

DRAWINGS

4.7 Sewage lifts

Where a building is at such a level in relation to the nearest connecting sewer that a drainage installation serving such building cannot discharge into such connecting sewer by gravitation, a suitable appliance, so designed and located as not to be offensive or to be injurious or dangerous to health, shall be installed. Where required by the local authority, standby facilities, for the purpose of raising sewage to a level that will enable it to gravitate to such connecting sewer, shall also be provided.

NOTE The owner of the building is responsible for ensuring that the drainage discharges into the connecting sewer. The owner is also responsible for the operation and maintenance of such arrangements.

4.8 Conservancy tanks, septic tanks and french drains

4.8.1 Conservancy tanks shall, subject to the clearing services provided by the local authority in question,

- a) have a capacity as prescribed by such local authority,
- b) be constructed with a means of access for cleaning, and
- c) be provided with a means for clearing as prescribed by such local authority.

4.8.2 A conservancy tank or septic tank to be used on a site for the reception of sewage shall

- a) be so designed and constructed that it will be impervious to liquid,
- b) be so sited
 - 1) that there will be a ready means of access for the clearing of such tank,
 - 2) that it is not less than 2,0 m from the property boundary, or another structure,
- c) be so designed and sited that it is not likely to become a source of nuisance or a danger to health or the structural integrity of adjacent buildings,
- d) satisfy one of the following criteria:
 - 1) it shall be the subject of an Agrément certificate and be used within the scope, conditions and limitations prescribed in the certificate;
 - 2) it shall be rationally designed by a competent person (sanitation);
 - 3) it shall be designed and constructed in accordance with standard drawings issued by a local authority; or
 - 4) it shall be in accordance with the requirements of 4.8.3, 4.8.5, or 4.8.6, as relevant, and
- e) be vented at the building.

NOTE 1 The siting of conservancy tanks should be approved by the local authority. Generally tanks should be located near driveways to facilitate cleaning by a vacuum tanker.

NOTE 2 The function of the septic tank is to condition raw sewage, which has a clogging effect on soil, thereby reducing the effective absorption capacity of the subsoil. When the raw sewage enters the tank some of the suspended solids settle to the bottom of the tank and some collect at the surface, with the result that three distinct layers are formed in the tank: a layer of sludge at the bottom, a floating layer of scum on the top

and a relatively clear liquid layer in between. The organic solids and dissolved material in the sewage are attacked by bacteria so that the volume of scum and sludge is reduced by liquification and gasification. The only function of the final disposal system is to get rid of the effluent from the septic tank in a safe and inoffensive way.

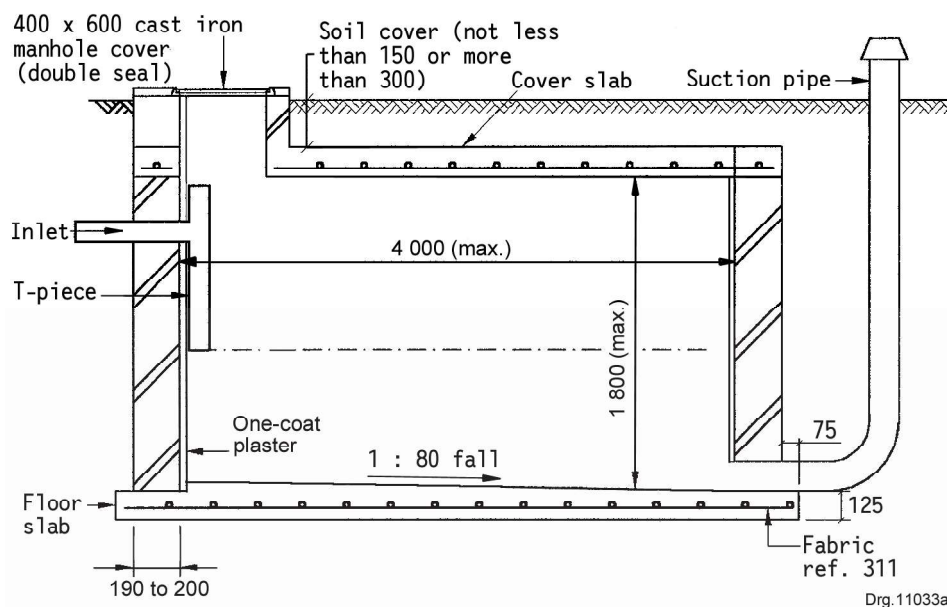
NOTE 3 Septic tanks and conservancy tanks should be constructed to prevent contamination of water supplies by leakage or spillage. Accordingly, such tanks should be impermeable to their contents and to sub-soil water.

