

FINIGAS: RIGLYNE VIR DIE INSTALLERING VAN NETSTELSELS

SATI Produsente Inligtingsdag Aug 2023

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“BEST PRACTICE GUIDELINE FOR THE CONSTRUCTION OF AGRICULTURAL NETTING STRUCTURES”

FINIGAS: Fruit Industry Netting Infrastructure Guidelines and Standards
(To mitigate Industry Risk)

2019: MBB Consulting Engineers Tasked to develop a “Standard”

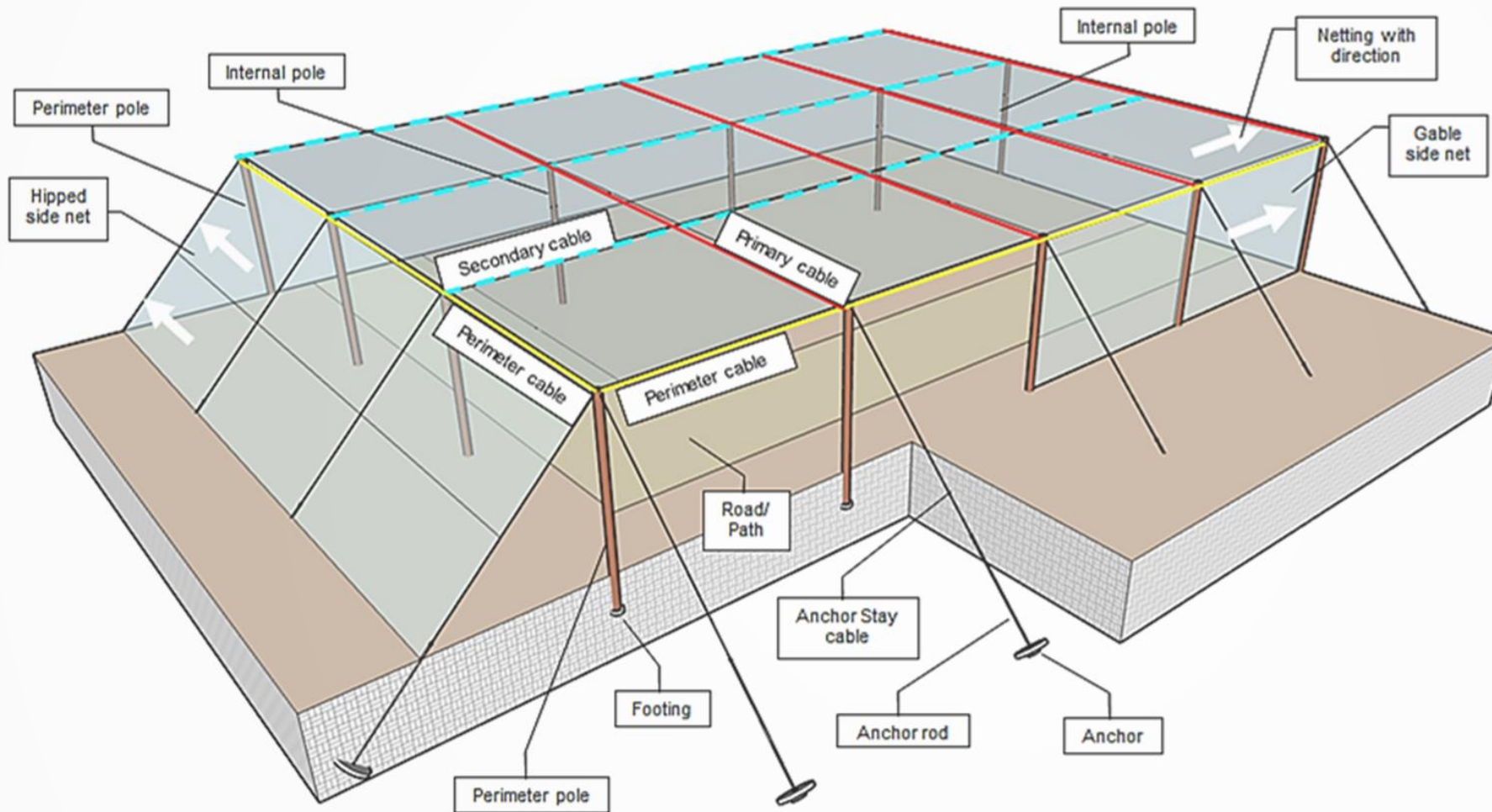
2019: Scoping Exercise: 4 Regions, 20 Farms, (Grapes, Citrus, Deciduous)

2020: Develop Best Practice Guideline

2022: Best Practice Guideline endorsed by SAIAE (SA Institute of Agricultural Engineers)

