

CPCBC4006B

SELECT, PROCURE AND STORE CONSTRUCTION MATERIALS FOR LOW RISE PROJECTS

ASSESSMENT SUMMARY

The assessment activities for *CPCBC4006B Select, procure and store construction materials for low rise projects* cover all aspects of the unit of competency required. To demonstrate competence in this unit, a participant must undertake all tasks and complete them satisfactorily and consistently. For Apprentices and Trainees, this includes employer completion of the Employer Record Book (ERB).

Participants must read all the information given before starting any assessment task. The assessment tasks are intended to be equitable, fair and flexible. If a participant has any questions or requires alternative arrangements to be made such requests should be directed to their Trainer/Assessor, who should note such arrangements in the 'Assessor Comments' on the affected assessment. If a participant feels they are not yet ready to be assessed, they should discuss their options with their Trainer/Assessor.

To satisfactorily complete the assessment, the participant is required to answer all questions correctly and demonstrate their skills to industry standards. If a participant does not answer some questions or perform some tasks, they will be deemed 'Not Satisfactory' for the task and 'Not Yet Competent' for the unit of competency. The Trainer/Assessor is able to provide the participant with additional information on interpreting the assessment outcomes and provide guidance on the participant's options. Should a participant still be deemed 'Not Satisfactory' they will have the opportunity to undertake a supplementary assessment or appeal the result.

By signing the cover page for each assessment item, the participant acknowledges they understand the assessment instructions and requirements and consent to being assessed. The participant also verifies and assures the RTO that the work submitted is their own work.

Participant Name	Tess Veldink
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Task	Assessment Results	
Theory Exam	☐ Satisfactory	☐ Not Yet Satisfactory
Practical Assessment	☐ Satisfactory	☐ Not Yet Satisfactory
Outcome for Unit of Competency	☐ Competent	☐ Not Yet Competent

Assessor Name	
Assessor Signature	
Unit Competence Determination Date	Click here to enter a date.

CPCBC4006B

SELECT, PROCURE AND STORE CONSTRUCTION MATERIALS FOR LOW RISE PROJECTS

THEORY EXAM INSTRUCTIONS

- This exam will occur under standard assessment conditions.
 - An oral examination may be allowed under certain circumstances, whereby the Participant's answers will be documented by a party other than the Participant. This must be acknowledged in writing (e.g. FT001 and Assessor Comments)
- Participants must provide enough detail in their responses to demonstrate their knowledge and skills.
- Please fill in the details below, providing your name, signature and date of assessment.
 - Your signature acknowledges that this is your own work.
- Assessors are to complete marking in pen of a different colour to the Participant.
- If a Participant initially answers a question incorrectly but modifies their response, they must follow the instructions below:
 - If a Participant changes their response in writing, they must put their initials next to the written change.
 - If a Participant changes their response verbally, this must be noted on the exam paper by the assessor.

Participant name Tess Veldink

Participant signature Tess Veldink

Date 3/08/2020

Assessor name _____

Assessor signature _____

Date Click here to enter a date.

Number of questions	Number of questions answered correctly	Task outcome (Tick)	
		Satisfactory	Not Yet Satisfactory
44		☐	☐

ASSESSOR COMMENTS

Q1. Which of the following documents and/or people would you refer to when selecting materials for a building project? Tick all that apply.

Answer

Choice	Possible Answers
☒	Australian Standards
☒	Contract
☒	Drawings
☒	Manufacturer
☒	National Construction Code
☒	Specifications
☒	Tolerances

☐

Q2. Identify the Volume and Parts of the NCC that relate to suitability of materials for Classes 1 and 10, and Classes 2 to 9.

Answer

Classes 1 and 10	Classes 2 to 9
Volume 2 - 1.2 Acceptance of design & construction 1.2.1	Volume 1 – A2 Acceptance of design A2.1

☐

Q3. Identify the assessment methods used to verify a performance solution.

Answer

Assessment methods include Evidence of suitability A verification method Expert judgement Comparison with the deemed-to-satisfy provisions
--

☐

Q4. Which of the following solutions for material selection often references the Australian Standards? Tick your response.

Answer

Choice	Possible Answers
☒	Deemed-to-Satisfy solution
☐	Performance solution

☐

Q5. Identify five (5) materials commonly used for *low rise buildings* in your region. For each material, identify the following:

- Its name
- Properties of the material

Answer

#	Material name	Properties
1	Concrete	Concrete is a composite building material made from a combination of aggregate (composite) and a binder eg. Gravel and sand.
2	Glass	Glass is generally made from mixtures of sand and silicates
3	Wood framing	Framing is made from a wood from trees, and sometimes other fibrous plants which are then used in many different ways for building materials
4	Flooring	Flooring tiles are usually made out of a ceramic material and is a form of clay-pottery which is then fired in kilns.
5	Cements	Cement bonded composites are products made of hydrated cement paste that binds wood or fibres to make pre-cast building components



- Q6. For each of the materials in Q5. identify the following:
- **Quality of the material (i.e. durability, serviceability, cost effectiveness)**
 - **Compatibility and non-compatibility of the material (i.e. what it would/would not be suitable for)**

Answer

#	Quality	Compatibility
1	Concrete - low tensile strength, and is strengthened using steel rods and bars - Longevity, formability & ease of transport	Concrete can be used for construction of any size, with the correct strengthening tools
2	Glass – very brittle and doesn't have much strength - isn't very cost effective because the method of making glass is quite complex	Glass can be used for any different purposes and lets light into any room - curtain glass can be used to cover the entire façade of a building and also used to span over a wide roof structure in a space frame
3	Wood Framing – its very strong with compressed vertically and comes in different durability depending on the growing conditions. Timber will always be the cheaper and readily available than steel	Wood is used in building just about any type of structure in most climates, however if exposed to the elements it will rot.
4	Ceramic – is extremely durable and can resist scratches and common damages due to the molecular structure. And is a great option for kitchens and bathrooms as they are easy to clean and doesn't harbour germs. They are also cheaper than other types of tiles	Commonly used for both residential and commercial buildings for flooring, bathroom and kitchens.
5	Cements is durable, stable and is resistant against environmental influences such as weathering and is available because it's a raw material	Cement bonded composites are an important class of construction material and can be used for any types of construction as they are made out of hydrated cement paste that is bound with wood/fibres.



