

Correct Use of Mechanised Equipment for Difficult Terrain Harvesting The practical Do's and Don'ts



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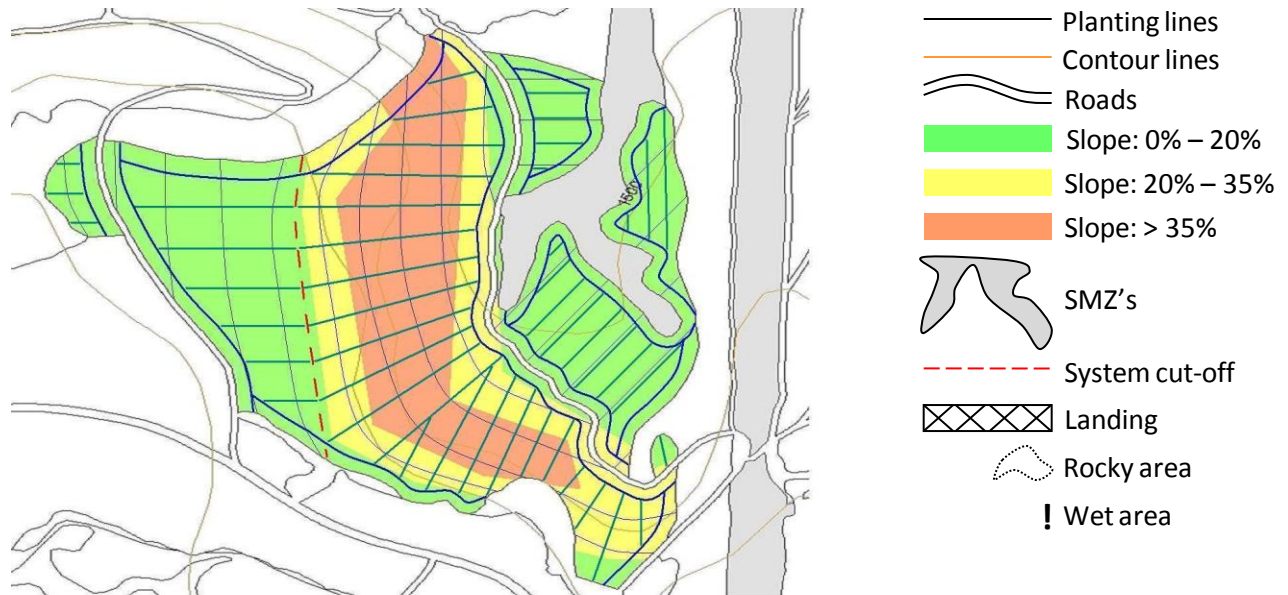
Definition of “difficult”:

S.P.E.Q.S

- Safety
- Productivity
- Environment
- Quality
- Social

Risk assessment

- Continuous risk assessments take place during harvesting operations.
- Planning and risk assessment is the same thing:
 - Operational harvest plan at compartment level.
 - Daily planning
 - Continuous observation



Typical high risk (difficult) factors

- Safety
 - Oversized trees
 - Power lines or telephone lines
 - Windfalls
 - Dead trees
 - Cliffs to be considered and rocky outcrops
 - Mine shafts or other sub terrainian cavities
 - Fire risk
 - Terrain restrictions:
 - Slope
 - Ground conditions
 - Ground roughness

Typical high risk (difficult) factors

- Environmental
 - Visual impacts
 - Sensitive soils
 - Riparian zones
 - Indigenous forest present
 - Other SMZs or ASIs present?

