



# Schulz Estate Soil Health

Agronomists Association

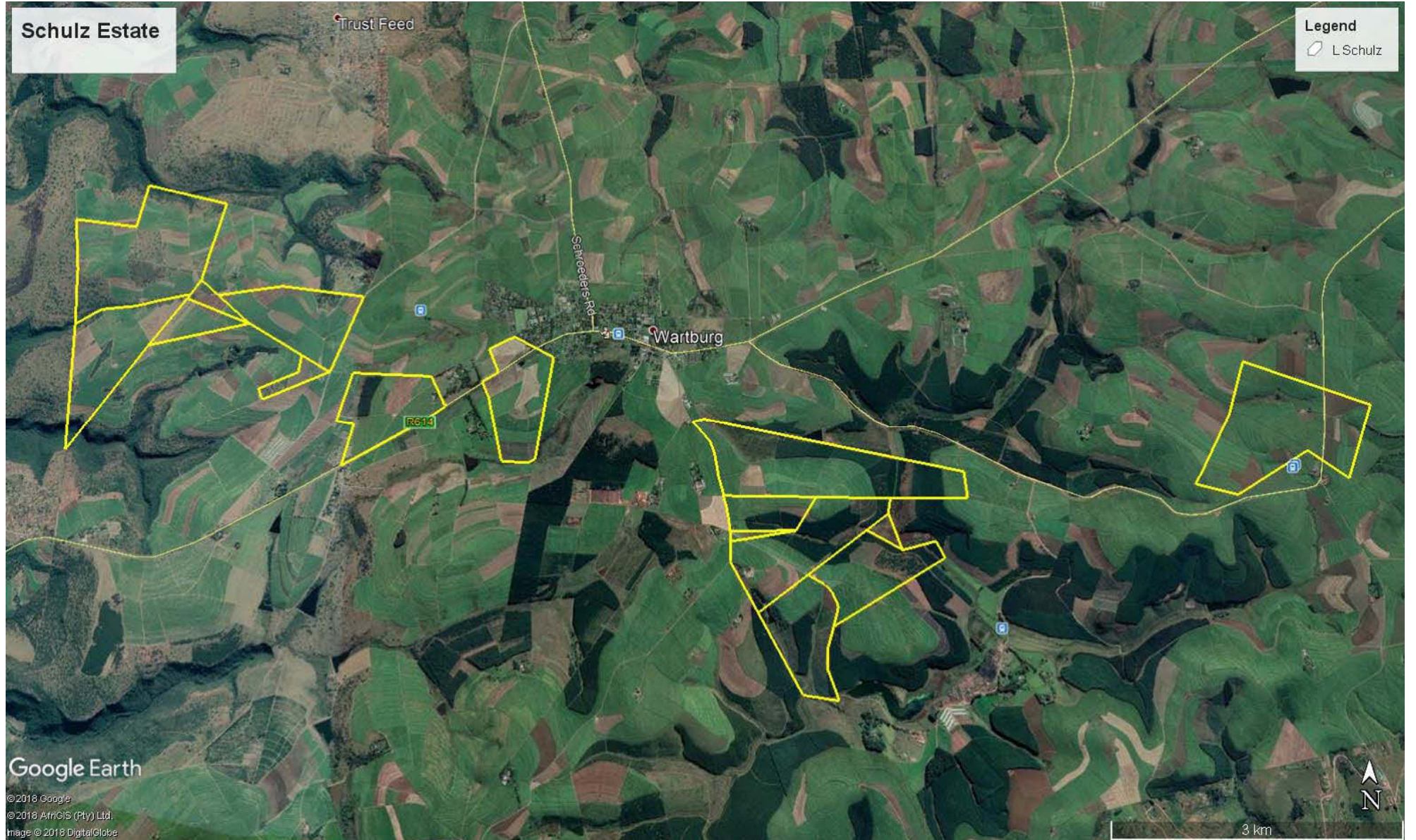
24 October 2018

Schulz Estate

Trust Feed

Legend

L Schulz



Google Earth

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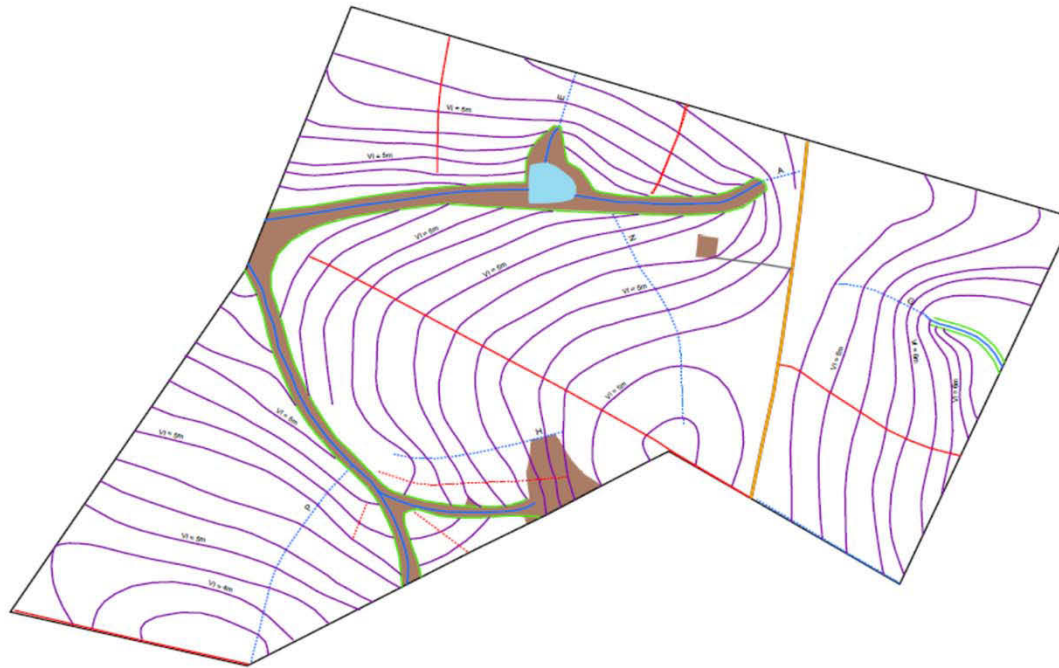
3 km



# Land Use Plan

1:5 500

SEBASTOPOL



Mili Area: Noodsberg  
 Soil: Specialist: David Wilkinson  
 Grower Name: Sebastopol Family Trust  
 Grower Code: 107989A  
 Created by: Nossine Gumede  
 Date: 26/10/2016  
 Datum: Hartbeespoort/La31  
 Projection: Transverse\_Mercator

**Legend**

<span style="color: red;">—</span> Crest Roads	<span style="color: green;">—</span> Valley Bottom Cut-off Road
<span style="color: blue;">—</span> Access Road	<span style="color: blue;">—</span> Watercourse
<span style="color: red;">- - -</span> Hidden Crest	<span style="color: blue;">- - -</span> Waterways
<span style="color: brown;">—</span> District Road	<span style="color: blue;">■</span> Dam
<span style="color: purple;">—</span> Tempest	<span style="color: brown;">—</span> Farm Boundary
<span style="color: brown;">■</span> No-Cane Area	