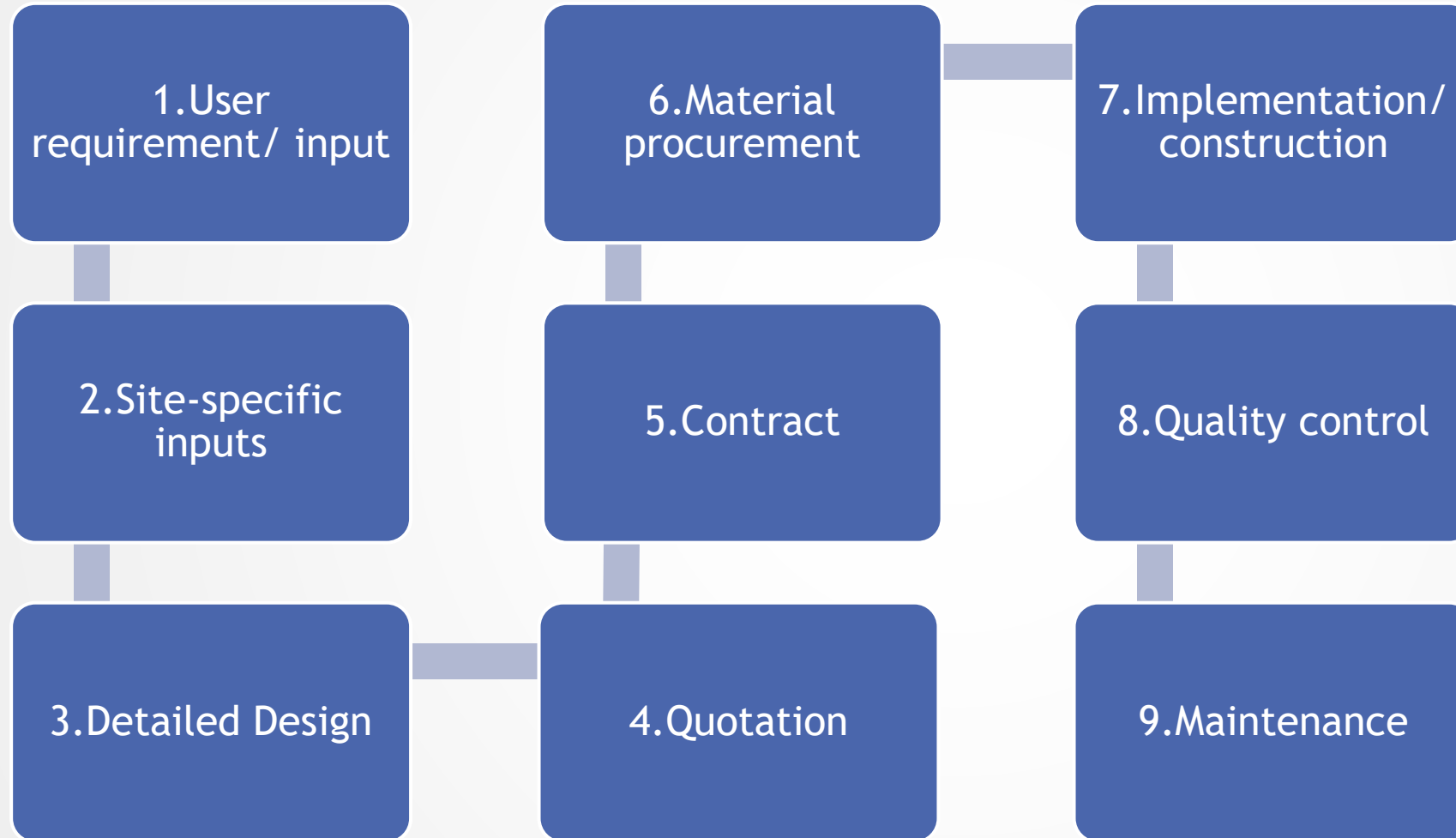
Note: This is about the Netting Structure, not the purpose and benefits of
Netting as protection for crops

Typical Netting Structure Components



Note: Compare with rigid concrete/steel structure like building or bridge.
This is more flexible and balance between components is important.

