Page1 of 30

KKE Wash Systems®	PROJECT	
Secondary Doc Ref	P	
Document Item		

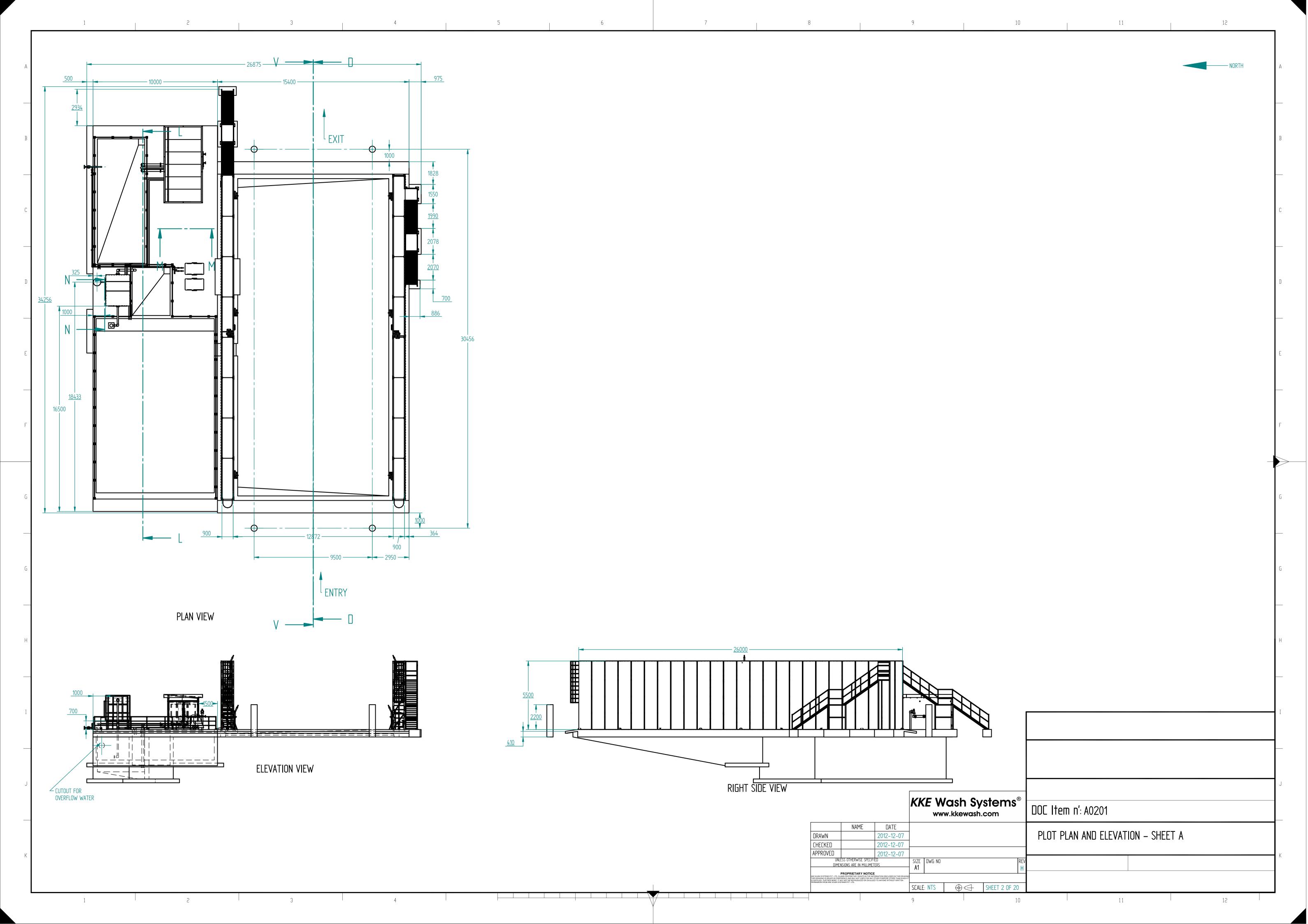
PLOT PLAN AND ELEVATION

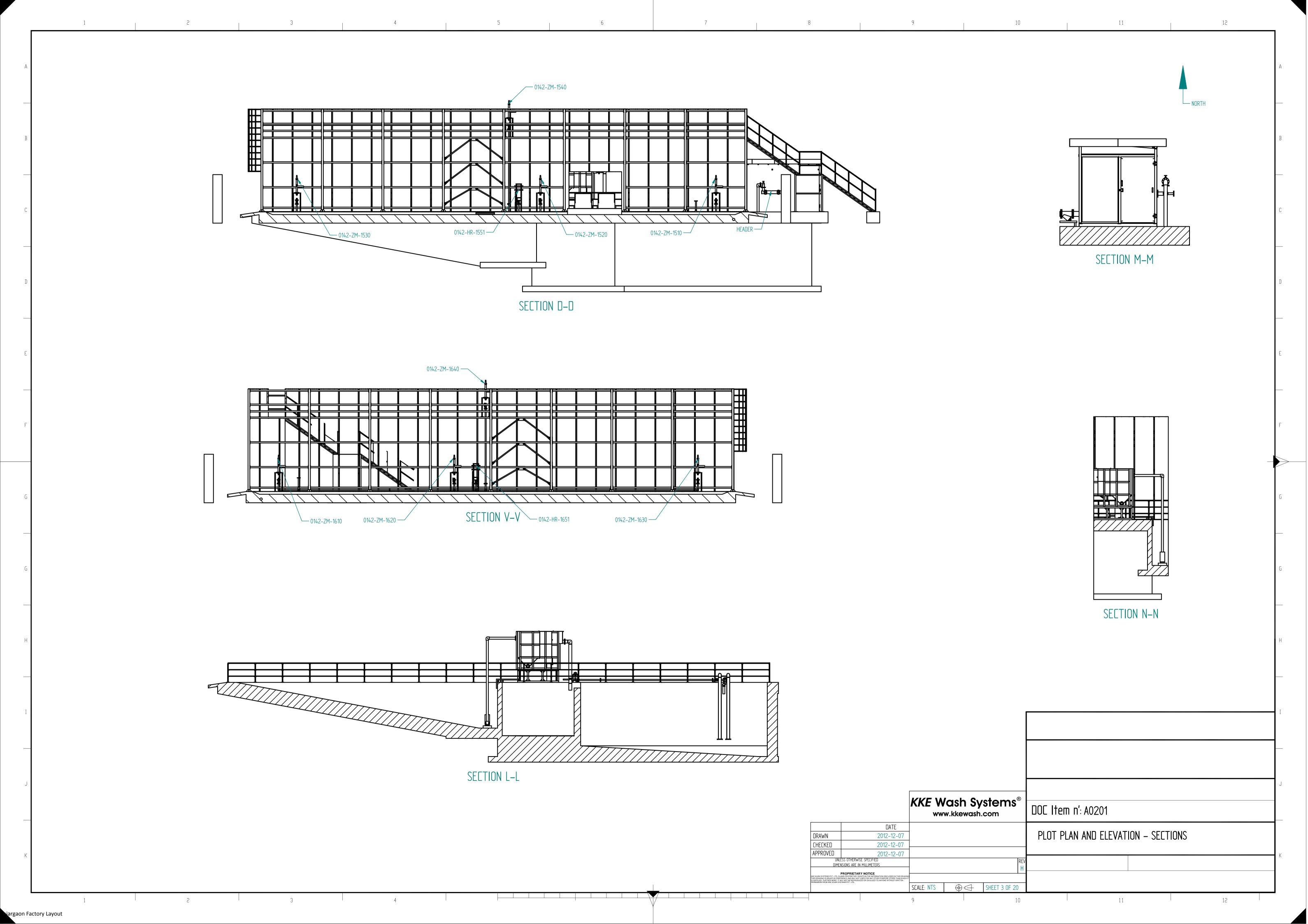
G	20-JUNE-13	Issued for Approval (Pipe line to ater cannons Stands modified)					
F	13-MAR-13	Issued for Approval					
F	04-FEB-13	Issued for Approval					
Е	08-JAN-13	Issued for Approval					
D	7-DEC-12	Issued for Approval					
С	07-NOV-12	Issued for Approval					
В	26-SEP-12	Issued for Approval					
Α	14-AUG-12	Issued for Approval					
Rev	Date	Description: Plot Plan and Elevation	Written By	Approved By			
Document Revisions							

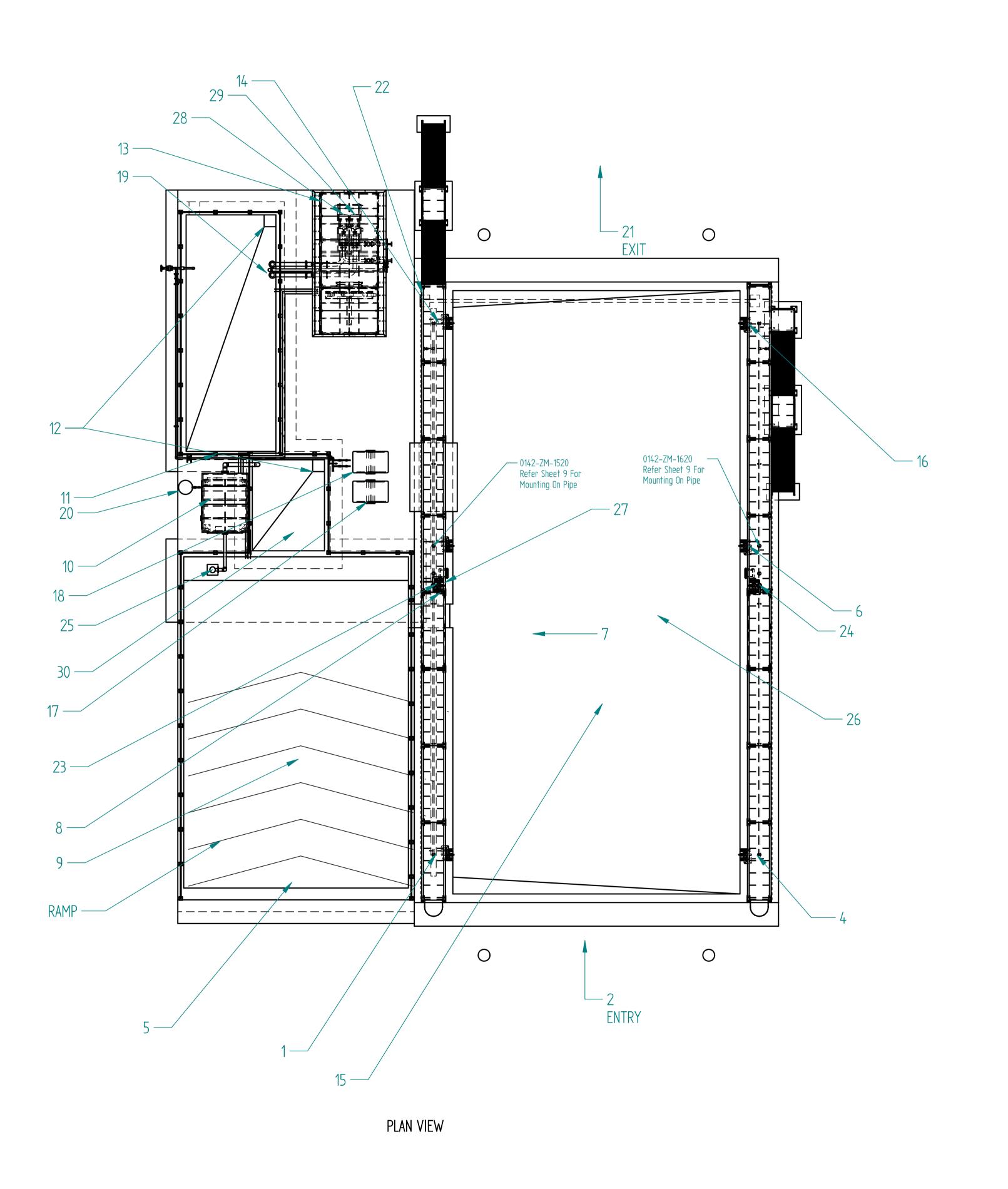
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Index of Documents Included: Mining Vehicle Fleet Washing Station

S. No	Document Item	Description of Document	Page Numbers
1	A0201	Plot Plan and Elevation – Sheet A	3
2	A0201	Plot Plan and Elevation – Sections	4
3	A0201	Plot Plan and Elevation – Sheet B	5
4	A0201	Layout Plan and Elevation of Pre-Fabricated Control Room – Sheet C	6
5	A0201	Layout Plan and Elevation of Pre-Fabricated Control Room – Sheet D	7
6	A2004	Major Piping Layout & Piping for Water Cannons – Sheet A	8
7	A2004	Major Piping Layout & Piping – Sheet B	9
8	A2004	Major Piping Layout & Piping – Sheet C	10
9	A2011	Civil Work Guide Drawing – Sheet A	11
10	A2011	Civil Work Guide Drawing – Sheet B	12
11	A2011	Civil Work Guide Drawing – Sheet C	13
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12		General Arrangement Drawing of Oil – Water – Sludge Separator	15-21
13		View of Sludge Pump	22
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15	A0111	List of Consumer Connections	24
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LEGEND

NO	NAME	TAG NO
1	WATER CANNON	0142-ZM-1530
2	ENTRY	
3	UNDER CHASSIS	
4	WATER CANNON	0142-ZM-1630
5	ACCESS PATH FOR TANK CLEANING	
6	WATER CANNON & WASH GUN	0142-ZM-1620
7	SLOPE 2%	
8	WATER CANNON & WASH GUN	0142-ZM-1520
9	TANK 1	0142-TK-1200
10	OIL WATER SEPRATOR (6068KG)	0142-ZM-1220
11	TANK 3	0142-TK-1240
12	SLOPE POINT FOR VACUUM TRUCK	
13	PREFABRICATED CONTROL ROOM (LOADING 3750 KG)	0142-ZM-1300
14	WATER CANNON	0142-ZM-1510
15	BAY AREA (LOADING WEIGHT OF HEAVIEST VEHICLE)	
16	WATER CANNON MOUNTING FOUNDATION BOLT DRILLED AT THE TIME OF INSTALLATION	0142-ZM-1610
17	PORTABLE PUMP HIGH PRESSURE	0142-PU-1410 A
18	PORTABLE PUMP HIGH PRESSURE	0142-PU-1410 B
19	PUMP SUCTION AREA	
20	OIL DRUM	
21	EXIT	
22	STAIRCASE WITH SPLASH GUARD	0142-ZM-1500 0142-ZM-1600
23	WATER CANNON	1042-ZM-1540
24	WATER CANNON	1042-ZM-1640
25	SLUDGE PUMP	0142-PU-1210
26	WASH BAY	0142-ZM-1700
27	HOSE REELS	0142-ZM-1550 0142-ZM-1650
28	MAIN WASH PUMP (IN DUTY)	142-PU-1310 A
29	MAIN WASH PUMP (STANDBY)	142-PU-1310 B
30	TANK 2	0142-TK-1230