Q7. Identify five (5) physical characteristics that may be considered when evaluating potential building materials.

Answer Strength
Density & Specific gravity
Electrical conductivity
Acoustics
Thermal conductivity & capacity



Q8. Match the terms and definitions below by writing the appropriate letter next to each number in the centre column.

Answer	Term		Answers	Definition	
	1	Carbon footprint	1 -B	A	The amount of energy required to manufacture a product
	2	CO ₂ e	2 -E	B	Total GHD emissions produced during manufacture construction and use
	3	Embodied energy	3 -A	C	Greenhouse gas emissions
	4	Embodied water	4 -D	D	The amount of water required to manufacture a product
	5	GHG	5 -C	E	CO ₂ equivalent tonnes emitted into the atmosphere



Q9. Which of the following materials would be considered as 'low energy content'? Tick all that apply.

Answer	Possible Answers	
	Choice	
	☐	Bricks
	☒	By-products of other industrial processes
	☐	Cement
	☐	Glass
	☐	Metals
	☐	Plastics
	☒	Sand
	☒	Stone
	☒	Timber



Q10. Refer to the table below and identify the wall material type that has the smallest embodied energy and emission impact.

COMPONENT	kWh/ m2 indoor floor area	Kg CO2e/ m2 indoor floor area
Floor suspended slab 114 - 117 mm	208	68
Floor suspended timber on stumps	76	26
ROOF		
Roof steel frame colorbond steel or tile	209	72
Roof timber frame colorbond steel or tile	143	47
WALLS		
Walls double brick; s/b interior	312	103
Walls brick veneer timber frame	204	67
Walls timber frame fibro clad	61	20
Walls steel frame fibro clad	90	30
Walls Timber frame timber clad	68	23
Walls pre-cast concrete	264	88
Walls concrete block	160	53
OTHER , APPLICABLE TO ALL HOMES REGARDLESS OF TYPE		
Construction, admin, transport, other materials such as copper pipes, glass, aluminium	406	144
Floor coverings assume approx. 50% ceramic tile 50% polypropylene carpet	61	20
Fittings, fixed appliances built in \$ bathroom, kitchen, w/robes	96	43
ADDITIONS	kWh/ m2 area or m length	Kg CO2e/ m2 area or m length
Roofed open areas - alfresco / porch / verandah / carport	352	117
Garage single brick or cavity walls, concrete slab, steel or tile roof	675	219
Open Carport	352	117
Fence brick or metal (per metre length, assuming 1.5 m height)	186	61
Paving (brick or concrete)	96	32
Pool (concrete below ground)	534	198

Answer Walls timber frame fibro clad



Q11. Identify the Volume and Parts of the NCC that relate to energy efficiency of materials for Classes 1 and 10, and Classes 2 to 9.

Answer	Classes 1 and 10	Classes 2 to 9	☐
	Volume 2, section 2 - 2.6	Volume 1, Part 2.12	

Q12. Identify the relevant section of the Standards and Tolerances Guide and the associated Australian Standard that addresses residential slabs and footings.

Answer	Standards and Tolerances Guide	Australian Standard	☐
	AS2870	AS 2870-2011	

Q13. Identify the relevant section of the Standards and Tolerances Guide and the associated Australian Standard that addresses roof tiles.

Answer	Standards and Tolerances Guide	Australian Standard	☐
	AS 2049	AS 2050-1995	

Q14. Identify the Volume and Parts of the NCC that relate to safety barriers for swimming pools for Classes 1 and 10, and Classes 2 to 9.

Answer	Classes 1 and 10	Classes 2 to 9	☐
	Volume 2, Part 1 clauses 3.9.3.0	Volume 1, Part 1 clauses G1.1, G1.3	

Q15. In some states, barriers and fences for swimming pools are not entirely regulated by the NCC, as noted in the Ancillary Provisions and State and Territory Variations. Identify the applicable Act and Regulation that regulate safety barriers for swimming pools in your jurisdiction.

Answer	Redland City Council comply with the Queensland Development Code MP 3.4 Swimming Pool Barriers this code calls up and modifies the Australian Standard AS1926.2007	☐
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Q16. Identify the Australian Standard that relates to safety barriers for swimming pools.

Answer Australian Standard AS 1926.1 -2012

☐

Q17. True or False (Tick your response): According to the Standard in Q16. all gates must be fitted with a self-closing device that will return the gate to a closed position from any position without the use of manual force.

Answer

☒	True
☐	False

☐

Q18. Identify the Volume and Parts of the NCC that relate to fire-resistance of building elements for Classes 1 and 10, and Classes 2 to 9.

Answer

Classes 1 and 10	Classes 2 to 9
Volume 2, Part 1.2 – 1.2.3	Volume 1 section C, Part C1

☐

Q19. Identify the Australian Standard that relates to fire-resistance tests for elements of construction.

