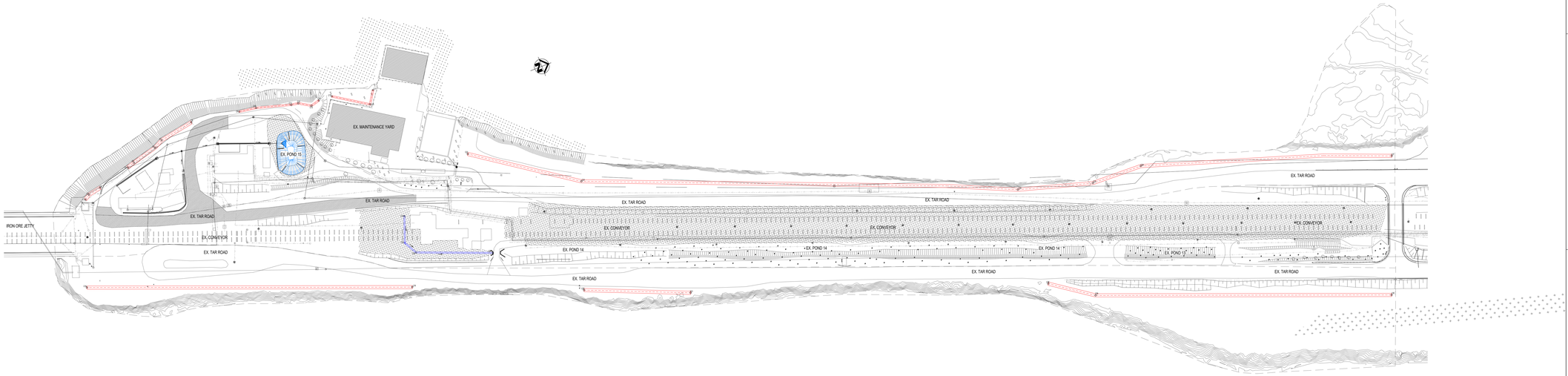
CHANNEL C/L COORDINATES		
NO.	Y	X
C1	-94718.803	3656207.577
C2	-94720.785	3656204.412
C3	-94722.429	3656196.327
C4	-94728.201	3656175.852
C5	-94729.413	3656171.282
C6	-94733.732	3656155.618
C7	-94736.59	3656150.150
C7	-94740.54	3656128.934
C9	-94736.202	3656098.724
C10	-94734.671	3656088.000
C11	-94728.819	3656066.776
C12	-94728.122	36566062.455
C13	-94723.818	3656055.229
C14	-94725.268	3656049.798
C15	-94724.777	3656041.365
C16	-94711.727	3656020.897
C17	-94719.365	3656016.027
C18	-94667.215	3656226.024
C19	-94596.04	3656036.438
C20	-94556.569	3655937.000
C21	-94531.572	3655875.497
C22	-94661.362	3655974.833
C23	-94620.607	3655914.829
C24	-94519.794	3655662.408
C25	-94507.151	3655617.079
C26	-94506.544	3655585.508
C27	-94457.333	3655437.085
C28	-94458.342	3655665.205
C29	-94441.256	3655640.419
C30	-94376.379	3655467.693
C35	-94697.390	3656080.311
C36	-94703.890	3656079.074
C37	-94697.348	3656076.828
C38	-94703.066	3656074.549

PLEASE NOTE:
CHANNEL COORDINATES ARE GIVEN FOR CENTER OF CHANNEL.

V-DRAIN C/L COORDINATES & LEVELS			
NO.	Y	X	TOP OF DRAIN LEVEL (m)
C31	-94639.169	3656025.444	2.820
C32	-94623.383	3656031.057	2.710
C33	-94615.418	3656026.667	2.560
C34	-94598.276	3655982.071	2.420

