

- NOTES -

GENERAL:
Foundation of any boundary wall not to project beyond boundary line. FFL of house to be min. 300mm above NGL. All work to comply to SANS 10400 and National Building Regulations. All work to be in accordance with Local Authority regulations as by-laws. Figured dimensions to be taken in preference to scaled dimensions. All levels and dimensions to be checked on site before building work commences. Contractor shall be deemed to have acquainted themselves with site conditions and make allowances in their tenders for all site development work.

LEVELS AND DIMENSIONS:
The building to be laid out and erected in the position and to the levels as indicated on the site layout plan. General- All top soil must be removed from the area to be built upon, including roads and paving areas. Excavate where necessary to reduce levels as shown on drawings. Excavated material can be used for filling if suitable and can also be used for other site works. All grading and leveling of ground will be done by qualified civil contractor. Minor filling to be done by Contractor. Where large trees and stores are to be removed in the area, the hole must be filled with suitable material and well compacted in layers of max. 150mm before being built upon.

FOUNDATIONS:
Foundation mass concrete in-situ 1:4:5 nominal mix having a compressive strength of 10MPa at 28 days. Refer to sections for foundation size. Min. requirements, load bearing walls min 600 x 250mm and non load bearing wall min. 450 x 200mm. Foundation walls higher than 1m to be 340mm thick. Foundation walls higher than 1.5m to be in accordance with engineers specification.

FLOOR CONSTRUCTION:
MAIN FLOOR CONSTRUCTION:
Selected tile floor finish as per client on min. 30mm screed on 75mm concrete floor slab on approved damp proof membrane on min. 60mm sand bedding on well compacted earth in intervals of 150mm (no clay).

SUSPENDED FLOOR STRUCTURE:
Floor finish as specified on plans on min 30mm screed on pre cast concrete or in-situ suspended floor system and support all as per engineer specification.

GARAGE FLOOR CONSTRUCTION:
Screed floor finish on min. 30mm screed on 75mm concrete floor slab on approved damp proof membrane on min. 60mm sand bedding on well compacted earth in intervals of 150mm (no clay).

BALCONY CONSTRUCTION:
Floor finish as specified on plans on min 30mm screed on duriburg torch-on waterproofing on screed to fall @ min. 1:60 fall on suspended concrete floor slab as per engineers specification.

PAVING CONSTRUCTION:
Interlocking profile paving:
220 x 110 x 65mm paving or as specified on plan on 50mm thick sand bedding on 100mm G3 crushed stone subbase, compacted to 95% mod. asphalt on 300mm insitu compacted to 97% mod. asphalt.

CEILING:
6.4mm Gypsum ceiling board screw fixed @ 150mm c/c to 38x38mm SAP timber bracing at 600mm C/C max. Joints covered with fatapate, skimmed level and smooth, all as per manufacturer by specialist.

WALL CONSTRUCTION:
EXTERNAL - 270mm cavity wall construction - Smooth Plaster & Paint colour Sandstone cladding where indicated. Timber cladding where indicated.
INTERNAL - 110mm walls plastered and painted.
Cavities in foundation walls to be filled with concrete. Weepholes left on outside skin of cavity tray at 900mm C/C at floor level and above lintels. Wall ties built in every third brick course at 2.5m² of wall face area. 375 micron 300um wide DPC to be built in around all door and window openings. 375 micron DPC (biting) stepped down into cavity tray at floor level and above precast concrete lintels. Precast concrete lintels over all door and window openings over 2m as to engineers specifications with 4 courses of brickwork over. Lintols to have end bearing of 230mm min. on each side.

WINDOWS, DOORS AND OPENINGS:
Windows to exceed 0.2 or 10% of room floor area with 5% minimum to be open able. Glazing to comply with SANS 10400 Part N and SANS 0127 and 1203 as relevant. Provide 375 micron SABS approved dpc around all window and door openings. Glazing to windows exceeding 1 square metre or lower than 300mm from floor level to be 6mm laminated safety glazing. All sections of SANS Part-T and W3 to be complied with. Doors & windows built into walls securely, plumb and correctly to manufacturers instructions.

ROOF CONSTRUCTION:
MAIN ROOF CONSTRUCTION:
Salitra 0.50mm thick, AZ 150 Zinc@ Classicron® corrugated roof sheeting - Colour: Charcoal on 76 x 50mm SAP timber purlin crest-fixed to intermediate timber purlins at @ 1200mm C/C max on Aeropirk 135mm or equally approved underlayment insulation as per suppliers specification on purpose made roof trusses (As per engineers design). Timber trusses to rest on 114 x 38mm timber wall plate and tied down to walls with 30 x 1.2mm gal. hoop iron straps built in 7 down into wall. Diagonal bracing to underside of rafters by specialist design. Refer to table for R-Value calculations. Roof pitch: 30° - Overhang: 600mm.

FACIA'S:
Nuclea Cement fascia boards, medium density (225 x 12mm) fixed to rafter ends. Fascia joiners to be used between fascia lengths and at corners.

RAINWATER GOODS:
Charcoal powder coated aluminium WaterTite OGEE gutters, 125 x 85mm domestic OGEE fixed to fascia at rafter ends. Aluminium rectangular downpipes fixed to walls with downpipe clips as per manufacturer. Refer to roof plan for positions of downpipes rainwater goods colour to match wall colour.

DRAINAGE:
Hot and cold water to be provided to all washing facilities. All waste fittings to have 40mm dia. PVC waste pipes. All waste fittings to have 75mm dia. re-sal traps. Any foundation within 1250mm of sewerage run to be below such sewerage run. All soil fittings to have 110mm dia. PVC soil pipes. Gully rim to be 150mm above surrounding natural ground level. Crown of lowest trap to be 150mm above gully rim. First floor to be fitted with deep seal traps. All drainage to be in accordance with municipal regulations. Drainage to have invert level of 450mm Vent valve at highest point overflow gully at lowest point. All underground pipes to be 110mm diameter uPVC pipes.

SANS 10400, Part 4.2.2.5 (a or b) precast or cast-in-situ concrete slabs placed over such drain, isolated from the crown of the pipe by a soil cushion not less than 100mm thick & such slabs shall be wide enough to prevent excessive superimposed loads being transferred directly to the pipes.

SANS 204 (Energy Efficiency) NOTES:
Conductance, Solar Heat Gain to comply with SANS 10400-XX-2021 energy efficiency as shown on calculated renestration forms attached.

COLOUR TABLE

Usage	Application	Match
ERVEN LOCATION		

INSULATION FOR ROOFING:

Aluminium Bubble Foil & FR White uncertainty Void in roof (no less than 25mm)	0.99
10mm Isotherm Flexible Polyester	2.38
6.4mm Gypsum board	2.05
Metal roof sheeting	0.03
Roofnet laid to manufacturer's specifications and SANS 204:4.3.6.2	
Total R-value (of min. 3.7) =	3.81

ERVEN LEGEND

ERF NUMBER	21 093
ERF SIZE	204m ²
STREET NAME	Disa Street
MUN. DISTRICT	City of Cape Town
AREA / REGION	Durbanville
SUBURS NAME:	Durbanville
SERVICES:	N/A
ERF ZONING	General Residential 1
OCCUPANCY	H4
BUILDING LINES	As per Zoning scheme
HEIGHT ZONE	As per Zoning scheme
MAX COVERAGE	As per Zoning scheme

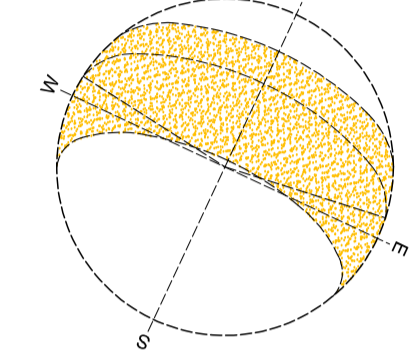
SANS 204 (Energy Efficiency) NOTES:
CONDUCTANCE, SOLAR HEAT GAIN COMPLIANCE:
To comply with SANS 10400-XX-2021 energy efficiency as shown on calculated renestration forms attached.

INSULATION FOR ROOFING:

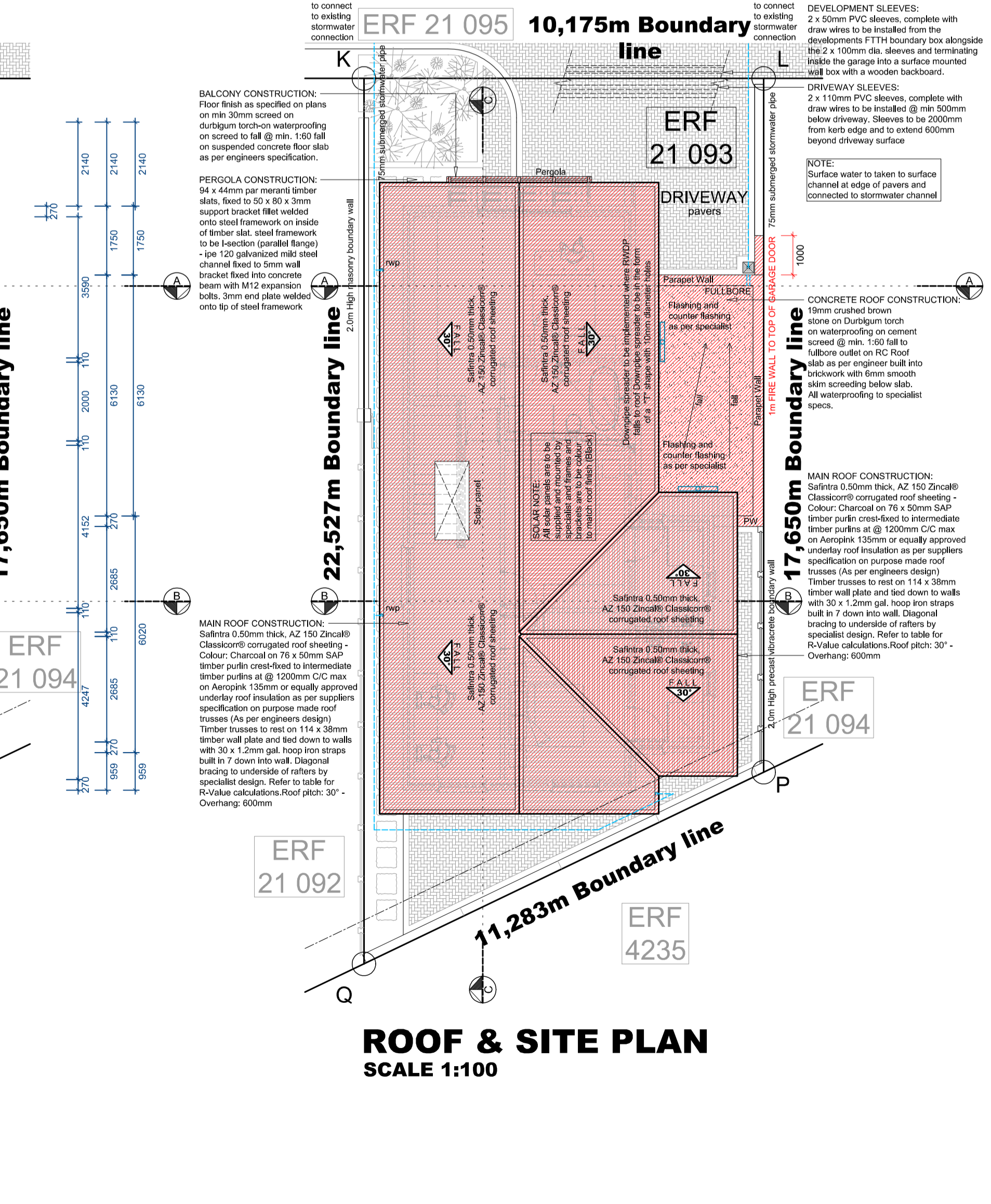
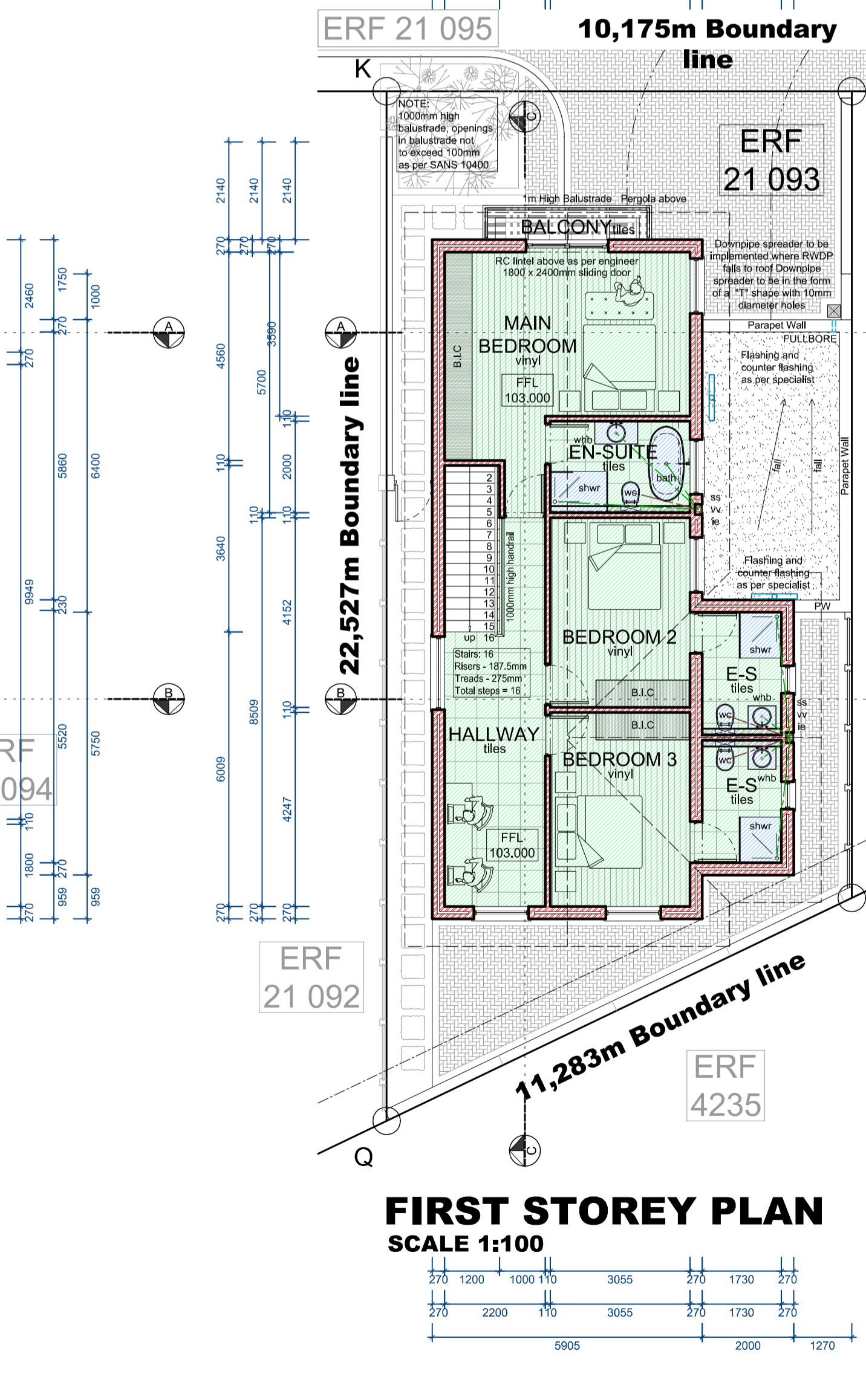
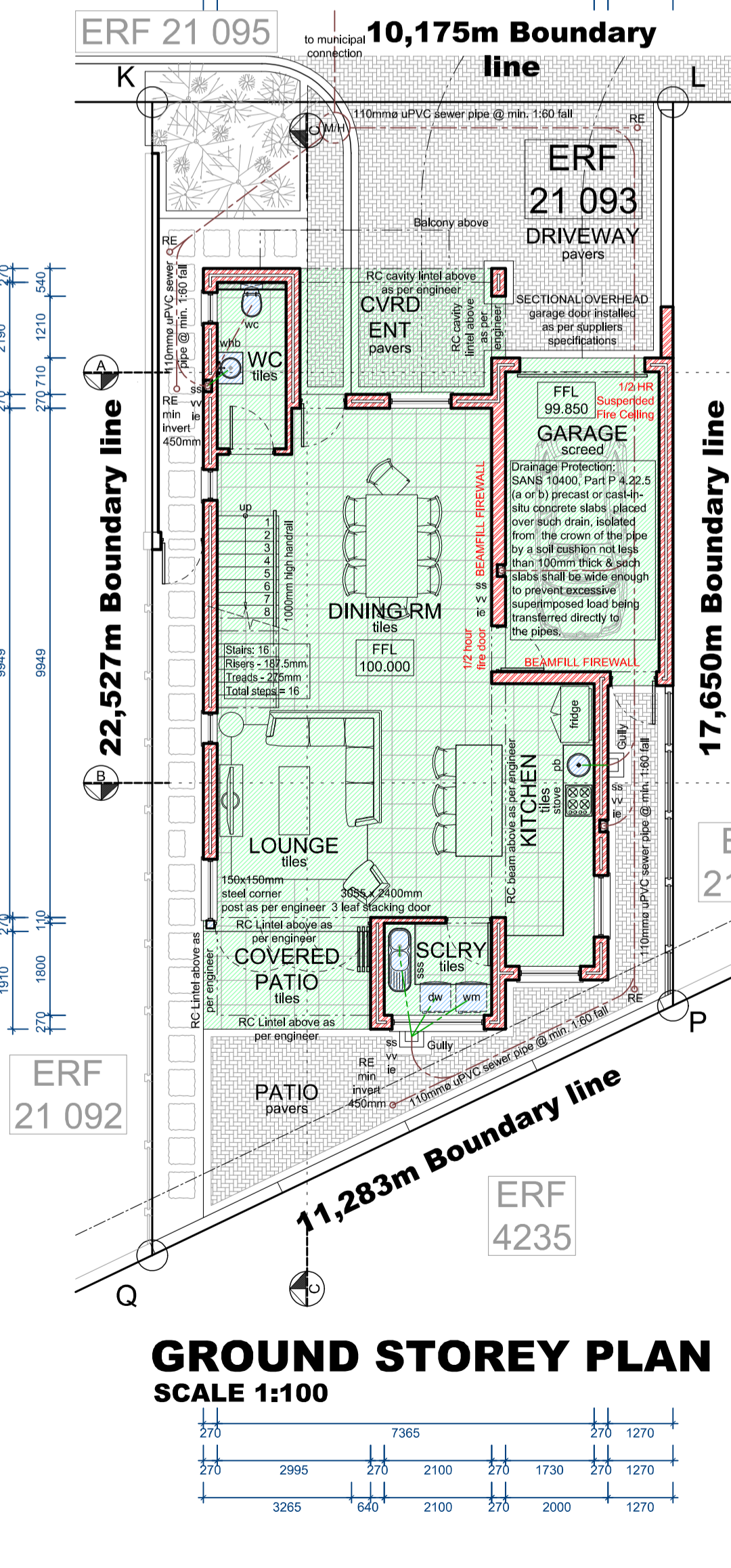
17mm Concrete Roof Slab to Engineer's specifications, 75mm IsoBoard laid on top of the Waterproofing, beneath Stone Ballast, in an Inverted Roof Application, to manufacturer's specifications. The roof system to achieve a minimum System R-Value of 3.701m ² /KW.	
Total R-value (of min. 3.7) =	3.701

HOT WATER SERVICE:
Geysers to be a solar geyser or water to be heated with a heat pump. All exposed pipes from the hot water cylinder to be insulated. The hot water tank to have return pipes and shall be insulated with approved geyser blanket with min R-value of 2. Geyser pipes to be lagged as per SANS 10400-XX-2021, Part 6.