Answer AS 1530.4 - 2005

☐

Q20. For all NCC Classes, where the ground or subfloor space is excessively damp or subject to frequent flooding, which durability class must the subfloor framing must be used where above ground?

Answer Durability class 1 or 2 timbers or H3 preservative treated timbers in accordance with AS 1684 Parts 2,3,4 or steel in accordance with NASH standard 'residential and low rise steel framing Part 2

☐

Q21. Identify the Australian Standards that must be observed when meeting the requirements for Q20.

Answer AS 1684 Parts 2,3,4

☐

Q22. True or False (Tick your response): Where materials are not used as intended (or without considering NCC requirements), this can make a significant difference to the life or serviceability of the structure.

Answer

☒	True
☐	False

☐

Q23. Explain why durability and serviceability impact on the cost effectiveness of chosen materials.

Answer When materials are not used as intended this can make a significant difference to the life or serviceability of the structure. You can find the relevant information within the NCC and associated Australian Standards which contain technical provisions for the design and construction of building and other structures.

☐

Q24. Provide an example of short term degradation of materials and describe its effects on a building on structure.

Answer Timber is often prone to short term degradation and cause failure to the structure. When exposed to the weather it may suffer from weathering, causing splitting and crumbing or rotting if wet for a long period of time.

☐

Q25. Provide an example of long term degradation of materials and describe its effects on a building on structure.

Answer Metals are prone to degrade over a long term period and cause failure to the structure as they form compounds with the oxygen in the air. Iron will degrade relatively quickly compared to copper.



Q26. You have spoken to a supplier who has indicated that some of the client's desired materials are unavailable. When considering alternative building materials what must be taken into consideration (i.e. other than the client's requirements)?

Answer Other material considerations include;

Availability
Transportation
Handling
Testing
Waste reduction
Reuse/recycle
Renewable/ no renewable
Environmental impact
Embedded energy
Fire resistance rating
Compatibility
Acoustic properties
Life-cycle cost
Short and long term degradation



Q27. Identify two (2) things that you should look for when receiving a delivery of materials.

Answer Confirm the correct quantity and confirm the condition of the delivery



Q28. If you encounter issues with delivery, what two (2) options do you have?

Answer Accept the shipment with 'conditions' or reject the entire shipment

☐

**Q29. Which of the following should be assessed before shifting materials?
Tick all that apply.**

Answer

Choice	Possible Answers
☒	What needs to be relocated (e.g. size, weight)
☒	The relocation area, site layout and obstacles
☒	Distance and time to relocate load
☒	Whether a team is available and/or appropriate
☒	Whether PPE must be worn (e.g. for hazardous materials)

☐

Q30. What document should you refer to for guidance on how to handle and store hazardous chemicals?

Answer Your workplace procedures

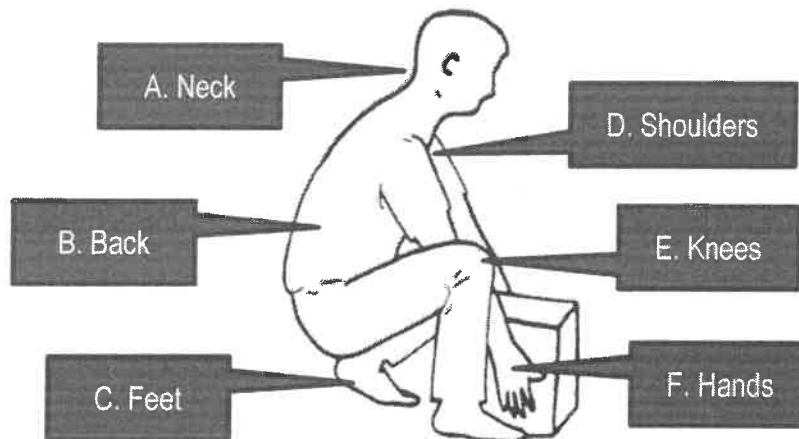
☐

Q31. Name three (3) ways you can reduce the risk of injury if a load is too heavy for one person to carry, push or pull.

Answer Ensure pathway is clear and no trip hazards are in the way, take breaks from repetitious tasks and do not twist when lifting objects, this is risky

☐

- Q32. In the diagram below a person is lifting a tool box. Filling in the table, indicate how each body part should be used/placed.**



Answer

Area of body (Letter)	How it should be placed
D	Level
A	Upright
F	Good grip
B	Natural curve
E	Bent
C	Flat, facing load

☐

- Q33. How should construction materials and components be handled? Tick all that apply.**

Answer

Choice	Possible Answers
☒	Sorted to suit material type and size, separating hazardous material
☒	Stacked or stockpiled for ease of identification and retrieval
☒	Stored in access ways for ease of retrieval
☒	Stored clear of access ways
☒	Handled and positioned ready for installation

☐

- Q34. Identify the Australian Standard that relates to the storage and handling of LP gas.**

Answer AS/NZS 1596:2014

☐

Q35. List one (1) testing method for each of the building materials listed below.

Answer

Material name	Properties
Concrete	Hydraulic press, a universal machine for tension, compression and bending is also used
Metals	The strength of the metal is testing by repeated loading testing the tension and fatigue
Timber	Visual grading for domestic construction

☐

Q36. What Code gives detailed tables which state the required grade of timber for specific sizes and uses?

Answer The Australian Timber Framing Code

☐

Q37. Name two (2) ways that defects may be seen in timber.

Answer Splits and gum veins

☐

Q38. Identify two (2) tests that may be performed to determine the durability of stone.

Answer Acid immersion to test how quickly it dissolves under acidic conditions and water absorption – wetting and drying

☐

Q39. Name two (2) ways that defects may be seen in stone.

