

NOTES

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH HVAC DRAWINGS, OF
ALL PLANT BUILDINGS.

LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PECCO-000-HV-DW-0002

REFERENCE DRAWING

Symbol & Legend for HVAC & Plumbing	DRG. No.
	BK-GNRL-PECCO-000-HV-DW-0002

KEY PLAN

Standard Drawing For HVAC & Plumbing

REV.	DATE	DESCRIPTION	CHECKED	REV. APPRO		
DO3	OCT-2022	PI	M.KHARABAN	SE.GHULAB	***	
DO2	OCT-2021	IFI	H.AHMED	M.KHARABAN	SE.GHULAB	***
DO1	SEP-2021	IFI	M.SCHABAN	M.KHARABAN	SE.GHULAB	***
DO0	JUL-2021	IFI	M.SCHABAN	M.KHARABAN	SE.GHULAB	***

PROJECT NAME: BINAK OILFIELD DEVELOPMENT
PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES
EPD/ERC CONTRACTOR (GC): PETROBRAN DEVELOPMENT COMPANY

DATE	SCALE	DRAWING BY	CHECKED BY

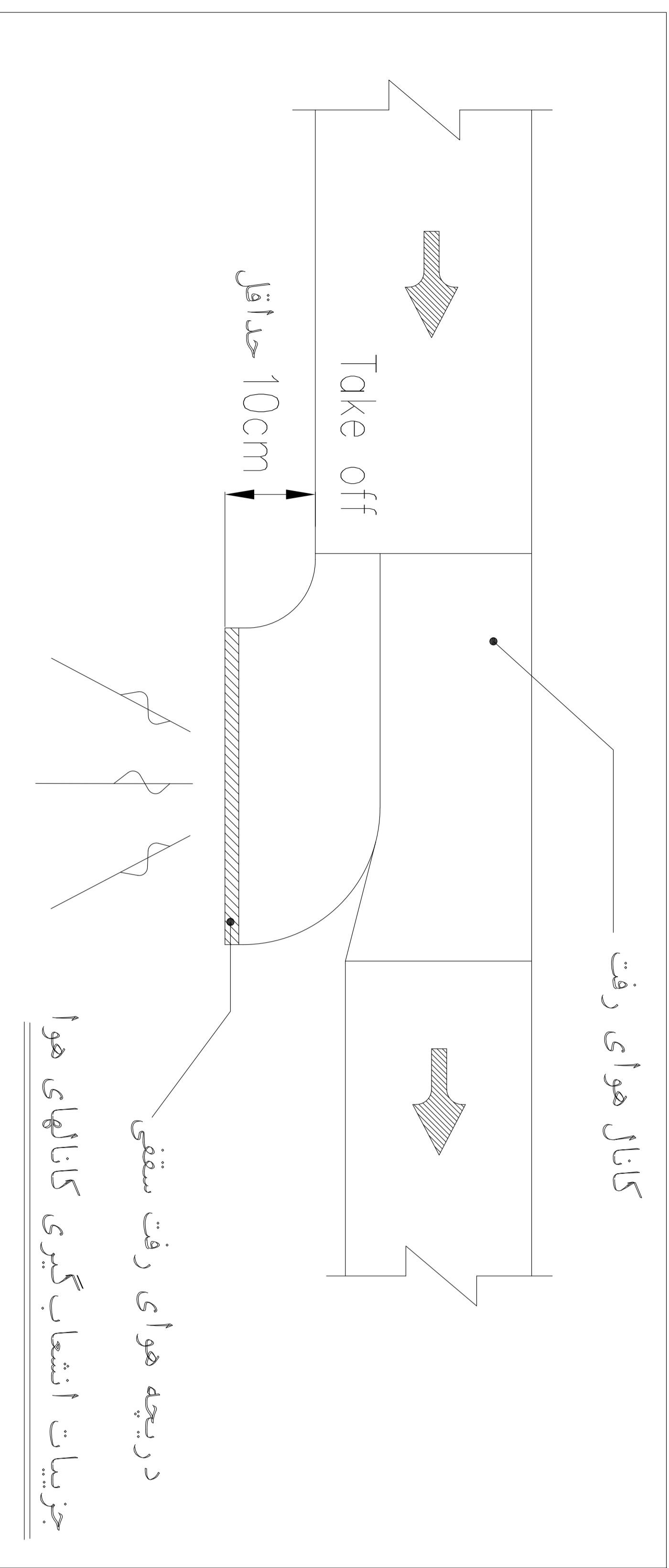
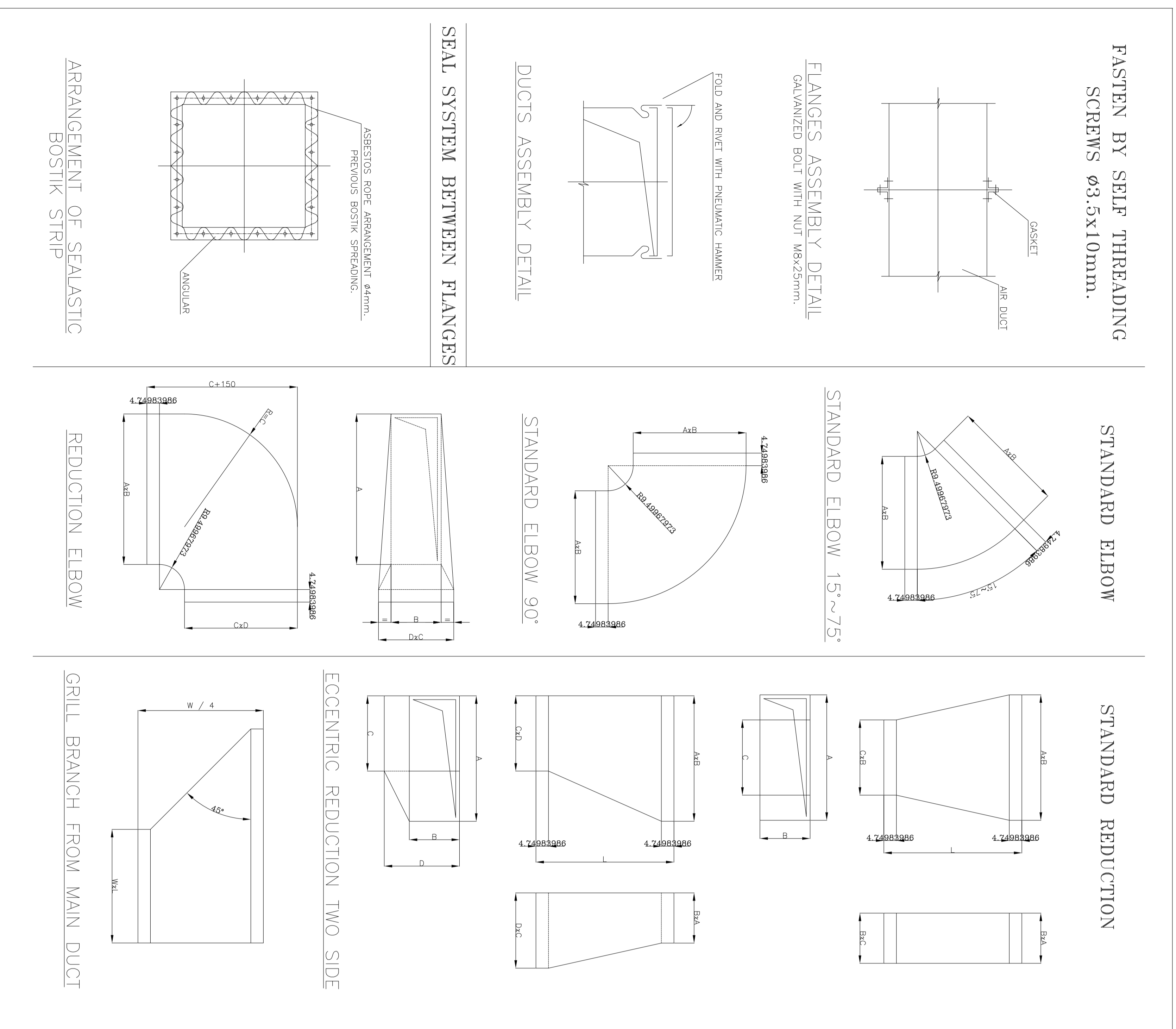
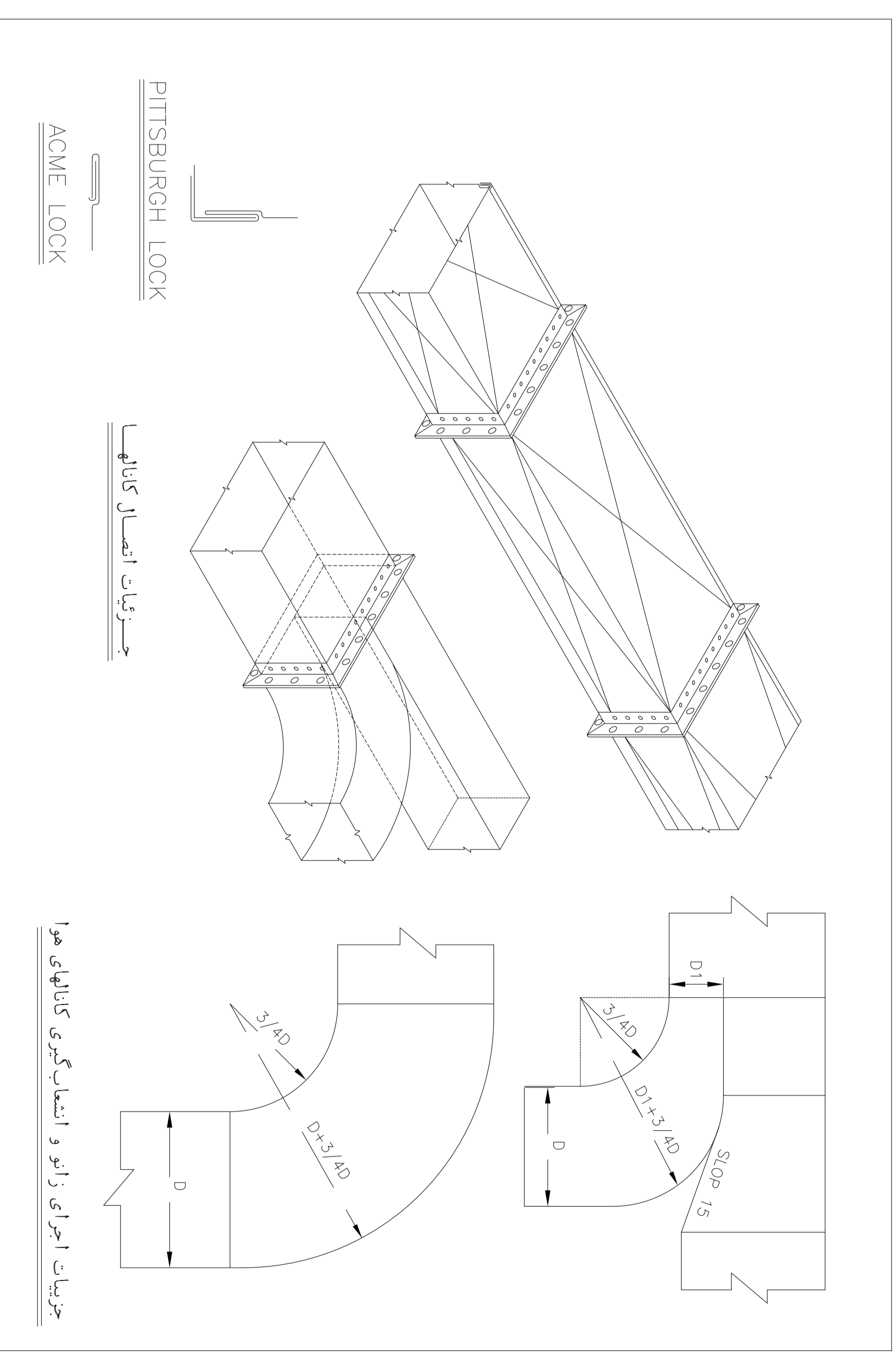
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED	APPROVED FOR CONSTRUCTION BY:	DATE:

(VENDOR TITLE BLOCK)**

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.	BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
NTS	A0	BK-GNRL-PECCO-000-HV-DW-0001	1 OF 19	DO3	053-072-9184	F	4	B	707128	1 OF 19	DO3

NOTES

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GAS LINE		
LIQUID LINE		
INDOOR UNIT		
OUTDOOR UNIT		
VRF OUTDOOR UNIT		
VRF INDOOR UNIT FOUR-WAY CASSETTE		
WALL TYPE REGISTER		
SQUARE CEILING DIFFUSER		
SWAMP COOLER		
DIVIDER		
ADJUSTABLE GRILL		

PROJECT NO.:	971020	PROJECT NAME:	BINAK OILFIELD DEVELOPMENT
EPC CONTRACTOR:	HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES	EPD/ERC CONTRACTOR (GC):	PETROIRAN DEVELOPMENT COMPANY
DATE:		SCALE:	
DATE:		DRAWING BY:	
DATE:		CHECKED BY:	
DATE:		APPROVED BY:	

DRAWING TITLE:	Standard Drawing For HVAC & Plumbing
SCALE:	A0
SIZE:	BR-CNRAL-PEDCO-000-HV-DW-0001
SHEET NO.:	2 OF 19
REV.:	D03
BUDGET REF. LOCATION:	F 4
SIZE CLASS:	B
SERIAL NO.:	707128
SHEET REVISION:	2 OF 19
DATE:	D03

REFERENCE DRAWING:	DRG. No.
Symbol & Legend for HVAC & Plumbing	BR-CNRAL-PEDCO-000-HV-DW-0002

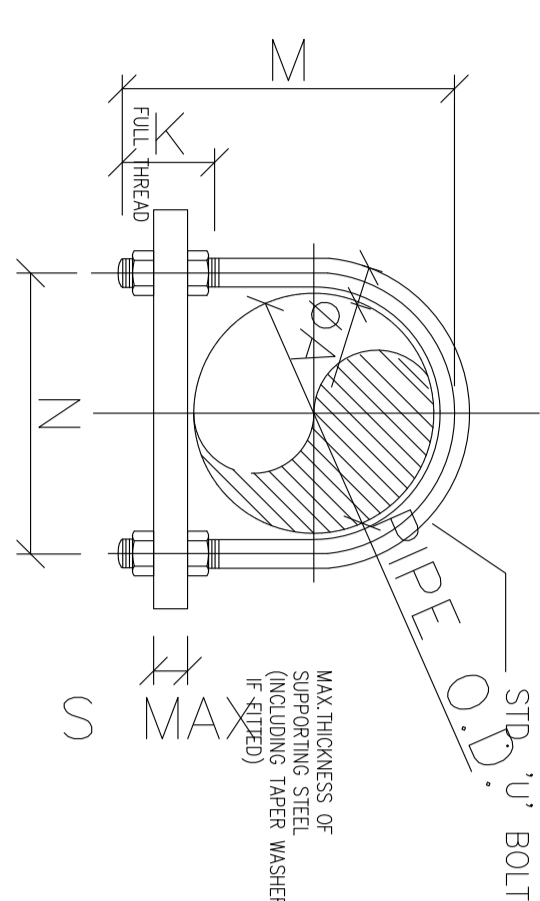
KEY PLAN	
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APPROVED FOR CONSTRUCTION	DATE:
BY:	DATE:
CHECKED	REV. APPR.
BY:	DATE:
DATE:	DATE:

این در کلیه اسامی و اشیاء و افعال متعلق به شرکت ملی نفت ایران است و کلیه حقوق این سند متعلق به شرکت ملی نفت ایران است.
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TITLE: PIPE GUIDE (NOT TO GRIP PIPE) DETAIL FOR UNINSULATED PIPE



DIMENSION OF U-BOLTS(NOT TO GRIP PIPE) STEEL PIPES

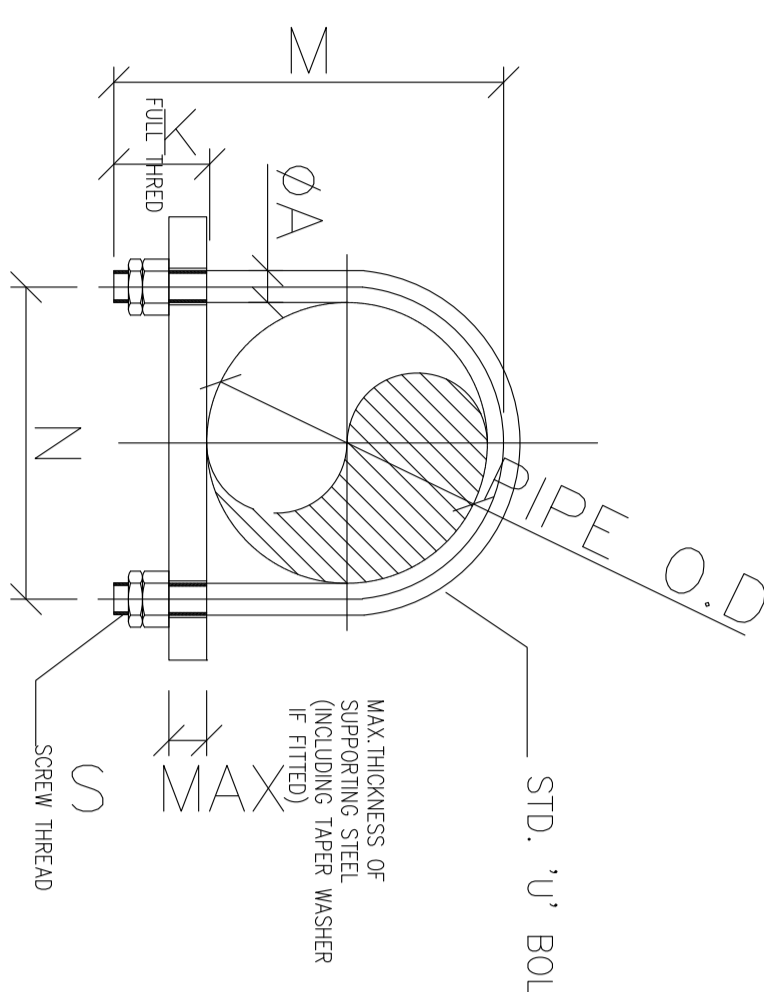
NOMINAL PIPE SIZE	PIPE O.D.	A	N	M	K	S	MAX.
15	21.3	8	30	50	25	7	
20	26.9	8	35	60	25	10	
25	33.7	8	40	70	30	10	
32	42.4	8	45	80	30	10	
40	50.8	10	50	90	35	16	
50	60.3	10	60	100	40	16	
65	76.1	12	75	120	50	19	
80	88.9	16	100	150	50	19	
100	114.3	20	130	200	50	19	
125	159.7	24	160	250	50	19	
150	168.3	20	195	225	65	19	
175	193.7	20	215	260	55	19	
200	219.1	20	245	295	55	19	
225	244.5	20	275	300	65	19	
250	273.0	20	305	335	75	22	
280	325.8	24	350	380	80	22	
350	426.4	24	440	475	80	22	
400	457.0	24	495	520	80	22	
450	508.0	24	555	570	80	22	
550	559.0	24	645	675	80	22	
600	610.0	24	645	675	80	22	

*THESE U-BOLTS ARE IDENTICAL WITH THE EQUIVALENT SIZES FOR STEEL PIPE.

TYPE	MATERIAL
A	STAINLESS STEEL
B	C. S. GALVANIZED
C	PLASTIC COATED C. S.
D	CARBON STEEL

- NOTE-1- FOR INSULATED PIPE A STEEL SADDLE (THK.1.5mm, Lmin=30cm) IS USED BETWEEN U-BOLT & INSULATION.
- 2- WHERE USED ON TAPER FLANGES OF STEEL WORK TAPER WASHER ARE TO BE PROVIDED.
- 3- SUPPORT TO BE PAINTED OR GALVANIZED PER SPEC.

TITLE: ANCHOR (TO GRIP PIPE) FOR UNINSULATED PIPE



DIMENSION OF U-BOLTS(TO GRIP PIPE) STEEL PIPES

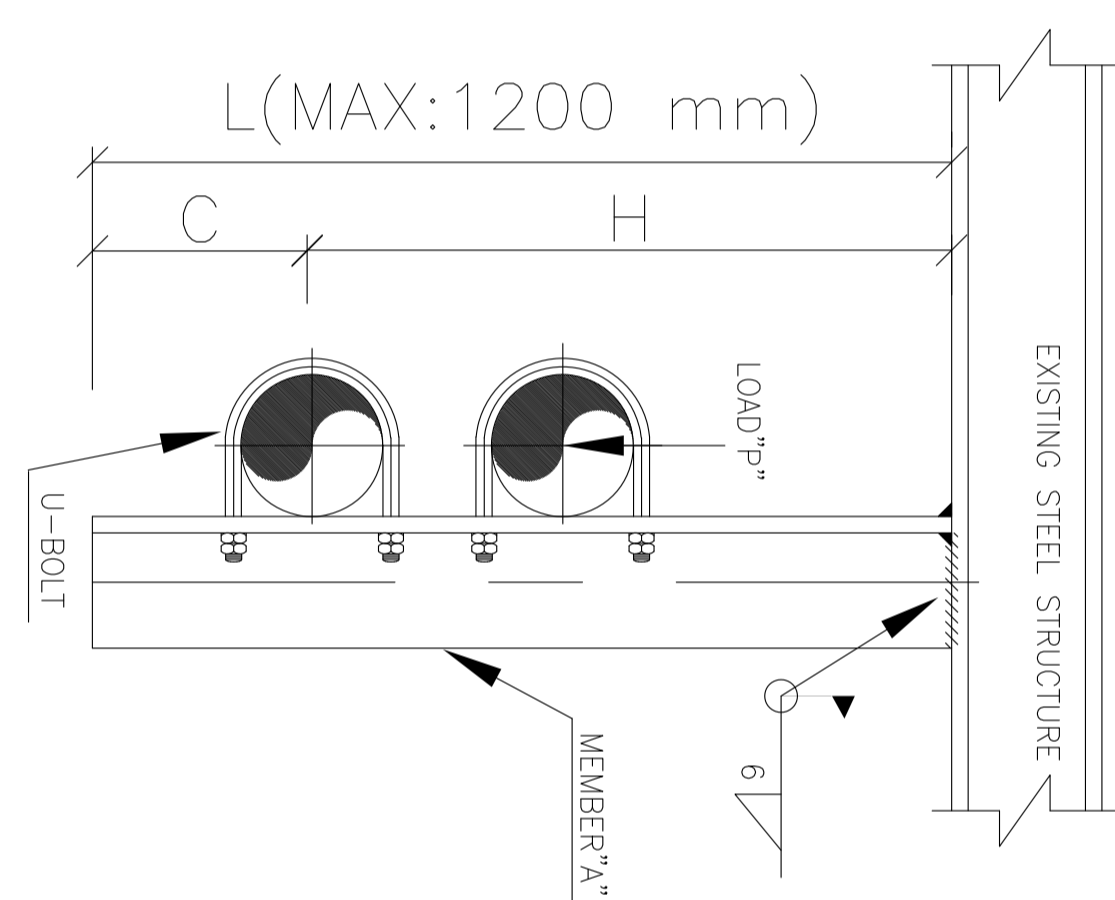
NOMINAL PIPE SIZE	PIPE O.D.	A	N	M	K	S	MAX.
15	21.3	8	30	50	25	7	
20	26.9	8	35	60	25	10	
25	33.7	8	40	70	30	10	
32	42.4	8	45	80	30	10	
40	50.8	10	50	90	35	16	
50	60.3	10	60	100	40	16	
65	76.1	12	75	120	50	19	
80	88.9	16	100	150	50	19	
100	114.3	20	130	200	50	19	
125	159.7	24	160	250	50	19	
150	168.3	20	195	225	65	19	
175	193.7	20	215	260	55	19	
200	219.1	20	245	295	55	19	
225	244.5	20	275	300	65	19	
250	273.0	20	305	335	75	22	
350	426.4	24	440	475	80	22	
400	457.0	24	495	520	80	22	
450	508.0	24	555	570	80	22	
550	559.0	24	645	675	80	22	
600	610.0	24	645	675	80	22	

*THESE U-BOLTS ARE IDENTICAL WITH THE EQUIVALENT SIZES FOR STEEL PIPE.

TYPE	MATERIAL
A	C.S.
B	PLASTIC COATED C.S
C	C.S. GALVANISED
D	STAINLESS STEEL

- NOTE-1- FOR INSULATED PIPE A STEEL SADDLE (THK.1.5mm,Lmin=30cm) IS USED BETWEEN U-BOLT & INSULATION.
- 2- IF EXISTING STEEL HAS TAPERED INSIDE FLANGES , A TAPERED WASHER SHALL BE USED BETWEEN LOCKWASHER AND EXISTING STEEL.

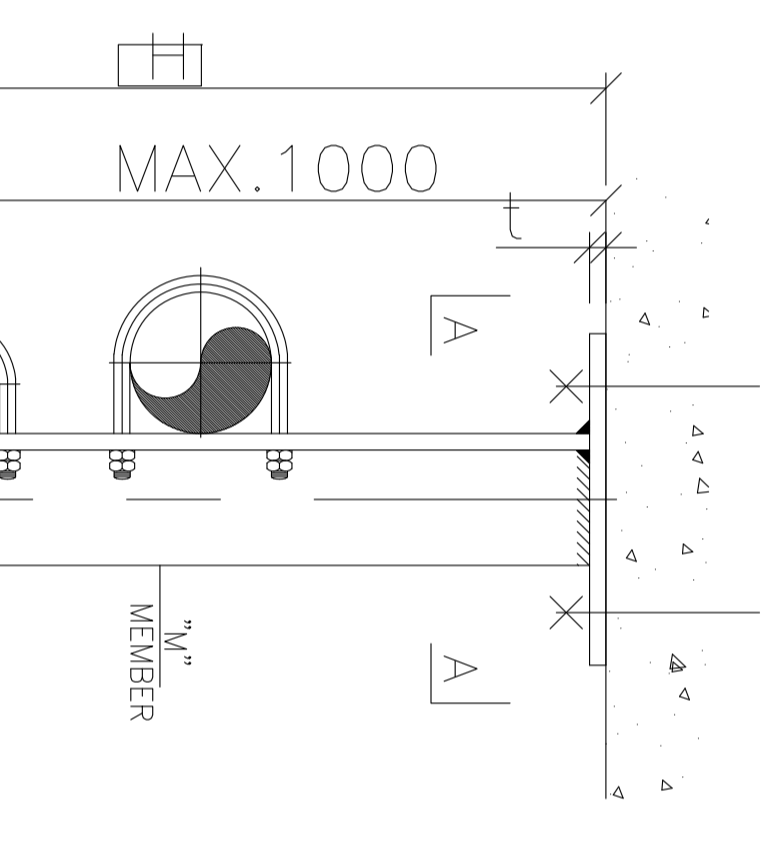
TITLE: DETAIL OF SUPPORT STEEL



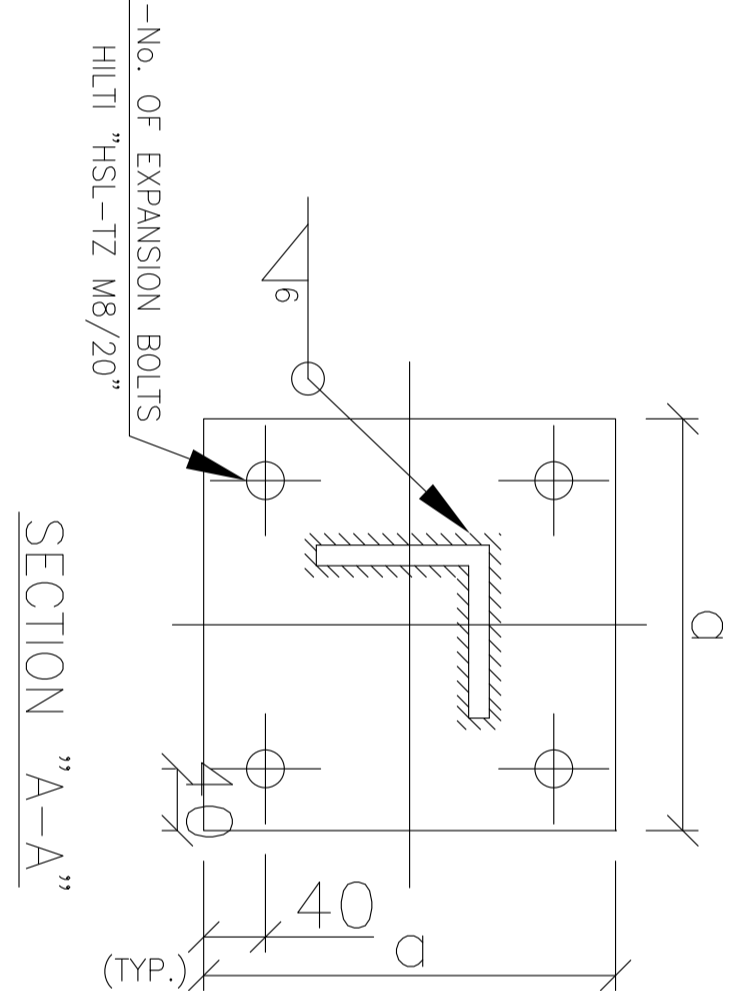
MEMBER 'A'	MAX. SUPPORT LOAD 'P' (KN)
Lx100x100x8	2500
Lx120x120x8	3300
Lx100x100x8	4100
Lx120x120x8	5300
Lx100x100x8	6200
Lx120x120x8	7200

PIPE SIZE	DIM 'C' (mm)
15	40
20	50
25	50
40	60
50	70
80	80
100	100
150	140
200	160

TYPE No.	'W' MEMBER	PLATE
1	L 60x6	200 x 12
2	L 80x8	220 x 10
3	L 100x10	240 x 12



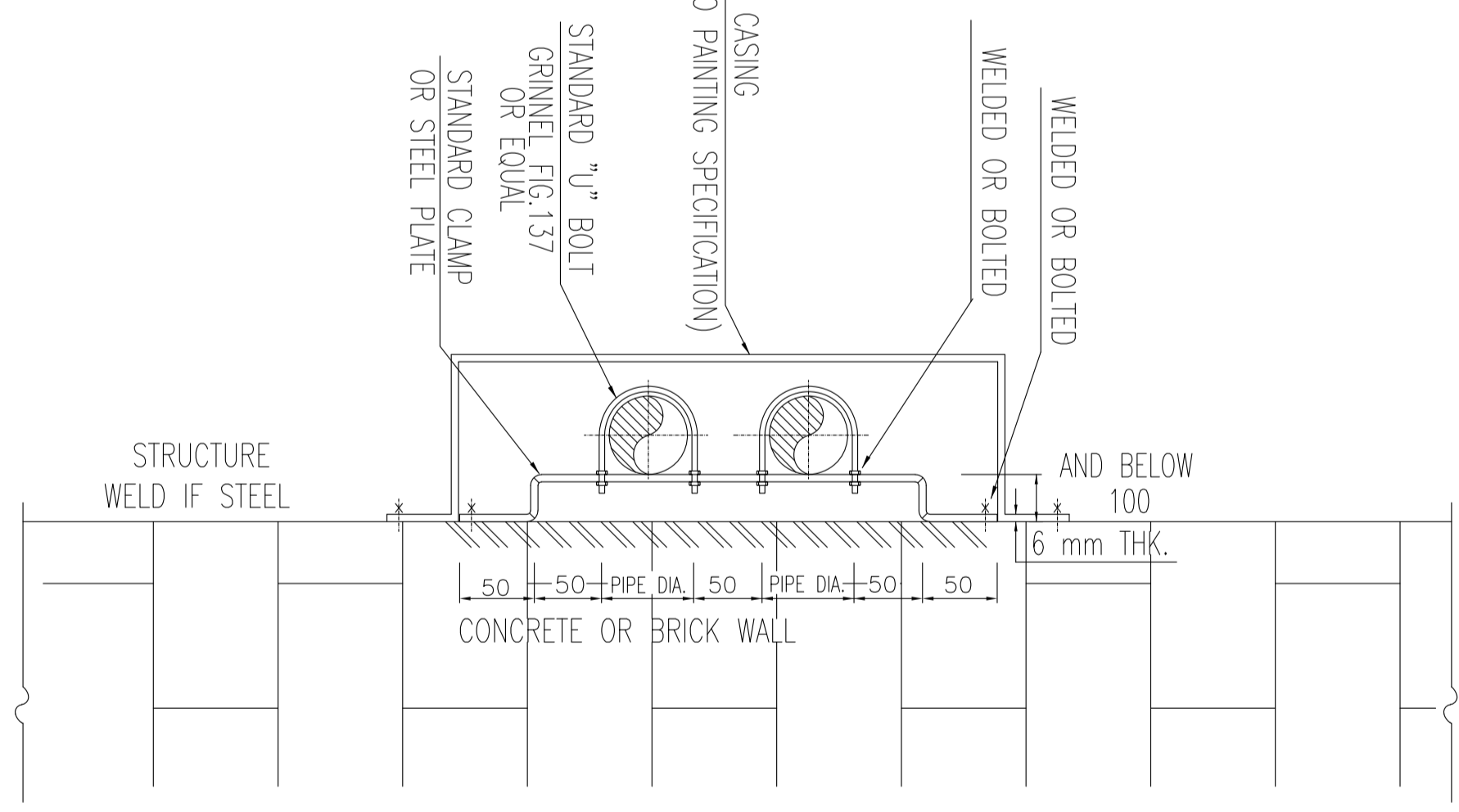
MEMBER 'A'	MAX. SUPPORT LOAD 'P' (KN)
Lx150x100x8	3900
Lx100x100x8	4100
Lx120x120x8	6200
Lx150x100x8	6200
Lx120x120x8	3300
Lx150x100x8	2400



PIPE SIZE	DIM 'C' (mm)
15	40
20	50
25	50
40	60
50	70
80	80
100	100
150	140
200	160

TYPE No.	MEMBER 'A'	PLATE
1	L 80x8	220 x 12
2	L 100x10	240 x 12
3	L 120x10	260 x 12

TITLE: COVERING FOR EXPOSED PIPE



REV.	DATE	DESCRIPTION	BY	DATE	BY	DATE
DD3	OCT-2022	PI	HANNAN	M.KHARABAN	SIR.GHUMAR	...
DD2	OCT-2021	IFI	HANNAN	M.KHARABAN	SIR.GHUMAR	...
DD1	SEP-2021	IFI	M.SCHABAN	M.KHARABAN	SIR.GHUMAR	...
DD0	JUL-2021	IFI	M.SCHABAN	M.KHARABAN	SIR.GHUMAR	...

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT NO.
				971020

HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES

HIRGAN PETROBRAN DEVELOPMENT COMPANY

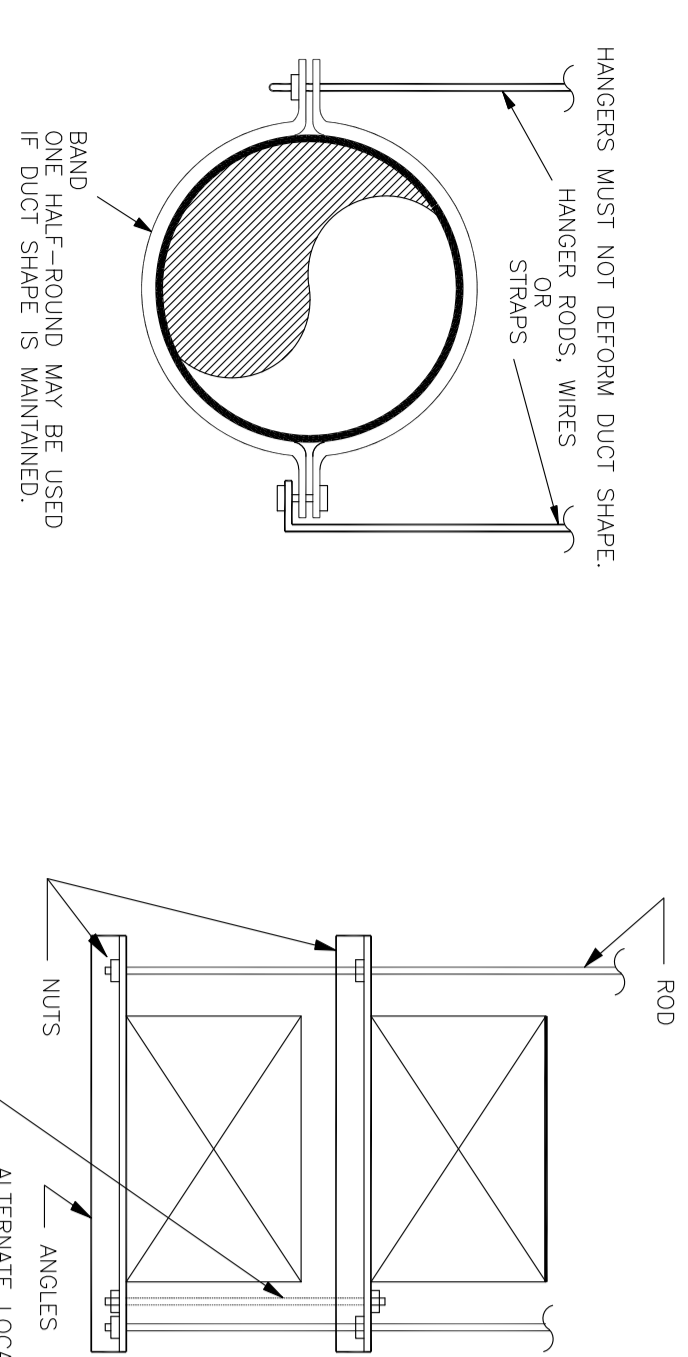
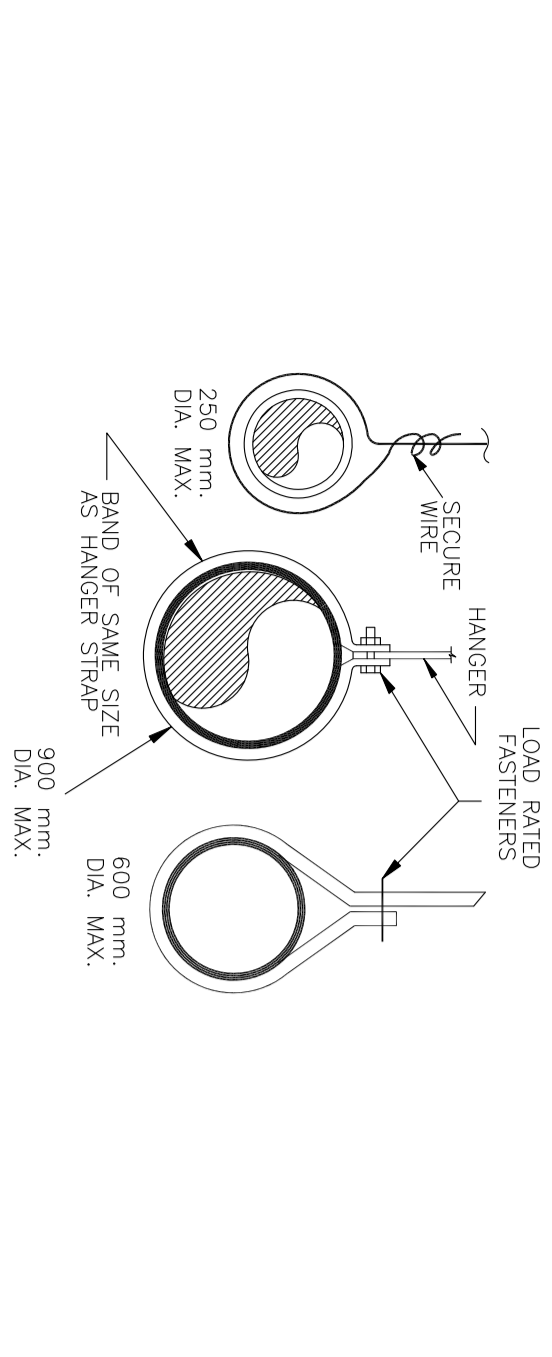
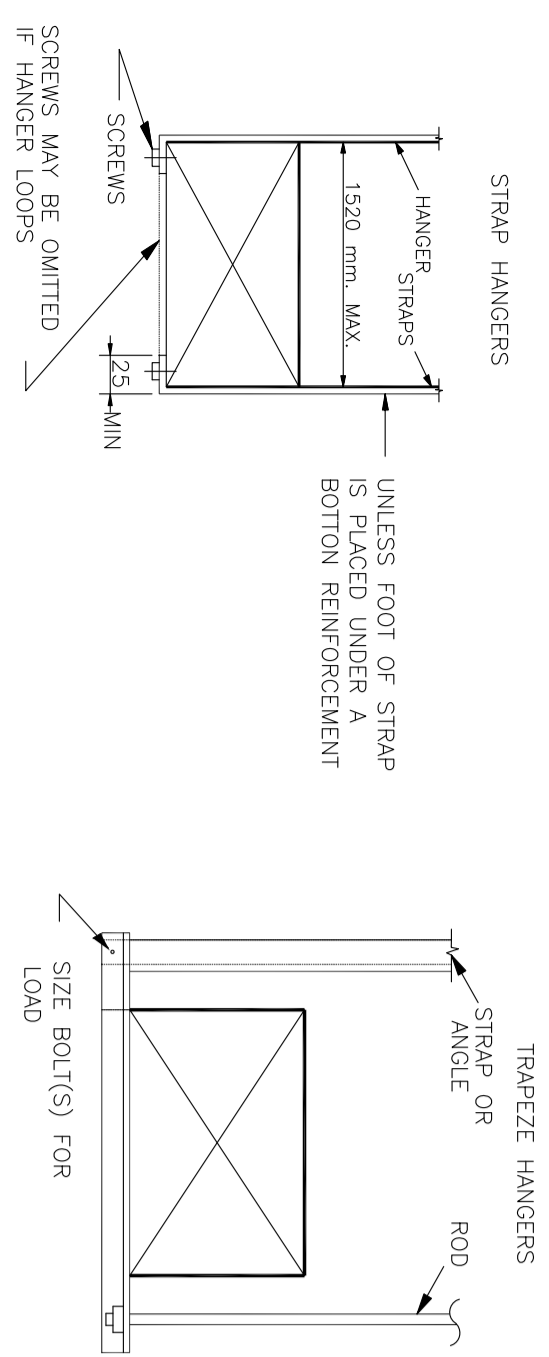
HIRGAN PETROBRAN DEVELOPMENT GENERAL

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

APPROVED FOR CONSTRUCTION BY:

BUDGET REF: LOCATION: SIZE CLASS: SERIAL NO. SHEET NO. SHEET REVISION

DATE:



NOTES:
1. HANGERS MUST NOT BE USED FOR ATTACHMENT IF BAND OF ANGLE SIZE IS LESS THAN 600mm.
2. HANGERS MUST NOT BE USED FOR ATTACHMENT IF BAND OF ANGLE SIZE IS LESS THAN 600mm.

HANGER ATTACHMENTS FOR DUCTING
N.T.S

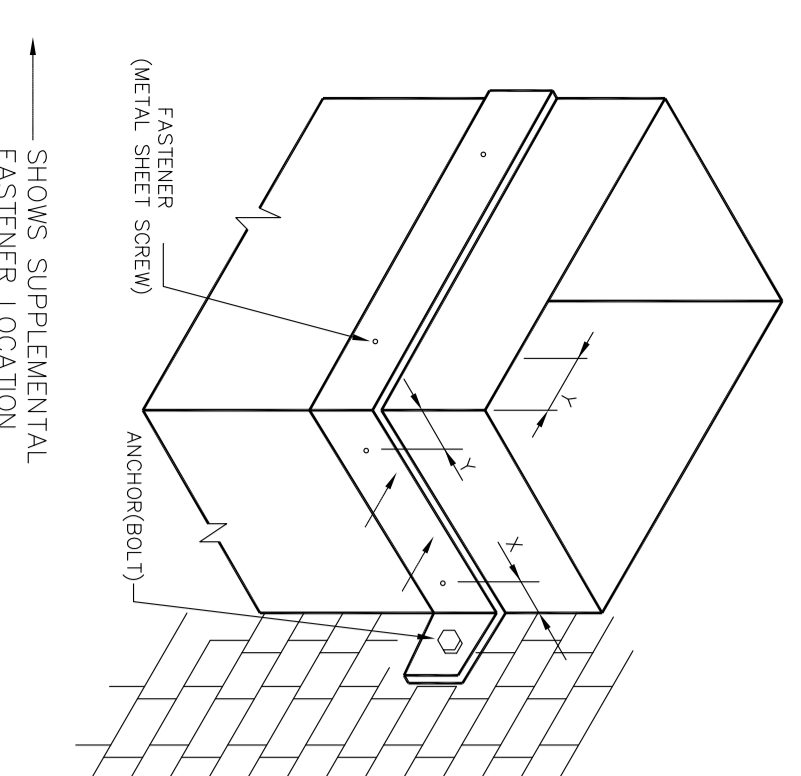


FIG. A - SUGGESTED SIZING

DUCT SIZE mm (in)	BAND mm (in)	ALLOWABLE FASTENER (Kg)
450 (18") x 300 (12")	38 (1.5") x 3 (1/8")	11.5
600 (24") x 300 (12")	50 (2") x 3 (1/8")	16
750 (30") x 300 (12")	75 (3") x 3 (1/8")	23

*WELD BOLT OR NO. 8 SCREW (MIN.)
*WELD BOLT OR NO. 8 SCREW (MIN.)
*WELD BOLT OR NO. 8 SCREW (MIN.)
*WELD BOLT OR NO. 8 SCREW (MIN.)

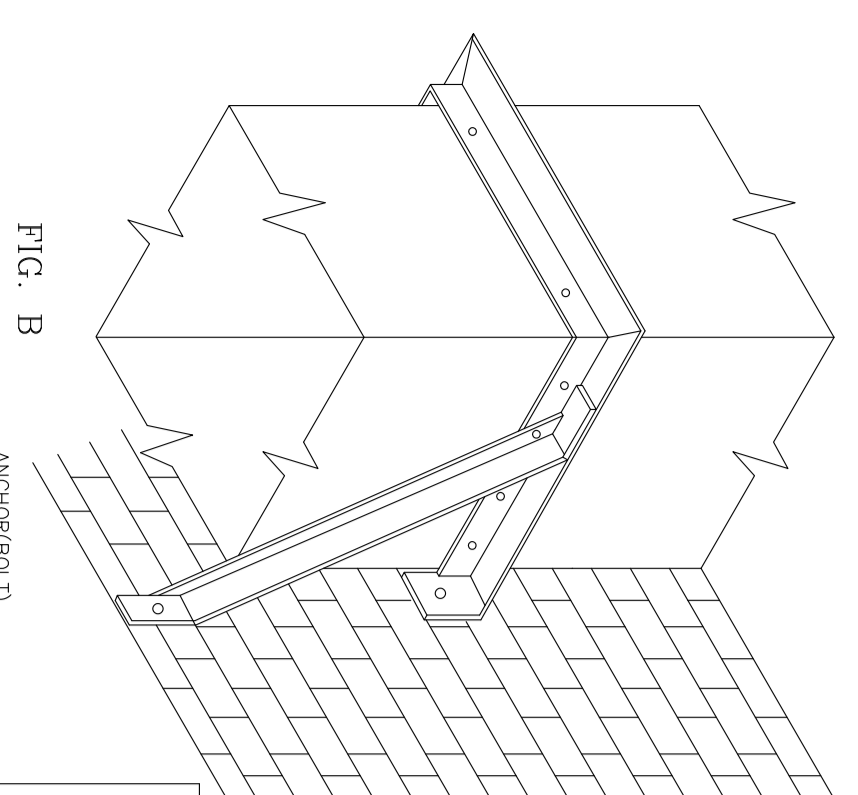


FIG. B - SUGGESTED SIZING

DUCT SIZE mm (in)	ANGLE mm (in)	ANGLE mm (in)
750 (30") x 300 (12")	25 (1") x 25 (1")	3 (1/8")
900 (36") x 450 (18")	25 (1") x 25 (1")	3 (1/8")
1050 (42") x 600 (24")	32 (1 1/4") x 32 (1 1/4")	3 (1/8")
1200 (48") x 750 (30")	32 (1 1/4") x 32 (1 1/4")	3 (1/8")

NOTES:
1. BRACKETS ARE SIZED FOR 3.65 m (12 ft) OF DUCT, MAXIMUM.
2. LOCATE DUCTS AGAINST WALL OR MAXIMUM OF 50 mm (2") AWAY FROM WALL.
3. ANALYSIS IS MADE.
4. TENSILE LOAD = 1/8 x DUCT WEIGHT, SAFETY FACTOR OF 4.
5. SHEAR LOAD = 1/2 x DUCT WEIGHT, SAFETY FACTOR OF 4.