LOCALITY PLAN

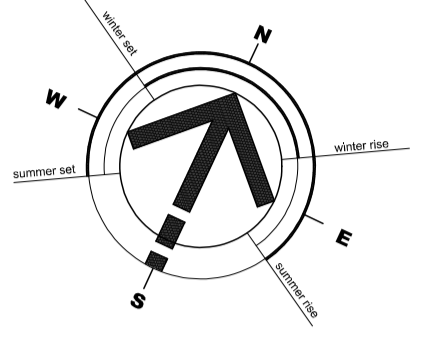


- Stamps
- NOTE: V-Crown Drips to be constructed in all downland beams and slabs.
- NOTE: V-Crown in Plaster work between all concrete (beams, lintels & slabs) and masonry construction.
- NOTE: Stormwater disposal to be in strict accordance with the legal requirements of SANS 10400 Part L.
- NOTE: Stainless steel chimney cowls to conform with guideline table/duff.
- NOTE: Boundary walls to be plastered and painted to match house.
- NOTE: Window areas to be min. 10% of floor area with a minimum of 5% ignorable to comply with SANS 10400 part O.
- NOTE: Drainage to have min invert level 450mm Vent valve @ highest point Overflow gully @ lowest point.
- NOTE: No combustible material to be closer than 200mm from chimney flue.
- NOTE: Boundary walls to comply with SANS 10400, Part K - Walls.
- NOTE: TV aerials, satellite dish and other external items positions to be screened or concealed or placed out of site where practically possible.
- NOTE: Kitchen layout as illustration only. Kitchen layout as per specialist.
- NOTE: Extraction fan in kitchen above stove as per specialist.
- NOTE: Splashback by whb, pb and sinks.
- Drainage: Drainage must be connected to internal drainage system. A suitable civil engineers specification to be constructed before connecting to the municipal sewer line.
- NOTE: All final measurements to be taken on site, before construction.
- REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR A MORE EXTENSIVE DESCRIPTION OF STRUCTURAL SERVICES.
- REFER TO CIVIL ENGINEERS DRAWINGS FOR A MORE EXTENSIVE DESCRIPTION OF CIVIL SERVICES.
- NOTE: 1000mm min. high ballustrade, openings in ballustrade not to exceed 100mm, all as per SANS 10400, Part M.
- TREE REMOVAL: Trees to be removed, with all roots and remaining vegetation. Excavation to be re-filled with Engineers specified soil type, compacted in layers of no more than 150mm to compaction strength specified by Engineer. Excavations deeper than 3m to be approved and consented by Engineer.
- STORMWATER: All building storm water to be taken from the roof to the ground & then via a 110mm uPVC pipes and concrete channels to the paved roadways as per civil engineers specs.
- NOTE: Flashing and counter flashing as per specialist. All head walls & side wall flashing purpose made by specialist.
- NOTE: No part of foundation to protrude past the boundary line.
- WATER CONSERVATION NOTE: Schedule of water efficient shower heads & taps to be used. Water efficient dual-flush system (ballet) to be used. Dual flush cistern (toilet) with a 3 & 6 flush system. Shower heads with min. flow rate of 7l/min to be used. Metering taps at all wash hand basins.
- DRAINAGE PROTECTION NOTE: SANS 10400, Part 4.2.2.5 (a or b) precast or cast-in-situ concrete slabs placed over such pipes by a soil cushion not less than 100mm thick & such slabs shall be wide enough to prevent excessive superimposed loads being transferred directly to the pipes.
- NOTE: New braai chimney/flue to have diameter or flue that can be closed to the soil the chimney/flue as per SANS 10400 Part-XXA clause 5.7.3.
- NOTE: All glazing to be SIGU. All glazing to comply with SANS 10400 and to be tested according to SANS 613. All glazing to be installed with a SAGQA Certificate of Conformity by an ANANSA approved contractor or where in the case of external glazing in structures in excess of 10m in height, overhead or sloped glazing, glass roofing, three and one edge supported glass, toughened glass assemblies and entrance, glass for balustrading etc. must be signed off and approved in writing by Competent Person (Glazing) or Structures.
- MECHANICAL VENTILATION: Rooms with no ventilation to be provided with extractor fan exhausting 25% to outside of building.
- NOTE: All stormwater to road via overhead piping or 75mm dia. spcc pipe.



Notes

All requirements of municipal and other authorities concerned must be adhered to. Contractors and sub-contractors are to check all dimensions and levels on the site before commencing work. Figured dimensions have preference over scaled measurements and large scale details supercede small scale drawings. The design on this drawing is the property of JOHAN VAN ZYL ARCHITECTS, and is copyright.



Area

GROUND STOREY: Covered Entrance -	9.55m ²
Covered Patio -	6.24m ²
Living Area -	83.66m ²
Garage -	20.58m ²
Sub-Total:	120.03m²
FIRST STOREY: Living Area -	95.41m ²
Grand Total -	215.44m²
Open Balconey Area -	2.77m ²
ERF - Coverage -	204.40m ²
	58.72%

Revisions

no	date	description

client signatures

for: johan van zyl architects

Project

PROPOSED NEW DWELLING FOR ERF NR 21 093 DISA STREET DURBANVILLE

Description

Ground Storey Plan
First Storey Plan
Roof Plan
Specification
Notes

Project no. 1250

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sacap 7642



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AUG 2022	sf
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1250/21093Mun01_Page 1 of 4	juv
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	revision

CITY OF CAPE TOWN
DEVELOPMENT MANAGEMENT

Recommended for Approval
Building Control Officer / Delegation

This application has been approved in terms of Section 7 (1) (b) of Act 103 of 1977, subject to the conditions in the attached letter of approval.

01 Nov 2023
Date

Planning & Building
Development Management

Approval Number: 0000317

Application Number: 00170049422

- NOTES -

GENERAL:
Foundation of any boundary wall not to project beyond boundary line. FFL of house to be min. 300mm above NGL. All work to comply to SANS 10400 and National Building Regulations. All work to be in accordance to Local Authorities regulations and by-laws. Dimensions to be taken in preference to scaled dimensions. All levels and figures to be checked on site before building work commences. Contractor shall be deemed to have acquainted themselves with site conditions and make allowances in their tenders for all site development work.

LEVELS AND DIMENSIONS:
The building to be laid out and erected in the position and to the levels as indicated on the site layout plan. General- All top soil must be removed from the area to be built upon, including roads and parking areas. Excavate where necessary to reduce levels as shown on drawings. Excavated material can be used for filling if suitable and can also be used for other site works. All grading and leveling of ground will be done by qualified civil contractor. Minor filling to be done by Contractor. Where large tree stumps and stones are to be removed in the area, the hole must be filled with suitable material and well compacted in layers of max. 150mm before being built upon.

FOUNDATIONS:
Foundation mass concrete in-situ 1:4:5 nominal mix having a compressive strength of 10MPa at 28 days. Refer to sections for foundation size. Min. requirements, load bearing walls min 600 x 250mm and non load bearing wall min. 450 x 200mm. Foundation walls higher than 1m to be 300mm thick. Foundation walls higher than 1.5m to be in accordance with engineers specification.

FLOOR CONSTRUCTION:
MAIN FLOOR CONSTRUCTION:
Selected tile floor finish as per client on min. 30mm screed on 75mm concrete floor slab on approved damp proof membrane on min. 60mm sand blinding on well compacted earth in intervals of 150mm (no day).
SUSPENDED FLOOR STRUCTURE:
Floor finish as specified on plans on min. 30mm screed on Pre cast concrete or in-situ suspended floor system and support all as per engineer specification.

CEILING:
6.4mm Gypsum ceiling board screw fixed @ 150mm c/c to 38x38mm SAP timber bracing at 400mm C/C max. Joints covered with tabetape, skimmed level and smooth finish as per manufacturer by specialist.

WALL CONSTRUCTION:
Internal - 110mm walls plastered and painted
External - 270mm cavity wall construction - Smooth Plaster & Paint colour Sandstone cladding where indicated; Timber cladding where indicated
Internal - 110mm walls plastered and painted
Cavities in foundation walls to be filled with concrete. Weepholes left on outside skin of cavity tray at 900mm C/C at floor level and above lintels. Wall ties built in every third brick course at 2.5m² wall face area, 375mm 300mm wide DPC to be built in around all door and window openings. 375mm DPC (trickling) stepped down into cavity tray at floor level and above precast lintels. Precast concrete lintels over all door and window openings over 2m as per engineers specifications with 4 courses of brickwork over. Lintels to have end bearings of 230mm min, on each side

CLADDING CONSTRUCTION:
225x12mm Nutec ship-lap cladding classic finishes on 250 micron damp proof membrane on 114x38mm SAP timber structural wall frame by specialist with 76x50mm vertical flanges @400mm c/c. with 50mm Iso-board insulation between frame. Internal wall finish to be 12mm Rhinoboard skew fixed to timber frame with tabetape, skimmed level and smooth, all as per manufacturer by specialist.

ROOF CONSTRUCTION:
MAIN ROOF CONSTRUCTION:
Safira 0.50mm thick, AZ 150 Zinca® Classic® corrugated roof sheeting - Colour: Charcoal on 76 x 50mm SAP timber purlin cross-fixed to intermediate timber purlins at @ 1200mm C/C max on Aeropink 135mm or equally approved underlayment roof insulation as per suppliers specification on purpose made roof trusses (As per engineers design) Timber trusses to rest on 114 x 38mm timber wall plate and tied down to walls with 30 x 1.2mm gal. hoop iron straps built in 7 down into wall. Diagonal bracing to underside of rafters by specialist design. Refer to table for R-Value calculations. Roof pitch: 30° - Overhang: 600mm

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EXTERNAL FLOOR STRUCTURE:
Paving or as specified on plan on 50mm thick sand bedding on 150mm G3 crushed stone subbase, compacted to 95% mod. AASHTO on 300mm in situ compacted to 97% mod. AASHTO. Paving to have a fall of 1:60 away from walls.

EXTERNAL FLOOR STRUCTURE:
Paving or as specified on plan on 50mm thick sand bedding on 150mm G3 crushed stone subbase, compacted to 95% mod. AASHTO on 300mm in situ compacted to 97% mod. AASHTO. Paving to have a fall of 1:60 away from walls.

