

LOOK FORWARD CONSTRUCTION

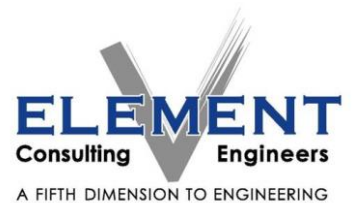
**PROPOSED DEVELOPMENT OF
PARKDENE FILLING STATION
ON ERF 11221, GEORGE**



Services Report

Revision 1

November 2022



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ON ERF 11221, GEORGE**

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Revision 1

November 2022



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PROPOSED DEVELOPMENT OF PARKDENE FILLING STATION ON ERF 11221, GEORGE

Services Report Revision 1

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1 INTRODUCTION AND BACKGROUND

Element Consulting Engineers has been appointed by Look Forward Construction as multi-disciplinary consultant for the rendering of professional services for the proposed development of Parkdene Filling Station on Erf 11221, Sandkraal Road, George.

The project proposes the development of a filling station with 309m² convenience centre, inclusive of fast food and coffee services.

A number of meetings have been held with officials of various departments of the local municipality to discuss the development as well as their requirements for the application.

This report will detail and discuss the services design of the proposed development.

2 PROPOSED LAND USE

The proposed development of the Parkdene Filling Station on erf 11221, Sandkraal Road, George, encompasses a filling station with 309m² convenience centre, inclusive of fast food and coffee services.

The Site Development Plan (SDP) is indicated below and is included as addendum.



Figure 1: Site Development Plan (SDP)

3 LOCALITY AND ACCESS

The proposed development is located on erf 11221, Sandkraal Road, George. The erf is surrounded by existing development on all sides.

Current and proposed access to the site is obtained from Main Street to the north and Golf Street to the east. Access is not available from Sandkraal Road to the west.



Figure 2: Locality and access

4 GEOTECHNICAL INVESTIGATION

A formal geotechnical investigation has not been performed and is not required. A visual inspection of the site was conducted in order to assess conditions on site.

Holistically, the conclusion reached is that the in-situ materials found on site are adequate for the construction of engineering services and low level commercial development.

General Soil Profile

Inspection of the site indicated relatively consistent soil horizons throughout with a light brown silty sand of significant depth present. The materials appear slightly moist and are fairly loose. No perched water table is evident and a low to moderate water retention rate is expected. Flat gradients are evident.

Slope Stability

Gradients on the site is flat. No natural slope instability is present.

Ground water and stormwater

No ground water and/or perched water are evident. Lateral movement of stormwater will be slow due to the flat gradient.

Engineering Services

A TLB will suffice for trenching and excavations of all services and foundations in all materials. The possibility of rock at deeper depths is small.

Foundations for filling station development

The visual investigation indicated that the in-situ materials are adequate to support the development of a filling station. Reinforced strip footings will be adequate for the development. Fill areas to be adequately compacted.

Foundations for commercial development

The visual investigation indicated that the in-situ materials are adequate to support the construction of low level commercial development. Reinforced strip footings will be adequate for the development. Fill areas to be adequately compacted.

Construction materials

A number of commercial operators are located in close proximity to the site for the provision of imported construction materials.

5 ENGINEERING SERVICES

This chapter will discuss the engineering services of the proposed development in parallel with the engineering standards and technical design criteria applicable to the project. Design drawings are attached as addendum to the report.

5.1 Water

Water Demand

The Average Annual Daily Demand (AADD) for this proposed development in line with accepted design consumptions, assumptions, criteria and standards, is calculated and estimated at approximately 2 kl/day.

Availability

Preliminary investigations and the necessary discussions with the local municipality indicated that water is available for this development.

Connection Point

The site is serviced by municipal uPVC water lines along Main Road and Golf Street, respectively the northern and eastern boundaries. The water connection to the development is taken from the water line on Golf Street, on the eastern boundary of the site. The locality of these existing water lines in relation to the proposed development site is indicated in the diagram below.

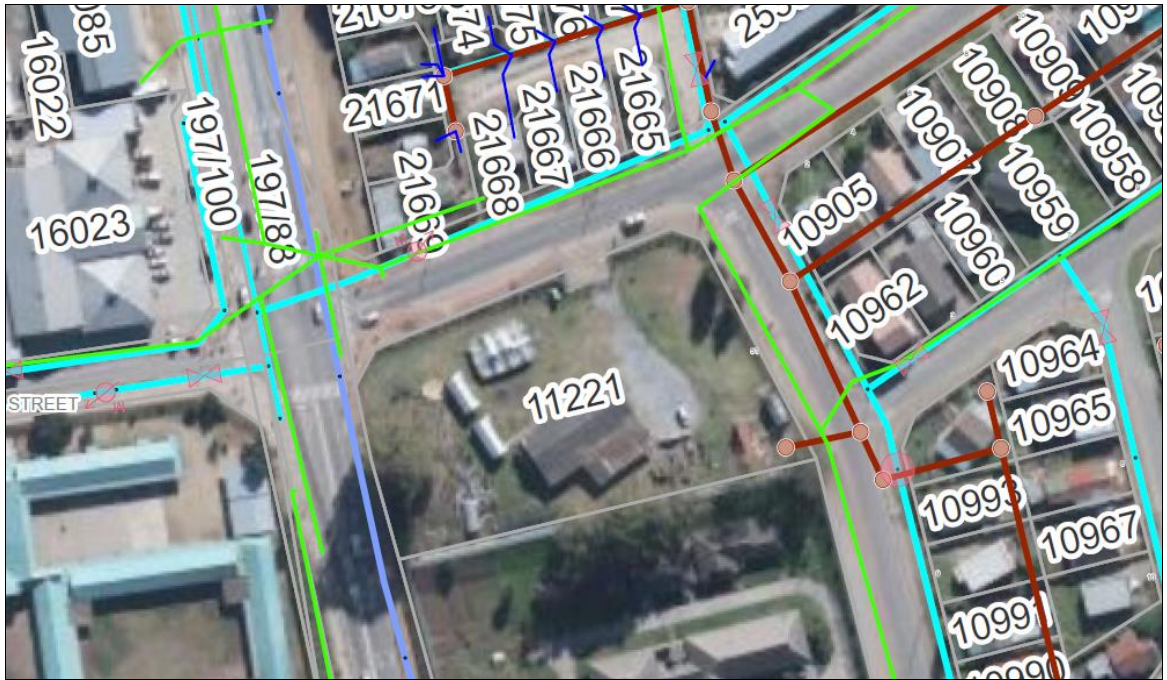


Figure 3: Existing water lines servicing the site (light blue lines)

Design layout

The design layout is presented at the end of the chapter and is attached as addendum to the report.

Design Criteria and Standard of Engineering Services

- Design consumption
 - Convenience shop – 400l/100m²/day
 - Filling station – 0.8kl/day
- Peak factors as prescribed
- Minimum pressures for the network are calculated for a fire flow 30l/sec and peak demand at the point of lowest pressure under peak conditions.
- Maximum of 4 valves to isolate a pipe section.
- Minimum cover to pipes to be 900mm.
- Pipe type and class to be HDPE 50mm class 9, depending on existing network pressure.
- Fire hydrants to be provided in accordance to relevant guidelines and legislation.

5.2 Sewer

Site layout considerations

The site drains from west to east as confirmed with the topographical survey of the site conducted for the development.

Design flow

The Average Dry Weather Flow (ADWF) of the development, in line with accepted design criteria and standards, can be calculated and estimated as 2kl/day.

The design peak flow, inclusive of a specified peak factor of 3.5 and 15% extraneous flow, is estimated at 0.08l/s.

Fat, Oil & Grease (FOG) trap

A fat, oil & grease (FOG) trap is specified. The FOG trap retains all fats, oils and grease from the restaurant and prohibits these substances to flow into the sewer network. FOG trap to be cleaned on a weekly basis by the restaurant personnel and checked monthly by the restaurant's manager.

Connection Point

The site is serviced by municipal sewer line along Golf Street on the eastern boundary. A sewer erf connection is provided on the south-eastern corner of the erf. The locality of the existing sewer line and erf connection in relation to the proposed development site is indicated in the diagram below.

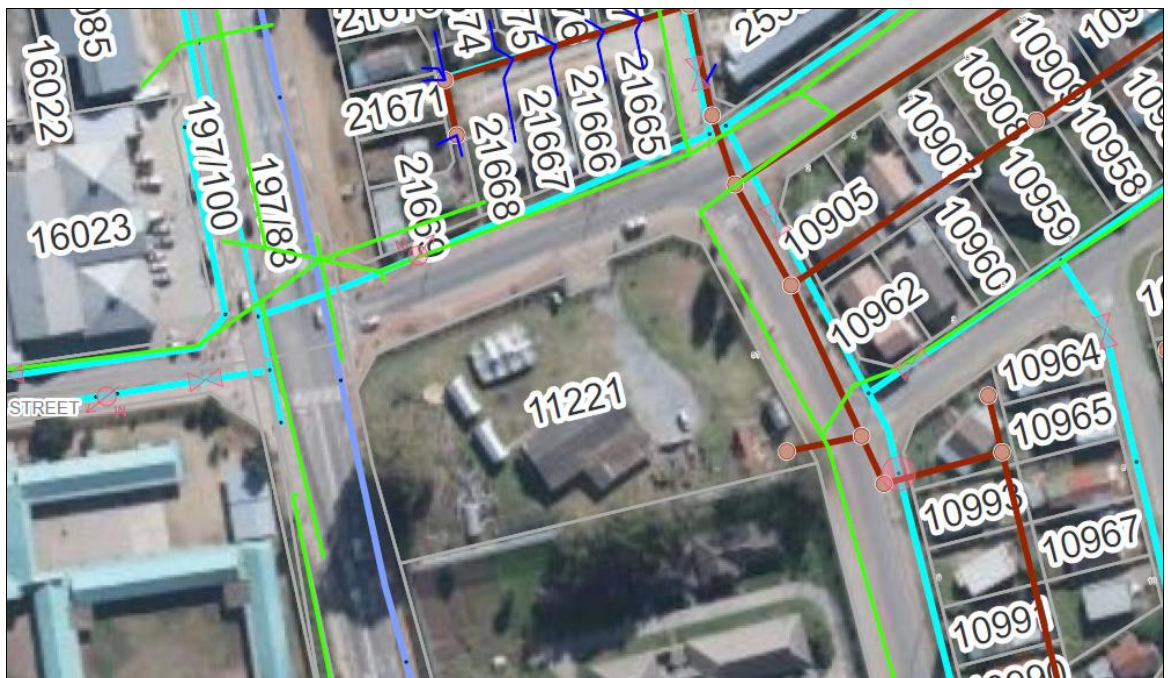


Figure 4: Existing sewer line and erf connection servicing the site (brown line)

Design layout

The design layout is presented at the end of the chapter and is attached as addendum to the report.

Design Criteria and Standards of Engineering Services

- The following design flows will be utilized:
 - Convenience shop – 400l/100m²/day
 - Filling station – 0.8kl/day
- Specified peak factor of 3.5
- Allowance for 15% extraneous flow
- A conventional waterborne sewerage system will be provided.
- Minimum flow velocities designed for as 0.7m/s.
- Minimum cover to all pipes to be 800mm.
- Pipe diameters of generally 110mm for all service connections and minor lines and 160mm and above for outfall line.
- Design gradient of 1:60
- Erf connection depth to be minimum 1.0 m and at least be able to drain 80% of the erf.
- Precast concrete rings manholes with concrete floor and premanufactured concrete lid.
- Manhole covers and frames to be Polymer Concrete.
- Manholes to be central over main pipe on downstream side.
- All concrete, mortar or screed used with manholes to be from dolomite aggregate and low alkali sulphate resistant cement to SABS 471.
- Pipelines to be uPVC class 34 and to be laid on Class C bedding.

