

KABANGA NICKEL PROJECT DFS

1.7Mtpa and 3.4Mtpa

PROCESS FLOW DIAGRAMS

PROJECT CODE : JTZEGR6902

CONCENTRATOR PLANT:

AREA 3100 (PHASE 1)

and

AREA 3200 (PHASE 2)

REV A

REV No. : A
DATE : 21/07/2023

DRA DRG NUMBER	TITLE	REV
0000	COVER SHEET	A
0001	INDEX SHEET	A
0002	LEGENDS & SYMBOL LIST	A
0003-01	BLOCK FLOW DIAGRAM - SHEET 1	A
0003-02	BLOCK FLOW DIAGRAM - SHEET 2	A
3110	CRUSHING & STOCKPILING	A
3120-01	MILLING (PHASE 1) - SHEET 1	A
3120-02	MILLING (PHASE 1) - SHEET 2	A
3130-01	AERATION CIRCUIT #1 - SHEET 1	A
3130-02	AERATION CIRCUIT #1 - SHEET 2	A
3130-03	CLEANER FLOTATION #1 - SHEET 3	A
3130-04	PYRRHOTITE FLOTATION - SHEET 4	A
3140-01	INTERMEDIATE THICKENER - SHEET 1	A
3140-02	TAILINGS HANDLING (NON-SULPHIDE TAILINGS) - SHEET 2	A
3140-03	TAILINGS HANDLING (PYRRHOTITE CONCENTRATE) - SHEET 3	A
3150-01	CONCENTRATE HANDLING - SHEET 1	A
3150-02	CONCENTRATE HANDLING - SHEET 2	A
3160-01	WATER SERVICES - SHEET 1	A
3160-02	AIR SERVICES - SHEET 2	A
3170-01	COLLECTOR - SHEET 1	A
3170-02	REAGENTS FLOCCULANT & DEPRESSANT MAKE-UP & DOSING - SHEET 2	A
3170-03	REAGENTS IBC DOSING TANKS - SHEET 3	A
3170-04	LIME - SHEET 4	A
3170-05	SULPHURIC ACID - SHEET 5	A
3170-06	COPPER SULPHATE - SHEET 6	A
3220-01	MILLING (PHASE 2) - SHEET 1	A
3220-02	CONCENTRATE REGRIND #2 - SHEET 2	A
3230-01	AERATION CURCUT #2 - SHEET 1	A
3230-02	ROUGHER FLOTATION #2 - SHEET 2	A
3230-03	CLEANER FLOTATION #1 - SHEET 3	A
3230-04	ROUGHER FLOTATION - SHEET 4	A
3270	REAGENTS IBC DOSING TANKS (PHASE 2)	A
6156	SAND WASHING PLANT	A

Update.
Include additional PFDs

Non-Pyrrhotite Tailings

A	MMK	27/07/23	ISSUED FOR COMMENT	WW	27/07/23	VML	27/07/23
REV.	BY	DATE	REVISIONS		CHK.	DATE	S.L.
 KABANGA NICKEL							
DRA <small>Building 33 / The Woodlands Office Park 20 Woodlands Drive, Woodlands Sandton / South Africa 21900 draglobal.com</small>							
TITLE KABANGA NICKEL PROJECT DFS CONCENTRATOR							
INDEX SHEET PROCESS FLOW DIAGRAM							
A1 PROJECT DWG No. 06902 PFD		SHEET - 0001		REVISION 1 OF 1		SCALE A NTS U.O.S.	

DRA PROJECTS			DRAWING OFFICE		
APPROVAL	SIGNATURE	DATE	D.O. MANAGER		
PROJECT MANAGER	M. Townsend	July 2023	SECTION LEADER		
PROJECT ENGINEER			DRAWN	M. Kok	Jul 2023
PROJECT ENGINEER			DRC. CHECKED	W. Mulder	Jul 2023
DISCIPLINE ENGINEER			ENG. CHECKED		
DISCIPLINE ENGINEER				PR. ENG. / PR. TECH.	
DISCIPLINE ENGINEER			NAME:		
DESIGN ENGINEER			REG. NUMBER:		
			SIGNATURE:		

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,
NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA.

TYPICAL EQUIPMENT SYMBOLS					
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	AGITATOR		FILTER		ROTARY DIVERTER
	AIR RECEIVER		FILTER - PLATE & FRAME		RADIAL DOOR
	APRON FEEDER		FLOTATION CELL		ROCK HOISTING SKIP
	ATTRITIONER		FROTH PUMP		RELINING MACHINE
	AUGER SAMPLER		GATE		SAMPLER
	BAG FILTER		GREASE STATION		SAND FILTER
	BELT FEEDER		GRIZZLY		SAFETY SHOWER WITH EYEBATH
	BELT FILTER		GRIZZLY FEEDER		SCREEN
	BIN		HOIST		SCREW CONVEYOR
	BLOWER		HRC		SEPARATOR
	BULK BAG		JAW CRUSHER		SIEVE BEND
	CASSETTES		JET SUCTION		SHEAVE WHEEL
	CENTRIFUGAL PUMP		JAMESON CELL		SHUTTLE CONVEYOR
	CENTRIFUGE		JD/JD/IBC		SILO
	CHUTE		LINEAR SCREEN		STOCKPILE
	COMPRESSOR		LAROX		SUBMERSIBLE PUMP
	CONE CRUSHER		LHD		TANK
	CONVEYOR		MAGNET		TANKER
	CRANE		METAL DETECTOR		THICKENER
	CROSS-BELT TRAMP IRON MAGNET		MILL		TROLLEY
	CYCLONE		MULTI STAGE PUMP		TURNSTILE
	DAM		MOBILE ROCK BREAKER		VERTICAL SPINDLE PUMP
	DEGRITTER		ORE PASS		VIBRATING FEEDER
	DEMAG COIL		PERISTALTIC PUMP		WATER PUMP
	DISTRIBUTOR		PIPE SAMPLER (IN-LINE)		WINCH
	DIVERTER CHUTE		PLATE FILTER		BLOWER
	DMS DENSIFIER CYCLONE		POSITIVE DISPLACEMENT PUMP		TROUGH/BOX CELL
	DUMP TRUCK		BOREHOLE PUMP		DISK FILTER
	DUST COLLECTOR				WEIGHBRIDGE
	DRYER		AUGER SAMPLER		SPILL BAR
	EDUCTOR		ROLL CRUSHER		
	EARTH DAM		ROLL FEEDER		
	FAN		ROCK BREAKER		
	FEL				

Equipment Code	Equipment Type	Equipment Code	Equipment Type
AB	Air Blower	KN	Kiln
AC	Air Conditioner	LA	Launder
AG	Agitator	LD	Ladle
AH	Air Handling Unit	LH	Liner handler
AR	Arrestors	MA	Magnet
AT	Actuator	ML	Mill
BH	Baghouse	MO	Mobile equipment
BN	BIN	MD	Metal Detector
BO	Boiler	MX	Mixer/Settler
BR	Burner	OV	Oven
BW	Belt Weigher/Scale	OP	Ore Pass
BX	Box	PP	Pump
CO	Conveyance – Shaft	PE	Precipitator
CV	Conveyor	PV	Pressure vessel
CM	Compactor	RA	Rock Attachment
CR	Crusher	RB	Rock Breaker
CL	Classifier/Clarifier	RC	Reclaimer
CT	Cooling Tower	RG	Radial Gate/Door
CY	Cyclone	RH	Rope Handling
CH	Chute/diverter	RL	Re-lining Machine
CA	Calciner	RO	Rope (Wire Rope)
CE	Centrifuge	RR	Reactor
CN	Crane	SA	Sampler
CP	Compressor	SW	Scale
DA	Damper - Duct	SC	Screen
DC	Dust collector	SF	Silencer
DI	Distributor	SE	Separator
DM	Dam	SH	Sheave Wheel
DR	Dryer	SI	Silo
DS	Dust suppression	SR	Scrubber
DZ	Drizit	ST	Stacker/Stockpile
EL	Elevator	SU	Sump
EN	Engine	TB	Trolley
FA	Fan	TH	Thickener
FE	Feeder	TK	Tank
FL	Filter	TM	Thunderbolt
FS	Fire services	TR	Turbine
FT	Flotation cell	VB	Vibrator
FU	Furnace	VN	Venturi
GE	Generator	WA	Water Treatment
GS	Rock Breaker Greasing Station	WE	Weigh Bridge
HE	Heater	WI	Winch
HO	Hoist	WT	Weightometer
HP	Hopper	WN	Winder
HX	Heat exchanger	XE	Miscellaneous
HY	Hydraulic Unit		



DRA PROJECTS			DRAWING OFFICE		
APPROVAL	SIGNATURE	DATE	D.O. MANAGER		
PROJECT MANAGER	M. Townsend	July 2023	SECTION LEADER		
PROJECT ENGINEER			DRAWN	M. Kok	Jul 2023
PROJECT ENGINEER			DRC. CHECKED	W. Mulder	Jul 2023
DISCIPLINE ENGINEER			ENG. CHECKED		
DISCIPLINE ENGINEER			PR. ENG. / PR. TECH.		
DISCIPLINE ENGINEER			NAME:		
DESIGN ENGINEER			REG. NUMBER:		
SIGNATURE:					

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT.
NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA.

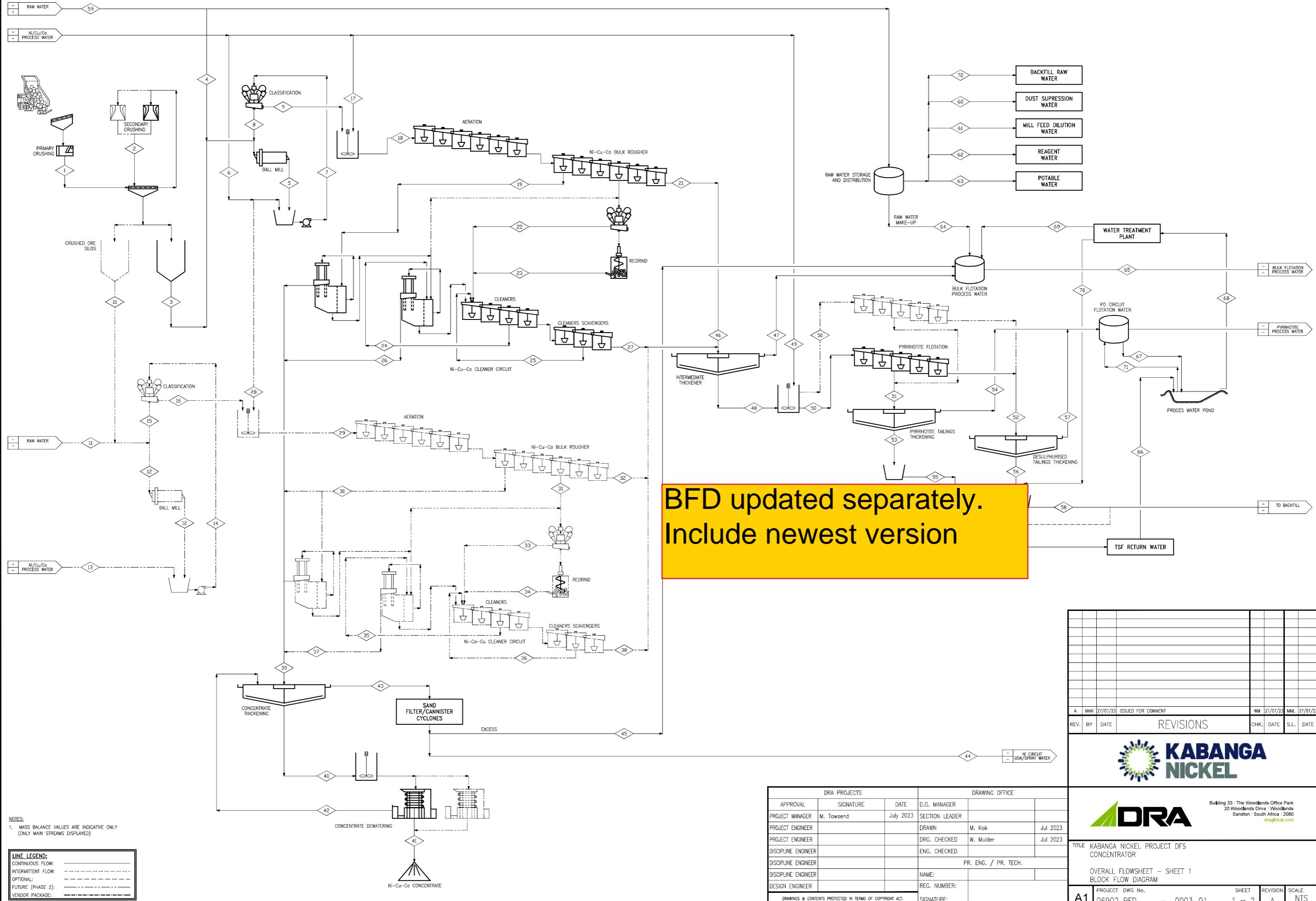


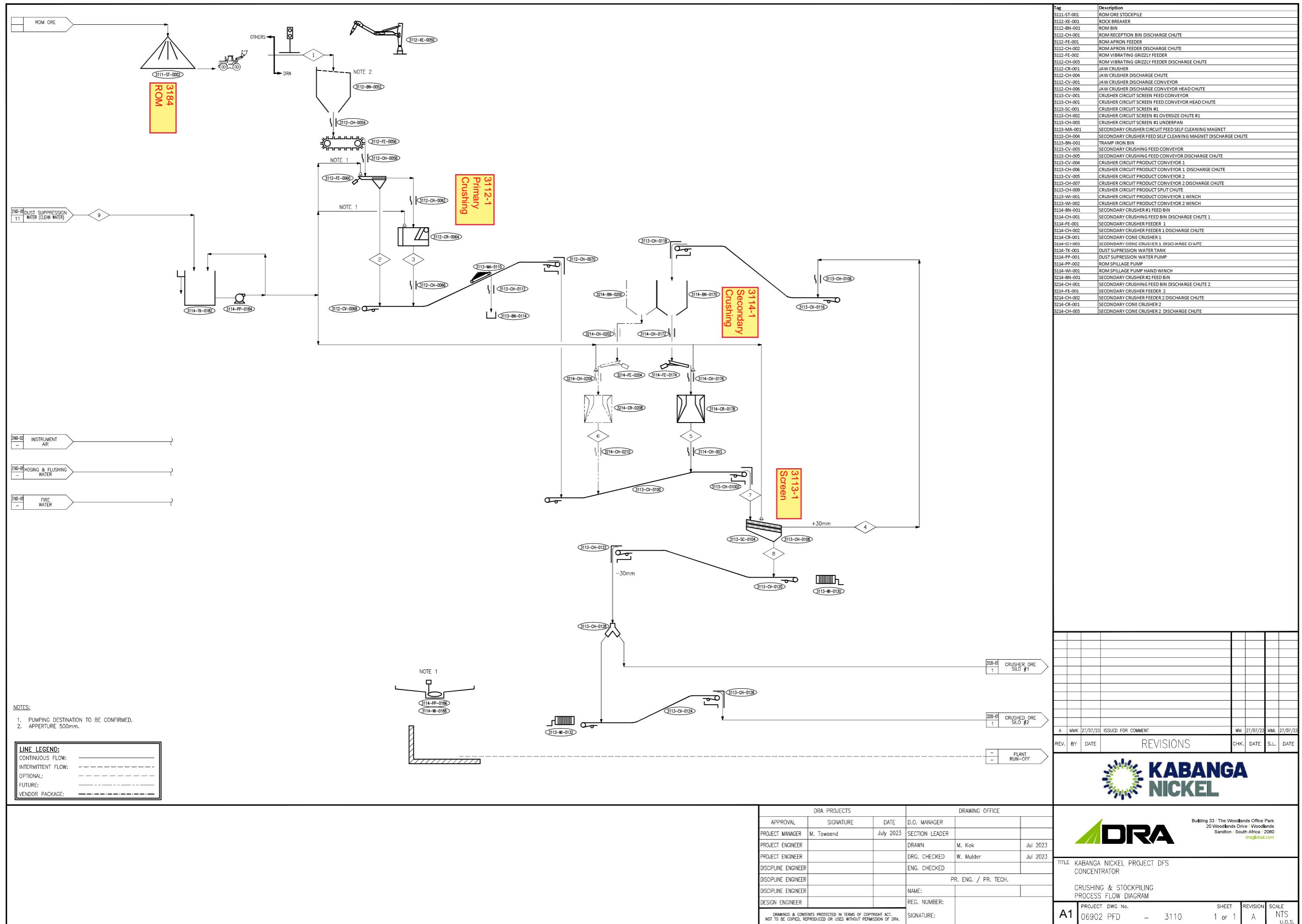
Building 33 / The Woodlands Office Park
20 Woodlands Drive / Woodlands
Sandton / South Africa / 2080
draglobal.com