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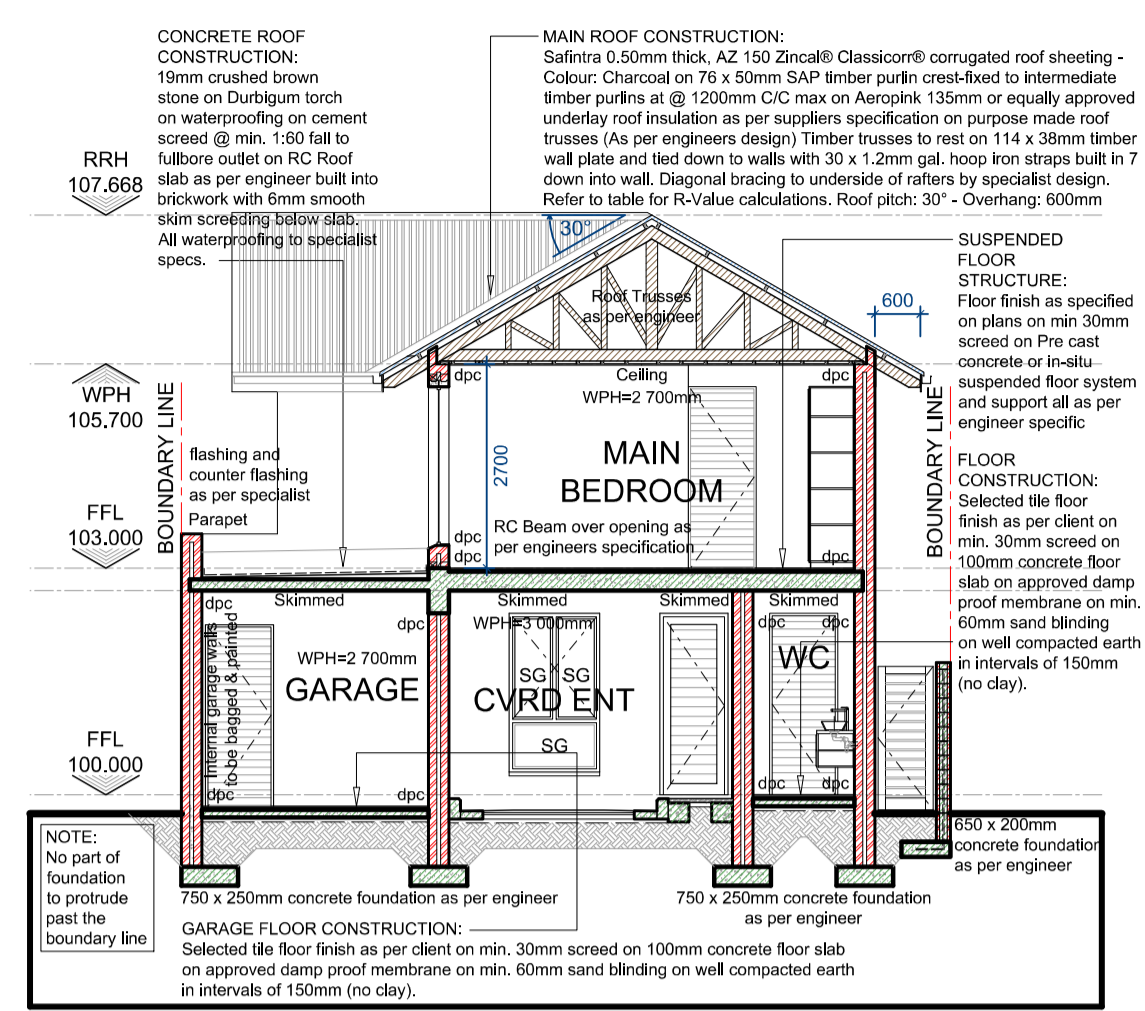
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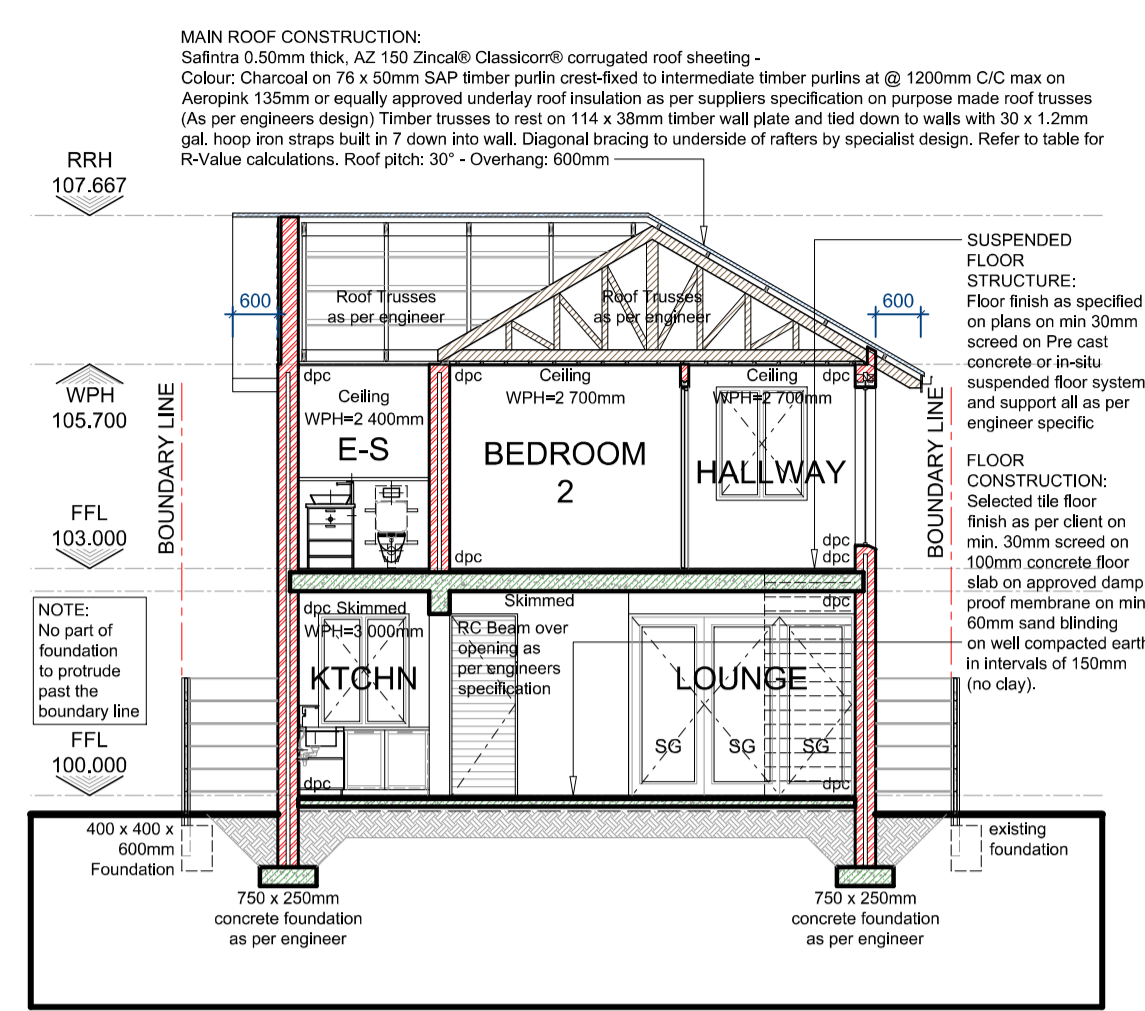
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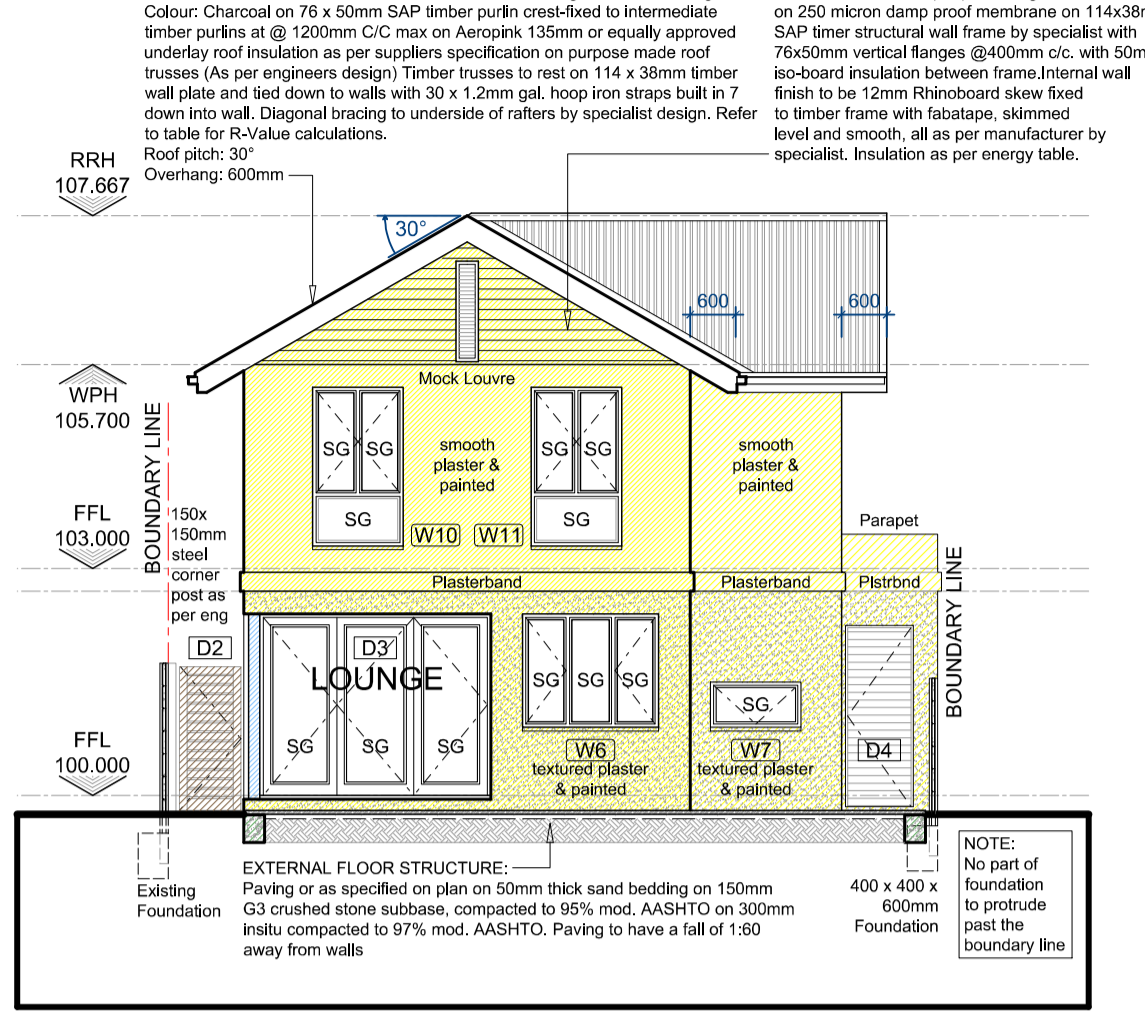
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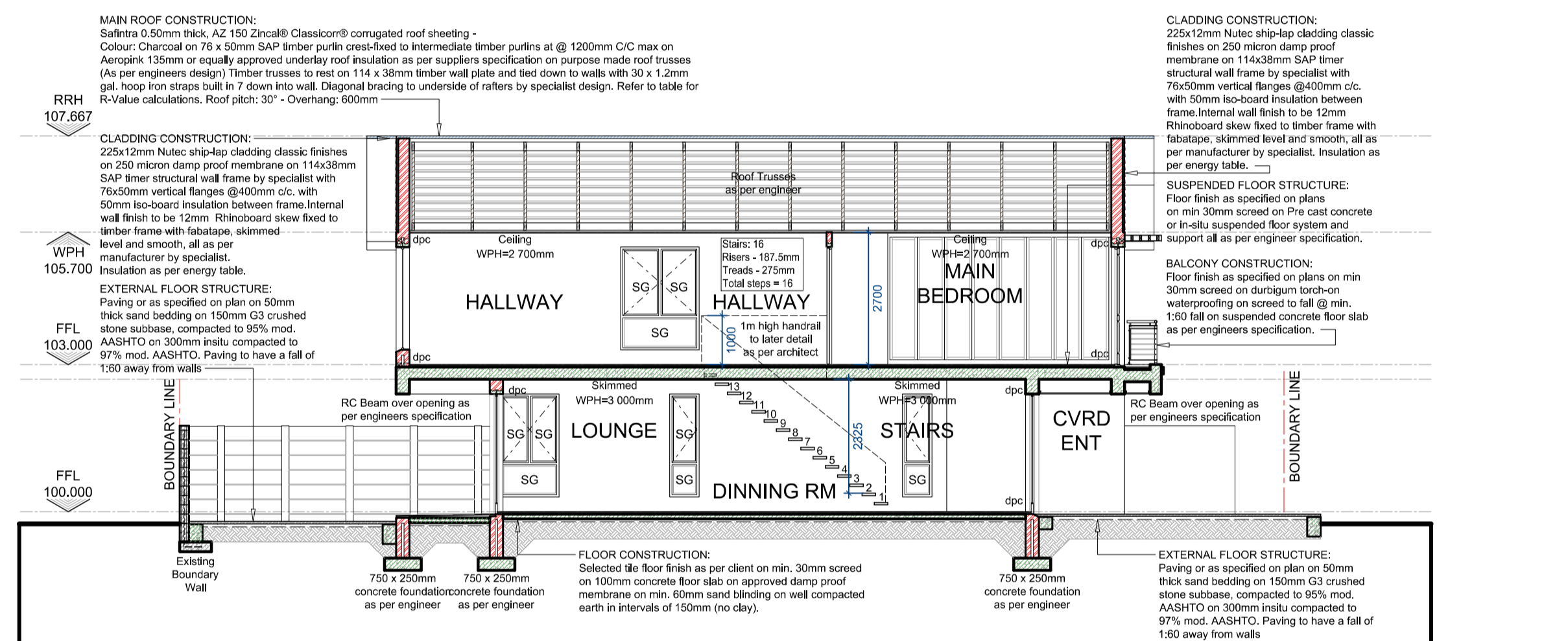
SECTION A-A
SCALE 1:100



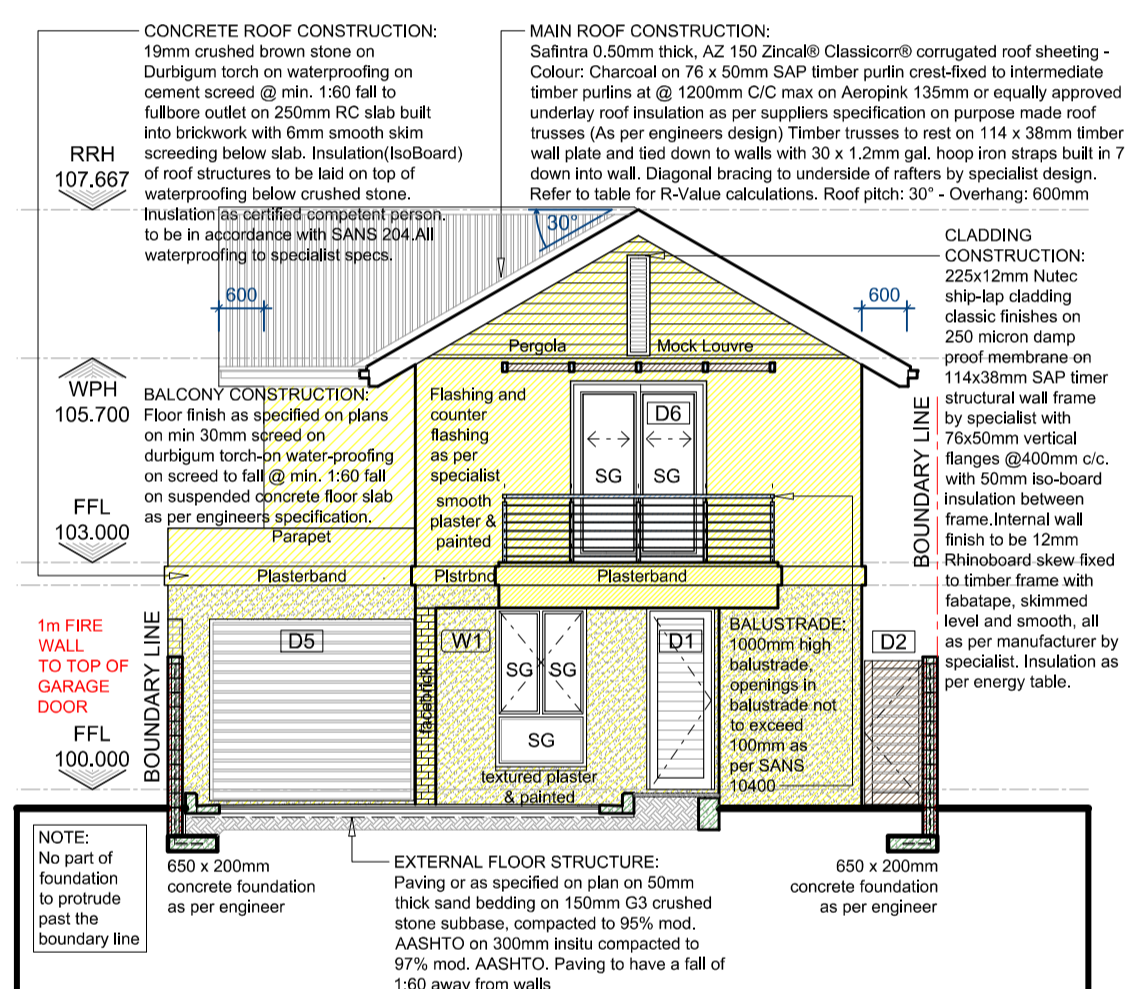
SECTION B-B
SCALE 1:100



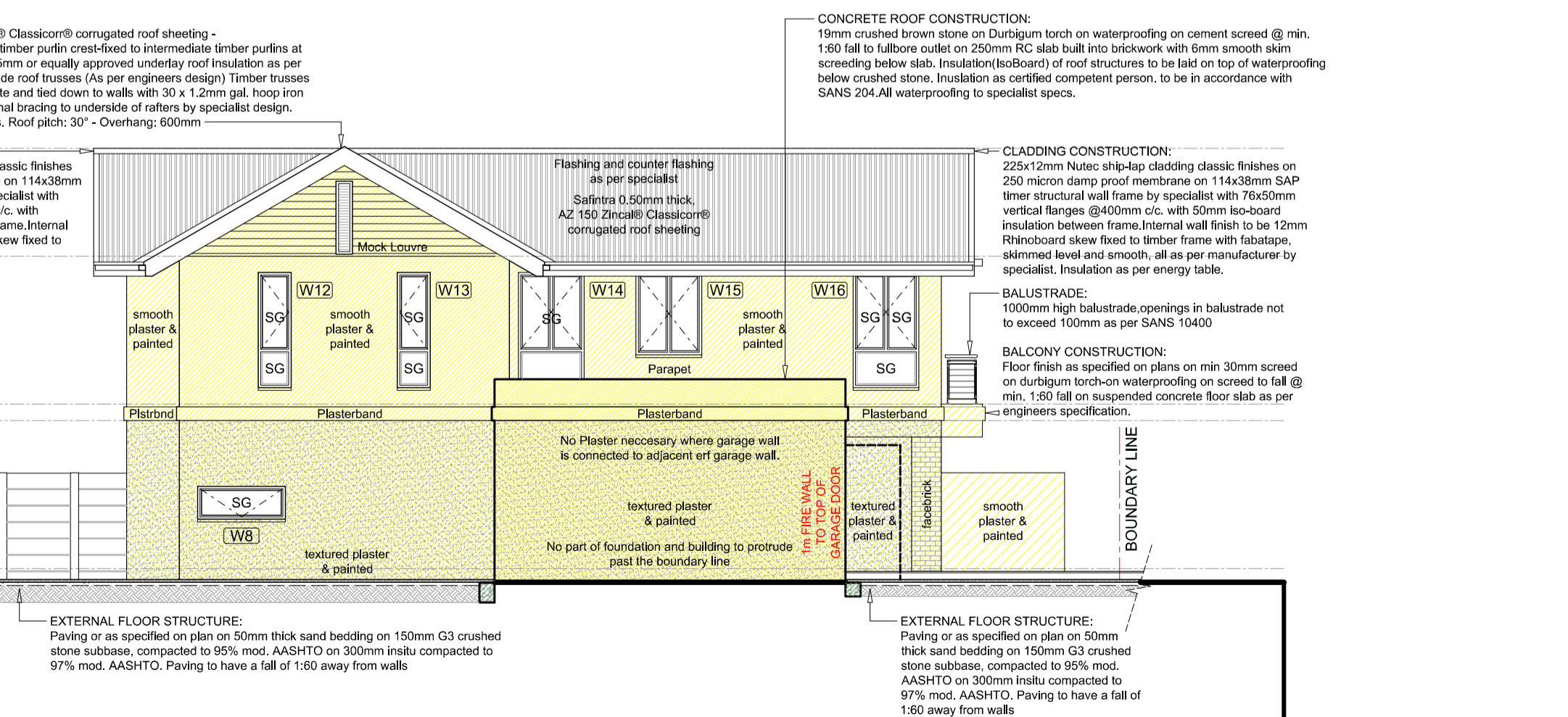
SOUTH EAST ELEVATION
SCALE 1:100



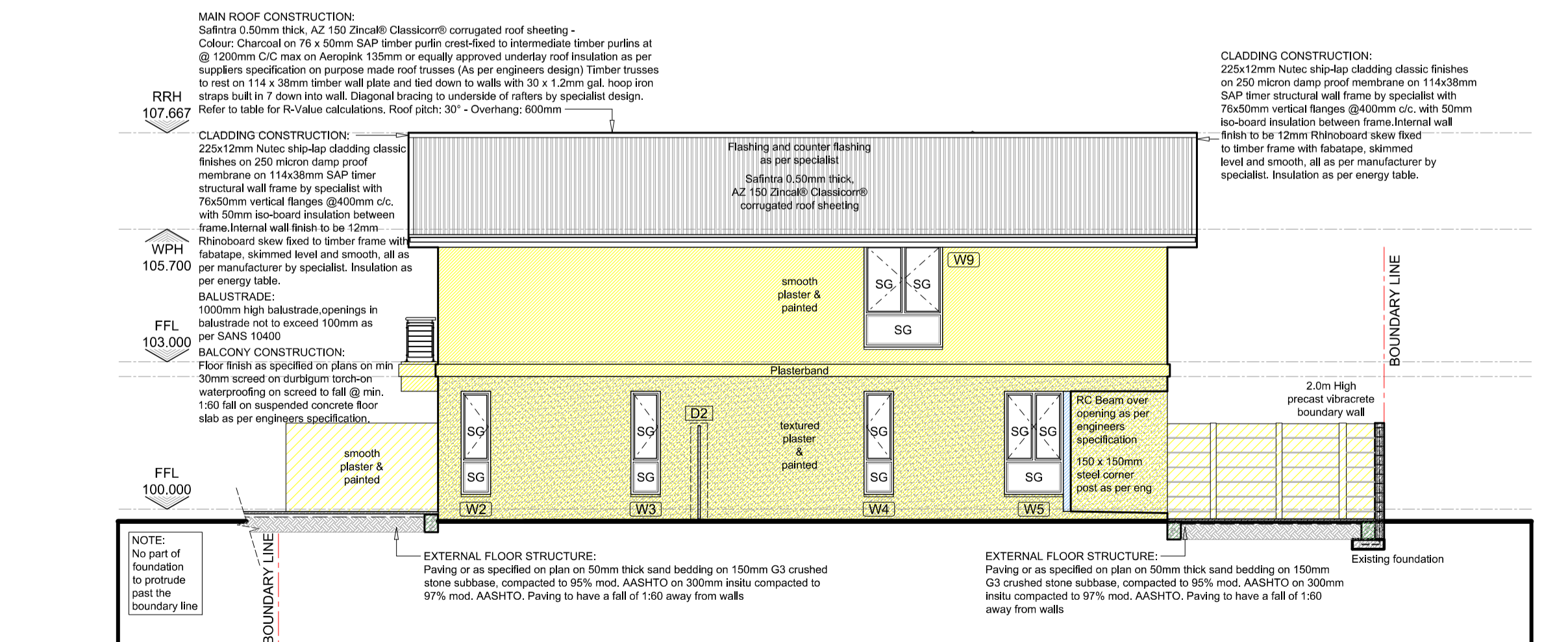
SECTION C-C
SCALE 1:100



NORTH WEST ELEVATION
SCALE 1:100



NORTH EAST ELEVATION
SCALE 1:100



SOUTH WEST ELEVATION
SCALE 1:100

Notes

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Area

GROUND STOREY:	
Covered Entrance -	9.55m ²
Covered Patio -	6.24m ²
Living Area -	83.66m ²
Garage -	20.58m ²
Sub-Total:	120.03m ²
FIRST STOREY:	
Living Area -	95.41m ²
Grand Total -	215.44m ²
Open Balcony Area -	2.77m ²
ERF -	
Coverage -	204.40m ²
	58.72%

Revisions

no	date	description

client signatures

for: johan van zyl architects

Project

PROPOSED NEW DWELLING FOR
ERF NR 21 094
DISA STREET
DURBANVILLE

Description

Sections
Elevations
Specifications
Notes

Project no.