1) DETAILED VIEW OF SLUDGE PUMP ENCLOSED
2) DETAILED VIEW OF WATER CANNONS SHOWN IN PAGE 3 SECTION D-D
3) DETAILED VIEW OF OIL WATER SEPARATOR SHOWN IN PAGE 3 SECTION L-L & N-N
4) DETAILED VIEW OF EQUIPMENT INSIDE CONTROL ROOM SHOWN IN PAGE 11
5) FOR HAND RAILS, ANCHOR BOLTS OF SIZE 10 mm DIA X 100 mm LONG WILL BE SUPPLIED FOR INSTALLATION BY DRILLING ON CONCRETE WALLS OF TANKS. PLEASE REFER TO DETAIL K SHOWN IN SHEET 9

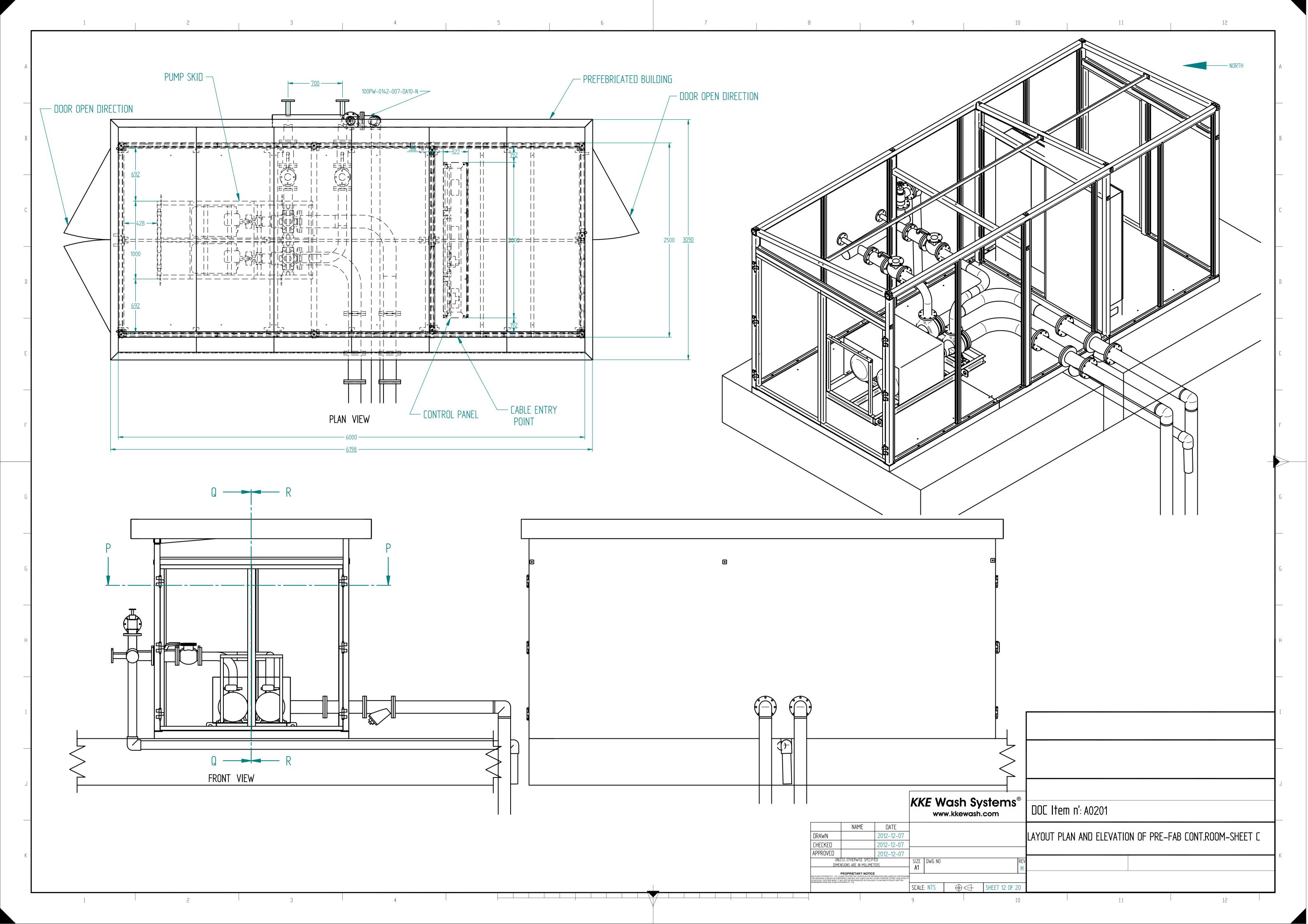
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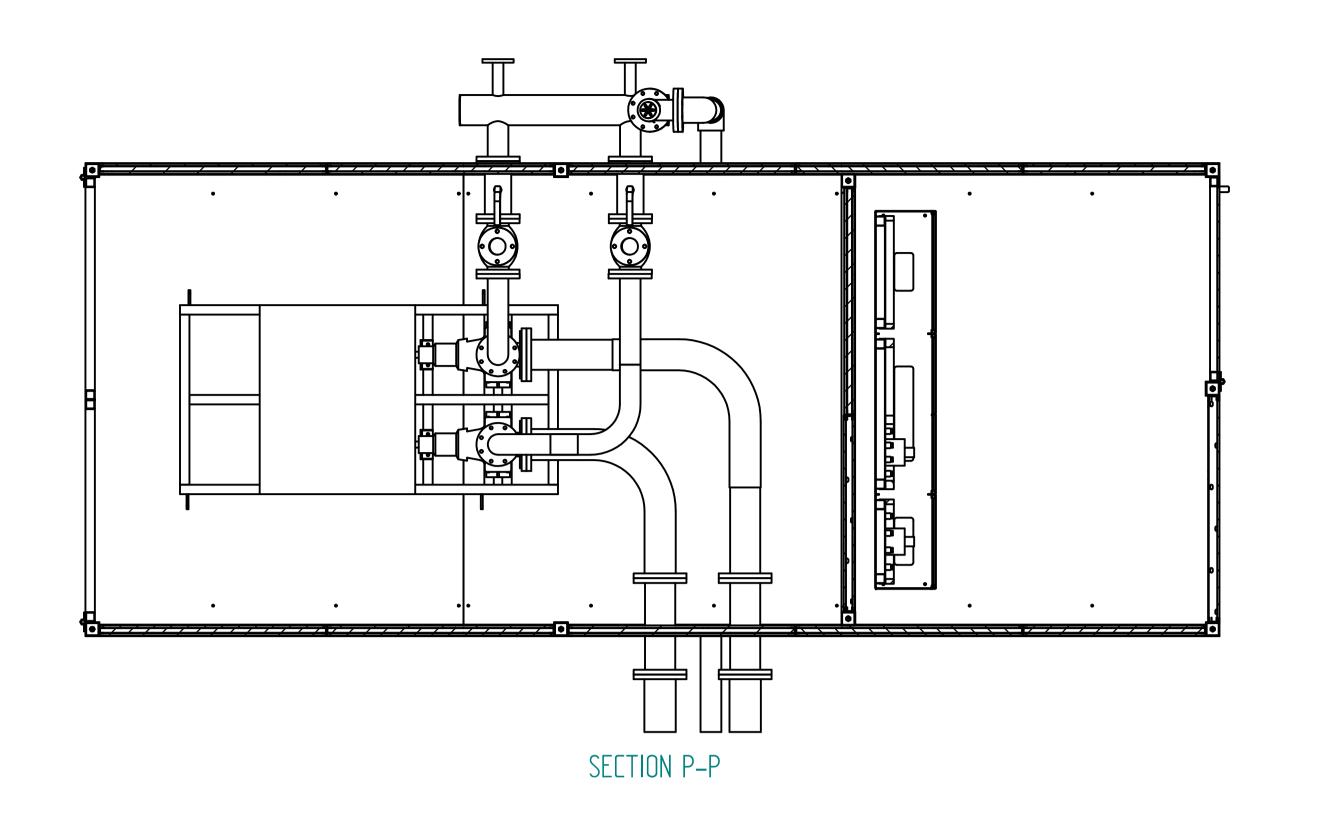
SCALE: NTS SHEET 7 OF 20

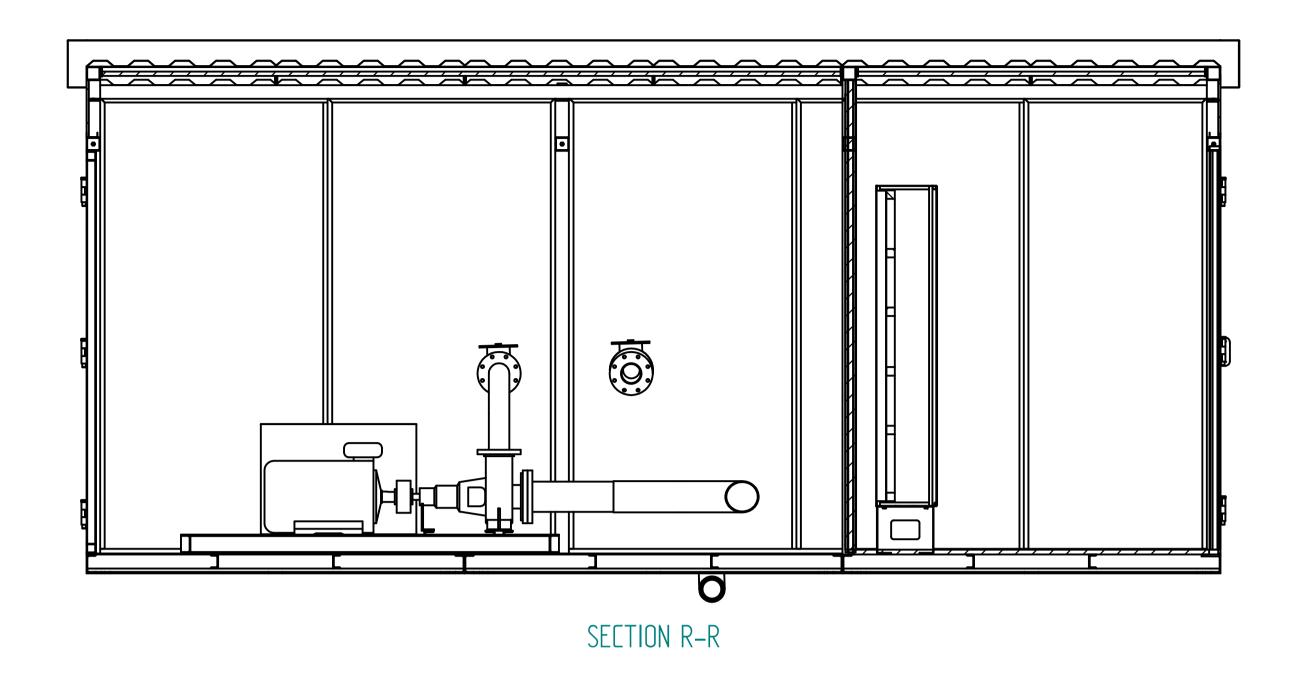
DOC Item n': A2001

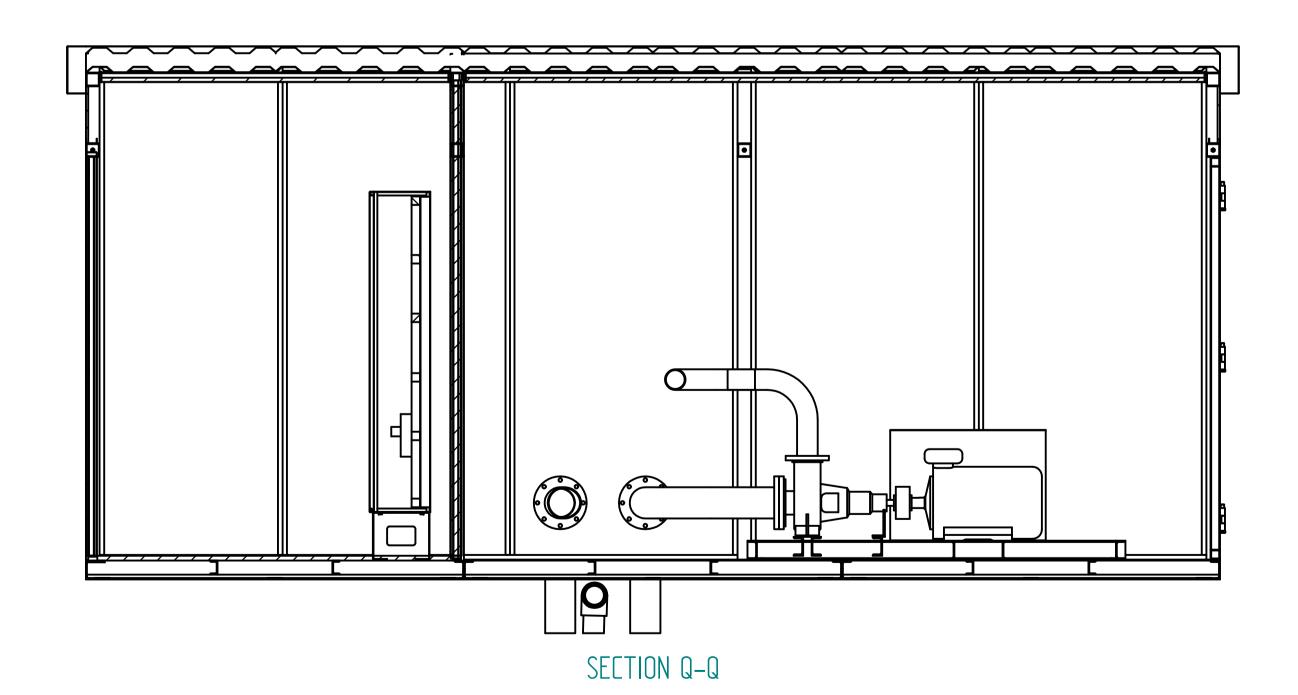
NAME DATE 2012–12–07 CHECKED APPROVED 2012–12–07 2012–12–07 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS FILE NAME: 16619-00.dft

