SARINZ
SEARCH AND RESCUE INSTITUTE NEWZEALAND

# Post Workshop Assignment

# Foundation Rope Rescue

| |
|---|
| Course number: |
| Due by: |
| Workshop location: |
| Workshop dates: |
| Student name: |
| Contact:<br>Hm phone –<br>Cell phone –<br>Email – |

**Send completed assignments to:**
SARINZ,
PO Box 8827,
Riccarton,
Christchurch.

**Contact for assistance:**
0800 4 SARINZ
0800 4 727469
info@sarinz.com
www.sarinz.com

Post Workshop

*Helping Others Save Lives*

# Introduction

## The purpose of this assignment?

This assignment aims to continue the process of applying theory to practical situations, and reflect on your learning from the workshop.

## How long do you get?

This assignment is due for completion 3 months after the practical workshop or as advised by SARINZ. Some of you may find the concepts here to be difficult and therefore be tempted to leave the assignment. It is therefore important that you start this assignment as soon as possible and ask for assistance early.

## How long will it take?

It is expected with reading, research, inquiry and answering the questions you are likely to take up to 25 hours of work to complete this assignment.

## Access to a course instructor?

If you have any questions with regard to this post workshop assignment please make contact with one of your course instructors or alternately contact SARINZ.

## Assessment

You need to answer every question and follow the instructions given in the tasks. This is an individual assignment and is to be your own work.

This assignment provides exercises for you to show that you are competent in learning outcome 21. Undertake reflective practice of the standard of SAR3 95: Demonstrate foundation rope rescue techniques (level 4, Credit 12, version1).

You will be assessed as competent (C), not yet competent (NYC) or insufficient evidence (IE). If you are assessed as competent then your pass will be forwarded to Tai Poutini Polytechnic Search and Rescue Programme; if you are assessed as not yet competent an Instructor will work with you to achieve competence where possible. If not, the matter will be referred to the SARINZ Administration Officer to process. If there is insufficient evidence, for example not completing an assessment task then it will be dealt with similarly to not yet competent.

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*Helping others save lives*

Tai Poutini Polytechnic
West Coast
NEW ZEALAND

# Scenario 1 Car off the road

## Situation

A car has driven off the side of the road into a gorge. The base of the gorge is around 15m down a 25° slope from the road. There is no access other than on rope.

## Task A Pulley System

You have been tasked with setting up a pulley system for the raise back up the side of the gorge with a stretcher, attendants and a patient. Set up the an efficient pulley system with the equipment and space available.

## Resources for pulley system

- Prusik Minding Pulley (PMP) 50mm sheave
- Rescue Pulley, 50mm sheave x4
- Tandem Prusiks x2 sets 8mm
- Anchor plate
- A fire truck parked half way across the road
- 60m mainline 11mm rope
- Low directional edge protection
- Cordalette 8mm
- Webbing 25mm
- Alloy carabiners
- Jigger
- 5 haulers

