DRAWING LIST FOR TEST PACKAGE

NaOCL-594

PROJECT NO.: 22328D

PROJECT TITLE : M15X Ph2 Project

No	PKG No	UNIT	LINE NUMBER			P&ID		REMARK
			ISO DRAWING No	SHEET	REV	P&ID No	REV	
1	594	3FA	OD32-NaOCl-PV3-7021-01	1 OF 1	0	CJ-M15W14-PR-A20-000311		
2	594	4FA	OD32-NaOCl-PV3-N-7019-01	1 OF 1	0	CJ-M15W14-PR-A20-000315		
3	594	4FA	OD32-NaOCl-PV3-N-7020-01	1 OF 1	0	CJ-M15W14-PR-A20-000315		
4	594	4FA	OD32-NaOCl-PV3-N-7021-01	1 OF 2	1	CJ-M15W14-PR-A20-000315		
5	594	4FA	OD32-NaOCl-PV3-N-7021-02	2 OF 2	0	CJ-M15W14-PR-A20-000311		
6	594	2FA	OD32-NaOCl-PV3-7021-01	1 OF 3	0	CJ-M15W14-PR-A20-000311		
7	594	2FA	OD32-NaOCl-PV3-7021-02	2 OF 3	0	CJ-M15W14-PR-A20-000311		
8	594	2FA	OD32-NaOCl-PV3-7021-03	3 OF 3	0	CJ-M15W14-PR-A20-000311		
9	594	4FA	OD32-NaOCl-PV3-N-7027-01	1 OF 2	0	CJ-M15W14-PR-A20-000315		

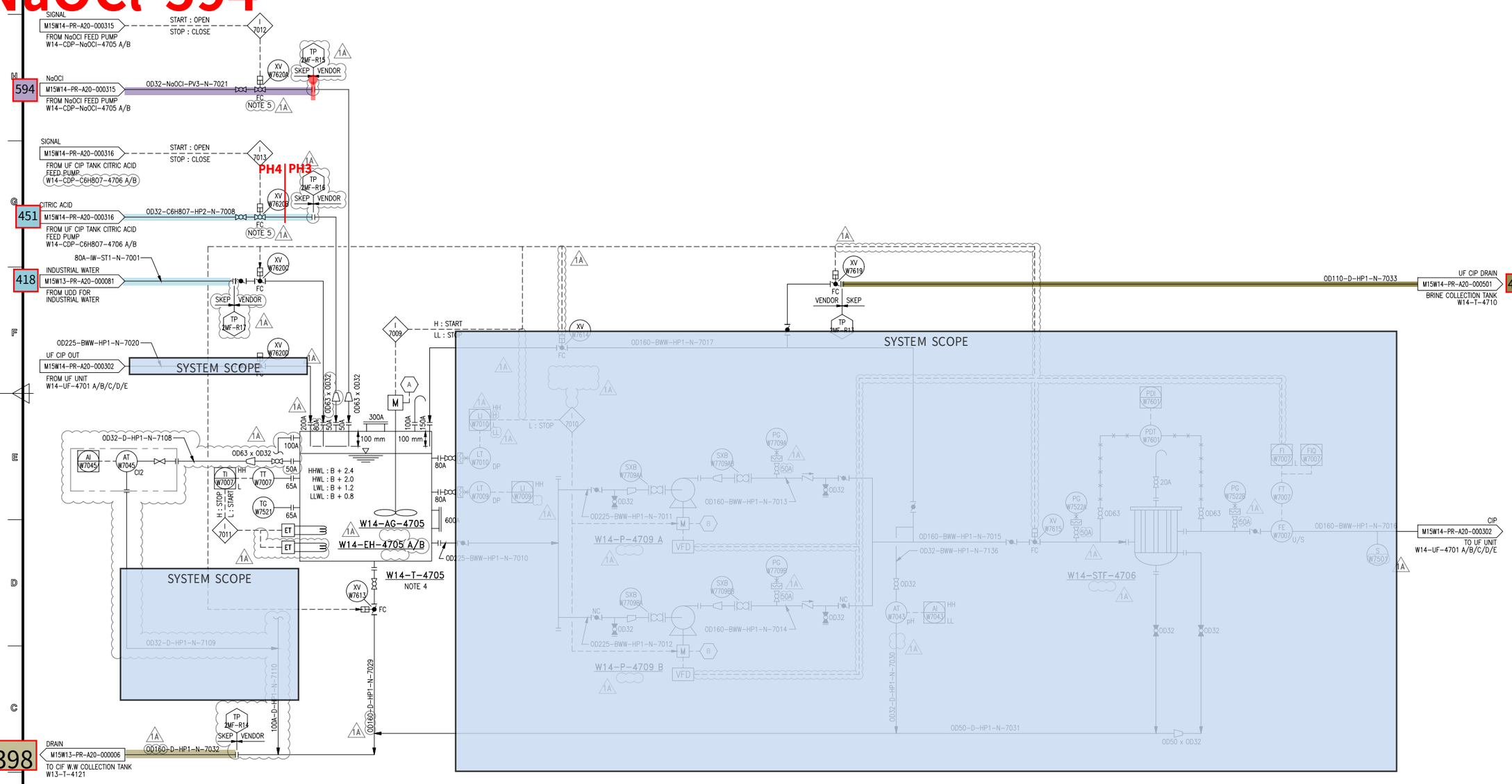
NaOCl-594

ITEM NO.		W14-T-4705
SERVICE		UF CIP TANK
Q'TY		1
TYPE		RECTANGULAR
SIZE	W x L x H m	2.0 x 2.5 x 3.3 (EH 2.4)
CAPA.	m3	16.5 (EH 12.0)
MAT'L		FRP

1A

ITEM NO.		W14-STF-4706
SERVICE		UF CIP FILTER
Q'TY		1
TYPE		CARTRIDGE
SIZE	ID x H m	(0.71 x 1.52) 1A
SIZE	μm	5
CAPA.	m3/hr	117
MAT'L		SSC14 / PP 1A

NOTE 6 1A



594 451 418 398 460

ITEM NO.		W14-EH-4705 A/B
SERVICE		UF CIP TANK ELECTRIC HEATER
Q'TY		2
MAT'L		INCOLOY 840
POWER	KW	84

1A

ITEM NO.		W14-AG-4705
SERVICE		UF CIP TANK AGITATOR
Q'TY		1
SPEED	RPM	125
MAT'L		STS316
POWER	KW	2.2

1A

ITEM NO.		W14-P-4709 A/B
SERVICE		UF CIP PUMP
Q'TY		1 + 1
TYPE		CENTRIFUGAL (WWF)
CAPA.	m3/hr.ea x mH	117 x 30 (0.29MPa)
MAT'L		SSC14/SSC14
POWER	kW	18.5 1A

대외비

KEY PLAN (2MF)

NOTE

1. 2m 이상 높은 곳에 설치된 밸브는 CHAIN VALVE 또는 PLATFORM 구성할 것.
2. 운전시 CLOSE 되는 배관에는 LOTO 설치.
3. CENTRIFUGAL PUMP MAT'L 표기 : CASING / IMPELLER
4. CURBED AREA 및 내부 TRENCH DRAIN HOLE 적용할 것.
5. 공급 : VENDOR / 설치 : SKEP
6. FILTER ELEMENT 수량 : 50EA 1A

