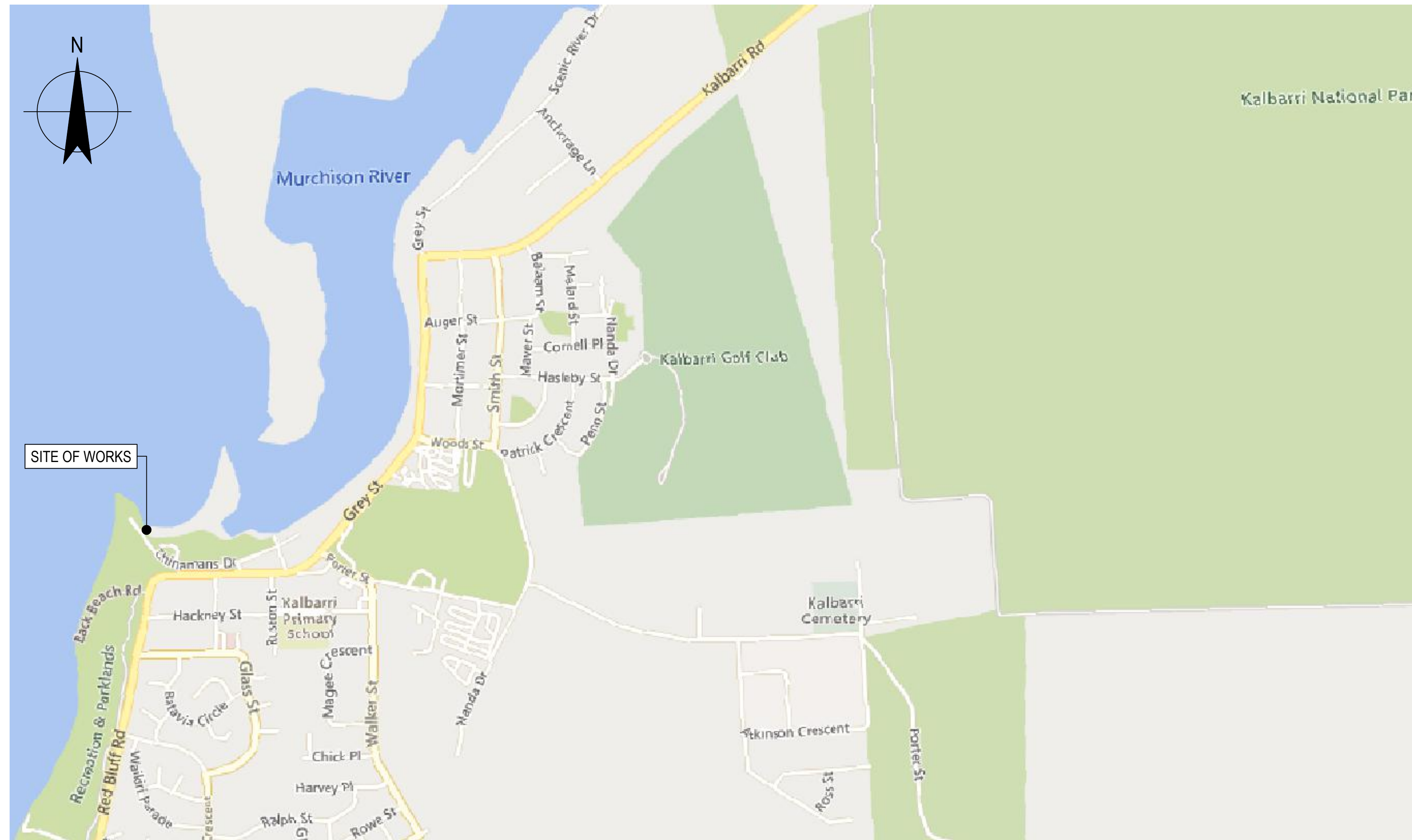


SHIRE OF NORTHAMPTON

CHINAMAN'S BEACH, KALBARRI

PROJECT NUMBER 12596020



LOCALITY PLAN

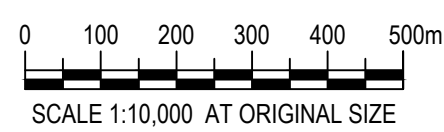
SCALE 1:10000



DRAWING LIST

DRG No.	DRAWING TITLE
12596020-GHD-00-01-DRG-CI-00001	LOCALITY PLAN AND DRAWING LIST
12596020-GHD-00-01-DRG-CI-00100	GENERAL ARRANGEMENT PLAN
12596020-GHD-00-01-DRG-CI-00200	TYPICAL ROAD CROSS SECTIONS AND DETAILS
12596020-GHD-00-01-DRG-CI-00300	KERB ALIGNMENT LONGITUDINAL SECTION
12596020-GHD-00-01-DRG-CI-00400	KERB ALIGNMENT CROSS SECTIONS SHEET 1 OF 4
12596020-GHD-00-01-DRG-CI-00401	KERB ALIGNMENT CROSS SECTIONS SHEET 2 OF 4
12596020-GHD-00-01-DRG-CI-00402	KERB ALIGNMENT CROSS SECTIONS SHEET 3 OF 4
12596020-GHD-00-01-DRG-CI-00403	KERB ALIGNMENT CROSS SECTIONS SHEET 4 OF 4
12596020-GHD-00-01-DRG-CI-00500	TYPICAL GRATED GULLY AND GRATED SOAKWELL DETAILS
12596020-GHD-00-01-DRG-ST-00001	STRUCTURAL NOTES
12596020-GHD-00-01-DRG-ST-00200	TYPICAL RETAINING WALL DETAILS
12596020-GHD-00-01-DRG-ST-00300	RETAINING WALL PROFILE SHEET 1 OF 3
12596020-GHD-00-01-DRG-ST-00301	RETAINING WALL PROFILE SHEET 2 OF 3
12596020-GHD-00-01-DRG-ST-00302	RETAINING WALL PROFILE SHEET 3 OF 3

Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.DAVIES	Design Check	A.KRAUSE	



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
 PO Box 164 Geraldton WA 6531
 T 61 8 9564 3677 F 61 8 9921 7997
 E permail@ghd.com W www.ghd.com



Project No.
12596020

Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

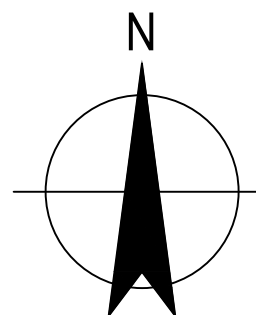
Drawing Title LOCALITY PLAN AND DRAWING LIST

12596020-GHD-00-01-DRG-CI-00001



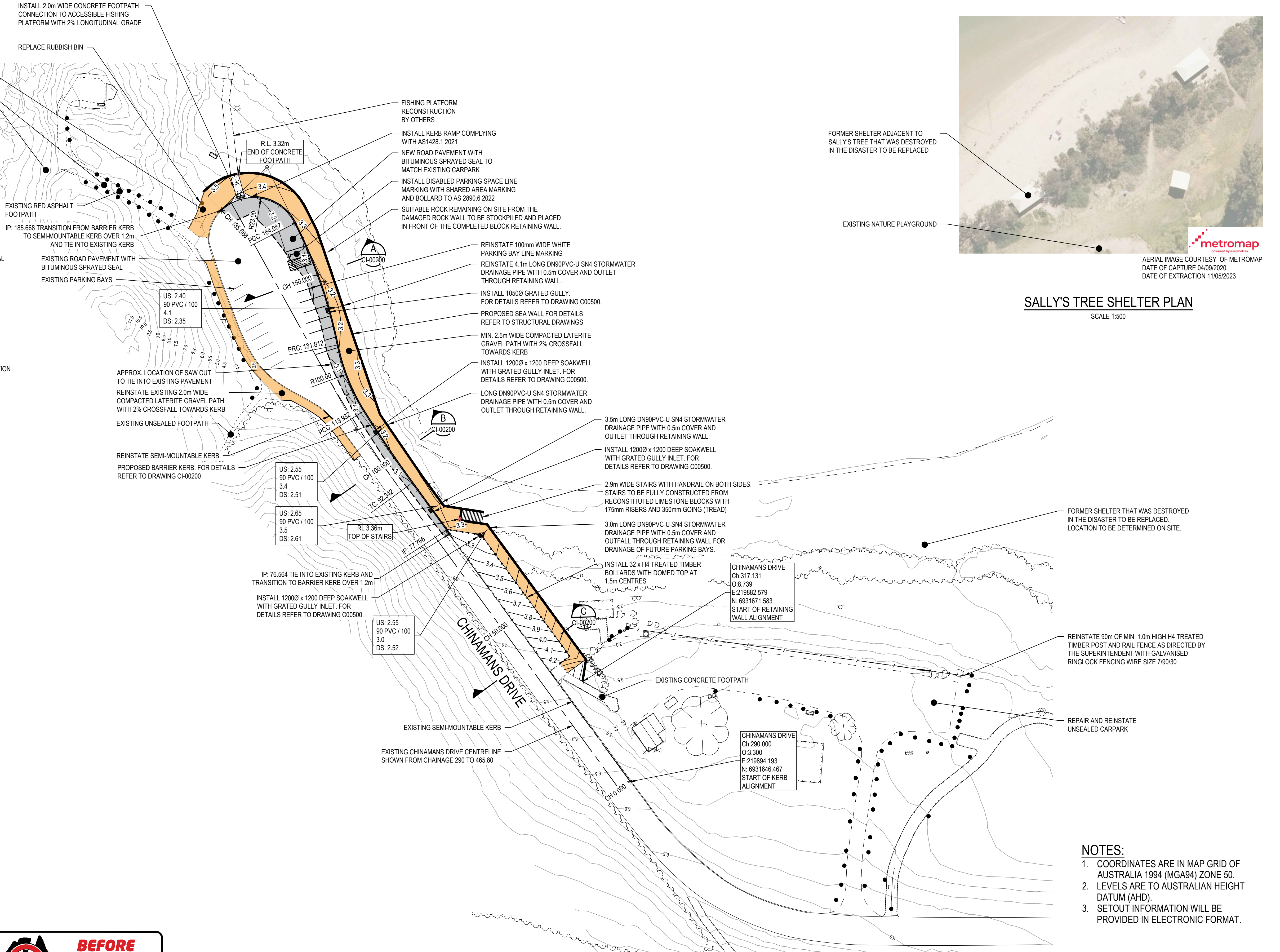
Size
A1

Rev
P02



LEGEND

- PROPOSED SPRAY SEAL AND PAVEMENT RECONSTRUCTION
 - PROPOSED GRAVEL FOOTPATH
 - CONCRETE FOOTPATH
 - DESIGN CONTOURS
 - EXISTING CONTOURS AT 0.5m INTERVAL
 - PROPOSED KERB
 - PROPOSED RETAINING WALL
 - PROPOSED SAW CUT
 - PROPOSED DRAINAGE PIPE
 - PROPOSED DRAINAGE PIPE INFORMATION
- UPSTREAM INVERT → US: 2.40
 PIPE DIAMETER MATERIAL AND GRADE (IN N) → 100 PVC / 100
 2D PIPE LENGTH → 4.1
 DOWNSTREAM INVERT → DS: 2.35



metromap
AERIAL IMAGE COURTESY OF METROMAP
DATE OF CAPTURE 04/09/2020
DATE OF EXTRACTION 11/05/2023

SALLY'S TREE SHELTER PLAN
SCALE 1:500

- NOTES:**
- COORDINATES ARE IN MAP GRID OF AUSTRALIA 1994 (MGA94) ZONE 50.
 - LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
 - SETOUT INFORMATION WILL BE PROVIDED IN ELECTRONIC FORMAT.



PLAN
SCALE 1:500

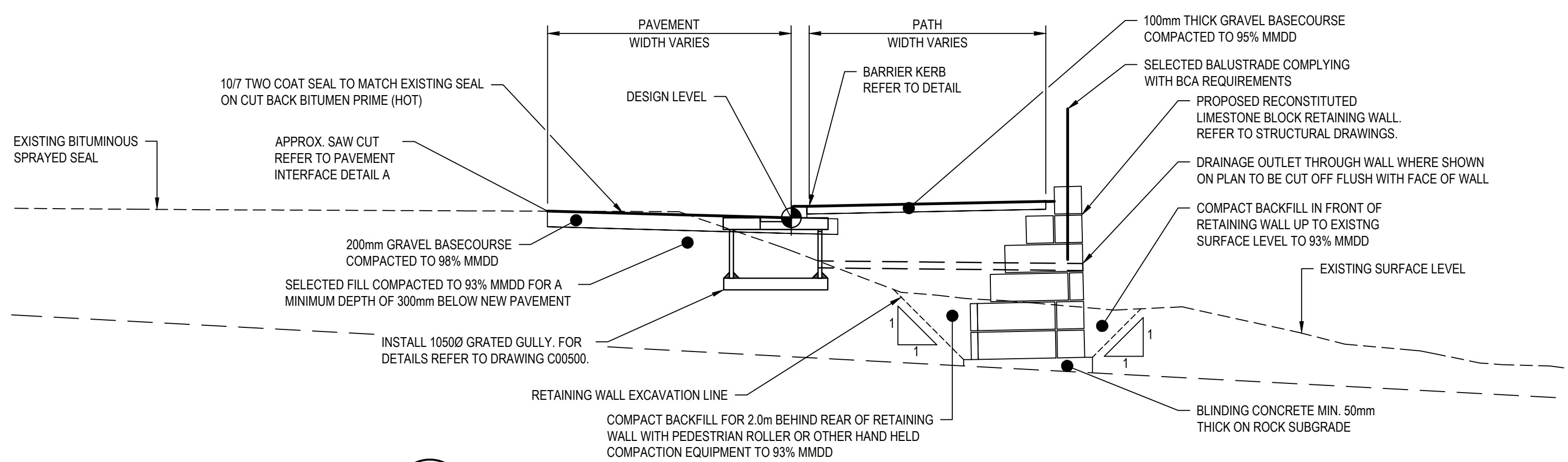
R THIS DRAWING INCLUDES COLOURED INFORMATION
G COLOURED INFORMATION
B COPIES OF THIS DRAWING MUST BE PRODUCED IN COLOUR

P04	FENCE AND BOLLARD NOTES UPDATED	SA	AK	20/02/24
P03	ISSUED FOR TENDER	SA	AK	08/02/24
P02	PRELIMINARY DESIGN	SA	AK	15/12/23
P01	CONCEPT DESIGN	AK	AK	13/07/23
Rev	Description	Checked	Approved	Date
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.DAVIES	Design Check	A.KRAUSE	

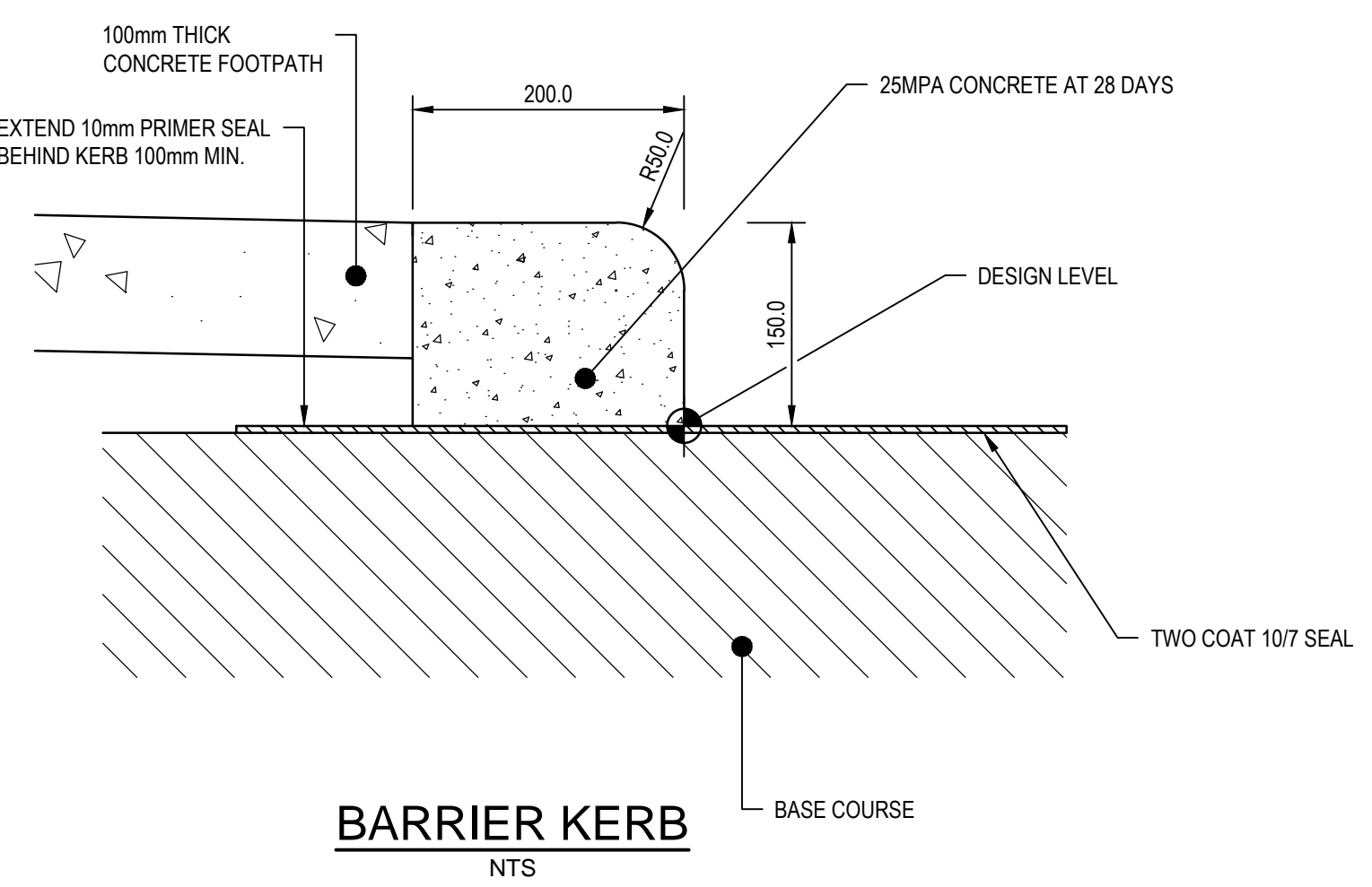
GHD
Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
PO Box 164 Geraldton WA 6531
T 61 8 9854 3677 F 61 8 9921 7997
E permail@ghd.com W www.ghd.com

Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

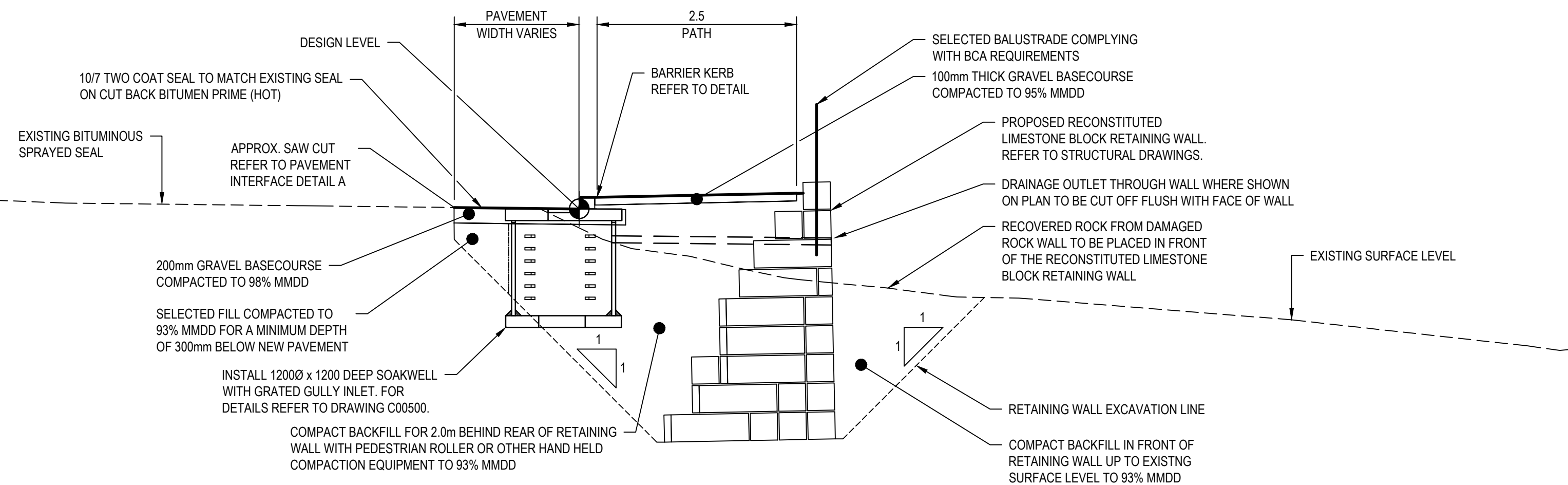
Drawing Title	GENERAL ARRANGEMENT PLAN
Project No.	12596020
Drawing No.	12596020-GHD-00-01-DRG-CI-00100
Rev	P04



