

BACKGROUND INFORMATION DOCUMENT TO NOTICE OF INTENT TO DEVELOP (NID) IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999)

PROPOSED CONSTRUCTION/ INSTALLATION OF NEW AIRPORT WATER PIPELINE ACROSS A REMAINDER OF ERF 464 AS WELL AS PORTIONS OF THE FARMS GWAYANG 208/44, 45, 53, 65, 68, 96, 102, 112, 113, 132, 131 & 139, GEORGE DISTRICT AND MUNICIPALITY



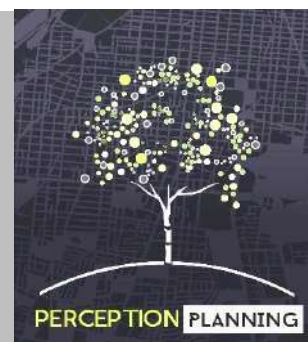
ON BEHALF OF: George Municipality

AUGUST 2024

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PERCEPTION Planning

URBAN & REGIONAL PLANNING- ENVIRONMENTAL PLANNING- HERITAGE IMPACT ASSESSMENT & MANAGEMENT

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ABBREVIATIONS

1. DEADP –Department of Environmental Affairs & Development Planning (WCG)
2. DOI – Department of Infrastructure (WCG)
3. EA – Environmental Authorization
4. HIA – Heritage Impact Assessment
5. HWC – Heritage Western Cape
6. NGSI – National Geo-Spatial Information, Department of Rural Development and Land Reform, Mowbray
7. NHRA - National Heritage Resources Act, 1999 (Act 25 of 1999)
8. PHS – Provincial Heritage Site
9. SAHRIS – South African Heritage Resources Information System
10. VIA – Visual Impact Assessment
11. WCG – Western Cape Government

COVER: Collage of images of the study area, surrounds (Author, 2024)

1. INTRODUCTION

PERCEPTION Planning was appointed by Johannes Franciscus Koegelenberg (SA ID 790608 5048 081), being the Director: Civil Engineering Services, on behalf of George Municipality (being the developer) to submit to Heritage Western Cape (HWC) a Notice of Intent to Develop (NID) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999) in relation to the proposal as outlined as part of this application. A copy of the Power of Attorney/ Mandate is attached as **Annexure 1**.

The cadastral land units subject to this application include:

- Portion of the Remainder of Erf 464, George (original George Commonage) registered to George Municipality.
- Portions 44, 45, 53, 65, 68, 96, 102, 112, 113, 132, 131 & 139 of the farm Gwayang 208, registered to various persons and entities.

1.1 Previous applications

The following applications undertaken in terms of Section 38 of the NHRA are considered relevant to the subject study area. Copies of HWC's comments in respect of these applications are attached as part of **Annexure 2** hereto.

HWC Ref	NHRA Section	Proposal/ Property description	Application status	Decision outcome/ date
HWC23031514SB0315	38	Gwayang Mixed-use area: Erf 464/ RE, George & Erf 325/RE, Pacaltsdorp	Ongoing	No further studies 06/04/2023
120531ZS48M	38	Service Station, Hotel: Gwayang 208/ 78, 82, 84	Never implemented	No further studies 31/05/2012
19110610AS0127E	38	Proposed Airport Access Roads: Gwayang 208/ RE, 4, 34, 37, 53, 60, 73, 74, 78, 83, 84, &110	Ongoing	10/02/2012
21092709AM0930E	38	Proposed rezoning, subdivision Gwayang 208/139	Ongoing	22/10/2021
17102302WD1025E	38	Proposed service station: Gwayang 208/4	Never implemented	14/11/2017

2. DESCRIPTION OF STUDY AREA

The proposed development (water pipeline) incorporates a linear study area (± 3,8km in length), affecting an area of ±33,745m² and following the existing alignment of the R102 (also generally known as the "Airport Road") as per **Figures 1, 2** below.



Figure 1: Study area location within sub-regional context (Eisenburg.com, 2022 as edited).



Figure 2: Linear study area shown in relation to surrounding rural context (GoogleEarth© 2024 as edited).

Forming part of an undulating rural landscape, the study area has foremost been transformed through agriculture/ cultivation for an extended period. More recent semi-urban developments along the study area (from west to east) include the George Airport, a chef training academy, various nurseries, restaurants and more intensive agricultural activities, Outeniqua Research Farm (WCG) to the northeast and George Municipality solid waste disposal and Water Treatment Works. Several land use applications relating to the establishment of an Airport Support Zone on former agricultural lands directly northeast of the George Airport have recently been approved and are currently under construction as evident on Figure 2.

Several historic structures were noted during fieldwork undertaken on 13th June 2024 (Figure 2) though none are considered of high local cultural significance, nor would any be impacted through implementation of the proposed pipeline. No historic gravesites/ burial grounds are known to occur along or direct proximity of the linear study area. Photographs of the study area and its direct environs are attached to this report as **Annexure 3**.

3. DEVELOPMENT DESCRIPTION

According to information made available by SMEC consulting engineers the proposal entails upgrading of a portion of the existing bulk water pipeline along the R102 (Airport Road). The portion of the pipeline starts approximately 150m east of the Landfill Site entrance and extends to the intersection of the R404/R102 at the George Airport.

"The current 200mmØ AC pipeline is old and often bursts, which leads to frequent maintenance and repair work. Additionally, the growing demand in the R102 area has prompted the George Municipality to upgrade this main pipeline. The upgrade will span approximately 3.8km and is intended to ensure an adequate and reliable water supply for current properties and future developments. This upgrade aims to provide enough water supply to developments along the R102 heading eastwards towards the N2, as well as future developments towards Great Brak River, Herold's Bay, Oubaai, and the Airport Precinct." (SMEC 2024:3)

Proposed works envisaged during construction to upgrade the existing 3.8km Airport Bulk Water Pipeline along R102 would include the following components:

- Installation of a 400mm diameter pipeline for approximately 660m, including a 78m long river/bridge crossing
- Installation of a 315mm diameter pipeline for approximately 2240m, including a 30m culvert Crossing

- Installation of a 250mm diameter line for approximately 790m.
- Install air valves, scour valves, and isolation on the new bulk pipeline.
- Install new connection tee-off points for future use.
- Install new connection tee-off points to existing properties and water meters.
- Construction of reinforced concrete chamber to house valves, scour valves, and isolation.
- Ensuring the existing water main remains operational during the construction of the new pipeline.
- Install all road crossings by means of horizontal directional drilling (HDD).
- Repairing and reinstating existing infrastructure that will be affected or damaged during construction.

The two route alignments (Alternative and Preferred) investigated differ minimally and neither would impact any heritage resources. The engineering report, which include detailed drawings of the proposed alignment(s) is attached to this report as **Annexure 4**.

4. FOCUSED HISTORIC BACKGROUND

Historical background research focussed on relevant primary sources obtained in the George Museum Archives as well as other primary and secondary sources.

4.1 Early establishment of George

The town of George was established on land registered as a loan farm named "Post Rivier" 1760, in favour of Koert Grobbelaar¹. Jan Coetsee (Koert Grobbelaar's stepson) extended the lease until Coetsee's death in 1782². In 1777 the Dutch East India Company (DEIC) had decided to establish a new Company Post to monitor the felling of indigenous woods. The DEIC annexed the farm Post Rivier in order to further establish the boundaries of the woodcutter's post. Although George was established as a town in 1811, the first freeholds were only granted in 1814 by which time the town grid had been laid out.

Formalisation of the first town layout (1812) appear to have been done by J H Voorman³, most likely with some input from then landrost Van Kervel. The basic layout of the town bears resemblance to that of Uitenhage although with various improvements. The layout consisted of two parallel streets namely York Street (±60m wide but increasing to ±100m width at the top end) and a second, being the narrower Meade Street. These two streets run into a cross street, being Courtenay Street in which the main public buildings dating back to the Colonial Period were situate.



Figure 3: Location of early farm Gwayang, 1900 SG Mapping for the Outeniqualand (George Museum Archives).

¹ Cape Archives (CA)RLR 15/2 p. 511

² CA MOOC8/18.49a

³ Cape Town Archives (CTA) CO 2576 1811, July 3rd. Letter from Landrost A van Kervel to Colonial Office requesting plan of Town layout compiled by Voorman to be returned as it was the only copy made.

4.2 Early farm Gwayang 208

From a colonial perspective the farm Gwayang 208 was first framed during 1910⁴ and at the time, covered an area of 1,980 morgen 520 sq. roods (±1,774 ha) (Figure 3). To the northeast the farm was bound by both the Pacaltsdorp Commonage (now "Erf 325, Pacaltsdorp") and the George Commonage (now "Erf 464") as partly defined by the Gwayang River. The farm was granted to Adriaan H Stander "and fifteen others" during April 1911⁵. Figure 4 shows the proposed pipeline alignment within the context of the 1910 diagram, traversing early Lots C and D as well as the George Commonage (now Erf 464).

Basic historical background research did not identify or highlight any other significant heritage-related aspects related to the study area. It is unlikely that detailed archival research would provide further meaningful insight into former use and/or broader understanding of heritage-related themes of the area.

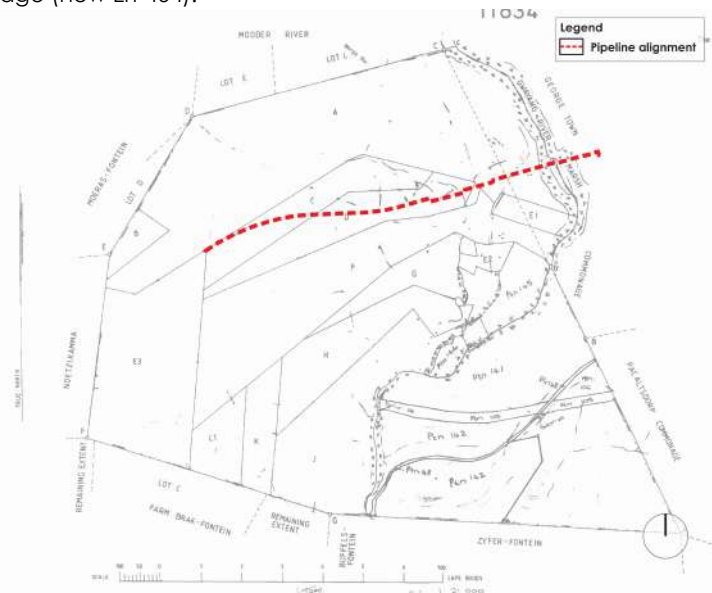


Figure 4: Proposed pipeline alignment in relation to early 1910 diagram for the farm Gwayang 208 (SGO as edited).

5. HERITAGE RESOURCES AND ISSUES

5.1 Cultural landscape context

Given the limited nature of available primary and/ or secondary archival sources pertinent to the study area, analysis of early (1957) aerial photography was found useful to inform our understanding from a cultural landscape context. From this analysis the following traditional (i.e. Pre-Modern) cultural landscape patterns emerge, as summarized below. (Figure 5)



Figure 5: Extract from 1957 aerial imagery showing the alignment of the study area (NGSI, Aerial survey 403, Images 3268, 3270, as edited).

⁴S.G. Diagram A1474/1910
⁵SG Diagram 1156/1911

The imagery, which predates construction of the George Airport, shows the early alignment of York Street (top-right) and the old George – Great Brak River road, which in present day has become known as the "Airport Road". To the east (right hand of image), the early alignment of Beach Road (connecting George and Pacaltsdorp) is seen intersecting with York Street. Secondly, the alignment of the Gwayang Road, just west of the Gwayang River, remains largely unchanged in present day. Thirdly, the early alignment of the R404 connecting Blanco and the coastline/ Herold's Bay is noted on the left-hand side of the image.

Though several farmsteads are noted within this early landscape none of these will be impacted through the proposed pipeline alignment. Save for river corridors, which are generally defined through denser vegetation, the landscape had clearly already been transformed through extensive agriculture/ cultivation by this period (1957). Archival sources confirm that agriculture had been an important land use within this landscape since at least the 18th century.

5.2 Archaeology

Pre-colonial archaeology: The closest Provincial Heritage Site (Grade II) to the study area is Herold's Bay Cave, some 6.7km to the south-west. It was gazetted in 1979 because of its palaeontological significance, anthropogenic sediments, remains of a speleothem and remnants of a Last Interglacial Beach. Various archaeologists (Kaplan 2005; Dreyer 2006 & Nilssen 2009) have commented on the steep cliffs along the coast between Mossel Bay and George and numerous caves, some with significant MSA material, have been reported. The CTS Heritage Screener (2019) repeats the importance of the coastal strip, noting the stone tools found at the Blougat River mouth. However, these caves are difficult to reach, and Kaplan (2007) has commented that the majority of significant sites occur within 300m of the high-water mark.

In general, archaeological studies which have been conducted in the interior around George, have reported scattered surface distributions of ESA artefacts as well as smaller numbers of MSA stone artefacts. No observations were made of LSA sites in the area. Kaplan (2007) commented that artefact density is very low away from the coastal margin. No artefacts were observed at the George Country Club (Kaplan 2002), or at Buffelsfontein near Herold's Bay (Kaplan 2007).

Scatters of ESA and MSA artefacts were observed on the farm Hooge Kraal and the catchment of the Maalgate River (i.e. Lagoon Lifestyle Estate) (Kaplan 2005) and at Oubaai Golf estate and the 'Brink' (a residential development) near Herold's Bay. Artefacts were made on local quartzite, included side-struck flakes, prepared flakes, large chunks, flaked cobbles, hammerstones, a cleaver and at least two bifacial flaked handaxes. They occurred in disturbed and degraded areas. Nilssen (2009) too surveyed a portion of Hooge Kraal 238 (8km to the south-west) noting the impenetrable vegetation. He noted that the remains are dominated by ESA material located in and under ancient dune sands. These included handaxes, cleavers, cores, hammerstones, choppers, etc. The steeper slopes to the south were dominated by a range of Middle Stone Age (MSA) artefacts on quartzite and quartz.

Dreyer (2006) surveyed Ballots Bay on the Farm Sand Kraal 197, and he reported on a collection of ESA hand axes (from the illustration there are at least 8 handaxes) and a smaller assemblage of flaked tools which resemble MSA artefacts (from the illustrations these include broken blades and flakes) from the same source. The source of the raw material is likely the locally derived quartzite from the beach. A study in the Pacaltsdorp area by Webley (2022), has confirmed the presence of caves and rock shelters in the Skaapkop River, some with rock art.

Historical Archaeology: No historical archaeology has been undertaken in the area, but Orton & Hart (2011) did develop a conservation management plan for some late 18th/early 19th century ruined buildings at Tyolora, to the south-east of George.

Graves: During an archaeological survey around Blanco for a new substation and powerlines, (ACO Associates for Vidamemoria 2015) recorded two graveyards and more are likely to occur around small settlements.

Comments on Potential Archaeological Impacts:

It is unlikely that any significant artefact material will be identified along the study area. Scatters of ESA and/or MSA material are possible but are likely to be of low significance. Caves/rock shelters do occur in rock outcrops along the lower reaches of the Gwayang River, near the coast and it is possible that some may be found higher up the river valleys as well. However, these are not likely to be impacted. The study area is however ± 7 km north of the nearest coastline and the proposed pipeline will not impact any caves/ rock shelters.

Notwithstanding, if any human remains or significant archaeological materials are exposed during development activities, then the find should be protected from further disturbance and work in the immediate area should be halted and Heritage Western Cape must be notified immediately. These heritage resources are protected by Section 36(3)(a) and Section 35(4) of the NHRA (Act 25 of 1999) respectively and may not be damaged or disturbed in any way without a permit from the heritage authorities. Any work in mitigation, if

deemed appropriate, should be commissioned, and completed before construction continues in the affected area and will be at the expense of the developer. The above recommendations should be included in the Environmental Management Program (EMPr) for the proposed residential development.

5.3 Palaeontology

According to SAHRIS Palaeontological sensitivity mapping, the entire study area forms part of an area highlighted as being of no palaeontological sensitivity (grey) where "no palaeontological studies are required".⁶

5.4 Conclusion

The proposed water pipeline alignment would follow the alignment of the Airport Road through a highly transformed rural landscape. According to information provided pipelines would be affixed to bridge structures across the Gwayang River and other water courses thus not physically impacting river basins below. Several new urban developments had recently been permitted/ are under construction along the route alignment.

Based on fieldwork, historic background research and the literature review undertaken as part of this assessment it is therefore our view that no heritage resources of cultural significance (i.e. built environment, cultural landscape, archaeology, or palaeontology) would be impacted through the proposed development.

6. RECOMMENDATION

Having regard to the above assessment it is our view that the proposal would not impact on any heritage resource of cultural significance and that no further heritage-related studies would be warranted in this instance.

PERCEPTION Planning

23rd August 2024



STEFAN DE KOCK

Hons: TRP(SA) EIA Mgmt (IRL) Pr Pln PHP

⁶ <https://sahris.sahra.org.za/map/palaeo>, accessed 8th February 2023

REFERENCES and ACKNOWLEDGEMENTS

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Reference number: T/ING/010/2020: Project no 12: WP 1
Date: 18 June 2024

Enquiries: Mrs M Geyer
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044 801 9268

To whom it may concern

CONTRACT NUMBER T/ING/010/2020: PROJECT NO. 12 WORK PACKAGE 1: REHABILITATION/UPGRADING OF WATER NETWORK AND ASSOCIATED BULK FACILITIES – AIRPORT PIPELINE EXTENSION

POWER OF ATTORNEY FOR HERITAGE SPECIALIST

I, Johannes Franciscus Koegelenberg (**SA ID 790608 5048 081**), being the Proxy of the **George Municipality** (being the Developer) of the proposed installation of engineering infrastructure (pipeline) across the **REMAINDER OF ERF 464 AS WELL AS PORTIONS 65, 108, 26, 115, 102, 96, 139, 60 AND 68 OF THE FARM GWAYANG 208, GEORGE DISTRICT AND MUNICIPALITY**, hereby nominate Stéfán de Kock of *PERCEPTION Planning*, with power of substitution, to be my agent in name, place and stead, (as set out in their quotation dated 9th February 2024) to sign on my behalf and submit to the appropriate authorities the following application, which mandate shall, without limiting the generality of the a foregoing, include:

- a.) Notification of Intent to Develop (incl. Background Information Document) with relation to proposed installation of engineering infrastructure, exceeding 300m in length, across the above properties, as required in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act 25 of 1999).

I hereby accept the Terms of Agreement as set out in abovementioned quotation dated 9th February 2024.

The authorization is valid for a period of 12 months from the date of signature.

I, Johannes Franciscus Koegelenberg am duly Authorized to act on behalf of the George Municipality.

Should you have any further queries in this regard, please contact me at 044 801 9278 or jkoegelenberg@george.gov.za.

Yours faithfully,



Jannie Koegelenberg
Director: Civil Engineering Services

REGISTERED MAIL

Our Ref: HM/EDEN/GEORGE/FARM 208 PTN 37, 84, 73, 74, 60, 53, 4, 34, 78, 83, 110 & REM OF
Case No.: 19110610AS0127E
Enquiries: Andrew September
E-mail: andrew.september@westerncape.gov.za
Tel: 021 483 9543
Date: 10 February 2020



Cathy Avierinos
PO Box 380
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6390

RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: FINAL
In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape Provincial Gazette 6061, Notice 298 of 2003

NOTIFICATION OF INTENT TO DEVELOP: PROPOSED AIRPORT ACCESS ROAD UPGRADE ON FARM 208 PTN 37, 84, 73, 74, 60, 53, 4, 34, 78, 83, 110 & REMAINDER OF FARM 208, GEORGE AIRPORT, GEORGE WEST SUBMITTED IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

CASE NUMBER: 19110610AS0127E

The matter above has reference.

Heritage Western Cape is in receipt of your application for the above matter received on 28 January 2020.

You are hereby notified that, since there is no reason to believe that the proposed road upgrade will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

This decision is subject to an appeal period of 14 working days. The appeal period shall be taken from the date above. It should be noted that for an appeal to be deemed valid it must refer to the decision, it must be submitted by the due date and it must set out the grounds of the appeal. Appeals must be addressed to the official named above and it is the responsibility of the appellant to confirm that the appeal has been received within the appeal period.

Applicants are strongly advised to review and adhere to the time limits contained the Standard Operational Procedure (SOP) between DEADP and HWC. The SOP can be found using the following link <http://www.hwc.org.za/node/293>

However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately and Heritage Western Cape must be notified without delay.

HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully


.....
Dr Nxolisi Dlamuka
Chief Executive Officer, Heritage Western Cape

www.westerncape.gov.za/cas

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ORIGINAL



Case No: 120531ZS48M
File No: HM/GEORGE/PTNS, 78, 82 AND 84 OF FARM 208
Enquiries: Zwelibanzi G Shiceka
E-mail: Zwelibanzi.Shiceka@pgwc.gov.za
Tel (021) 483 9533

Date: 31 May 2012

Mr. Stefan de Kock
PERCEPTION Heritage Planning
PO Box 9995
George
6530

Dear Mr. Stefan de Kock

CASE NO: X120531ZS48M

NOTIFICATION OF INTENT TO DEVELOP (NID): PROPOSED REZONING FOR SERVICE STATION AND HOTEL ON PTNS, 78, 82 AND 84 OF FARM 208, CNR R102 AND R347, GEORGE IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

The matter above has reference.

Heritage Western Cape is in receipt of your correspondence on the above matter, dated 09 May 2012.

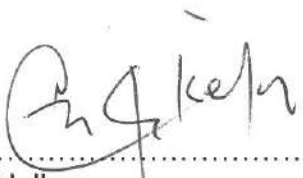
You are herewith notified that, since there is no reason to believe that the proposed development will impact on heritage resources, therefore Section 38 of the National Heritage Resources Act (Act 25 of 1999) does not apply.

However should any evidence of burials or archaeological material be discovered during earth-moving activities, all works must be stopped immediately and Heritage Western Cape be notified without undue delay.

This letter does not exonerate the applicant from obtaining any necessary approval from any other applicable statutory authority.

Should you have any further queries, please contact the official above and quote the case number above.

Yours faithfully


.....
AB Hall
(CEO: Heritage Western Cape)

www.capegateway.gov.za/culture_sport

Street Address: Protea Assurance Building, Green Market Square, Cape Town, 8000 • **Postal Address:** Private Bag X9067, Cape Town, 8001
• **Fax:** +27 (0)21 483 9842 • **E-mail:** hwc@pgwc.gov.za

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Our Ref: HM/ EDEN/ GEORGE/ FARM 208/4
Case No.: 17102302WD1025E
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Tel 021 483 9533
Date: 14 November 2017



8 MILE INVESTMENTS 236
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0020

RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: FINAL
In terms of Section 38(2) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape
Provincial Gazette 6061, Notice 298 of 2003

NOTIFICATION OF INTENT TO DEVELOP: PROPOSED ESTABLISHMENT OF A FILLING STATION LOCATED ON THE R404, FARM 208/4, GEORGE, SUBMITTED IN TERMS OF SECTION 38(1) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

The matter above has reference.

Heritage Western Cape (HWC) is in receipt of your application for the above matter received on 25 October 2017. This matter was discussed at the Heritage Officers meeting held on 13 November 2017.

You are hereby notified that, since there is no reason to believe that the proposed establishment of a filling station located on the R404, Farm 208/4, George, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately and Heritage Western Cape must be notified without delay.

This letter does not exonerate the applicant from obtaining any necessary approval from any other applicable statutory authority.


HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully

Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully


.....
Mr. Mxolisi Dlamuka
Chief Executive Officer, Heritage Western Cape

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Our Ref: HM/ EDEN/ GARDEN ROUTE/ GEORGE/ GWAYANG/ FARM 208/139 PTN A
Case No.: 21092709AM0930E
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RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: FINAL
In terms of Section 38(1) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape Provincial Gazette 6061, Notice 298 of 2003

NOTIFICATION OF INTENT TO SUBDIVIDE AND REZONE ON FARM 208/139 PTN A IN GWAYANG GEORGE, SUBMITTED IN TERMS OF SECTION 38(4) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

CASE NUMBER: 21092709AM0930E

The matter above has reference.

Heritage Western Cape is in receipt of additional information for the above matter received. This matter was discussed at the Heritage Officers Meeting held on 11 October 2021.

You are hereby notified that, since there is no reason to believe that the proposed subdivision and rezoning of farm 208/139 ptn A in Gwayang George, will impact on heritage resource, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay.

This letter does not exonerate the applicant from obtaining any necessary approval from any other applicable statutory authority.

HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully

.....
Colette Scheermeyer
Deputy Director



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Our Ref: HM / GARDEN ROUTE / GEORGE /
REMAINDER ERF 464 (GEORGE) AND ERF 324 (PACALTSORP)
Case No: HWC23031514SB0315
Enquiries: Stephanie Barnardt
E-mail: Stephanie.Barnardt@westerncape.gov.za
Tel: 021 483 5959



Stéfan de Kock
perceptionplanning@gmail.com

RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: FINAL
In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape
Provincial Gazette 6061, Notice 298 of 2003

NOTIFICATION OF INTENT TO DEVELOP: PROPOSED MIXED USE DEVELOPMENT ON REMAINDER ERF 464 GEORGE AND ERF 324, PACALTSORP, SUBMITTED IN TERMS OF SECTION 38(1) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

The matter above has reference.

Heritage Western Cape is in receipt of the above matter received. This matter was discussed at the Heritage Officers meeting held on 3 April 2023.

You are hereby notified that, since there is no reason to believe that proposed mixed use development on Remainder Erf 464, George, and Erf 324, Pacaltsdorp, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay. Please note Heritage Western Cape's Chance Finds procedure.

This letter does not exonerate the applicant from obtaining any necessary approval from any other applicable statutory authority.

HWC reserves the right to request additional information as required.

Should you have any further queries, please contact the official above and quote the case number.

Sneha Jhupsee
Acting Assistant Director: Professional Services



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SEQUENCE OF IMAGES: EAST TO WEST ALONG R102 (AIRPORT ROAD)



Photo 1: West-facing view from eastern (starting) point of proposed pipeline to cross the road, be affixed to Gwayang River bridge seen in mid-distance.



Photo 2: East facing view (towards George/ York Street) from western side of Gwayang River bridge.



Photo 3,4: New water pipeline to be affixed to Gwayang River bridge noted in two images above.



Photo 5: West-facing view – proposed pipeline alignment to be installed within road reserve to right of R102 as seen in this image.



Photo 6: West-facing view, proposed alignment continues to follow righthand side of R102 as per this image.



Photo 7: Northwest-facing view across R102 and surrounding rural landscape.



Photo 8: West-facing view, proposed alignment continues to follow righthand side of R102 as per this image.



