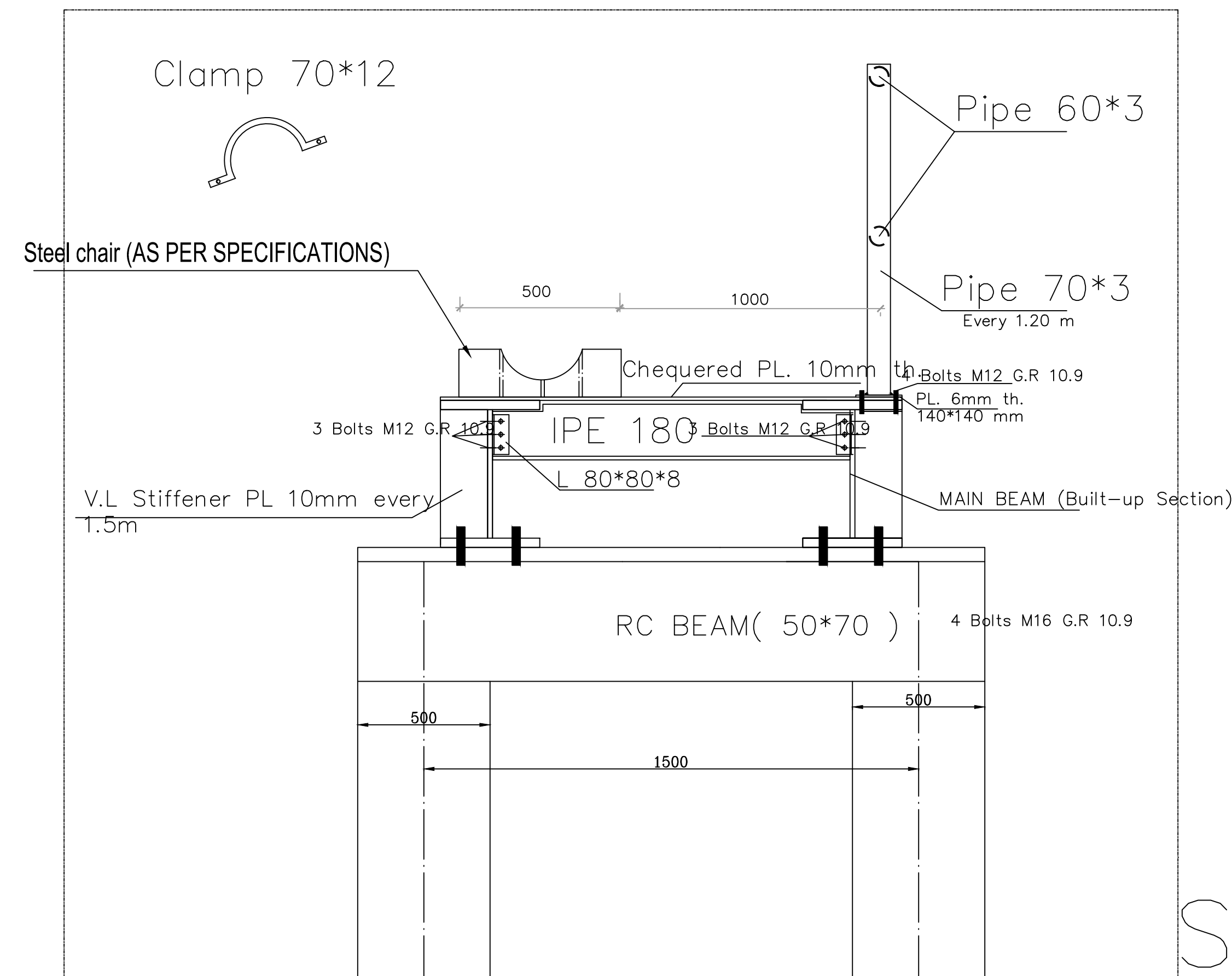
GRADE IS 44
Bolts is 10.9
Any weld not less than 8mm



Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :
STR. OF CROSSING (GENERAL DETAIL)
2/3

Design : PWMP (12) Final Design		CROSS SECTION	
DESIGN BY : M abdallah	Format : A1	Scale: NTS	DWG. NO: P12-S-CR-02
Approval Date : 03/2025	Revision No.: 0	Approval By : Tarek Sabry / Ivo Fölmli	



Side View

NOTES :

1- ALL DIMENSION AND LEVELS MUST BE
CHECKED WITH THE MECHANICAL DRAWINGS

2- THE NET BEARING CAPACITY OF THE SOIL AT FOUNDATION LEVEL IS ASSUMED TO BE 0.60 kg/cm^2 .

