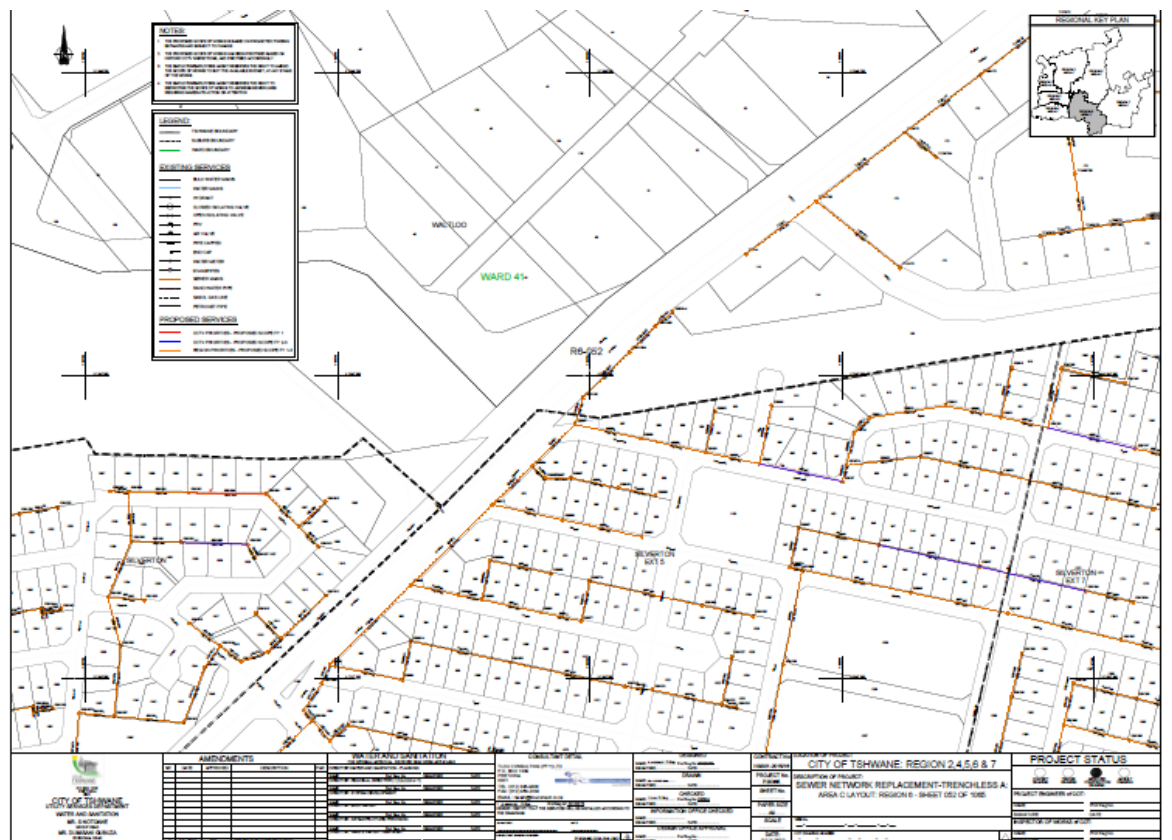


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TRAFFIC MANAGEMENT PLAN

SEWER NETWORK REPLACEMENT TRENCHLESS AREA C



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1. INTRODUCTION

1.1 PURPOSE AND OBJECTIVES

PURPOSE:

The traffic Management Plan will provide information to those road users on construction site, about routes to be followed while driving on site and to protect the employees on site doing the work, It is therefore important to ensure that traffic is managed in a manner that facilitates efficiency as well as ensuring safety to road users to avoid confusion. The traffic Management Plan will adopt temporary road signs as per South African road traffic signs manual.

Cones, delineators, barricades, barriers, road signs and red flags will be used to indicate to road users the route they should follow around the construction site. The site traffic control plan will provide a standard pattern of traffic control for construction operations which will be simple and understandable to road users and workers.

OBJECTIVES:

- ❖ Improved management of the flow of traffic
- ❖ Ensure safety of Site personnel, road users and local community
- ❖ To avoid and minimise traffic risks to Site personnel, road users and the local community during the project, under both routine and non-routine circumstances.
- ❖ To keep one lane per direction open to traffic at all times.