Photo 9: West-facing view, proposed alignment continues to follow righthand side of R102 as per this image.



Photo 10: Southwest facing view across construction site directly opposite George Airport (visible in distance).



Photo 11: Northwest from construction site (photo 10) towards R102 and Blanco Road intersection. Proposed pipeline proposed to cross R102 at this point.



Photo 12: West-facing view towards R102 and Blanco Road intersection with George Airport in the background. Proposed pipeline proposed to cross R102 (right to left on this image) at this point.

C1915/1-2-2

31 July 2024

Cape Environmental Assessment Practitioners (Pty) Ltd
17 Progress Street
George
6530

Dear Mariska Byleveld,

RE: AIRPORT BULK WATER PIPELINE UPGRADE – PROJECT DESCRIPTION

This letter describes the Airport Bulk Water Pipeline Upgrade project and will be submitted with the NID to Heritage Western Cape.

1. Background

The George Municipality appointed SMEC South Africa for a Multi-Year Professional Services Contract (Tender No. T/ING/010/2020). This appointment included upgrading a portion of the existing bulk water pipeline along the R102. The portion of the pipeline starts approximately 150m east of the Landfill Site entrance and extends to the intersection of the R404/R102 at the George Airport.

The work is divided into two separate projects: one named the Groeneweide Park Bulk Water Pipeline and the other called the Airport Bulk Water Pipeline. This letter specifically pertains to the Airport Bulk Water Pipeline. Construction of the Groeneweide Park Water Pipeline is currently underway and is scheduled for completion in August 2024.

2. Location

The project is located within the George Municipality, and this phase, called the Airport Bulk Water Pipeline starts at the Gwaig River Bridge and extends to the intersection of the R404 & R102 at the George Airport.

SMEC

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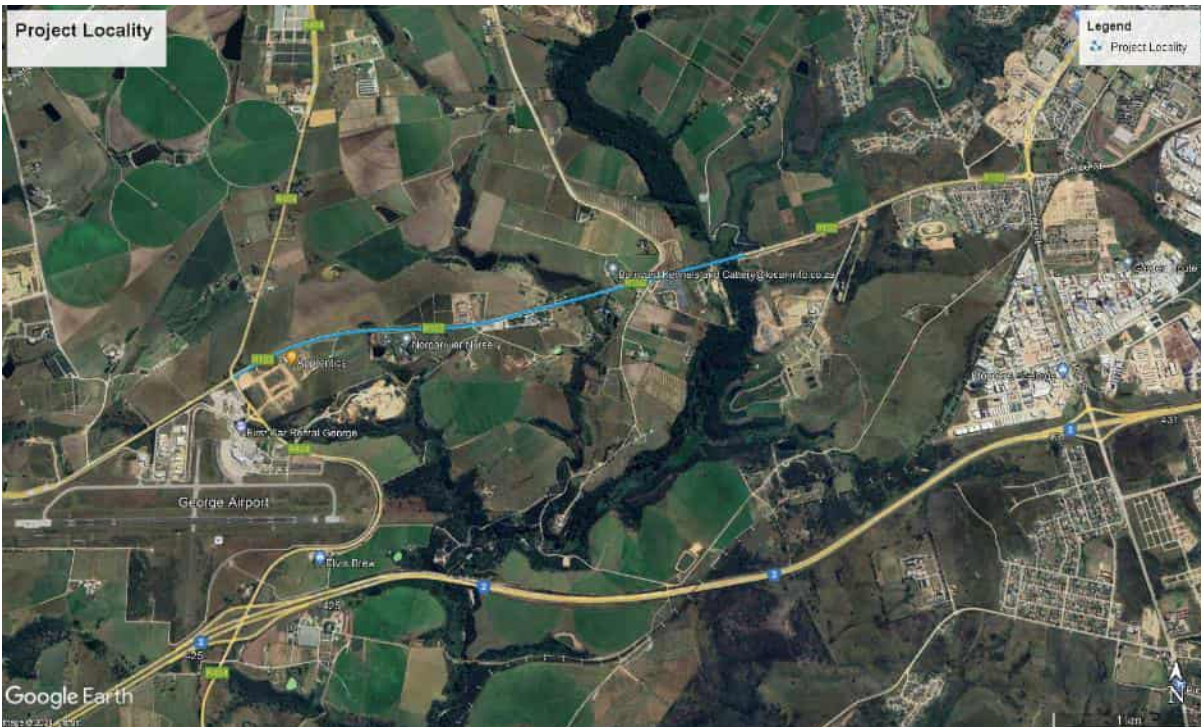


Figure 2-1: Project Locality

The Airport Bulk Water Pipeline will start and connect to the new scour valve chamber that was constructed under the Groeneweide Park Bulk Water Pipeline, east of the Gwaing River on the southern side of the R102. The new pipeline will be positioned to follow the best suitable route and connect to the existing pipe network at the R102/R404 crossing near the George Airport.

The extent of the Airport Bulk Water Pipeline along the R102 is shown **Figure 2-1**.

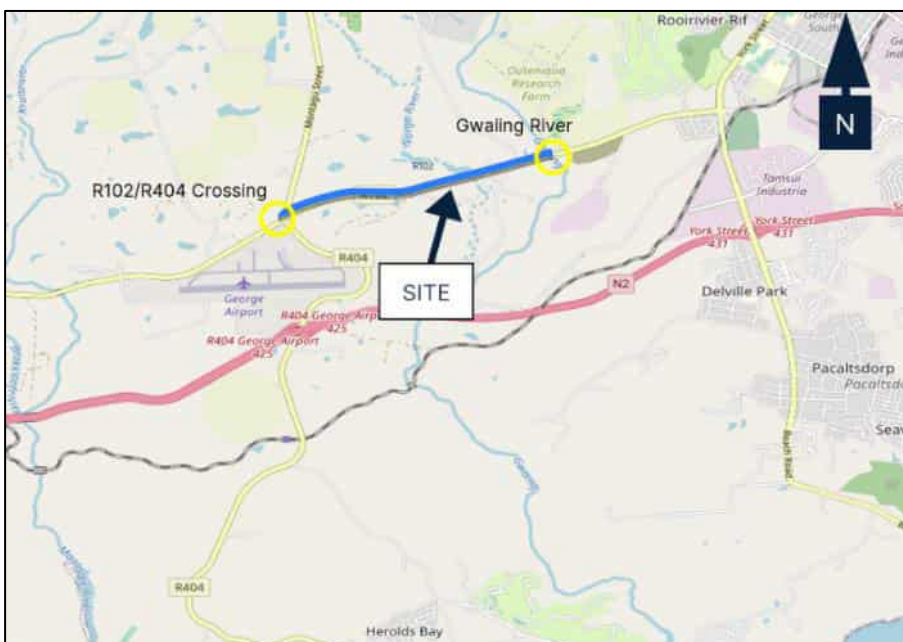


Figure 2-2: Project extent

3. Scope of Work

The current 200mmØ AC pipeline is old and often bursts, which leads to frequent maintenance and repair work. Additionally, the growing demand in the R102 area has prompted the George Municipality to upgrade this main pipeline. The upgrade will span approximately 3.8km and is intended to ensure an adequate and reliable water supply for current properties and future developments. This upgrade aims to provide enough water supply to developments along the R102 heading eastwards towards the N2, as well as future developments towards Great Brak River, Herold's Bay, Oubaai, and the Airport Precinct.

3.1 Employer's Objective

The George Municipality has the following objectives:

- Rely on professional engineering services for the design and management of the project.
- Appoint a suitable Contractor to construct the works.
- Address all the required planning aspects needed for the project outcomes, including Environmental Authorization, WULA, Survey, Material investigations, and approval from relevant authorities by application of Wayleaves;
- Proper project management, and control of the project, and that Council is informed at all times about the progress of the project;
- Deliver public services infrastructure using labour-intensive construction methods wherever technically feasible and economically viable;
- Comply with all the requirements of the statutory, legislative, and regulatory framework governing local government infrastructure provision; and
- Comply with all funding conditions.

3.2 Professional Services

The Scope of Services entails the full scope of services as detailed in ECSA's Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), and includes the following:

- Stage 1: Inception (completed under Groeneweide Park Pipeline project)
- Stage 2: Concept and Viability (This Report)
- Stage 3: Design Development
- Stage 4: Contract Documentation and Procurement
- Stage 5: Contract Administration
- Stage 6: Close-out

3.3 Construction Scope of Work

The work envisaged during construction to upgrade the existing 3.8km Airport Bulk Water Pipeline along R102, includes the following:

- Installation of a 400mm diameter pipeline for approximately 660m, including a 78m long river/bridge crossing
- Installation of a 315mm diameter pipeline for approximately 2240m, including a 30m culvert crossing.

- Installation of a 250mm diameter line for approximately 790m.
- Install air valves, scour valves, and isolation on the new bulk pipeline.
- Install new connection tee-off points for future use.
- Install new connection tee-off points to existing properties and water meters.
- Construction of reinforced concrete chamber to house valves, scour valves, and isolation.
- Ensuring the existing water main remains operational during the construction of the new pipeline.
- Install all road crossings by means of horizontal directional drilling (HDD).
- Repairing and reinstating existing infrastructure that will be affected or damaged during construction.

4. Design Concept

4.1 Pipeline Route

The full extent of the Airport Bulk Water Pipeline route is outside the urban edge. The majority of the pipeline will be constructed below ground level, and the pipe route will be parallel to Trunk Road TR 002/9 (R102). Where the pipe crosses bridges the pipe will be mounted above ground on the bridge. The pipe will cross the R102 at several locations, and the crossing will be installed using trenchless methods (Horizontal Directional Drilling).

The R102 is in proclaimed road reserves of the Provincial Roads, Western Cape, and the ideal pipe route was to install the pipe in the road reserve. Installing a pipeline in the road reserve provided unrestricted access for repairs. The Western Cape Government is the road authority of the R102 and restricted the pipeline position to only a 1m corridor adjacent to the fence line on either side of the road. An extensive site investigation was done, and it was determined existing services were already installed in this 1m corridor, and there was no space for the new pipeline in the 1m corridor. In consultation with the George Municipality, it was decided to install the majority of the pipeline on private property within the 5m building line.

During the Concept Design Development, various route options were discussed and assessed, and the following drawings pertaining to the pipeline route were produced and are attached to this report:

- **Appendix A: Pipeline Layout Drawings.** These drawings indicated a pipeline route option, including all the future connection positions, existing connections, potential road crossings, existing services, environmentally sensitive areas, the future planned western bypass road, and the start & end of the pipeline line.
- **Appendix B: Alternative Route Options.** Alternative route options to the route proposed on the drawings attached as Error! Reference source not found. have been developed at the Gwaiing Bridge Crossing, the tie-in at the R102/R404, and the culvert crossing.
- **Appendix C: Preferred Route Option.** In consultation with the client, this route was preferred to the other option.

Prior to the formal public participation that will form part of the environmental authorisation process, the affected landowners were notified about the project on 17 April 2024. Two queries relating to the pipe route were received. Both queries were reviewed, and the preferred pipe route option would address both queries. A second letter, addressing the two queries that were received previously, was sent to the landowners on 29 July 2024. The preferred route was also shared with the landowners.

4.1.1 Horizontal Alignment

The existing fence defines the road reserve along the R102. The pipe alignment will follow the fence, and the pipe will be positioned with the 5m building line running parallel with the fence on the private property. When directorial changes are required, the following methodology will be followed.

- All road crossings will cross the road at right angles.
- The pipeline will be designed to require only standard bends of 11.25°, 22.5°, 45°, and 90° at any horizontal change in direction.
- To reduce the size of the anker blocks required, 90° bends with a diameter of 315mm and larger will be replaced with 2 x 45° bends.

An unsupported pipeline with flexible couplings or spigot-and-socket joints will have to be restrained. Therefore, anchor blocks will be constructed at each horizontal bend where there is a change of direction to balance the forces.

Each horizontal change of direction will have a point of intersection (PI Point). Details indicating the size, degree, and type of bend will be provided for each PI point, together with the trust block design for each specific application. As part of the prelim design stage of the project, diagrammatical details of each PI point are attached as **Appendix D**.

4.1.2 Vertical Alignment

Bends will not be used to adjust the vertical alignment in a convex plain. The pipeline's vertical profile change will be incorporated in the deflection allowed in the pipe, and the depth of the excavation will be adjusted to ensure the required vertical change in direction is achieved. The pipeline will have a minimum cover of 1.2m and the design will ensure the pipeline is not installed deeper than 3m at any point on the pipeline.

The vertical profile is mainly affected by the surface along the path of the horizontal alignment. Earthwork or the benching of steep slopes might be required prior to trench excavation.

When pipes are installed on steep vertical slopes due to the terrain, and a chamber is required on these sections of pipes, the chamber's floor will be constructed horizontally, and the pipework in the chamber will be installed at a slope.

Air valves will be installed at all high points or significant changes in grade (negative breaks) along the pipeline route.

The scour valve will be installed to ensure the pipe can be emptied to remove all the sediment trapped at the low point and to allow the pipe to drain in a reasonable time in case of maintenance.

4.1.3 Bridge Crossing

There is one bridge along the pipeline route that crosses the Gwaing River. From approximately SV 90 to 170, the Airport Bulk Water Pipeline will have to cross the Gwaing River. Currently, existing services including the existing bulk water main, are mounted on the northern side of the bridge, as shown in **Figure 4-1**. Space is limited over the bridge and no space is available for any new services.

The only option is to replace the existing bulk water pipeline with the new Airport Bulk Water Pipeline across the bridge. A temporary pipeline will be required to ensure adequate water transmission can continue while the bridge crossing is upgraded to the 400mm diameter pipe.

The following design approach was followed for the various components:

- Mild Steel pipework to SANS 719, Grade B – epoxy lined, 350-micron thickness; high build polyurethane coated 350-micron thickness; and
- All bracket fittings shall be galvanised steel.



Figure 4-1: Existing Bridge Crossing

4.1.4 Culvert Crossing

There is one set of culverts installed at SV 1230 underneath the roadway, where a watercourse crosses the R102. The existing bulk water pipeline is crossing the culvert on the southern side, as indicated on **Figure 4-2**. The new pipeline will cross the waterway over the northern side of the culvert and be positioned on the culvert's deck, similar to the existing installation.



Figure 4-2: Existing Culvert Crossing

4.1.5 Road Crossings

All road crossings will be trenchless and horizontal directional drilling (HDD) will be used. An HDPE sleeve will be installed for the entire length of the road reserve; the product pipe will then be installed through the sleeve. All the sleeves and product pipes will be HDPE with butt-welded joints.

4.1.6 Connections

Connections are defined as existing and future connections. Existing connections currently supply properties along the R102 feeding from the existing bulk water main. All the existing connections are metered, and the meters have been pointed out to SMEC during a site inspection on 28 February 2024 by the George Municipality. The positions and sizes of all future connections have been supplied to SMEC by GLS and the George Municipality. All the existing and future connections are indicated on the drawings attached as **Appendix A**. Diagrammatic details of each future and existing connection have been indicated on the drawings attached as **Appendix D**.

4.1.7 Environmental Sensitive Areas

Two environmentally sensitive areas have been identified between SV 2660 to SV 2870 and SV 2210 to 2250. The drawings attached to this report show these areas. To minimise the disturbance of these two areas during construction, the pipeline will be installed using horizontal directional drilling (HDD).

4.2 Site Clearing

Where the pipe is not installed in the road reserve and on private property, the pipeline and all associated infrastructure that will be constructed will be positioned within the 5m building line, which is measured 5m from the fence.

To ensure the contractor has enough working space to install the pipeline during construction, an extra 5m will be utilised as working space; therefore, a maximum of 10m will be cleared from the fence altogether.

4.3 Chambers

4.3.1 General

The chambers will be placed along the proposed alignment of the main pipeline, which runs within the boundary fences of property plots. These chambers will be situated within the 5m building line on private property. However, this means that access to these chambers will need to be requested from the landowners for inspections and maintenance by the George Municipality or any appointed service providers.

Lockable covers are proposed for all chambers, and a precast cover slab with lifting hooks will be used to allow for easy access for maintenance or replacement of large fittings. The chamber floor and walls will be cast in place, and reinforcing for each chamber will follow the structural engineer's details.

The ladders fixed to the interior of the chamber will be made using glass-reinforced plastic (GRP) as this material provides strength and is not very susceptible to weathering, requiring minimal maintenance and providing a long serviceable lifespan. Flexible flange adaptors will be used between fittings to allow for easy installation and removal as they will be connected to thrust pipes cast into the chamber walls. SikaSwell S2 will be installed between the floor and chamber walls to prevent the ingress of groundwater into the chamber. All chambers will be constructed so that the top level of the roof slab sits 300mm above the natural ground level.

4.3.2 Valve Chambers

See figure below for a typical detail of a valve chamber that will be used along the pipe route.

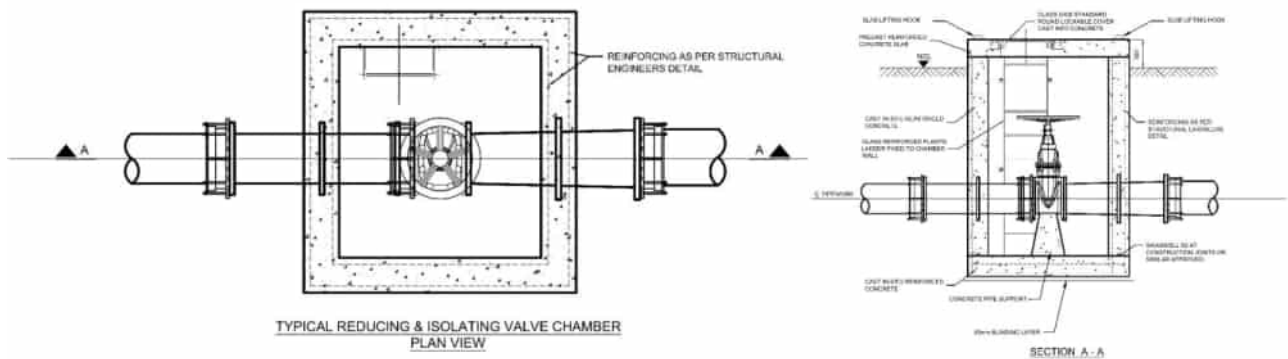


Figure 4-3: Typical detail of Valve Chamber

4.3.3 Scour Chambers

A typical detail of a scour chamber can be seen in the figure below.

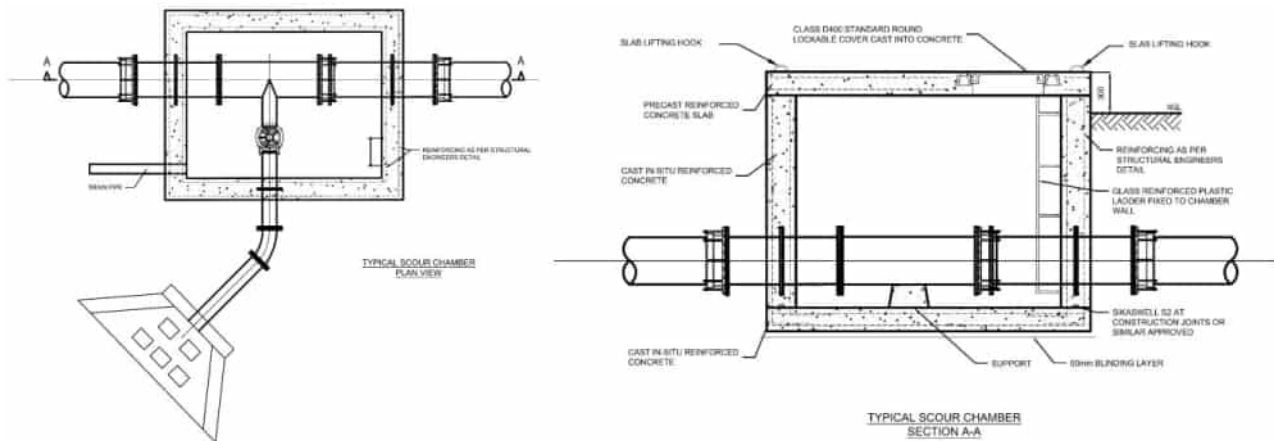


Figure 4-4: Typical detail of Scour Chamber

4.3.4 Air valve Chambers

The proposed air valve chamber is designed with a sump and drainpipe. The drainpipe position will be determined by the topography of the chamber's surrounds. The air valve and gate valve will be fitted onto the main water line via an unequal tee fitting. A vented manhole cover is specified for this chamber to allow the air valve to perform efficiently. The figure below depicts a typical detail of an air valve chamber.

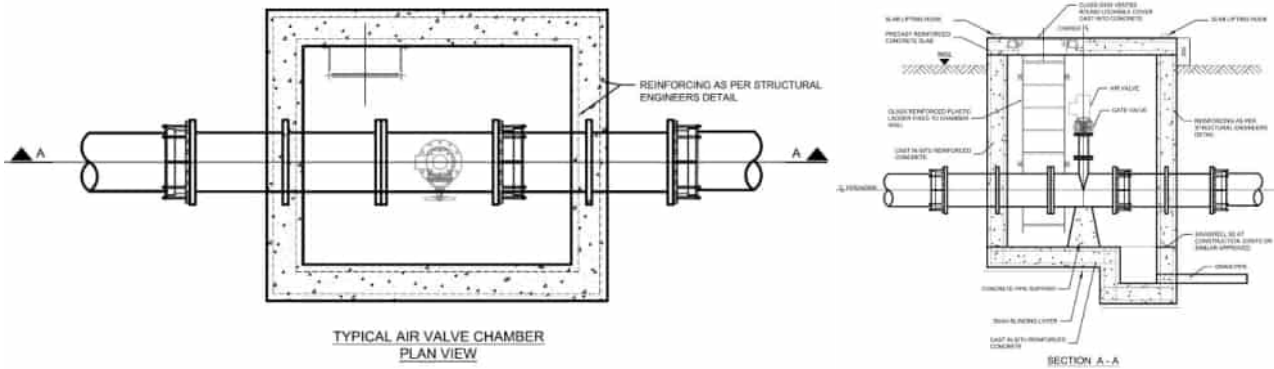


Figure 4-5: Typical detail of Air Valve Chamber

4.3.5 T-off Chambers

A typical detail of a t-off chamber for future connection can be seen in the figure below.

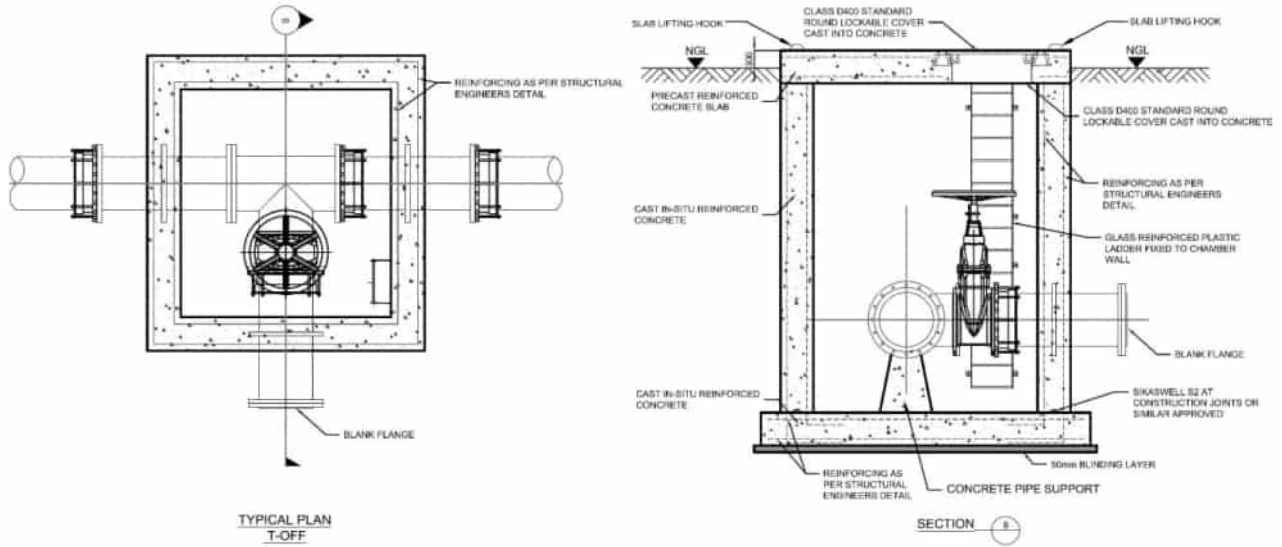


Figure 4-6: Typical detail of a T-off Chamber

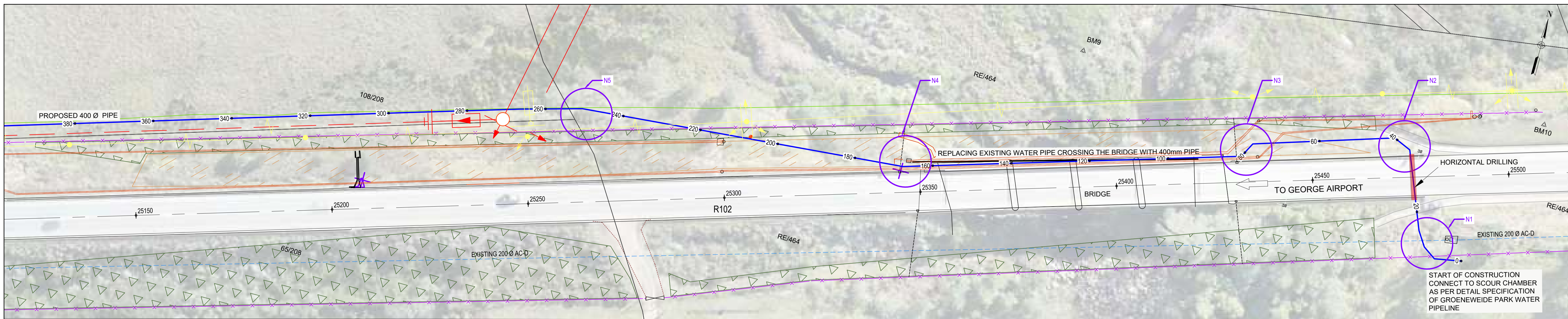
Yours sincerely,

Tiaan Cronje
Professional Technologist
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Email: tiaan.cronje@smec.com

