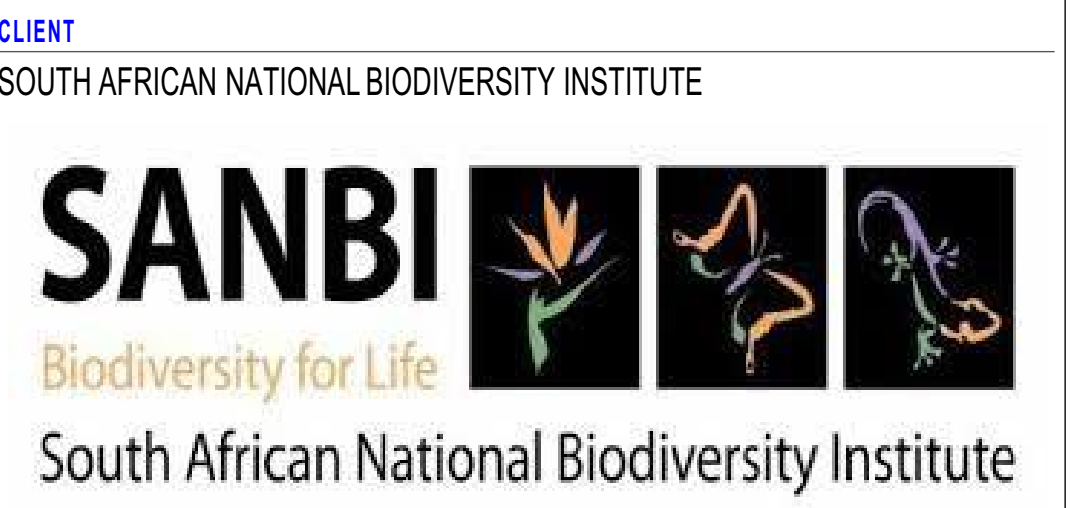


LOCATION PLAN



REVISIONS

PROJECT CONSULTANT
PROJECTNEERS CONSULTING ENGINEERS & PROJECT MANAGERS

PROJECT CONSULTANT
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| DRAWING CHECKS | | | |
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| DESIGNED BY | DESIGN CHECKED BY | DRAWN BY | DRAWING CHECKED BY |
| N.K.MPOFU | B.TSHUMA | S. ZUNGU | J. DAVIDSON |

APPROVAL CONSULTANT
NAME: MROSEN

| | | |
|------|-----------------|---|
| DATE | PROJECT NO. AND | THE MASTER HELD AT THE PROJECT ENGINEERING CONSULTING/NO. 2002 OFFICE BEARS THE ORIGINAL SIGNATURE OF APPROVAL. |
|------|-----------------|---|

PROJECT NAME

ASSESSMENT, DESIGN & PROJECT MANAGEMENT OF REQUIRED NEW BUILDINGS & REPAIRS, RENOVATIONS & UPGRADES TO VARIOUS INFRASTRUCTURE ASSETS IN THE THOHOYANDOU BOTANICAL GARDEN, THOHOYANDOU, & NATIONAL ZOOLOGICAL GARDEN CAMPUSES BASED IN PRETORIA & MOKOPANE

SITE
THOHOYANDOU BOTANICAL GARDENS

ARCHITECTURAL

| | |
|-----------------|--|
| CONTRACT NUMBER | |
| G306/2018 | |

| |
|-------------|
| FILE NUMBER |
| ZA2018_2008 |

| DRAWING NUMBER | | | | | | | | | | SHEET NO |
|-------------------------------------|------|------|-----------|--------|------|------|-----------|-----|--|----------|
| DIS | DATE | YEAR | PROJ. NO. | CLIENT | SITE | ROLE | DATE, NO. | REV | | |
| PJN_ZA_2022_2002_SANBI_TBG_ARC_2004 | | | | | | | | | | A0 |



New Roofing Sheets With Double Sided Aluminium High Quality Reflective Foil
Insulation/Sisalation Under On Timber Purlins On Timber Trusses To Engrn's Design-
0.8mm Thick Galvanised Steel IBR Profile Roofing Sheet: 36mm Deep By 172mm
Pitch, With Exposed Fixing.Prepainted Metal Sheets In Accordance With SANS 1845.
Colour Dove Grey Or Similar SAnd Approved.SANS 10237 Roof & Side Cladding