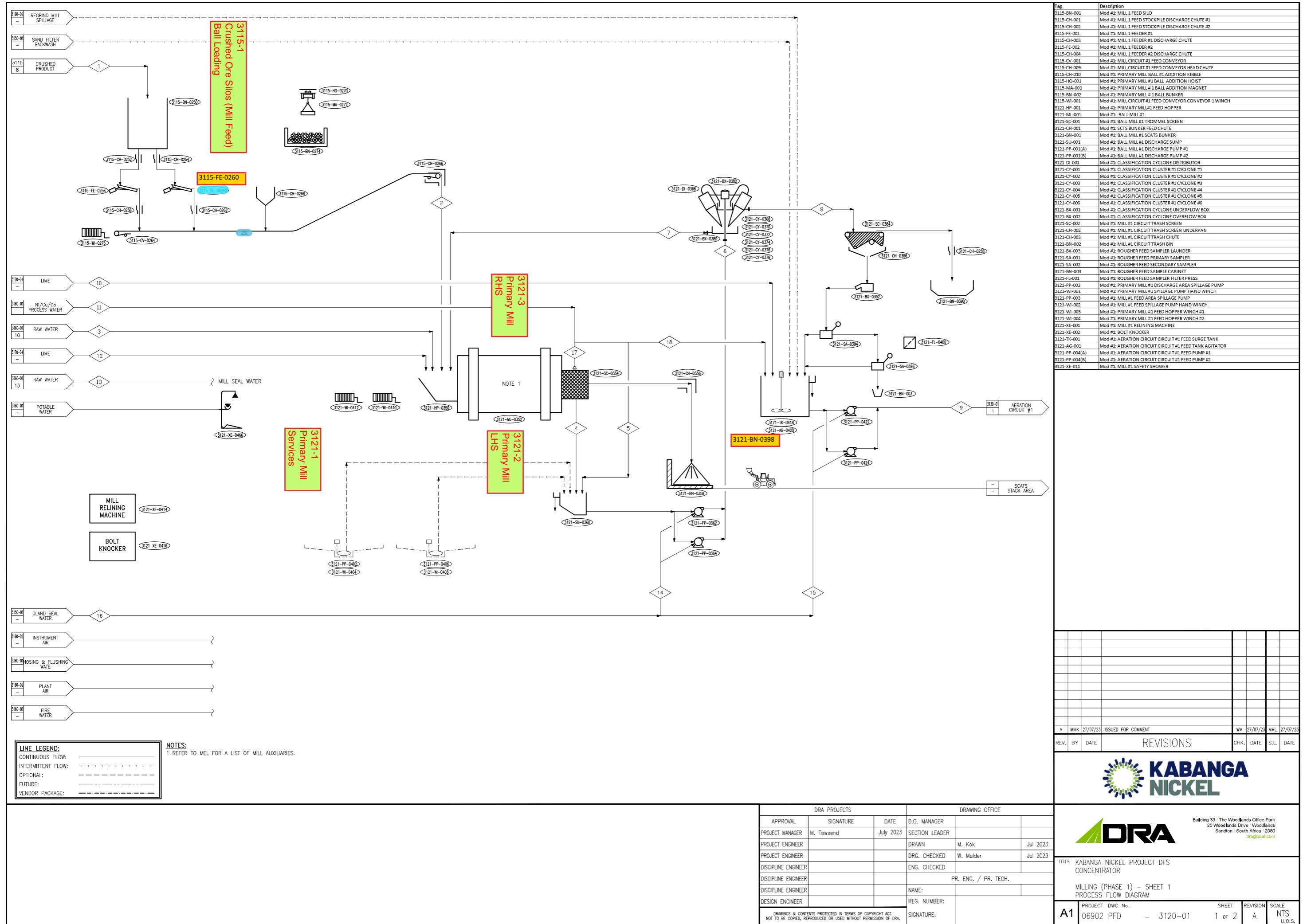
TITLE KABANGA NICKEL PROJECT DFS
CONCENTRATOR

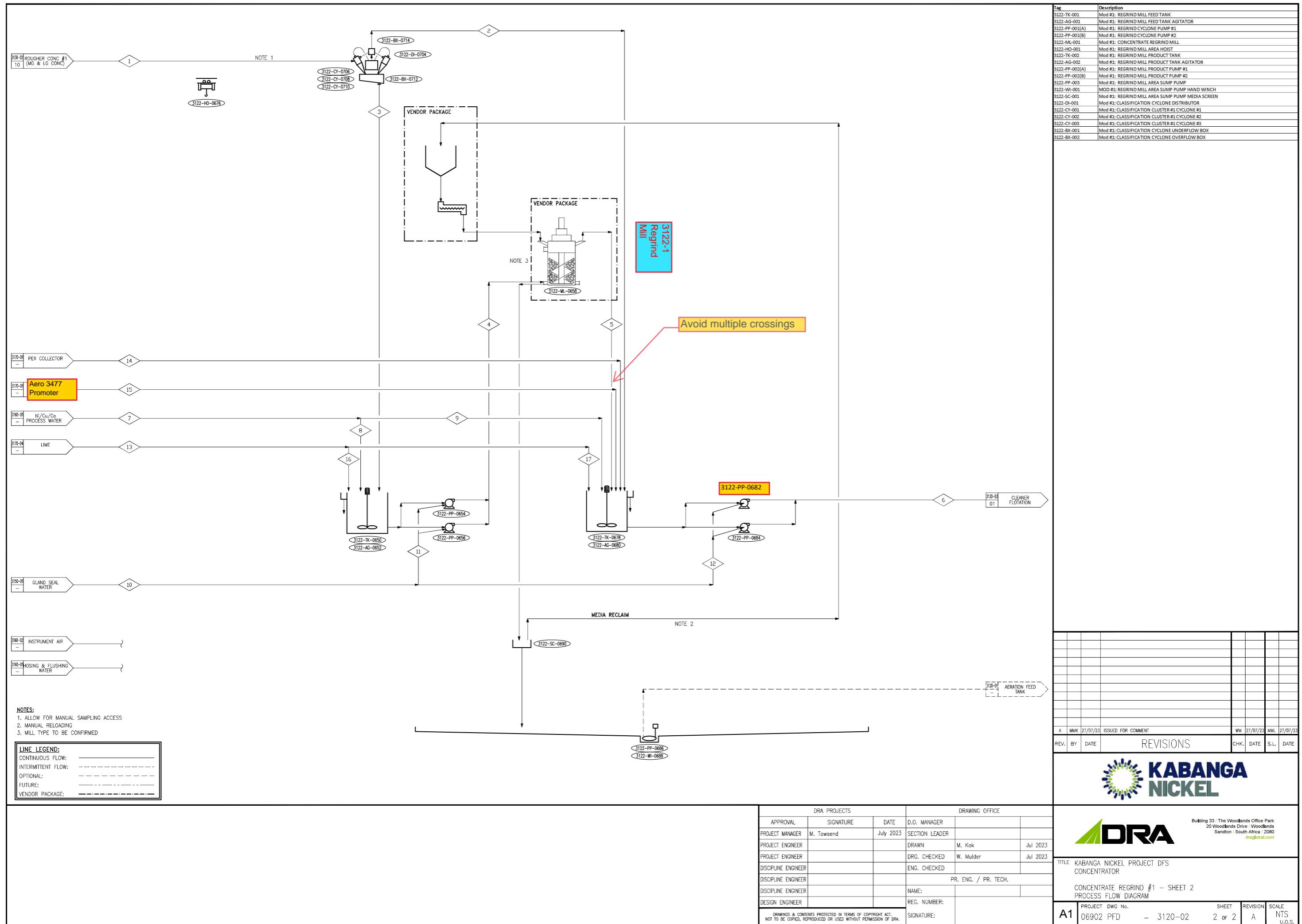
LEGEND & SYMBOLS LIST
PROCESS FLOW DIAGRAM

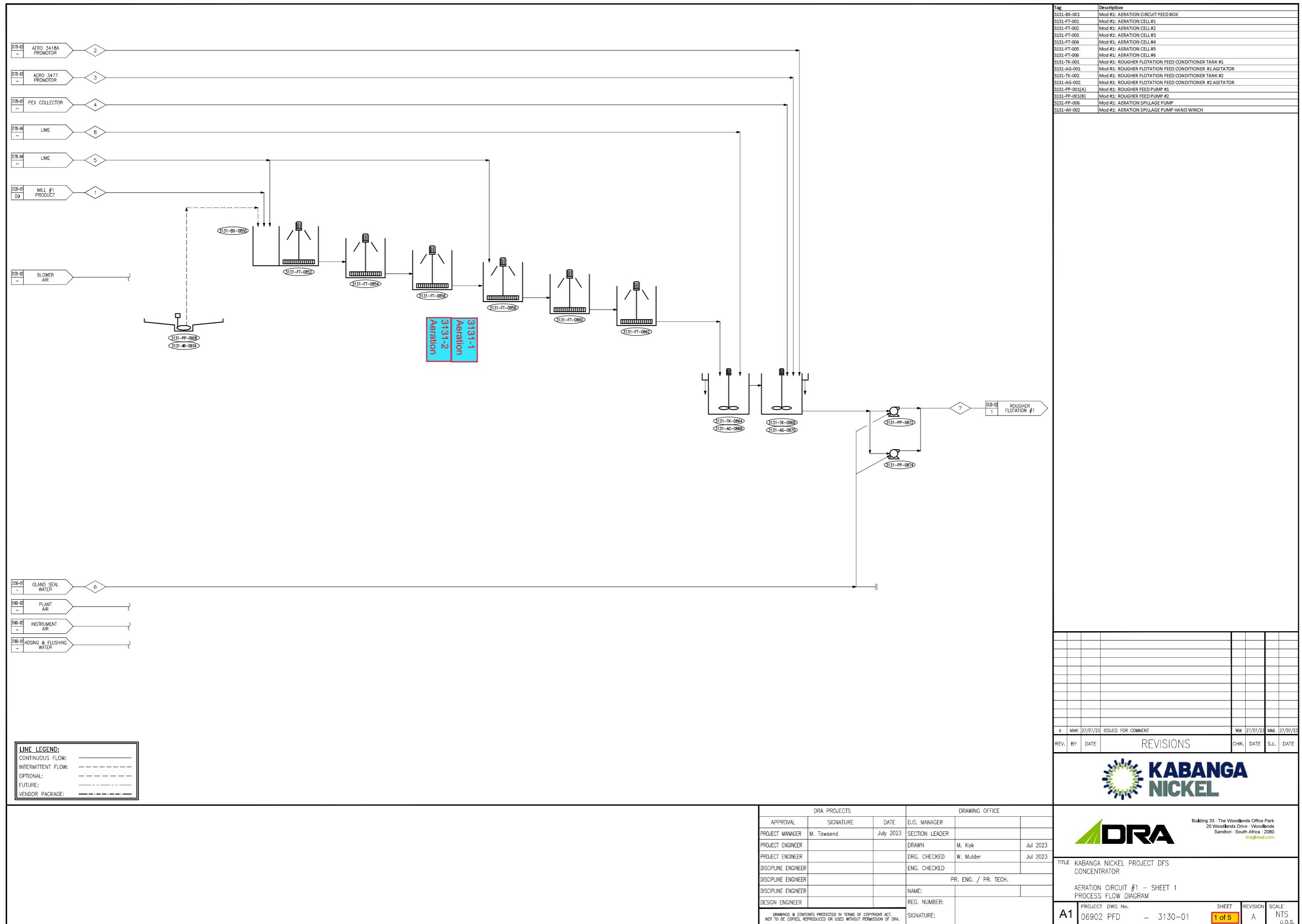
A1	PROJECT DWG No.	SHEET	REVISION	SCALE
	06902 PFD	-	0002	1 of 1
			A	NTS
				U.O.S.

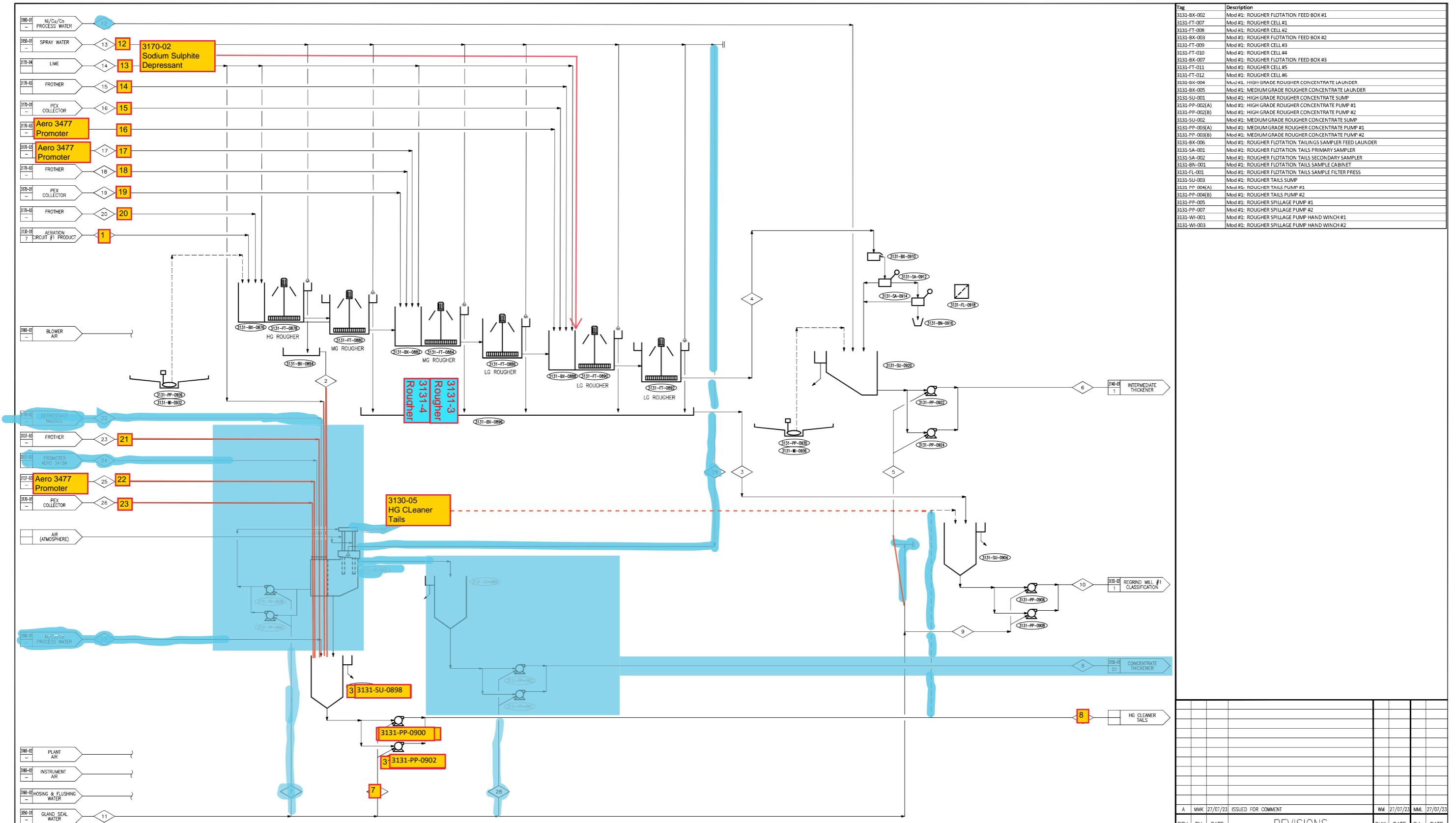












VENDOR PACKAGE: _____

DRA PROJECTS			DRAWING OFFICE	
APPROVAL	SIGNATURE	DATE	D.O. MANAGER	
PROJECT MANAGER	M. Townsend	July 2023	SECTION LEADER	
PROJECT ENGINEER			DRAWN	M. Kok
PROJECT ENGINEER			DRG. CHECKED	W. Mulder
DISCIPLINE ENGINEER			ENG. CHECKED	
DISCIPLINE ENGINEER			PR. ENG. / PR. TEC	
DISCIPLINE ENGINEER			NAME:	
DESIGN ENGINEER			REG. NUMBER:	
DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT. NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA.				
SIGNATURE:				