PLOT PLAN AND ELEVATION - SHEET B



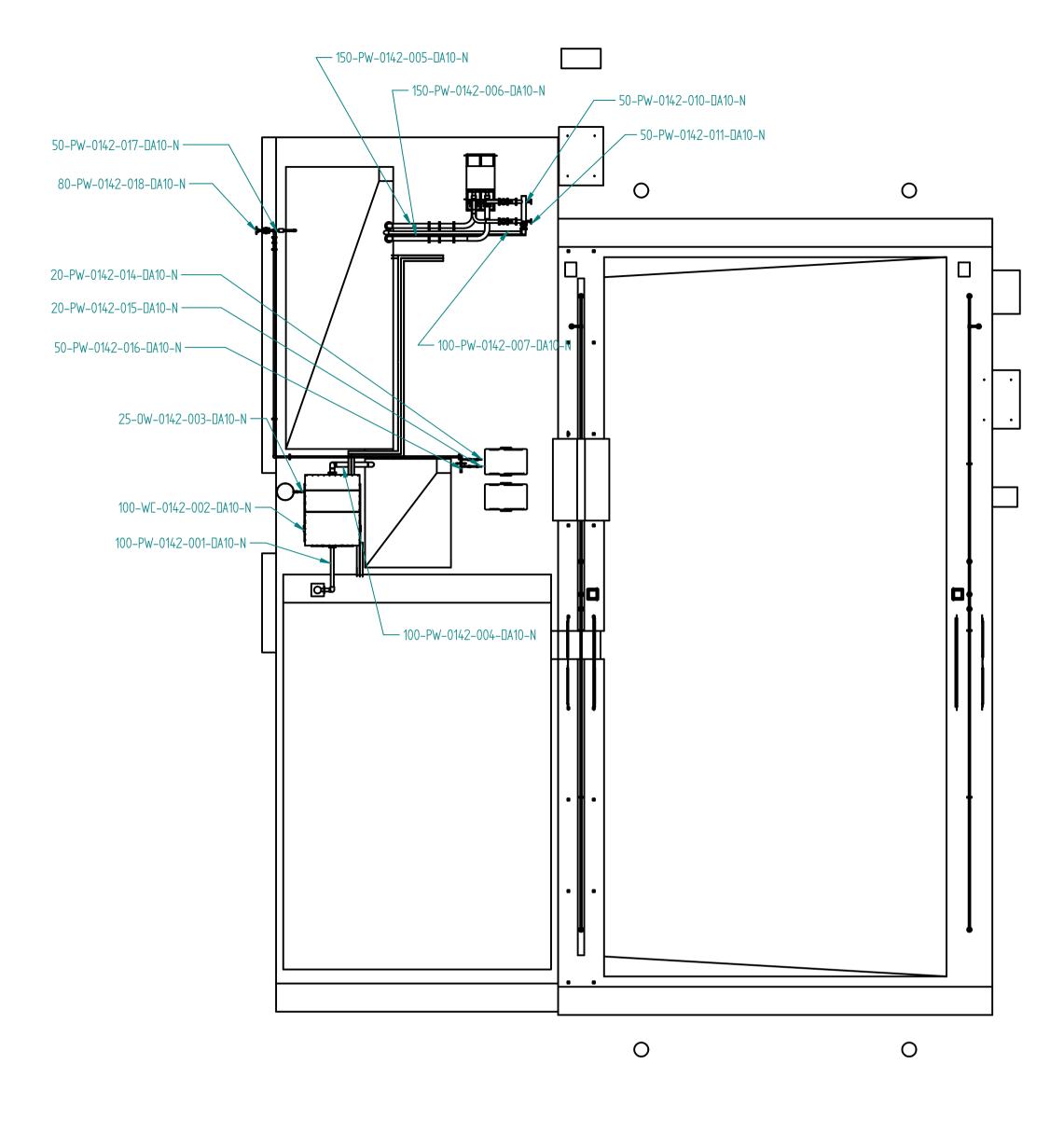


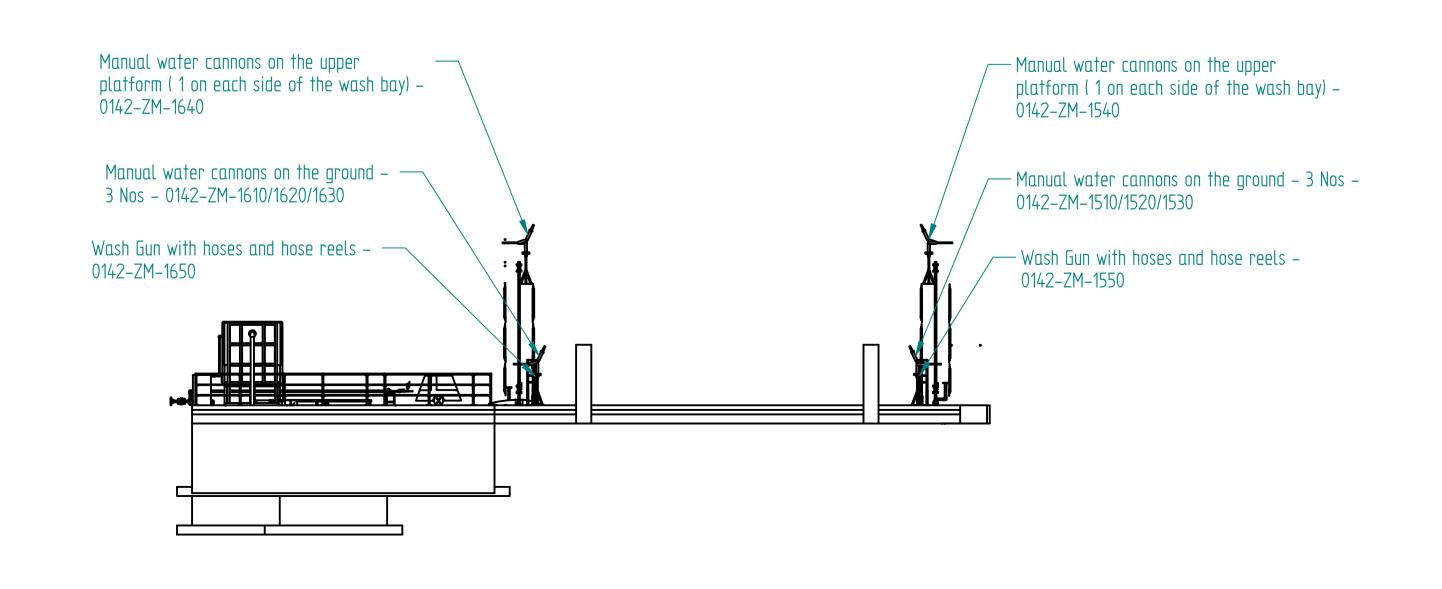




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ED.		2012-12-07	_		LAYOUT PLAN AND ELEVATION OF PRE-FAB.CONT.ROOM-SHEET D
VED		2012-12-07			
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M KKE WASH SYST	EMS PVT. LTD.	SECTIONS WITHOUT WATTEN	SCALE: NTS	SHEET 13 OF 20	<u> </u>
			9	10	11 12







NOTE:-

- 1) We will use DN flanges if available. If not, we would use ANSI flanges within the package and only one DN flange for interconnection.
- 2) The pipe lines supplied are as per IS standard equivalent to the class indicated in
- 3) Underground pipe we use is (Make PIX) R1 grade flesible hose as it has to go through the trench. If HDPE is to be used, It would be in scope as it would have to be inserted during the civil construction itself. Please conform

PROJECT

KKE Wash Systems® www.kkewash.com

DOC Item n': A2004

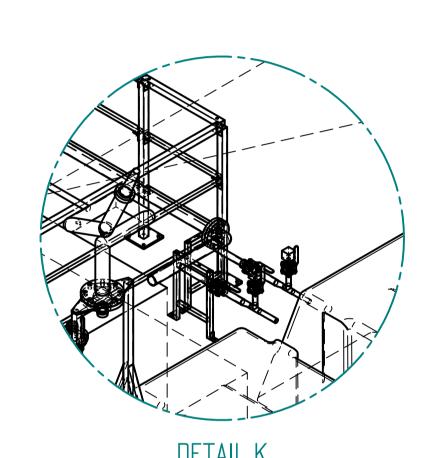
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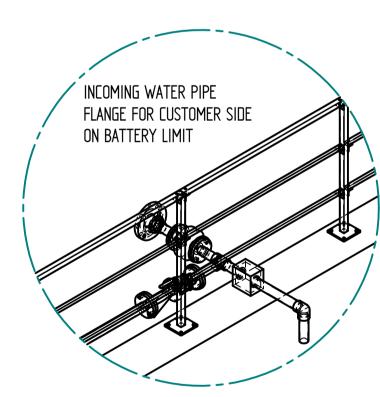
FILE NAME: 16619-00.dft SCALE: NTS SHEET 14 OF 20

ENTRY -

PIPE TABLE

SR. NO.	PIPE DIAMETER	MATERIAL	SERVICE / STATUS
1	100 NB	Gl	SUCTION PIPE
		•	FORSLUDGE PUMP
2	100 NB	GI	WATER OUTLET PIPE OF
			OIL WATER SEPARATOR
3	50NB / 80NB	Gl	INCOMING WATER PIPE
			FLANGE FOR CUSTOMER
			SIDE ON BATTRY LIMIT
4	100 NB	GI	RELIEF DISCHARGE LINE
			FROM PRESSURE SAFTY
			VALVE
5	150 NB	GI	SUCTION WATER PIPE
			FOR WORKING PUMP
6	150 NB	GI	SUCTION WATER PIPE
			FOR STANDBY PUMP
7	100 NB	GI	DELIVERY WATER PIPE
			FROM WORKING PUMP
			TOWORDS HEADER
8	100 NB	GI	DELIVERY WATER PIPE
			FROM STANDBY PUMP
	50 ND	01	TOWORDS HEADER
9	50 NB	GI	WATER PIPE FOR
40	N.D		CANNON
10	50 NB	GI	WATER PIPE FOR
4.4	05 ND	01	CANNON
11	25 NB	GI	OIL PIPE FOR OIL WATER
			SEPARATOR