DUCT WALL SUPPORTS
N.T.S

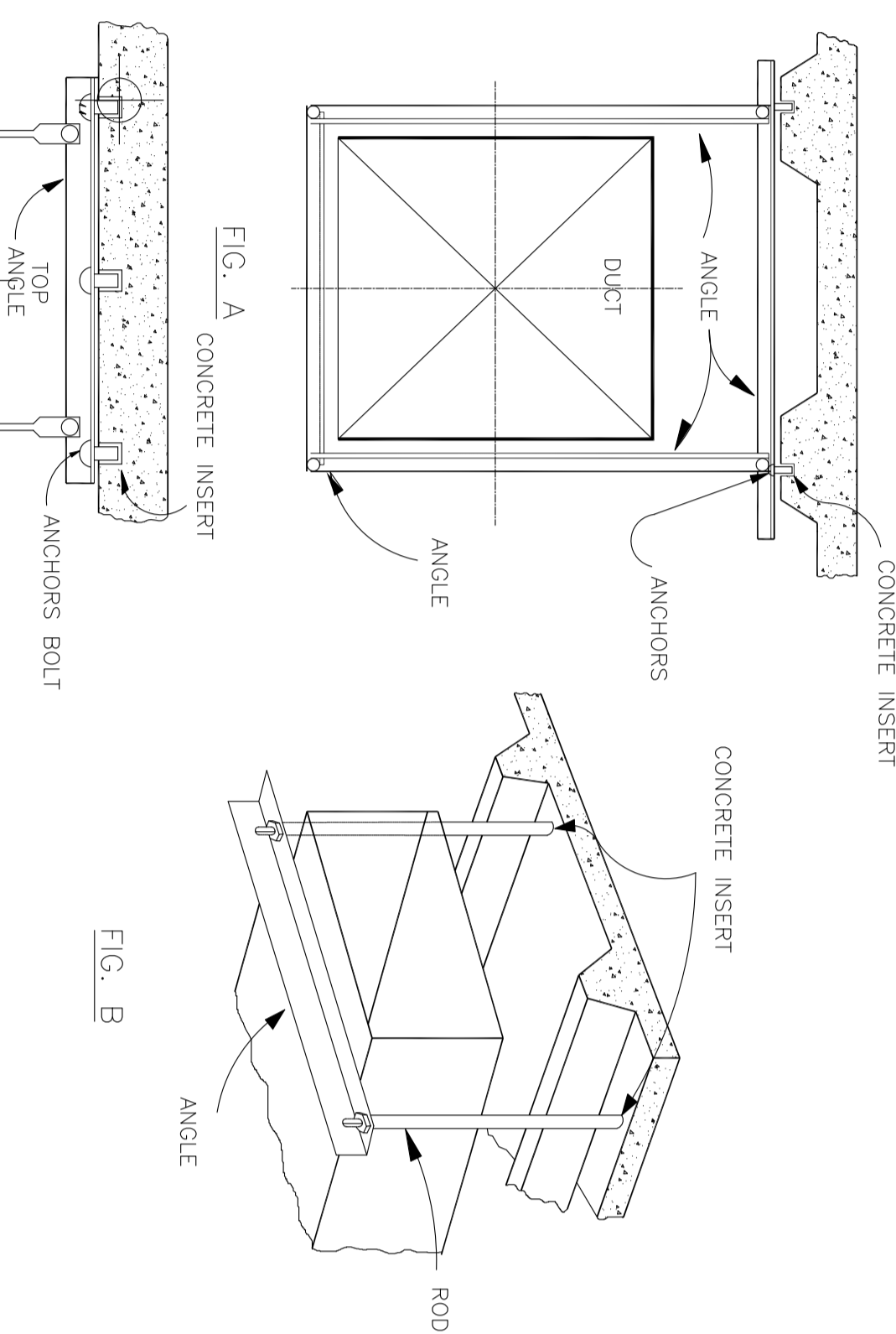


FIG. B - SUGGESTED SIZING

FIG. A & FIG. C - SUGGESTED SIZING

DUCT SIZE mm (in)	TOP ANGLE mm (in)	SHELF ANGLE mm (in)	BAND mm (in)	SPACING mt (ft)
600 (24") x 300 (12")	38 (1.5") x 3 (1/8")	38 (1.5") x 3 (1/8")	3 (1/8")	2.5 (8.2)
750 (30") x 450 (18")	50 (2") x 3 (1/8")	50 (2") x 3 (1/8")	3 (1/8")	2.5 (8.2)
900 (36") x 600 (24")	75 (3") x 3 (1/8")	75 (3") x 3 (1/8")	3 (1/8")	2.5 (8.2)
1050 (42") x 750 (30")	75 (3") x 3 (1/8")	75 (3") x 3 (1/8")	3 (1/8")	2.5 (8.2)
1200 (48") x 900 (36")	75 (3") x 3 (1/8")	75 (3") x 3 (1/8")	3 (1/8")	2.5 (8.2)

NOTE: THE DUCT SHOWN IN FIG. A, B, AND C CAN BE CONSIDERED AS INSULATED.

HANGERS FOR HORIZONTAL DUCTS
N.T.S

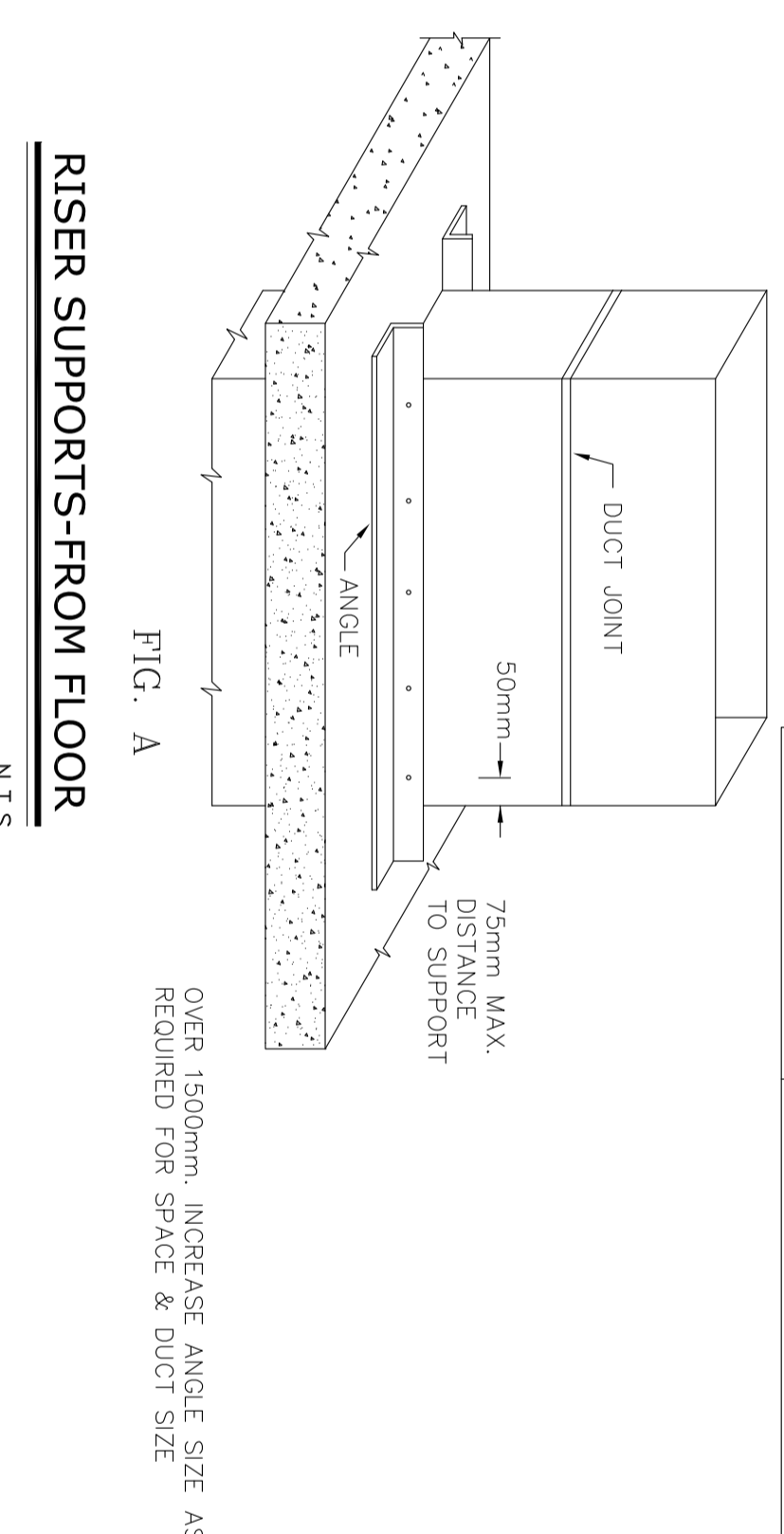
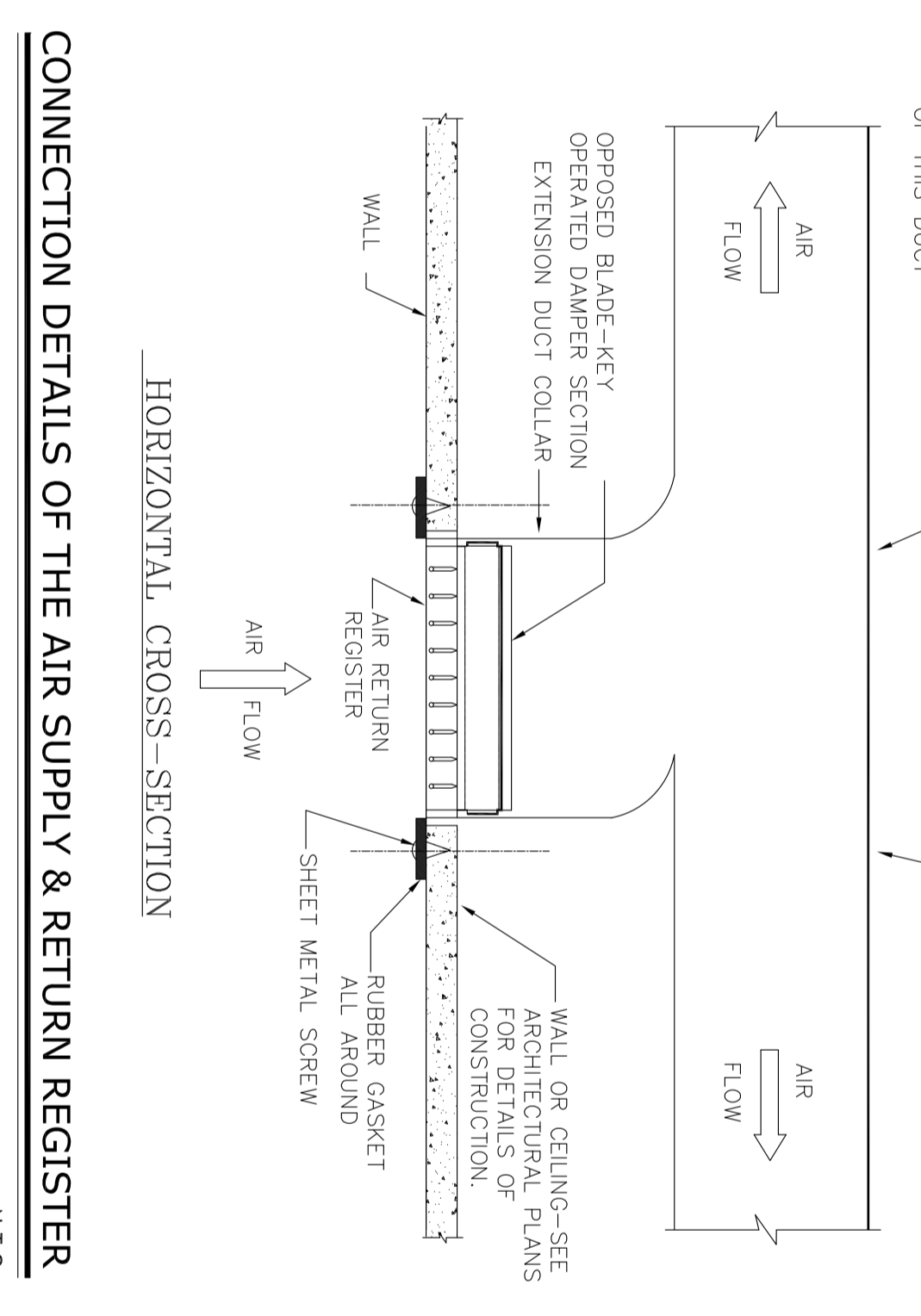


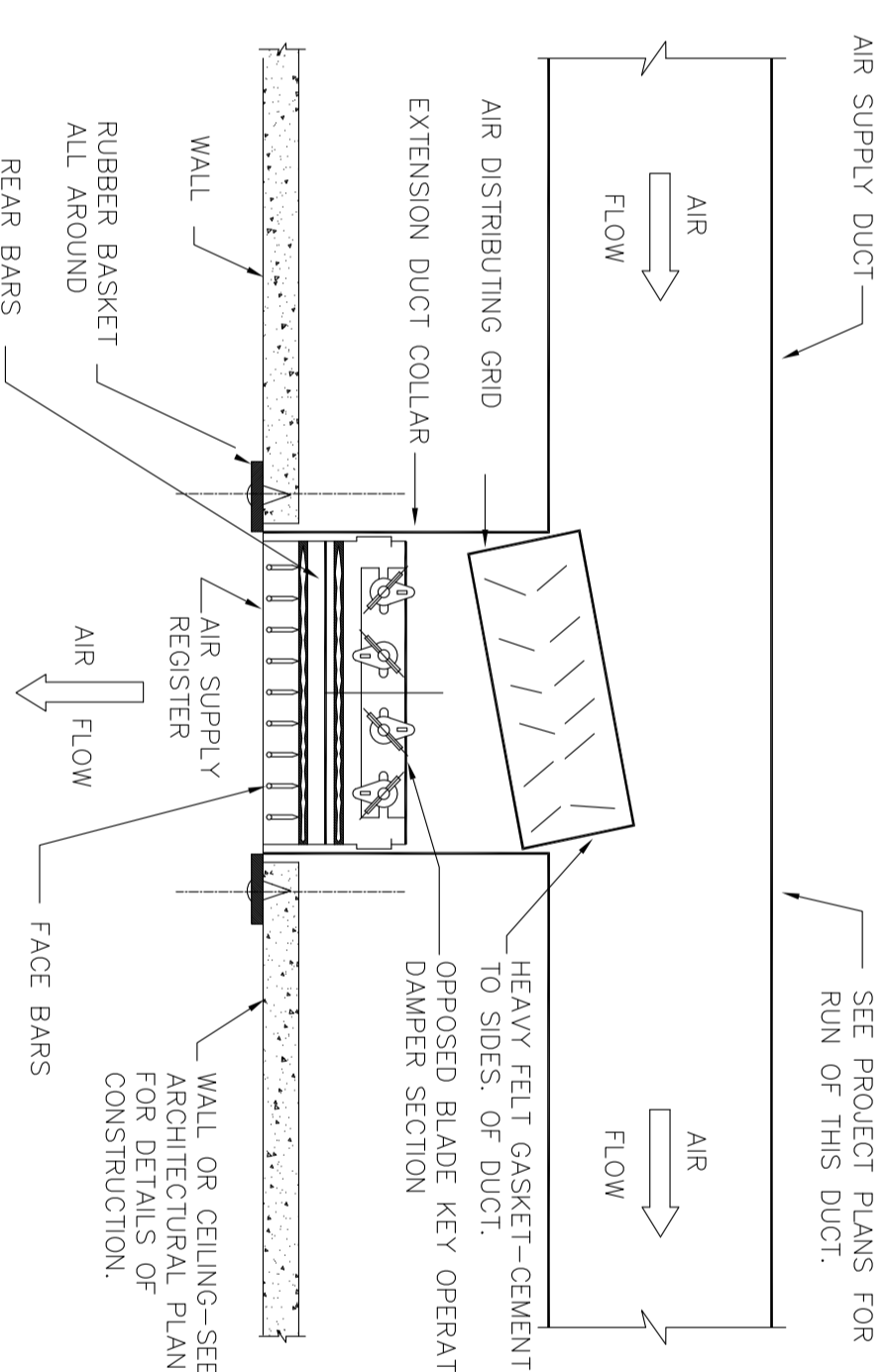
FIG. A

DUCT SIZE mm (in)	ANGLE mm (in)
900 (36") x 450 (18")	40 (1 1/2") x 40 (1 1/2") x 3 (1/8")
1200 (48") x 600 (24")	40 (1 1/2") x 40 (1 1/2") x 3 (1/8")
1500 (60") x 750 (30")	40 (1 1/2") x 40 (1 1/2") x 3 (1/8")
1800 (72") x 900 (36")	40 (1 1/2") x 40 (1 1/2") x 3 (1/8")
2100 (84") x 1050 (42")	40 (1 1/2") x 40 (1 1/2") x 3 (1/8")

RISER SUPPORTS-FROM FLOOR
N.T.S

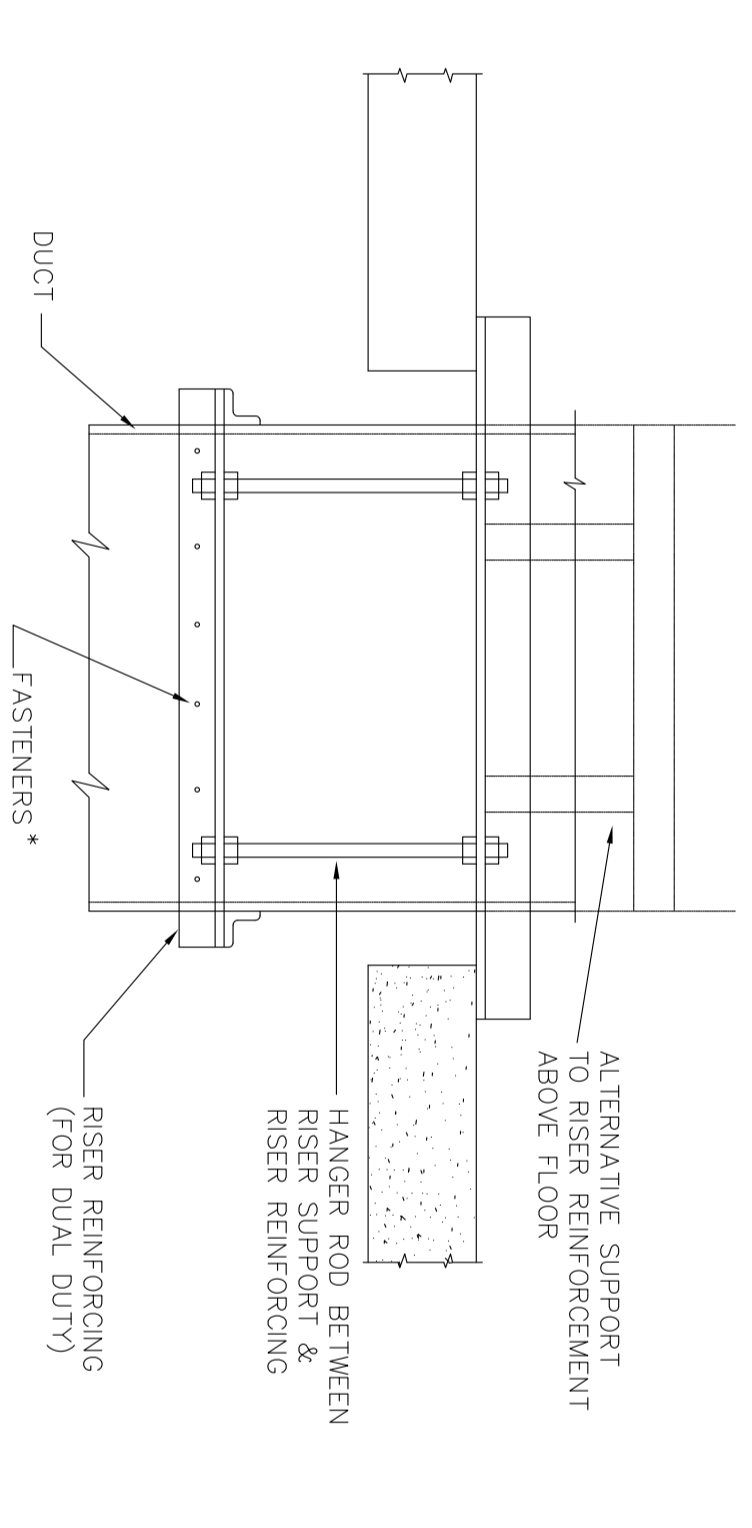


CONNECTION DETAILS OF THE AIR SUPPLY & RETURN REGISTER
N.T.S



HORIZONTAL CROSS-SECTION

HORIZONTAL CROSS-SECTION



HANGERS FOR HORIZONTAL DUCTS
N.T.S

REV.	DATE	DESCRIPTION	BY	DATE	BY	DATE
DO3	OCT-2022	PI	HANNAN	M.KHARABAN	SIRGHADAR	***
DO2	OCT-2021	IFI	HANNAN	M.KHARABAN	SIRGHADAR	***
DO1	SEP-2021	IFI	M.KHARABAN	SIRGHADAR	SIRGHADAR	***
DO0	JUL-2021	IFI	M.KHARABAN	SIRGHADAR	SIRGHADAR	***
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.

PROJECT NAME: BINAQ OILFIELD DEVELOPMENT
PROJECT NO.: 971020
EPC CONTRACTOR: EPD/EPIC CONTRACTOR (GC)
HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES
PETROBRAN DEVELOPMENT COMPANY

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BUDGET REF: LOCATION: SIZE CLASS: SERIAL NO. SHEET NO. SHEET REVISION: 4 OF 19 D03

NOTES

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ALL PLANT BUILDINGS.

LEGEND

REFERENCE DRAWING	DRG. NO.
Symbol & Legend for HVAC & Plumbing	BR-GNRL-PRDCC-000-HV-DW-0002

KEY PLAN

اسم المشروع: تطوير حقول النفط في بناية
الرقم المشروع: 971020
المقاول: EPD/EPIC CONTRACTOR (GC)
المصمم: HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES
المطور: PETROBRAN DEVELOPMENT COMPANY
التاريخ: 053-073-9194
الصفحة: 4 من 19
الرقم التسلسلي: D03

NOTES

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FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PECCO-000-HV-DW-0002

LEGEND	
REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BK-GNRL-PECCO-000-HV-DW-0002

KEY PLAN

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED			
APPROVED FOR CONSTRUCTION BY:	DATE:	BUDGET REF:	LOCATION/ SIZE CLASS

REV.	DATE	BY	DATE

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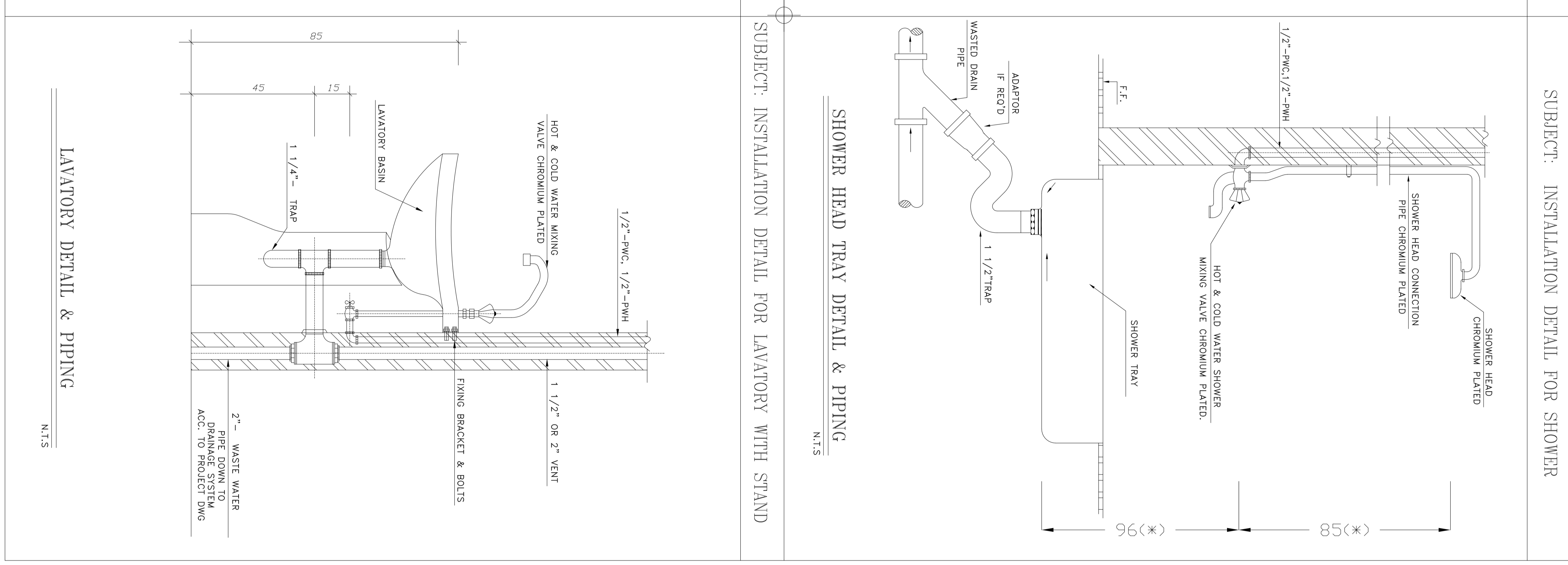
REV.	DATE	DESCRIPTION	CHECKED	REV. APPR.
DD3	OCT-2022	FI	M.KARABANI	S.GHOLMI
DD2	OCT-2021	IFI	H.AMINI	M.KARABANI
DD1	SEP-2021	IFI	M.SACHANDI	M.KARABANI
DD0	JUL-2021	IFI	M.SACHANDI	M.KARABANI

PROJECT NO.:	PROJECT NAME:
971020	BINAK OILFIELD DEVELOPMENT

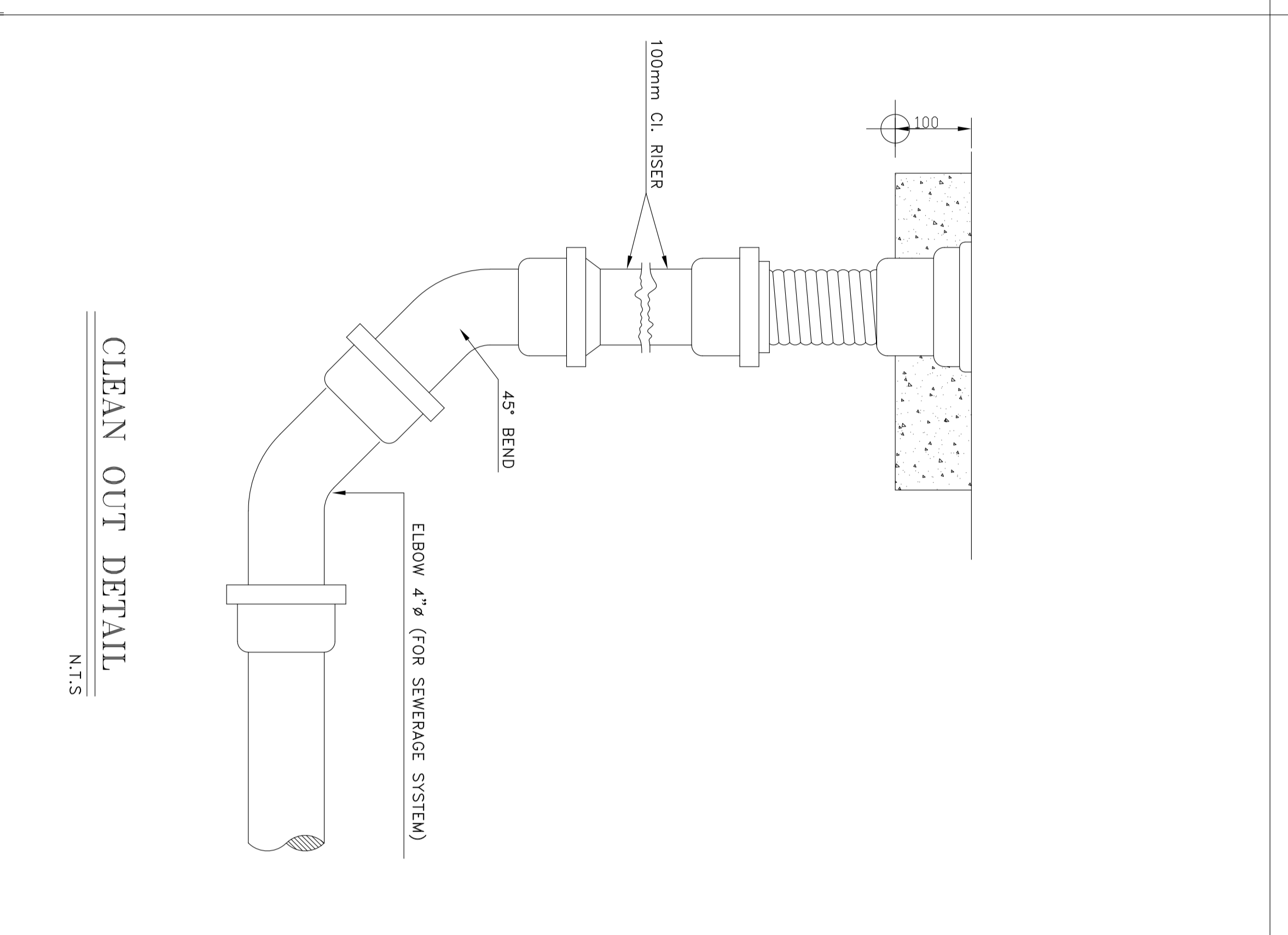
PROJECT NO.:	PROJECT NAME:
971020	BINAK OILFIELD DEVELOPMENT

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BK-GNRL-PECCO-000-HV-DW-0001	9 OF 19	D03

(VENDOR TITLE BLOCK)**

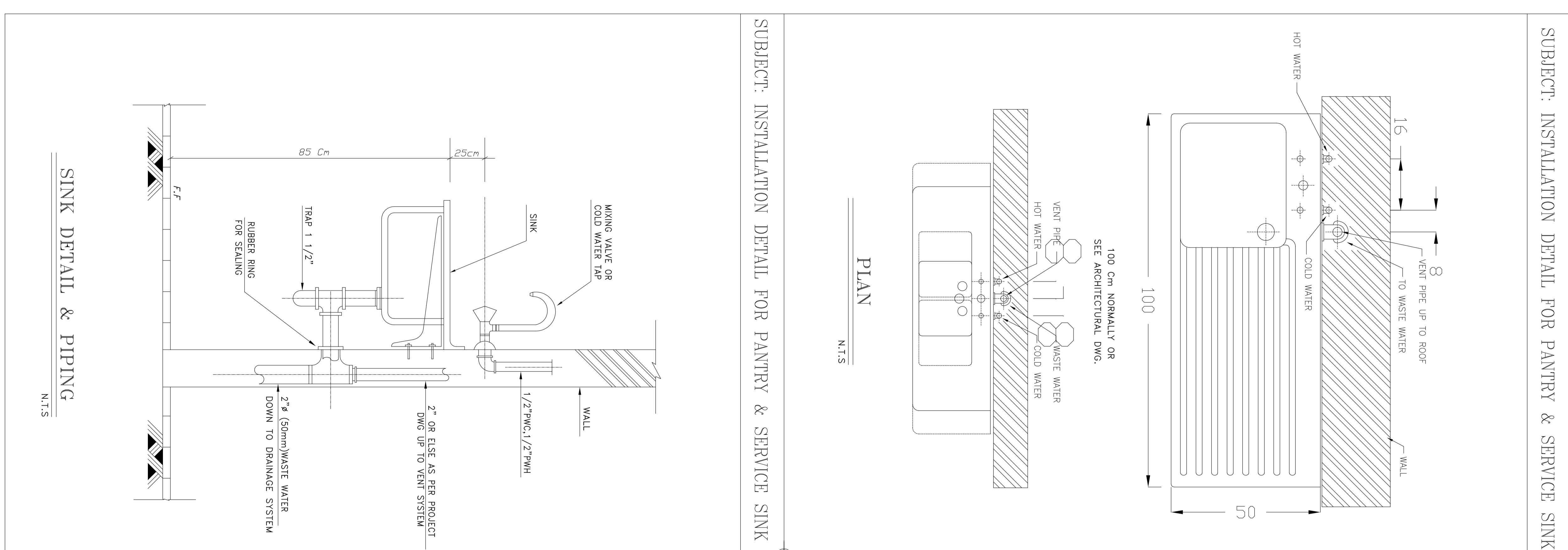


SUBJECT: INSTALLATION DETAIL FOR SHOWER

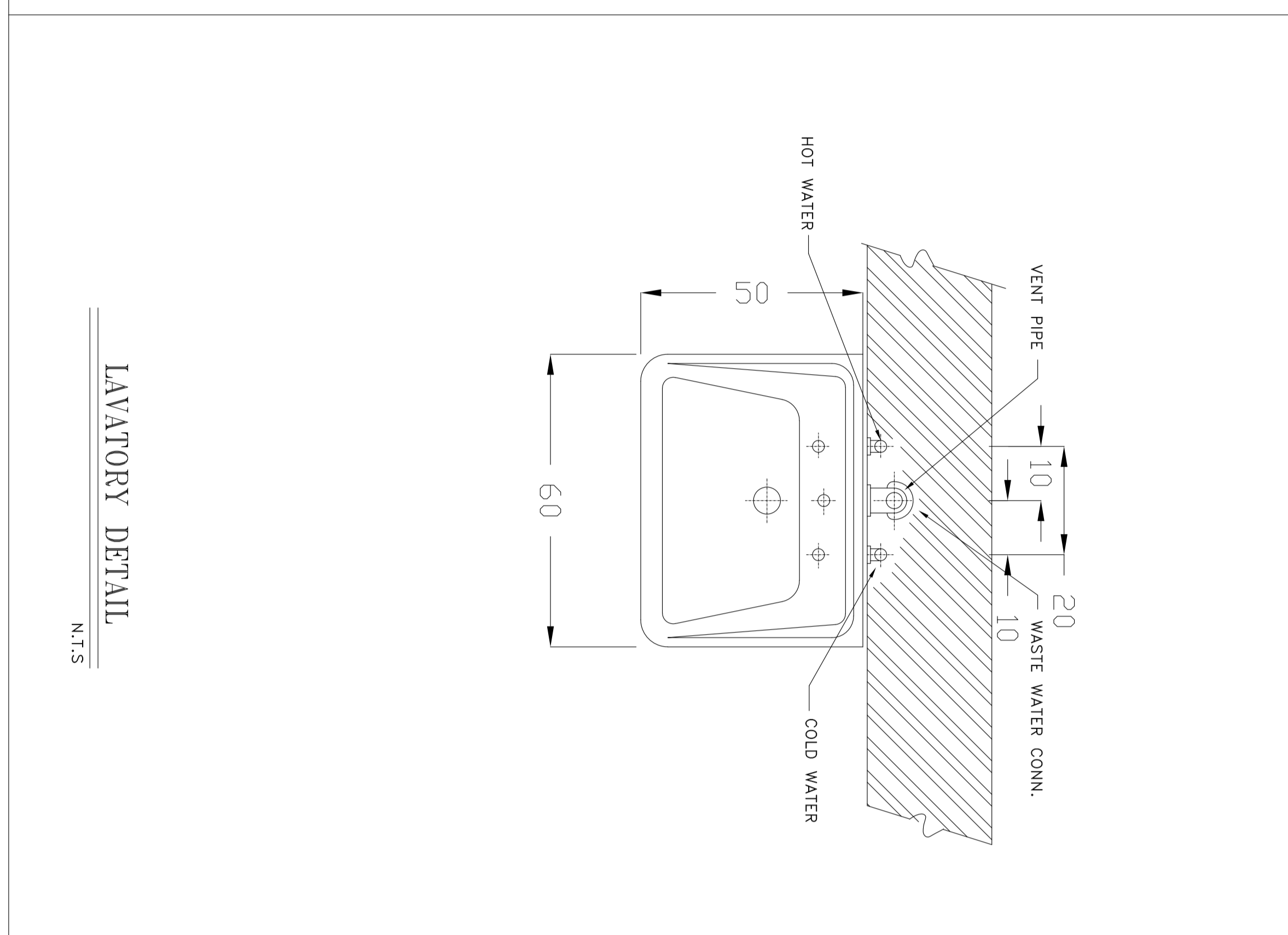


CLEAN OUT DETAIL

SUBJECT: INSTALLATION DETAIL FOR LAVATORY

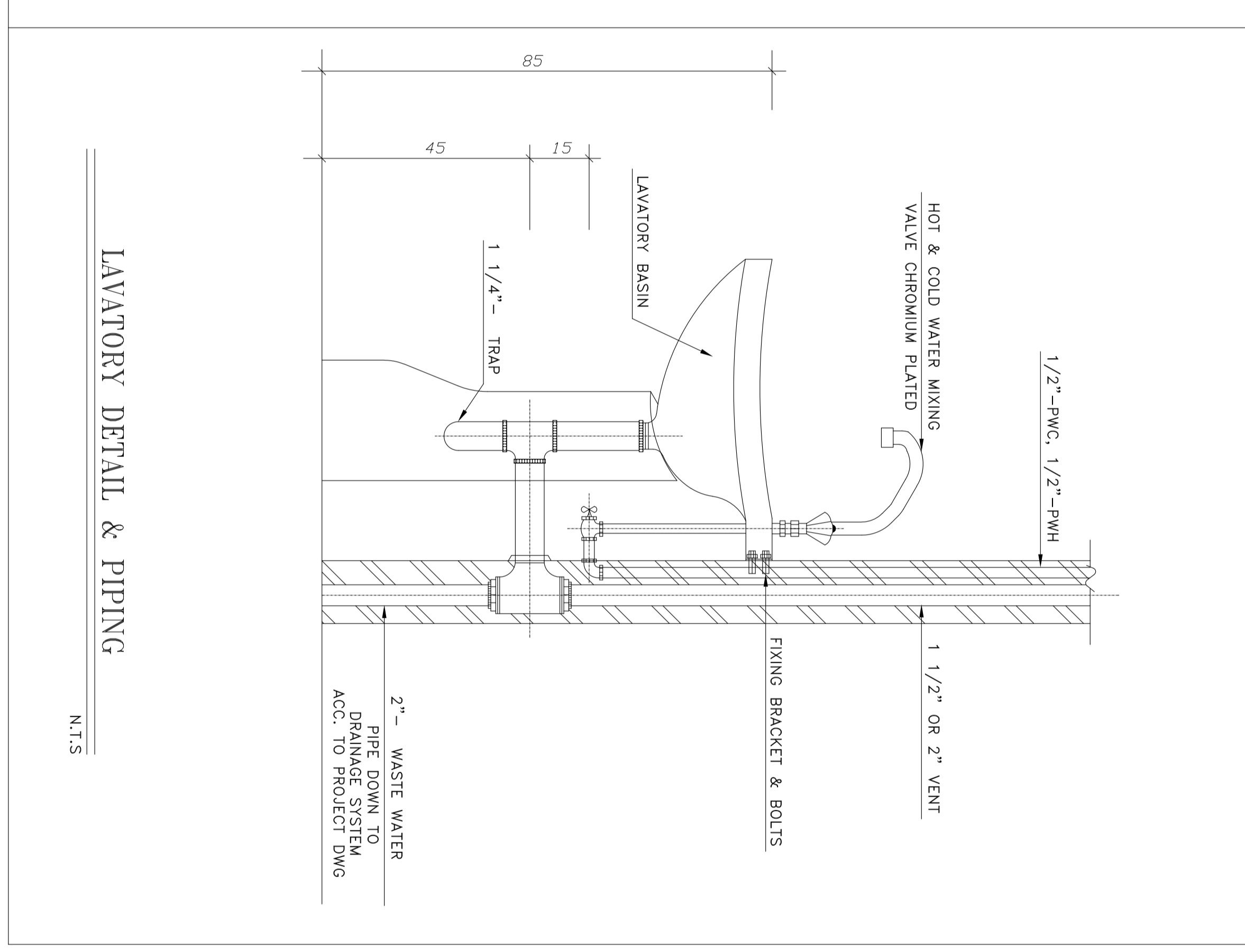


SUBJECT: INSTALLATION DETAIL FOR PANTRY & SERVICE SINK



LAVATORY DETAIL

SUBJECT: INSTALLATION DETAIL FOR LAVATORY WITH STAND



LAVATORY DETAIL & PIPING

SINK DETAIL & PIPING

(VENDOR TITLE BLOCK)**

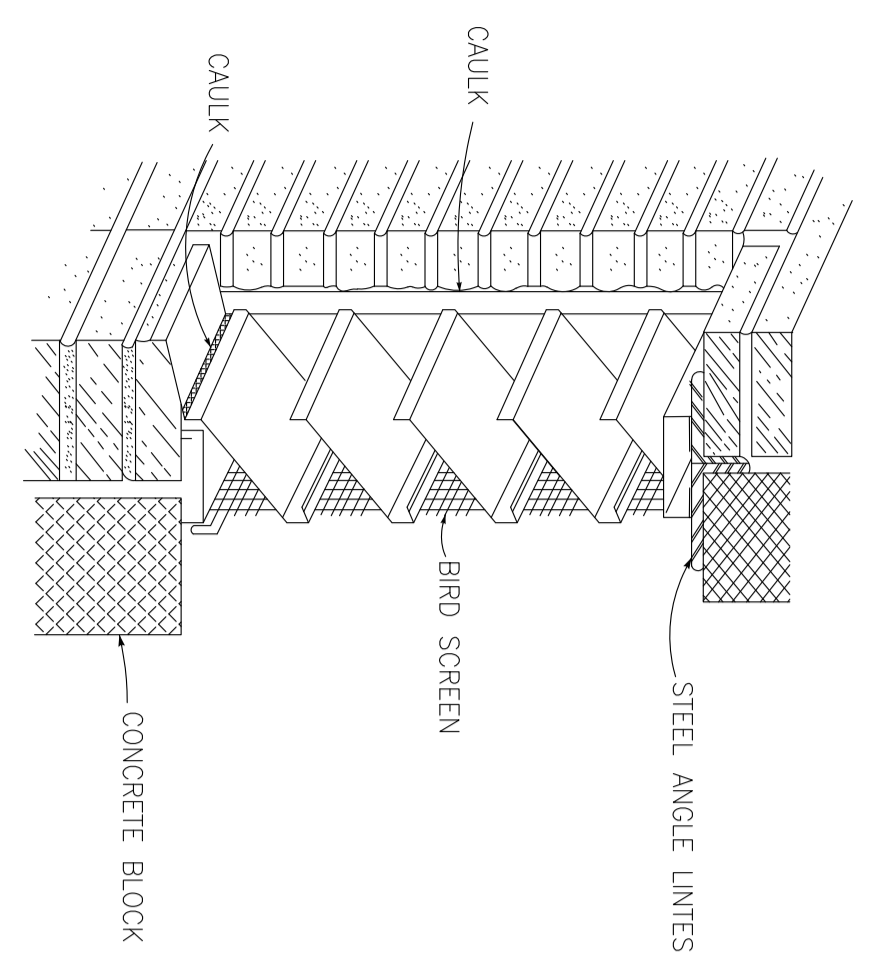
NOTES

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ALL PLANT BUILDINGS.

TITLE: WALL MOUNTED DAMPERS, LOUVERS AND SCREENS

TITLE: WALL MOUNTED DAMPERS, LOUVERS AND SCREENS (CONT.)

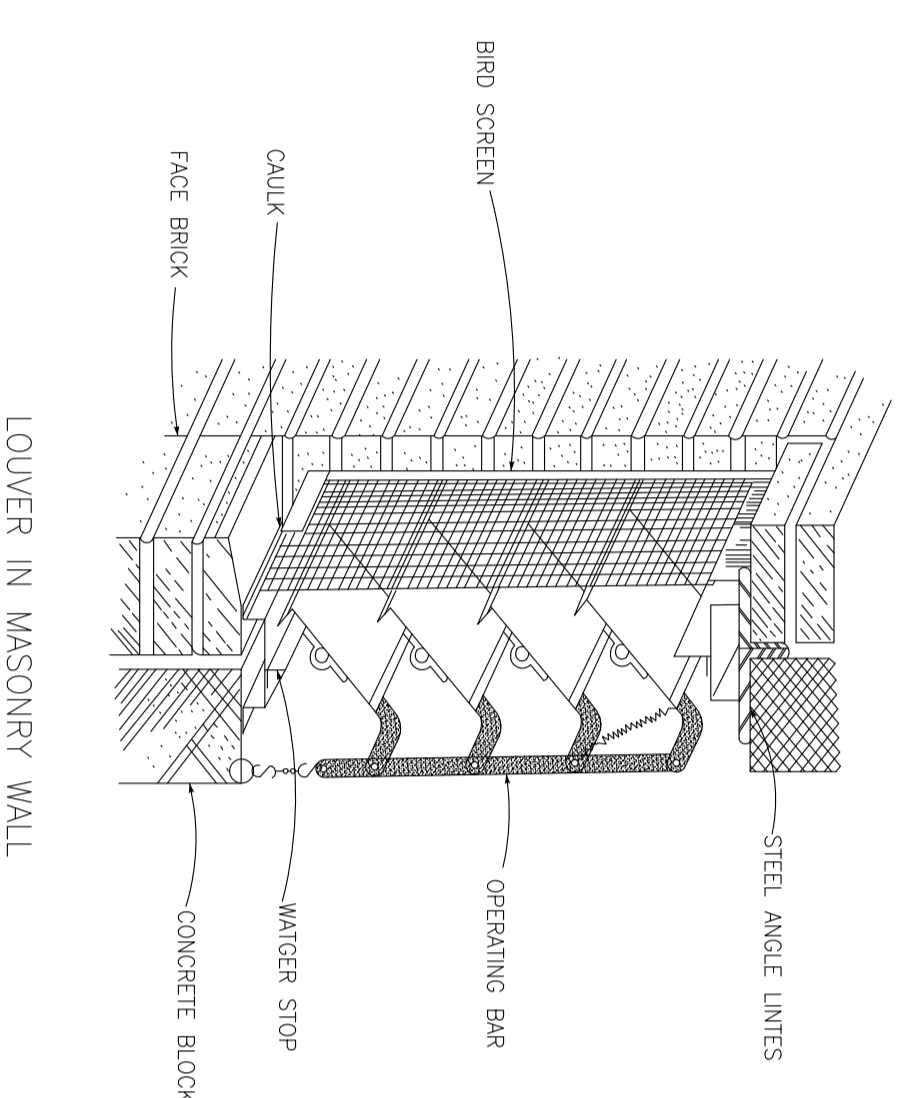
TITLE: WALL MOUNTED DAMPERS, LOUVERS AND SCREENS (CONT.)