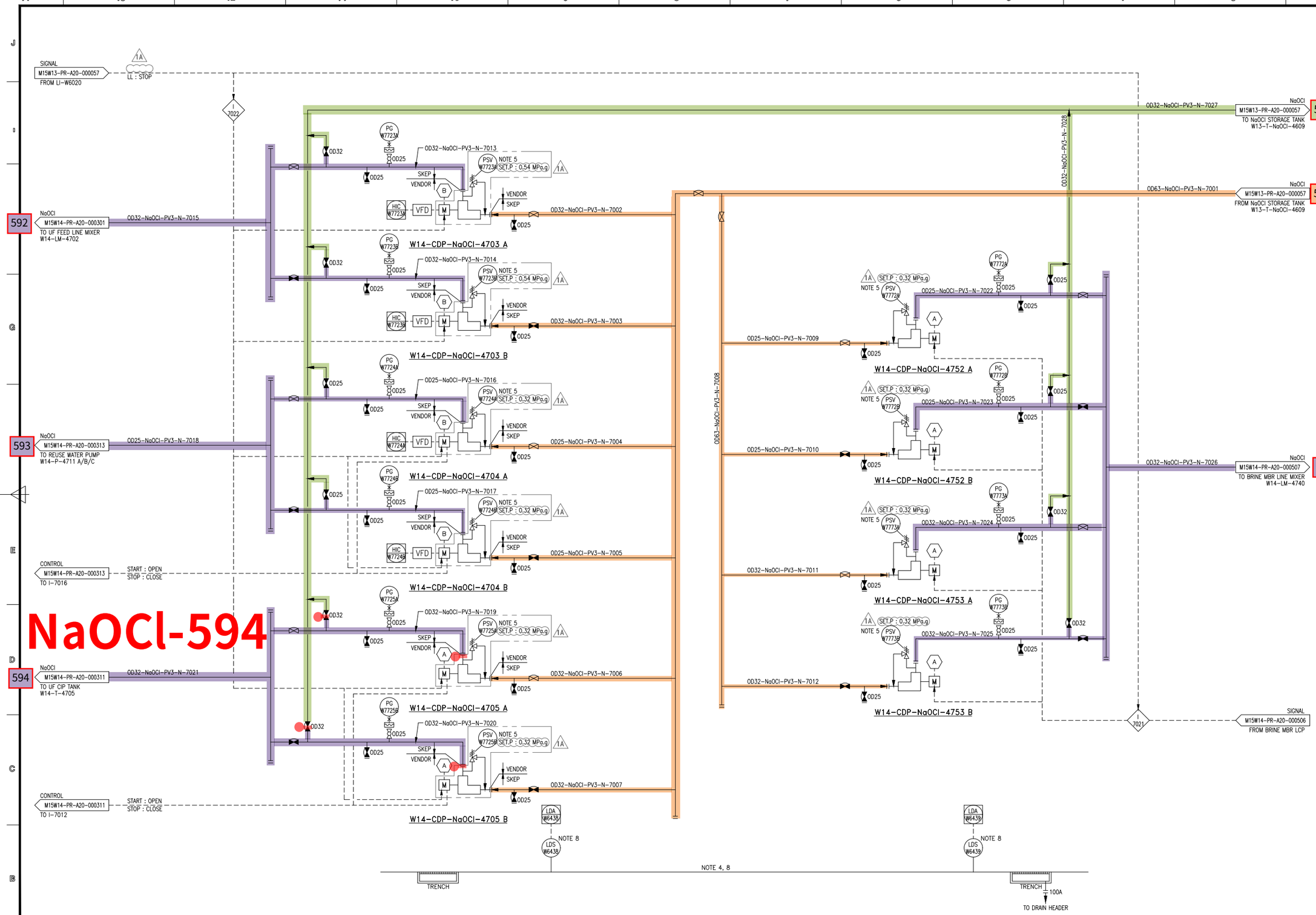
REV.	DESCRIPTION	DATE
1A	REVISED AFC	25.08.14
1	REVISED AFC	25.01.17
0	APPROVAL FOR CONSTRUCTION	24.10.31

수정 / 설명 / 날짜

제도 DRAWN BY	이 인 학
검토 CHECKED BY	한 진 희
승인 APPROVED BY	박 동 영
제작사	SK 에코플랜트
공사명 PROJECT TITLE	M15X Ph4 WWT Project
도면명 DWG. TITLE	PIPING & INSTRUMENT DIAGRAM UF CIP TANK & PUMP
축척 SCALE	NONE
날짜 DATE	2025. 08. 14
PROJECT NO.	22330D
도면번호 SHEET NO.	CJ-M15W14-PR-A20-000311
REV.	1A

A1(594x841mm ±2mm)

C:₩Users₩TOPW Desktop₩P&ID 251013₩[M15X Ph-4 for 인허가]CAD FILE_0910₩CJ-M15W14-PR-A20-000311 R1 P&ID FOR UF CIP



ITEM NO.	W14-CDP-NaOCl-4703 A/B
SERVICE	UF FEED WATER LINE MIXER NaOCl FEED PUMP
Q'TY	1 + 1
TYPE	DIAPHRAGM
CAPA. l/min.ea x MPa	(MAX 11.2 x MAX 0.7 NOTE 9)
MAT'L	PVDF/PTFE(+EPDM)/CERAMIC
POWER kW	0.75

ITEM NO.	W14-CDP-NaOCl-4704 A/B
SERVICE	RO TREATED WATER NaOCl FEED PUMP
Q'TY	1 + 1
TYPE	DIAPHRAGM
CAPA. l/min.ea x MPa	(MAX 4.1 x MAX 0.8 NOTE 10)
MAT'L	PVDF/PTFE(+EPDM)/CERAMIC
POWER kW	0.4

ITEM NO.	W14-CDP-NaOCl-4705 A/B
SERVICE	UF CIP TANK NaOCl FEED PUMP
Q'TY	1 + 1
TYPE	DIAPHRAGM
CAPA. l/min.ea x MPa	(MAX 11.2 x MAX 0.7 NOTE 11)
MAT'L	PVDF/PTFE(+EPDM)/CERAMIC
POWER kW	0.75

ITEM NO.	W14-CDP-NaOCl-4752 A/B
SERVICE	BRINE MBR LINE MIXER NaOCl FEED PUMP (MC)
Q'TY	1 + 1
TYPE	DIAPHRAGM
CAPA. l/min.ea x MPa	(MAX 1.04 x MAX 1 NOTE 12)
MAT'L	PVDF/PTFE/CERAMIC
POWER kW	0.55

ITEM NO.	W14-CDP-NaOCl-4753 A/B
SERVICE	BRINE MBR LINE MIXER NaOCl FEED PUMP (RC)
Q'TY	1 + 1
TYPE	DIAPHRAGM
CAPA. l/min.ea x MPa	(MAX 11.2 x MAX 0.7 NOTE 13)
MAT'L	PVDF/PTFE/CERAMIC
POWER kW	0.75

대외비

KEY PLAN (4F)