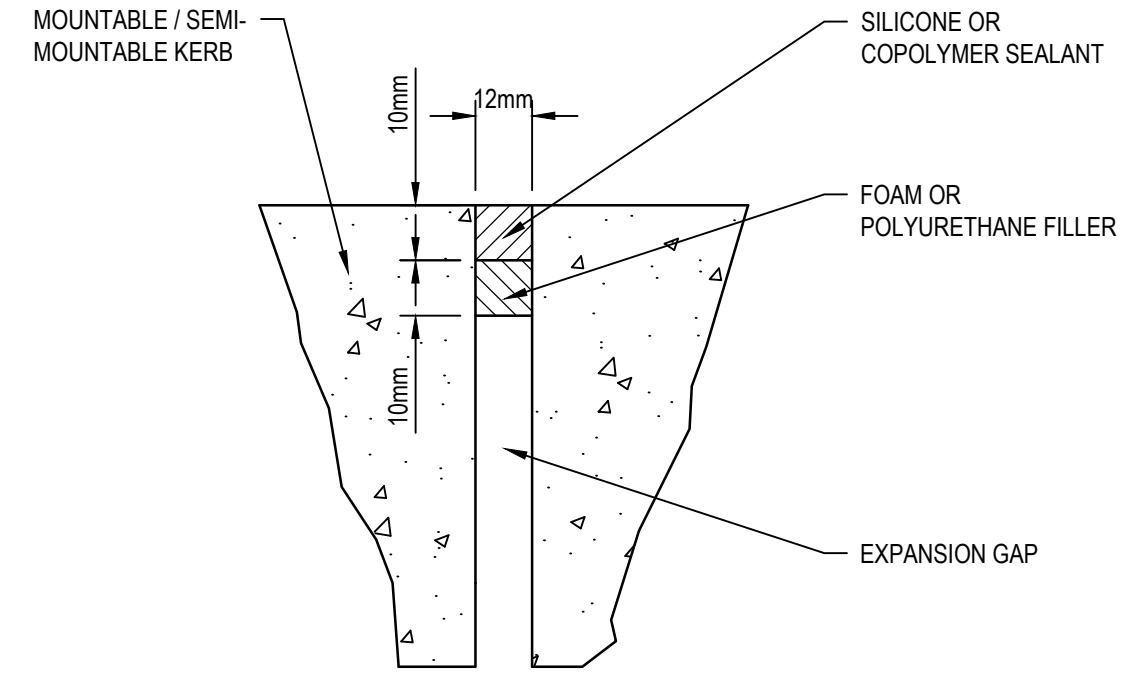
A SECTION
CI-00100 SCALE 1 : 50



BARRIER KERB
NTS



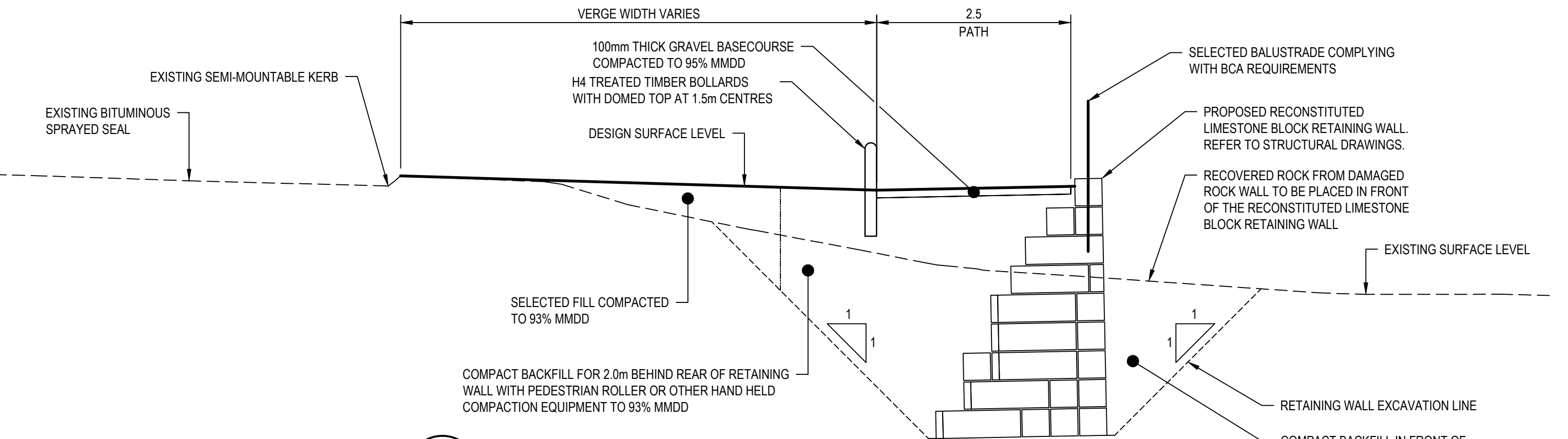
B SECTION
CI-00100 SCALE 1 : 50



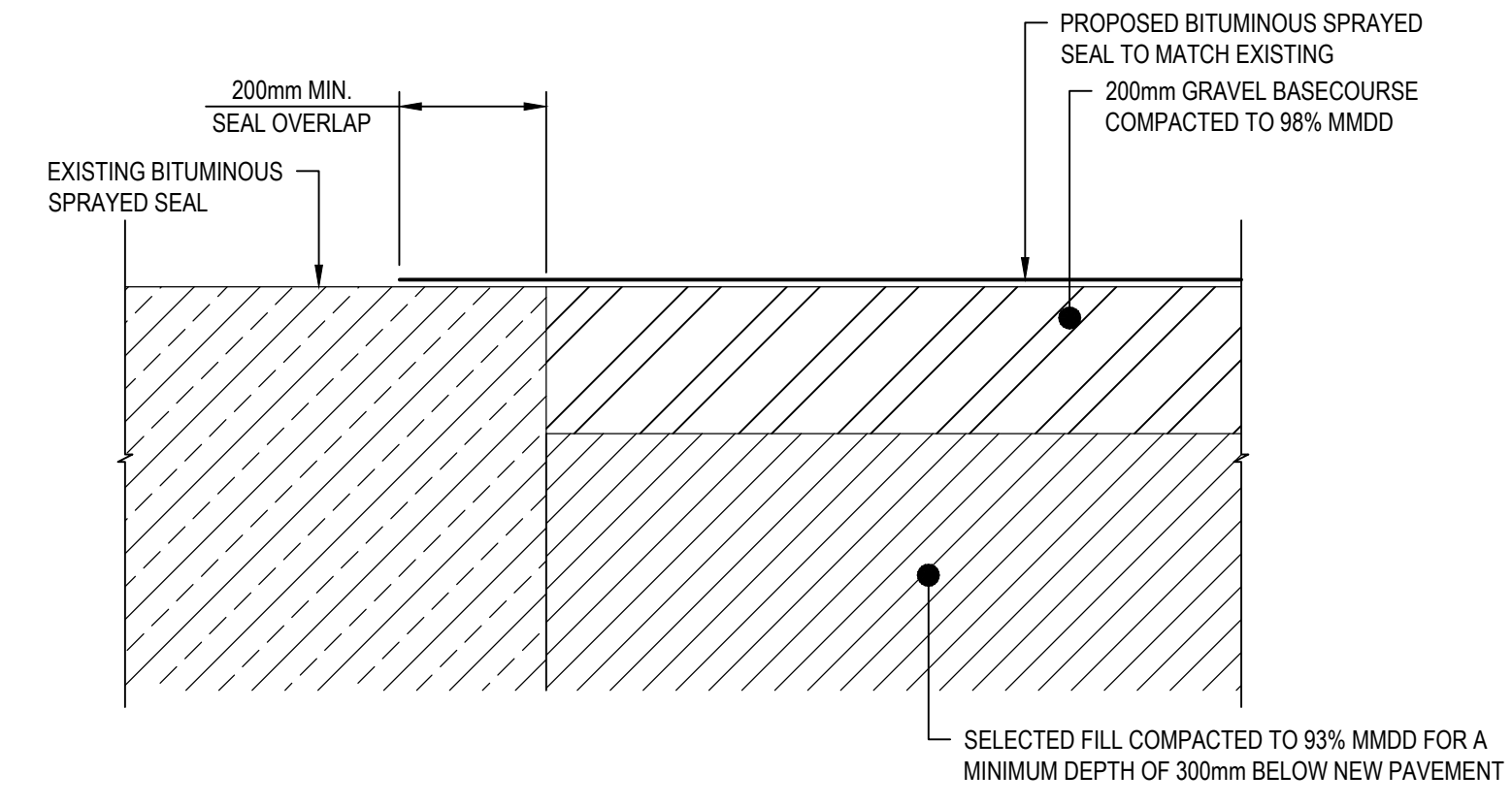
EXPANSION JOINT DETAIL
NTS

KERB NOTES:

1. CONCRETE STRENGTH TO BE IN ACCORDANCE WITH STANDARD SPECIFICATION.
2. EXPANSION JOINTS TO BE PLACED AT 50m INTERVALS
3. CONCRETE: REINFORCED FLUSH EDGE BEAM TO BE 25MPa AT 28 DAYS. OTHER KERB PROFILES TO BE IN ACCORDANCE WITH STANDARD SPECIFICATION.
4. NEW KERBING TO BE PROTECTED FROM TRAFFIC FOR A MINIMUM OF 7 DAYS AFTER INSTALLATION.



C SECTION
CI-00100 SCALE 1 : 50



PAVEMENT INTERFACE DETAIL A
SCALE 1:10



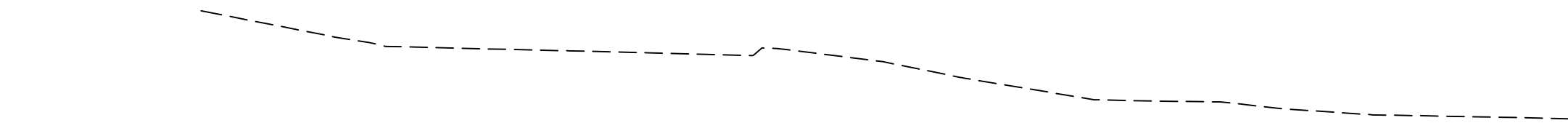
Rev	Description	Checked	Approved	Date
P03	SEAL TYPE MODIFIED	SA	AK	20/02/24
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23

Author: S.DAVIES Design Check: A.KRAUSE
Designer: S.DAVIES Design Check: A.KRAUSE



Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

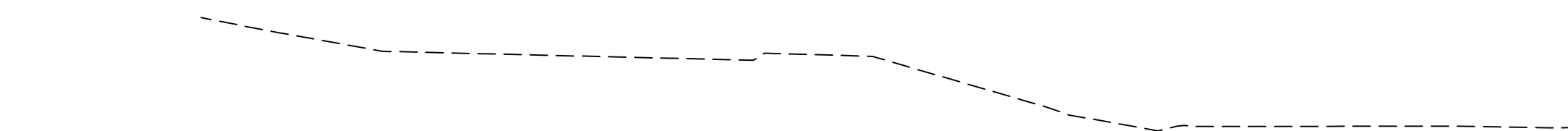
Drawing Title	TYPICAL ROAD CROSS SECTIONS AND DETAILS
Drawing No.	12596020-GHD-00-01-DRG-CI-00200
Rev	P03



DATUM: 0.000

DESIGN SURFACE LEVEL	
DEPTH CUT - / FILL +	
EXISTING SURFACE LEVEL	
OFFSET FROM CENTRELINE	

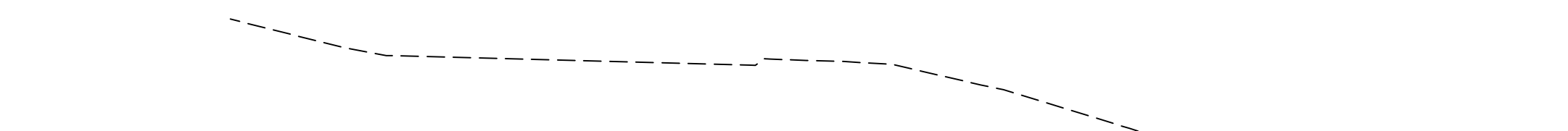
CH 20.000



DATUM: 0.000

DESIGN SURFACE LEVEL	
DEPTH CUT - / FILL +	
EXISTING SURFACE LEVEL	
OFFSET FROM CENTRELINE	

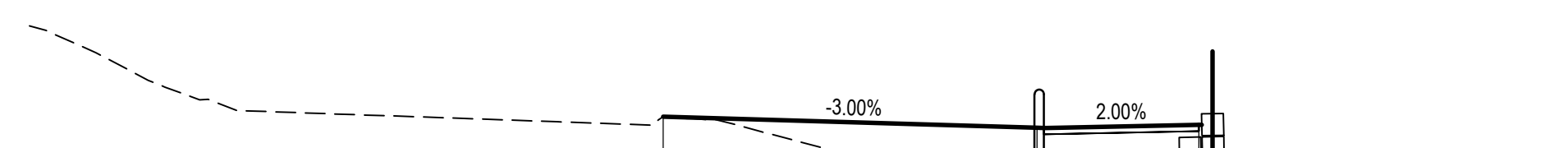
CH 10.000



DATUM: 0.000

DESIGN SURFACE LEVEL	
DEPTH CUT - / FILL +	
EXISTING SURFACE LEVEL	
OFFSET FROM CENTRELINE	

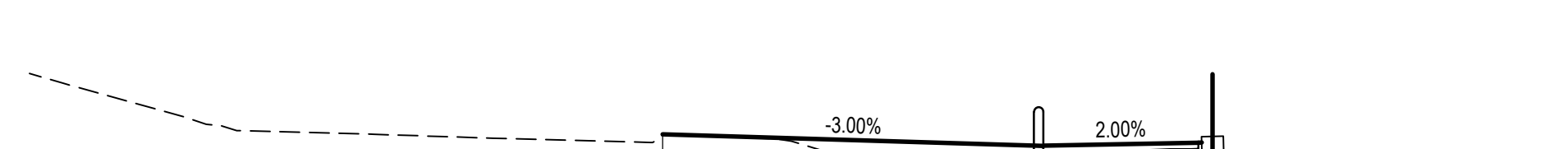
CH 00.000



DATUM: 0.000

DESIGN SURFACE LEVEL	3.860	3.679	3.726	2.438
DEPTH CUT - / FILL +	0.000	0.987	1.254	0.000
EXISTING SURFACE LEVEL	3.860	2.692	2.472	2.438
OFFSET FROM CENTRELINE	0.210	6.233	8.841	9.341

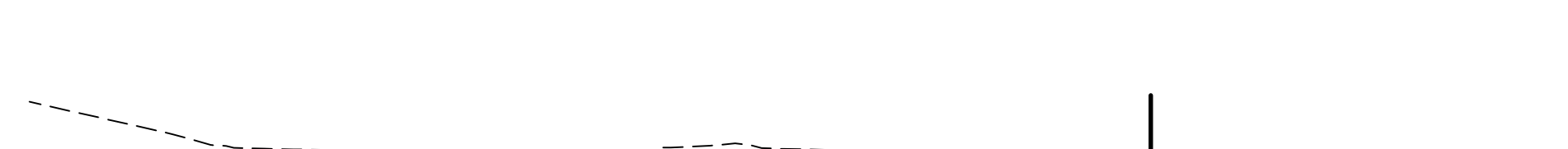
CH 50.000



DATUM: 0.000

DESIGN SURFACE LEVEL	4.141	3.957	4.007	2.822
DEPTH CUT - / FILL +	0.000	0.812	1.151	0.000
EXISTING SURFACE LEVEL	4.141	3.145	2.856	2.822
OFFSET FROM CENTRELINE	0.201	6.333	8.833	9.333

CH 40.000



DATUM: 0.000

DESIGN SURFACE LEVEL	4.420	4.270	3.795
DEPTH CUT - / FILL +	0.000	0.287	0.000
EXISTING SURFACE LEVEL	4.420	3.982	3.795
OFFSET FROM CENTRELINE	3.953	7.631	8.339

CH 30.000



P02 ISSUED FOR TENDER	SA	AK	08/02/24	
P01 PRELIMINARY DESIGN	SA	AK	15/12/23	
Rev	Description	Checked	Approved	Date
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.DAVIES	Design Check	A.KRAUSE	



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
 PO Box 164 Geraldton WA 6531
 T 61 8 9564 3677 F 61 8 9521 7997
 E permail@ghd.com W www.ghd.com



www.ghd.com

Project No.
12596020

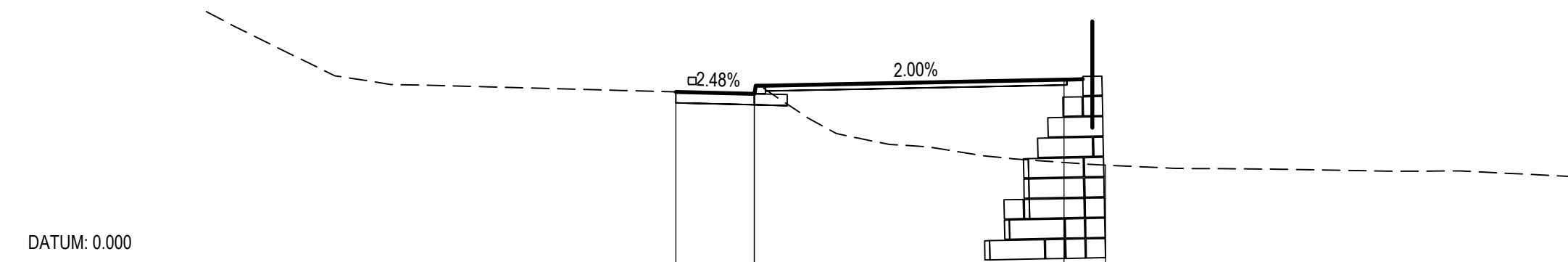
Client SHIRE OF NORTHAMPTON
 Project CHINAMAN'S BEACH, KALBARRI
 Status TENDER

Drawing Title KERB ALIGNMENT CROSS SECTIONS
 SHEET 1 OF 4

12596020-GHD-00-01-DRG-CI-00400

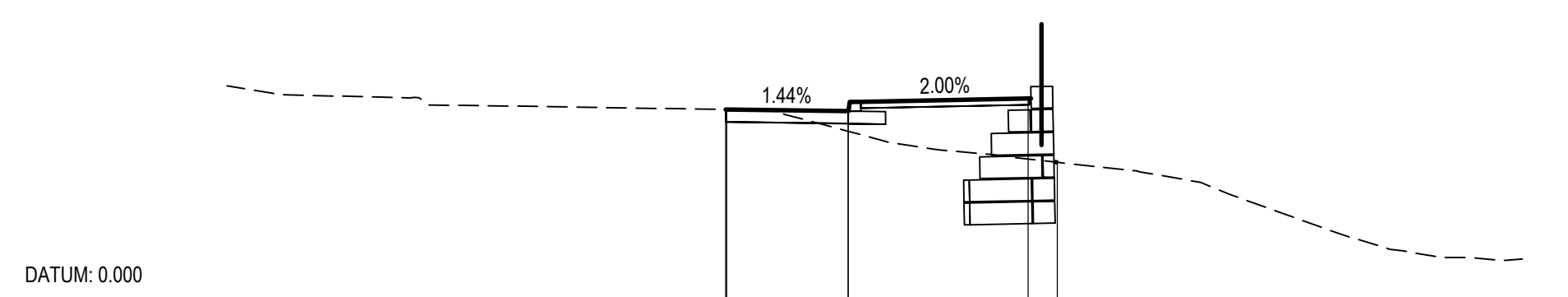
Size
A1

Rev
P02



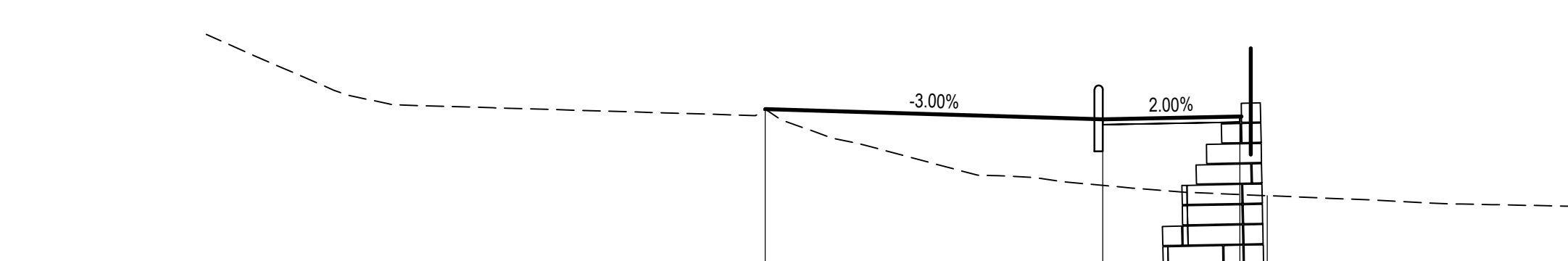
DESIGN SURFACE LEVEL	3.162	3.127	3.386	1.827
DEPTH CUT - / FILL +	0.000	-0.048	1.511	0.000
EXISTING SURFACE LEVEL	3.162	3.175	1.875	1.827
OFFSET FROM CENTRELINE	-1.430	0.000	5.851	6.410