Answer Cracks and fissures in the rock surface

☐

Q40. True or False (Tick your response): Under a contract, builders and other specialist tradespersons are the ones most likely to rectify or remedy problems that arise from incorrect installation, application or placement of materials.

Answer

☒	True
☐	False

☐

Q41. Name two (2) established methods that may be used to preserve timber.

Answer The process of impregnating wood with chemicals which are toxic to fungi or insects and mechanical protection in preventing the access of termites from the ground.

☐

Q42. Identify two (2) established methods that may be used to protect ferrous metals.

Answer Primed with a chromate conversion coating before painting and painting only after cleaning with a solvent and mechanical roughening of the surface.

☐

Q43. Explain why the corrosion resistance of non-ferrous metals is superior to that of ordinary steel.

Answer

Because of the production of ceramic coating of oxide or salt on the metal which protects it from further corrosion'

☐

**Q44. When should aluminium be coated with bituminous paint?
Tick all that apply.**

Answer

Choice	Possible Answers
☐	At all times
☒	When it is buried in soil
☒	When it comes in contact with chemical materials
☒	When it is immersed in water
☐	When it is used on bitumen

☐

CPCCBC4006B

SELECT, PROCURE AND STORE CONSTRUCTION MATERIALS FOR LOW RISE PROJECTS

PRACTICAL ASSESSMENT INSTRUCTIONS

- The following practical assessment will require the Participant to complete work related activities.
- The Assessor will conduct observations of the Participant's work to determine whether they display sufficient practical skills and knowledge.
- Please fill in the details below – providing your name, signature and date of assessment.
 - The Participant's signature acknowledges that the Assessor provided clear instructions and the Participant understood what was required to complete this assessment.
- The Assessor may substitute a Practical Task with an alternate task of equal value.
 - Alternate tasks must be fully documented by the assessor in the Assessor Comments area.

Participant name Tess Veldink

Participant signature Tess Veldink

Date Click here to enter a date.

Assessor name _____

Assessor signature _____

Date Click here to enter a date.

Task	Task outcome (Tick)	
	Satisfactory	Not Yet Satisfactory
Task 1 (Occasion 1)	☐	☐
Task 1 (Occasion 2)	☐	☐

ASSESSOR COMMENTS

[TITLE]
[SUBJECT]

Practical Task 1 (2X)

Description of task:

On two (2) occasions, a suitable observer is to verify the participant's ability to supervise systems through which materials are selected, acquired and stored on site for the following projects:

- **Occasion 1:** Construction classified as Class 1 and 10 construction
- **Occasion 2:** Construction classified in Classes 2 to 9 with a gross floor area not exceeding 2000 square metres, not including Type A or Type B construction

The participant is to gather evidence of how they have completed each component of the Practical Task, which is to be submitted with this Practical Assessment sheet. Evidence to be submitted may include:

- Copy of PO sent to site team for materials.
- Email correspondence sighting need for materials, delivery of materials and storage of materials (if relevant).

The observer is to provide detailed comments on the tasks completed by the participant. The assessor is to verify the observer's comments in the Assessor Comments section, and provide the Practical Assessment outcome on the front cover of this document.

Resources required:

Computer, Building Contract, Drawings, Specifications, Building materials (including timber, and ferrous and non-ferrous metal).

Assessment of task

Name of participant:	Tess Veldink		
Name of observer:	Ricky Marsh		
Role of observer (Confirm suitability to sign)	Project Officer		
Email address of observer	reception@bluestarcorporate.com		
Signature of observer:			
Date:	18/08/20		
When completing the task, did the participant:	Tick if satisfactorily completed. Provide comments if left unticked.		
	1st Occasion	2nd Occasion	
1 Evaluate building materials			
1.1A. Identify suitability of materials commonly used in the region for low rise buildings.	☒	☒	
1.1B. Through research and testing, identify properties of different materials, their quality and compatibility and non-compatibility and maintain effective sampling and organisational record-keeping processes.	☒	☒	
1.1C. Identify the environmental impacts of different materials.	☒	☒	
1.1D. Identify the impact of allowable tolerances on the conversion of naturally occurring materials.	☒	☒	
1.1E. Identify and check tolerances for installing and assembling materials with regard to the nature of the work being performed and the requirements of relevant construction industry Australian standards.	☒	☒	

2 Material selection			
1.2A.	Select materials structurally adequate and appropriate for the building system specified in the contract, drawings and specifications.	☒	☒
1.2B.	Select materials after considering: • Safety • Required fire resistance rating • Suitability to the application • Durability • Serviceability and cost effectiveness • Compliance with NCC, legislation, regulations and Australian Standards	☒	☒
1.2C.	Consider short and long-term degradation of materials in relation to the building's proposed life cycle.	☒	☒
1.2D.	Select and evaluate alternative materials, if specified materials were unavailable or unsuitable – justifying decisions to regulatory authorities, as necessary	☒	☒
1.2E.	Finalise selection of materials in accordance with contractual requirements and in consultation with relevant professionals and the client, compiling results in a report.	☒	☒
1.2F.	Effectively communicate using the following methods: • Language/concepts appropriate to cultural differences • Non-verbal communication	☒	☒
3 Supervising materials on site			
1.3A.	Determine limitations and effects of transportation on material and components, taking action in potentially damaging circumstances.	☒	☒
1.3B.	Ensure materials were correctly and safely handled on site using appropriate equipment and safe work practices.	☒	☒
1.3C.	Communicate with manufacturers and suppliers to ensure materials are stored in accordance with specifications and Australian standards.	☒	☒
1.3D.	Implement processes for inspecting all materials delivered on site for naturally occurring and/or manufactured defects before installation.	☒	☒
1.3E.	Ensure personnel were aware of actions to be taken in the case of defects caused by incorrect installation, application or placement.	☒	☒
1.3F.	Preserve and protect timber and ferrous and non-ferrous metal used in the construction process.	☒	☒
The Participant's performance was: ☒ Satisfactory ☐ Not Satisfactory			

OBSERVER COMMENTS

The first occasion is a single dwelling with a carport and the second occasion is an aged care building with separate dwellings, both from an electrical contractor's point of view. The evidence submitted for both occasions include a purchase order, purchase order breakdown, delivery schedule, material request and price and consideration comparison spreadsheet.