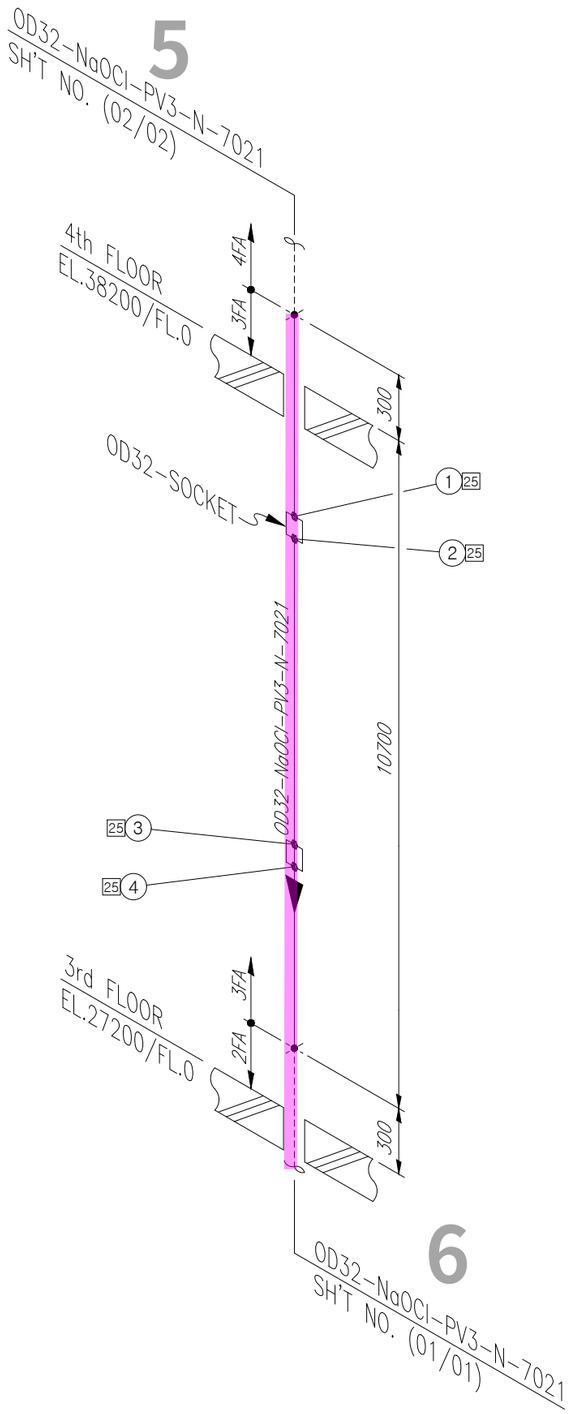
NOTE

1. 운전 시 CLOSE 되는 배관에는 LOTO 설치.
2. DIAPHRAGM PUMP MAT'L 표기 : HEAD / DIAPHRAGM / CHECK BALL 약품종류에 따라 LINE 색상을 구분하여야 한다.
4. CHEMICAL ROOM 내 TRENCH & PIT DRAIN은 DRAIN HEADER를 통하여 근처의 안전한 수조로 유입된다.
5. PUMP VENDOR 공급.
6. INTERLOCK NO. I-7021 (W14-CDP-NaOCl-4752 A/B, W14-CDP-NaOCl-4753 A/B AUTO STOP) : REMOTE STATUS에서 W13-T-NaOCl-4609 LEVEL (LI-W6020) LOW LOW STOP. BRINE MBR CIP/BACK WASH 시 START/STOP.
7. INTERLOCK NO. I-7022 (W14-CDP-NaOCl-4703 A/B, W14-CDP-NaOCl-4704 A/B, W14-CDP-NaOCl-4705 A/B AUTO STOP) : REMOTE STATUS에서 W13-T-NaOCl-4609 LEVEL (LI-W6020) LOW LOW STOP.
8. REUSE SYSTEM 및 BRINE 처리 SYSTEM의 공급용 PUMP 주변의 LEAK DETECTOR는 기 공급됨. (LDS-W6438/W6439)
9. OPERATING CAPACITY : 5 LPM OPERATING PRESSURE : 0.49 MPa
10. OPERATING CAPACITY : 3 LPM OPERATING PRESSURE : 0.29 MPa
11. OPERATING CAPACITY : 8 LPM OPERATING PRESSURE : 0.29 MPa
12. OPERATING CAPACITY : 1 LPM OPERATING PRESSURE : 0.29 MPa
13. OPERATING CAPACITY : 10 LPM OPERATING PRESSURE : 0.29 MPa

REV.	DESCRIPTION	DATE
1A	REVISED AFC	25.08.14
1	REVISED AFC	25.01.17
0	APPROVAL FOR CONSTRUCTION	24.10.31

제 도 DRAWN BY	이 인 학
검 토 CHECKED BY	한 진 희
승 인 APPROVED BY	박 동 영
제 작 사	SK 에코플랜트
공 사 명 PROJECT TITLE	M15X Ph4 WWT Project
도면명 DWG. TITLE	PIPING & INSTRUMENT DIAGRAM NaOCl FEED PUMP
축 척 SCALE	NONE
날 짜 DATE	2025. 08. 14
PROJECT NO.	22330D
도면번호 SHEET NO.	CJ-M15W14-PR-A20-000315
REV.	1A

C:₩Users₩TOPW₩Desktop₩P&ID251013₩[M15X Ph-4 for 인허가]CAD FILE_0910₩CJ-M15W14-PR-A20-000315 R1 P&ID FOR NaOC



<NOTE>
1. (*) FIELD ADJUST

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	11.0M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
SC	OD32	2EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 1

INSULATION	CODE	N
	THICK.	–

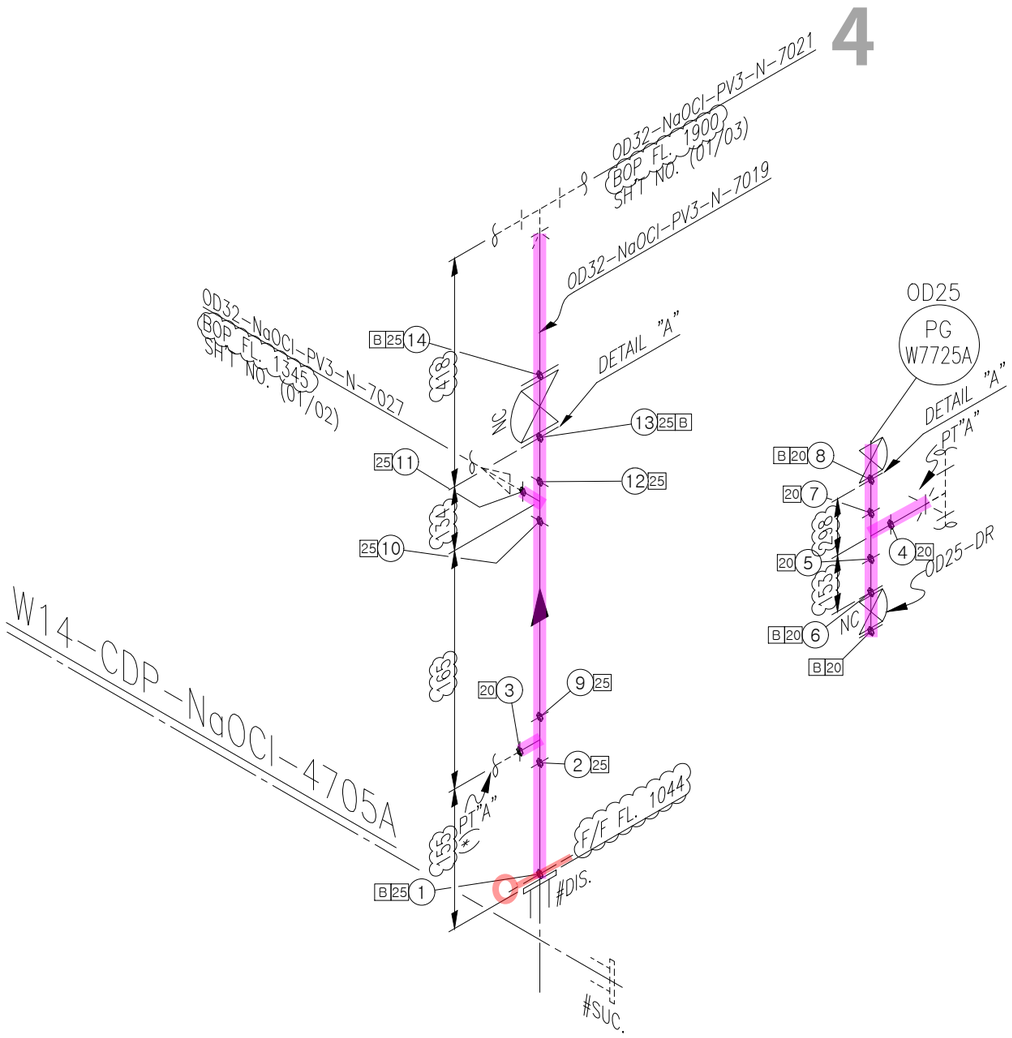
CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
DESIGN	3.3	60
OPERATING	3.0	AMB