LOUVER IN MASONRY WALL

DETAILS OF THE INSTALLATION OF THE FIXED LOUVER

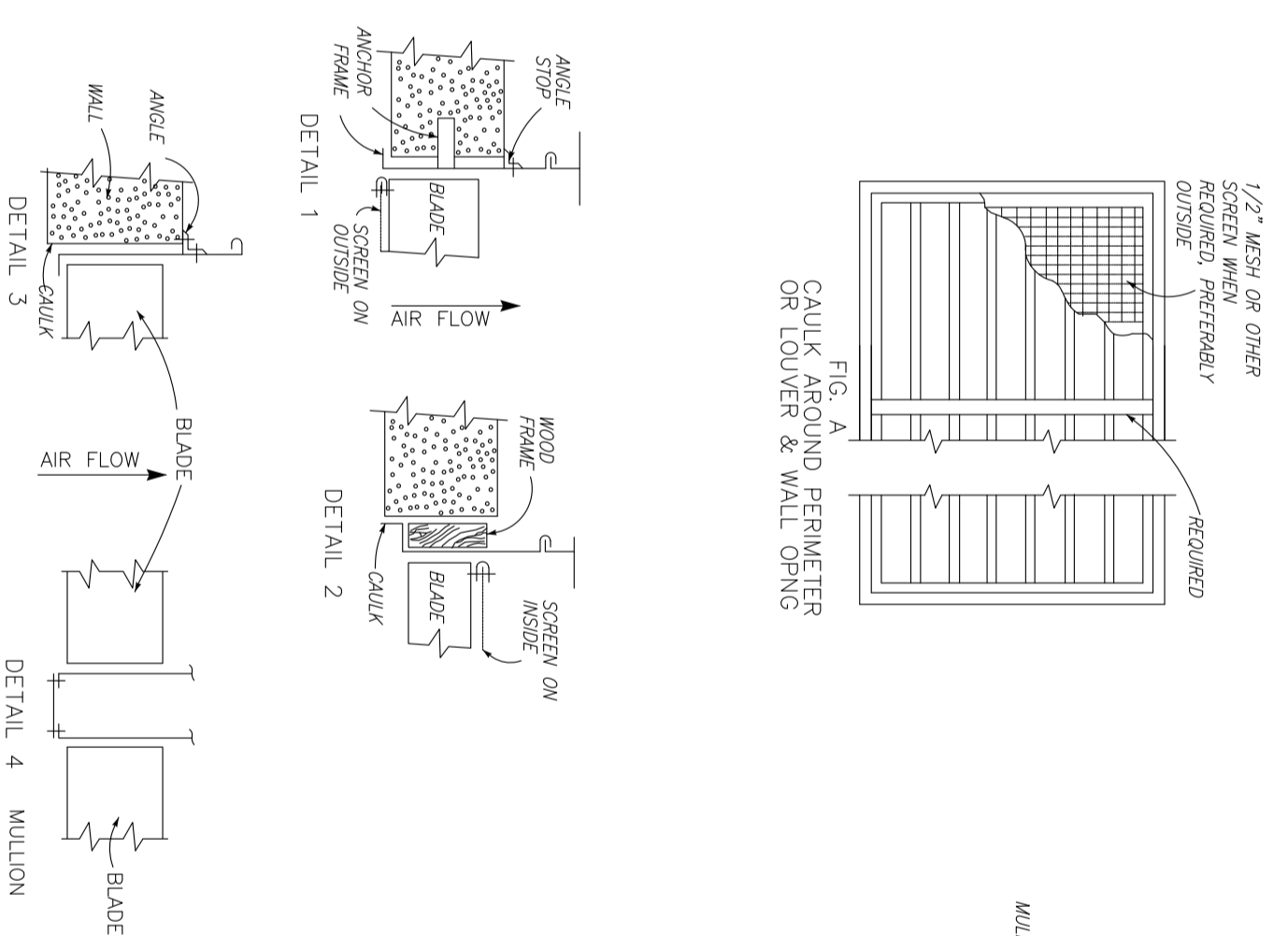
- INSTALLATION NOTES:
- 1- WALL HOLES OPENING SIZE SHALL BE 1/4" CLEARER IN BOTH SIDES THAN SIZE OF LOUVER
 - 2- LOUVER BLADES SHALL NOT EXCEED 5 FT. IN WIDTH, USE WALLON CONNECTED SECTIONS FOR GREATER WIDTH.
 - 3- CAULK AS SPECIFIED



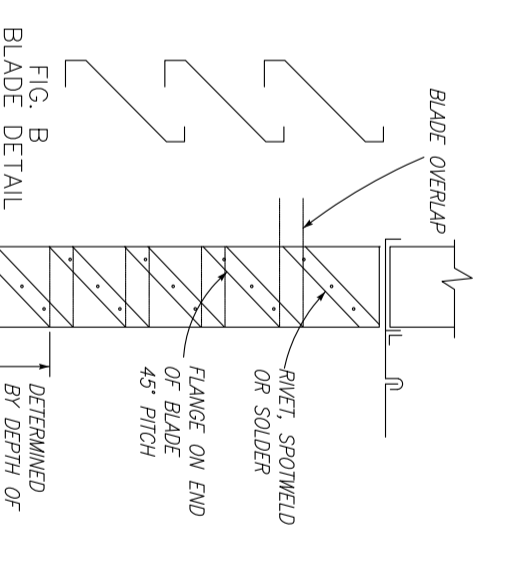
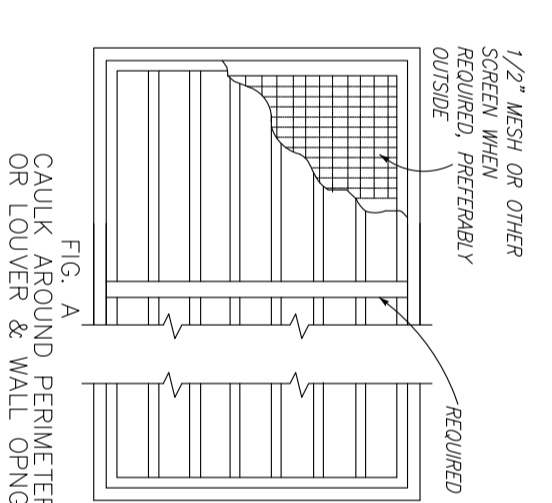
LOUVER IN MASONRY WALL

DETAILS OF THE INSTALLATION OF THE ADJUSTABLE LOUVER

- INSTALLATION NOTES:
- 1- HOLES WALL OPENING SIZE SHALL BE 1/4" CLEARER IN BOTH SIDES THAN THE SIZE OF LOUVER
 - 2- LOUVER BLADES SHALL NOT EXCEED 5 FT. IN WIDTH, USE WALLON CONNECTED SECTIONS FOR GREATER WIDTH.
 - 3- CAULK AS SPECIFIED

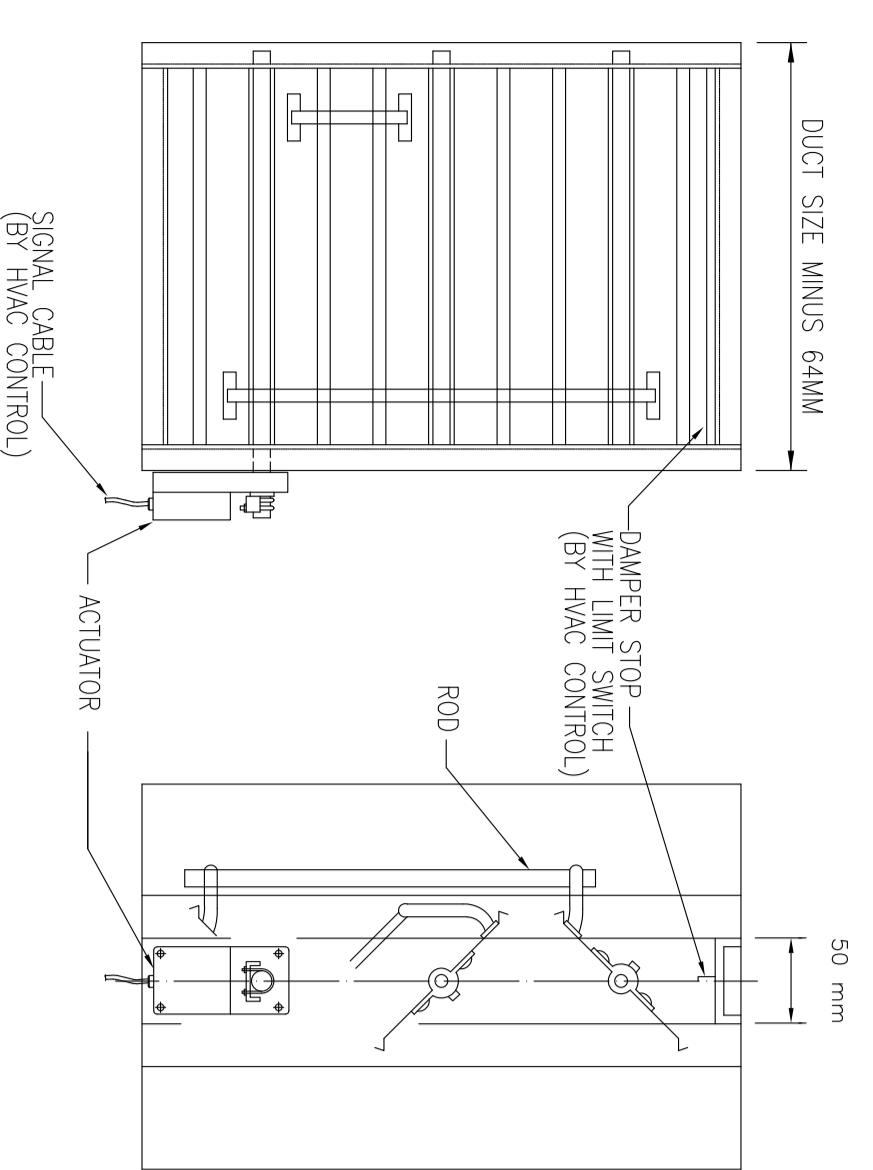


DETAIL 4 WALLON



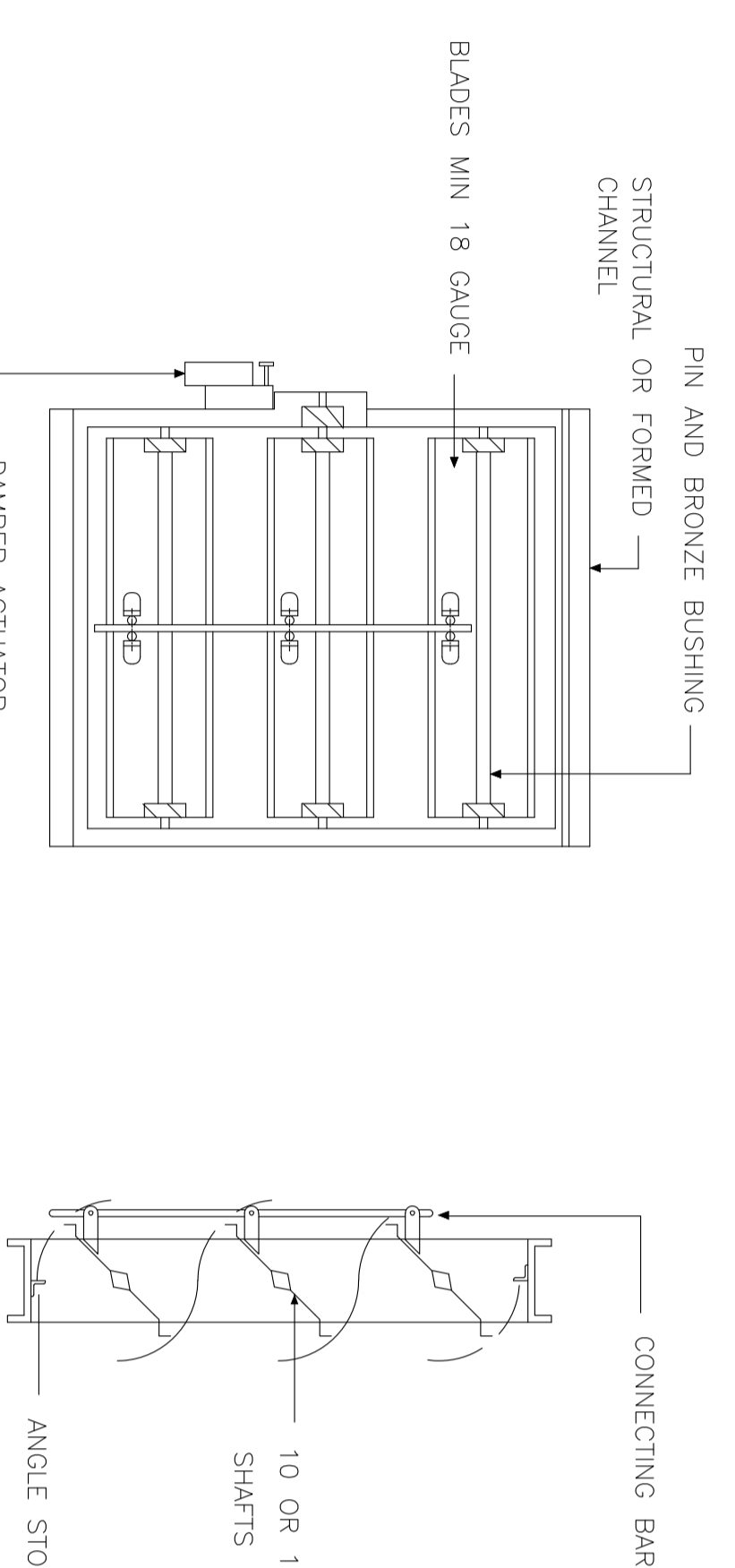
WIDTH	GAUGE	STAINLESS	ALUM
TO 24"	24 GA.	24 GA.	0.04"
25 TO 30"	20 GA.	24 GA.	0.04"
31 TO 36"	18 GA.	22 GA.	0.04"
37 TO 42"	16 GA.	20 GA.	0.04"
43 TO 48"	16 GA.	18 GA.	0.04"
49 TO 54"	16 GA.	16 GA.	0.04"
55 TO 60"	16 GA.	14 GA.	0.04"

NOTE: SEPARATE COVER COVERS FROM GALVANIZED STEEL BLADE BY INSTALLING DUCT COVER COMPAN

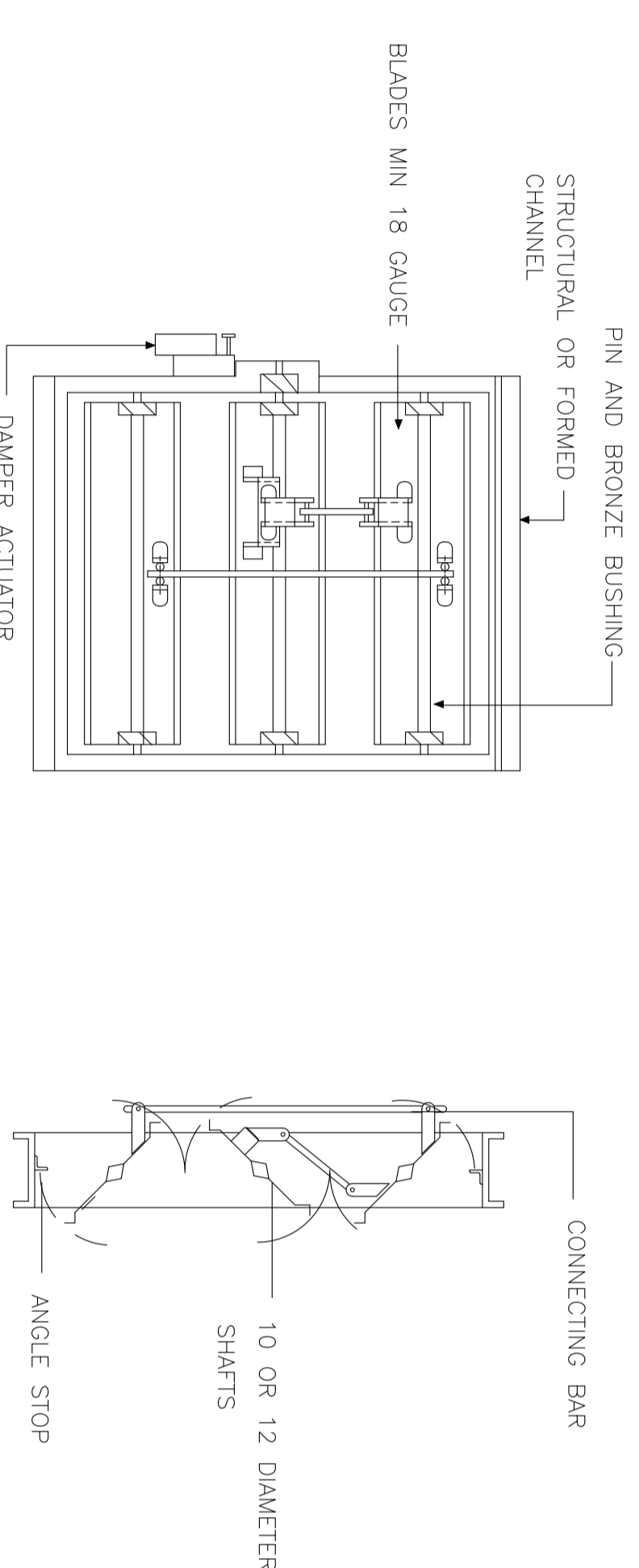


NOTE:
1. DIMENSIONS SHALL BE CHANGEABLE
BY DAMPER'S MANUFACTURER.

FIRE MOTORIZED DAMPER DETAIL

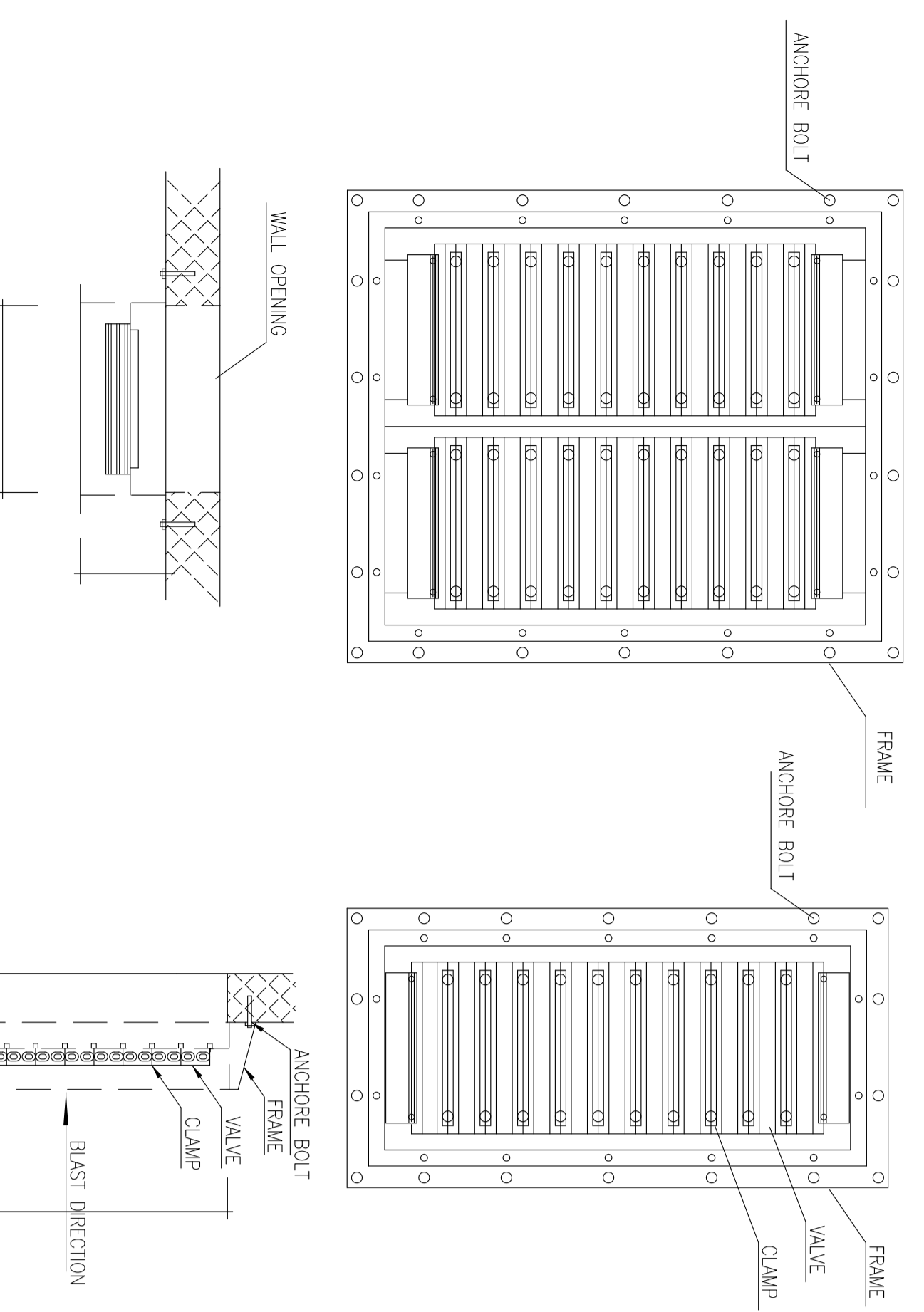


PARALLEL ACTION

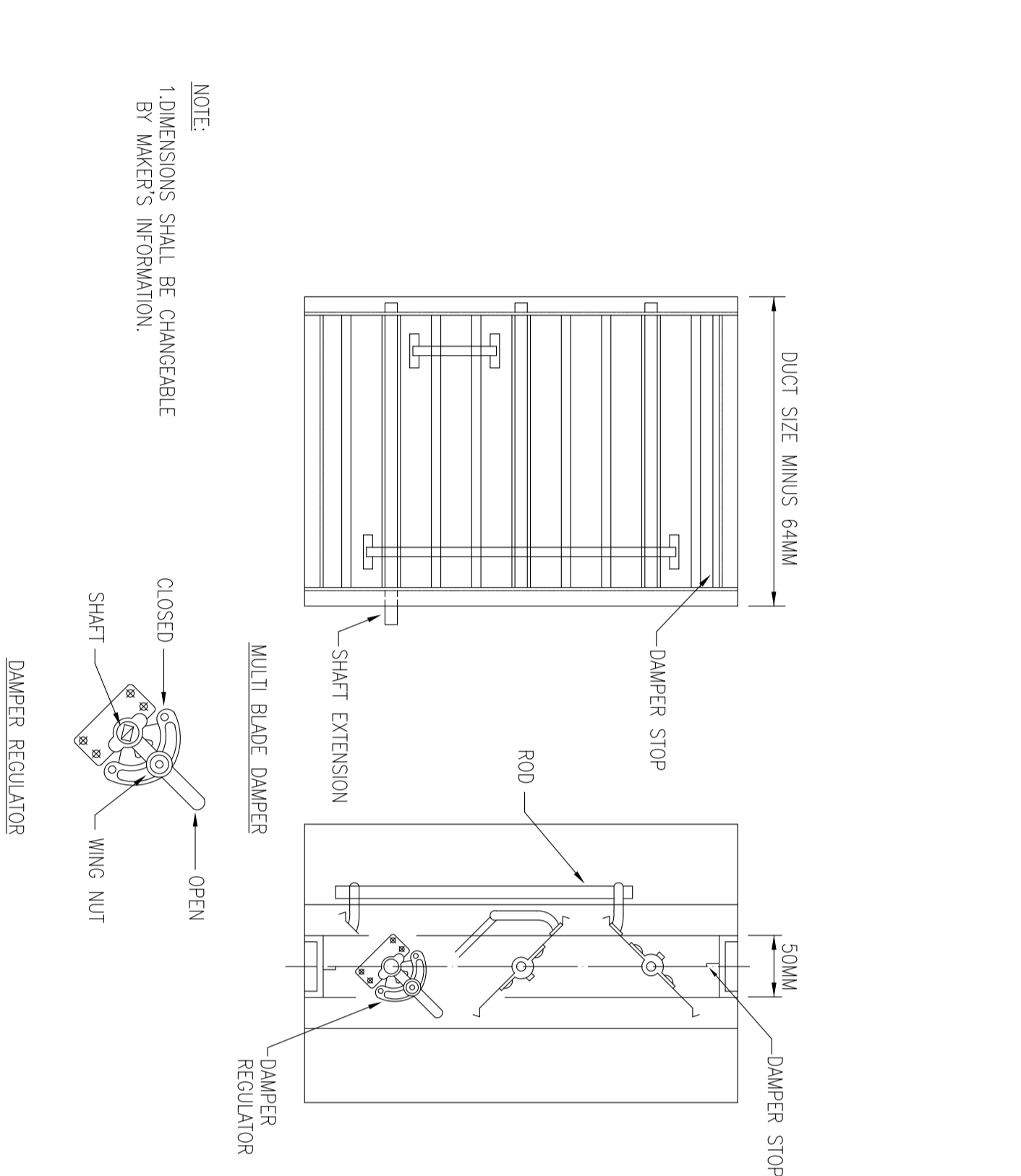


OPPOSED ACTION

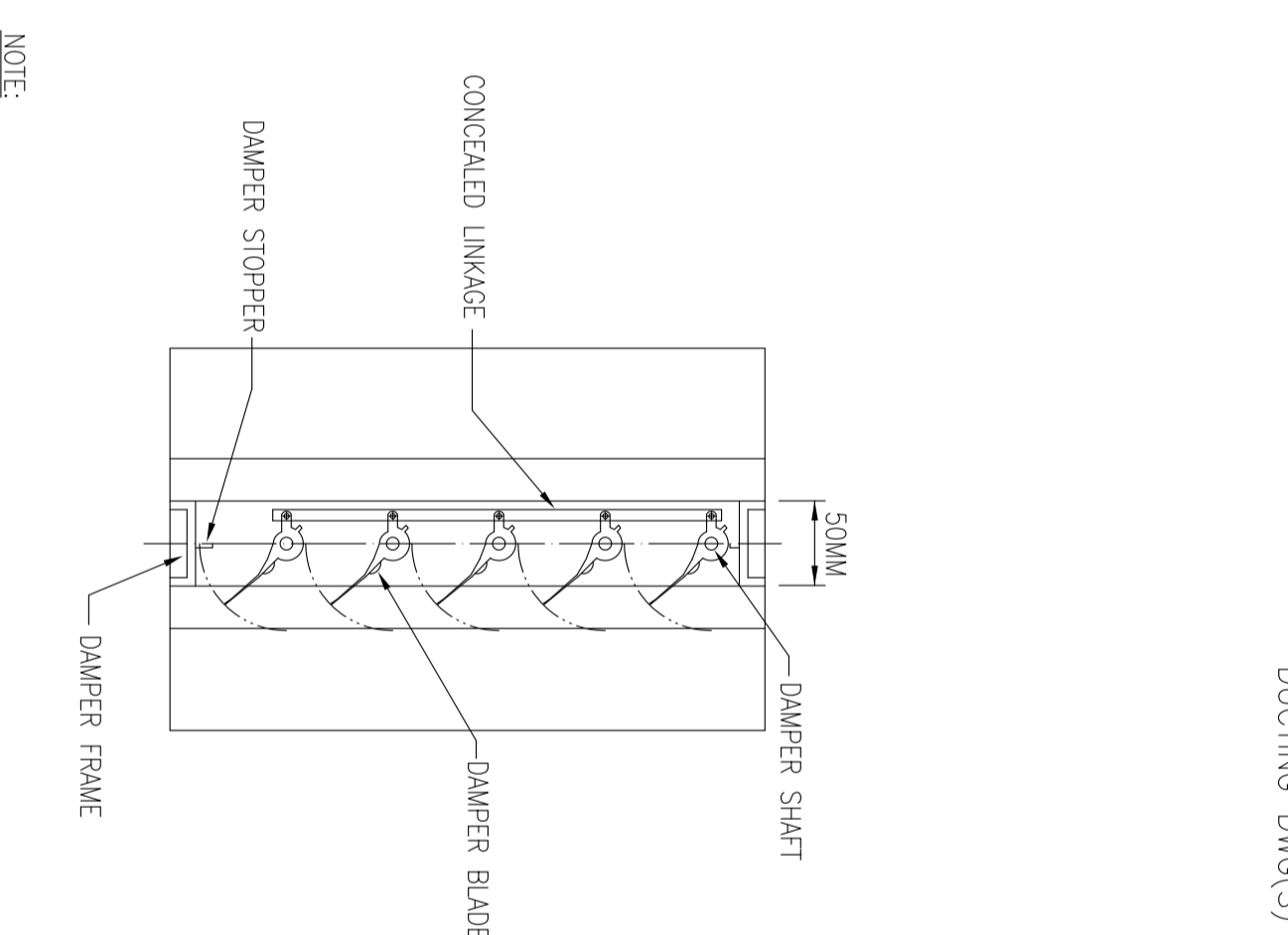
MOTORIZED VOLUME DAMPER DETAIL



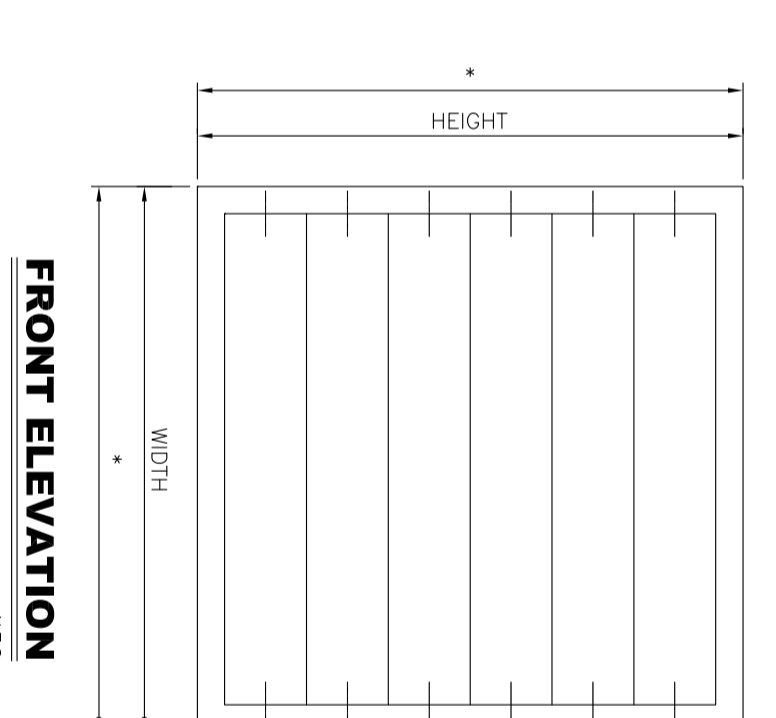
BLAST PROOF VALVE



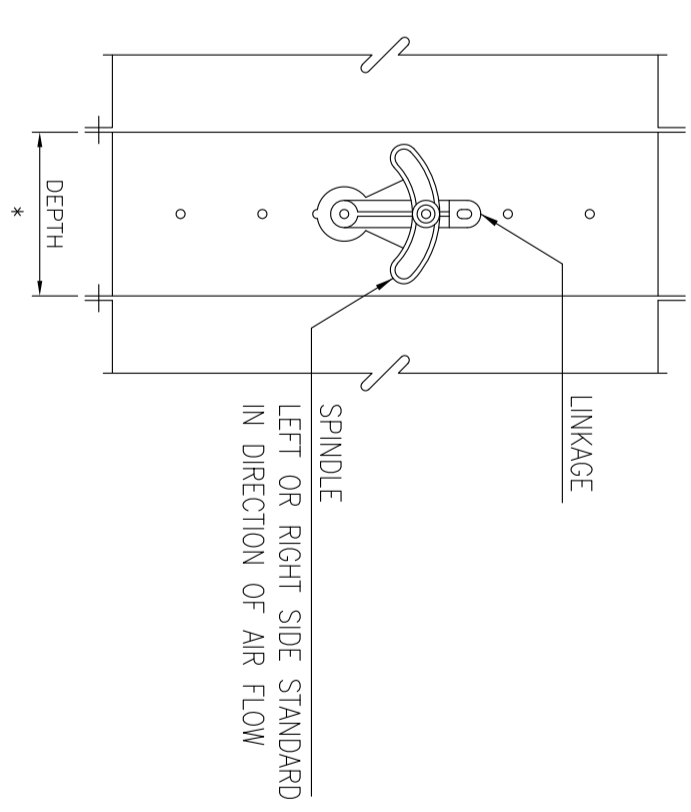
VOLUME DAMPER



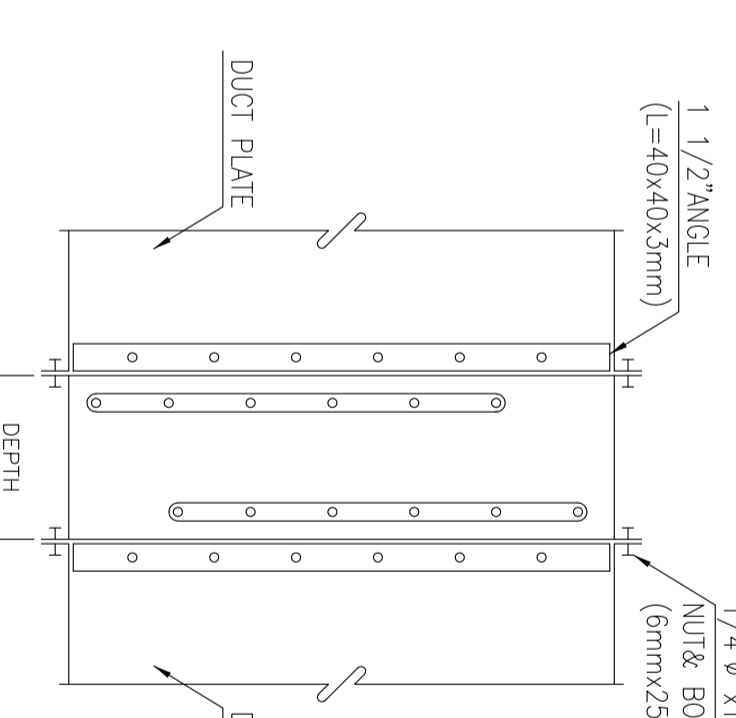
BACK DRAFT DAMPER



FRONT ELEVATION



SIDE ELEVATION



OPPOSED OR PARALLEL BLADE DUCT MOUNTED DAMPER

- NOTES:
- 1- FOR SIZES OF DAMPERS(S) SEE MANUFACTURER INSTALLATION LEAFLET & DWG(S).
 - 2- FOR DUCTING DIMENSIONS SEE DWG(S)

REV.	DATE	BY	CHK.	APP.	AUT.
D03	OCT 2022	PI			
D02	OCT 2021	IFI			
D01	SEP 2021	IFI			
D00	JUL 2021	IFI			

REV.	DATE	BY	CHK.	APP.	AUT.
...

IRHIGAN ENGINEERING & CONSULTANTS

IRHIGAN ENERGY - DESIGN & INSPECTION COMPANIES

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PROJECT NO.: 971020

EPC CONTRACTOR: BPD/BPC CONTRACTOR (GC)

PROJECT NAME: BINAK OILFIELD DEVELOPMENT GENERAL

DATE: ...

SCALE: ...

DRAWING NO.: ...

DWG. No.: ...

DRG. No.: ...

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

APPROVED FOR CONSTRUCTION BY: ...

DATE: ...

BUDGET REF: ...

LOCATION: ...

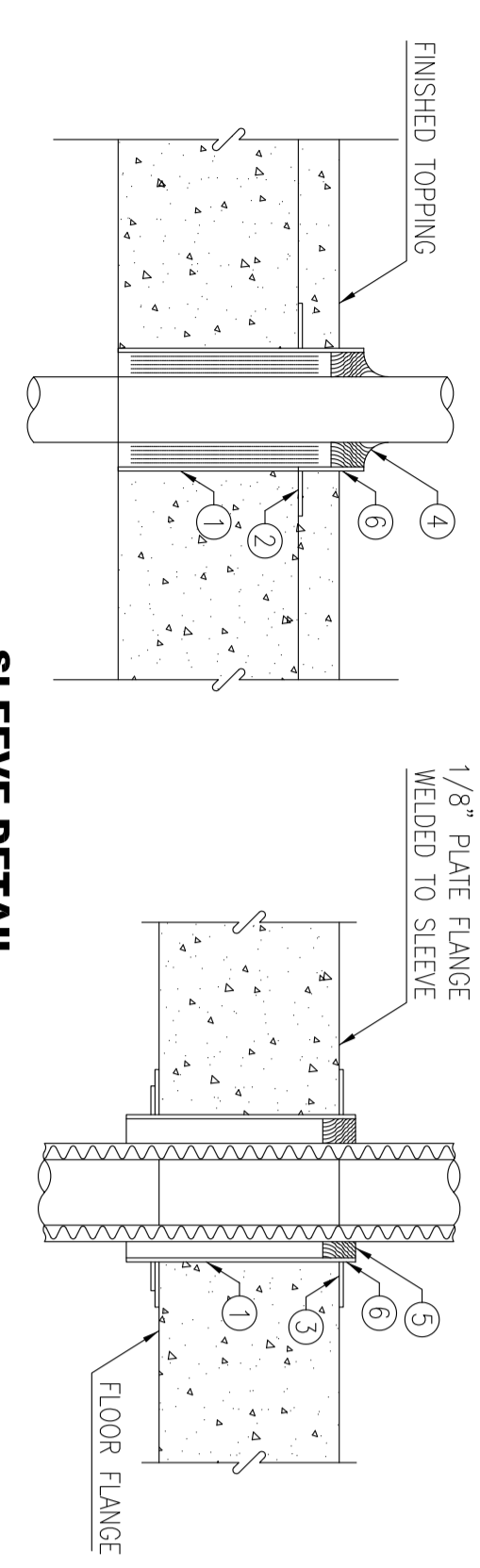
SIZE CLASS: ...

SERIAL NO.: ...

SHEET NO.: ...

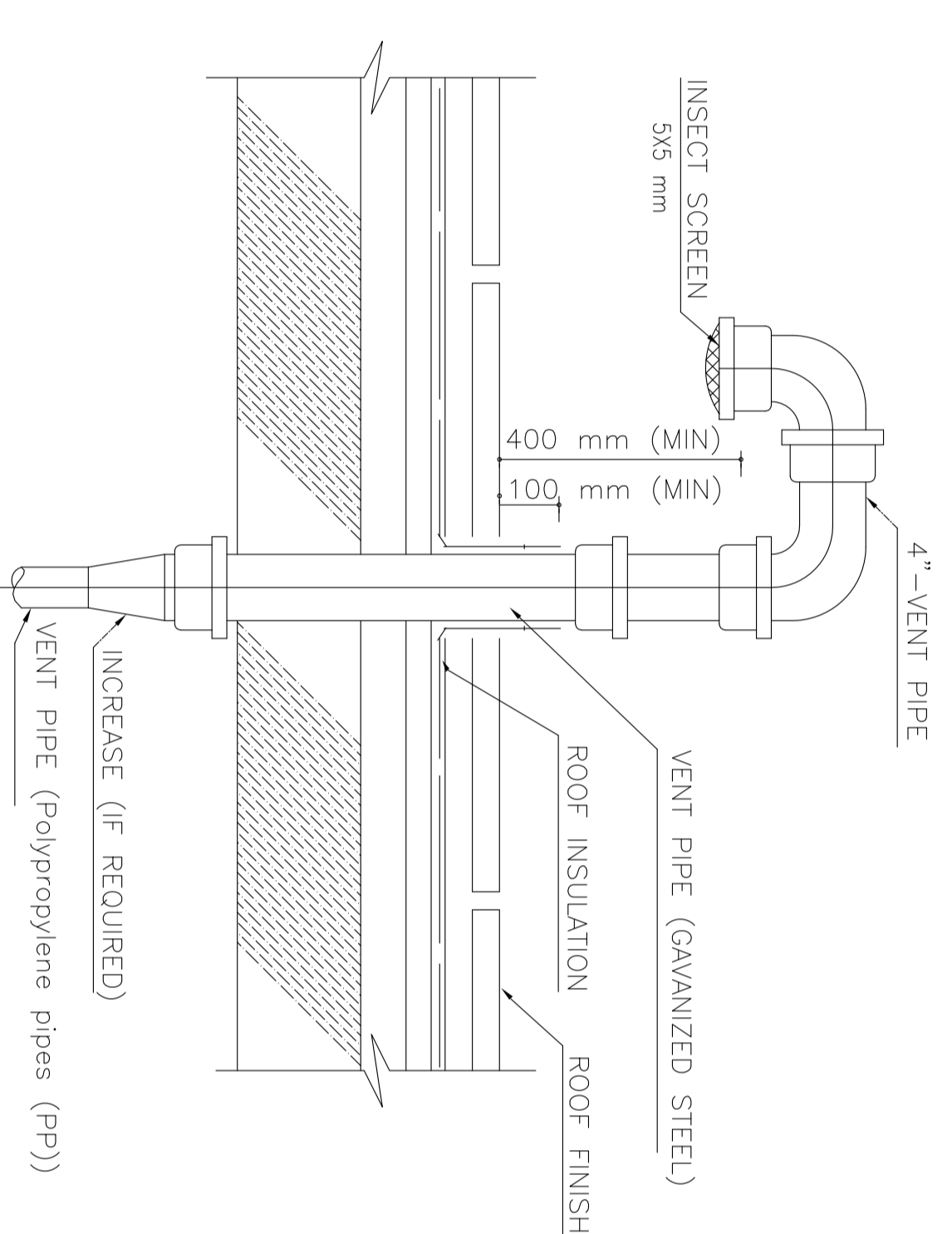
REVISION: ...

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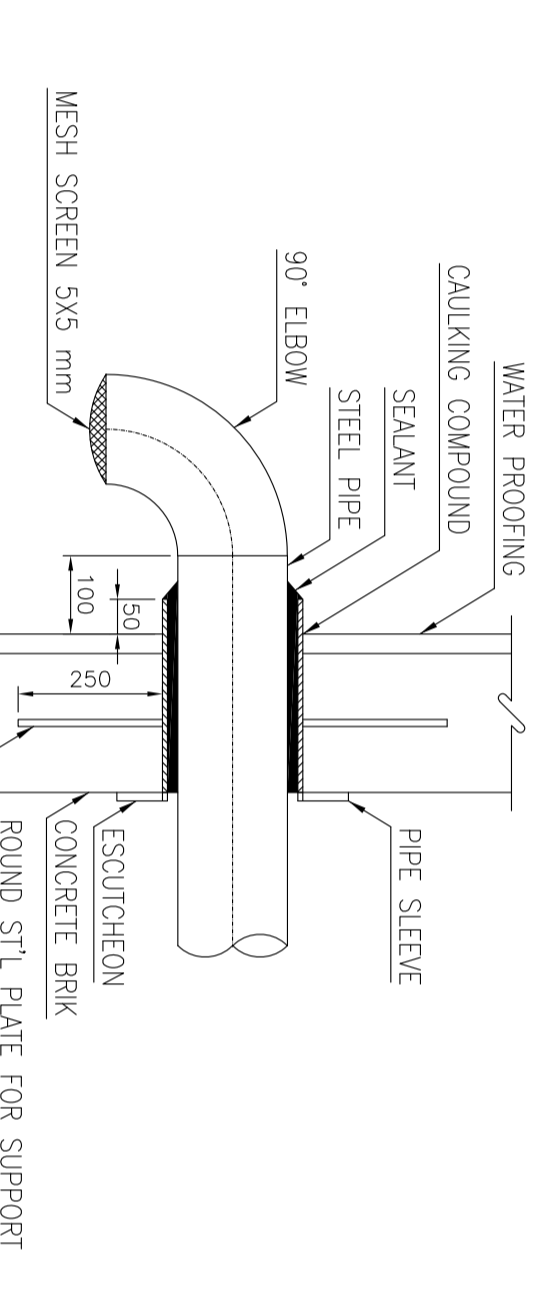


SLEEVE DETAIL
UNINSULATED PIPE N.T.S.
INSULATED PIPE N.T.S.

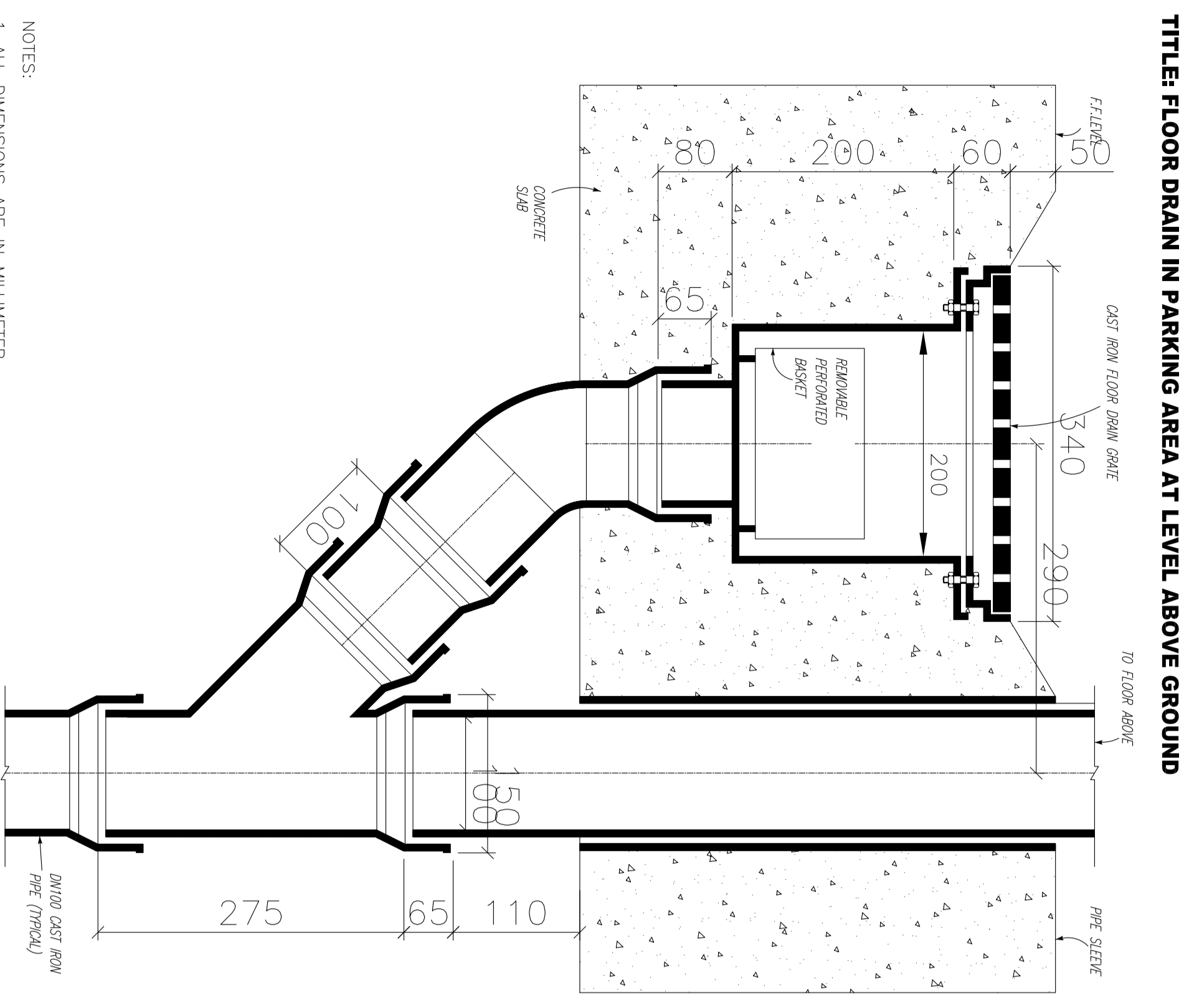
- ① SLEEVES EXPOSED IN ROOMS SHALL BE DIN 2440 STEEL PIPE CUT SQUARE & REAMED SLEEVES CONCEALED IN CHASED PIPE SPACES, ETC. SHALL BE 22 GAUGE GALV.
- ② SLEEVE SHALL BE SET IN SLAB WITH ANCHOR LUGS. A MINIMUM OF 3 LUGS PER SLEEVE.
- ③ SLEEVE SHALL BE THREADED & HELD IN PLACE W/FLOOR FLANGE PROVIDE PLASTIC CAULKING COMPOUND BETWEEN 1/8" PLATE FLANGE & FLOOR.
- ④ SLEEVE SHALL BE CALKED W/OAKUM OR ASBESTOS ROPE FINISH W/1" PLASTIC CAULKING COMPOUND.
- ⑤ SLEEVE SHALL BE CALKED W/1" PLASTIC CAULKING COMPOUND.
- ⑥ SLEEVES SHALL EXTEND 1/2" ABOVE FINISHED FLOOR EXCEPT IN KITCHENS, TOILETS, LOCKER ROOMS & SIMILAR DAMP AREAS. IN THESE AREAS THE SLEEVES SHALL EXTEND 1 1/2" ABOVE THE FINISHED FLOOR.



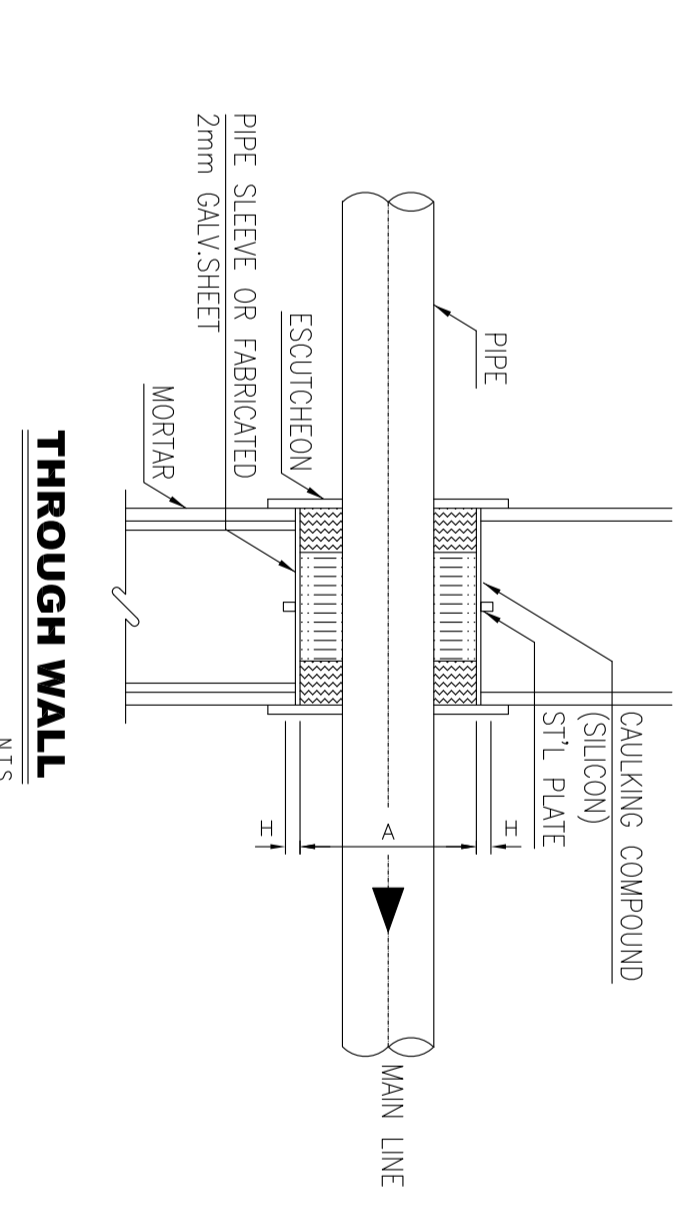
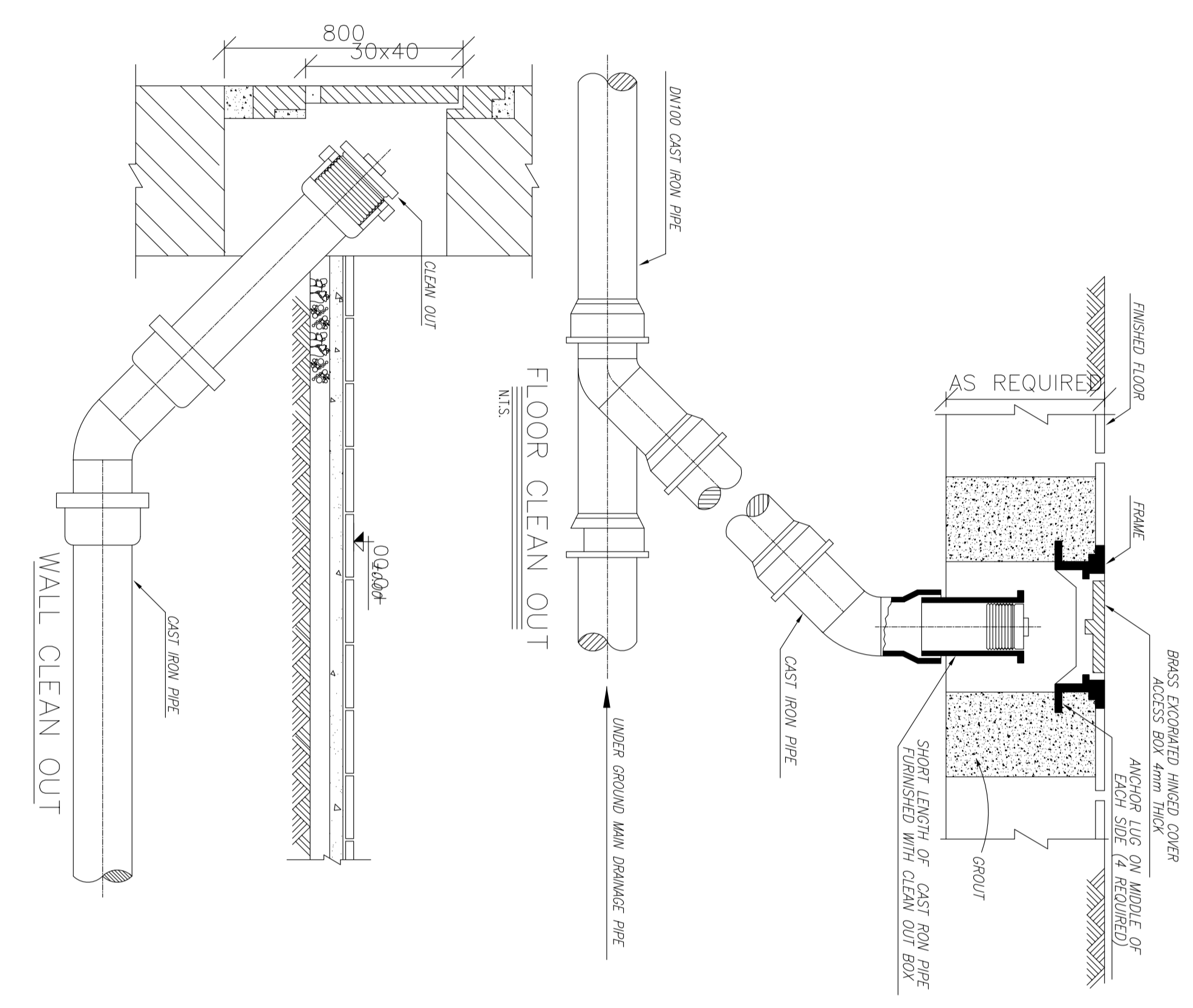
VENT STACK TERMINAL ON ROOF DETAIL



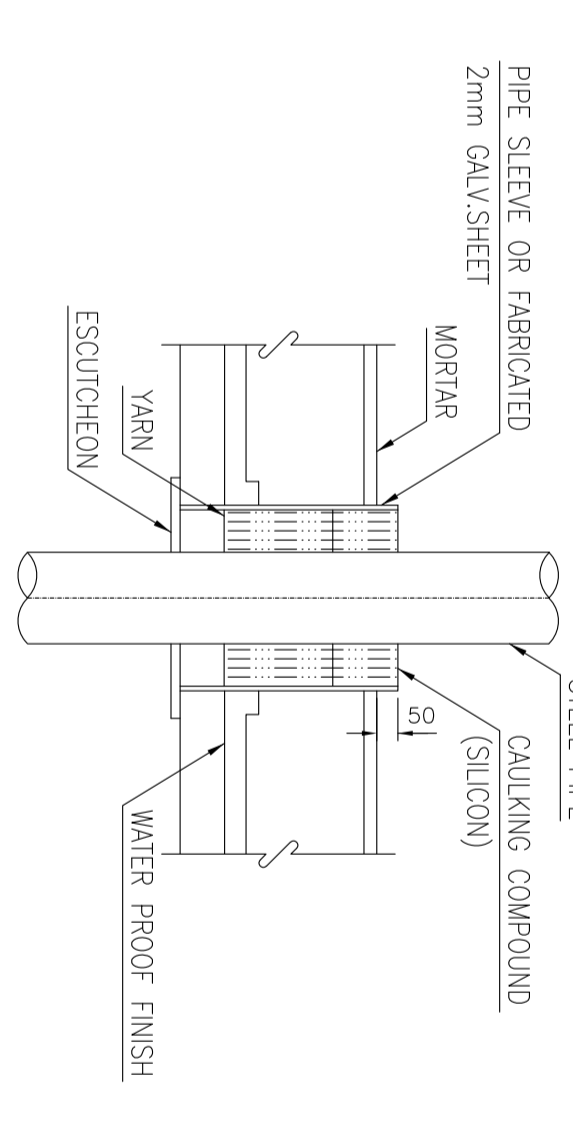
VENT THROUGH WALL N.T.S.
NOTES:
 * WELDING POINT SHALL BE COUGH UP WITH GALVANEE PAINT AFTER WELDING.