Roof insulation- 135mm thick Aerolite or similar approved light weight thermal ceiling insulation. 12kg/m³, closely fitted with ends butted firmly between tie beams and laid loose on top of bracing between roof timbers, all in accordance with manufacturer's recommendations

SKIMMED GYPSUM CEILING-10mm thick gypsum plastered ceiling boards (to comply with SABS 266-1982 or later revision) installed with longer lengths to suit room configurations with 'Wire Scrim Tape' fixed over all joints and plastered with 6 mm thick light weight hemi-hydrate gypsum painted, polished and finished with 3 No. coats of super PVA external quality paint; colour to P.A.'s approval. Ceiling to be fixed to timber bracing with all necessary accessories to strict manufacturer's specifications.

Evalast or Similar approved Cladding profiles On
Steel Purlins On Steel Structure To Engrn's Design

200 x 150 mm Gutters: 0.6mm chromadek steel gutter laid in 32 x 3.5mm mild steel strip, hot galvanised brackets and fixed with sheradised screws. Lap sheet metal gutter lengths > 20mm & sealed with suitable over full lap. Lay gutters in brackets to slight fall to outlets nailed to roof timbers at 2m maximum centres with 200mm diameter chromadek downpipe fixed to wall with holderbats, with downpipes riveted and silicone sealed to gutter outlets, including necessary bends, elbows, shoes etc to manufacturers specification



ROOF PITCH 15 DEGREES

New Roofing Sheets With Double Sided Aluminium High Quality Reflective Foil
Insulation/Sisalation Under On Timber Purlins On Timber Trusses To Engrnr's Design-
0.8mm Thick Galvanised Steel IBR Profile Roofing Sheet: 36mm Deep By 172mm
Pitch, With Exposed Fixing.Prepainted Metal Sheets In Accordance With SANS 1845.
Colour Dove Grey Or Similar SAnd Approved.SANS 10237 Roof & Side Cladding

Roof insulation- 135mm thick Aerolite or simila approved light weight thermal ceiling insulation. 12kg/m³, closely fitted with ends butted firmly between tie beams and laid loose on top of branderling between roof timbers, all in accordance with manufacturer's recommendations

SUSPENDED ALUMINIUM CEILING PANELS; 600mm x 600mm x 15mm Acoustic ceiling Panels', OR EQUAL AND APPROVED, suspended lay-on electrolised- galvanized steel metal pan ceiling tiles with smooth white colour finish surface pattern, installed complete with W-profile perimeter trims, hangers and 24mm suspension T-grids.

Evalast or Similar approved Cladding profiles On Steel Purlins
On Steel Structure To Engnr's Design
Precast Conc Coping with DPC under

300mm Thick Rc Beam poured to enginrs detail

200 x 150 mm Gutters: 0.6mm chromadek steel gutter laid in 32 x 3.5mm mild steel strip, hot galvanised brackets and fixed with sheradised screws. Lap sheet metal gutter lengths > 20mm & seal with suitable over all lap. Lay gutters in brackets to slight fall to outlets nailed to roof timbers at 2m maximum centres with 200mm diameter chromadek downpipe fixed to wall with holderbats, with downpipes riveted and silicone sealed to gutter outlets, including all necessary bends, elbows, shoes etc to manufacturers specification

SKIMMED GYPSUM CEILING-10mm thick gypsum plastered ceiling boards (to comply with SABS 266-1982 or later revision) installed with longer lengths to suit room configurations with 'Wire Scrim Tape' fixed over all joints and plastered with 6 mm thick light weight hemi-hydrate gypsum painted, polished and finished with 3 No. coats of super PVA external quality paint, colour to P.A.'s approval. Ceiling to be fixed to timber bracing with all necessary accessories to strict manufacturer's specifications.



