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CHAND
Environmental Consultants • Public & Stakeholder Engagement Specialists

13 May 2021

THE PROPOSED DEVELOPMENT OF A "NEW RETREAT" ON A PORTION OF PORTION 11 OF FARM 1674, PAARL
CHAND REFERENCE NO: 03005
DEA&DP Pre-Application Reference Number: 16/3/3/6/7/1/B4/12/1086/20
DWS Reference: WU17609

FIRST PRE-APPLICATION MEETING WITH THE DEPARTMENT OF WATER & SANITATION
KEY NOTES_FINAL

DATE: 2 December 2020
VENUE: Department of Water and Sanitation Offices, Bellville (courtyard)
TIME: 12:00 – 13:00
FACILITATOR: Ms. Marielle Penwarden

1. Attendees

FULL NAME	INITIAL	ORGANISATION
Warren Dreyer (attended via teleconference)	WD	Department of Water and Sanitation
Rafieka Johaar	RJ	Department of Water and Sanitation
Shaddai Daniel	SD	Department of Water and Sanitation
Firdous Rhoda	FR	Department of Water and Sanitation
Kate Snaddon	KS	Freshwater Consulting Group
William George	WG	Boschendal
Marielle Penwarden	MP	Chand Environmental Consultants

2. Agenda

- Welcome and Introduction
- Site and Proposal
- Feedback/Discussion
- Close

3. Discussion

3.1 Welcome and Introduction

a) MP welcomed attendees to the first pre-application meeting and all attendees introduced themselves.

3.2 Site and Proposal

a) MP outlined the proposed development and indicated that the intention would be to work within existing footprints as much as possible, with some expansion. MP referred to Figure 1 in this regard (the plan was shown at the meeting).

Figure 1 Proposed Site Development Plan

b) Regarding proposed services, MP indicated that new water and sewer lines would need to be installed, and the existing septic tanks and soakaways on site (of which there are two) would not be used. She added that alternatives have been assessed in terms of routing of lines and the preferred alternative is indicated in Figure 2 (the plan was provided in the meeting) and had been devised to be low risk to the watercourses and to locate the infrastructure as far away from the watercourses as possible.

c) MP added that the intention would be to use a small sewage package plant that would treat wastewater to general limits. Sewage from each unit would flow via gravity feed to a pump in the north-west corner of the site, and then be pumped to a treatment component across the ou wapad to the south-west of the site (deliberately located as far from the watercourses as possible).

d) MP added that there are presently a few options for discharge of the treated wastewater under consideration and that advice from the Department of Water and Sanitation (DWS) in this regard would be appreciated. These could be into the toilets for flushing, or irrigation (noting that the freshwater impact assessment report had indicated that use of treated water for flushing would be preferable and would then not trigger Section 21 (e) and (g), but if irrigation must be carried out with the treated wastewater, irrigation of areas alongside the road would provide lowest risk).