1250

JOHAN VAN ZYL
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AUG 2022	sf
drawing no.	checked
1250/21094Mur01_Page 2 of 4	lvz
scale	page size
1:100	A1
	revision

CITY OF CAPE TOWN
DEVELOPMENT MANAGEMENT

Recommended for Approval
Building Control Officer / Delegation

This application has been approved in terms of Section 7 (1) (b) of Act 103 of 1977, subject to the conditions in the attached letter of approval.

01 Nov 2023
Date

Planning & Building
Development Management

Approval Number: 0000317
Application Number: 001700494422

NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.	NOTE: Glazing suppliers to ensure that all glass types and thicknesses comply with national bkg regs.

WINDOW POSITION No.	W2, W3, W12	W15	W6	W9	W1, W5, W10, W11, W14, W16	W4, W13	W7, W8
QUANTITY	3	1	1	1	5	2	2
DESCRIPTION / CAT No.	600 x 2100mm Aluminium frame window	1200 x 1500mm Aluminium frame window	1800 x 1500mm Aluminium multi-slider	1600 x 2100mm Aluminium frame window	1200 x 2100mm Aluminium frame window	600 x 2100mm Aluminium frame window	1200 x 600mm Aluminium frame window
GLAZING	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated	4mm float glass 6.38mm toughened safety glass where indicated
IRONMONGERY	According to window manufactures specification	According to window manufactures specification	According to window manufactures specification	According to window manufactures specification	According to window manufactures specification	According to window manufactures specification	According to window manufactures specification
AREA	1.26m²	1.8m²	3.36m²	3.36m²	2.52m²	1.26m²	0.66m²

NOTE: V-Groove Drips to be constructed in all downland beams and slabs.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.	NOTE: Stormwater disposal to be in situ accordance with the legal requirements of SANS 10400 Part I.

DOOR POSITION No.	D1	D2	D3	D6	D4, D8	D5	D7, D9, D10, D11, D12, D13, D14, D15
QUANTITY	1	1	1	1	1	1	1
DESCRIPTION / CAT No.	900 x 2400mm timber door, aluminium frame	813 x 2032mm Horizontal Slatted Timber Gate (no inserts)	3055 x 2400mm Aluminium stacking door	1800 x 2400mm External frame 2-pane multi-slider	600 x 2400mm Horizontal Slatted Timber 1/2 hour fire door	2400 x 2400mm Aluminium sectional overhead garage door	800 x 2400mm External Horizontal Slatted Timber
FINISH	sanded and stained dark mahogany	as per manufacturer	Powder coated - colour: matt charcoal	Powder coated - colour: matt charcoal	Powder coated - colour: matt charcoal	Powder coated - colour: matt charcoal	Powder coated - colour: matt charcoal
FRAME	as per manufacturer	as per manufacturer	as per manufacturer	as per manufacturer	as per manufacturer	as per manufacturer	as per manufacturer
GLAZING	N/A	N/A	Powder coated - colour: matt charcoal	Powder coated - colour: matt charcoal	N/A	Powder coated - colour: matt charcoal	N/A
IRONMONGERY	As per schedule	As per schedule	As per specifications	As per specifications	As per specifications	As per specifications	As per specifications
AREA	N/A	0m²	7.33m²	4.32m²	0m²	0m²	0m²

COLOUR TABLE

Usage	Application	Colour
ERVEN LOCATION		

ERF LEGEND

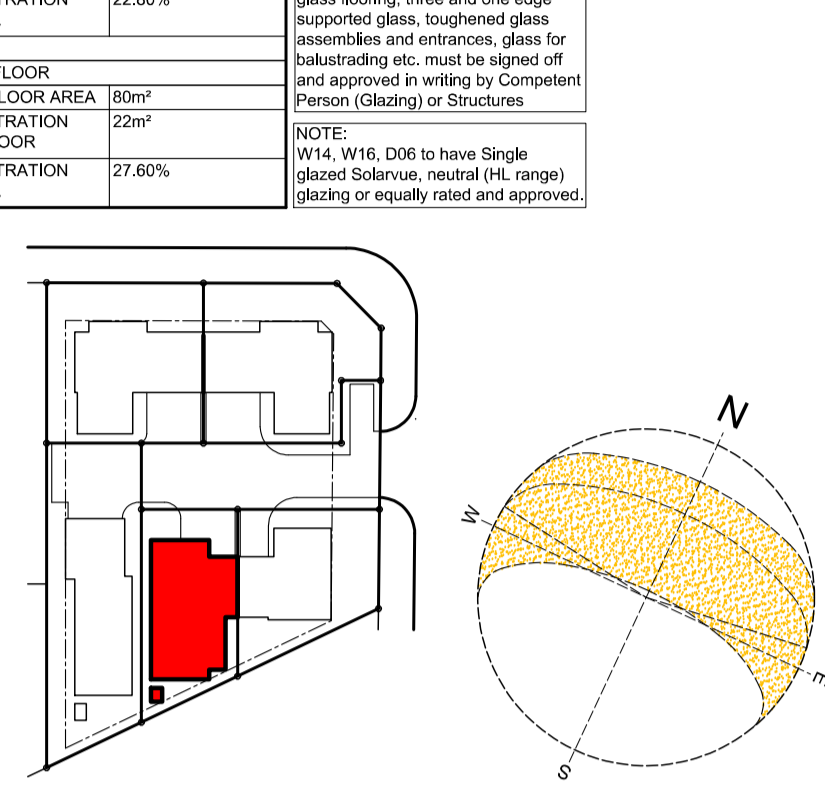
ERF NUMBER	D1 093
ERF SIZE	204m²
STREET NAME	Disa Street
MUN. DISTRICT	City of Cape Town
AREA / REGION	Durbanville
SUBURB NAME	Durbanville
SERVITUDES	N/A
ERF ZONING	General Residential 1
OCCUPANCY	H4
BUILDING LINES	As per Zoning scheme
HEIGHT ZONE	As per Zoning scheme
MAX COVERAGE	As per Zoning scheme

BUILDING ENVELOPE SPECIFICATIONS - FENESTRATION

CLIMATE ZONE	4
LOWEST FLOOR	NETT FLOOR AREA
FENESTRATION TO NFA	22.80%
FIRST FLOOR	NETT FLOOR AREA
FENESTRATION TO NFA	27.60%

NOTE: All glazing to be SIGU. All glazing to comply with SANS 10400 and to be tested according to SANS 913. All glazing to be installed with a SAGQA Certificate of Conformance by an AAMASA approved contractor or where in the case of external glazing in structures in excess of 10m in height, overhead or sloped glazing, glass flooring, three and one edge supported glass, toughened glass assemblies and entrances, glass for balustrading etc. must be signed off and approved in writing by Competent Person (Glazing) or Structures.

NOTE: W14, W16, D06 have Single glazed Solarium, neutral (H, range) glazing or equally rated and approved.



- NOTES -

GENERAL: Foundation of any boundary wall not to project beyond boundary line. FFL of house to be min. 300mm above NGL. All work to comply to SANS 10400 and National Building Regulations. All work to be in accordance to Local Authorities regulations and by-laws. Figured dimensions to be taken in preference to scaled dimensions. All levels and dimensions to be checked on site before building work commences. Contractor shall be deemed to have acquainted themselves with site conditions and make allowances in their tenders for all site development work.

FOUNDATIONS: Foundation mass concrete in-situ 1:4:5 nominal mix having a compressive strength of 10MPa at 28 days. Refer to sections for foundation size. Min. requirements, load bearing walls min 600 x 250mm and non load bearing wall min. 450 x 200mm. Foundation walls higher than 1m to be 340mm thick. Foundation walls higher than 1.5m to be in accordance with engineers specification.

WALL CONSTRUCTION: EXTERNAL - 270mm cavity wall construction - Smooth Plaster & Paint colour Sandstone cladding where indicated. INTERNAL - 110mm walls plastered and painted. Cavities in foundation walls to be filled with concrete. Weepholes laid on outside skin of cavity tray at 900mm C/C at floor level and above lintels. Wall ties built in every third brick course at 2.5m² of wall face area. 375 micron 300mm wide DPC to be built in around all door and window openings. 375 micron DPC (brickrig) stepped down into cavity tray at floor level and above precast concrete lintels. Precast concrete lintels over all door and window openings over 2m as to engineers specifications with 4 courses of brickwork over. Lintels to have end bearing of 230mm min. on each side well compacted in layers of max. 150mm before being built upon.

FLOOR CONSTRUCTION: MAIN FLOOR CONSTRUCTION: Selected tile floor finish as per client on min. 30mm screed on 75mm concrete floor slab on approved damp proof membrane on min. 60mm sand blinding on well compacted earth in intervals of 150mm (no clay). SUSPENDED FLOOR STRUCTURE: Floor finish as specified on plans on min 30mm screed on Pre cast concrete or in-situ suspended floor system and support all as per engineer specification. GARAGE FLOOR CONSTRUCTION: Screed floor finish on min. 30mm screed on 75mm concrete floor slab on approved damp proof membrane on min. 60mm sand blinding on well compacted earth in intervals of 150mm (no clay). BALCONY CONSTRUCTION: Floor finish as specified on plans on min. 30mm screed on duribloom torch-on waterproofing on screed to fall @ min. 1:100 fall on suspended concrete floor slab as per engineers specification. PAVING CONSTRUCTION: Interlocking profile paving: 220 x 110 x 65mm paving or as specified on plan on 50mm thick sand bedding on 150mm G3 crushed stone subbase, compacted to 95% mod. aasho on 300mm in-situ compacted to 97% mod. aasho.

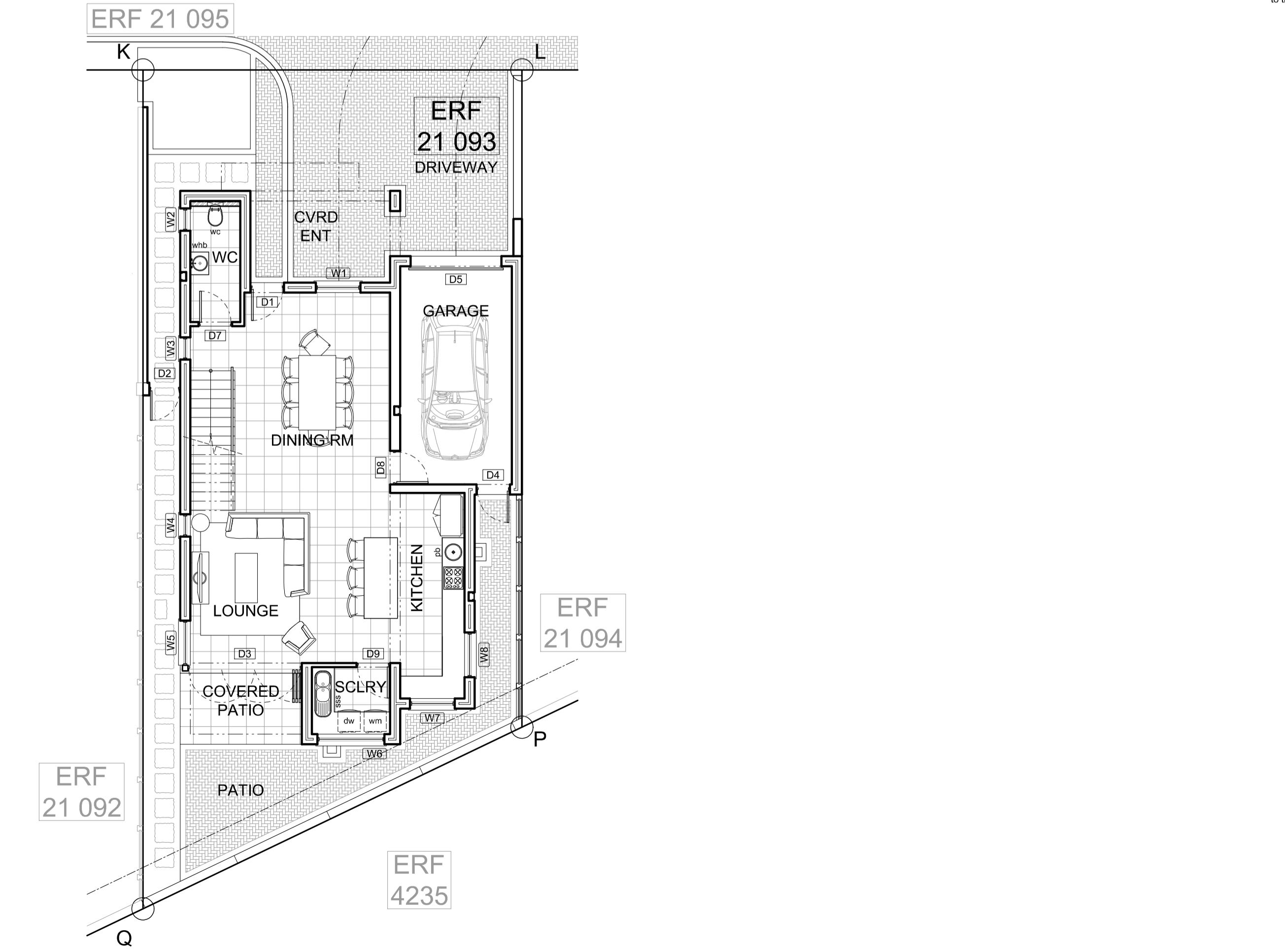
FACIAS: Notes: Cement facia boards, medium density (225 x 225mm) fixed to rafter ends. Facia joints to be used between facia lengths and at corners.

RAINWATER GOODS: Charcoal powder coated aluminium WaterTite OGEE gutters, 125 x 85mm domestic OGEE fixed to facia at rafter ends. Aluminium rectangular downpipes fixed to walls with downpipe clips as per manufacturer. Refer to roof plan for positions of downpipes/rainwater goods to match wall colour.