Typical high risk (difficult) factors

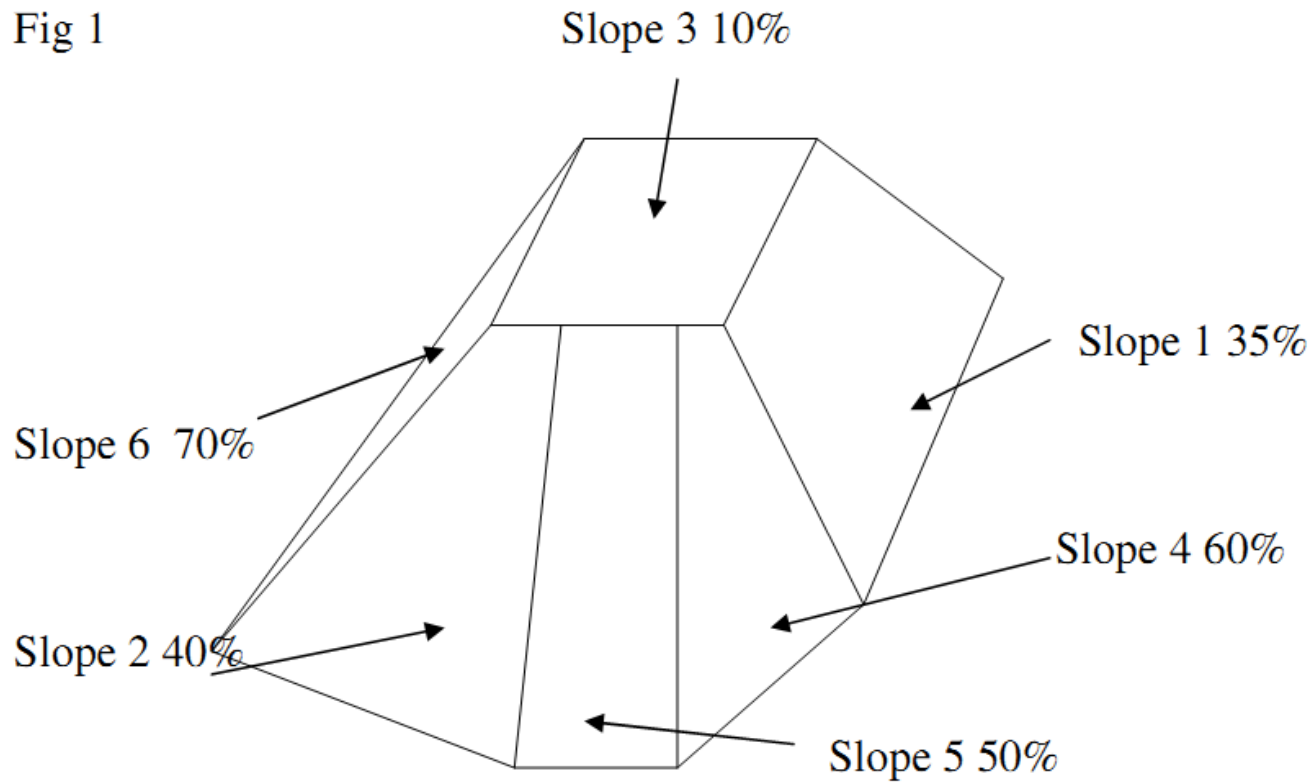
- Social
 - Public access problematic (recreation, fire wood)
 - Public roads adjacent to compartment
 - Will noise/dust/transport affect stakeholders?

Some key mitigation measures for harvester

- Traction or stability of the machine while climbing.
- Track-Position-Work.
- Caution when handling stems at full reach on a slope.
- Clear debris in front of the machine while climbing a slope.
- Always try to climb straight up and down a slope, especially on rocky ground.
- Don't brake if machine slides down a slope.
- Work close to the machine.
- Correct running direction of chain.
- Adhere to safe operating procedures.