CH 80.000



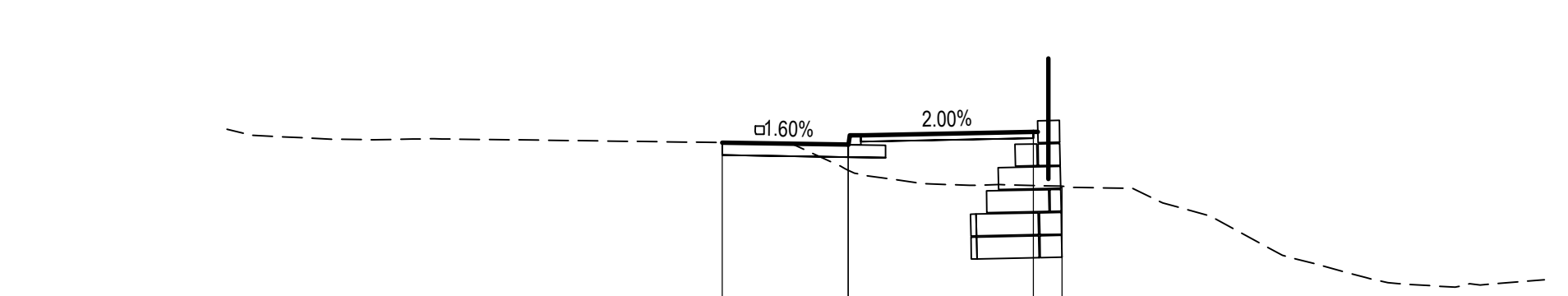
DESIGN SURFACE LEVEL	3.077	3.077	3.049	3.253	2.231
DEPTH CUT - / FILL +	0.000	0.000	0.323	0.973	0.004
EXISTING SURFACE LEVEL	3.077	3.077	2.726	2.280	2.227
OFFSET FROM CENTRELINE	-1.975	-1.955	0.000	2.893	3.362

CH 110.000



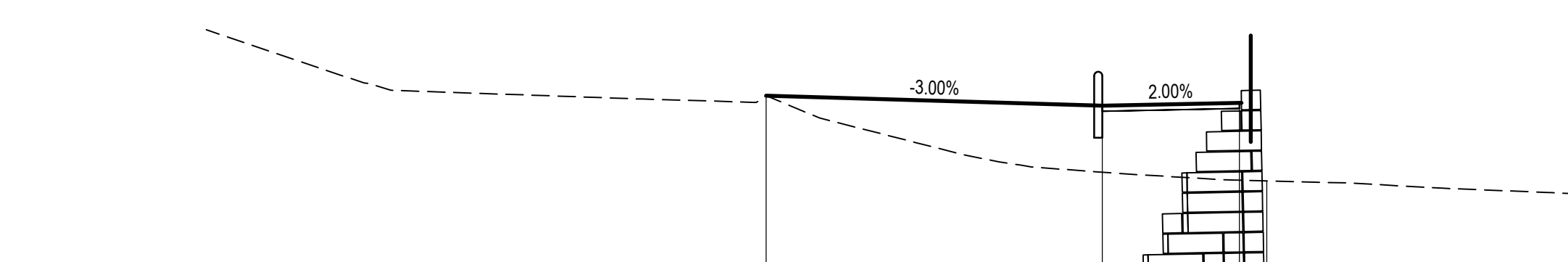
DESIGN SURFACE LEVEL	3.395	3.210	3.260	1.816
DEPTH CUT - / FILL +	0.000	1.207	1.423	0.000
EXISTING SURFACE LEVEL	3.395	2.004	1.837	1.816
OFFSET FROM CENTRELINE	0.197	6.357	8.857	9.357

CH 70.000



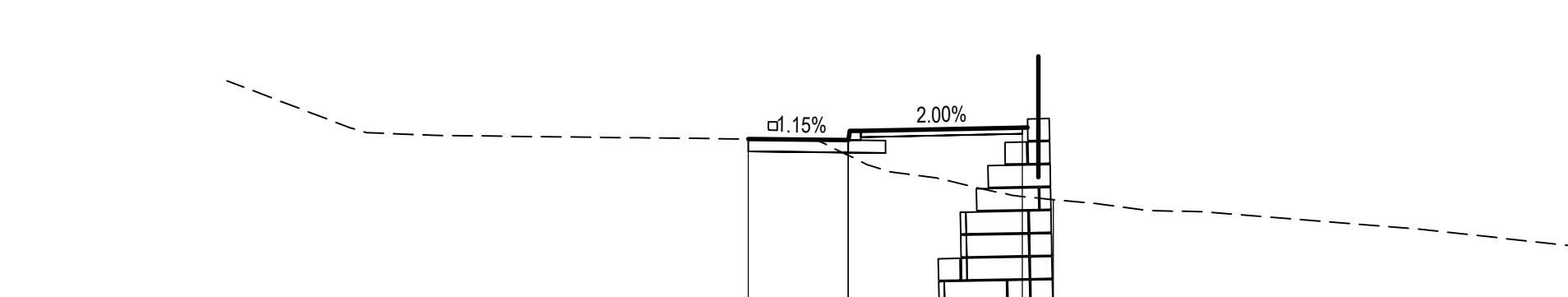
DESIGN SURFACE LEVEL	3.092	3.059	3.265	2.390
DEPTH CUT - / FILL +	0.000	0.412	0.863	0.000
EXISTING SURFACE LEVEL	3.092	2.648	2.402	2.390
OFFSET FROM CENTRELINE	-2.028	0.000	2.978	3.441

CH 100.000



DESIGN SURFACE LEVEL	3.612	3.428	3.478	2.059
DEPTH CUT - / FILL +	0.000	1.212	1.406	0.000
EXISTING SURFACE LEVEL	3.612	2.215	2.072	2.059
OFFSET FROM CENTRELINE	0.215	6.349	8.849	9.349

CH 60.000



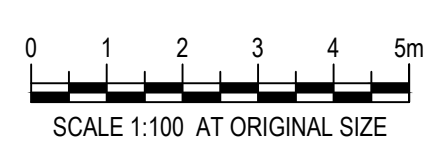
DESIGN SURFACE LEVEL	3.119	3.101	3.303	2.146
DEPTH CUT - / FILL +	0.000	0.244	1.107	0.000
EXISTING SURFACE LEVEL	3.119	2.857	2.196	2.146
OFFSET FROM CENTRELINE	-1.509	0.000	2.800	3.300

CH 90.000



Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23

Author: S.DAVIES Drafting Check: A.KRAUSE
 Designer: S.DAVIES Design Check: A.KRAUSE



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
 PO Box 164 Geraldton WA 6531
 T 81 939643677 F 81 939217997
 E permail@ghd.com W www.ghd.com

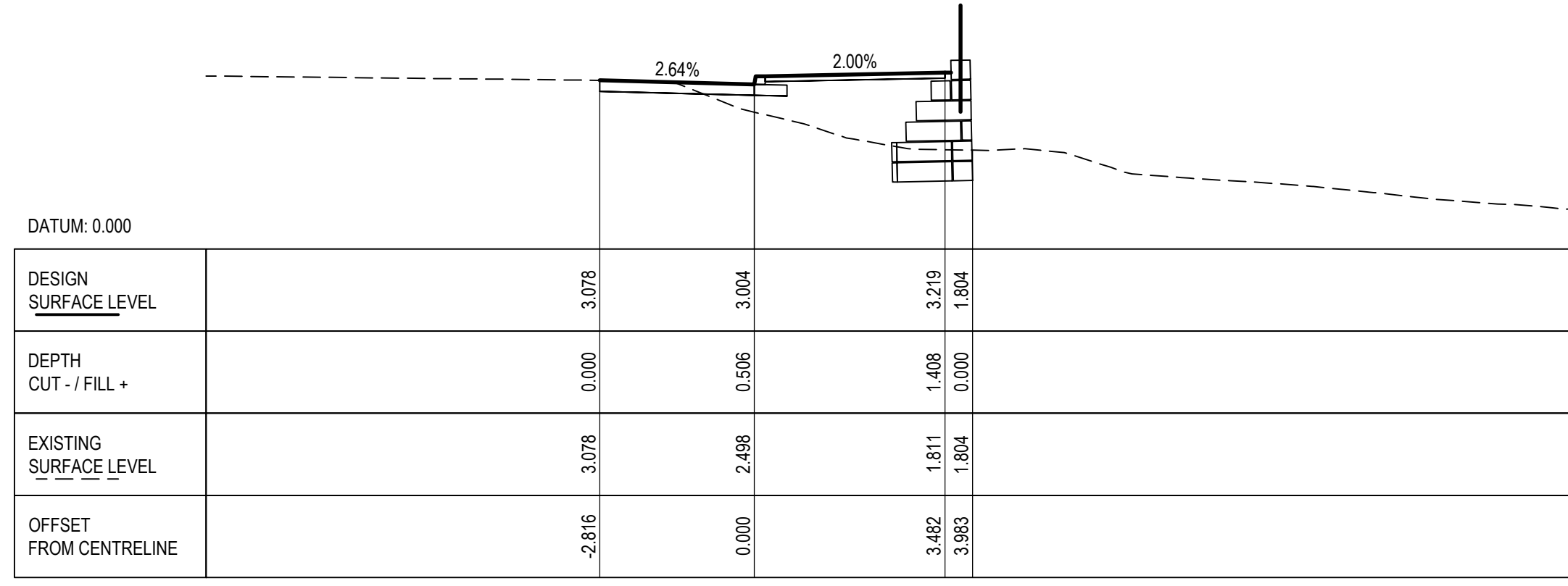
www.ghd.com

Project No. 12596020

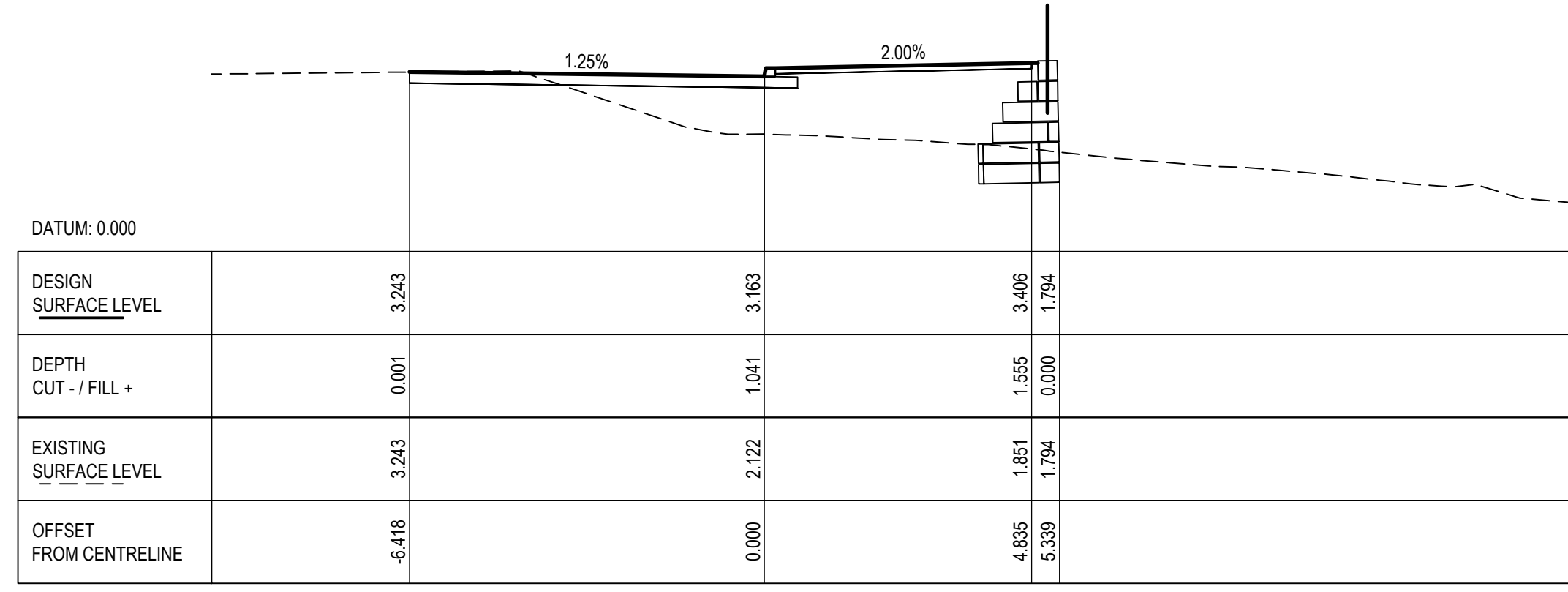
Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

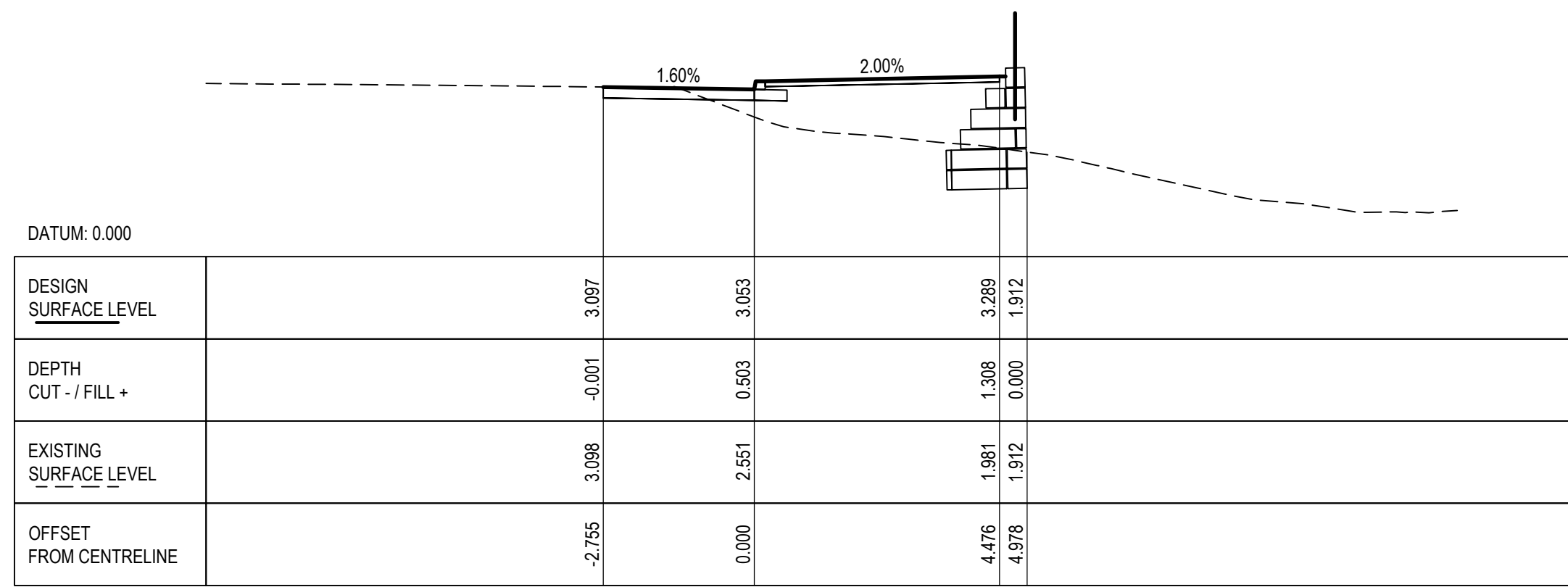
Drawing Title	KERB ALIGNMENT CROSS SECTIONS SHEET 2 OF 4	Size	A1
Drawing No.	12596020-GHD-00-01-DRG-CI-00401	Rev	P02