NOTE 4 The vents should extend above the eaves level of the building.

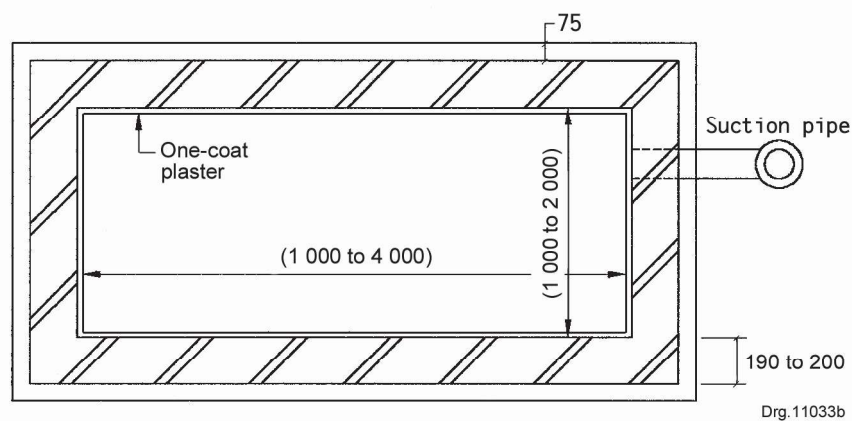
4.8.3 Masonry conservancy tanks shall be constructed in accordance with the details shown in figures 1 and 2 provided that they are constructed above the water table in accordance with the requirements of SANS 2001-CC1 or SANS 2001-CC2, SANS 2001-CM1 and SANS 2001-EM1, and shall comply with the following:

- a) solid and hollow concrete and calcium silicate masonry units shall have a nominal compressive strength of not less than 10,5 MPa and 7,0 MPa, respectively;
- b) burnt clay masonry units shall have a nominal compressive strength of not less than 14,0 MPa and a water absorption of not more than 12 %;
- c) the accuracy of the setting out shall be achieved by positive control measures;
- d) excavations shall be deepened locally, where necessary, to remove soft spots;
- e) hard spots, wherever practicable, shall be removed;
- f) excessive excavations shall be avoided;
- g) excavations shall be kept free of surface water;
- h) where the bottom of the excavation has dried out excessively due to exposure or it has softened due to rain or ground water, the excavation shall be rebottomed before concreting;
- i) backfill, that complies with the requirements of SANS 1200 DB, shall be maintained before compaction, so that a small quantity squeezed in the hand is firm, but does not show signs of moisture;
- j) fill shall be placed in uncompacted layers that do not exceed 100 mm in respect of hand compaction, and 150 mm in respect of compaction by mechanical means; and
- k) each uncompacted layer shall be well compacted before additional fill material is added.