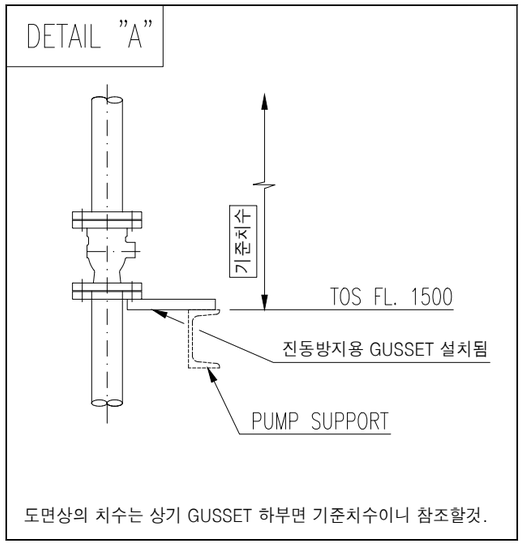
AREA W14
UNIT 3FA
REF. PLAN DWG. CJ-M15W14-PI-A30-030006-A
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. 0D32-NaCOI-PV3-N-7021
SH'T NO. 01 / 01
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.





<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

SK ecoplant

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	1.0M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
P	OD25	0.3M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD32	1EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD25	1EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
TR	OD32xOD25	1EA	TEE RED, CPVC, PE, SOCKET FUSION, SDR13.5
F	OD32	3EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
F	OD25	2EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
FB	OD25	1EA	FLG BLIND, KS 10K, FF, CPVC, SDR13.5
G	OD32	3EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
G	OD25	3EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
B	OD32	3EA	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
B	OD25	3SET	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
VD	OD32	1EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
VD	OD25	2EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
SH	OD32	3EA	SHIELD
SH	OD25	3EA	SHIELD
LOTO	OD25	1EA	LOTO
PG	OD25	1EA	PRESSURE GAUGE, KS 10K, FF

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 2

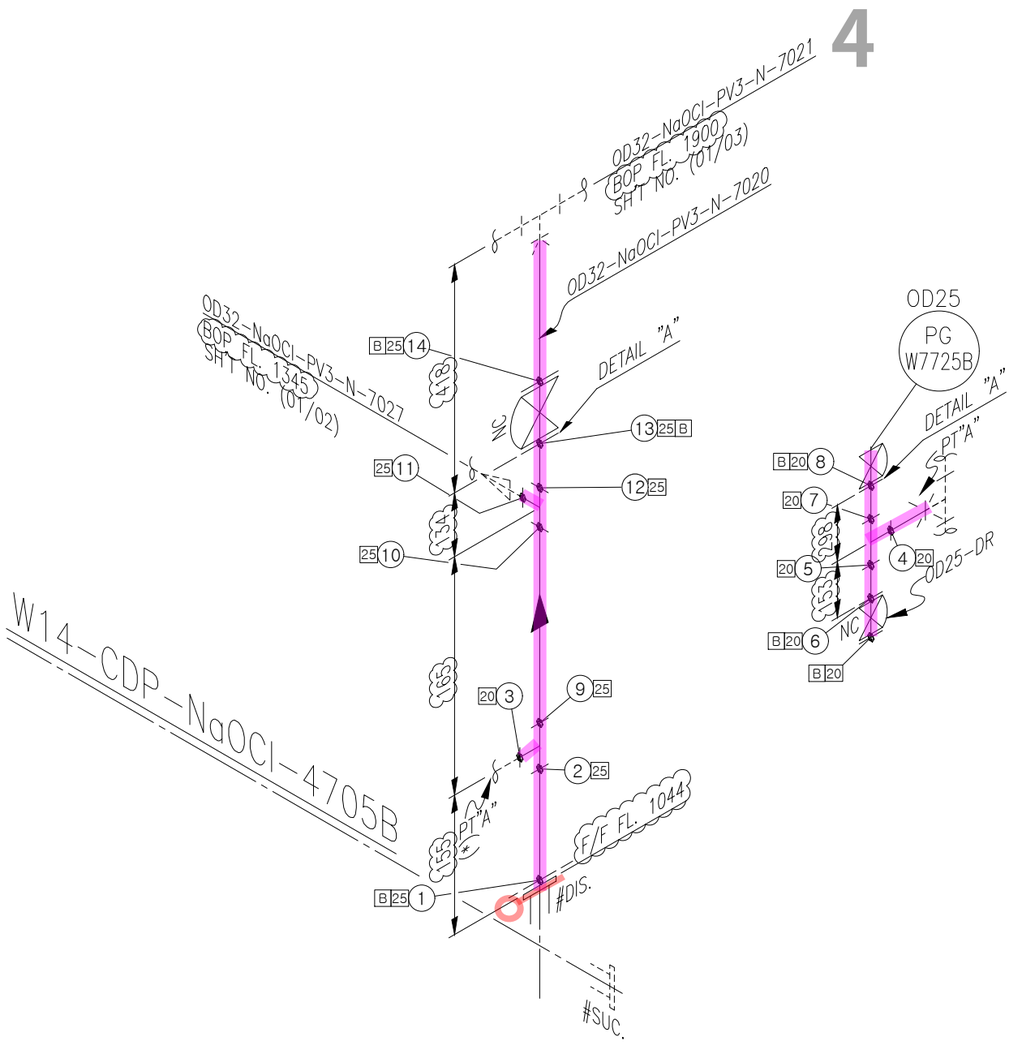
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	3.3	60
			OPERATING	3.0	AMB

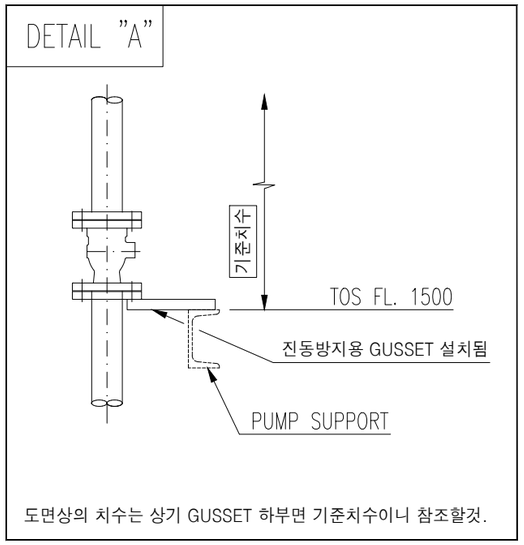
AREA W14
UNIT 4FA
REF. PLAN DWG. CJ-M15W14-PI-A30-040010-A
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7019
SH'T NO. 01 / 01
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.