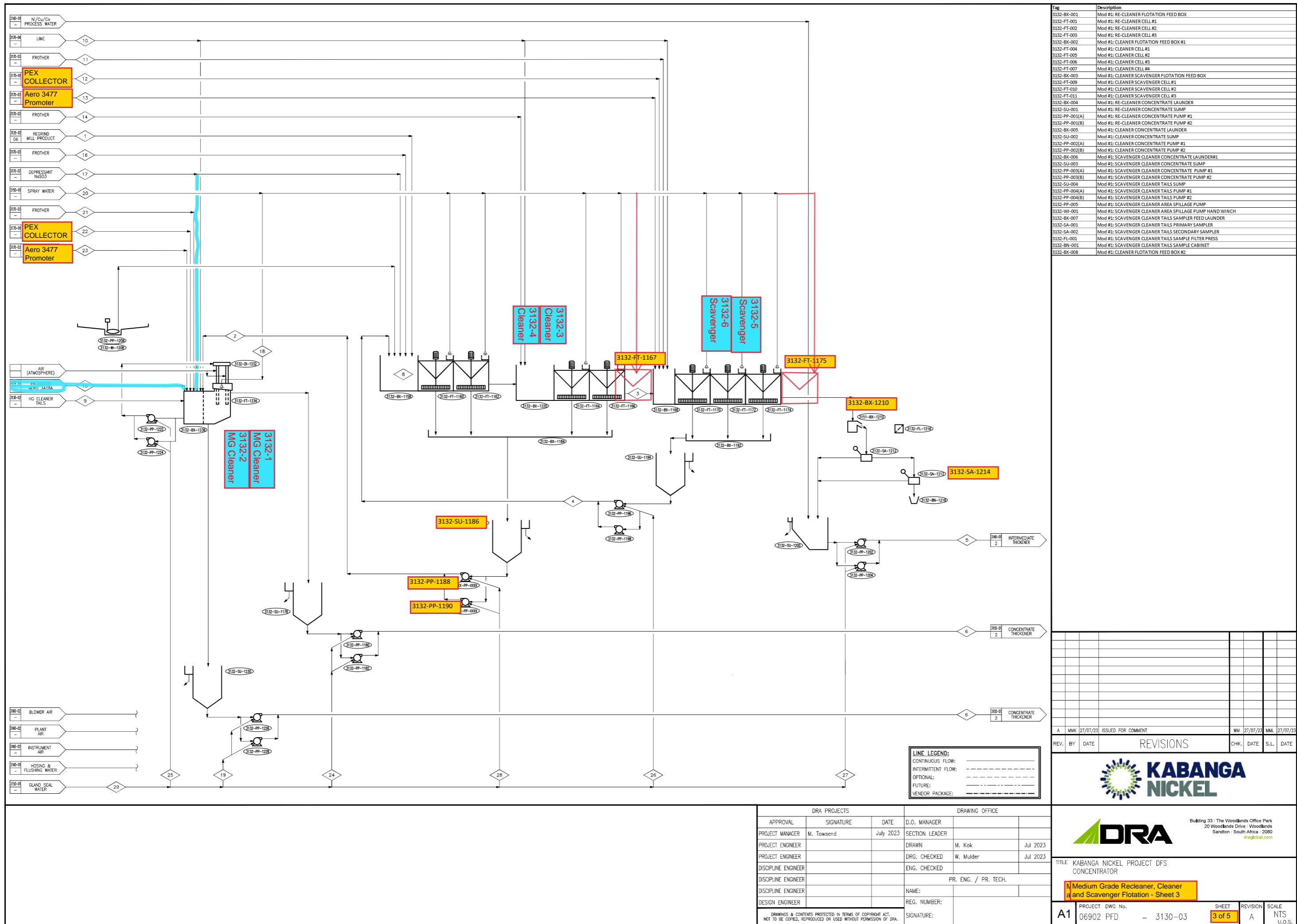
Building 33 / The Woodlands Office Park
20 Woodlands Drive / Woodlands
Sandon / South Africa / 2080
draglobal.com