Dimensions in millimetres



a) Section through conservancy tank



b) Plan of conservancy tank

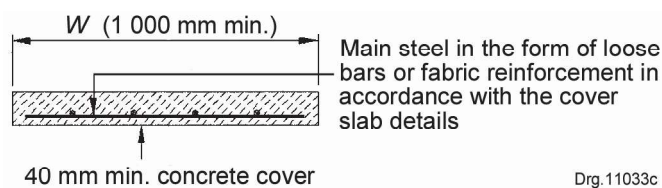
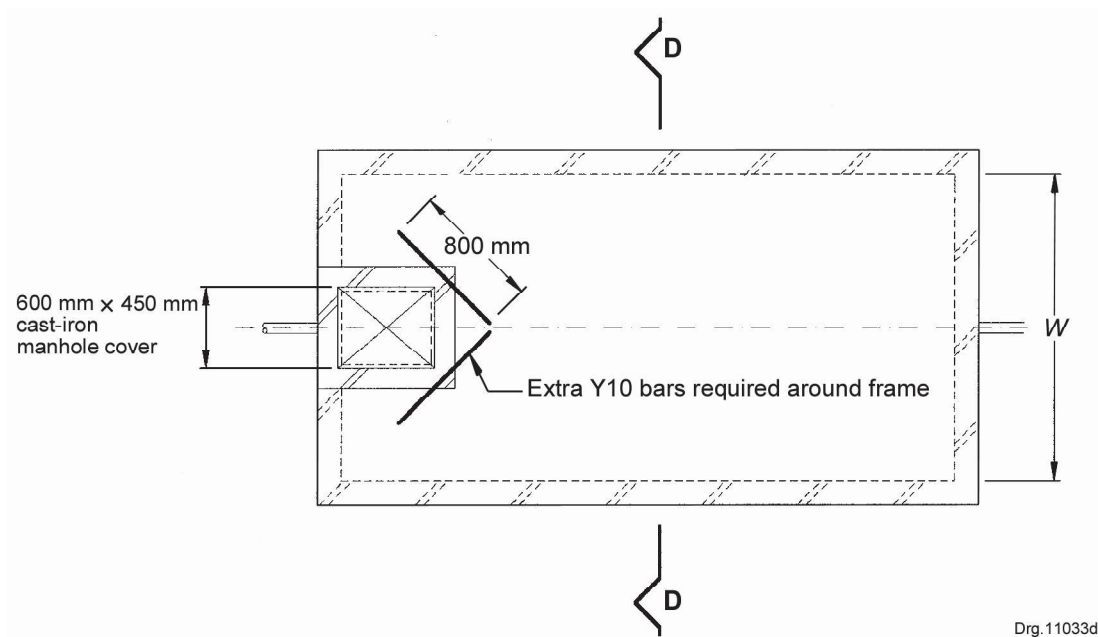
The suction pipe and coupling details shall be in accordance with local authority requirements.

Hollow units shall be filled with grade 10 infill concrete.

A competent person shall provide construction details for tanks founded below perched or permanent water tables.

NOTE See figure 2 for cover slab details.

Figure 1 — Masonry construction details for conservancy tanks



Section D – D
(Through cover slab of septic tank)

Cover slab details

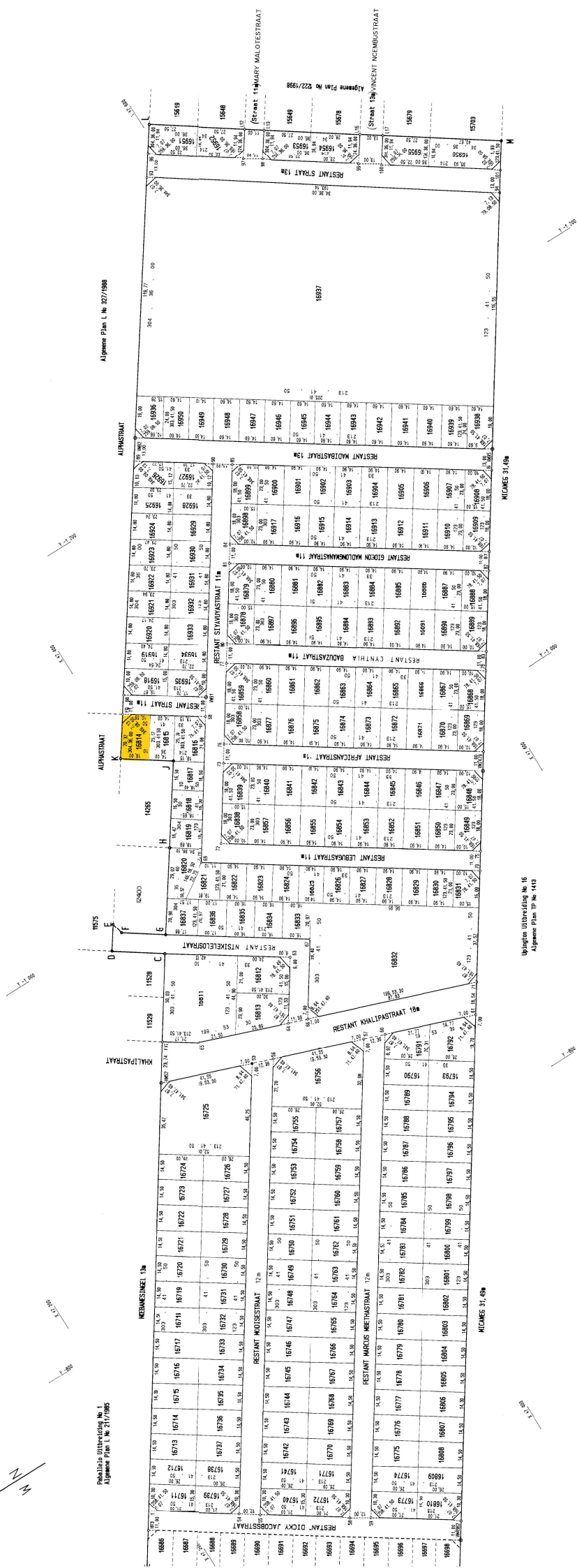
W m	Slab thickness mm	Reinforcement		Fabric reinforcement (see SANS 1024)
		Short span (main)	Long span (distribution)	
$\geq 1,0$ but $\leq 1,7$	125	Y10 bars at 250 mm centres	Y10 bars at 300 mm centres	Ref. 359
$> 1,7$ but $\leq 2,0$	125	Y12 bars at 250 mm centres	Y12 bars at 300 mm centres	Ref. 617
W = internal width of conservancy tank				
NOTE The slab design is for a maximum of 300 mm soil cover.				