Evaluate Building Materials

This first section gave an overall explanation and background knowledge on different parts of selecting and storing construction materials. The areas that were touched on include commonly used construction materials, the properties of different materials, material environmental impacts, tolerances and the requirements of relevant construction industry standards. As the practical was written from an electrical view all criteria were supported by a builder and electrician position.

Material Selection

This next section is about selecting the right materials for the construction project. Both occasions touched on the importance of ensuring that the contract specification are followed; as well as other considerations including safety, durability, suitability and compliance etc. The degradation of material and material life cycle was lightly touched on. The importance of having alternative products was highlighted – this was supported with a comparison spreadsheet. A purchase order, a purchase order breakdown and a material request spreadsheet were submitted as evidence to collaborate with the last criteria - finalisation of materials for the project.

Supervising Materials on Site

The last part is about the delivery process and the key things to remember when the goods are being transferred to site. Delivery schedules and material tracking spreadsheets were submitted. Safe handling of the materials – manual handling and hazardous chemical exposure was next discussed. Ensuring all materials to site are inspected and free of defects was highlighted as well as the responsibility of the manufacturers regarding this. The defect process was then explained and the importance of the correct installation of materials was highlighted. Preserving ferrous and non-ferrous metals was explained at the end tying it back to electrical work.

Both occasions had effective communication throughout. The correct language and concepts were used along with non-verbal communication with an email trail and evidence for support.

Select, procure and store construction materials for low rise projects

Occasion 1 - Class 1 and 10 Construction – single dwelling with carport

Evaluate building materials

To: dion@bluestar.com.au

From: tessveldink@bluestar.com.au

Subject: Single dwelling w/ carport - 7 Cassim Place

Hi Dion,

As you know it's time to work on another few projects together, this project is a single dwelling house with a carport in Redland bay. We will be contracted to design and install all electrical works for the house and carport and liaising with the builder's Coral Homes throughout as it's important to let them know what stages we are up to. For the next couple of days, you will be helping me in organising the suitable materials for the project. First, we have to evaluate the building materials as it is important to have a general understanding of the builder's processes.

Commonly used materials for builders on a low-rise building are cements, flooring, framing, roofing glass, plasterboard and engineering timber products. Some commonly used materials for electricians to use on a low-rise building are electrical connectors, circuit breakers, conduit and cables.

Different materials have their different quality and compatibility levels in order to maintain effectiveness. There are a range of processes to identify material suitability these include; analyse reports from the manufacturer, industry standards – external quality tests or inspections, arranging on-site quality tests on products that are being used, referencing external reports/manufacturer specifications and seeking expert appraisal. Material characteristics should also be taken into considerations such as the properties and behaviours, quality of materials (initial cost and long-term cost) and how the materials interact with each other.

The choice of materials should not depend only on the price and installation cost, but also on the cost of repair, maintenance and replacement of short-life span products. Less durable materials may be cheap to buy but to repair or replacement is usually high. Cheap materials usually lower the values of the building as more durable materials mellow with age and give the structure a more aesthetic appearance.

There are a large range of new materials on the market today that are chemical based which has led to new chemical and physical problems with materials and seem to breakdown many times faster than normal materials. Incompatible building materials can be grouped together under the following headings, corrosion of metals, stains and discolouring affect, problem with surface finishes, chemical reaction ect. Ensure to look out for these heading with researching materials for the dwelling.

Materials are usually categorised into two sources, natural and synthetic. Natural materials include glass or timber, synthetic include paints and plastics. These different types of materials have different environmental impacts. Environmentally friendly building is a building that is energy efficient. They utilise construction wisely – including recycling, renewable and reused resources and ensure it's a healthy living space for occupants by lowering costs and being eco-friendly for the planet. See below a number of terms for measuring environmental aspects of buildings and building materials.

Term	Definition
GHG	Greenhouse gas emissions
CO2e	CO2equivalent tonnes emitted into the atmosphere
Carbon footprint	Total GHG emissions produced during manufacture construction and use
Embodied energy	The amount of energy required to manufacture a product, including energy used in the extraction of raw materials, transporting those materials, and processing them into the final product.
Embodied water	The amount of water required to manufacture a product, including water used in extraction of raw materials, transportation and processing

However, it's important for us to be aware of resources which are threatened or have a negative environmental impact, we should be using materials that save the planet in many ways and not just one. If you are unsure about a material being environmentally friendly there are a number of sources for environmental performance. For builders they can reference the NCC, BMAS system or BES index and electricians can refer to the Australian Electrical Standards.

Materials with a low energy content are cheaper because energy has not been used in their production for example stone, timber or sand – these do not require a primary manufacturing process and materials which are by-products of other industrial processes (eg. Wood particles)

Materials with a high energy content require energy in their production – glass, bricks, plastics, metals. This adds to their overall costs and if local supplies of the raw materials are limited, purchasing and transports should be considered.