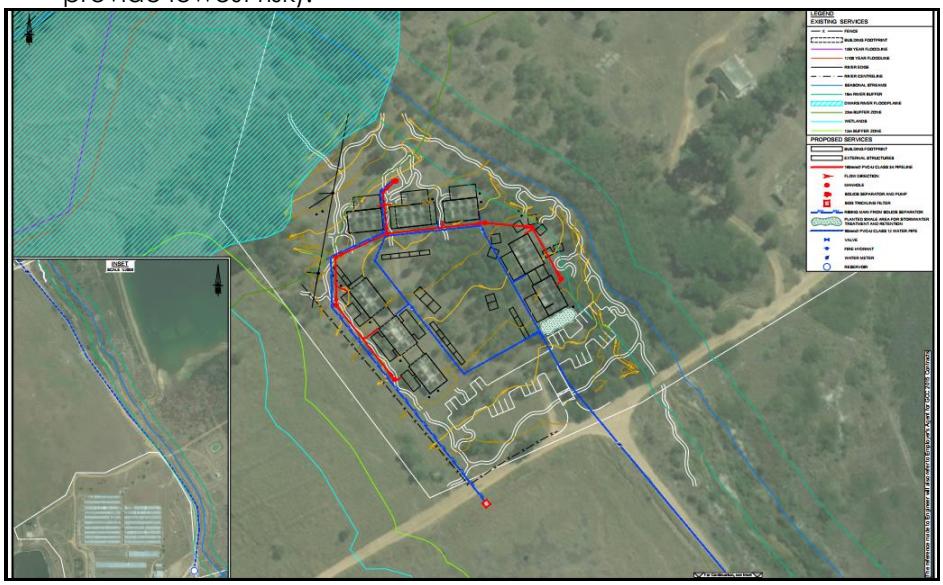

Figure 2 Proposed Services with freshwater layers indicated

e) MP highlighted that the team is still in the process of resolving the potable water and wastewater servicing with Stellenbosch Municipality and it may be that connections to their systems would be made in this regard.
f) MP added that there is a stream alongside the site, as well as two wetlands nearby, and the proposed water line to reservoir tanks would be within the road, but would run alongside stream 10 (refer to Figure 3 and Figure 4).
g) MP noted that a Risk Assessment has been done which indicates that the proposed development would be a Low risk to the watercourses (with mitigation) and that a General Authorisation could apply to the site, particularly in terms of Section 21 (c) and (i).
h) MP also noted that the freshwater impact assessment report notes that Use of treated effluent for toilet flushing and on-site containment and infiltration of stormwater, would also avoid the need for Section 21 (e) and (g) water uses, and MP also noted that there is a General Authorisation applicable to irrigation with treated wastewater.

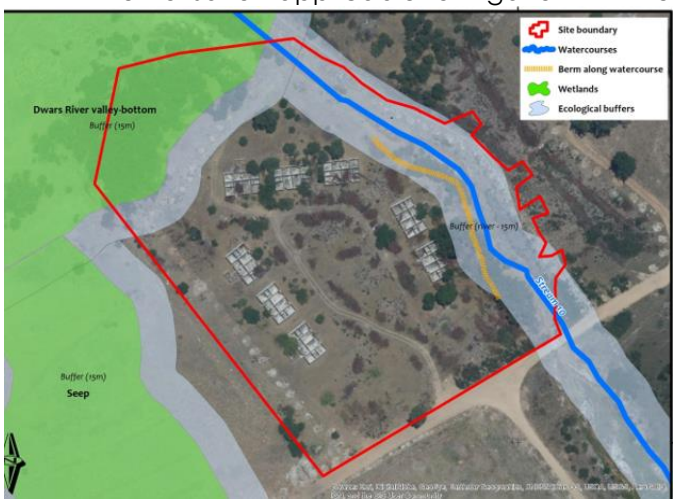

Figure 3 Watercourses near site

Figure 4 Watercourses along water line to reservoir (note line would be within existing road)

3.3 Feedback and Discussion

The discussion is summarised in Table 1.

Table 1 Discussion Summary

No.	QUESTION	ANSWER
1	WD: Where is the site located relative to the confluence of the Dwars and Berg Rivers?	KS: It is below the confluence and so General Limits should apply.
2	FR: Is there water quality data for the treated wastewater and if so, can DWS have it?	KS: The system proposed has been used on other sites and data is available for those, but the expectation is that water would be treated to General Limits.
3	SD noted that the irrigation of the landscaping and road verge areas with treated wastewater would trigger a Water Use License Application (WULA) (**primarily** because of the wetland and because it would occur within 500m thereof)	This was noted by the team and MP indicated that there is still a possibility of not needing to use a sewage package plant, but confirmation of available services is awaited from Stellenbosch Municipality.
4	RJ indicated that is any of the activities trigger a WULA, then the whole application has to be treated as such, even if some of the other activities fall within a General Authorisation (GA).	This was noted by the team.
5	SD: Has the 1:100 year flood-line for stream 10 been mapped?	MP: The flood-line for the Dwars River has been mapped and the site falls beyond that line, however, there has not been flood-line mapping for Stream 10.
6	It was noted that, in order for the DWS to advise further in regard to the required statutory process,	

	the following information would be needed: • Confirmation of the servicing of the site, particularly with regard to sewage/ wastewater; • Details on water quality and volumes of the treated waste-water (if this is still being considered as a viable option): • A drawing indicating the surveyed flood-lines of stream 10, overlaid with the development and services proposal and watercourses and their ecological buffers; and • Risk Matrix DWS attendees confirmed that they would be able to further consider the application and required process upon receipt of the above.