LAND USE PLAN

**WATERWAY DIMENSIONS**  
 Based on 50% SLOPE 40-50% & 10% YEAR STORM

CATEGORY	DEPTH (m)	VELOCITY (m/s)	VELOCITY (km/h)	WATERWAY
A	1.2	0.5	1.8	0.3
B	1.5	0.5	1.8	0.3
C	1.8	0.5	1.8	0.3
D	2.1	0.5	1.8	0.3
E	2.4	0.5	1.8	0.3
F	2.7	0.5	1.8	0.3
G	3.0	0.5	1.8	0.3
H	3.3	0.5	1.8	0.3
I	3.6	0.5	1.8	0.3
J	3.9	0.5	1.8	0.3
K	4.2	0.5	1.8	0.3
L	4.5	0.5	1.8	0.3
M	4.8	0.5	1.8	0.3
N	5.1	0.5	1.8	0.3
O	5.4	0.5	1.8	0.3
P	5.7	0.5	1.8	0.3
Q	6.0	0.5	1.8	0.3
R	6.3	0.5	1.8	0.3
S	6.6	0.5	1.8	0.3
T	6.9	0.5	1.8	0.3
U	7.2	0.5	1.8	0.3
V	7.5	0.5	1.8	0.3
W	7.8	0.5	1.8	0.3
X	8.1	0.5	1.8	0.3
Y	8.4	0.5	1.8	0.3
Z	8.7	0.5	1.8	0.3

**NOTES**

- While every attempt has been made to the show expected position of proposed roads, final positions will depend on field and site conditions. This plan must not be treated as an exact site plan.
