



DRAKENSTEIN

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Paarl | Wellington | Gouda | Saron | Simondium

+27 21 807 4500 +27 21 872 8054

www.drakenstein.gov.za

customer@drakenstein.gov.za

Civic Centre, Berg River Boulevard, Paarl 7646

Enquiries: Mr. L. Pienaar
Contact number: 021 807 4715
Reference: **15/4/1 (19134) P (1371)**
Date: 02 August 2021

FRAME Consulting Civil and Structural Engineers
277 Main Rd, Esterville
Paarl
7646

Tel: 021 872 4436
E-mail: info@framegroup.co.za

ATT: Diaan Walters

Dear Sir,

RE: CIVIL SERVICES PLANS: ERF 19134, PAARL - APPROVAL

This approval is valid for a period of 2 years from the date of issue.

Your associated plans and details for the civil services of erven 4093, 39833 & 39834 Paarl have been scrutinized and found to be in compliance with the civil services standards for the Drakenstein Municipal area and are hereby approved subject to the following conditions:

WASTEWATER SERVICES

1. Any sewer connection will be made by the Municipality into existing sewer pipes at the developers cost unless specified otherwise by Drakenstein Municipality;
2. All sewer pipes up to 200mm in diameter to be uPVC Class 34. All other pipes to be HDPE PE 100 PN 12.5 or HDPE structured wall pipes to prevent any infiltration or leakage;
3. All sewer pipes must carry the SAPPMA stamp of approval where applicable;
4. Minimum size of pipe allowed is 160mm \varnothing at a minimum slope of 1:160;
5. All bedding and back filling must be constructed to maintain the line and level of all pipes as per SANS 1200;
6. Inspection chambers to be constructed at each junction, change of grade and change in direction with a maximum distance of 90m between chambers;
7. The inside diameter of inspection chambers may not be less than 1,0m;
8. Inspection chambers for pipe diameters equal to 160mm diameter may be constructed from brick, precast concrete, fibre cement or HDPE structured wall rings;
9. Inspection chambers for pipe diameters larger than 160mm diameter must be constructed from precast concrete or HDPE structured wall rings;

10. Structured wall manholes must carry the IFPA mark of approval;
11. Chimneys on inspection chambers must have a minimum height of 300mm (i.e. two courses of bricks) and a maximum of 500mm, from the underside of cover-slab to top of cover;
12. All sewer manhole covers must be Drakenstein Municipality Type 2A, heavy duty class and material will be project dependant and determined by the department;
13. All brick work to be plastered on both sides;
14. All joints between precast manhole sections to be effectively sealed with a propriety sealant, in accordance with the manufactures directions;
15. Only FC channels may be used in the benching of inspection chambers;
16. FC inspection chambers can only be used if the final trimmings be done by the manufacturer of the chamber unit;
17. Rubber sealed end caps are required on all connection points;
18. No "Y"-junction double connections allowed;
19. Sewer connection depth must be a minimum of 0.8m and a maximum of 1.0m and a minimum fall of 1:60. No vertical bends allowed on house connections;
20. All oil and grease traps shall have a minimum internal liquid content below the invert level of the outlet of at least 1200litres, must have a minimum of 3 baffles/compartments, which includes a solids basket and a sampling tap at the outlet of the unit that is easily accessible. The position of the separation units must also be placed so that the incoming flow has sufficient time to cool down before reaching the outlet of the unit. Mold/Model with detail to be submitted to the Engineering Department for approval; and
21. All sewer pipes on erven not within the building line must have a registered servitude with the width of the servitude determined by the depth and diameter of the pipeline to allow for easy access and maintenance.

WATER

22. Any water connections to the existing water supply network will be made by the municipality at the developers cost;
23. Details of the bulk water meter chamber are required. Chamber to be a minimum of 1m inside property. Inspection covers to be Rexal type 550mm. The top of the meter is to be a maximum of 300mm from the underside of the top slab and there must be a minimum of 500mm work space around the rest of the equipment. Chamber to be constructed by developer. Meter to be installed by council at developers cost. The minimum distance between the floor levels to the underside of the meter shall be a minimum;
24. The minimum size of pipes to be 110mm \varnothing ;
25. All HDPE pipes to be PE100 class 12.5 and uPVC pipes must be minimum class 12 no PVC pipes allowed. (Only HDPE pipe systems to a maximum diameter of 355mm \varnothing will be accepted for any Municipal bulk service);