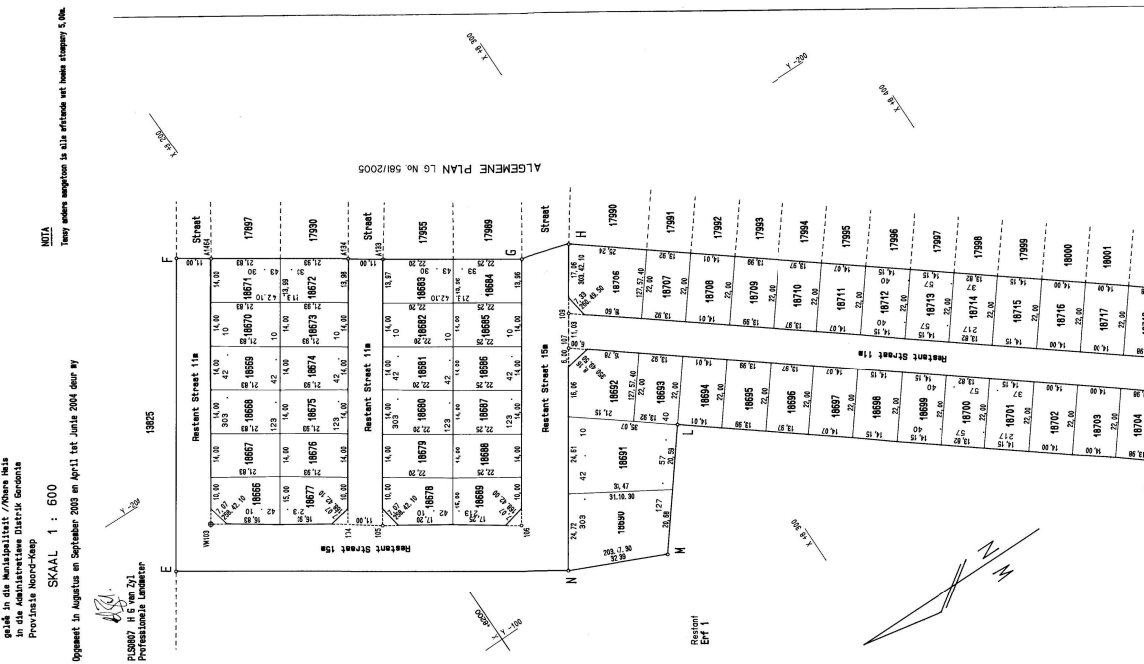
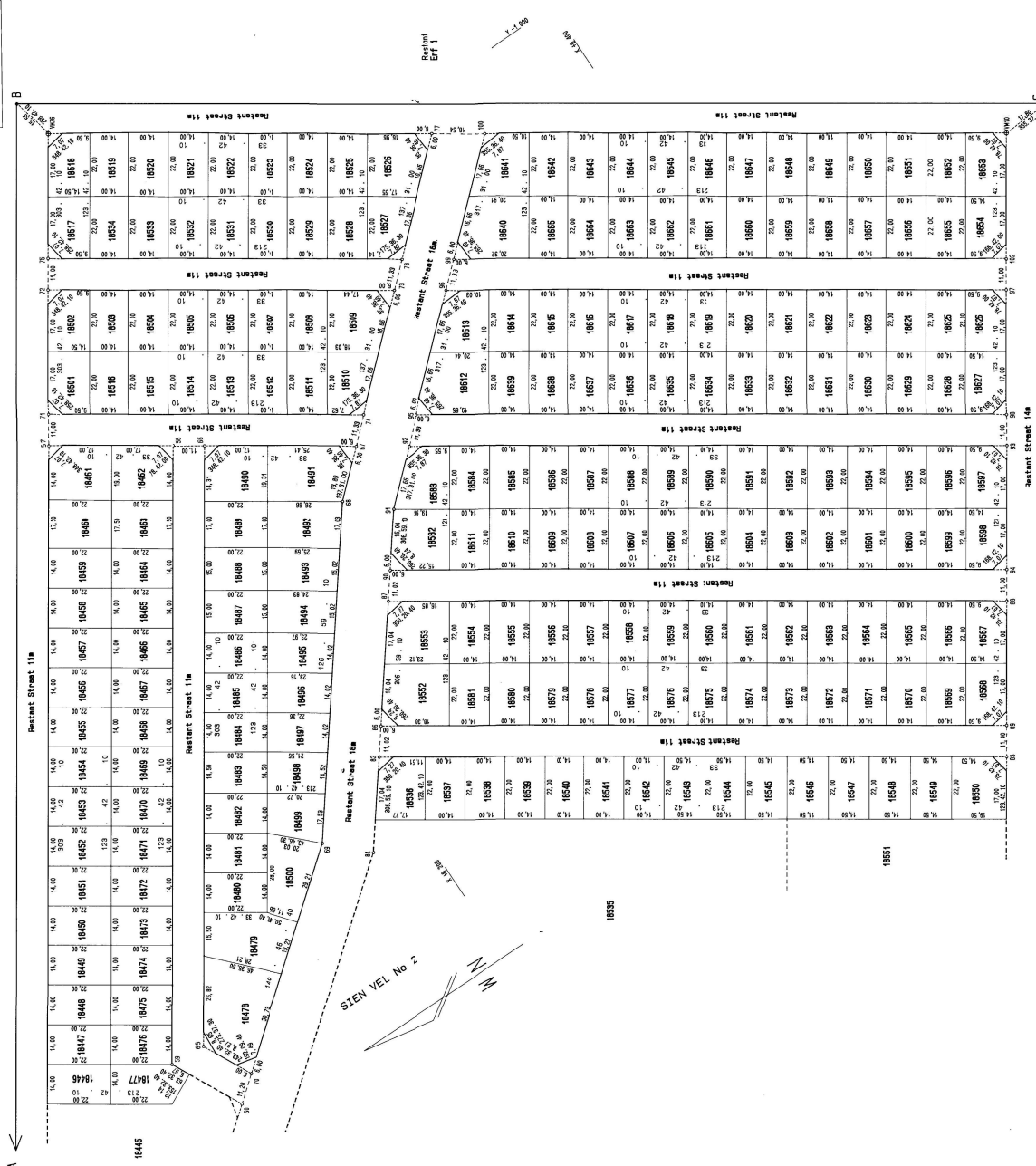
Figure 2 — Reinforced concrete cover slab details for conservancy tanks