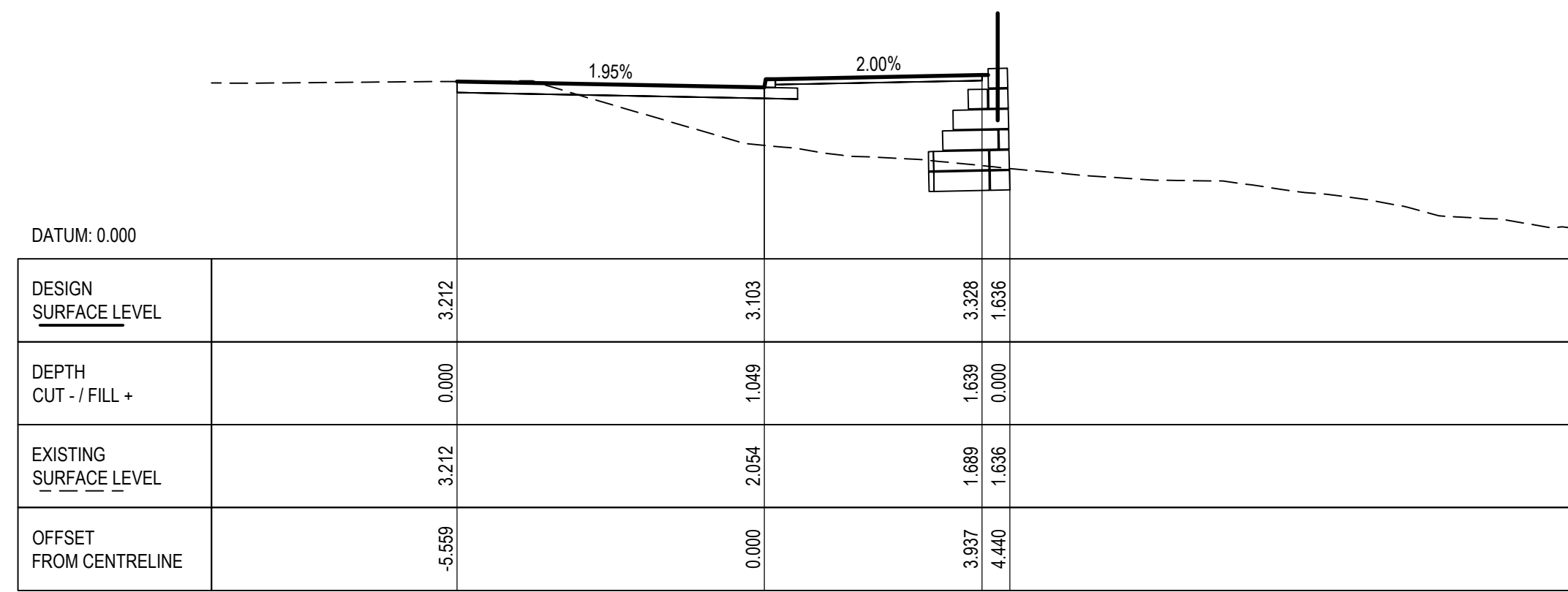
CH 140.000



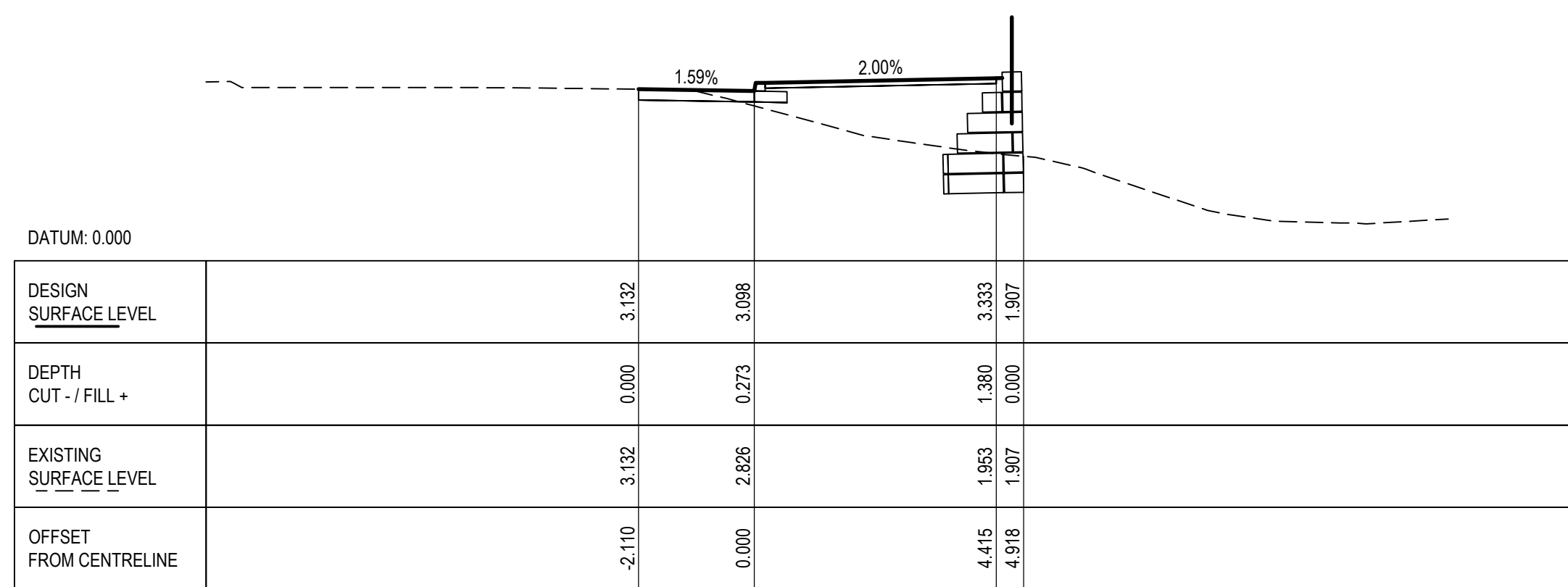
CH 170.000



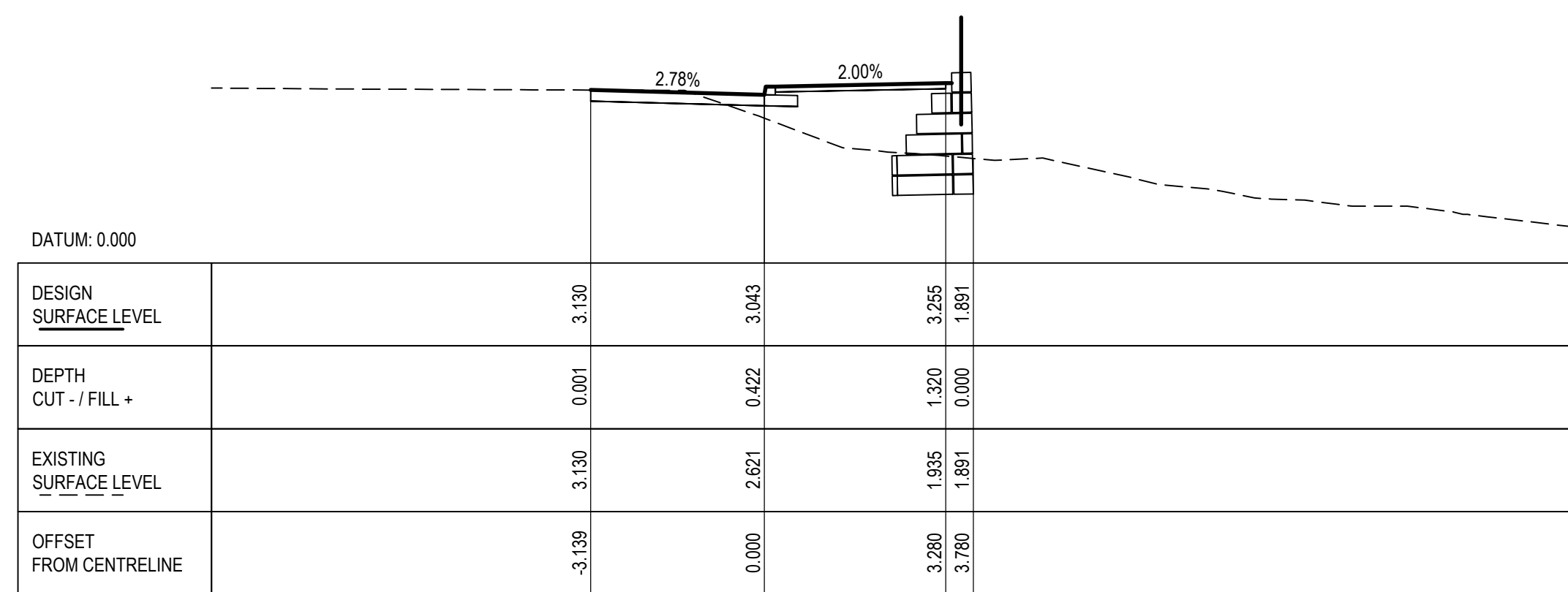
CH 130.000



CH 160.000



CH 120.000

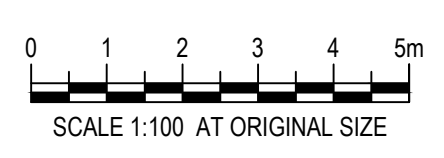


CH 150.000



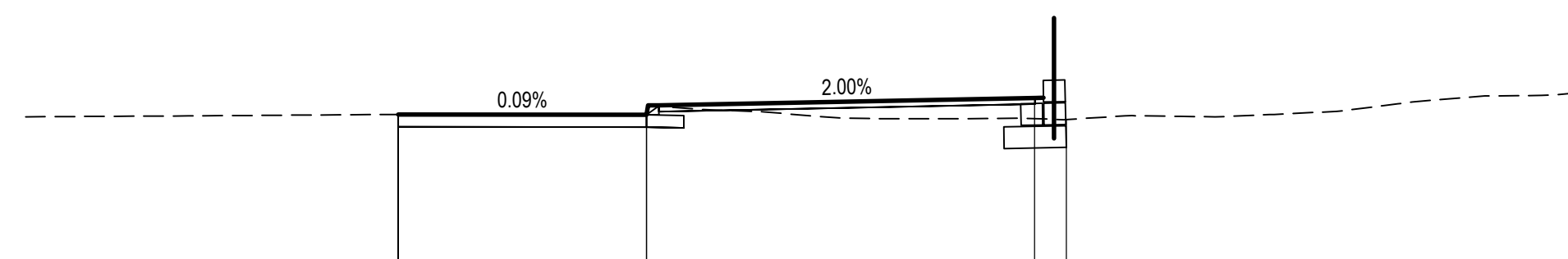
Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23

Author: S.DAVIES Drafting Check: A.KRAUSE
 Designer: S.DAVIES Design Check: A.KRAUSE



Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

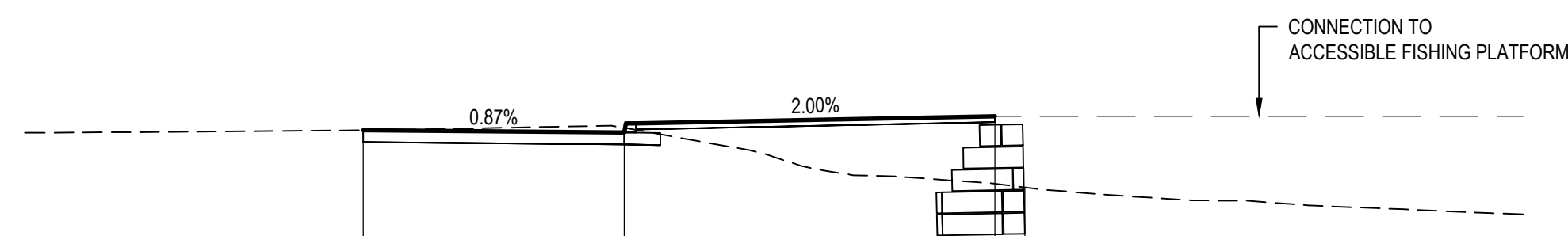
Drawing Title	KERB ALIGNMENT CROSS SECTIONS SHEET 3 OF 4
Drawing No.	12596020-GHD-00-01-DRG-CI-00402
Rev	P02



DATUM: 0.000

DESIGN SURFACE LEVEL		3.261	3.261	3.257	3.528	3.181
DEPTH CUT - / FILL +		0.000	0.000	0.000	0.334	0.000
EXISTING SURFACE LEVEL		3.261	3.261	3.257	3.194	3.181
OFFSET FROM CENTRELINE		-4.000	-3.997	0.000	6.254	6.763

CH 185.666



DATUM: 0.000

DESIGN SURFACE LEVEL		3.261	3.223	3.493	2.304
DEPTH CUT - / FILL +		0.000	-0.076	1.127	0.000
EXISTING SURFACE LEVEL		3.261	3.299	2.966	2.304
OFFSET FROM CENTRELINE		-4.357	0.000	6.183	6.684

CH 180.000



Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.DAVIES	Design Check	A.KRAUSE	



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
 PO Box 164 Geraldton WA 6531
 T 61 8 9524 3677 F 61 8 9521 7997
 E permail@ghd.com W www.ghd.com



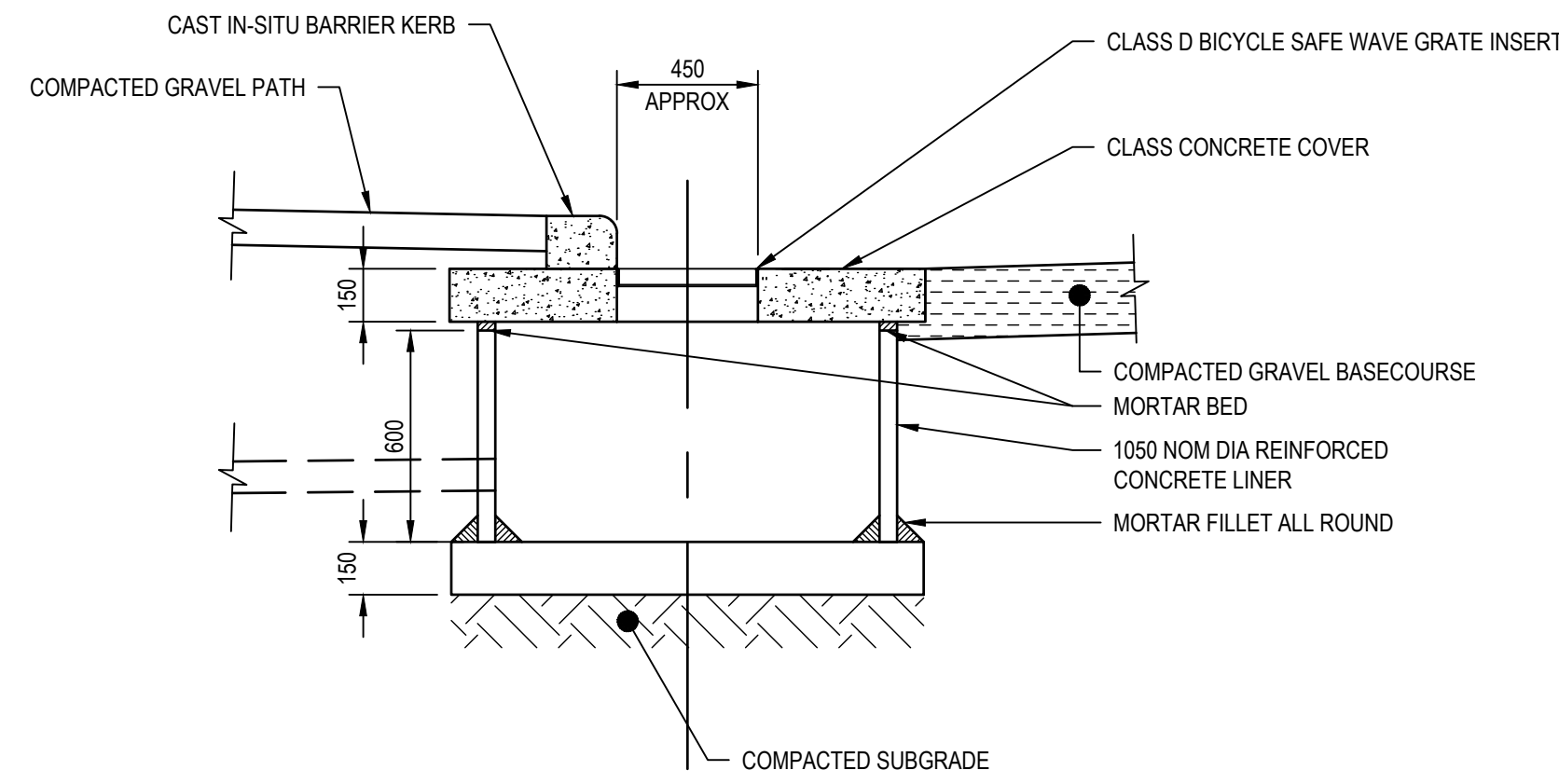
Project No.
12596020

Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

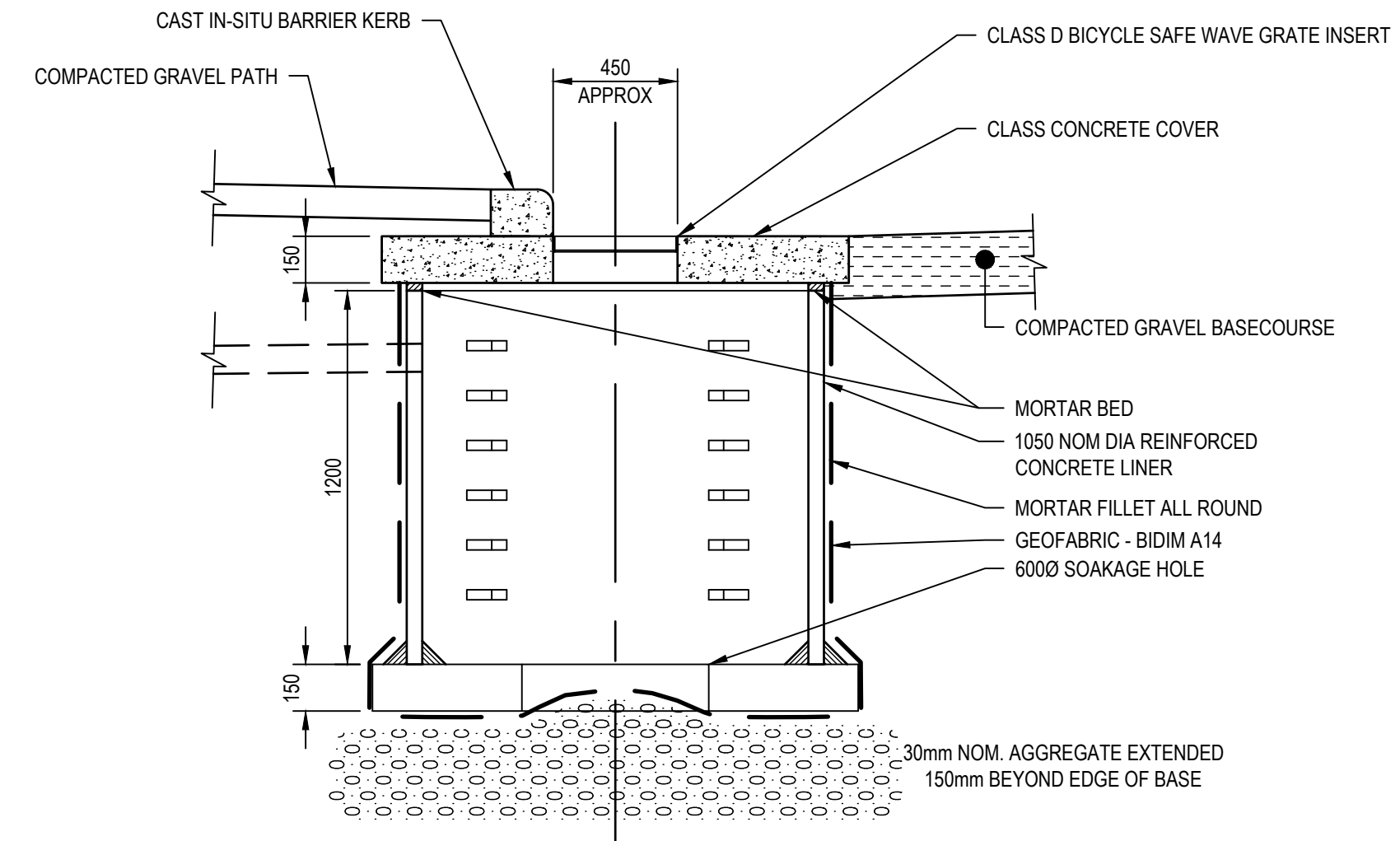
Drawing Title
KERB ALIGNMENT CROSS SECTIONS
SHEET 4 OF 4

Drawing No.
12596020-GHD-00-01-DRG-CI-00403

Size
A1
Rev
P02

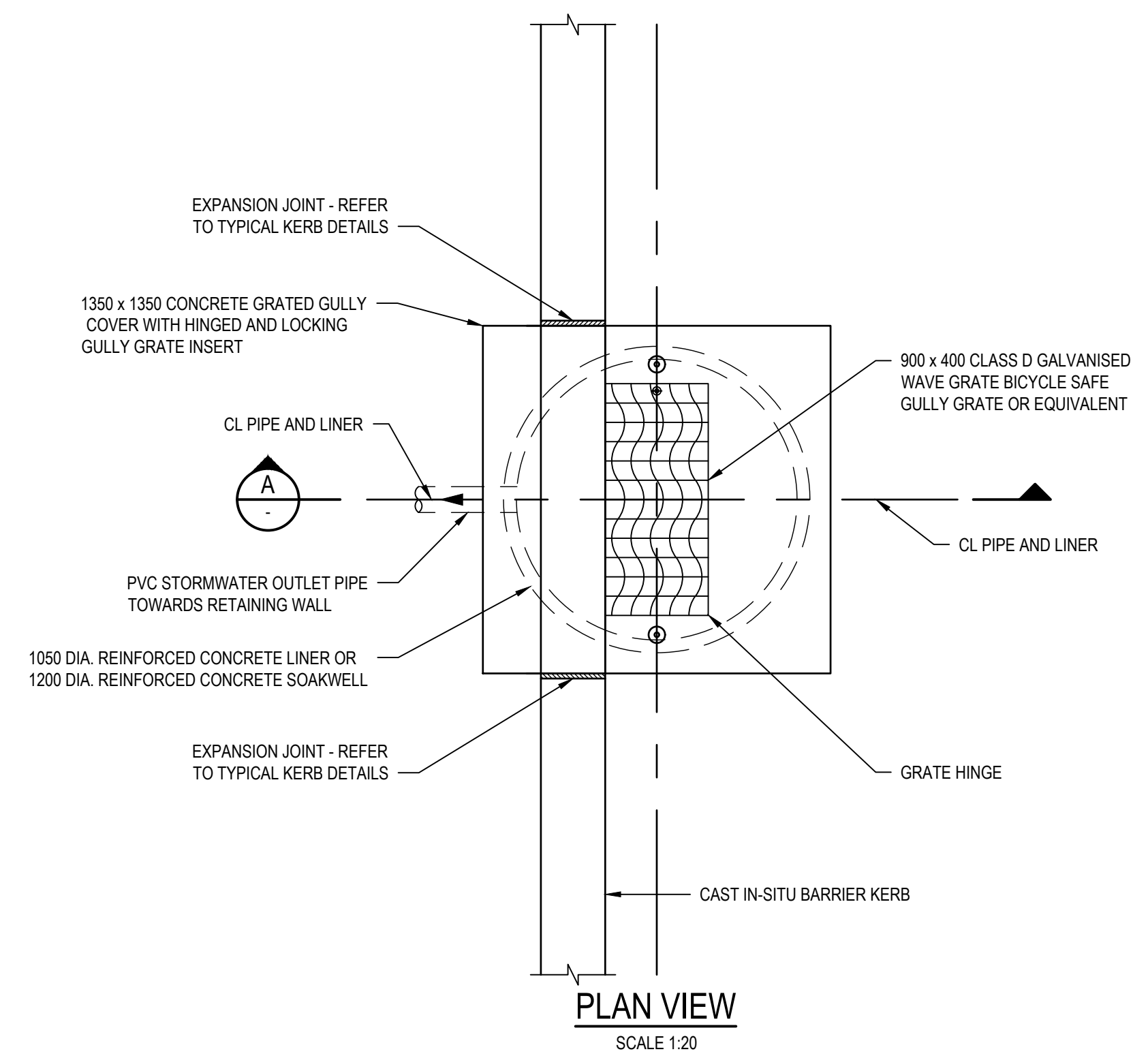


GRADED GULLY
SCALE 1:20

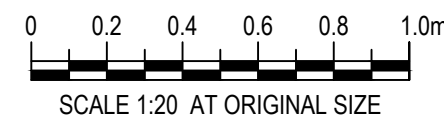


GRADED SOAKWELL
SCALE 1:20

A SECTION
SCALE 1:20



PLAN VIEW
SCALE 1:20



Rev	Description	Checked	Approved	Date
P01	ISSUED FOR TENDER	SA	AK	08/02/24
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.DAVIES	Design Check	A.KRAUSE	

GHD
Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
PO Box 164 Geraldton WA 6531
T 61 8 9564 3677 F 61 8 9921 7997
E permail@ghd.com W www.ghd.com



Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

Drawing Title	TYPICAL GRADED GULLY AND GRADED SOAKWELL DETAILS
Drawing No.	12596020-GHD-00-01-DRG-CI-00500