The QBCC and Australian Standards both have a tolerance guide for installing materials to a building. The materials will also come with a material safety data sheet or a testing sheet laying out the tests that have been performed on that material. These guides are to help with tradesmen limit the dangers and ensure the material is only being used within its tolerance limits. As we are electricians, we will follow the safety data sheets and also the Australian Electrical Standards.

Material selection

When selecting materials ensure you are selecting structurally appropriate materials that are part of the building system that is specified in the contract as a schedule initialled by both parties. The materials included in the building system can be attached using; drawings, specifications and schedules. The building specifications sets out the project description and the requirements for materials and workmanship, so you need to establish all building materials.

Ensure to select materials that are safe and appropriate building materials. To determine the most suitable materials, refer to the NCC for builders and the Australian Electrical Standards for electricians. These documents contain technical provisions for the design and construction of the building and other information on fire resistance, safe building structure, access & egress and services and equipment.

As you already know different building materials have range of different life cycles. The selection of building materials greatly impacts the sustainability and life of a project therefore, you need to consider the short and long-term degradation of these materials. By choosing materials wisely you can provide advice to client as well as reduce the impact of the project to the environment.

Building life cycle refers to the view of a building over the course of its entire life, including operational build, design, construction, demolition and waste treatment.

Life Cycle Costing (LCC) Many clients are now requesting long-term environmentally sustainable solutions which take energy and sustainable innovations, to a new level.

LCC and sustainable solutions need to be considered when designing, building, installing, maintaining and branding.

Many materials deteriorate due to weathering which may cause a consequent failure of the structure. In the electrical field short term materials include, light switches, GPO's as they are exposed to high volumes of lights the plastic may start to crack and turn yellow. Long term materials include the different types of metals that make up electrical conductors/ wires. These will corrode due the oxygen in the air but not for a long period of time. Main switchboards also need replacing over a long period of time because the metals start to corrode and seize up.

When selecting electrical materials for the project be sure to keep in mind the client requirements, availability, environmental issues and the material life cycle. Having an alternative material in mind is good practise in case the initial material doesn't have a good environmental rating, poor performance test or isn't cost effective. At Blue Star we have an alternative materials comparison spreadsheet, that rates the material considerations. Please see attached a blank spreadsheet which we can fill in for the single dwelling.

Once the research on alternative material are done and you have a better understanding on the types of materials you are after, it's time to get quotes from suppliers. Its recommended to get minimum three quotes so you can see a price comparison and availability. Once you have chosen your supplier you send them a purchase order and the material request spreadsheet showing all material you need in detail. Please find attached a purchase order and a material request spreadsheet. Ensure that all materials align with the contractual obligations and any other special requests are approved by the client.

Supervising materials on site

Once the quote for the goods has been approved its important to let the supplier know what dates materials need to be delivered to site. At Blue Star we always work 2 weeks ahead, so we would submit a delivery schedule with a two week look ahead. Showing the description of the materials, quantity needed, and the date needed. Please see attached an example of the delivery schedule for a pervious single dwelling. Once the goods are delivered, we then update the PO spreadsheets, the materials are moved to a separate spreadsheet that tracks all of the received goods. Please see goods received tracking spreadsheet for reference.

Transportation is almost guaranteed to be able to acquire all the materials required for the dwelling. The travel may be quite lengthy depending on where the items are sourced from. There can be a number of risks involved in transport especially with fragile materials. Before signing for the goods confirm there is the correct quantity and confirm the condition of the delivery. Ensure that the materials are the perfect condition. If you see any damages reject the entire shipment or accept the

shipment with conditions. If you reject the entire shipment you must prepare for delays for the replacement.

Tradesmen can be exposed to manual handling injuries and hazardous chemical exposure from the electrical materials. Please follow the below steps

Area of the body	How it should be
Neck	Upright
Back	Natural curve
Feet	Flat, facing load
Shoulders	Level
Knees	Bent
Hands	Good grip

To avoid manual handling don't lift too heavy, ensure the pathway is clear, take breaks, no jerky movements and not twist with lifting objects. Handling hazardous items like drums of fuel or chemical requires the person to use a Material Safety Data Sheet, use correct PPE and use a trolley for easy movement and ensuring the items are on a stable ground.

Testing on materials is an important step and is usually carried out by the manufacturer or supplier before delivery. The materials are testing for quality and suitability for the construction situation intended.

Once the materials are delivered it is important to ensure they are stored in the correct way. Ensure there is enough space for the goods, adequate security so nothing is stolen, weather can't affect the goods and the future deliveries are well coordinated.

It's important to ensure that the materials are free from defects before they are used. Manufactured materials should be checked for defects and naturally occurring materials should be examined for suitability. Being aware of the types of defects that are associated with certain materials is important. Common household defects include; circuit breaker tripping which can be caused by high wattage items like microwaves and hair dryers especially when they are on the same power source and sags and dips in the electrical supply, this can often be attributed to devices connected to your power grid that are faulty or made with substandard materials and draw a lot of power when they turn on.

When defects occurring after building process depends upon whether, the correct selection has occurred, the goods have been installed properly and the positioning is correct. The contractor for the electrical work will rectify the issue as per the contract. However, this can be difficult sometimes as the tenant can be already in the dwelling so it's crucial to ensure the materials are suitable before installation.