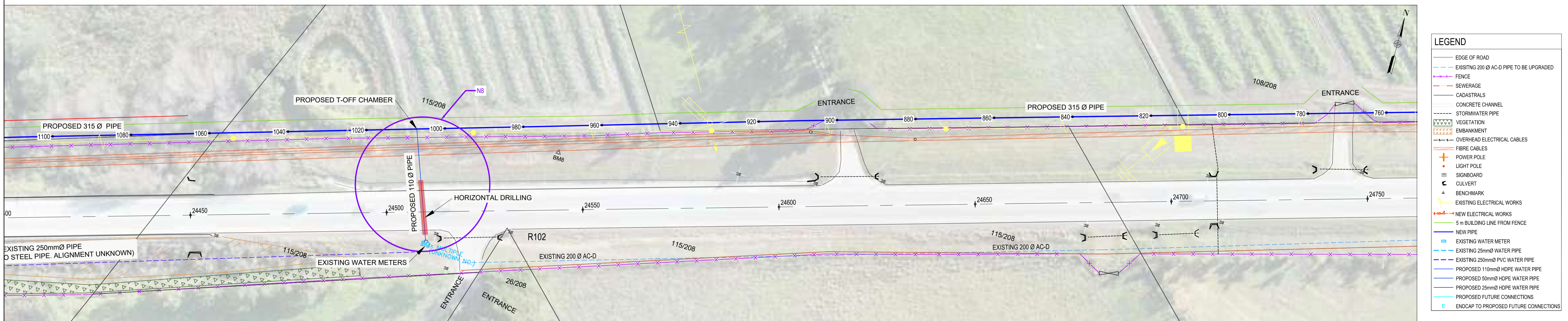
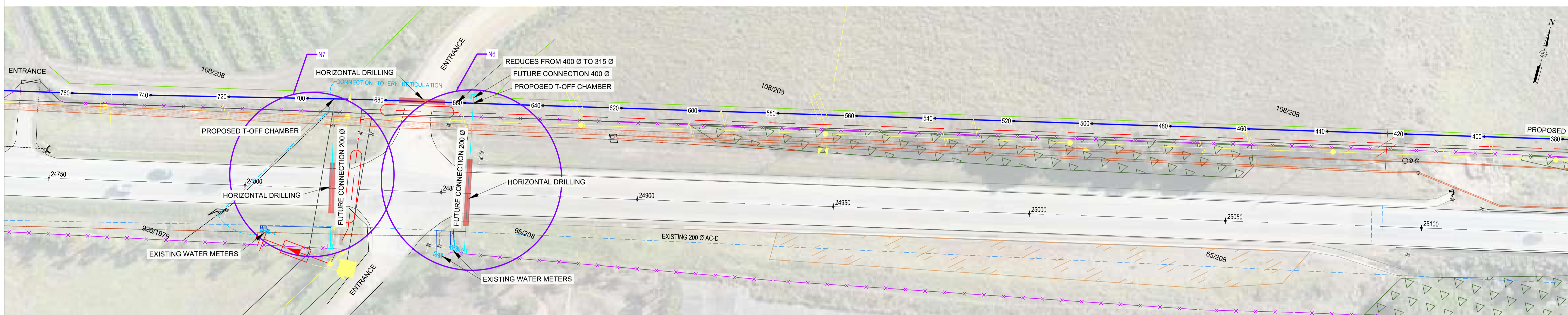
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Appendix A Pipeline Layout Drawings



START OF CONSTRUCTION
CONNECT TO SCOUR CHAMBER
AS PER DETAIL SPECIFICATION
OF GROENEWIDE PARK WATER
PIPELINE



LEGEND	
—	EDGE OF ROAD
—	EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
—	FENCE
—	SEWERAGE
—	CADASTRALS
—	CONCRETE CHANNEL
—	STORMWATER PIPE
—	EMBANKMENT
—	OVERHEAD ELECTRICAL CABLES
—	FIBRE CABLES
+	POWER POLE
+	LIGHT POLE
+	SIGNBOARD
+	CULVERT
+	BENCHMARK
+	EXISTING ELECTRICAL WORKS
+	NEW ELECTRICAL WORKS
+	5m BUILDING LINE FROM FENCE
—	NEW PIPE
—	EXISTING WATER METER
—	EXISTING 250mm Ø WATER PIPE
—	EXISTING 250mm Ø PVC WATER PIPE
—	PROPOSED 110mm Ø HDPE WATER PIPE
—	PROPOSED 50mm Ø HDPE WATER PIPE
—	PROPOSED 25mm Ø HDPE WATER PIPE
—	PROPOSED FUTURE CONNECTIONS
—	ENDCAP TO PROPOSED FUTURE CONNECTIONS

NOTE: ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC
	C	05-04-2024	ISSUED FOR DISCUSSION	TC
	B	09-02-2024	ISSUED FOR DISCUSSION	TC
	A	04-12-2023	ISSUED FOR DISCUSSION	TC

DESIGNED	CHECKED	DRAWN	CHECKED
A TOOTLA	T CRONJE	A TOOTLA	T CRONJE

SIGNED	SMC South Africa
DATE	

Member of the Surbana Jurong Group

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e-mail: civilinfo@george.org.za
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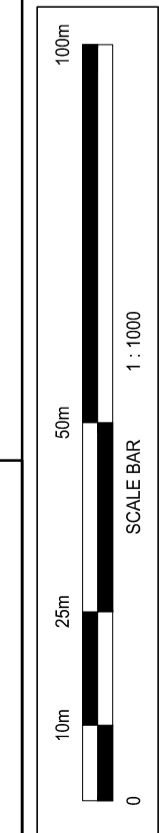
Tel (044) 801-9496
Fax (044) 529-9872

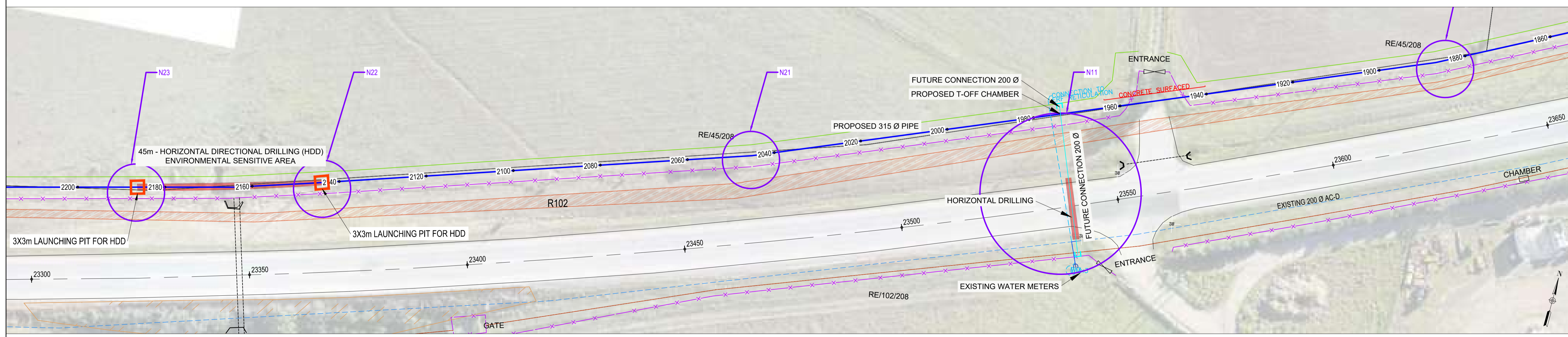
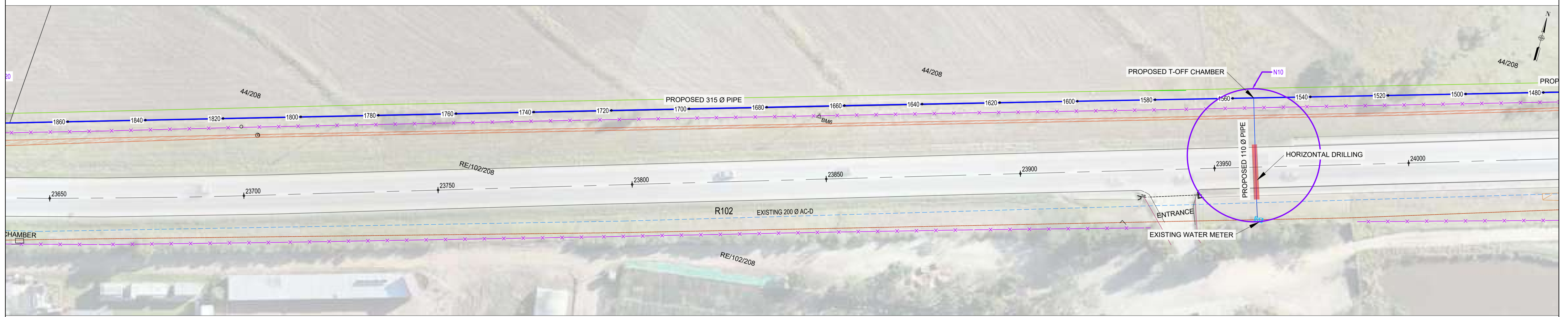
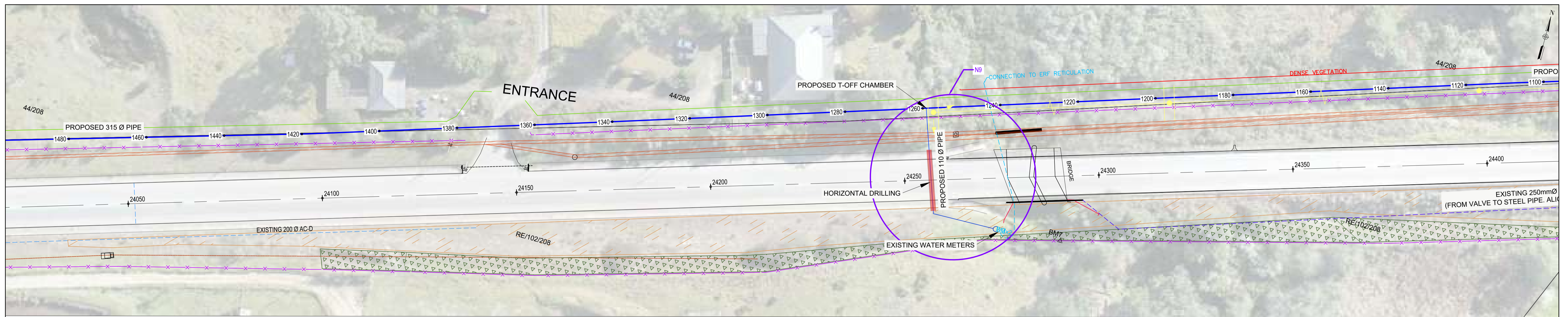
SIGNED	George Municipality
DATE	

**UPGRADE OF AIRPORT
BULK WATER PIPELINE**

**PIPELINE LAYOUT
SHEET 01 OF 05**

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER C1915 - 610 - 001			
REV	C00	SHEET No.	01 OF 05





LEGEND

- EDGE OF ROAD
- - - EXISTING 200mm diameter AC-D PIPE TO BE UPGRADED
- FENCE
- SEWERAGE
- CADASTRALS
- CONCRETE CHANNEL
- STORMWATER PIPE
- VEGETATION
- EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- POWER POLE
- LIGHT POLE
- SIGNBOARD
- CULVERT
- BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5m BUILDING LINE FROM FENCE
- NEW PIPE
- EXISTING WATER METER
- EXISTING 250mm diameter WATER PIPE
- EXISTING 250mm diameter PVC WATER PIPE
- PROPOSED 110mm diameter HDPE WATER PIPE
- PROPOSED 50mm diameter HDPE WATER PIPE
- PROPOSED 25mm diameter HDPE WATER PIPE
- PROPOSED FUTURE CONNECTIONS
- END CAP TO PROPOSED FUTURE CONNECTIONS

NOTE: ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

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DESIGNED	CHECKED	DRAWN	CHECKED
A TOOTLA	T CRONJE	A TOOTLA	T CRONJE

SIGNED _____
 SMEC South Africa
 DATE _____

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c/o York & Market St
George 6529

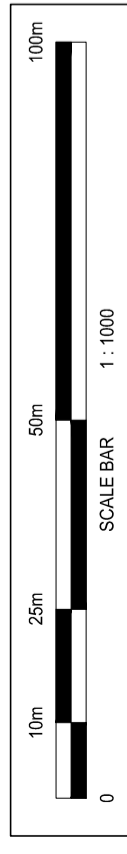
Tel (044) 873-5029
Fax (044) 873-5086

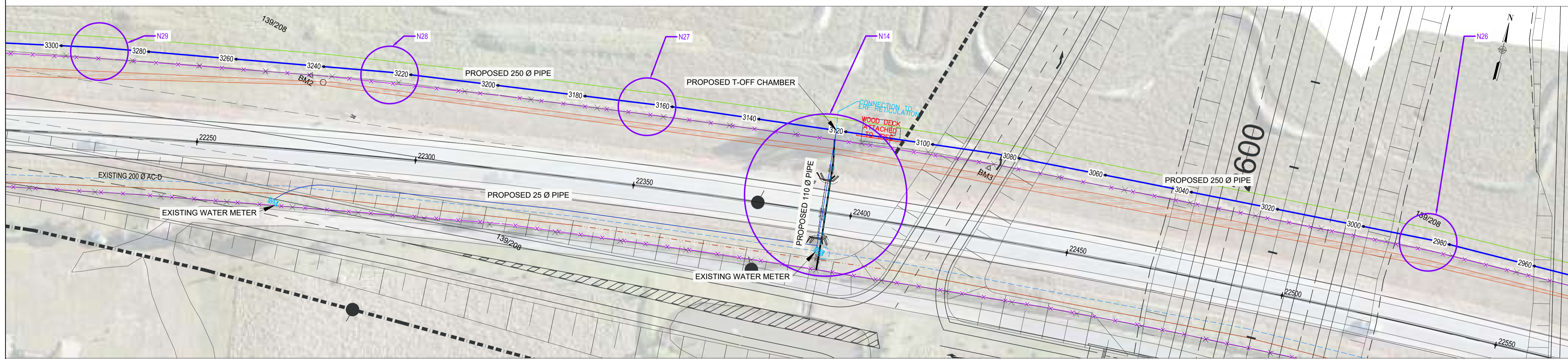
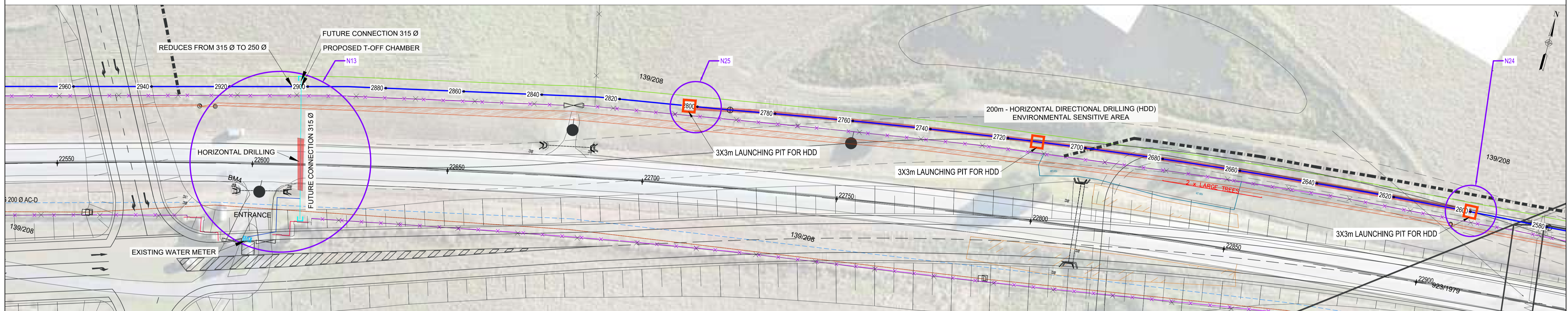
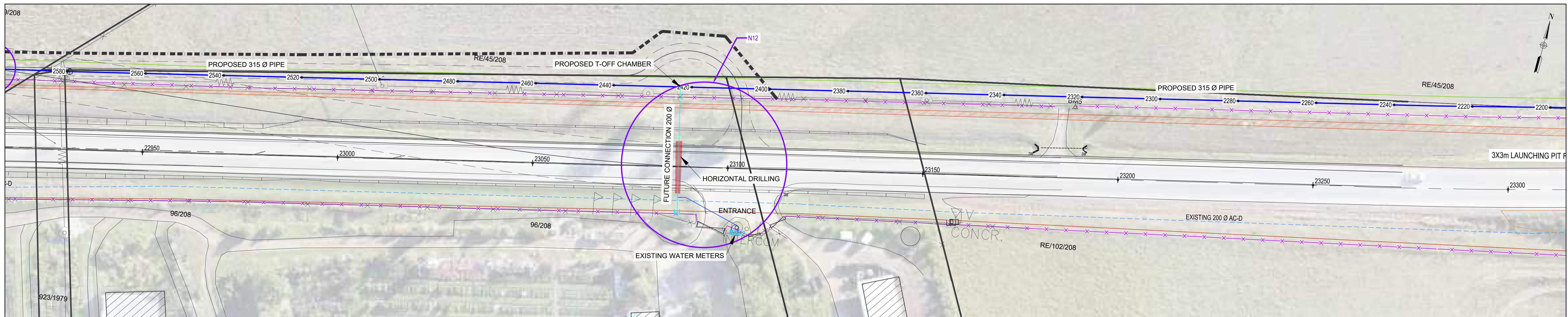
SIGNED _____
 George Municipality
 DATE _____

**UPGRADE OF AIRPORT
 BULK WATER PIPELINE**

**PIPELINE LAYOUT
 SHEET 02 OF 05**

SIZE A1	SCALE 1:500
PROJECT DRAWING NUMBER C1915 - 610 - 002	
REV C00	SHEET No. 02 OF 05





LEGEND

- EDGE OF ROAD
- EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
- FENCE
- SEWERAGE
- CADASTRALS
- CONCRETE CHANNEL
- STORMWATER PIPE
- VEGETATION
- EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- POWER POLE
- LIGHT POLE
- SIGNBOARD
- CULVERT
- BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5 m BUILDING LINE FROM FENCE
- NEW PIPE
- EXISTING WATER METER
- EXISTING 25mmØ WATER PIPE
- EXISTING 250mmØ PVC WATER PIPE
- PROPOSED 110mmØ HDPE WATER PIPE
- PROPOSED 50mmØ HDPE WATER PIPE
- PROPOSED 25mmØ HDPE WATER PIPE
- PROPOSED FUTURE CONNECTIONS
- ENDCAP TO PROPOSED FUTURE CONNECTIONS

NOTE:
 ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS
 PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC
	C	05-04-2024	ISSUED FOR DISCUSSION	TC
	B	09-02-2024	ISSUED FOR DISCUSSION	TC
	A	04-12-2023	ISSUED FOR DISCUSSION	TC

DESIGNED	CHECKED	DRAWN	CHECKED
A TOOTLA	T CRONJE	A TOOTLA	T CRONJE

SIGNED _____
 SMEC South Africa
 DATE _____

SMEC
 South Africa
 Member of the Surbana Jurong Group

PO Box 10633
 George 6530
 e-mail: george@smec.com
 website: www.smec.com

13 Progress St
 George 6529
 Tel (044) 873-5029
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 website: www.george.org.za

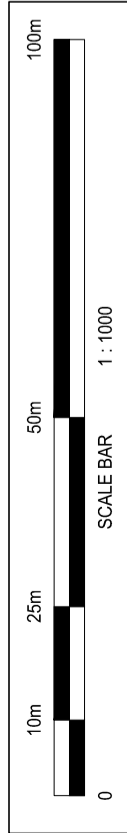
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 Fax (044) 629-9872

SIGNED _____
 George Municipality
 DATE _____

**UPGRADE OF AIRPORT
 BULK WATER PIPELINE**

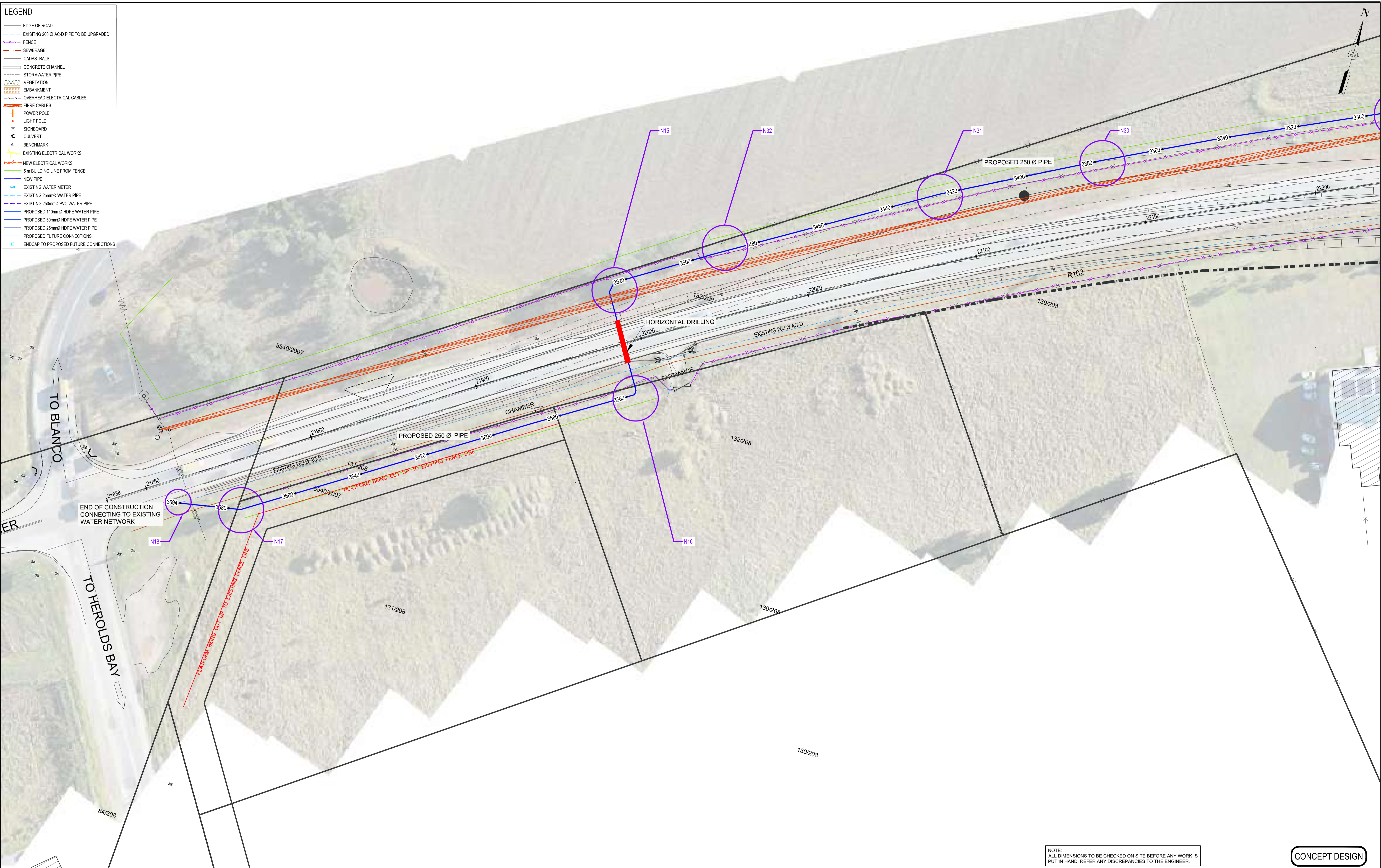
**PIPELINE LAYOUT
 SHEET 03 OF 05**

SIZE A1	SCALE 1:500
PROJECT DRAWING NUMBER C1915 - 610 - 003	
REV C00	SHEET No. 03 OF 05



LEGEND

- EDGE OF ROAD
- - - EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
- FENCE
- - - SEWERAGE
- - - CADASTRALS
- - - CONCRETE CHANNEL
- - - STORMWATER PIPE
- ▨ VEGETATION
- ▨ EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- ⊕ POWER POLE
- ⊕ LIGHT POLE
- ⊕ SIGNBOARD
- ⊕ CULVERT
- ⊕ BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5 m BUILDING LINE FROM FENCE
- NEW PIPE
- ⊕ EXISTING WATER METER
- EXISTING 25mmØ WATER PIPE
- EXISTING 250mmØ PVC WATER PIPE
- PROPOSED 110mmØ HDPE WATER PIPE
- PROPOSED 50mmØ HDPE WATER PIPE
- PROPOSED 25mmØ HDPE WATER PIPE
- PROPOSED FUTURE CONNECTIONS
- ENDCAP TO PROPOSED FUTURE CONNECTIONS



NOTE: ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC
	C	05-04-2024	ISSUED FOR DISCUSSION	TC
	B	09-02-2024	ISSUED FOR DISCUSSION	TC
	A	04-12-2023	ISSUED FOR DISCUSSION	TC

DESIGNED	CHECKED	DRAWN	CHECKED
A TOOTLA	T CRONJE	A TOOTLA	T CRONJE

SIGNED _____
SMEC South Africa

DATE _____



Member of the Surbana Jurong Group



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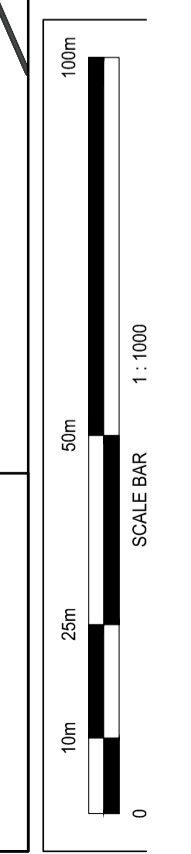
SIGNED _____
 George Municipality