DETAIL T

PROJECT

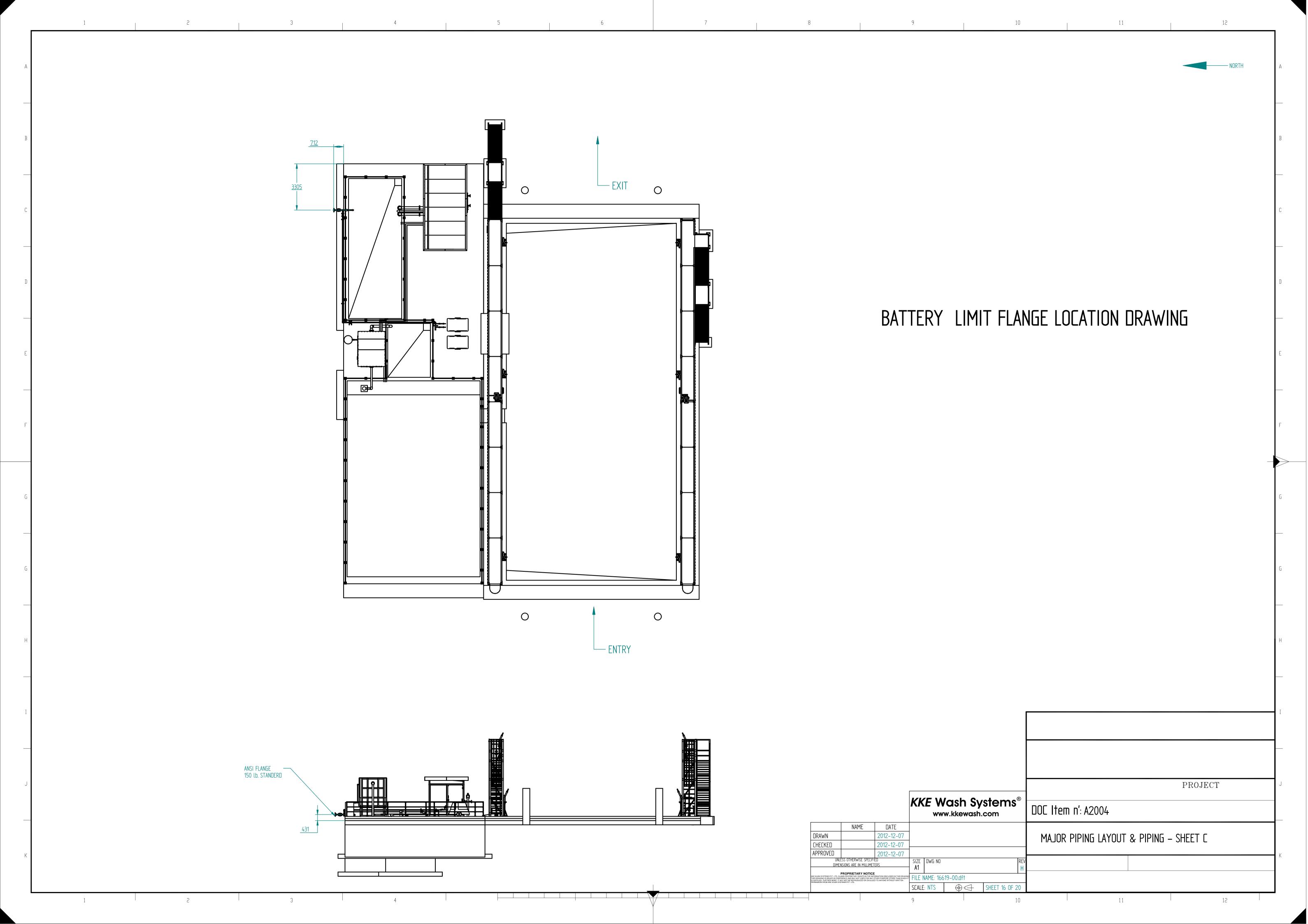
KKE Wash Systems
www.kkewash.com

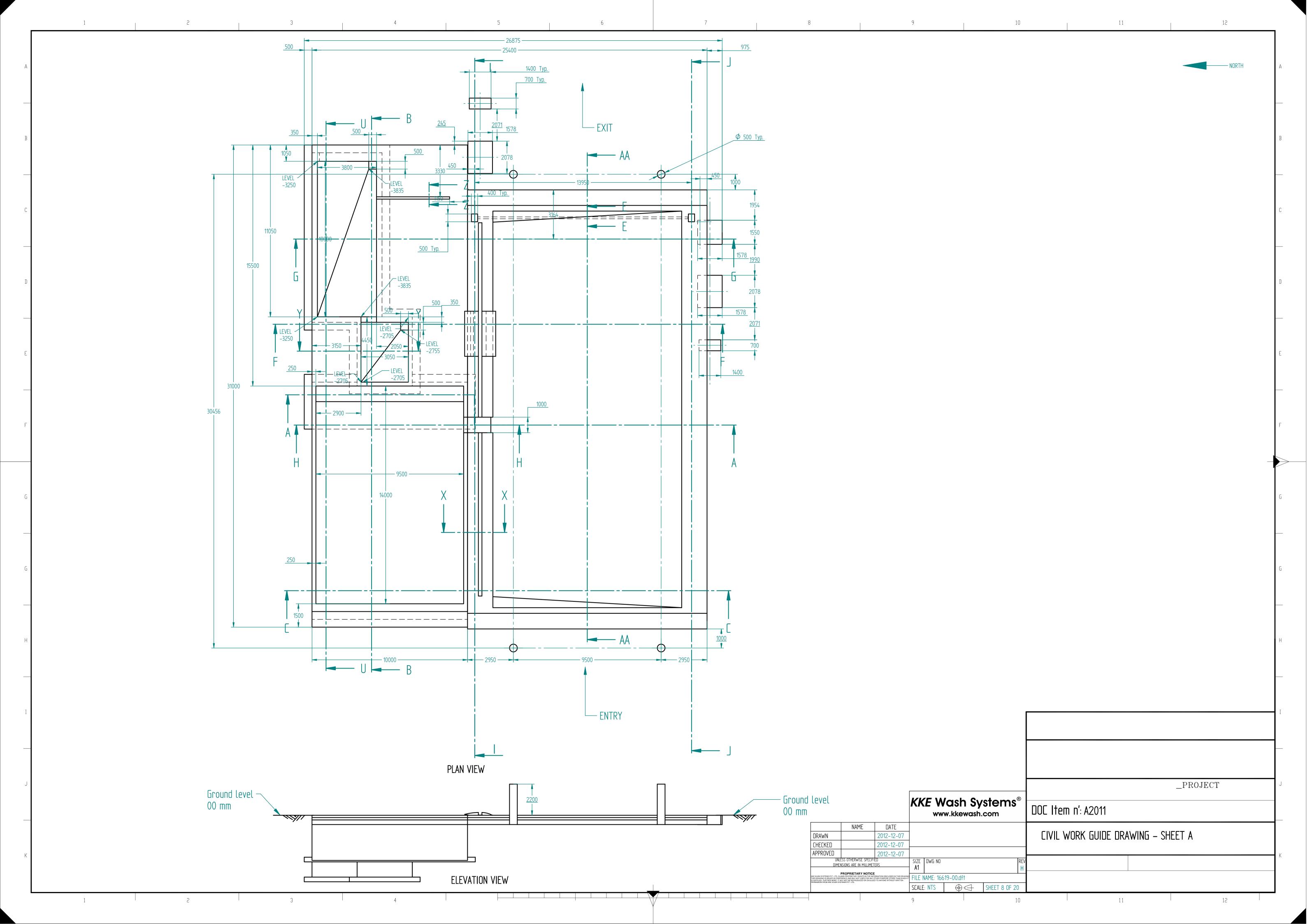
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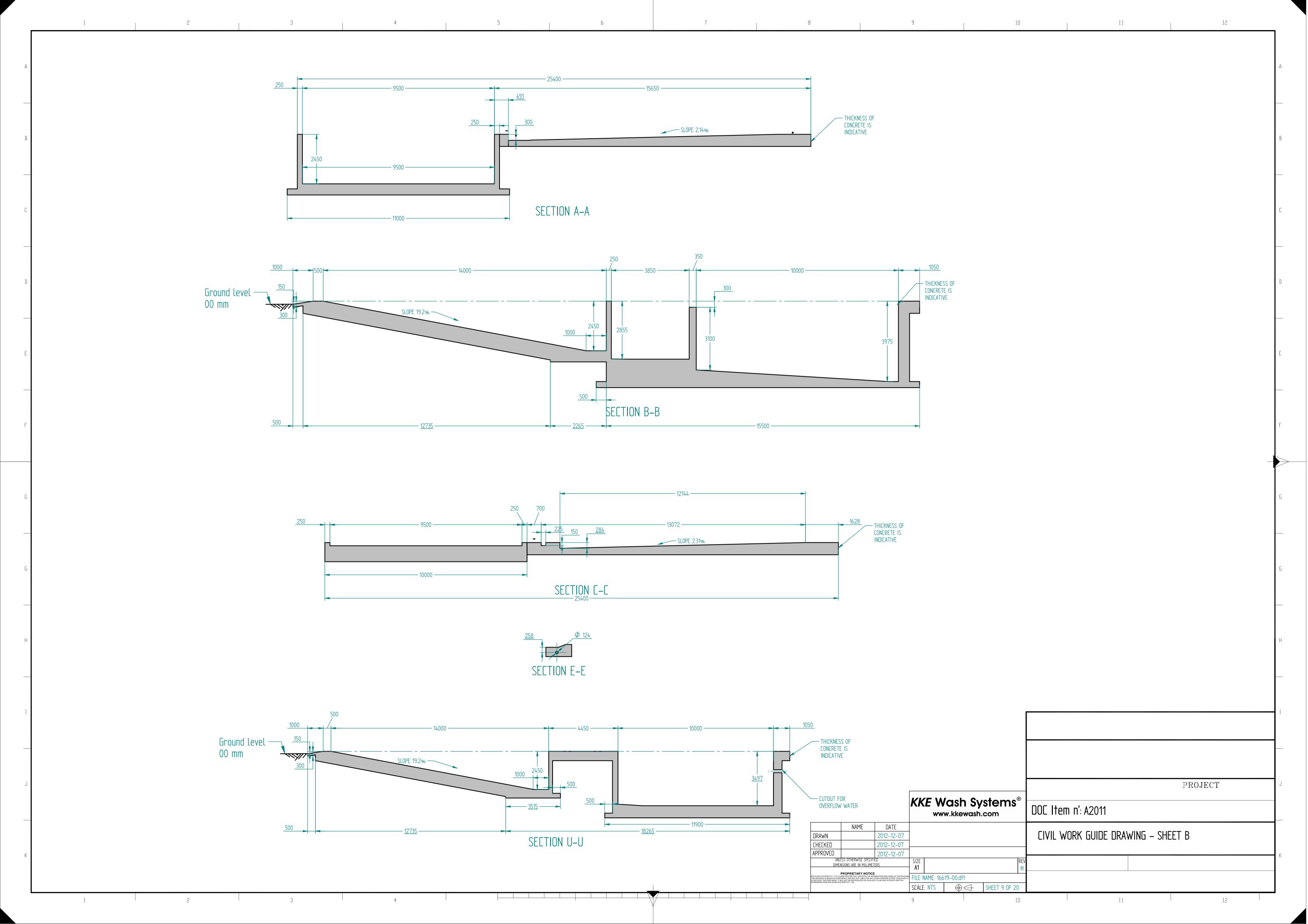
	NAME	DATE			
DRAWN		2012-12-07			
CHECKED		2012-12-07			
APPROVED		2012-12-07			
UNLÉSS OTHERWISE SPECIFIÉD DIMENSIONS ARE IN MILLIMETERS			SIZE A1	DWG NO	RE'
PROPRIETARY NOTICE KEE WASH SYSTEMS PYT. LTD. CLAMS PROPRIETARY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING NOW FARMING IS INSTITUTED. THE THE PROPRIETARY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING NOW FARMING IS INSTITUTED.			FILE	JAME: 16619 OO dft	