**1. Draw a plan view of the pulley system you intend to build on the following page?**

**2. What is the mechanical advantage of the pulley system you have built?**

**3. Why have you decided to build this mechanical advantage?**

**4. Why have you chosen that particular location/line for hauling?**

# Rigging worksheet

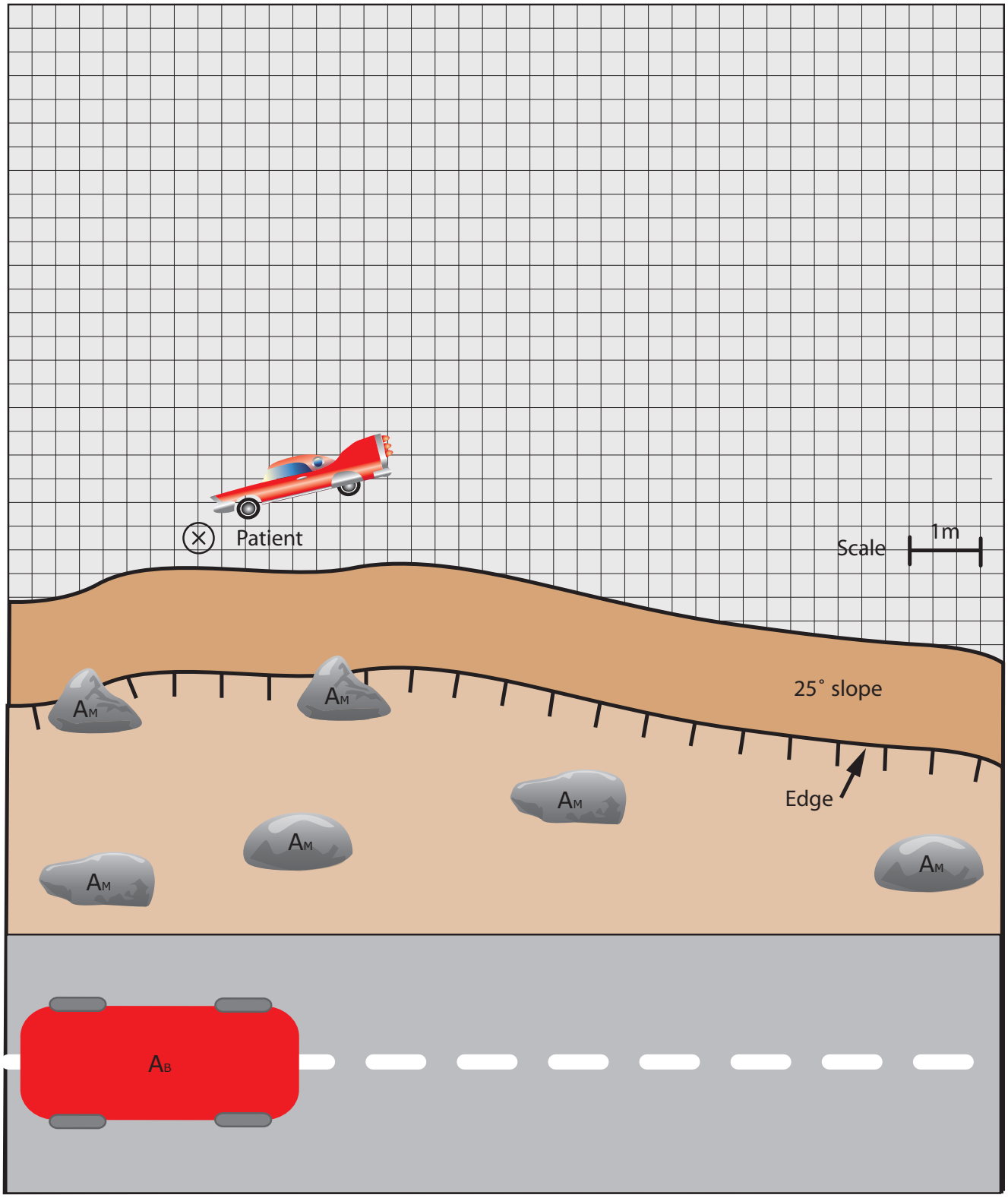
**KEY**

- MAINLINE
- BELAYLINE
- BELAY
- PRUSIK
- BRAKE

- A ANCHOR
- $A_M$ MARGINAL ANCHOR
- $A_B$ BOMBPROOF ANCHOR
- $A_F$ FOCUSED ANCHOR
- $A_{FT}$ FRONT-TIE ANCHOR
- FT FRONT-TIE
- BT BACK-TIE

- P PRUSIK
- $P_R$ RATCHET PRUSIK
- $P_H$ HAUL PRUSIK
- H HAULER
- LD LOW DIRECTIONAL
- HD HIGH DIRECTIONAL
- R REDIRECT

- LOAD # PAX
- PMP
- PULLEY
- EDGE



## Task B Anchor System

One of your team has rigged a basket hitch (Figure 1) around one of the anchors. Having participated in a foundation rope rescue workshop you know there is a better option – the wrap 3 pull 2. You now have to explain to the person why the basket hitch is not a preferred option.