Case study: Harvester

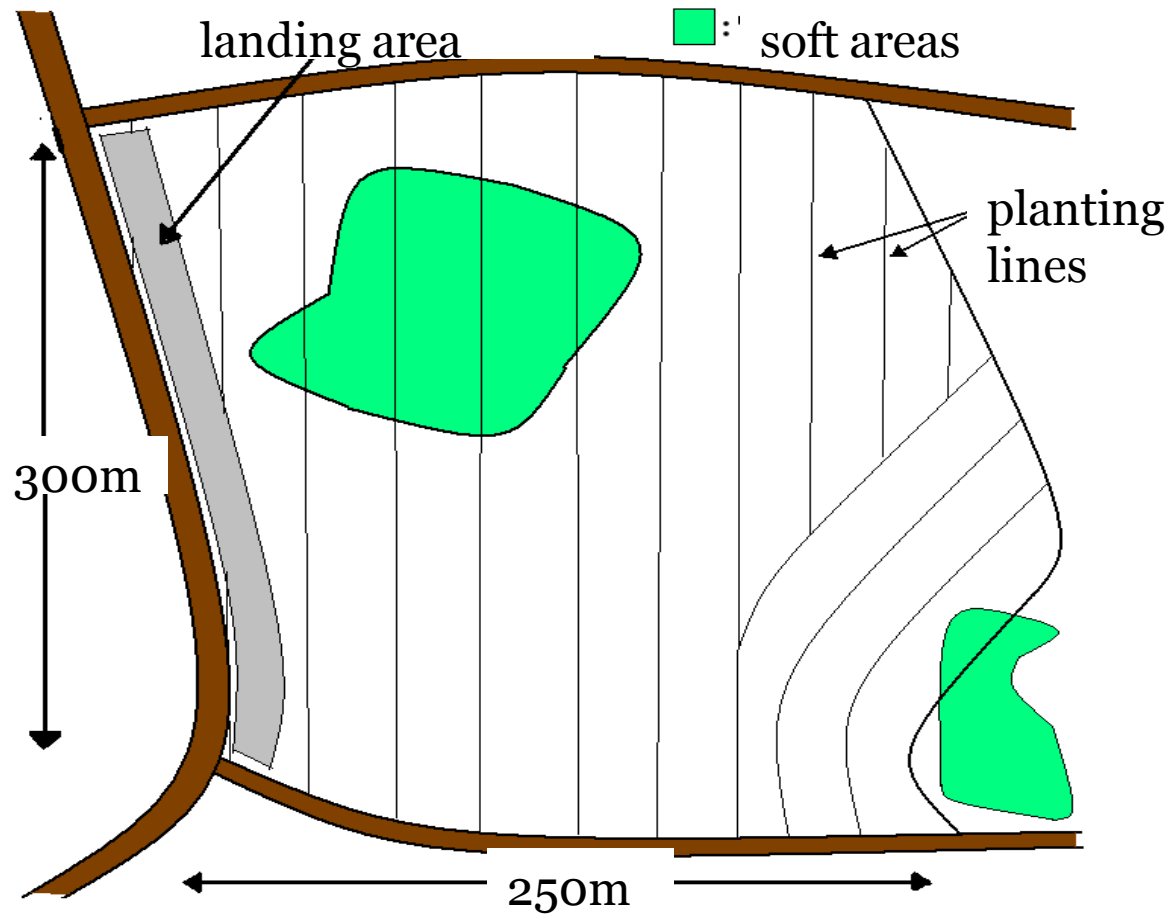
Fig 1



Some key mitigation measures for forwarders

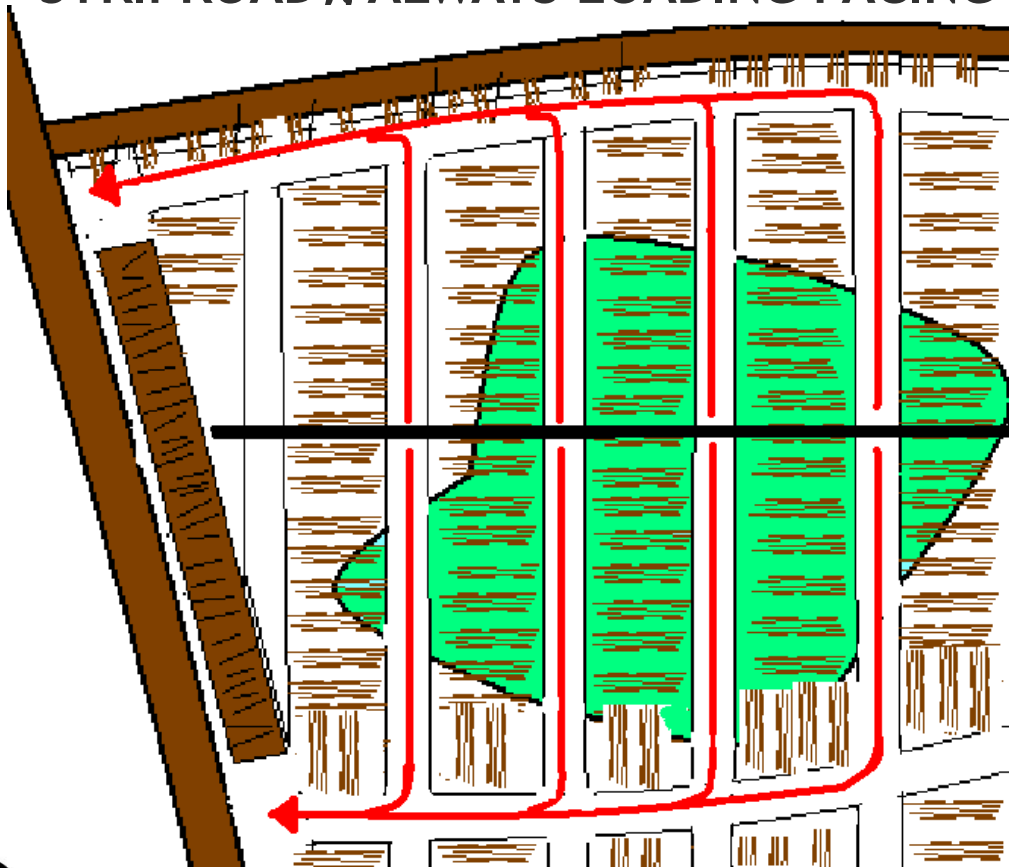
- Turn the machine around when empty.
- Working a hill with a flat spot at the top.
- The use of the uprights.
- Maintain correct distance from the pile at roadside.
- Unloading using the 3-2-1 method.
- Always travel straight up and down a hill.
- Haul smaller loads up steep slopes.
- Ensure proper tension on the tracks.