<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

SK ecoplant

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	1.0M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
P	OD25	0.3M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD32	1EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD25	1EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
TR	OD32xOD25	1EA	TEE RED, CPVC, PE, SOCKET FUSION, SDR13.5
F	OD32	3EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
F	OD25	2EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
FB	OD25	1EA	FLG BLIND, KS 10K, FF, CPVC, SDR13.5
G	OD32	3EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
G	OD25	3EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
B	OD32	3EA	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
B	OD25	3SET	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
VD	OD32	1EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
VD	OD25	2EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
SH	OD32	3EA	SHIELD
SH	OD25	3EA	SHIELD
LOTO	OD25	1EA	LOTO
LOTO	OD32	1EA	LOTO
PG	OD25	1EA	PRESSURE GAUGE, KS 10K, FF

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 3

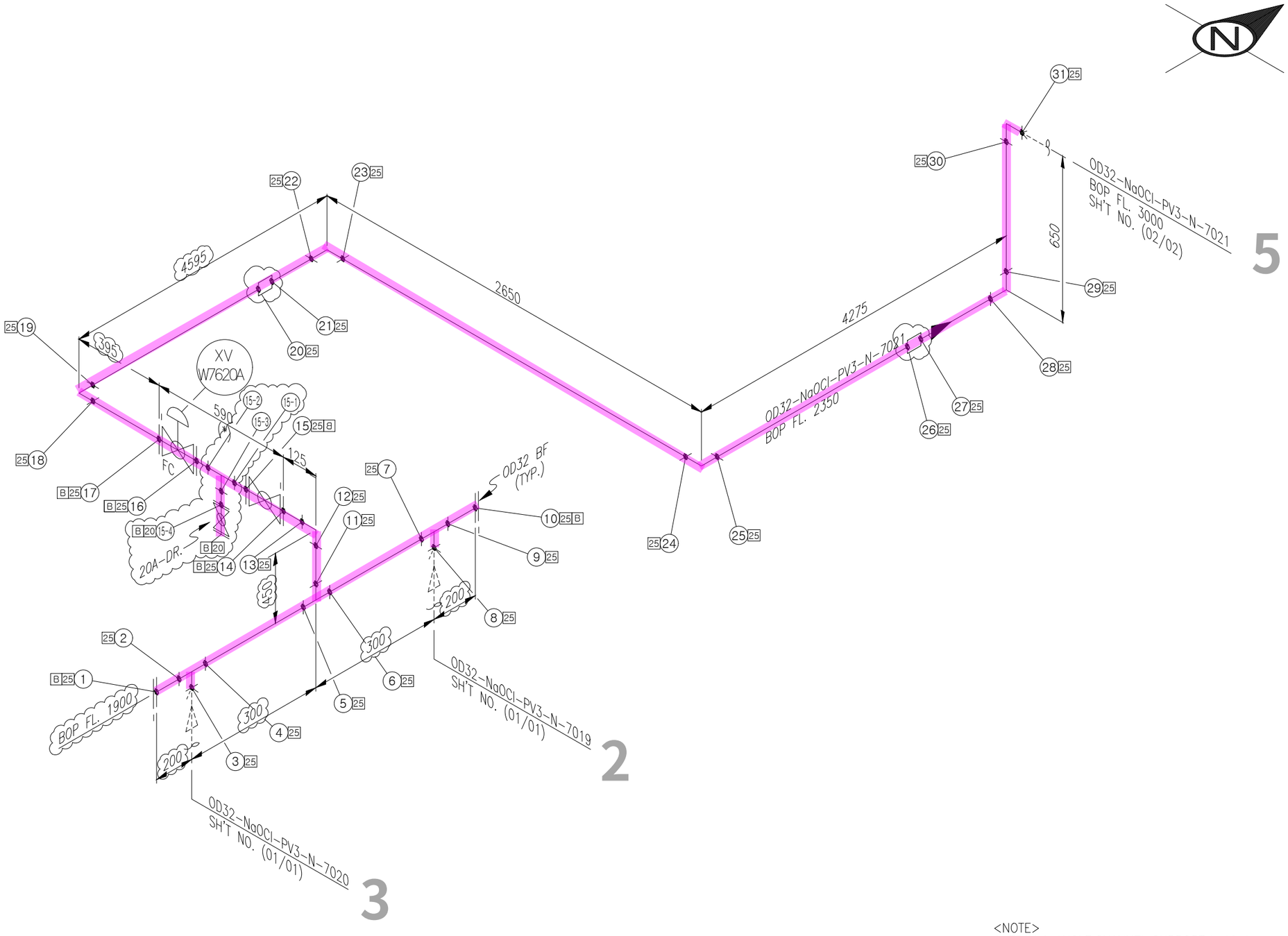
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	3.3	60
			OPERATING	3.0	AMB

AREA W14
UNIT 4FA
REF. PLAN DWG. CJ-M15W14-PI-A30-040010-A
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7020
SH'T NO. 01 / 01
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	14.4M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	6EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD32	4EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
F	OD32	7EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
FB	OD32	3EA	FLG BLIND, KS 10K, FF, CPVC, SDR13.5
G	OD32	8EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
B	OD32	8SET	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
VB	OD32	2EA	BALL VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-CPVC / SEAT-FPR, FB, LEVER
SH	OD32	8EA	SHIELD
SC	OD32	2EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5

<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBLO/VB1/VB1LO/VB2/VB2LO * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDLO * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 4

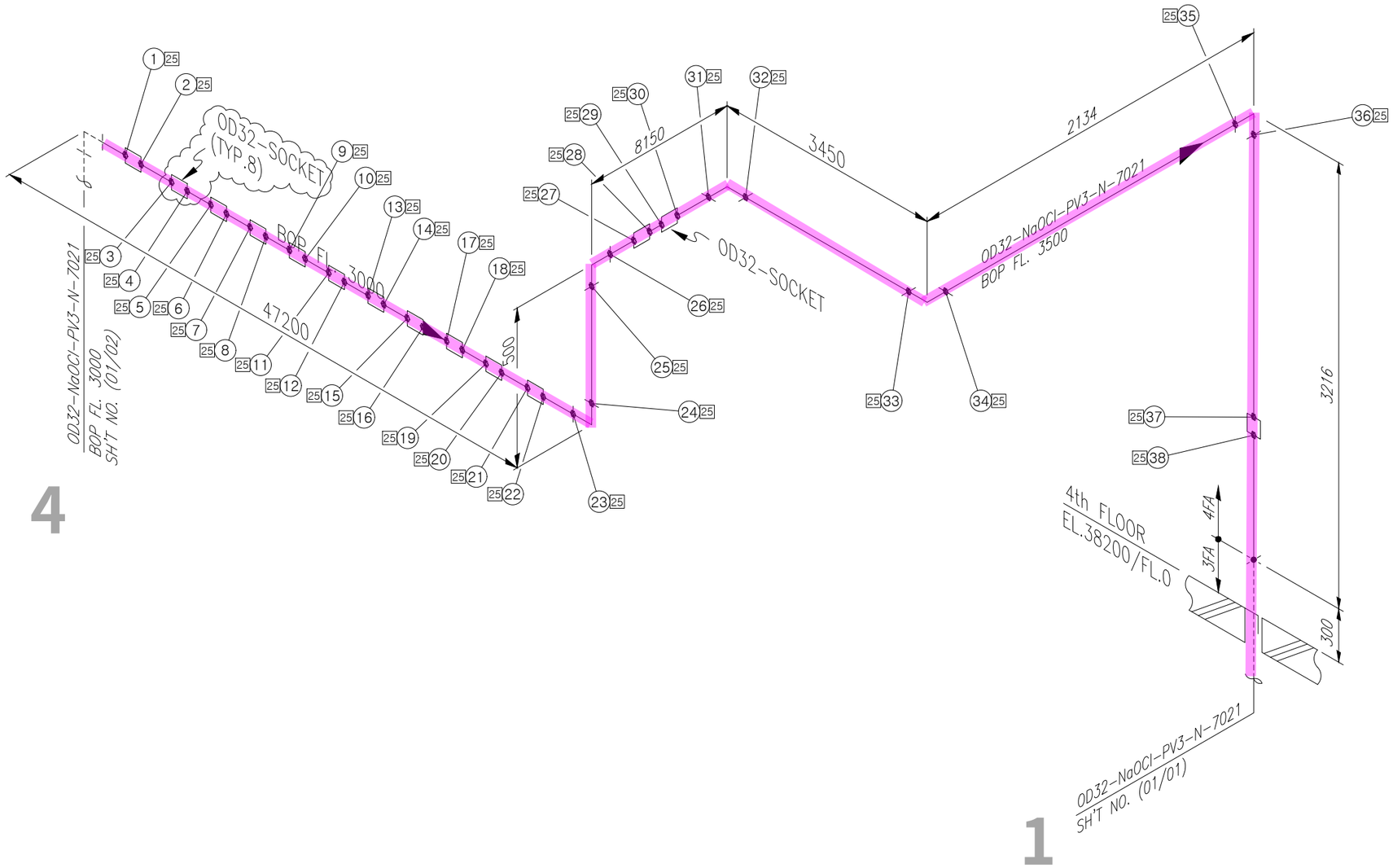
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	3.3	60
			OPERATING	3.0	AMB