3.4 Close

a) MP thanked all attendees for their time and closed the meeting at 13:00.

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13 May 2021

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CHAND REFERENCE NO: 03005
DEA&DP Pre-Application Reference Number: 16/3/3/6/7/1/B4/12/1086/20
DWS Reference: WU17609

PRE-APPLICATION MEETING WITH THE DEPARTMENT OF WATER & SANITATION
KEY NOTES_FINAL

DATE: 16 February 2021
VENUE: MS Teams
TIME: 11:00 – 12:30
FACILITATOR: Ms. Marielle Penwarden

1. Attendees

FULL NAME	INITIAL	ORGANISATION
Warren Dreyer	WD	Department of Water and Sanitation
Rafieka Johaar	RJ	Department of Water and Sanitation
Shaddai Daniel	SD	Department of Water and Sanitation
Kate Snaddon	KS	Freshwater Consulting Group
William George	WG	Boschendal
Mike Hurworth	MH	MH&A Consulting
Donia Kamstra	DK	Profica
Marielle Penwarden	MP	Chand Environmental Consultants

2. Agenda

- Welcome and Introduction
- Site and Proposal
- Feedback/Discussion
- Close

3. Discussion

3.1 Welcome and Introduction

a) MP welcomed attendees to the second pre-application meeting, which is being held as a follow-up to the first meeting to provide the Department of Water and Sanitation (DWS) with the flood-line information they had requested in the previous meeting of 2 December 2020.

3.2 Site and Proposal

a) MP showed attendees photographs of the site (refer to Appendix A) and a video thereof.
b) MP explained that the flood-line analysis had indicated that the whole site is within the 1:100 year flood-line, which is as a result of the dam overflow (refer to flood-line in Appendix B, as displayed during the meeting).

c) MP noted that the proposed development has been updated to include flood management measures and stream rehabilitation works (refer to Appendix C for the preliminary plans shown at the meeting).
d) MP clarified that proposed flood protection measures include re-instatement of existing berms and increasing the size of the culverts upstream (under the ou wapad) and lowering the road level to a drift. MP added that stream rehabilitation would also be included, as per recommendations in the freshwater impact assessment report (to be updated).
e) MH further clarified that the proposed culverts and road level drop would serve to create overflow path, rather than providing an obstruction that results in uncontrolled sheet flow. He added that there are existing berms, but that they are not functioning as they had previously due to collapse in some areas. MH noted that the current height is likely to be acceptable, but that hydrological modelling would be required to confirm this.
f) WG also clarified that the intention for the cottages is to rehabilitate as much as possible rather than have new builds. WG noted that two cottages would have to be rehabilitated completely and with the others, the intention would be to keep floor slabs and foundations and then rebuild the footprint.
g) Regarding the proposed servicing (refer to Appendix C for the plans shown in the meeting), MH noted that the blue line is Wemmershoek Bulk main (located deep under the stream), the red line is the sewer and conservancy tank, noting that there are currently two separate septic tanks and soakaways on site. MH added that the proposed lines have been devised to be as close as possible to the existing cottages and the pump has been designed to be located within an area which is already disturbed. MH also clarified that sewage would be pumped to a conservancy tank for removal from site (but that the long term plan is to connect to the Pniel Waste-Water Treatment Works).
h) Following a question from SD in that regard, MH confirmed that water for landscaping would come from the potable water line.

3.3 Feedback and Discussion

The discussion is summarised in Table 1.