GENERAL COMPARTMENT INFORMATION



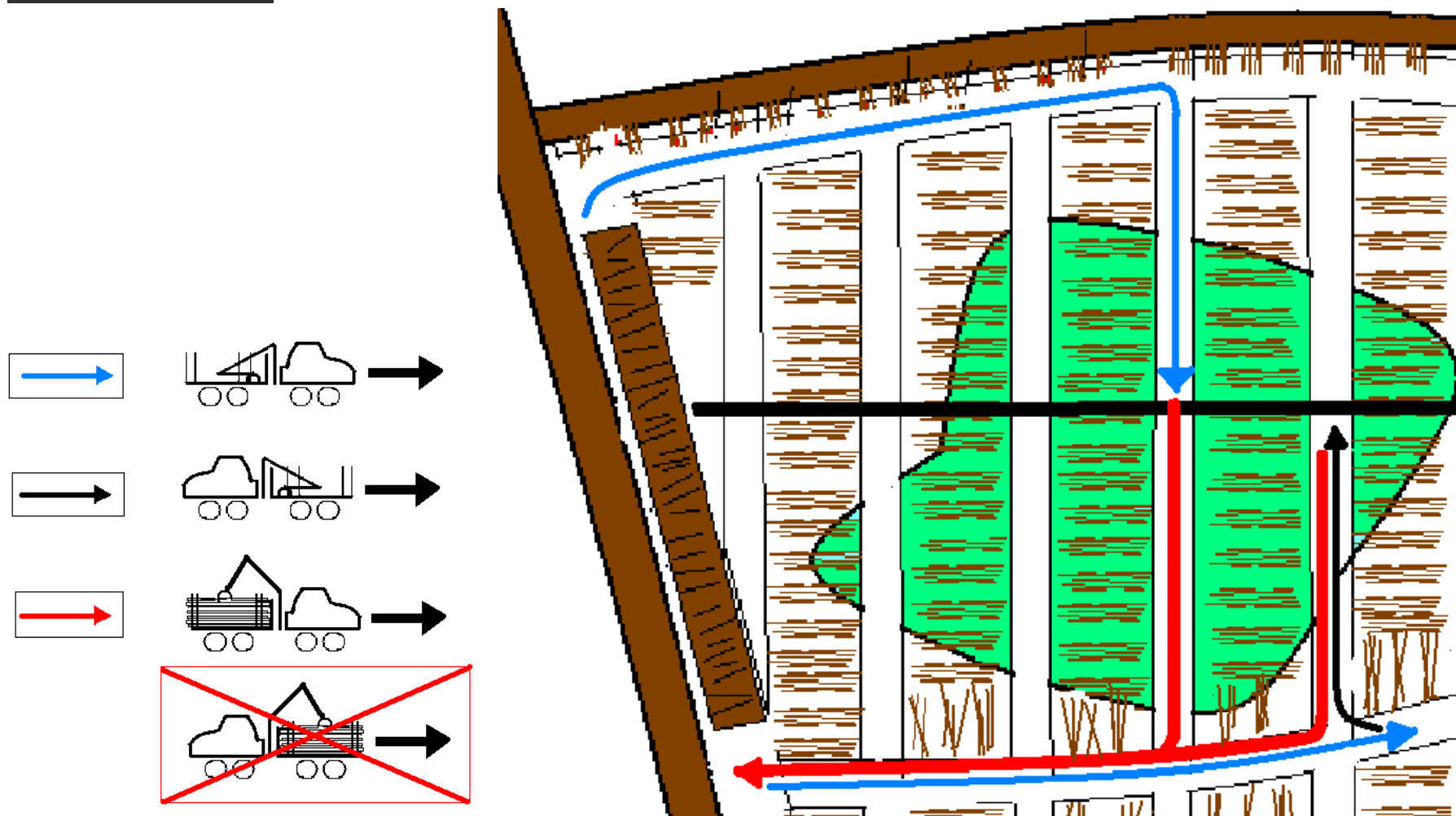
CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT, EXAMPLE 1/6

THE TIMBER IS EXTRACTED USING THE SHORTEST ROAD (ON STRIPROAD), ALWAYS LOADING FACING THE EXIT

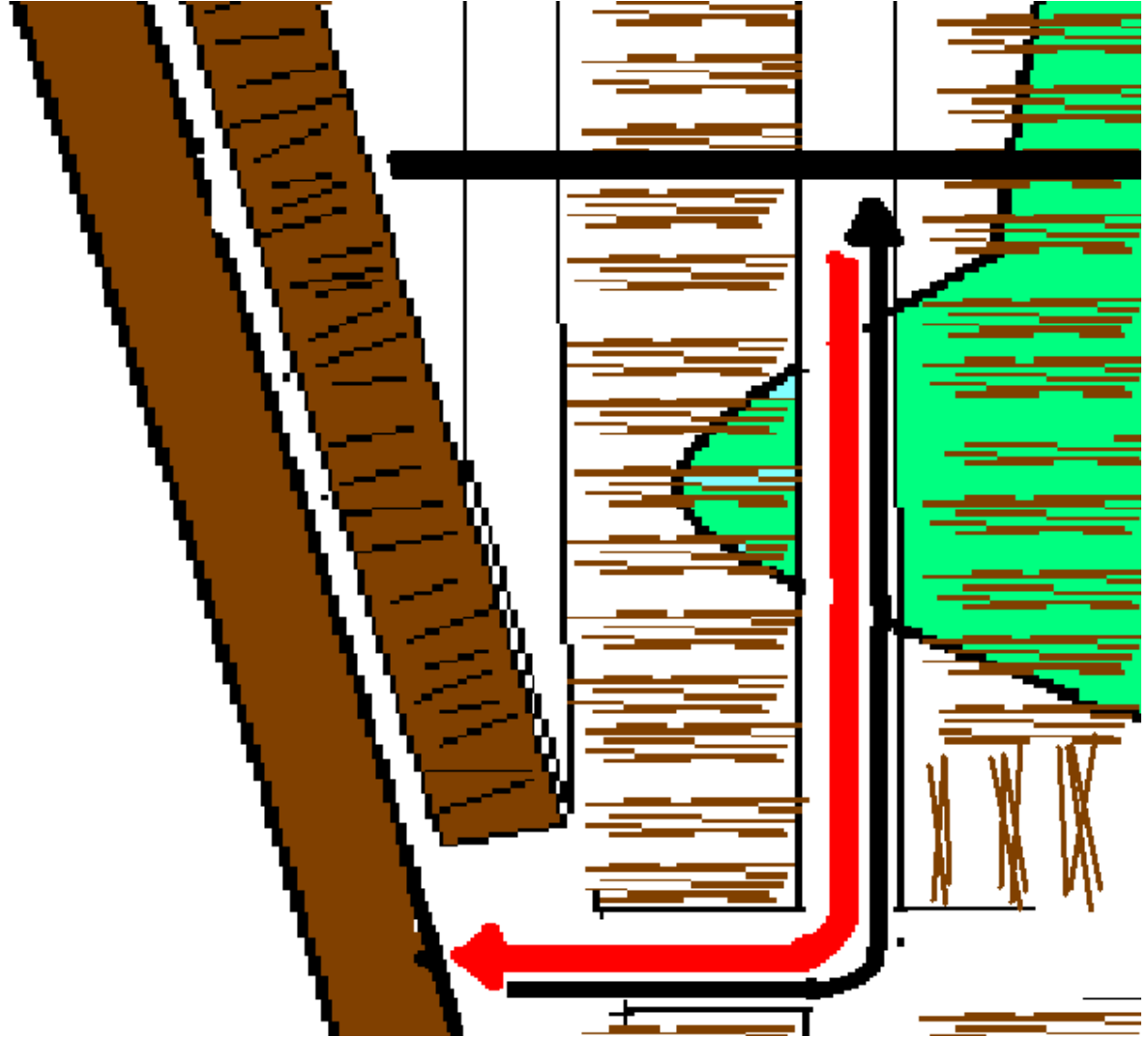
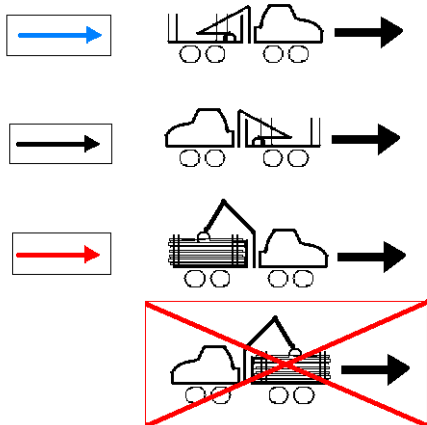


**HALF BLOCK /
EXTRACTION
DISTANCES**

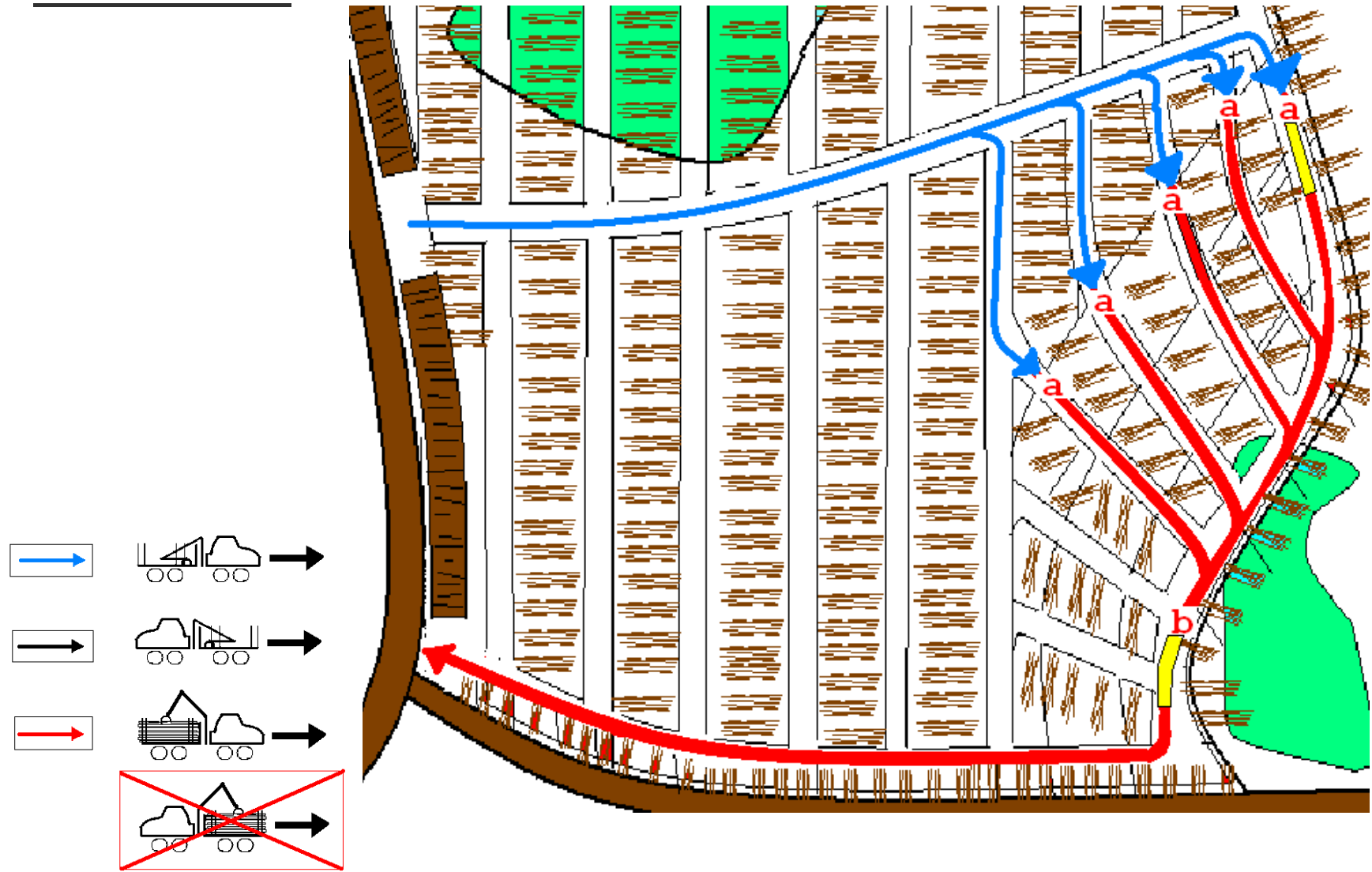
CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT, EXAMPLE 2/6



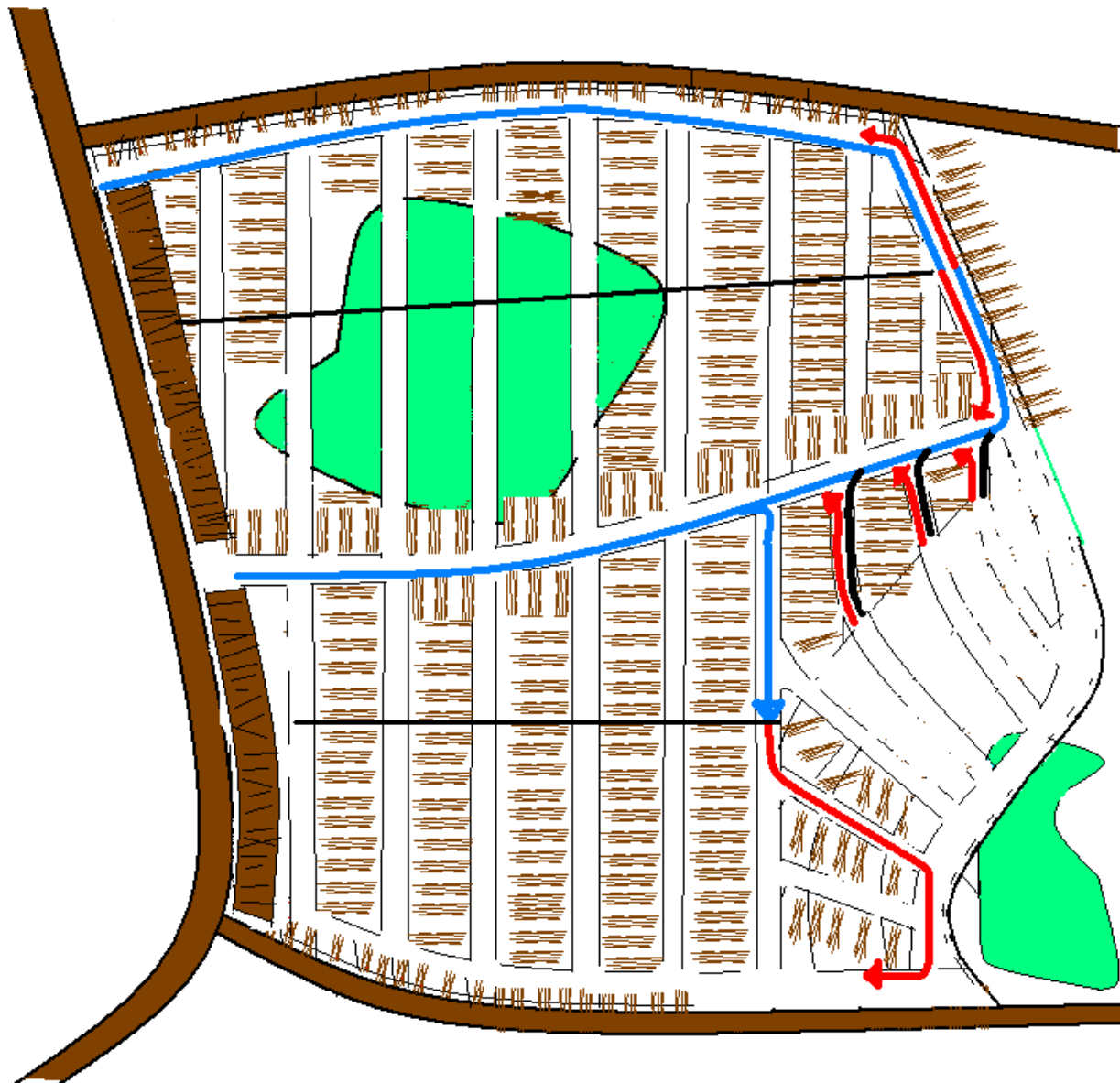
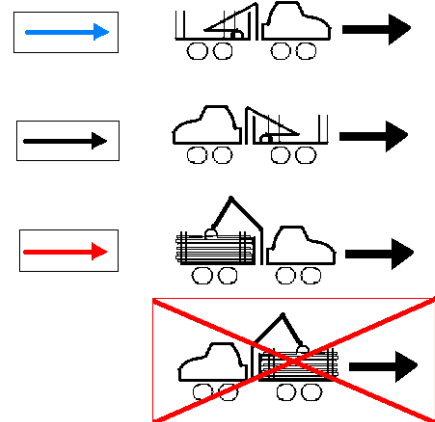
CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT, EXAMPLE 3/6



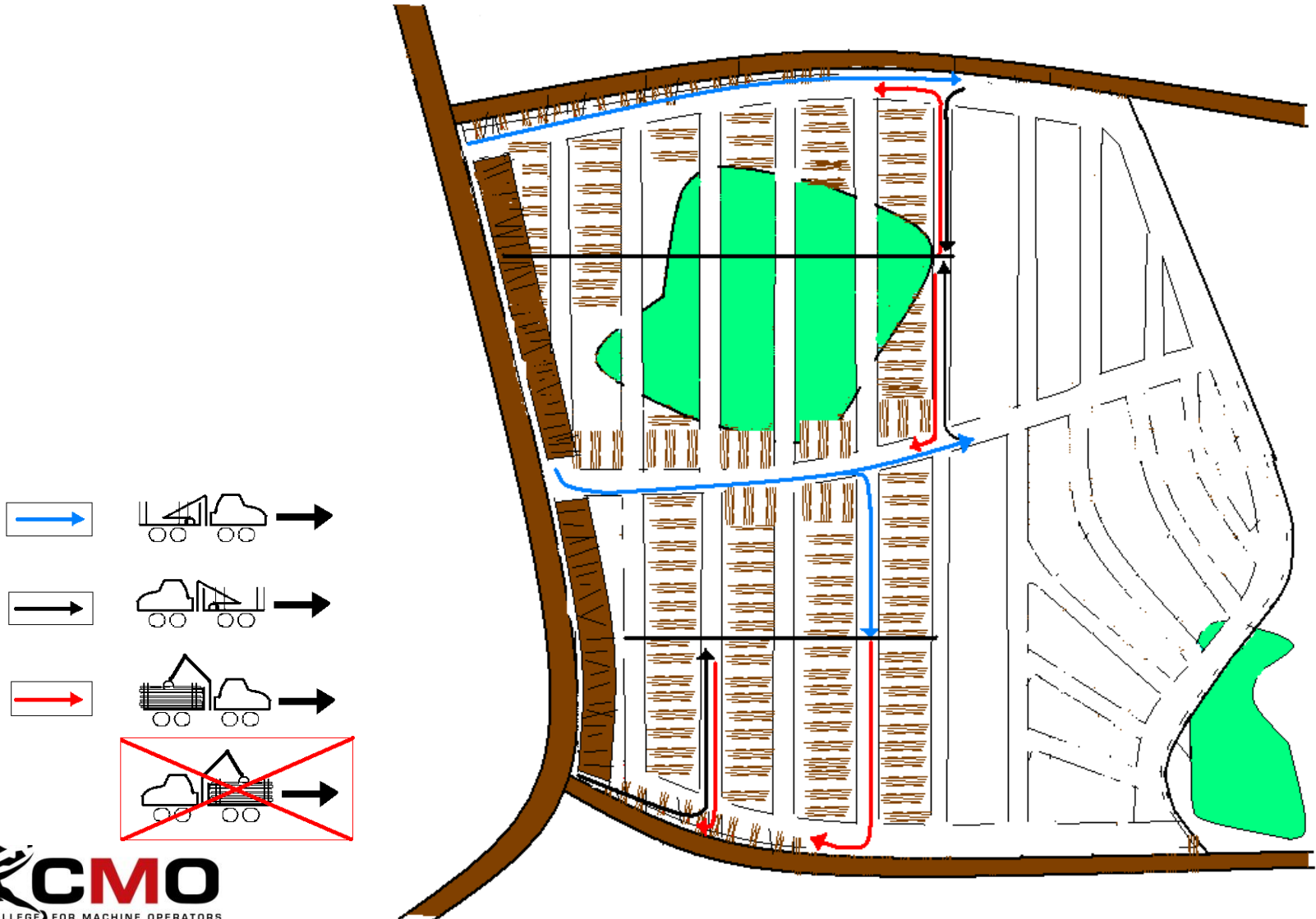
CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT, EXAMPLE 4/6