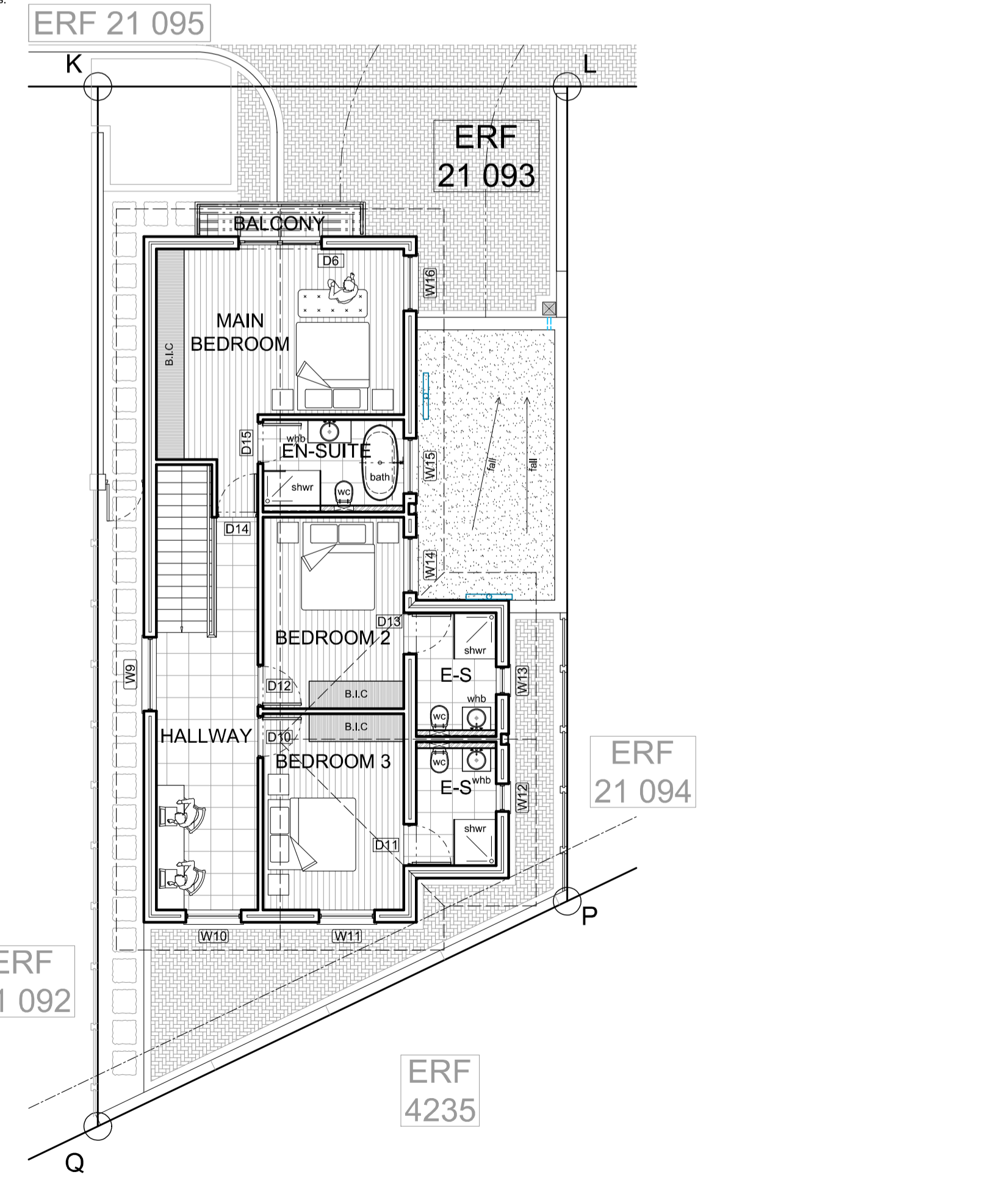
DRAINAGE: Hot and cold water to be provided to all washing facilities. All waste fittings to have 40mm dia. PVC waste pipes. All waste fittings to have 75mm dia. re-seal traps. Any foundation within 1250mm of sewerage run to be below such sewerage run. All soil fittings to have 110mm dia. PVC soil pipes. Gully rim to be 150mm above surrounding natural ground level. Crown of lowest trap to be 150mm above gully rim. First floor to be fitted with deep seal traps. All drainage to be in accordance with municipal regulations. Drainage to have min invert level of 450mm Vent valve at highest point overflow gully at lowest point. All underground pipes to be 110mm diameter uPVC pipes.

ROOF CONSTRUCTION: MAIN ROOF CONSTRUCTION: Soffit: 0.30mm thick, A2 150 ZincAl® Classicor® coated roof sheeting - Colour: Charcoal on 76 x 50mm SAP timber purlin cross-laid to intermediate timber purlins at @ 1200mm C/C max on Aeropik 125mm or equally approved underlay roof insulation as per suppliers specification on purpose made roof trusses (As per engineers design) Timber trusses to rest on 114 x 38mm timber wall plates and tied down to walls with 30 x 1.2mm gal. hoop iron straps built 7 down into wall. Diagonal bracing understore of rafters by specialist design. Refer to table for R-Value calculations. Roof pitch: 30° - Overhang: 600mm

CEILING: 6.4mm Gypsum ceiling board screw fixed @ 150mm c/c to at 38x38mm SAP timber bracing at 400mm C/C max. Joints covered with fatalbat, skimmed level and smooth, all as per manufacturer by specialist.



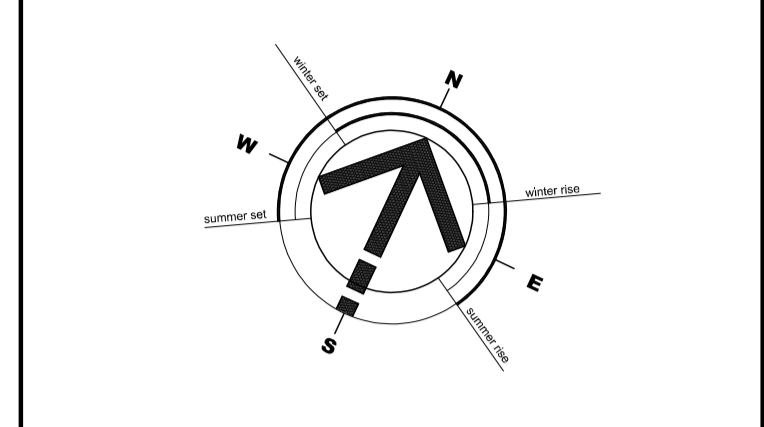
GROUND STOREY WINDOW AND DOOR PLAN
SCALE 1:100



FIRST STOREY WINDOW AND DOOR PLAN
SCALE 1:100

Notes

All requirements of municipal and other authorities concerned must be adhered to. Contractors and sub-contractors are to check all dimensions and levels on the site before commencing work. Figured dimensions have preference over scaled measurements and large scale details supercede small scale drawings. The design on this drawing is the property of JOHAN VAN ZYL ARCHITECTS, and is copyright.



Area

GROUND STOREY:	
Covered Entrance -	9.55m²
Covered Patio -	6.24m²
Living Area -	83.66m²
Garage -	20.58m²
Sub-Total:	120.03m²
FIRST STOREY:	
Living Area -	95.41m²
Grand Total -	215.44m²
Open Balcony Area -	2.77m²
ERF -	204.40m²
Coverage -	58.72%

Revisions

no	date	description

client signatures

for: johan van zyl architects

Project

PROPOSED NEW DWELLING FOR ERF NR 21 093 DISA STREET DURBANVILLE

Description

Window And Door Ground Storey Plan
Window And Door First Storey Plan
Window and Door Schedule
Specifications
Notes

Project no.

1250

JOHAN VAN ZYL architects
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tel: 021 975 8351
fax: 021 975 1387
sacap
7642

printed 03-08-2023

date	drawn
AUG 2022	sf
drawing no.	checked
1250/21093mun01_Page 3 of 4	juvz
scale	page size
1:100	A1
	revision

CITY OF CAPE TOWN
DEVELOPMENT MANAGEMENT

Recommended for Approval
Building Control Officer / Delegetee

This application has been approved in terms of Section 7 (1) (b) of Act 103 of 1977, subject to the conditions in the attached letter of approval.

01 Nov 2023
Date

Planning & Building
Development Management

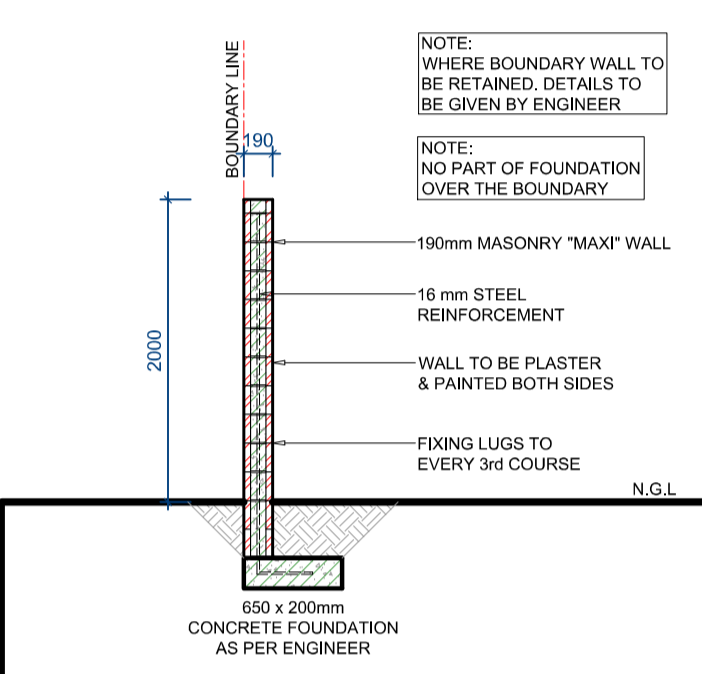
Approval Number: 0000317
Application Number: 001700494422

Stamps

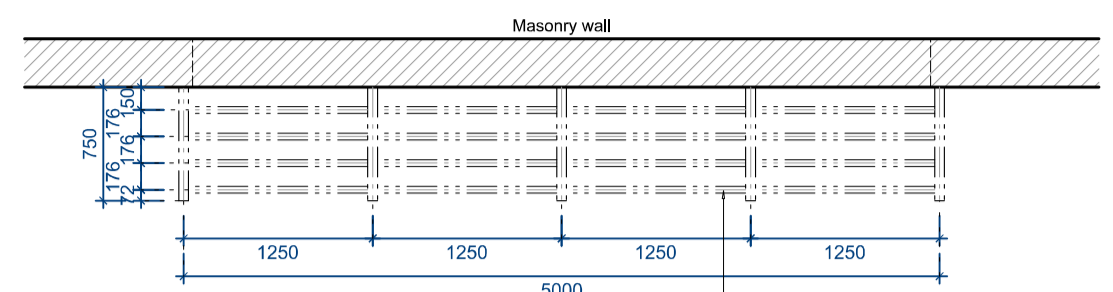
- NOTE:** V-Groove Drips to be constructed in all overhead beams and slabs.
- NOTE:** V-Groove in Plaster work between all concrete (beams, slabs & slabs) and masonry construction.
- NOTE:** Stainless steel chimney cowls to conform with guideline schedule.
- NOTE:** Boundary walls to be plastered and painted to match house.
- NOTE:** Window areas to be min. 10% of floor area with a minimum of 5% operable to comply with SANS 10400 part O.
- NOTE:** Drainage to have min invert level 450mm Vent valve @ highest joint Overflow gully @ lowest joint.
- NOTE:** No combustible material to be closer than 200mm from chimney flue.
- NOTE:** Boundary walls to comply with SANS 10400: Part K - Walls.
- NOTE:** TV aerials, satellite dish and other external items' positioned to be screened or concealed or placed out of site where practically possible.
- NOTE:** Kitchen layout as illustration only. Kitchen layout as per specialist.
- NOTE:** Extraction fan in kitchen above stove as per specialist.
- NOTE:** Splashback by whb, pb and sinks.
- NOTE:** Drainage must be connected to internal drainage system. A mainline to civil engineers specification to be constructed before connecting to the municipal sewer line.
- NOTE:** All rooms excluding store rooms have min. 10% natural lighting and min 5% natural ventilation as per SANS 10400 part O.
- NOTE:** All final measurements to be taken on site, before construction.
- REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR A MORE EXTENSIVE DESCRIPTION OF STRUCTURAL SERVICES.**
- REFER TO CIVIL ENGINEERS DRAWINGS FOR A MORE EXTENSIVE DESCRIPTION OF CIVIL SERVICES.**
- NOTE:** 1000mm min. high balustrade, openings in balustrade not to exceed 100mm, all as per SANS 10400, Part M.
- TREE REMOVAL:** Trees to be removed, with all roots and remaining vegetation. Excavation to be re-filled with Engineers specified soil type, compacted in layers of no more than 150mm to compaction strength specified by Engineer. Excavations deeper than 3m to be approved and consulted by Engineer.
- STORMWATER:** All building storm water to be taken from the roof to the ground & then via a 110mm uPVC pipes and concrete channels to the paved roadways as per civil engineers specs.
- NOTE:** Flashing and counter flashing as per specialist. All head wall and side wall flashing purpose made by specialist.
- NOTE:** No part of foundation to protrude past the boundary line.
- WATER CONSERVATION NOTE:**
- Schedule of water efficient shower heads & taps to be used.
- Water efficient dual-flush system (ballet) to be used.
- Dual flush cistern (toilet) with a 3 & 6l flush system.
- Shower heads with min. flow rate of 7l/m to be used.
- Metering taps at all wash hand basins.
- DRAINAGE PROTECTION NOTE:** SANS 10400, Part P 4.2.2.5 (a or b) precast or cast-in-situ concrete slabs placed over such drains, isolated from the crown of the pipe by a seal cushion not less than 100mm thick & such slabs shall be wide enough to prevent excessive superimposed loads being transferred directly to the pipes.
- NOTE:** New braai chimney/flue to have damper or flap that can be closed to the seal the chimney/flue as per SANS 10400 Part-XA clause 5.7.3.
- NOTE:** All glazing to be SIGU. All glazing to comply with SANS 10400 and to be tested according to SANS 613. All glazing to be installed with a SAGQA Certificate of Conformity by an ANANSA approved contractor or where in the case of external glazing in structures in excess of 10m in height, overhead or sloped glazing, glass flooring, three and one edge supported glass, toughened glass assemblies and entrance glass for balustrading etc. must be signed off and approved in writing by Competent Person (Glazing) or Structures.
- MECHANICAL VENTILATION:** Rooms with no ventilation to be provided with extractor fan extending 250 to outside of building.
- NOTE:** All stormwater to road via overhead piping or 75mm dia. spcc pipe.

ELECTRICAL LEGEND

	WALL MOUNTED LIGHT - 2000mm HIGH
	FOOT LIGHT
	CEILING LIGHT
	LOW VOLTAGE DOWN LIGHT
	FLUORESCENT TUBE LIGHT - DOUBLE 1500mm
	PENDANT LIGHT
	GARDEN LIGHT
	FOOT LIGHT
	LIGHT SWITCH - 1000mm High
	TWO-WAY LIGHT SWITCH - 1000mm High
	DIMMER LIGHT SWITCH - 1000mm High
	STOVE POINT
	DOUBLE PLUG POINT - 300mm High
	SINGLE PLUG POINT - 300mm High
	DOUBLE PLUG POINT 1100mm High
	SINGLE PLUG POINT 1100mm High
	TELEPHONE POINT
	TV POINT
	DISTRIBUTION BOARD
	PRE-PAY METER
	200L GEYSER OR LARGER
	SPEAKER POINT
	AIR CONDITIONER
	MOTION SENSOR FOOT LIGHT

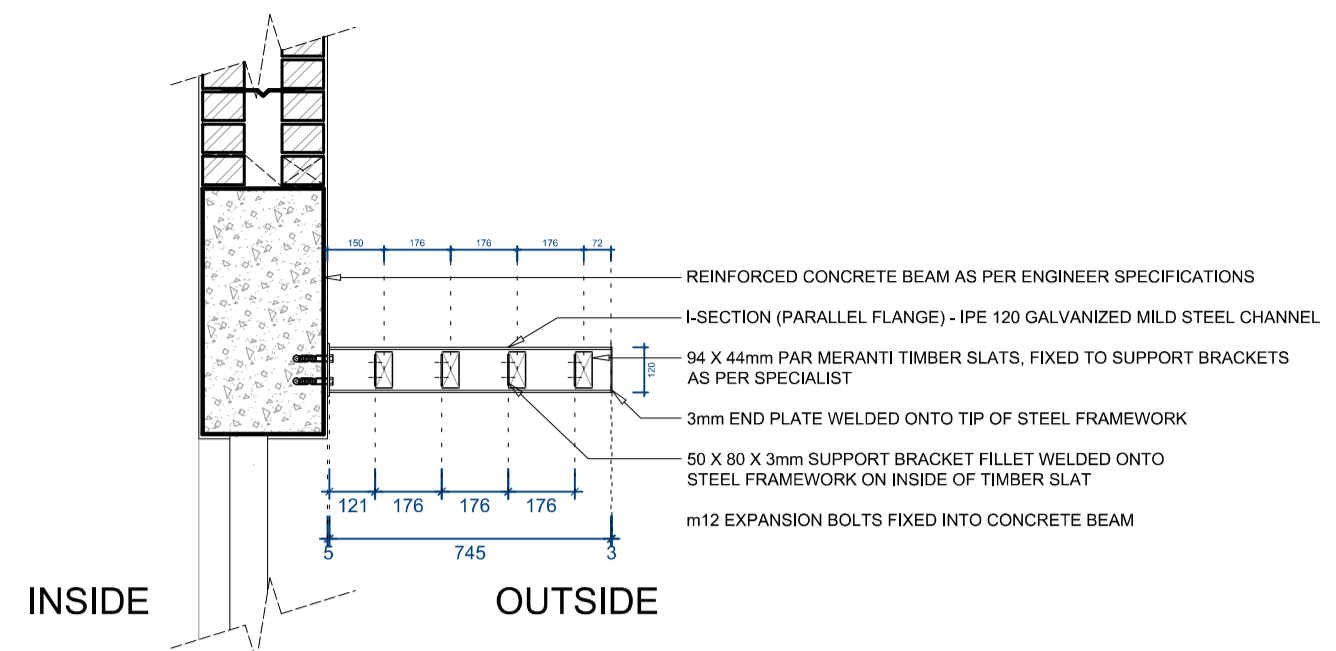


BOUNDARY WALL DETAIL
Scale 1:50

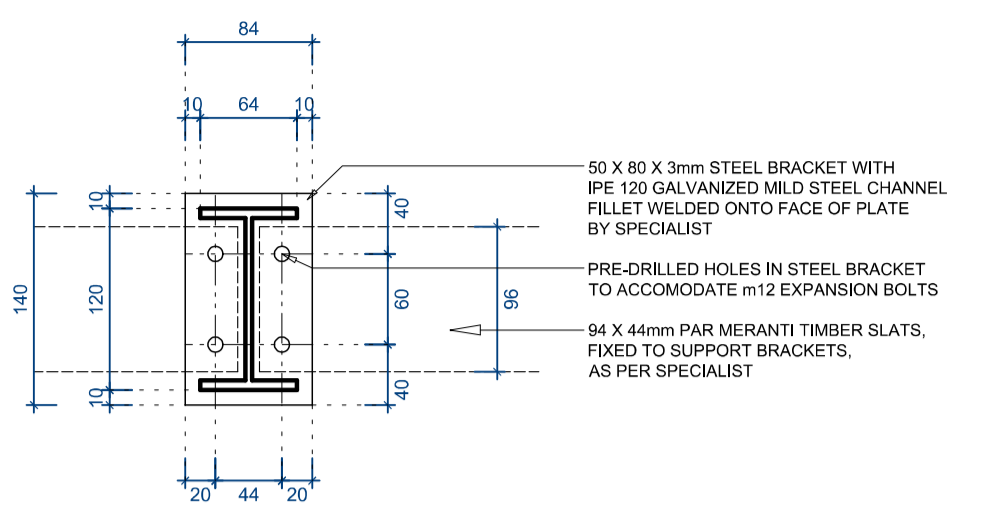


94 X 44mm PAR MERANTI TIMBER SLATS, FIXED TO 50 X 80 X 3mm SUPPORT BRACKET FILET WELDED ONTO STEEL FRAMEWORK ON INSIDE OF TIMBER SLAT. STEEL FRAMEWORK TO BE SECTION (PARALLEL FLANGE) - IPE 120 GALVANIZED MILD STEEL CHANNEL FIXED TO 5mm WALL BRACKET FIXED INTO CONCRETE BEAM WITH m12 EXPANSION BOLTS. 3mm END PLATE WELDED ONTO TOP OF STEEL FRAMEWORK.