Size **A1**
Rev **P01**

GENERAL

- READ THESE NOTES IN CONJUNCTION WITH SPECIFICATIONS, AND WITH SUCH OTHER WRITTEN INSTRUCTIONS ISSUED IN CASE OF DISCREPANCY. PRECEDENCE IS GIVEN TO DRAWINGS, THEN NOTES, THEN SPECIFICATION
- CARRY OUT WORK IN A SAFE MANNER IN ACCORDANCE WITH APPLICABLE LEGISLATION, STATUTORY REGULATIONS, BY-LAWS OR RULES. CONTRACTOR IS RESPONSIBLE FOR OCCUPATIONAL HEALTH AND SAFETY OF SITE PERSONNEL AND GENERAL PUBLIC IN ACCORDANCE WITH ALL CURRENT WORK HEALTH AND SAFETY ACTS, LEGISLATIVE REQUIREMENTS, ASSOCIATED REGULATIONS AND CODES OF PRACTICE, INDUSTRIAL AGREEMENTS AND ACCEPTED INDUSTRY PRACTICE.
- REFER DISCREPANCIES TO SUPERINTENDENT BEFORE PROCEEDING WITH WORK.
- SUBMIT DETAILS OF PROPOSED CHANGES TO SCOPE, WORK METHODS OR MATERIALS ETC FOR APPROVAL BEFORE PROCEEDING. APPROVAL DOES NOT AUTHORISE A VARIATION TO THE CONTRACT
- CHECK STRUCTURAL DRAWINGS AGAINST ARCHITECTURAL, COASTAL, AND OTHER DRAWINGS FOR REQUIREMENTS FOR PENETRATIONS, PIPES, ETC.
- NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE, BUT INDICATES REQUIRED PROPERTIES OF ITEM. SIMILAR ALTERNATIVES HAVING REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. APPROVAL DOES NOT AUTHORISE A VARIATION TO THE CONTRACT. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- OBTAIN NECESSARY PERMITS AND APPROVALS FROM RELEVANT AUTHORITIES BEFORE COMMENCING WORK ON SITE. NOTIFY RELEVANT SERVICE AUTHORITIES BEFORE COMMENCING WORK ON SITE.
- GIVE TWO WORKING DAYS' (48 HOURS) NOTICE SO THAT INSPECTION MAY BE MADE OF CRITICAL STAGES OF WORK. INSPECTIONS MUST BE ALLOWED FOR AS PER THE SPECIFICATION
- INSPECTIONS AND REVIEWS UNDERTAKEN BY SUPERINTENDENT OR OTHERS DO NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH DRAWINGS AND SPECIFICATIONS.
- DO NOT OBTAIN DIMENSIONS BY SCALING FROM DRAWINGS.
- DIMENSIONS ARE IN MILLIMETRES, LEVELS ARE IN METRES UNO, CHAINAGES ARE IN METRES UNO.
- HAVE SURVEY AND SETTING OUT UNDERTAKEN BY A REGISTERED SURVEYOR.
- TAKE CARE OF HAZARDS ASSOCIATED WITH BURIED, CONCEALED OR OVERHEAD SERVICES. TAKE PRECAUTIONS AND UNDERTAKE EXPLORATION TO ESTABLISH LOCATION OF AND PROTECT EXISTING SERVICES AT SITE. SERVICES SHOWN ON DRAWINGS ARE IN APPROXIMATE LOCATIONS ONLY. SERVICES OTHER THAN THOSE SHOWN MAY EXIST ON SITE. MARK LOCATIONS OF SERVICES CLEARLY ON SITE, AND ON AS-BUILT DRAWINGS. HAND EXCAVATE WITHIN ONE METRE OF IN-GROUND SERVICES.
- DISPOSE OF SURPLUS MATERIAL OFF SITE IN ACCORDANCE WITH LOCAL AUTHORITY WASTE REGULATIONS
- IMPLEMENT SOIL AND WATER MANAGEMENT PROCEDURES TO AVOID EROSION, WIND BLOWN SAND, CONTAMINATION AND SEDIMENTATION OF SITE, SURROUNDING AREAS AND DRAINAGE SYSTEMS.
- WORKMANSHIP AND MATERIALS TO COMPLY WITH REQUIREMENTS OF AUSTRALIAN STANDARDS, NATIONAL CONSTRUCTION CODE (NCC) AND BY-LAWS AND ORDINANCES OF RELEVANT BUILDING AUTHORITIES. ALL STANDARDS REFERRED TO ARE THOSE CURRENT (AS AMENDED) AT COMMENCEMENT OF CONTRACT.
- OBTAIN REQUIREMENTS FOR SERVICES, ADJOINING ELEMENTS ETC TO BE EMBEDDED IN, FIXED TO OR SUPPORTED ON WORK AND PROVIDE FOR REQUIRED FIXINGS. PROVIDE FOR TEMPORARY SUPPORT OF ADJOINING ELEMENTS DURING CONSTRUCTION. DRAWINGS DO NOT SHOW DETAILS OF ALL REQUIRED FIXTURES, INSERTS, SLEEVES, RECESSES OR OPENINGS ETC.
- PROTECT EXISTING STRUCTURES FROM DAMAGE OR CRACKING. MAKE GOOD ANY DAMAGE TO EXISTING ELEMENTS AT COMPLETION OF WORKS OR AS DIRECTED BY SUPERINTENDENT.
- WHERE NEW WORK ABUTS EXISTING, PROVIDE SMOOTH TRANSITION FREE OF ABRUPT CHANGES.
- NEATLY CUT BACK CONCRETE TO BE REMOVED TO A CLEAN TRUE FACE USING A DIAMOND SAW.
- HAVE TESTING PERFORMED BY AN INDEPENDENT NATA (NATIONAL ASSOCIATION OF TESTING AUTHORITIES) ACCREDITED AUTHORITY, AND PROVIDE TEST REPORTS TO SUPERINTENDENT.
- SEPARATE METALS FROM INCOMPATIBLE MATERIALS (EG STAINLESS STEEL, GALVANIZED STEEL, UNGALVANIZED STEEL AND TREATED TIMBER ETC) BY CONCEALED LAYERS OF SUITABLE INERT MATERIALS OF SUITABLE THICKNESSES. USE PLASTIC SLEEVES AND WASHERS FOR BOLTS, ETC.
- EXTERNAL ELEMENTS ARE THOSE EXPOSED TO WEATHER, RAIN AND WATER PENETRATION IN FINAL WORKS.
- FOR EXTERNAL HORIZONTAL SURFACES, PROVIDE ADEQUATE GRADIENT TO DRAIN WATER
- SUPPLY RELEVANT NOTES, DRAWINGS AND SPECIFICATIONS ETC TO SUB-CONTRACTORS.
- UNO=UNLESS NOTED OTHERWISE, SLS=SERVICEABILITY LIMIT STATE, ULS=ULTIMATE LIMIT STATE, NSL=NATURAL SURFACE LEVEL, FSL=FINISHED SURFACE LEVEL.
- SUPERINTENDENT=SUPERINTENDENT NOMINATED IN CONTRACT.
- BUILD, FABRICATE AND PROCURE ONLY FROM DRAWINGS ISSUED FOR CONSTRUCTION.
- KEEP ON SITE A COMPLETE SET OF CONTRACT DOCUMENTS (INCLUDING DRAWINGS AND SPECIFICATIONS) AND SITE INSTRUCTIONS.

TEMPORARY WORKS

- THESE DRAWINGS DO NOT DETAIL TEMPORARY WORKS. CONSTRUCTION METHODS AND TEMPORARY WORKS ARE RESPONSIBILITY OF THE CONTRACTOR.
- PROVIDE SCAFFOLDING, BARRIERS, FALL RESTRAINT, HAND-MID RAILS AND TOE BOARDS FOR WORK AT HEIGHT. ERECT ACCESS STAIRS AT EARLIEST OPPORTUNITY TO REDUCE OPEN SHAFT HAZARDS AND FACILITATE ACCESS. MAINTAIN SAFETY MESH AND BARRIERS TO ALL OPENINGS AND ELEVATED EDGES
- MAINTAIN STRUCTURE IN A STABLE CONDITION DURING CONSTRUCTION AND PROVIDE TEMPORARY BRACING AND / OR SUPPORT AS REQUIRED. SHOW TEMPORARY MEMBERS ON SHOP DRAWINGS. PROVIDE SPREADERS AT LOADS AND / OR LIFTING POINTS WHERE REQUIRED. ENSURE NO PART IS OVERSTRESSED. DO NOT PLACE OR STORE BUILDING MATERIALS ON SUPPORT FORMWORK OR PROP FROM STRUCTURAL MEMBERS WITHOUT SUPERINTENDENT'S APPROVAL. PROVIDE CALCULATIONS BY SUITABLY QUALIFIED STRUCTURAL ENGINEER TO PROVE ADEQUACY OF STRUCTURE FOR PROPOSED CONSTRUCTION SEQUENCE, METHODS AND LOADS INCLUDING PROPPING, CRANE LIFTS ETC.
- PROVIDE TEMPORARY BRACING WHERE REQUIRED FOR STRUCTURAL ELEMENTS OR FRAMES STABILIZED BY MASONRY, PRECAST CONCRETE OR OTHER ELEMENTS CONSTRUCTED AFTER ERECTION OF THE STRUCTURAL ELEMENT OR FRAME, AND SHOW ON SHOP DRAWINGS.

DESIGN ASSUMPTIONS

- STRUCTURAL WORK HAS BEEN DESIGNED FOR FOLLOWING LOADS:
 - PERMANENT DEAD LOAD OF STRUCTURE AS SHOWN ON DRAWINGS
 - SURFACE LIVE LOADS: 2.5 KPA
 - SOIL DENSITY: 18 KN/M3
 - ACTIVE LATERAL EARTH PRESSURE COEFFICIENT: K_a = 0.33
 - HYDROSTATIC PRESSURE: GROUND WATER AT 0.8m AHD
 - BUILDING DESIGN WORKING LIFE: 50 YEARS
 - BUILDING IMPORTANCE LEVEL: 2

EARTHWORKS

- EARTHWORKS TO BE TO AS3798 AND AS2870.
- REMOVE TOPSOIL, MATERIAL CONTAINING GRASS ROOTS OR OTHER ORGANIC MATTER, RUBBLE AND / OR DEBRIS AND ALL UNSUITABLE MATERIAL BELOW FOUNDATIONS AND WHERE SHOWN ON DRAWINGS.
- DO NOT STOCKPILE MATERIAL AGAINST RETAINING WALLS, BUILDINGS, FENCES OR TREES ETC. DO NOT OBSTRUCT THE FREE FLOW OF WATER.
- PROVIDE TEMPORARY SUPPORT TO FACES OF EXCAVATIONS AS REQUIRED.
- HAVE SAFETY OF PROPOSED EXCAVATIONS INCLUDING ANY TEMPORARY WORKS ASSESSED BY SUITABLY QUALIFIED GEOTECHNICAL / STRUCTURAL ENGINEER
- GENERAL FILL TO BE WELL GRADED MATERIAL, INORGANIC, LESS THAN 0.5% SULPHUR, MAXIMUM PARTICLE SIZE 75 mm, PLASTICITY INDEX < 65%.
- SELECTED FILL MATERIAL SHALL BE SAND CUT FROM SITE. OTHERWISE IT MUST COMPLY WITH THE FOLLOWING:
 - INORGANIC, LESS THAN 0.5% SULPHUR
 - MAXIMUM PARTICLE SIZE 75 mm
 - PROPORTION PASSING 0.075 mm SIEVE: 25% MAXIMUM
 - PLASTICITY INDEX: >2%, <15%
 - PROPORTION EXCEEDING PARTICLE SIZE OF 50 mm: 75% MINIMUM
- PLACE FILL MATERIAL UNDER BUILDINGS AND OTHER FOOTINGS IN LAYERS NOT EXCEEDING 150 mm THICK AND COMPACT TO AT LEAST 95% MAXIMUM DRY DENSITY (STANDARD COMPACTION) TO AS1289.
- ADJUST MOISTURE CONTENT OF FILL AT TIME OF COMPACTION WITHIN THE RANGE OF 8-12% DETERMINED BY AS1289.2.1 TO ACHIEVE REQUIRED DENSITY
- SAMPLE AND TEST COMPACTION TO MINIMUM 95% MMD.

SLABS AND FOOTINGS

- SLAB PANELS TO BE FOUNDED ON NATURAL SOIL WITH A CALIFORNIA BEARING RATIO (CBR) OF NOT LESS THAN 10%. REMOVE SOFT SPOTS AND REPLACE WITH COMPACTED CRUSHED ROCK. WHERE SLAB PANELS AND INTERNAL BEAMS FOUNDED ON CONTROLLED FILL, CONTROLLED FILL MUST CONTINUE AT LEAST ONE METRE PAST BUILDING.

SLABS AND FOOTINGS CONTINUED

Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.AGHERDIEN	Design Check	P.TONKIN	

Plot Date: 8 February 2024 - 6:33 PM

Plotted by: Steven Davies

File Name: N:\AU\Perth\Projects\611\2596020\CADD\Drawings\01_Cinamans_Drive\12596020-GHD-00-01-DRG-ST-00001.dwg

CONCRETE

- WORKMANSHIP AND MATERIALS TO COMPLY WITH AS3600, AS3610, AS1379, AS1478, AS3582, AS3799, AS2758.1, AND AS3972. FOR LIQUID RETAINING STRUCTURES ALSO COMPLY WITH AS3735.
- WET CONCRETE TO BE UNIFORM DENSE, HOMOGENEOUS, COHESIVE AND ABLE TO WORK READILY INTO CORNERS AND AROUND REINFORCEMENT COMPLETELY FILLING FORMWORK WITHOUT SEGREGATION OF AGGREGATES AND / OR FIBRES, EXCESS FREE WATER ON SURFACE, LOSS OF MATERIAL, CONTAMINATION OR OTHER VISIBLE DEFECTS.
- CONCRETE TO HAVE GOOD DIMENSIONAL STABILITY AND ABLE TO RESIST PLASTIC SETTLEMENT CRACKING, THERMAL CRACKING AND SHRINKAGE CRACKING.
- FINISHED CONCRETE TO BE A DURABLE, DENSE, HOMOGENEOUS MASS COMPLETELY FILLING FORMWORK, EMBEDDING FIBRES, REINFORCEMENT AND TENDONS, AND FREE OF STONE POCKETS OR HONEYCOMBS, OF UNIFORM COLOUR AND TEXTURE, WITH LOW PERMEABILITY AND ADEQUATE BUT NOT EXCESSIVE STRENGTH FOR GRADE.
- CONCRETE BLEED TO BE LESS THAN 3% FOR FLOOR SLABS.
- AIR ENTRAINMENT IS NOT PERMITTED.
- REVIEW LOCATION OF EMBEDDED ITEMS TO MINIMIZE POSSIBLE ZONES OF POOR COMPACTION THAT MAY COMPROMISE STRUCTURAL INTEGRITY.
- QUALITY OF CONCRETE ELEMENTS TO BE N50, MAX. 100mm SLUMP, MAX. 20mm AGGREGATE.
- SUPPLEMENTARY CEMENTITIOUS MATERIALS INCLUDE AMORPHOUS SILICA FUME, FLY ASH, AND GROUND GRANULATED BLAST FURNACE SLAG (GGBFs OR SLAG) COMPLYING WITH AS3582.
- RHEOLOGY, WORKABILITY AND SLUMP TO BE AS REQUIRED FOR PLACEMENT (EG PUMPING, CHUTE, SPRAYING ETC), COMPACTION AND FINISHING. USE SUPERPLASTICISERS AND HIGH RANGE WATER REDUCERS TO AS1478 TO ACHIEVE ADEQUATE WORKABILITY. DO NOT ADD WATER.
- MAXIMUM ACID SOLUBLE CHLORIDE ION CONTENT OF CONCRETE IS 4 KG/M3. DO NOT USE STRONGLY IONIZED SALTS
- MAXIMUM SULPHATE CONTENT OF CONCRETE TO BE LESS THAN 5% BY MASS OF ACID SOLUBLE SO3 AS A PERCENTAGE OF CEMENTITIOUS MATERIAL.
- TOTAL REACTIVE ALKALI CONTENT IN CONCRETE TO BE LESS THAN 2.8 KG/M3 NA2O (EQUIVALENT).
- USE CEMENTITIOUS MATERIALS LESS THAN SIX MONTHS OLD. USE BAGGED CEMENT IN ORDER OF RECEIPT.
- FOR GENERAL BLENDED CEMENT (GB) CONTAINING ORDINARY PORTLAND CEMENT PLUS AT LEAST 5% SUPPLEMENTARY CEMENTITIOUS MATERIALS:
 - SILICA FUME TO BE LESS THAN 10%, OR
 - FLYASH TO BE LESS THAN 25%, OR
 - GROUND GRANULATED BLAST FURNACE SLAG TO BE LESS THAN 40%.
- FOR DOUBLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN SMALLER OF PERCENTAGES GIVEN ABOVE FOR CONSTITUENTS INCLUDED.
- FOR TRIPLE BLENDED CEMENT TOTAL SUPPLEMENTARY CEMENTITIOUS MATERIAL MUST BE LESS THAN 40%.
- TEST FINE AND COARSE AGGREGATES FOR POTENTIAL AGGREGATE ALKALI REACTIVITY (AAR) USING CSIRO ACCELERATED MORTAR BAR TEST (REFER SAA HANDBOOK HB-69 APPENDIX B3.2). ALTERNATIVELY USE ASTM C1293 CONCRETE PRISM TEST. PETROGRAPHIC TESTING CAN PROVIDE ADDITIONAL AGGREGATE AAR RISK INFORMATION. TESTS MUST USE SAME CEMENT TYPE AS PROPOSED IN THE WORKS.
- SUPPLEMENTARY CEMENTITIOUS MATERIALS SPECIFIED IN NOTE 9 ARE IN ADDITION TO MATERIALS INCORPORATED IN GB CEMENT.
- ADMIXTURES TO COMPLY WITH AS1478. ADMIXTURES MUST NOT REDUCE STRENGTH OF CONCRETE BELOW SPECIFIED VALUE IN SHORT OR LONG TERM. ADMIXTURES MUST NOT CONTAIN CALCIUM CHLORIDE. USE ADMIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONCRETE ADMIXTURES SHALL NOT CAUSE OR ACCELERATE CORROSION OF REINFORCEMENT, NOR BE DETRIMENTAL TO CONCRETE OR STEEL DURING EXPECTED LIFE OF STRUCTURE. DO NOT USE CHEMICAL ADMIXTURES OR OTHER MATERIALS WITHOUT SUPERINTENDENT'S WRITTEN APPROVAL.
- DO NOT ADD WATER TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT.
- MIX CONCRETE TO ENSURE UNIFORM DISTRIBUTION OF CONSTITUENTS.

CONCRETE TESTING

- TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED BEFORE PLACING CONCRETE FROM THAT DELIVERY. SLUMP MEASURED TO BE NO GREATER THAN TARGET SLUMP WITHIN TOLERANCES GIVEN IN AS1379 CLAUSE 5.2.3. CONCRETE OUTSIDE SLUMP TOLERANCE LIMITS IS LIABLE TO REJECTION.
- CARRY OUT PROJECT ASSESSMENT OF CONCRETE TO AS1379 CLAUSE 6.4 AND 6.5. TAKE SAMPLES AT PROJECT SITE AT POINT OF DISCHARGE FROM AGITATOR. SPREAD SAMPLING EVENLY THROUGH POUR. SAMPLE CONCRETE FOR PROJECT ASSESSMENT CONCURRENTLY WITH EACH SAMPLE TAKEN FOR PRODUCTION ASSESSMENT AT PROJECT SITE. FOR EACH CONCRETE DESIGN MIX TAKE ONE SAMPLE FROM EACH 25 M3 OF CONCRETE DELIVERED PER DAY, NOT LESS THAN FIVE SAMPLES TOTAL FOR EACH MIX DESIGN. EACH SAMPLE TO COMPRISE FOUR CYLINDERS: TEST TWO AT 7 DAYS AND TWO AT 28 DAYS. NOTIFY SUPERINTENDENT WITHIN 2 WORKING DAYS IF 7-DAY CONCRETE TEST RESULTS INDICATE 28 DAY STRENGTHS ARE LIKELY TO BE BELOW SPECIFIED STRENGTH.
- CONCRETE SAMPLING AND TESTING TO BE BY AN APPROVED INDEPENDENT NATA REGISTERED LABORATORY.

FORMWORK

- RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH CONTRACTOR
- DO NOT SUPPORT OR RESTRAIN FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENT'S WRITTEN APPROVAL.
- CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 17.6 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED.
- PROVIDE OPENINGS OR REMOVABLE PANELS IN FORMWORK FOR INSPECTION AND CLEANING.
- APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OF FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AN APPLIED FINISH OR COATING FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT.
- SEAL JOINTS BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH A FLEXIBLE RUBBER STRIP. SET OUT FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINTS, BOLT HOLES AND SIMILAR VISIBLE ELEMENTS IN FORMED SURFACE.
- DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS. DO NOT USE REINFORCEMENT TO SUPPORT FORMWORK
- PROVIDE HOLES IN REBATE FORMERS, ETC, AS REQUIRED TO PREVENT AIR ENTRAINMENT.
- CARDBOARD VOID FORMER: USE VOID FORMER THAT WILL NOT DEFLECT DURING CONCRETE PLACING AND COMPACTION OR DURING SETTING PERIOD, BUT WILL COLLAPSE RESULTING IN LOSS OF LOAD CARRYING CAPACITY NOT MORE THAN 48 HOURS AFTER FLOODING WITH WATER. KEEP VOID FORMERS DRY UNTIL CONCRETE IS PLACED.
- DO NOT STRIP FORMWORK PRIOR TO 36 HOURS AFTER PLACEMENT.
- DO NOT STRIP FORMWORK UNTIL CONCRETE IS HARDENED SUFFICIENTLY TO WITHSTAND MOVEMENT AND FORM REMOVAL WITHOUT DAMAGE. MINIMUM STRIPPING TIMES TO BE AS PER AS3610 TABLE 5.4.1.
- STRIP FORMWORK TO AS3600 CLAUSE 17.6. REMOVE FORM THE BOLTS WITHOUT DAMAGING CONCRETE. PARTS OF BOLTS LEFT IN CONCRETE MUST NOT INTRUDE INTO COVER CONCRETE. FLUSH FILL HOLES USING PRE-MIXED NON-SHRINK CEMENTITIOUS APPROVED REPAIR MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY AND ADEQUATE BOND. SUBMIT DETAILS OF PROPOSED REPAIR METHODS TO SUPERINTENDENT FOR APPROVAL.