26. Bedding to be used on all trenches, on the different pipe types must comply with the SABS 1200 specifications;
27. No "+" pieces allowed only "T" pieces;
28. All valves to be placed next to "T's". Except intermediate valves;
29. All valves and "T" must be flanged except in places where connection to the existing fibre cement pipe plain ended. [the collars to be used must be short collar repair couplings]. All stainless/steel couplings must be bitumen paste and denzo taped after installation and fastening. Coating to steel couplings to include carboline 891, plascoat, nylon or Rilson;
30. The "T" on any main pipe must be main barrel socketed or plain ended fitted with VJ couplings copon, carboline 891, plascoat, nylon or Rilson coated and wrapped in bitumen tape with flanged branch drilled table "D";
31. VJ flange adaptor to be "copon" coated. Bolted ones to be filled with bitumen paste and bitumen taped;
32. All nuts and bolts to be bitumen pasted (all S/S 316 bolts and nuts to be covered with nickel anti seize paste) wrapped in 3 layers of bitumen tape;
33. No galvanised fittings or specials allowed, only CI, plascoat ductile iron or S/S316 allowed. (All stainless steel threads to be treated with nickel anti seize compound);
34. Shut off and control valves are to be supplied at a maximum of 300m on main lines and all branches and any other strategic point;
35. It must be emphasised that no "VOSA" type valves will be allowed. All valves must be LH closing and fitted with a spindle captop fitted with a S/S bolt and nuts;
36. Any valve larger than 300mm valve should be a gearbox type on a butterfly valve;
37. The valves must be left hand closing;
38. All valve and hydrant covers must be according to drawings 2002/19/13/B and 2002/19/16/A. No bell-toby's allowed. No precast valve and hydrant chambers allowed;
39. Covers on valves must be white. Ductile iron covers to be painted with at least two coats of enamel paint. A corresponding 100mm stripe is to be painted on the kerb adjacent to the valve;
40. Only Ainsworth, Downright, Rex or AVK hydrants will be allowed and be fitted with a spindle captop fitted with a S/S bolt and nut. The hydrant shoe section to be bolted to the casing of the hydrant;
41. Hydrants must have 65mm London round thread valve to be RH opening connections;
42. Only grade 316 Stainless Steel spool – puddle spool pieces, bends to be manufactured from grade 316 S/S to schedule 10 thickness – allowed;
43. Maximum height from the top of hydrant outlet to top of cover must be 500mm;
44. The maximum distance between hydrants is 120m, measured along the road;

45. All dead-end lines must end with a hydrant and an air valve minimum of 25mmØ to engineers design and specification;
46. Covers on hydrants must be yellow. Ductile iron covers to be painted with at least two coats of enamel paint. A corresponding 100mm stripe is to be painted on the kerb adjacent to the hydrant;
47. No connections allowed downstream of any dead-end fire hydrant;
48. The air and scour valves must be as high as possible in the valve chamber;
49. Use 316 SS or copper (class 3) pipe for any extension piece;
50. Use only stainless steel body variant Vent-o-Mat, Ari or Bermad vacuum and air release valves;
51. Holes must be provided in the valve covers to provide for air exchange;
52. All flanges to be drilled to BS 10 Table "D" to a max diameter of 250mm and Table 1600/3 for and diameter greater than 300mm;
53. No other service may be laid directly above or below or within 500mm of any water pipe. (The distance is measured between the outer edge of pipe service to the inner edge of any other service);
54. A 40mm water connection as per drawing no 2002/19/22/A must be provided to all public open spaces;
55. The irrigation installation must be clearly marked to differentiate it from the potable water system (this must include pipes, valves, valve chambers, etc);
56. Individual residential water meters to be 1m inside erf boundaries. Meters will be installed by the municipality at developers cost (if all services are to be taken over by council). Meters and fittings to be supplied by the developer. A maximum of a 20mm connection will be supplied;
57. Meter to be of a similar type to the Kent PSM (brass) or KSM (plastic); Sensus piston meter;
58. The water meters to be of the positive displacement type;
59. Saddles and fittings shall be as follows: Magnum or Alprene type with a DZR brass insert and S/S 316 bolts and nuts with a PP series A16 coupling to a HDPE class 16 pipe;
60. Double connections to be split before the boundary;
61. A minimum of 32mm road crossing is required for a single and double connection;
62. A minimum of 0.5m class 3 copper pipe is required on both sides of the meter;
63. Brass ball valve to be used on the supply side of the meter. "C" type or similar dezincified (DZR);
64. Brass (DZR) stop valve to be added on users side of water meter;
65. No polycop pipe allowed, only class 3 copper pipe or HDPE PN12.5/100;
66. All proposed types of meters, valves, fittings, covers & frames and hydrants must be submitted for approval;