5.3 Roads and access

Access

Current and proposed access to the site is obtained from Main Street to the north and Golf Street to the east. Access is not available from Sandkraal Road to the west.

The approved access points are indicated in the following diagram.



Figure 5: Approved access points to the development

Sight distances at both of the proposed access points are excellent and satisfactory for development purposes in both the vertical and horizontal alignments.

Traffic Impact Assessment

A Traffic Impact Assessment (TIA) has been performed by Corli Havenga Transportation Engineers in April 2021. The TIA concluded that the development can be supported from a traffic engineering perspective.

Internal Standards and Design Criteria

Internal standards and design criteria are specified as follows:

- Access width on Golf Street 12.9m and inside radius of 7.9m
- Access width on Main Road of 8.5m and radii of 3.4m and 4.0m
- Forecourt (service area) concrete surface with cut-off drain
- Rest of forecourt asphalt surfacing 30mm
- Pavement structural materials from commercial sources
- Minimum forecourt grade of 0.4%
- Road design life of 20 years

Design layout

The design layout is presented at the end of the chapter and is attached as addendum to the report.

5.4 Stormwater

Design background, standards and criteria

A formal stormwater reticulation system will be provided by a combination of surfaced roadways, kerbs, channels, cut-off drains, stormwater pipes and various minor structures.

The following standards and design criteria are envisaged:

- Minimum gradients for pipelines to allow minimum flow speeds of 0.7m/s at full flow.
- Maximum pipeline flow velocities to be 3.5m/s.
- Stormwater pipes to be 100D as required by specific loadings or installation conditions.
- Bedding to be Class C.
- Minimum cover on pipes to be 800mm.
- Minimum pipe diameter to be 450mm.

Site layout considerations

The site drains from west to east as confirmed with the topographical survey of the site conducted for the development.

Contaminated runoff

Contaminated runoff from the under-roof main forecourt area (concrete apron) will be collected into a closed circuit fuel/oil separator system and will be collected by a reputable contractor on a regular basis all in line with the latest petro-chemical industry standards.

Connection Point

The site is serviced by municipal stormwater line along Golf Street on the eastern boundary. A stormwater connection point is available on the south-eastern corner of the erf. The locality of the existing stormwater system is indicated on the site development plan.

Design layout

The design layout is presented at the end of the chapter and is attached as addendum to the report.

5.5 Filling station and petro-chemical designs

All petro-chemical design aspects of the development will be handled by the specialist supplier to the project. All infrastructure will comply to the latest petro-chemical industry standards. Design criteria of the filling station and petro-chemical infrastructure are as follows:

- Fuel delivery truck manoeuvres accommodated on site and indicated on site development plan.
- Allowance in layout for fuel loading bay of 22m.
- Fuel serving island configuration will be 4 islands
- Fuel tank configuration will be 5 x 23kl (3 x diesel and 2 x ulp)
- Fuel tanks will be double walled and installed underground
- Access width on Golf Street 12.9m and inside radius of 7.9m
- Access width on Main Road of 8.5m and radii of 3.4m and 4.0m
- Forecourt (service area) concrete surface with cut-off drain
- Rest of forecourt asphalt surfacing 30mm
- Pavement structural materials from commercial sources
- Minimum forecourt grade of 0.4%
- Road design life of 20 years
- Drizit fuel & oil trap for forecourt

The site development plan is attached as addendum to the report.

5.6 Pedestrian facilities and bus stop

It is recognized that a filling station with convenience shop, restaurant and coffee facilities located on this site, will attract a significant number of pedestrian traffic from the surrounding areas. Safe and dedicated pedestrian improvements will be implemented surrounding the proposed development. These facilities will serve the larger area and also link up with existing municipal non-motorized infrastructure in the area.

Notwithstanding the above, the municipal bus stop on Main Road on the northern boundary of the site, will greatly amplify this situation. Pedestrian improvements incorporated onto the site development plan have considered the bus stops and safe and dedicated pedestrian improvements will be implemented surrounding the bus stops. This was also confirmed with municipal officials during detail discussions.

The site development plan is attached as addendum to the report.

5.7 Parking

Safe and convenient parking is provided on site to serve customer's needs. A total of 31 parking bays and 1 disabled parking bay is supplied versus the requirement of 21 parking bays.

5.8 Solid Waste

A formal solid waste collection area is provided at the back of the building. Solid waste will be removed by the George Municipality.

5.9 Design layout

The design layout is presented in the diagram below and is attached as addendum to the report. Services layouts and connections points are indicated on the drawing, in line with the discussions above. The design layout is attached to the report as addendum.

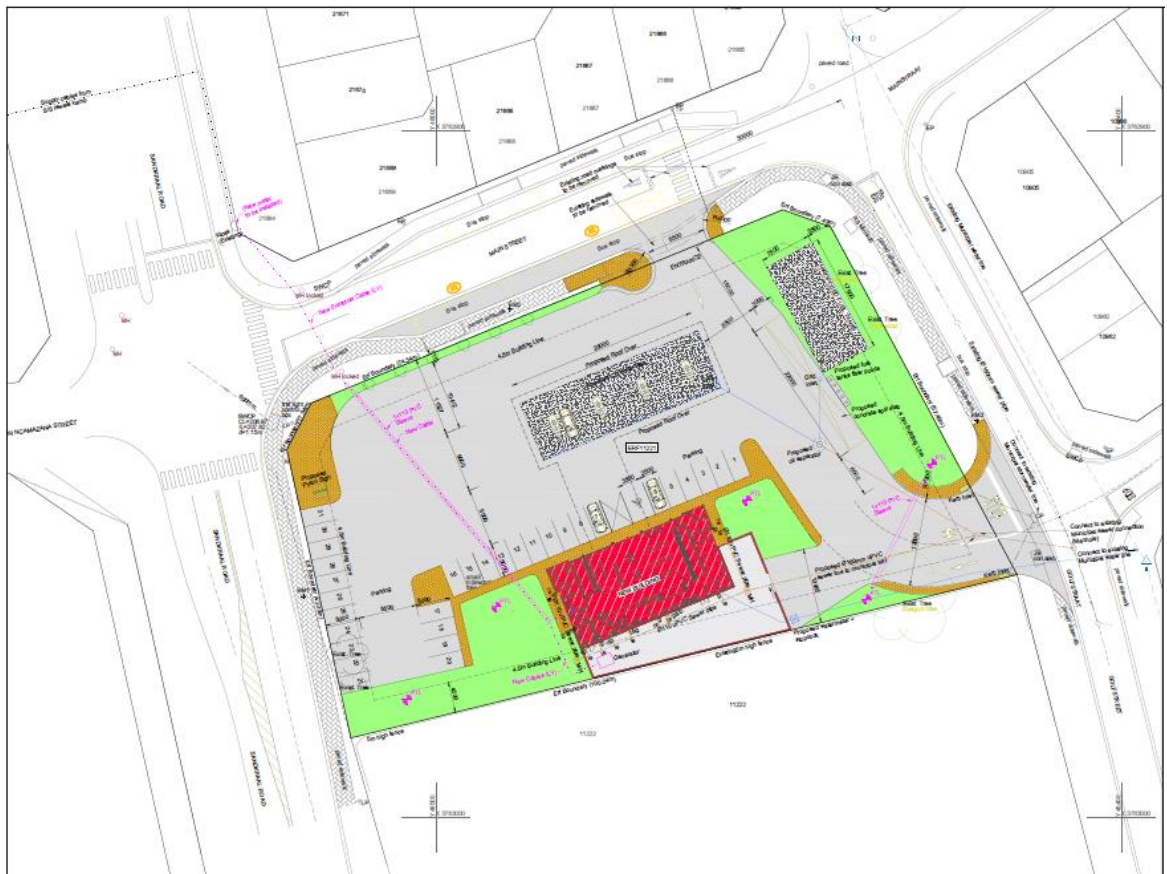


Figure 6: Design layout and site plan

6 ELECTRICAL AND MECHANICAL DESIGN

6.1 Bulk Electrical Supply

A low voltage (400V) supply is available from an existing kiosk, located on the corner of Main St and Nelson Mandela Blvd. This kiosk is currently being supplied from the 500kVA SS LawaaiKamp. The new development is proposed to be serviced from the existing kiosk via a new 125A circuit breaker and a new 35mm² underground copper cable for approximately 50m to the Main DB of the proposed new building.

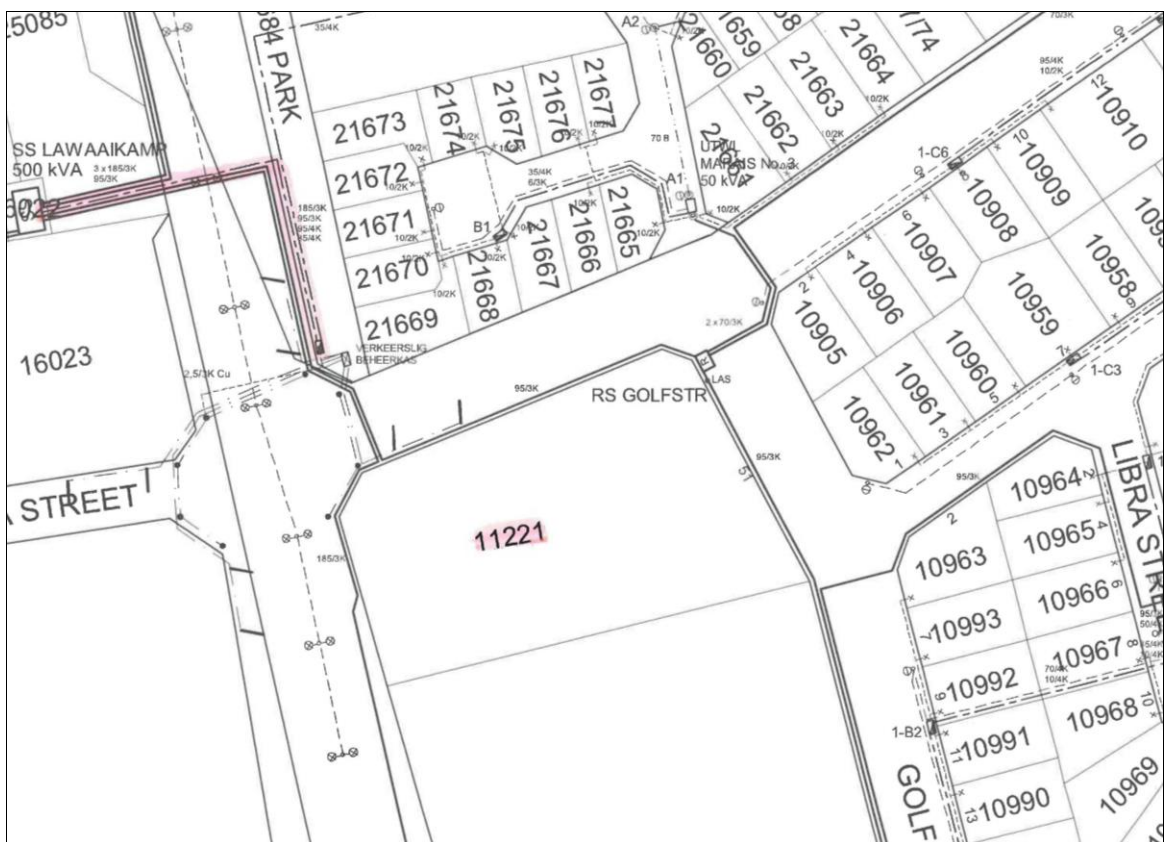


Figure 7: Electrical supply to the site

Discussions held with the George Municipality's electrical department indicated that spare capacity from this source is available.