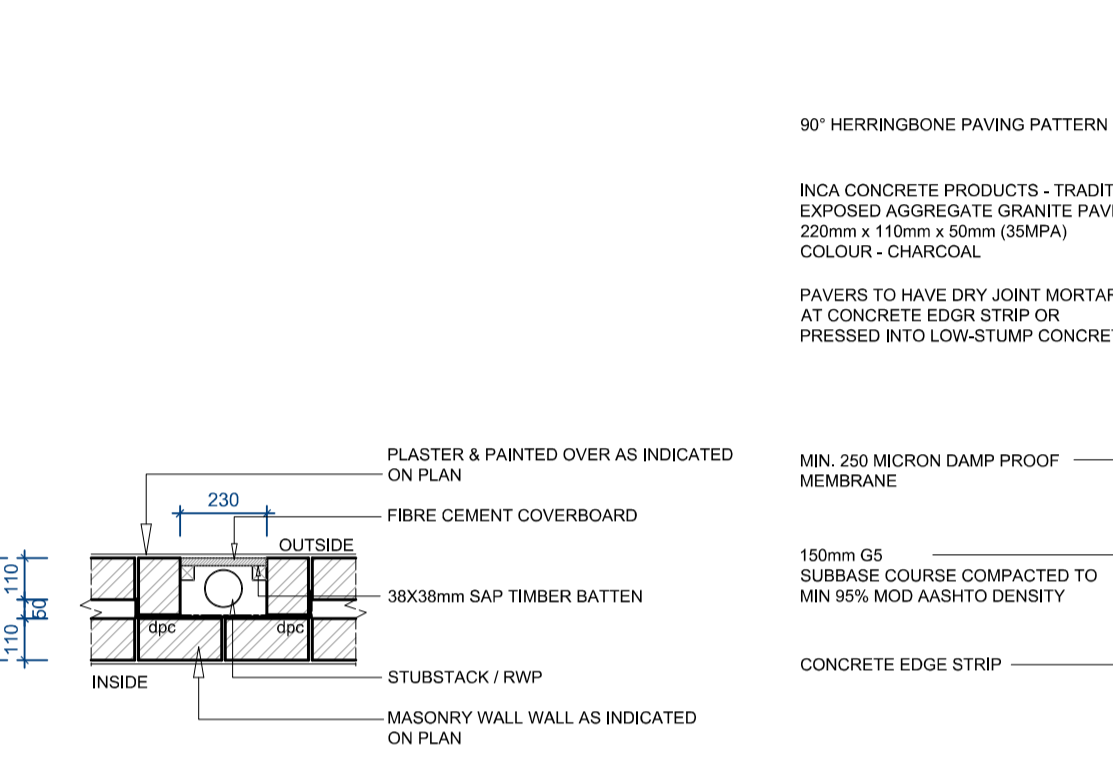
PERGOLA LAYOUT
SCALE 1:50



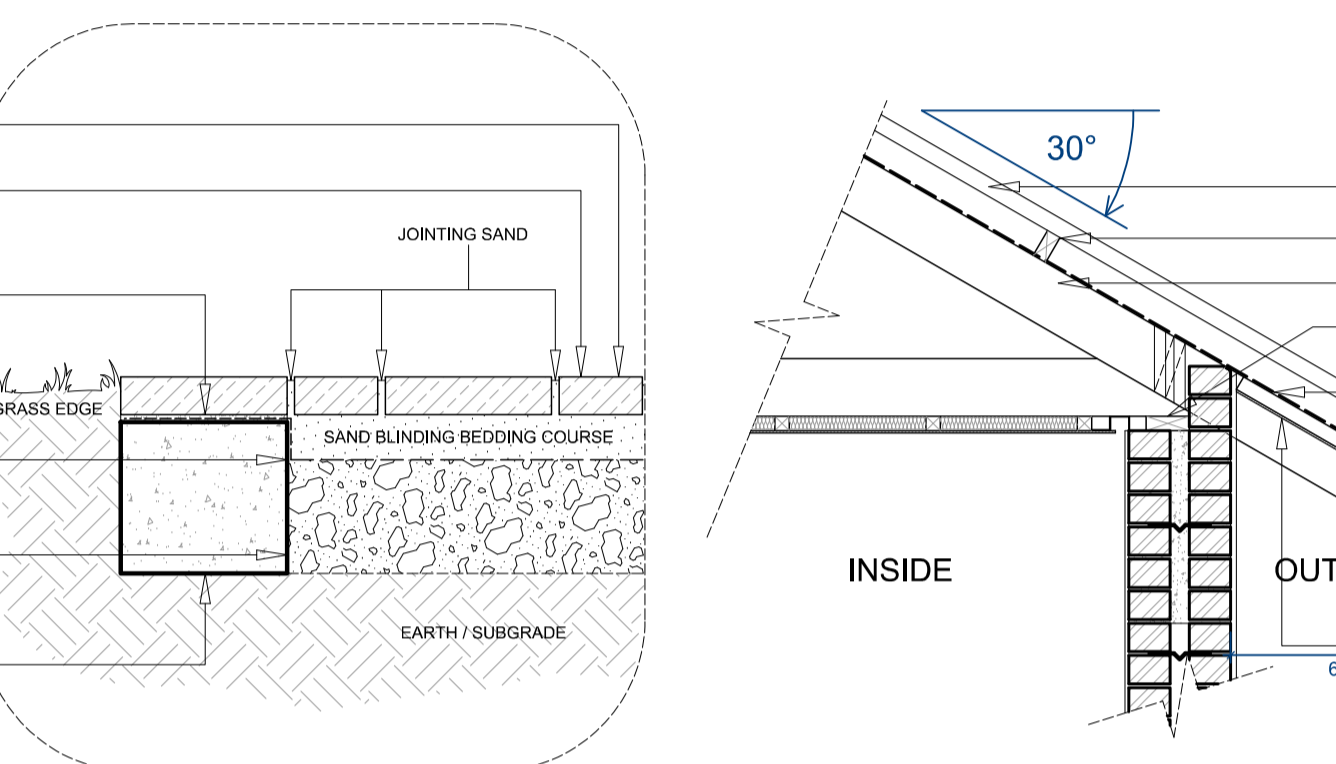
PERGOLA DETAIL
SCALE 1:20



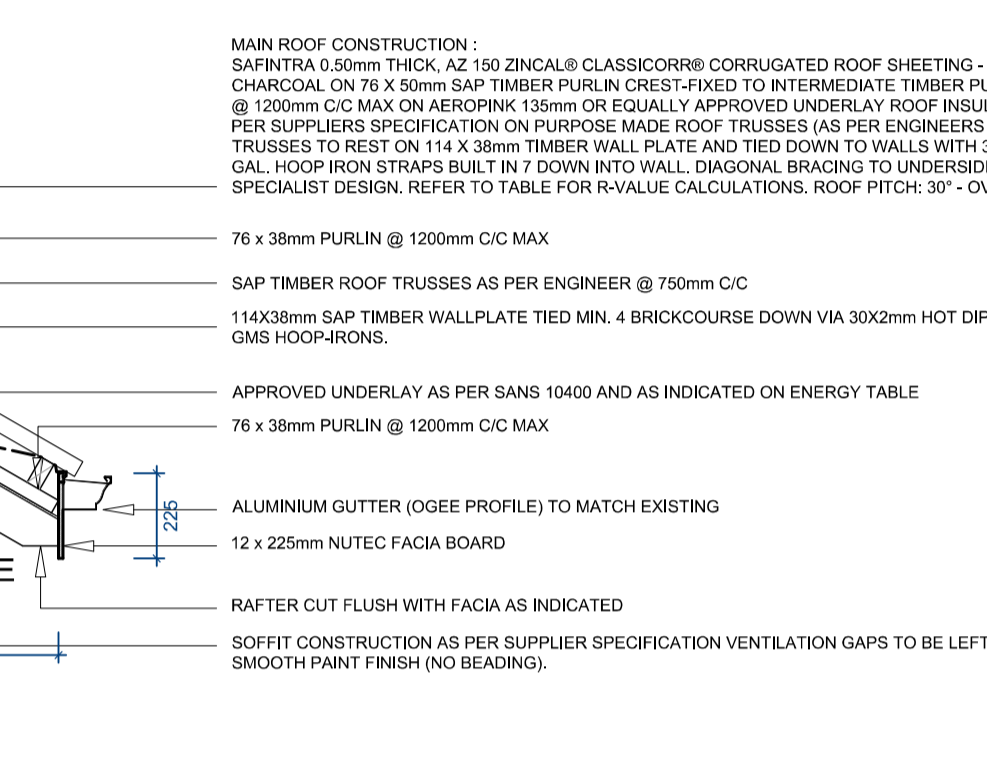
PERGOLA FIXING PLATE DETAIL
SCALE 1:5



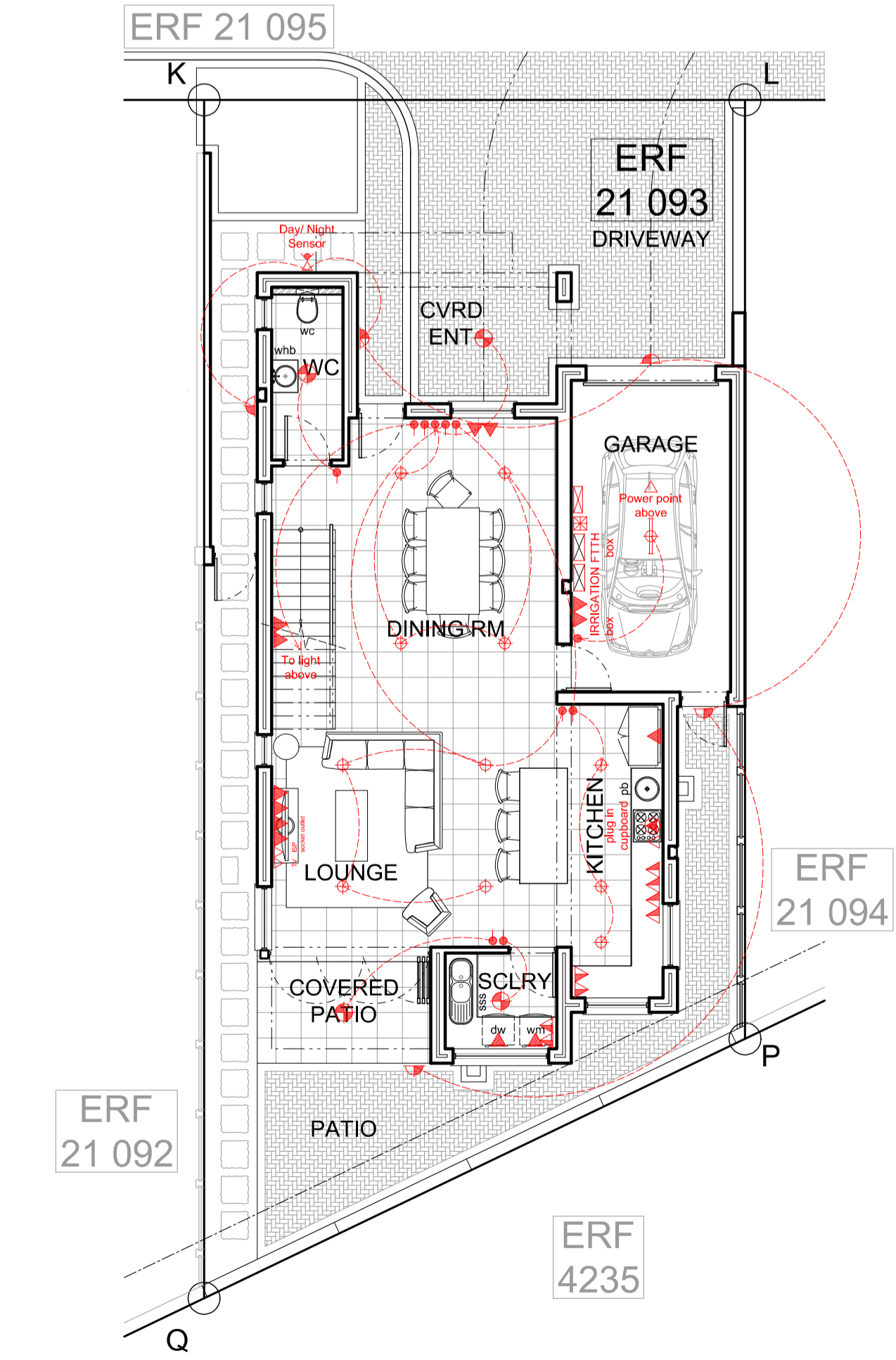
STUBSTACK DETAIL
SCALE 1:20



PAVING DETAIL
SCALE 1:10



EAVE DETAIL
SCALE 1:20



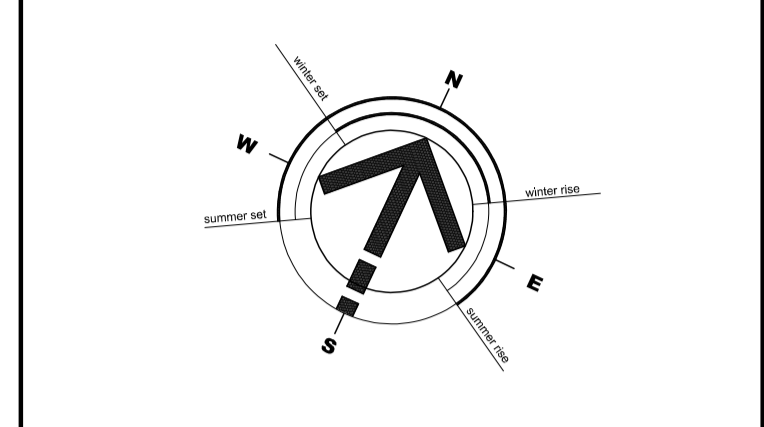
GROUND STOREY ELECTRICAL PLAN
SCALE 1:100



FIRST STOREY ELECTRICAL PLAN
SCALE 1:100

Notes

All requirements of municipal and other authorities concerned must be adhered to. Contractors and sub-contractors are to check all dimensions and levels on the site before commencing work. Figured dimensions have preference over scaled measurements and large scale details supercede small scale drawings. The design on this drawing is the property of JOHAN VAN ZYL ARCHITECTS, and is copyright.



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Grand Total -	215.44m²
Open Balcony Area -	2.77m²
ERF -	204.40m²
Coverage -	58.72%

Revisions

no	date	description

client signatures

for: johan van zyl architects

Project

PROPOSED NEW DWELLING FOR
ERF NR 21 093
DISA STREET
DURBANVILLE

Description

Ground Storey Electrical Plan
First Storey Electrical Plan
Details
Notes

Project no.

1250

JOHAN VAN ZYL
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date	drawn
AUG 2022	sf
drawing no.	checked
1250/21093Mun01_Page 4 of 4	juv
scale	page size
1:100	A1
	revision

Recommended for Approval
Building Control Officer / Delegetee



This application has been approved in terms of Section 7 (1) (a) of Act 103 of 1977, subject to the conditions in the attached letter of approval.