67. All HDPE fittings, elbows, T-pieces to factory moulded items. No prefabricated items allowed;
68. Only PLASSON, George Fischer, AGRI, Hydro Fusion couplers, elbows, T-pieces allowed;
69. S/S 316 schedule 10 backing flanges to suit fusion studs to be used on any HDPE part system;
70. S/S 316 saddles to be used for saddles 200mmØ and larger. The saddles to be manufactured in two sections, to schedule 10 thickness minimum of 10mmØ rubber grommet; and
71. Only HDPE PN12.5 (or otherwise specified) PE100 pipe to be used on all municipal pipework;

STORMWATER

72. Stormwater connections can be made by the developer's contractor or at cost by the municipality;
73. All bedding and back filling is to be so constructed as to maintain the line and level of all pipes as per SANS 1200;
74. Minimum size of pipes shall be 375mmØ;
75. The minimum design flow shall be 1 m/sec with a half full pipe;
76. Inspection chambers shall be a maximum of 80m apart;
77. Pipes will normally be ogee jointed & all joints to be sealed with a 250mm wide bitum;
78. Catchpit/gullies/kerb inlets shall generally be a maximum of 80m apart;
79. Any proposed seepage water drainage system must be suitable for the terrain;
80. Pollution control devices are to be constructed at all out falls & details submitted; and
81. All stormwater structures (manholes, catchpits, etc.) must be plastered on the outside and bag finished on the inside.

STREETS

82. Streets are to be developed to the full width of the road reserve;
83. Barrier kerbs are to be used around all curves and bell-mouths;
84. A standard 10m radius is to be used in all residential developments and a minimum of 15m in all industrial developments or where heavy vehicles form a large percentage of the traffic;
85. Transition kerbs are to be used between the existing/new upright kerbs and combination kerbs;
86. Wearing course will be a minimum of 25mm premix on residential streets and suitably thicker on higher order roads as approved by Drakenstein Municipality;
87. All fill material must be carefully selected to ensure suitability for the conditions; and
88. A minimum of 150mm base course is to be used as per complete road design to be submitted for approval.

GENERAL

89. This department reserves the right to amend the condition of this approval from time to time as a result of changes in Legislation, Municipal by-law, Policies or standards;
90. The appointed consulting engineer shall ensure that the attached "Annexure A" (**Clearance Certificate for Civil Engineering Services**) be signed off by all departments at the completion inspection;
91. All of the works, including but not limited to; roads, stormwater, water, sewers, landscaping, irrigation, equestrian facilities, etc. shall be designed by a suitably registered person (ECSA registration for the civil works and SACLAP registration for the landscaping) and any such works shall be constructed under supervision of such registered person;
92. All design work shall be to the minimum standard of the Guidelines for the provision of engineering services and amenities in residential township developments "red book" or better, and the Drakenstein Municipal Specification where this exceeds the "red book" standard;
93. The whole of the works shall fall under the control of a single project manager;
94. The municipality shall be represented at all site meetings for the duration of the construction of the works and to this end timeous notification of such meetings shall be supplied to the Civil Engineering Services Department. Council will not attend any meetings without any approved plans;
95. A comprehensive operational infrastructure management plan shall be drawn up and submitted for approval by the Civil Services Department. The management plan is required for the whole of the Development and must include but not limited to;
 - Water demand/ balance plan, including potable recycled and irrigation water;
 - Maintenance plans for roads, stormwater, sewer and water infrastructure;
 - Waste (solid, including manure from stables) management;
96. Where applicable all water network components downstream of the valve immediately upstream of the bulk water meter shall be a private combined system and shall be indicated as such on all documents and plans;
97. Where applicable all sewer network components upstream of the connection to the existing system shall be a private combined system and shall be indicated as such on all documents and plans;
98. No structures whatsoever are allowed over or within 1m from the edge of the minimum trench width as specified by SANS 1200 for any municipal or private combined underground service;
99. All work carried out by developers construction team on municipal services or property is to be inspected by a responsible person from this department before such work is covered;
100. Any damage to municipal services will be repaired at the developers cost;
101. The construction site in any existing road reserves must be kept safe at all times for pedestrians and motor vehicles;
102. This approval will serve as the wayleave for the civil works on the project;
103. Before any construction work can commence this department must be informed and the exact position of all the services must be pointed out on site by the relevant departments of the Council. Timeous notification (A minimum of 7 Working days) must be given to officials for the identification of existing