1m High Mild
steel Anti climb

reinforced concrete foundation to erng's- details to suit the specific site condition

- reinforced concrete foundation
- to ermg's details to suit the specific site condition
- 300mm High Raised Timber decking Display Platform

Porcelain floor finish on 30mm screed on 100mm surface bed on 250 micron dpm on 100mm thick Floor Insulation Board on 50mm sand bed on well compacted soil in layers of 150mm to eng's detail

100mm Thick Extruded
Polystyrene Insulation Floor
Board or similar approved
Insulation board

New Roofing Sheets Under On Steel Purlins On Steel Trusses To Engr'n's Design-0.8mm Thick Galvanised Steel IBR Profile Roofing Sheet: 36mm Deep By 172mm Pitch, With Exposed Fixing.Prepainted Metal Sheets In Accordance With SANS 1845. Colour Dove Grey Or Similar SAnd Approved.SANS 10237 Roof & Side Cladding

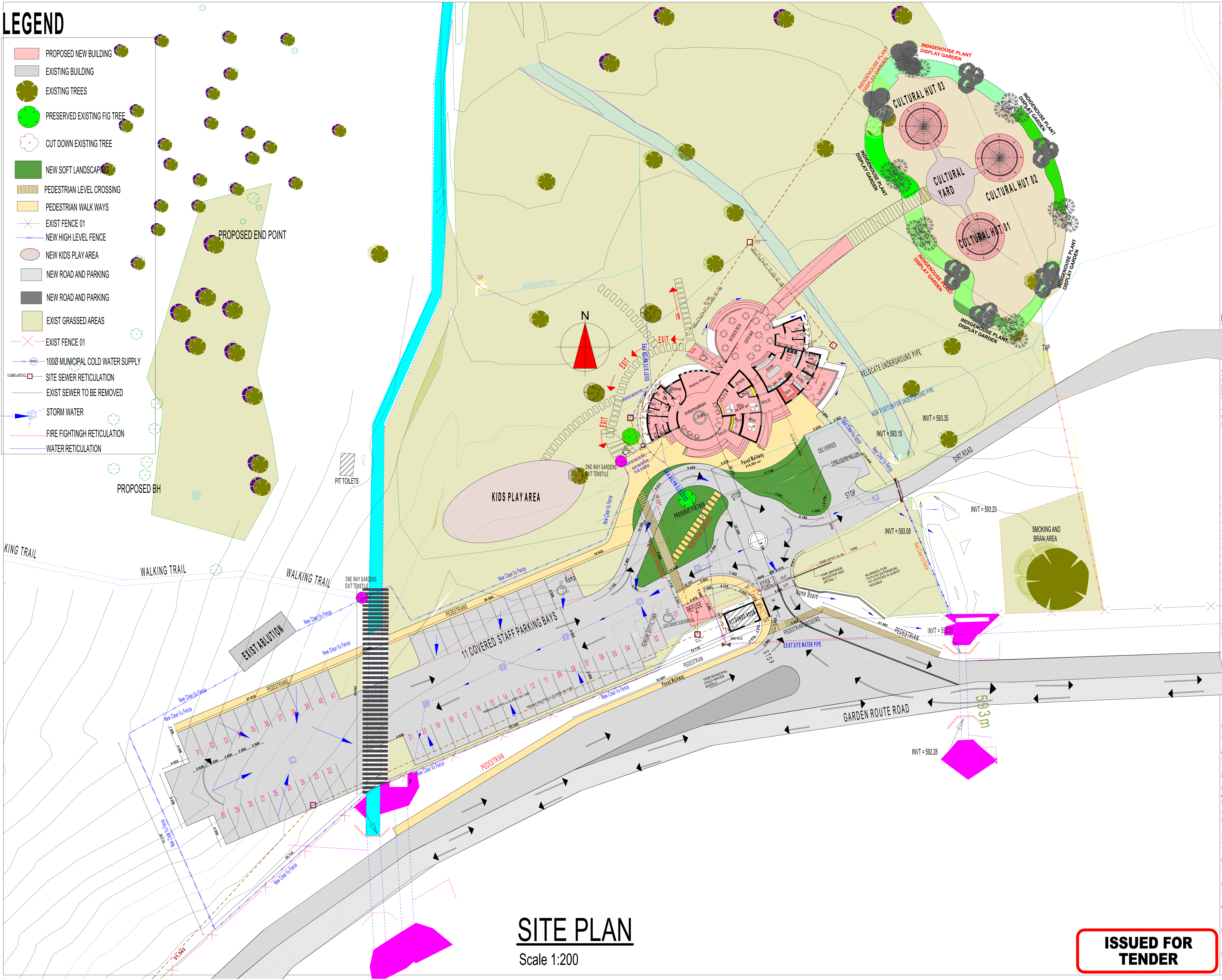
Evalast or Similar approved Cladding profiles On Steel
Purlins On Steel Structure To Engrn's Design