As electricians we don't use a lot of timbers in our work however, we do use steel and non-ferrous metals such as copper. There are multiple ways we can preserve and protect these materials. Steel is the most commonly used material in construction, and it rusts from the atmosphere, to reduce this try and control the environment or provide barrier to moisture and oxygen and try corrosion inhibitors. Painting is also an option to slow down the rust as well as other coatings such as

PURCHASE ORDER

87056

To:

CNW

Attn:

Paul Healy

Address:

60 Riverside Place

Morningside

Project:

Subsea

Please supply the following and charge to our account:

AUTHORISED BY:

Oliver

Print Name

RB

Signature (NOT Initials)

Delivery Address: (or if not stated, deliver to address identified below)

7 Cassimplace Reeland Bay

(or ☐ received and checked in person)

4165

Date
Ordered:

18/2/20

Date
Required:

(NOT ASAP)

/

/

Job
NumberQuantity
Ordered

Description of Material, Equipment or Service

Unit
TypeUnit
Cost

\$

C

1

19032

Supply of 19032 for the Subsea project and in accordance with the agreement

2

3

4

5

6

7

8

9

10

11

12

13

14

15

SUBTOTAL \$

\$91,710.51

PLUS GST \$

TOTAL COST \$

ENTERED
18-19/02/20

4

DISTRIBUTION: WHITE - Supplier Copy

BLUE - Receiving Inspection Copy

BLUE - Supervisor or Site Records Copy

YELLOW - Data Entry Copy (Office)



Please supply the following and charge to our account

Purchase Order Details		PO 87056	#N/A
Supplier	CNW		IMPORTANT NOTICE No invoice will be paid unless it bears an official order number. Please Quote This Number on external packaging of each item, delivery notes and other correspondence. For Terms and conditions of purchase please see page 3
Attn	TAWON		
Address	70 Riverside Place		
Project	Single dwelling - Redland Bay		
Job Number	19032		
Authorised By	Tess Reidink		
Signed			
Delivery Address	7 Cassim Place Redland Bay		
Confirm Delivery with Site Contact Below			
Date Ordered	Monday 17 August 2020		

Site Contact			0			
Line	Qty	Part No.	Description	Unit	Unit Cost	\$
1	17	0	600MM FIRE RATED CABLE LADDER 6M (102M)	0	\$ 256.5000	\$ 4,360.50
2	1	0	450MM FIRE RATED CABLE LADDER 6M	0	\$ 239.0000	\$ 239.00
3	1	0	300MM FIRE RATED CABLE LADDER 6M	0	\$ 220.0000	\$ 220.00
4	6	0	150MM FIRE RATED CABLE LADDER 6M	0	\$ 195.0000	\$ 1,170.00
5	11	0	FIRE RATED 600MM 90DEG BEND	0	\$ 108.0000	\$ 1,188.00
6	3	0	FIRE RATED 600MM T BEND	0	\$ 143.4700	\$ 430.41
7	2	0	FIRE RATED 150MM 90DEG BEND	0	\$ 70.0000	\$ 140.00
8	2	0	FIRE RATED 150MM T BEND	0	\$ 189.0000	\$ 378.00
9	0	0	0	0	\$ -	\$ -
10	0	0	0	0	\$ -	\$ -
11	24	0	600MM LADDER HOT DIPPED GALV 6M (140m)	0	\$ 132.0000	\$ 3,168.00
12	1	0	450MM LADDER HOT DIPPED GALV 6M	0	\$ 123.0000	\$ 123.00
13	10	0	300MM LADDER HOT DIPPED GALV 6M (60m)	0	\$ 113.0000	\$ 1,130.00
14	20	0	150MM LADDER HOT DIPPED GALV 6M (122m)	0	\$ 104.0000	\$ 2,080.00
15	200	0	LADDER HOLD DOWN CLAMPS	0	\$ 2.2000	\$ 440.00
16	100	0	LADDER JOINERS	0	\$ 4.2000	\$ 420.00
17	60	0	LADDER RISER PLATES SETS	0	\$ 5.5000	\$ 330.00
18	2	0	LADDER BENDS 600MM X600MM X600MM T	0	\$ 87.3000	\$ 174.60
19	3	0	LADDER BENDS 300MM X150MM X300MM T	0	\$ 118.0000	\$ 354.00
20	2	0	LADDER BENDS 150MM X300MM X150MM T	0	\$ 118.0000	\$ 236.00
21	1	0	LADDER BENDS 300MM X300MM X300MM T	0	\$ 76.0000	\$ 76.00
22	2	0	LADDER 90 DEGREE BEND 600MM	0	\$ 67.0000	\$ 134.00
23	1	0	LADDER 90 DEGREE BEND 450MM	0	\$ 63.0000	\$ 63.00
24	1	0	LADDER 90 DEGREE BEND 300MM	0	\$ 50.0000	\$ 50.00
25	18	0	LADDER 90 DEGREE BEND 150MM	0	\$ 41.0000	\$ 738.00
26	600	0	LADDER JOINER BOLTS	0	\$ 0.1800	\$ 108.00
27	600	0	LADDER JOINER NUTS	0	\$ 0.1800	\$ 108.00
28	0	0	0	0	\$ -	\$ -
29	0	0	0	0	\$ -	\$ -
30	0	0	0	0	\$ -	\$ -
31	1	0	450MM TRAY HOT DIPPED GALV 3M	0	\$ 41.0000	\$ 41.00
32	533	0	600MM TRAY HOT DIPPED GALV 3M (1600M)	0	\$ 51.2000	\$ 27,289.60
33	32	0	450MM TRAY HOT DIPPED GALV 3M	0	\$ 40.4000	\$ 1,292.80
34	400	0	300MM TRAY HOT DIPPED GALV 3M (1200M)	0	\$ 31.5000	\$ 12,600.00
35	591	0	150MM TRAY HOT DIPPED GALV 3M (1775M)	0	\$ 24.6000	\$ 14,538.60
36	150	0	TRAY RISER PLATES	0	\$ 0.6600	\$ 99.00
37	140	0	TRAY T BRACKET SETS	0	\$ 5.3500	\$ 749.00
38	50	0	TRAY RADIUS PLATE 2M LONG	0	\$ 8.9000	\$ 445.00
39	2200	0	TRAY HOLD DOWN BRACKETS	0	\$ 1.1200	\$ 2,464.00
40	1500	0	TRAY JOINERS	0	\$ 1.0500	\$ 1,575.00
41	2000	0	TRAY JOINER NUTS	0	\$ 0.1800	\$ 360.00
42	2000	0	TRAY JOINER BOLTS	0	\$ 0.1800	\$ 360.00
43	80	0	"L" shape channel (250M)	0	\$ 14.5000	\$ 1,160.00
44	200	0	20MM LIGHT GAGE UNI-STRUT 6M (1200M)	0	\$ 31.5000	\$ 6,300.00
45	0	0	0	0	\$ -	\$ -
46	100	0	10MM BOOKER ROD	0	\$ 4.7000	\$ 470.00
47	80	0	40MM HEAVEY GAGE UNI-STRUT 6M (480m)	0	\$ 39.5500	\$ 3,164.00
48	100	0	UNI-STRUT END CAPS 40MM	0	\$ 0.7500	\$ 75.00
49	100	0	UNI-STRUT END CAPS 20MM	0	\$ 0.7500	\$ 75.00
50	20	0	CANTERLEAVER BRACKETS 900MM	0	\$ 19.0000	\$ 380.00
51	20	0	CANTERLEAVER BRACKETS 700MM	0	\$ 16.8000	\$ 336.00
52	20	0	CANTERLEAVER BRACKETS 450MM	0	\$ 12.9000	\$ 258.00
53	0	0	0	0	\$ -	\$ -