1.2 MANAGEMENT OF WORK

It is proposed that the site would be managed by Tshepo Mahlangu the Construction manager who will be based full time on site.

The construction team will be supported by: -

- ❖ **Quality Assurance:** Managed by Phera Mahlatsi
- ❖ **Project Management and Planning:** Managed by Tshepo Mahlangu
- ❖ **Traffic Management:** While safety is everyone's responsibility and right; legal compliance and physical monitoring will be done by the Safety Officer /Traffic Safety Officer and assisted by the Construction Supervisors, safety representative and a team of flagman.

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1.3 DUTIES OF THE TRAFFIC SAFETY OFFICER

- ❖ Make him/herself available to discuss road safety and traffic accommodation matters whenever required by the Client
- ❖ Record on neat and dimensioned sketches and submit to the Client the position and sign reference number where applicable of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each shall be adequately referenced to identifiable permanent features located along the site of works.
- ❖ The records shall be amended wherever changes made in the field and revised detailed sketches shall be submitted to the Client . This shall include the recording of the position of the flagmen and stop/go control men and their associated traffic accommodation equipment wherever their used.
- ❖ Personally, inspect the position and condition of each traffic accommodation on the whole site of the works twice each day, 9h30 and 16h30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and file the records. The Safety Traffic Officer shall keep a copy of these reports.
- ❖ In an event of an accident the traffic safety officer shall record in a written report the details of the accident, record the position of all temporary road signs, barricades, delineators, flagmen and any other devices used for traffic accommodation. The report will include net dimensional sketch, photographs, identifiable permanent featured, and any other relevant information.
- ❖ Be responsible for coordinating the removal of broken-down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic

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1.4 THE SCOPE

This procedure addresses:

- ❖ Public Interface
- ❖ Road signages
- ❖ Speed
- ❖ Equipment
- ❖ Operational Machines
- ❖ Temporary closures
- ❖ Short-term traffic accommodation

1.5 IDENTIFIED HAZARDS

Identified hazards to personnel travelling include:

- ❖ Public interface
- ❖ Vehicle speed
- ❖ Road conditions and deviations.
- ❖ Standard equipment for vehicles
- ❖ Damaged Signage
- ❖ Faulty signage
- ❖ Excavations
- ❖ Vehicle safety standards
- ❖ Road rules
- ❖ Vehicle interaction
- ❖ Defective vehicles and mobile plant
- ❖ Inclement weather conditions
- ❖ Vehicle breakdown

2. TRAFFIC CASE STUDY AND ACCOMODATION OF TRAFFIC

2.1 GENERAL DESCRIPTION OF THE PROJECT

Traffic Management Plan for the replacement of Sewer pipeline closer to the road

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2.2 OBJECTIVES OF ROADWORKS SIGNING

- ❖ To establish, as far as possible, a standard pattern of traffic control devices for typical road construction and maintenance operations which is simple and clear to understand
- ❖ To develop in drivers, by means of exclusive signs which are visible and have a simple and easily understood message, a high level of awareness that a reduced standard of roadway exists ahead of them, and acknowledge that this requires their increased vigilance
- ❖ To generate high level of driver respect and familiar for the efficiency and adequacy of traffic management used at roadworks
- ❖ To maintain roadway capacity and traffic flow at the highest possible levels, particularly on the high class routes, where large traffic volumes would otherwise result in congestion delay and accidental potential
- ❖ To keep away related accident levels at minimum
- ❖ To provide adequate information to redirect drivers via alternative routes when detours are implemented
- ❖ To provide designers to traffic management systems, and the suite staff who implement them, with adequate tools with which to accomplish the above objectives.

2.3 PLACING OF TRAFFIC SIGNS

WORKING AREA AT 3 WAY JUNCTION

The road sign will be placed in both sides of the lanes to control the incoming traffic in the direction towards the working area.

Each side on the direction of incoming traffic will have one flagman placed on either side of the road

Road signs will be placed on the road towards the 3-way junction

WORKING ON A STRAIGHTLINE ROAD

The road sign will be placed in both sides of the lanes to control the incoming traffic in the direction towards the working area.