01 Nov 2023

Energy Efficiency In Buildings
by SP Energy



Section # reference
Planning & Building
Development Management

Project Details

Date

Printed from workbook: Erf 21 093 - DISA Street - XA Report - Rev A, 31 Jul 2023 08 46

Approval Number: 000031

Project Name

House Disa

Application Number: 001700494422

Cadastral Address

Erf 21 093 - Unit 3, C/O Disa & Protea Road, Durbanville

Client's Name

TBC

Architect

JVZ Architects

HVAC Engineer

N/A

Lighting Engineer

N/A

Take-off professional

N/A

Compliance Route

Prescriptive route of Regulation XA3(a)

Occupancy:

Dwelling houses

H4

Occupancy hours/day:

Dwelling houses

24

Occupancy days/week:

Dwelling houses

7

Number of floors in the building/site

2

Number of units/flats in the building/site

Dwelling houses

2

Stipulated occupancy density measurement units per m2 or per bedroom or per building

persons/bedroom

Dwelling houses

2.00

For occupancy "Domestic residences" insert number of bedrooms or zero if not this occupancy

3

For occupancy "Domestic residences" insert number of staff bedrooms or zero

0

The calculated occupancy using the stipulated occupancy density

6

Occupancy total

Occupancy number for the proposed building if deviating from the Regulatory Stipulations for Rational Designs only

4

City

Look up the Town/City for siting the proposed building

Cape Town

Province

The Province is provided

Western Cape

Latitude

The city/town latitude is provided

33.915

Longitude

The city/town longitude is provided

18.423

Energy Zone:

The Energy Zone is selected automatically

4

2 Building Total Floor Areas:



Floor/storey areas (m2)	Net Floor Area
Ground Storey	89
First Storey	80
Second Storey	0
Third Storey	0
Fourth Storey	0
Total	169

Orientation



Orientation of Windows/Longer Axis	South East
Exact orientation relative to north of major axis (clockwise degrees from North are negative numbers anti-clockwise are positive)	10

ORIENTATION REQUIREMENTS OF SANS 10400-XA PLACE NO CONSTRAINT



3 Building Envelope Specifications - Floors

Building Control Floors in contact with ground:

This application has been approved in terms of Section 24(4) of Act 103 of 1977, subject to the conditions in the attached letter of approval.

01 Nov 2023
Date
Planning & Building
Development Management

Approval Number: 000031

Application Number: 001700404422

Select description of level from drop-downs below	Input	Notes to input requirement
Ground floor concrete slab-on-ground	Yes	Is the lowest floor "slab on ground"?
Area of basement or ground floor slab on ground (m2)	89	If "yes" measure the area of slab on ground
First floor - concrete slab-on-ground	Yes	Is this floor "slab on ground"?
Area of first floor slab on ground (m2)	80	If "yes" measure the area of slab on ground
Second floor -concrete slab-on-ground	No	Is this floor "slab on ground"?
Area of second floor slab on ground (m2)	0	If "yes" measure the area of slab on ground
First floor - concrete slab-on-ground	No	Is this floor "slab on ground"?
Area of first floor slab on ground (m2)	0	If "yes" measure the area of slab on ground
Ground floor concrete slab-on-ground	No	Is this floor "slab on ground"?
Area of ground floor slab on ground (m2)	0	If "yes" measure the area of slab on ground

In-slab heating to be provided	Input	Heated floor measured insulation requirement
Measure the ground floor area served by underfloor heating	0	m ²
Measure the first floor area served by underfloor heating	0	m ²
Measure the second floor area served by underfloor heating	0	m ²
Measure the third floor area served by underfloor heating	0	m ²
Measure the fourth floor area served by underfloor heating	0	m ²

Heated slab on ground added insulation requirements:

Basement or ground floor in contact with ground:	Input	Notes to input requirement
Ground floor - Under Floor Insulation R-value installed	0.00	Min. insulation R-value: 1,0 & refer SANS 10400-XA para 5.4.1
Area of slab on ground with insulation below	0.00	
Under Floor Insulation complies	Not applicable	
Ground or first floor in contact with ground::	Input	If "Not applicable" then the slab need not be insulated as it is either unheated or is not slab-on-ground; and if "Non-compliant" then the area of insulation is inadequate or perhaps a too low R-value of insulation is added.
Ground floor - Under Floor Insulation R-value installed	0.00	
Area of slab on ground with insulation below	0.00	
Under Floor Insulation complies	Not applicable	
Second floor in contact with ground::	Input	
Level 3 - Under Floor Insulation R-value installed	0.00	
Area of slab on ground with insulation below	0.00	
Under Floor Insulation complies	Not applicable	
Third floor in contact with ground::	Input	
Level 4 - Under Floor Insulation R-value installed	0.00	
Area of slab on ground with insulation below	0.00	
Under Floor Insulation complies	Not applicable	
Level 5- Under Floor Insulation R-value installed	0.00	
Area of slab on ground with insulation below	0.00	
Under Floor Insulation complies	Not applicable	

SLABS ON GROUND COMPLY WITH REQUIREMENTS OF SANS 10400-XA IF ABOVE TESTS CONFIRM

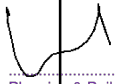


Exposed/Suspended Floor areas (m2)	Insert the measured area of the suspended floors which have unenclosed spaces below which might NOT be insulated in the fields below but only by way of a Rational Design	Area of exposed suspended floor slab required to be insulated	Suspended floors can form the ceiling to an uncontrolled garage/storage area. These must be measured for energy modelling purposes. Measure separately the insulated portion of this floor as required below for the Prescriptive requirement.
Ground Storey	0	10	Exposed suspended floor areas are floors which have an uncontrolled area/volume below them, and this exposed (ceiling) area is required to be insulated. It is a Prescriptive requirement that exposed floors areas are insulated. In colder parts of the RSA i.e. Energy Zones 1,2,6&7 will require Total R-value=1.5m2K/W and Energy Zones 3,4,5 & 5H will require R=1.0m2K/W.
First Storey	0	0	
Second Storey	0	0	
Third Storey	0	0	
Fourth Storey	0	0	

Suspended floor insulation requirements:

Any floor which is exposed to the elements and is not slab on ground will be classified as a Suspended floor in terms of the standard	Energy Zone	Required minimum Total R-value	
Required level of Total R-value for Energy Zone	4	1.00	
Insert a Floor Level label:	First floor/Soffit to garage	Selected heat flow direction	Down
Floor assembly components (Select from drop-down menu)		Insert element Thickness (mm)	Total R-value
Inner surface resistance			0.15
Floor finish	Ceramic tiles	6	0.00
Insulation	Extruded polystyrene	30	1.00
Air-space	None		0.00
Insulation	None	0	0.00
Structural layer	Sand cement screed	30	0.04
Insulation	None	1	0.00
Inner covering	Concrete - reinforced	200	0.13
Indoor air film (still air):			0.05
Total R-value			1.32
Slab thermal resistance requirement complies with Total R-value for Energy Zone			Complies

SUSPENDED FLOORS COMPLY WITH REQUIREMENTS OF SANS 10400-XA IF ABOVE TESTS CONFIRM

This application has been approved in terms of Act 103 of 1977, subject to the letter of approval.  Planning & Building Development Management Approval Number: 0000317 Application Number: 001700494422	Building Envelope Specifications - Walls Building Control	Description and R-value of walls Energy Zone of Section 7 (1) (a) for project in the attached	4	Standard construction	Either Standard Construction or Category 1 rules in the application of the National Building Regulations are selected
	Wall category selected in drop-downs to right	High mass >=270kg/m2	A walling category is chosen from the three categories available	Category complies	
	The minimum Total R value required for this category of wall in this Energy Zone is: Date: 01 Nov 2023	0.6	The minimum Total CR value required for this category of wall in this Energy Zone if applicable:	n/a	
	A common High Mass wall type or if not High Mass - None selected	None selected	A wall type is selected from the list of wall types in either one of the two drop-down lists to the left or alternatively the last option reflects a bespoke wall	#N/A	
	A common Low Mass wall type or if not Low Mass - None-selected	None selected		Not applicable	
Build up your own wall in the next section below with its description opposite on the right or insert in cell E16 the word "None"	Outer Wall	Set out the description of the wall and the total R-value on the floor plan drawings if it is to be built.	Complies		

Primary walling system constructed and detailed below

Wall Description	Outer Wall	Layer thickness in mm	Added Thermal Resistance	Added Area Density	Added thermal capacity
Alternatively insert: None					
Layer contributing thermal resistance	Selected material	Outer surface resistance	0.05	0	0
Outer protection	Sand & cement plaster	15.0	0.02	22.50	18.00
Outer insulation	None	0.0	0.00	0.00	0.00
Structural layer	Clay or Cement brick	110.0	0.13	200.86	192.83
Air-space	Sealed steel roof - airspace flat to 45° with double sided reflective foil liners - heat flow down		1.12	0.00	0.00
Structural layer	Clay or Cement brick	110.0	0.13	200.86	192.83
Insulation	None	0.0	0.00	0.00	0.00
Structural layer	None	0.0	0.00	0.00	0.00
Insulation	None	0.0	0.00	0.00	0.00
Inner covering	Sand & cement plaster	15.0	0.02	22.50	18.00
Indoor air film (still air) Surface Resistance # Density # Thermal capacity of wall			0.11	0.00	421.65
Total R-value # Total Mass/m ² # Total CR-value			1.58	447	185
Required R-value or CR-value			0.6	If less than 270kg/m ² then Low Mass otherwise High Mass	n/a
			Meets R-value	High mass >=270kg/m ²	Not applicable
Complies					

Secondary walling system construct and detailed below

Wall category selected in drop-downs to right	Low mass <270kg/m2	Category complies	Chose a walling category from the three categories offered in the dropdown to the left		
The minimum Total R value required for this category of wall in this Energy Zone is automatically selected opposite on the right:	1.9	The minimum Total CR value required for this category of wall in this Energy Zone is automatically selected on the right if applicable:	80		
Wall description	0	Layer thickness in mm	Added Thermal Resistance		Added thermal capacity
Layer contributing thermal resistance	Selected material	Outer surface resistance	0.05	0	0
Outer protection	None	0.0	0.00	0.00	0.00
Outer insulation	None	0.0	0.00	0.00	0.00
Structural layer	None	0.0	0.00	0.00	0.00
Air-space	None		0.00	0.00	0.00
Structural layer	None	0	0.00	0.00	0.00
Insulation	None	0	0.00	0.00	0.00
Structural layer	None	0	0.00	0.00	0.00
Insulation	None	0	0.00	0.00	0.00
Inner covering	None	0	0.00	0.00	0.00
Indoor air film (still air) Surface Resistance # Density # Thermal capacity of wall			0.11	0	0
Total R-value or Total Mass/m ² or Total CR-value			0.16	0	0
Required R-value or CR-value			1.9	If less than 270kg/m ² then Low Mass otherwise High Mass	80
			Does not meet R-value	Low mass <270kg/m ²	Does not meet CR-value
Not compliant					

WALL ASSEMBLY COMPLIES WITH REQUIREMENTS OF SANS 10400-XA IF ABOVE TESTS CONFIRM

5	Building Envelope specifications - Roofs	Sheet metal roof @ low pitch with plasterboard ceiling & insulation
Building Control Officer / Delegetee Primary Roof Construction description on 7 (1) (a)		
This application is submitted to the Building Control Officer / Delegetee on 01 Nov 2023. This application is in terms of Act 103 of 1977, subject to the conditions in the attached letter of approval.		
Climate Zone target R-value:	3.70	Notes to the requirements
Heat flow direction:	up	
Net floor area of ground floor covered by primary roofing material (m ²)	0.00	The maximum R-value and direction of heat flow follow on from the climate zone selected as per SANS10400XA (4.4.5) Apportion the NFA of each floor between primary, secondary and tertiary roof areas for each for energy modelling purposes.
Net floor area (First floor) covered by primary roofing material (m ²)	80.00	
Net floor area (Second floor) covered by primary roofing material (m ²)	0.00	
Net floor area (Third floor) covered by primary roofing material (m ²)	0.00	
Net floor area (Fourth floor) covered by primary roofing material (m ²)	0.00	

Planning & Building Development Management
Approval Number: 000031
Application Number: 001700

Roof Assembly component	Thickness (mm)	R-value
Outer surface resistance		0.05
Outer protection	Profiled metal	18.0
Outer insulation	None	0.0
Air-space	Horizontal to 45° sealed air space - reflective foil liners - heat flow up	0.55
Insulation	Cellulose fibre (15kg/m3)	120.0
Insulation	None	0.0
Structural layer	None	0.0
Inner covering	Plasterboard	9.0
Indoor air film (still air):		0.09
Total R-value		3.74
Complies		

Secondary Roof Construction description	None	
Climate Zone target R-value:	3.70	Notes to the requirements
Heat flow direction:	up	
Net floor area of ground floor covered by secondary roofing material (m ²)	0.00	The maximum R-value and direction of heat flow follow on from the climate zone selected as per SANS10400XA (4.4.5) Apportionment of the NFA of each floor between primary, secondary and tertiary roof areas for each
Net floor area (First floor) covered by secondary roofing material (m ²)	0.00	
Net floor area (Second floor) covered by secondary roofing material (m ²)	0.00	
Net floor area (Third floor) covered by secondary roofing material (m ²)	0.00	
Net floor area (Fourth floor) covered by secondary roofing material (m ²)	0.00	

Roof Assembly component	Thickness (mm)	R-value
Outer surface resistance		0.05
Outer protection	Derbigum or polymeric mastic	0.0
Outer insulation	Expanded polystyrene (15kg/m3)	0.0
Air-space	None	0.00
Insulation	Cellulose fibre (15kg/m3)	0.0
Insulation	None	0.0
Structural layer	Concrete - reinforced	0.0
Inner covering	Plasterboard	0.0
Indoor air film (still air):		0.09
Total R-value		0.14
Non-compliant		

Notes to specifier:
Steel rafters to have a thermal break between rafter and metal roof sheeting of a material with an R value of not less than 0.2.

Tertiary Roof Construction description	None	
Climate Zone target R-value:	3.70	Notes to the requirements
Heat flow direction:	up	
Net floor area of ground floor covered by tertiary roofing material (m ²)	0.00	The maximum R-value and direction of heat flow follow on from the climate zone selected as per SANS10400XA (4.4.5) Apportionment of the NFA of each floor between primary, secondary and tertiary roof areas for each
Net floor area (First floor) covered by tertiary roofing material (m ²)	0.00	
Net floor area (Second floor) covered by tertiary roofing material (m ²)	0.00	
Net floor area (Third floor) covered by tertiary roofing material (m ²)	0.00	
Net floor area (Fourth floor) covered by tertiary roofing material (m ²)	0.00	

Roof Assembly component	Thickness(mm)	R-value
Outer surface resistance		0.05
Outer protection	None	0.0
Outer insulation	None	0.0
Air-space	None	0.00
Insulation	None	0.0
Insulation	None	0.0
Structural layer	None	0.0
Inner covering	None	0.0
Indoor air film (still air):		0.09
Total R-value		0.14
Non-compliant		

Notes to specifier: Steel rafters to have a thermal break between rafter and metal roof sheeting of a material with a thickness equal to the thermal insulation.

ROOF ASSEMBLY COMPLIES WITH REQUIREMENTS OF SANS 10400-XA IF ABOVE TESTS CONFIRM

CITY OF CAPE TOWN
DEVELOPMENT MANAGEMENT

SP ENERGY

6 Building Envelope Specifications - Roof Lights		#2	#3	#4	#5	#6	#7	#8
Roof Light dimensions	1	1	1	1	1	1	1	1
Height	0	0	0	0	0	0	0	0
Width	0	0	0	0	0	0	0	0
Roof-light area	0	0	0	5	0	0	0	
Area served	0	0	0	0	0	0	0	
% RL/Area served	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Approval Number: 0000317	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
U-value required	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Application SHGC req: 0.700494422	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Enter U-value achieved	1.00	1.00	3.00	1.00	1.00	3.00	3.00	
Enter SHGC Achieved	1.00	3.00	3.00	1.00	1.00	3.00	3.00	
Compliance indicator	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

ROOF LIGHTS COMPLIES WITH REQUIREMENTS OF SANS10400XA IF ABOVE TESTS CONFIRM

7 Building Design - Sealing of fenestration and doors		Maximum permissible Air Leakage in L/m2/s:	Requirements	Notes to input and prescriptive requirements: The prescriptive performance fenestration requirement for overall window and door leakage as per paragraph 5.3.7 shall comply with SANS 613
Openable Glazing	2	Openings with gaskets tested	All windows and doors opening into the habitable space are to be tested as conforming to the minimum leakage requirements except if part of a Rational Design and energy modelling which can find alternative means of saving energy wasted via air infiltration and ex-filtration. The intention of the standards writer may be that opaque doors may simply need to be sealed with untested gaskets.	
Non-Openable Glazing	0.306	Openings with gaskets tested		
Glazed double action swing doors and Revolving doors	5	Openings with gaskets tested		
Opaque doors	2	Doors with gaskets tested or not		
Translucent elements and opaque openings are in compliance with the standard		Complies		The prescriptive performance fenestration requirement for overall window and door leakage are met if the compliance message indicates
Building envelope constructed to minimise air leakage		Yes		The building envelope is to be constructed so as to minimise air leakage. The chimney is also constructed so as to minimise unnecessary draughts and loss of conditioning air in occupied spaces. This is as per the prescriptive provisions of paragraphs 5.7.1, 5.7.2, 5.7.3 and 5.7.4.
Ceiling voids, attics, wall-plates and roof junctions sealed, plus tile underlays or radiant barriers except for EZ5H.		Yes		
Chimneys or flues of solid fuel burning appliances to be provided with damper or flap..		Yes		
Building envelope sealing are in compliance with the standard		Complies		The prescriptive requirement for the overall building envelope are met if the compliance message indicates

8 Building Design - Services - Lighting		SP ENERGY				
Total Nett Floor Area (m2):		169				
Total Gross Floor Area (m2):						
Class of occupancy of building	Occupancy	Lighting Power Density (W/m2)				
H4	Dwelling houses	4				
Max Energy Demand (W):		676				
Minimum Lighting Level as per SANS10114 (Lux)		100				
Internal Lamping	Lamp Efficacy Lumen/Watt	Lamp Power (W) rating:	No. of lamps for building	Connected load (W)	Lumens	The planned number of lighting fittings and their wattage for each broad technology type is shown below. The lux levels shown indicate the adequacy of lighting levels and compliance with the SANS10114 and Occupational Safety requirements. Lamping needs to be split between external and internal lamps.
LED	80	20	4	80	6400	
LED	80	6	44	264	21120	
LED	80	9	4	36	2880	
LED Linear	80	36	2	72	5760	
LED	80	0	0	0	0	
LED	80	0	0	0	0	
LED	80	0	0	0	0	
External Lamping	Lamp Efficacy Lumen/Watt	Lamp Power (W) rating:	No. of lamps for building	Connected load (W)	N/A	
LED	80	30	8	240		
LED	80	0	0	0		
LED	80	0	0	0		
Combined internal & External lighting power density /Lux levels				4.09	213.96	
Lighting Power Density and Illuminance compliance is indicated				Non-compliant	Complies	