PLEASE NOTE:
V-DRAIN COORDINATES ARE GIVEN FOR CENTER OF DRAIN.
PLEASE SEE 5200157-2-001-C-LA-0005-02



PLAN LAYOUT: CAUSEWAY AREA
1:1000

LEGEND - SERVICES

PROPOSED	EXISTING	DESCRIPTION
	EX. S'w	STORMWATER MANHOLE/ PIPE
F2		SEWER MANHOLE/ PIPE
F2		EFFLUENT MANHOLE /PIPE
		NEW INFILTRATION CHANNEL
T1		COMMUNICATION MANHOLE/DUCTS
E3		ELECTRICAL MANHOLE/DUCTS
		WATERMAIN
x x x x	x x x x	FENCE
		CATCHMENTS BOUNDARY
		ASPHALT ROAD
		EARTH BANKS
		NEW V-DRAIN
		DEMOLISH EXISTING SERVICE
		NEW POND
C-01 3.42		SETTING OUT COORDINATE: R - RAIL EMBANKMENT; M - MULTI PURPOSE TERMINAL; S - STOCKPILE; C - CAUSEWAY; T - TIPPLER
B1		BENCHMARK

ABBREVIATIONS					
MH	= MANHOLE	EX	= EXISTING	FH	=FIRE HYDRANT
ELP	= ELECTRICAL LIGHT POLE	BM	=BENCH MARKS	V	=WATERMAIN VALVE
HML	= HIGH MAST LIGHT	SW	=STORMWATER		
		EF	=EFFLUENT		

GENERAL NOTES:-
1. THE CONTRACTOR WILL BE DEEMED TO HAVE INSPECTED THE SITE AND BE IN AGREEMENT WITH THE WORKS REQUIRED AS PER THE TENDER DOCUMENTS, UNLESS ALTERNATIVE PROPOSALS WITH COST IMPLICATIONS ARE RECEIVED TOGETHER WITH THE TENDER DOCUMENTS. ALTERNATIVE PROPOSALS SUBMITTED DURING CONSTRUCTION SHALL BE ON A DESIGN AND CONSTRUCT BASIS, WITH THE DESIGN AT CONTRACTOR'S EXPENSE.

2. VARIATIONS DEEMED NECESSARY BY THE CONTRACTOR SHALL BE FORWARDED TO THE PROJECT MANAGER IN WRITING FOR APPROVAL BEFORE ANY CONSTRUCTION BASED ON THE VARIATION COMMENCES.

3. SERVICES SHOWN ON DRAWING ARE KNOWN OR SOURCED FROM EXISTING DRAWINGS. THE CONTRACTOR MUST ENSURE THAT ALL SERVICES THAT INTERSECT OR RUN ALONGSIDE THE PROPOSED WORKS ARE LOCATED BEFORE CONSTRUCTION COMMENCES. ANY CLASHES SHALL BE REPORTED TO THE PROJECT MANAGER IN WRITING. THE CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES TO EXISTING SERVICES DUE TO NEGLIGENCE.

4. ALL EXISTING PIPES AND MANHOLES INCORPORATED INTO THE NEW SYSTEM SHALL HAVE DEFECTS RECTIFIED TO COMPLY TO STANDARDS FOR NEW WORKS.

5. DIMENSIONS SHOWN ON DRAWINGS SHALL TAKE PREFERENCE OVER DIMENSIONS SCALED.

6. ALL LEVELS AND DIMENSIONS SHALL BE CHECKED BEFORE ANY WORK COMMENCES. FAILURE TO DO SO SHALL DEEM THE CONTRACTOR LIABLE FOR ANY WORK REQUIRED TO RECTIFY ERRORS AS A RESULT OF THE FAILURE TO CHECK THE LEVELS AND DIMENSIONS.

7. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS, UNLESS OTHERWISE INDICATED

8. THE LATEST REVISION OF SANS SPECIFICATIONS SHALL APPLY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH RELEVANT SANS SPECIFICATIONS, UNLESS OTHERWISE INDICATED.

9. ALL LENGTHS SHOWN ARE APPROXIMATE AND SHALL BE CONFIRMED ON SITE BY CONTRACTOR.

STORMWATER NOTES

1. TRENCHES FOR PIPES TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE REQUIREMENT OF SANS 1200 DB - PIPE TRENCHES.