Each side will have one flagman placed on either side of the road.

The road signs will be placed on the edge of the to be visible to the road users.

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THE SIGNS

DRAWING REFERENCE (WORKING AREA AT 3 WAY JUNCTION)

CH -Roadworks ahead TW336

CH - Traffic movement affected TW330

CH – high visibility application of warning sign TR104

CH – Flagman

Road towards 3 way junction

CH - Roadworks ahead TW336

CH – Flagman

The following streets will fall under 3 WAY Junction

- Moreleta Park: Marneweck Street
- Gasfontein: Jacqueline Street

DRAWING REFERENCE (WORKING AREA ON A STRAIGHTLINE ROAD)

LEFT- AND RIGHT-HAND SIDE

CH -Roadworks ahead TW336

CH - Traffic movement affected TW330

CH – high visibility application of warning sign TR104

CH – Flagman

The following streets will fall under Straight-line Road

- Newland: Gemmer Street
: Gina Street
:Adela Street
- Waterloo: Corobay Street
- Gasfontein: Jacqueline Street
- Moreleta Park: Witdoring Street
: Blouhaak Road
- Silverton : Bovidan Street
- Elardus Park: Orthoclase Street

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SECURING OF THE SIGNS

- ❖ The only permitted method of balancing the sign supports consist of durable sandbags filled with sand of adequate mass to prevent signs form being blown over by the wind.

MAINTENANCE OF SIGNS

- ❖ We will have a team that will display temporal signs every day. The team will be trained by the Traffic Safety Officer using the Approved Traffic Management Plan.
- ❖ The team will also ensure that the signs are in place and if they fall or get blown by the wind, they place them accordingly.
- ❖ The team will also clean the signs and ensure that they are clear and visible always.

2.3 PUBLIC INTERFACE ON ROADS

Due to interface with the public, extra precautions will be taken to restrict access into the project area. This will be achieved using signage and the Traffic Safety Officer, flagmen and the Client representative to notify the public that beyond a designated location is a project construction area and access is restricted to Project personnel and contractors only, where appropriate. Additional warning signs or personnel will be used to control and direct traffic flow.

2.4 FLAGGING

FLAGMEN

Flagmen will guide the flow of traffic (tipper trucks, excavators, TLB, vehicles etc.). They will play an imperative role towards the awareness of traffic, and they will always be observant for moving plant and machinery on site. They will also help in giving direction to the motorists and public, show them the bypass directions and they will help with guidance to safe movement of plant on site.

At least two flagmen will be provided at each traffic control point

The flag men will be highly visible from a distance to permit appropriate response to the flag-man's instructions by a vehicle operator. They will wear orange work suit and reflective vests for high visibility to road users.

The flagman will use walkie talkies to communicate during the working hours

TRAINING

Flagmen will be given instruction by their Supervisor, Traffic Safety Officer and Safety Officer to develop a clear understanding of their duties and responsibilities. At a minimum, instruction and training will include:

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- Communications
- Attitude
- safety equipment
- Tools
- Hand signals
- Location or positioning
- Action(s) for directing traffic
- Emergency procedures.

Flagman shall be adequately trained in the standard flagging techniques as described in the SARTSM.

FLAG SPECIFICATION

- ❖ Flags shall be made from bright red or red-orange material and shall be square with a minimum side length of 600mm. The flag shall be attached to a staff at least 1,0 m length

Fig 1 Red Flag



FLAGMEN DO'S AND DON'T

- ❖ Shall not stand within the traffic lane and must only stand on the shoulder of the lane of traffic that is being controlled.
- ❖ To obtain maximum visual impact for the traveling public, flagmen will stand-alone.
- ❖ Flagmen will not work more than 10 hours per day
- ❖ Will always have in their possession certification as proof that they have attended and passed an accredited flagging techniques before being allowed onto the construction site.

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2.5 RESTRICTED AREAS AND ESCORT VEHICLES

Machinery (smooth drum roller, foot plate roller, excavator etc.) will be escorted by the company vehicles when going to site, one vehicle to drive in front and one vehicle to drive behind the machinery, all using caution to ensure traffic safety.