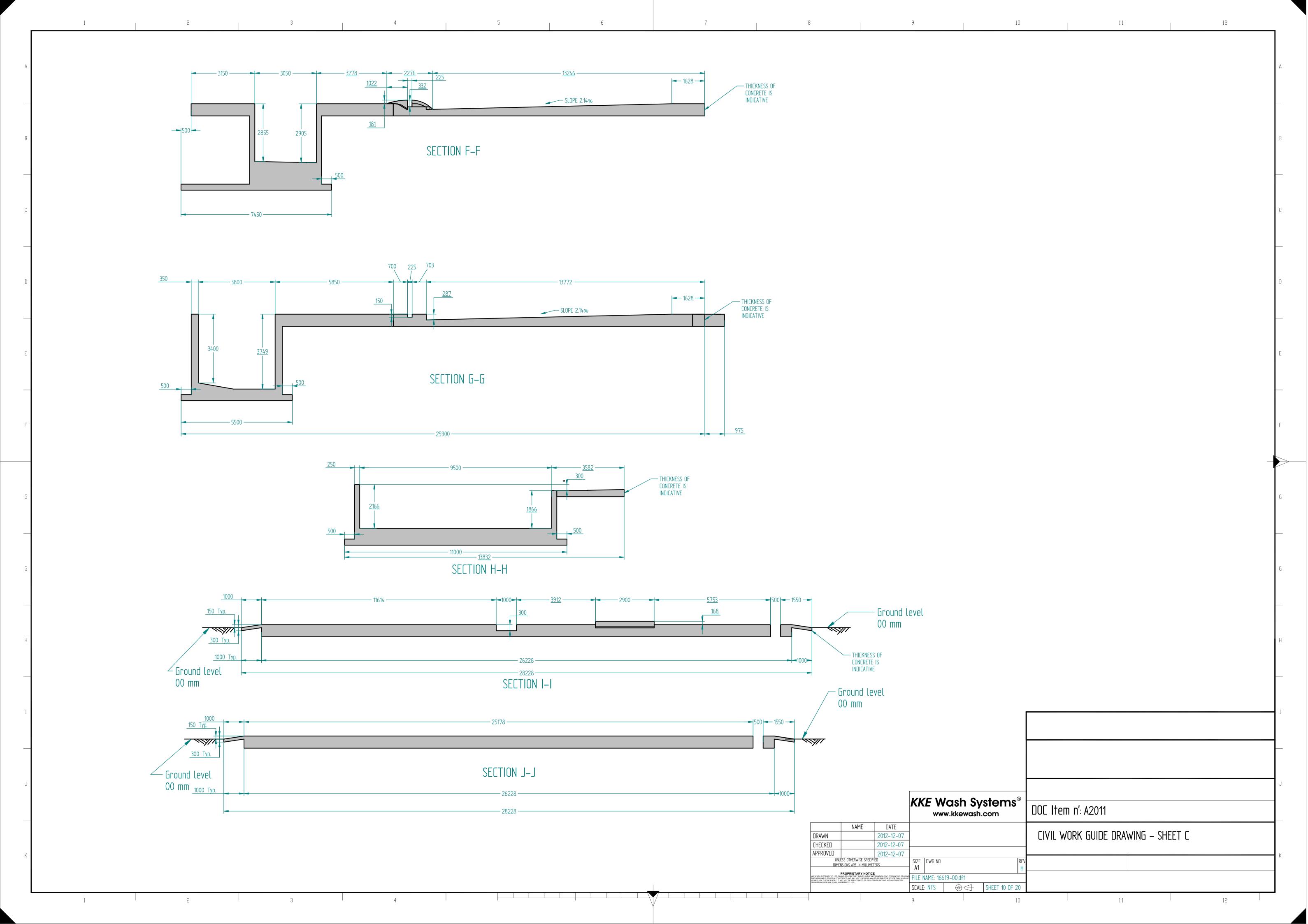
MAJOR PIPING LAYOUT & PIPING - SHEET B

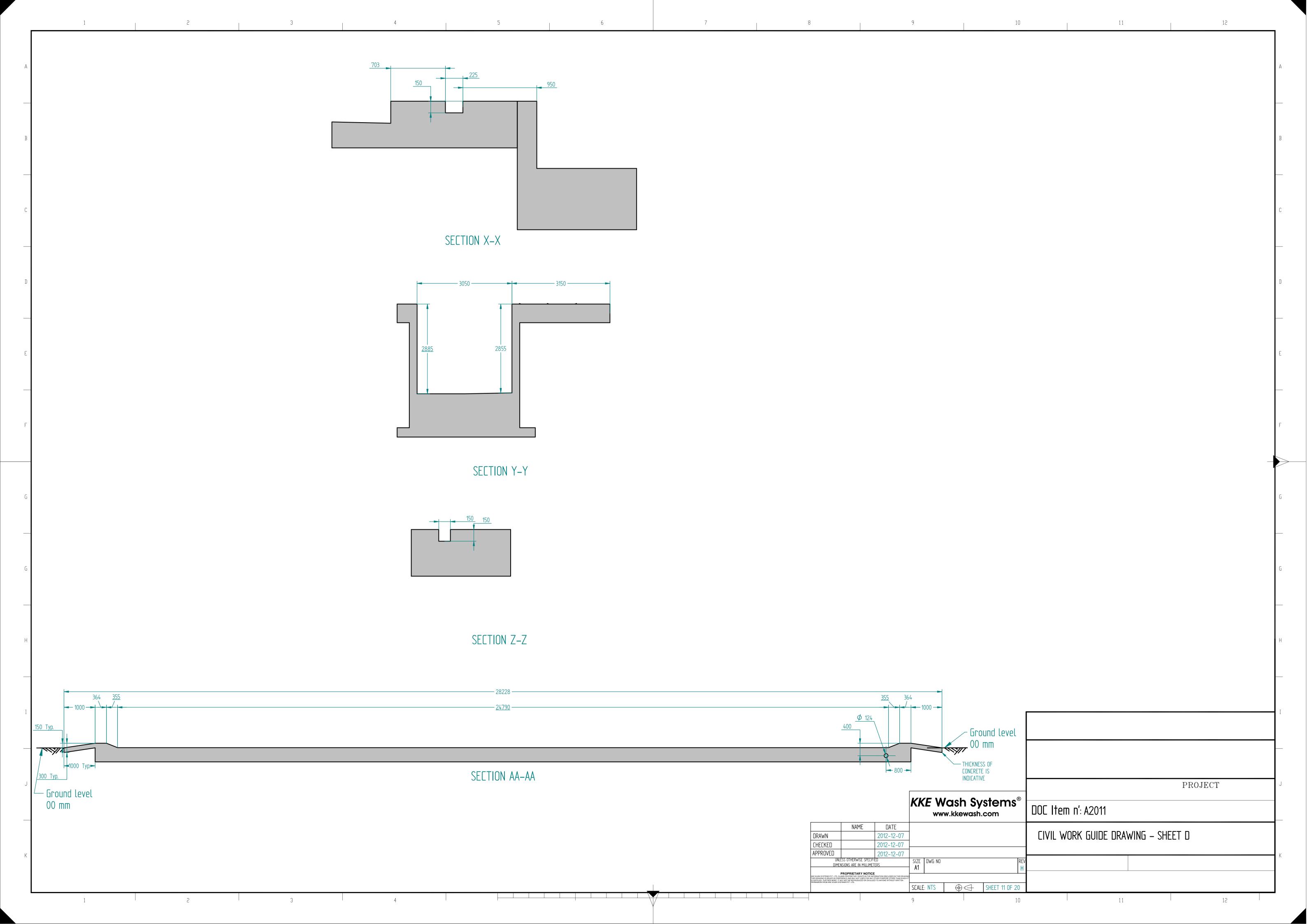
SHEET 15 OF 20

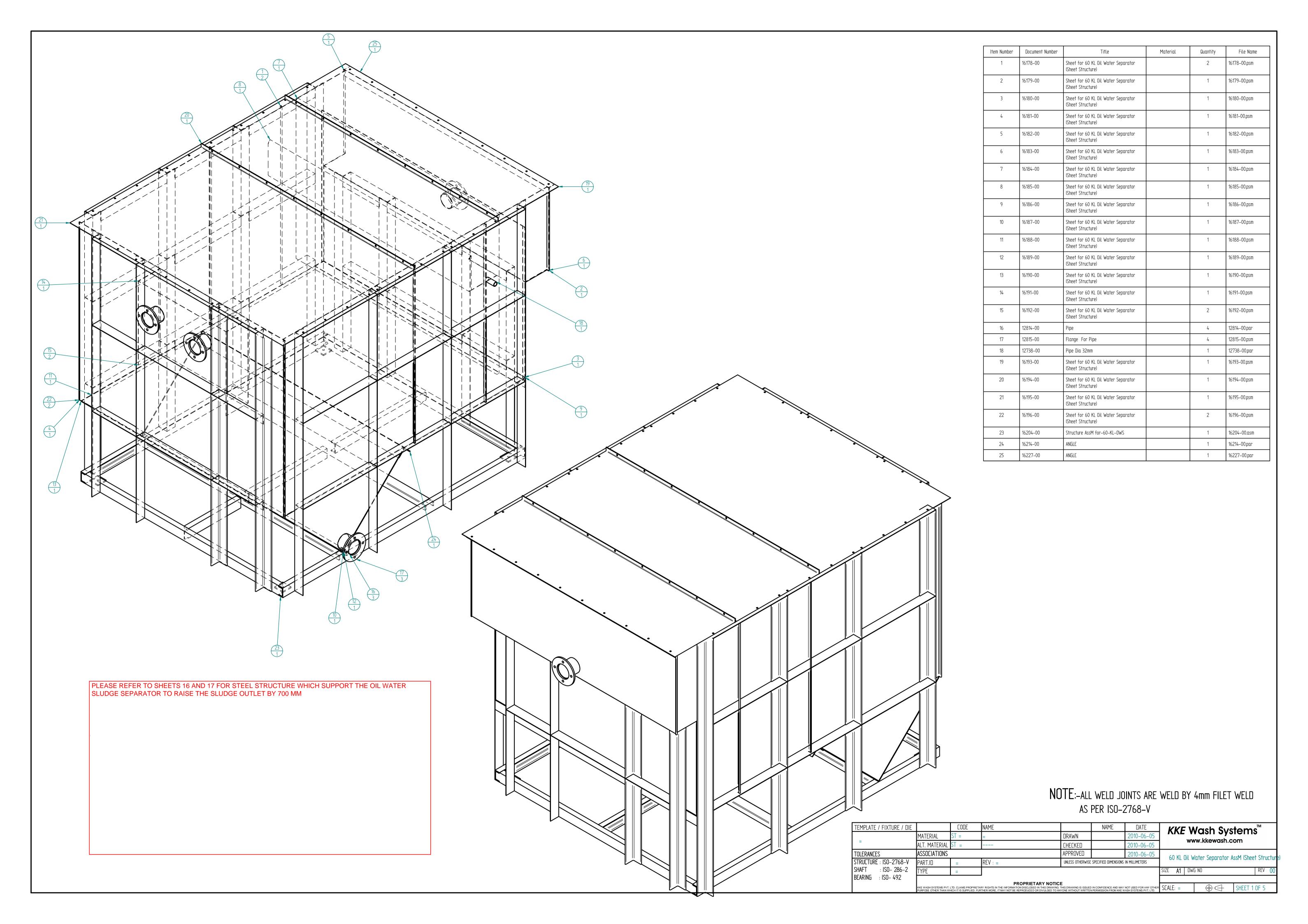


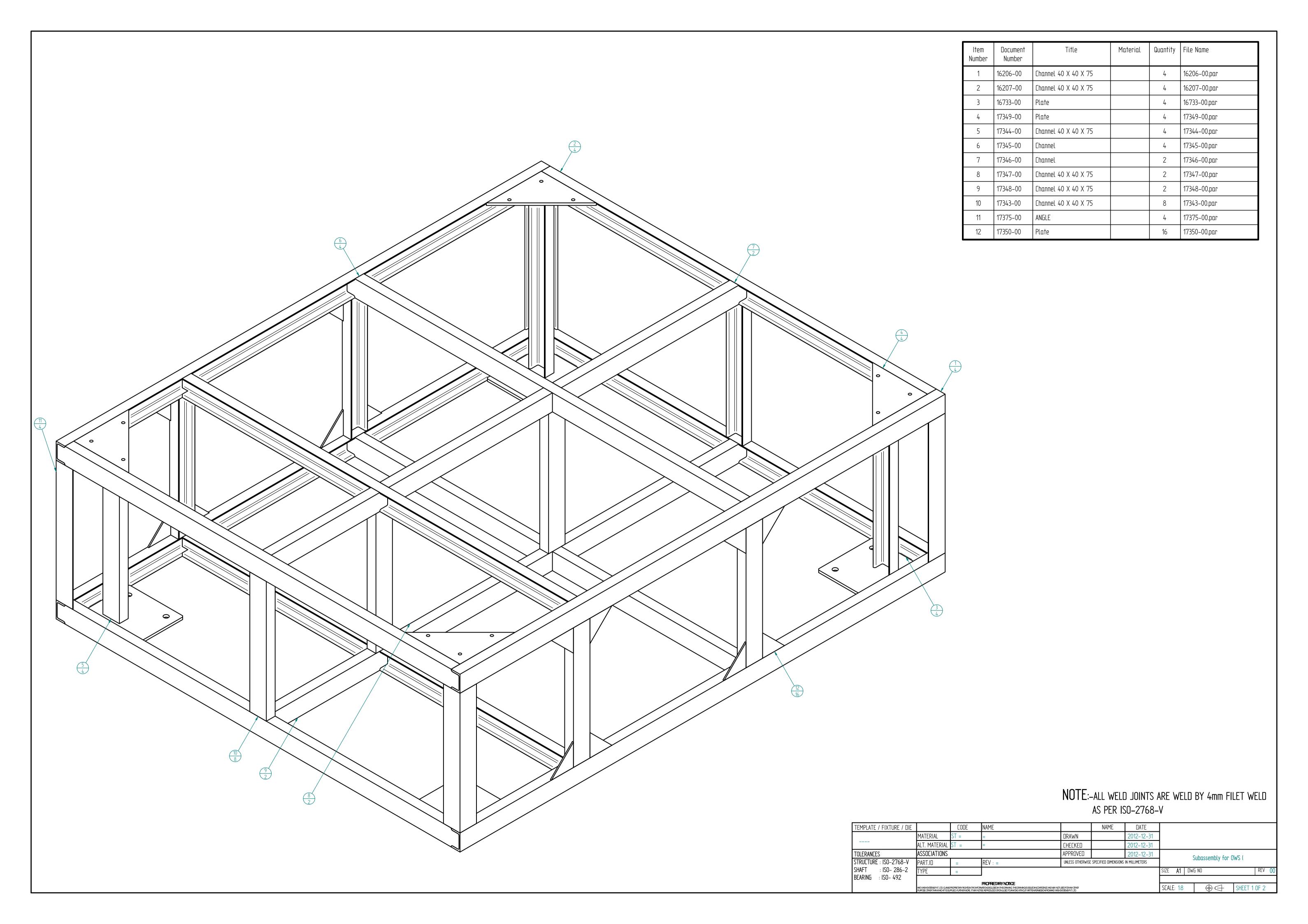


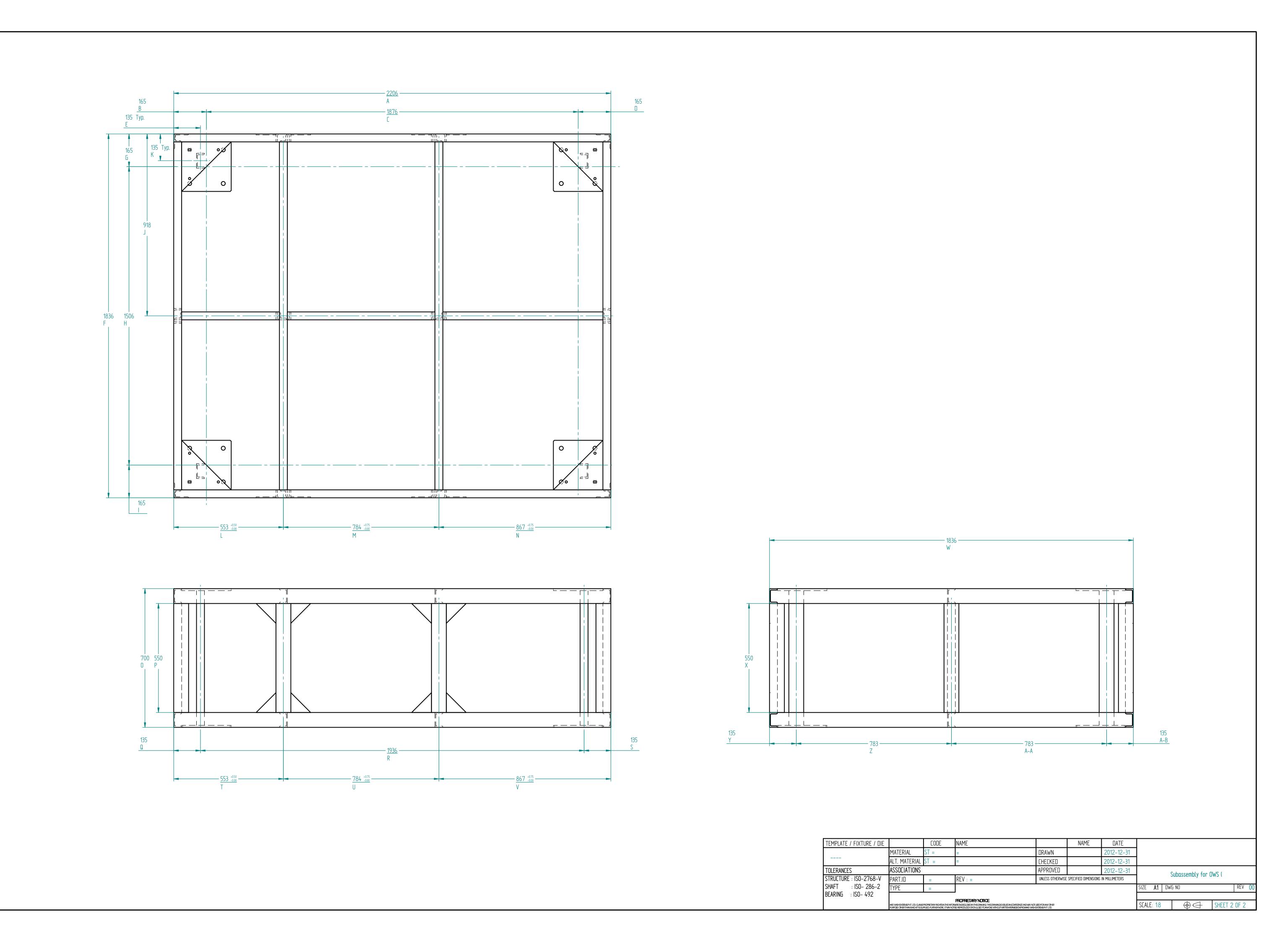


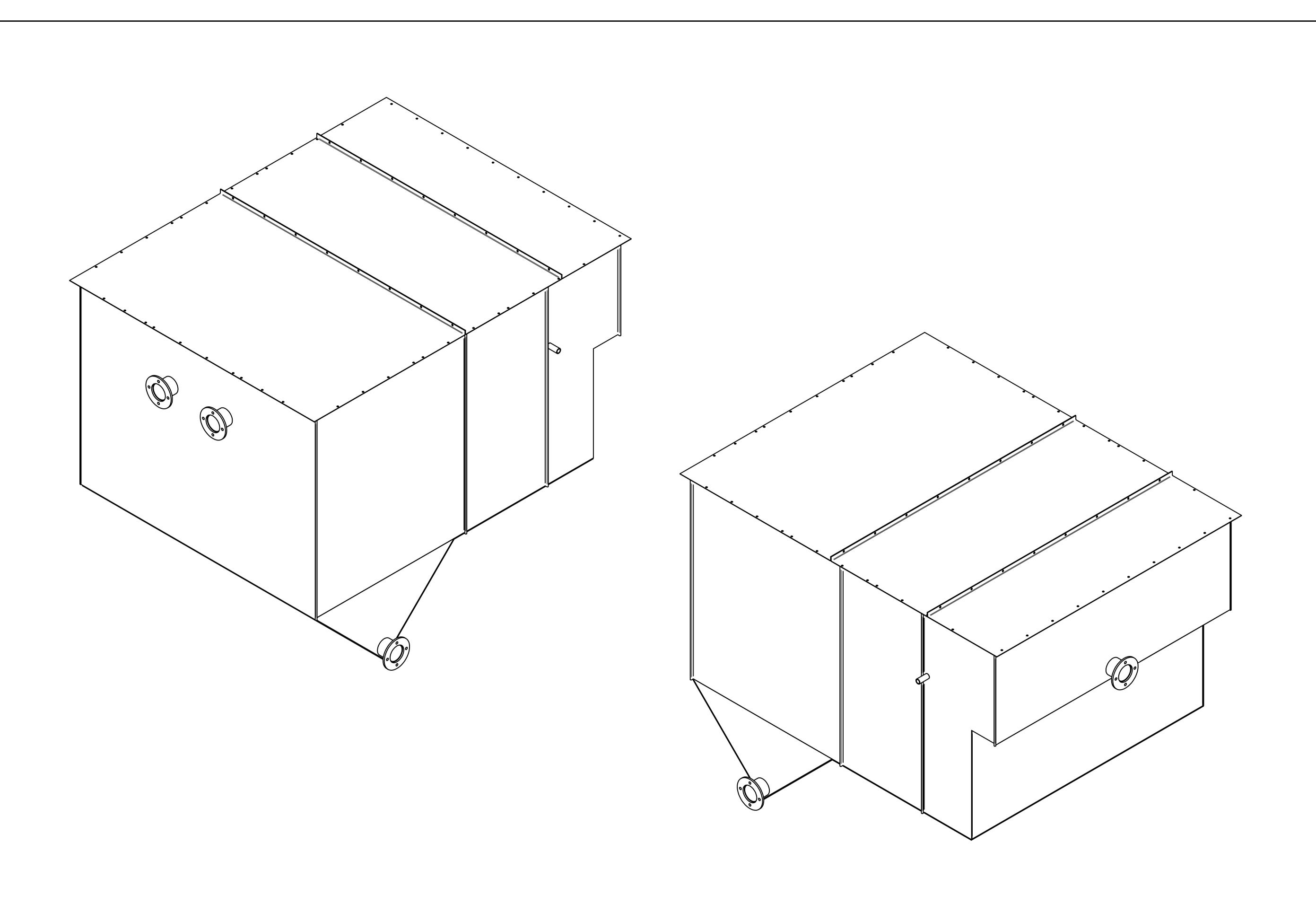




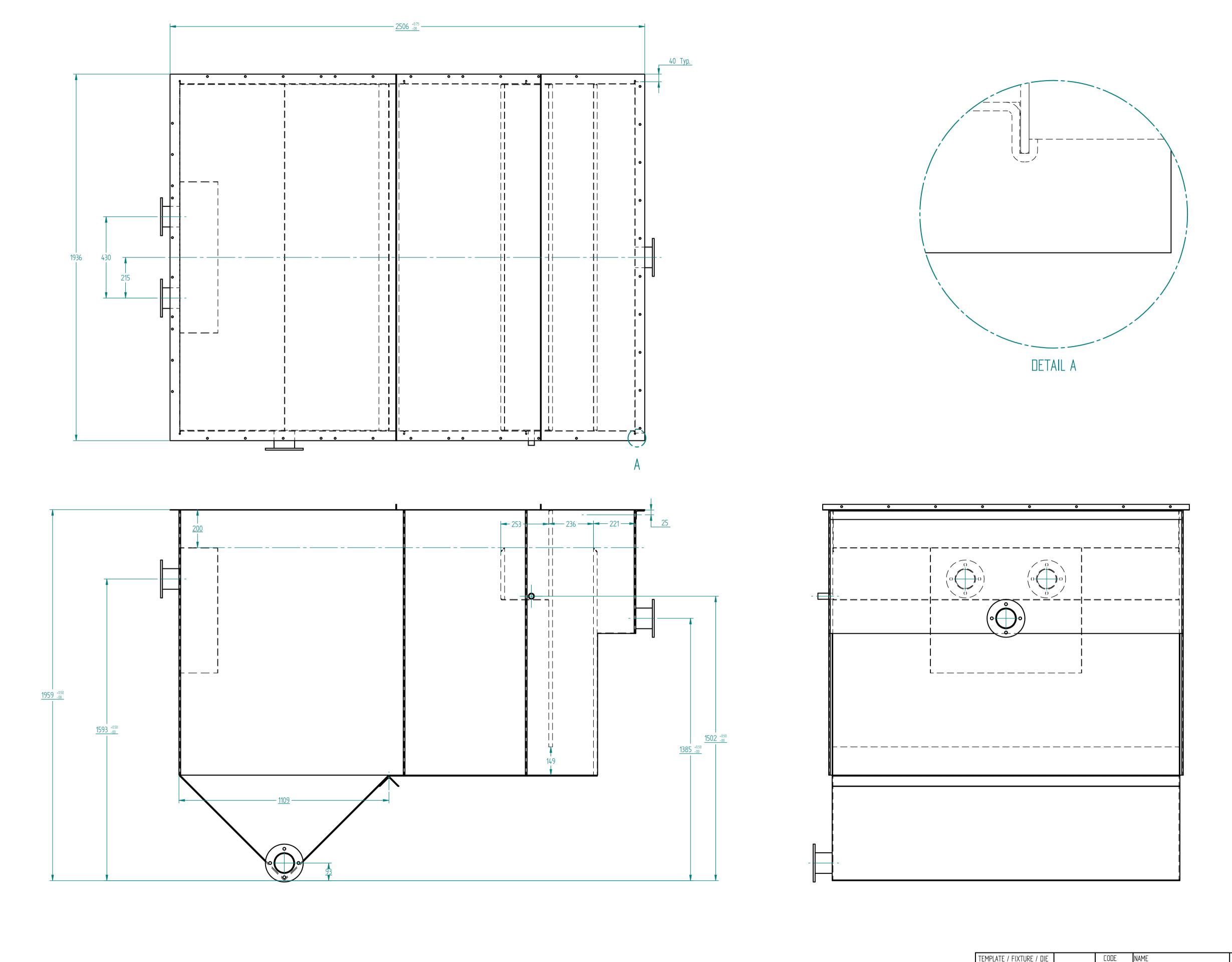




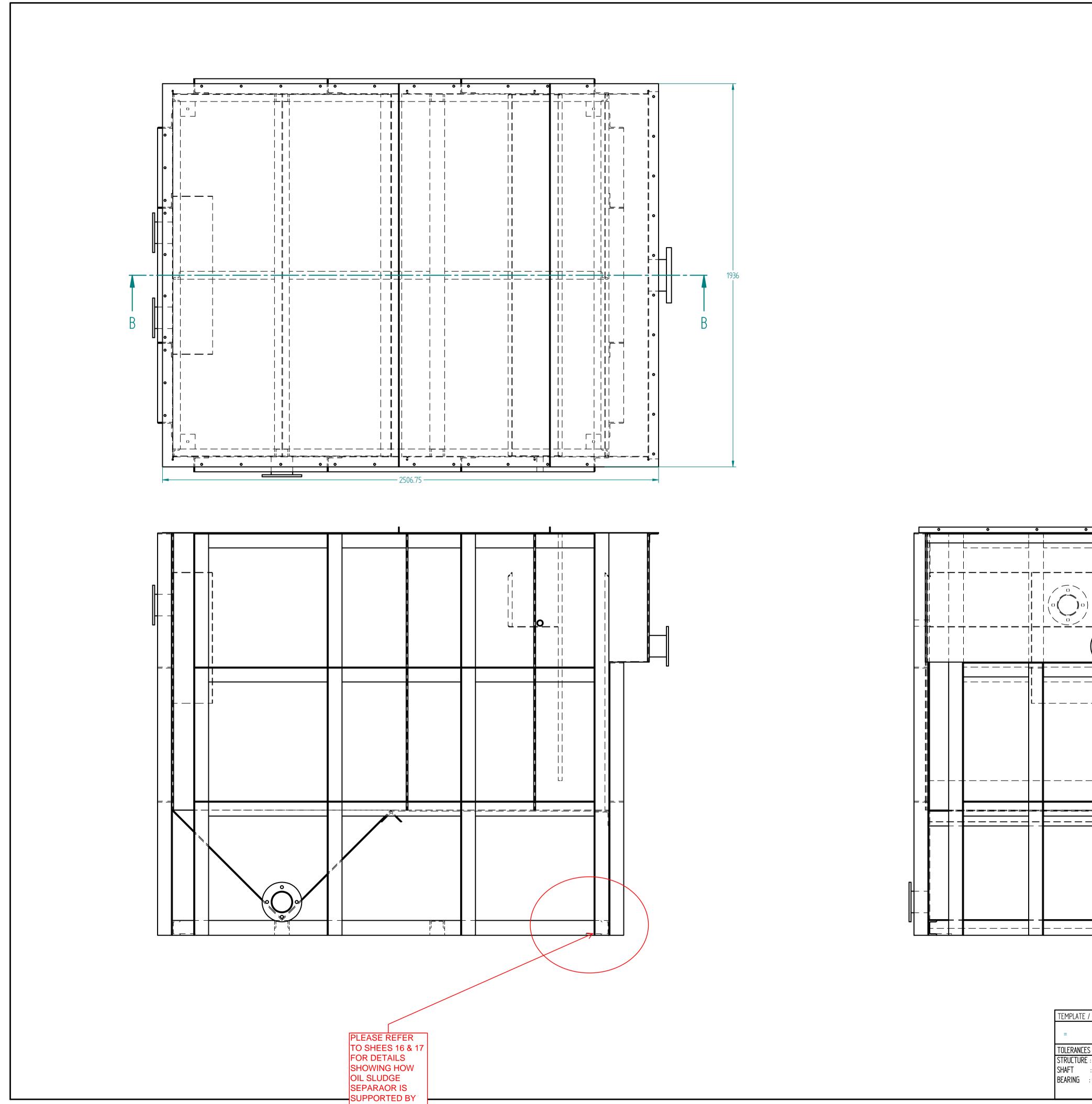




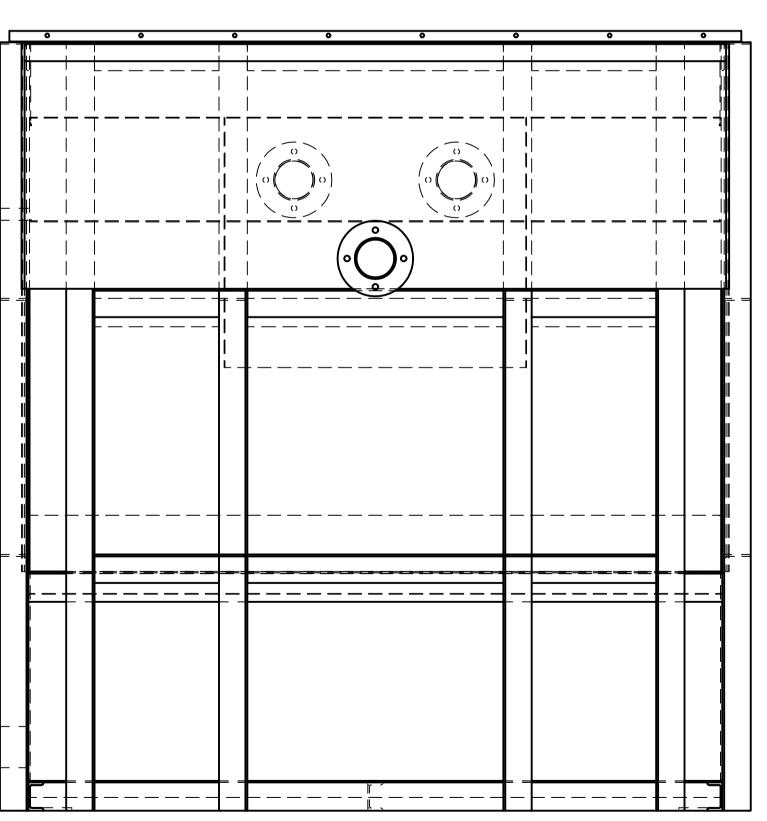
TEMPLATE / FIXTURE / DIE		CODE	NAME		NAME	DATE	<i>KKE</i> Wash Systems [™]			TM 2	
	MATERIAL	ST =	=	DRAWN		2010-06-05	www.kkewash.com			3	
=	alt. material ST =			CHECKED		2010-06-05	www.kkewasn.com			1	
TOLERANCES	ASSOCIATIONS	SSOCIATIONS APPROVED 2010-06-0				2010-06-05	60 KL Oil Water Separator AssM (Sheet Struct				
STRUCTURE : ISO-2768-V	PART.ID	=	REV : =	UNLESS OTHERWISE SPECIFIED DIMENSIONS IN MILLIMETERS			oo ke die water Separator Assist			i Siluciu	
SHAFT : ISO- 286-2	TYPE	=					SIZE A1	DWG NO		REV 00	
Bearing : ISO- 492			PROPRIET ARY NOTICE								
	KKE WASH SYSTEMS PVT. PURPOSE OTHER THAN W	PROPRIETARY NOTICE KE WASH SYSTEMS PVT. LTD. CLAIMS PROPRIETARY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING. THIS DRAWING IS ISSUED IN CONFIDENCE AND MAY NOT USED FOR ANY OTHE UPPOSE OTHER THAN WHICH IT IS SUPPLIED. FURTHER MORE, IT MAY NOT BE REPRODUCED OF DIVILIGED TO ANYONE WITHOUT WRITTEN PERMISSION FROM KKE WASH SYSTEMS PVT. LTD.						$\qquad \qquad \oplus \circlearrowleft$	SHEET 2	0F 5	