AREA W14
UNIT 4FA
REF. PLAN DWG. CJ-M15W14-PI-A30-040010-A
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
1	25.03.31	REVISED AS MARKED	황래종	안남후	박동영
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7021
SH'T NO. 01 / 02
REV. 1

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는
배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	64.7M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	5EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
SC	OD32	14EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBLO/VB1/VB1LO/VB2/VB2LO * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDLO * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 5

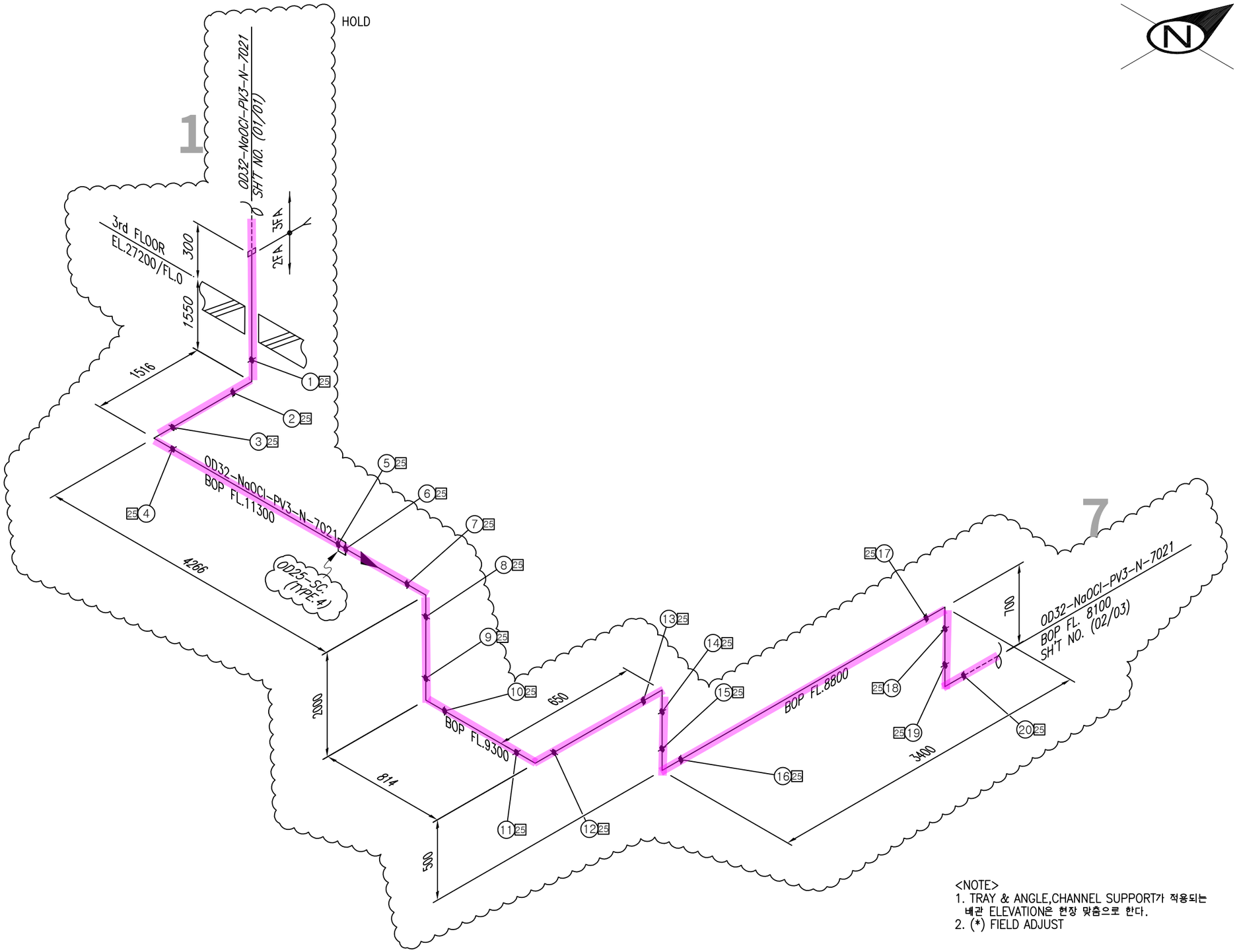
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	3.3	60
			OPERATING	3.0	AMB

AREA W14
UNIT 4FA
REF. PLAN DWG. CJ-M15W14-PI-A30-040010-B
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7021
SH'T NO. 02 / 02
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는
배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

ITEM	SIZE	Q'TY	DESCRIPTION
PV3			
P	OD32	15.7M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	9EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
SC	OD32	1EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 6