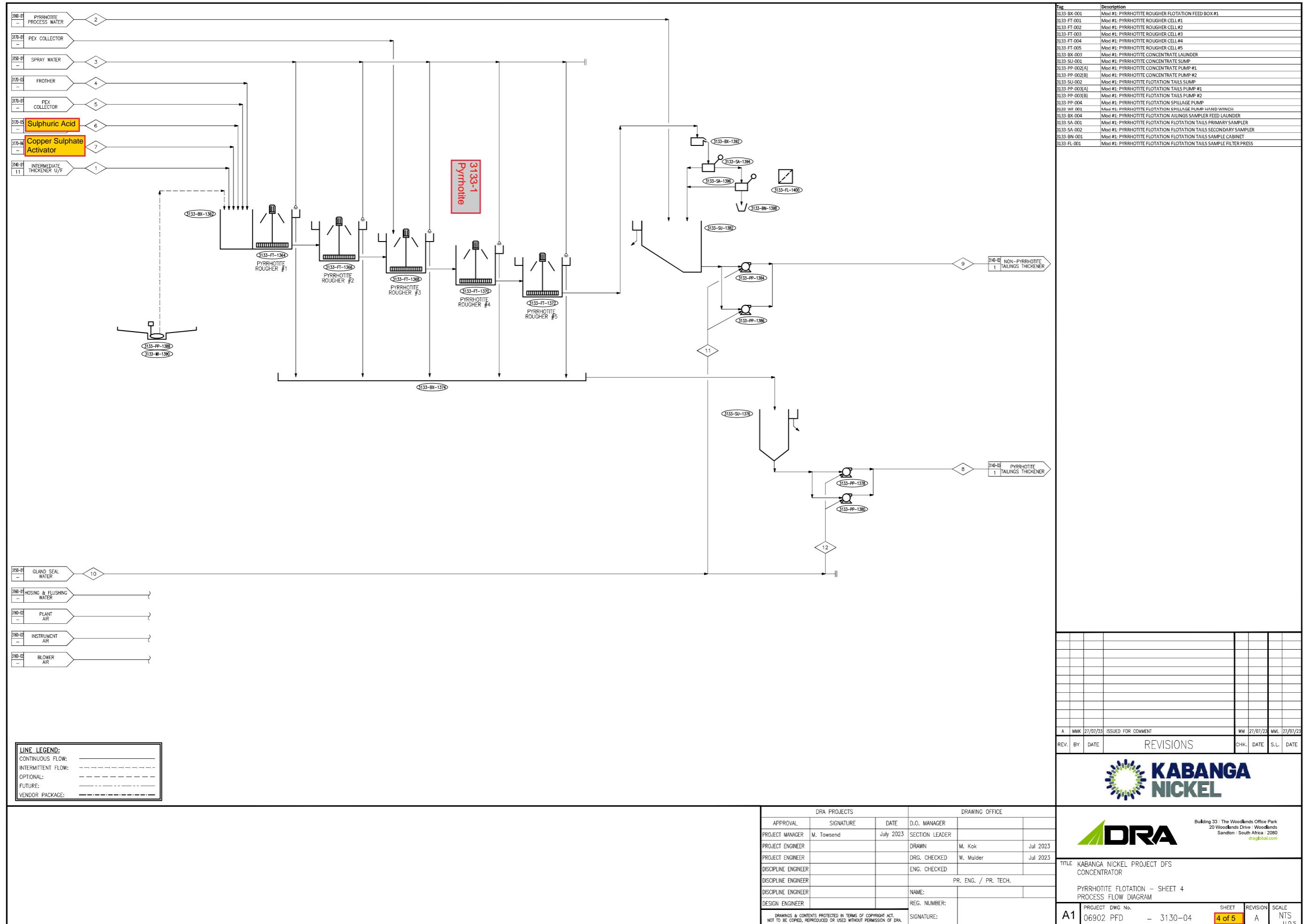
DRA

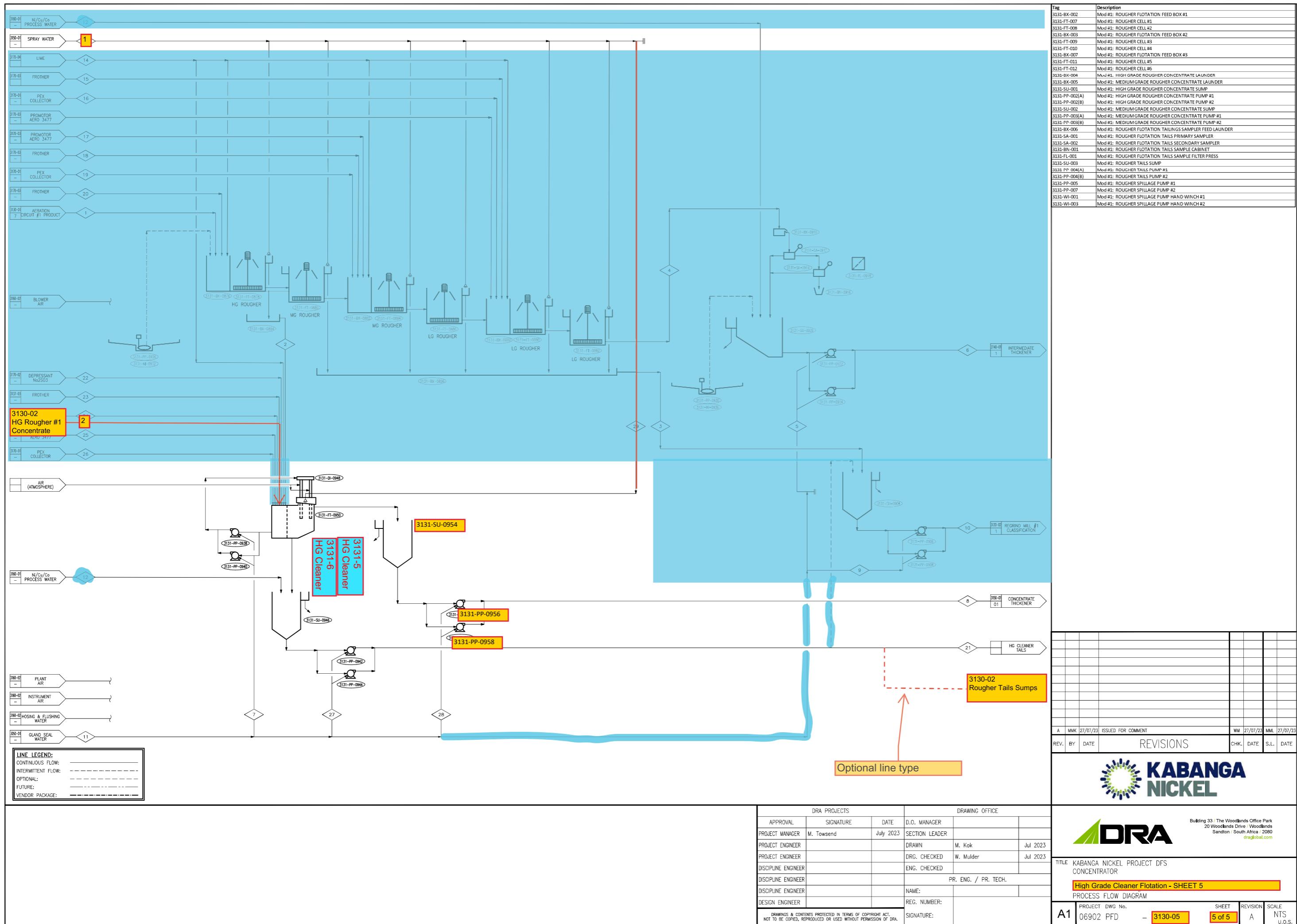
ANCA-NICKEL PROJECT DES

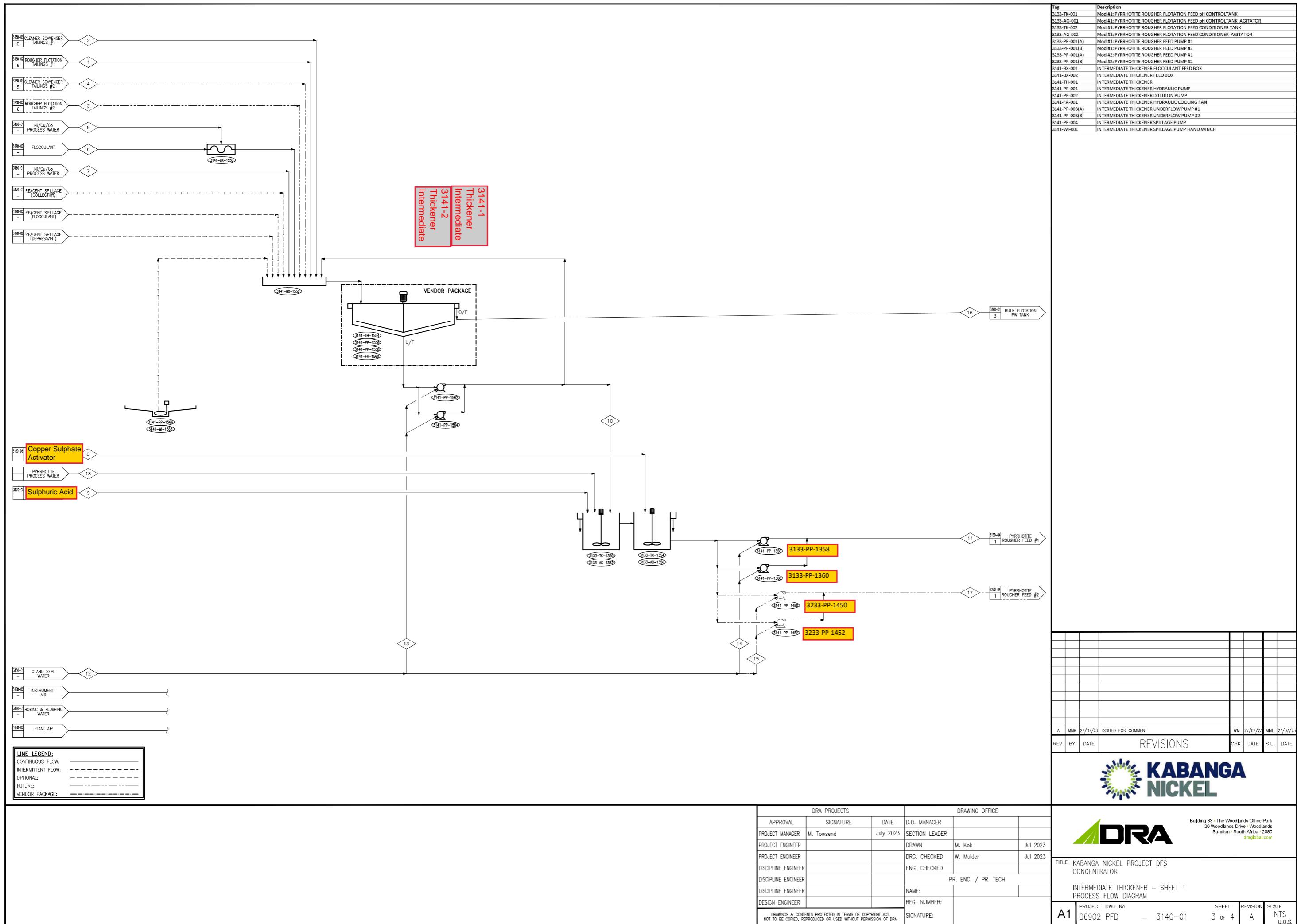
HIGHER FLOTATION #1 - SHEET 2

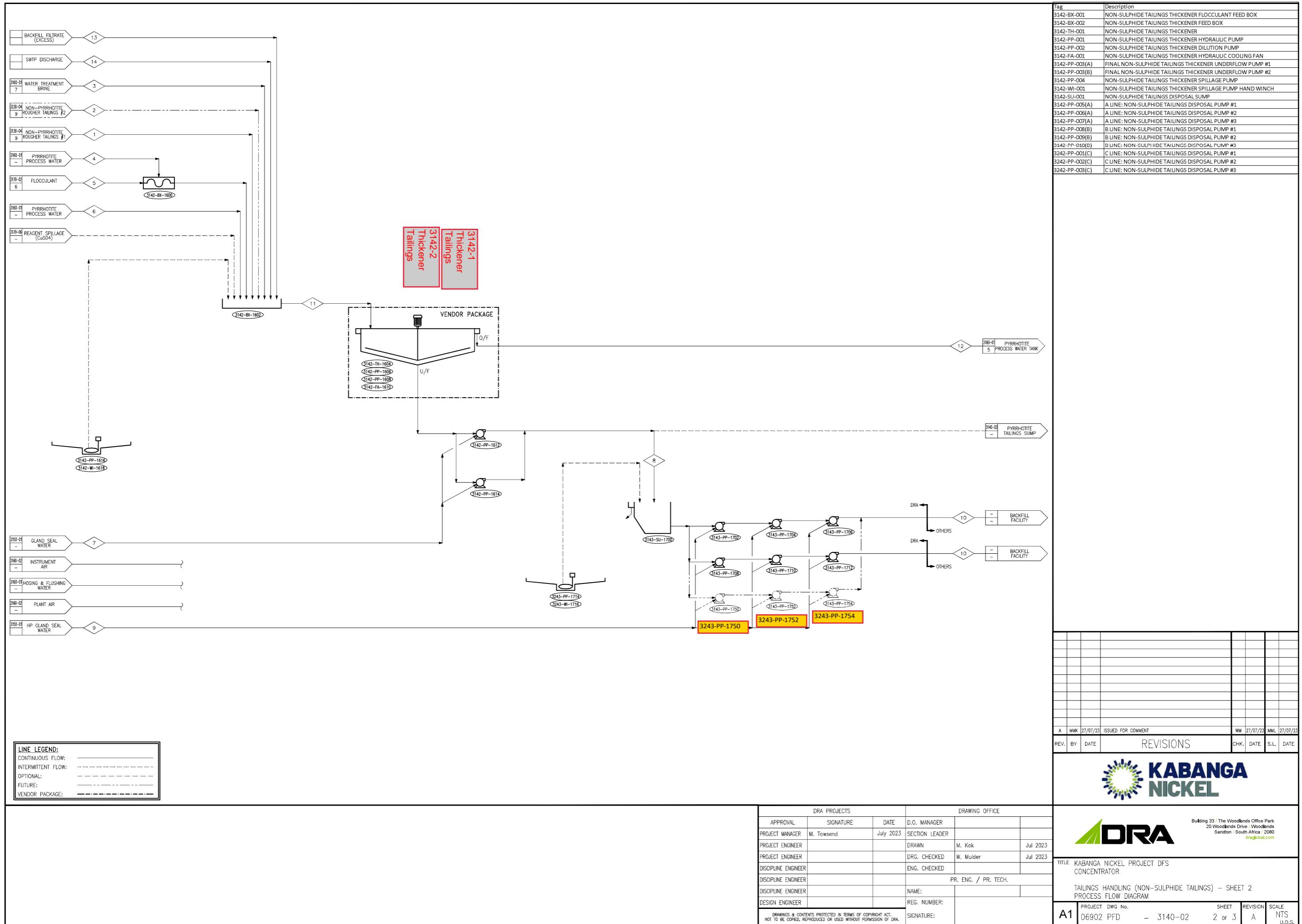
PROJECT	DWG No.	SHEET	REVISION	SCALE
6902 PFD	- 3130-02	2 of 5	A	NTS U.S.

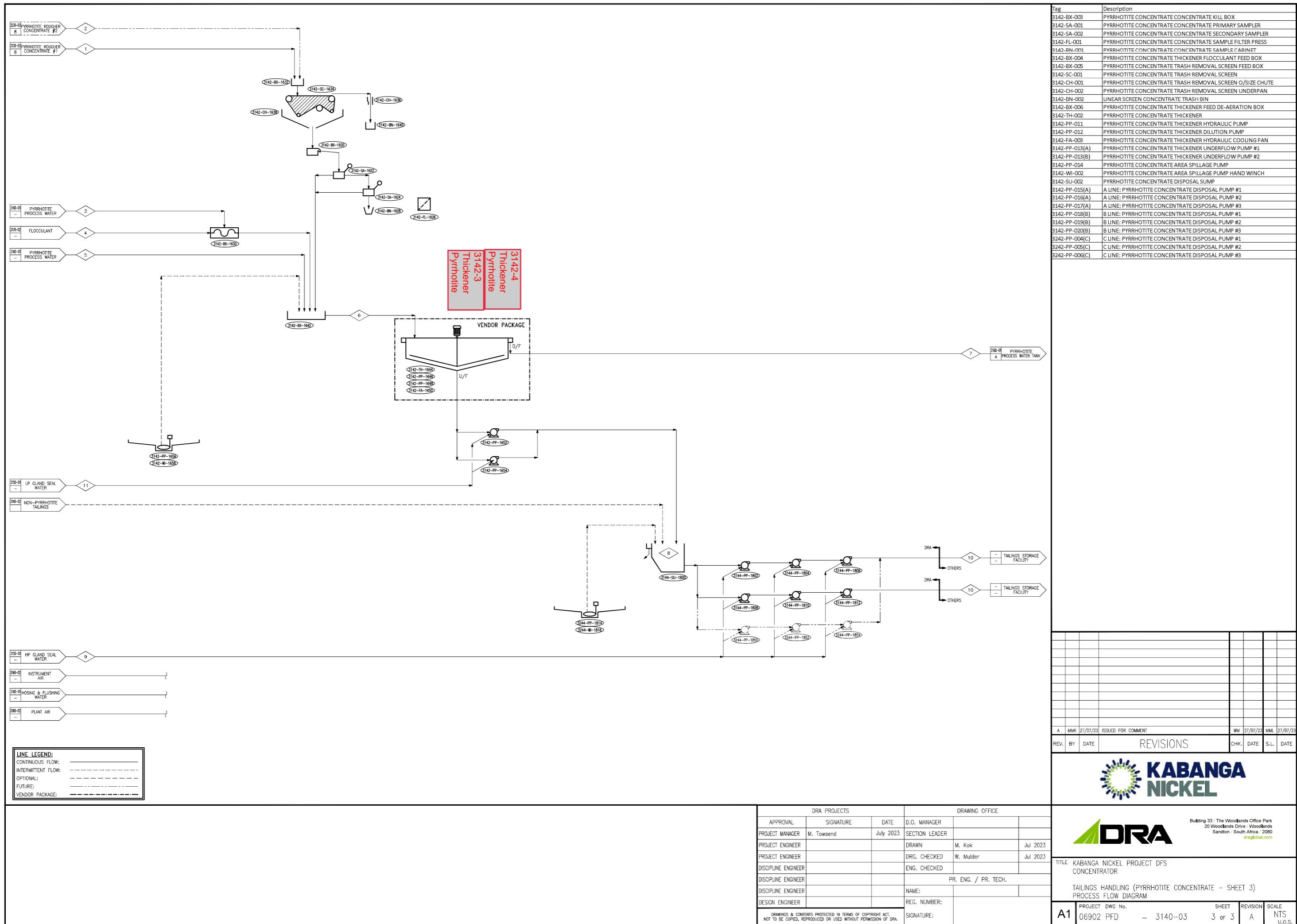


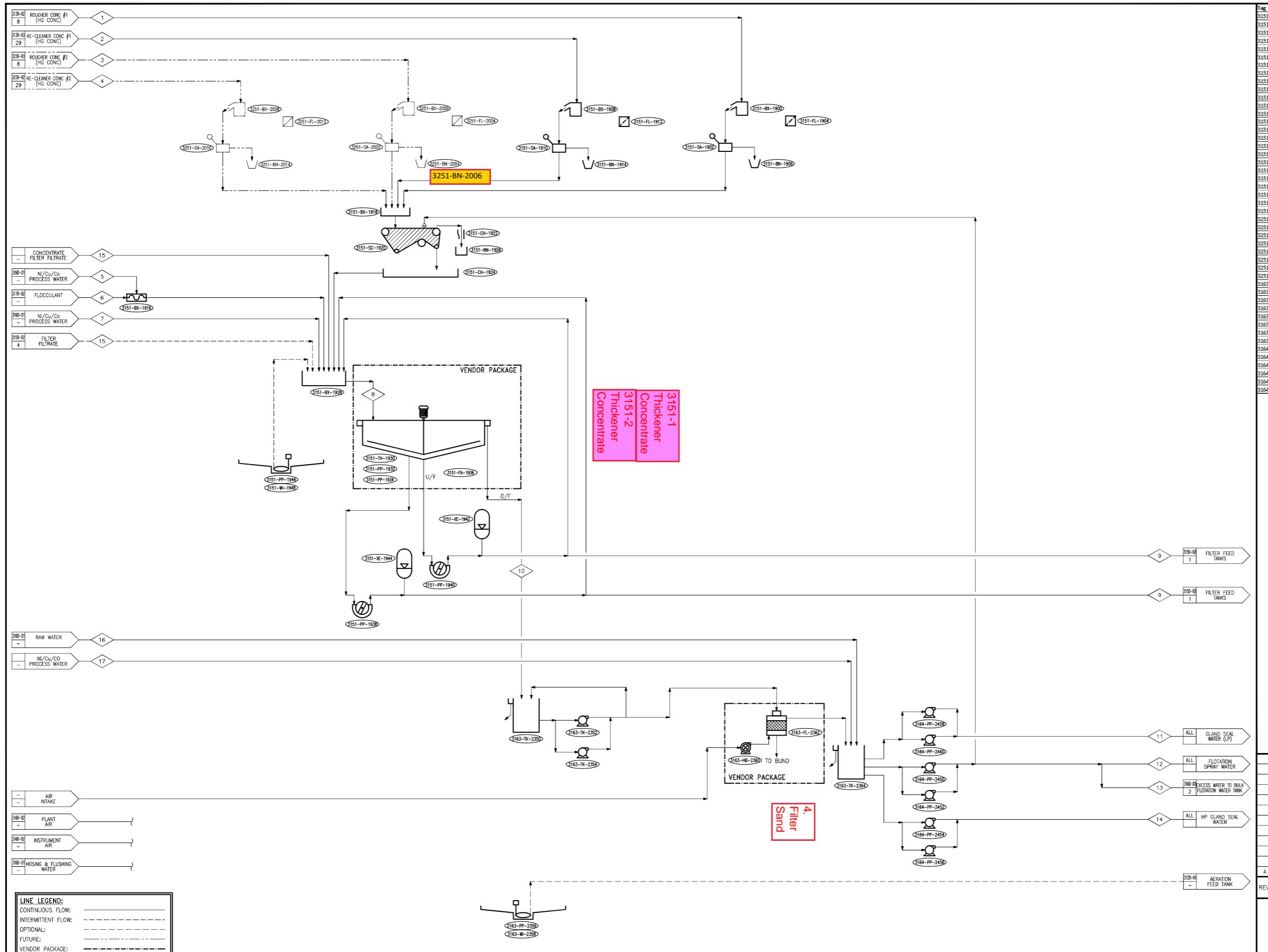












Description
-BX-001 HIGH GRADE ROUGHER CONCENTRATE KILL BOX
-SA-001 HIGH GRADE ROUGHER CONCENTRATE SAMPLER
-FL-001 HIGH GRADE ROUGHER CONCENTRATE SAMPLE FILTER PRESS
-BN-001 HIGH GRADE ROUGHER CONCENTRATE SAMPLE CABINET
-BX-002 RE-CLEANER CONCENTRATE KILL BOX
-SA-002 RF-CLEANER CONCENTRATE SAMPLER
-FL-002 RE-CLEANER CONCENTRATE SAMPLE FILTER PRESS
-BN-002 RE-CLEANER CONCENTRATE SAMPLE CABINET
-BX-003 FINAL CONCENTRATE THICKENER FLOCCULANT FEED BOX
-BX-004 CONCENTRATE TRASH REMOVAL SCREEN FEED BOX
-SC-001 CONCENTRATE TRASH REMOVAL SCREEN
-CH-001 CONCENTRATE TRASH REMOVAL SCREEN O/SIZE CHUTE
-CH-002 CONCENTRATE TRASH REMOVAL SCREEN UNDERPAN
-BN-003 LINEAR SCREEN CONCENTRATE TRASH BIN
-BX-005 FINAL CONCENTRATE THICKENER FEED DE-AERATION BOX
-TH-001 FINAL CONCENTRATE THICKENER
-PP-001 FINAL CONCENTRATE THICKENER HYDRAULIC PUMP
-PP-002 FINAL CONCENTRATE THICKENER DILUTION PUMP
-FA-001 FINAL CONCENTRATE THICKENER HYDRAULIC COOLING FAN
-PP-003(A) FINAL CONCENTRATE THICKENER UNDERFLOW PUMP #1
-PP-003(B) FINAL CONCENTRATE THICKENER UNDERFLOW PUMP #2
-XE-001 FINAL CONCENTRATE THICKENER UNDERFLOW PULSATION DAMPNER #1
-XE-002 FINAL CONCENTRATE THICKENER UNDERFLOW PULSATION DAMPNER #2
-PP-004 FINAL CONCENTRATE AREA SPILLAGE PUMP
-W-001 FINAL CONCENTRATE AREA SPILLAGE PUMP HAND WINCH
-BX-001 HIGH GRADE ROUGHER CONCENTRATE KILL BOX
-SA-001 HIGH GRADE ROUGHER CONCENTRATE SAMPLER
-FL-002 HIGH GRADE ROUGHER CONCENTRATE SAMPLE FILTER PRESS
-BN-001 HIGH GRADE ROUGHER CONCENTRATE SAMPLE CABINET
-BX-002 RE-CLEANER CONCENTRATE KILL BOX
-SA-002 RE-CLEANER CONCENTRATE SAMPLER
-FL-003 RE-CLEANER CONCENTRATE SAMPLE FILTER PRESS
-BN-002 RE-CLEANER CONCENTRATE SAMPLE CABINET
-TK-001 CONCENTRATE THICKENER OVERFLOW COLLECTION TANK
-PP-001(A) CONCENTRATE THICKENER R OVERFLOW SPRAY WATER PUMP #1
-PP-001(B) CONCENTRATE THICKENER OVERFLOW SPRAY WATER PUMP #2
-PP-002 SAND FILTRATION AREA SPILLAGE PUMP
-W-001 FINAL CONCENTRATE AREA SPILLAGE PUMP HAND WINCH
-HB-001 SAND FILTER AIR BLOWER
-FL-004 FINAL CONCENTRATE THICKENER OVERFLOW SAND FILTER
-TK-002 BULK FLOTATION FILTERED WATER TANK
-PP-001(A) SPRAY WATER PUMP #1
-PP-001(B) SPRAY WATER PUMP #2
-PP-002(A) HP GSW PUMP #1
-PP-002(B) HP GSW PUMP #2
-PP-003(A) LP GSW PUMP #1
-PP-003(B) LP GSW PUMP #2