| | |
|--|---------|
| 150 x 100 mm Gutters: 0.6mm chromadek steel rwd | +3.000 |
| 64x75mm Evalast pegola feature | 1 Story |

**ISSUED FOR
TENDER**

LEGEND

- PROPOSED NEW BUILDING
- EXISTING BUILDING
- EXISTING TREES
- PRESERVED EXISTING FIG TREE
- CUT DOWN EXISTING TREE
- NEW SOFT LANDSCAPING
- PEDESTRIAN LEVEL CROSSING
- PEDESTRIAN WALK WAYS
- EXIST FENCE 01
- NEW HIGH LEVEL FENCE
- NEW KIDS PLAY AREA
- NEW ROAD AND PARKING
- NEW ROAD AND PARKING
- EXIST GRASSED AREAS
- EXIST FENCE 01
- 1000 MUNICIPAL COLD WATER SUPPLY
- SITE SEWER RETICULATION
- EXIST SEWER TO BE REMOVED
- STORM WATER
- FIRE FIGHTING RETICULATION
- WATER RETICULATION



SITE PLAN

Scale 1:200

NOTES

LOCATION PLAN



CLIENT
SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

SANBI
Biodiversity for Life
South African National Biodiversity Institute

| REV NO. | DATE | DESCRIPTION |
|---------|------------|---|
| R01 | 2022-09-12 | change of traditional hut specifications |
| R02 | 2022-09-20 | INTRODUCE VESI WASH STAINLESS STEEL SINK IN KITCHEN |
| R02 | 2022-09-20 | CHANGE ROOF SLAB TO BR CHROMIUM OXIDE SCULLERY AREA ON ROOF PLAN & SECTIONS |
| R01 | 2022-09-12 | ISSUED FOR REVIEW. |