Site personnel will be informed as to the restricted areas of the Project. These areas are not to be accessed without authority from the Project manager or the Site agent since we will be working next to residential and industrial areas.

2.6 OPERATIONAL MACHINERY

To minimize the potential of light vehicles entering the blind spots of plant and machinery, all other equipment and light vehicles and mobile equipment will be instructed to give way to heavy vehicles operating on site.

Ditshimega Projects and Training will ensure that the presence of the equipment on site will not affect the safety of the traveling public. On completion of the day's work, all plant that can travel unaided on public roads will be removed from the work area to the camp site.

Other plant difficult to move may be left on site with the following provisions:

- ❖ When work is the slow lane and shoulder closed to traffic, the plant must be parked at least 6m away from the roadway used as deviation
- ❖ In other cases, applicable normally to surfacing equipment shall preferably be parked at least 6m beyond the edge of the slow lane. If that is not possible, the equipment shall be protected by plastic New jersey barriers filled to capacity with water.
- ❖ A leading taper of 1:15 shall apply. Under no circumstance may be equipment be parked beyond the centre of the median, failing which barriers will be provided on both sides the equipment.

2.7 VEHICLE SPEED

General speed limit will be 20 km/h for every vehicle on site. Speed limit of 40km/h will be displayed so the road users will also reduce their speed to 40 km/h when using the Road during construction.

2.8 VEHICLE DRIVER /TRUCK DRIVER TRAINING

Only approved drivers of trucks and equipment will be allowed to operate equipment /trucks on the road. The approval process will include an induction. Contraventions will be recorded and after any contravention, the driver will be required to redo the induction and reported to HR.

The Induction Training will include:

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- ❖ Fitting and checking of safety devices. (Yellow lights: CONSTRUCTION VEHICLE signs, tail gate locks, oil leaks, vehicle lights, reverse hoots)
- ❖ Instruction on the movement into cut of closures, with reference to not feeding directly into public lanes without due regard.

The entry and exit points will be kept minimal and only these points will be used. These points will have track warning signs and a trained flagman. The flagman will assist the driver with exit manoeuvre.

All personnel operating a construction vehicle shall have the required and relevant authority license. Competencies will be checked on regular bases to ensure compliance

2.9 ADDITIONAL SIGNAGE

All signage will be as a minimum:

- Give clear direction.
- Be visible and not obscured.
- Be maintained; (Cleaned)
- Be reviewed regularly for relevance.

The signage that we will be using is as follows:

- Men at work signage
- Road cones
- Traffic movement affected sign
- Construction ahead sign
- Flagmen with red flags
- Heavy vehicle turning signs

All solid barriers will be as a minimum:

- Jersey Barriers that will be filled with water
- Be visible and not obscured
- No Drums will be used as channelisation devices

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Ditshimega Projects and Training will adhere strictly to the sign layout and spacing shown on the drawings/SARTSM . Any signs not required, or which is in contradiction with a prevailing situation, shall be removed or covered with non-transparent non-plastic plastic.

The covering of permanent road signs if applicable will be by utilizing a hessian bag that shall be pulled over the sign in the form of a hood and fastened to the signposts

No deviation will be done to the specific layouts without the specific permission in writing from the Client.

3. IMPLEMENTATING STRATEGY

3.1 ROAD CLOSURE

Partial closure of a public road will be done for construction purposes. The safety of all will be our primary concern therefore the action plan will be to place two (2) trained flagmen at the area where the road will be close to divert the traffic safely. We will also have traffic control signs and devices placed in the road to divert the traffic away from the area of activities.

3.2 ROAD SAFETY FOR WORKERS AT CONSTRUCTION ZONES

The safety and well-being of the employees will be improved with the following guidelines:

- ❖ Wearing long-sleeved shirts to protect from sunburn, dehydration, and overheating.
- ❖ The provision of water to prevent dehydration caused by prolonged exposures to heat or sun.
- ❖ Construction managers and Traffic Safety Officer will ensure that new employees are prepared to work in all types of traffic and are aware of dangers they will encounter on the project and how to protect themselves.
- ❖ Use protective equipment and personal protective gear (such as steel-toed shoes, overalls and reflective vests).
- ❖ Noise levels will be always monitored to prevent hearing loss – Safety Officers will ensure that workers are provided with earplugs to shield their eardrums from high decibels.
- ❖ When inclement weather conditions deteriorate, the Construction Manager or supervisors will make the decision to withdraw from site or not.
- ❖ Workers will be constantly reminded to remain vigilant and alert!