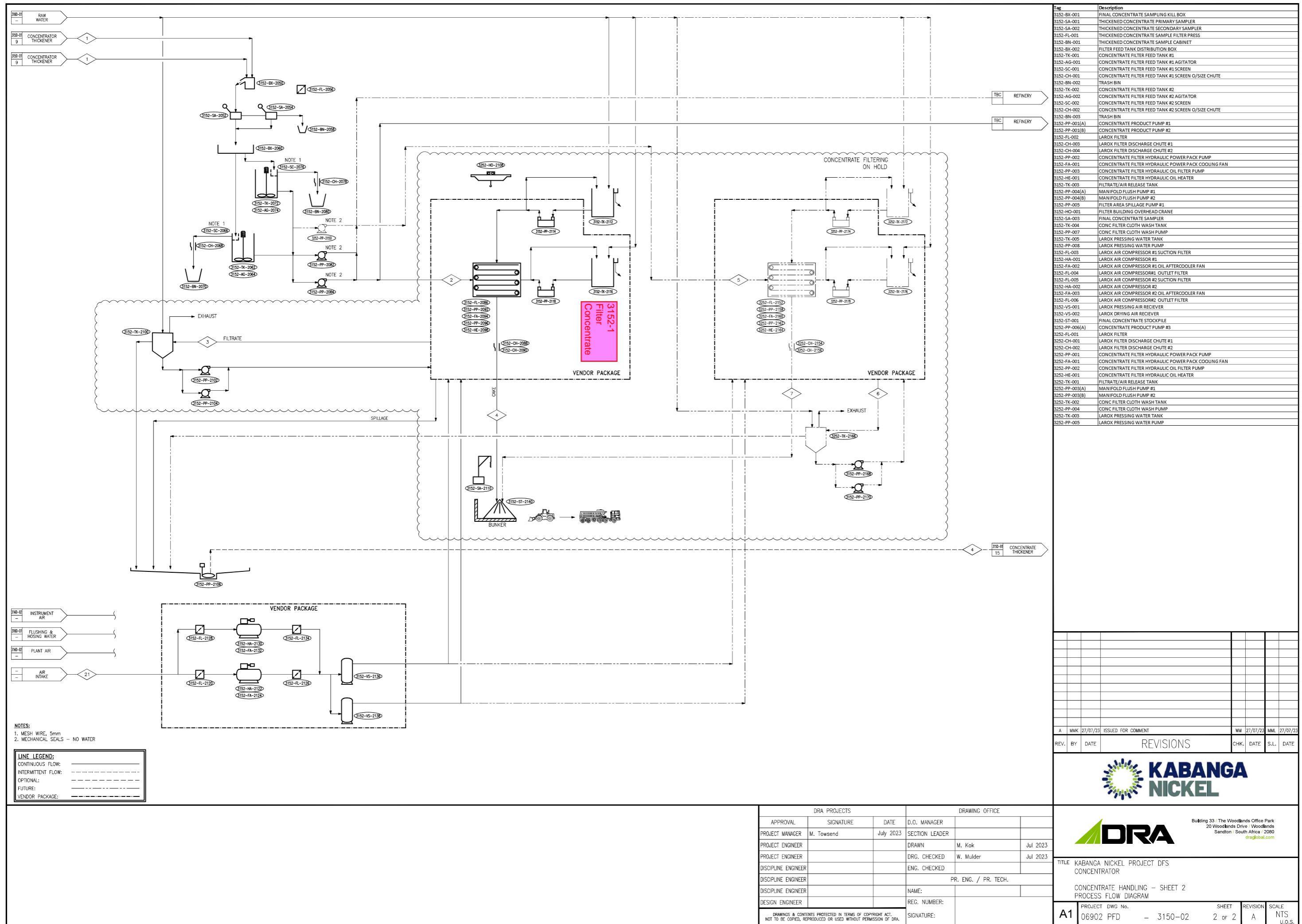
MMK 27/07/23 ISSUED FOR COMMENT WM 27/07/23 MML 27/07/23

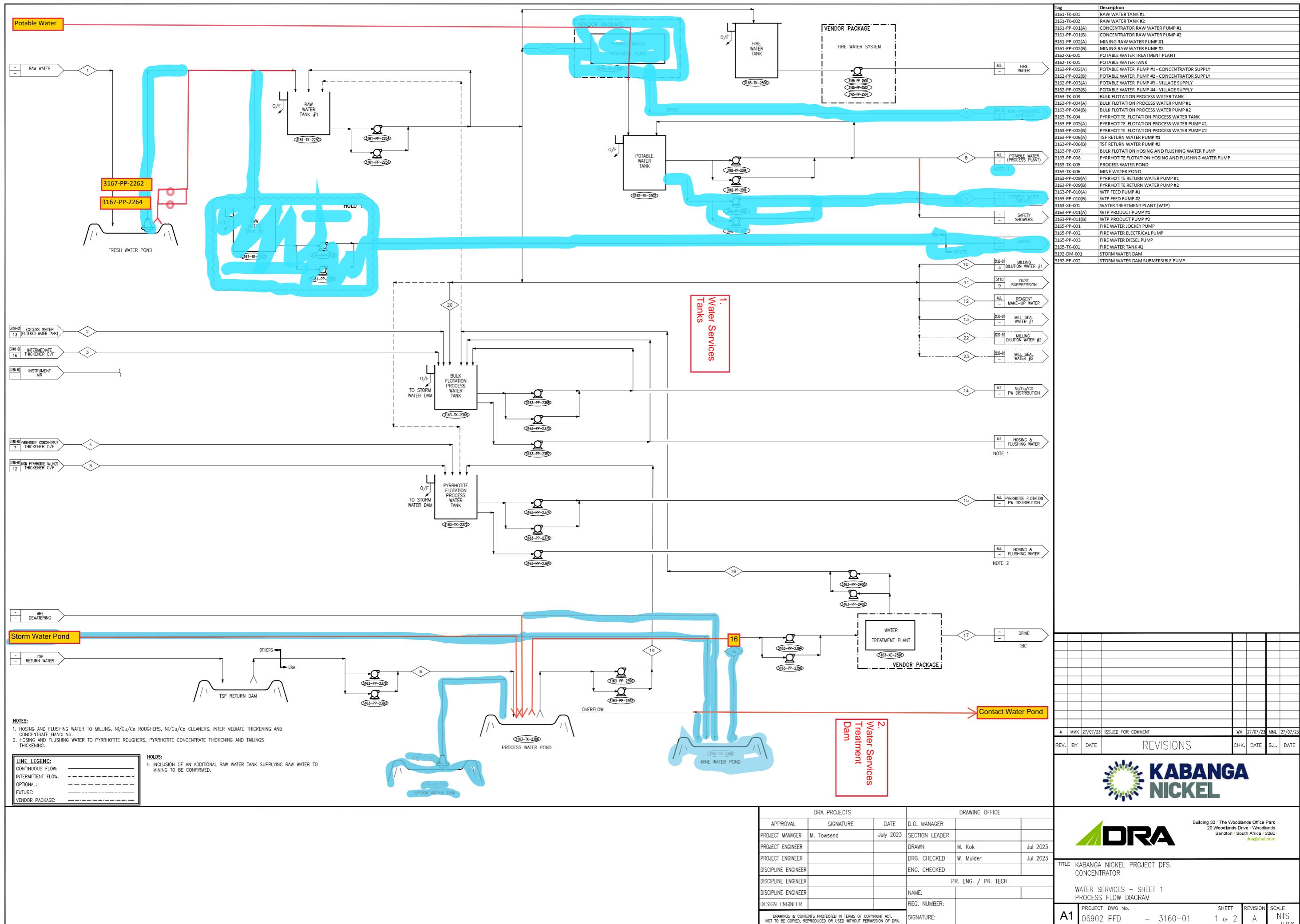
REVISIONS

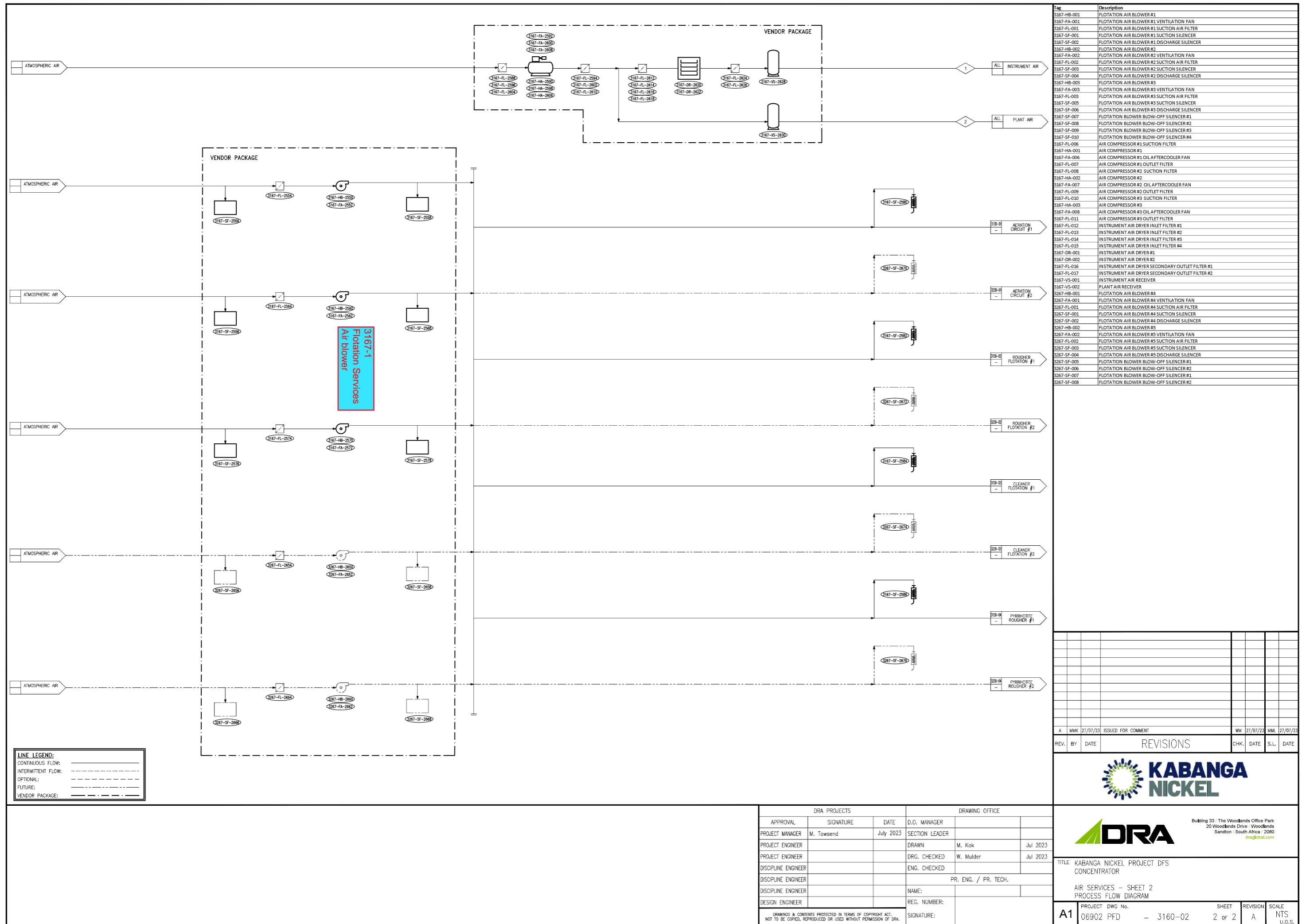
Building 33 / The Woodlands Office Park
20 Woodlands Drive / Woodlands
Sandton / South Africa / 2080
draglobal.com

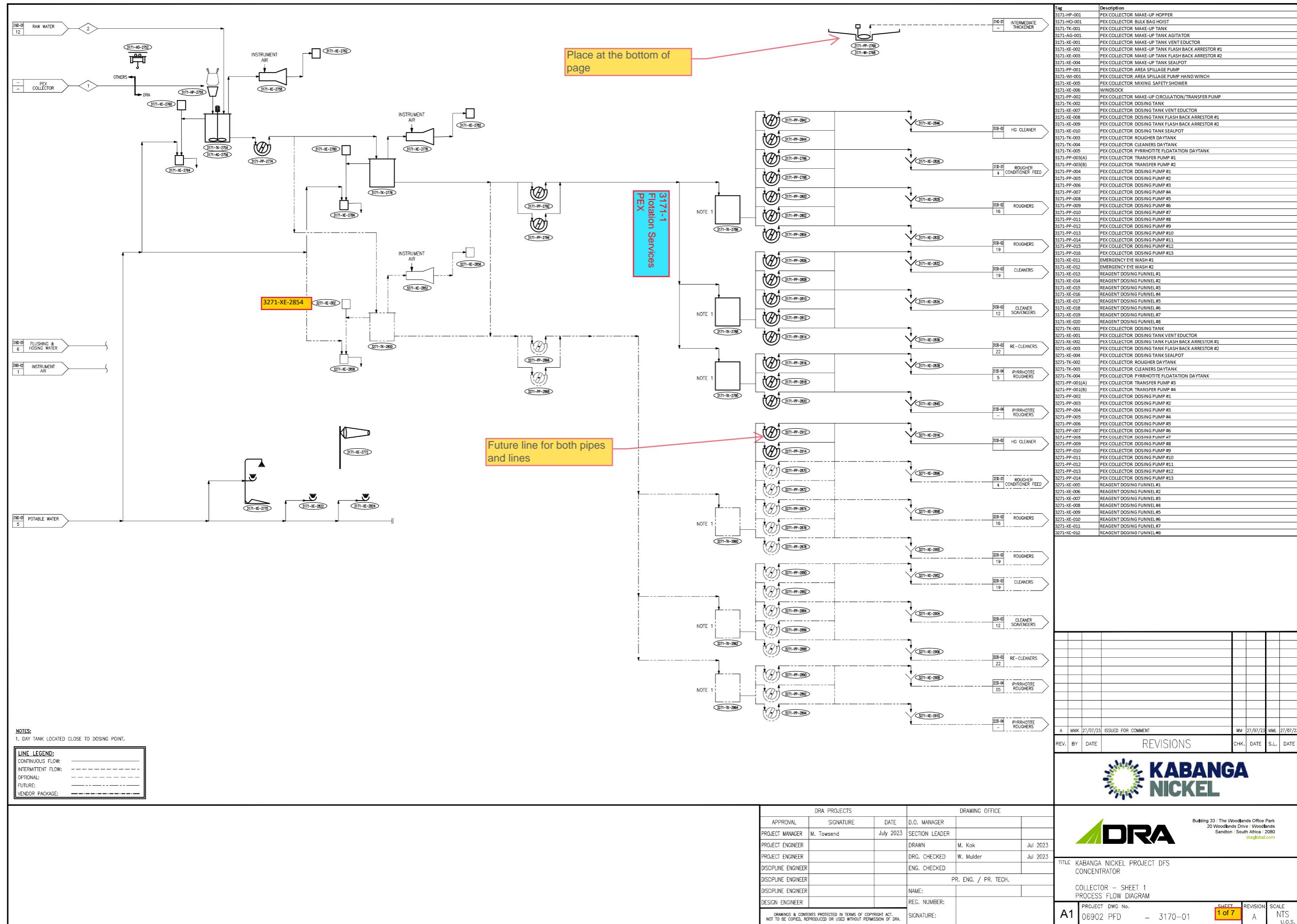
DRA PROJECTS			DRAWING OFFICE		
APPROVAL	SIGNATURE	DATE	D.O. MANAGER		
PROJECT MANAGER	M. Townsend	July 2023	SECTION LEADER		
PROJECT ENGINEER			DRAWN	M. Kok	Jul 2023
PROJECT ENGINEER			DRG. CHECKED	W. Mulder	Jul 2023
DISCIPLINE ENGINEER			ENG. CHECKED		
DISCIPLINE ENGINEER			PR. ENG. / PR. TECH.		
DISCIPLINE ENGINEER			NAME:		
DESIGN ENGINEER			REG. NUMBER:		
SIGNATURE:					
DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT. NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA.					