TITLE: FLOOR DRAIN IN PARKING AREA AT LEVEL ABOVE GROUND



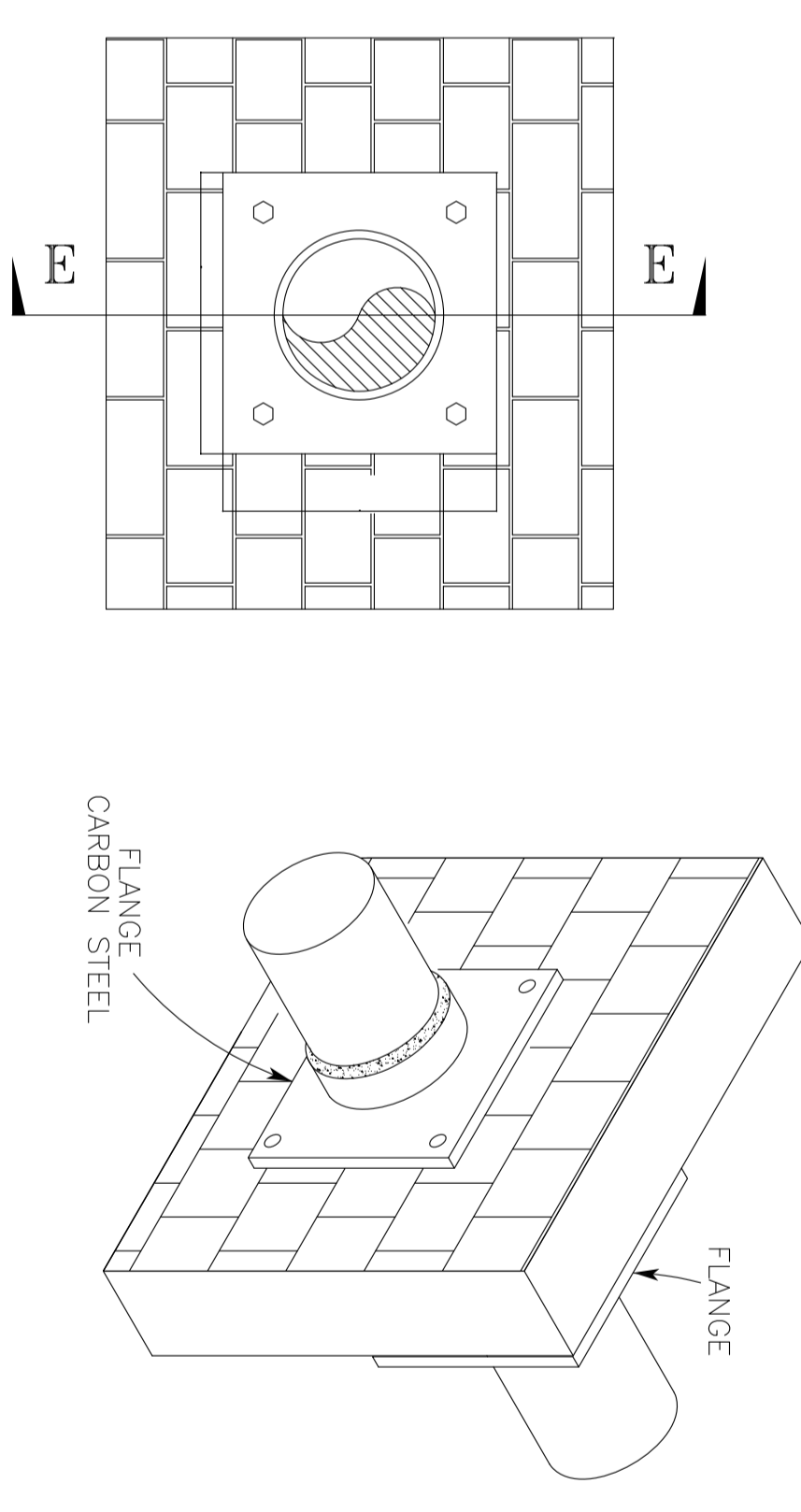
THROUGH WALL N.T.S.



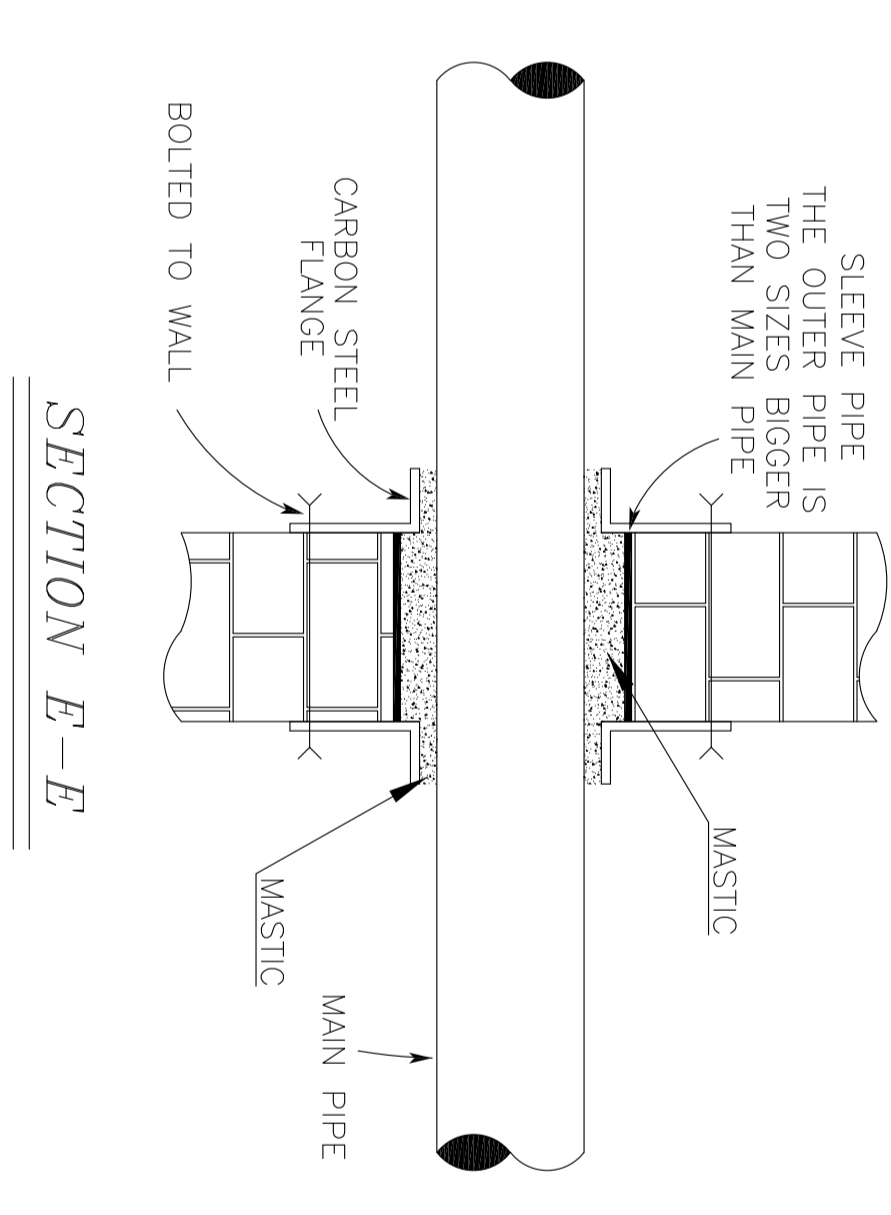
THROUGH FLOOR N.T.S.

PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"
NON-INSUL PIPE	25	32	40	50	65	80	100	125	150	200	250	250
INSUL PIPE	80	80	100	100	125	125	125	125	150	250	250	300
H	50	50	50	50	50	50	50	50	50	50	50	50

TITLE: SLEEVE



KEY PLAN



SECTION E-E

REV.	DATE	BY	CHK.	APP.	AUT.
REV.	JUL-2021	M. KHANJARI	M. KHANJARI	S. GHOLIAE	...
D00	JUL-2021	M. KHANJARI	M. KHANJARI	S. GHOLIAE	...
D01	SEP-2021	I. F.	M. KHANJARI	S. GHOLIAE	...
D02	OCT-2021	I. F.	M. KHANJARI	S. GHOLIAE	...
D03	OCT-2022	F.	M. KHANJARI	S. GHOLIAE	...

PROJECT NAME: BINAK OILFIELD DEVELOPMENT
 PROJECT NO.: 971020
 EPC CONTRACTOR: EPD/EPIC CONTRACTOR (GC)
 IHRGAN ENERGY - DESIGN & INSPECTION COMPANIES
 PETROIRAN DEVELOPMENT COMPANY
 DATE: SCALE: DRAWING BY: CHECKED BY: PROJECT ENG.
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 APPROVED FOR CONSTRUCTION BY: DATE:
 BUDGET REF: LOCATION: SIZE CLASS: SERIAL NO. SHEET NO. SHEET REVISION
 053-072-9194 P 4 B 707128 8 OF 19 D03

REV.	DATE	BY	CHK.	APP.	AUT.
REV.	JUL-2021	M. KHANJARI	M. KHANJARI	S. GHOLIAE	...
D00	JUL-2021	M. KHANJARI	M. KHANJARI	S. GHOLIAE	...
D01	SEP-2021	I. F.	M. KHANJARI	S. GHOLIAE	...
D02	OCT-2021	I. F.	M. KHANJARI	S. GHOLIAE	...
D03	OCT-2022	F.	M. KHANJARI	S. GHOLIAE	...

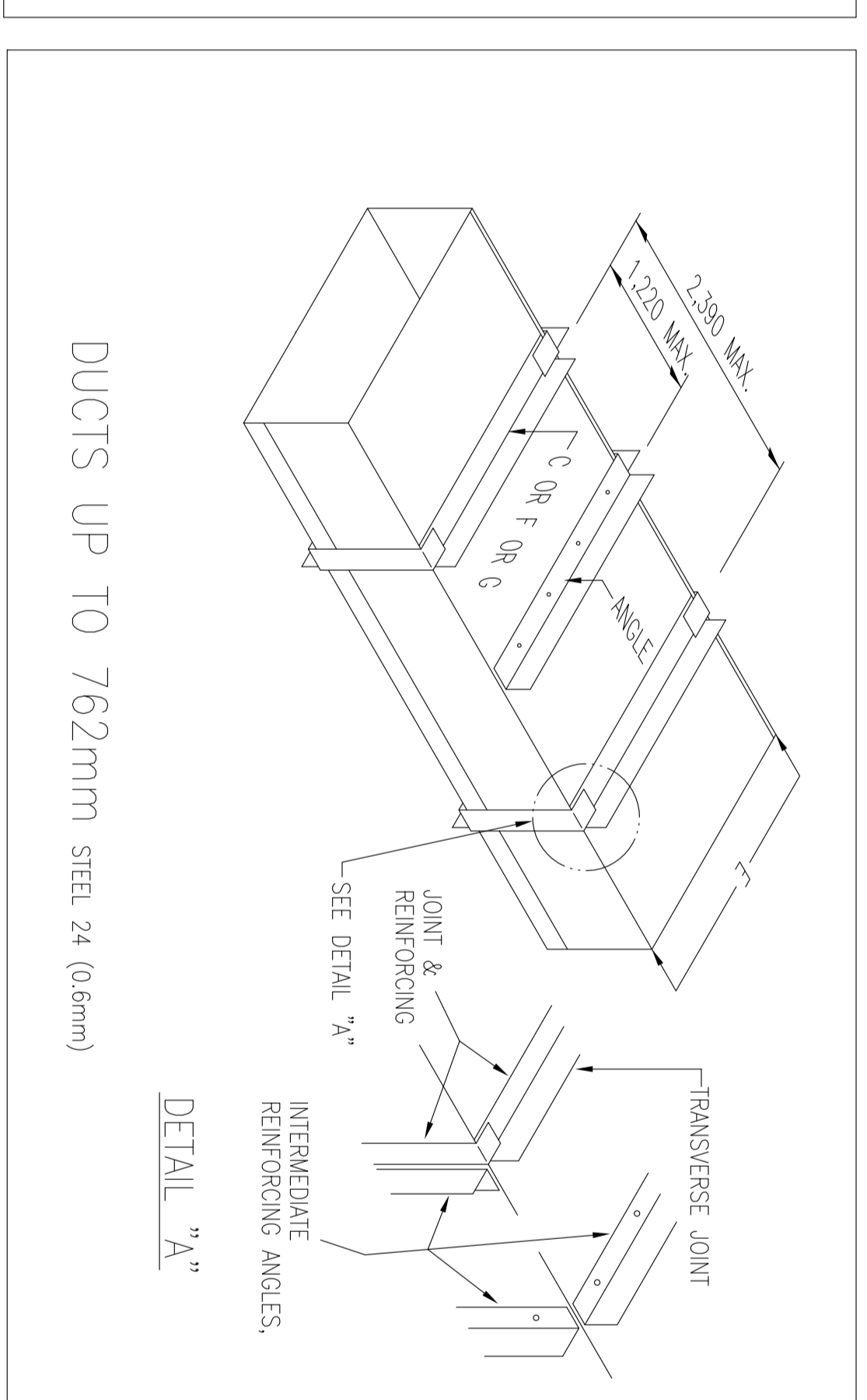
PROJECT NAME: BINAK OILFIELD DEVELOPMENT
 PROJECT NO.: 971020
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(VENDOR TITLE BLOCK)**

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ALL PLANT BUILDINGS.

DUCT DIMENSION	STEEL DUCT S.S. GRADE	CONVENTIONAL SEAM	TYPE OF TRANSVERSE JOINT CONNECTION	BRCING
FIG. 2c ACME LOCK	Up to 762mm	PITSBROUGH OR ACME LOCK	S. DRIVE POCKET OR BAR SLIPS ON 2,380mm MAXIMUM CENTERS	25mm x 25mm x 3mm ANGLES 1,220mm MAXIMUM FROM JOINT
FIG. 2b DRIVE SLIP	762mm to 1,016mm	PITSBROUGH OR ACME LOCK	DRIVE POCKET OR BAR SLIPS ON 2,380mm MAXIMUM CENTERS	25mm x 25mm x 3mm ANGLES 1,220mm MAXIMUM FROM JOINT
FIG. 2d PITTSBROUGH LOCK	1,016mm to 1,524mm	PITSBROUGH LOCK	40mm ANGLE CONNECT OR 40mm DRIVE POCKET OR 40mm BAR SLIPS WITH 40mm x 40mm x 3mm BAR REINFORCING ON 2,380mm MAXIMUM CENTERS	40mm x 40mm x 3mm ANGLES 1,220mm MAXIMUM FROM JOINT
FIG. 2e CASSET	1,549mm TO 2,286mm	PITSBROUGH LOCK	40mm ANGLE CONNECT OR 40mm DRIVE POCKET OR 40mm BAR SLIPS WITH 40mm x 40mm x 3mm BAR REINFORCING ON 1,430mm MAXIMUM CENTERS	40mm x 40mm x 3mm ANGLES 610mm MAXIMUM FROM JOINT
FIG. 2f ANGLE CONNECT BAR SLIP	2,311mm UP	PITSBROUGH LOCK	50mm ANGLE CONNECT OR 40mm DRIVE POCKET OR 40mm BAR SLIPS WITH 40mm x 40mm x 3mm BAR REINFORCING ON 1,430mm MAXIMUM CENTERS	40mm x 40mm x 3mm ANGLES 610mm MAXIMUM FROM JOINT

DUCT SEAM & SHEET METAL SCHEDULE

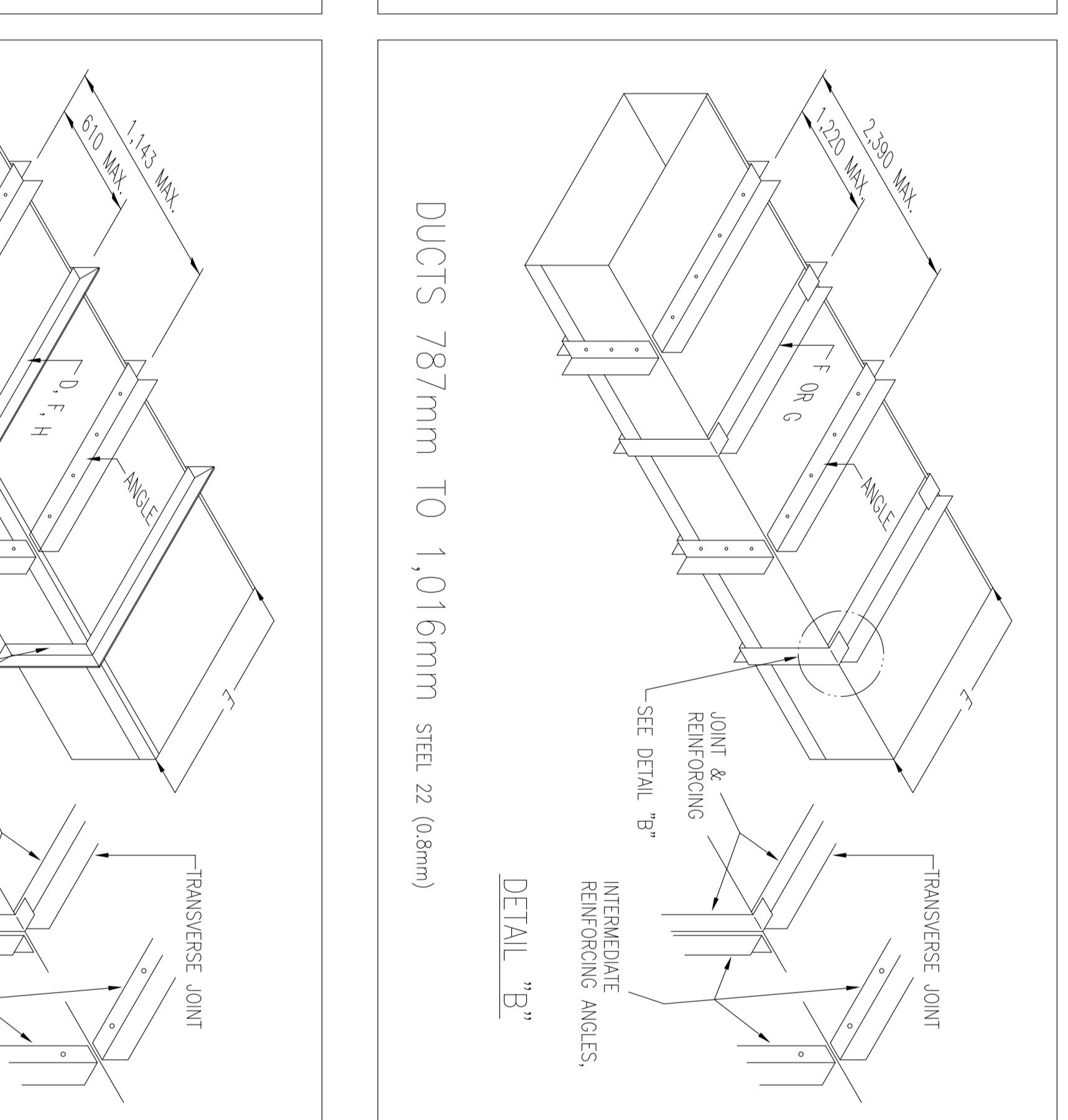
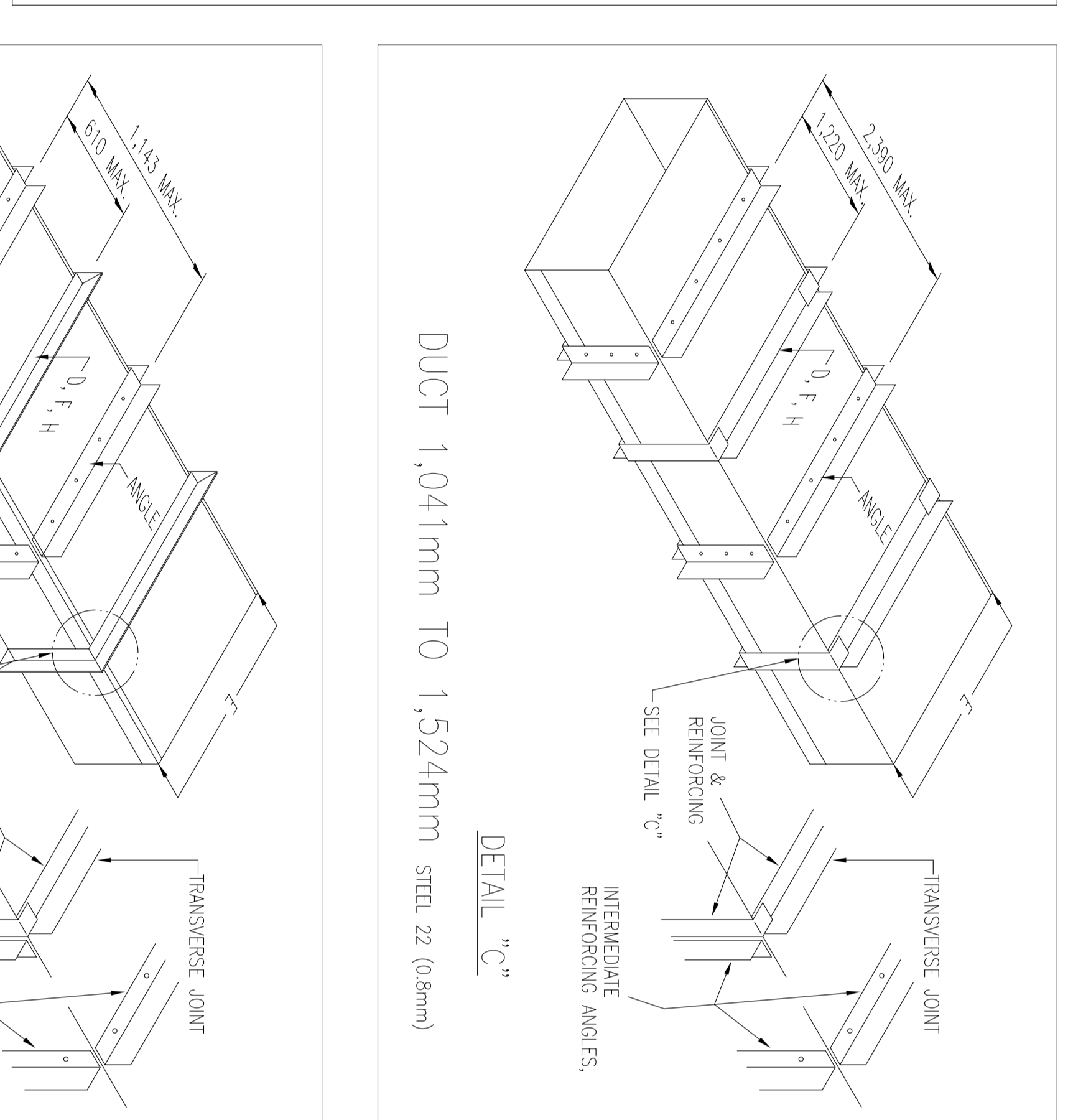
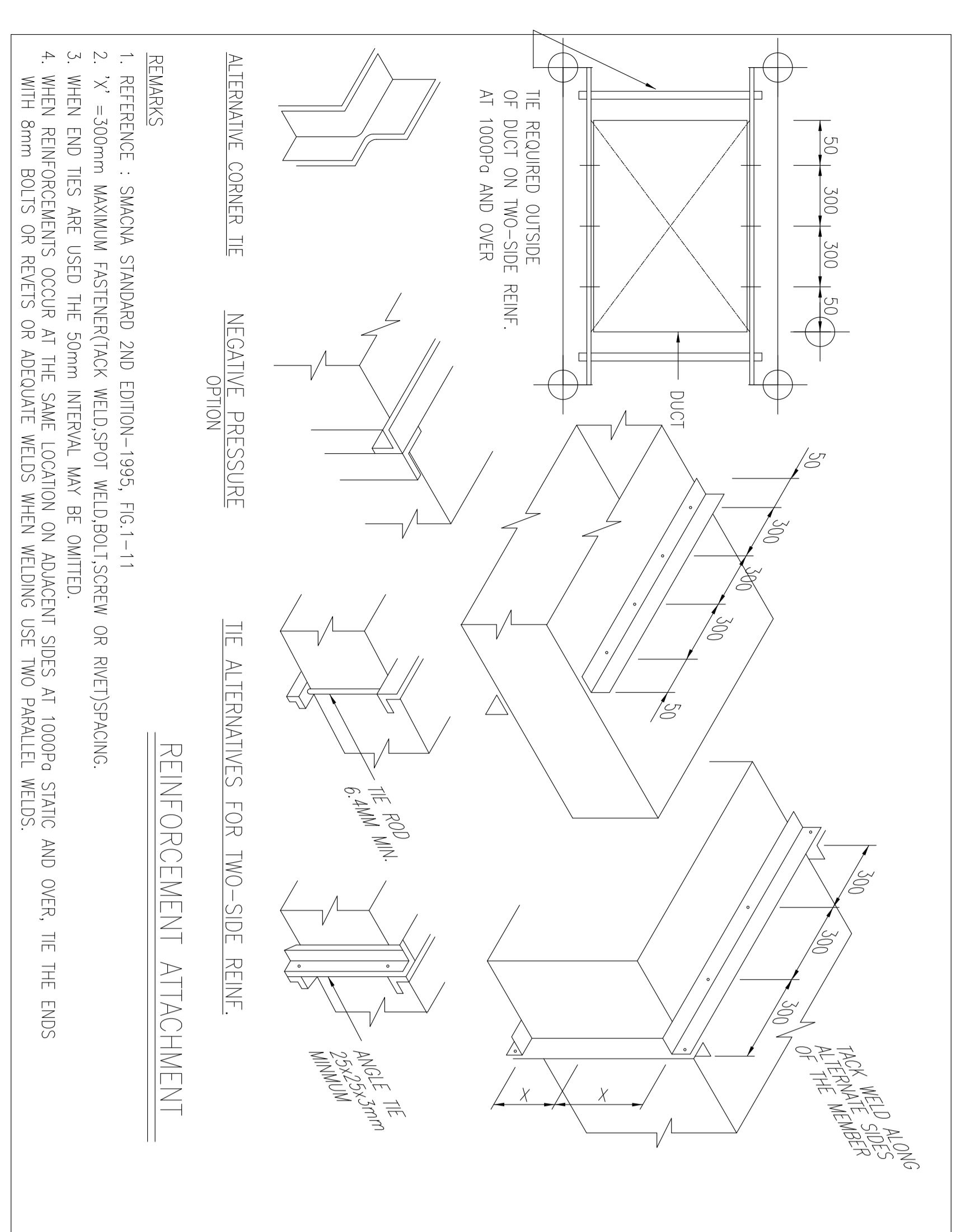


LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BR-GNRL-PEDCO-000-HV-DW-0002

REFERENCE DRAWING: BR-GNRL-PEDCO-000-HV-DW-0002

DRG. No.



KEY PLAN

DATE

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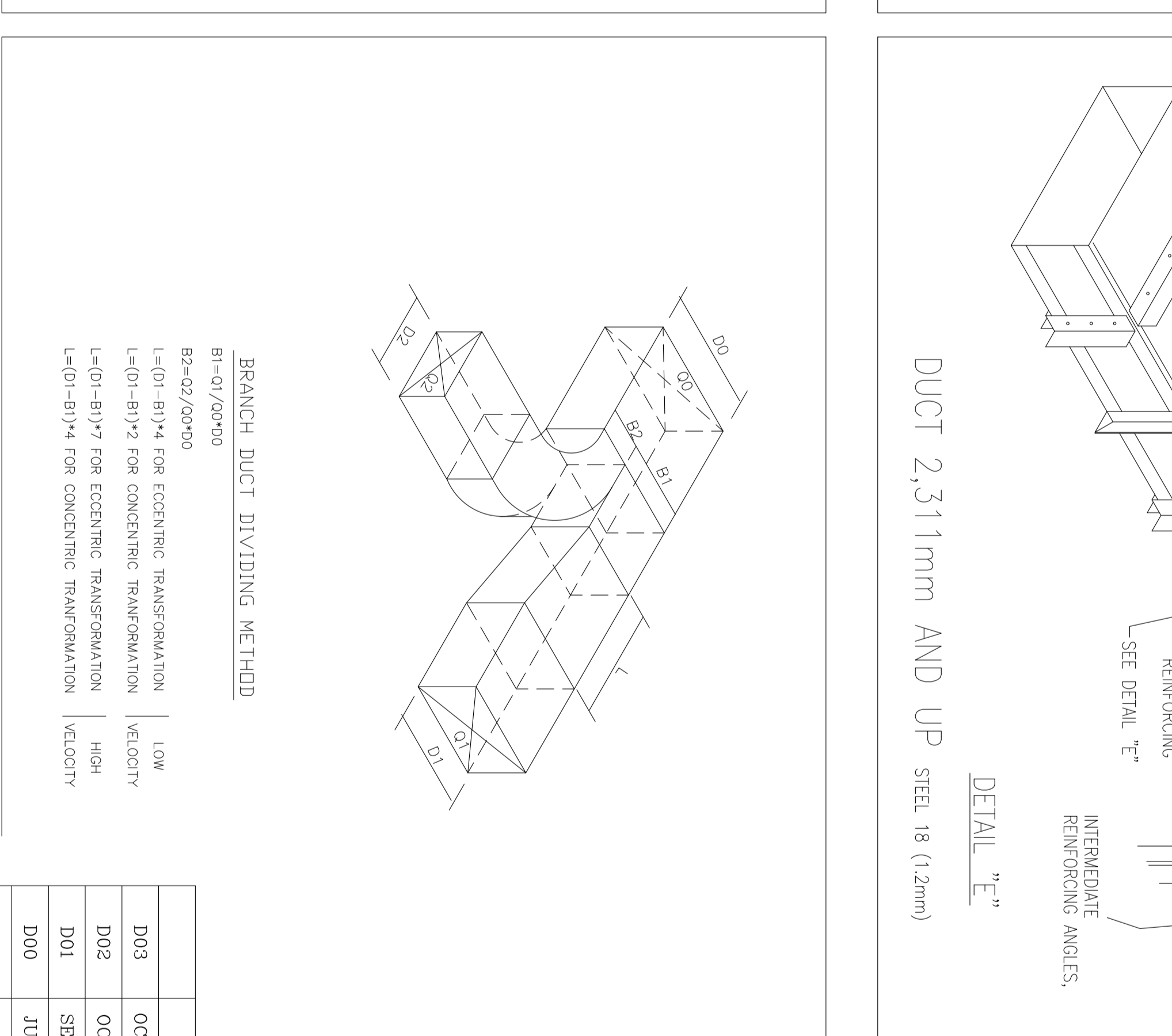
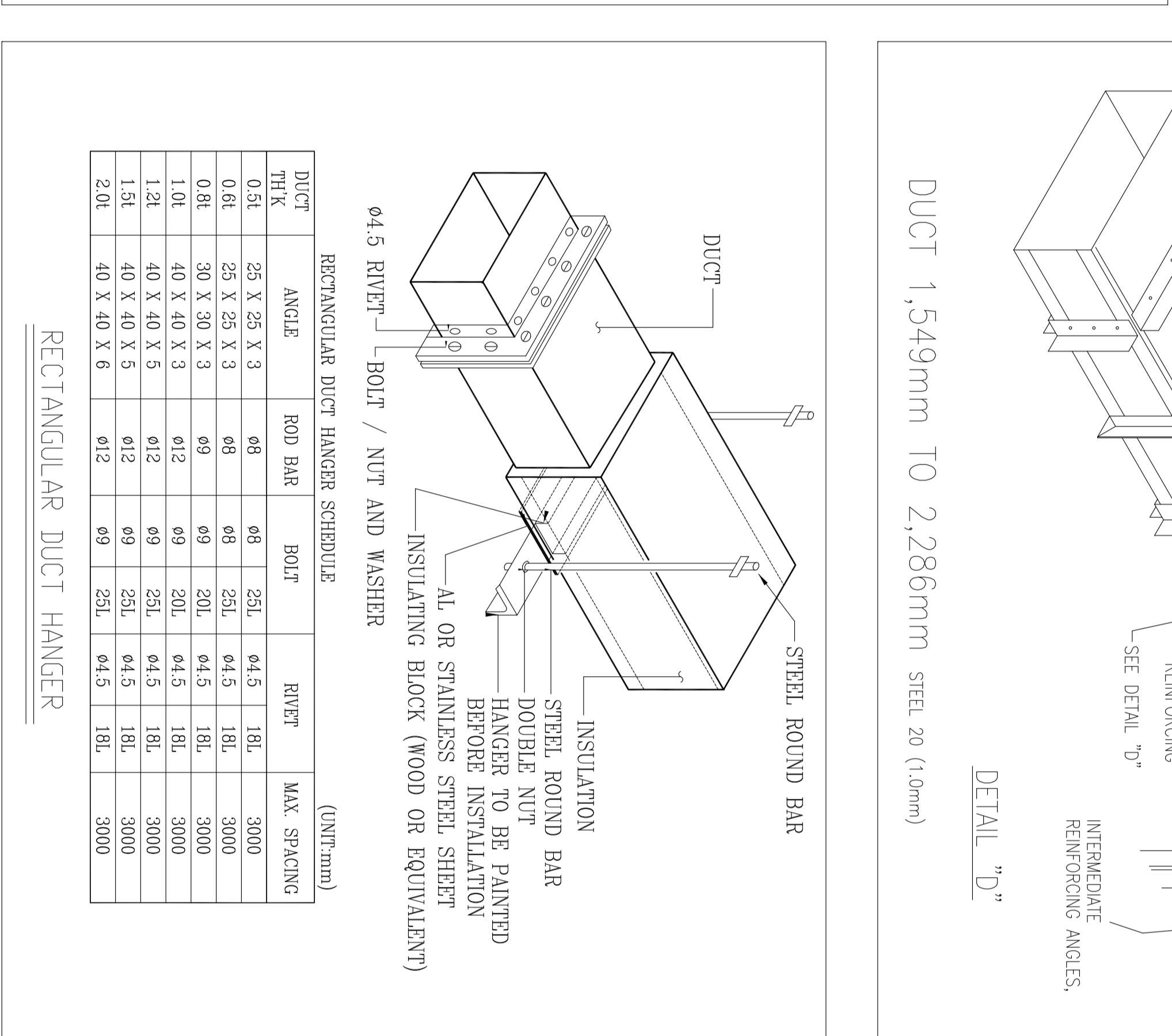
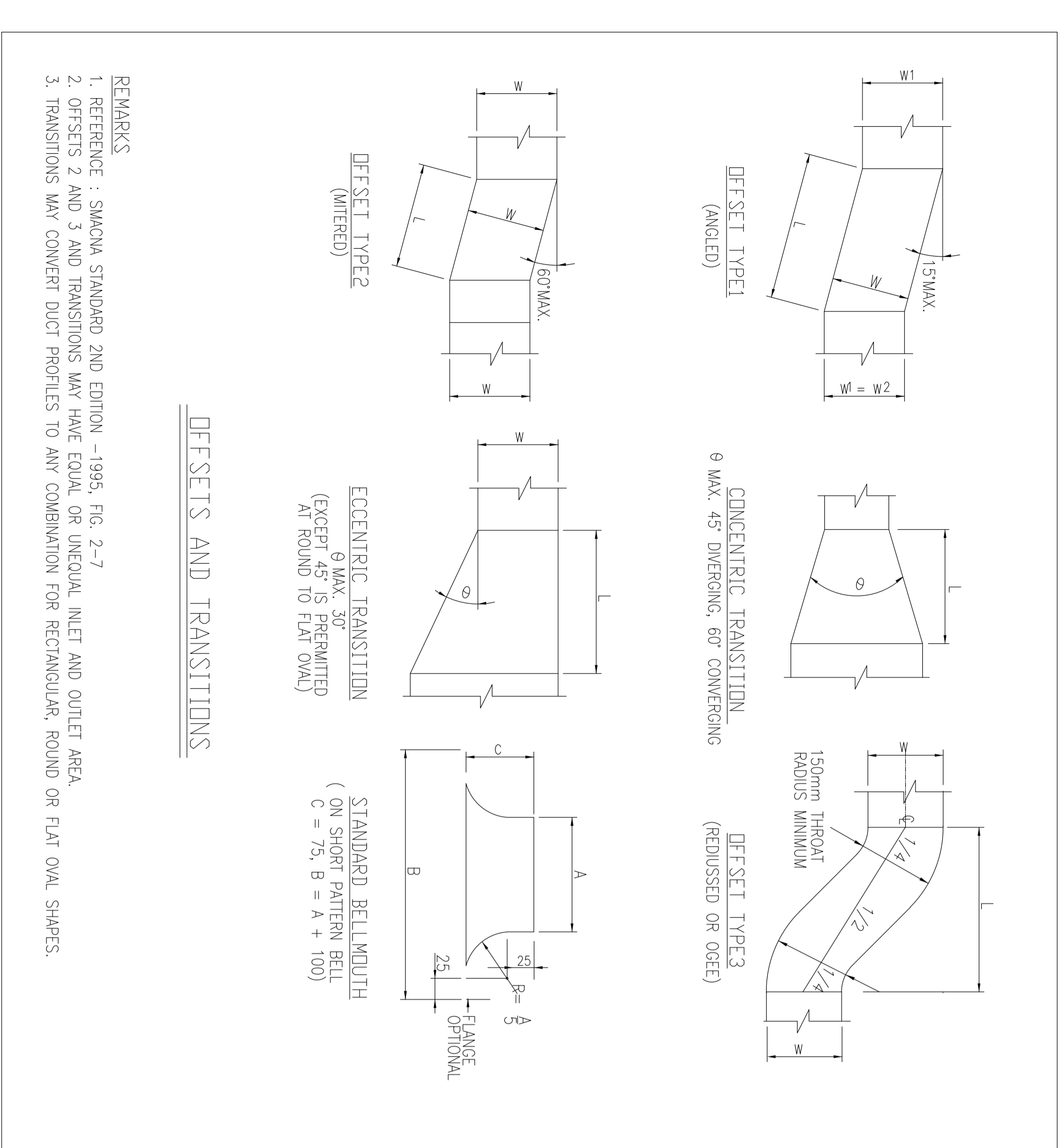
PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO. 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO. 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT



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BINAK OILFIELD DEVELOPMENT GENERAL

(VENDOR TITLE BLOCK)

SCALE: NTS A0

DRAWING NO: BR-GNRL-PEDCO-000-HV-DW-0001

SHEET NO: 9 OF 19

REV. D03

053-073-9194

IRISAN ENGINEERING COMPANY

PETROBRAN DEVELOPMENT COMPANY

DATE: 05/05/2021

SCALE: 1:1

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PROJECT NO. 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

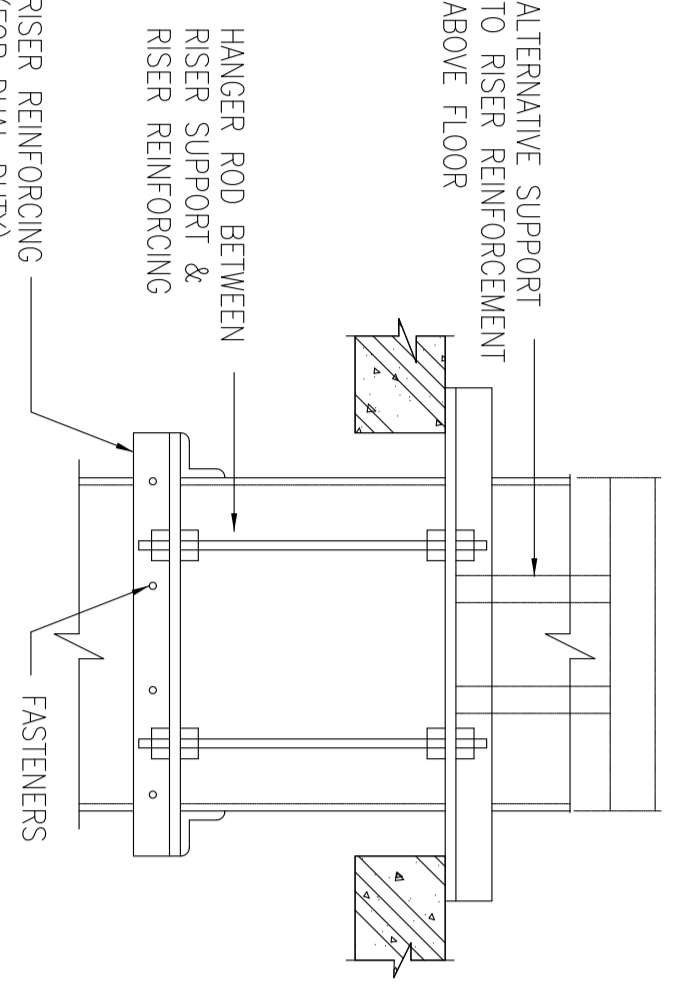
PROJECT NO. 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO. 971020

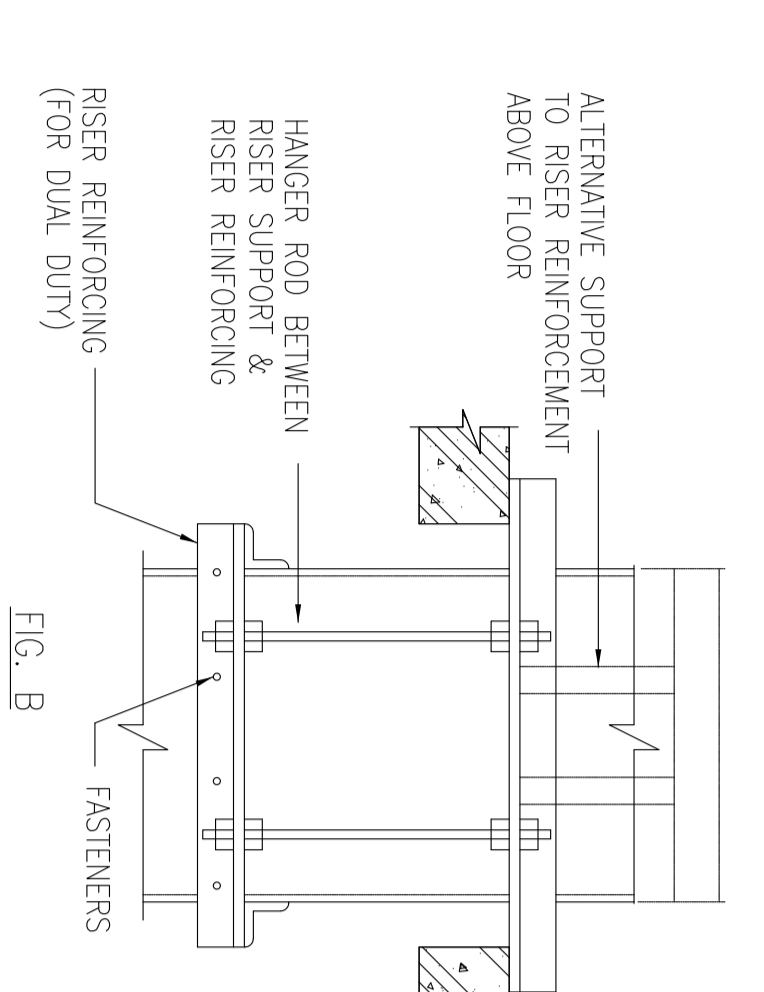
PROJECT NAME: BINAK OILFIELD DEVELOPMENT

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ALL PLANT BUILDINGS.



SUGGESTED SIZING FOR SUPPORT OF 3.2m OF DUCT

DUCT SIZE	ANGLE
900 x 450	40 x 40 x 3
1200 x 600	40 x 40 x 3
1500 x 750	40 x 40 x 5
1500 x 1500	40 x 40 x 6 OR 50 x 50 x 4



MINIMUM NUMBER OF FASTENERS ON EACH OF TWO SUPPORT BARS

LARGEST DUCT DIMENSION	MIN. NUMBER OF FASTENERS
UP TO 400	2
450 TO 600	3
OVER 600	LARGEST DUCT DIMENSION DIVIDED BY 6

RISER SUPPORTS FROM FLOOR

- REMARKS
1. REFERENCE : SMCMA STANDARD 2ND EDITION-1995, FIG-4-7M
 2. LOCATE A FASTENER WITHIN 50mm OF THE DUCT EDGES
 3. LOCATE OTHERS AT EQUAL SPACED INTERVALS, SEE TABLE 4-4 ON RISER & SUPPORT FROM WALL DETAIL

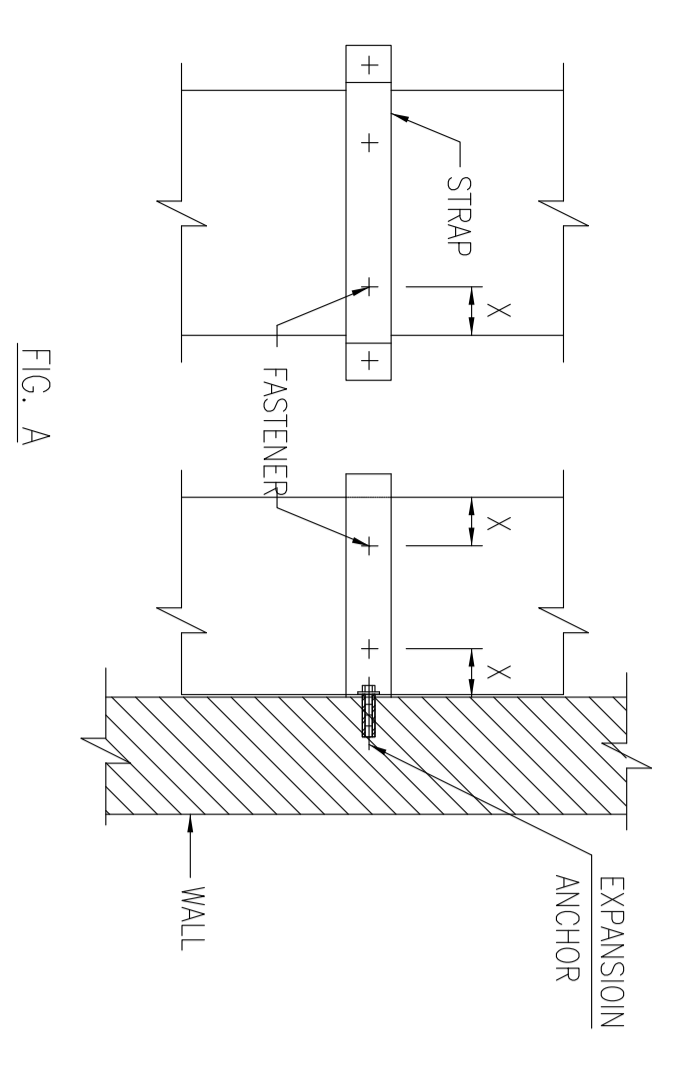


FIG. A - SUGGESTED SIZING

DUCT SIZE	BAND
450 x 300	40 x 16GA
600 x 500	25 x 3

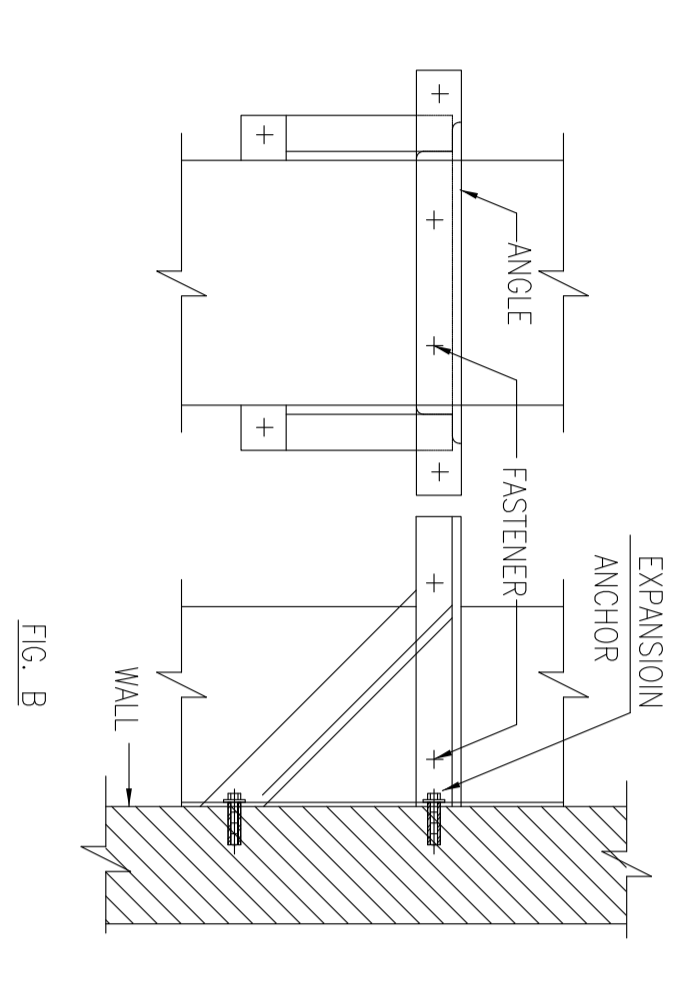


TABLE 4-4

DUCT GAGE	ALLOWABLE LOAD
26GA	11.3 KG
24GA/23GA/23GA	16 KG
18GA/18GA	23 KG

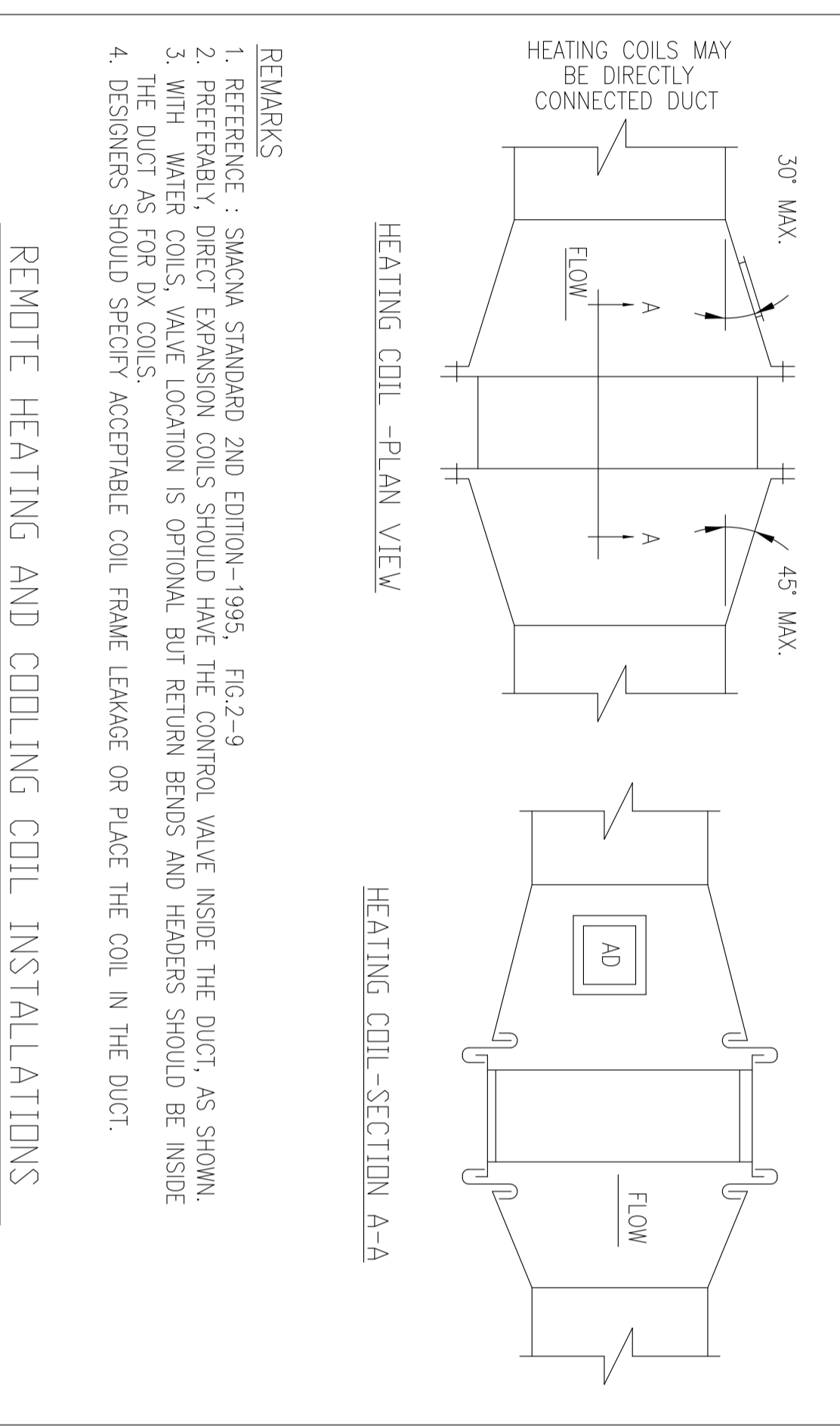
SEE REMARKS 3

FIG. B- SUGGESTED SIZING

DUCT SIZE	ANGLE
900 x 300	25 x 25 x 3
750 x 450	25 x 25 x 3
1050 x 600	32 x 32 x 3
1200 x 900	32 x 32 x 3

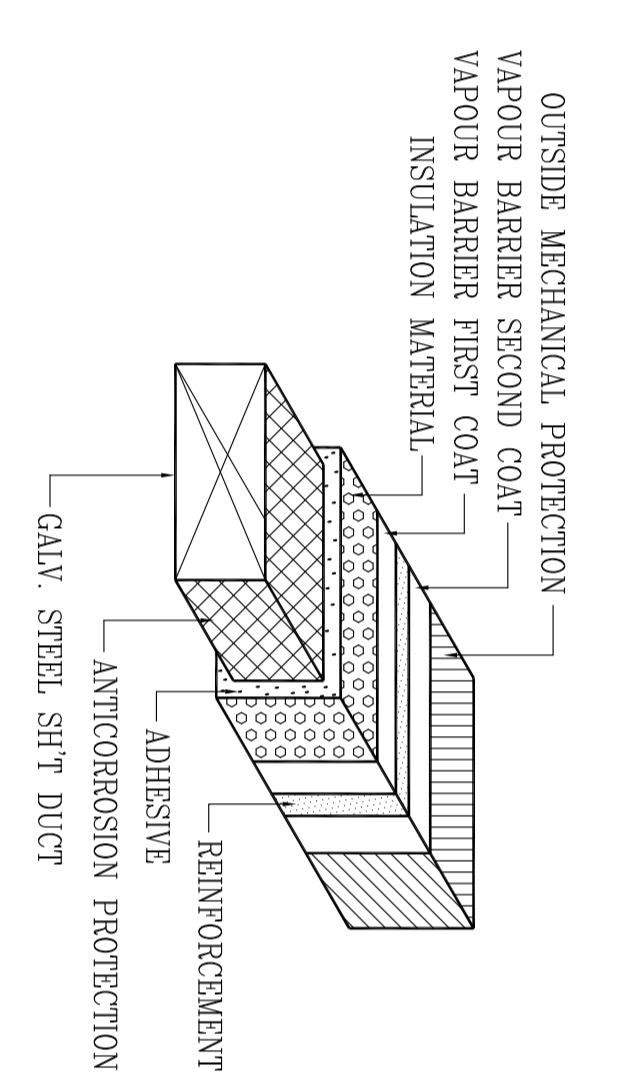
- REMARKS
1. REFERENCE : SMCMA STANDARD 2ND EDITION-1995, FIG-4-8M
 2. BRACKETS ARE SIZED FOR 3.6m OF DUCT, MAXIMUM
 3. LOCATE DUCTS AGAINST WALL OR MAXIMUM OF 50mm AWAY FROM WALL
 4. EACH WALL ANCHOR SHALL SATISFY THE FOLLOWING CRITERIA UNLESS OTHER ANALYSIS IS MADE:
 - A. TENSILE LOAD = 5/8 x DUCT WEIGHT/SAFETY FACTOR 4.
 - B. SHEAR LOAD = 1/2 x DUCT WEIGHT/SAFETY FACTOR 4.
 5. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.
 6. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.
 7. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.
 8. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.
 9. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.
 10. WELD BOLT (OR NO. 8 SCREW) (N) DETAILMENT PERMITTED BY OTHER ANALYSIS.