PLACING OF CONCRETE

- CONSTRUCTION TOLERANCES TO BE TO AS3610.
- FORMWORK, REINFORCEMENT AND COVER, DOWELS, WATERSTOPS, CAST-IN ITEMS ETC TO BE INSPECTED AND APPROVED BY SUITABLY QUALIFIED GEOTECHNICAL ENGINEER / SUPERINTENDENT / BUILDING SURVEYOR BEFORE CONCRETE IS PLACED.
- REMOVE FREE WATER, DUST AND DEBRIS, STAINS ETC FROM FORMS, EXCAVATIONS ETC BEFORE PLACING CONCRETE. IN HOT CONDITIONS DAMPEN FORMWORK AND / OR SUB-GRADE BEFORE PLACING CONCRETE
- INSTALL 0.2 mm HIGH IMPACT RESISTANT VIRGIN POLYETHYLENE FILM DAMP PROOF MEMBRANE TO AS2870 TO BASE TO RETAIN WATER IN FRESH CONCRETE.

PLACING OF CONCRETE CONTINUED

- ELAPSED TIME BETWEEN WETTING OF MIX AND DISCHARGE OF CONCRETE AT SITE MUST BE AS SHORT AS POSSIBLE, AND MUST NOT EXCEED LIMITS GIVEN WITHOUT SUPERINTENDENT'S PRIOR WRITTEN CONSENT.

CONCRETE TEMPERATURE AT TIME OF DISCHARGE (°C)	MAXIMUM ELAPSED TIME (HOURS)
10-24	2.00
24-27	1.50
27-30	1.00
30-32	0.75
- ELAPSED TIME LIMITS MAY BE VARIED IF TRIALS DEMONSTRATE USE OF SET RETARDERS (TYPE RE OR WRRE TO AS1478) PROVIDE ADEQUATE RETENTION OF WORKABILITY FOR LONGER PERIODS AT REQUIRED TEMPERATURE. SLUMP LIMITS STILL APPLY. RE-TEMPERING BEYOND MAXIMUM ALLOWED DISCHARGE TIME USING WATER OR ADMIXTURES IS NOT ALLOWED.
- USE PLACEMENT METHODS THAT WILL MINIMISE PLASTIC SETTLEMENT AND SHRINKAGE CRACKING. LIMIT VERTICAL FREE FALL BY USE OF CHUTES, ETC. KEEP CHUTES VERTICAL, FULL AND IMMERSED IN CONCRETE. PLACE CONCRETE IN LAYERS AND BLEND SUCCEEDING LAYERS BY COMPACTION. MAINTAIN CONCRETE EDGE IN A PLASTIC STATE. PROPERLY COMPACT CONCRETE USING MECHANICAL VIBRATORS (AND HAND METHODS IF REQUIRED AND APPROVED BY SUPERINTENDENT) TO REMOVE AIR BUBBLES AND GIVE MAXIMUM COMPACTION WITHOUT SEGREGATION OF CONCRETE. TAKE CARE TO AVOID CONTACT BETWEEN VIBRATORS AND PARTIALLY HARDENED CONCRETE, FORMWORK OR REINFORCEMENT. DO NOT USE VIBRATORS TO MOVE CONCRETE ALONG FORMS.
- DO NOT DISTURB CONCRETE ONCE INITIAL SET HAS OCCURRED.
- KEEP ON SITE A LOG BOOK RECORDING EACH PLACEMENT OF CONCRETE INCLUDING DATE, CLIMATIC CONDITIONS, PORTION OF WORK, SPECIFIED GRADE AND SOURCE OF CONCRETE, DELIVERY DOCKET DATA, METHODS OF PLACEMENT AND COMPACTION, PROJECT ASSESSMENT CARRIED OUT, SLUMP MEASUREMENTS, VOLUME AND OTHER NOTABLE MATTERS THAT MAY AFFECT PERFORMANCE OF CONCRETE.
- IN COLD WEATHER MAINTAIN TEMPERATURE OF FRESHLY MIXED CONCRETE WITHIN LIMITS SHOWN BELOW. "OUTDOOR" AIR TEMPERATURE IS AIR TEMPERATURE AT TIME OF MIXING, OR PREDICTED OR LIKELY AIR TEMPERATURE DURING NEXT 48 HOURS. BEFORE AND WHILE PLACING CONCRETE MAINTAIN TEMPERATURE OF FORMWORK AND REINFORCEMENT AT > 5C. DO NOT USE CALCIUM CHLORIDE TO ACCELERATE SETTING TIME. DO NOT USE SALTS, CHEMICALS OR OTHER MATERIAL IN MIX TO LOWER THE FREEZING POINT OF CONCRETE. DO NOT ALLOW FROZEN MATERIALS TO ENTER MIXER. EVALUATE THE NEED FOR INSULATION OF CONCRETE SURFACES. DO NOT USE HIGH ALUMINA CEMENT.
- KEEP FORMS, MATERIALS, EQUIPMENT IN CONTACT WITH CONCRETE FREE OF FROST AND ICE. HEAT CONCRETE MATERIALS (OTHER THAN CEMENT) TO MINIMUM TEMPERATURE NECESSARY TO ENSURE TEMPERATURE OF PLACED CONCRETE IS WITHIN LIMITS SPECIFIED. MAXIMUM WATER TEMPERATURE: 60C WHEN PLACED IN MIXER.
- IN HOT WEATHER PREVENT PREMATURE STIFFENING OF FRESH CONCRETE; REDUCE WATER ABSORPTION AND EVAPORATION LOSSES. MIX, TRANSPORT, PLACE AND COMPACT CONCRETE AS QUICKLY AS POSSIBLE. DURING PLACEMENT TEMPERATURE OF CONCRETE MUST NOT EXCEED 32°C. DO NOT MIX CONCRETE WHEN SURROUNDING OUTDOOR SHADE TEMPERATURE 38C. MAINTAIN TEMPERATURE OF FORMWORK AND REINFORCEMENT AT 32C BEFORE AND DURING PLACING. COOL REINFORCEMENT AND FORMWORK AS REQUIRED. MAINTAIN SPECIFIED TEMPERATURE OF PLACED CONCRETE BY:
 - PLACING CONCRETE WHEN AMBIENT TEMPERATURE IS LOW (AT NIGHT)
 - COOL CONCRETE USING LIQUID NITROGEN INJECTION BEFORE PLACING, OR
 - COVER CONTAINER IN WHICH CONCRETE IS TRANSPORTED TO FORMS, OR
 - SHADING AND SPRAYING COARSE AGGREGATE USING COLD WATER, OR
 - USE CHILLED MIXING WATER.
- PROTECT FRESH CONCRETE FROM PREMATURE DRYING - PARTICULARLY IN HOT, WINDY OR DRY (LOW HUMIDITY) CONDITIONS, EXCESSIVELY HOT OR COLD TEMPERATURES, RAIN, ETC. PROVIDE WIND BREAKS. MAINTAIN CONCRETE AT A REASONABLY CONSTANT TEMPERATURE WITH MINIMUM MOISTURE LOSS FOR CURING PERIOD
- FOR CONCRETE WITH WATER:CEMENT RATIO LESS THAN 0.5, IN HOT, WINDY OR DRY (LOW HUMIDITY) CONDITIONS SPRAY EXPOSED SURFACES OF FRESH CONCRETE WITH FOG SPRAY APPLICATION OF ALIPHATIC ALCOHOL RETARDANT IMMEDIATELY AFTER PLACEMENT TO REDUCE RISK OF PLASTIC SHRINKAGE CRACKING. IN SEVERE CLIMATIC CONDITIONS CONSIDER RE-VIBRATING CONCRETE BEFORE IT REACHES INITIAL SET.
- COMMENCE CURING OF CONCRETE TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING OR STRIPPING, AND WITHIN ONE HOUR. ENSURE EXPOSED SURFACES ARE NOT STAINED. ACCEPTABLE METHODS OF CURING INCLUDE:
 - RETENTION OF FORMWORK
 - PONDING OR CONTINUOUS SPRINKLING WITH WATER (MOIST CURING)
 - AN IMPERMEABLE MEMBRANE (USE CLEAR, WHITE OR LIGHT COLOURED PLASTIC IN HOT CONDITIONS) SEALED AROUND EDGES
 - AN ABSORPTIVE COVER KEPT CONTINUOUSLY WET AND COVERED BY IMPERMEABLE MEMBRANE
 - STEAM CURING
 - AN APPROVED CURING COMPOUND. PROVIDE:
 - EFFICIENCY INDEX
 - CERTIFIED TEST RESULTS FOR WATER RETENTION TO AS3799 APPENDIX B
 - EVIDENCE THAT AN ACCEPTABLE FINAL SURFACE COLOUR WILL BE OBTAINED
 - EVIDENCE OF COMPATIBILITY WITH CONCRETE AND APPLIED FINISHES (IF ANY)
 - METHODS OF OBTAINING REQUIRED ADHESION FOR TOPPINGs, RENDER ETC.
 - UNIFORM CONTINUOUS FLEXIBLE COATING WITHOUT VISIBLE BREAKS OR PINHOLES, WHICH REMAINS UNBROKEN FOR AT LEAST THE CURING PERIOD AFTER APPLICATION.
- CURE CONTINUOUSLY FOR 7 DAYS.
- FINISHES AS LAID:
 - EXPOSED SURFACES - STEEL TROWEL AND BRUSHED
 - HIDDEN SURFACES - WOOD FLOAT
 - DO NOT MAKE HOLES, PENETRATIONS, RECESSES, CHASES, NOR EMBED PIPES (OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS) WITHOUT APPROVAL OF SUPERINTENDENT. DO NOT PLACE CONDUITS, PIPES ETC WITHIN COVER CONCRETE. LOCATE CONDUITS, PIPES ETC ONLY IN MIDDLE THIRD OF SLAB OR BEAM DEPTH AND BETWEEN REINFORCEMENT LAYERS, SPACED AT 3 X PIPE / CONDUIT DIAMETER CENTRES MINIMUM. DO NOT CUT REINFORCEMENT AT PENETRATIONS WITHOUT APPROVAL.

JOINTS

- IF CONSTRUCTION JOINTS PROPOSED OTHER THAN WHERE SHOWN, PROVIDE PROPOSED LOCATIONS FOR SUPERINTENDENT'S APPROVAL AT LEAST 7 DAYS PRIOR TO CONSTRUCTION.
- PROVIDE JOINTING MATERIALS COMPATIBLE WHEN USED TOGETHER, AND NON-STAINING TO CONCRETE IN VISIBLE LOCATIONS.
- PROVIDE DETAILS OF CONSTRUCTION JOINTS FOR SUPERINTENDENT'S APPROVAL AT LEAST 7 DAYS PRIOR TO CONSTRUCTION.
- INSTALL WATERSTOPS ONTO SMOOTH CONCRETE SURFACE. DO NOT SCABBLE CONCRETE BENEATH WATERSTOPS.
- SUBMIT PROPOSALS FOR CUTTING OR CORING HARDENED CONCRETE OR SAW CUT JOINTS, INCLUDING METHODS, TIMING AND SEQUENCE AT LEAST 7 DAYS BEFORE UNDERTAKING WORKS.
- SAW CUT CRACK CONTROL JOINTS AS SOON AFTER CASTING AS PRACTICABLE TO AVOID SPALLING OR RAVELLING OF JOINT EDGES, AND WITHIN 16 HOURS OF CASTING TO PREVENT THERMAL AND / OR SHRINKAGE CRACKING OF SLAB. IMMEDIATELY AFTER SAW CUTTING FLUSH OUT JOINTS TO REMOVE SAWING RESIDUE AND INSERT A TEMPORARY FOAMED PLASTIC BEAD TO KEEP JOINT CLEAN PRIOR TO FILLING OR SEALING. PROTECT SAW CUTS FROM WHEEL LOADS FOR AT LEAST ONE WEEK AFTER CUTTING.
- DO NOT INSTALL SEALANTS IF EXPECTED MAXIMUM DAILY TEMPERATURE EXCEEDS 30 DEGREES C. ENSURE RECESSES ARE CLEAN AND DRY PRIOR TO INSTALLING FILLERS OR SEALANTS, AND PREPARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TOLERANCE ON SEALANT WIDTHS +5, -0 mm.



REINFORCEMENT

- SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS:
 - R- STRUCTURAL GRADE 250 PLAIN ROUND BAR TO AS/NZS4671
 - N- HOT ROLLED GRADE 500 DEFORMED (RIBBED) BAR DUCTILITY CLASS N TO AS/NZS4671
 - L- HOT ROLLED GRADE 500 DEFORMED BAR DUCTILITY CLASS L TO AS/NZS4671
 - SL- HARD DRAWN WIRE GRADE 500 SQUARE MESH DUCTILITY CLASS L TO AS/NZS4671
 - RL- HARD DRAWN WIRE GRADE 500 RECTANGULAR MESH DUCTILITY CLASS L TO AS/NZS4671
 - TM- HARD DRAWN STEEL GRADE 500 TRENCH MESH DUCTILITY CLASS L TO AS/NZS4671
 - W- GRADE 500 STEEL REINFORCING WIRE TO AS/NZS4671
- MANUFACTURERS AND PROCESSORS OF STEEL REINFORCING AND PRE-STRESSING MATERIALS MUST HOLD A VALID CERTIFICATE OF APPROVAL ISSUED BY ACRS (AUSTRALASIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEELS). PROVIDE ACRS CERTIFICATION OF COMPLIANCE WITH AS/NZS4671, PRODUCT TAGS AND SUPPORTING DOCUMENTATION FOR ALL REINFORCEMENT. PROVIDE CERTIFICATION OF COMPLIANCE WITH AS/NZS4672.1 FOR ALL PRESTRESSING TENDONS.
- PROVIDE DOCUMENTATION TO SHOW THAT REINFORCEMENT SUPPLIER AND MILL COMPLY WITH AS/NZS4671.
- REINFORCEMENT MUST HAVE UNIQUE MARKS TO IDENTIFY SUPPLIER.
- DO NOT USE LOW DUCTILITY REINFORCEMENT (GRADE L) UNO.
- USE MESH SUPPLIED IN FLAT SHEETS UNLESS APPROVED OTHERWISE
- REINFORCEMENT TO BE CLEAN, FREE OF LOOSE MILL SCALE, RUST, OIL, GREASE, MUD OR OTHER MATERIAL THAT MIGHT REDUCE BOND BETWEEN REINFORCEMENT AND CONCRETE.
- COVER IS CLEAR DISTANCE BETWEEN ANY REINFORCEMENT (INCLUDING LIGATURES, TIE WIRE ETC) AND OUTSIDE SURFACE OF STRUCTURAL CONCRETE.
- TOLERANCE ON COVER TO BE TO AS1005.5 CLAUSE 4.10.3.1
- TO MINIMIZE TRIP HAZARDS CONSIDER MAXIMUM REINFORCEMENT BAR SPACING FOR TRAFFICABLE AREAS PRIOR TO CASTING CONCRETE OF 200 mm. ALTERNATIVELY PROVIDE SL82 ADDITIONAL IF MAIN REINFORCEMENT SPACING IS GREATER THAN 200 mm.
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION. SET REINFORCEMENT OUT AT EQUAL CENTRES IF SPACING IS NOT NOMINATED.
- CAP STARTER BARS AND OTHER REINFORCEMENT TO REDUCE RISK OF IMPALEMENT AND LACERATIONS.
- ENSURE ALL LAID REINFORCING BARS ARE RESTRAINED BEFORE STOPPING WORK TO PREVENT BARS ROLLING UNDERFOOT.
- REINFORCEMENT TO BE SUPPLIED TO SITE PRE-BENT TO REQUIRED SHAPES. REINFORCEMENT CAGES TO BE PRE-FABRICATED OFF-SITE AS FAR AS PRACTICABLE.
- SECURE REINFORCEMENT IN POSITION AGAINST DISPLACEMENT AND MAINTAIN SPECIFIED CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, LIGATURES OR TIES AT 800 mm MAXIMUM CENTRES EACH WAY UNO. PROVIDE ADEQUATE SUPPORT TO PREVENT DISPLACEMENT OF REINFORCEMENT BY WORKMEN OR EQUIPMENT DURING CONCRETE PLACEMENT.
- SECURELY TIE REINFORCEMENT WITH WIRE TIES. TURN ENDS OF TIE WIRES INTO CONCRETE. CLEAR OF COVER ZONE.
- SUPPORT REINFORCEMENT ON PROPRIETARY CONCRETE, METAL OR PLASTIC SUPPORTS ADEQUATE TO WITHSTAND CONSTRUCTION AND TRAFFIC LOADS AND MAINTAIN DURABILITY OF FINISHED CONCRETE STRUCTURE. FOR CONCRETE SURFACES WITH B2 EXPOSURE CLASSIFICATION OR GREATER, ONLY USE PROPRIETARY HIGH STRENGTH FIBRE REINFORCED CEMENT SPACER BLOCKS OR SUPPORTS.
- DO NOT PLACE OR MOVE REINFORCEMENT DURING OR AFTER CONCRETE PLACEMENT.
- ENSURE EMBEDDED ITEMS (INSERTS, THREADED SOCKETS, FERRULES, BOLTS, DISSIMILAR METAL ITEMS, ETC) IN COVER CONCRETE OR EXPOSED TO AIR ARE NOT IN CONTACT WITH REINFORCEMENT. PROVIDE ISOLATION BETWEEN DISSIMILAR METALS, AND BETWEEN REINFORCEMENT AND EXPOSED ITEMS.
- OBTAIN SUPERINTENDENT'S APPROVAL OF INSERTS, FIXINGS AND OTHER ITEMS EMBEDDED IN COVER CONCRETE.
- SPICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS OR AS APPROVED BY SUPERINTENDENT. STAGGER LAPS WHERE POSSIBLE. LAPPED SPlice LENGTHS TO COMPLY WITH AS3600. CLEAR SPACING BETWEEN LAPPED BARS TO BE LESS THAN THREE TIMES BAR DIAMETER. WHERE BAR SIZES VARY USE LAPPED SPlice LENGTH FOR SMALLER BAR DIAMETER.
- LAY MESH REINFORCEMENT SO THAT MINIMUM COVER IS TO MAIN WIRES UNO.
- PROVIDE MINIMUM MESH LAPS TO CROSS WIRES OF REINFORCING MESH, SO TWO OUTERMOST WIRES OF ONE SHEET OVERLAP TWO OUTERMOST WIRES OF ADJACENT SHEET BY AT LEAST 25 mm. THUS:

MESH TYPE	END LAP	SIDE LAP
RECTANGULAR MESHES	225	125
SQUARE MESHES SL102 TO SL42	225	225
SL81	125	125
TRENCH MESH	500	N/A
- USE LAP LENGTHS BASED ON LARGEST WIRE SPACING. DO NOT LAP MORE THAN THREE SHEETS AT ANY ONE POINT.
- ALTERNATIVELY USE N12 SPlice BARS TO LAP ADJACENT SHEETS OF MESH. SPACING OF SPlice BARS TO MATCH SPACING OF BARS IN MESH. SPlice BARS TO OVERLAP MESH BY 750 mm MINIMUM UNO.
- SPlice TRENCH MESH BY A LAP OF 750 mm MINIMUM UNO. AT T- AND L-INTERSECTIONS, CONTINUE TRENCH MESH FULL WIDTH OF INTERSECTION. AT L-INTERSECTIONS PROVIDE AN N12 L BAR TO LAP 750 mm WITH OUTSIDE BARS.
 - DO NOT WELD REINFORCEMENT, CAST-IN ITEMS ETC UNLESS SHOWN ON DRAWINGS OR OTHERWISE APPROVED BY SUPERINTENDENT.
- DO NOT BEND OR STRAIN REINFORCEMENT IN A WAY THAT MAY CAUSE DAMAGE. BEND DIAMETERS TO BE TO AS3600. BARS TO BE BENT COLD UNO. GRADE 250 BARS MAY BE BENT AT TEMPERATURES UP TO 850°C. DO NOT COOL HEATED BARS BY QUENCHING.
- DO NOT BEND REINFORCEMENT AFTER GALVANIZING OR APPLICATION OF OTHER COATINGS.
- PERCUSSION ROTARY DRILL HOLES FOR GROUTED BARS AND THREADED RODS (NOTE: CORED HOLES MUST BE ROUGHENED). HOLE DIAMETER AND INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. EMBEDMENT LENGTHS AS PER DRAWINGS.
- ENSURE HOLES FOR GROUTED BARS AND THREADED RODS ARE DRY AND CLEANED THOROUGHLY BEFORE INSTALLING ANCHORS. WIRE BRUSH HOLES AND BLOW OUT WITH COMPRESSED AIR TO REMOVE DUST. FILL HOLE WITH ADHESIVE USING A CAULKING GUN FROM BOTTOM OF HOLE OUTWARDS. DISCARD ADHESIVE FROM FIRST TRIGGER PULL. PROVIDE BARS / THREADED RODS WITH CHAMFERED (CHISELED) ENDS. BARS TO BE DEGREASED, AND FLAKY RUST REMOVED. ROTATE WHILE INSERTING TO ENSURE FULLY COATED AND PUSH FULLY INTO HOLE. PROTECT FROM DISTURBANCE DURING CURING. FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- USE ADHESIVES IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS UNO.