- No land cover plan.
- It is to be understood that the roads, bridges or a watercourse shown here are not to be built until they have been approved by the relevant authorities.
- This is not intended to be a plan of a watercourse.
- The location and construction of roads, bridges or a watercourse is subject to the approval of the relevant authorities.
- The plan is intended to be a guide only and does not constitute a guarantee of any kind.
- While every effort has been made to the show expected position of proposed roads, final positions will depend on field and site conditions. This plan must not be treated as an exact site plan.

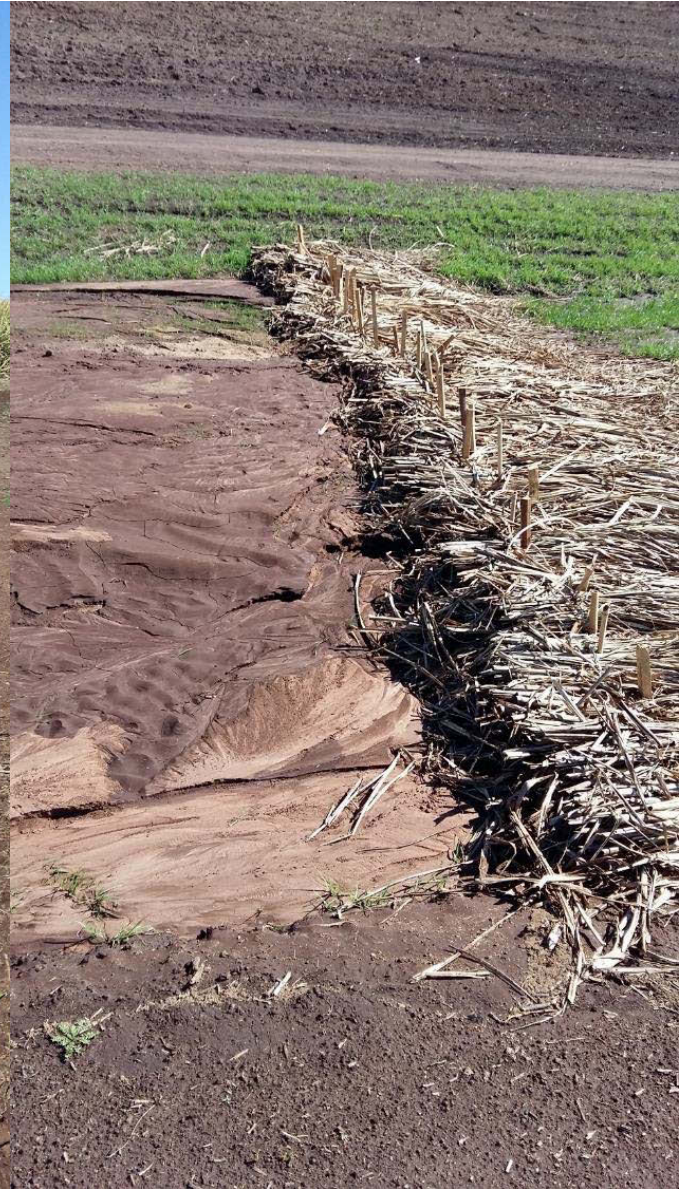
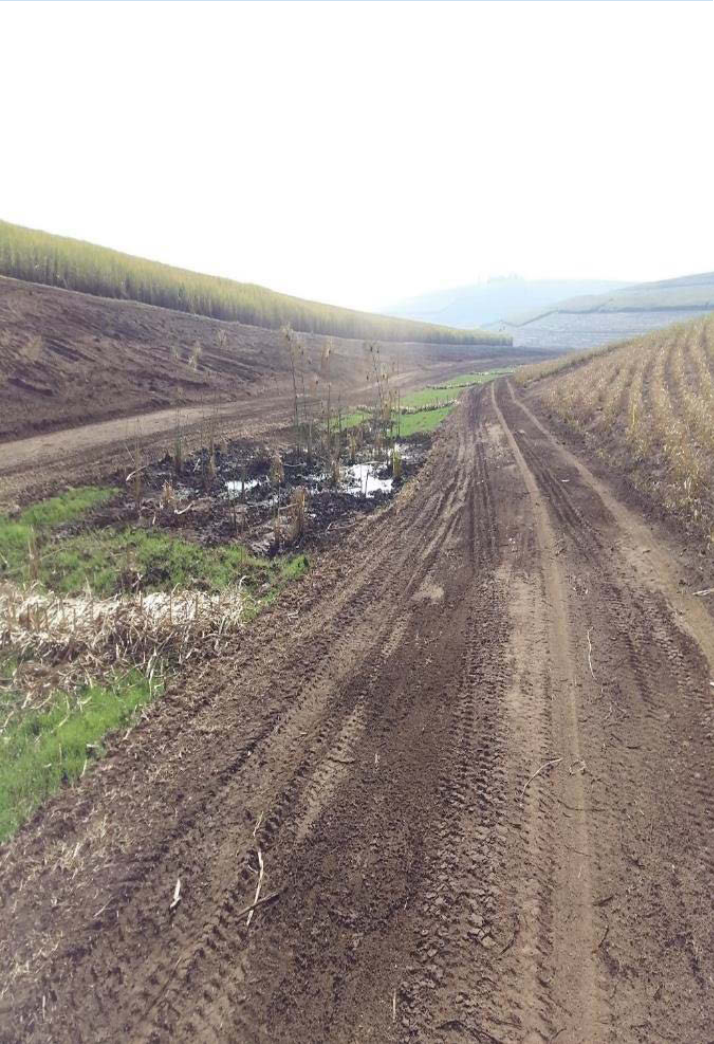
**Mechanical Construction Formulas**