2. ALL RIGID CONCRETE PIPES SHALL HAVE CLASS B BEDDING UNLESS STATED OTHERWISE.

3. FOR STORMWATER PIPES SHALL BE SPIGOT & SOCKET CLASS 100D (SANS 677)

4. ALL CONCRETE PIPE JOINTS TO BE WRAPPED WITH 'A2 BIDIM' (NONWOVEN,CONTINUOUS FILAMENT,NEEDLE PUNCHED, POLYESTER,GEOTEXTILE) MIN. WIDTH TO BE 750mm FOR PIPES 300D TO 600D

5. NB. ALL MANHOLE COVERS TO SUIT CROSSFALL OF FINISHED PAVING.

6. ON COMPLETION, THE INSTALLATION SHALL BE TESTED TO THE ENGINEER'S SPECIFICATION.

7. THE CONTRACTOR SHALL SUBMIT A FULL SET OF AS-BUILT DRAWINGS UPON COMPLETION OF THE INSTALLATION.

8. ALL EXISTING STORMWATER PIPES, MANHOLES, CHANNELS AND ANY OTHER STORMWATER INFRASTRUCTURE TO BE CLEANED AND CLEARED OF ALL DEBRIS BEFORE ANY WORK COMMENCES. ALL DAMAGED EXISTING STORMWATER INFRASTRUCTURE SHALL BE REINSTATED TO ORIGINAL CONDITION.

9. ANY DISCREPANCIES IN LEVELS AND SETTING OUT DATA TO BE QUERIED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.

10. ALL EXISTING STORMWATER PIPES ARE CONCRETE UNLESS STATED OTHERWISE.

11. WHERE MINIMUM COVER OF 1000mm FOR OPERATIONAL AREAS & 600mm FOR NON OPERATIONAL AREA CANNOT BE ACHIEVED, CONCRETE ENCASEMENT IS REQUIRED AS PER THE DETAIL DRAWINGS.

EARTHWORKS

1. ANY DISCREPANCIES IN LEVELS AND SETTING OUT DATA TO BE QUERIED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.

2. ALL WORKMANSHIP TO BE IN ACCORDANCE WITH SANS 1200 PART D : EARTHWORKS AND THE RELEVANT PROJECT SPECIFICATIONS AS INCLUDED IN THE CONTRACT.

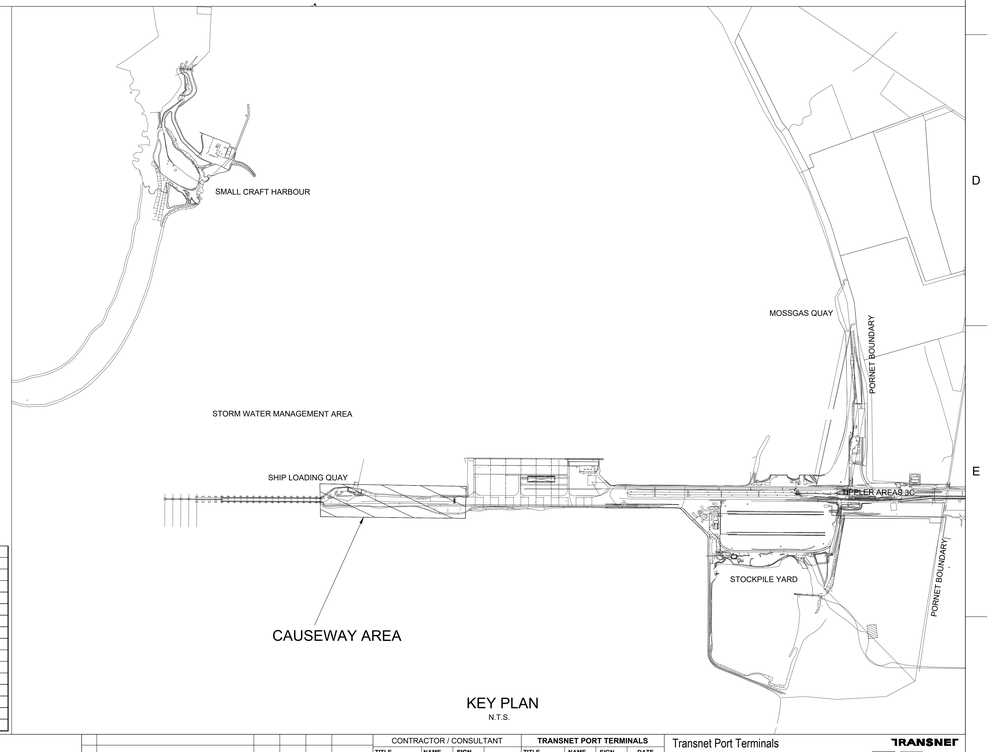
3. BEFORE PLACING ANY FILL MATERIAL, THE EXISTING GROUND SURFACE MUST BE CLEARED AND GRUBBED OF ALL VEGETATION AND ORGANIC MATTER.