DATE _____

UPGRADE OF AIRPORT BULK WATER PIPELINE

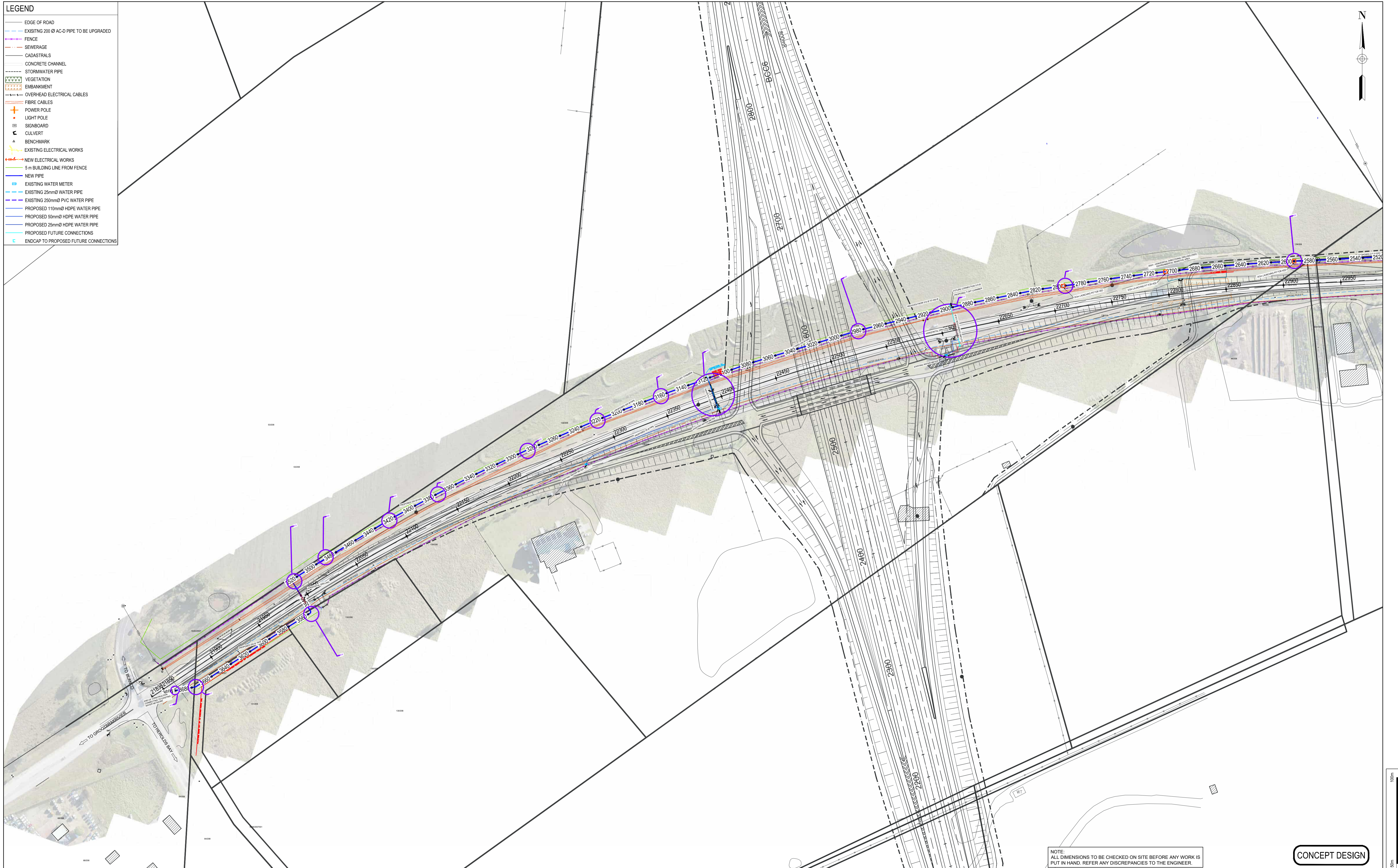
PIPELINE LAYOUT SHEET 04 OF 05

SIZE A1	SCALE 1:500
PROJECT DRAWING NUMBER C1915 - 610 - 004	
REV C00	SHEET No. 04 OF 05



LEGEND

- EDGE OF ROAD
- - - EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
- FENCE
- SEWERAGE
- CADASTRALS
- CONCRETE CHANNEL
- STORMWATER PIPE
- VEGETATION
- EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- POWER POLE
- LIGHT POLE
- SIGNBOARD
- CULVERT
- BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5m BUILDING LINE FROM FENCE
- NEW PIPE
- EXISTING WATER METER
- EXISTING 25mmØ WATER PIPE
- EXISTING 250mmØ PVC WATER PIPE
- PROPOSED 110mmØ HDPE WATER PIPE
- PROPOSED 50mmØ HDPE WATER PIPE
- PROPOSED 25mmØ HDPE WATER PIPE
- PROPOSED FUTURE CONNECTIONS
- ENDCAP TO PROPOSED FUTURE CONNECTIONS



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CONCEPT DESIGN

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC
	C	05-04-2024	ISSUED FOR DISCUSSION	TC
	B	09-02-2024	ISSUED FOR DISCUSSION	TC
	A	04-12-2023	ISSUED FOR DISCUSSION	TC

DESIGNED	CHECKED	DRAWN	CHECKED
A TOOTLA	T CRONJE	A TOOTLA	T CRONJE

SIGNED _____
SMEC South Africa

DATE _____



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website: www.smec.com Fax (044) 873-6086 website: www.george.org.za Fax (044) 629-9872

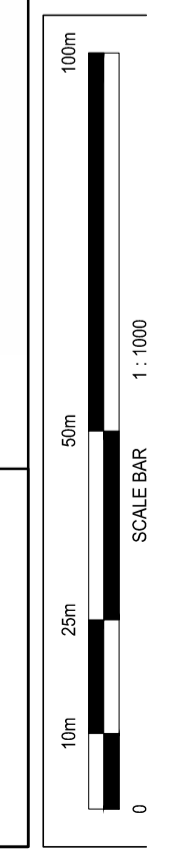
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George Municipality

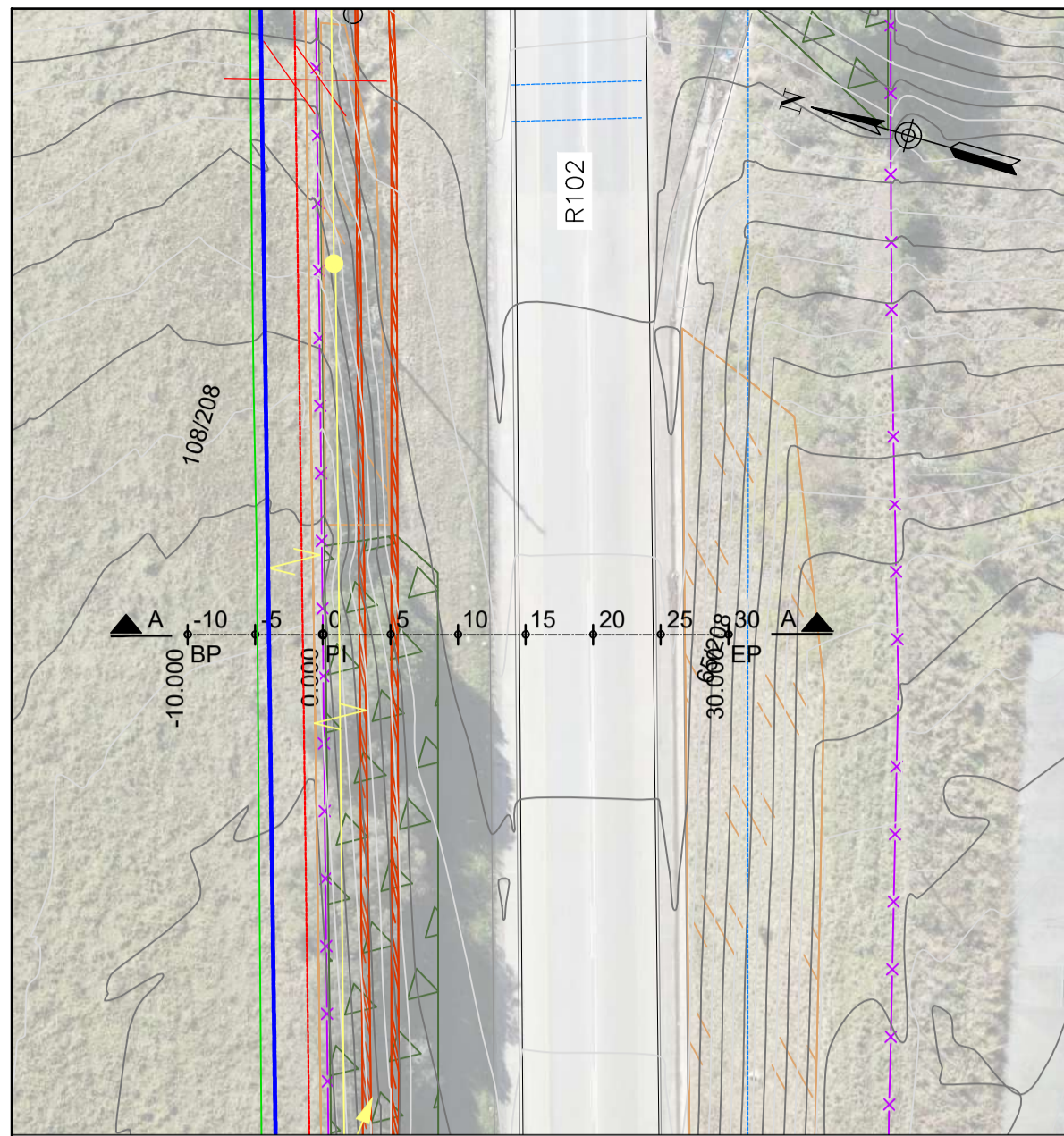
DATE _____

UPGRADE OF AIRPORT BULK WATER PIPELINE

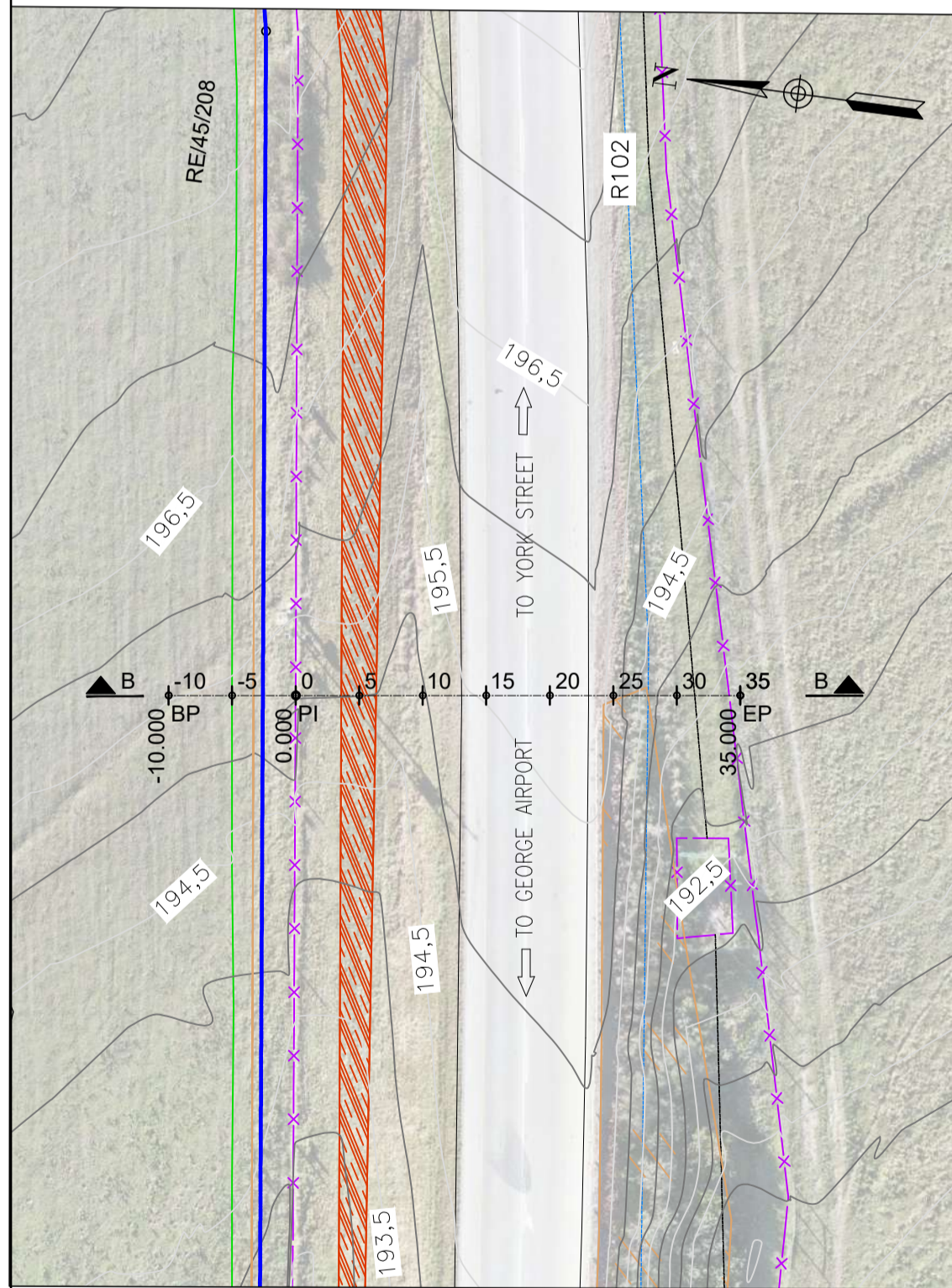
PIPELINE LAYOUT SHEET 05 OF 05

SIZE A1	SCALE 1:1500
PROJECT DRAWING NUMBER C1915 - 610 - 005	
REV C00	SHEET No. 05 OF 05

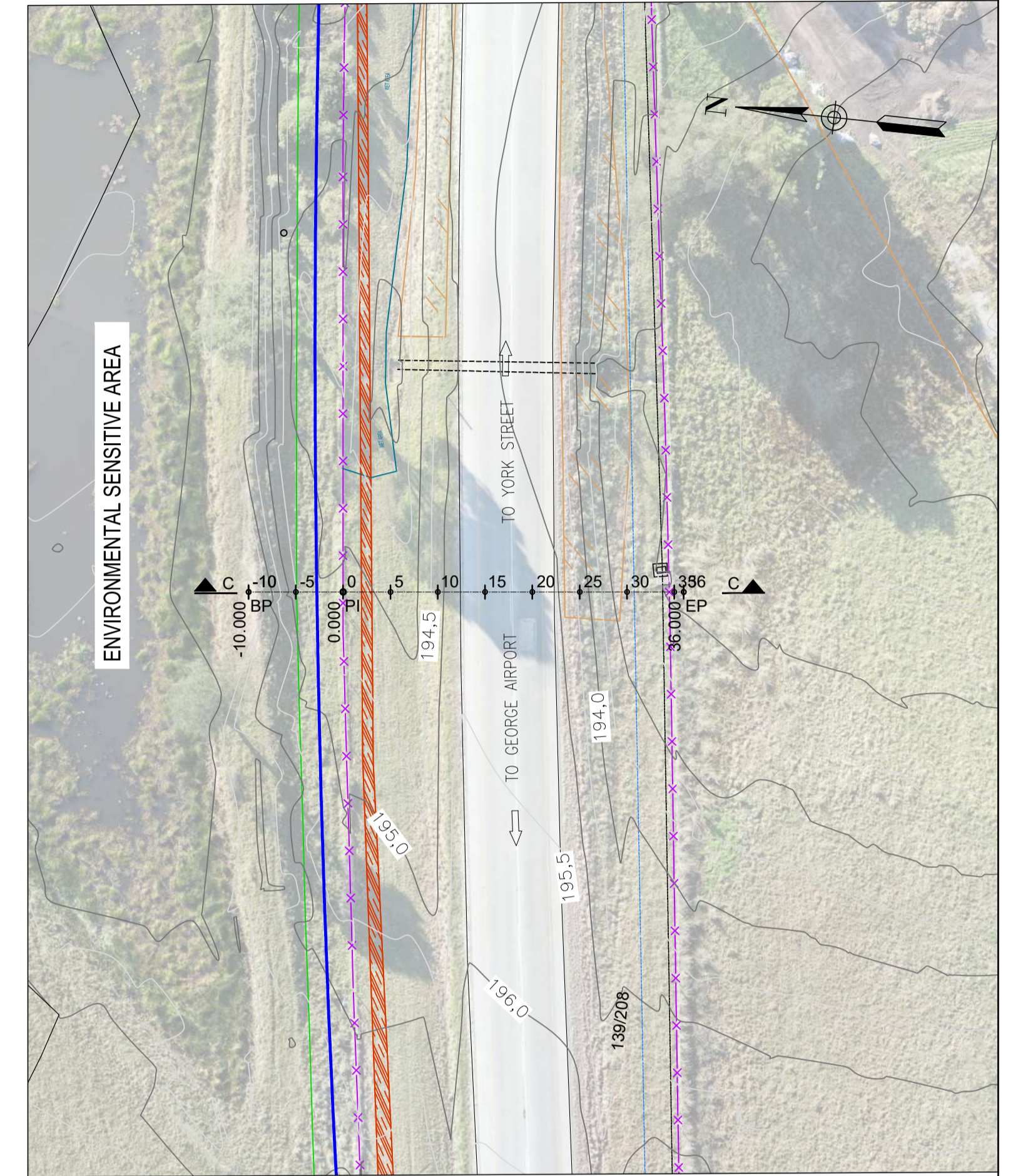




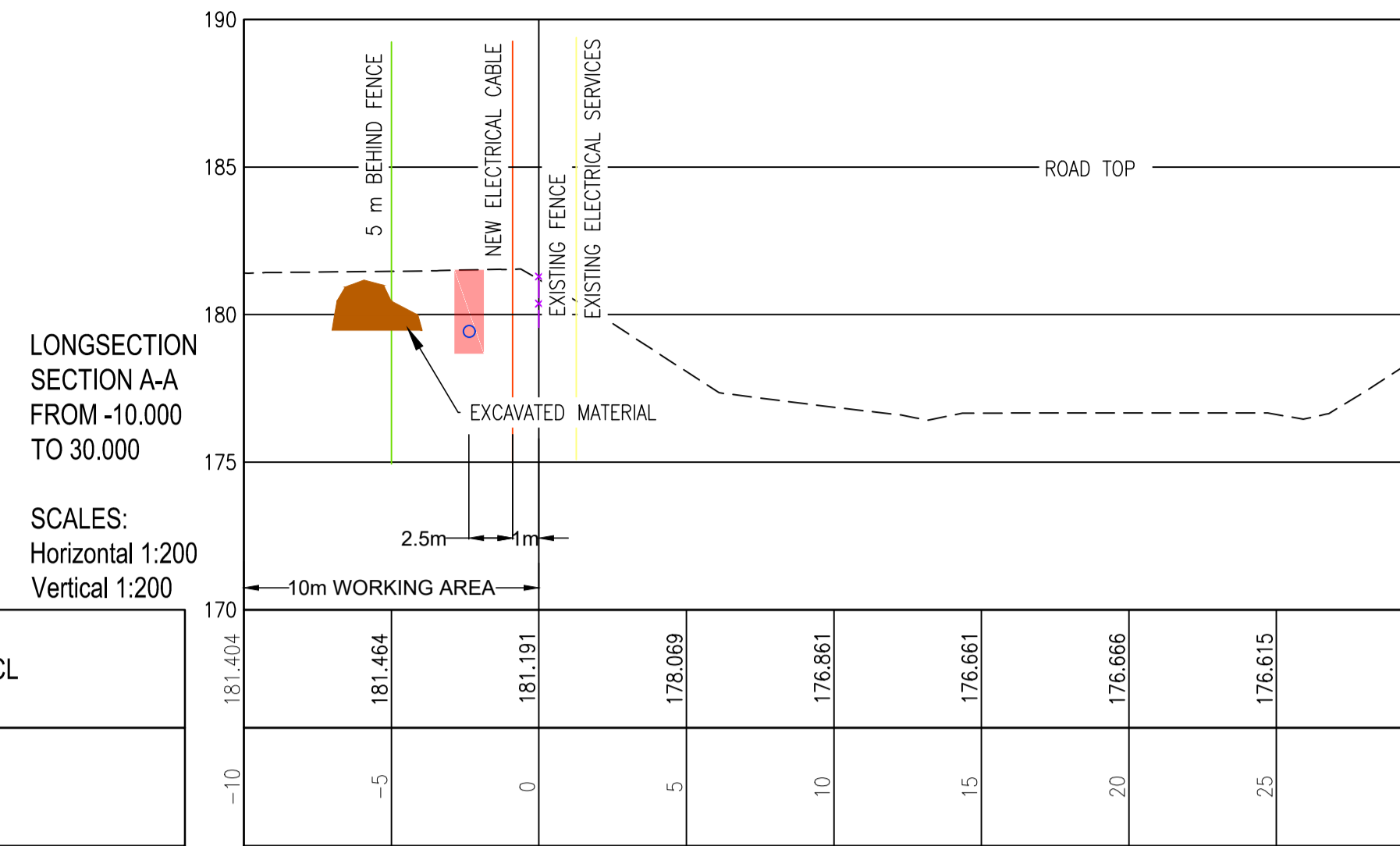
R102 LAYOUT
DISTURBANCE AREA BEHIND FENCE
AT NEW AND OLD ELECTRICAL WORKS
SCALE:1:500



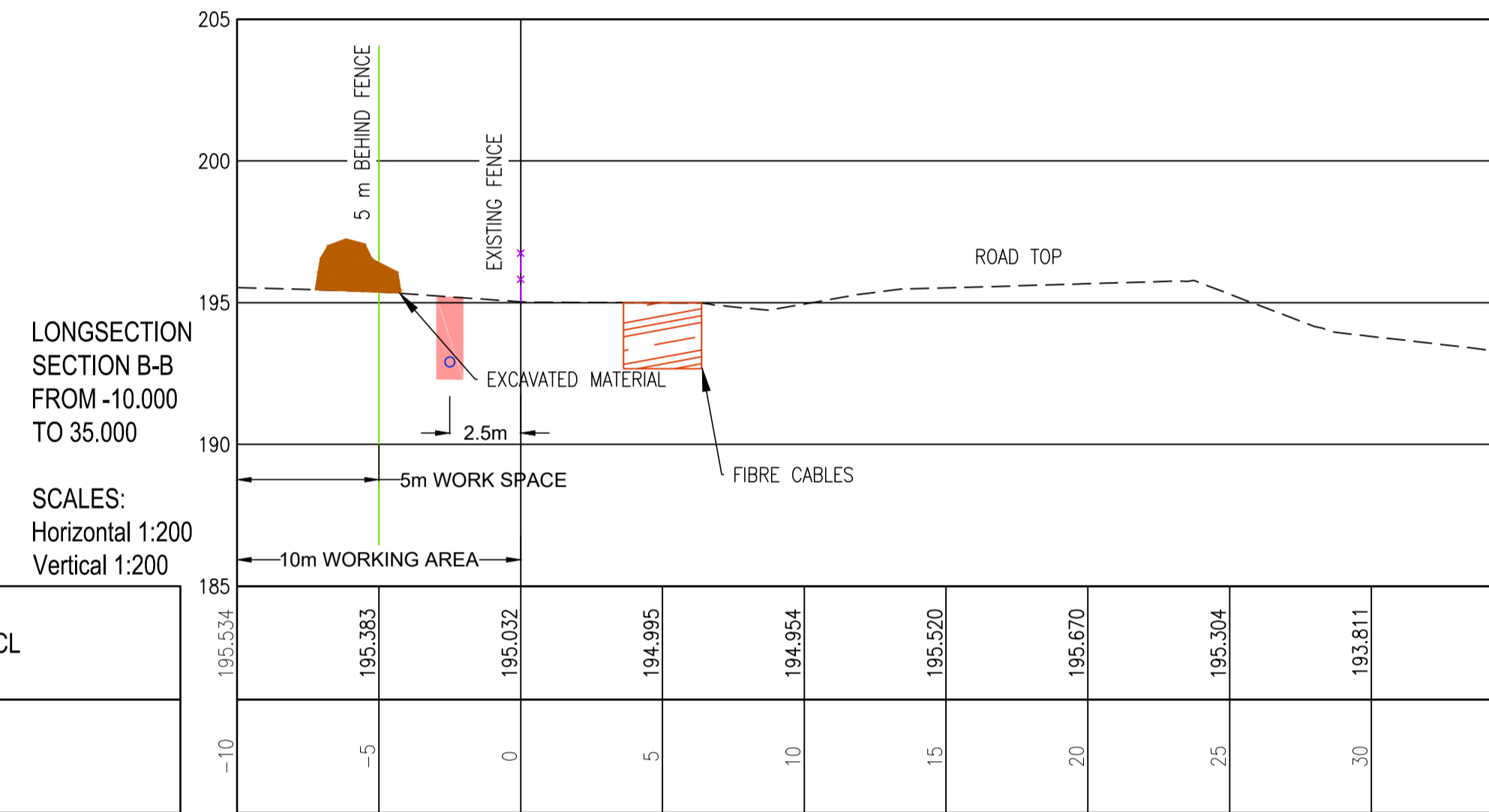
R102 LAYOUT
TYPICAL DISTURBANCE AREA BEHIND FENCE OF NEW PIPELINE
SCALE:1:500



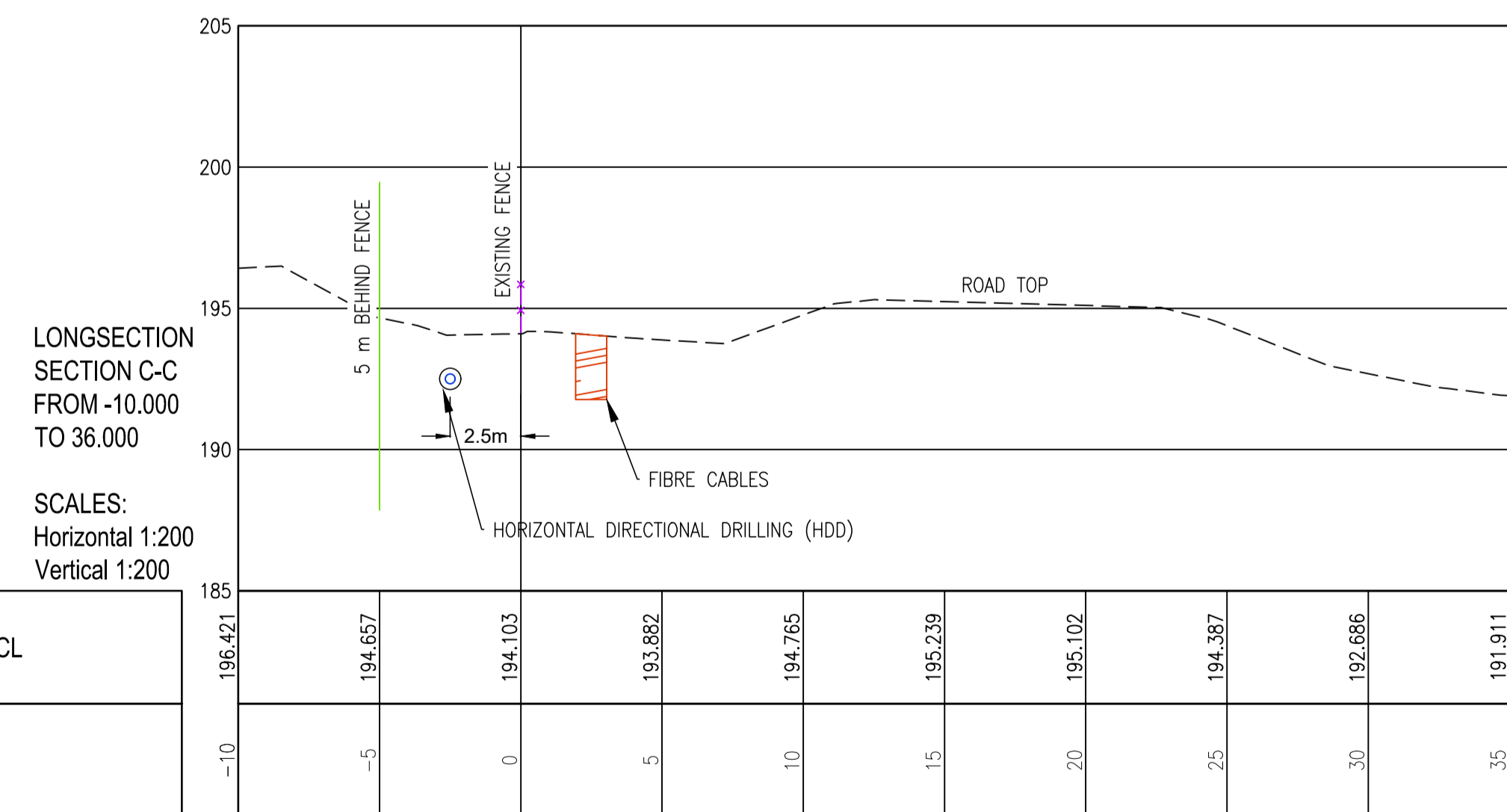
R102 LAYOUT
DISTURBANCE AREA AT DIRECTIONAL DRILLING
SCALE:1:500



SECTION A-A
SCALE:1:200



SECTION B-B
SCALE:1:200



SECTION C-C
SCALE:1:200

NOTE:
1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

LEGEND

- EDGE OF ROAD
- EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
- FENCE
- SEWERAGE
- CONCRETE CHANNEL
- STORMWATER PIPE
- VEGETATION
- EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- POWER POLE
- LIGHT POLE
- SIGNBOARD
- CULVERT
- BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5 m BUILDING LINE FROM FENCE
- NEW PIPE