STRUCTURE	TYPE	DESCRIPTION	PROVIDED	REQUIRED	USE
SEWERAGE	SEWER	1.00m x 1.00m	1.00m x 1.00m	1.00m x 1.00m	To collect and convey sewage from buildings and industrial premises to treatment works.
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	SEWER	1.00m x 1.00m	1.00m x 1.00m	1.00m x 1.00m	To collect and convey sewage from buildings and industrial premises to treatment works.
WATERWAYS	WATERWAY	1.00m x 1.00m	1.00m x 1.00m	1.00m x 1.00m	To collect and convey surface water from buildings and industrial premises to treatment works.
	WATERWAY	1.00m x 1.00m	1.00m x 1.00m	1.00m x 1.00m	To collect and convey surface water from buildings and industrial premises to treatment works.

# Contour Banks/Terraces



**Waterways – Grassed and protected with revetts**



# Waterways/Sedges - IPM





# Soil sampling and Analysis



FAS FERTILISER ADVISORY SERVICE - SOIL ANALYSIS REPORT					SA Sugarcane Research Institute
Tel: 031 508 7474 / 75		Fax: 031 508 7593		Email: fertiliser.advisory@sugar.org.za	
Date Received :	08/07/2017	FAS Lab ID :	G S 131173	Report Date :	19/07/2017
<b>CLIENT DETAILS</b>		<b>BILLING DETAILS</b>		<b>CROP AND FIELD DETAILS</b>	
Grower No. 223738 A FAS No. 3454 Schulz Estate Broadmoor P O Box 192 Wartburg		Order No:SE 1825		Sample ID or Field Number 140 GPS Coordinates Sample Depth 0 to 20 cm Crop Plant Cycle Variety N37 Is Cane Trashed ? No Is Cane Irrigated ? No Green Manure Crop Type None Green Manure Crop Yield N/A Attainable Yield at Harvest 125 tons cane/ha	
Email : egon@schulzestate.co.za Extension Area: Midlands North		ADVISOR DETAILS G. H. MOORE ghmoore@telkomsa.net			
<b>Analysis</b>	<b>Unit</b>	<b>Sample Value</b>	<b>Threshold</b>	<b>Result in kg/ha</b>	<b>Comment</b>
pH (in calcium chloride)		4.99			
Phosphorus (P)	mg/L	47.1	13.1	94	Adequate
Potassium (K)	mg/L	141	157	283	Low
Calcium (Ca)	mg/L	1118	300	2236	Adequate
Magnesium (Mg)	mg/L	198	50	395	Adequate
Sodium (Na)	mg/L	17			
Exchangeable Acidity (Al+H)	cmol/L	0.05			
Total Cations	cmol/L	7.70			
Acid Saturation	%	0.7	20.0		Not limiting
Exchangeable Sodium % (ESP)	%	0.9	7.0		Not limiting
Ca/Mg (Equivalence ratio)		3.4			Not limiting
Zinc (Zn)	mg/L	6.1	1.5		Adequate
Copper (Cu)	mg/L	4.8	0.8		Adequate
Manganese (Mn)	mg/L	8.8	2.0		Adequate
Iron (Fe)	mg/L	172	3		Adequate
Silicon (Si)	mg/L	27	15		Adequate
Clay MIR	%	25			
Organic Matter MIR	%	2.1			
Nitrogen (N) Category	cat	2			
N Volatilization	%	1.2	10.0		
Volume Weight	g/mL	1.31			
Reserve K	cmol/L	0.50	1.80		Low

*Note: Thresholds, Comments and Key Indicators are sample specific and based on the attainable yield indicated on the submission form.*

**KEY INDICATORS**

Soil Phosphorus

Soil Potassium

Acid Saturation

Analysis Notes :			
1. Sum of potassium, calcium, magnesium, sodium and (Al+H). In non-saline soils, this is a measure of the effective cation exchange capacity (ECEC).			
2. Rating of potential N release from the soil organic matter (1 = low, 4 = high). N recommendations are adjusted according to this rating.			
3. Potential N volatilization.			
4. Maximum permissible.			

POSSIBLE FERTILISER OPTIONS			
Fertiliser	Furrow (kg/ha)	Topdress (kg/ha)	
Plant	2-3-4 (30)	200	
+ Urea			300
+ Pot.Chloride			50
or MAP(33)	100		
+ Urea			300
+ Pot.Chloride			100
Ratoon 1	1-0-1 (48)		750
or Urea			400
+ Pot.Chloride			400
Ratoon 2	1-0-1 (48)		750
or Urea			400
+ Pot.Chloride			400

*N.B. The above fertiliser options are approximations based on commonly used products.*



# Green manuring/Fallow fields



# Spreaders – Kraal manure and SMS (Spent Mushroom Substrate) and Lime/Gypsum



First green manure/break-crop planted.  
Mix of Morgan Peas and Saia Oats



# Morgan Peas



- Incorporate green manure with disc harrow



# Land Preparation using Ripper



# Ripper Radish, Forage Peas and Saia Oats







# Pöttinger Compact Disc with Double cage roller



# Seed bed preparation



# Tramline Ridger with Microsem dispenser



# Greenstar GPS guidance

1. Autotrack
2. Variable rate
3. Swath Control



# Ridging













Plant crop



Ratoon crop with crop residue



# Inter-row ripping



# Chicken litter spreader



# Infield/Short haul



# Crane/Trans-shipping



# Cane Long Haulage





Dankeschön