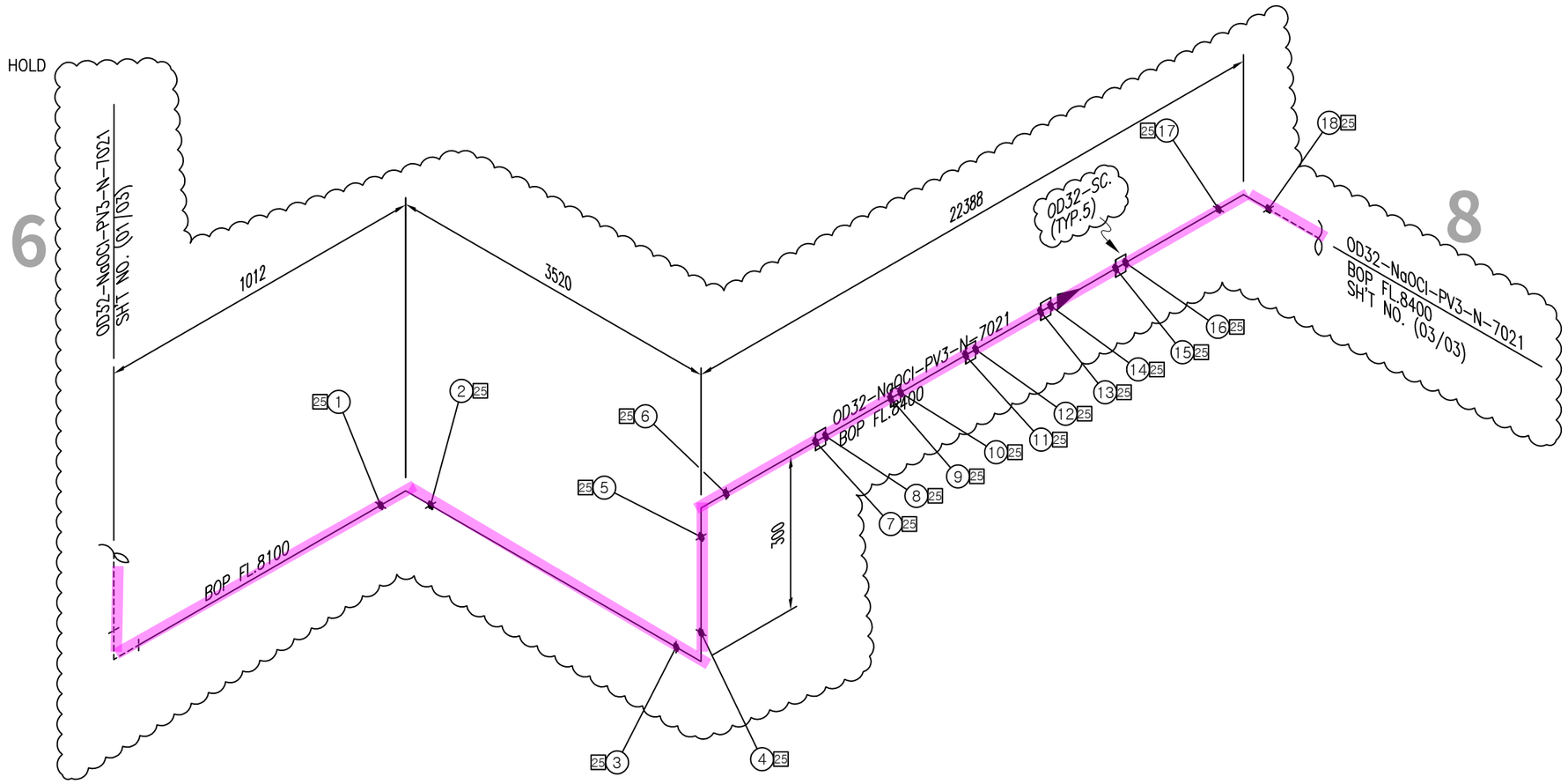
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	6.8	60
			OPERATING	6.1	AMB

AREA W14
UNIT 2FA
REF. PLAN DWG. CJ-M15W14-PI-A30-020011-H
REF. P & ID CJ-M15W14-PR-A20-000311

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	24.12.20	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7021
SH'T NO. 01 / 03
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



ITEM	SIZE	Q'TY	DESCRIPTION
PV3			
P	OD32	27.3M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	4EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
SC	OD32	5EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5

<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 7

INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	6.8	60
			OPERATING	6.1	AMB

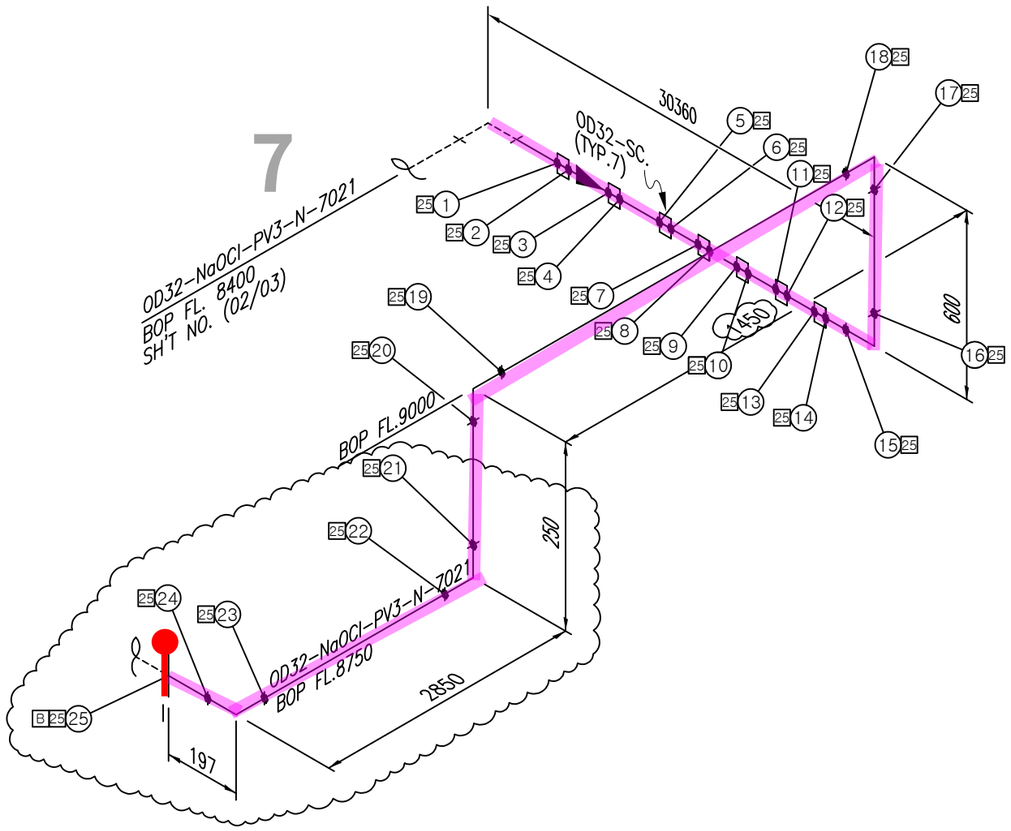
AREA W14
UNIT 2FA
REF. PLAN DWG. CJ-M15W14-PI-A30-020011-G
REF. P & ID CJ-M15W14-PR-A20-000311

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	24.12.20	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7021
SH'T NO. 02 / 03
REV. 0

6 1

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



N

SK ecoplant

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	35.1M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	5EA	ELBOW 45 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
SC	OD32	7EA	SOCKET, CPVC, PE, SOCKET FUSION, SDR13.5
VB	OD32	1EA	BALL VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-CPVC / SEAT-FPR, FB, LEVER
F	OD32	3EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
G	OD32	2EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
B	OD32	2EA	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
SH	OD32	3EA	SHIELD

<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBLO/VB1/VB1LO/VB2/VB2LO * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDLO * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix 8