Table 1 Discussion Summary

	QUESTION	ANSWER
1	SD: What was the original purpose of the berms?	MH: Unsure, but presumably for flood prevention.
2	DK: Are the berms a result of the creation of the stream?	MH: This was a historic watercourse, but previous interventions have affected the watercourse.
3	SD: KS would need to confirm whether the berms are still required, and if so, how would they be altered? SD noted it is important to reduce risk of materials in berms being eroded away during high flood events.	MH: The slope would remain as natural as possible, noting that the 1:2 and 1:5 flood events do not/ would not reach the berms, but others would. MH: Planting and natural storage should provide enough stabilization of the berms. MH: Note that there would be no digging deeper into the stream bed and the proposal would retain current invert levels. There would also be erosion protection to prevent scouring. KS: Note that the stream is currently heavily eroded and incised along a section of river below the site, because of all the flow currently received.
4	SD: Would there be new berms or replacement of existing berms?	MH: The berms have been surveyed and the existing berms would be re-instated, so there would be no additional berming, with the intention being to only put back what was there previously.
5	KS: What would the berm height be?	MH: The intention would be to keep to heights

		that they were previously, but the current hydrologic modelling underway would determine the required height and note that it would also need to allow for freeboard.
6	SD: What kind of traffic would go over the berms?	MH: In the past cattle has moved over the berms, but the proposed development would restrict cattle from accessing the site. WG confirmed that cattle will not graze there any longer.
7	WD: Is it possible to improve the channel so that no berm is needed? Perhaps through lowering the level of the stream?	KS: Theoretically, yes, but this would cause a greater impact, so it is not ideal as it would disturb more of the watercourse.
8	SD noted concern regarding water velocity (and changes as a result of the proposed development) and the downstream impacts. This should be addressed in the risk assessment.	MH & KS: The velocity would be considered in the updated flood-line study, flood management design and rehabilitation plan. MH: Note there would be no deepening of the watercourse and it would flow naturally.
9	SD: The stream should be rehabilitated, and diversity created.	KS: Noted, this will be included in the rehabilitation plan.
10	SD: Note that rehabilitation must also make sure that the wetland is accounted for.	KS: Noted, this will be included in the rehabilitation plan.
11	RJ noted that the risk assessment matrix would need to be updated and provided to DWS.	KS noted this and confirmed that it would be included in the updated Freshwater Impact Assessment Report.
12	SD and RJ noted that the Rehabilitation Plan/ Maintenance Management Plan would need to provide an overview of what is proposed and what will be done when.	All agreed that the freshwater impact assessment report would be updated with a rehabilitation plan that would cover specific rehabilitation and maintenance measures for the site/proposed development and note general principles for the farm, with the understanding that DWS will, in future, require a Maintenance Management Plan for the farm.
13	SD indicated that DWS would, in future, ask for a Maintenance Management Plan for the entire farm, but that it does not need to be developed in detail for the New Retreat project.	This was noted by the project team.