Acquisition process



USER REQUIREMENTS & SITE INPUTS

USER

- ▶ The user requirements are defined by the client and from this the design is developed.
- ▶ The client's need will be determined: wind/ hail protection, etc.
- ▶ Cost vs Risk



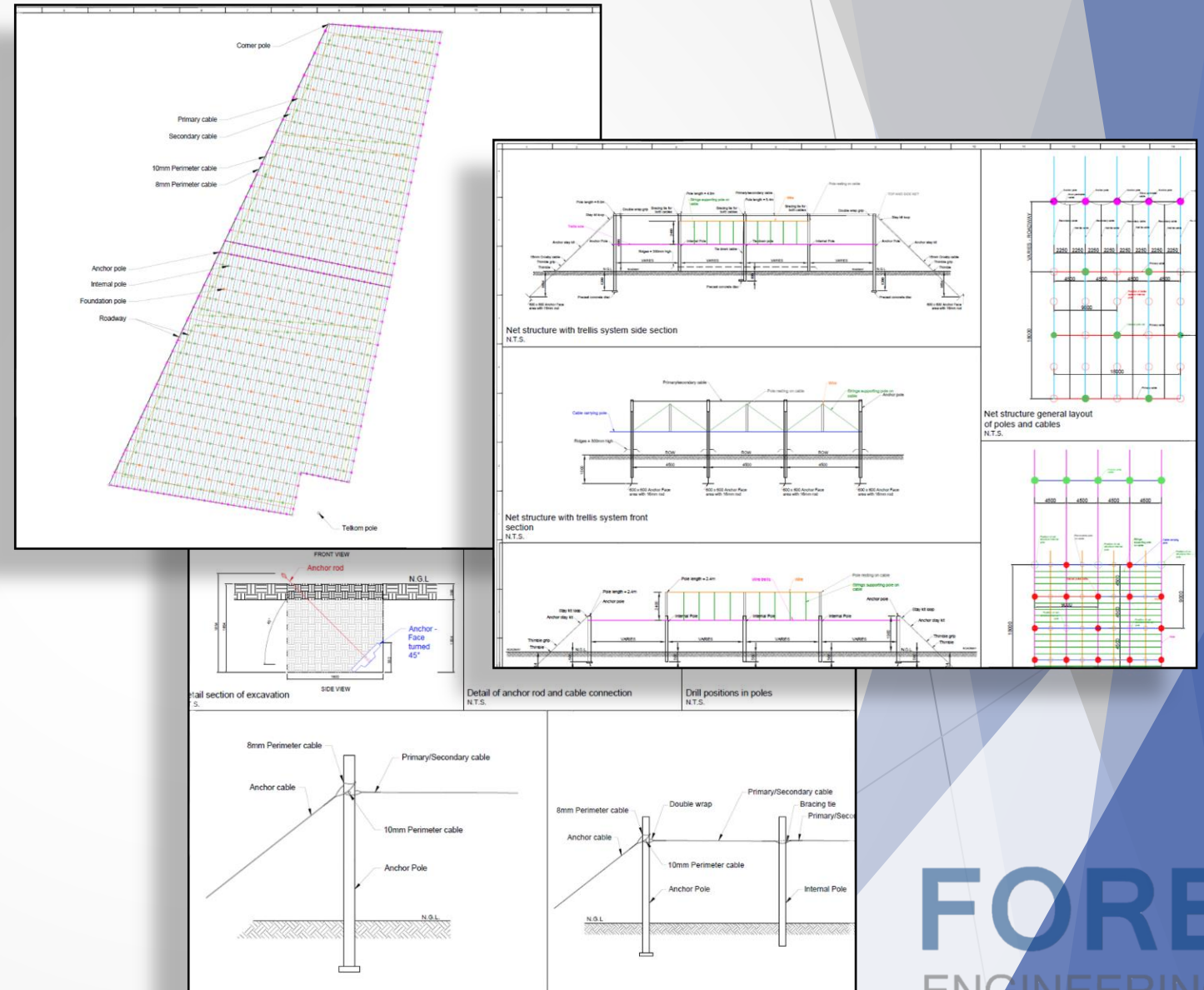
SITE

- ▶ Crop types have certain requirements that will be considered with the design (height, spacing, access roads, open/close capability).



DETAILED DESIGN

- ▶ During the detailed design phase, the various aspects of the project are evaluated.
- ▶ Weather conditions. (Prevailing winds, types of weather systems experienced locally)
- ▶ Topography is considered with the design as wind moved over obstacles creating hot spots and negative pressures.
- ▶ Soil conditions are evaluated to determine anchor sizes and depths and well as required depth at which poles will be planted.
- ▶ Detail design to accommodate all these variables.



QUOTATIONS AND CONTRACTING

- ▶ From the detailed design, a Bill of Quantities is drafted for materials.
- ▶ The Bill of Quantities can be sent to the client's preferred material supplier to be priced.
- ▶ At this stage, the installation contractors will also be asked to provide quotations for their service of erecting the structures.
- ▶ A contract drafted between the Client and contractor. This contract includes payment terms, requirements from both sides and a scope of works/services.
- ▶ Contract or purchasing agreement between Client and material suppliers. This agreement should include price, specification and delivery schedules.
- ▶ There is also a contract between the Client and Engineers, appointing the engineers for services during the project.