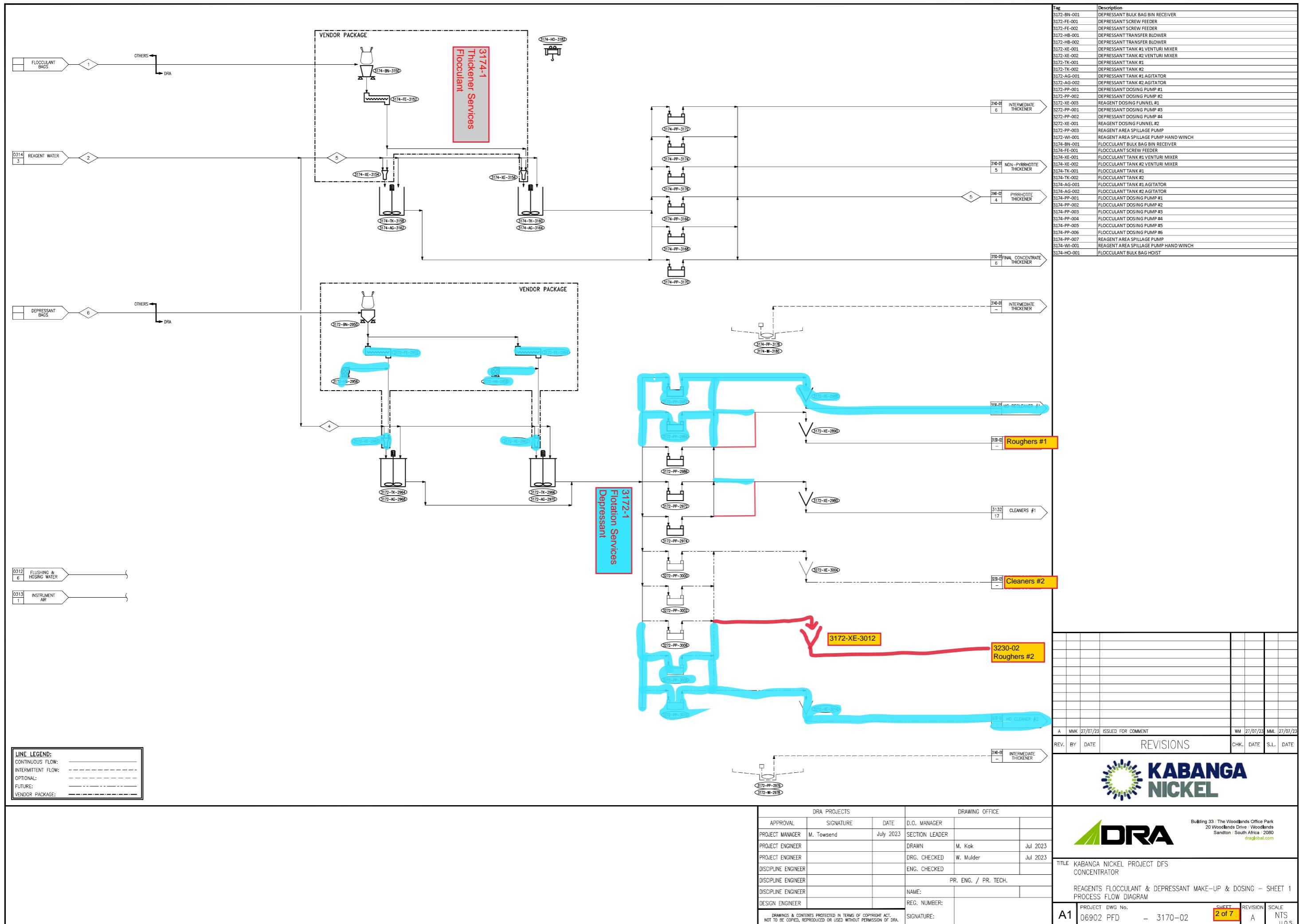
		Building 33 / The Woodlands Office Park 20 Woodlands Drive / Woodlands Sandton / South Africa / 2080 draglobal.com			
TITLE KABANGA NICKEL PROJECT DFS CONCENTRATOR					
CONCENTRATE HANDLING – SHEET 1 PROCESS FLOW DIAGRAM					
A1	PROJECT DWG No. 06902 PFD	SHEET – 3150-01	REVISION 2 of 2	SCALE A	NTS 100

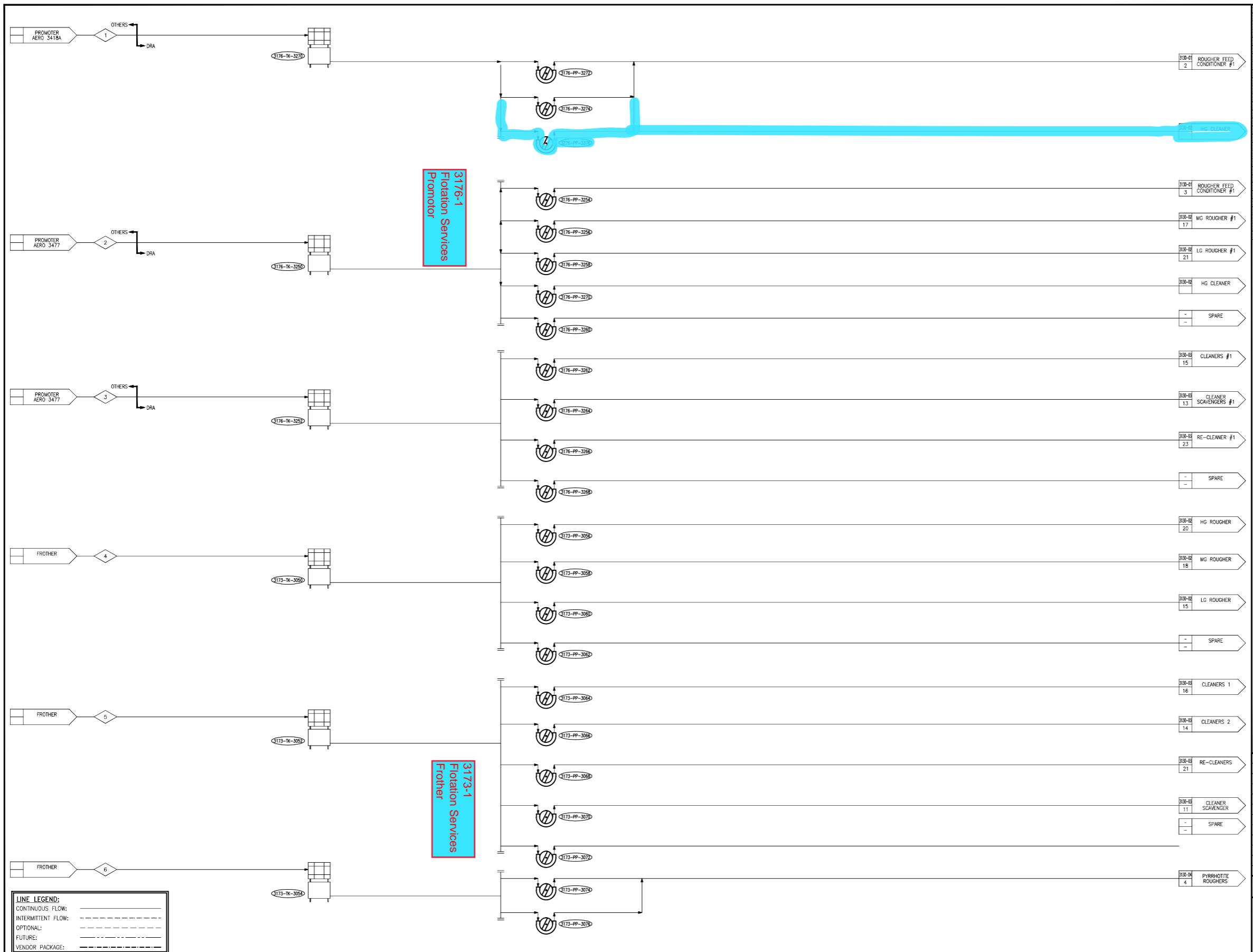












Tag	Description
3173-TK-001	FROTHER DOSING TANK
3173-TK-002	FROTHER DOSING TANK
3173-TK-003	FROTHER DOSING TANK
3173-PP-001	FROTHER DOSING PUMP #1
3173-PP-002	FROTHER DOSING PUMP #2
3173-PP-003	FROTHER DOSING PUMP #3
3173-PP-004	FROTHER DOSING PUMP #4
3173-PP-005	FROTHER DOSING PUMP #5
3173-PP-006	FROTHER DOSING PUMP #6
3173-PP-007	FROTHER DOSING PUMP #7
3173-PP-008	FROTHER DOSING PUMP #8
3173-PP-009	FROTHER DOSING PUMP #9
3173-PP-010	FROTHER DOSING PUMP #10
3173-PP-011	FROTHER DOSING PUMP #11
3176-TK-001	AERO 3477 COLLECTOR DOSING TANK
3176-TK-002	AERO 3477 COLLECTOR DOSING TANK
3176-PP-001	AERO 3477 COLLECTOR DOSING PUMP #1
3176-PP-002	AERO 3477 COLLECTOR DOSING PUMP #2
3176-PP-003	AERO 3477 COLLECTOR DOSING PUMP #3
3176-PP-004	AERO 3477 COLLECTOR DOSING PUMP #4
3176-PP-005	AERO 3477 COLLECTOR DOSING PUMP #5
3176-PP-006	AERO 3477 COLLECTOR DOSING PUMP #6
3176-PP-007	AERO 3477 COLLECTOR DOSING PUMP #7
3176-PP-008	AERO 3477 COLLECTOR DOSING PUMP #8
3176-TK-003	3418A COLLECTOR DOSING TANK
3176-PP-009	3418A COLLECTOR DOSING PUMP #1
3176-PP-010	3418A COLLECTOR DOSING PUMP #2
3276-PP-009	3418A COLLECTOR DOSING PUMP #3

A	MMK	27/07/23	ISSUED FOR COMMENT	WM	27/07/23	MML	27/07/23
REV.	BY	DATE	REVISIONS	CHK.	DATE	S.L.	DATE



Building 33 / The Woodlands Office Park
20 Woodlands Drive / Woodlands
Sandton / South Africa / 2080
draglobal.com



TITLE KABANGA NICKEL PROJECT DFS CONCENTRATOR					
REAGENTS IBC DOSING TANKS – SHEET 3 PROCESS FLOW DIAGRAM					
PROJECT DWG No.	06902 PFD	3170-03	3 of 7	REVISION A	SCALE U.S.
A1					

LINE LEGEND:

CONTINUOUS FLOW: _____

INTERMITTENT FLOW: _____

OPTIONAL: _____

FUTURE: _____

VENDOR PACKAGE: _____

DRA PROJECTS

APPROVAL _____

SIGNATURE _____

DATE _____

D.O. MANAGER _____

SECTION LEADER _____

PROJECT ENGINEER _____

DRAWN _____

M. Kok _____

Jul 2023 _____

PROJECT ENGINEER _____

DRG. CHECKED _____

W. Mulder _____

Jul 2023 _____

DISCIPLINE ENGINEER _____

ENG. CHECKED _____

PR. ENG. / PR. TECH. _____

DISCIPLINE ENGINEER _____

NAME: _____

DISCIPLINE ENGINEER _____

REG. NUMBER: _____

SIGNATURE: _____

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

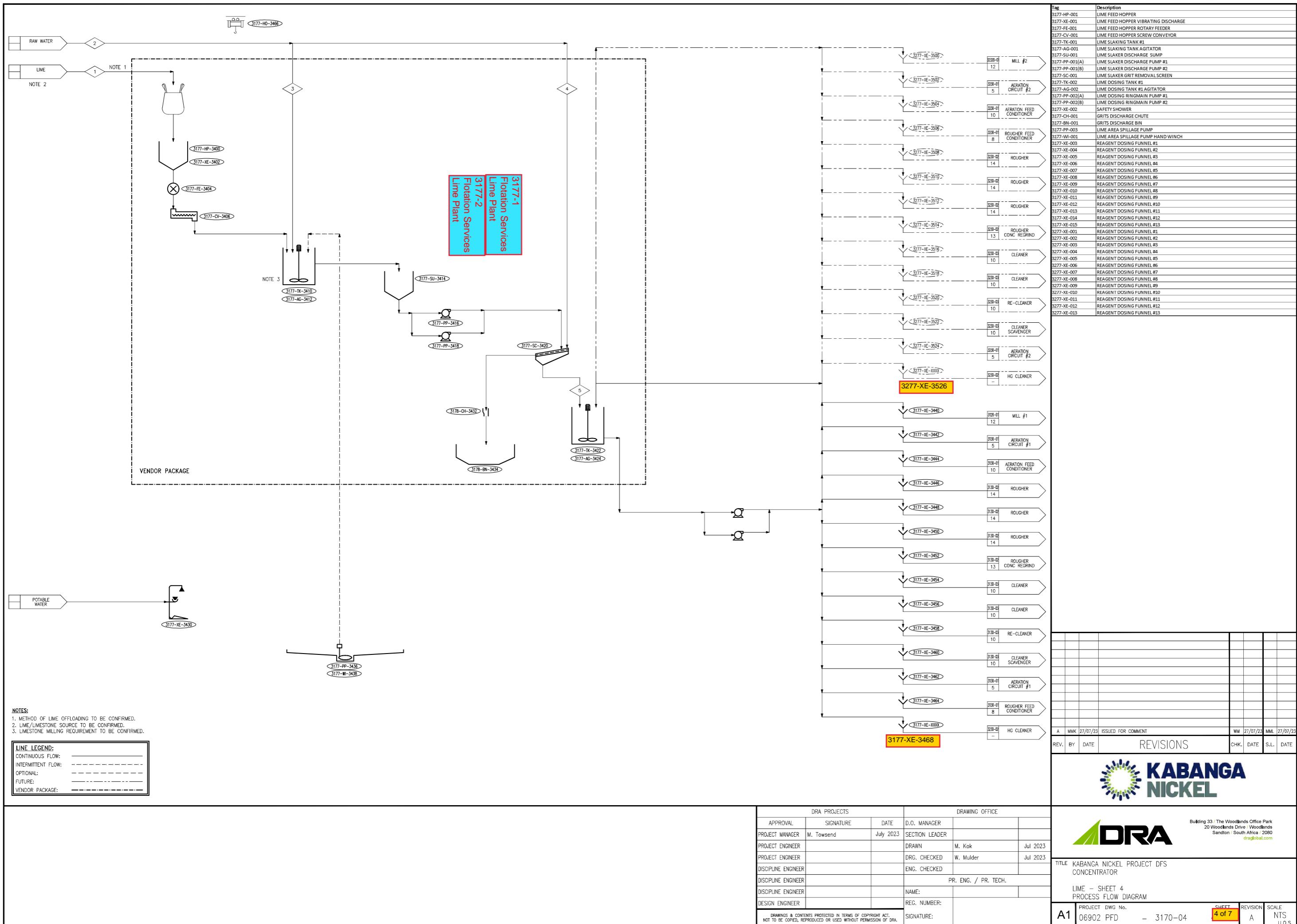
NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