6.2 Energy efficient designs

A number of energy-saving measures are proposed and have been incorporated into the design.

6.3 Internal Services

An internal low voltage reticulation network will be provided and will consist of the necessary electrical installation for the new convenience shop and forecourt. All cabling will be installed underground.

All design parameters for internal reticulation will be to the satisfaction of the local authority.

6.4 Design Criteria

The following design criteria are used for calculation purposes:

- Load criteria:
 - Convenience shop – 200VA/m²
 - Forecourt – 75VA/m²
- Diversification factor – 0.7

6.5 Diversified Load

The calculation of the after diversity maximum demand (ADMD) for the development, in line with the above design criteria, is calculated as being approximately 70 kVA.

6.6 HVAC

A heating, ventilation and air-conditioning design have been conducted for the new convenience shop. All design parameters are to the satisfaction of the local authority and to the national building regulations (SANS 10400).

6.7 Rational fire design

A rational fire design has been conducted for the proposed development. Fire protection equipment will include a water-based system for the convenience shop and a chemical-based system for the forecourt. All SANS and petro-chemical industry standards will be adhered to.

7 ARCHITECTURAL DESIGN

This chapter will discuss the architectural design of the convenience shop and restaurant facilities in terms of the layout designs, the construction materials in parallel with the engineering standards and technical design criteria applicable to the project. A set of design drawings is also available for reference and discussion purposes and should be consulted in parallel to the discussions below.

7.1 General

The client required the development of a standardized convenience shop with internal take away restaurant and coffee facilities.

All building and structural works will be conducted in line with National Building Regulations (SANS10400) and to the satisfaction to the local authority.

7.2 Building positioning and orientation

The building was positioned and orientated in accordance to marketing best practice its exposure to Sandkraal Road, but with due consideration to site limitations consisting of poor access, building lines, services, petrochemical infrastructure and particularly delivery truck maneuvers. Final building positioning and orientation were arrived at subsequent to approximately 5 iterations. Building positioning and orientation can be viewed on the site development plan indicated in the following diagram and attached to the report as addendum.



Figure 8: Site Development Plan (SDP)

7.3 Building layout plan

The building layout plan is presented in the following diagram and is attached as addendum to the report.

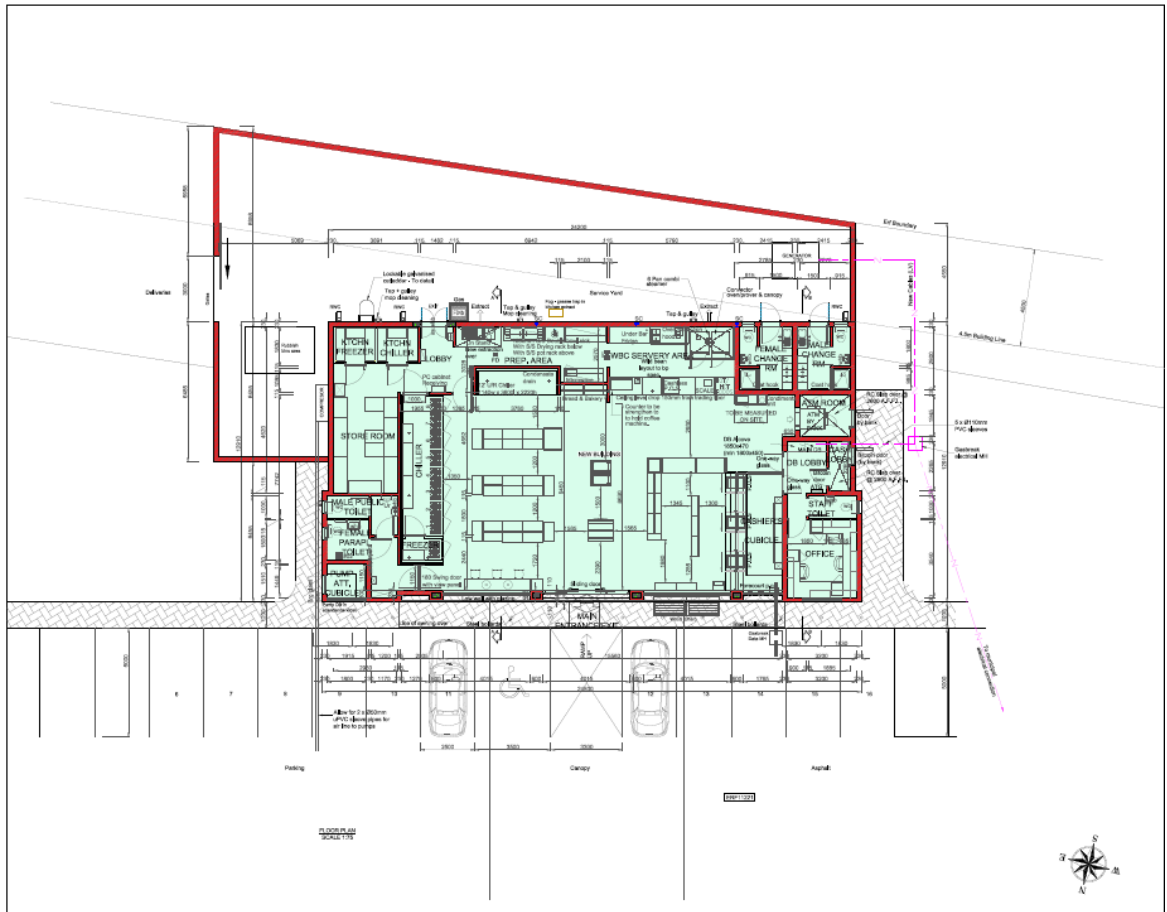


Figure 9: Building layout plan

The total building size is 309m² and consists of the following areas:

- Convenience shop
- Public toilets
- Freezer/chiller room
- Storeroom
- Kitchen freezer/chiller
- Prep area
- Servery area
- Cashiers' cubicle
- Offices
- Staff toilets
- Attendants' cubicle
- Attendants' change rooms
- ATM room

7.4 Building design

The design of the building is dictated by the corporate design of the retailer and have matching and repetitive features on all elevations. External walls are plastered and

Painted. Tower curves are provided on the corners. Aluminium bullnose signage cladding is provided around the top.

The roof will be chromadek sheeting at a roof pitch of 2.5 degrees, falling to the back of the building where rainwater is collected in aluminium gutters.

A selection of design drawings is presented below, and the full set of building plans is attached as addendum to the report.