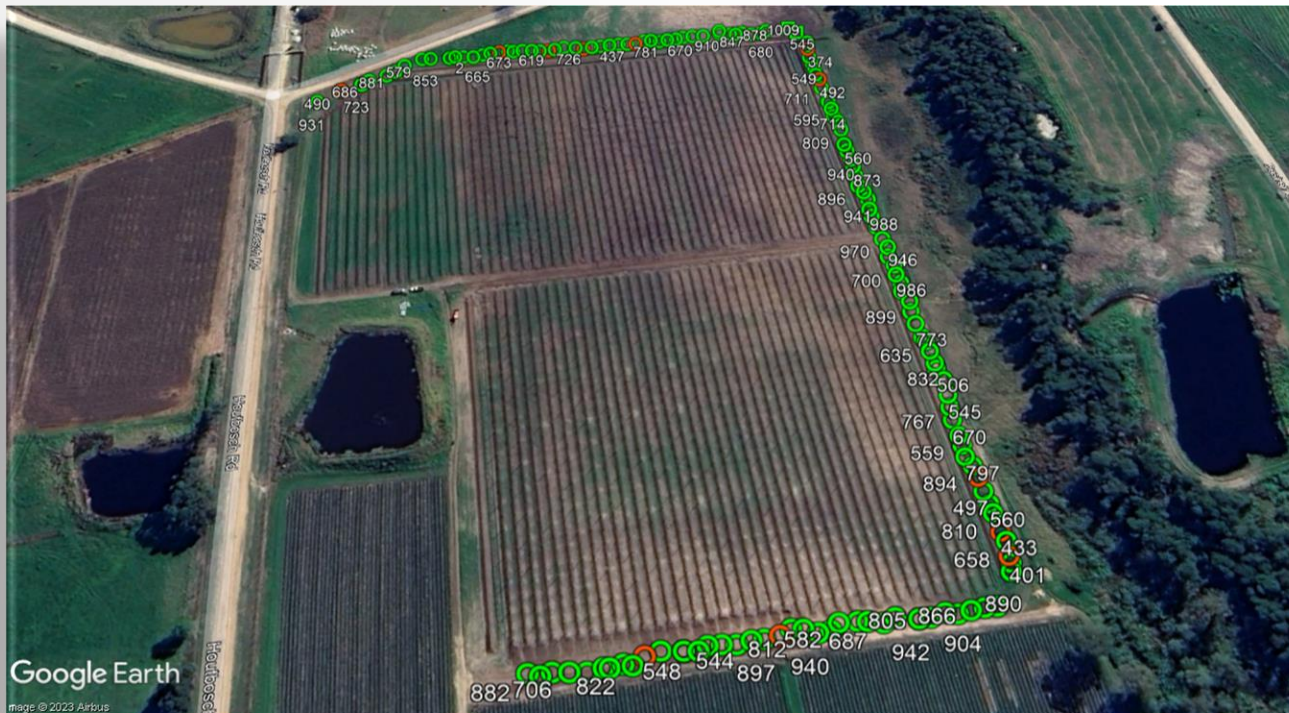
QUALITY CONTROL

- ▶ The netting structure design will be of good quality if it meets all the user requirements, and if it conforms to best practice guidelines.
- ▶ Materials should be ordered and checked against the relevant material specifications.
- ▶ The netting structure implementation will be of good quality if it is installed according to the plan and specifications as outlined in the design and supporting documentation, and according to the best practice guidelines.
- ▶ Payment certificates can be issued at regular intervals.
- ▶ Certificate of Acceptance:
 - ▶ Design
 - ▶ Implementation

CERTIFICATE OF ACCEPTANCE		
Item:	Agricultural Netting Structure	
Name of Farm:		
Orchard Number:		
Drawing Number:		
A. NETTING STRUCTURE DESIGN		
I hereby certify that the netting structure design conforms to the the Best Practice Guideline for Agricultural Netting Structures		
----- Signature	----- Name	---/---/--- Date
Accountability level:	Owner:	
	Contractor:	
	Engineer:	
B. NETTING STRUCTURE IMPLEMENTATION		
I hereby certify that the netting structure implementation conforms to the the Best Practice Guideline for Agricultural Netting Structures		
----- Signature	----- Name	---/---/--- Date
Accountability level:	Owner:	
	Contractor:	
	Engineer:	

MAINTENANCE

- ▶ Annual maintenance inspection is carried out to ensure that the tension forces in cables are according to specification and that the structure is in equilibrium.
- ▶ The inspection results are compiled in a report for the record.
- ▶ A job card for corrections is issued and corrections confirmed.
- ▶ Extension of design professional indemnity insurance.



Thank You

- ▶ SAIAE 2-day Training Course: 29-30 Aug 2023
- ▶ Fore Engineering Solutions:
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