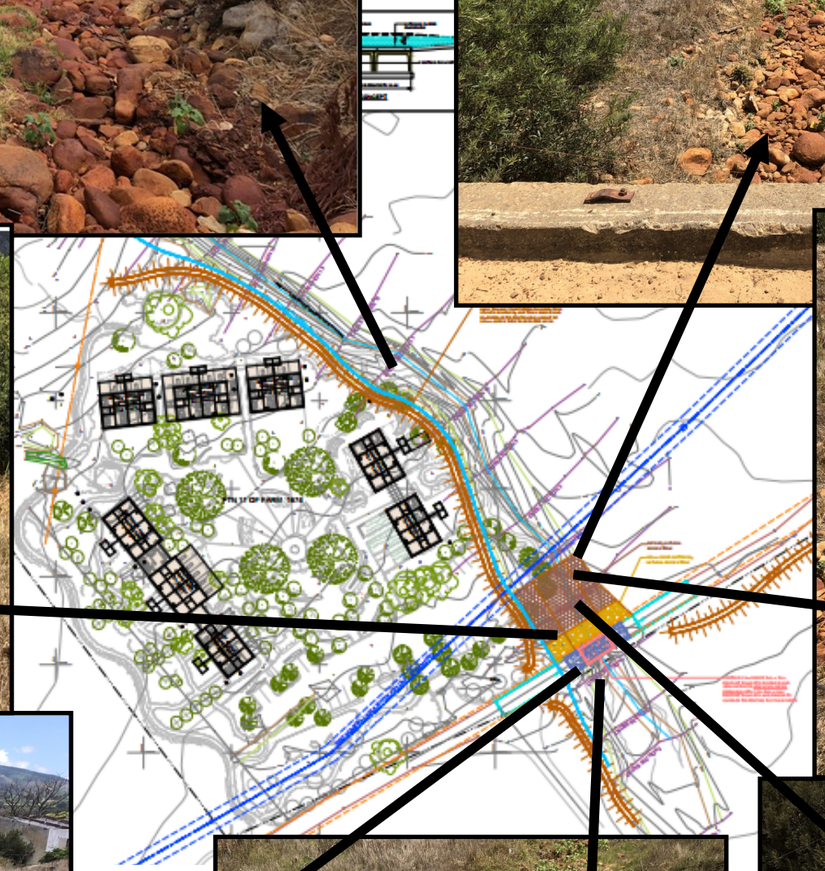
3.4 Close

a) MP thanked all attendees for their time and closed the meeting at 12:30.