services;

Mr. E Schreuder [Stormwater, Streets and Traffic]

Estienne.Schreuder@drakenstein.gov.za 021 807 4636/ 082 686 8704

Mr. A. Kowalewski [Water]

AndreK@drakenstein.gov.za 021 807 4705/ 082 497 9246

Mr. H.Rossouw [Electricity]

Herman.Rossouw@drakenstein.gov.za 021 807 4554/ 082 776 2961

Mr. W.Felix [Development Applications]

Warner.Felix@drakenstein.gov.za 021 807 6444/ 066 158 8574

Mr. R.Victor [Development Applications]

Riaan.Victor@drakenstein.gov.za 021 807 7716/ 079 098 4163

Ms. B.van Rooy [Development Applications]

Bernice.vanRooy@drakenstein.gov.za 021 807 6401/ 061 592 4910

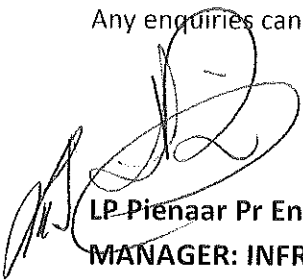
Ms. A Danso [Sewer]

Akosua.Danso@drakenstein.gov.za 021 807 7781/ 082 761 1502

104. Any possible disruption to the traffic flow around the construction site must be discussed with the traffic section;
105. The Council is indemnified against any and all claims whatsoever, legal costs included, that may arise as a result of this permission;
106. This permission is only valid for the period of construction and thereafter the road reserves and any other municipal property must be left in a clean and undamaged condition;
107. All construction work on the Civil services must be undertaken by a civil contractor with the appropriate Construction Industry Development Board (CIDB) grading designation;
108. Copies of all test results must be submitted to this department before the final completion inspection;
109. At completion of construction, officials of this department in conjunction with the contractor and consultant will conduct a completion inspection. No inspections will be done if the plans are not approved;
110. Proof of registration of all servitudes for services (private or bulk municipal) must be presented at the final inspection;
111. A set of "as built" drawings, as per municipal standards, must be provided at the developers cost and must be handed over to the municipality at the practical completion inspection for it to be verified and approved before the completion inspection;
112. In addition to the drawings a final payment certificate for the bulk works, detailing quantities and costs, must be submitted so as to enable the Municipality to extract accurate information for inclusion of said information in its Asset Management Register;
113. This will be based on the information verified by the CONSULTING ENGINEER and will be subject to verification on site. A certificate must be provided by the CONSULTING ENGINEER stating that the services had been installed properly in accordance with the agreed specifications and drawings;
114. All materials must be approved by the municipality before any installation may commence;
115. All municipal civil works shall have a 12 months defects liability period from the date of Practical Completion or unless otherwise agreed;

116. All municipal civil works shall have a 10 year latent defects liability period from the date of Final Completion or unless otherwise agreed;
117. The above conditions are to be complied with in stages;
- Requirements associated with the preparation of plans, drawings, permits, agreements and approvals. These shall be complied with prior to construction;
 - Requirements associated with the completion of construction, developer contributions, as built drawings, maintenance management plans, agreements, etc. These will be complied with prior to the transfer of any property or occupation of any property/building in the phase;
 - Requirements associated with the long term operations. Proof of compliance must be available on request; and
118. No construction work is allowed after hours without written consent from this department.

Any enquiries can be directed to Mr. L Pienaar of this department (Tel 807 4715).



LP Pienaar Pr Eng,

MANAGER: INFRASTRUCTURE MANAGEMENT

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