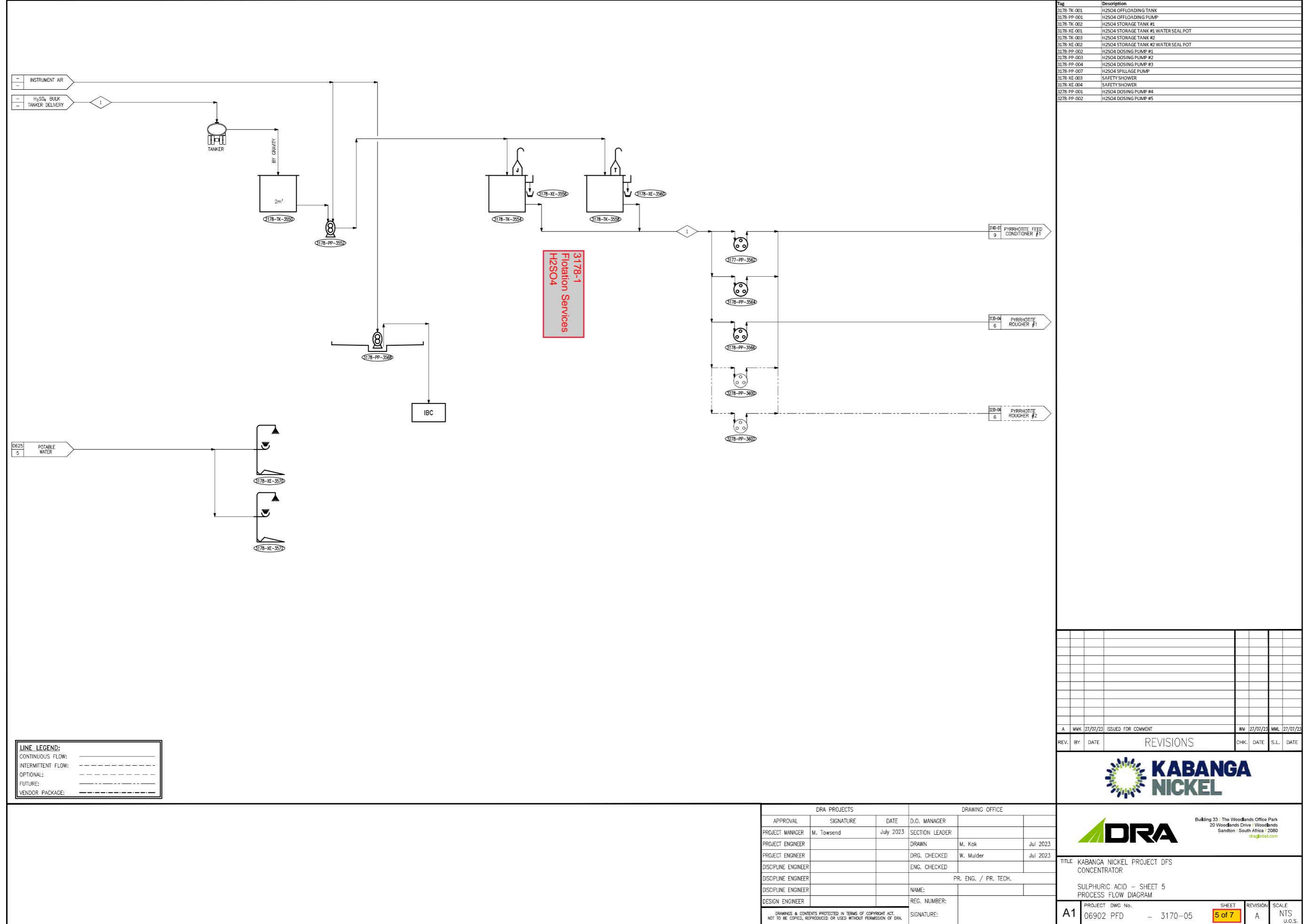
DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