LIST OF APPENDICES

APPENDIX A

Photographs of the site

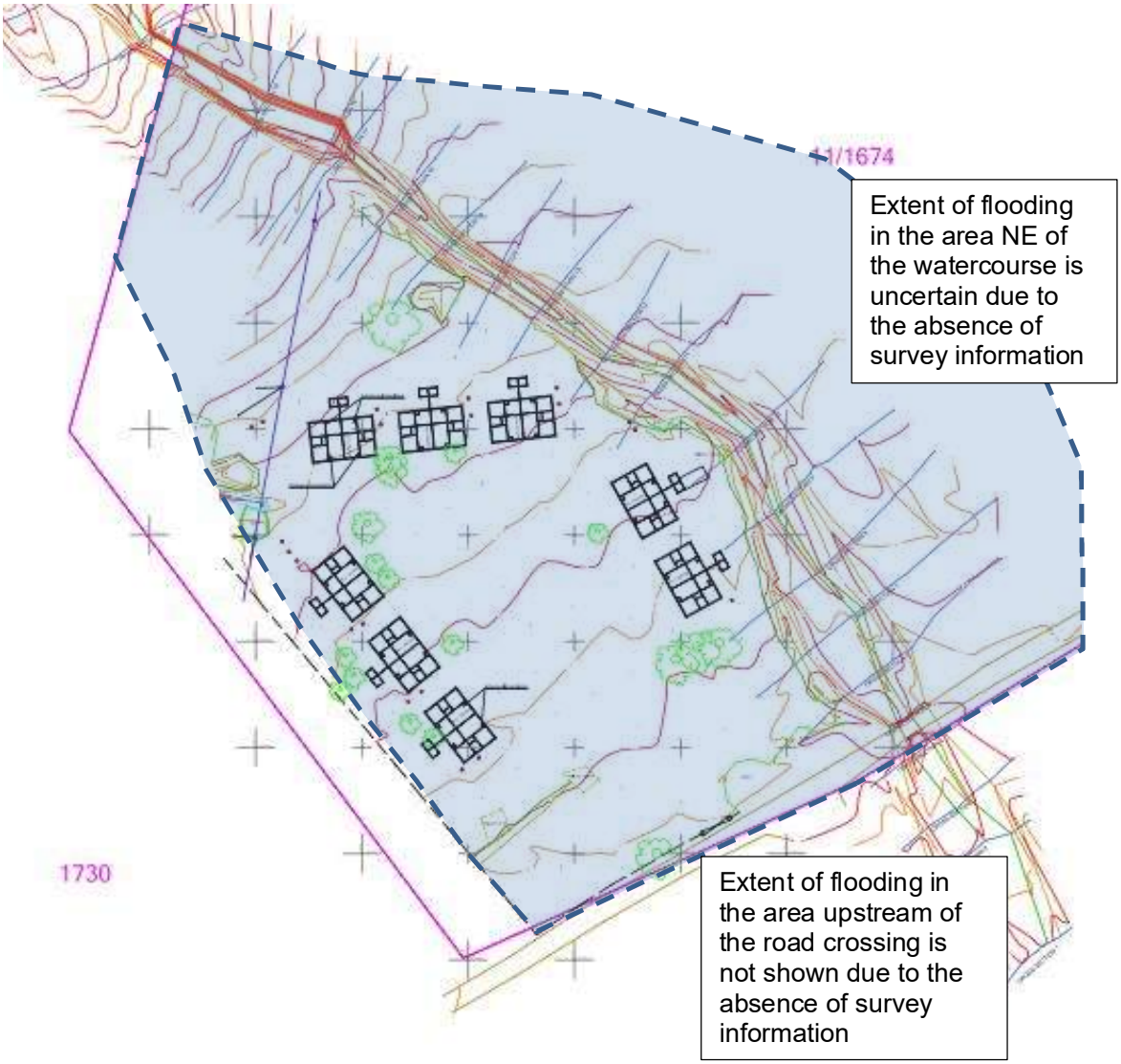


APPENDIX B

Flood line site

Annexure D: Flood Lines: Existing

The shaded area on this diagram indicates the extent of the site that is likely to be affected by the 100-year flood due to water bypassing and/or overtopping the existing road crossing. The extent of flooding upstream of the road crossing is not shown.



APPENDIX C

Preliminary Plans _ Flood management measures & stream rehabilitation works.

PTN 11 OF FARM 1674

206 m

206 m

206 m

204 m

210 m

100 YEAR FLOOD LINE

VISITORS COTTAGE #3
GROUND STOREY
FFL= 206.77m

VISITORS COTTAGE #2
GROUND STOREY
FFL= 206.95m

VISITORS COTTAGE #1
GROUND STOREY
FFL= 207.35m

110 Ø FIRE
50 Ø DOMESTIC

FH

BUSH

TRAINING ROOM
GROUND STOREY
FFL= 208.25m

CONFERENCE FACILITY
GROUND STOREY
FFL= 207.70m

BANQUETTE
GROUND STOREY
FFL= 208.30m

RECEPTION AND ENTRATION
GROUND STOREY
FFL= 208.80m

STAFF LOUNGE
GROUND STOREY
FFL= 208.60m

PRICKLY PEAR

PTN 11 OF FARM 1674

ERF 1730

PROPOSED 5m SERVITUDE IN FAVOUR OF LOCAL AUTHORITY STILL TO BE REGISTERED

WMH

HP

V

V1

V2

NRV

BC

WM

FH1 (SUCTION HYDRANT)

50Ø DOMESTIC

50Ø Ø FIRE

50000 MUNICIPAL BULK WATER PIPELINE (KYLEMORE)

160Ø uPVC CL-12
(EXTENSION OF MUNICIPAL SUPPLY FROM LANQUEDOC)

CONSERVANCY TANK (30m³ STORAGE
FOR 10m³ PER DAY FOR 3 DAYS)
SERVICING CONTRACT WITH
LOCAL AUTHORITY REQUIRED

LAYOUT PLAN
SCALE 1 : 300

NOTES :

1. NO DIMENSIONS TO BE SCALED. ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. TOPOGRAPHICAL SURVEY BY FRIEDLAENDER, BURGER & VOLKMAN OF FEBUARY 2020.
3. FINAL ARRANGEMENT OF BUILDING TO BE CONFIRMED BY ARCHITECT.
4. EXISTING BULK SERVICES & NEW SERVICES CONNECTIONS TO BE EXPOSED AND VERIFIED PRIOR TO WORKS COMMENCING.

LEGEND

EXISTING WATER

- 300Ø MUNICIPAL BULK WATER PIPELINE

PROPOSED

FIRE WATER

- 110Ø FIRE RING
ALL UNDERGROUND FIRE PIPEWORK TO BE uPVC CL16, AND TO ADAPT BELOW GROUND TO G.M.S. FOR ALL ABOVE GROUND PIPEWORK

WM - MAIN METER CHAMBER, 100mm Ø SENSUS MEISTREAM PLUS METER, WITH STRAINER AND READ SWITCH CAPABILITY. AS PER CoCT DETAILS W4A AND W4B

V1 - MAIN MUNICIPAL GATE VALVE. WITH CAP TOP IN BELL TOBY

V2 - MAIN CONSUMER GATE VALVE, WITH HAND WHEEL IN VALVE CHAMBER

V - GATE VALVE, IN BELL TOBY

NRV - NON RETURN VALVE IN VALVE CHAMBER

BC - DOUBLE BOOSTER CONNECTION

FH - UPSTAND FIRE HYDRANT
110Ø
110Ø

ALL GMS PIPEWORK TO BE COATED WITH 'CARBOGUARD 893' BY CARBOLINE (OR SIMILAR APPROVED)