UPINGTON TOEGANGSVERBOD
ALGEMENE PLAN NO. 506/2000
VAN OORDEDELING VAN
ERF 16456 UPINGTON
GELIG IN DIE WATSPALTEIT VAN UPINGTON
ADMINISTRATIESE DISTRIK GORDONIA
PROVINSIE NOORD-KAP
SKAAL 1 : 750

opgemeet in Februarië en Maart 2000 deur my.

LS 0807 H 6 van Zyl
professionele Landmeter

[illegible]



ALGEMEEN PLAN No.578/2005
VAN ONDERDEELING VAN
1) Die fapour A B C D met voorstel Erf 1858, Upington
2) Die fapour E F G H J K L M met voorstel Erf 1788, Upington
geleë in die munisipaliteit /Mm. Landster-Generaal
in die Munisipale Distrik Genodina
Provinsie Noord-Kaap

SKAAL 1 : 500
Opgetas in Augustus en September 2005 en April tot Junie 2004 deur M
PL3007 # 6 van 21
Professionele Landmeter

ALGEMEEN PLAN No.578/2005
VAN ONDERDEELING VAN
1) Die fapour A B C D met voorstel Erf 1858, Upington
2) Die fapour E F G H J K L M met voorstel Erf 1788, Upington
geleë in die munisipaliteit /Mm. Landster-Generaal
in die Munisipale Distrik Genodina
Provinsie Noord-Kaap