RISER SUPPORT FROM WALL



- REMARKS
1. REFERENCE : SMCMA STANDARD 2ND EDITION-1995, FIG-2-9
 2. PREFERABLY, DIRECT EXPANSION COILS SHOULD HAVE THE CONTROL VALVE INSIDE THE DUCT, AS SHOWN
 3. WITH WATER COILS, VALVE LOCATION IS OPTIONAL BUT RETURN BENDS AND HEADERS SHOULD BE INSIDE
 4. DESIGNERS SHOULD SPECIFY ACCEPTABLE COIL FRAME DAMAGE OR PLACE THE COIL IN THE DUCT.

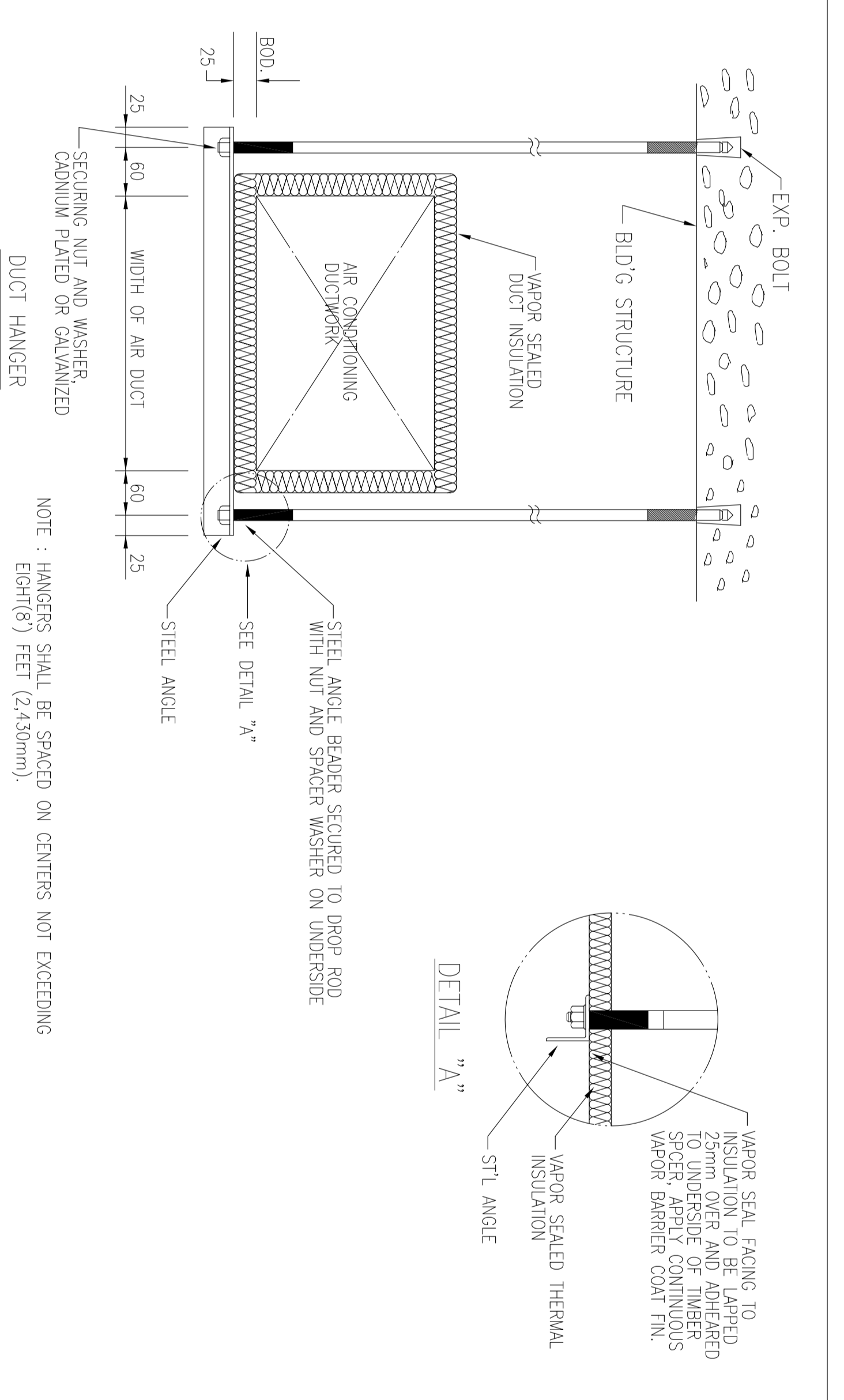
REMOTE HEATING AND COOLING COIL INSTALLATIONS



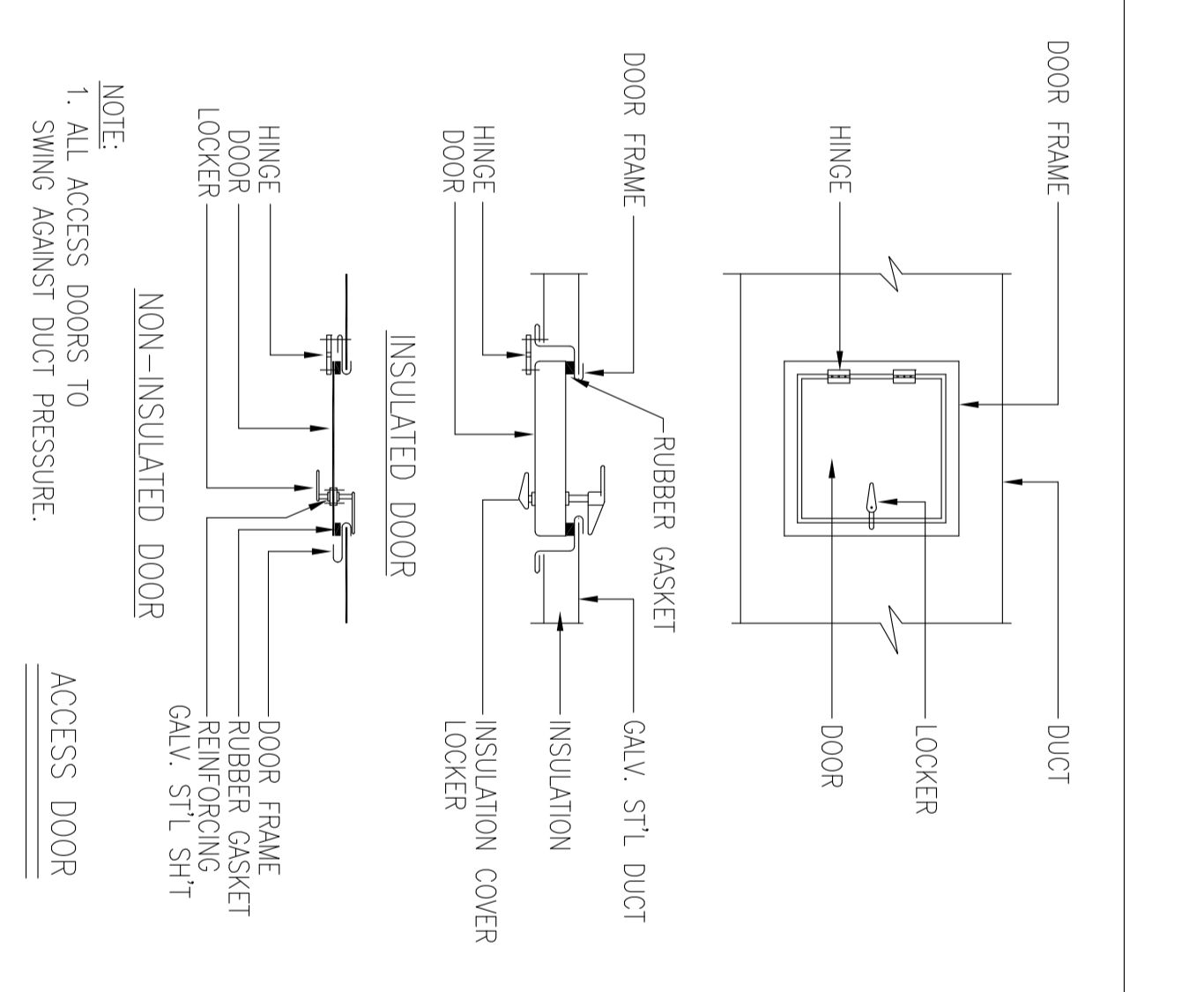
- * GENERAL NOTES**
1. ALL JOINTS SHALL BE SEALED WITH DUCT SEALANT
 2. VAPOUR BARRIER SHALL NOT BE PERFORATED WITH POP RIVET, SCREW OR DRILL.
 3. MIN. INSULATION THICKNESS : 40 mm

* INSIDE DUCT	* OUTSIDE DUCT
1. DUCT : GALVANIZED STEEL, FINISH : SPS	1. DUCT : SUS (STAINLESS STEEL WALL PENETRATION)
2. ANTI-CORROSION PROTECTION : DISH WASHER HOOD : SIS LAB EXHAUST : PVC OR SIS	2. ANTI-CORROSION PROTECTION : SIGAMARTE SEALER 7420 - PRIMER
3. ADHESIVE : FOSTER QUICK TACK (WATER BASE ADHESIVE)	3. ADHESIVE : FOSTER QUICK TACK (WATER BASE ADHESIVE)
4. INSULATION MATERIAL : 48 kg/m ³ SEMI RIGID SLAB INSULATION ONE FACE WITH TWO DIRECTIONS(SAME AS PSK TYPE)	4. INSULATION MATERIAL : 48 kg/m ³ SEMI RIGID SLAB INSULATION ONE FACE WITH TWO DIRECTIONS(SAME AS PSK TYPE)
5. VAPOUR BARRIER : FIRST AND SECOND COATS	5. VAPOUR BARRIER : FIRST COAT : FOSTER MONOLAR SECOND COAT : FOSTER MONOLAR
6. REINFORCEMENT : FOSTER WB COATING	6. REINFORCEMENT : OPEN WOVEN GLASS CLOTH
7. DIPRED IN VAPOUR BARRIER	7. OUTSIDE MECHANICAL PROTECTION : 0.4 mm THK STAINLESS STEEL SHEET

DUCT INSULATION



NOTE : HANGERS SHALL BE SPACED ON CENTERS NOT EXCEEDING 600mm (2'0") FEET (2443mm).



NOTE: ALL ACCESS DOORS TO RISE AGAINST DUCT PRESSURE

REV.	DATE	DESCRIPTION	BY	DATE	BY
DD03	OCT-2022	PI	H.AMIN	M.KARABANI	S.GHULAB
DD02	OCT-2021	IFI	H.AMIN	M.KARABANI	S.GHULAB
DD01	SEP-2021	IFI	M.KARABANI	S.GHULAB	...
DD00	JUL-2021	IFI	M.KARABANI	S.GHULAB	...

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO.: 971020

EPC CONTRACTOR: EPD/BPC CONTRACTOR (GC)

HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

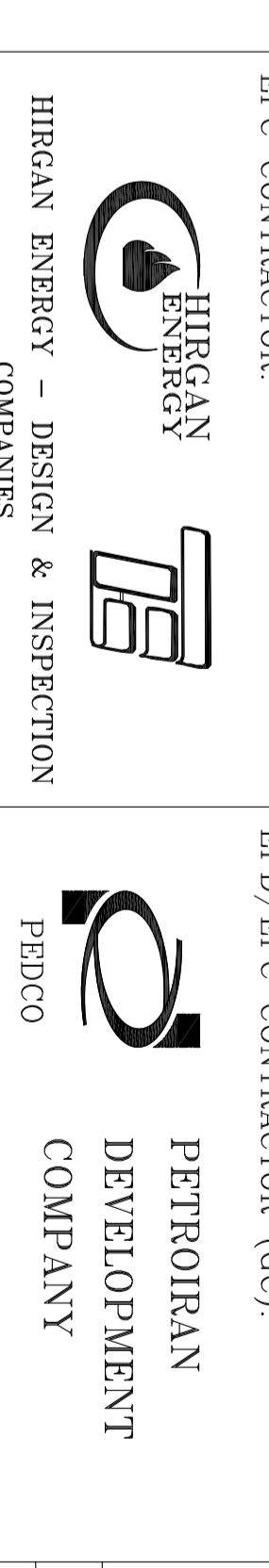
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053-073-9194 P 4 B 10 OF 19 D03

BINAK OILFIELD DEVELOPMENT GENERAL



DRAWING TITLE: Standard Drawing for HVAC & Plumbing

DRAWING NO: BR-GNRL-PEDCO-000-HV-DW-0001

SHEET NO: 10 OF 19

REV. D03

(VENDOR TITLE BLOCK)

SCALE	SIZE	DRAWING NO	SHEET NO	REV.
NTS	A0	BR-GNRL-PEDCO-000-HV-DW-0001	10 OF 19	D03

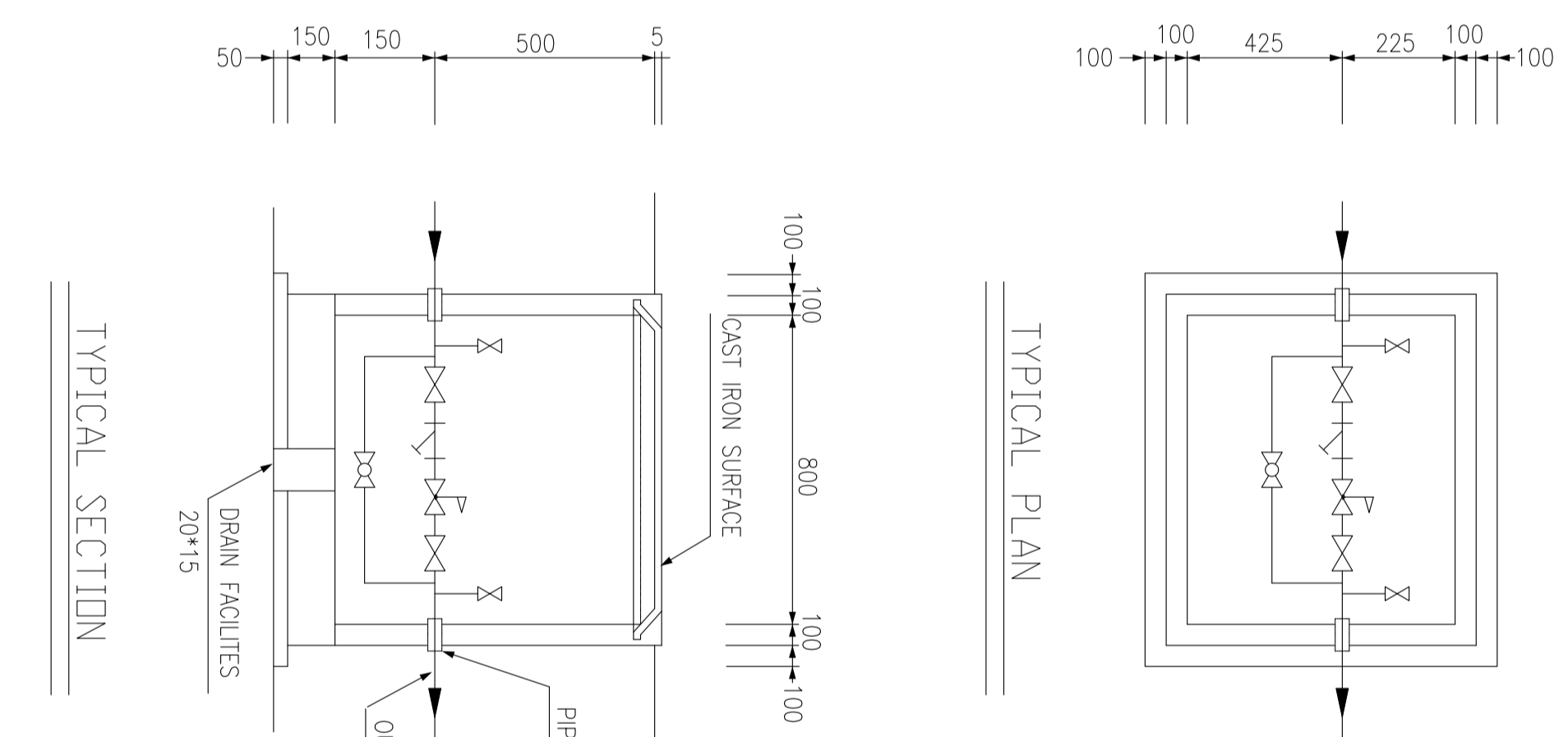
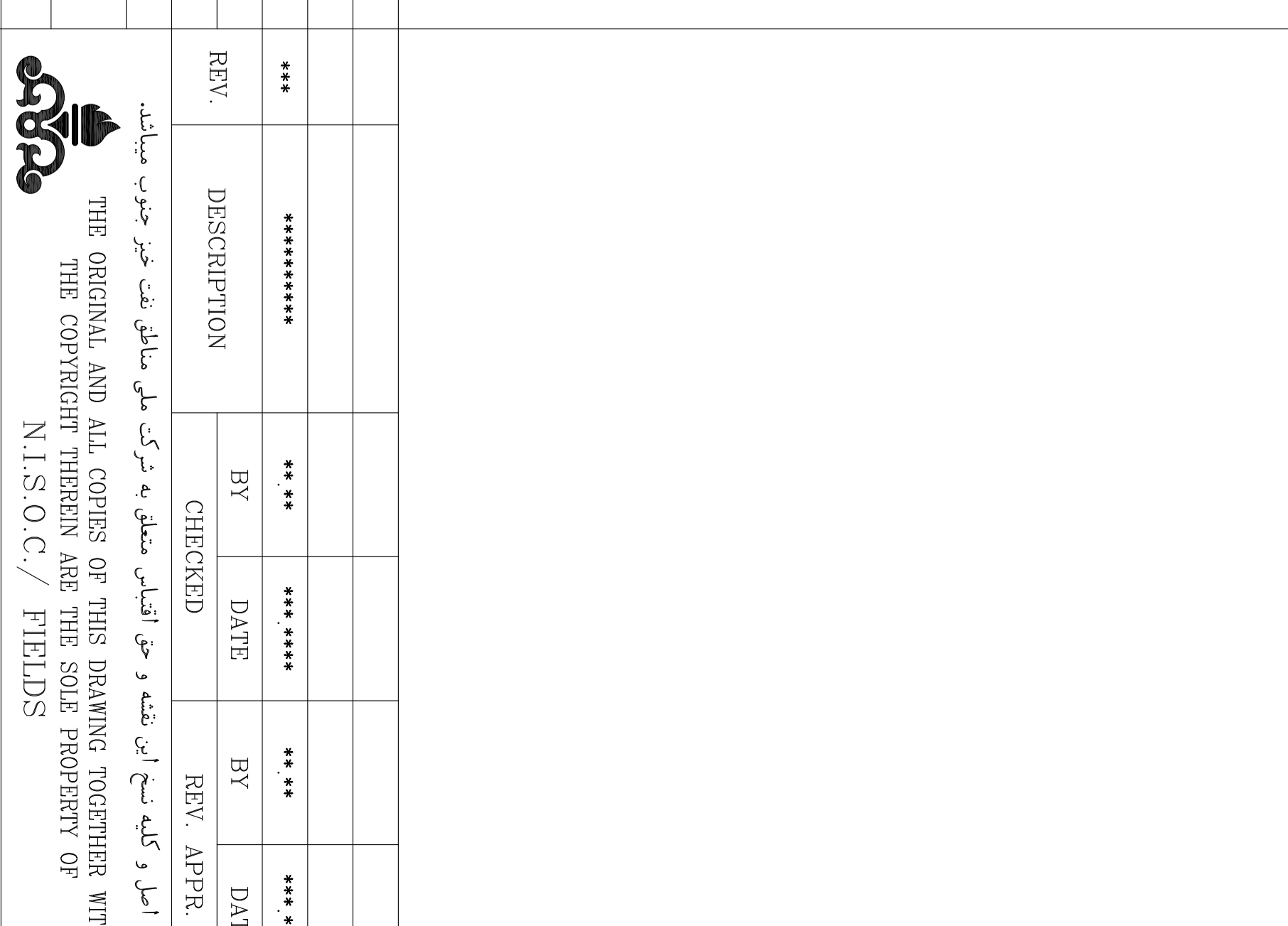
NOTES

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THIS DRAWING IS TO BE READ IN CONJUNCTION WITH HVAC DRAWINGS, OF
ALL PLANT BUILDINGS.

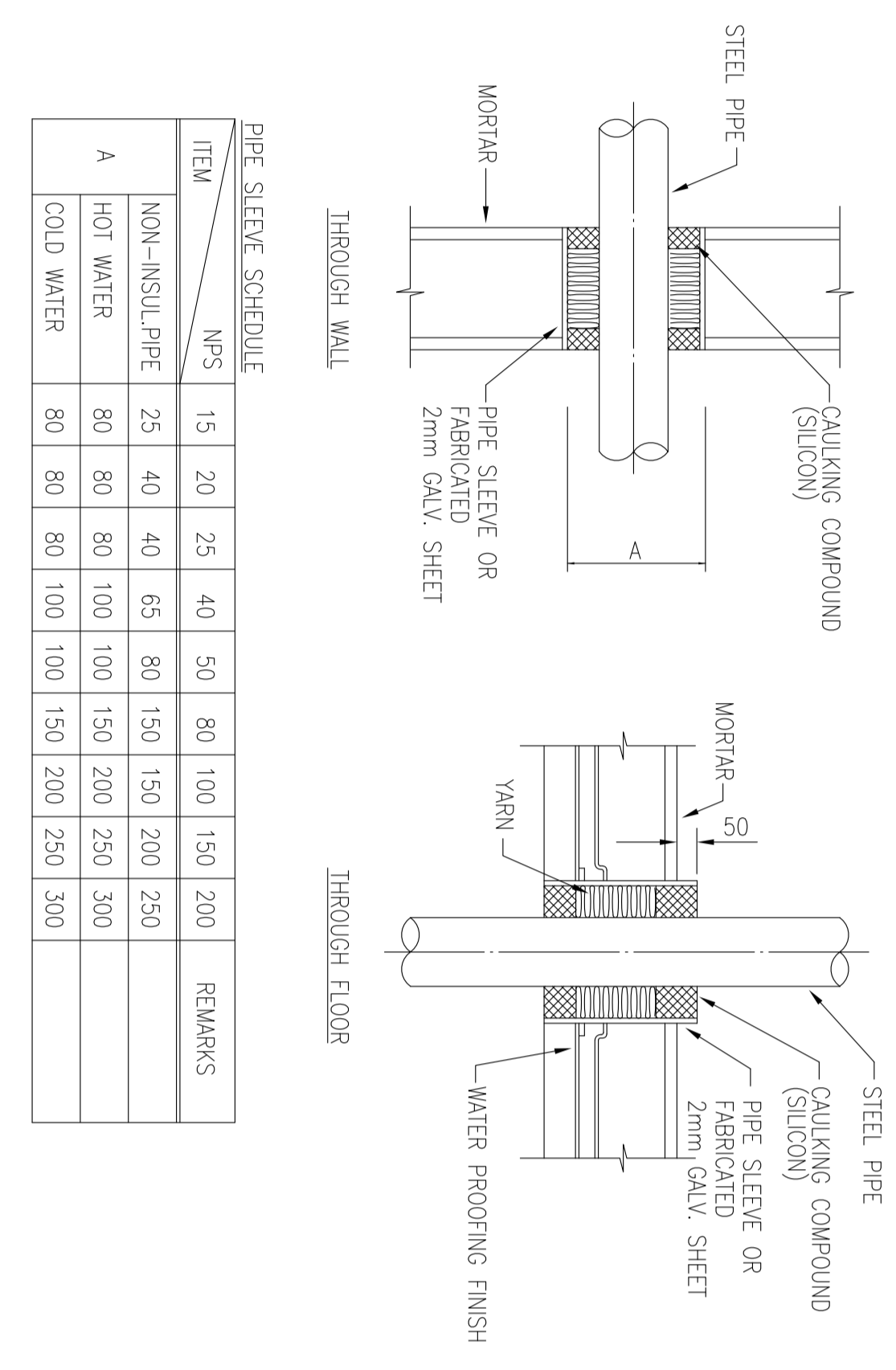
LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BR-GNRL-PECCO-000-HV-DW-0002	DRG. No.
REFERENCE DRAWING	BR-GNRL-PECCO-000-HV-DW-0002
Symbol & Legend for HVAC & Plumbing	

KEY PLAN

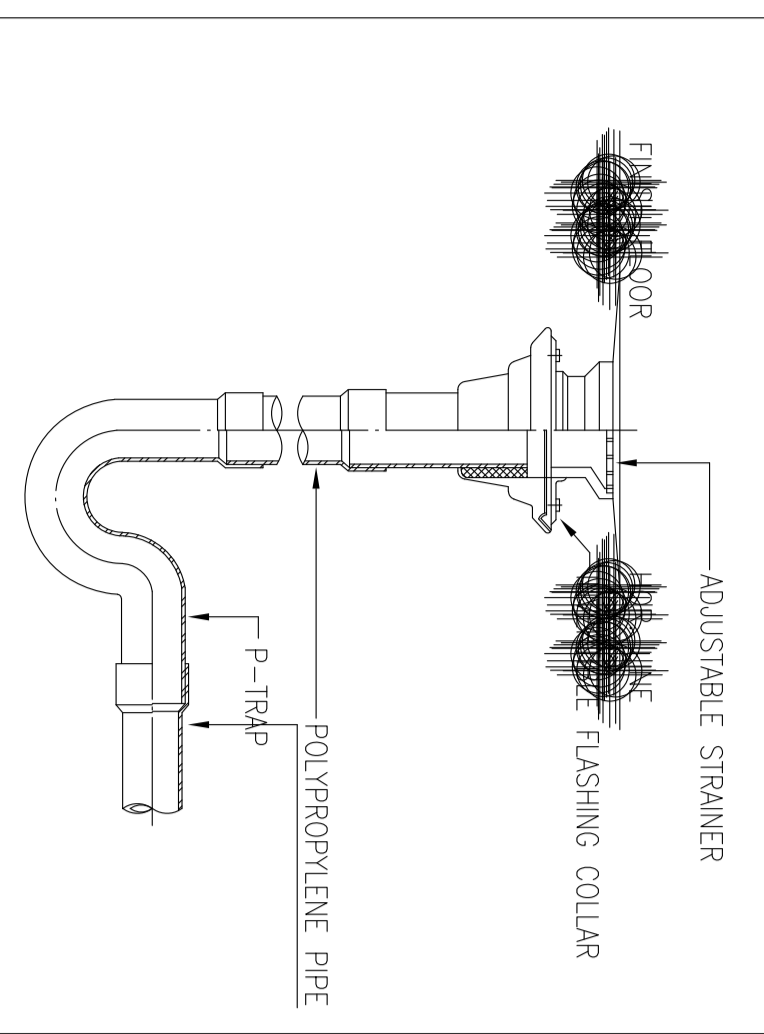


INSTALLATION DETAIL FOR VALVE CHAMBER

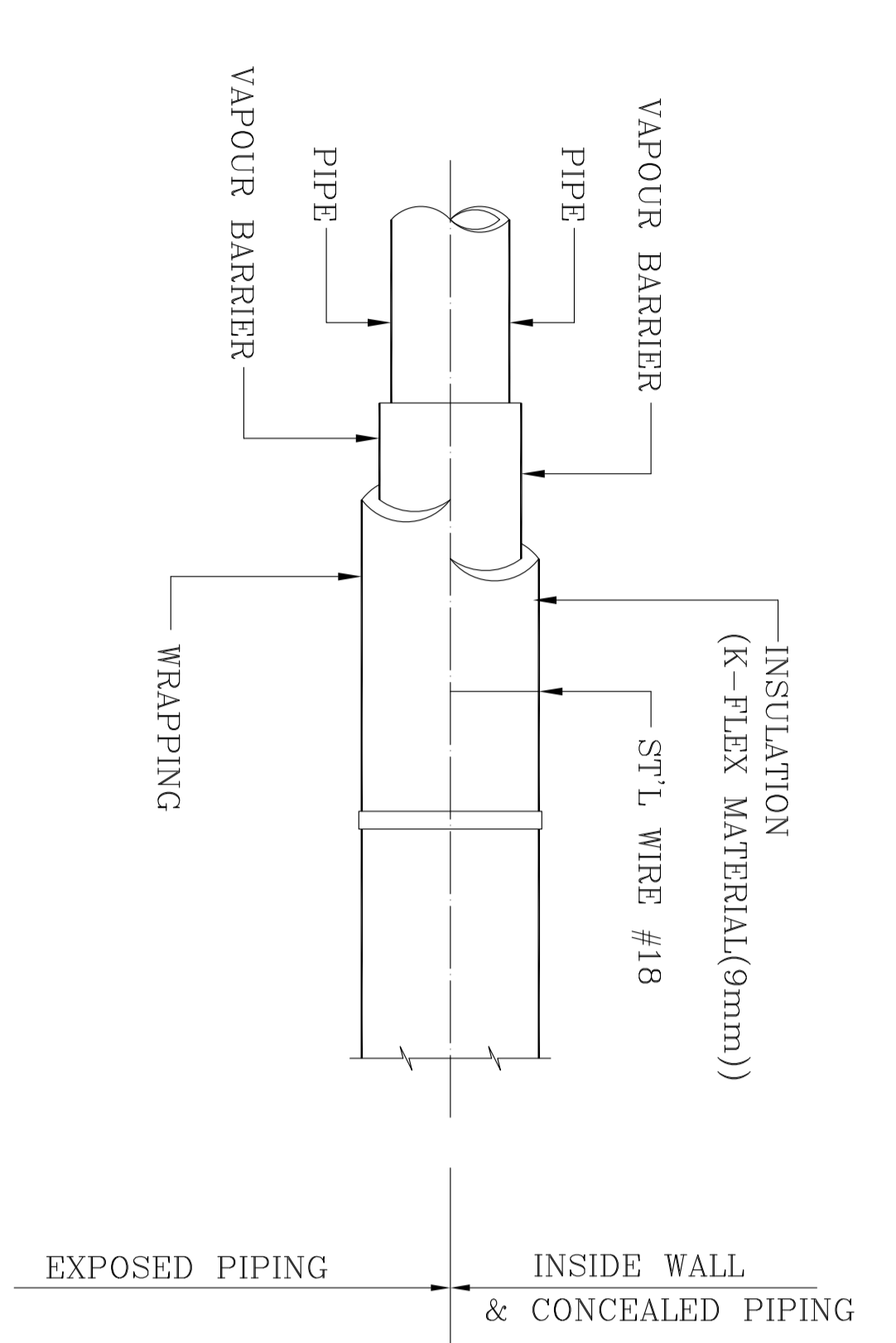


PIPE SLEEVE SCHEDULE		REMARKS	
ITEM	N.P.S.	N.P.S.	
A	HOT WATER	80	80
	COLD WATER	80	80
		80	100
		80	150
		80	200
		80	250
		80	300

PIPE SLEEVE



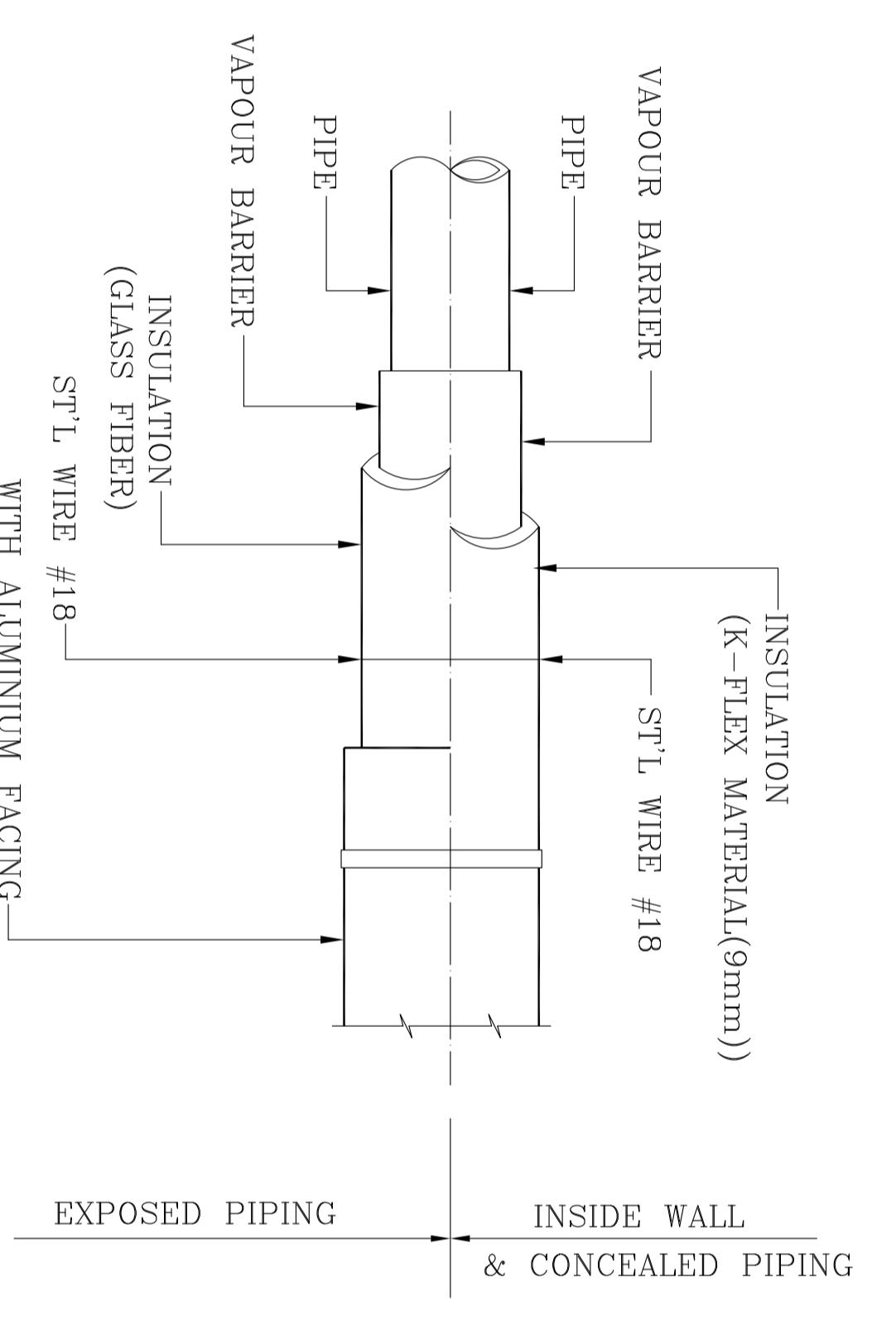
FLOOR DRAIN



INSULATION (CHK)

ITEM	N.P.S.	1/2"	1/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	REMARKS
INSIDE WALL	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	
EXPOSED - PASSING THROUGH ELECTRICAL EQUIPMENT ROOMS	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	

COLD WATER PIPE INSULATION



INSULATION (CHK)

ITEM	N.P.S.	1/2"	1/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	REMARKS
INSIDE WALL	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	
EXPOSED DOME: HOT WATER	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	

HOT WATER PIPE INSULATION

PROJECT NO.:	971020
PROJECT NAME:	BINAK OILFIELD DEVELOPMENT
EPC CONTRACTOR:	BRG/BRG CONTRACTOR (GC): 971020
CLIENT:	PECCO
DESIGNER:	PI
CHECKER:	CHK
APPROVER:	APP
AUT:	AUT

الاصول والبيانات
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HIRGAN ENERGY
DESIGN & INSPECTION COMPANIES

PECCO DEVELOPMENT COMPANY

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED
APPROVED FOR CONSTRUCTION BY: DATE:
BUDGET REF: LOCATION: SIZE CLASS: SERIAL NO. SHEET REVISION

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BR-GNRL-PECCO-000-HV-DW-0001	11 OF 19	D03

DATE	SCALE	DRAWING BY	CHECKED BY

(VENDOR TITLE BLOCK)**

NOTES

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ALL PLANT BUILDINGS.

LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BR-CNRAL-PEDCO-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BR-CNRAL-PEDCO-000-HV-DW-0002

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED			
APPROVED FOR CONSTRUCTION	BY:	DATE:	
BUDGET REF. LOCATION	SIZE CLASS	SERIAL NO.	SHEET REVISION
F	B	707128	12 OF 19 D03

BINAQ OILFIELD DEVELOPMENT GENERAL		DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.
		DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.
BINAQ OILFIELD DEVELOPMENT						
GENERAL						
BINAQ OILFIELD DEVELOPMENT						
GENERAL						
BINAQ OILFIELD DEVELOPMENT						
GENERAL						
BINAQ OILFIELD DEVELOPMENT						
GENERAL						

REV.	DATE	DESCRIPTION	CHECKED	REV. APPRO.
003	OCT-2022	PI	M.KHABIBAN	S.H.GHUMAR
002	OCT-2021	IFI	H.AHMED	M.KHABIBAN
001	SEP-2021	IFI	M.SHAHABUDDIN	M.KHABIBAN
000	JUL-2021	IFI	M.SHAHABUDDIN	M.KHABIBAN

PROJECT NAME: BINAQ OILFIELD DEVELOPMENT

PROJECT NO.: 971020

EPC CONTRACTOR: EPC CONTRACTOR (GC):

BRAND/ERC CONTRACTOR (GC):

HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES

PEYROBAN DEVELOPMENT COMPANY

DRAWING TITLE: Standard Drawing for HVAC & Plumbing

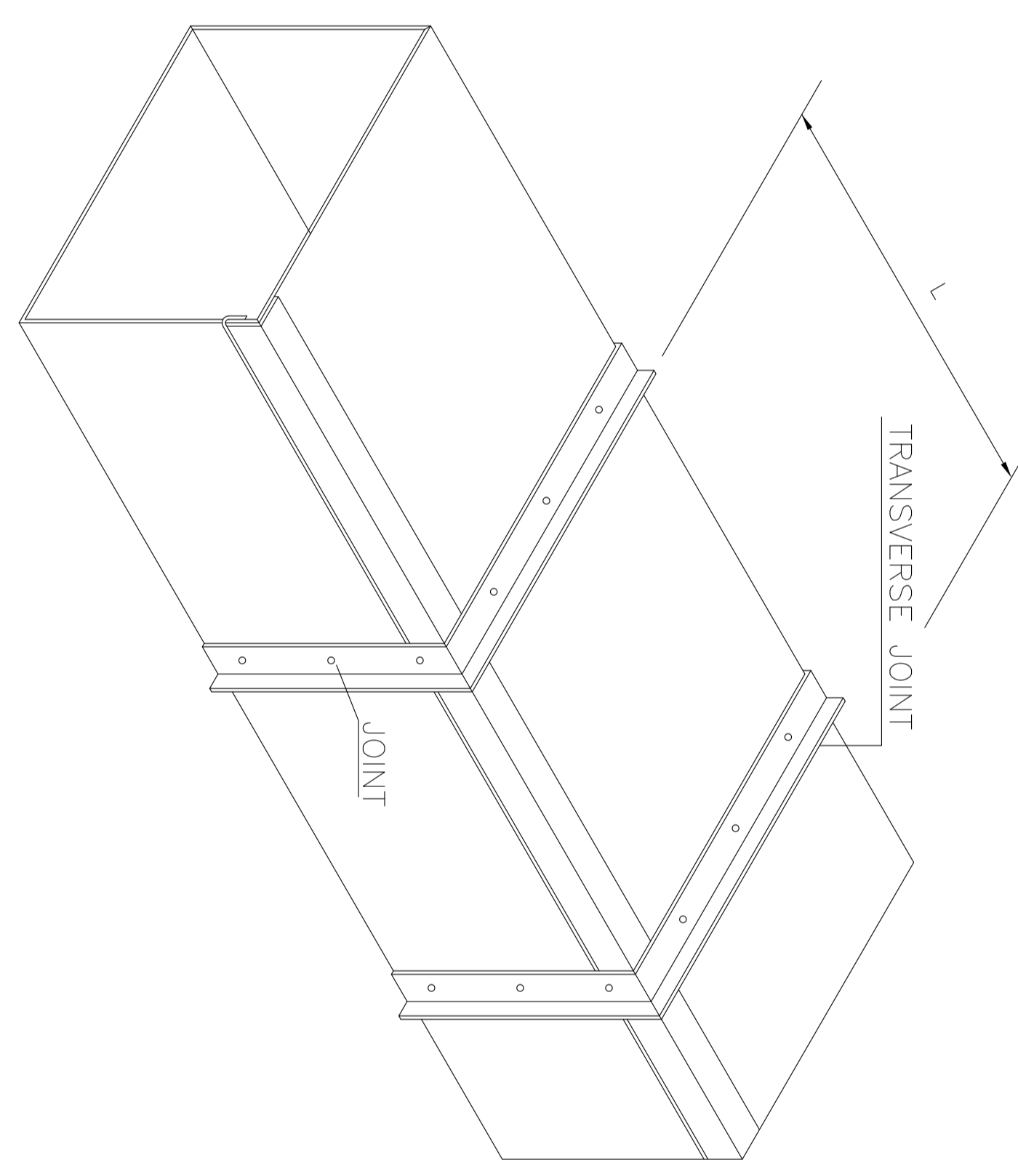
SCALE: A0

SIZE: BR-CNRAL-PEDCO-000-HV-DW-0001

SHEET NO: 12 OF 19

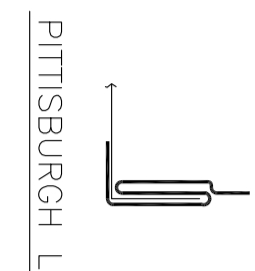
REV. NO: D03

(VENDOR TITLE BLOCK)**



GALVANIZED STEEL SHEET DUCTS THICKNESS

DIMENSION OF LONGEST SIDE (W or H) mm	THICKNESS mm	TRANSVERSERS SPACING BETWEEN TRANSVERSE JOINTS	MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS And/or INTERMEDIATE REINFORCING	HOLE DIAMETER TOLERANCE mm
UP THRU 300	0.5	30x3	1.5	7-64
300 TO 750	0.6	30x3	1.2	7-64
750 TO 1370	0.75	30x3	1.2	7-64
1370 TO 2130	1	40x5	1.2	10 ⁰ 65
OVER 2130	1.25	40x5	1.2	10 ⁰ 65



NOTES:
1- ALL LONGITUDINAL SEAMS SHALL BE PITTSBURGH LOCK
2- CLOSEST EQUIVALENT IN MILLIMETER DIMENSIONS SHALL BE CONSIDERED.