DOMESTIC WATER

- 50Ø MAIN (uPVC CLASS 12)

DM - DOMESTIC WATER METER CHAMBER, 50mm Ø KENT

IM - IRRIGATION WATER METER CHAMBER, 50mm Ø KENT

V - BALL VALVE IN VALVE CHAMBER

0 10 20 30 40 50 60 70 80 90
ON ORIGINAL (mm)

REV.	DESCRIPTION	DATE
B	FIRE ENGINEER'S UPDATES	15 FEB 2021
A	ISSUED FOR INFORMATION	12 FEB 2021

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CONSULTING CIVIL AND STRUCTURAL ENGINEERS
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Reg. No. _____
Sign _____

CLIENT :

BOSCHENDAL ESTATE

PROJECT :

BERTHA RETREAT
PTN 11 OF FARM 1674

DRAWING TITLE :

PROPOSED FIRE & DOMESTIC WATER LAYOUT

THIS DRAWING IS TO BE USED FOR INFORMATION PURPOSES ONLY

DRAWN	DATE	SCALE
GLYNIS	JANUARY 2021	A0 AT 1 : 300
JOB No	DRG No / CAD-FILE	REVISION
C5960	C5960/04/02	B

PTN 11 OF FARM 1674

206 m

206 m

197 m

206 m

204 m

PTN 11 OF FARM 1674

ERF 1730

210 m

100 YEARN FLOOD LINE

VISITORS COTTAGE #3
GROUND STOREY
FFL= 206.77m

VISITORS COTTAGE #2
GROUND STOREY
FFL= 206.95m

VISITORS COTTAGE #1
GROUND STOREY
FFL= 207.35m

MANAGERS OFFICE
GROUND STOREY
FFL= 208.25m

RECEPTION/RESERVATION
GROUND STOREY
FFL= 208.20m

CONFERENCE FACILITY
GROUND STOREY
FFL= 207.90m

DINING HALL
GROUND STOREY
FFL= 208.30m

STAFF LOUNGE
GROUND STOREY
FFL= 208.60m

FSRE1
FSRE2
FSRE3
FSRE4
FSRE5
FSRE6
FSRE7

FSMH1
FSMH2
FSMH3
FSMH4
FSMH5
FSMH6
FSMH7
FSMH8

PS1

110Ø
110Ø
110Ø
110Ø

160Ø UPVC CL 9 SEWER & RISING MAIN

CONSERVANCY TANK (30m³ STORAGE
FOR 10m³PER DAY FOR 3 DAYS)
SERVICING CONTRACT WITH
LOCAL AUTHORITY REQUIRED

300Ø MUNICIPAL BULK WATER PIPELINE (KYLEMORE)

BUSH
PRICKLY PEAR
HP

NOTES :

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LEGEND

FOUL SEWER

- SEWER PIPE, uPVC CL. 34
- FSMH - SEWER MANHOLE (PC RINGS)
- FSMH - SEWER MANHOLE (BRICKWORK)
- FSRE - SEWER RODDING EYE
- PS - SEWER PUMP STATION
- RISING MAIN (Ø AS PER LAYOUT)

0 10 20 30 40 50 60 70 80 90
ON ORIGINAL (mm)

REV.	DESCRIPTION	DATE
B	ISSUED FOR INFORMATION	15 FEB 2021
A	ISSUED FOR INFORMATION	12 FEB 2021

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Sign.

CLIENT :

BOSCHENDAL ESTATE

PROJECT :

BERTHA RETREAT
PTN 11 OF FARM 1674

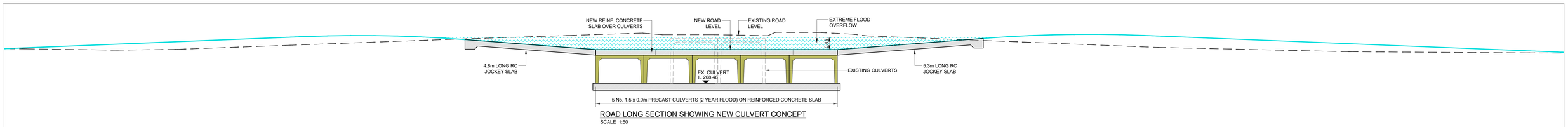
DRAWING TITLE :