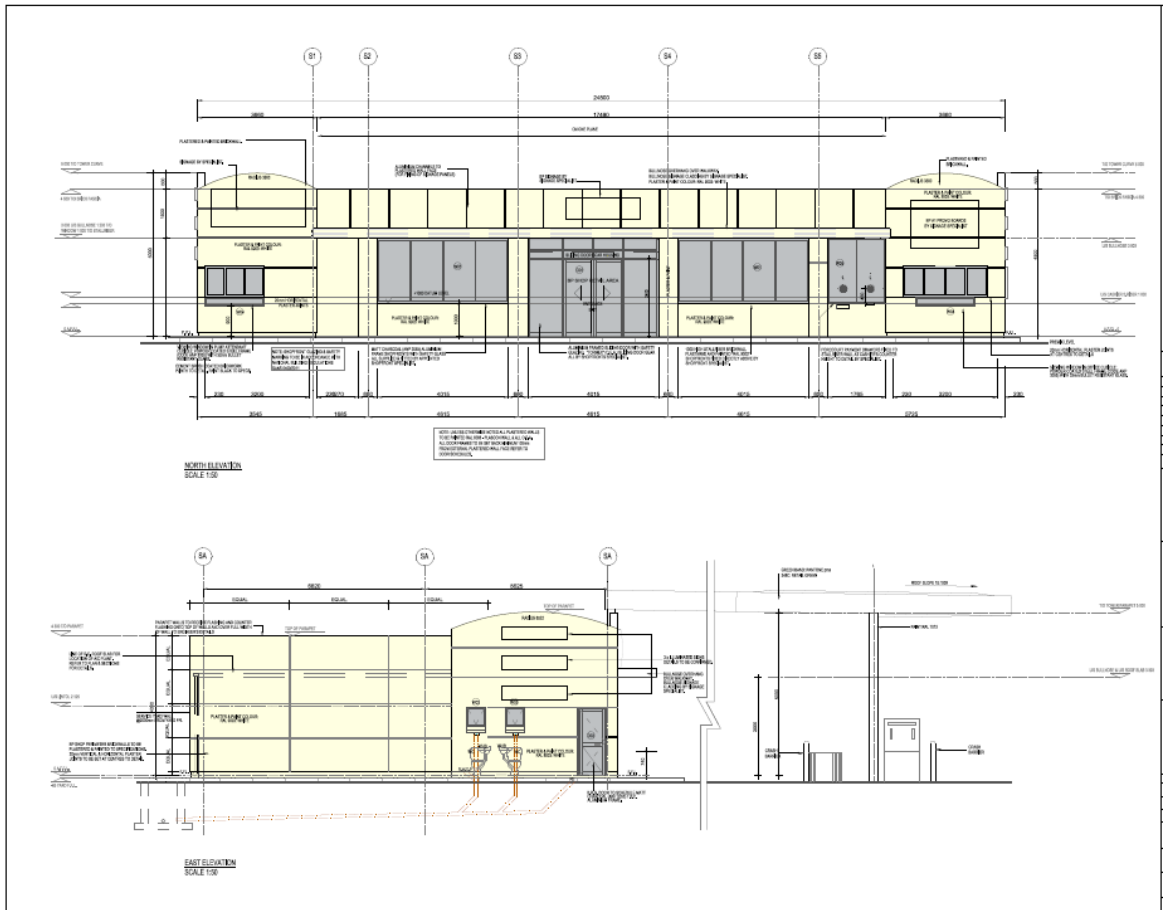


Figure 10: Building elevations

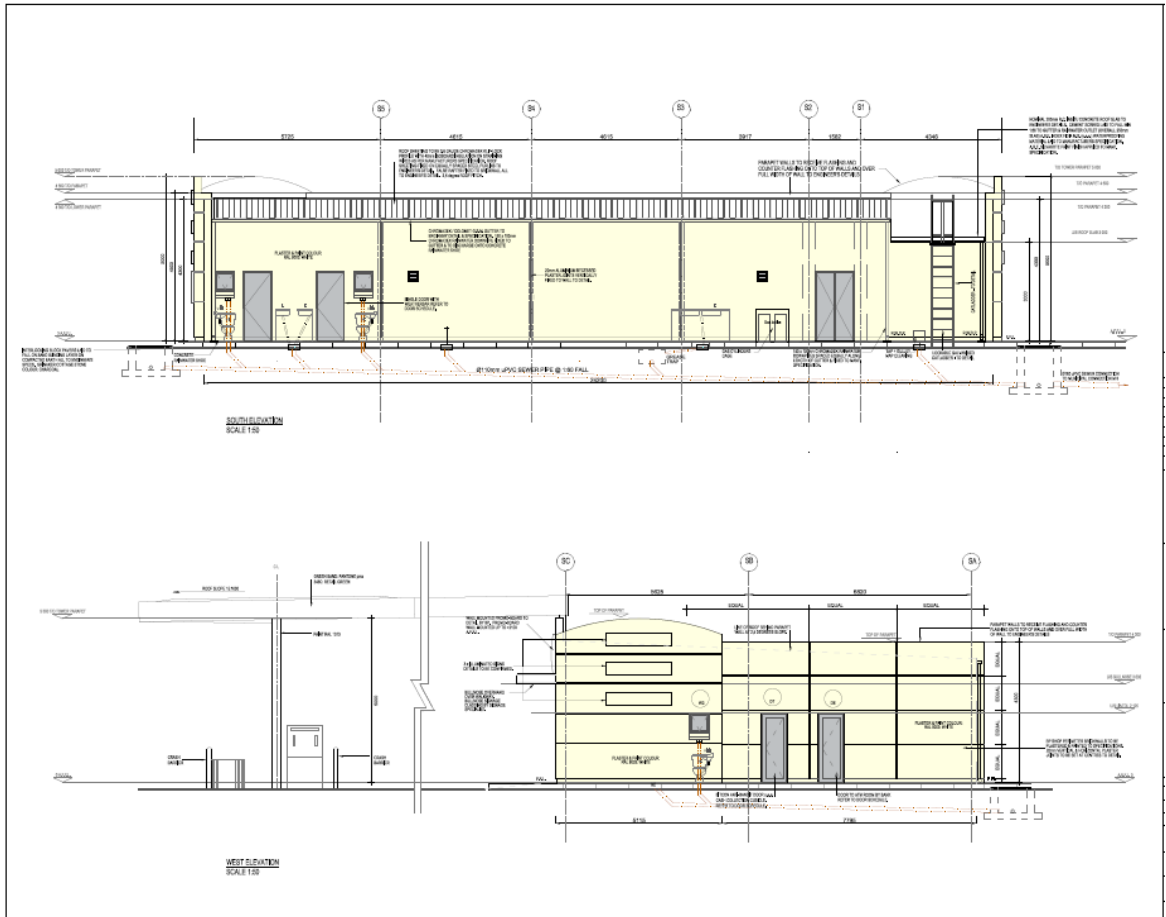


Figure 11: Building elevations

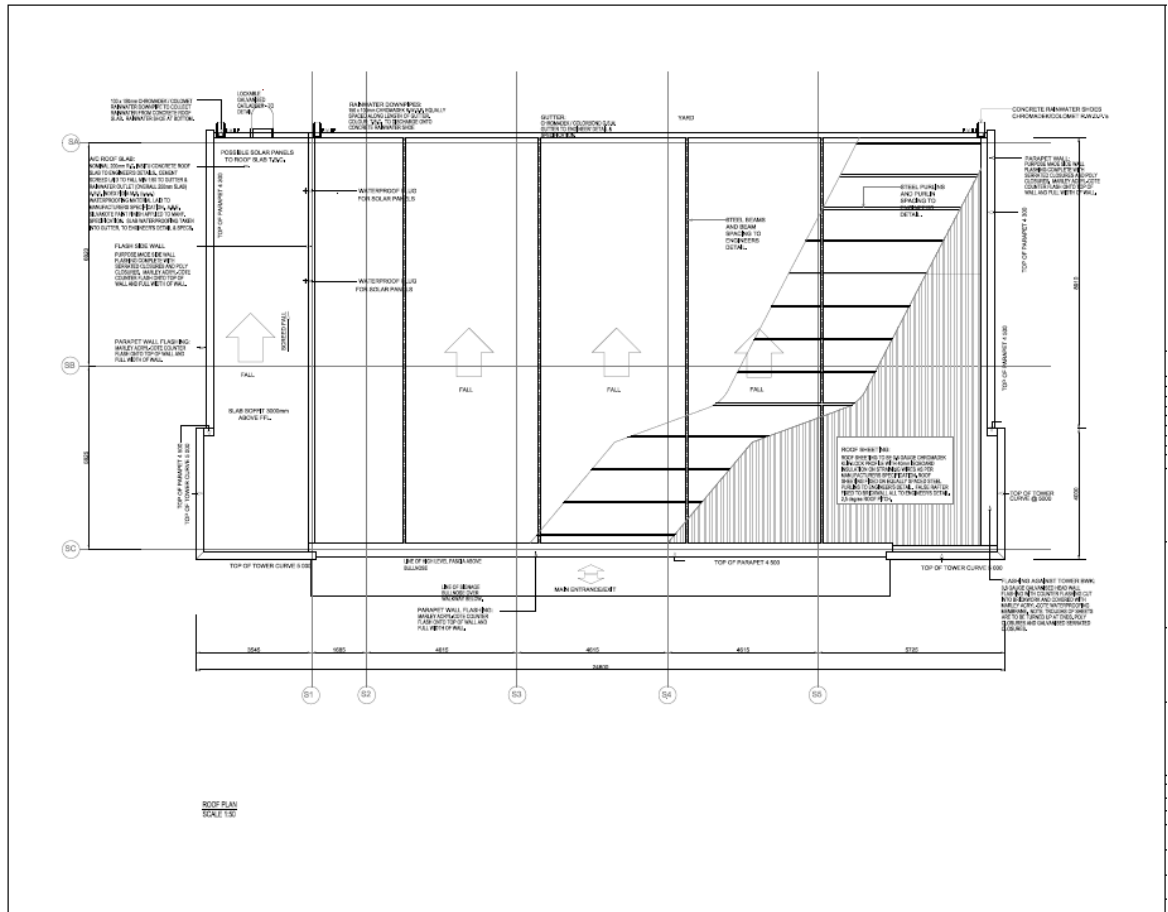


Figure 12: Building roof plan

7.5 Foundations

Reinforced concrete strip foundation will be constructed.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The following conclusions can be reached from the Services Report on the proposed development of Parkdene Filling Station on Erf 11221, Sandkraal Road, George:

1. The project proposes the development of a filling station with 309m² convenience centre, inclusive of fast food and coffee services.
2. Current and proposed access to the site is obtained from Main Street to the north and Golf Street to the east. Access is not available from Sandkraal Road to the west.
3. The in-situ materials found on site are adequate for the construction of engineering services and low level commercial development.
4. Water:
 - a. The Average Annual Daily Demand (AADD) for this proposed development is calculated and estimated at approximately 2 kl/day.
 - b. Water is available for this development.
 - c. The site is serviced by municipal uPVC water lines along Main Road and Golf Street, respectively the northern and eastern boundaries. The water connection to the development is taken from the water line on Golf Street, on the eastern boundary of the site.
5. Sewer:
 - a. The site drains from west to east.
 - b. The Average Dry Weather Flow (ADWF) of the development can be calculated and estimated as 2kl/day.
 - c. The design peak flow is estimated at 0.08l/s.
 - d. The site is serviced by municipal sewer line along Golf Street on the eastern boundary. A sewer erf connection is provided on the south-eastern corner of the erf.
 - e. A fat, oil & grease (FOG) trap is specified. The FOG trap retains all fats, oils and grease from the restaurant and prohibits these substances to flow into the sewer network.
6. Roads & access
 - a. Current and proposed access to the site is obtained from Main Street to the north and Golf Street to the east. Access is not available from Sandkraal Road to the west.
 - b. Sight distances at both of the proposed access points are excellent and satisfactory for development purposes in both the vertical and horizontal alignments.

7. A Traffic Impact Assessment (TIA) has been performed by Corli Havenga Transportation Engineers in April 2021. The TIA concluded that the development can be supported from a traffic engineering perspective.
8. Stormwater:
 - a. The site drains from west to east.
 - b. Contaminated runoff from the under-roof main forecourt area (concrete apron) will be collected into a closed circuit oil separator system and will be collected by a reputable contractor on a regular basis all in line with the latest petro-chemical industry standards.
 - c. The site is serviced by municipal stormwater line along Golf Street on the eastern boundary. A stormwater connection point is available on the south-eastern corner of the erf.
9. Filling station and petro-chemical designs:
 - a. Fuel delivery truck maneuvers accommodated on site.
 - b. Allowance in layout for fuel loading bay of 22m.
 - c. Fuel serving island configuration will be 4 islands
 - d. Fuel tank configuration will be 5 x 23kl (3 x diesel and 2 x ulp)
 - e. Fuel tanks will be double walled and installed underground
 - f. Access width on Golf Street 12.9m and inside radius of 7.9m
 - g. Access width on Main Road of 8.5m and radii of 3.4m and 4.0m
 - h. Forecourt (service area) concrete surface with cut-off drain
 - i. Rest of forecourt asphalt surfacing 30mm
 - j. Pavement structural materials from commercial sources
 - k. Minimum forecourt grade of 0.4%
 - l. Road design life of 20 years
 - m. Drizit fuel & oil trap for forecourt
10. Pedestrian facilities and bus stop:
 - a. It is recognized that a filling station with convenience shop, restaurant and coffee facilities located on this site, will attract a significant number of pedestrian traffic from the surrounding areas.
 - b. Safe and dedicated pedestrian improvements will be implemented surrounding the proposed development. These facilities will serve the larger area and also link up with existing municipal non-motorized infrastructure in the area.
 - c. The municipal bus stop on Main Road on the northern boundary of the site, will greatly amplify this situation. Pedestrian improvements incorporated onto the site development plan have considered the bus stops and safe and dedicated pedestrian improvements will be implemented surrounding the bus stops. This was also confirmed with municipal officials during detail discussions.
11. Parking:
 - a. Safe and convenient parking is provided on site to serve customer's needs.

- b. A total of 31 parking bays and 1 disabled parking bay is supplied versus the requirement of 21 parking bays.
12. A formal solid waste collection area is provided at the back of the building. Solid waste will be removed by the George Municipality.
13. Electrical and mechanical design
 - a. A low voltage (400V) supply is available from an existing kiosk, located on the corner of Main St and Nelson Mandela Blvd. The new development is proposed to be serviced from the existing kiosk via a new 125A circuit breaker and a new 35mm² underground copper cable for approximately 50m to the Main DB of the proposed new building.
 - b. Discussions held with the George Municipality's electrical department indicated that spare capacity from this source is available.
 - c. An internal low voltage reticulation network will be provided and will consist of the necessary electrical installation for the new convenience shop and forecourt. All cabling will be installed underground. All design parameters for internal reticulation will be to the satisfaction of the local authority.
 - d. The calculation of the after diversity maximum demand (ADMD) for the development, in line with the design criteria, is calculated as being approximately 70 kVA.
 - e. A heating, ventilation and air-conditioning design have been conducted for the new convenience shop. All design parameters are to the satisfaction of the local authority and to the national building regulations (SANS 10400).
 - f. A rational fire design has been conducted for the proposed development. Fire protection equipment will include a water-based system for the convenience shop and a chemical-based system for the forecourt. All SANS and petro-chemical industry standards will be adhered to.
14. Architectural design
 - a. All building and structural works will be conducted in line with National Building Regulations (SANS10400) and to the satisfaction to the local authority.
 - b. The building was positioned and orientated in accordance to marketing best practice its exposure to Sandkraal Road, but with due consideration to site limitations consisting of poor access, building lines, services, petrochemical infrastructure and particularly delivery truck maneuvers.
 - c. The total building size is 309m² and consists of a convenience shop, public toilets, freezer/chiller room, storeroom, kitchen freezer/chiller, prep area, servery area, cashiers' cubicle, offices, staff toilets, attendants' cubicle, attendants' change rooms, ATM room.
 - d. The design of the building is dictated by the corporate design of the retailer and have matching and repetitive features on all elevations. External walls are plastered and painted. Tower curves are provided on the corners. Aluminium bullnose signage cladding is provided around the top.

- e. The roof will be chromadek sheeting at a roof pitch of 2.5degrees, falling to the back of the building where rainwater is collected in aluminium gutters.
- f. Reinforced concrete strip foundation will be constructed.

With reference to all of the conclusions above, it can holistically be concluded that the proposed development can be designed and constructed to acceptable specifications and standards from engineering and architectural design perspectives.