TRANSVERSE REINFORCEMENT AT JOINTS

DIMENSION OF LONGEST SIDE mm. (IN.)	STEEL THICKNESS mm. (Ga)	ALUMINUM ALLOY THICKNESS mm. (IN.)	COPPER THICKNESS mm. (IN.)	MINIMUM REINFORCING ANGLE SIZE mm. (IN.) AND MAXIMUM LONGITUDINAL SPACING mm. (IN.) BETWEEN TRANSVERSE JOINTS AND/OR INTERMEDIATE REINFORCING	TRANSVERSE REINFORCEMENT AT JOINTS																
					MINIMUM HIGH (mm)		HEALED ALTERNATE REINFORCED PLAN SLIP		ANGLE SLIP		ANGLE REINFORCED STANDING SEAM		POCKET LOCK								
					mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)	mm. (Ga.)							
UP THRU 300(12)	0.55(26)	0.50(20)	4.85(16)	NONE REQUIRED	25	0.55(26)	0.55(26)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)
325-450(13-18)	0.70(24)	0.60(20)	7.30(24)	NONE REQUIRED	25	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	
475-750(19-30)	0.70(24)	0.80(25)	7.30(24)	25x25x3 & 1500 1x1x1/8 & 60	25	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	0.70(24)	
775-1050(31-42)	0.85(22)	0.80(25)	9.75(32)	25x25x3 & 1500 1x1x1/8 & 60	25	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
1075-1350(43-54)	0.85(22)	0.80(25)	9.75(32)	40x40x3 & 1500 1/2x1/2x1/8 & 60	40	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
1375-1500(55-60)	1.0(20)	1.0(20)	11.0(36)	40x40x3 & 1500 1/2x1/2x1/8 & 60	40	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
1525-2100(61-81)	1.0(20)	1.0(20)	11.0(36)	40x40x3 & 1500 1/2x1/2x1/8 & 60	40	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
2125-2400(85-96)	1.30(18)	1.25(0.50)	14.65(48)	40x40x3 & 750 1/2x1/2x1/8 & 30	40	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
2425-3000(97-120)	1.30(18)	1.25(0.50)	14.65(48)	50x50x6 & 750 2x2x1/4 & 30	50	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	
3000 OVER (120)	1.30(18)	1.25(0.50)	14.65(48)	50x50x6 & 750 2x2x1/4 & 30	50	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	0.85(22)	

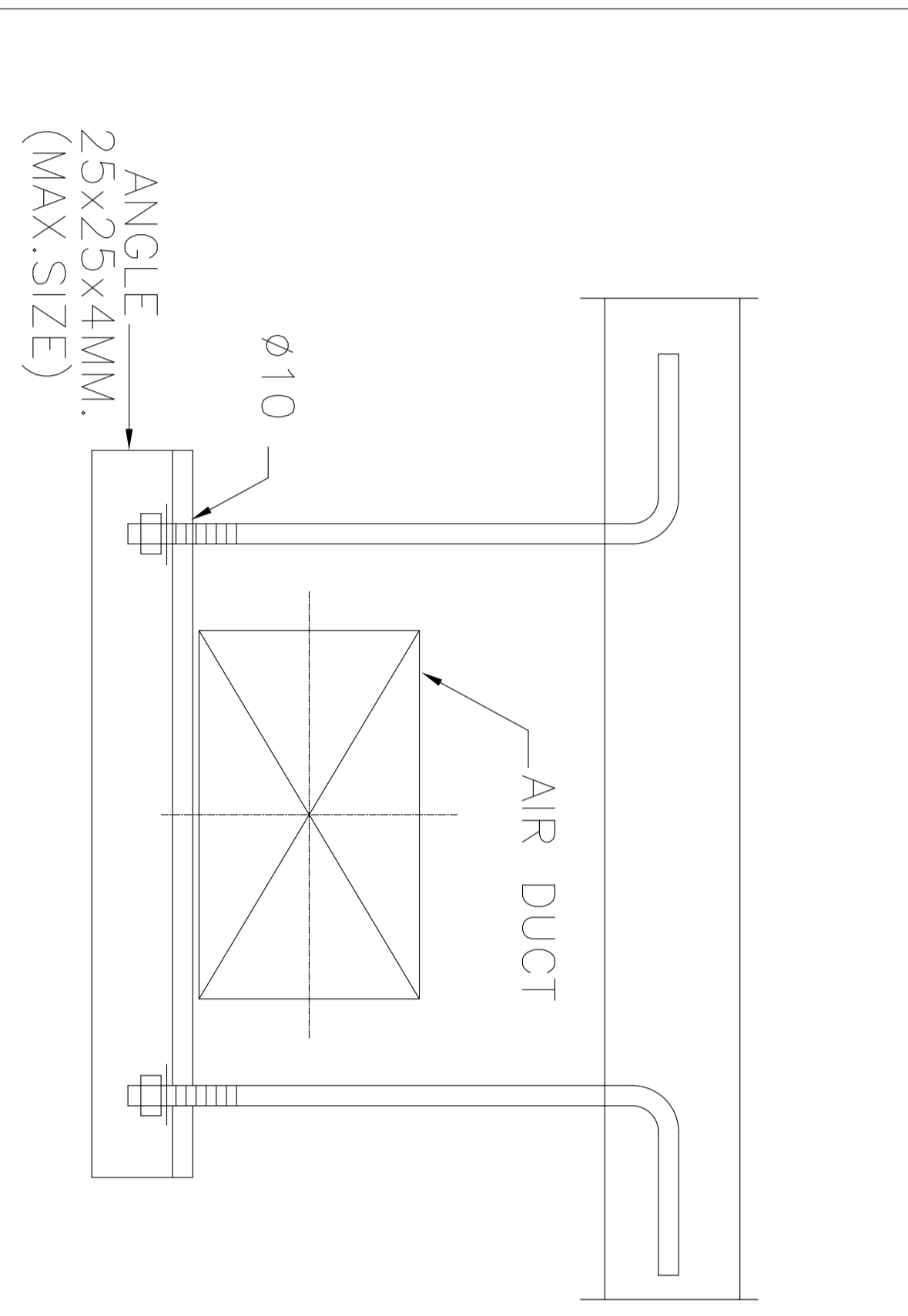


FIG.1-TRAPEZE HANGER-RECTANGULAR DUCTS
MAXIMUM SPACING BETWEEN HANGERS SHALL NOT EXCEED 3M.

NOTES

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LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PECCO-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BK-GNRL-PECCO-000-HV-DW-0002

KEY PLAN

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED				
APPROVED FOR CONSTRUCTION	BY:	DATE:		
BUDGET REF:	LOCATION	SIZE CLASS	SERIAL NO.	SHEET REVISION
053-073-0104	F	4	B	13 OF 19 D03

BINAK OILFIELD DEVELOPMENT
GENERAL

EPD/BPC CONTRACTOR (GC):
971020

HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES

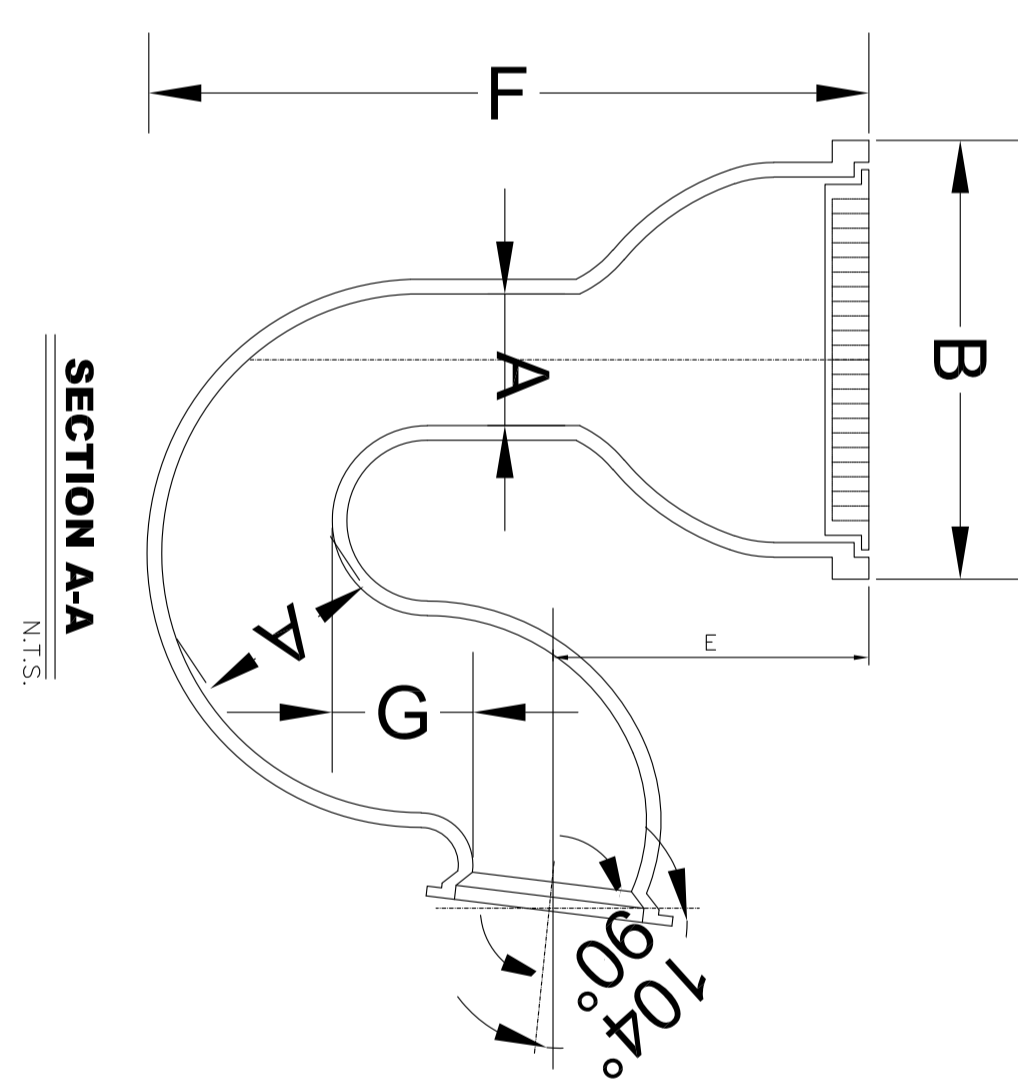
PECCO

HIRGAN ENERGY COMPANY

PROJECT NO.:	971020			
PROJECT NAME:	BINAK OILFIELD DEVELOPMENT			
REV.	DATE	PREP.	CHK.	APP.
D03	OCT-2022	FI	M.KARABANI	SH.GHUMAR
D02	OCT-2021	IFI	H.AHMED	M.KARABANI
D01	SEP-2021	IFI	M.SHAHABUDDIN	M.KARABANI
D00	JUL-2021	IFI	M.SHAHABUDDIN	SH.GHUMAR

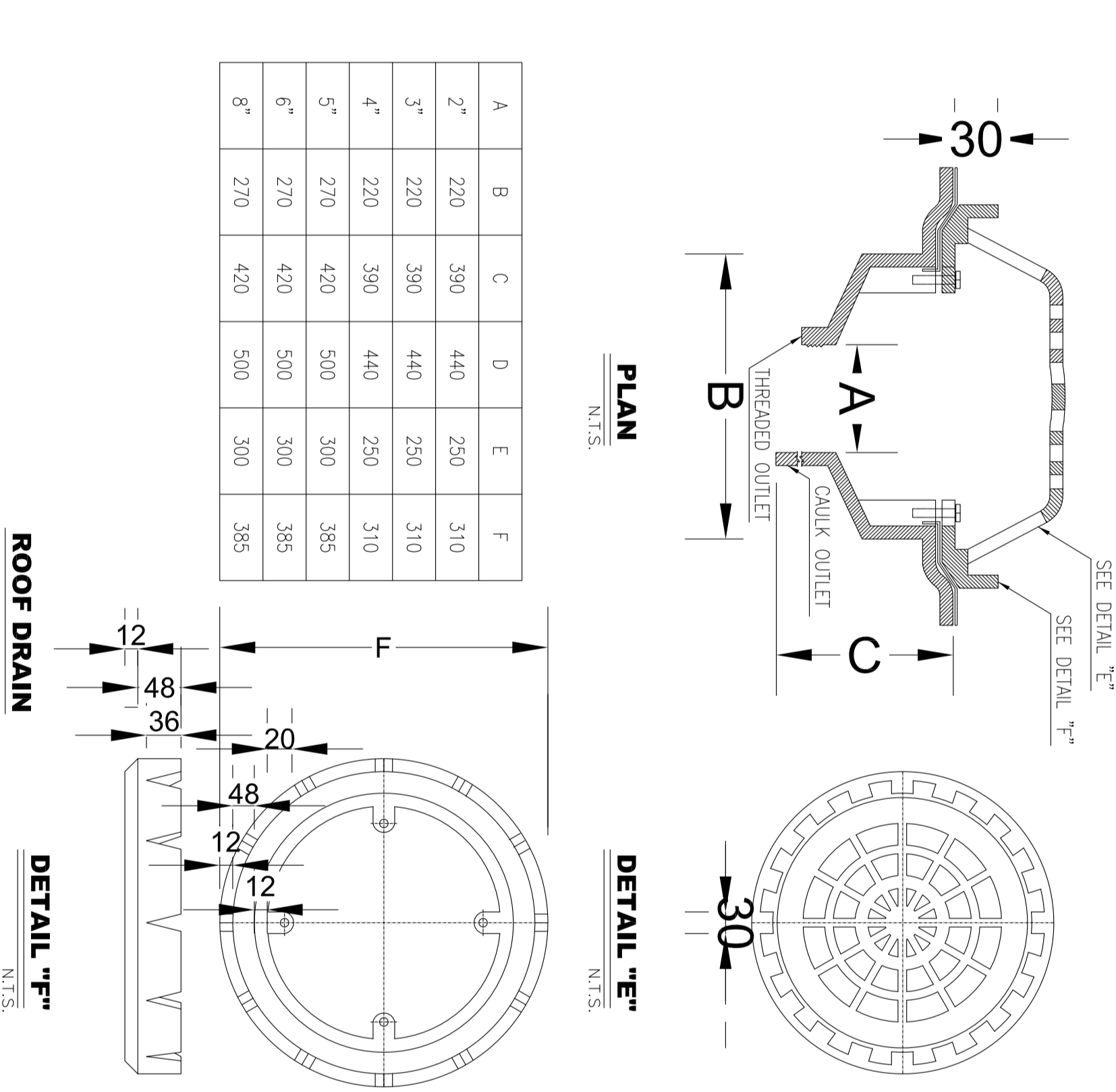
FLOOR DRAIN - ABOVE GRADE TYPE

A	B	C	D	E	F	G
2"	8"	16"	7"	4"	10 1/2"	3"
3"	8"	16"	7"	4 1/2"	12"	3"
4"	10"	18"	8 1/2"	5 1/2"	14 1/2"	3"



SECTION A-A

N.T.S.



A	B	C	D	E	F
2"	220	390	440	250	310
3"	220	390	440	250	310
4"	220	390	440	250	310
5"	270	420	500	300	385
6"	270	420	500	300	385
8"	270	420	500	300	385

ROOF DRAIN

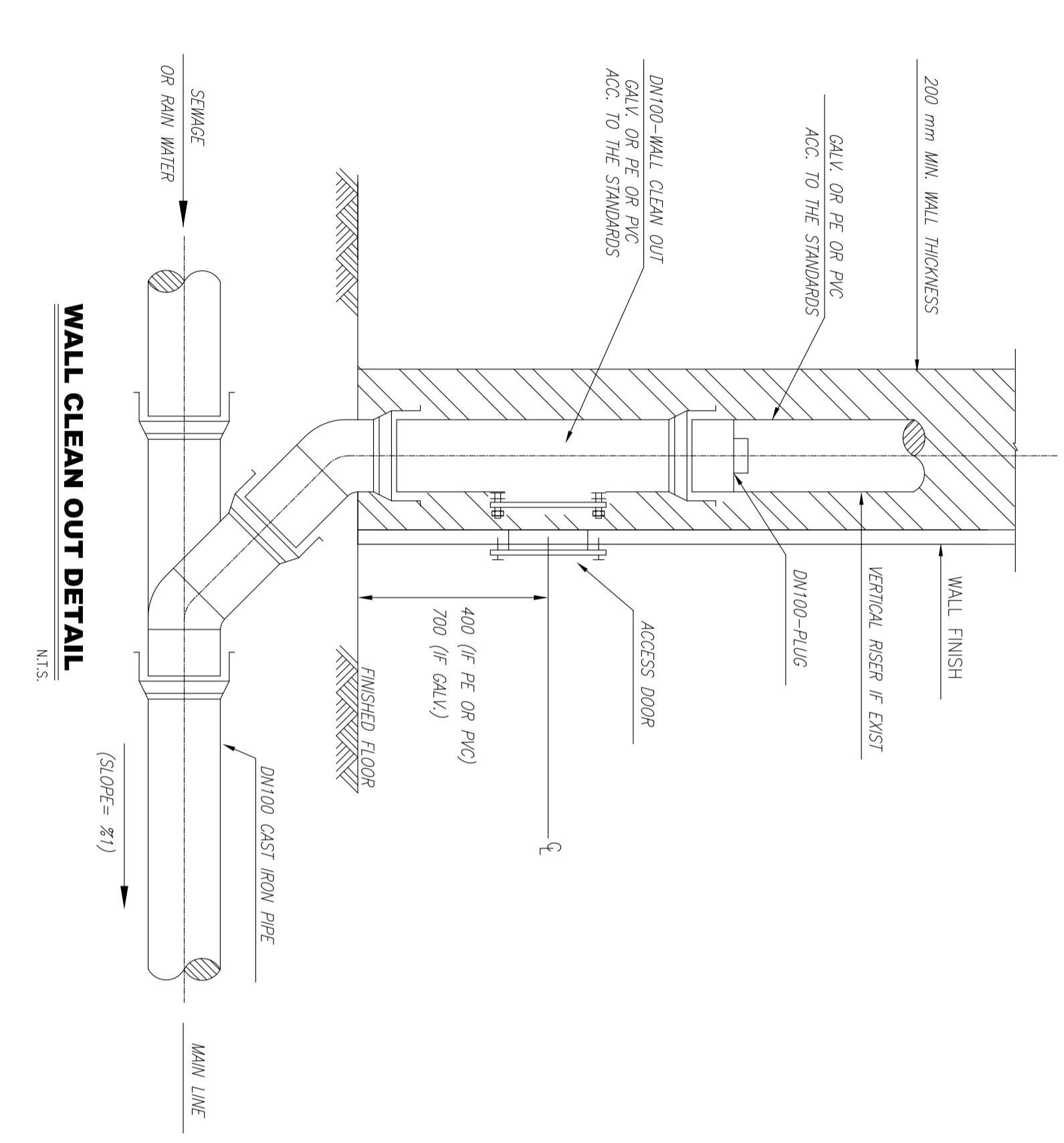
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DETAIL "E"

N.T.S.

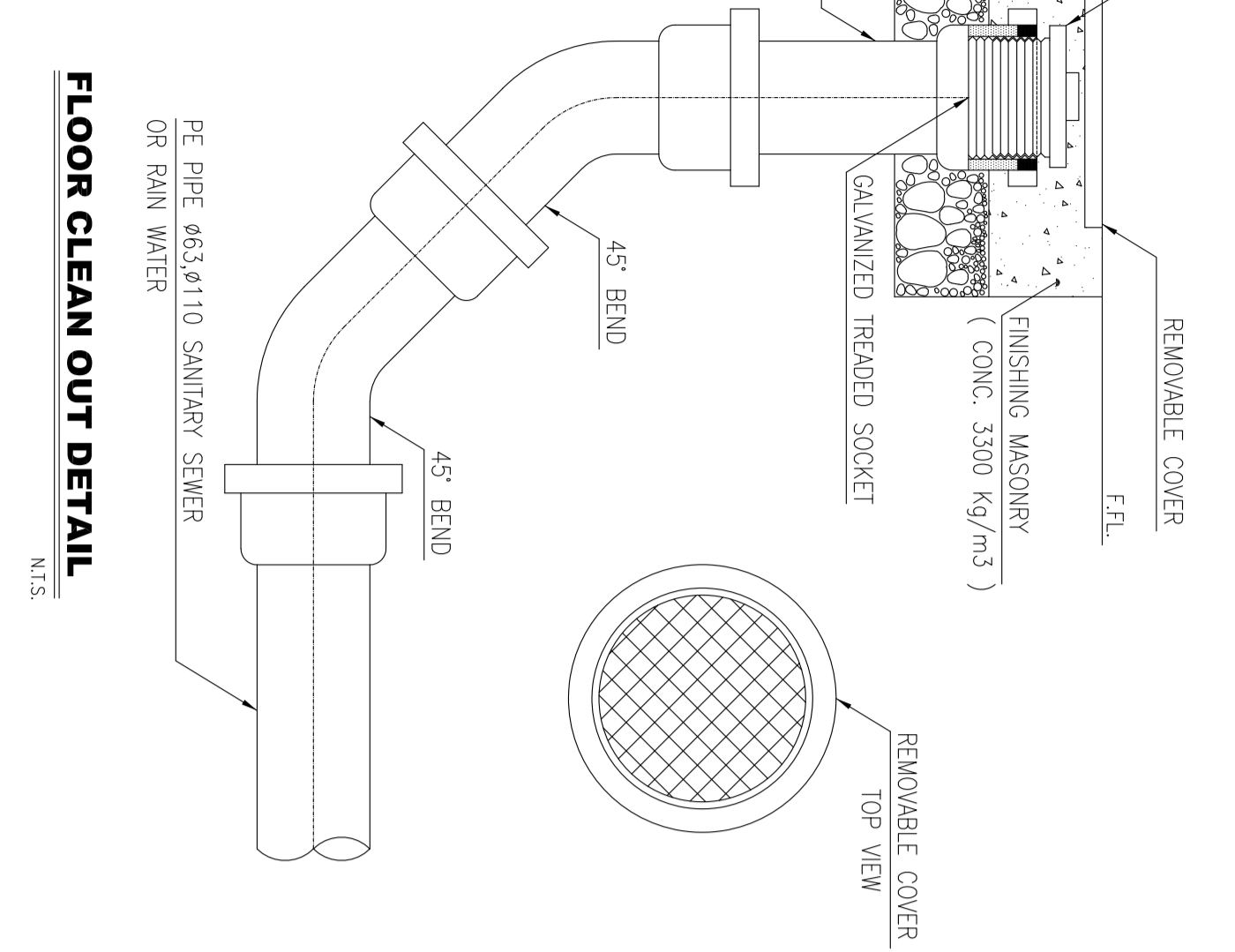
DETAIL "F"

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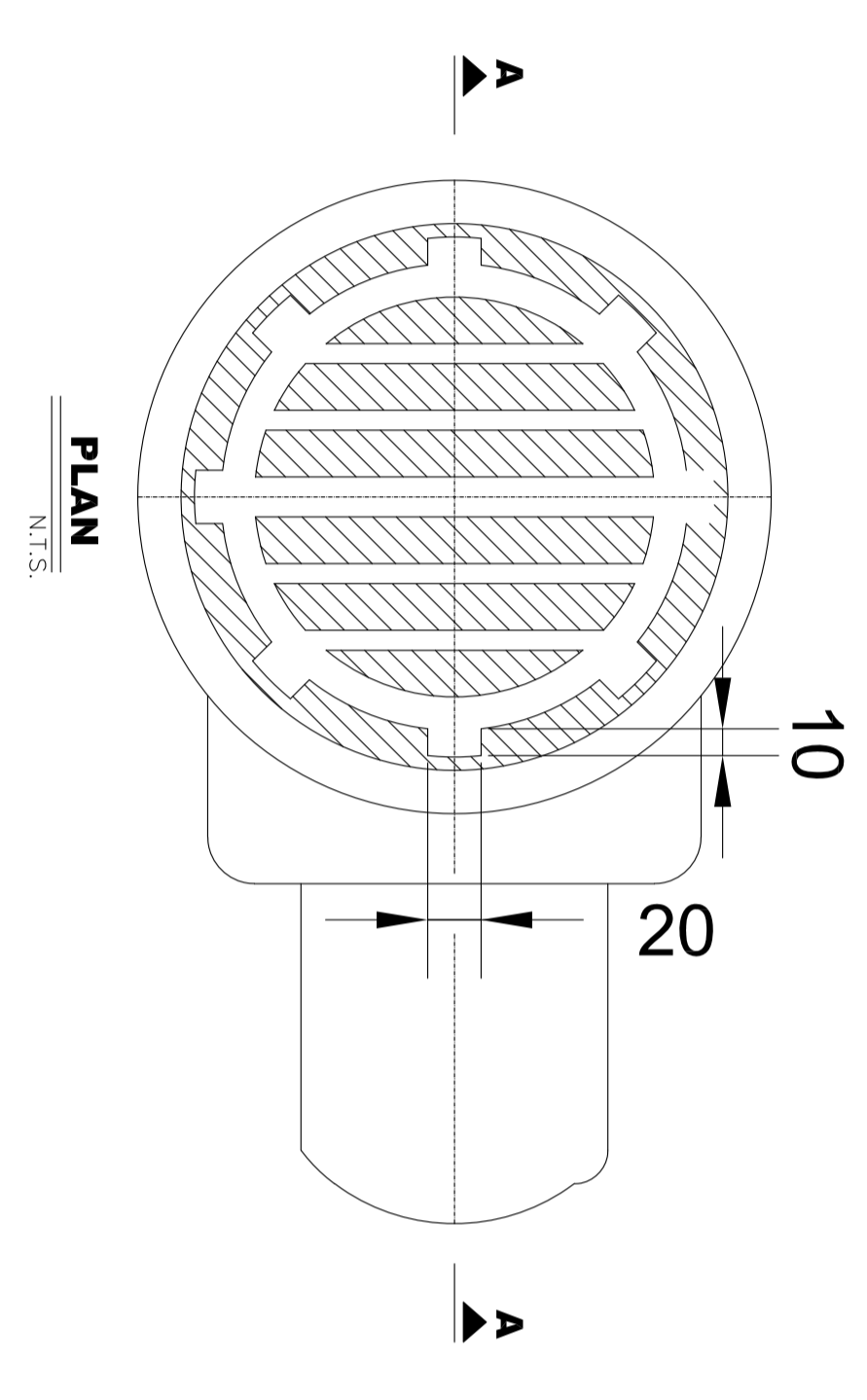
WALL CLEAN OUT DETAIL

N.T.S.



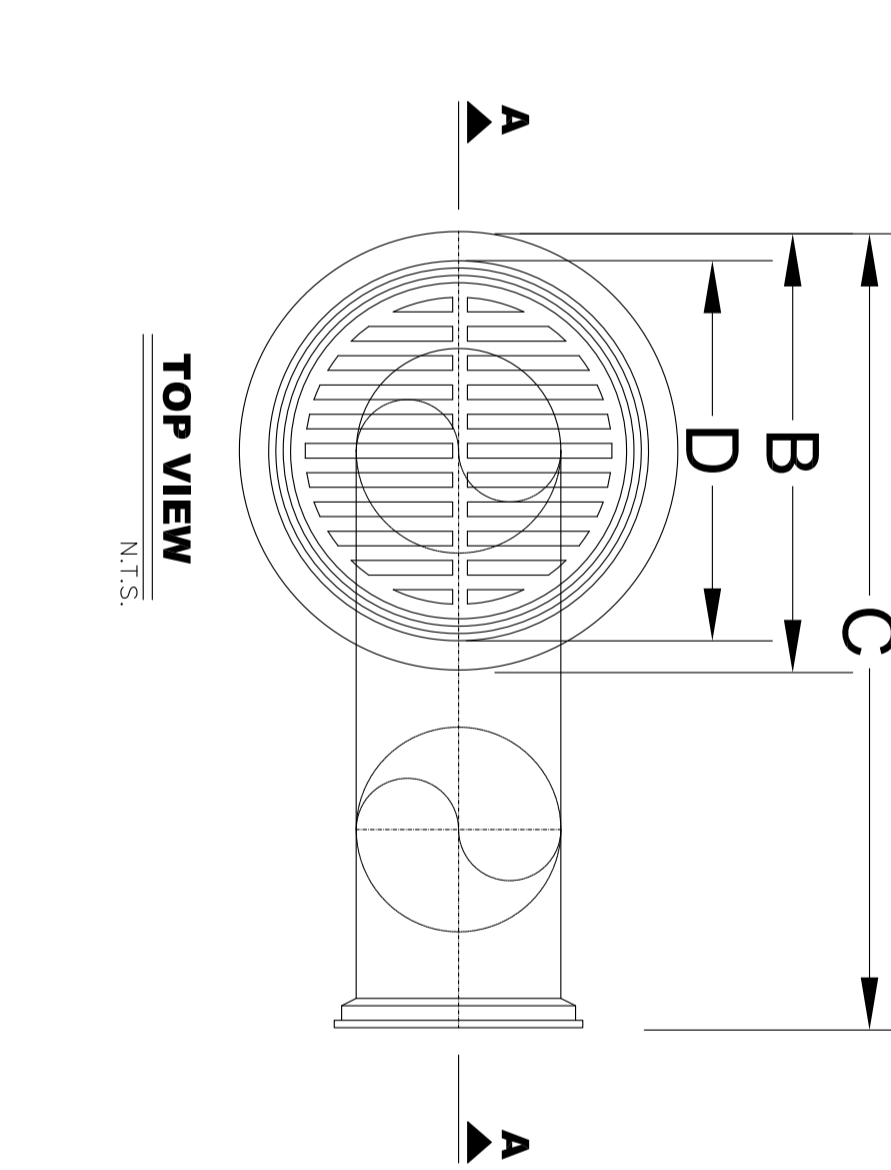
FLOOR CLEAN OUT DETAIL

N.T.S.



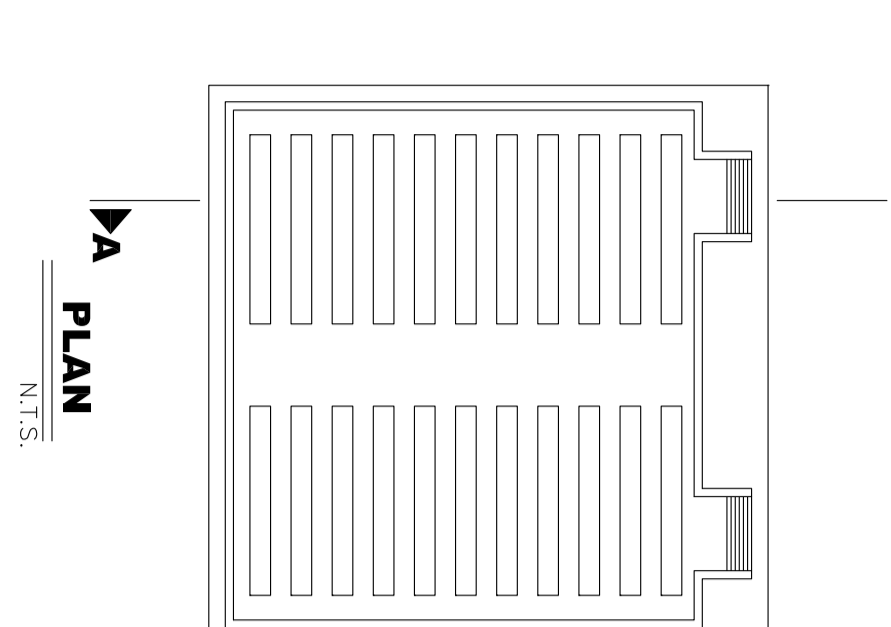
PLAN

N.T.S.



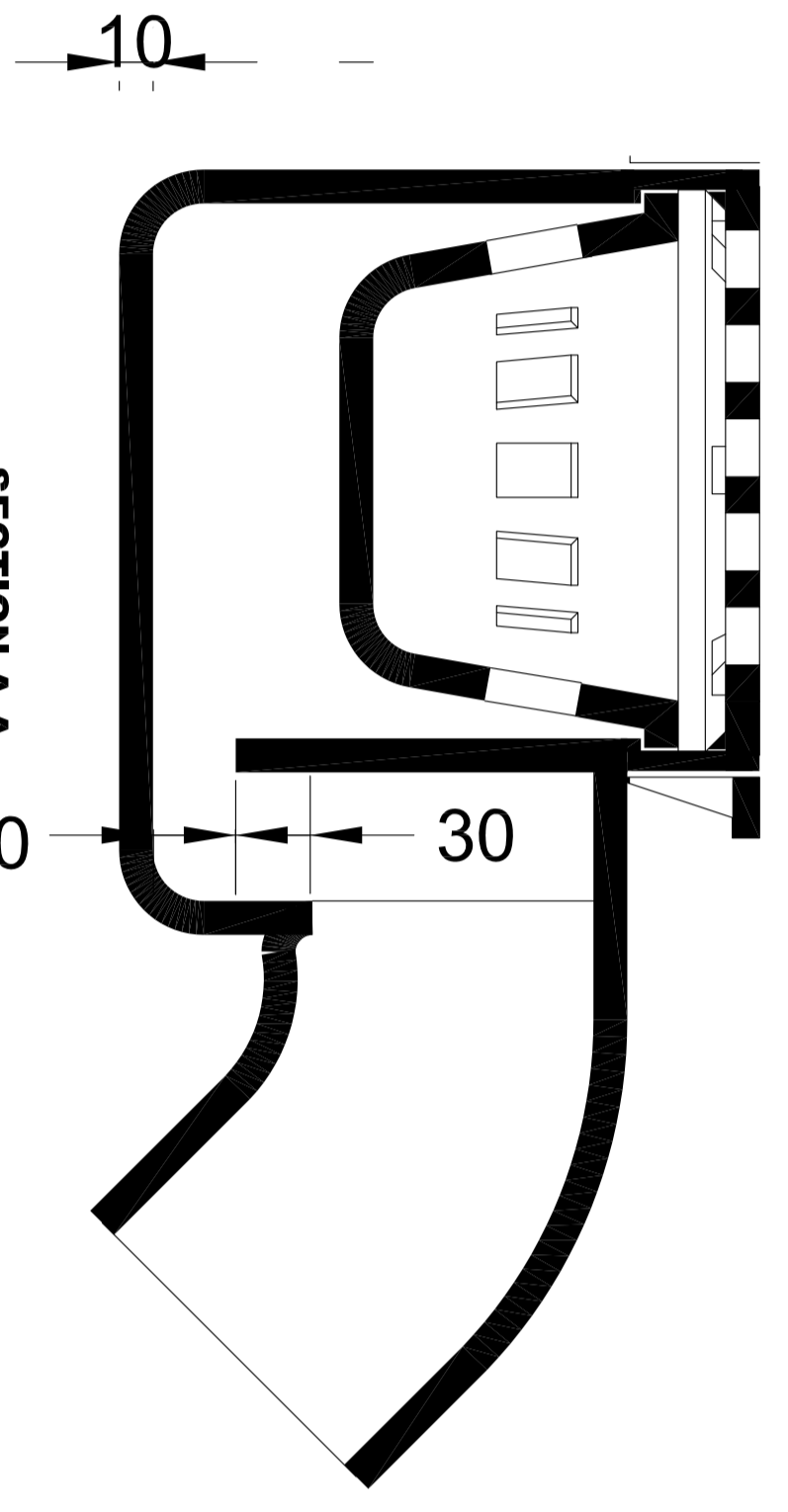
TOP VIEW

N.T.S.



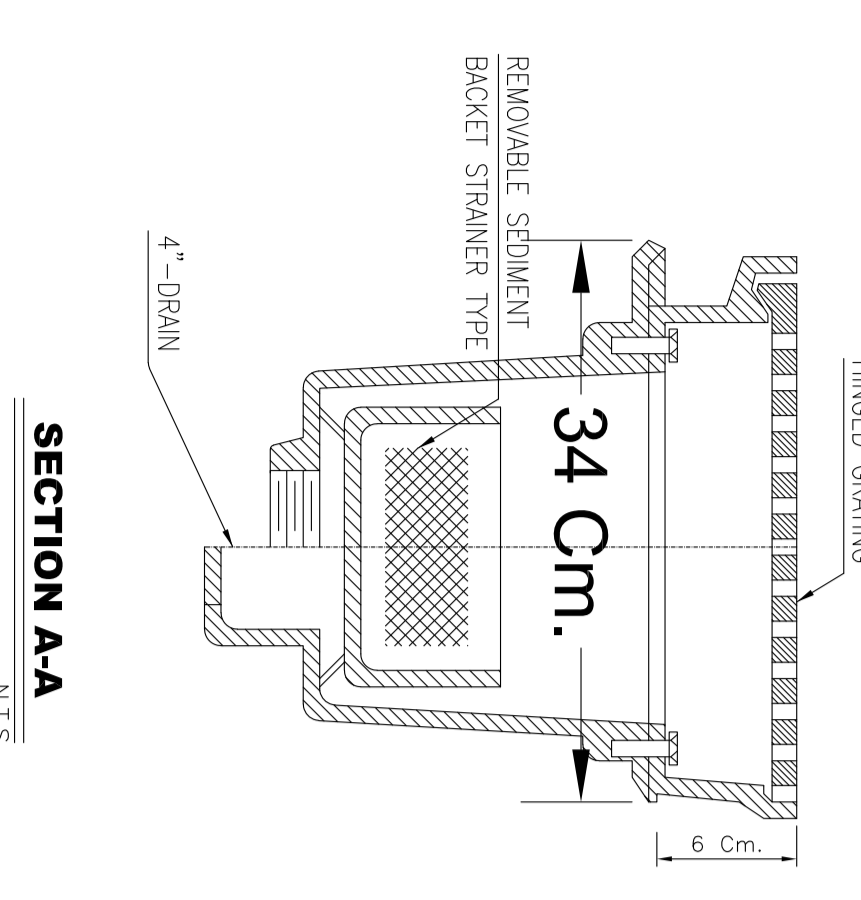
PLAN

N.T.S.



SECTION A-A

N.T.S.



SECTION A-A

N.T.S.

FLOOR DRAIN - WITH INTEGRAL TRAP & SEDIMENT BUCKET

N.T.S.

FLOOR DRAIN - WITH SEDIMENT BUCKET

N.T.S.

(VENDOR TITLE BLOCK)**				
SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BK-GNRL-PECCO-000-HV-DW-0001	13 OF 19	D03

NOTES

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LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BR-GNRL-PECCO-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BR-GNRL-PECCO-000-HV-DW-0002

KEY PLAN

DATE	SCALE	DRAWING BY	CHECKED BY	DATE

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED	APPROVED FOR CONSTRUCTION	BY:	DATE:

BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.	SHEET	REVISION
053-073-9184	F	4	B	707128	14 OF 19 D03

المشرف على التصميم والتخطيط
المشرف على التنفيذ والتشييد
المشرف على الصيانة والتشغيل
المشرف على السلامة والصحة المهنية
المشرف على البيئة وحماية الموارد الطبيعية
المشرف على الجودة والتحكم في التكاليف
المشرف على العلاقات العامة والتسويق
المشرف على المشتريات والمخزون
المشرف على الموارد البشرية والتدريب
المشرف على المعلومات والتكنولوجيا
المشرف على الشؤون القانونية والامتثال
المشرف على الشؤون المالية والمحاسبة
المشرف على الشؤون الإدارية والعمليات
المشرف على الشؤون العامة والخدمة العملاء

المشرف على التصميم والتخطيط
المشرف على التنفيذ والتشييد
المشرف على الصيانة والتشغيل
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المشرف على الشؤون المالية والمحاسبة
المشرف على الشؤون الإدارية والعمليات
المشرف على الشؤون العامة والخدمة العملاء

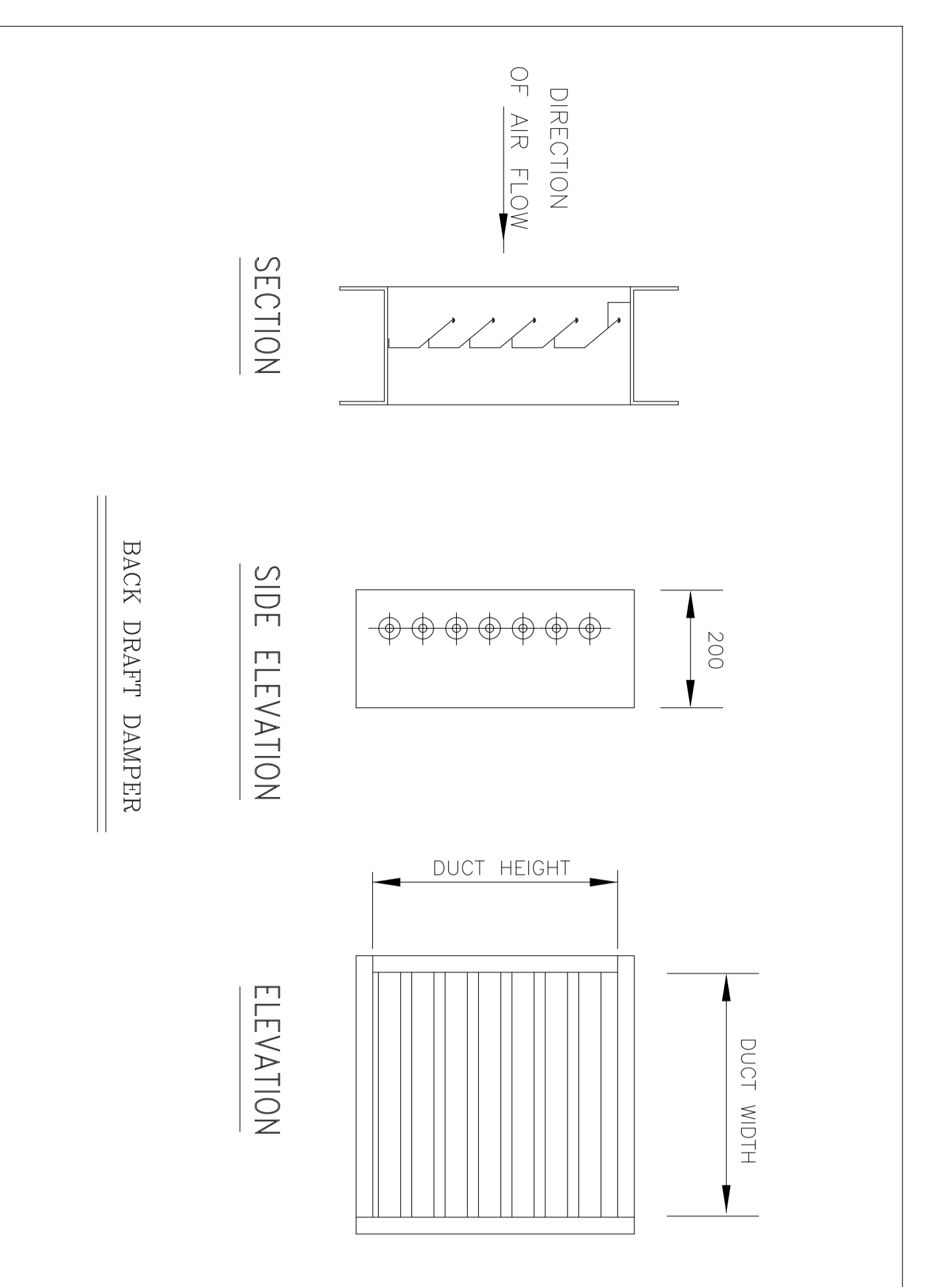
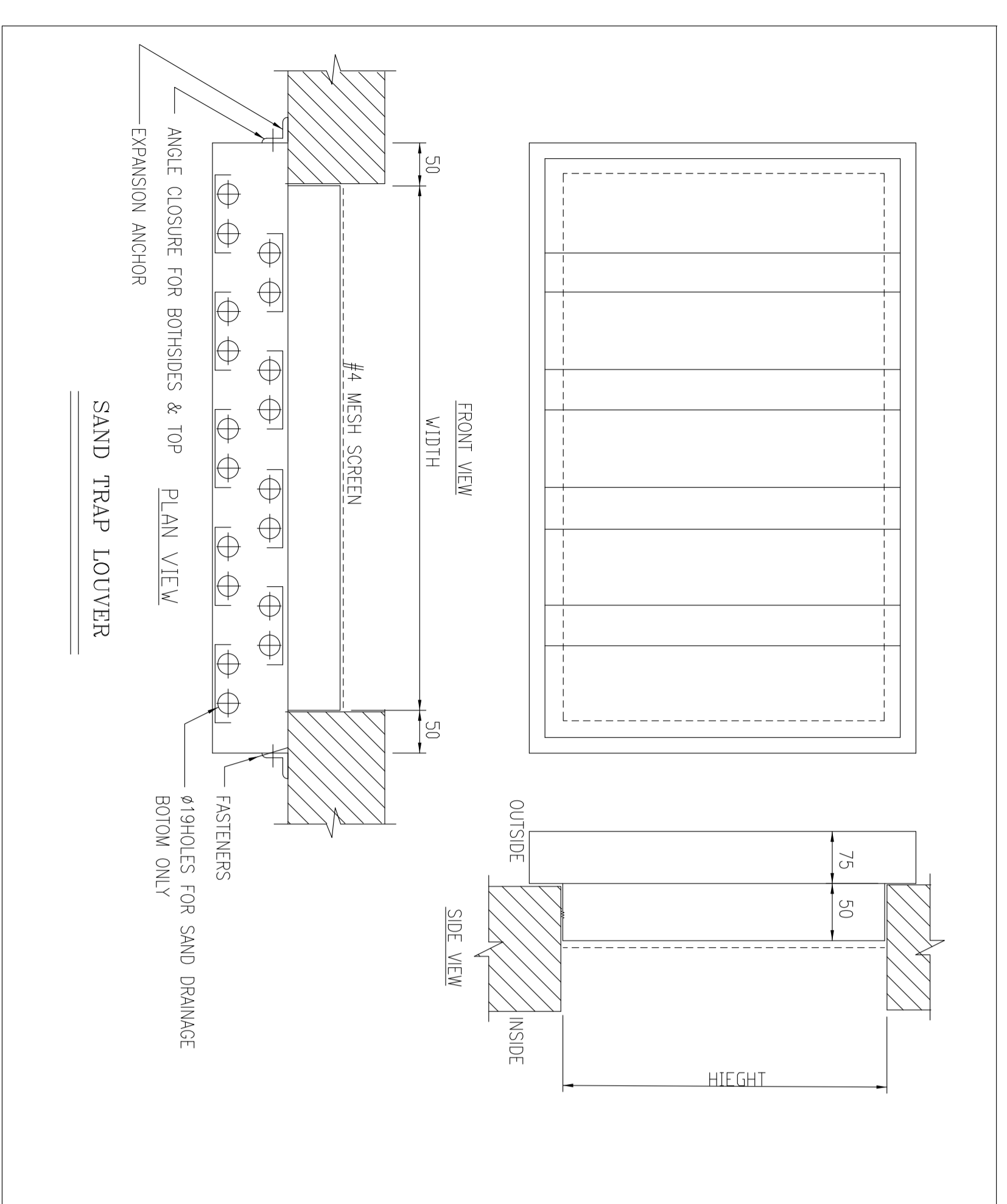
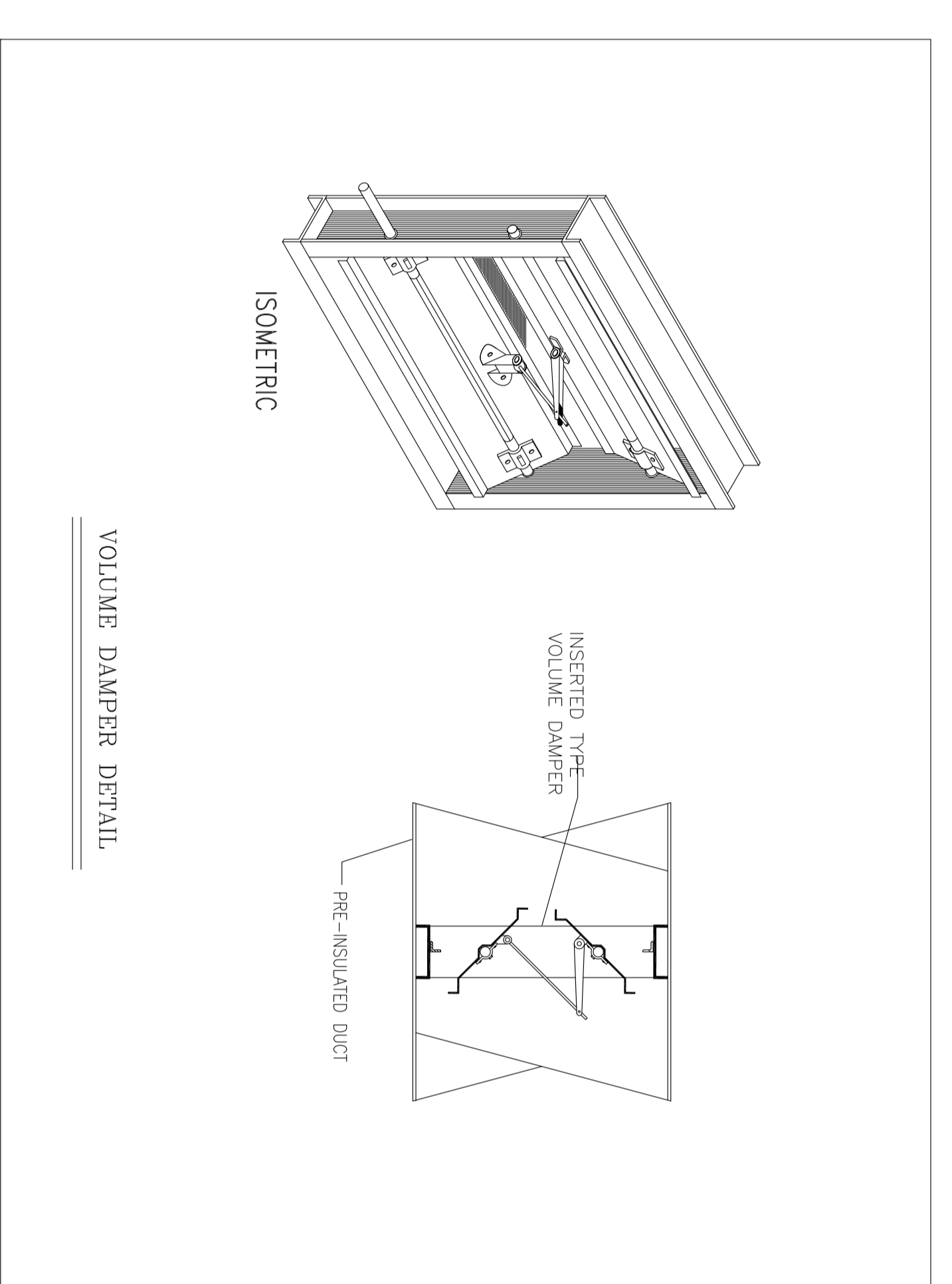
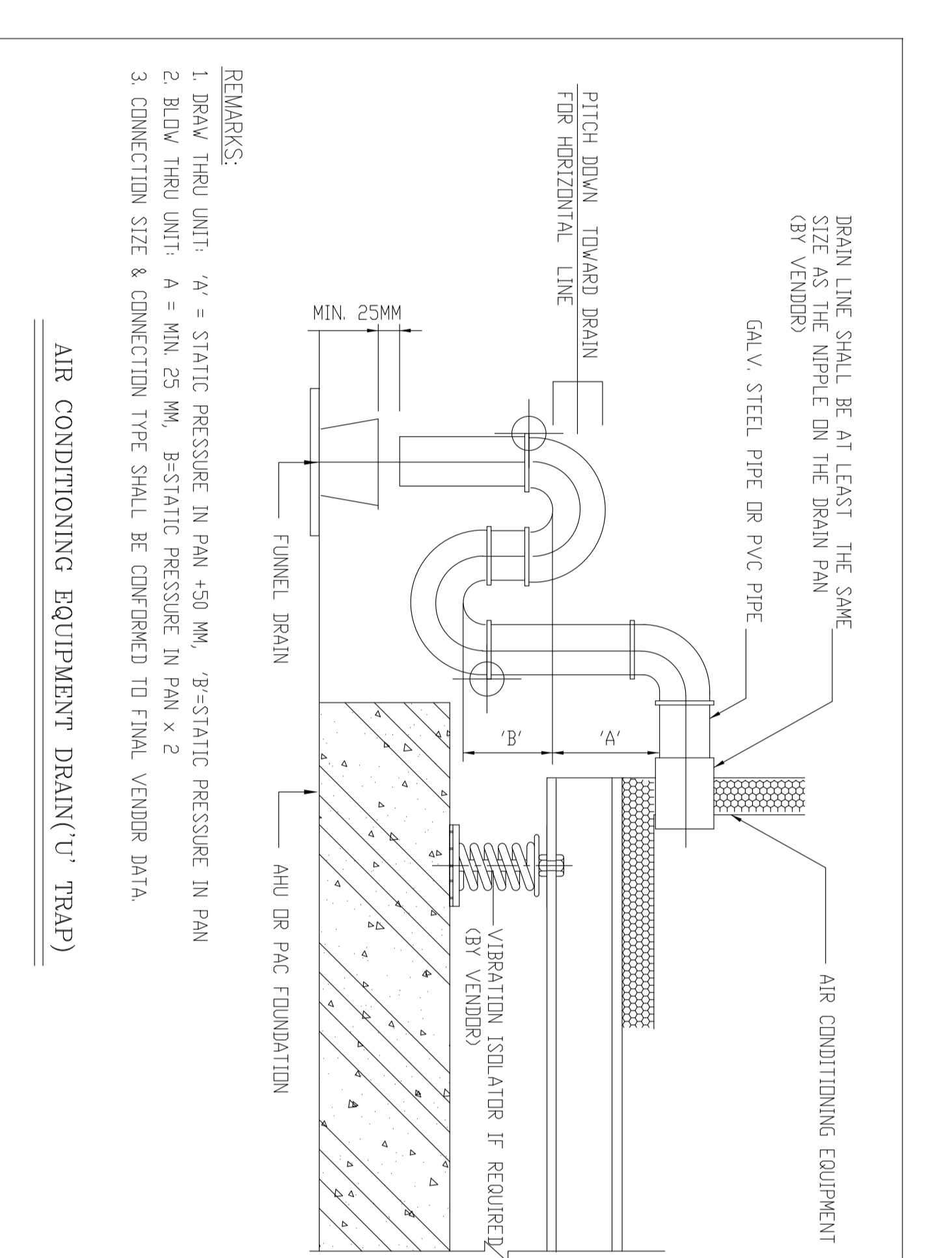
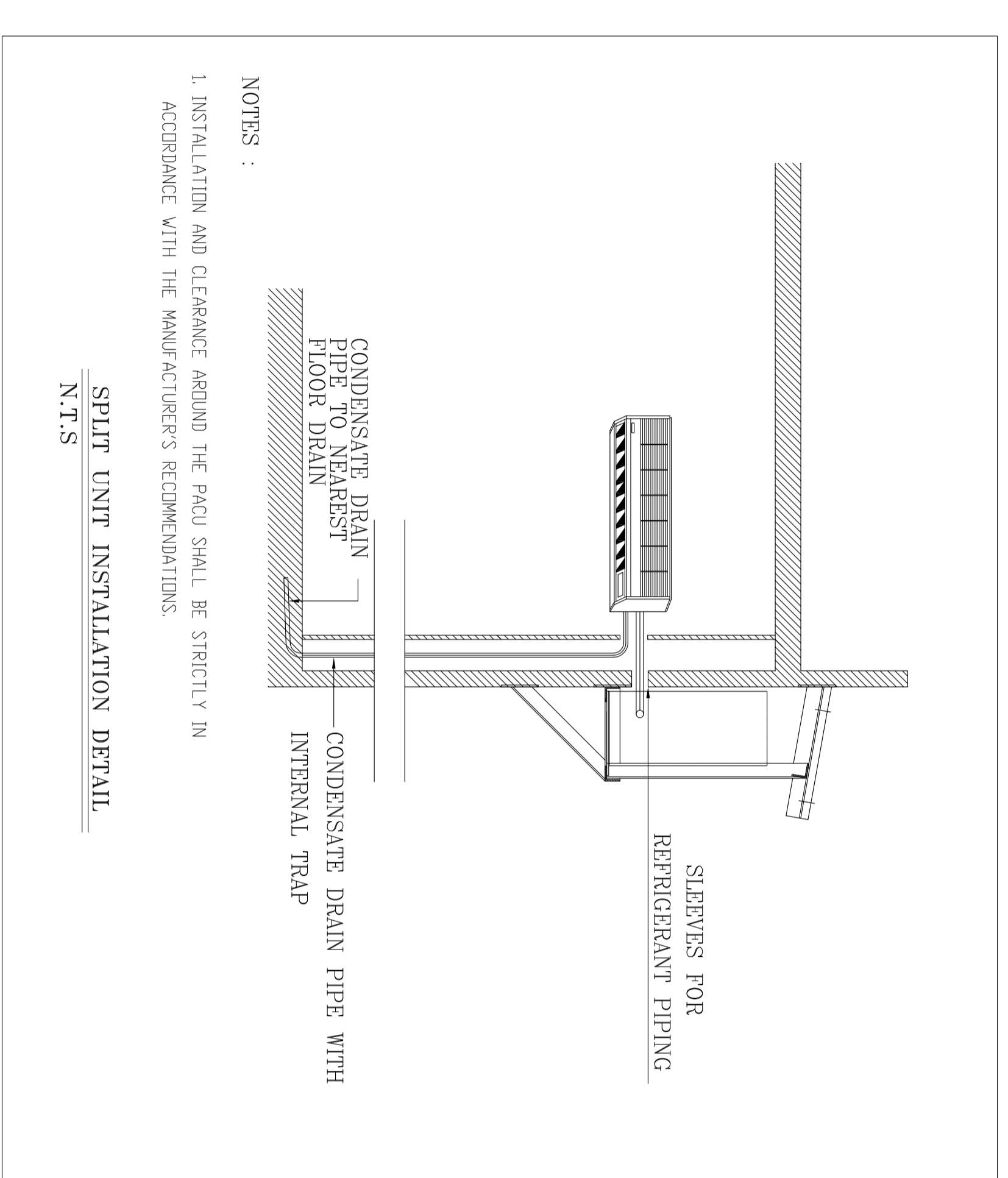
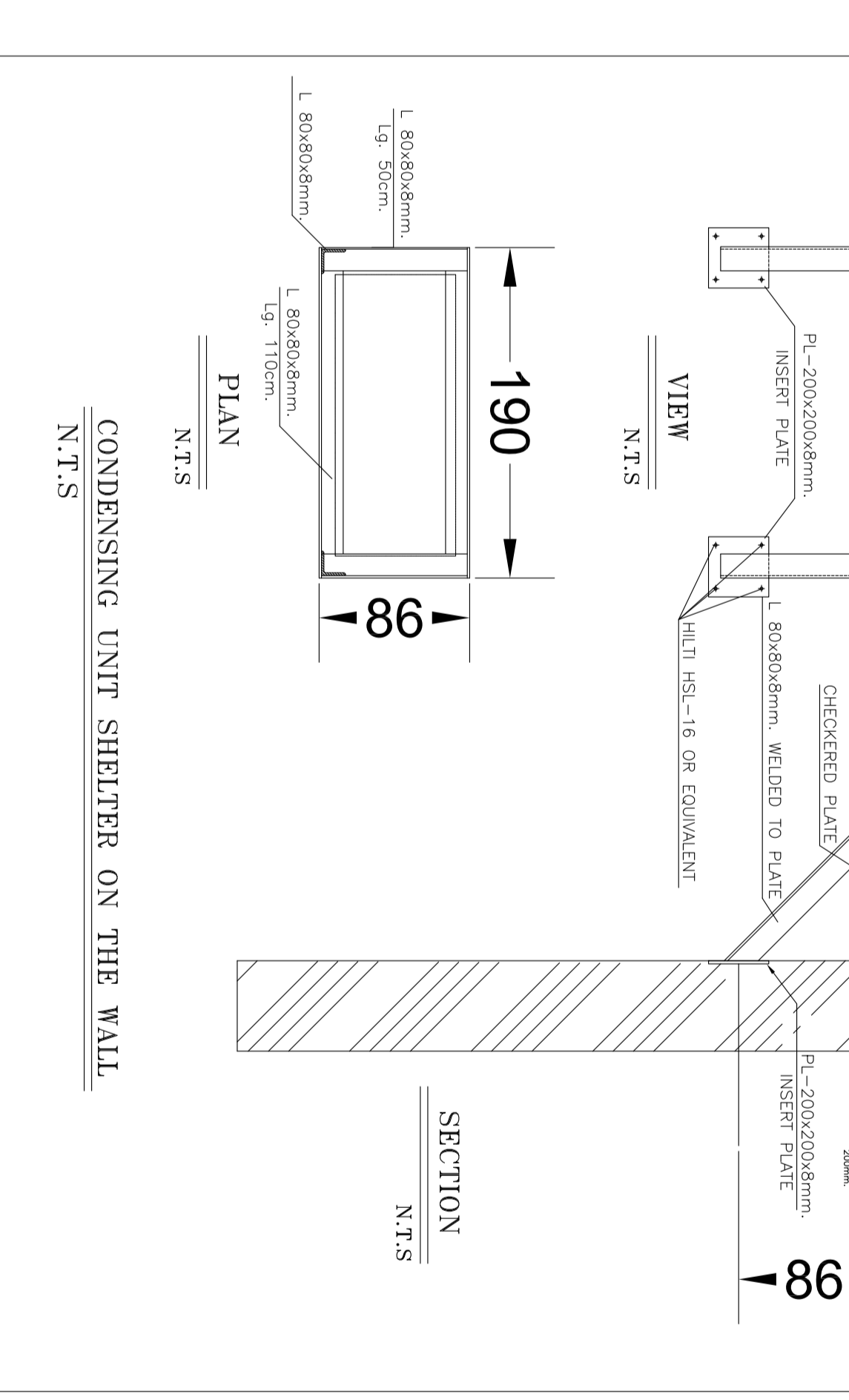
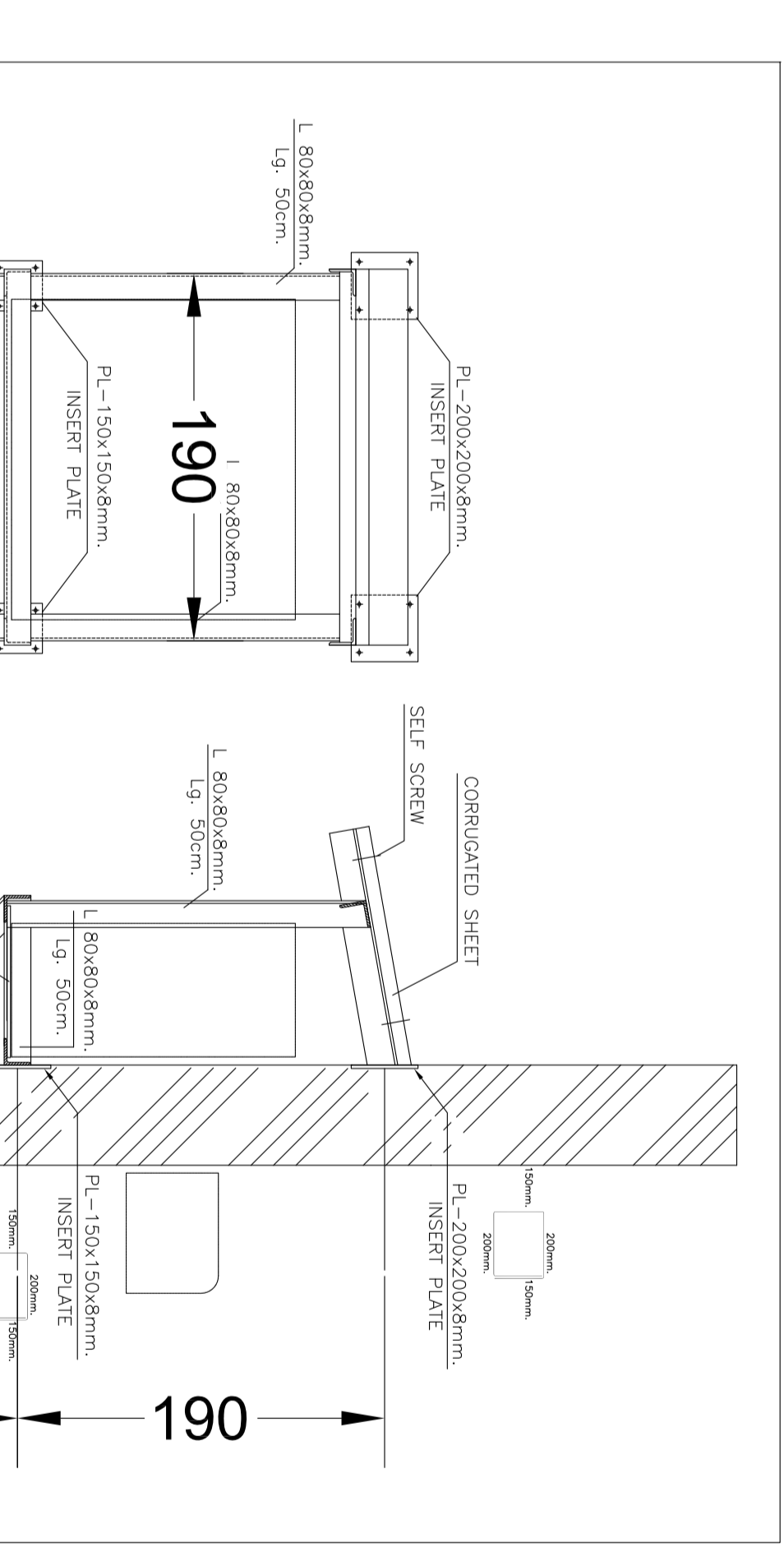
المشرف على التصميم والتخطيط
المشرف على التنفيذ والتشييد
المشرف على الصيانة والتشغيل
المشرف على السلامة والصحة المهنية
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المشرف على المشتريات والمخزون
المشرف على الموارد البشرية والتدريب
المشرف على المعلومات والتكنولوجيا
المشرف على الشؤون القانونية والامتثال
المشرف على الشؤون المالية والمحاسبة
المشرف على الشؤون الإدارية والعمليات
المشرف على الشؤون العامة والخدمة العملاء