PROPOSED FOUL SEWER RETICULATION

THIS DRAWING IS TO BE USED FOR INFORMATION PURPOSES ONLY

DRAWN	DATE	SCALE
GLYNIS	JANUARY 2021	A0 AT 1 : 300
JOB No	DRG No / CAD FILE	REVISION
C5960	C5960/04/01	B

LAYOUT PLAN
SCALE 1 : 300



ROAD LONG SECTION SHOWING NEW CULVERT CONCEPT
SCALE 1:50

PTN 11 OF FARM 1674

NOTE: FLOOD LINES ARE PRELIMINARY AND ARE TO BE RE-MODELLED BY STORMWATER SPECIALIST ON FINALISATION OF LOW LEVEL RIVER CROSSING AND BERM MEASURES

±130m TO KLIPDRIFT RIVER

FLOW DIRECTION (UNNAMED STREAM)

1:100 YEAR FLOOD LINE

EXISTING INFORMAL BERMING ON LEFT HAND BANK TO HAVE VEGETATION CLEARED, TREE STUMPS REMOVED, AND TO BE RAISED AND RE-PROFILED TO CONTINUOUS HEIGHT OF 500mm ABOVE 1:100 YEAR FLOOD LEVEL

VISITORS COTTAGE #3 GROUND STOREY FFL= 206.77m

VISITORS COTTAGE #2 GROUND STOREY FFL= 206.95m

VISITORS COTTAGE #1 GROUND STOREY FFL= 207.35m

DRAWING ROOM GROUND STOREY FFL= 208.80m

PRESENTATION EXHIBITION GROUND STOREY FFL= 208.60m

CONFERENCE FACILITY GROUND STOREY FFL= 207.60m

DINING HALL GROUND STOREY FFL= 208.30m

STAFF LOADGE GROUND STOREY FFL= 208.60m

206 m

197 m

204 m

210 m

BUSH

PRICKLY PEAR

ERF 1730

300Ø MUNICIPAL BULK WATER PIPELINE - (KYLEMORE)

EX SEWER FORMALISED & RATIFIED

RIP RAP, NATURAL RIVER STONE

300mm RENO MATTRESS, NATURAL RIVER STONE

EXISTING 2 No. RAISED 1.5m x 1.5m PRECAST CULVERTS REMOVED AND CONVERTED TO LOW LEVEL RIVER CROSSING WITH 5 No. 1.5m x 0.9m PRECAST CULVERTS AND CONCRETE SURFACE TO CONTAIN 1:00 YEAR FLOOD

NEXT DRIFT

HP

CROSS SECTION 1
CROSS SECTION 2
CROSS SECTION 3
CROSS SECTION 4
CROSS SECTION 5
CROSS SECTION 6
CROSS SECTION 7
CROSS SECTION 8
CROSS SECTION 9
CROSS SECTION 10
CROSS SECTION 11
CROSS SECTION 12
CROSS SECTION 13
CROSS SECTION 14
CROSS SECTION 15
CROSS SECTION 16
CROSS SECTION 17
CROSS SECTION 18
CROSS SECTION 19

LAYOUT PLAN
SCALE 1 : 300

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0 10 20 30 40 50 60 70 80 90
ON ORIGINAL (mm)

REV.	DESCRIPTION	DATE
C	ROAD LONG SECTION ADDED	15 FEB 2021
B	ISSUED FOR INFORMATION	15 FEB 2021
A	ISSUED FOR INFORMATION	12 FEB 2021

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KENILWORTH STUDIO
Reg. No.
Sign.

CLIENT :
BOSCHENDAL ESTATE

PROJECT :
BERTHA RETREAT
PTN 11 OF FARM 1674

DRAWING TITLE :
FLOOD PROTECTION MEASURES

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DRAWN	DATE	SCALE
GLYNIS	JANUARY 2021	A0 AT 1 : 300
JOB No.	DRG No. / CAD FILE	REVISION
C5960	C5960/05/01	C