(UPINGTON TOEKENNINGSGEBIED)
ALGEMENE PLAN NO. 471/2005

VAN ONDERVERDELINGS VAN

Erwe 19208 en 19209 Upington
Geleë in die Munisipaliteit /Khara Hais
Administratiewe Distrik Gordonia
Provincie Noord-Kaap

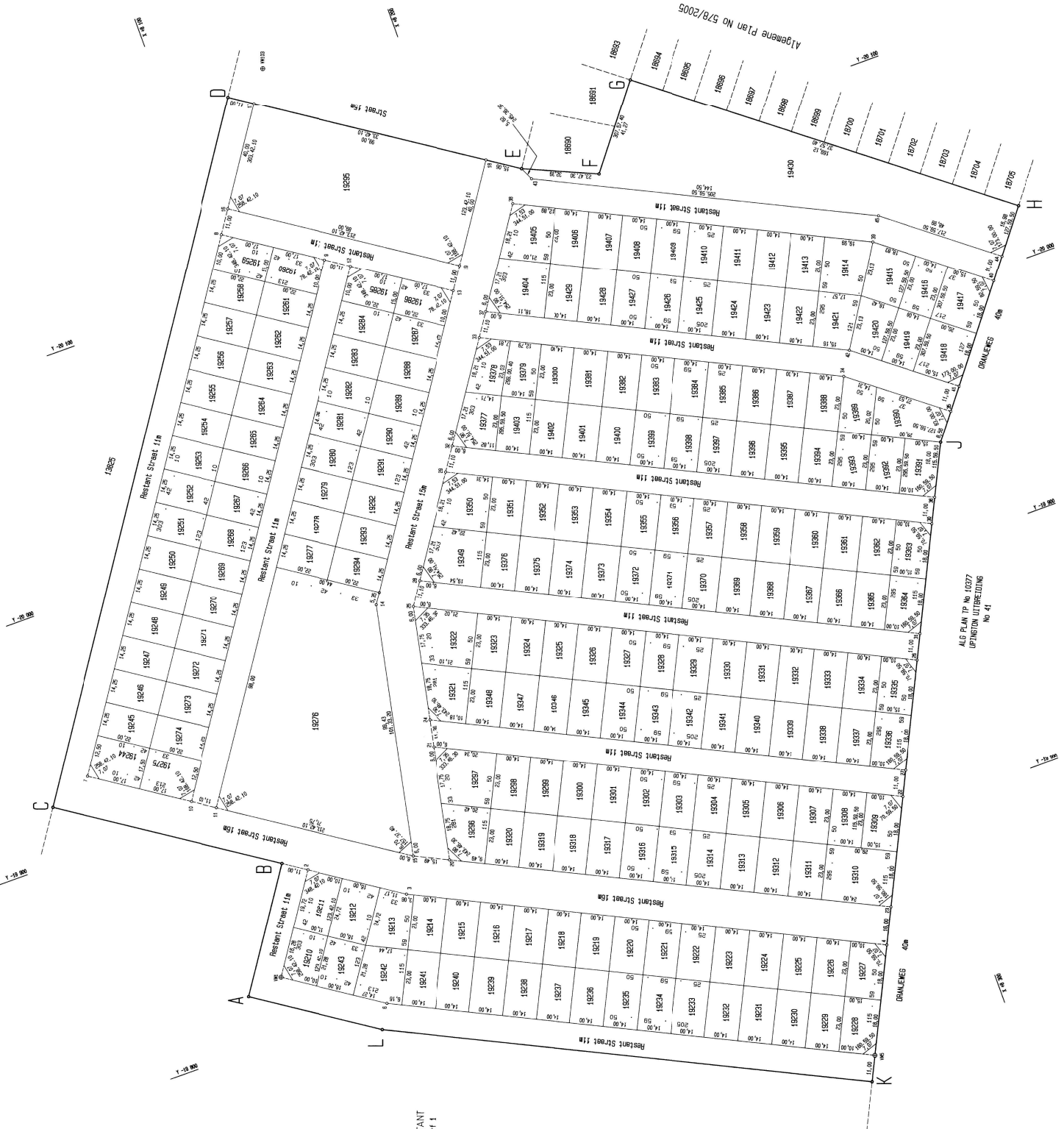
Opgemaak in April 11 tot Junie 2004 en
uitgevoer en November 2005 deur M.V.