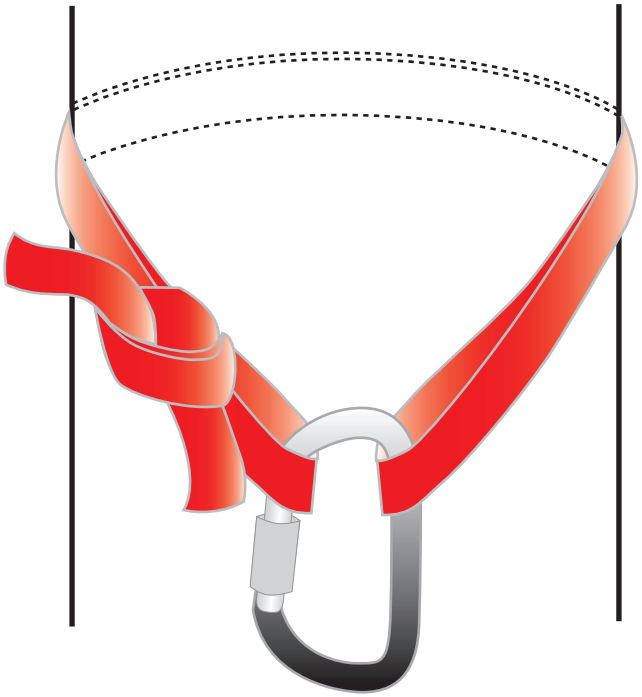


**Figure 1** Basket

**5. What are the disadvantages of the basket hitch? Give at least 2 examples.**

## Task C Lowering System

You have been tasked with preparing a lowering system for this low angle terrain to move the stretcher and four attendants down to the patient.

**6. What device/hitch could you use for lowering the load for the low angle?**

**7. What are the advantages of this device/hitch? Give at least 2 examples.**

**8. What are the disadvantages of this device/hitch? Give at least 2 examples.**

# Scenario 2 Walker on a track

## Situation

A walker has tripped and broken their lower leg on a bush track 45 minutes from a road end. Your team has been tasked with a stretcher carry as the best option for extraction. On the walk in to the accident site you notice a large gully with steep sides (20-25°) that is going to need a low angle rope system.

## Task A Pulley System

You have been tasked with setting up a pulley system and redirects for the raise back up the gully for a stretcher, with attendants and a patient. Set up the an efficient pulley system with the equipment and space available. This pulley system must have a different mechanical advantage to the one used in Scenario 1. There are some bends in the track around which the rope will need to be redirected.

## Resources for pulley system

- Prusik Minding Pulley (PMP) 50mm sheave
- Rescue Pulley, 50mm sheave x6
- Tandem Prusiks x2 sets 8mm
- Anchor plate
- 60m mainline 11mm rope
- Low directional edge protection
- Cordalette 8mm
- Webbing 25mm
- Alloy carabiners
- Jigger x4
- 3 haulers

**1. Draw a plan view of the redirects and pulley system you intend to build on the following page?**

**2. What is the mechanical advantage of the pulley system you have built?**

**3. Why have you decided to build this mechanical advantage?**

**4. Why have you chosen that particular location/line for hauling?**

# Rigging worksheet

**KEY**

- MAINLINE
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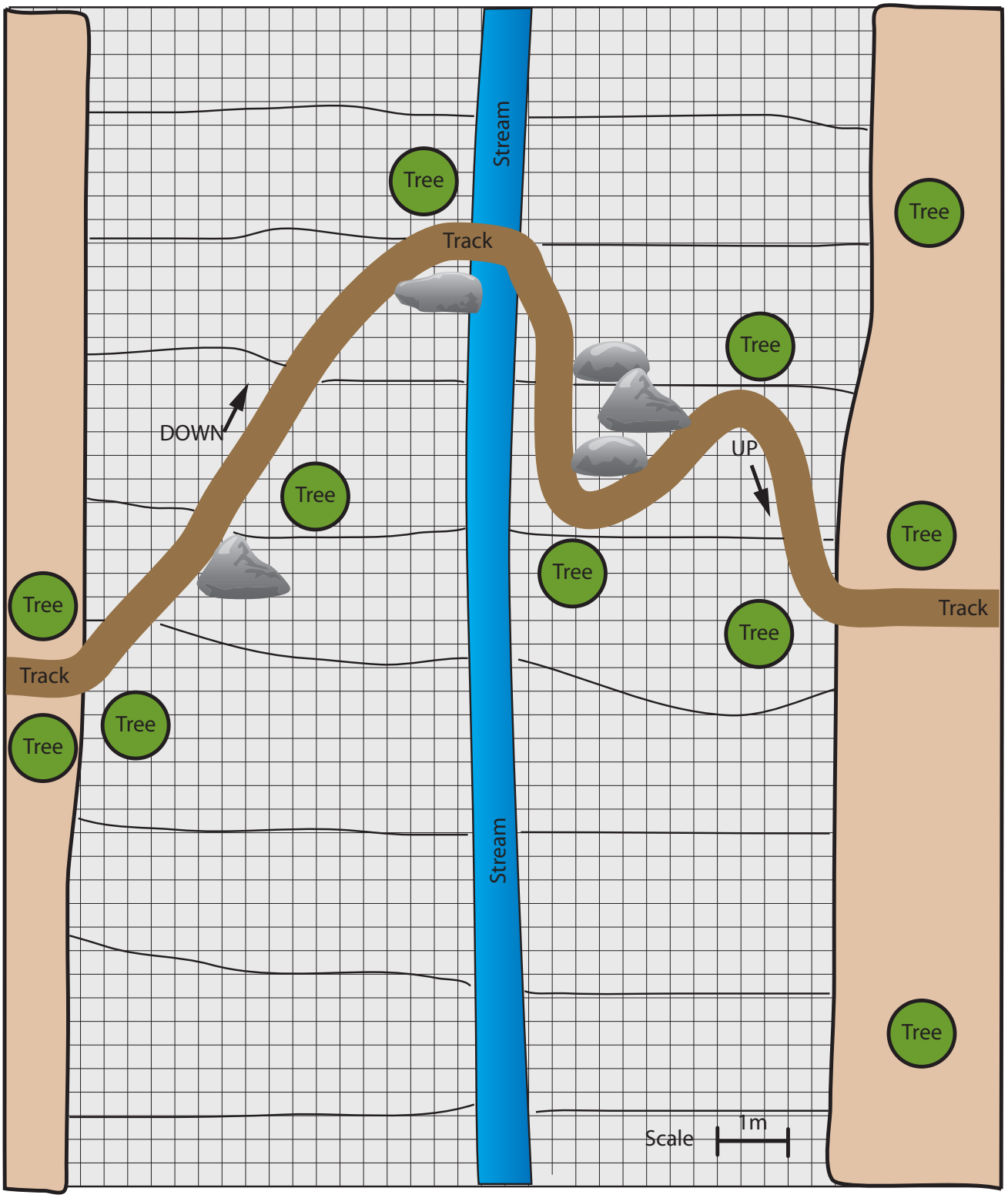
- PMP
- PULLEY
- EDGE



## Task B Anchor System

Having participated in a foundation rope rescue workshop you know suitable anchor attachment to use on the trees is a wrap 3 pull 2 (Figure 2).