4. UNLESS OTHERWISE INDICATED, ALL BANK BATTERS TO BE : 1:1.5 CUT AND 1:2 FILL

5. THE UNCOMPLICATED THICKNESS OF FILL LAYERS SHALL NOT EXCEED 300mm

6. LOCATE ALL EXISTING SERVICES IN AREA PRIOR TO ANY CONSTRUCTION TAKING PLACE.

BENCHMARK NAME	Y	X	Z	TYPE
PN02_S1	-93475.257	-3654091.162	5.692	Pillar Beacon
PN04_S1	-94375.598	-3652758.626	11.637	Pillar Beacon
PN05_S1	-94350.064	-3655384.385	4.526	Pillar Beacon
PN09_S1	-94121.326	-3654507.768	11.216	Pillar Beacon
ZDD25_S1	-97921.795	-3653141.320	5.446	Town Survey Mark
B1	-93666.668	-3653064.208	6.915	Drill Hole in Concrete
B2	-93748.380	-3653393.098	3.313	12mm Round Iron Peg
B3	-93899.392	-3653764.514	2.997	12mm Round Iron Peg
B4	-94006.972	-3654037.881	2.839	12mm Round Iron Peg
B5	-94146.158	-3654428.016	3.055	12mm Round Iron Peg
B6	-94380.974	-3654714.558	3.666	Roof Nail in Concrete
B7	-94294.497	-3655014.636	3.386	12mm Round Iron Peg
B8	-93829.849	-3654096.752	4.241	12mm Round Iron Peg
B9	-93195.652	-3653381.885	3.673	12mm Round Iron Peg
B10	-93431.837	-3653261.361	3.484	12mm Round Iron Peg



KEY PLAN
N.T.S.

5200157-2-001-C-GA-0005-01	GENERAL ARRANGEMENT
5200157-2-001-C-LA-0005-01	PLAN LAYOUT & LONGITUDINAL SECTION CATCHMENT AREA 1
5200157-2-001-C-LA-0005-02	PLAN LAYOUT & LONGITUDINAL SECTION CATCHMENT AREA 2
5200157-2-001-C-LA-0005-03	PLAN LAYOUT & LONGITUDINAL SECTION CATCHMENT AREA 3 & 4
5200157-2-001-C-DE-0001-02	TYPICAL STORMWATER MANHOLE DETAILS
5200157-2-001-C-DE-0001-03	TYPICAL STORMWATER GRID INLET & CATCHPIT DETAILS
5200157-2-001-C-DE-0001-04	TYPICAL HEADWALL, SCOUR & CONCRETE ENCASEMENT DETAILS
DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

NOTES:
a. **MEASUREMENTS ARE BASED ON METRIC SYSTEM.**
b. **ALL LEVELS ARE IN METERS TO MEAN SEA LEVELS (MSL)**
c. **DO NOT SCALE DRAWING - ONLY DIMENSIONS SHOWN TO BE USED.**
d. **THE CONTRACTOR SHALL VERFIY ALL SERVICES OR CONDITIONS ON THE SITE AND NOTIFY THE ENGINEERING OF ANY VARIATIONS FROM DIMENSIONS BEFORE CONSTRUCTION.**

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
00	ISSUED FOR CONSTRUCTION	HD	RM	RN	04/08/2023
0A	ISSUED FOR CLIENT APPROVAL	HD	RM	RN	28/10/2022

REVISIONS

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CONTRACTOR / CONSULTANT					
TITLE	NAME	SIGN			