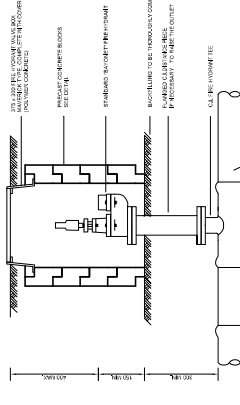
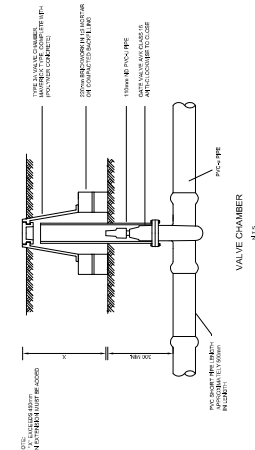
PLS 0807 H G van Zyl
PROFESSIONELE LANDMETER

SKAAL 1 : 600

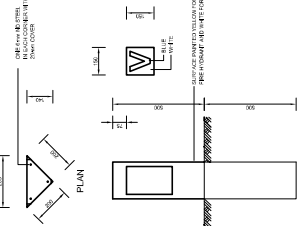
RESTANT
Bt 1

ALG PLAN TP NO 10277
UPINGTON UITBREIDING
No 41

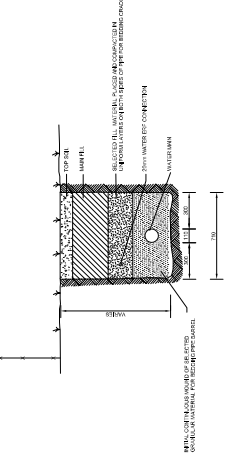




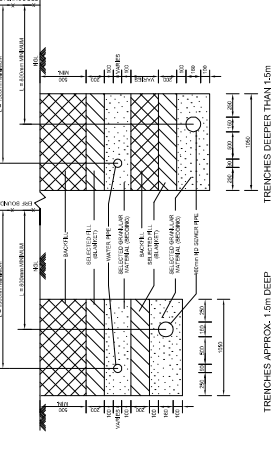
PRECAST CONCRETE BLOCKS
N.C.2



VALVE AND FIRE HYDRANT MARKER
N.C.3



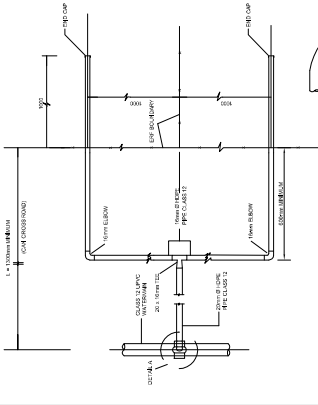
TYPICAL DETAIL OF WATER AND WATER ERF CONNECTION
N.C.4



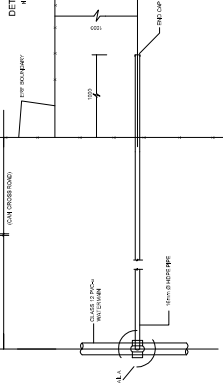
DETAIL OF COMBINED PPR TRENCHES FOR WATER AND SEWER
N.C.5

TRENCHES APPROX. 1.5m DEEP

TRENCHES DEEPER THAN 1.5m



WATER ERF CONNECTION FOR DOUBLE ERF
N.C.6



WATER ERF CONNECTION FOR SINGLE ERF
N.C.7

TABLE 1: PPR PIPE SIZES

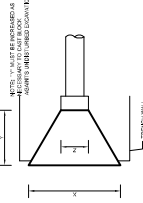
PPR PIPE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
STANDARD	15	20	25	32	40	50
THICK	15	20	25	32	40	50
EXTRA THICK	15	20	25	32	40	50

TABLE 2: PPR PIPE SIZES

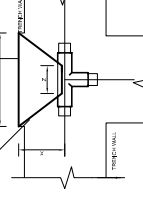
PPR PIPE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
STANDARD	15	20	25	32	40	50
THICK	15	20	25	32	40	50
EXTRA THICK	15	20	25	32	40	50

TABLE 3: PPR PIPE SIZES

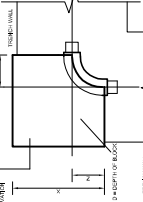
PPR PIPE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
STANDARD	15	20	25	32	40	50
THICK	15	20	25	32	40	50
EXTRA THICK	15	20	25	32	40	50