FOR DISCUSSION

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	AB02	05-04-2024	FOR DISCUSSION	TC
	AB01	09-02-2024	FOR DISCUSSION	TC

DESIGNED	M NOTHNAGEL
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	A FOUCHE

SIGNED	SMC South Africa
DATE	

Member of the Surbana Jurong Group

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George 6530

c/o York & Market Street
George 6529

e-mail: civilinfo@george.org.za
website: www.george.org.za

SIGNED: George Municipality

DATE: _____

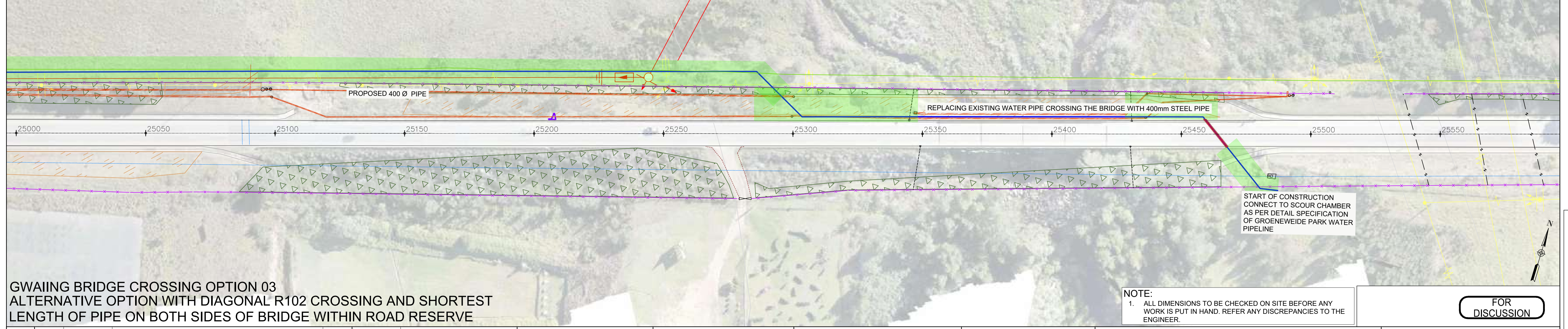
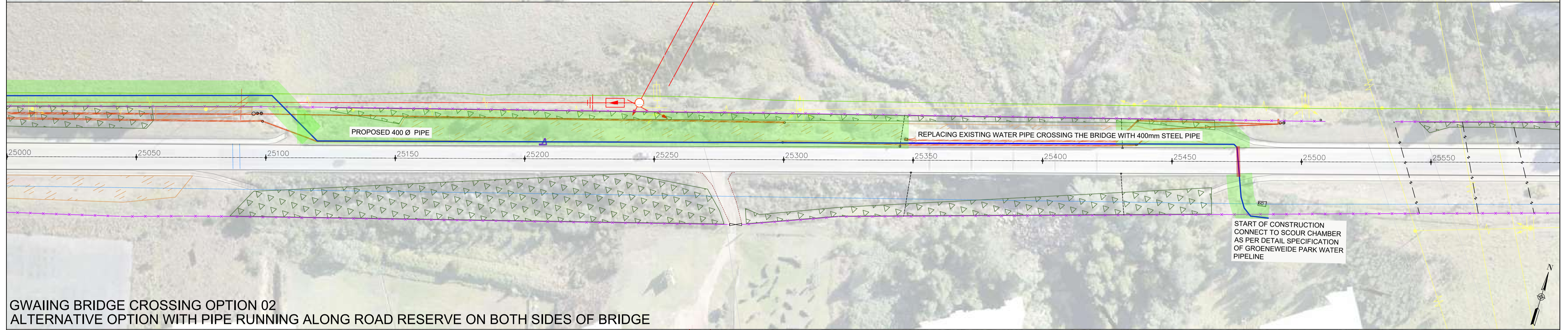
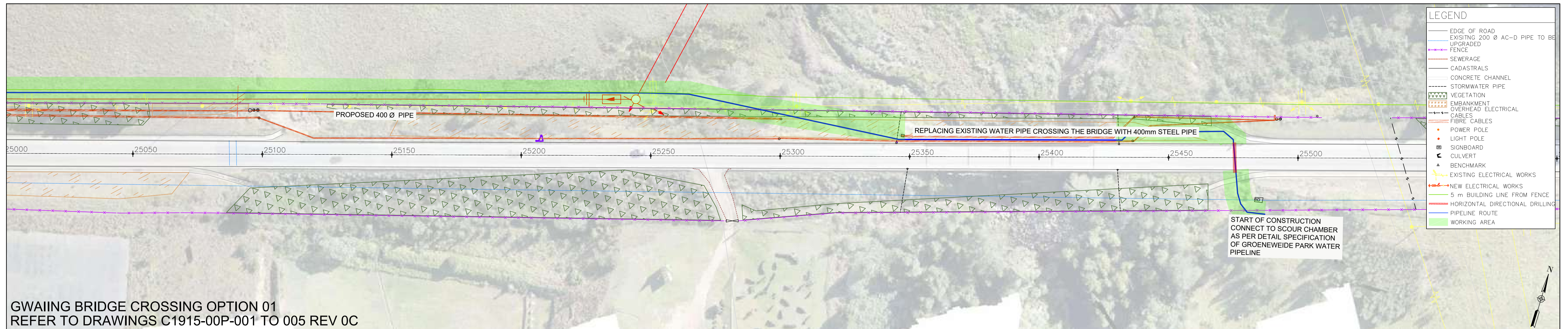
UPGRADE OF AIRPPORT BULK PIPELINE

**TYPICAL CROSS SECTIONS
ALONG THE ROUTE
INDICATING DISTURBANCE WIDTH**

SIZE	A1	SCALE	AS SHOWN
PROJECT DRAWING NUMBER			
C1915 - 630 - 001			
REV	AB02	SHEET No.	1 OF 1



Appendix B **Alternative Route Options**



NOTE:
1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

FOR DISCUSSION

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C01	10-04-2024	FOR DISCUSSION PURPOSES	TC
	C00	09-04-2024	FOR DISCUSSION PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED _____
SMC South Africa

DATE _____

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website: www.smec.com

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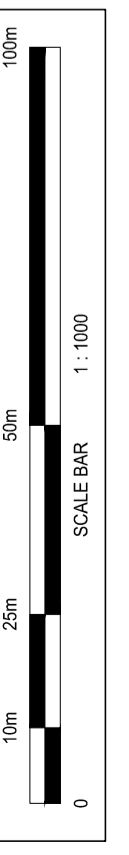
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George Municipality

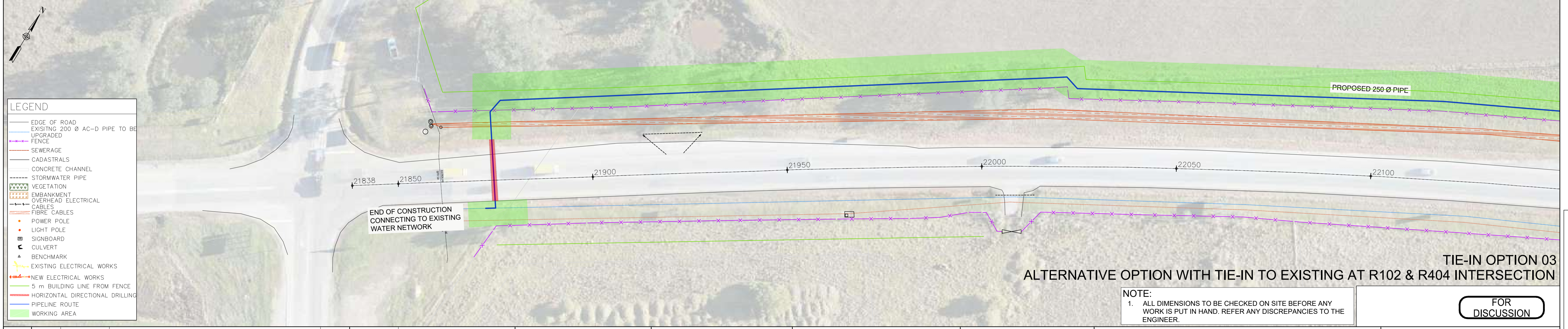
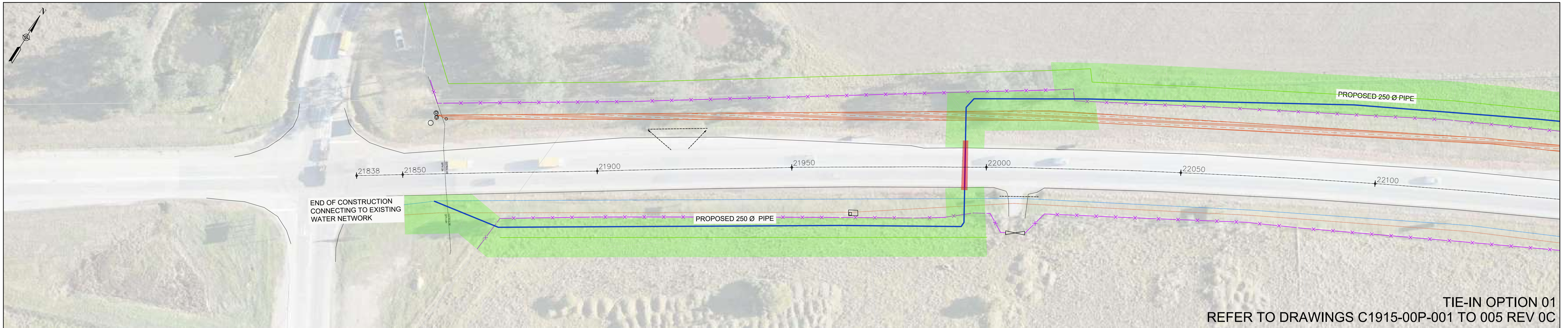
DATE _____

UPGRADE OF AIRPORT BULK PIPELINE

PROPOSED PIPELINE ROUTE OPTIONS AND ASSOCIATED WORKING AREA GWAIING RIVER BRIDGE CROSSING

SIZE	A1	SCALE	1:750
PROJECT DRAWING NUMBER			
C1951 - 611 - 001			
REV	C01	SHEET No.	01 OF 03





LEGEND

- EDGE OF ROAD
- EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
- FENCE
- SEWERAGE
- CADASTRALS
- CONCRETE CHANNEL
- STORMWATER PIPE
- VEGETATION
- EMBANKMENT
- OVERHEAD ELECTRICAL CABLES
- FIBRE CABLES
- POWER POLE
- LIGHT POLE
- SIGNBOARD
- ▭ CULVERT
- ▲ BENCHMARK
- EXISTING ELECTRICAL WORKS
- NEW ELECTRICAL WORKS
- 5 m BUILDING LINE FROM FENCE
- HORIZONTAL DIRECTIONAL DRILLING
- PIPELINE ROUTE
- WORKING AREA

NOTE:
1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

FOR DISCUSSION

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
	C01	10-04-2024	FOR DISCUSSION PURPOSES	TC
	C00	09-04-2024	FOR DISCUSSION PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED _____
SMC South Africa

DATE _____

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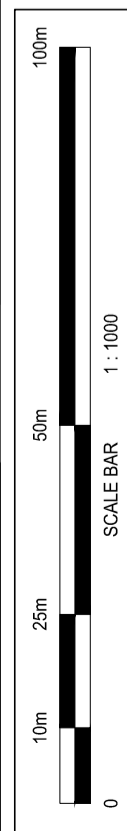
SIGNED _____
George Municipality

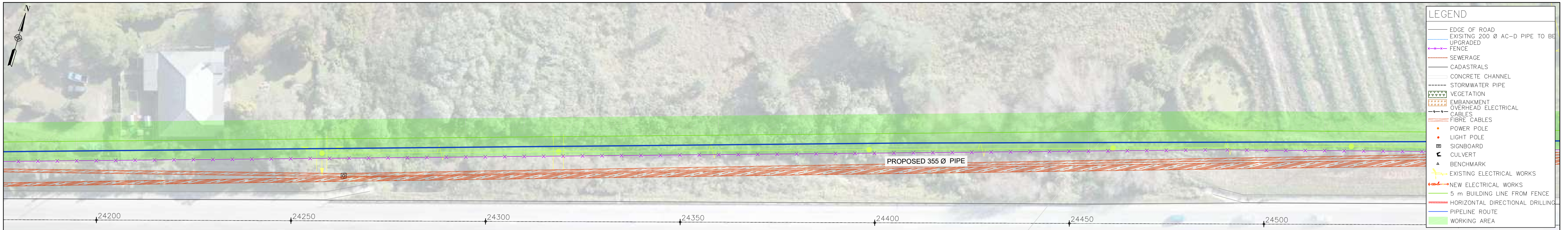
DATE _____

UPGRADE OF AIRPORT BULK PIPELINE

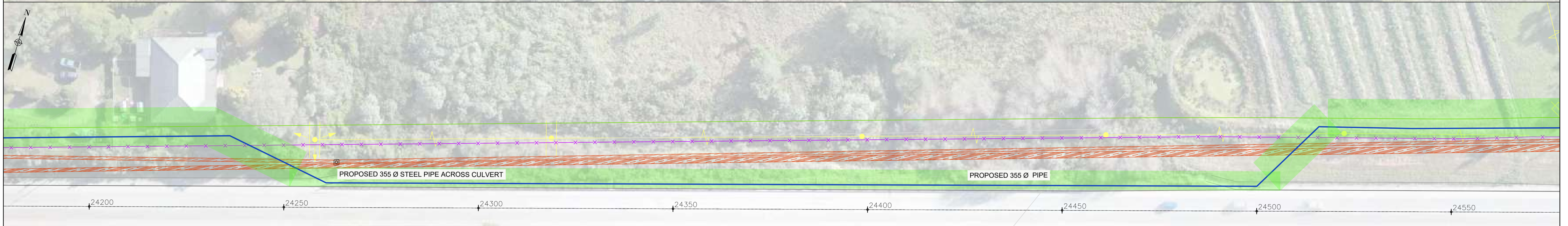
PROPOSED PIPELINE ROUTE OPTIONS AND ASSOCIATED WORKING AREA TIE-IN WITH EXISTING

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER			
C1951 - 611 - 002			
REV	C01	SHEET No.	02 OF 03

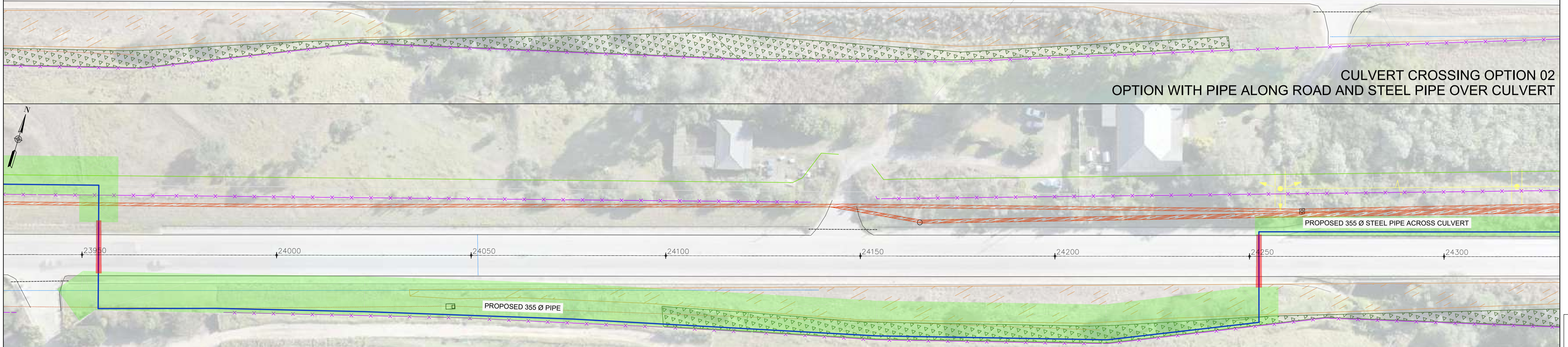




CULVERT CROSSING OPTION 01
REFER TO DRAWINGS C1915-00P-001 TO 005 REV 0C



CULVERT CROSSING OPTION 02
OPTION WITH PIPE ALONG ROAD AND STEEL PIPE OVER CULVERT



CULVERT CROSSING OPTION 03
OPTION WITH PIPE ALONG ROAD AND STEEL PIPE OVER CULVERT AND PIPE ALONG OPPOSITE SIDE OF ROAD THEREAFTER

NOTE:
1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

FOR DISCUSSION

NO.	DATE	DESCRIPTION	INITIAL
C02	12-04-2024	FOR DISCUSSION PURPOSES	TC
C01	10-04-2024	FOR DISCUSSION PURPOSES	TC
C00	09-04-2024	FOR DISCUSSION PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED _____
SMC South Africa
DATE _____


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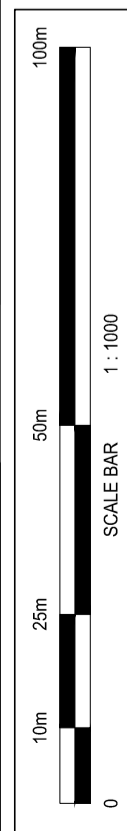
PO Box 10633 George 6530 | 13 Progress St George 6529 | PO Box 19 George 6530 | c/o York & Market Street George 6529
 e-mail: george@smec.com | Tel (044) 873-5029 | e-mail: civilinfo@george.org.za | Tel (044) 801 9496
 website: www.smec.com | Fax (044) 873-5086 | website: www.george.org.za | Fax (086) 529 9872

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George Municipality
DATE _____

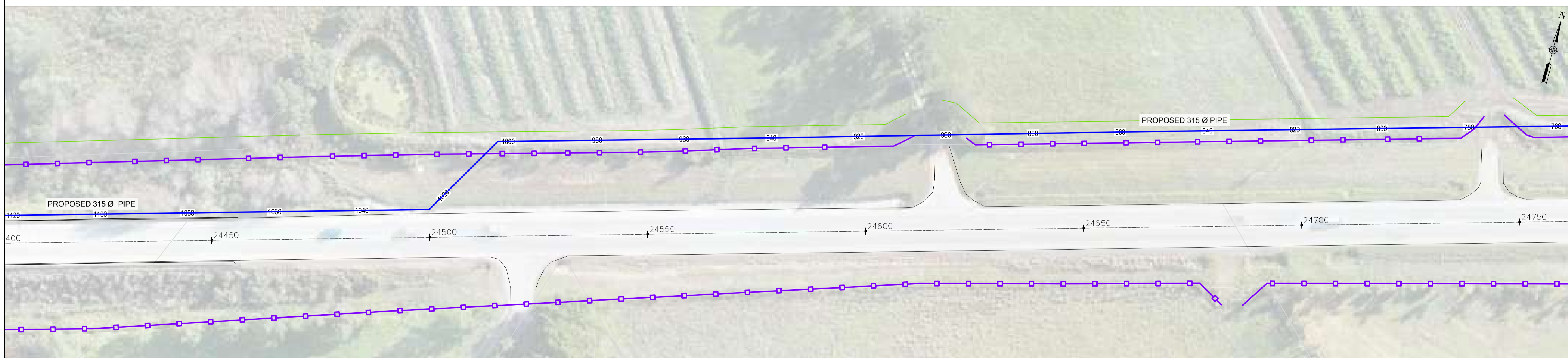
UPGRADE OF AIRPORT BULK PIPELINE

PROPOSED PIPELINE ROUTE OPTIONS AND ASSOCIATED WORKING AREA CULVERT CROSSING

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER			
C1951 - 611 - 003			
REV	C02	SHEET No.	03 OF 03



Appendix C Preferred Route Option



LEGEND	
	EDGE OF ROAD
	FENCE
	CADASTRALS
	5 m BUILDING LINE FROM FENCE
	PROPOSED NEW BULK WATER PIPELINE ROUTE

NOTE:
 1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

NO.	DATE	DESCRIPTION	INITIAL
C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED	SMC South Africa
DATE	

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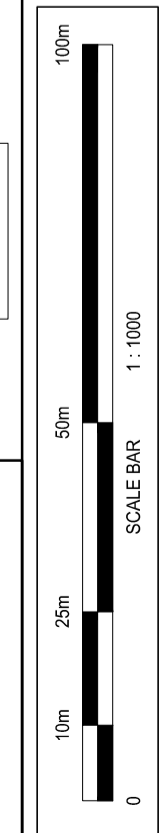
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Fax (044) 529-9872

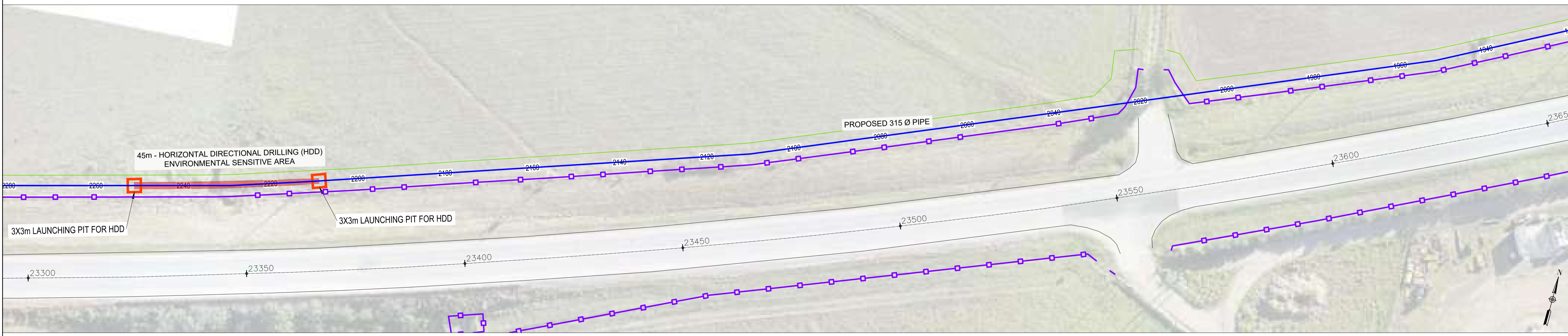
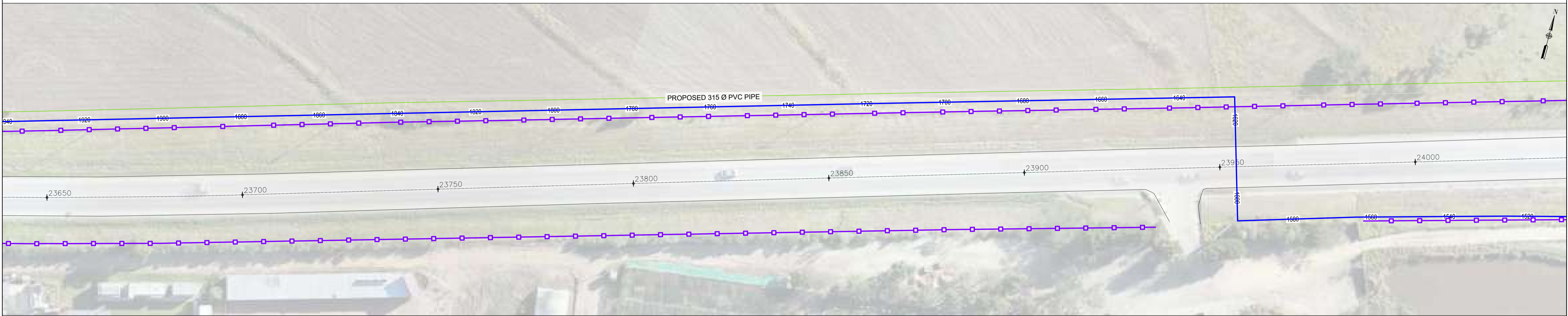
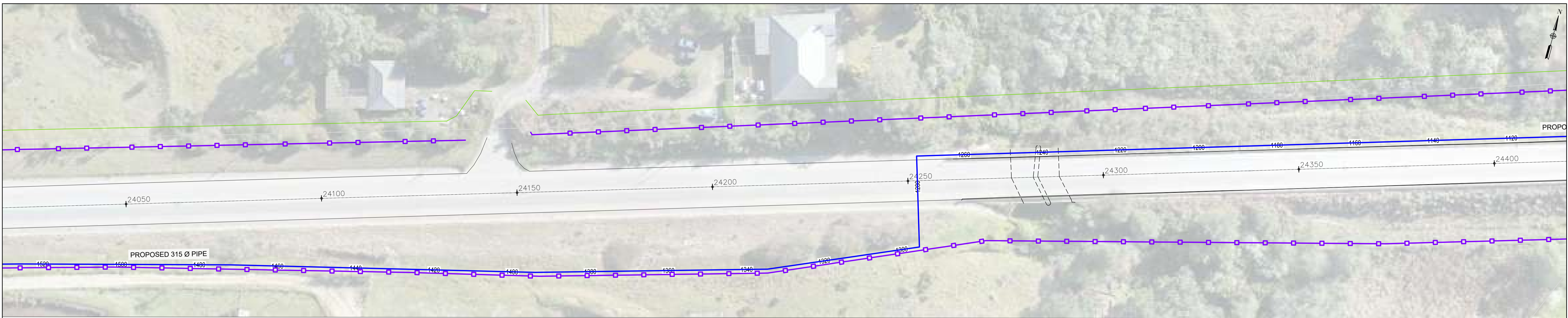
SIGNED	George Municipality
DATE	