3- BEFORE BEGINNING THE IMPLEMENTATION WORKS,
THE CONTRACTOR MUST INSPECT THE SITE TO ENSURE
THE APPROPRIATE LENGTH OF ALL DRAIN CROSSINGS AT
EL-SAIL AND EZAB KIMA

CONCRETE

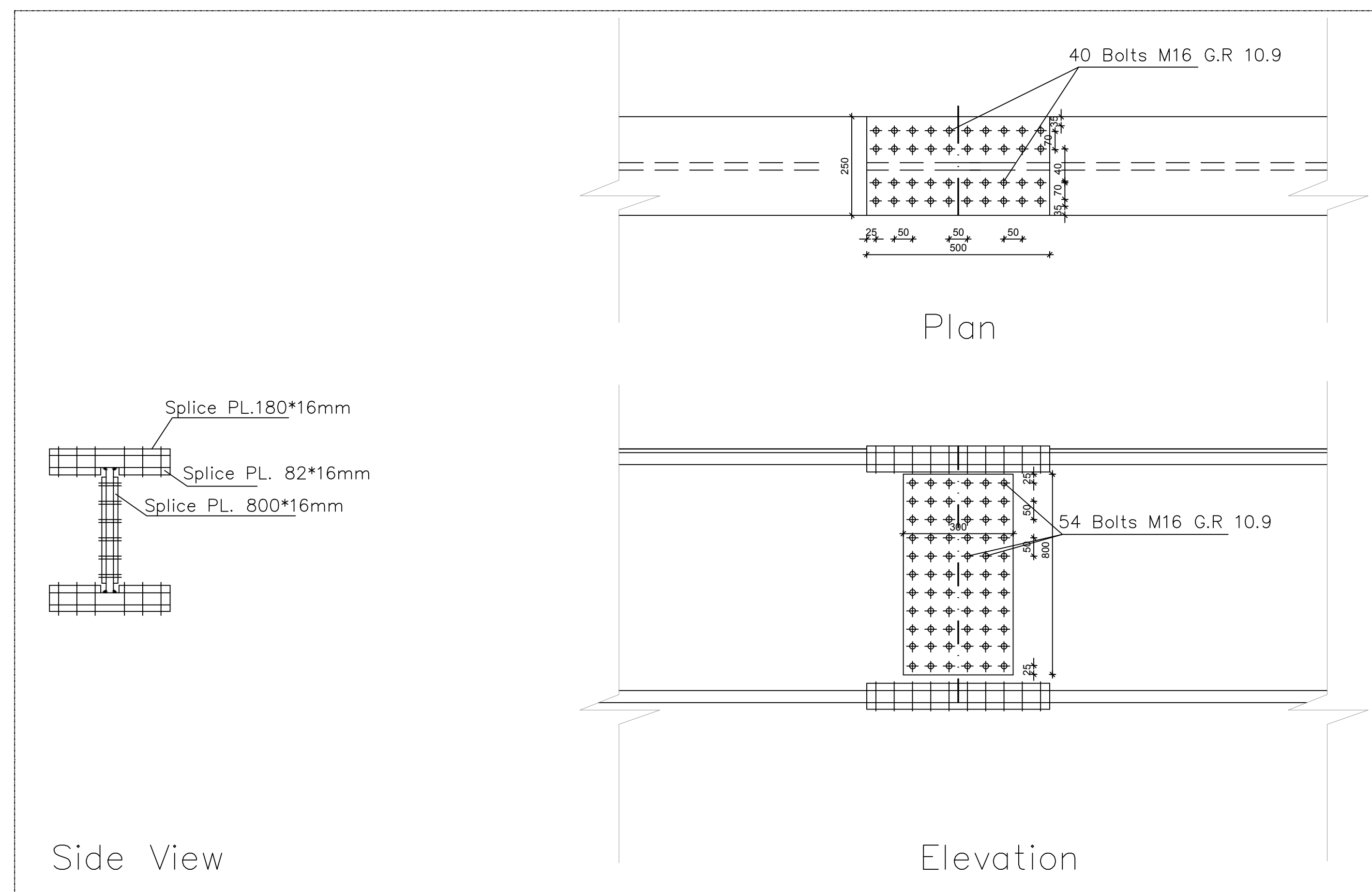
FCU = 225 KG/CM² for Plain Concrete
FCU = 300 KG/CM² for Reinforced Concrete
Cement Content not less than 350 KG/m³

STEEL REINFORCEMENT

GRADE IS (36/52)

STEEL ELEMENTS

GRADE IS 44
Bolts is 10.9
Any weld not less than 8mm



Splice Detail

THIS DRAWING IS CONCEPTUAL DESIGN.
ACTUAL SECTIONS,DIMENSIONS,LENGTHS ACCORDING TO SITE CONDITION



Potable Water Management Program In Upper Egypt - Phase2

Drawing Title :

STR. OF CROSSING (GENERAL DETAIL)
3/3

Design :

PWMP (12)
Final Design

CROSS SECTION

DESIGN BY :
M abdallah

Format :	A1
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Scale:	NTS
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DWG. NO:
P12-S-CR-03

Approval Date :
03/2025

Revision No.:	0
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Approval By :	Tarek Sabry / Ivo Fölmlí
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