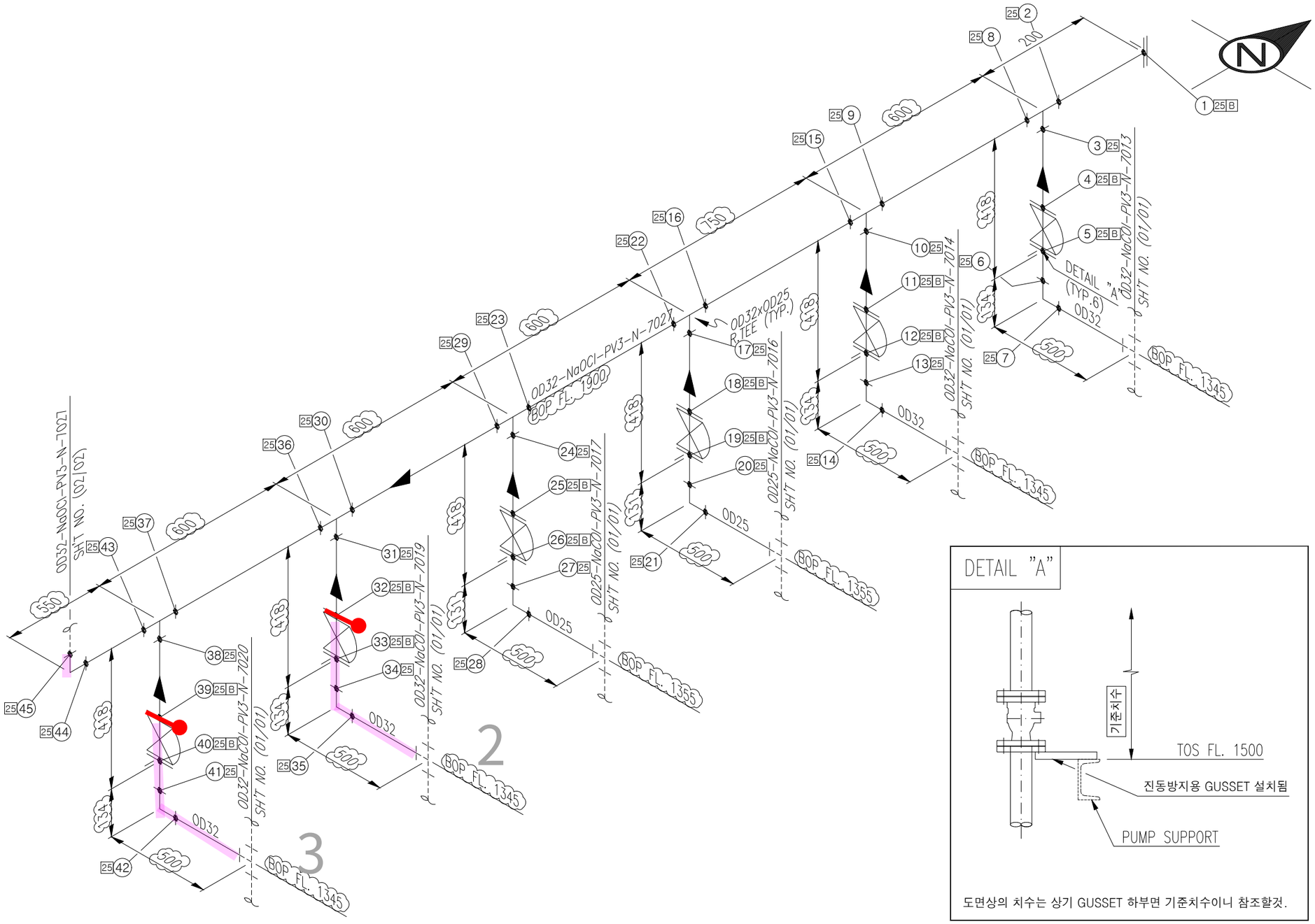
INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	6.8	60
			OPERATING	6.1	AMB

AREA W14
UNIT 2FA
REF. PLAN DWG. CJ-M15W14-PI-A30-020006-F
REF. P & ID CJ-M15W14-PR-A20-000311

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	24.12.20	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7021
SH'T NO. 03 / 03
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.



<NOTE>
1. TRAY & ANGLE,CHANNEL SUPPORT가 적용되는 배관 ELEVATION은 현장 맞춤으로 한다.
2. (*) FIELD ADJUST

SK ecoplant

ITEM	SIZE	Q'TY	DESCRIPTION
		PV3	
P	OD32	9.2M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
P	OD25	2.5M	PIPE, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD32	5EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
E90	OD25	2EA	ELBOW 90 DEG, CPVC, PE, SOCKET FUSION, SDR13.5
T	OD32	4EA	TEE EQUAL, CPVC, PE, SOCKET FUSION, SDR13.5
TR	OD32xOD25	2EA	TEE RED, CPVC, PE, SOCKET FUSION, SDR13.5
VD	OD32	4EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
VD	OD25	2EA	DIAPHRAGM VALVE, KS 10K, FF FLG'D, BODY-CPVC /
			TRIM-PDDM, BB, HW
F	OD32	9EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
F	OD25	4EA	FLG, KS 10K, FF, STUB FLG CPVC /
			BACKING RING(PP)+INSERT(STEEL), SDR13.5
FB	OD32	1EA	FLG BLIND, KS 10K, FF, CPVC, SDR13.5
G	OD32	9EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
G	OD25	4EA	GASKET, KS 10K, FF, PTFE+EPDM, 3.0MM TH'K
B	OD32	9SET	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
B	OD25	4SET	MACHINE BOLT & NYLON NUT :STS 304 / W WASHERS
SH	OD32	9EA	SHIELD
SH	OD25	4EA	SHIELD

* PIPE : P/P1 * 90° ELBOW : E90 * 45° ELBOW : E45 * TEE : T * RED.TEE : TR * STUB-IN : STU * REINFORCING PAD : RP * CON.RED : RC * ECC.RED : RE * CON.SWAGE : RCS/RCS1 * ECC.SWAGE : RES/RES1 * NIPPLE : NP/NP1/NP2 * CAP : CAP/CAP1 * PLUG : PLG * FULL COUPLING : FC * HALF COUPLING : HF/HF1
* STUB-IN : STU * SOCKET(HDPE/PVC) : SC * SADDLE(HDPE) : SD * FLANGE : F/F1 * GASKET : G/G1/G2 * BOLT & NUT : B/B1 * BLIND FLANGE : FB/FB1 * GATE VA. : VG/VG1/VG2 * BALL VA. : VB/VBL0/VB1/VB1L0/VB2/VB2L0 * BUTTERFLY VA. : VF/VF4 * CHECK VA. : VC/VC1/VC2/VC3/VC4/VC5/VC6/VC7
* GLOBE VA. : VL/VL1/VL2 * DIAPHRAGM VA. : VD/VDL0 * DAMPER : VP * QUICK COUPLING : SQC * FLEXIBLE JOINT(STEEL) : FLXB * FLEXIBLE JOINT(RUBBER) : FLXR * FLEXIBLE JOINT(STEEL_PTFE LINED) : FLXL * FLEXIBLE HOSE : FLXH * STEAM TRAP : ST * SPRAY NOZZLE : SPN * EMERGENCY SHOWER : SSH
* STRAINER(Y-TYPE) : YSTR * STRAINER(T-TYPE) : TSTR * STRAINER(BUCKET-TYPE) : BSTR * ANCHOR PLATE : STOP * BIRD SCREEN : BS * ISOLATION KIT : IK * UNLOADING BOX : UB * AIR TRAP : AT * LOTO : LOTO * SIGHT GLASS : SG * PRESSURE GAUGE : PG * SHILED : SH * SPECIAL BOLT & NUT : BL/BL1

CLIENT SK hynix

9

INSULATION	CODE	N	CONDITION	PRESS. (kg/cm2g)	TEMP. (°C)
	THICK.	–	DESIGN	3.3	60
			OPERATING	3.0	AMB

AREA W14
UNIT 4FA
REF. PLAN DWG. CJ-M15W14-PI-A30-040010-A
REF. P & ID CJ-M15W14-PR-A20-000315

REV. NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	25.01.24	APPROVED FOR CONSTRUCTION	황래종	안남후	박동영

CONTRACTOR SK ecoplant
PROJECT NAME M15X Ph4 Project
COMMODITY NaOCl
JOB NO. 22330D
LINE NO. OD32-NaOCl-PV3-N-7027
SH'T NO. 01 / 02
REV. 0

경고 : 본 도면은 SK HYNIX의 기업비밀 자료로서, 어떠한 경우에도 목적 외 사용, 복제, 제3자에게 공개, 누설 및 유출할 수 없으며, 회사는 유포자의 불법 사용으로 피해가 발생할 경우 유포자에게 민/형사상 책임을 요구할 수 있음.