UPGRADE OF AIRPORT BULK WATER PIPELINE

PREFERRED PIPELINE ROUTE LAYOUT SHEET 01 OF 04

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER		C1915 - 613 - 001	
REV	C00	SHEET No.	01 OF 04



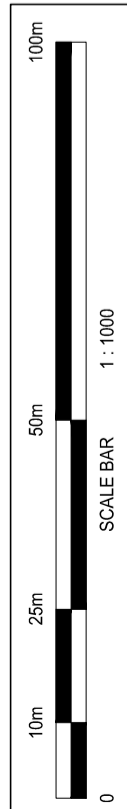


LEGEND

- EDGE OF ROAD
- FENCE
- CADASTRALS
- 5 m BUILDING LINE FROM FENCE
- PROPOSED NEW BULK WATER PIPELINE ROUTE

NOTE:
 1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN



NO.	DATE	DESCRIPTION	INITIAL
C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED	SMC South Africa
DATE	

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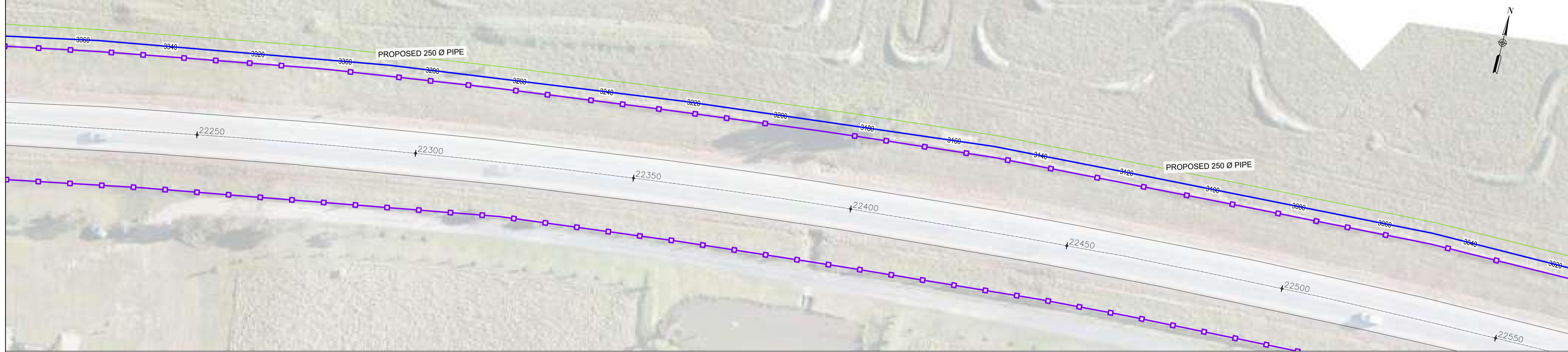
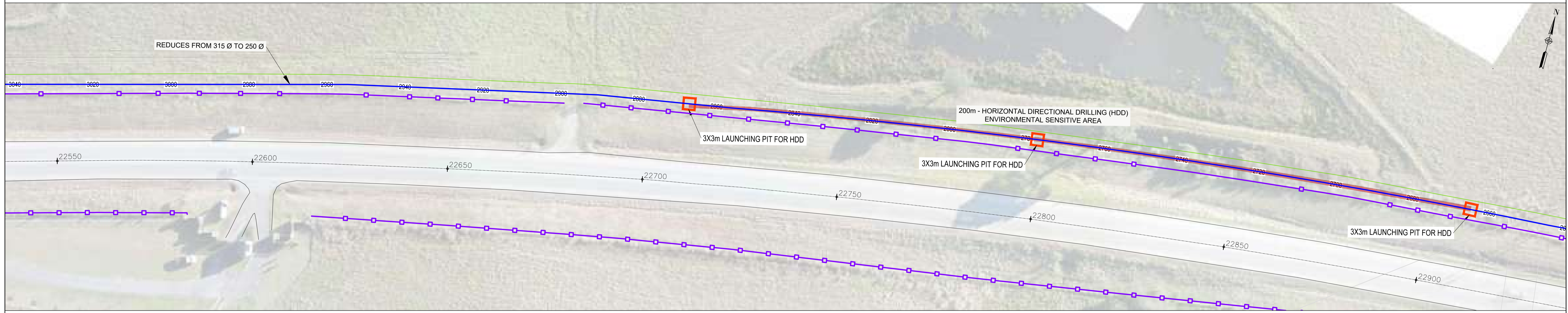
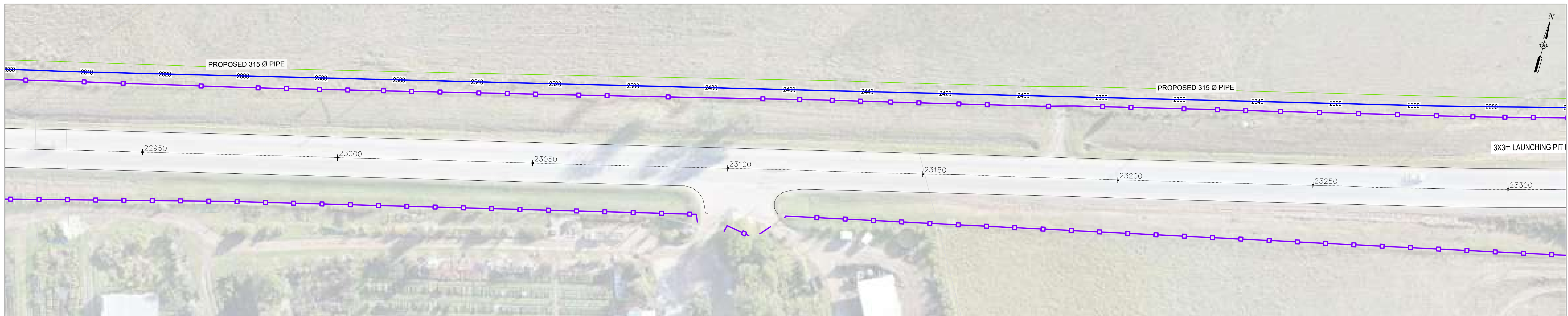
Tel (044) 801-9496
Fax (044) 529-9872

SIGNED	George Municipality
DATE	

UPGRADE OF AIRPORT BULK WATER PIPELINE

PREFERRED PIPELINE ROUTE LAYOUT SHEET 02 OF 04

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER			
C1915 - 613 - 002			
REV	C00	SHEET No.	02 OF 04



LEGEND

- EDGE OF ROAD
- FENCE
- CADASTRALS
- 5 m BUILDING LINE FROM FENCE
- PROPOSED NEW BULK WATER PIPELINE ROUTE

NOTE:
 1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. REFER ANY DISCREPANCIES TO THE ENGINEER.

CONCEPT DESIGN

NO.	DATE	DESCRIPTION	INITIAL
C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED	SMC South Africa
DATE	



PO Box 10633
George 6530
e-mail: george@smec.com
website: www.smec.com



13 Progress St
George 6529
Tel (044) 873-5029
Fax (044) 873-5086



PO Box 19
George 6530
e-mail: civilinfo@george.org.za
website: www.george.org.za



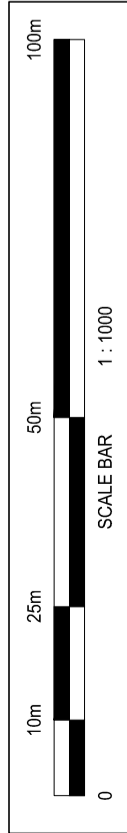
c/o York & Market St
George 6529
Tel (044) 801-9496
Fax (044) 629-9872

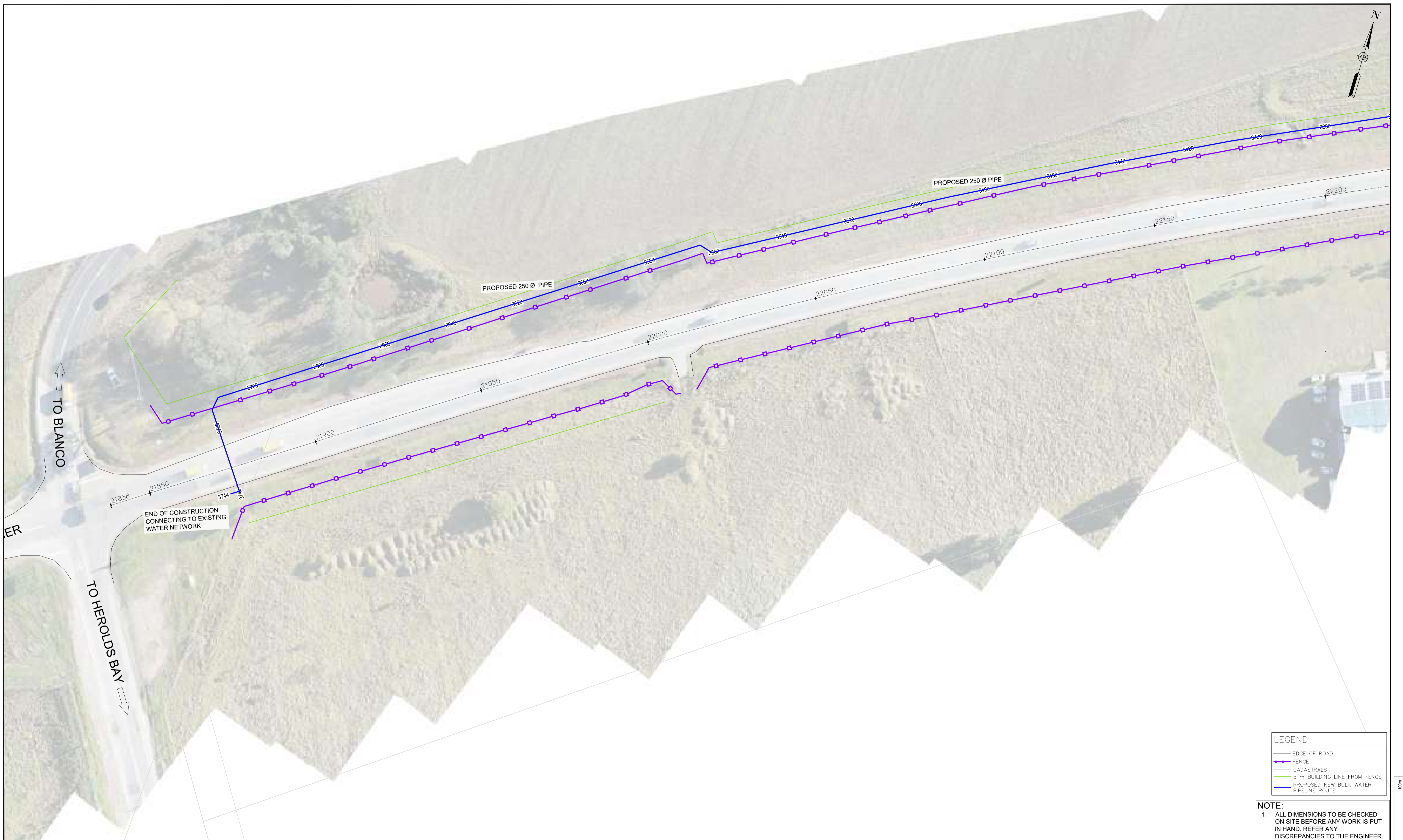
SIGNED	George Municipality
DATE	

UPGRADE OF AIRPORT BULK WATER PIPELINE

PREFERRED PIPELINE ROUTE LAYOUT SHEET 03 OF 04

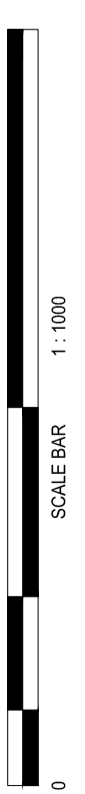
SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER	C1915 - 613 - 003		
REV	C00	SHEET No.	03 OF 04





LEGEND	
	EDGE OF ROAD
	FENCE
	CADASTRALS
	5 m BUILDING LINE FROM FENCE
	PROPOSED NEW BULK WATER PIPELINE ROUTE

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CONCEPT DESIGN

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C00	16-05-2024	ISSUED FOR CONCEPT DESIGN PURPOSES	TC

DESIGNED	A TOOTLA
CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE

SIGNED _____
 SMEC South Africa

DATE _____

Member of the Surbana Jurong Group

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George 6530

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Tel (044) 801-9496
Fax (044) 529-9872