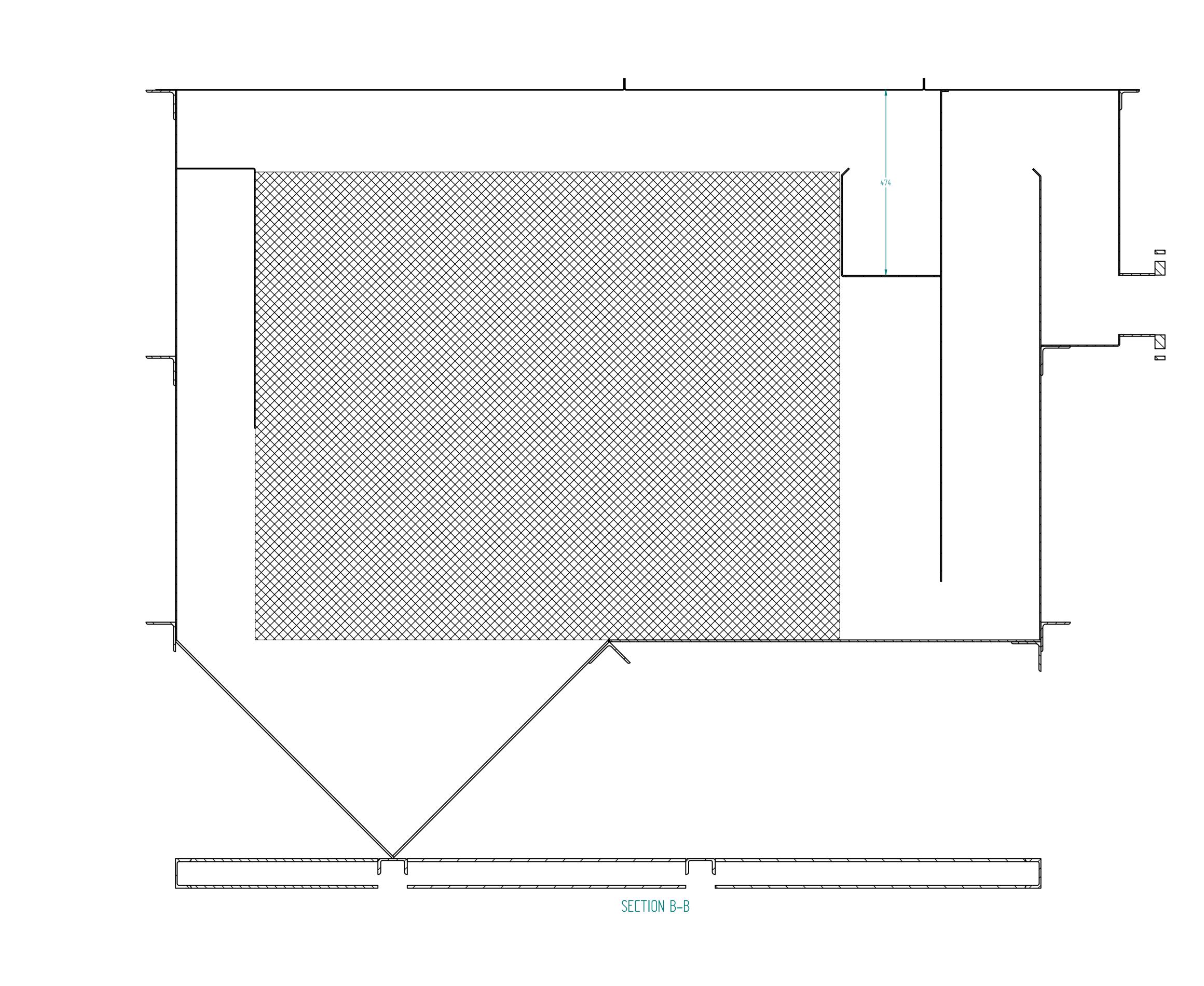
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=	alt. Material	ST =		CHECKED		2010-06-05		WWW	w.kkewasii.co	3 111	
TOLERANCES	ASSOCIATIONS			APPROVED		2010-06-05	60 KL Oil Water Separator AssM (Sheet Struc			t Structure	
	PART.ID	ш	REV : =	UNLESS OTHERWISE	SPECIFIED DIMENSIONS	IN MILLIMETERS				STRUCTULE	
SHAFT : ISO- 286-2	TYPE	=				SIZE A1 DWG NO REV				REV 00	
BEARING : ISO- 492	PROPRIETARY NOTICE										
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CONCRETE



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	MATERIAL	ST =	=	DRAWN		2010-06-05		www.kkewash.c		
=	ALT. MATERIAL	ST =		CHECKED		2010-06-05		www.kkewash.d	com	
TOLERANCES	ASSOCIATIONS		•	APPROVED		2010-06-05	40 KI	Oil Water Separator	AccM (Shoot	Ctructur
STRUCTURE : ISO-2768-V	PART.ID	=	REV : =	UNLESS OTHERWISE	SPECIFIED DIMENSIONS	IN MILLIMETERS	OU ILL	oit water Separator	ASSIT ISHEET	311 ULTUI
SHAFT : ISO- 286-2	TYPE	=					SIZE A1	DWG NO		REV 00
Bearing : ISO- 492				-						
	KKE WASH SYSTEMS PVT. PURPOSE OTHER THAN W	LTD. CLAIMS PROPRIETA	PROPRIETARY NOTIC ARY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING. RTHER MORE, IT MAY NOT BE REPRODUCED OR DIVULGED TO AN	□ THIS DRAWING IS ISSUED YONE WITHOUT WRITTEI	O IN CONFIDENCE AND MAY N PERMISSION FROM KKE V	NOT USED FOR ANY OTHER	SCALE: =	$\qquad \qquad \oplus $	SHEET 4 0	F 5



TEMPLATE / FIXTURE / DIE		CODE	NAME		NAME	DATE	KKF	- Wash	System	M
	MATERIAL	ST =	=	DRAWN		2010-06-05		www.kkewc	-	10
=	alt. Material	ST =		CHECKED		2010-06-05		www.kkewc	asn.com	
TOLERANCES	ASSOCIATIONS			APPROVED		2010-06-05	60 KI	Oil Water Separ	ator AccM (She	ot Structur
STRUCTURE : ISO-2768-V	PART.ID	=	REV : =	UNLESS OTHERWISE	SPECIFIED DIMENSIONS	IN MILLIMETERS	OU ILL	oit water Sepai	TIOL VSSI, ISIN	El Siluciul
	TYPE	=					SIZE A1	DWG NO		REV 00
Bearing : ISO- 492			PROPRIETARY NOTIC	-						
	KKE WASH SYSTEMS PVT. I PURPOSE OTHER THAN WH	LTD. CLAIMS PROPRIETA HICH IT IS SUPPLIED. FUI	RY RIGHTS IN THE INFORMATION DISCLOSED IN THIS DRAWING. RTHER MORE, IT MAY NOT BE REPRODUCED OR DIVULGED TO AN	⊏ THIS DRAWING IS ISSUED YONE WITHOUT WRITTEN	IN CONFIDENCE AND MAY PERMISSION FROM KKE W	NOT USED FOR ANY OTHER ASH SYSTEMS PVT. LTD.	SCALE: =	⊕ <	→ SHEET	5 OF 5

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VIEW OF SLUDGE PUMP



KRTU

9.2 Recommended spare parts:

Recommended list of spare parts for two years operation :

Part No.	Description		No. of pumps (Incl. stand-by pump)						
		2	3	4	5	6	8	> 10	
230	Impeller	1	1	1	2	2	3	30%	
524	Shaft sleeve	1	1	1	2	2	3	30%	
412/400	"O" ring / gasket sets	4	6	8	8	9	12	100%	
433.01	Mech. seal (m.s.)	2	3	4	4	4	6	90%	
433.02	Mech. seal (p.s.)	2	3	4	4	4	6	90%	
321.01	Deep groove	1	1	2	2	3	4	50%	
321.02	ball bearing	1	1	2	2	3	4	50 /6	

Table 25: Recommended spare parts

10.0 Accessories

10.1 Standard Accessories for Portable Execution :

Accessory	Location / application	Note
Support foot	To pump casing	1
Pump foot plate	Attached to support plate	1
Shackle	Attached to pump	1
Chain with	Attached to shackle	4.0
welded links	for lowering in the pit	1, 3
Hook	For holding the chain	1
Flbow	For connection of hose pipe to	4
Elbow	discharge side	١.
Reflux valve	Used as non-return valve	2
neliux valve	on discharge side	~

- 1. Essential accessory
- 2. Depends on site condition (Ref. 10.1.1)
- 3. Length for standard scope of supply 5 m

(Additional length should be in 5m, 10m, 15m only)

Table 26: Standard accessories

10.1.1 Conditions under which NRV shall be used with Portable Installation

If the installation depth of pump is more than 4.5 m and / or if the pipe is taken along the graded surface, it is must that NRV shall be used for such installation.

This is explained in Fig. 6 a & B.