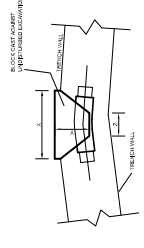
THRUST BLOCK FOR END CAPS
N.B



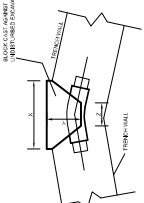
THRUST BLOCK FOR T-JUNCTIONS
N.B



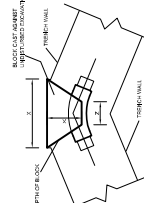
THRUST BLOCK FOR 90° BENDS
N.B



THRUST BLOCK FOR 14.25° BENDS
N.B



THRUST BLOCK FOR 22.5° BENDS
N.B



THRUST BLOCK FOR 45° BENDS
N.B

NOTES:
1. ALL CONSTRUCTION MUST BE DONE IN ACCORDANCE WITH SANS 1200.

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**DEPARTMENT OF CO-OPERATIVE GOVERNANCE, HUMAN SETTLEMENTS AND
TRADITIONAL AFFAIRS OF THE NORTHERN CAPE**

TENDER NO. NC/03/2022

**ZF MGCAWU 5 INDIVIDUALS: THE CONSTRUCTION OF 5 BNG HOUSES
THROUGHOUT THE ZF MGCAWU DISTRICT**

DRAWINGS NOTES

The client accepts the fact that the contractor is a Professional builder and a master of his trade. It is accepted that he has visited the site and has familiarized himself with the local conditions before his tender was submitted, to eliminate any possible chance that a misunderstanding might arise at a later stage due to his limited knowledge of the site.

All work to be carried out strictly in accordance with the local authority building regulations and by-laws.

All materials to be SABS approved (stamped). Proof of which to be supplied (official certification) on request when applicable.

Workmanship to comply with the relevant National Building Regulations and Building Standards Act (Act 103 of 1977 as amended) and the NHBRC home building Manual.

Foundations to be inspected and approved by the engineer before concrete is poured. This also applies to services in the ground.

Wall plate inspection and timber truss fixing to be approved before walls are plastered.

Trade names specified are purely to indicate the quality and standard required. These can be substituted with any product matching the quality subject to the engineer's approval.

The contractor must check all the measurements and levels indicated on the drawings on site prior to the work commencing.

The setting out of the building work remains the sole responsibility of the contractor.

Do not scale the drawing. If uncertain about any of the dimensions, contact the Engineer.

Report any discrepancies between the drawings and/or contract documentation to the Engineer prior to the commencement of the work.

All the materials used must be of the best quality obtainable. The work must be done by skilled artisans and carried out in such a way as to ensure the highest quality workmanship obtainable in the local industry. The standard must at least be acceptable to members of the BIA and the M.B.A. Work not complying with afore said will be condemned and redone at the contractor's expense.

All the materials, fittings and equipment used on the project must be applied/installed strictly according to the manufacturer's specifications and guidelines.

Great care must be taken when installing the damp proof courses to ensure that no damaged material is used. All joints to have 150mm overlaps and to be taped.

It is important to note that the safety of any material brought onto the site and paid for by the client remains the responsibility of the Contractor even though ownership has been transferred to the Client.

All materials on site must be stored properly to minimize any damage that might occur. Planning the work sequence is of the utmost importance when ordering materials to ensure that they are not stored for too long a period.

Plastered wall surfaces must be given sufficient time to dry out before any paintwork commences.

The contractor must insist that all site instructions be noted in writing in the site instruction book to avoid any later disputes.

Contractor must familiarize himself with the 'Occupational Health and Safety act no. 85 of 1993' and fully comply with the contents thereof. The safety of the public, visitors and of the workers on site is of the utmost importance and remains his sole responsibility for the duration of the contract.

The site must be kept clean at all times and builders rubble removed from time to time Temporary toilet facilities must be provided by the contractor for the workers and kept clean at all times.

Contractor must not deviate from the plans and must notify the Engineer of any problems immediately as they arise.

This is to certify that I / we

of (Tenderer)

of (Address)

Telephone Number

Fax Number

on (Date)

have examined the drawing notes and its surroundings for which I/we am/are submitting this tender and have, so far as is practicable, familiarized myself/ourselves with all the information, risks, contingencies and other circumstances which may influence or affect my/our tender.

SIGNED ON BEHALF OF THE TENDERER:

SIGNED ON BEHALF OF THE CONSULTANT:

DATE: