**NZQA**

**Approved**

Achievement standard: 91044 Version 3

Standard title: Undertake brief development to address a need or opportunity

Level: 1

Credits: 4

Resource title: Farm security

Resource reference: Generic Technology VP-1.1 v2

Vocational pathway: Primary Industries

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| Quality assurance status | These materials have been quality assured by NZQA. NZQA Approved number A-A-02-2015-91044-02-7349 |
| Authenticity of evidence | Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material.Using this assessment resource without modification may mean that learners’ work is not authentic. Assessors/ educators may need to change figures, measurements or data sources or set a different context or topic to be investigated or a different text to read or perform. |

Vocational Pathway Assessment Resource

Achievement standard: 91044

Standard title: Undertake brief development to address a need or opportunity

Level: 1

Credits: 4

Resource title: Farm security

Resource reference: Generic Technology VP-1.1 v2

Vocational pathway: Primary Industries

Learner instructions

# Introduction

This assessment activity requires you to develop a brief for a farm security system.

You are going to be assessed on how comprehensively you undertake brief development to address a need or opportunity. You need to show that you can justify why a particular outcome should be developed, and why the identified physical and functional attributes are needed for the outcome.

The following instructions provide you with a way to structure your work so you can demonstrate what you have learnt and achieve success in this standard.

Assessor/educator note: It is expected that the assessor/educator will read the learner instructions, and modify them if necessary to suit their learners.

# Task

Undertake research to explore the context and issue of farm security. This may involve interviewing the key stakeholder, for example the farmer, and establishing concerns regarding farm security.

Explain a potential need or opportunity that is derived from the issue of farm security:

* a need is something the key stakeholder requires
* an opportunity is a possibility for a person, group, or environment (i.e. something that to date has not been identified as needed). For example, there is no way of alerting the farmer to intruders entering the equipment shed.

## Research and Development

Undertake ongoing research by considering:

* the social environment, for example farm workers and farm managers who use the shed
* the physical environment where the outcome will be developed and used, for example the location of the shed in relation to the house and access to the property
* the resources available, for example equipment, expertise
* the opinions of all the stakeholders connected to the outcome, for example the farmer, manager and the workers
* any constraints, for example resources, time, and equipment.

## Conceptual Statement

Use the results of your research and development to describe the security system and its purpose, and justify why it should be developed.

Write a conceptual statement. This should include the purpose of the security system, the group of people who will need to be aware of the system, where the system will be positioned and what the outcome will be (conceptual design or prototype).

## Specifications

Develop a clear set of specifications for your outcome by:

* considering the information you have gathered that relates to your stakeholder needs, and the social and physical environment
* using research of existing solutions, for example security devices, cameras, locking systems, specialised fencing
* explaining, as a result of this research, the desired:
	+ physical attributes, for example visible or non-visible, size, shape
	+ functional attributes, for example preventative, secure, easy to use
* justifying, as a result of functional modelling (sketching, 3D modelling, testing and trialling), regular stakeholder consultation and consideration of the environment, why the outcome must have particular physical requirements (such as compact, non-visible) and functional requirements (such as easy to use by a range of people) in order to meet the needs of the stakeholders.

## Final brief

Present your final brief by including your fully developed conceptual statement and specifications.

Your conceptual statement should be clearly communicating what is to be done and why. It should:

* describe the purpose of the outcome
* describe the social and physical environment, for example, where the outcome will be used, and who will use it
* justify why the outcome should be developed.

Ensure that your set of specifications:

* clearly define the requirements of the outcome in terms of its physical nature (i.e. what it looks like, how it is made), and its functional nature (i.e. what it can do)
* enable you to judge whether the outcome defined by your brief has the potential to be fit for purpose.

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Assessor/Educator guidelines

# Introduction

The following guidelines are supplied to enable assessors/educators to carry out valid and consistent assessment using this internal assessment resource.

As with all assessment resources, education providers will need to follow their own quality control processes. Assessors/educators must manage authenticity for any assessment from a public source, because learners may have access to the assessment schedule or exemplar material. Using this assessment resource without modification may mean that learners' work is not authentic. The assessor/educator may need to change figures, measurements or data sources or set a different context or topic. Assessors/educators need to consider the local context in which learning is taking place and its relevance for learners.

Assessors/educators need to be very familiar with the outcome being assessed by the achievement standard. The achievement criteria and the explanatory notes contain information, definitions, and requirements that are crucial when interpreting the standard and assessing learners against it.

# Context/setting

This activity requires learners toundertake comprehensive brief development, within the context and issue of farm security.

Learners are not required to create the technological outcome as part of this assessment activity.

# Conditions

This is an individual activity. Evidence is expected to be gathered from activities completed over a specified period of time.

Decide on the format of the final brief.

# Resource requirements

Assessors/educators will provide learners with opportunities to develop their evidence.

Learners will require access to the internet for research.

# Additional information

The [technology online explanatory paper on brief development](http://www.techlink.org.nz/curriculum-support/papers/practice/brief-dev/index.htm) provides a definition of a brief, and how a brief is developed as part of technological practice: <http://technology.tki.org.nz/Curriculum-Support/Explanatory-Papers/Technological-Practice/Brief-Development>.

# Assessment schedule: Generic Technology 91044 – Farm security

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| Evidence/Judgements for Achievement | Evidence/Judgements for Achievement with Merit | Evidence/Judgements for Achievement with Excellence |
| The learner undertakes brief development to address a need or opportunity by:* identifying a need or opportunity as a result of exploring the given context and issue of farm security

For example:The learner’s evidence includes people using the shed, the immediate environment, etc. In consultation with the farmer, the learner may identify a need for some way of alerting the farmer to people entering the equipment shed.* reflecting consideration of the social and physical environment

For example:The learner considers who works on the farm, who is responsible for the equipment, the type of shed and its location, any existing security, etc.* reflecting key stakeholder’s opinion

For example:The learner identifies, as the result of a meeting with the farmer, preferences for types of security.* describing the outcome to be developed

For example:The learner reflects on the information to date to explain the outcome, such as a system that would alert the farmer when people enter the property, and that would prevent them entering the shed.* identifying the physical and functional attributes needed for the outcome

For example:The learner identifies that the system should not be obvious to an intruder, but people such as farm workers could work around the area without triggering the alarm. Any warning sounds or images are to be relayed to the farmer’s house.* producing a final brief comprised of a conceptual statement and specifications

For example:The learner confirms the conceptual statement and carries out further research, functional modelling, and stakeholder consultation to establish the specifications. Specifications allow for the security system to be judged as fit for purpose (e.g. emits a 120 db sound on entry, records those who enter, can be turned off easily by workers who need to use the equipment etc.). A final brief comprised of a conceptual statement, that says what is to be done and why, and specifications that define the requirements of the outcome in terms of its physical and functional nature, is presented.*The above expected learner responses are indicative only and relate to just part of what is required.* | The learner undertakes detailed brief development to address a need or opportunity by:* explaining how the need or opportunity is derived from the issue of farm security

For example:The learner’s evidence includes consideration of the people using the space, the immediate environment, etc. In consultation with the farmer, the learner discovered that valuable equipment had been stolen from neighbouring farms, therefore there was a need for some way of alerting the farmer to intruders entering his equipment shed.* reflecting iterative consideration of the social and physical environment and key stakeholder’s opinion

For example:The learner uses functional modelling, and considers farm workers feedback when making decisions around such things as the position of the shed in relation to the house, the impact of the potential outcome on the farm workers, and possible movements of a potential intruder.* describing the purpose of the outcome within the intended environment

For example:The learner describes the need for a system that has a dual purpose (i.e. to alert the farmer when intruders enter the property, and to prevent intruders entering the shed). The system also needs to take into consideration the position of the shed in relation to the house.* explaining the physical and functional attributes needed for the outcome

For example:The learner explains that the system should not be obvious to an intruder, so they would not try to avoid the system. As farm workers need to work around the area during the day undisturbed, the farmer (and no one else) would need to be able to disable the system in some way. Any warning sounds or images were to be relayed to the farmer’s house, as the housekeeper was usually there.* producing a final brief comprised of a conceptual statement and specifications

For example:The learner confirms the conceptual statement and carries out further research, functional modelling, and stakeholder consultation to establish the specifications. Specifications allow for the security system to be judged as fit for purpose (e.g. emits a 120 db sound on entry, records those who enter, can be turned off easily by workers who need to use the equipment etc.). A final brief comprised of a conceptual statement, that says what is to be done and why, and specifications that define the requirements of the outcome in terms of its physical and functional nature, is presented. *The above expected learner responses are indicative only and relate to just part of what is required.* | The learner undertakes comprehensive brief development to address a need or opportunity by:* justifying why such an outcome should be developed

For example, the learner:* + establishes, as a result of iterative research and analysis of the social and physical environment, that the farmer is concerned about the security of expensive equipment stored in a shed which is not visible from his house
	+ speaks with neighbouring farmers who had recently been victims of theft; therefore the farmer is convinced he needs some form of security system that would alert him to people entering the shed.
* reflecting iterative consideration of the social and physical environment and the key stakeholder’s opinion

For example:The learner uses functional modelling, and considers farm workers feedback when making decisions around such things as the position of the shed in relation to the house, the impact of the potential outcome on the farm workers, and possible movements of a potential intruder.* describing the purpose of the outcome, within the intended environment

For example:The learner describes the need for a system that has a dual purpose (i.e. to alert the farmer when intruders enter the property and to prevent intruders entering the shed). The system also needs to take into consideration the position of the shed in relation to the house.* justifying why the identified physical and functional attributes are needed for the outcome

For example:The learner identifies that the system should not be obvious to an intruder, so they would not try to avoid the system, and so the system did not become a way of advertising the shed held expensive equipment. As farm workers would need to work around the area during the day undisturbed, the farmer would need to be able to disable the system in some way. Otherwise the housekeeper would be sending out false alarms when the equipment was being used in a legitimate manner. Any warning sounds or images were to be relayed to the house, as the housekeeper was usually at home, and could then alert the police.* producing a final brief comprised of a conceptual statement and specifications

For example:The learner confirms the conceptual statement and carries out further research, functional modelling, and stakeholder consultation to establish the specifications. Specifications allow for the security system to be judged as fit for purpose (e.g. emits a 120 db sound on entry, records those who enter, can be turned off easily by workers who need to use the equipment etc.). A final brief comprised of a conceptual statement, that says what is to be done and why, and specifications that define the requirements of the outcome in terms of its physical and functional nature, is presented. *The above expected learner responses are indicative only and relate to just part of what is required.* |

Final grades will be decided using professional judgement based on an examination of the evidence provided against the criteria in the Achievement Standard. Judgements should be holistic, rather than based on a checklist approach.