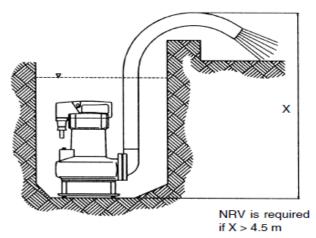


Figure 6a: Installation condition - a

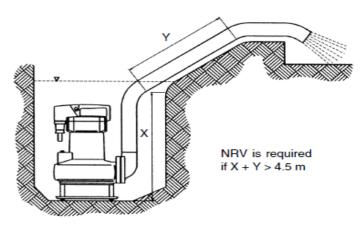


Figure 6b: Installation condition - b

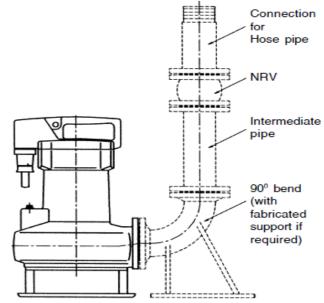


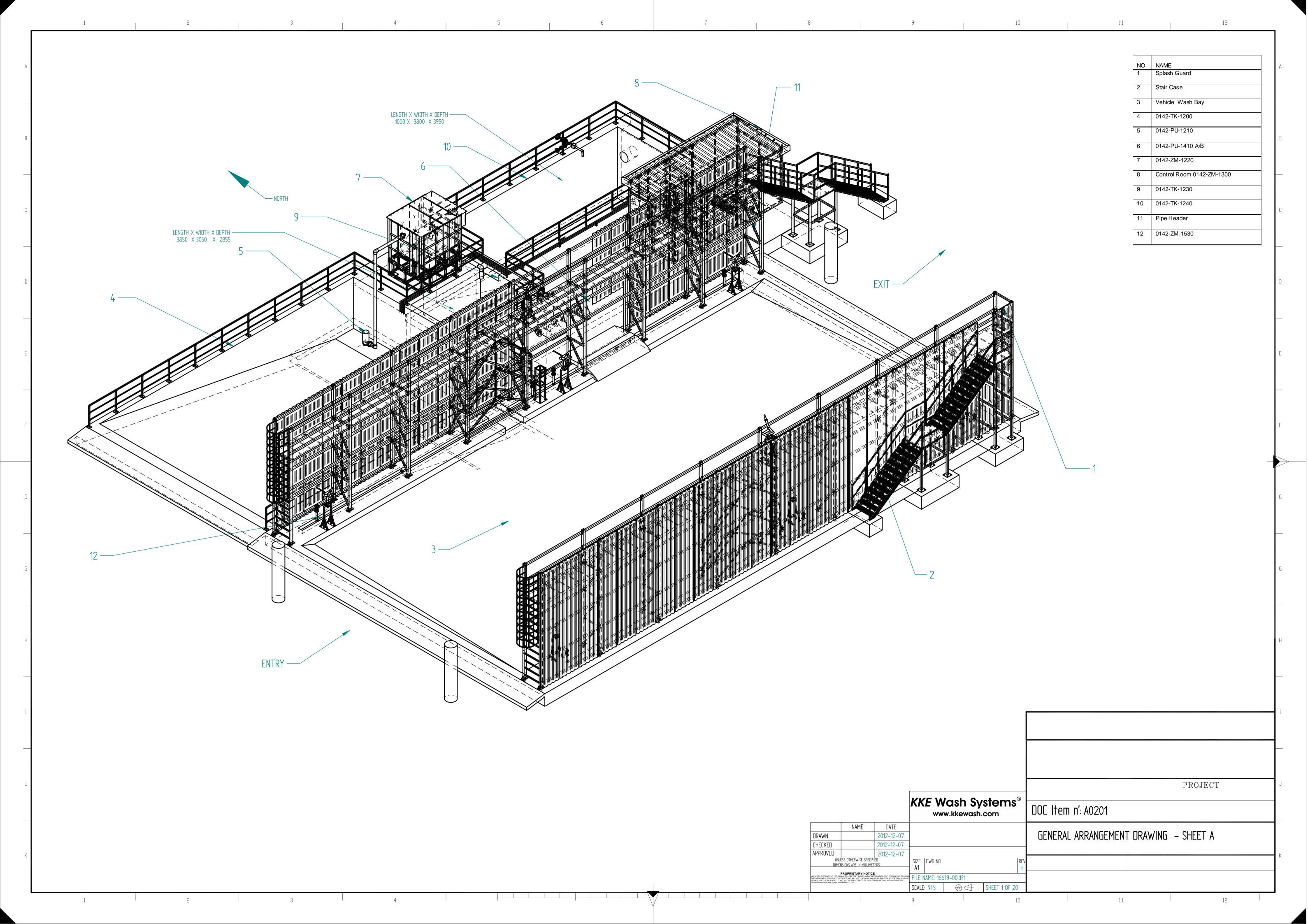
Figure 6c : Installation condition - c

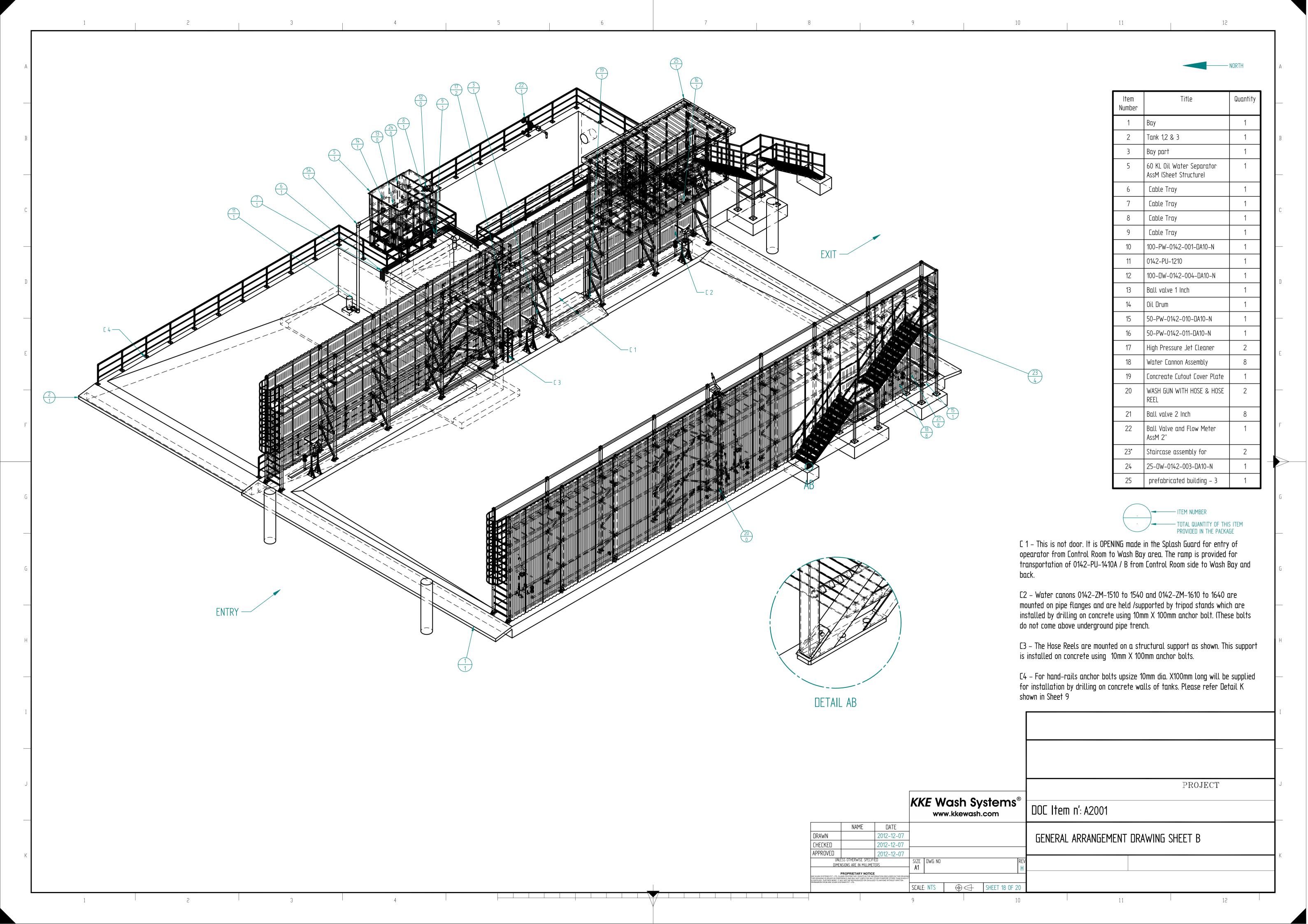
Figure 6 C gives the general arrangement of connecting NRV to the portable installations.

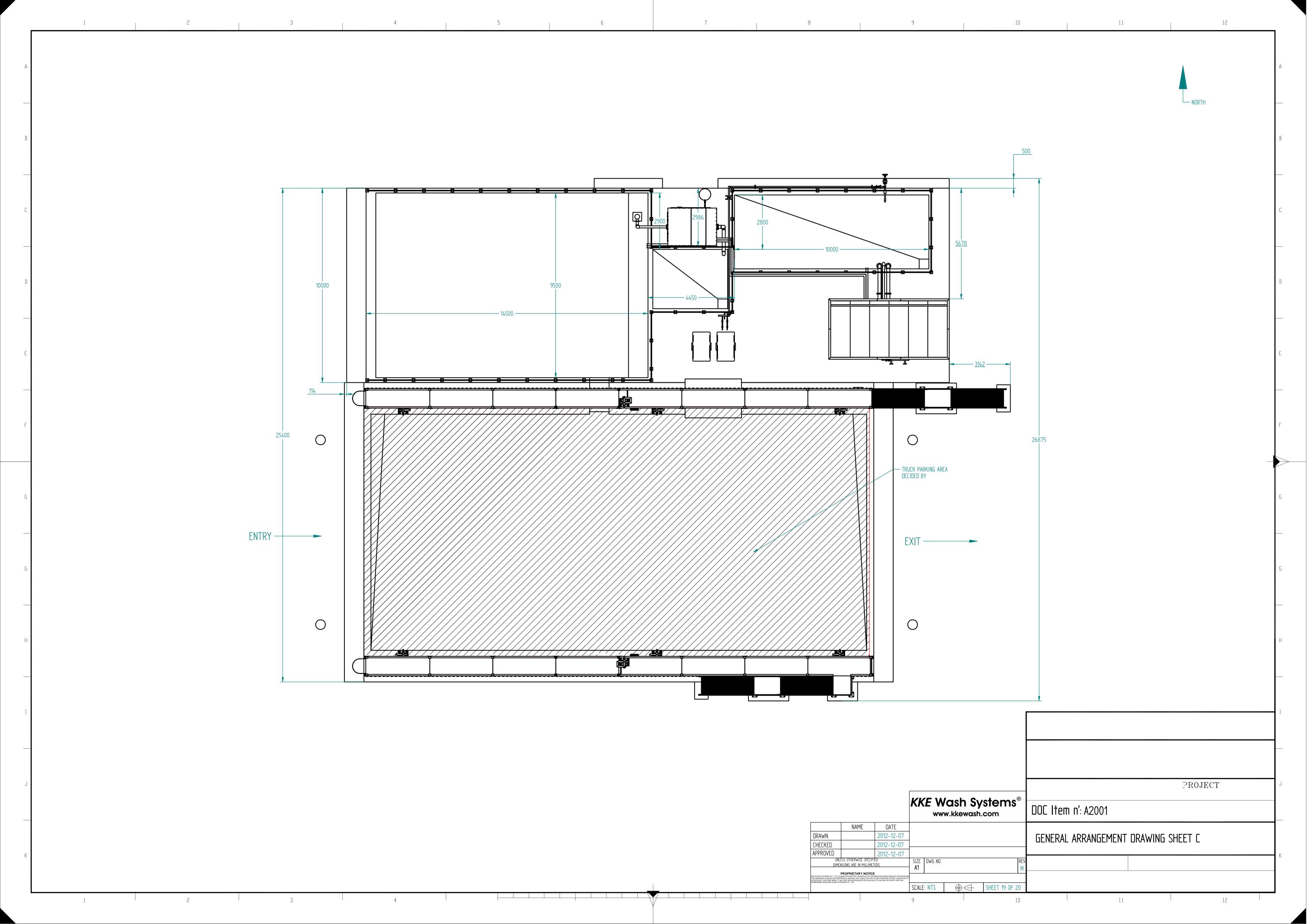
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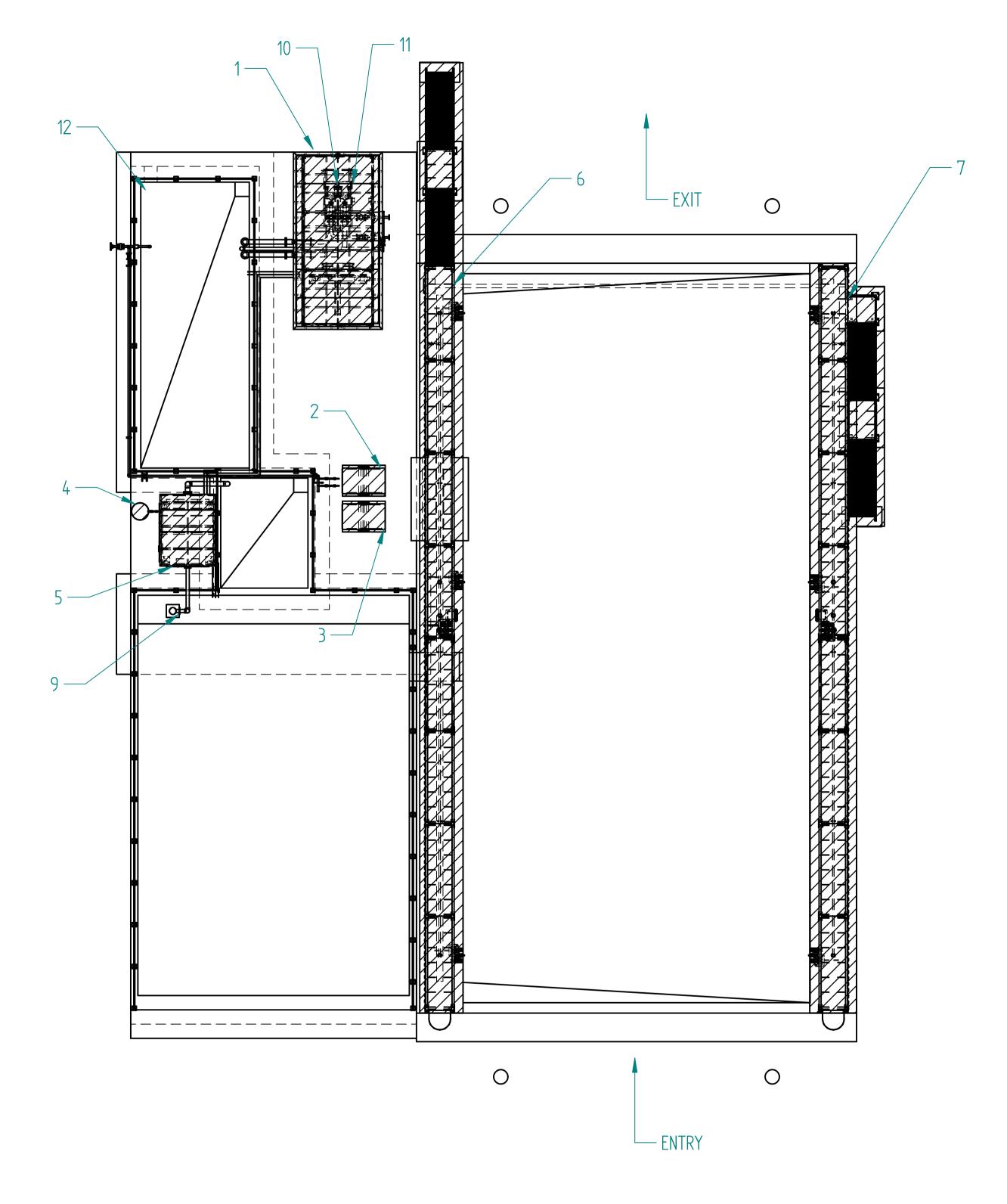
A0111 - LIST OF CONSUMER CONNECTION: Mining Vehicle Fleet Washing Station

S. No	Туре	Specification				
1	Electricity	3 Phase, Neutral, 400V AC, 50 Hz connection up to Distribution Panel (Double Compression Gland suitable for 3 core x 400 sq. mm Armoured cable. Outer Dia Ø to be confirmed)				
2	Water	3" Pipe ANSI Flange (150 lb Standard) connected up to Water Meter FIQ-1000-1				
3	Earth / Ground	Connection up to Distribution Panel from Local Earth Pit made as per IS – 3043 / STD 111				
4	Over Flow Drain	Drain from Wash Bay				
5	Oil Drain	25-BAV-002 Ball Valve connected to Oil outlet line 25-OW-0142-003-DA10-N				
6	Sludge Collection	100-BAV-001 Ball Valve connected to Sludge Removal line 100-WC-0142-002-DA10-N from Oil Water Sludge Separator 0142-ZM-1220 VIA Guillemin Quick Coupling NF E 29-572				









LOAD SHEET ON BAY

SR. NO.	PART NAME	DEAD LOAD	LIVE LOAD	DIMENSION L X W XH	WIND LOAD
1	PREFABRICATED CONTROL ROOM	2500 Kg	3750 Kg	6040 X2440 X 2600	
2	0142-PU-1410A PUMP	160 Kg	160 Kg	930 X 600 X815	
3	0142-PU-1410B PUMP	160 Kg	160 Kg	930 X 600 X 815	
4	OIL DRUM	50 Kg	50 Kg		
5	SLUDGE SEPRATOR	972 Kg	6068 Kg	2362 X1930 X2007	
6	PLATFORM,STAIRCA SE & SPLASH GUARD	7834 Kg	7834 Kg	26000 X1000 X 5500	47520 N-m #
7	PLATFORM,STAIRCA SE & SPLASH GUARD	8222Kg	8222 Kg	26000 X2000 X 5500	47520 N-m #
8	SPLASH GUARD				47520 N-m #
9	SLUDGE PUMP	120 Kg	120 Kg	345 X 420 X 690	
10	MAIN WASH PUMP & MOTOR	475 Kg	475 Kg		
11	MAIN WASH PUMP & MOTOR	475 Kg	475 Kg		
12	HAND RAIL	1100 Kg (15 Kg/M)	1100 Kg (15 Kg/M)		

NOTE:-

- # Couple Each Column of Splash Guard = 47520 N-m.
- NO DYNAMIC COEFFICIENT ON LIVE LOAD OF SLUDGE SEPARATOR.
- ANGLE CAN BE EMBEDDED ON THE CORNER OF CONCRETE PORTION SO THAT EDGE AREA DOES NOT GET DAMAGED IN THE COURSE OF OPERATION
- VERTICAL LINERS WERE EMBEDDED IN THE CONCRETE WASH BAY AREA AS A SAFETY REQUIRMENT DURING PREVIOUS PROJECT. IF REQUIRED SAME MAY BE GIVEN.