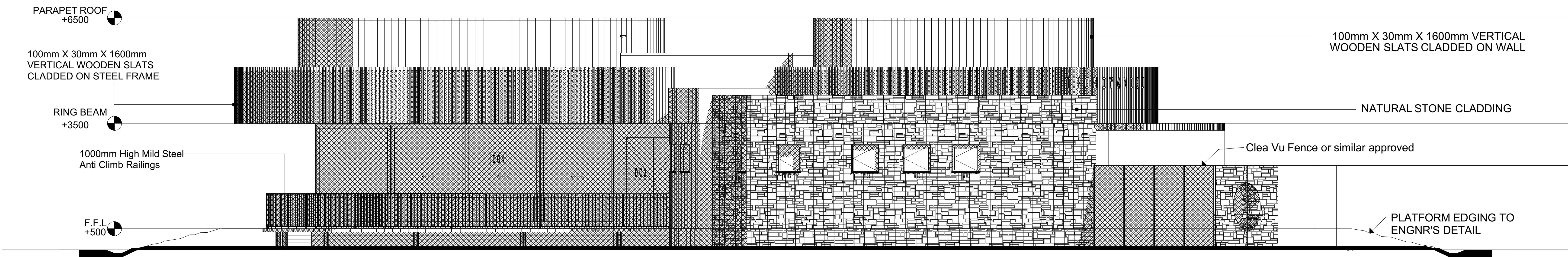
REVISIONS

PROJECT CONSULTANT
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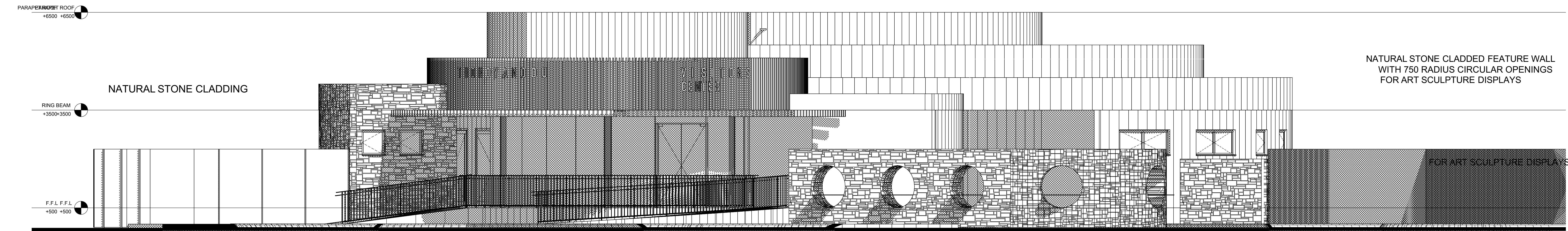
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& PROJECT MANAGERS
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| | | | | |
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| APPROVAL CONSULTANT | N.K. MPOFU | | | |
| 2018-12-21 | 24750099 | | | |
| PROJECT NAME | ASSESSMENT, DESIGN & PROJECT MANAGEMENT OF REQUIRED NEW BUILDINGS & REPAIRS, RENOVATIONS & UPGRADES TO VARIOUS INFRASTRUCTURE ASSETS IN THE THOHOYANDOU BOTANICAL GARDEN, THOHOYANDOU & NATIONAL ZOOLOGICAL GARDEN CAMPUSES BASED IN PRETORIA & MOKOPANE | | | |
| SITE | THOHOYANDOU BOTANICAL GARDENS | | | |
| SHEET TITLE | SITE DEVELOPMENT LAYOUT PLAN | | | |
| DISCIPLINE | ARCHITECTURAL | | | |
| CONTRACT NUMBER | G306/2018 | | | |
| FILE NUMBER | ZA2018_2008 | | | |
| DRAWING NUMBER | PJN_ZA_2022_2002_SANBI_TBG_ARC_2000 | | | |

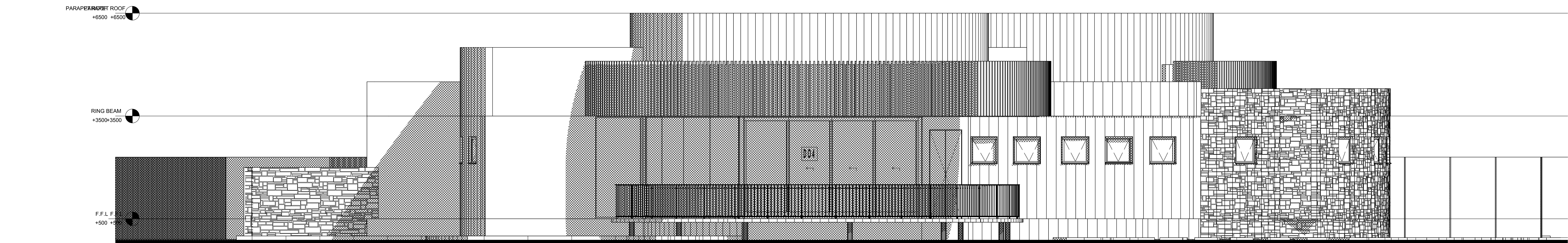
ISSUED FOR TENDER



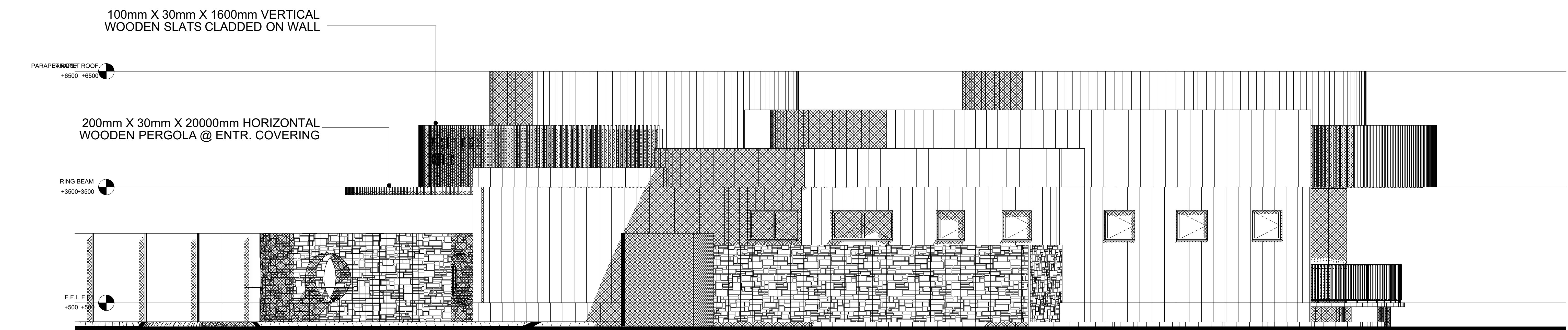
NORTH WEST ELEVATION
Scale 1:100



SOUTH FRONT ENTRANCE ELEVATION
Scale 1:100



SOUTH WEST ELEVATION
Scale 1:100

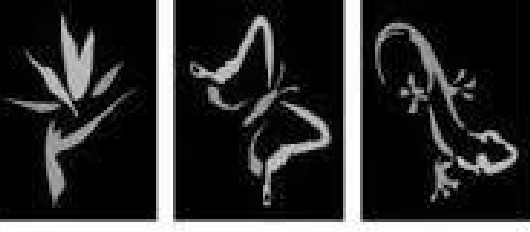


SOUTH EAST ELEVATION
Scale 1:100

**ISSUED FOR
TENDER**

LOCATION PLAN

CLIENT:
SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

SANBI 
Biodiversity for Life
South African National Biodiversity Institute

| REV. NO. | DATE | DESCRIPTION |
|----------|------------|--------------------|
| 001 | 2018-12-21 | ISSUED FOR REVIEW. |

REVISIONS

PROJECT CONSULTANT:
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| N.K.MPOFU | B.TSHUMA | S. ZUNGU | J. DAVIDSON |

| APPROVAL CONSULTANT | |
|---------------------|--|
| N.K. MPOFU | |

| DATE | NO. |
|------------|----------|
| 2018-12-21 | 24750099 |

PROJECT NAME
ASSESSMENT, DESIGN & PROJECT MANAGEMENT OF REQUIRED NEW BUILDINGS & REPAIRS, RENOVATIONS & UPGRADES TO VARIOUS INFRASTRUCTURE ASSETS IN THE THOHOYANDOU BOTANICAL GARDEN, THOHOYANDOU & NATIONAL ZOOLOGICAL GARDEN CAMPUSES BASED IN PRETORIA & MOKOPANE

SITE
THOHOYANDOU BOTANICAL GARDENS

SHEET TITLE

DISCIPLINE
ARCHITECTURAL

CONTRACT NUMBER
G306/2018

FILE NUMBER
ZA2018_2008

DRAWING NUMBER
PJIN_ZA_2022_2002_SANBI_TBG_ARC_2005

| WINDOW SCHEDULES | | | | |
|------------------|----------------|----------|---|---|
| TYPE | WINDOW DRAWING | QUANTITY | FRAME | IRON MONGERY |
| W01 | | 09 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. |
| | | Area | | |
| | | Total | | |
| W02 | | 02 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. |
| | | Area | | |
| | | Total | | |
| W03 | | 02 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Purpose made aluminium frame. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W04 | | 06 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Purpose made aluminium frame. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W05 | | 1 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Purpose made aluminium frame. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W06 | | 1 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Purpose made aluminium frame. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W07 | | 02 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W08 | | 01 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. |
| | | Area | | |
| | | Total | | |
| W09 | | 02 | Powder Coated Kalahari red colour Aluminium frame | Purpose made window. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |

| WINDOW SCHEDULES | | | | |
|------------------|--|-------|---------------------|--|
| W10 | | 01 | Kalahari red colour | 6.38mm safety Tinted glazing Low E Glass Purpose made window. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W11 | | 01 | Kalahari red colour | 6.38mm Tinted Double glazing Low E Glass Purpose made window. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |
| W12 | | 9 | Kalahari red colour | 6.38mm Tinted Double glazing Low E Glass Purpose made window. Aluminium bead fixing. |
| | | Area | | |
| | | Total | | |

| WINDOW SCHEDULES | | | | |
|------------------|----------------|----------|----------------------|--|
| TYPE | WINDOW DRAWING | QUANTITY | FRAME | IRON MONGERY |
| W01 | | 03 | standard steel frame | 1.6mm Expandable with mesh Purpose made window. |
| | | | | |
| | | | | |

| CULTURAL HUTS DOOR SCHEDULES | | | | | |
|------------------------------|--------------|-----|--------------------|--|--|
| CODE | DOOR DRAWING | TTL | FRAME | FINISH | IRON MONGERY |
| D06 | | 3 | Solid Timber frame | Solid Panel Timber Doors external quality | Timber frame, bed fixing. Iron mongery by specialist. |
| | | | | | |
| | | | | | |
| | | 1 | steel frame | factory painted steel | Clear Vu or Similar approved steel mesh. |
| | | | | | |
| | | | | | |

| VISITOR CENTER DOOR SCHEDULES | | | | | |
|-------------------------------|--------------|-------|--|---|---|
| CODE | DOOR DRAWING | TTL | FRAME | GLAZING/ FINISH | NOTES |
| D01 | | 1 | Powder Coated Aluminium frame Double swing Door Frame thickness by specialist | 6.38mm reinforced Tinted Low E Safety Double Glazed clear glass | Purpose made Aluminium frame. Union Chubb universal lockset Iron mongery by specialist |
| | | Area | | | |
| | | Total | | | |
| D02 | | 2 | Powder Coated Aluminium frame Double swing Door Frame thickness by specialist | 6.38mm reinforced Tinted Low E Safety Double Glazed clear glass | Purpose made Aluminium frame. Union Chubb universal lockset Iron mongery by specialist |
| | | Area | | | |
| | | Total | | | |
| D03 | | 1 | Aluminium frame Double swing Door Frame thickness by specialist Powder Coated | 6.38mm reinforced Tinted Low E Safety Double Glazed clear glass | Purpose made aluminium frame. Aluminium bed fixing. Union Chubb universal lockset Iron mongery by specialist |
| | | Area | | | |
| | | Total | | | |
| D05 | | 1 | Steel Frame | Solid Timber Doors external quality | Steel bed fixing. Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |
| D06 | | 5 | Steel Frame | Semi Solid Timber Doors external quality | Steel bed fixing. Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |
| D07 | | 3 | Steel Frame | Solid Timber Doors external quality | Steel bed fixing. Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |

| CODE | DOOR DRAWING | TTL | GLAZING/FRAME FINISH | NOTES | IRON MONGERY |
|------|--------------|-------|--|---|---|
| D04 | | 1 | Powder Coated Aluminium frame Sliding Door Frame thickness by specialist | 6.38mm reinforced Tinted Low E Safety Double Glazed clear glass | Purpose made Timber frame. Union Chubb universal lockset Iron mongery by specialist |
| | | Area | | | |
| | | Total | | | |
| D08 | | 8 | Steel Frame | Semi Solid Timber Doors external quality | Steel bed fixing. Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |
| D09 | | 4 | Powder Coated Aluminium frame | 6.38mm reinforced Tinted Low E Safety Double Glazed clear glass | Purpose made Timber frame. Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |
| | | 1 | Steel Frame supplied with door by specialist | Strong room Doors by specialist | Union Chubb universal lockset Iron mongery by specialist |
| | | | | | |
| | | | | | |

LOCATION PLAN

CLIENT
SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

SANBI

Biodiversity for Life

South African National Biodiversity Institute

| | | |
|-----|------------|--|
| R01 | 2022-09-12 | change of traditional hut specifications |
| | | |
| | | |
| | | |
| | | |
| | | |

| | | |
|-----|------------|--|
| R02 | 2022-09-20 | INTRODUCE VES WASH STAINLESS STEEL SINK IN KITCHEN |
| R02 | 2022-09-20 | CHANGE ROOF SLAB TO IRR CHROMIUM OXIDE SCULLERY AREA ON ROOF PLAN & SECTIONS |
| R01 | 2022-09-12 | ISSUED FOR REVIEW. |

| REV NO. | DATE | DESCRIPTION |
|---------|------|-------------|
|---------|------|-------------|

REVISIONS

PROJECT CONSULTANT
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| | |
|---------------------|--|
| APPROVAL CONSULTANT | |
| N.K. MPOFU | |

| | | |
|------------|----------|--|
| 2018-12-21 | 24750099 | THE MASTER HELD AT THE PROJECTNEERS CONSULTING ENGINEERS OFFICE AWAITING THE ORIGINAL SIGNATURE OF APPROVAL. |
|------------|----------|--|

PROJECT NAME
ASSESSMENT, DESIGN & PROJECT MANAGEMENT OF REQUIRED NEW BUILDINGS & REPAIRS, RENOVATIONS & UPGRADES TO VARIOUS INFRASTRUCTURE ASSETS IN THE THOHOYANDOU BOTANICAL GARDEN, THOHOYANDOU & NATIONAL ZOOLOGICAL GARDEN CAMPUSES BASED IN PRETORIA & MOKOPANE

SITE
THOHOYANDOU BOTANICAL GARDENS

SHEET TITLE
WINDOW & DOOR SCHEDULES
DISCIPLINE
ENERGY EFFICIECNY CALCULATIONS
ARCHITECTURAL

CONTRACT NUMBER
G306/2018

FILE NUMBER
ZA2018_2008

DRAWING NUMBER
P.J.N_ZA_2022_2002_SANBI_TBG_ARC_2006

ISSUED FOR TENDER

1.FENESTRATION CALCULATIONS - NATURAL ENVIRONMENT CONTROL

| FLOOR AREAS | | |
|-----------------|----------|--|
| NETT FLOOR AREA | 429.12m² | |
| GLAZING AREA | 64.35m² | |

15% Of NETT FLOOR AREA:
(429.12m²/100) x15 = 64.37m²

GLAZING AREA TO 15% Of NETT FLOOR AREA
GLAZING AREA = 64.35m²
15% Of NETT FLOOR AREA = 64.37m²

GLAZING AREA IS LESS THAN 15% Of NETT FLOOR AREA
THEREFORE SANS 204 IS NOT REQUIRED

2. ROOF ASSEMBLY:

| | |
|---|---------------------------------|
| REF :SANS 204:2011 Table 8. Min. R-values for Roof & Ceiling - (Page 17) | |
| Occupancy | G1 |
| Design Occupancy Time | 24hrs per day / 7 days per week |
| Climate Zone | 3 - HOT INTERIOR |
| Minimum R-value required | 2.70 m²K/W |
| Direction of heat flow | Down & Upwards |

| | |
|---|----------------------------|
| REF : SANS 204:2011 Table 10. Min. R-values for Roof & Ceiling - (Page 20) | |
| CALCULATION | |
| Basic Roof Assembly | Galvanised IBR Roof Sheets |
| R- value for metal cladding | 0.38 m²K/W |
| R-Value of Ceiling | 0.06 m²K/W |
| TOTAL R - Obtained | 0.44 m²K/W |

Obtained R-Value =>Minimum R-value required

Do Not Comply with SANS 10400 XA
Additional Insulation required With at least R-Value of 3.48 m²K/W

| | |
|-------------------------------------|--|
| SANS 204: | |
| Roof venting | Unventilated |
| Basic Roof Construction | Galvanised IBR Roof Sheets @ 15° & 5° pitch respectively with flat ceiling |
| Direction of heat flow | Down & Upwards |
| Min R- value of insulation required | 2.7 m²K/W |
| Additional Thermal Insulation | Flexible BOQ polyester fibre blanket 24 kg/m³ |

Conclusion:
It's recommended that a Flexible BOQ polyester fibre blanket, with a thickness of 120 mm needs to be installed in order to achieve the additional min R-value of 2.70 m²K/W