8.2 Recommendations

With reference to the conclusions above, it is recommended that the proposed development be approved from an engineering and architectural design perspective.

9 ADDENDA

9.1 Addendum 1 – Site development plan and site layout plan

9.2 Addendum 2 – Design drawings

ADDENDUM 1

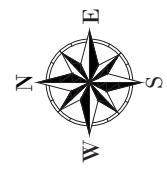
SITE DEVELOPMENT PLAN AND SITE LAYOUT PLAN

GENERAL NOTES:

- This drawing is to be read in conjunction with all relevant architects, engineers drawings and the specifications.
- All dimensions and levels to be checked on site prior to installation. Discrepancies to be referred to engineer.
- All dimensions and levels to be checked on site before commencement of any work. Any discrepancies to be reported to engineer.
- All dimensions and levels to be checked on site before commencement of any work. Any discrepancies to be reported to engineer.
- Contractor shall verify all dimensions and a workshop drawing shall be submitted to the engineer for approval.

NOTE: All building work and, to comply with N.B.R. local municipal bylaws and SANS standards.

AREAS: (m ²)	
ERF AREA	= 4896 m ²
BUILDING	= 309,92 m ²
TOTAL COVERED AREA	= 762,10 m ²
COVERAGE	= 15 %
PARKING AREAS: 32 BAYS + 1 DISABLED BAY	



COORDINATE SYSTEM
WGS 84/21

Scale	1:250	ORIGINAL SIZE A1
Contract No.	1903151	Revision
Drawing No.	1903151/C/100	B
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Name	HL	TS	HL	HL
Designed	Checked	Approved	PI. No.	
Drawn				
Signature				

Project	PARKDENNE FILLING STATION
Plan Description	SITE DEVELOPMENT PLAN

LOOK FORWARD CONSTRUCTION (Pty) Ltd
 P.O. Box 6007, LENASA NORTH, 1838
 Tel: 011-854-137/011-854-1888
 Email: info@lookforward.co.za

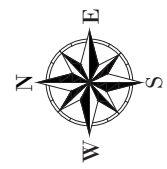
Rev	Date	Description	By	TS
01	01/03/2022	FOR APPROVAL		

GENERAL NOTES:

- This drawing is to be read in conjunction with all relevant architects, engineers drawings and the specifications.
- All dimensions and levels to be checked on site prior to installation. Discrepancies to be referred to engineer.
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- Contractor shall verify all dimensions and a workshop drawing shall be submitted to the engineer for approval.

NOTE: All building work and to comply with N.B.R. local municipal bylaws and SANS standards.

AREAS: (m ²)	
ERF AREA	= 4896 m ²
BUILDING	= 309,92 m ²
TOTAL COVERED AREA	= 762,10 m ²
COVERAGE	= 15 %
PARKING AREAS:	31 BAYS + 1 DISABLED BAY



COORDINATE SYSTEM
WGS 84/21

Scale	1:250	ORIGINAL SIZE A1
Contract No.	1903151	Revision
Drawing No.	1903151/C/110	A
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Name	HL	TS	HL	HL
Designed	HL	TS	HL	HL
Drawn	HL	TS	HL	HL
Checked	HL	TS	HL	HL
Approved	HL	TS	HL	HL
Pr. No.				

Project	PARKDENNE FILLING STATION
Plan Description	SITE PLAN

LOOK FORWARD CONSTRUCTION (PTY) Ltd
 P.O. Box 6007, LENASA NORTH, 1838
 Tel: 011-854-1379/011-854-1388
 Email: info@lookforward.co.za

ELEMENT
 Consulting Engineers
 A FIFTH DIMENSION TO ENGINEERING

Rev	Date	Description
A	13/07/2021	FOR APPROVAL

ADDENDUM 2
DESIGN DRAWINGS

GENERAL NOTES:

- All works to be performed according to the relevant standards and specifications in preference to detailed dimensions.
- All drawings to be constructed by Contractor.
- Any discrepancies to be reported to Architectural Technologist before work commences.
- Any discrepancies to be reported to Architectural Technologist before work commences.
- The Contractor shall provide safe working conditions. According to the Construction Regulations 1961 and the Safety Act (Act 85 of 1993) for the full construction period.
- The Contractor shall ensure that all materials are to be stored in accordance with the relevant standards and specifications.
- RFCC: - 60mm thick concrete slabs. 125 x 75 x 20mm CR CL (top) nominal part line at 400mm on 400mm centres. 125 x 75 x 20mm CR CL (bottom) nominal part line at 400mm on 400mm centres. All reinforcement to be placed in accordance with the relevant standards and specifications.
- WALLS: - 100mm thick concrete slabs with welded iron reinforcement. 100mm on outside slab with welded iron reinforcement on inside (compacted 3:1).
- FLOOR: - 20mm thick concrete slabs on 100mm on outside slab with welded iron reinforcement on inside (compacted 3:1).
- GLAZING: - All glazing to be in accordance with the relevant standards and specifications.
- DOORS & WINDOWS: - All doors and windows to be in accordance with the relevant standards and specifications. One floor above ground level.
- FINISHES: - All finishes to be in accordance with the relevant standards and specifications.
- DRAINAGE: - All drainage to comply with NBS and vertical authority requirements.
- Block every 20th layer of bricks.
- All Electrical works to be carried out by a qualified electrician.
- NOTE: All openings to have precast frames cover

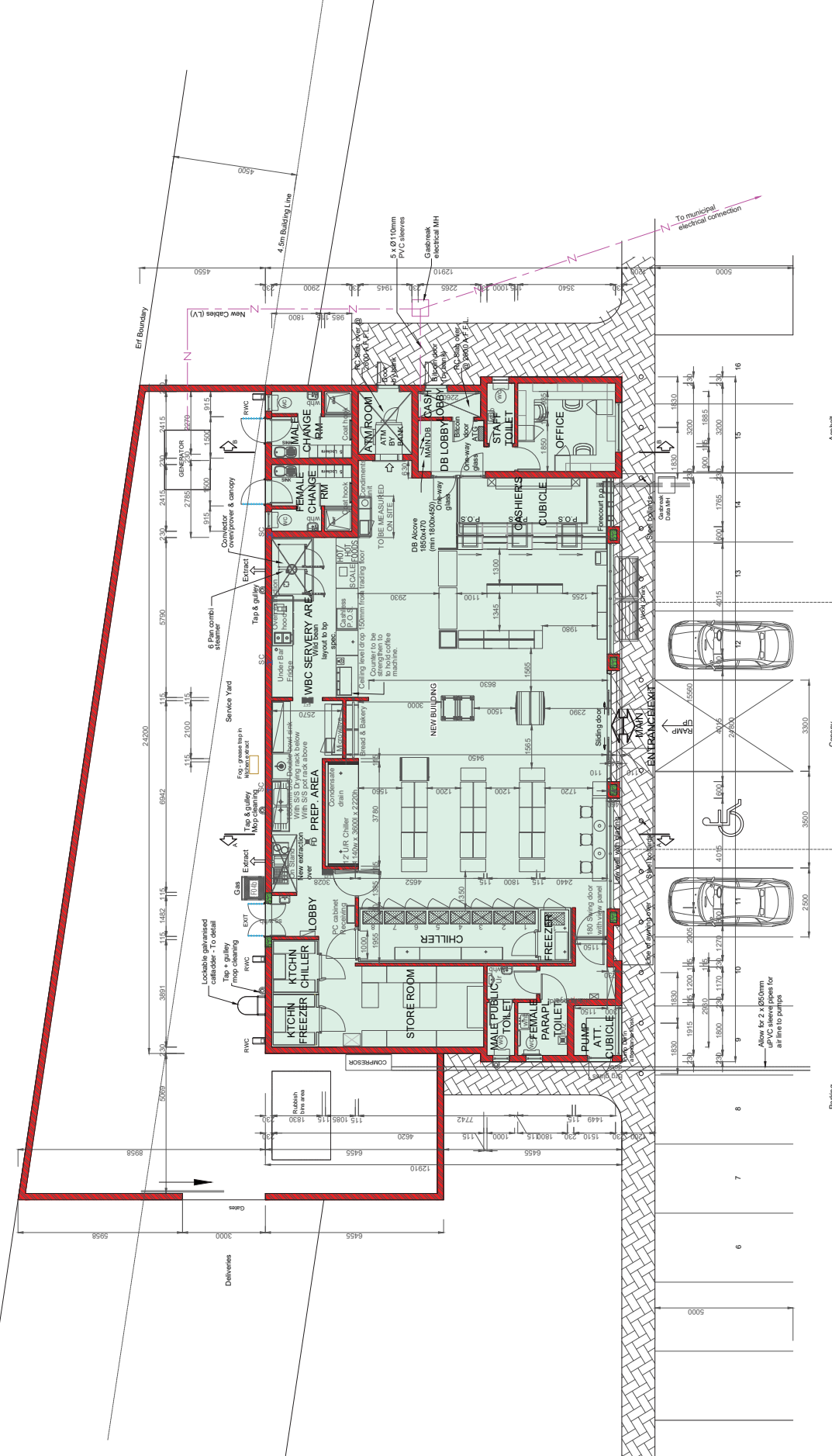
AREA (m ²)	
ERT AREA	= 4996 m ²
BUILDING	= 3010 m ²
CANOPY	= 1525 m ²
COVERED AREA	= 4535 m ²
COVERAGE	= 15 %
PAVING AREAS:	31 BAY x 11 DIMENSIONAL

Scale	1:75
Original Size A1	
Rev.	
Date	
By	
Description	
Appr.	
TS	

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PARKdene FILLING STATION	
BUILDING FLOOR PLAN	
Name	Signature
Designed	JS
Drawn	TS
Checked	JS
Approved	HL
PI No.	
Contract No.	1903151
Drawing No.	1903151/B/201
Revision	A
APPROVED BY ARCHITECTURAL TECHNOLOGIST IN TERMS OF THE COMPROMISE ACT (NO. 93 OF 1994)	



FLOOR PLAN
 SCALE 1:75

GENERAL NOTES:

- 1. All work shall be in accordance with the National Building Regulations.
- 2. All wall dimensions to be taken in preference to floor dimensions.
- 3. All work to be completed by Contractor before work commences.
- 4. Any discrepancies to be reported to Architectural Consultant immediately.
- 5. The Contractor shall provide safe working conditions according to the Occupational Health and Safety Act of 1993 for the full construction period.
- 6. All external and internal finishes to be according to client's Specification.
- 7. All Thick Clay masonry shall be constructed on concrete foundation. All other masonry shall be constructed on concrete foundation. All masonry shall be constructed on concrete foundation.
- 8. External walls 220mm.
- 9. Internal walls 100mm.
- 10. Columns in 100mm concrete slab with wadded R20 No. 10 @ 100mm c/c.
- 11. Columns in 100mm concrete slab with wadded R20 No. 10 @ 100mm c/c.
- 12. Columns in 100mm concrete slab with wadded R20 No. 10 @ 100mm c/c.
- 13. Columns in 100mm concrete slab with wadded R20 No. 10 @ 100mm c/c.
- 14. All scaffolding, propping and accessories shall be as per Specialist's detail.
- 15. All work to be carried out by a registered contractor.
- 16. NOTE: All openings to have precast mesh cover.