المشرف على التصميم والتخطيط
المشرف على التنفيذ والتشييد
المشرف على الصيانة والتشغيل
المشرف على السلامة والصحة المهنية
المشرف على البيئة وحماية الموارد الطبيعية
المشرف على الجودة والتحكم في التكاليف
المشرف على العلاقات العامة والتسويق
المشرف على المشتريات والمخزون
المشرف على الموارد البشرية والتدريب
المشرف على المعلومات والتكنولوجيا
المشرف على الشؤون القانونية والامتثال
المشرف على الشؤون المالية والمحاسبة
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المشرف على الشؤون العامة والخدمة العملاء

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المشرف على الشؤون العامة والخدمة العملاء



REVISION	DATE	DESCRIPTION	BY	DATE		
D03	OCT-2022	PI	HANNAN M.KHARABAN	SH.GHULAB		
D02	OCT-2021	IFI	HANNAN M.KHARABAN	SH.GHULAB		
D01	SEP-2021	IFI	M.SHAHABUDDIN M.KHARABAN	SH.GHULAB		
D00	JUL-2021	IFI	M.SHAHABUDDIN M.KHARABAN	SH.GHULAB		
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.

PROJECT NAME:	BINAK OILFIELD DEVELOPMENT
PROJECT NO.:	971020
EPC CONTRACTOR:	EPD/BPC CONTRACTOR (GC): 971020
DESIGNER:	HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES
DEVELOPER:	PETROBRAN DEVELOPMENT COMPANY

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BR-GNRL-PECCO-000-HV-DW-0001	14 OF 19	D03

(VENDOR TITLE BLOCK)**

NOTES

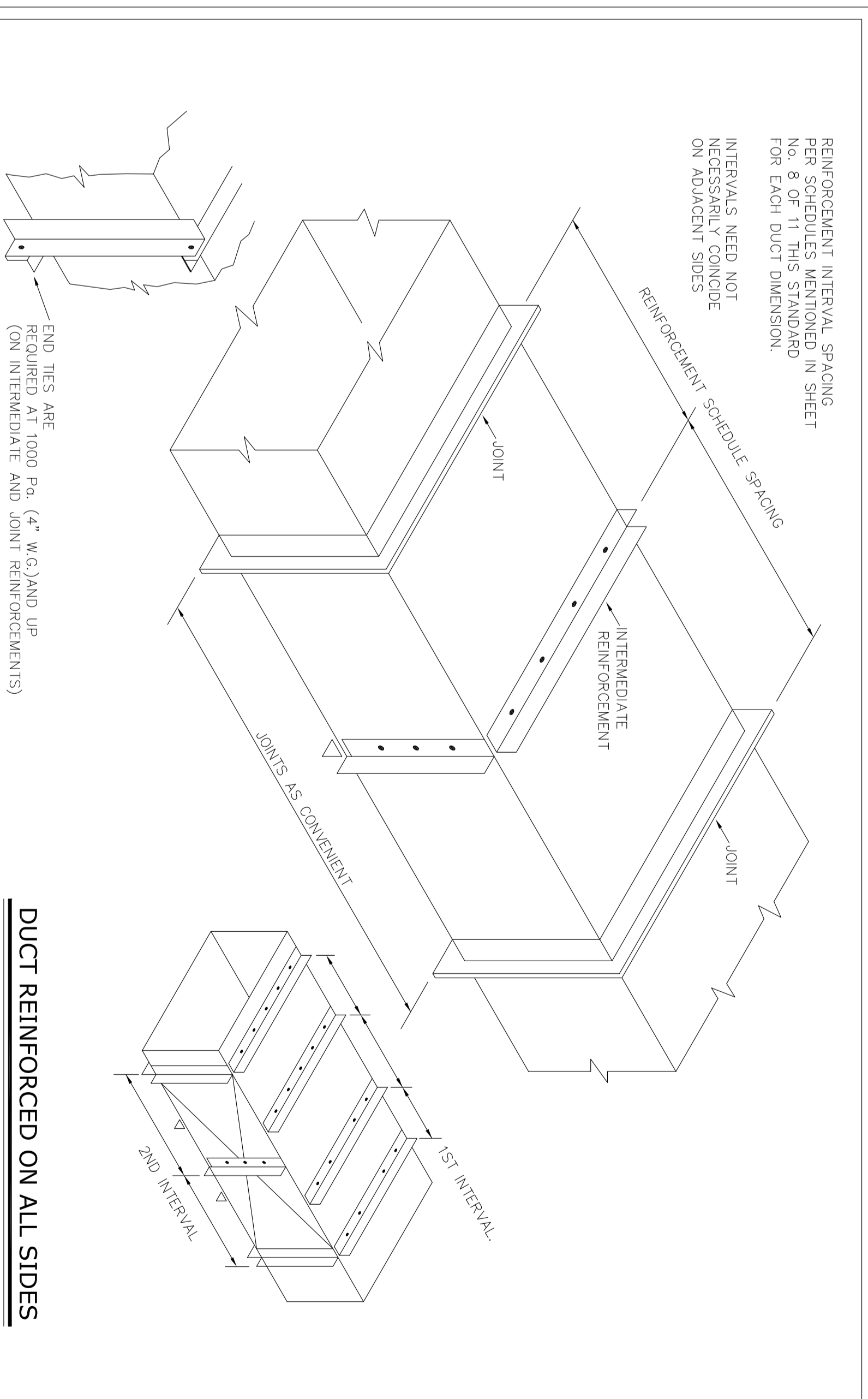
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THIS DRAWING IS TO BE READ IN CONJUNCTION WITH HVAC DRAWINGS, OF
ALL PLANT BUILDINGS.

LEGEND

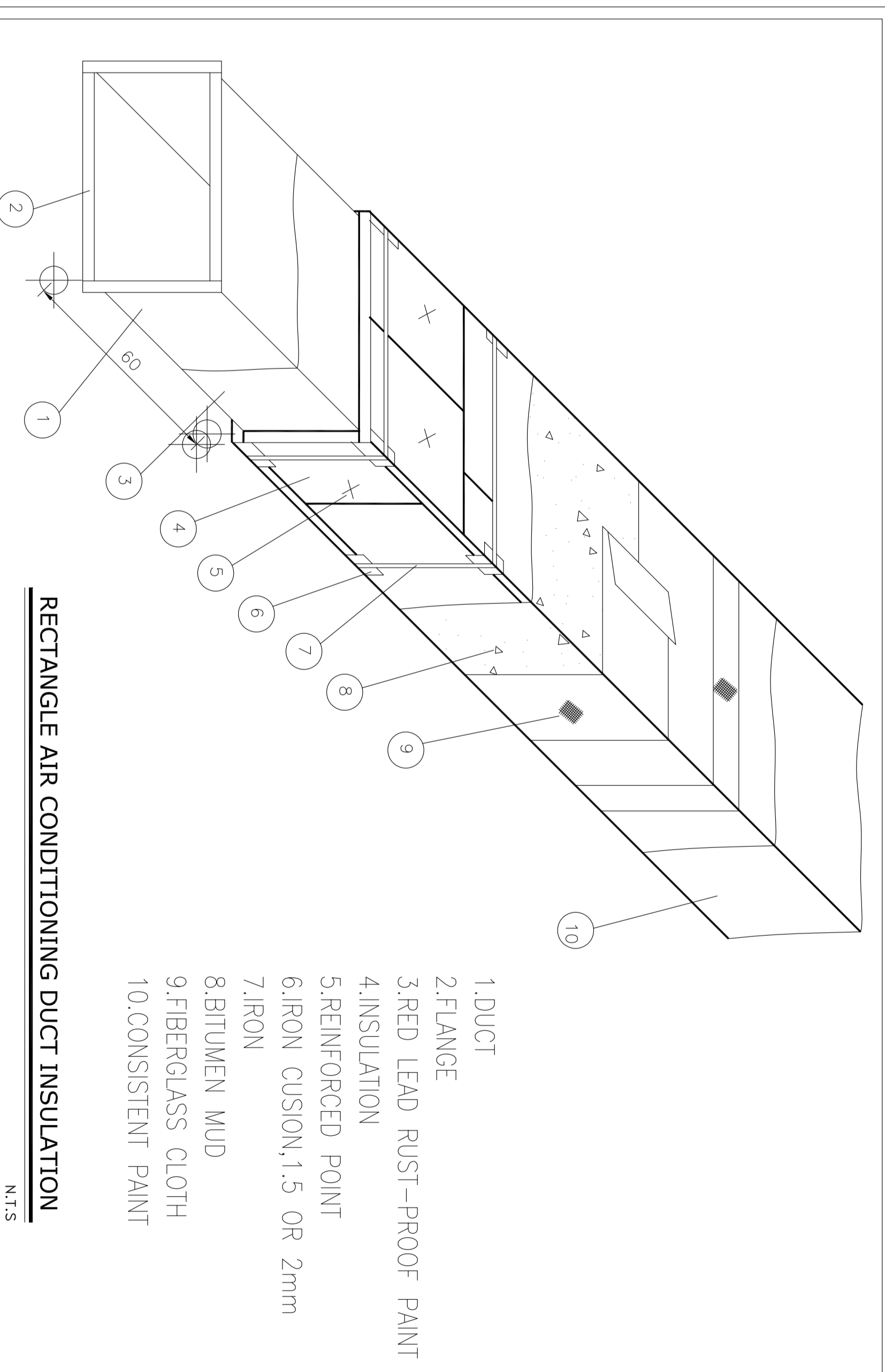
FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PRDCC-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BK-GNRL-PRDCC-000-HV-DW-0002

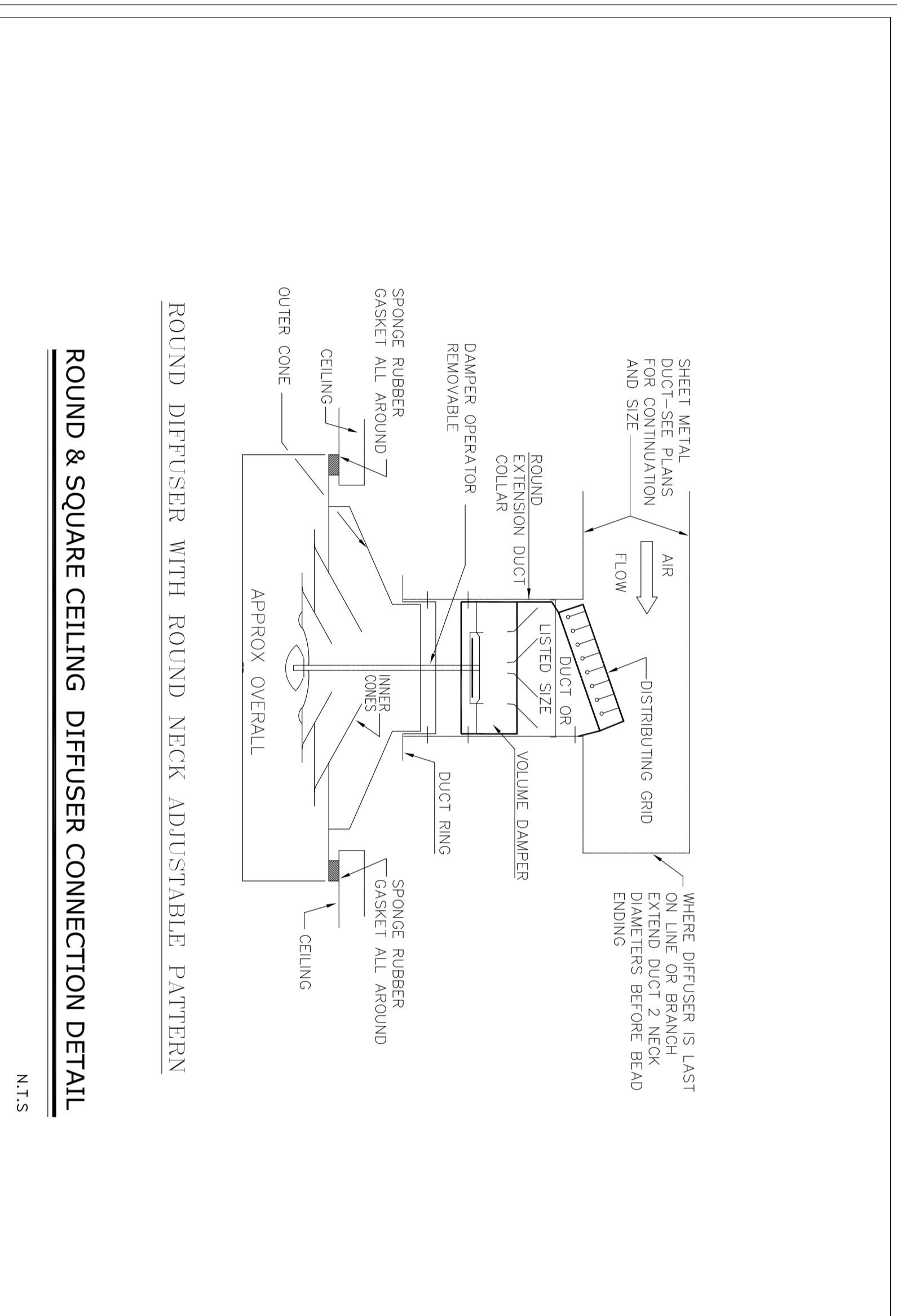
KEY PLAN



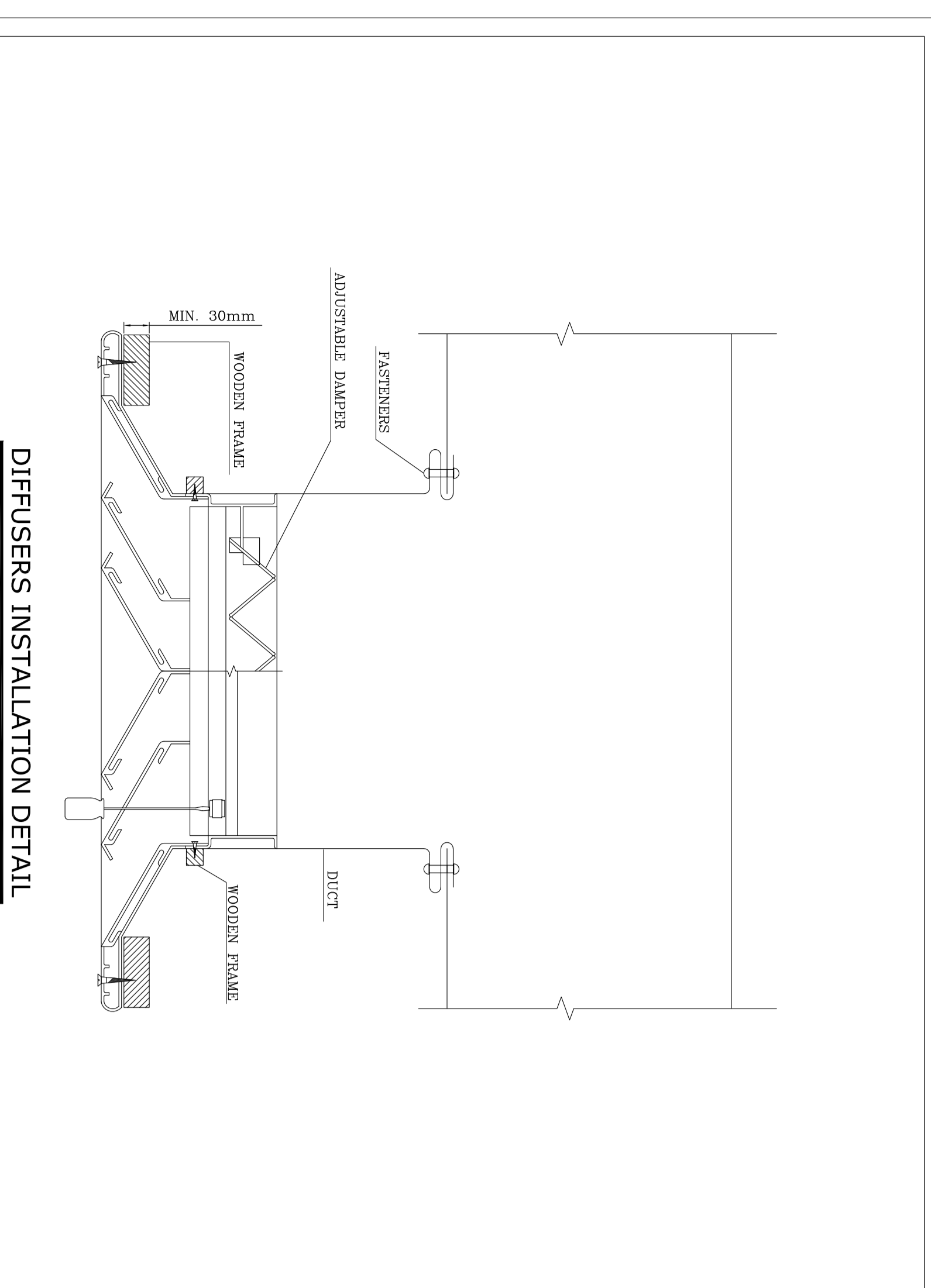
DUCT REINFORCED ON ALL SIDES
N.T.S



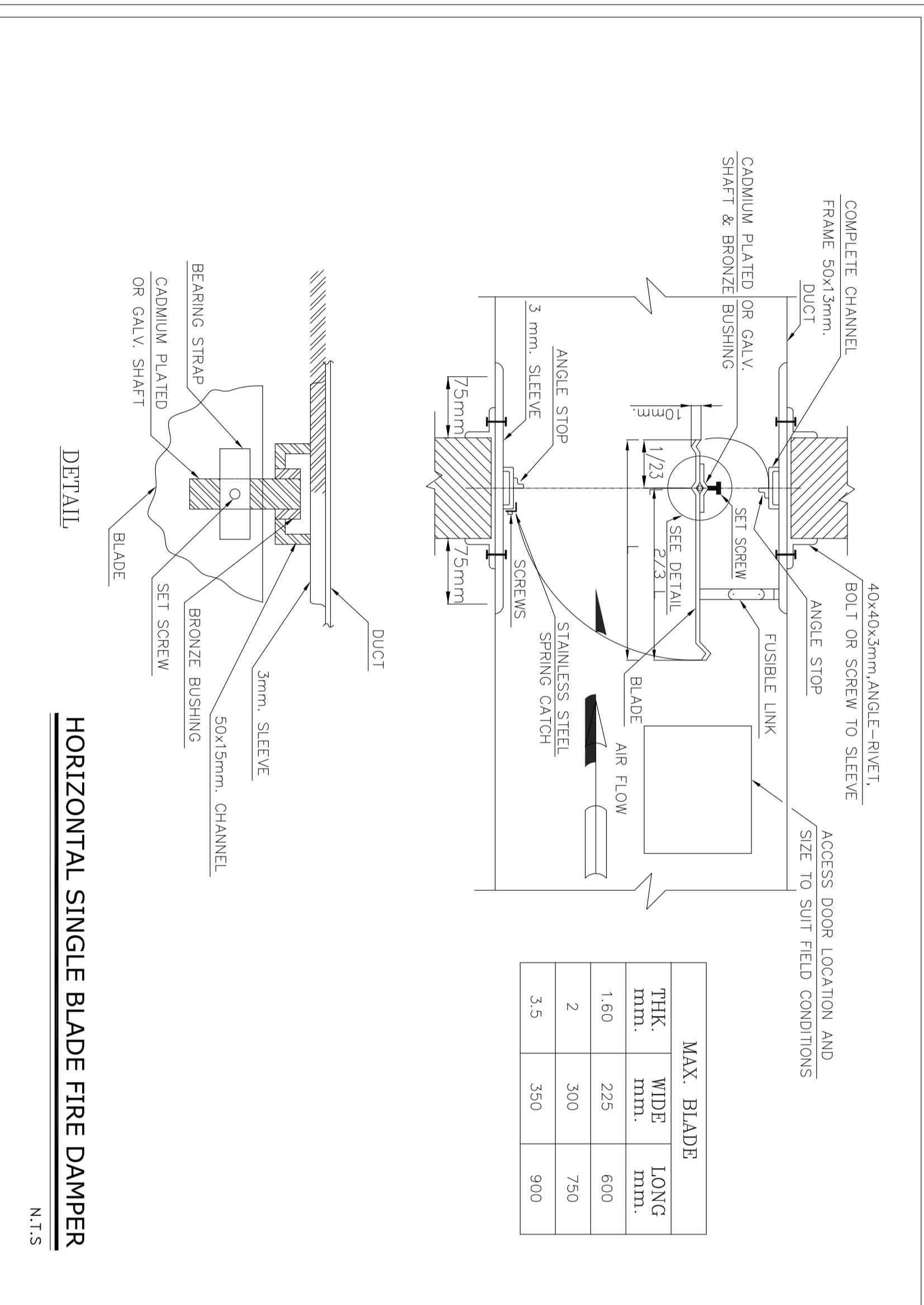
RECTANGLE AIR CONDITIONING DUCT INSULATION
N.T.S



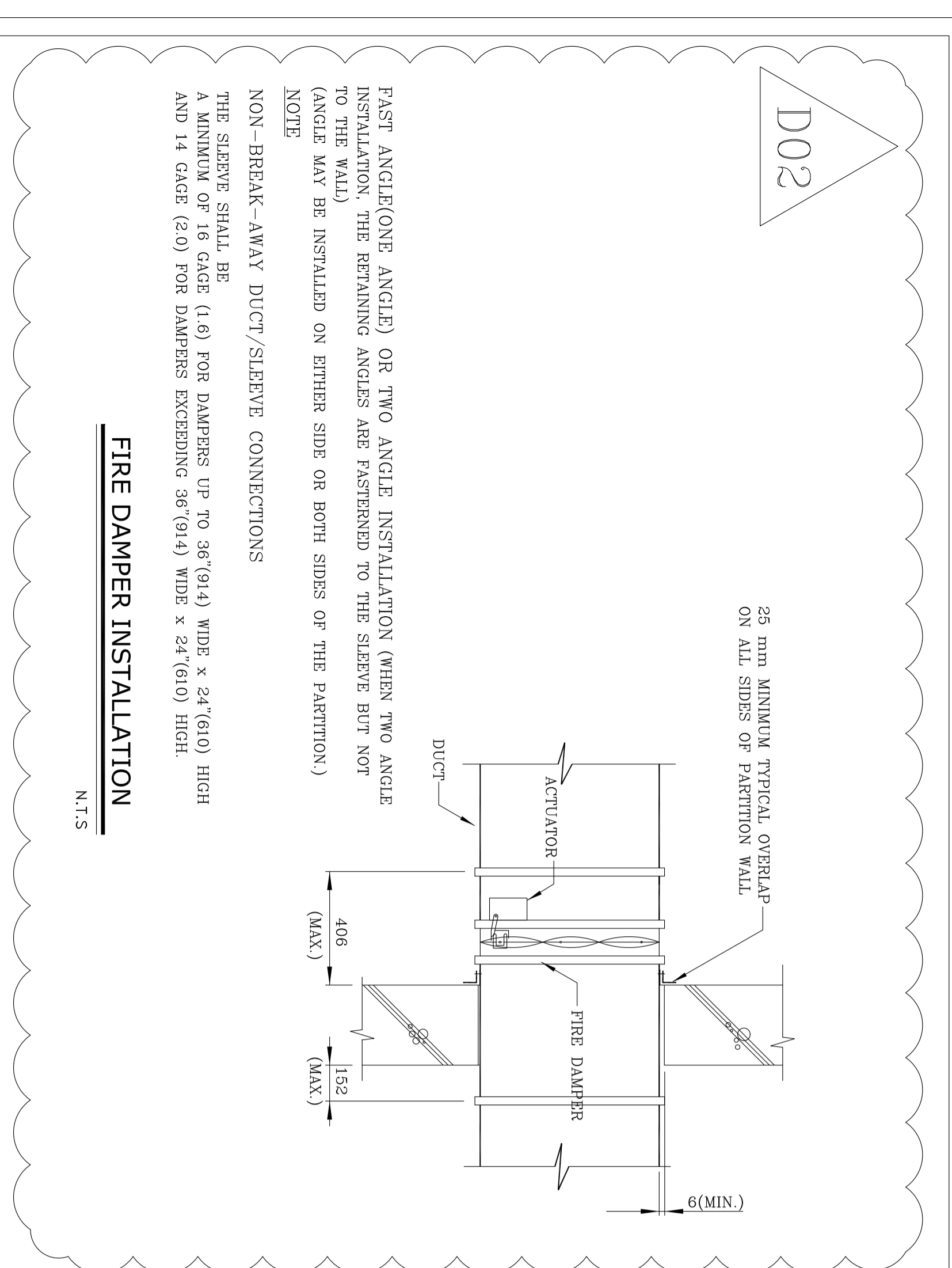
ROUND & SQUARE CEILING DIFFUSER CONNECTION DETAIL
N.T.S



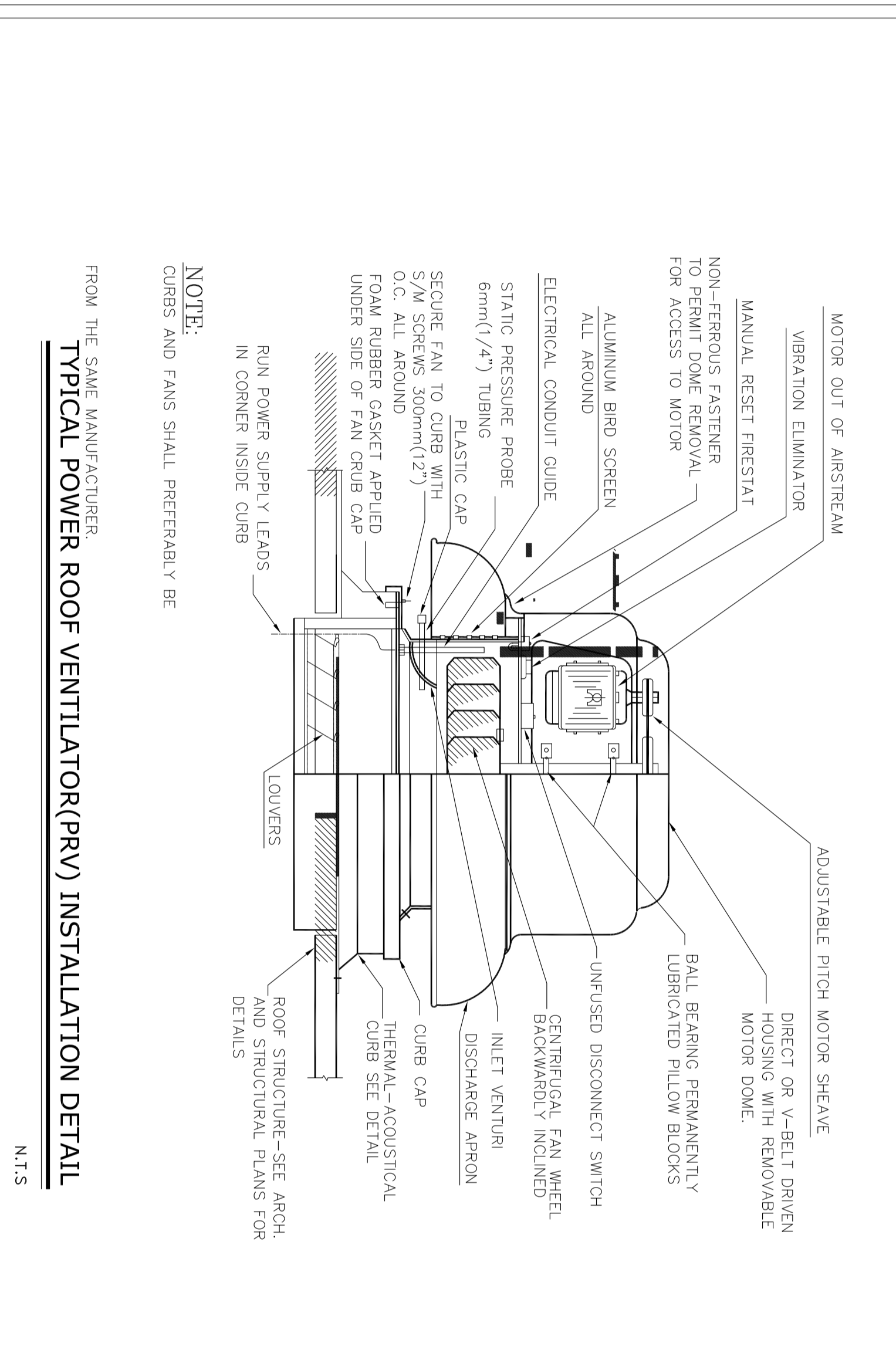
DIFFUSERS INSTALLATION DETAIL
N.T.S



HORIZONTAL SINGLE BLADE FIRE DAMPER
N.T.S



FIRE DAMPER INSTALLATION
N.T.S



TYPICAL POWER ROOF VENTILATOR(PRV) INSTALLATION DETAIL
N.T.S



FIRE DAMPER INSTALLATION
N.T.S

PROJECT NO.:	BINAK OILFIELD DEVELOPMENT		
EPC CONTRACTOR:	BPD/BPC CONTRACTOR (GC): 971020		
IRISGAN ENERGY - DESIGN & INSPECTION COMPANIES	PETROBRAN DEVELOPMENT COMPANY		
REV.	DATE	CHK.	APP.
D03	OCT-2022	FI	...
D02	OCT-2022	IFI	...
D01	SEP-2021	IFI	...
D00	JUL-2021	IFI	...
REV.	DATE	P.O.I.S	CHK.
		PRP.	APP.
		CHK.	APP.
		CHK.	APP.

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED				
APPROVED FOR CONSTRUCTION	BY:	DATE:		
BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.	SHEET REVISION
053-073-0184	F	4	B	707128 15 OF 19 D03

PROJECT NO.:

EPC CONTRACTOR:

IRISGAN ENERGY - DESIGN & INSPECTION COMPANIES

PETROBRAN DEVELOPMENT COMPANY

DRAWING TITLE: Standard Drawing for HVAC & Plumbing

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BK-GNRL-PRDCC-000-HV-DW-0001	15 OF 19	D03

APPROVED FOR CONSTRUCTION	BY:	DATE:
BUDGET REF.	LOCATION	SIZE CLASS
053-073-0184	F	4
	B	707128
	15 OF 19	D03

(VENDOR TITLE BLOCK)**

NOTES

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THIS DRAWING IS TO BE READ IN CONJUNCTION WITH HVAC DRAWINGS OF
ALL PLANT BUILDINGS.

LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PEDCO-000-HV-DW-0002

REFERENCE DRAWING

Symbol & Legend for HVAC & Plumbing	DRG. No.
	BK-GNRL-PEDCO-000-HV-DW-0002

KEY PLAN

APPROVED FOR CONSTRUCTION BY: _____ DATE: _____

BUDGET REF: _____ LOCATION: _____ SIZE CLASS: _____ SERIAL NO. _____ SHEET NO. _____ SHEET REVISION _____

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

DATE: _____ SCALE: _____ DRAWING BY: _____ CHECKED BY: _____ PROJECT ENG. _____

DATE: _____ SCALE: _____ DRAWING BY: _____ CHECKED BY: _____ PROJECT ENG. _____

DATE: _____ SCALE: _____ DRAWING BY: _____ CHECKED BY: _____ PROJECT ENG. _____

PROJECT NO.: 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO.: 971020

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

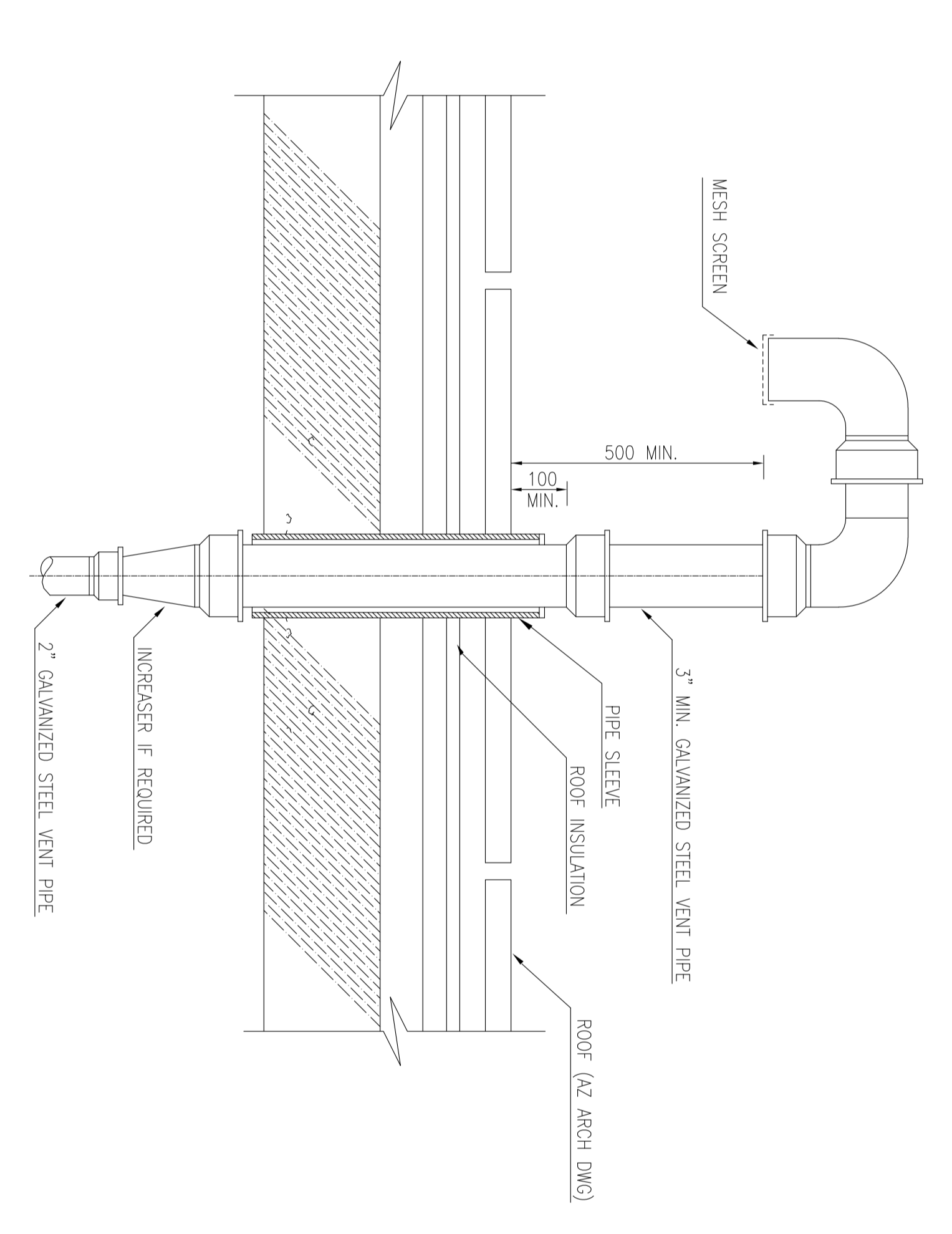
EPD/PEC CONTRACTOR (GC):

IRHGAN ENERGY - DESIGN & INSPECTION COMPANIES

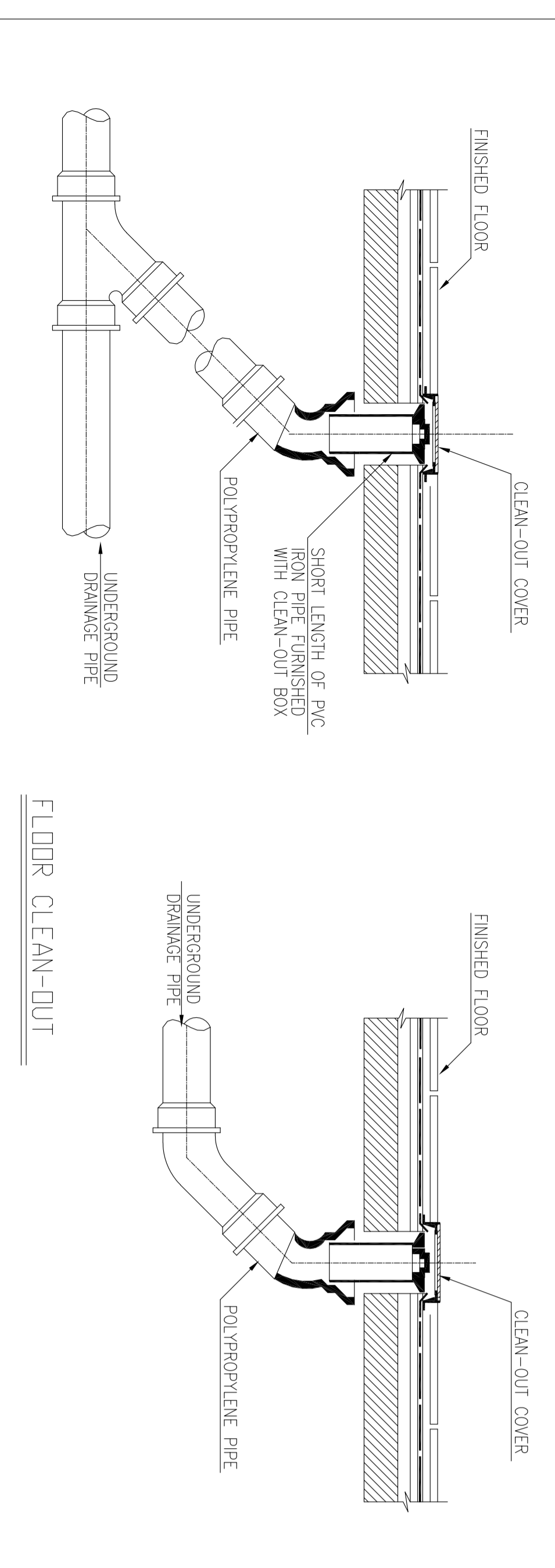
PETROBRAN DEVELOPMENT COMPANY

REV.	DATE	DESCRIPTION	CHECKED	BY	DATE	REV.	DATE	DESCRIPTION	CHECKED	BY	DATE
D03	OCT-2022	PI	M.KHARABAN	SH.GHUMAR	***	***	***	***	***	***	***
D02	OCT-2021	IP1	H.AHMED	M.KHARABAN	SH.GHUMAR	***	***	***	***	***	***
D01	SEP-2021	IP1	M.SHAHABUDDIN	M.KHARABAN	SH.GHUMAR	***	***	***	***	***	***
D00	JUL-2021	IP1	M.SHAHABUDDIN	M.KHARABAN	SH.GHUMAR	***	***	***	***	***	***