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4.CONCLUSION

Many motorists view road construction workers as an inconvenience, but they should rather look at them as a service. We will do our best to minimize motorist inconvenience. No matter how it seems to the motorists, we will strive to improve traffic safety conditions, and it will also be to the drivers to be alert, aware, and responsive and to cooperate with Ditshimega Projects and Training.

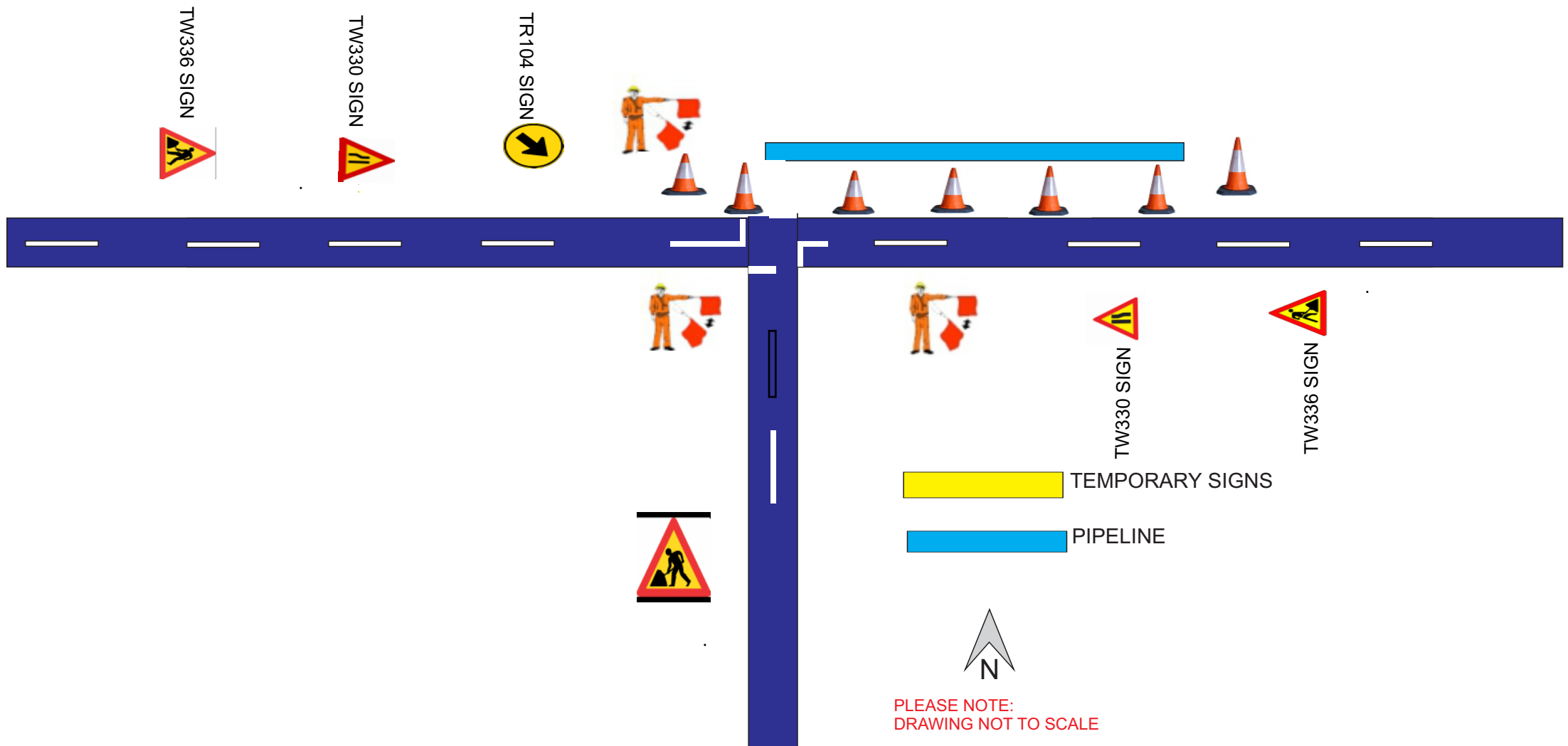
5.ATTACHMENTS (DRAWINGS)