ITEMS	DESCRIPTION	UNIT	QUANTITY
1	REINFORCED CONCRETE	m ³	...
2
3
4
5
6
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8
9
10
11
12
13
14
15
16

NO.	DATE	DESCRIPTION	BY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

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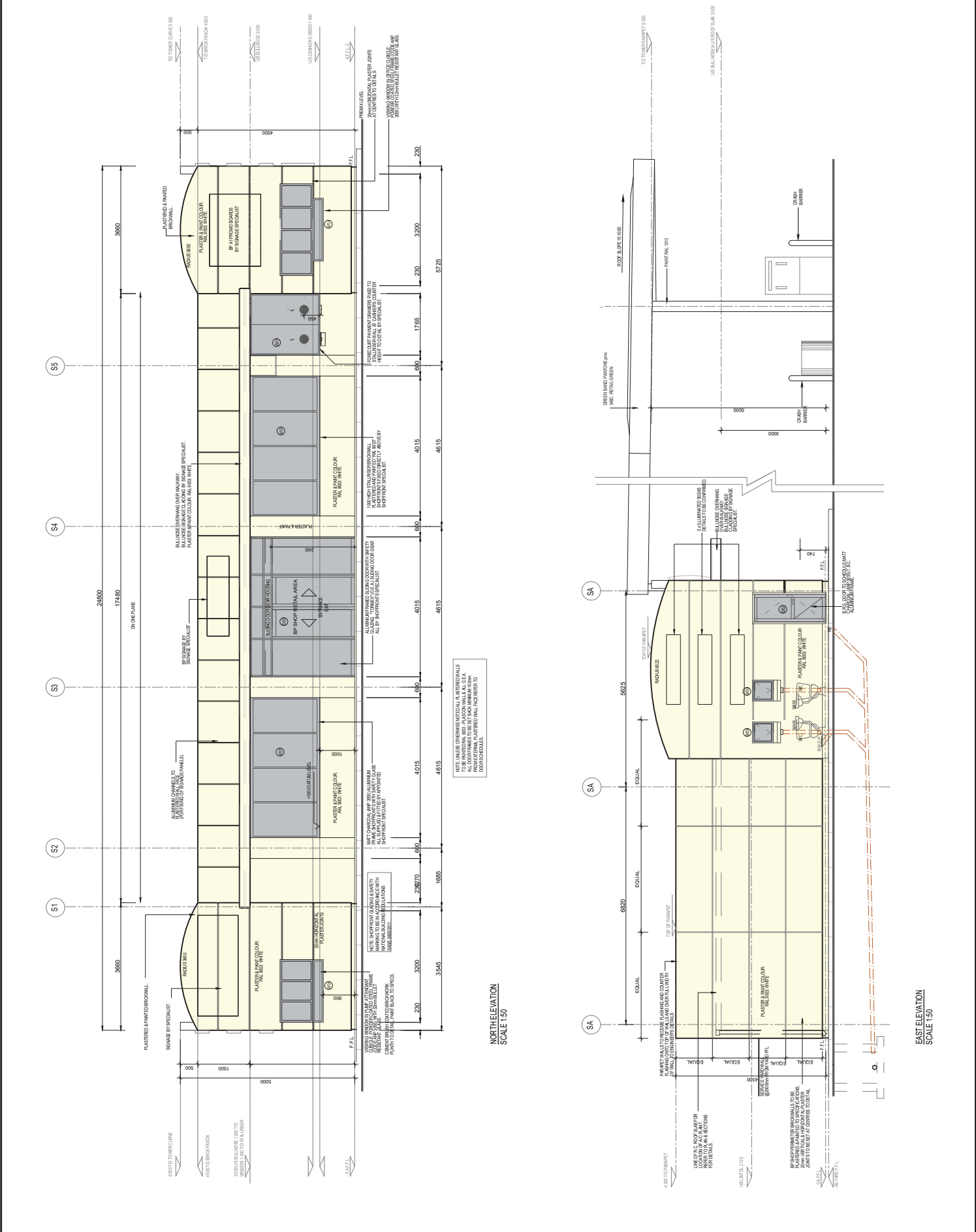


PARKDENE FILLING STATION

BUILDING ELEVATIONS 1

NO.	DATE	DESCRIPTION	BY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

1903151
1903151/B/202



NORTH ELEVATION
SCALE 1:50

EAST ELEVATION
SCALE 1:50

- GENERAL NOTES:**
1. All dimensions are given in millimeters unless otherwise stated.
 2. All dimensions to be taken in preference to the drawings.
 3. All drawings to be approved by Contractor before work commences.
 4. Any discrepancies to be reported to Architects immediately.
 5. The Contractor shall provide safe working conditions according to the relevant legislation.
 6. All external and internal finishes to be according to client's Specifications.
 7. 1.5 Thick Galvalume BBS double-skinning on 100mm concrete slab with wet laid 100mm concrete screed on top of slab with 10mm reinforcement mesh.
 8. Floor finish to be 220mm concrete screed on top of slab with 10mm reinforcement mesh.
 9. FLOOR: 200mm floor finish on 100mm concrete slab with wet laid 100mm concrete screed on top of slab with 10mm reinforcement mesh.
 10. SLABING: to SANS 10400. All windows are of Aluminium frames.
 11. DOORS & SHUTTERS: All doors to be 2100mm high and 900mm wide. All shutters to be 2100mm high and 900mm wide. All doors and shutters to be fire rated to the relevant standard.
 12. All openings to comply with NER and local authority requirements.
 13. Brick for every 3rd layer of bricks.
 14. All scaffolding, propping and accessories shall be as per Specifier's requirements.
 15. All structural work to be carried out by a registered contractor.
 16. NOTE: All openings to have precast precast cover.

Item	Description	Quantity	Unit
1	ESP AREA	4056 m ²	m ²
2	CONCRETE	26032 m ³	m ³
3	TOTAL COVERED AREA	2626.00 m ²	m ²
4	COVERAGE	15.1%	%
5	PARKING AREAS	31 LAYS - 11 DISABLED BAY	

Scale: 1:50
ORIGINAL SIZE A1

Rev	Date	Description	By	Appr
A	15/07/2021	FOR APPROVAL		

Client/Employer:
LOOK FORWARD CONSTRUCTION (Pty) Ltd
 P.O. Box 6007, LINDAVIA NORTH, 1658
 Email: info@lookforward.co.za