RETAINING WALL NOTES

- WALLS TO HAVE INTERLOCKING BLOCKS COMMENCING AT 4TH COURSE FROM TOP PERPENDICULAR TO FACING AT MAXIMUM 4M SPACING, TO ACHIEVE INTERLOCK OF STRUCTURE ALL BLOCKWORK TO BE FULLY MORTARED TO ADJACENT BLOCKS.
- INTERLOCKING BLOCK COURSING TO BE STAGGERED AS PER TYPICAL DETAIL.
- ALL BLOCKS TO BE MINIMUM DENSITY OF 1800KG/M³ (DRY).
- COMPLETED BLOCKWORK OF WALL TO BE OF THICKNESS NO LESS THAN MINIMUM PROFILE INDICATED.
- GROUND FOR WALL FOOTING TO BE COMPACTED TO A MINIMUM OF 95% MODIFIED M.D. OR TO A MINIMUM OF 10 BLOWS PER 300mm WITH A STANDARD PERTH SAND PENETROMETER OR EQUIVALENT.
- ALL BLOCK JOINTS TO BE VERTICAL OR HORIZONTAL (NOT SLOPED), MAX 30mm ROLLED JOINTS. MORTAR TO BE 1:1:6 CEMENT:LIME:SAND. FACE JOINTS - IF COLOURED - TO BE MATCHING MORTAR.
- ONLY OPEN WIRE FENCES TO A MAXIMUM OF 1.2m TALL CAN BE BUILT INTO RETAINING WALL. CONSULT ENGINEER FOR FENCE ANCHORAGE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RETAINING WALL LONG SECTION PLANS & RETAINING WALL LOCALITY PLAN
- LOCATION OF CONTROL JOINT IN BLOCK RETAINING WALLS TO BE APPROVED BY SUPERINTENDENT PRIOR TO WALL CONSTRUCTION. (CONTROL JOINTS AT 20m NOM).
- ALL BACKFILL TO BE LOCAL SAND, FREE FROM ORGANIC MATTER.
- THESE DRAWINGS DO NOT DETAIL TEMPORARY WORKS. CONSTRUCTION METHODS AND TEMPORARY WORKS ARE THE RESPONSIBILITY OF THE CONTRACTOR.



Project No.
12596020

Client SHIRE OF NORTHAMPTON

Project CHINAMAN'S BEACH, KALBARRI

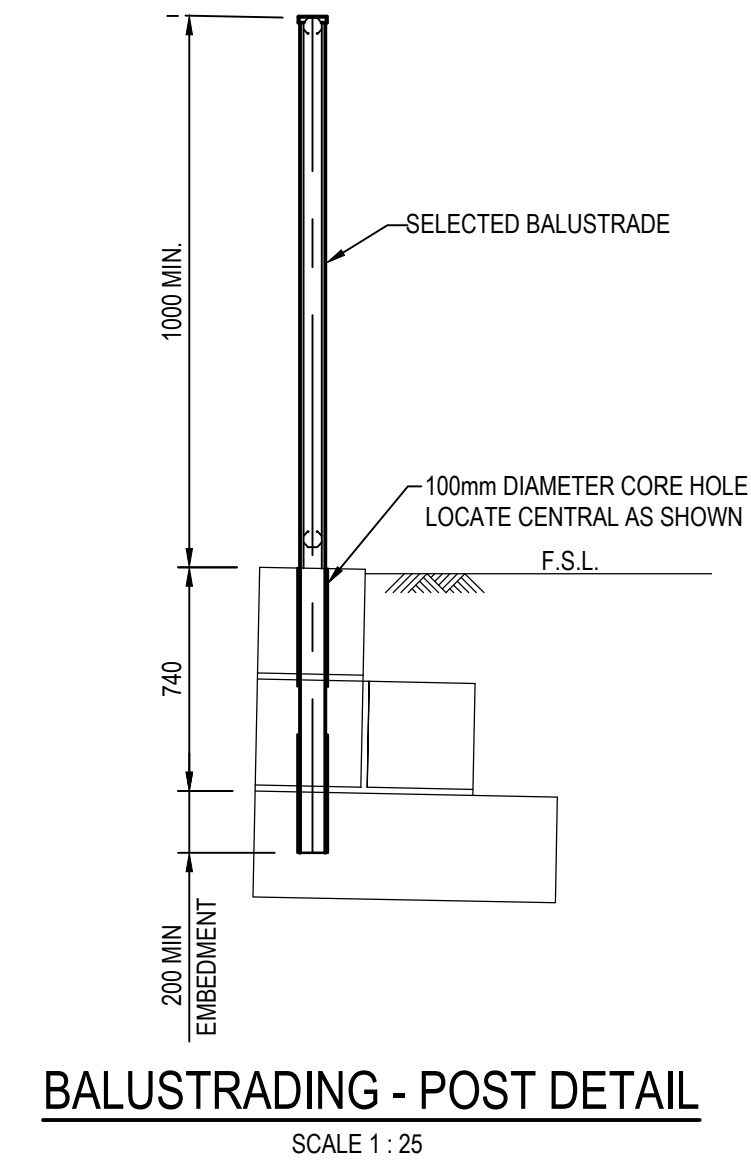
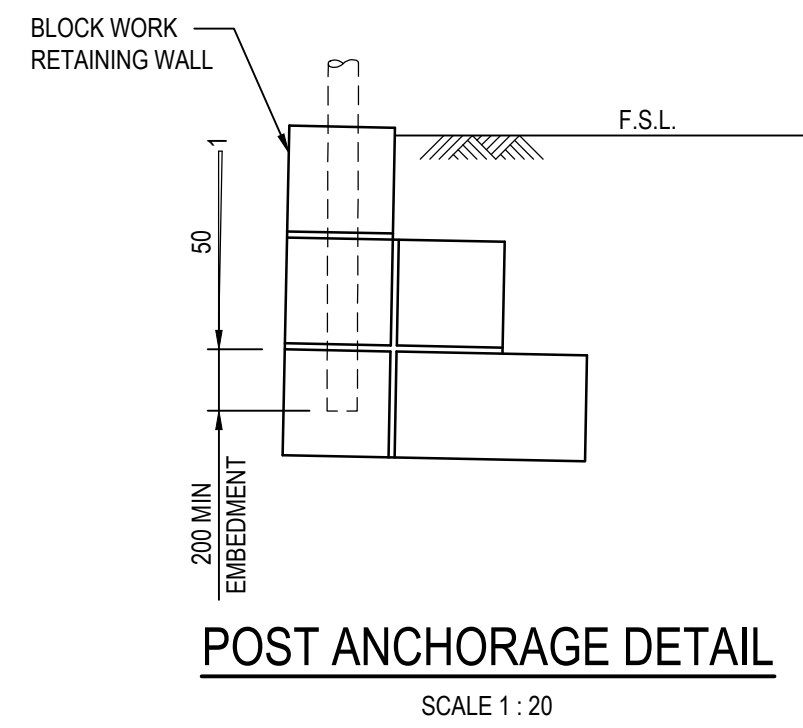
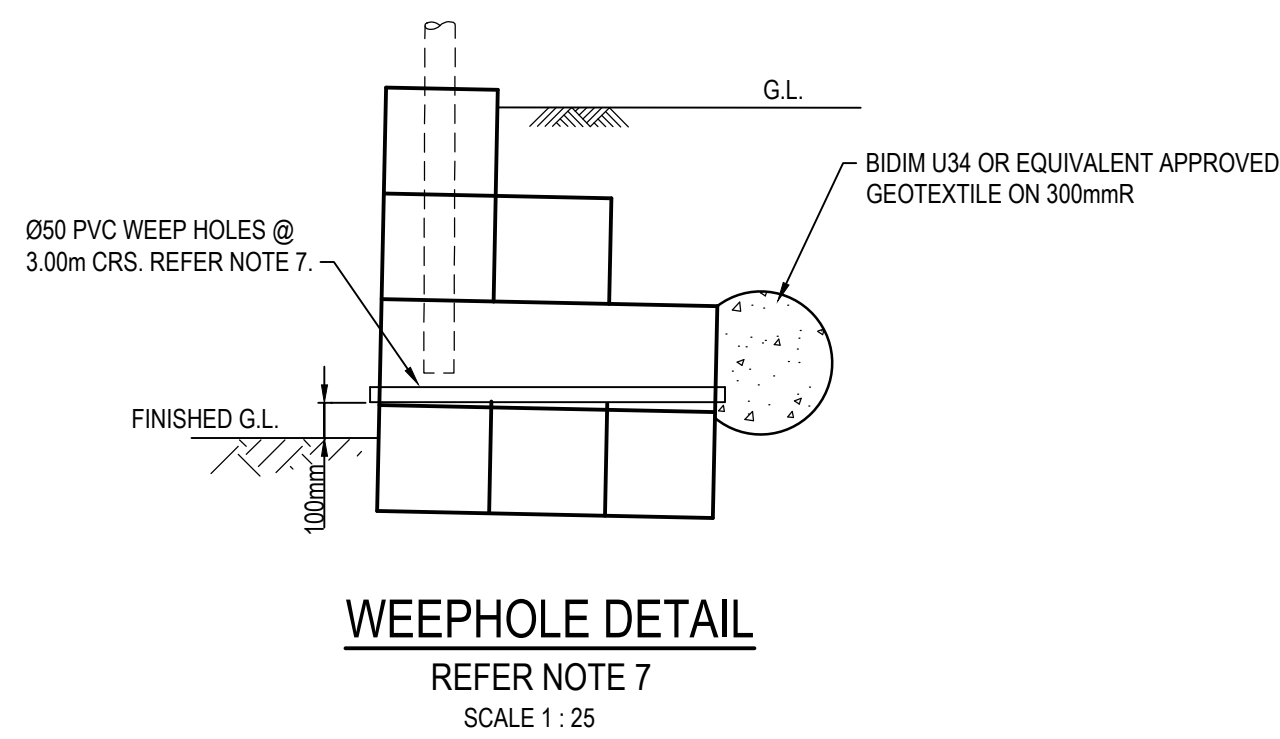
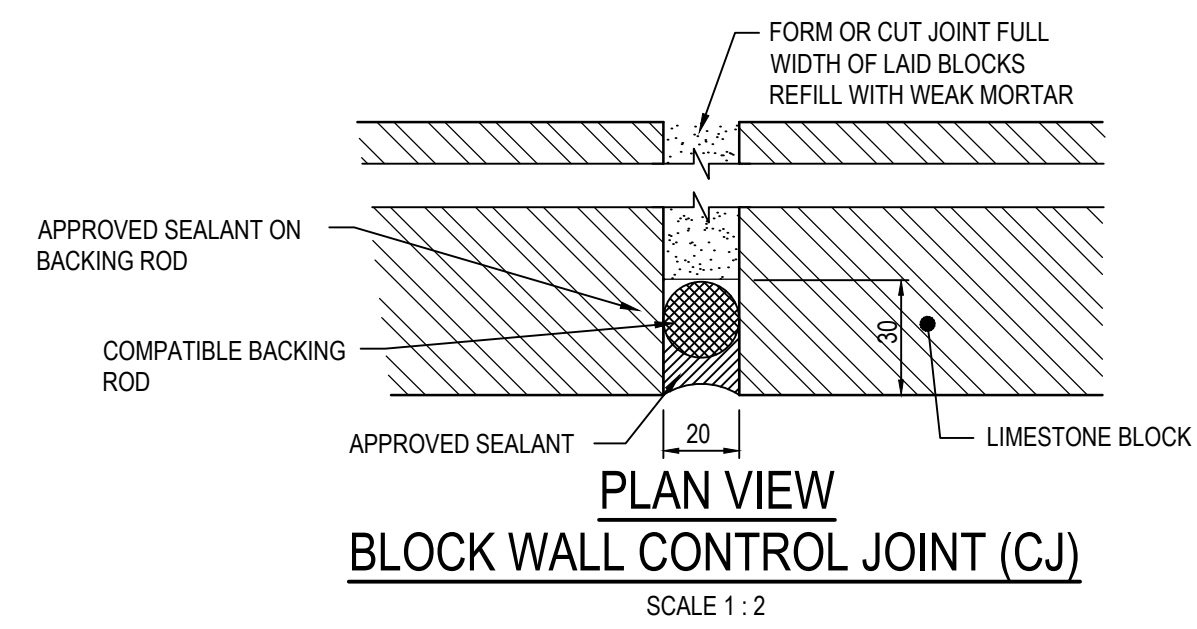
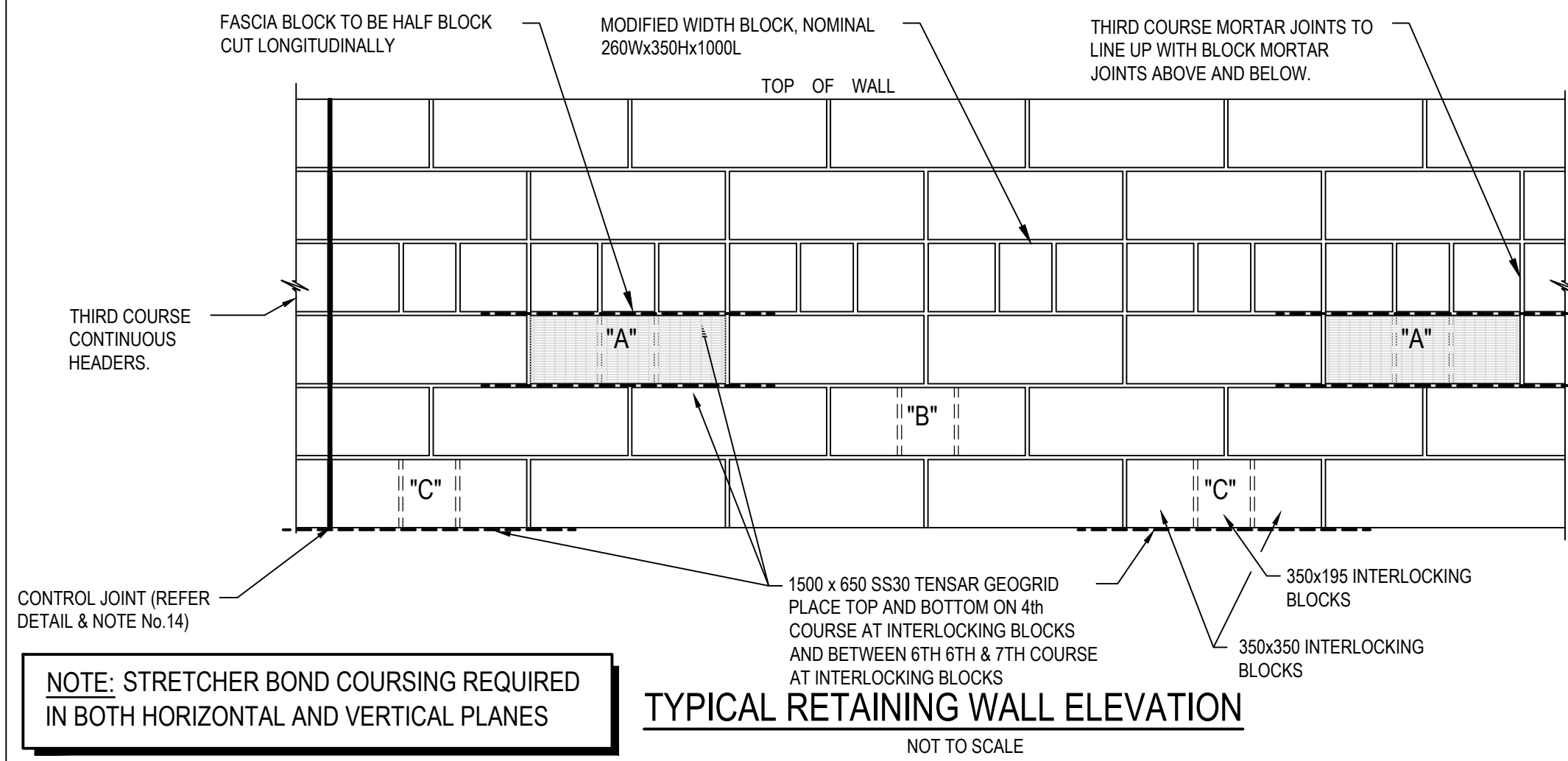
Status TENDER