SIGNED _____
 George Municipality

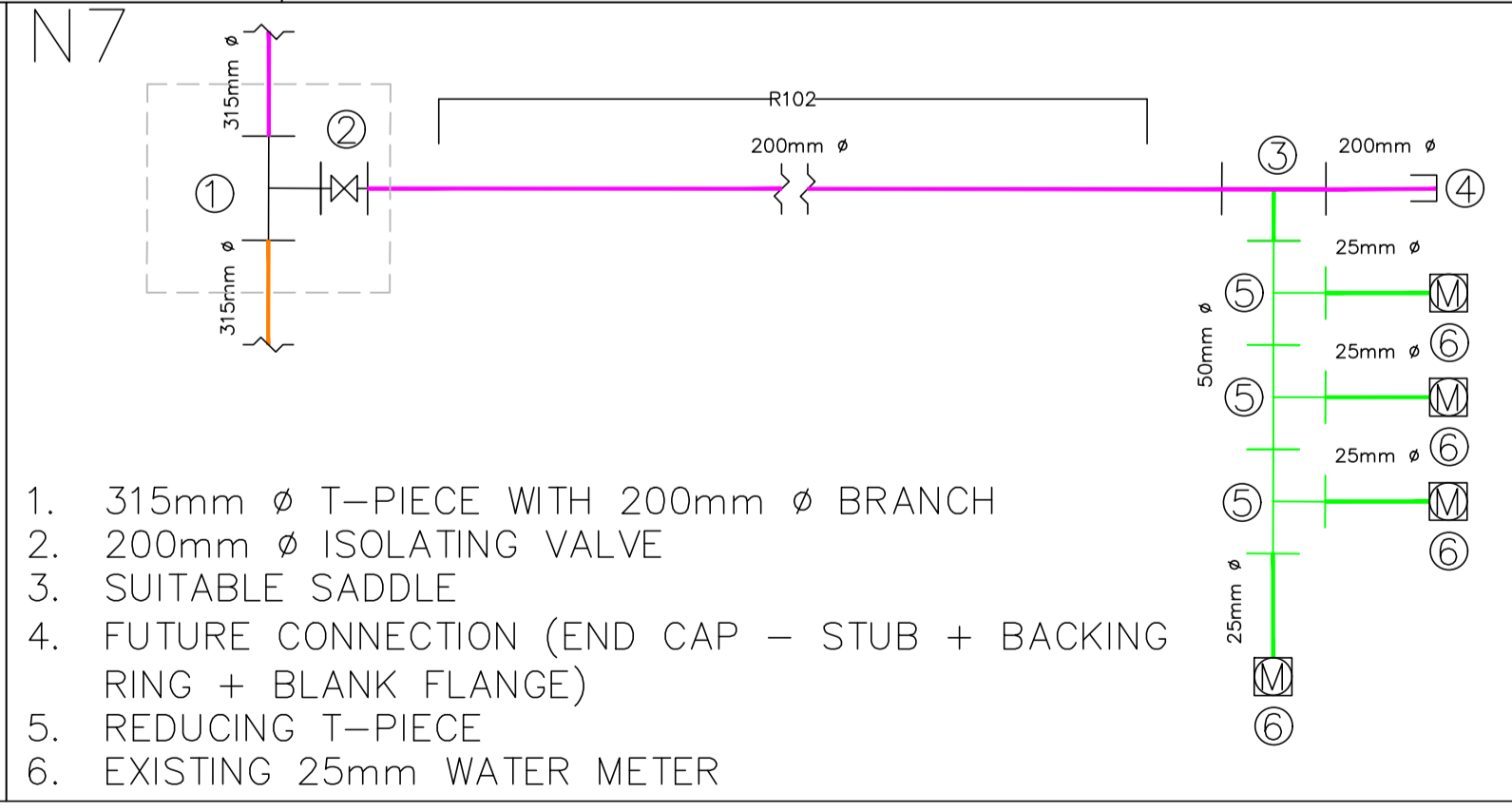
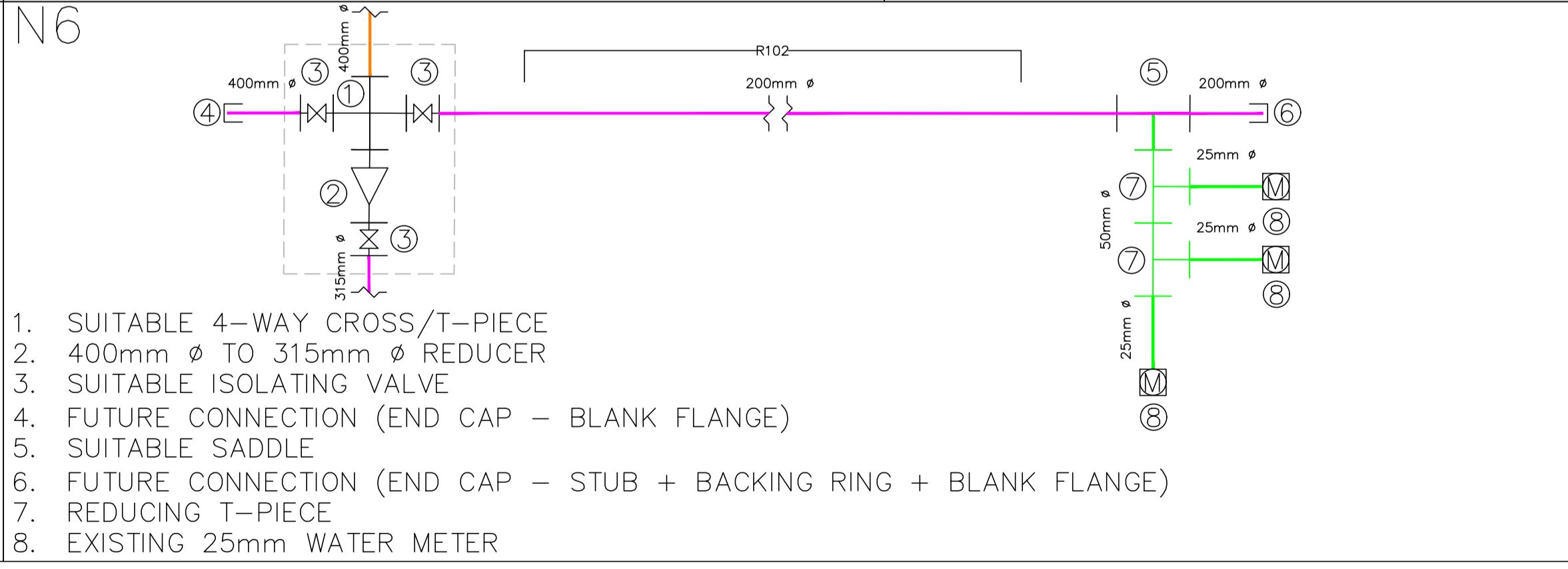
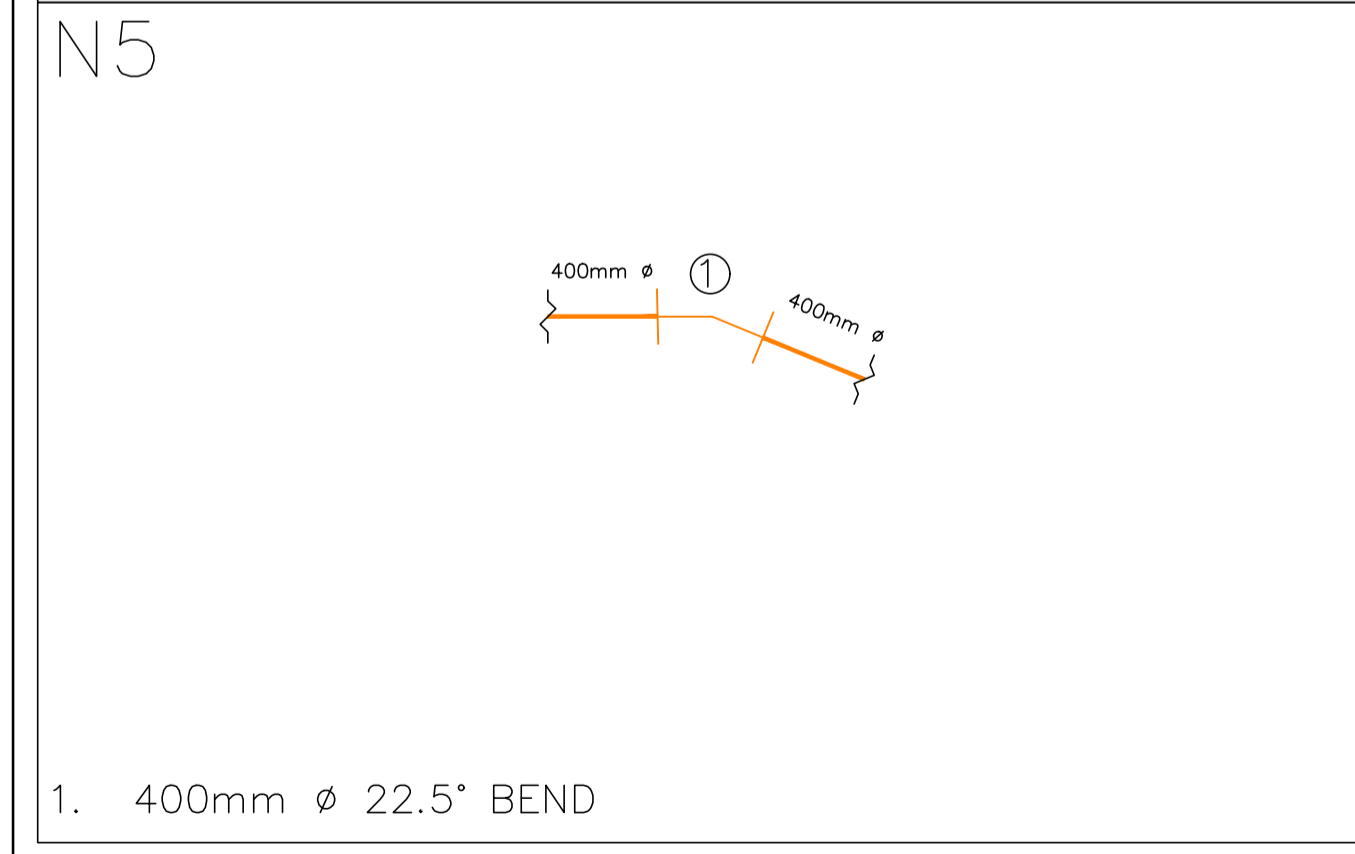
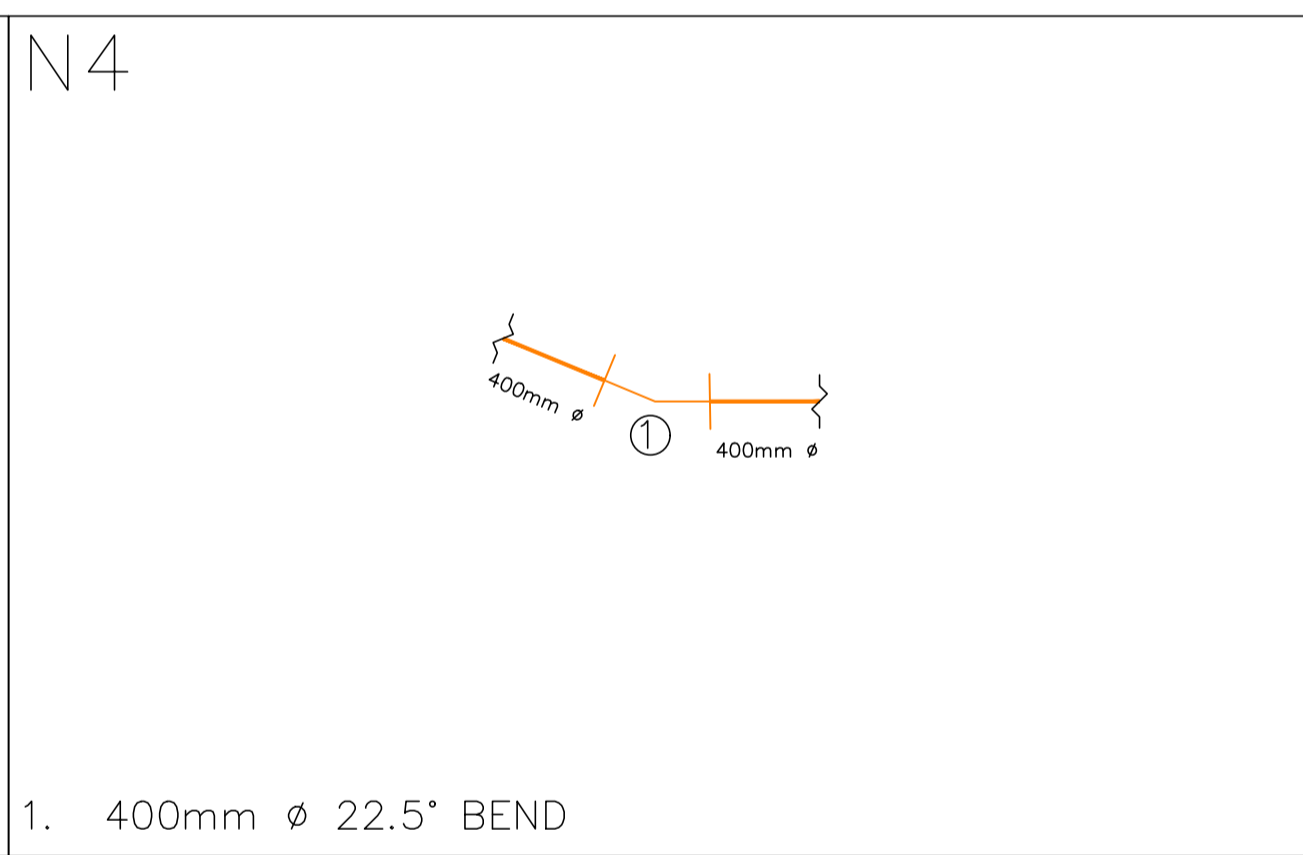
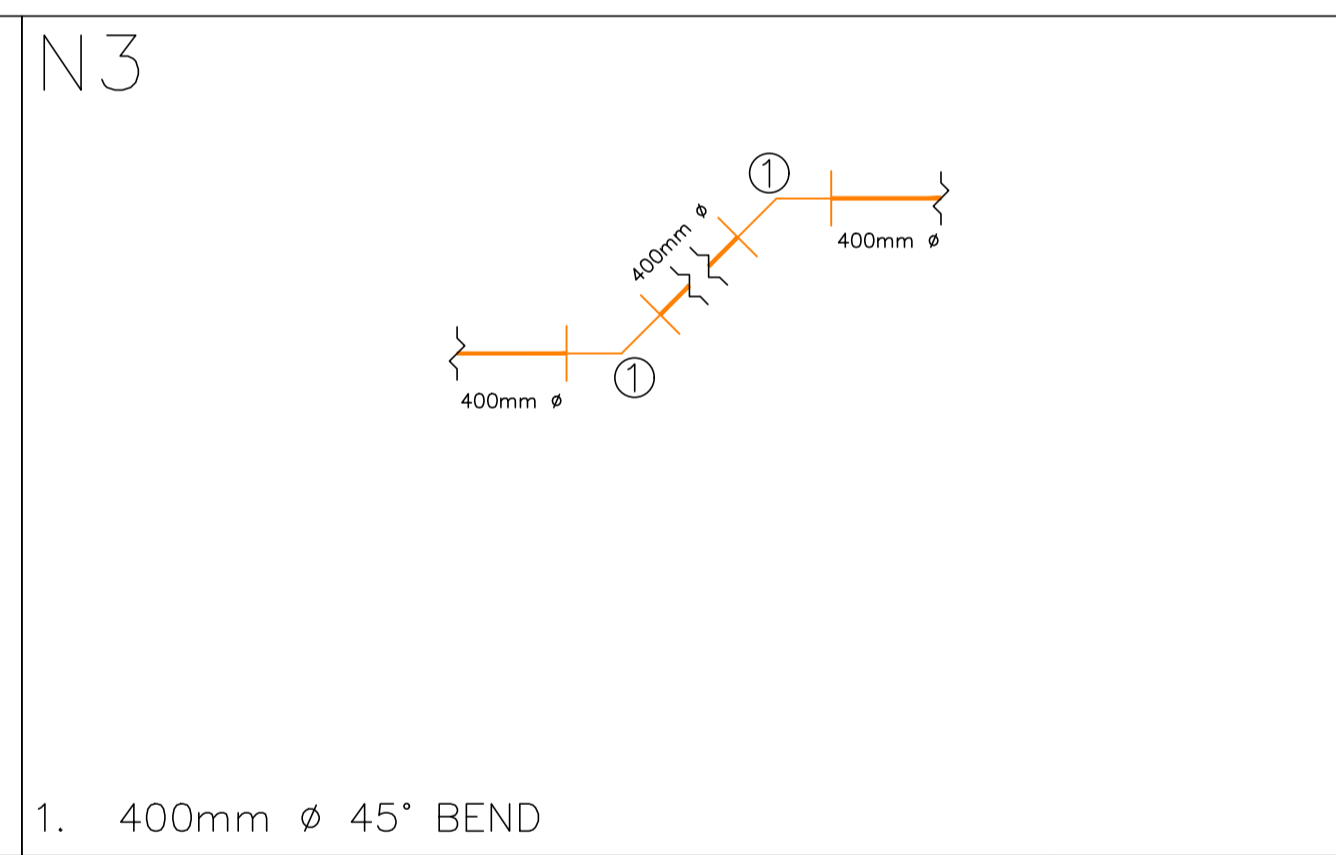
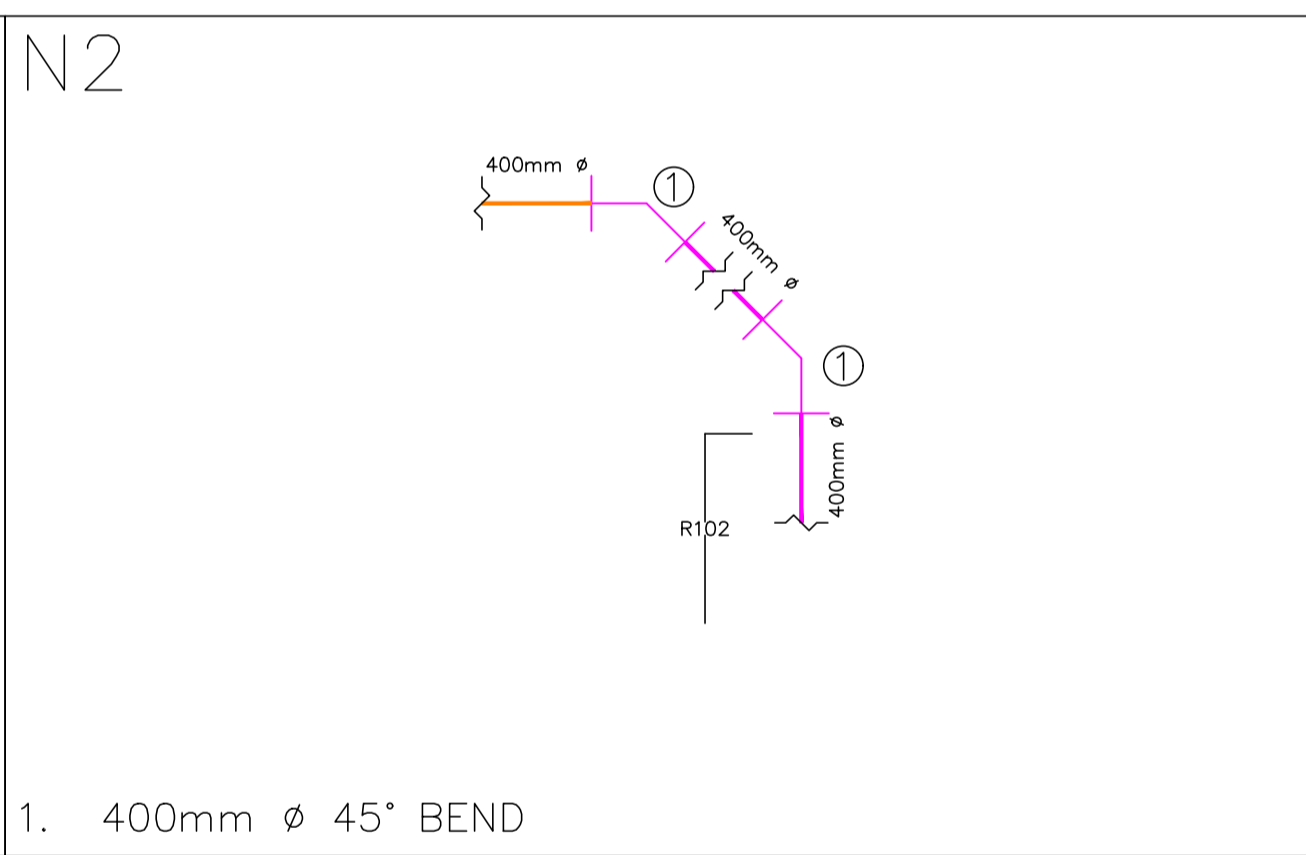
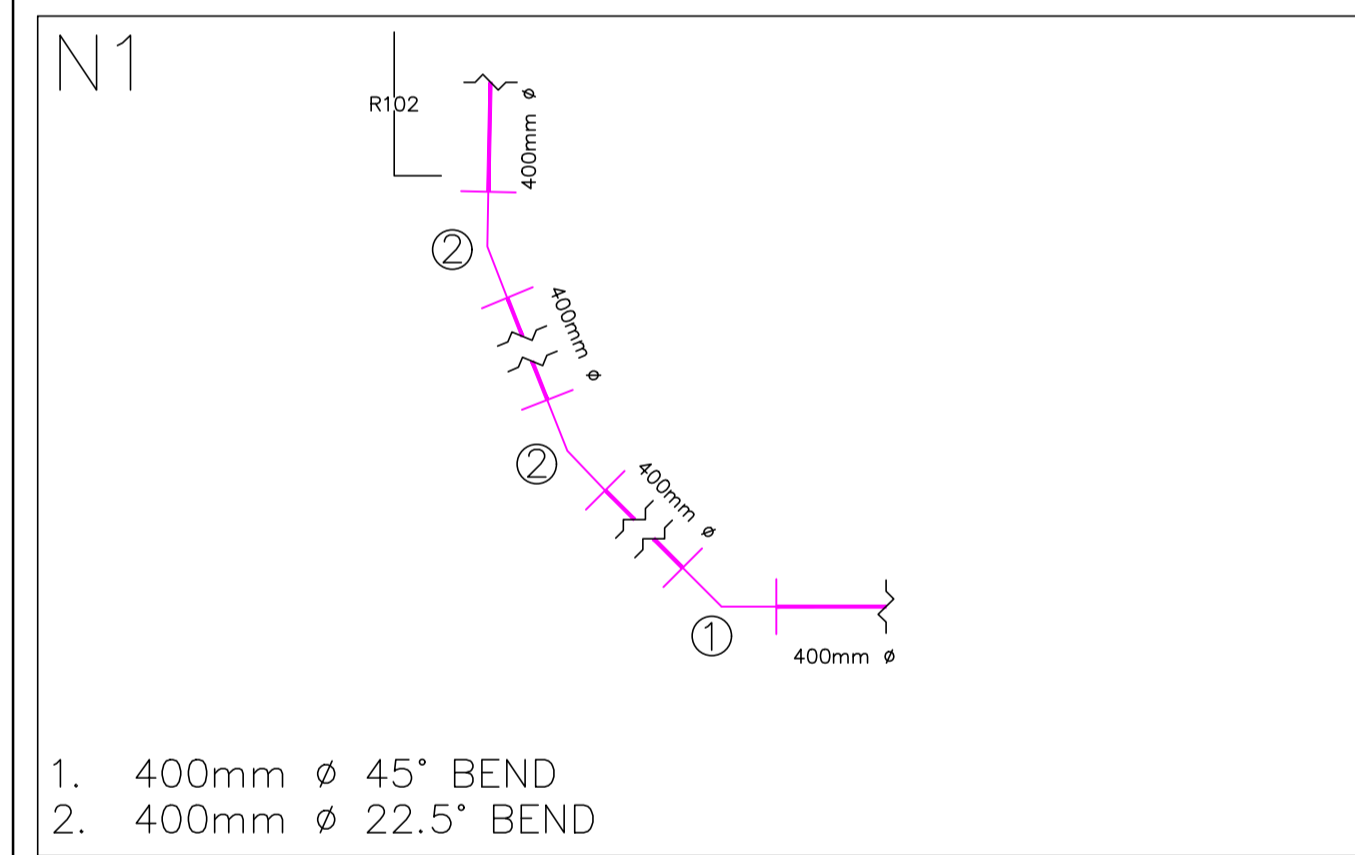
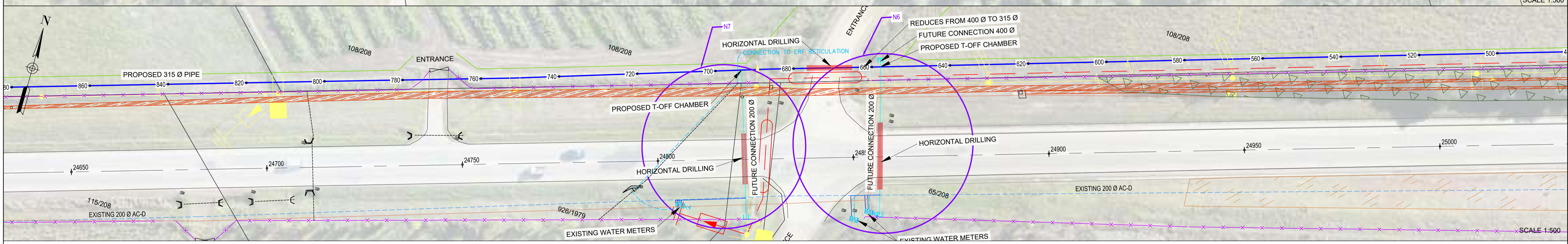
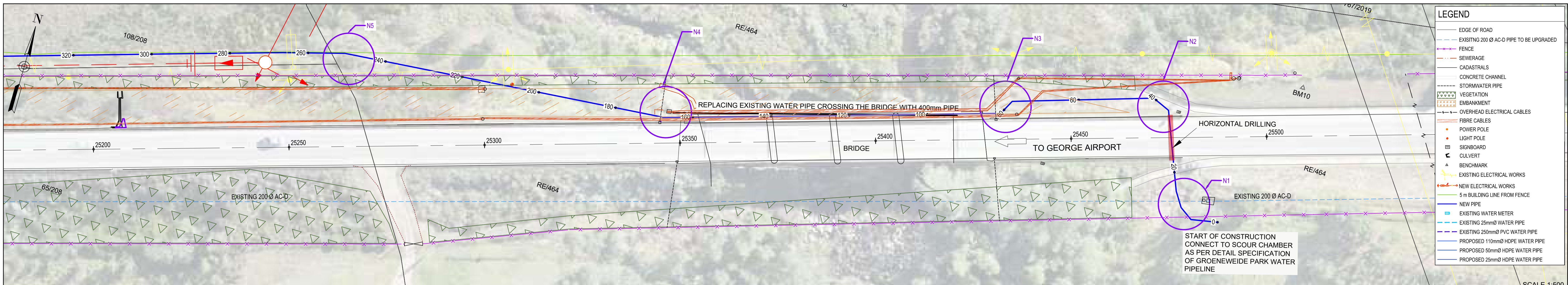
DATE _____

UPGRADE OF AIRPORT BULK WATER PIPELINE

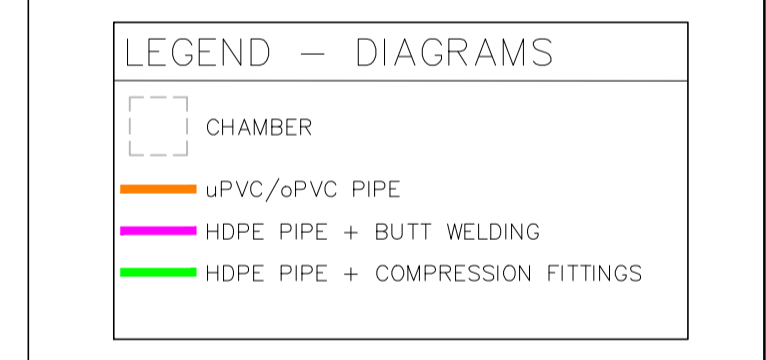
PREFERRED PIPELINE ROUTE LAYOUT SHEET 04 OF 04

SIZE	A1	SCALE	1:500
PROJECT DRAWING NUMBER			
C1915 - 613 - 004			
REV	C00	SHEET No.	04 OF 04

Appendix D **Diagrammatical details**



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A00	20-03-2024	ISSUED FOR APPROVAL	TC

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CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE
SIGNED	SMC South Africa
DATE	

SMC South Africa
Member of the Surbana Jurong Group

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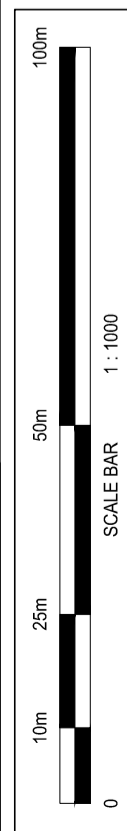
c/o York & Market Street
George 6529
Tel (044) 801 9496
Fax (086) 529 9872