- **WORKING AREA AT 3 WAY JUNCTION**
- **WORKING AREA ON A STRAIGHTLINE ROAD**

TRAFFIC ACCOMMODATION FOR OF SEWER REPLACEMENT
TRENCHLESS AREA C Drawing Ref No:

WORKING AREA AT 3 WAY JUNCTION

MORELETA PARK: MARNEWECK STREET
GASFONTEIN: JACQUELINE STREET

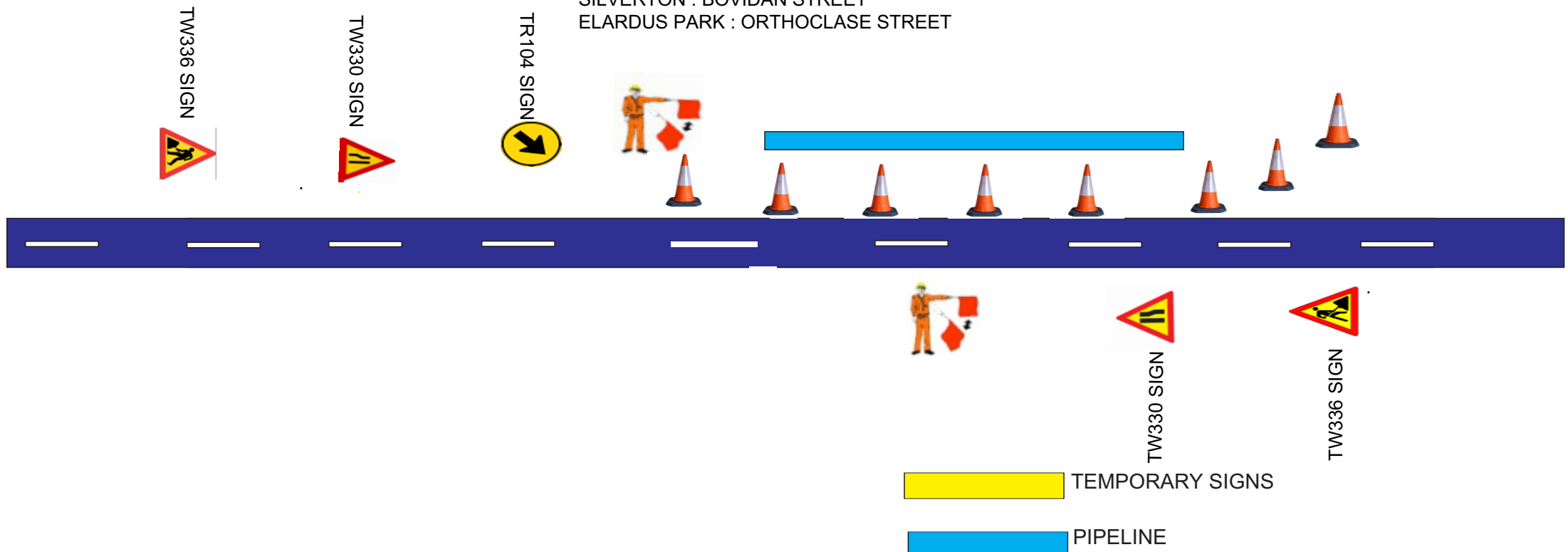


TRAFFIC ACCOMMODATION FOR OF SEWER REPLACEMENT
TRENCHLESS AREA C Drawing Ref No:

WORKING NEXT TO STRAIGHTLINE ROAD

NEWLAND : GEMMER STREET
: GINA STREET
ADELA STREET

WATERKLOOF GLEN: COROBAY AVENUE
GASFONTEIN: JACQUELINE DRIVE
MORELETA PARK: WITDORING STREET
: BLOUHAAR ROAD
SILVERTON : BOVIDAN STREET
ELARDUS PARK : ORTHOCLASE STREET



PLEASE NOTE:
DRAWING NOT TO SCALE