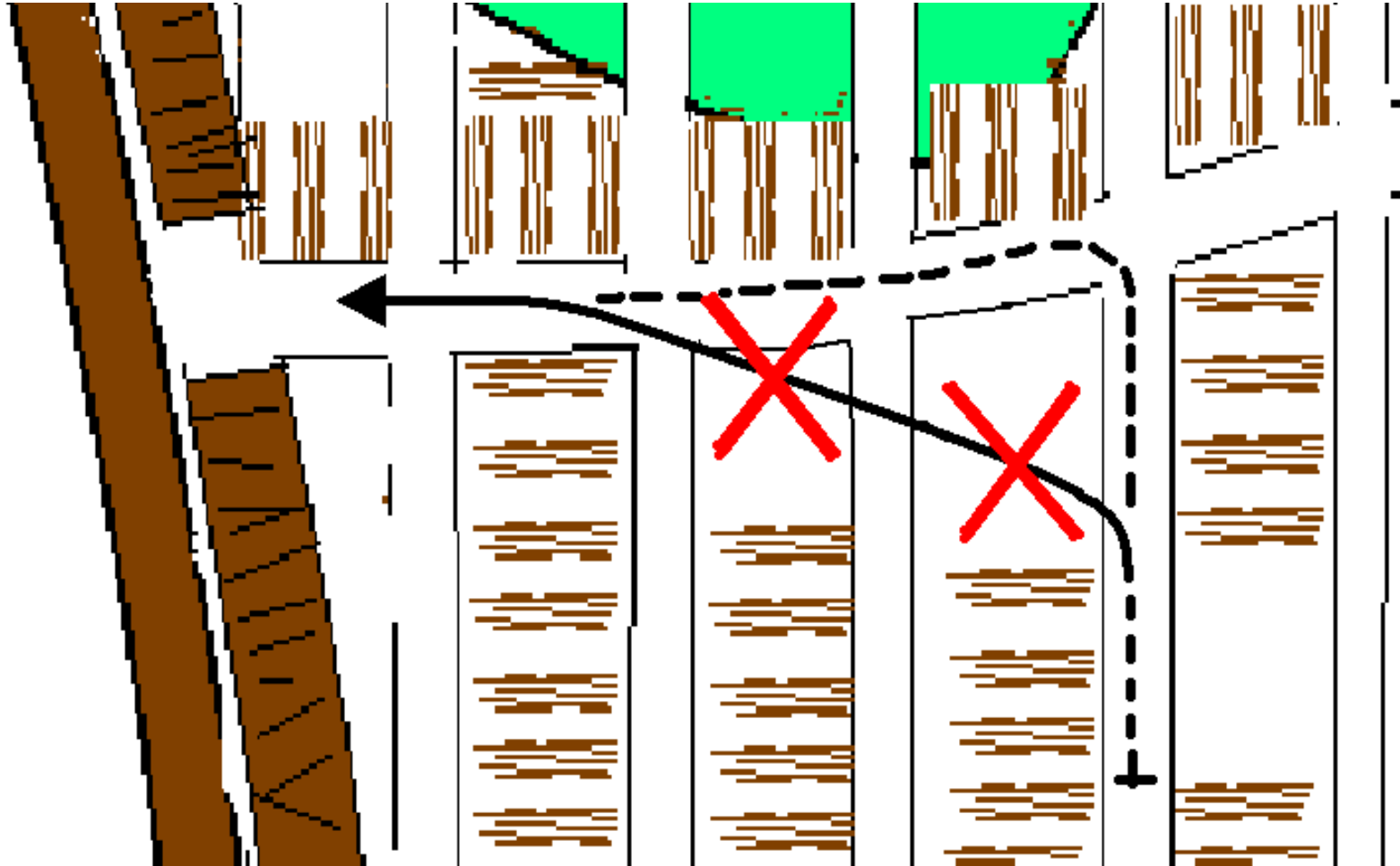
CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT, EXAMPLE 5/6



CASE STUDY: FORWARDER - TRAVELLING IN THE COMPARTMENT,
EXAMPLE 6/6



ALWAYS TRAVEL ON THE EXTRACTION ROUTES!



CONCLUSION

- Proper planning/risk assessment
- S.P.E.Q.S
- Proper mitigation measures for Harvesters/Forwarders
- MORE PRODUCTION!!!!!!!!!!

Thank you!



Website: www.cmo.co.za/index.php