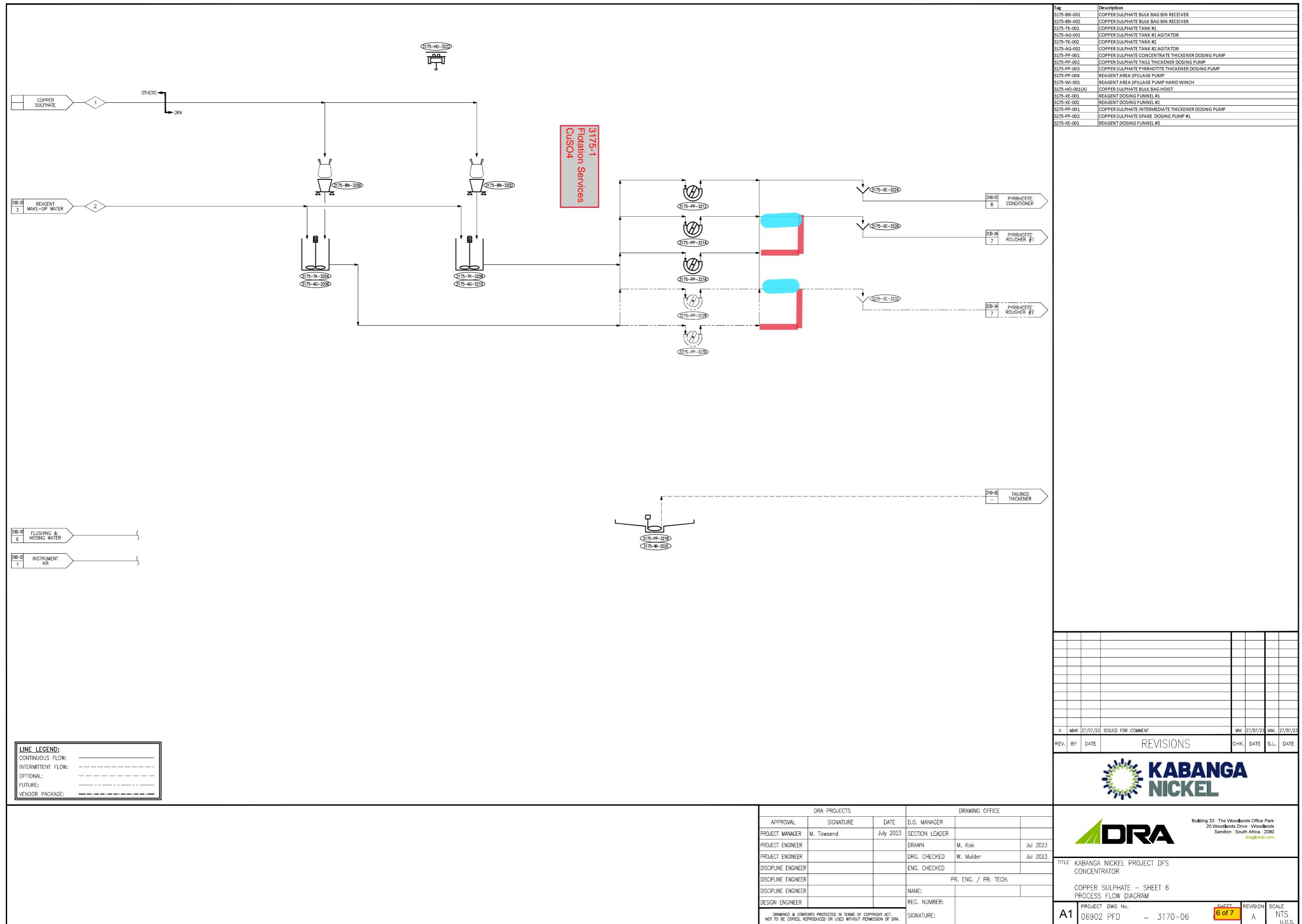
NOT TO BE COPIED, REPRODUCED OR USED WITHOUT PERMISSION OF DRA

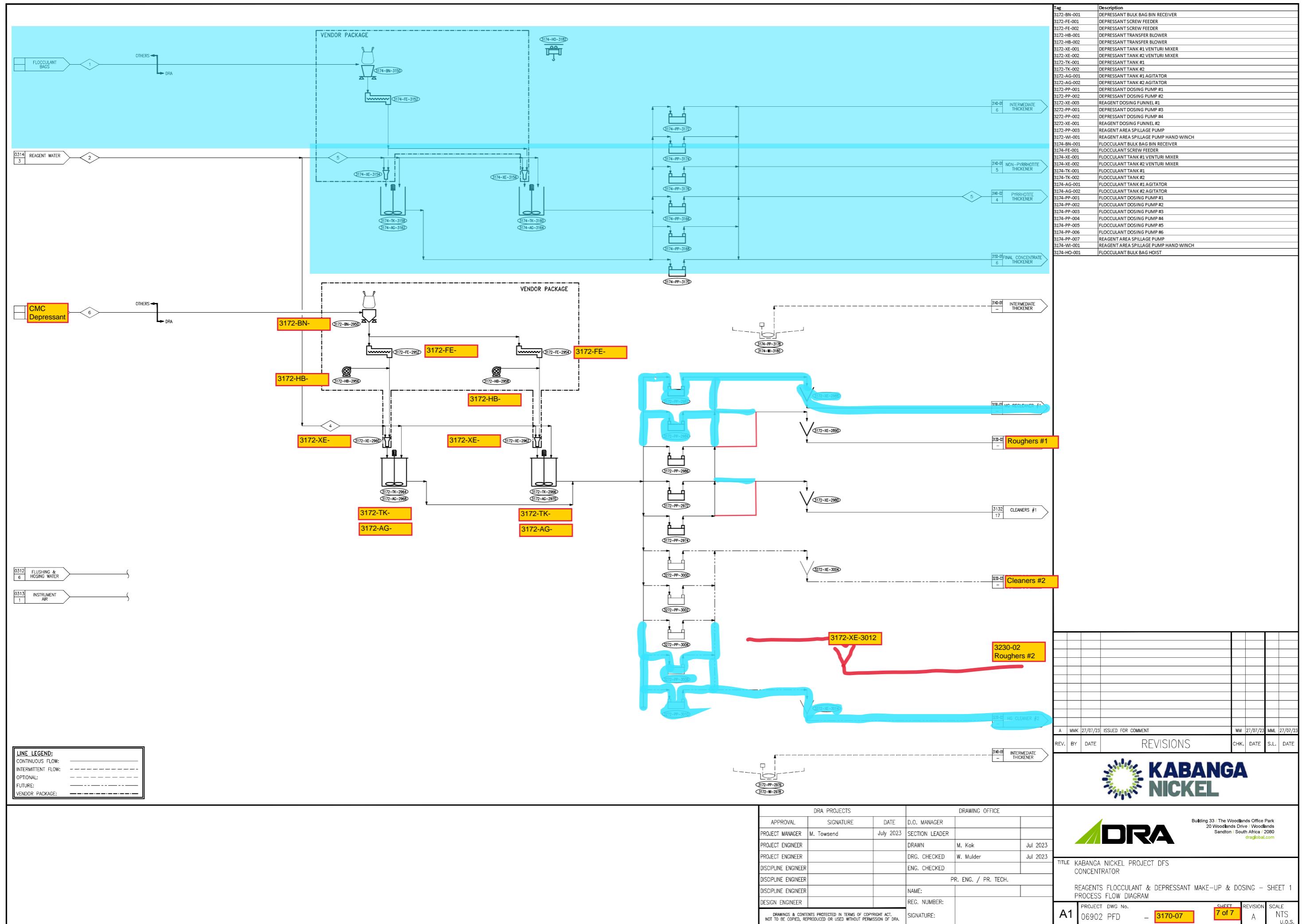
DRAWINGS & CONTENTS PROTECTED IN TERMS OF COPYRIGHT ACT,

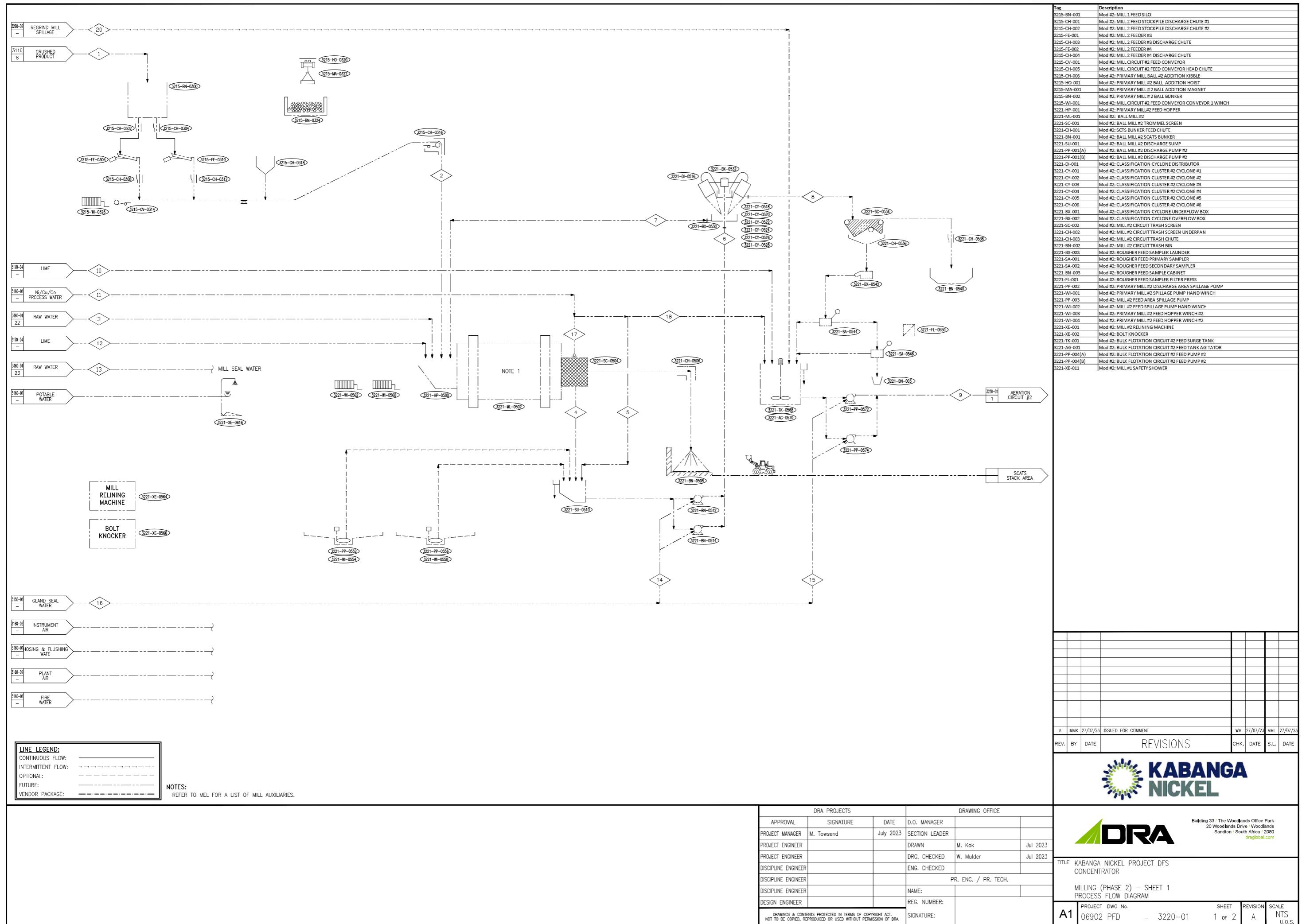
NOT TO BE COPIED, REPROD

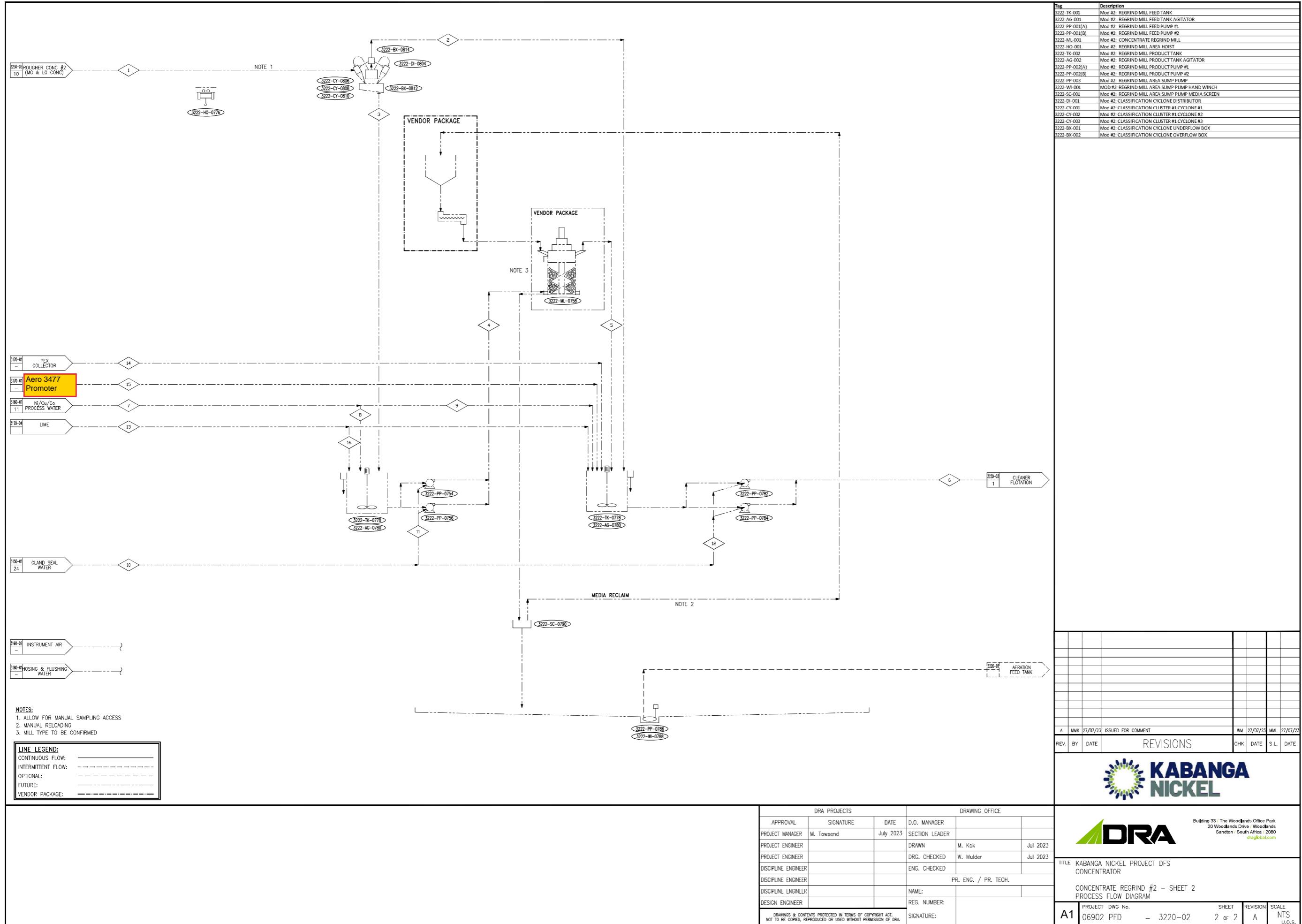


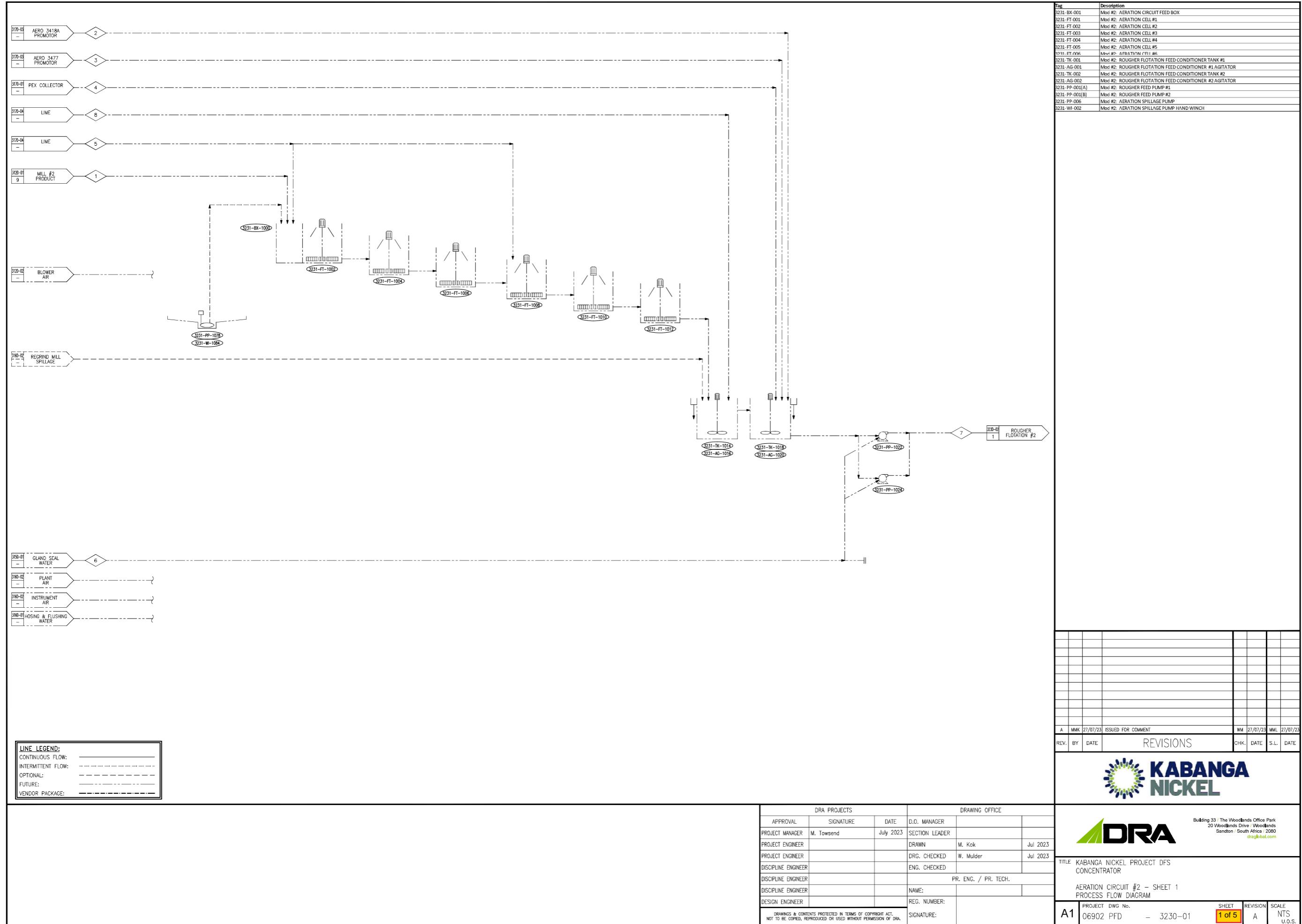


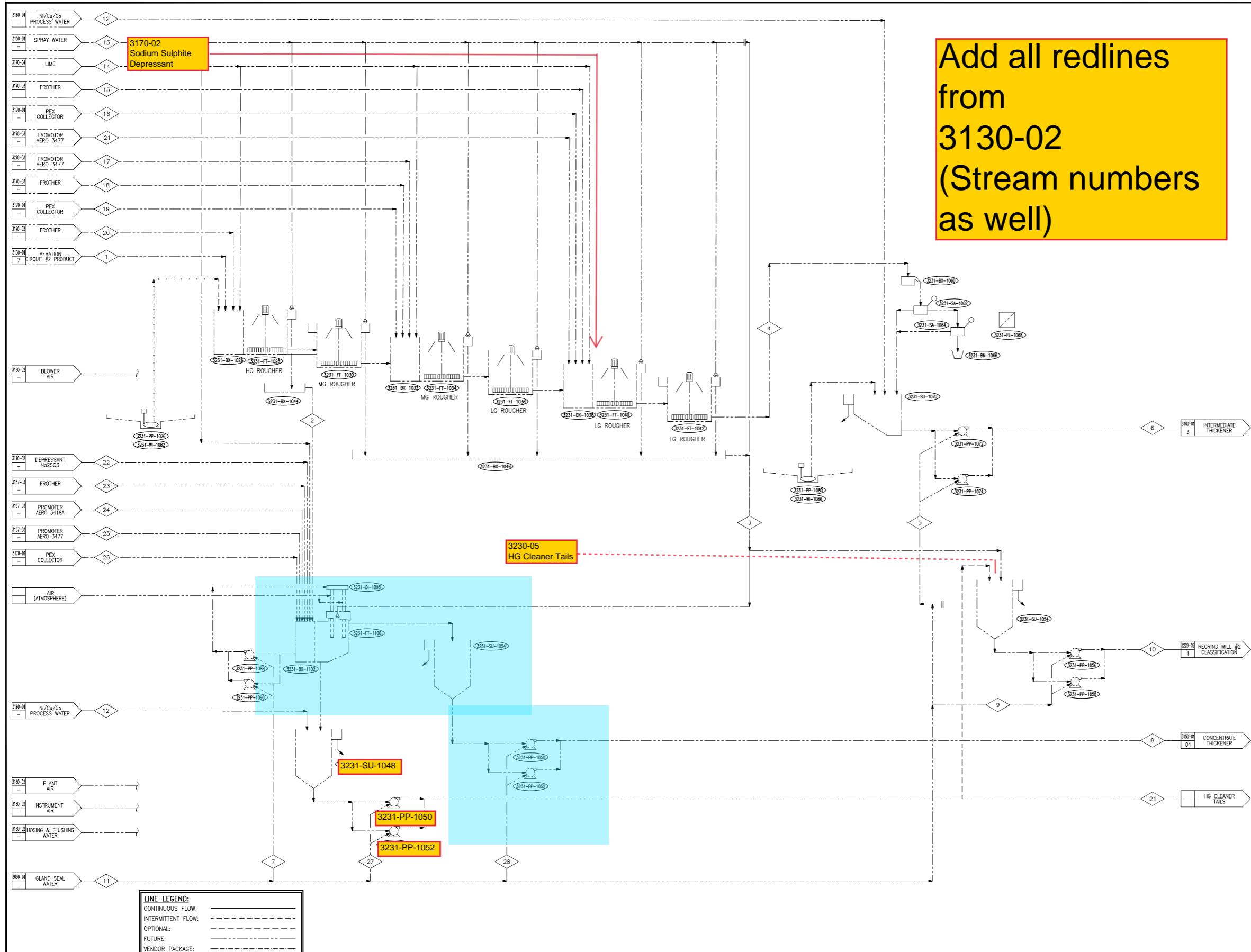












Add all redlines
from
3130-02
(Stream numbers
as well)

Tag	Description
3231-BX-002	Mod #2: ROUGHER FLOTATION FEED BOX #1
3231-FT-007	Mod #2: ROUGHER CELL #1
3231-FT-008	Mod #2: ROUGHER CELL #2
3231-BX-003	Mod #2: ROUGHER FLOTATION FEED BOX #2
3231-FT-009	Mod #2: ROUGHER CELL #3
3231-FT-010	Mod #2: ROUGHER CELL #4
3231-BX-007	Mod #2: ROUGHER FLOTATION FEED BOX #3
3231-FT-011	Mod #2: ROUGHER CELL #5
3231-FT-012	Mod #2: ROUGHER CELL #6
3231-BX-004	Mod #2: HIGH GRADE ROUGHER CONCENTRATE LAUNDER
3231-BX-005	Mod #2: MEDIUM GRADE ROUGHER CONCENTRATE LAUNDER
3231-SU-001	Mod #2: HIGH GRADE ROUGHER CONCENTRATE SUMP
3231-PP-002(A)	Mod #2: HIGH GRADE ROUGHER CONCENTRATE PUMP #1
3231-PP-002(B)	Mod #2: HIGH GRADE ROUGHER CONCENTRATE PUMP #2
3231-SU-002	Mod #2: MEDIUM GRADE ROUGHER CONCENTRATE SUMP
3231-PP-003(A)	Mod #2: MEDIUM GRADE ROUGHER CONCENTRATE PUMP #1
3231-PP-003(B)	Mod #2: MEDIUM GRADE ROUGHER CONCENTRATE PUMP #2
3231-BX-006	Mod #2: ROUGHER FLOTATION TAILINGS SAMPLER FEED LAUNDER
3231-SA-001	Mod #2: ROUGHER FLOTATION TAILS PRIMARY SAMPLER
3231-SA-002	Mod #2: ROUGHER FLOTATION TAILS SECONDARY SAMPLER
3231-BN-001	Mod #2: ROUGHER FLOTATION TAILS SAMPLE CABINET
3231-FL-001	Mod #2: ROUGHER FLOTATION TAILS SAMPLE FILTER PRESS
3231-SU-003	Mod #2: ROUGHER TAILS SUMP
3231-PP-004(A)	Mod #2: ROUGHER TAILS PUMP #1
3231-PP-004(B)	Mod #2: ROUGHER TAILS PUMP #2
3231-PP-005	Mod #2: ROUGHER SPILLAGE PUMP #1
3231-PP-007	Mod #2: ROUGHER SPILLAGE PUMP #2
3231-WI-001	Mod #2: ROUGHER SPILLAGE PUMP HAND WINCH #1
3231-WI-003	Mod #2: ROUGHER SPILLAGE PUMP HAND WINCH #2



Building 33 / The Woodlands Office Park
20 Woodlands Drive / Woodlands
Sandton / South Africa / 2080
draglobal.com

TITLE KABANGA NICKEL PROJECT DFS CONCENTRATOR				
ROUGHER FLOTATION #2 - SHEET 2				
PROCESS FLOW DIAGRAM				
A1	PROJECT DWG No. 06902 PFD	SHEET 2 of 5	REVISION A	SCALE NTS U.O.S.