PROJECT:
PARKENE FILLING STATION

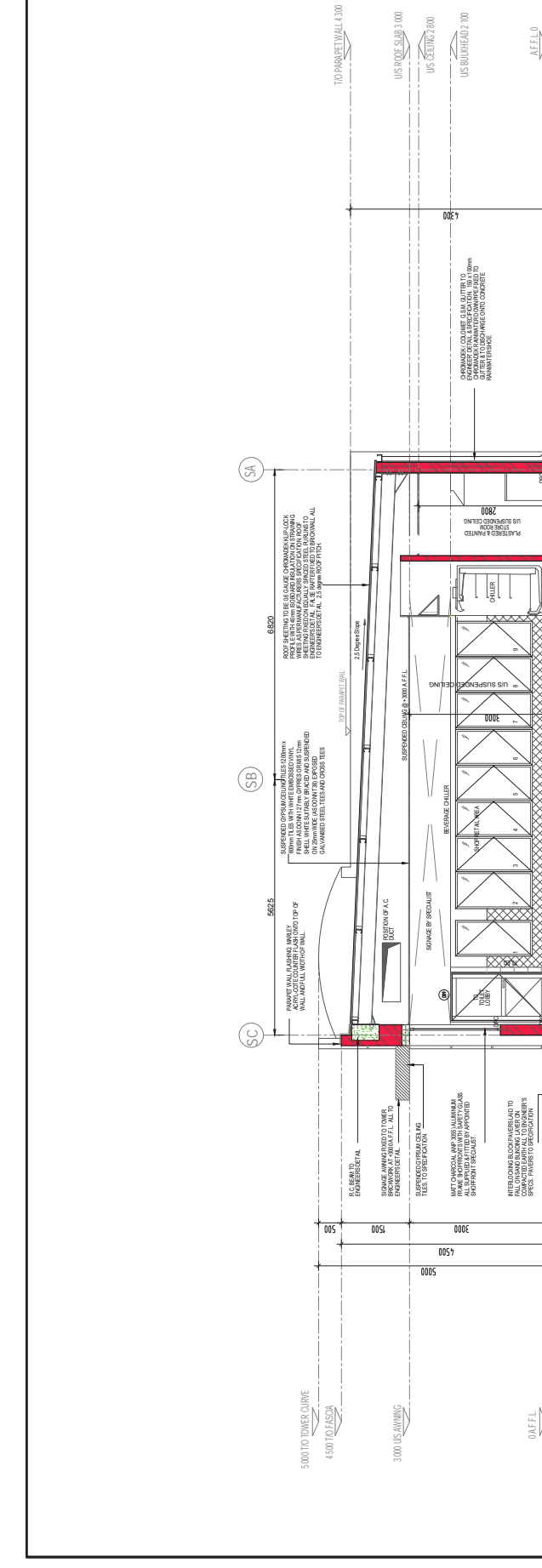
Plan Description:
BUILDING SECTIONS

Item	Signature
Designed	JS
Drawn	TS
Checked	JS
Approved	HL

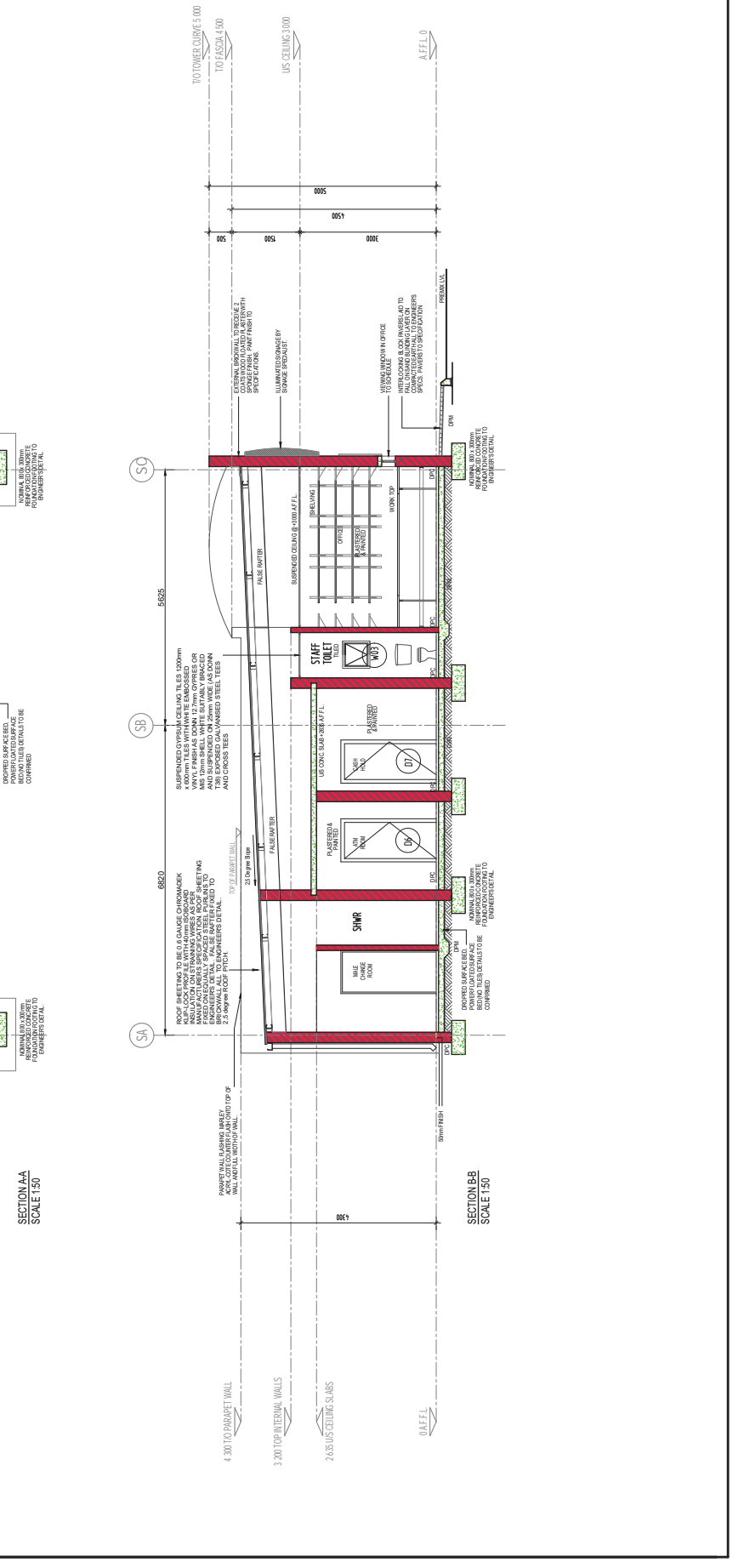
Contract No:
1903151

Drawing No:
1903151/B/204

Revision:
A



SECTION AA
SCALE 1:50



SECTION BB
SCALE 1:50

- GENERAL NOTES:**
1. All work to be completed according to National Building Standards.
 2. All work dimensions to be taken in preference to drawings.
 3. All drawings to be coordinated by Contractor before work commences.
 4. Any dimensions to be reported to Architectural Consultant.
 5. The Contractor shall provide safe working conditions according to the Occupational Safety and Health Act 1993 for the full construction period.
 6. All external and internal finishes to be according to client's Specifications.
 7. All work to be completed in accordance with the relevant standards and codes of practice.
 8. All work to be completed in accordance with the relevant standards and codes of practice.
 9. All work to be completed in accordance with the relevant standards and codes of practice.
 10. GUZZINI SANS 18000. All windows are of Aluminium frames.
 11. 12. DOORS & SHUTTERS: Timber Doors & Shutters are of Superior Cold Range. One shop window for each floor of glass and aluminium frame per floor schedule.
 12. All work to be completed in accordance with the relevant standards and codes of practice.
 13. Back to every 30 days of work.
 14. All scaffolding, propping and accessories shall be as per Specialist's details.
 15. All work to be carried out by a registered contractor.
 16. NOTE: All openings to have precast. Checks over

REF AREA	= 4900 m ²
BUILDING	= 3300 m ²
TOTAL COVERED AREA	= 2000 m ²
COVERAGE	= 15%
PARKING AREAS	31 BAYS + 1 DISABLED BAY

Scale	1:50			
Orientation	ORIGINAL SIZE A1			
Client/Employee				
Rev	Date	Description	Drawn By	TS
A	13/03/2015	FOR PRELIMINARY		

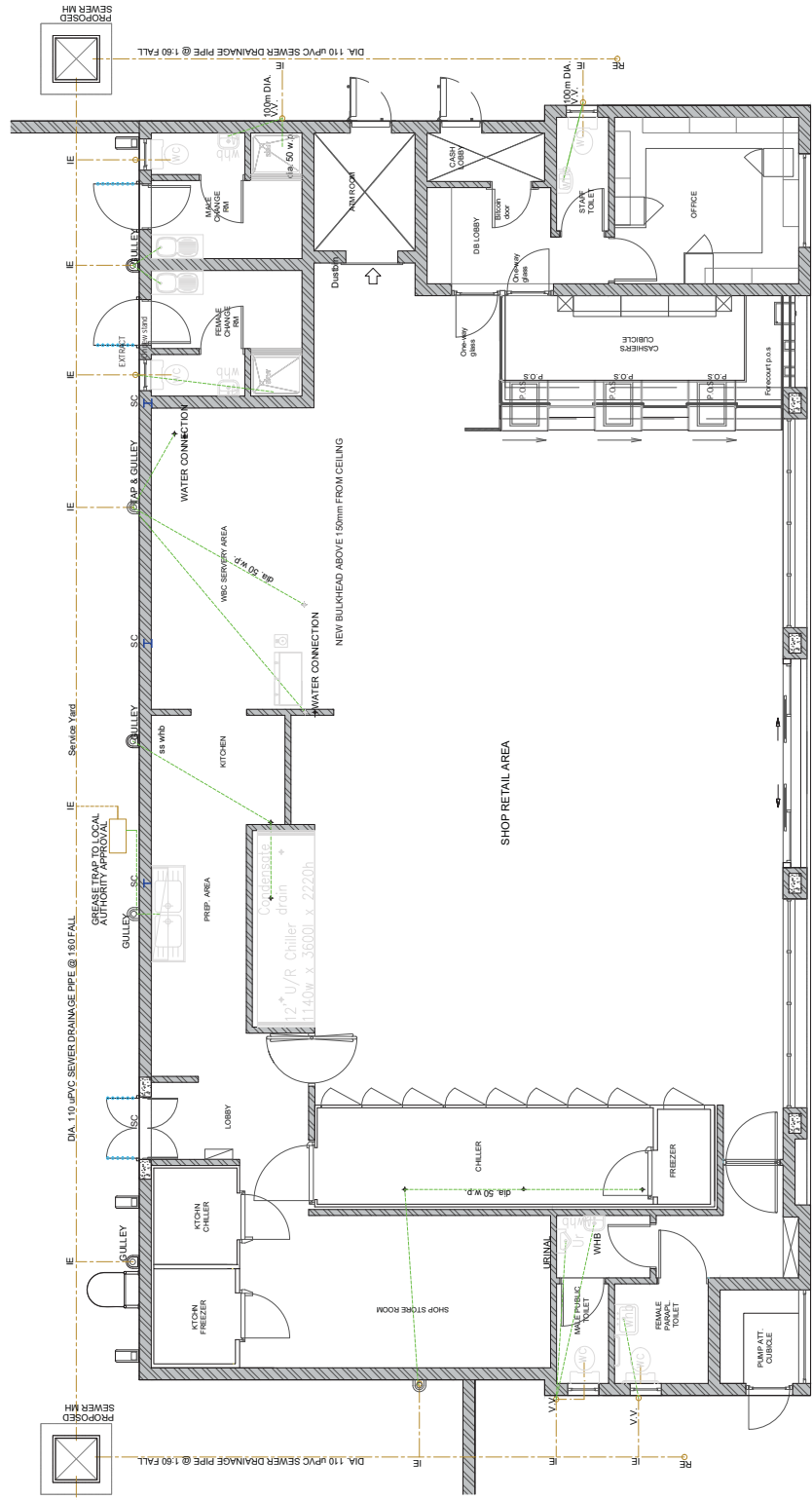
LOOK FORWARD CONSTRUCTION (Pty) Ltd
P.O. Box 6007, LENSMEAN NORTH, 1638
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PARKDENE FILLING STATION

BUILDING DRAINAGE PLAN

Designed	JS	Signature
Drawn	TS	
Checked	JS	
Approved	HL	
Project No.	1903151	
Contract No.		
Drawn No.	1903151/B/205	Revision
		A



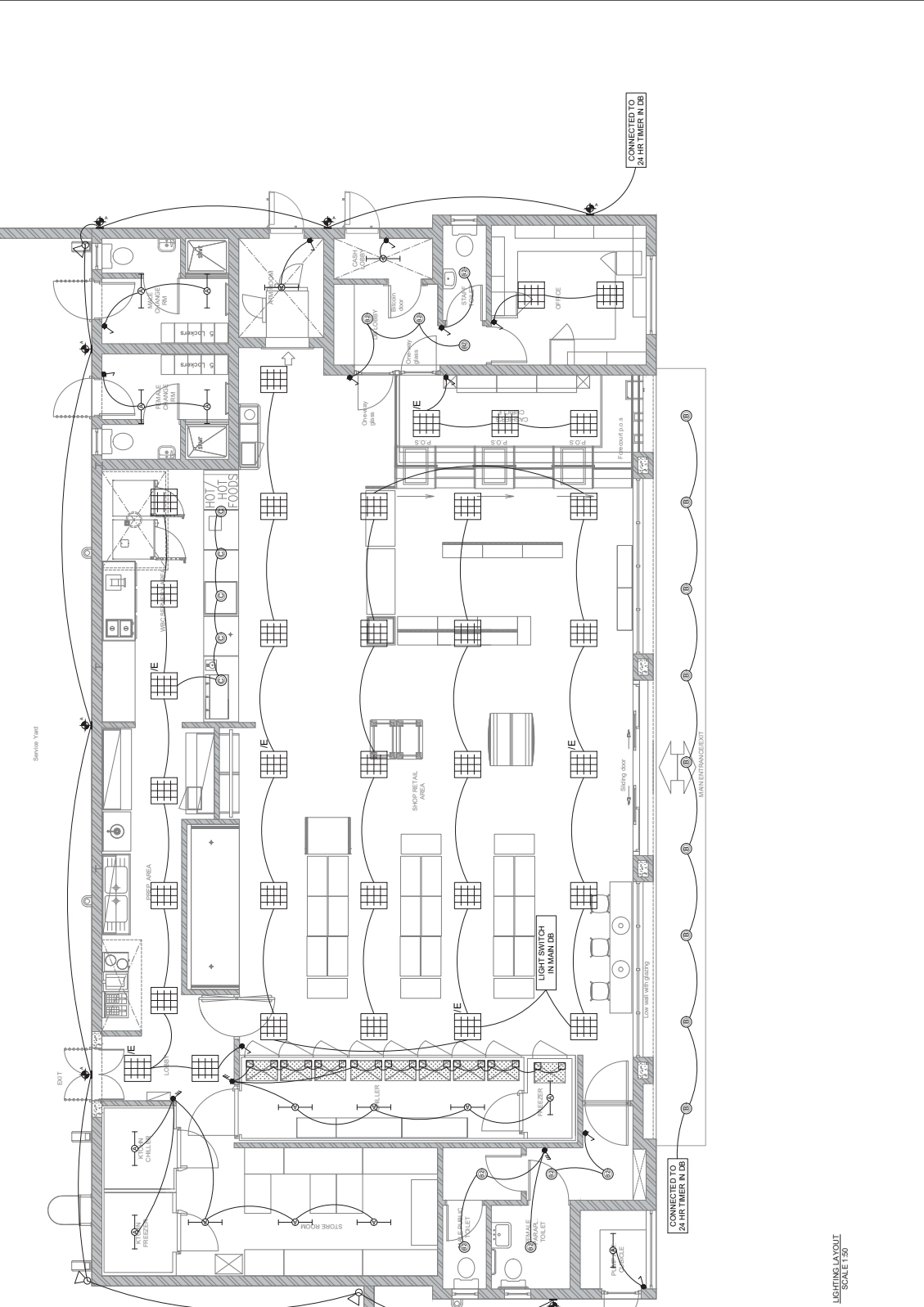
FLOOR DRAIN NOTES:

- #10 DIA. 50 OUTLET WITH 150 STAND WITH 150 WASTE PIPE
- #12 DIA. 100 WASTE PIPE
- FLOOR DRAIN FOR CHILLER, FREEZER, DAIRY CHILLERS
- NOTE: ALL FLOOR DRAINS TO HAVE INDIVIDUAL WASTE PIPE OUTLETS TO CONNECT TO MAIN SEWER DRAIN PIPE.
- FLOOR DRAINS TO BE SET OUT AS INDICATED ON THIS DRAWING AND ANY DISCREPANCIES TO BE REPORTED TO THE ARCHITECT PRIOR TO EXECUTION OF WORK.