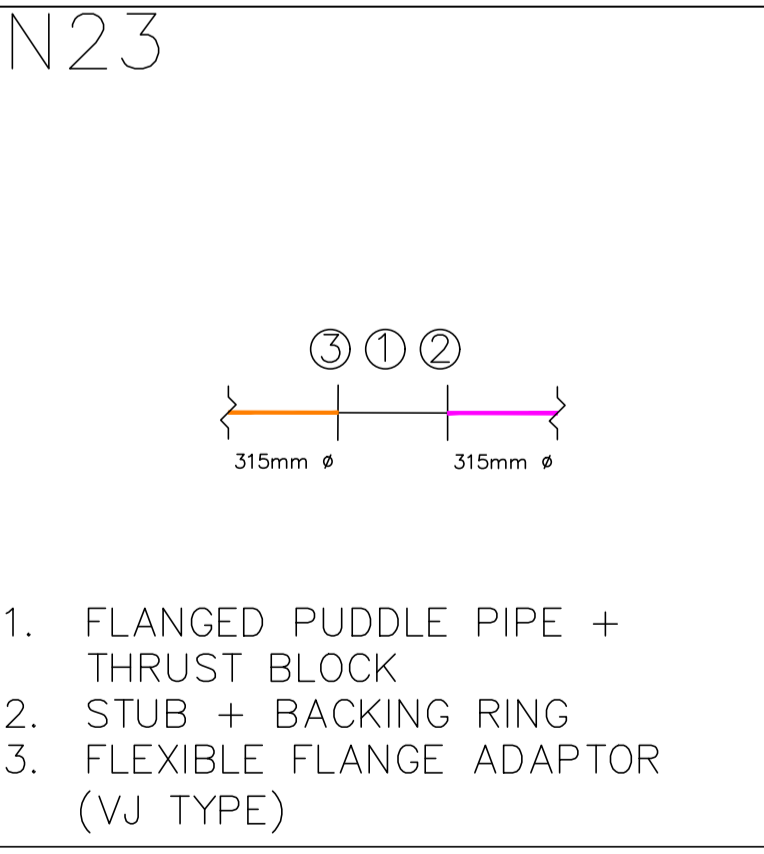
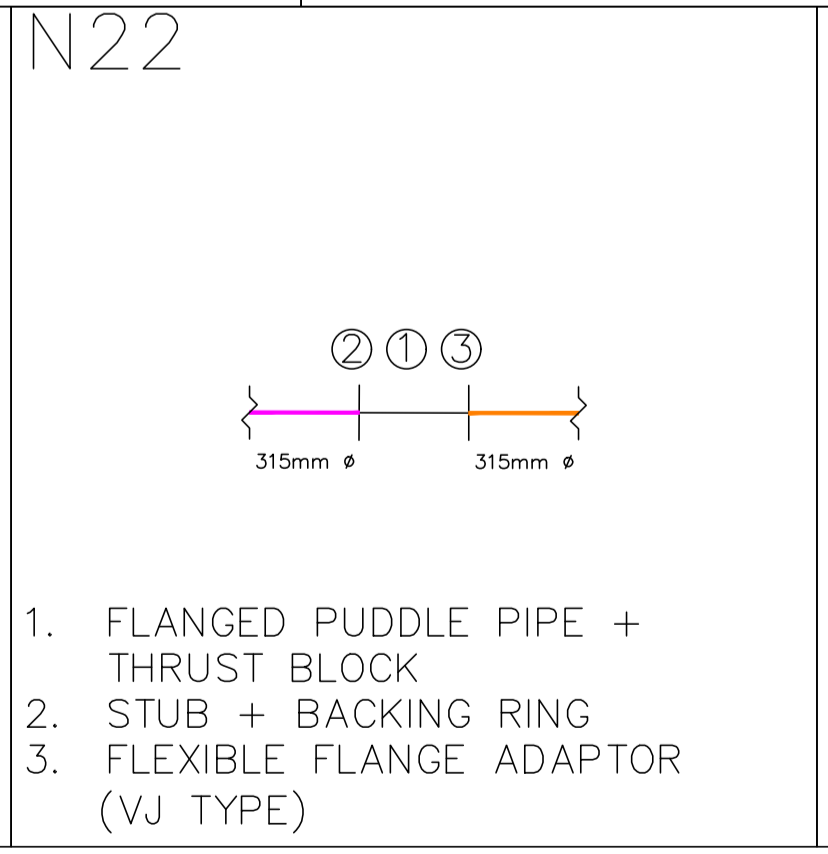
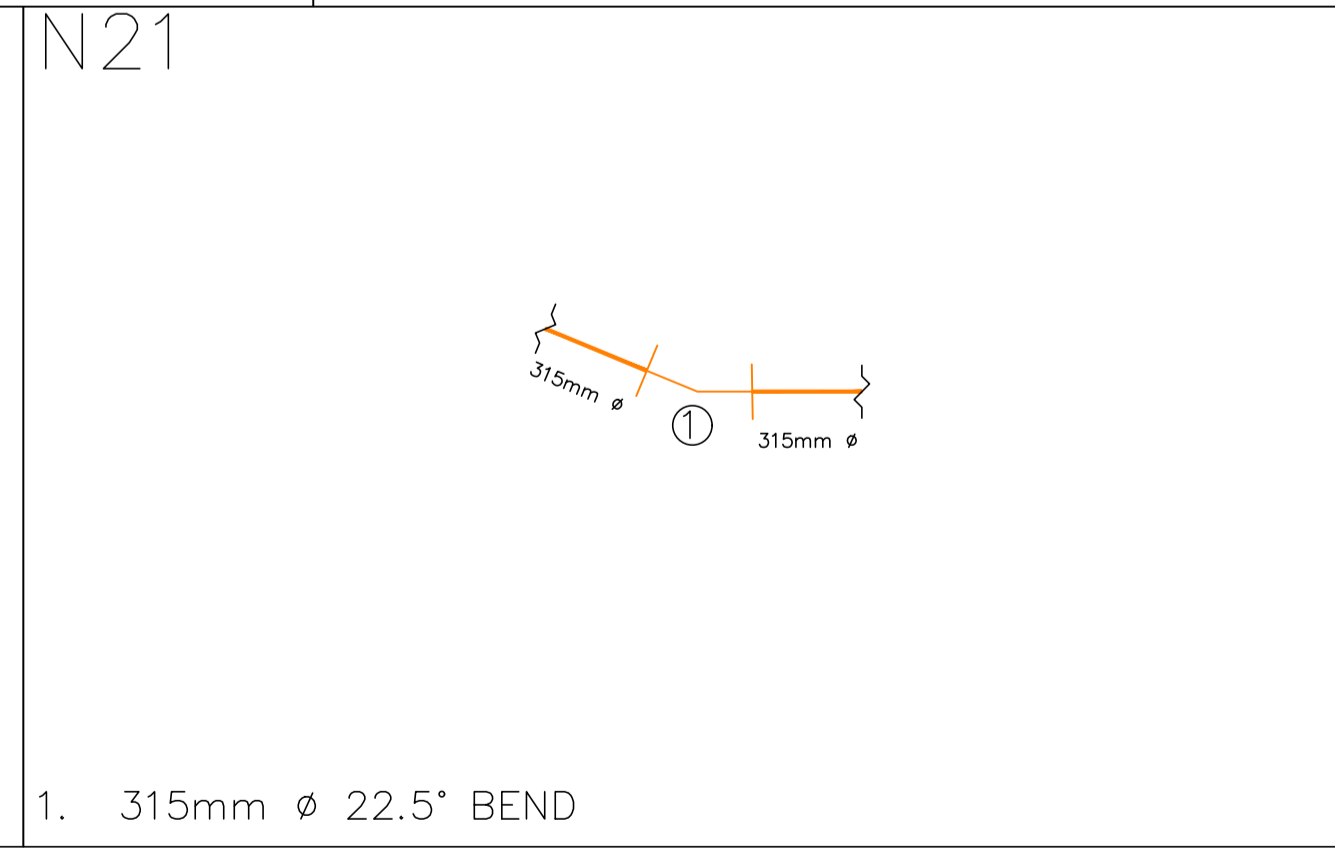
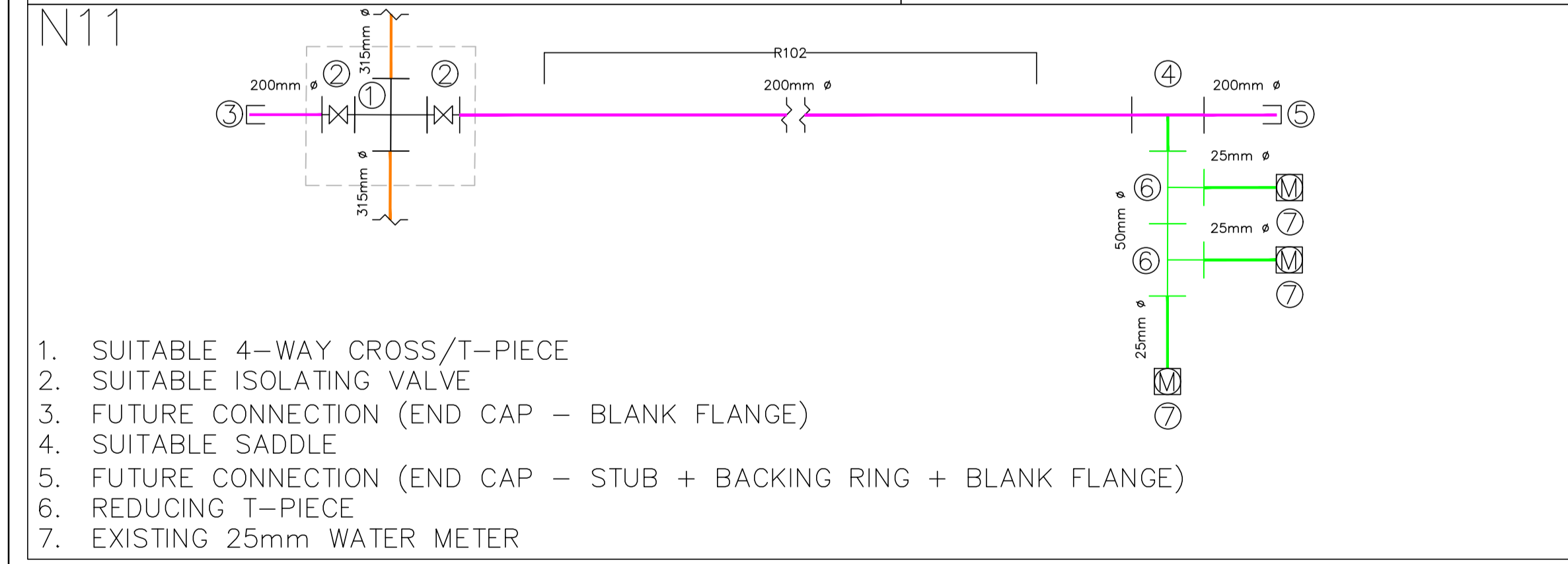
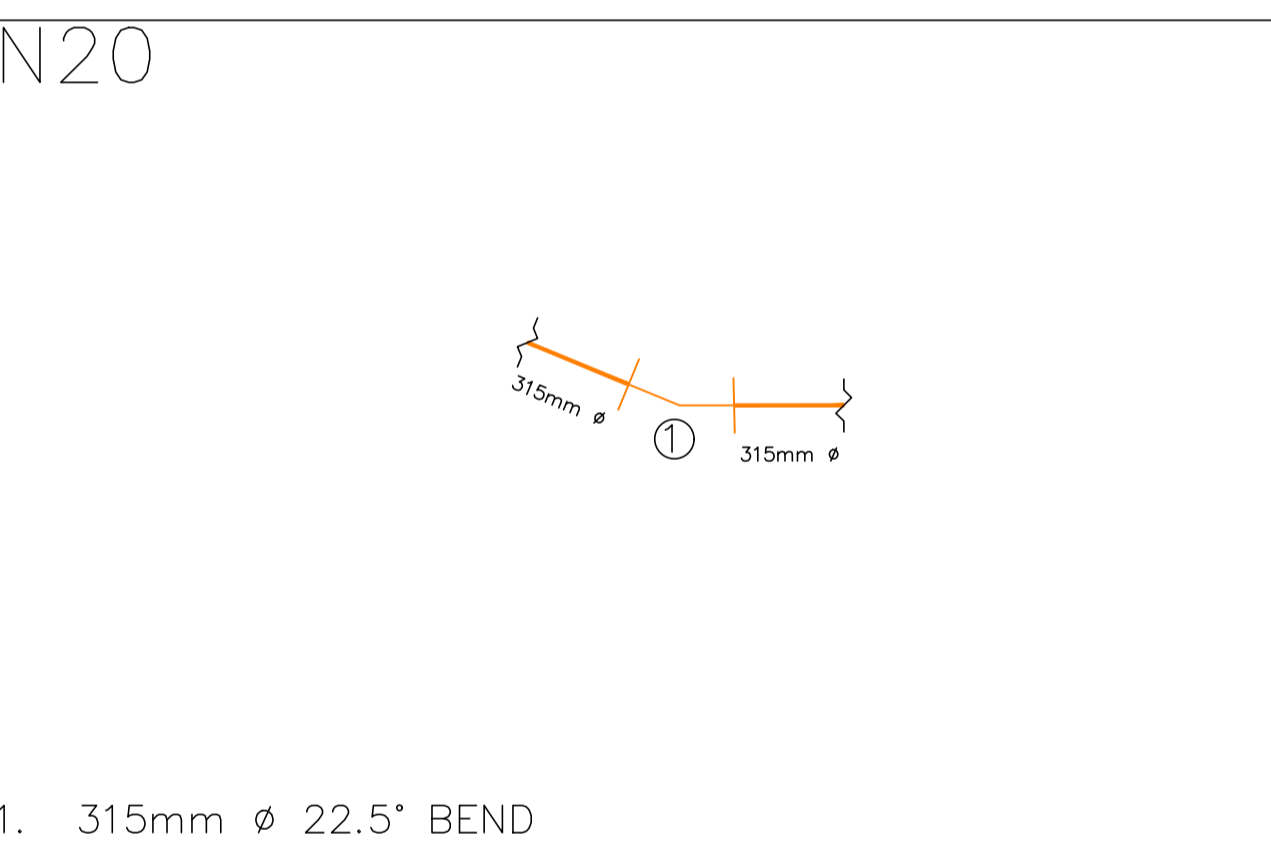
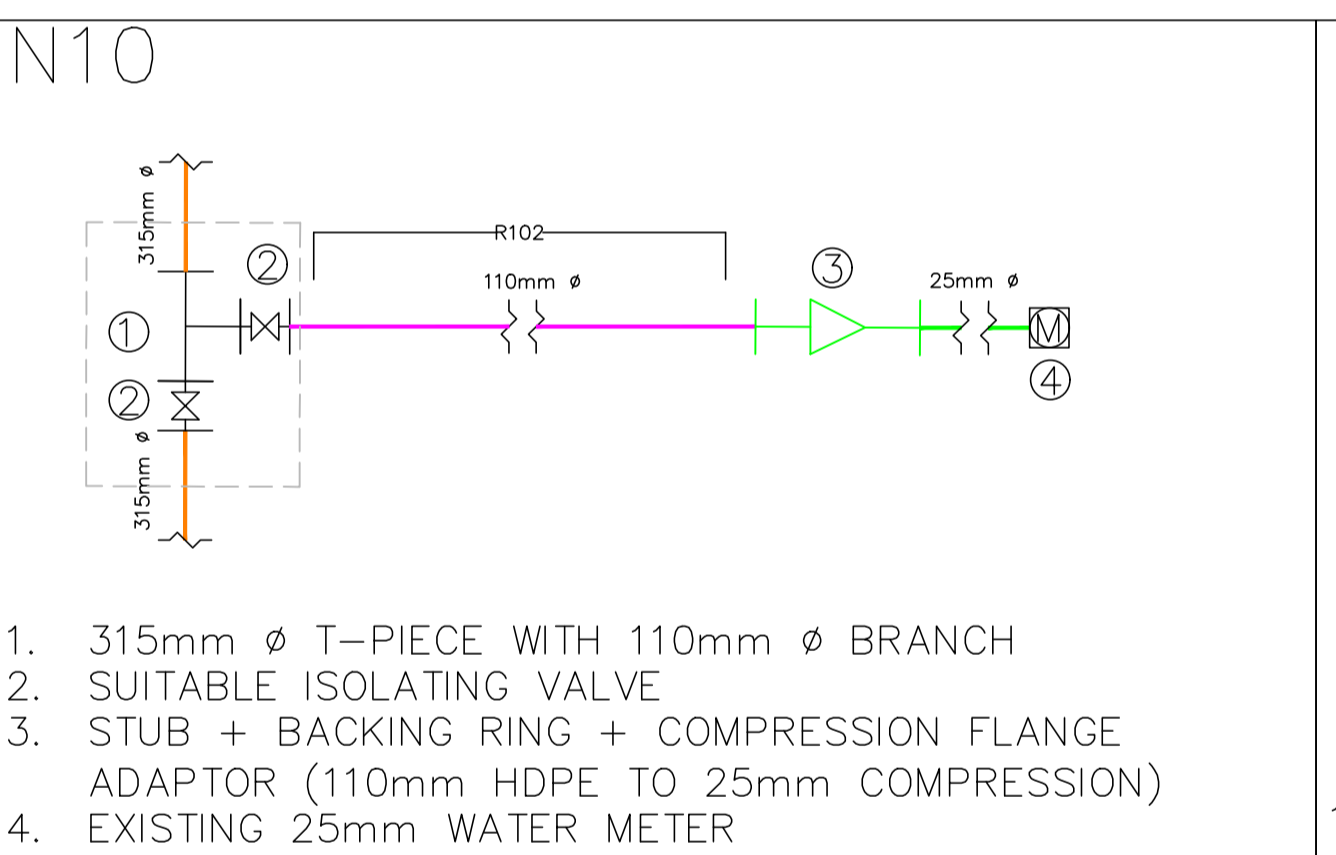
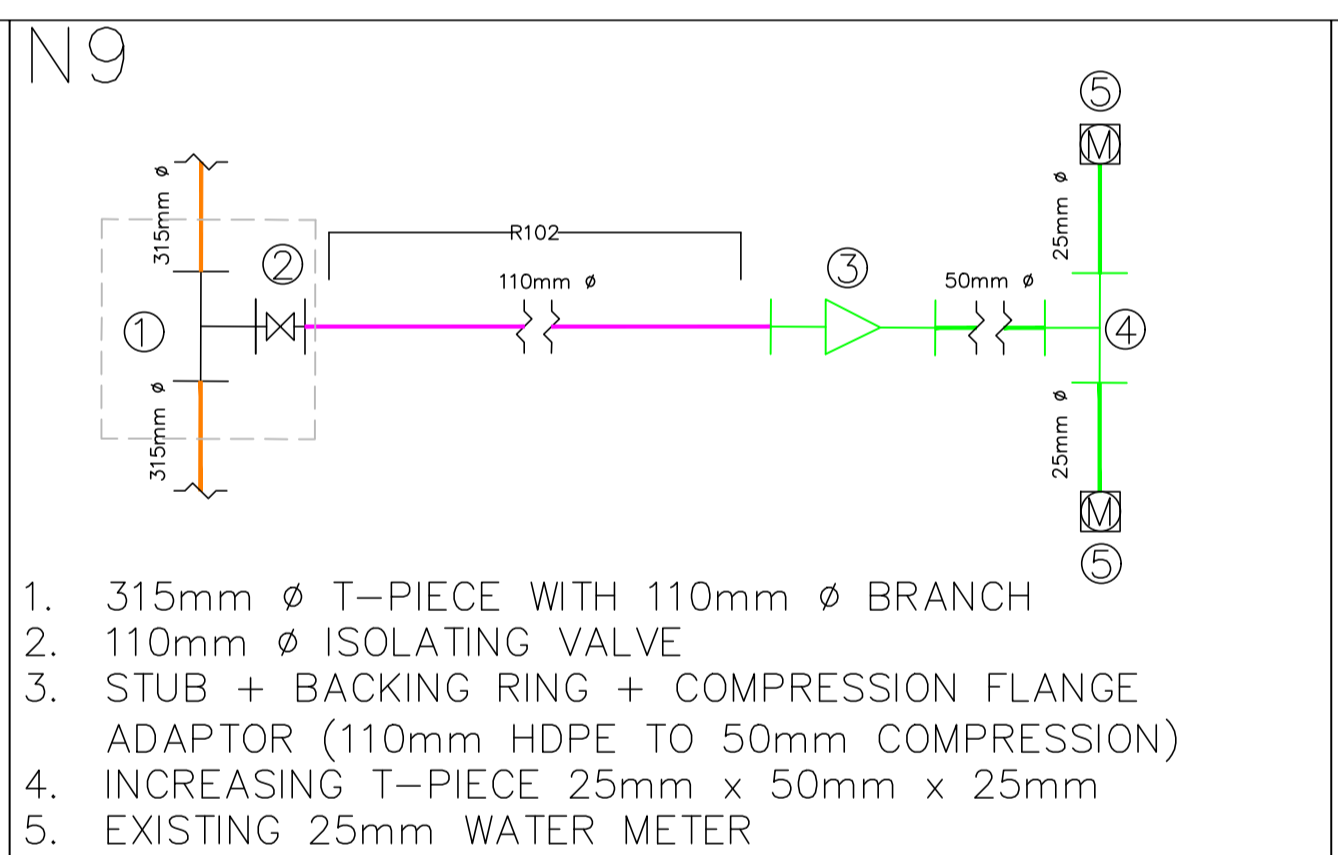
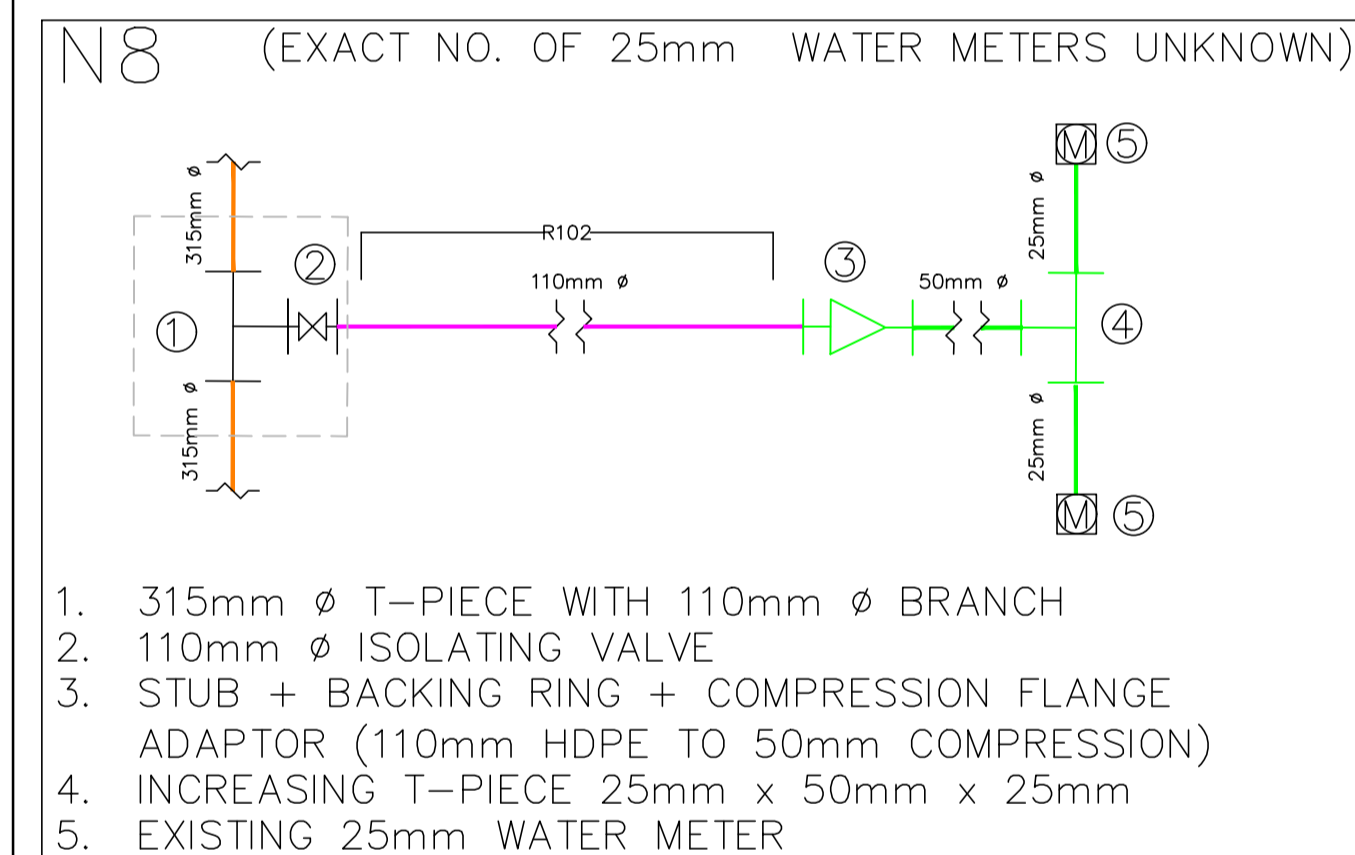
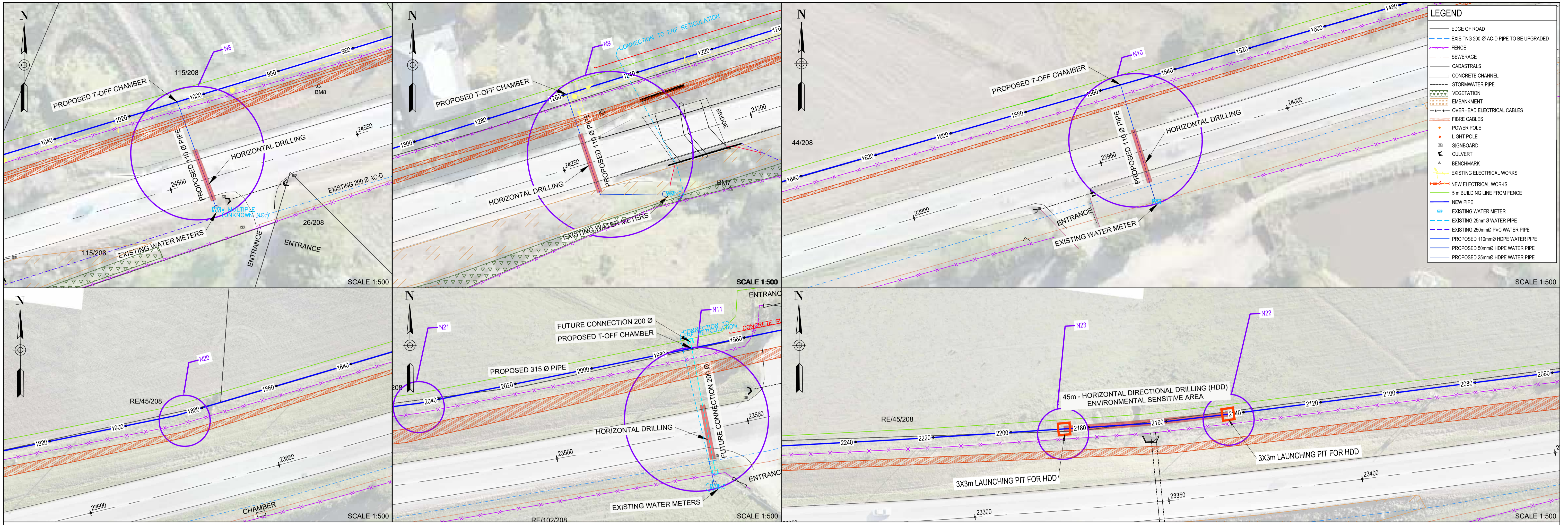
SIGNED	George Municipality
DATE	

UPGRADE OF AIRPORT BULK WATER PIPELINE

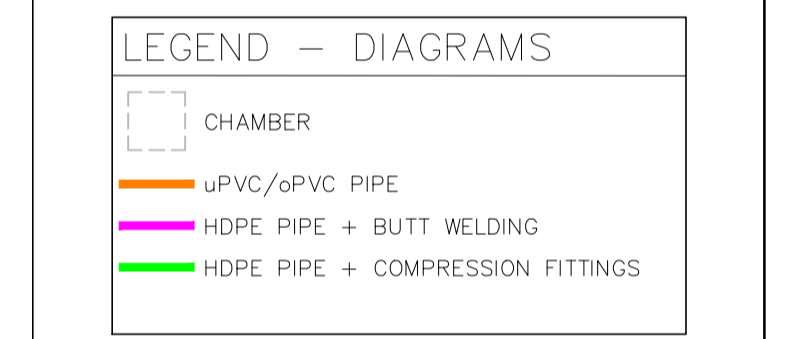
DIAGRAMMATICAL DETAILS SHEET 01 of 03

SIZE	A1	SCALE	AS SHOWN
PROJECT DRAWING NUMBER			
C1915 - 660 - 001			
REV	C00	SHEET No.	01 OF 03





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CHECKED	T CRONJE
DRAWN	A TOOTLA
CHECKED	T CRONJE
SIGNED	SMC South Africa
DATE	

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THE CITY FOR ALL REASONS

P.O.Box 19
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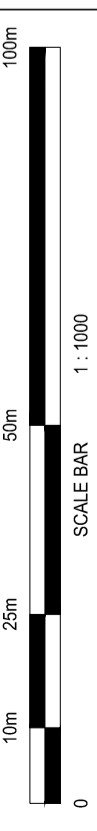
c/o York & Market Street
George 6529

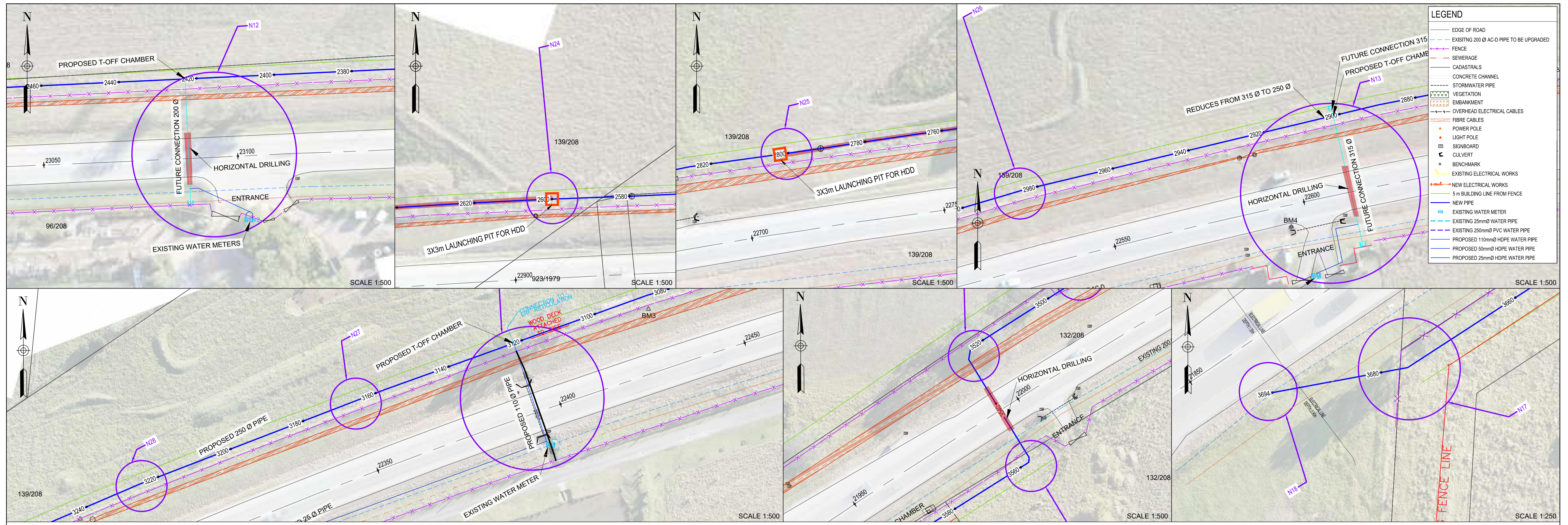
e-mail: civilinfo@george.org.za
Tel (044) 801 9496
Fax (086) 529 9872

UPGRADE OF AIRPORT BULK WATER PIPELINE

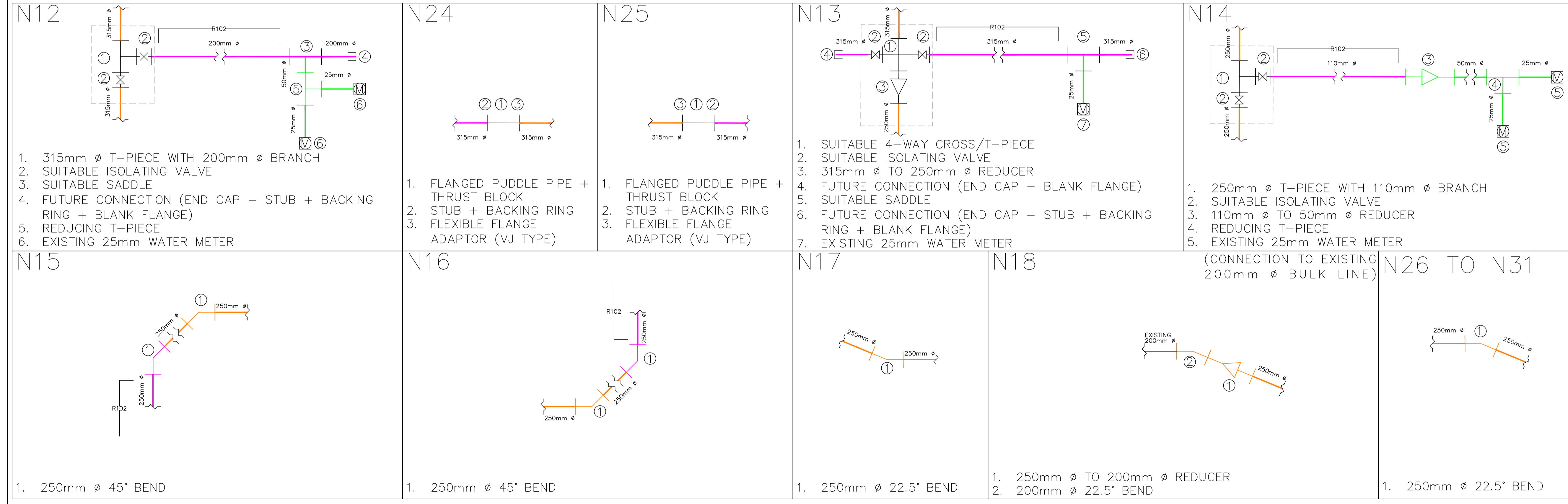
DIAGRAMMATICAL DETAILS SHEET 02 of 03

SIZE	A1	SCALE	AS SHOWN
PROJECT DRAWING NUMBER			
C1915 - 660 - 002			
REV	C00	SHEET No.	02 OF 03





LEGEND	
	EDGE OF ROAD
	EXISTING 200 Ø AC-D PIPE TO BE UPGRADED
	FENCE
	SEWERAGE
	CADASTRALS
	CONCRETE CHANNEL
	STORMWATER PIPE
	EMBANKMENT
	VEGETATION
	OVERHEAD ELECTRICAL CABLES
	FIBRE CABLES
	POWER POLE
	LIGHT POLE
	SIGNBOARD
	CULVERT
	BENCHMARK
	EXISTING ELECTRICAL WORKS
	NEW ELECTRICAL WORKS
	5 m BUILDING LINE FROM FENCE
	NEW PIPE
	EXISTING WATER METER
	EXISTING 25mm Ø WATER PIPE
	EXISTING 110mm Ø HDPE WATER PIPE
	PROPOSED 250mm Ø HDPE WATER PIPE
	PROPOSED 110mm Ø HDPE WATER PIPE
	PROPOSED 25mm Ø HDPE WATER PIPE



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LEGEND - DIAGRAMS	
	CHAMBER
	uPVC/gPVC PIPE
	HDPE PIPE + BUTT WELDING
	HDPE PIPE + COMPRESSION FITTINGS

REVISIONS	NO.	DATE	DESCRIPTION	INITIAL
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	A00	20-03-2024	ISSUED FOR APPROVAL	TC

DESIGNED	A TOOTLA	SIGNED	SMEC South Africa
CHECKED	T CRONJE	DATE	
DRAWN	A TOOTLA		
CHECKED	T CRONJE		

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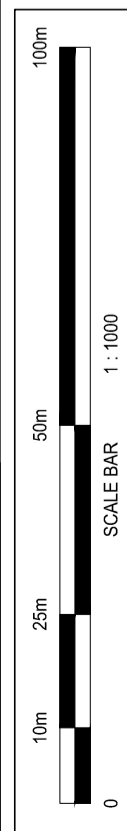
c/o York & Market Street
George 6529
Tel (044) 801 9496
Fax (086) 529 9872

SIGNED	George Municipality
DATE	

UPGRADE OF AIRPORT BULK WATER PIPELINE

DIAGRAMMATICAL DETAILS SHEET 03 of 03

SIZE	A1	SCALE	AS SHOWN
PROJECT DRAWING NUMBER			
C1915 - 660 - 003			
REV	C00	SHEET No.	03 OF 03



CONCEPT DESIGN