**5. What are the advantages of the wrap 3 pull 2? Give at least 2 examples.**

**6. What are the disadvantages of the wrap 3 pull 2? Give at least 2 examples.**

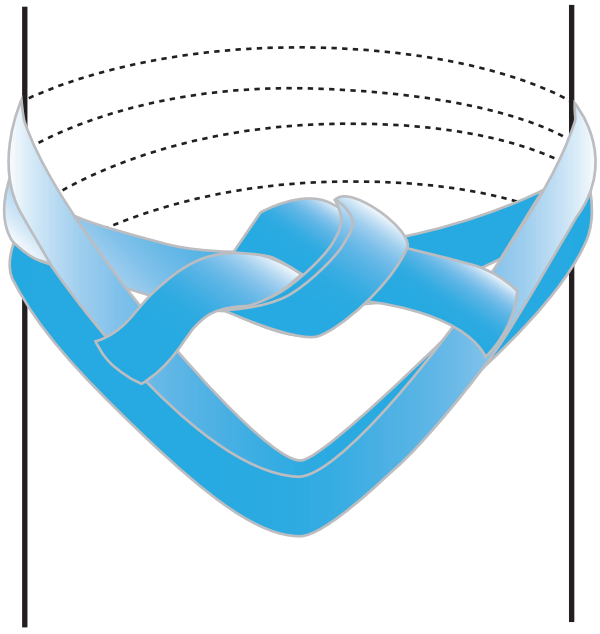


**Figure 2** Wrap 3 Pull 2

## Task C Lowering system

You have been tasked with preparing a lowering system for this low angle terrain to get the stretcher, attendants and patient down into the gully with the patient.

**7. What device/hitch could you use for lowering the load that is different from the example used in scenario 1?**

**8. What are the advantages of this device/hitch? Give at least 2 examples.**

**9. What are the disadvantages of this device/hitch? Give at least 2 examples.**

## Task D Stretcher carrying

You have been tasked with preparing a team for carrying in this low angle terrain to get the stretcher, attendants and patient down into the gully with the patient without the use of ropes or rigging.

**10. What technique can be used to carry the stretcher on a narrow track without ropes and rigging?**

**12. How does the stretcher carry technique work?**

**14. What type of terrain is the stretcher carry technique used?**

## Task E Patient packaging

You have been tasked with packaging the patient into the stretcher ready for carrying in this low angle terrain.

**15. What is an effective technique for patient packaging if the patient has a harness – to stop the patient from sliding out of the stretcher on the lower – given you have the stretcher straps and a 4m length of 25mm sling?**

**16. What can be done if the patient does not have a harness on and you have a 7m length of 25mm sling?**

## Task F Equipment logging

You have been tasked with checking the 11mm rescue ropes back at base after the operation has ended.

**17. How would you check the 11mm ropes?**

**19. What defects would you look for when inspecting the 11mm ropes? Give at least 4 examples.**

# Foundation Rope Rescue – Assessment – Student Results

| This column lists the performance criteria that the student will have to demonstrate to the assessor to be deemed competent.<br>A student must be assessed as competent in all aspects to be awarded the standard. | This column records your results. If you wish to challenge the findings of the assessor you can either make a statement on this page or attach it to this record. This will go to the Tai Poutini Polytechnic SAR Programme Coordinator. |
|---|---|
| **Competency Demonstrated** | **Results of Exercises** |
| **Scenario 1 Car off the road** | |
| Task A Pulley system | C / NYC |
| Task B Anchor system | C / NYC |
| Task C Lowering system | C / NYC |
| **Scenario 2 Walker on a track** | |
| Task A Pulley system | C / NYC |
| Task B Anchor system | C / NYC |
| Task C Lowering system | C / NYC |
| Task D Stretcher carrying | C / NYC |
| Task E Patient packaging | C / NYC |
| Task F Equipment Logging | C / NYC |
| Assessor comments | |
| Assessor name: | |
| Assessor signature: | |
| Date: | |

The following to be used when the student wishes to challenge the findings of the assessor:

| Student: I have sighted my assessment result above and wish to challenge the findings of the assessor. I have made a statement, which is attached. | |
|---|---|
| Signed Student: | Date: |
| Student statement | |