DRAINAGE LAYOUT
SCALE 1:50

- GENERAL NOTES:**
1. ALL WORK SHALL BE TO THE LATEST SAAS 1042 STANDARDS & SPECIFICATIONS.
 2. ALL INDICATORS FOR AIR CONDITIONING & ADJACENT TO EQUIPMENT. ELEC. CONTRACTOR TO PROVIDE ALL NECESSARY CONNECTIONS PRIOR TO INSTALLATION.
 3. CABLE TRAYS TO BE BATED FOR MEDIAN DUTY & SUPPORTED AT INTERVALS AS SPECIFIED BY THE MANUFACTURER.
 4. ALL ELECTRICAL CABLES TO BE LABELED WITH NUMBERS & SUPPLY DB TO BE INDICATED ON ALL JUNCTIONS, ADHESIVE LABELS & CIRCUIT NUMBERING TO BE INDICATED.
 5. ALL POWER & LIGHTING POINTS TO BE CONFIRMED ON SITE.
 6. ALL ELECTRICAL PENETRATIONS TO BE FIRE SEALED AFTER CABLE INSTALLATIONS.

LIGHTING LEGEND	
SYMBOL	DESCRIPTION
EXIT	EMERGENCY EXIT LUMINAIRE, INCLUDING BATTERY BACKUP (SURFACE MOUNTED)
⊙	12W LED DOWNLIGHT - Ø200mm (RECESSED)
⊙	12W LED DOWNLIGHT - Ø125mm (RECESSED)
⊙	24W LED DOWNLIGHT - Ø150mm (RECESSED)
⊙	24W LED DOWNLIGHT - Ø200mm (RECESSED)
⊙	47W LED DOWNLIGHT (600x600) (RECESSED)
⊙	47W LED LUMINAIRE 1150mm, 4000K, PRISMATIC, VERTICAL
⊙	40W LED LUMINAIRE, PRISMATIC RECESSED (600x600)
⊙	40W LED LUMINAIRE SURFACE MOUNTED (600x600)
⊙	1x47W LED LUMINAIRE WITH BATTERY BACKUP
⊙	1x47W LED LUMINAIRE 1150mm, SURFACE, VAPOUR PROOF
⊙	12W LED BULKHEAD SURFACE
⊙	1x16W LED BEAM SURFACE
⊙	1x16W SINGLE LEVER LIGHT SWITCH, RECESSED @ 1200mm AFL
⊙	2x16W SINGLE LEVER LIGHT SWITCH, RECESSED @ 1200 AFL
⊙	1x16W 2-WAY SINGLE LEVER LIGHT SWITCH, RECESSED @ 1200 AFL
⊙	1x16W 2-WAY SINGLE LEVER LIGHT SWITCH, RECESSED @ 1200mm AFL



LIGHTING LAYOUT
SCALE 1:50

Scale	1:50
Contract No.	1903151
Drawing No.	1903151/E/301
Revision	A

Project	PARKDENE FILLING STATION
Client/Employer	LOOK FORWARD CONSTRUCTION (Pty) Ltd
Design/Drawn	JF
Checked	TS
Approved	JF
Pr. No.	JF

Project: PARKDENE FILLING STATION
 Client/Employer: LOOK FORWARD CONSTRUCTION (Pty) Ltd
 P.O. Box 6007, LENASIA NORTH, 1638
 Tell : 011-854-1375/011-854-1388
 Email: aboo@lenasiabuilders.co.za

Plan Description: LIGHTING LAYOUT

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 Tel: +27 44 884 1108
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 Email: info@element.co.za

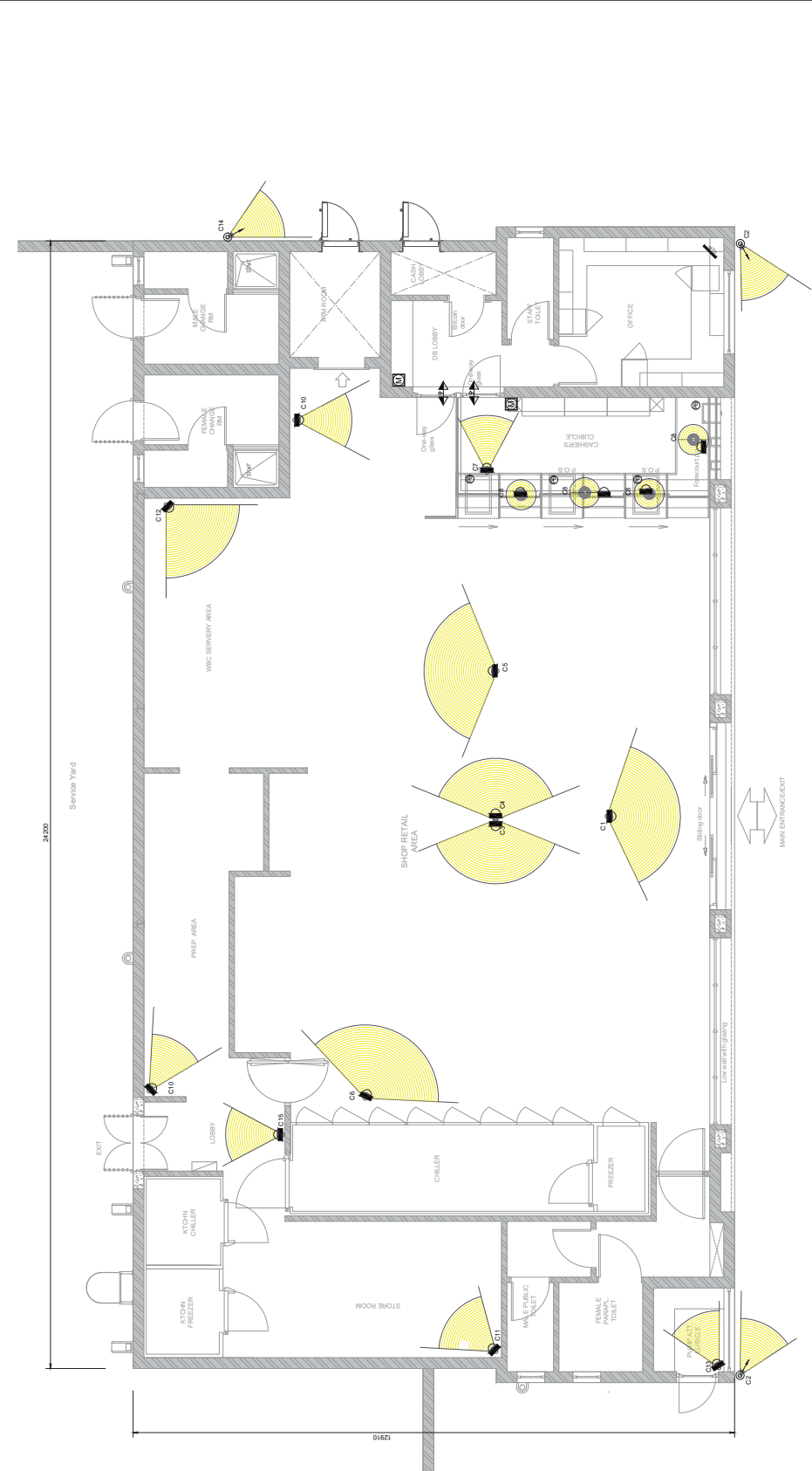
ELEMENT
 Consulting Engineers
 A FIFTH DIMENSION TO ENGINEERING

Rev.	Date	Description	Rev.	By
A	21/03/2023	FOR APPROVAL	TS	JF

- GENERAL NOTES:**
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST SAAS 1022 STANDARDS & SPECIFICATIONS.
 2. ALL ISOLATORS OR AIR CONDITIONING & VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS & SPECIFICATIONS & ADJACENT TO EQUIPMENT. ELEC. CONTRACTOR TO PROVIDE PROTECTION OF ISOLATORS PRIOR TO INSTALLATION.
 3. CABLE TRAYS TO BE RATED FOR MECHANICALITY & SUPPORTED AT INTERVALS AS SPECIFIED BY THE MANUFACTURER.
 4. ALL ELECTRICAL PENETRATIONS SHALL BE WITH LONG LIFE VINYL ADHESIVE LABELS WITH NUMBERS & SUPPLY TO BE INDICATED ON CONCRETE ON SITE.
 5. ALL POWER & LIGHTING POINTS TO BE CONFIRMED ON SITE.
 6. ALL ELECTRICAL PENETRATIONS TO BE FIRE SEALED AFTER CABLE INSTALLATIONS.
 7. ALL ACCESS CONTROL DOORS TO BE FITTED WITH MANGROUGES.

SYMBOL	DESCRIPTION
	ROOF LEVEL MOUNTED ON
	BULLET CAMERA
	DOOR RELEASE PUSH BUTTON
	ID MATRIX READER
	DOOR MAGNALOCK
	CCTV MONITOR
	DIGITAL VIDEO RECORDER
	DOOR HOLD OPEN MAGNETS
	LINE RELAY TO OPEN DOOR FROM FIRE SIGNAL
	MANUAL CALL POINT

SYMBOL	DESCRIPTION
	CCTV CAMERA
	DOOR MAGNALOCK
	DOOR HOLD OPEN MAGNETS
	LINE RELAY TO OPEN DOOR FROM FIRE SIGNAL
	MANUAL CALL POINT



CAMERA No.	POSITION	MOUNT	COVERAGE
C1	ENTRANCE / EXIT DOOR	CEILING PANEL	PERSONS ENTERING & EXITING SHOP (MUG SHOTS)
C2	FORECOURT	CEILING PANEL	OVERALL VIEW
C3	RETAIL AREA	CEILING PANEL	CHILLER DOORS & RETAIL AREA
C4	RETAIL AREA	CEILING PANEL	PUBLIC VIEW TO CASHIER AREA
C5	SERVRY AREA	CEILING PANEL	VIEW TO SERVRY AREA
C6	RETAIL AREA	CEILING PANEL	VIEW TO GONDOLAS
C7	CASHIER ACCESS DOOR	CEILING PANEL	VIEW OF PERSONS ENTERING & EXITING CASHIER'S CURIOLE (MUG SHOTS)
C8	CASHIER'S INTERNAL BULK HEAD ABOVE TILLS	SOFFIT OF BULKHEAD	TILL OPERATIONS
C9	DB LOBBY	CEILING PANEL	VIEW TO OFFICE ENTRANCE & EXIT DOOR & SAFE ACTIVITIES BY CASHIERS
C10	PREP AREA	CEILING PANEL	GENERAL VIEW TO PREP AREA
C11	STORE AREA	CEILING PANEL	GENERAL VIEW OF STORE & CHILLER DOOR
C12	SERVRY AREA	CEILING PANEL	VIEW TO STORE ROOM
C13	PA CURIOLE	CEILING PANEL	VIEW TO PUMP ATTENDANT CURIOLE
C14	CASH MANAGEMENT	EXTERNAL WALL	VIEW TO CASH MANAGEMENT
C15	LOBBY	CEILING PANEL	VIEW TO BACK ENTRANCE/EXIT

SCALE:

PLEASE NOTE: TO BE CHECKED BY SPECIALIST PRIOR TO INSTALLATION. CCTV CAMERA TYPE SPECIFICATION TO BE CONFIRMED BY CCTV SPECIALIST. ALL CAMERA TYPES TO BE INSTALLED WITH BP SHOCK CCTV CAMERA MOUNTS ONLY.

Scale	1:50
Original Size A1	1903151
Contract No.	1903151/E/303
Revision	A

Designed	JF	Signature	
Drawn	TS		
Checked	JF		
Approved	JF		

Project		PARKDENE FILLING STATION	
Plan Description		ACCESS CONTROL & CCTV LAYOUT	

Client/Employer:

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ELEMENT
Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

Rev.	Date	Description
A	19/10/2020	FOR APPROVAL
B		
C		