LIGHTING REQUIREMENTS COMPLIES WITH SANS 10400XA IF ABOVE TESTS CONFIRM

9		Building Services - Hot Water		SP ENERGY	
<p>This application has been approved in terms of section 7 (1) (b) of Act 103 of 1977 (Project Occupancy Dwellings) subject to the attached letter of approval.</p> <p>Building Control Officer / Delegation Date: 01 Nov 2023</p> <p>Planning & Building Development Management Approval Number: 000377</p> <p>Application Number: 001704942</p>		<p>Regulations for Prescriptive compliance</p>		<p>H4</p>	
<p>Selection of sub-occupancies and daily hot water usage</p>		<p>All other - detached houses</p>		<p>As per Table 10 of SANS10400XA</p>	
<p>Stipulated per capita hot water usage per Table 10 of SANS10400XA</p>		<p>115</p>		<p>As per Table 10 of SANS10400XA</p>	
<p>Occupancy as determined using Table 2 of Reg A21</p>		<p>6.00</p>		<p>Stipulation for Prescriptive & Performance routes</p>	
<p>Stipulated per capita hot water storage using Table 10 of SANS10400XA</p>		<p>75</p>		<p>Solar water heaters are to have 50% more storage volume than other technologies</p>	
<p>Stipulated daily hot water consumption using Table A21 occupancy density</p>		<p>690</p>		<p>Stipulation for Prescriptive & Performance routes</p>	
<p>Stipulated minimum total hot water storage using Table 10 of SANS10400XA</p>		<p>450</p>		<p>Stipulation for Prescriptive & Performance routes</p>	
<p>Input specified volume of solar water heater or heat pump here if following the prescriptive route</p>		<p>450</p>		<p>Complies</p>	
<p>Regulation XA2 limits resistance heating to 50% of hot water usage by volume and stipulated volumes ensure this requirement is met</p>					
<p>Input the required energy output of specified solar water heater (MJ/day) as per SANS1307 to exceed 0.1 of stored volume above, but not greater than 0.15 of stored volume.</p>		<p>60</p>		<p>Complies</p>	
<p>Q-Factor per SANS6211 output @16MJ insulation</p>					
<p>For Rational Designs using the Reference Building method the fields below can be utilised for input</p>					
<p>The Energy Efficiency ratio of the Reference Building is calculated in the block below</p>					
<p>Number of persons as per client design requirement if different</p>		<p>4</p>		<p>Reference Building Rational Design only</p>	
<p>Daily consumption of 60C water (L/Cap/day) for Rational Design</p>		<p>460</p>		<p>Reference Building Rational Design only</p>	
<p>Design total minimum hot water storage using design occupancy (L)</p>		<p>300</p>		<p>Reference Building Rational Design only</p>	
<p>Design total minimum heating power to match hot water storage using design occupancy (MJ)</p>		<p>30</p>		<p>SANS1307 storage to heating power ratio.</p>	
<p>Number of persons per 10 square meter of floor area</p>		<p>0</p>		<p>Input to Bsimac energy model to instate the occupancy density</p>	
<p>Mean annual input mains water temperature</p>		<p>19</p>		<p>Regional mean ambient mains (°C)</p>	
<p>Required storage temperature and delivered water temperature</p>		<p>60</p>		<p>Below 60 °C health issues</p>	
<p>Selected standing & piping losses percentage</p>		<p>25</p>		<p>% - Recommended to be 25% even for well insulated systems</p>	
<p>Energy output/Heat content of water used at 60C (MJ) - design occupancy</p>		<p>79</p>		<p>Delivered energy</p>	
<p>Energy input per day for facility inclusive of losses based on above % loss</p>		<p>106</p>		<p>Required daily energy input by solar water heater or gas or heat pump</p>	
<p>Solar fraction % - This will be the savings achieved unless a larger volume and heating power is selected.</p>		<p>38</p>		<p>Keep to 50-80% to avoid under or over-heating</p>	
<p>Energy Efficiency Ratio (EER) for a minimum solar water heater</p>		<p>0.62</p>		<p>The input to the Bsimac energy model for the base case (Reference Building)</p>	
<p>In the section below the Rational Design parameters are input for improved Solar Water Heaters and are evaluated</p>					
<p>Input intended design storage volume</p>		<p>200.00</p>		<p>Storage volume for solar or heat pump</p>	
<p>Select size (m²) solar collector to match selected hot water storage</p>		<p>5 20.00</p>		<p>Likely Q-Factor per SANS6211 output @16MJ insulation for this size collector</p>	
<p>Meets the minimum or limiting maximum tested energy output of specified solar water heater @16MJ insulation(MJ/day) as per SANS1307</p>		<p>Complies</p>		<p>Q-Factor is in range to prevent under or over heating if complies</p>	
<p>Energy Zone average insolation levels</p>		<p>17.33</p>		<p>Refer SANS10252 data for average insolation levels</p>	
<p>Energy output for all units specified as above with adjustment for average solar insolation of locality and ground water temperatures</p>		<p>21.66</p>		<p>MJ</p>	
<p>Number of such units installed</p>		<p>1.00</p>		<p>Installed with timers</p>	
<p>Solar fraction % - This will be the savings achieved</p>		<p>20.47</p>		<p>Keep to 50-80% to avoid under or over-heating</p>	
<p>Energy Efficiency Ratio (EER) for the design solar water heater</p>		<p>0.80</p>		<p>The input to the Bsimac energy model for the base case (Reference Building)</p>	
<p>In the section below the Rational Design parameters are input for Heat Pumps and are evaluated</p>					
<p>Heat pump Co-efficient of Performance at 20C ambient/15C input and 60C output is input as an achievable average annual performance</p>		<p>n/a</p>		<p>Standing losses are built in and an average CoP of 2.0 for reheat is assumed</p>	
<p>Volume of storage to be specified (L)</p>		<p>n/a</p>		<p>The higher the stored volume the less is the reheat volume and time taken to recover to 60C</p>	
<p>Heat pump output at average ambient operating conditions taken as 20C ambient/15C input and 60C output hot water (kW)</p>		<p>n/a</p>		<p>Many heat pumps will not produce 60C water and must be ruled out as 53C water does not provide a high enough mixed warm water in winter</p>	
<p>Number of such units installed</p>		<p>n/a</p>		<p>Preferably Installed with timers to prevent reheating at sub-optimal conditions</p>	
<p>Insert an acceptable reheat time (hours)</p>		<p>n/a</p>		<p>SANS10252 Table 5 acceptable reheat time for electric geysers is 4h. This may be far too lenient for heat pumps. Suggested not more than 2h.</p>	
		<p>#VALUE!</p>		<p>The fraction of total energy input/heating requirement which pertains to reheat volume is limited to the reheat time. A non-compliance will register if the reheat time exceeds the acceptable reheat time entered</p>	
<p>Energy input for unit operating under normal conditions for the stored volume and at a CoP of 2.0 for the reheat volume (MJ)</p>		<p>#VALUE!</p>		<p>Ratio of energy output to energy input</p>	
<p>Energy Efficiency ratio of heat pump (EER)</p>		<p>#VALUE!</p>		<p>This electrical input fraction (EER) is input to the Bsimac model</p>	
<p>Heat pump compliance</p>		<p>#VALUE!</p>		<p>A heat pump with EER>0.50 may be OK on a volume basis</p>	
<p>Minimum level of pipe insulation for R-value added</p>					
<p>Hot water pipe work to have thermal insulation of minimum R-value (m²K/W)</p>		<p>1.00</p>		<p>Compliance with the pipe-insulation requirements will necessitate 21mm closed-cell nitrile rubber to be installed on smaller pipework. Alternative insulations such as mineral wool and polyurethane foam also present for larger projects. Insert the R-value installed and note the detailing on the Water</p>	
		<p>Compliant</p>			

HOT WATER REQUIREMENTS COMPLIES WITH REGULATION XA2 IF ABOVE TESTS CONFIRM

Recommended for Approval

11. Building Services - HVAC specifications...

Building Control Officer / Delegetee



This application is recommended for approval in terms of the Building Control Act of Act 103 of 1977, subject to the conditions in the attached letter of approval.

Building Occupancy terms of Ventilation requirements as per Part O of National Building Regulations

Dwelling houses	Naturally ventilated	Yes	If NO then SANS10400 Part O mechanical ventilation requirements will need to be observed
01 Nov 2023	Openable windows greater than 5% of Gross floor area	Yes	The minimum acceptable percentage of floor area to be openable window in terms of SAN10400 Part O
Required ventilation rate in L/s/capita		0	Insert this artificial ventilation rate into the Bsimac energy model
Natural ventilation in L/s/m ²		0.5	Insert this natural ventilation rate into the Bsimac energy model

Planning & Building Development Management
Approval Number: 0000317
Application Number: 001700494422

		Complies	
	Mechanical cooling employed	The specification envisaged set out below	Notes to input requirement
	The cooling equipment capacity can be determined by running the the Peak Load Cooling report in Bsimac	7	The necessary capacity of mechanical cooling to be installed in kW can be read off from the Bsimac cooling capacity output once the shell and occupancy factors are entered.
	Select the type of HVAC system and cooling capacity range to be specified from the list	Through-the-wall consoles	The minimum level of cooling efficiency CoP _n is required as per Table 13 of SANS opposite on the right hand side.
	Required Co-efficient of Performance for cooling	2.8	This figure to be provided to the HVAC equipment supplier for a technical specification and needs to be input to the base case energy model
	Specified Co-efficient of Performance required for the improved Rational Design if known otherwise insert the Required value above right	2.8	This figure to be provided to the HVAC equipment supplier as the improved acceptable cooling equipment specification.
	Cooling efficiency of design complies	Complies	If no cooling equipment is installed then the notional cooling basis of evaluation can show that the building complies. Compliance is also indicated if the improved cooling equipment is
	Mechanical heating employed	Specification envisaged set out below	Notes to input requirement
	The heating equipment capacity can be determined by running the the Peak Load Cooling report in Bsimac	6	The necessary capacity of mechanical heating to be installed in kW can be read off from the Bsimac cooling capacity output once the shell and occupancy factors are entered.
	Select the type of HVAC system and heating capacity range to be specified from the list	Through-the-wall consoles	The minimum level of heating efficiency CoP _n is required as per Table 13 of SANS opposite on the right hand side.
	Required Co-efficient of Performance for heating	1	This figure to be provided to the HVAC equipment supplier for a technical specification and needs to be input to the base case energy model
	Specified Co-efficient of Performance required for the improved Rational Design if known otherwise insert the Required value above right	1	This figure to be provided to the HVAC equipment supplier as the improved acceptable heating equipment specification.
	Heating efficiency of design complies	Complies	If no heating equipment is installed then the notional heating used can be a basis of evaluation to shows that the building complies. Compliance is also indicated if the improved cooling equipment is to be installed for extra energy savings for a Rational Design.

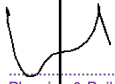
HEATING VENTILATION AND COOLING Complies if the above is confirming

12 Building Design - Shading of translucent windows and doors in summer and winter



Building Control Officer / Delegation

This application has been approved in terms of Section 7 (1) (a) of Act 103 of 1977, subject to the letter of approval.



Planning & Building Development Management

Approval Number: 0000317

Application Number: 001700494422

Summary of average astronomical summer shading of fenestration East through North to West					It is suggested that Energy Zones 1,2,4,6 and 7 require 80% of noon winter sunshine to be available on the Winter solstice and the summer shading is therefore set at 80% of area weighted average shading			
Floor indicator	Date	Calculated average shading multiplier per floor achieved	Required astronomical summer shading multiplier	Summer shading compliant to 80% of weighted average shading requirement	Aggregate average projection value per floor [P _{agg}]	Aggregate average shading device height [h+g _{agg}]	Aggregate average length between lintel and shading device height [g _{agg}]	Sum of average height of window per floor [h _{av}]
Level1	01 Nov 2023	0.36	0.54	Summer shading is compromised	2.64	7.26	4.56	2.70
Level 2		0.21	0.54	Summer shading is compromised	1.37	6.41	2.02	4.38
Level 3		#DIV/0!	0.54	#DIV/0!	0.00	0.00	0.00	0.00
Level 4		#DIV/0!	0.54	#DIV/0!	0.00	0.00	0.00	0.00
Level 5		#DIV/0!	0.54	#DIV/0!	0.00	0.00	0.00	0.00
Summary of average winter solstice shading achieved from fenestration East through North to West					It is suggested that only Energy Zones 1,2,4,6 and 7 require 80% of noon winter sunshine to be available on the Winter solstice			
Energy Zone	4	Latitude	33.915	Requires winter shading	Adequacy of winter shading device to allow 80% of available sunlight			
Floor indicator	P/(0.2h+g) ratio	Incident angle to glass subtended by distance g and 20% of window height	Maximum Incident angle of shading device to vertical on the winter solstice	Requires winter shading	The methodology use in this section is to aggregate the average shading projections for each of five possible orientations of glass (from east through north to west)and to compare these with the aggregate average height of the shading devices per elevation.			
Level1	0.52	27.37	56.40	Winter shading is adequate	The angular difference between the vertical centreline of a window and the (maximum) winter solstice incident angle (90-β) should be less than the angle subtended by the actual shading device for winter solar radiation at noon for any northerly azimuth, such as to show that more than 80% of solar radiation is penetrating the glass at this hour.			
Level 2	0.47	25.37	56.40	Winter shading is adequate	If the condition P/(g+0.2*H) is less than Tan(90-β) and β is the Angle of Incidence of Winter Solstice then the 80% rule is satisfied.			
Level 3	#DIV/0!	#DIV/0!	56.40	#DIV/0!	There is no winter compliance requirement. The suggestion is made in the standard that free winter heating should be designed to be utilised.			
Level 4	#DIV/0!	#DIV/0!	56.40	#DIV/0!				
Level 5	#DIV/0!	#DIV/0!	56.40	#DIV/0!				

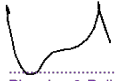
GROSS SHADING OF FENESTRATION COMPLIES WITH SUGGESTIONS REGARDS SUMMER & WINTER SHADING OF SANS10400XA IF ABOVE TESTS CONFIRM



Recommended for Approval

Building Control Officer / Delegetee

This application has been approved in terms of Section 7 (1) (a) of Act 103 of 1977, subject to the conditions in the attached letter of approval.



01 Nov 2023

GLAZING ELEMENTS : FACTOR & CO-EFFICIENT SUMMARY

Erf 21 093 - Unit 3, C/O Disa & Protea Road, Durbanville

Planning & Building
Development Management

Date

Glazing Elements

Approval Number: 0000317

Application Number: 001700494422

Glazing Element	Sector	Shading				Solar Exposure	Energy Constants			Multipliers			
		U-value	SHGC	Projection (P)	Height (H)		Height (G)	P/H	Factor (E)	C _A	C _B	C _C	Heating S _H
Ground Storey W01	North West	5.80	0.50	2.550	2.100	0.000	1.214	0.290	#####	#####	#####	0.020	0.350
Ground Storey W02	South West	5.80	0.50	0.780	5.031	2.931	0.078	0.960	#####	#####	#####	1.000	1.000
Ground Storey W03	South West	5.80	0.50	0.780	5.031	2.931	0.078	0.960	#####	#####	#####	1.000	1.000
Ground Storey W04	South West	5.80	0.50	0.780	5.031	2.931	0.078	0.960	#####	#####	#####	1.000	1.000
Ground Storey W05	South West	5.80	0.50	0.780	5.031	2.931	0.078	0.960	#####	#####	#####	1.000	1.000
Ground Storey W06	South East	5.80	0.50	0.780	5.479	3.979	0.071	0.780	#####	#####	#####	1.000	1.000
Ground Storey W07	South East	5.80	0.50	0.090	5.160	4.560	0.009	0.870	#####	#####	#####	1.000	1.000
Ground Storey W08	North East	5.80	0.50	0.090	5.160	4.560	0.009	1.080	#####	#####	#####	1.000	1.000
Ground Storey D03	South East	5.80	0.50	2.000	2.400	0.000	0.833	0.380	#####	#####	#####	0.630	0.560
First Storey W09	South West	5.80	0.50	0.780	2.100	0.000	0.371	0.710	#####	#####	#####	0.860	0.810
First Storey W10	South East	5.80	0.50	0.780	3.188	1.088	0.122	0.740	#####	#####	#####	0.995	0.990
First Storey W11	South East	5.80	0.50	0.780	3.188	1.088	0.122	0.740	#####	#####	#####	0.995	0.990
First Storey W12	North East	5.80	0.50	0.090	2.180	0.080	0.041	1.080	#####	#####	#####	1.000	1.000
First Storey W13	North East	5.80	0.50	0.090	2.460	0.660	0.018	1.080	#####	#####	#####	1.000	1.000
First Storey W14	North East	3.40	0.45	0.780	2.100	0.000	0.371	0.630	#####	#####	#####	0.875	0.775
First Storey W15	North East	5.80	0.50	0.780	1.500	0.000	0.520	0.510	#####	#####	#####	0.740	0.625
First Storey W16	North East	3.40	0.45	0.780	2.100	0.000	0.371	0.630	#####	#####	#####	0.875	0.775
First Storey D06	North West	3.40	0.45	0.780	4.321	1.921	0.090	1.130	#####	#####	#####	1.000	1.000

Signature:
Responsible Person:
Registration No:



JOHAN VAN ZYL
7642