Drawing Title STRUCTURAL NOTES

Drawing No.
12596020-GHD-00-01-DRG-ST-00001

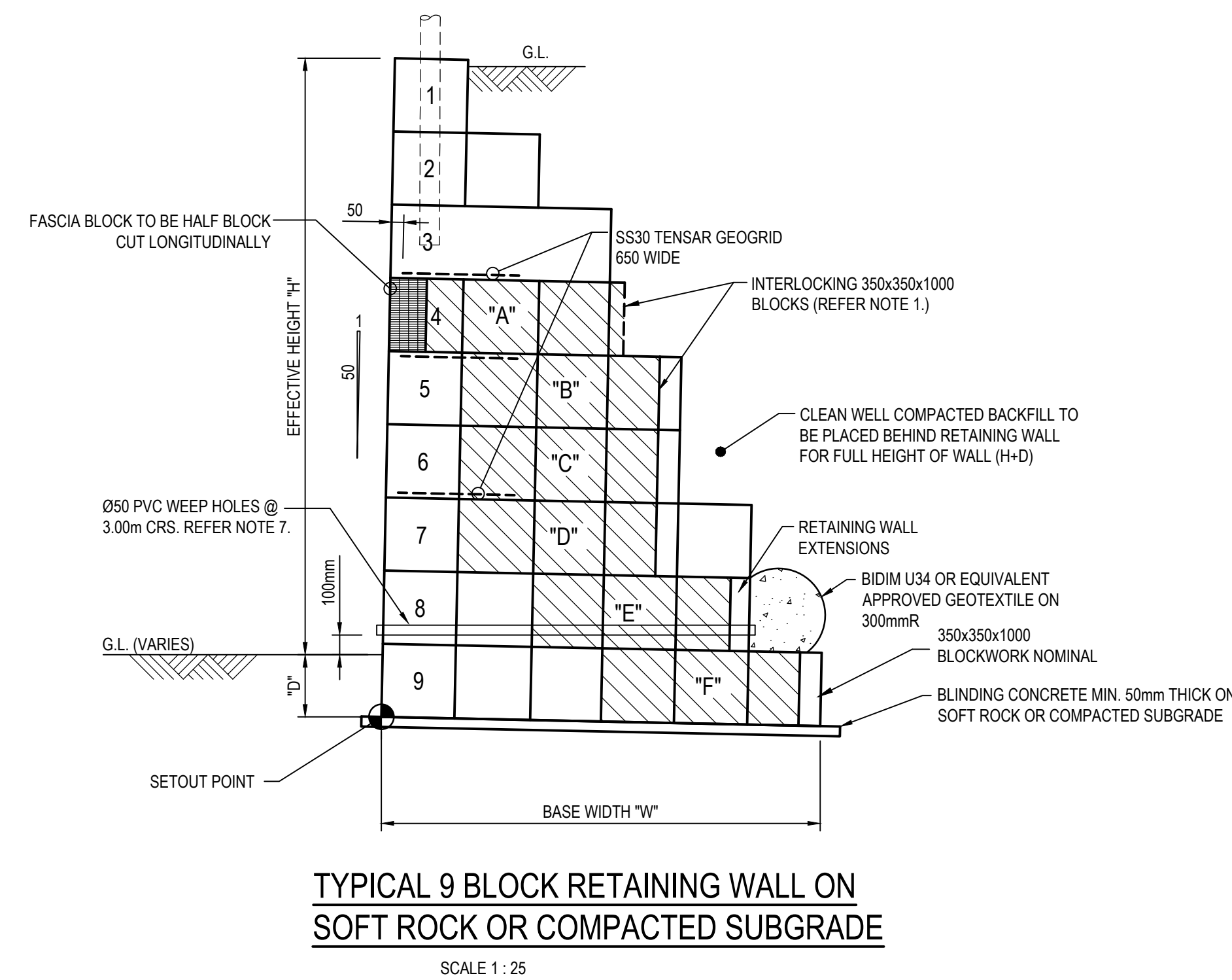
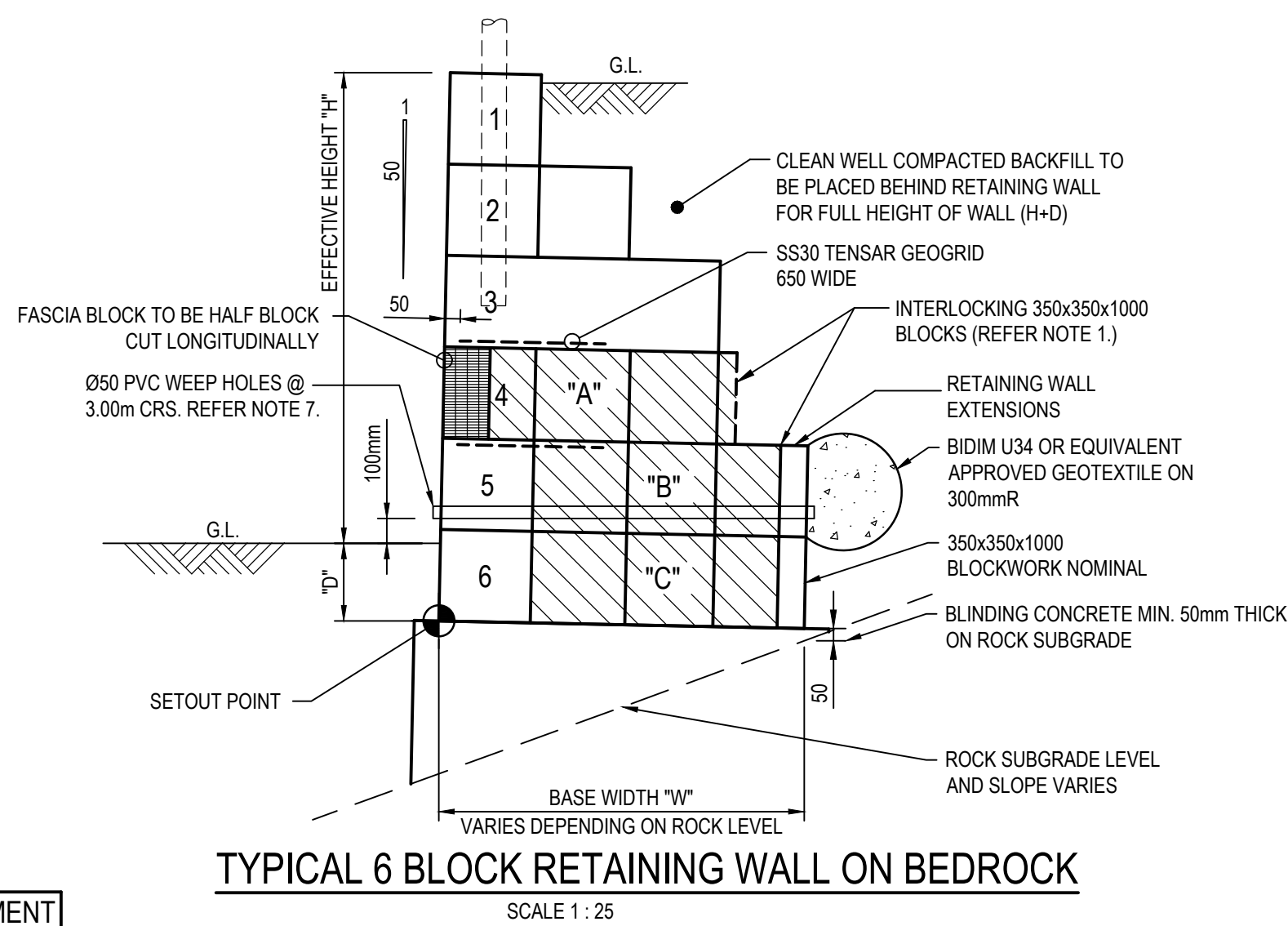
Size
A1

Rev
P02



- NOTES**
- TYPE "3 & 4" WALLS TO HAVE INTERLOCKING BLOCKS COMMENCING AT 4th COURSE FROM TOP PERPENDICULAR TO FACING AT MAXIMUM 4m SPACING TO ACHIEVE INTERLOCK OF STRUCTURE ALL BLOCKWORK TO BE FULLY MORTARED TO ADJACENT BLOCKS. CROSS BONDING TO EVERY 4m.
 - INTERLOCKING BLOCK COURSING TO BE STAGGERED AS PER TYPICAL DETAIL.
 - ALL BLOCKS TO BE MINIMUM DENSITY OF 1800kg/m (DRY).
 - COMPLETED BLOCKWORK OF WALL TO BE OF THICKNESS NO LESS THAN MINIMUM PROFILE INDICATED.
 - GROUND FOR WALL FOOTING TO BE COMPACTED TO A MINIMUM OF 95% MODIFIED M.D.D. OR EQUIVALENT WITH TEST RESULTS INCLUDED IN QA DOCUMENTATION
 - ALL BLOCK JOINTS TO BE VERTICAL OR HORIZONTAL (NOT SLOPED) 30mm (MAX) ROLLED JOINTS. MORTAR TO BE 1:1:6 FACE JOINTS TO BE MATCHING MORTAR.
 - WEEP HOLES TO BE CONSTRUCTED IN WALLS WHEN FOOTING IS IN ROCK, CAPSTONE OR WHERE FOOTINGS ARE PLACED ON LESS THAN 600mm OF SAND.
 - THREE COATS OF NON SACRIFICIAL ANTI GRAFFITI COATING IS TO BE APPLIED TO WALLS FACING A ROAD, P.A.W. DRAINAGE SUMP OR P.O.S.
 - FOR ANY OTHER WALLS, DIFFERENT TO WALL SECTIONS ON THIS DRAWING CONSULT THE ENGINEERS.
 - ALL RETAINING WALLS HAVE BEEN CALCULATED WITH A HORIZONTAL BACKFILL SLOPE. ANY OTHER CIRCUMSTANCES TO BE ASSESSED INDIVIDUALLY.
 - CONTRACTOR TO LIAISE WITH LOCAL AUTHORITY TO OBTAIN BUILDING LICENSE FOR ALL RETAINING WALLS.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RETAINING WALL LONGSECTION PLANS & RETAINING WALL LOCALITY PLAN.
 - CONTRACTOR TO INSTALL A 3 STRAND STAR PICKET FENCE TO ALL RETAINING WALLS GREATER THAN 0.9m HIGH. PICKETS TO HAVE CAPS AND A STRAND OF YELLOW TAPE TO TOP OF FENCE.
 - LOCATION OF CONTROL JOINT IN BLOCK RETAINING WALLS TO BE APPROVED BY SUPERINTENDENT PRIOR TO WALL CONSTRUCTION. (CONTROL JOINTS AT 20.00m NOM)
 - THE BALUSTRADE IS TO BE PLACED CENTRAL TO THE TOP ROW OF BLOCKS IN PLAN. AN APPROVED NON SHRINK, FLOWABLE CONSTRUCTION GROUT SUCH AS CONBEXTRA GP FROM PARCHEM AND MASTERFLOW 500 FROM MBT, MUST BE USED TO ANCHOR THE BALUSTRADE INTO THE CORE HOLES.
 - RETAINING WALL NOT DESIGNED FOR TRUCK LOADING
 - HEAVY COMPACTION EQUIPMENT TO BE USED AT A MINIMUM OF 1.5m AWAY FROM THE REAR FACE OF RETAINING WALL
 - USE LIGHTWIGHT COMPACTOR BEHIND WALL
 - TRANSITION BETWEEN THE TWO RETAINING WALL SECTIONS SHALL BE DETERMINED ON SITE AND THE METHODOLOGY SHALL BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
 - SUITABLE ROCK REMAINING ON SITE FROM THE DAMAGED ROCK WALL TO BE STOCKPILED AND PLACED IN FRONT OF THE COMPLETED BLOCK RETAINING WALL.

DETAILS SHOWN ARE FOR RECONSTITUTED LIMESTONE AND "BLOK-NATURAL EARTH" BLOCKS

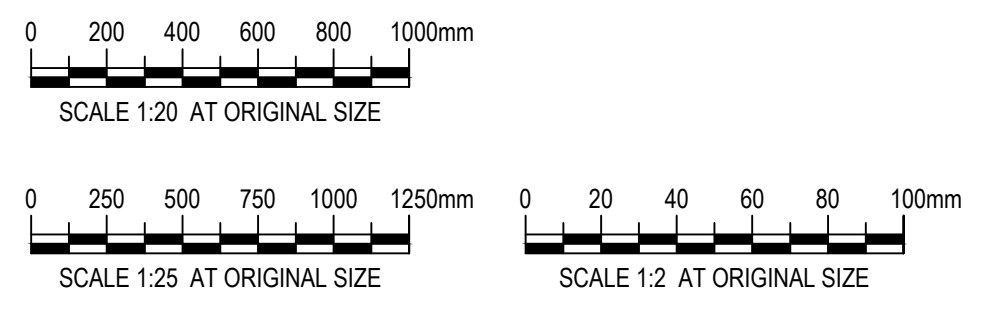


WALL TYPES & DIMENSIONS

NO. OF BLOCKS "H" + "D"	MAIN EFFECTIVE HEIGHT "H"	BASE WIDTH "W"	MIN. EMBEDMENT "D"
3	790	720	300
4	1110	1090	350
5	1480	1460	350
6	1850	1460	350
7	2220	1830	350
8	2590	1830	350
9	2960	2200	350



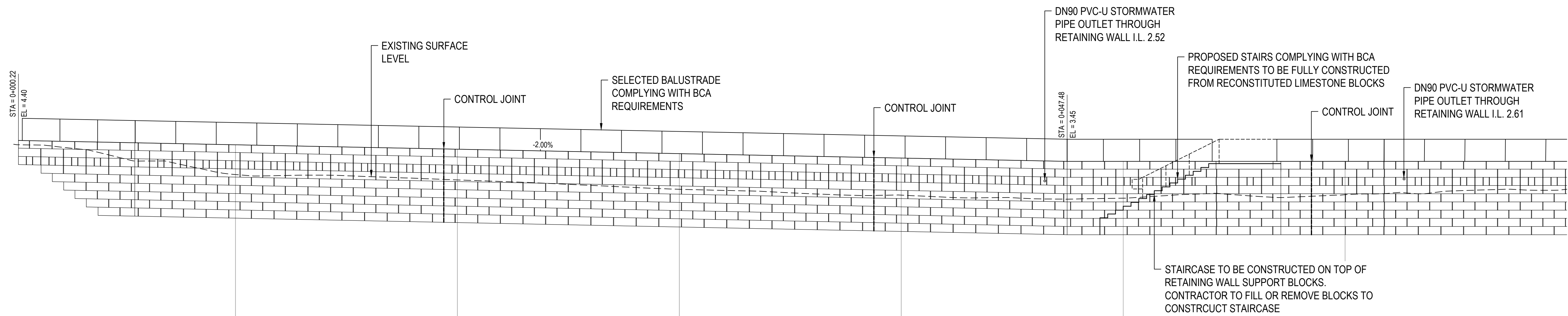
0	200	400	600	800	1000mm
SCALE 1:20 AT ORIGINAL SIZE					
0	250	500	750	1000	1250mm
SCALE 1:25 AT ORIGINAL SIZE					
0	20	40	60	80	100mm
SCALE 1:2 AT ORIGINAL SIZE					
Rev	Description	Checked	Approved	Date	
P02	ISSUED FOR TENDER	SA	AK	08/02/24	
P01	PRELIMINARY DESIGN	SA	AK	15/12/23	
Author S.DAVIES Drafting Check A.KRAUSE					
Designer S.AGHERDIEN Design Check P.TONKIN					



GHD
Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
PO Box 164 Geraldton WA 6531
T 61 8 9564 3677 F 61 8 9921 7997
E permail@ghd.com W www.ghd.com

Client SHIRE OF NORTHAMPTON
Project CHINAMAN'S BEACH, KALBARRI
Status TENDER

Drawing Title TYPICAL RETAINING WALL DETAILS
Drawing No. 12596020-GHD-00-01-DRG-ST-00200
Rev P02



SCALE: H 1:100 1:100
DATUM -5.000

HORIZONTAL ALIGNMENT	L=5.46m B=008° 50' 52"				L=42.01m B=323° 50' 52"								L=6.73m B=278° 50' 52"		L=2.90m B=008° 50' 52"		L=4.66m B=278° 50' 52"		L=9.22m B=323° 50' 54"	
	LEVEL DIFFERENCE CUT - / FILL +	1.090	1.460	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310	3.310
DESIGN TOP OF WALL	4.395	4.375	4.323	4.29	4.200	4.012	4.000	3.800	3.624	3.600	3.450	3.450	3.45	3.45	3.450	3.450	3.45	3.45	3.450	
DESIGN BOTTOM OF WALL	3.305	2.915	1.013	0.98	0.890	0.702	0.690	0.490	0.314	0.290	0.140	0.140	0.14	0.14	0.140	0.140	0.14	0.14	0.140	
EXISTING SURFACE LEVEL	4.219	4.199	3.859	3.46	2.857	2.657	2.614	2.189	1.912	1.925	1.745	1.789	2.01	1.82	1.877	1.949	1.99	2.192	2.192	
CHAINAGE	0.000	0.216	1.236	3.806	5.461	10.000	19.386	20.000	30.000	36.766	40.000	47.476	50.000	54.203	57.103	58.483	60.000	61.761	70.000	

LONGITUDINAL SECTION - RETAINING WALL



Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.AGHERDIEN	Design Check	P.TONKIN	



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
PO Box 164 Geraldton WA 6531
T 61 8 9564 3677 F 61 8 9521 7997
E permail@ghd.com W www.ghd.com

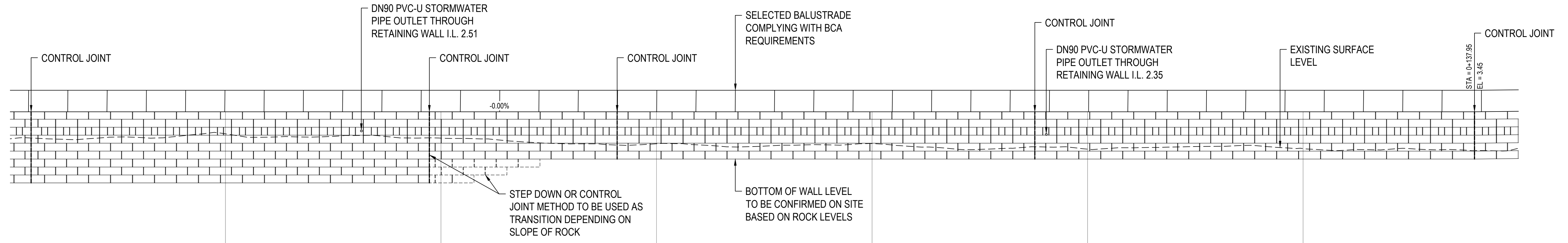


Project No.
12596020

Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

Drawing Title	RETAINING WALL PROFILE SHEET 1 OF 3
Drawing No.	12596020-GHD-00-01-DRG-ST-00300
Rev	P02

Size
A1



SCALE: H 1:100 1:100
DATUM -5.000

HORIZONTAL ALIGNMENT	L=18.48m B=325° 39' 03"				L=48.49m B=341° 05' 05"			
	LEVEL DIFFERENCE CUT - / FILL +	3.310	3.310	3.310	2.200	2.200	2.200	2.200
DESIGN TOP OF WALL	3.45	3.450	3.450	3.450	3.450	3.450	3.450	3.470
DESIGN BOTTOM OF WALL	0.140	0.140	0.140	1.250	1.250	1.250	1.250	1.270
EXISTING SURFACE LEVEL	2.23	2.424	2.239	1.902	1.981	1.820	1.711	1.743
CHAINAGE	70.984	80.000	88.450	96.172	100.000	110.000	117.552	140.000

LONGITUDINAL SECTION - RETAINING WALL



Author	S.DAVIES	Drafting Check	A.KRAUSE
Designer	S.AGHERDIEN	Design Check	P.TONKIN

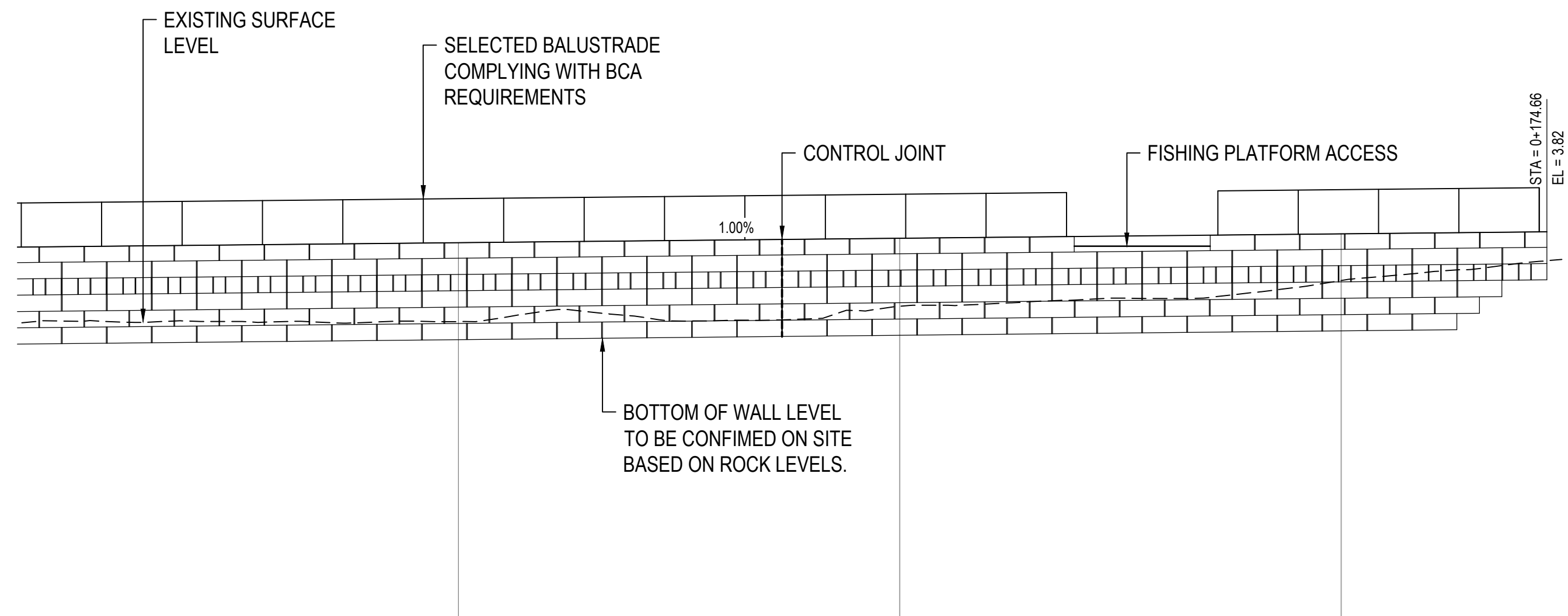


Client	SHIRE OF NORTHAMPTON
Project	CHINAMAN'S BEACH, KALBARRI
Status	TENDER

Drawing Title	RETAINING WALL PROFILE SHEET 2 OF 3
Drawing No.	12596020-GHD-00-01-DRG-ST-00301

Size
A1
Rev
P02

Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.



SCALE: H 1:100 1:100
DATUM -5.000

HORIZONTAL ALIGNMENT	L=6.37m B=333° 19' 32"		L=30.68m R=16.15m													
LEVEL DIFFERENCE CUT - / FILL +		2.200		2.200		2.200		2.200		2.200		2.200		1.460		1.090
DESIGN TOP OF WALL		3.51		3.570		3.644		3.670		3.770		3.797		3.807		3.817
DESIGN BOTTOM OF WALL		1.31		1.370		1.444		1.470		1.570		1.597		2.347		2.727
EXISTING SURFACE LEVEL		1.78		1.783		1.821		2.130		2.713		2.963		3.051		3.162
CHAINAGE		144.326		150.000		157.332		160.000		170.000		172.622		173.642		174.662

LONGITUDINAL SECTION - RETAINING WALL



Rev	Description	Checked	Approved	Date
P02	ISSUED FOR TENDER	SA	AK	08/02/24
P01	PRELIMINARY DESIGN	SA	AK	15/12/23
Author	S.DAVIES	Drafting Check	A.KRAUSE	
Designer	S.AGHERDIEN	Design Check	P.TONKIN	



Level 1, 209 Foreshore Drive Geraldton WA 6530 Australia
PO Box 164 Geraldton WA 6531
T 81 9364 3677 F 81 9392 17997
E permall@ghd.com W www.ghd.com



Project No.
12596020

Client SHIRE OF NORTHAMPTON
Project CHINAMAN'S BEACH, KALBARRI
Status TENDER

Drawing Title
RETAINING WALL PROFILE
SHEET 3 OF 3

12596020-GHD-00-01-DRG-ST-00302

Size
A1

Rev
P02