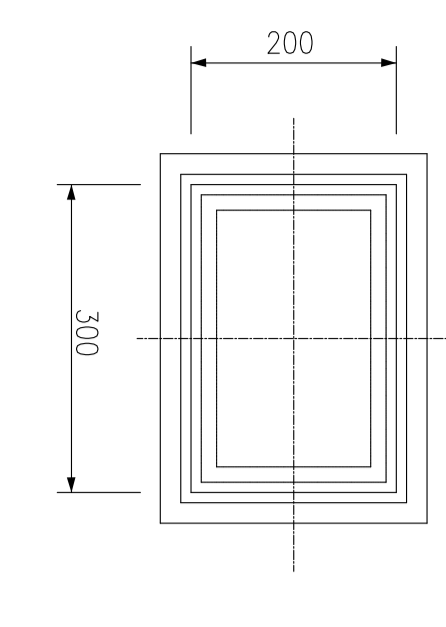
REV. APPROV. DATE



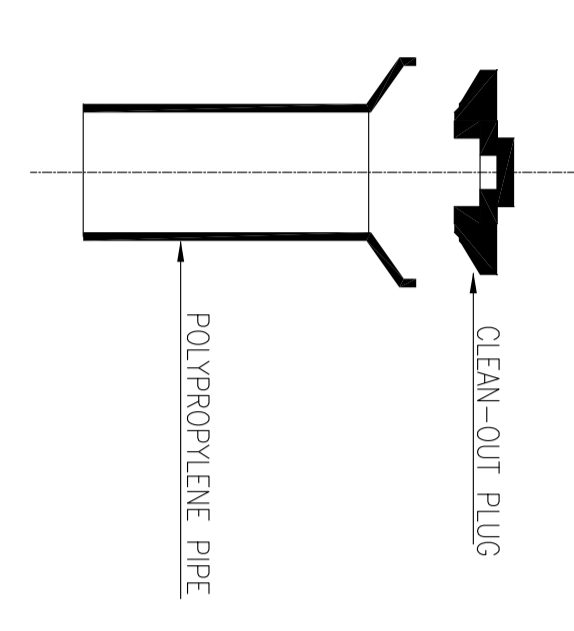
VENT STACK TERMINAL ON ROOF



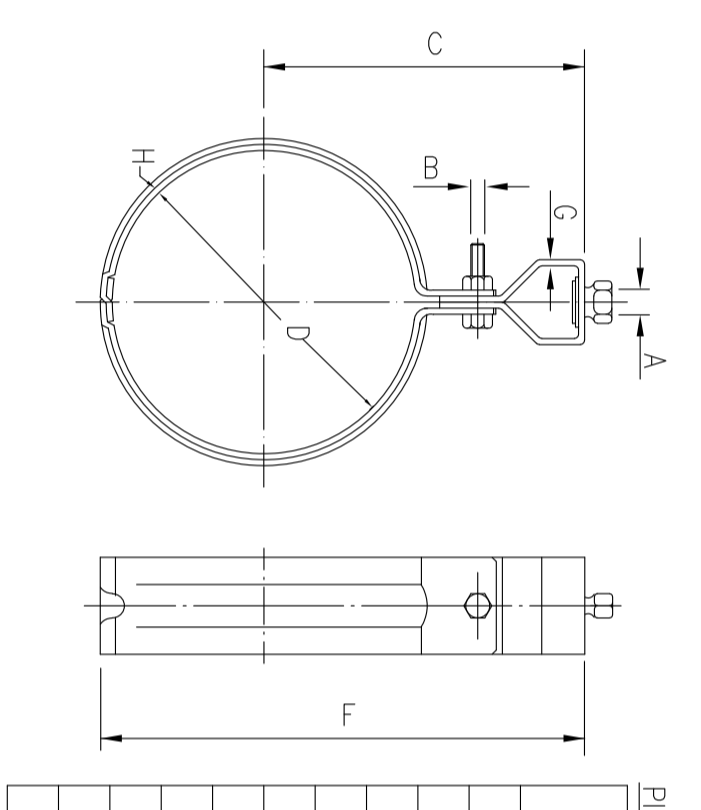
FLOOR CLEAN-OUT



CLEAN-OUT COVER



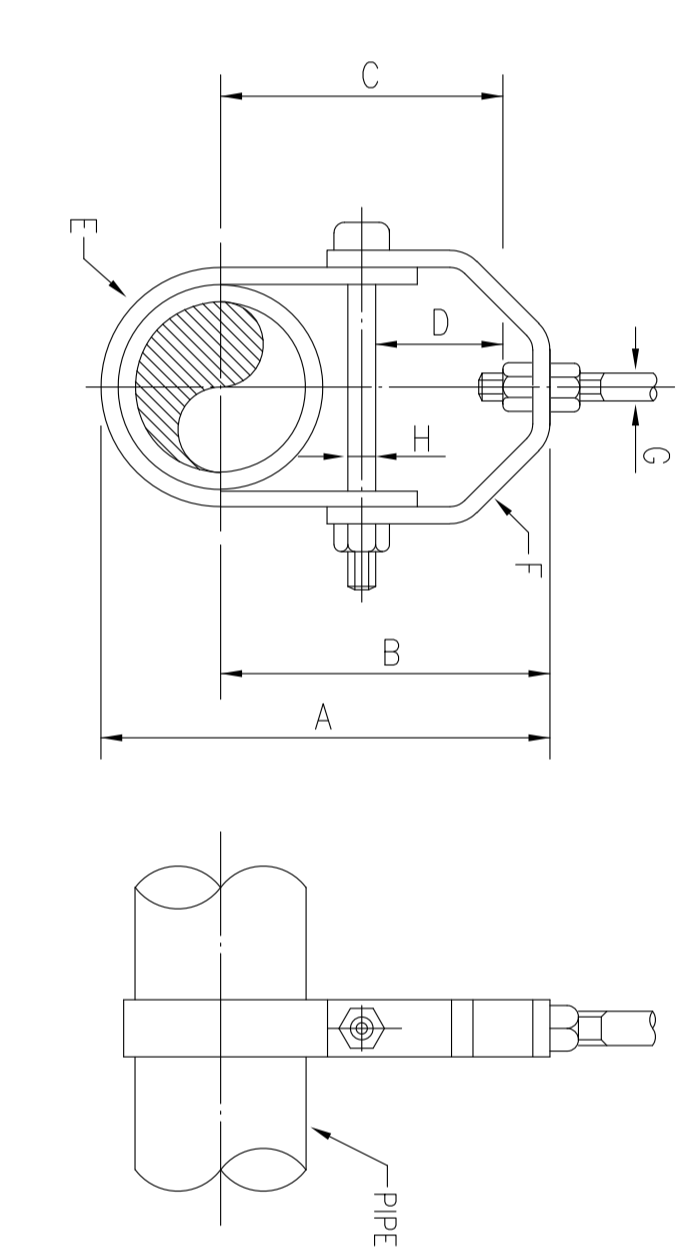
CLEAN-OUT PIPE



PIPE HANGER (FOR COLD AND HOT WATER PIPES)

PIPE HANGER SCHEDULE

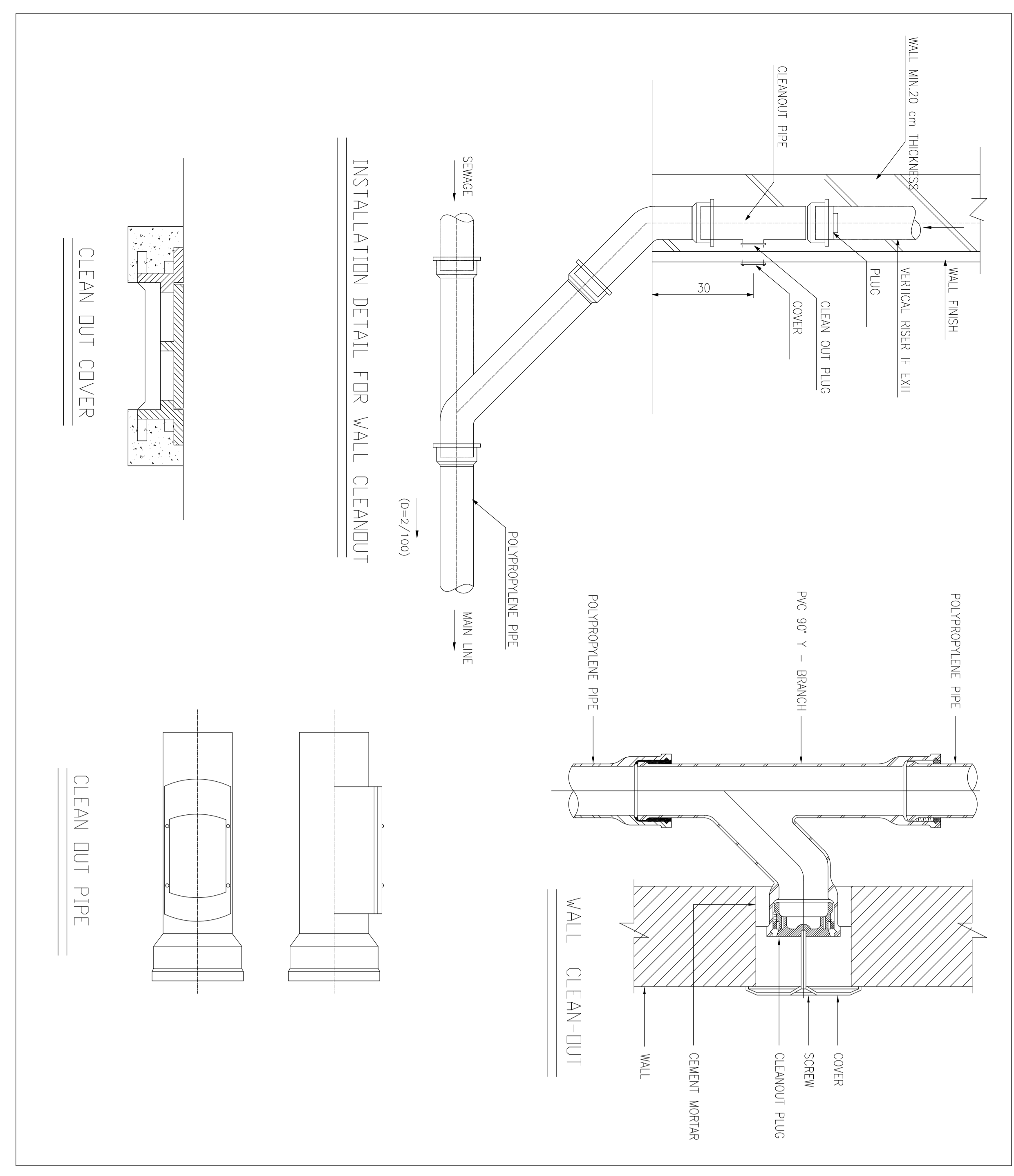
PIPE SIZE (MM)	MAX. LOAD (KG)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
13	280	9	6	7.3	21.7	87	1.6x25	1.6x25																			
20	280	9	6	7.56	21.2	93	1.6x25	1.6x25																			
25	280	9	6	7.9	34.0	100	1.6x25	1.6x25																			
40	280	9	6	95.3	48.6	113	1.6x25	1.6x25																			
50	280	9	6	95.3	60.5	130	2.0x32	2.0x32																			
80	450	12	6	129.6	89.1	179	2.5x40	2.5x40																			
100	450	16	6	142.2	114.3	204	2.5x40	2.5x40																			
150	450	20	10	184.6	165.2	274	3.0x50	3.0x50																			
190	800	22	10	210.3	216.5	325	3.0x50	3.0x50																			
250	1300	22	10	235.7	267.4	378	4.5x55	4.5x55																			



PIPE HANGER (FOR CAST IRON PIPES)

PIPE HANGER SCHEDULE

PIPE SIZE (MM)	MAX. LOAD (KG)	A	B	C	D	E	F	G	H
50	650	206	146	117	38	32 x 5.32 x 6	9	10	
80	650	206	146	117	38	32 x 5.32 x 6	12	10	
100	650	206	146	117	38	32 x 5.32 x 6	16	10	
150	880	273	183	154	38	38 x 5.38 x 5	20	12	
200	910	352	235	200	54	44 x 5.44 x 5	22	16	



WALL CLEAN-OUT

INSTALLATION DETAIL FOR WALL CLEANOUT

CLEAN OUT COVER

CLEAN OUT PIPE

(VENDOR TITLE BLOCK)**

DRAWING TITLE: Standard Drawing for HVAC & Plumbing

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NTS	A0	BK-GNRL-PEDCO-000-HV-DW-0001	16 OF 19	D03

BUDGET REF:	LOCATION:	SIZE CLASS:	SERIAL NO.	SHEET NO.	SHEET REVISION
053-073-9194	F	4	B	16 OF 19	D03

NOTES

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH HVAC DRAWINGS OF
ALL PLANT BUILDINGS.

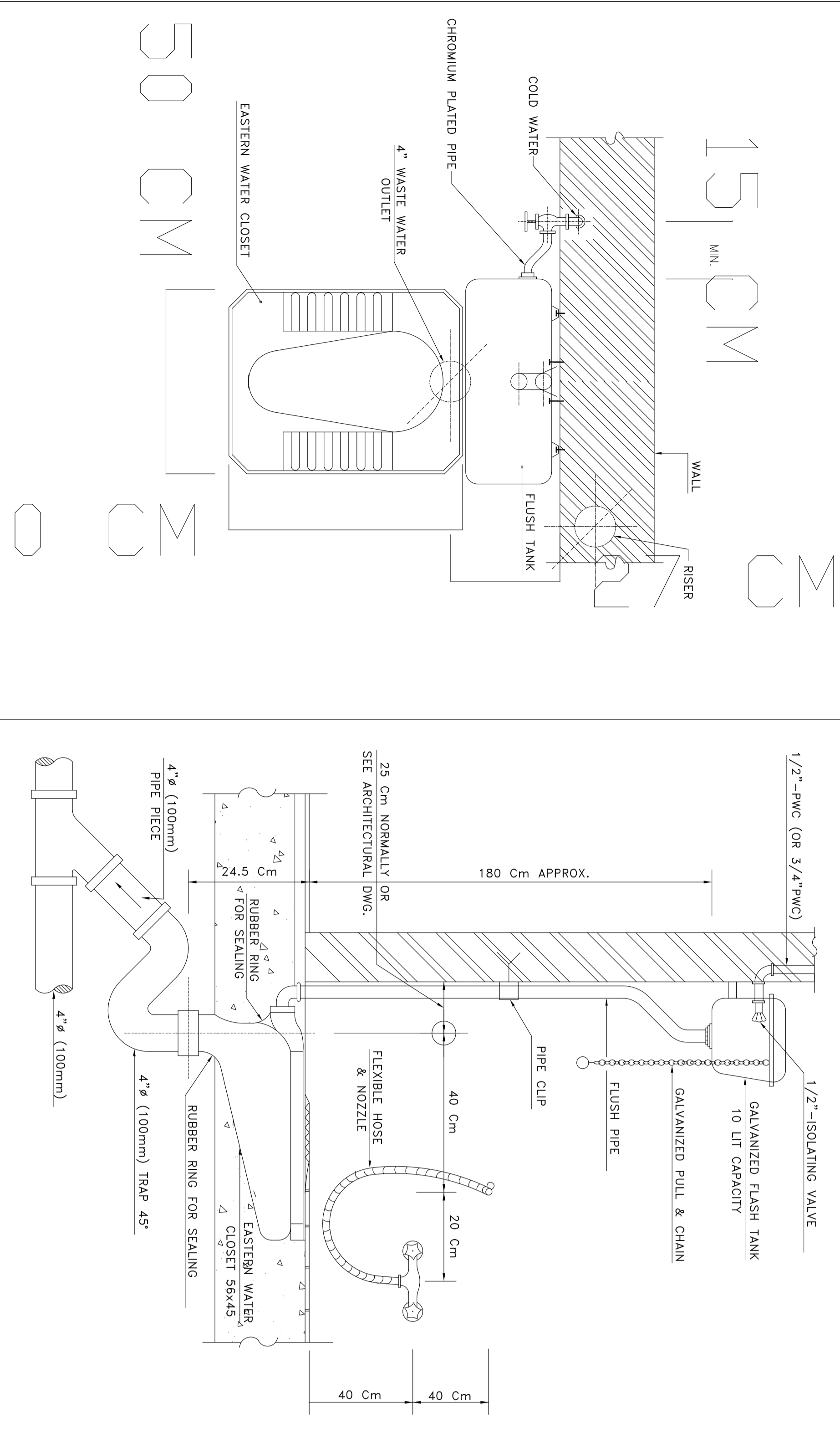
LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BK-GNRA-PECCO-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BK-GNRA-PECCO-000-HV-DW-0002

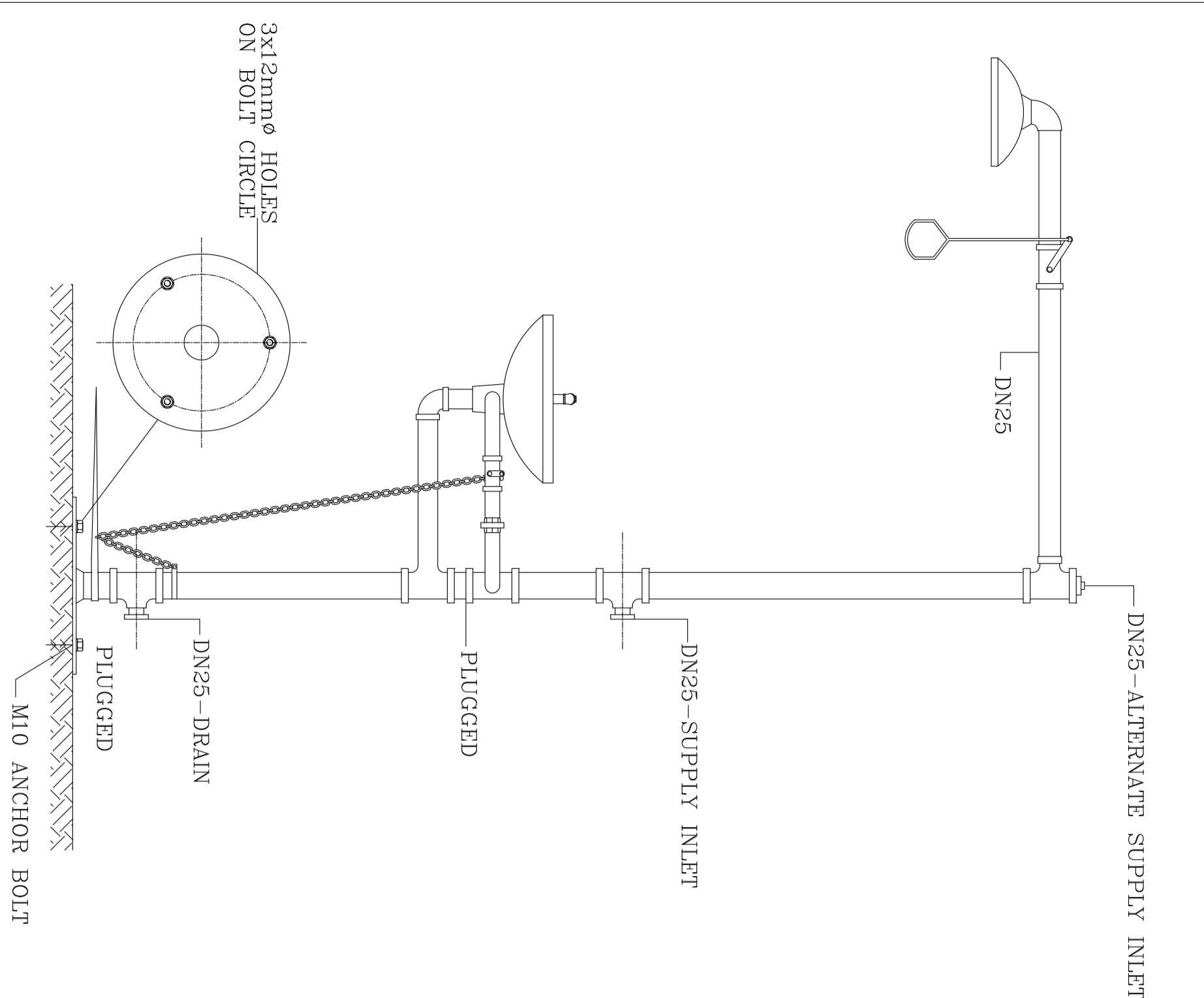
KEY PLAN

SUBJECT: INSTALLATION DETAIL FOR EASTERN WATER CLOSET



EASTERN WATER CLOSET DETAIL & PIPING
N.T.S

SUBJECT: EYEWASH & SAFETY SHOWER DETAIL



EYEWASH & SAFETY SHOWER DETAIL
N.T.S

SUBJECT: EYEWASH & SAFETY SHOWER SCHEDULE TABLE

GENERAL DATA		
1	TYPE	SELF STANDING, FLEXIBLE, TYPE
2	QUANTITY	1
3	SERVICE	CHEMICAL DECONTAMINATION
4	SECTION CODE	NFA-40, SS-570, ANS, Z36.1
5	SUBJECT PROTECTION & PAINTING	SUITABLE FOR HINDI ATMOSPHERE
PROCESS AND OPERATING DATA		
6	WU/WAX FEED PRESSURE (BAR)	2.5 / 7
7	WU/WAX WATER TEMP. (DEG.C)	10 / 35
8	AREA CLASSIFICATION	NON-HAZARDOUS
9	OPERATING PRESSURE (BAR)	2.0
TECHNICAL DATA		
10	NET CONNECTION (SST/CODE/TYPE)	DN25/ANSI 150/RF FLTD
11	BRAN CONNECTION (SST/CODE/TYPE)	GI SCH 80 PIPE AND FROD FITTING
12	PIPE AND FITTING MATERIAL	254 GALVANIZED
13	DIMENSION (MM)	254 GALVANIZED
14	MATERIAL	STAINLESS STEEL
15	NET CONNECTION (SST/CODE/TYPE)	DN25/ANSI 150/RF FLTD
16	QUANTITY	1
17	TYPE	BALL VALVE, STAY OPEN
18	SIZE	DN25
19	MATERIAL	STAINLESS STEEL
20	OPERATION	S.S. FULL BODY WITH HANDLE
21	NET / OUTLET CONNECTION	DN25/ANSI 150/RF FLTD
22	OPERATING MATERIAL	CHROME PLATED BRASS
23	OPERATING ACCESSORIES	DUST CAP
24	TYPE	BALL VALVE, STAY OPEN
25	SIZE	DN15
26	MATERIAL	STAINLESS STEEL
27	OPERATION	S.S. RIGID HANDLE/FROD FEED
28	NET / OUTLET CONNECTION	DN15/ANSI 150/RF FLTD
29	REGULATOR CONNECTIONS (\"TYPE\")	DN15/ANSI 150/RF FLTD
30	STRAINER CONNECTIONS (\"TYPE\")	DN15/ANSI 150/RF FLTD
31	DIMENSIONS (MM)	BY VENDOR
32	MATERIAL	STAINLESS STEEL
33	OUTLET BRAN CONNECTION	DN25
34	TOTAL HEIGHT (MM)	BY VENDOR
35	TOTAL LENGTH (MM)	BY VENDOR
36	TOTAL WEIGHT (KG)	BY VENDOR
37	TOTAL WEIGHT (KG)	TO BE SPECIFIED BY VENDOR

EYEWASH & SAFETY SHOWER SCHEDULE TABLE

REV.	DATE	DESCRIPTION	BY	DATE	BY	DATE
D03	OCT-2022	PI	HANNAN	M.KARIMABADI	SH.GHOLIAE	...
D02	OCT-2021	IP1	HANNAN	M.KARIMABADI	SH.GHOLIAE	...
D01	SEP-2021	IP1	M.KARIMABADI	M.KARIMABADI	SH.GHOLIAE	...
D00	JUL-2021	IP1	M.KARIMABADI	M.KARIMABADI	SH.GHOLIAE	...

PROJECT NAME: BINAK OILFIELD DEVELOPMENT
PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES

EPD/ERC CONTRACTOR (GC): PETROBARAN DEVELOPMENT COMPANY

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

(VENDOR TITLE BLOCK)**

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.	BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.	SHEET REVISION
NTS	A0	BK-GNRA-PECCO-000-HV-DW-0001	17 OF 19	D03	053-073-9184	F	4	B	17 OF 19 D03

NOTES

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LEGEND

FOR SEE SYMBOL & LEGEND REFER TO BK-GENERAL-PECCO-000-HV-DW-0002

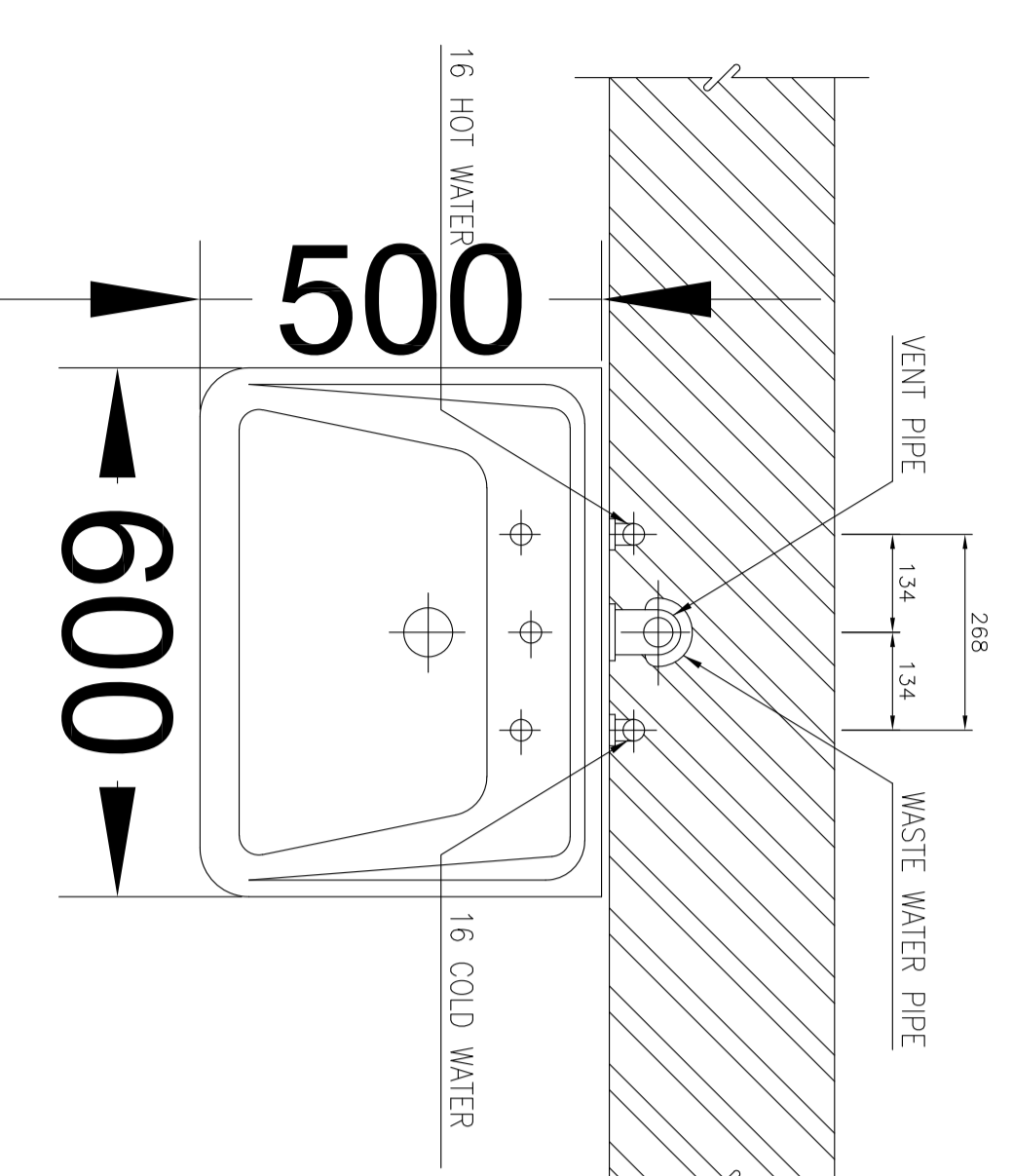
REFERENCE DRAWING	DRG. NO.
Symbol & Legend for HVAC & Plumbing	BK-GENERAL-PECCO-000-HV-DW-0002

KEY PLAN

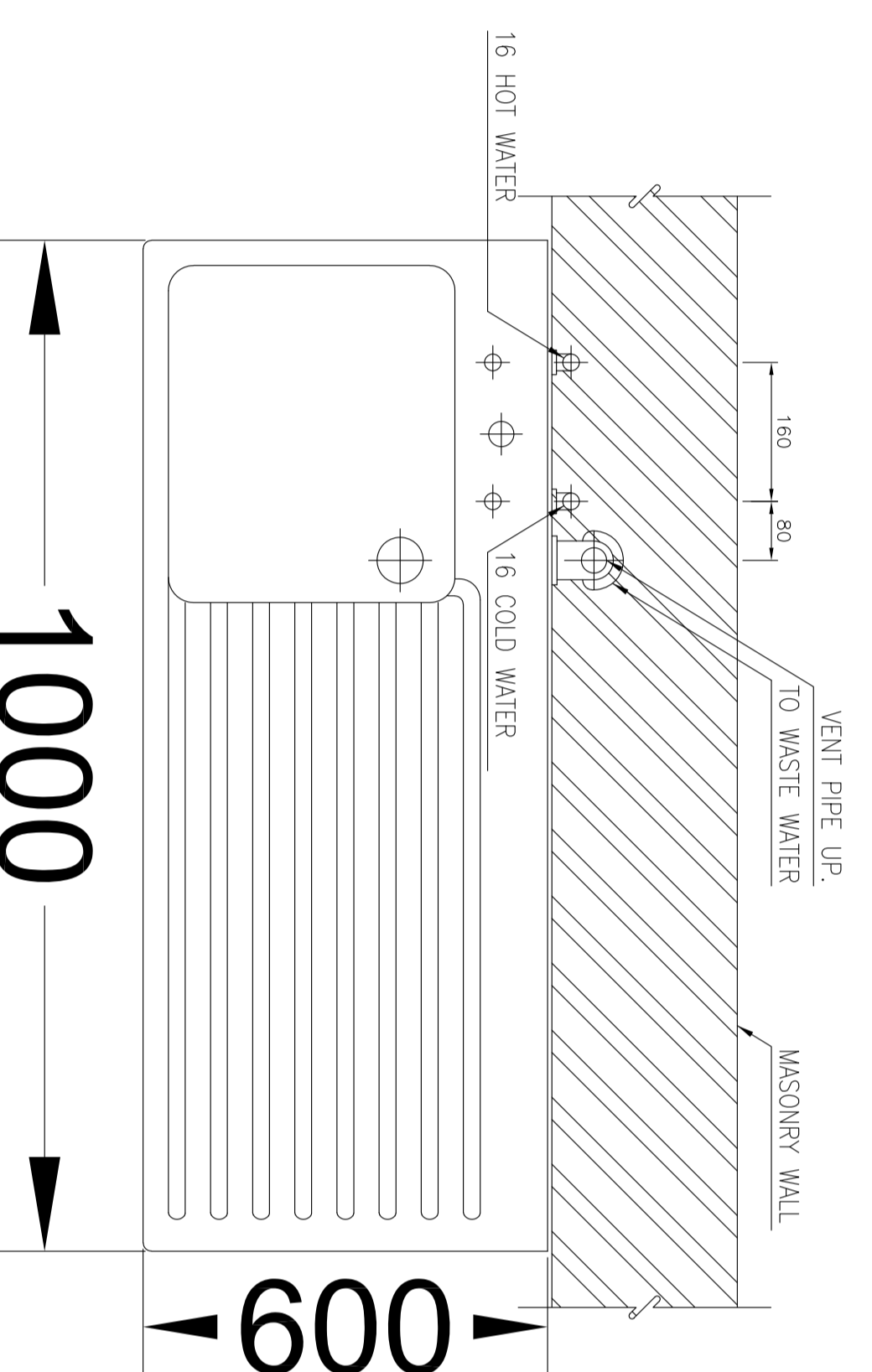
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APPROVED FOR CONSTRUCTION	BY:	DATE:

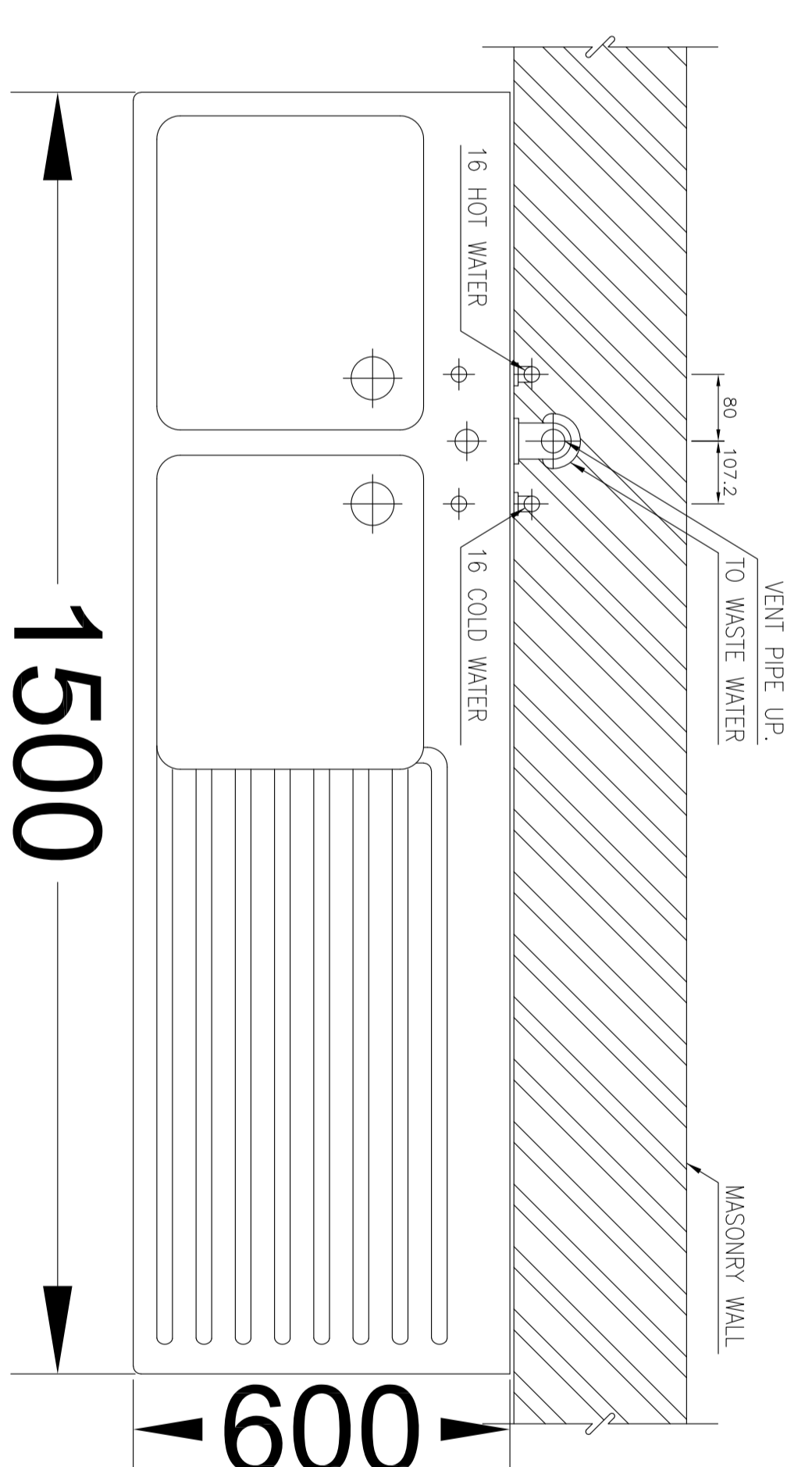
الموافق ١٤٤٥ / ٧ / ٢٥
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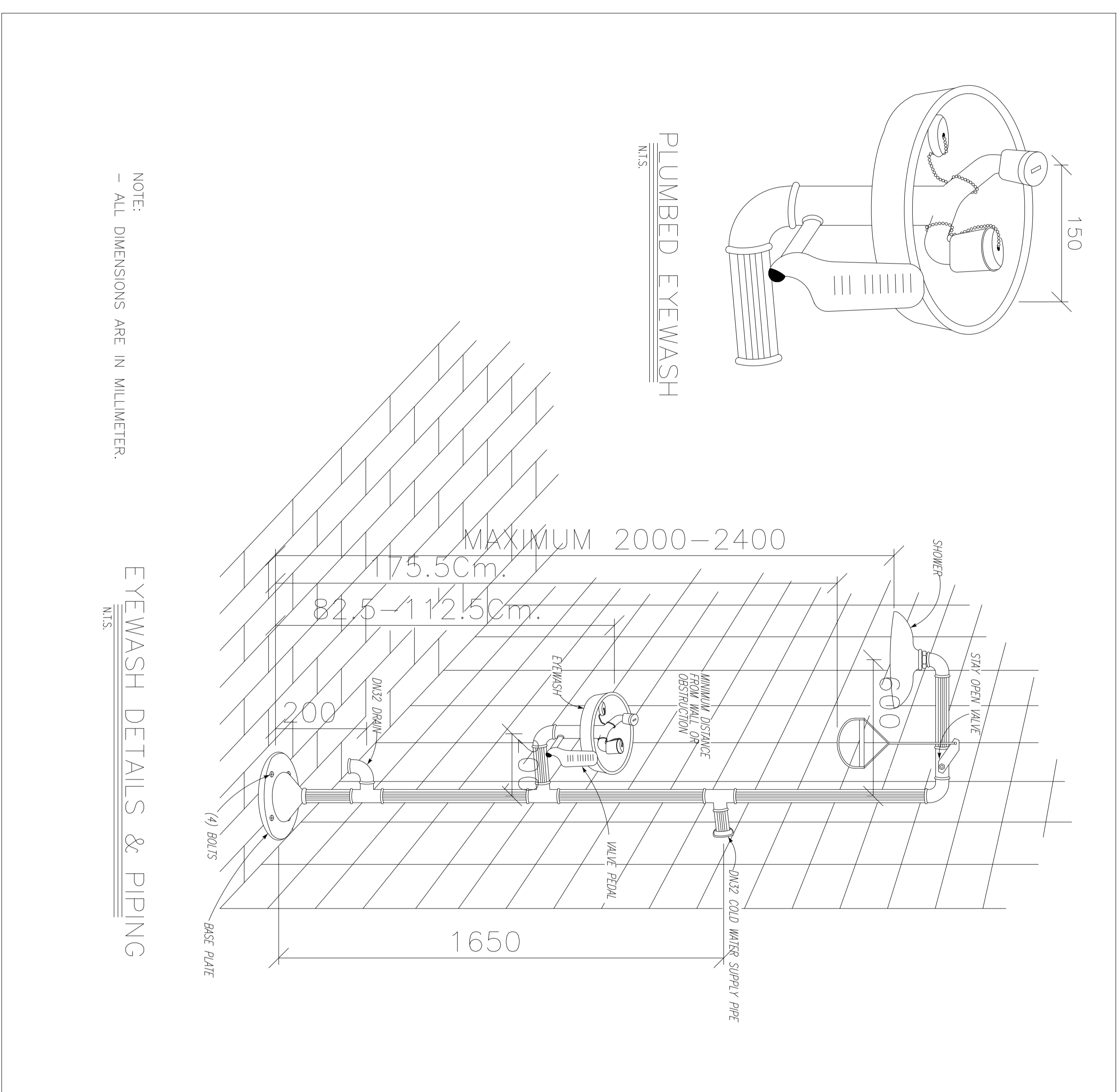
NOTE:
FOR ACTUAL DIMENSION OF LAVATORY STAND & WALL BRACKET SEE MANUFACTURER LITERLET.



NOTE:
FOR PANTRY AND SERVICE SINK DETAIL & PIPING SEE SHEET 7/81



NOTE:
FOR PANTRY AND SERVICE SINK DETAIL & PIPING SEE SHEET 7/81



NOTE:
- ALL DIMENSIONS ARE IN MILLIMETER.

(VENDOR TITLE BLOCK)**			DRAWING TITLE: Standard Drawing For HVAC & Plumbing		
			SCALE: A0			DRAWING NO. BR-GNRL-PECCO-000-HV-DW-0001	SHEET NO. 18 OF 19
SCALE: A0		DRAWING NO. BR-GNRL-PECCO-000-HV-DW-0001		SHEET NO. 18 OF 19	
REV. D03		REV. D03		BUDGET REF. LOCATION: SIZE CLASS: SERIAL NO. 707128	
REV. D03		REV. D03		SHEET REVISION: 18 OF 19	
REV. D03		REV. D03		SHEET REVISION: D03	

REV.	DATE	DESCRIPTION	BY	DATE	BY	DATE
D03	OCT-2022	PI	HANNAN MUKHARMI	...	...	...
D02	OCT-2021	IFI	HANNAN MUKHARMI	...	...	...
D01	SEP-2021	IFI	M. ASGHARUDDIN MUKHARMI	...	...	...
D00	JUL-2021	IFI	M. ASGHARUDDIN MUKHARMI	...	...	...

PROJECT NAME: BINAK OILFIELD DEVELOPMENT

PROJECT NO.: 971020

EPC CONTRACTOR: EPD/EPIC CONTRACTOR (GC):

DESIGNER: HIRSHAN ENERGI & INSPECTION COMPANIES

DEVELOPER: PETROBRAN DEVELOPMENT COMPANY

NOTES

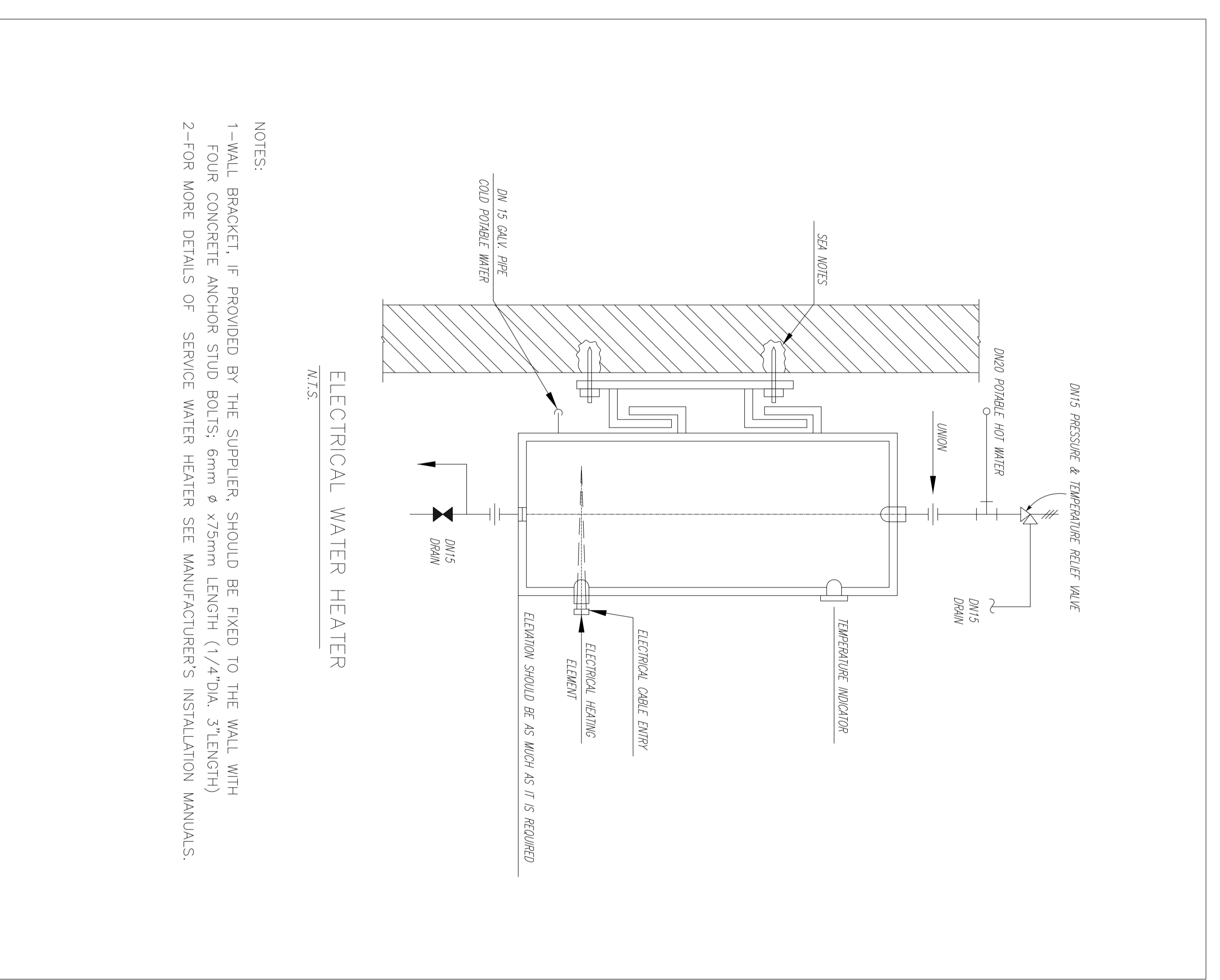
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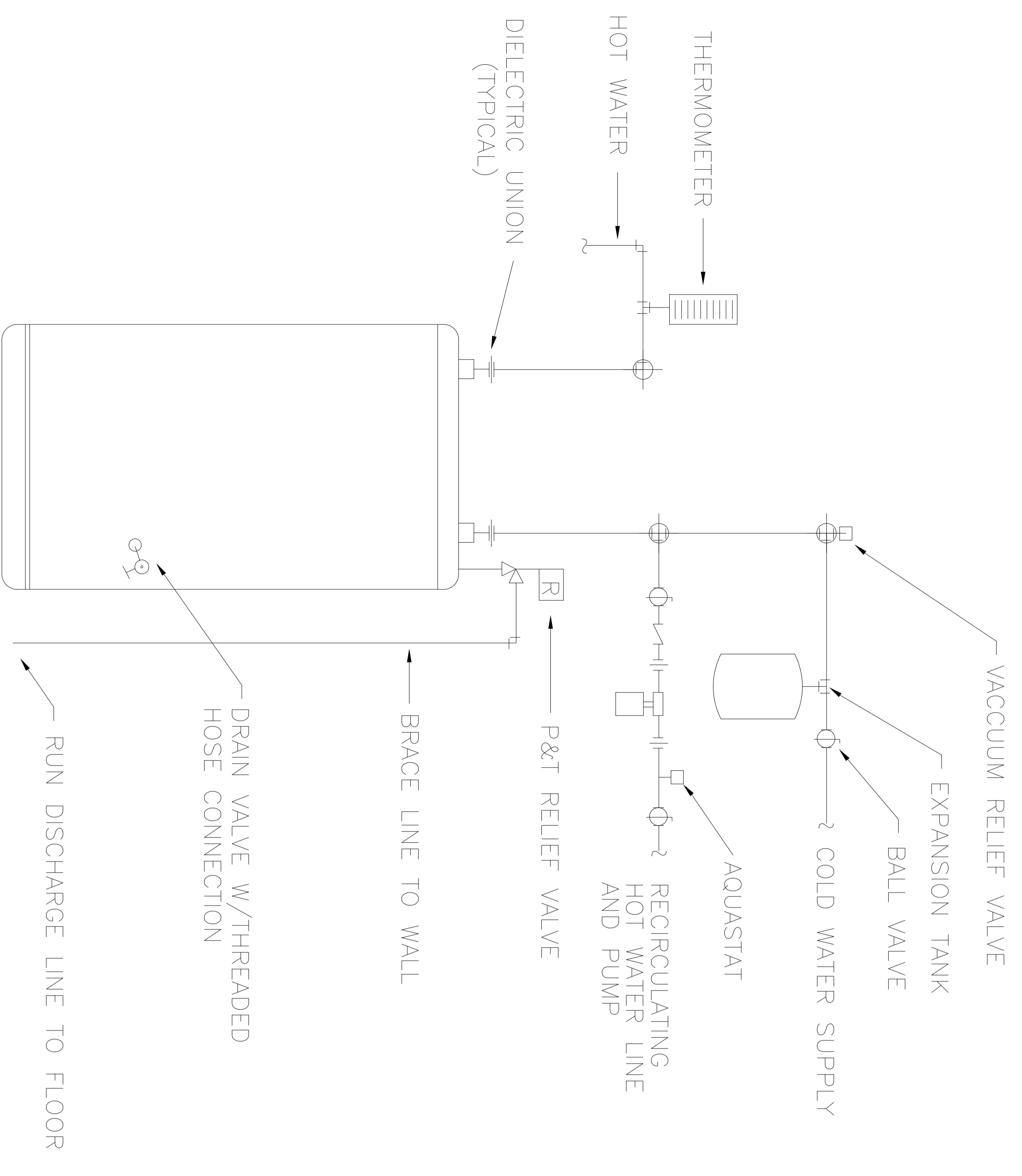
FOR SEE SYMBOL & LEGEND REFER TO BK-GNRL-PRCO-000-HV-DW-0002

REFERENCE DRAWING	DRG. No.
Symbol & Legend for HVAC & Plumbing	BK-GNRL-PRCO-000-HV-DW-0002

KEY PLAN



ELECTRIC WATER HEATER DETAIL
NO SCALE



REV.	DATE	DESCRIPTION	BY	DATE	REV.	DATE	DESCRIPTION	BY	DATE
D03	OCT-2022	PI	HANNAN M.KHARABAN	SEGHUMAR ...	...	...	...	...	...
D02	OCT-2021	IFI	HANNAN M.KHARABAN	SEGHUMAR ...	...	...	...	...	...
D01	SEP-2021	IFI	M.SCHABANU M.KHARABAN	SEGHUMAR ...	...	...	...	...	...
D00	JUL-2021	IFI	M.SCHABANU M.KHARABAN	SEGHUMAR ...	...	...	...	...	...

PROJECT NAME:	BINAK OILFIELD DEVELOPMENT		
PROJECT NO.:	971020		
EPC CONTRACTOR:	BPD/BPC CONTRACTOR (GC): GHANIMUL		
DRAWING TITLE:	Standard Drawing for HVAC & Plumbing		
	DRAFTING TITLE BLOCK**		
SCALE	SIZE	DRAWING NO.	SHEET NO.
NTS	A0	BK-GNRL-PRCO-000-HV-DW-0001	19 OF 19
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED		DATE:	
APPROVED FOR CONSTRUCTION BY:		DATE:	
BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.
053-073-0104	F	4	B
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED		DATE:	
APPROVED FOR CONSTRUCTION BY:		DATE:	
BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.
053-073-0104	F	4	B

المشرف على التصميم والتخطيط
المشرف على التنفيذ والتشييد
المشرف على الصيانة والتشغيل
المشرف على السلامة والصحة المهنية

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HIRGAN ENERGY
DESIGN & INSPECTION COMPANIES

PETROBRAN DEVELOPMENT COMPANY

PROJECT NO.: 971020
EPC CONTRACTOR: BPD/BPC CONTRACTOR (GC): GHANIMUL