Please supply the following and charge to our account

54	0	0	0		0	\$	-	\$	-
55	1	0		ezy tray 150mm 3 m	0	\$	15.2800	\$	15.28
56	1	0		luma locks 460mm 15KG tray supports bag of 10	0	\$	33.8100	\$	33.81
57	0	0		0	0	\$	-	\$	-
58	0	0		0	0	\$	-	\$	-
59	0	0		0	0	\$	-	\$	-
60	0	0		0	0	\$	-	\$	-
61	0	0		0	0	\$	-	\$	-
62	0	0		0	0	\$	-	\$	-
63	0	0		0	0	\$	-	\$	-
64	0	0		0	0	\$	-	\$	-
65	0	0		0	0	\$	-	\$	-
66	0	0		0	0	\$	-	\$	-
67	0	0		0	0	\$	-	\$	-
68	0	0		0	0	\$	-	\$	-
69	0	0		0	0	\$	-	\$	-
70	0	0		0	0	\$	-	\$	-
71	0	0		0	0	\$	-	\$	-
72	0	0		0	0	\$	-	\$	-
73	0	0		0	0	\$	-	\$	-
74	0	0		0	0	\$	-	\$	-
75	0	0		0	0	\$	-	\$	-
76	0	0		0	0	\$	-	\$	-
77	0	0		0	0	\$	-	\$	-
78	0	0		0	0	\$	-	\$	-
79	0	0		0	0	\$	-	\$	-
80	0	0		0	0	\$	-	\$	-
81	0	0		0	0	\$	-	\$	-
82	0	0		0	0	\$	-	\$	-
83	0	0		0	0	\$	-	\$	-
84	0	0		0	0	\$	-	\$	-
85	0	0		0	0	\$	-	\$	-
86	0	0		0	0	\$	-	\$	-
87	0	0		0	0	\$	-	\$	-
88	0	0		0	0	\$	-	\$	-
89	0	0		0	0	\$	-	\$	-
90	0	0		0	0	\$	-	\$	-
91	0	0		0	0	\$	-	\$	-
92	0	0		0	0	\$	-	\$	-
93	0	0		0	0	\$	-	\$	-
94	0	0		0	0	\$	-	\$	-
95	0	0		0	0	\$	-	\$	-
96	0	0		0	0	\$	-	\$	-
97	0	0		0	0	\$	-	\$	-
98	0	0		0	0	\$	-	\$	-
99	0	0		0	0	\$	-	\$	-
100	0	0		0	0	\$	-	\$	-
101	0	0		0	0	\$	-	\$	-
102	0	0		0	0	\$	-	\$	-
103	0	0		0	0	\$	-	\$	-
104	0	0		0	0	\$	-	\$	-
105	0	0		0	0	\$	-	\$	-
106	0	0		0	0	\$	-	\$	-
107	0	0		0	0	\$	-	\$	-
108	0	0		0	0	\$	-	\$	-
109	0	0		0	0	\$	-	\$	-
110	0	0		0	0	\$	-	\$	-
111	0	0		0	0	\$	-	\$	-
112	0	0		0	0	\$	-	\$	-
113	0	0		0	0	\$	-	\$	-
114	0	0		0	0	\$	-	\$	-
115	0	0		0	0	\$	-	\$	-
116	0	0		0	0	\$	-	\$	-
117	0	0		0	0	\$	-	\$	-
Notes: Minimum 48 Hours Notice Required to Confirm Delivery					Sub Total		\$	91,939.60	
					GST		\$	9,193.96	
					Total		\$	101,133.56	



Please supply the following and charge to our account

BLUE STAR PACIFIC PTY LTD - GENERAL TERMS AND CONDITIONS OF PURCHASE

- 1.0 DEFINITIONS**
As used throughout these terms and conditions the following terms, shall have the same meanings set forth below unless otherwise indicated.
- 1.1** The term "Customer" means the party or parties, if any, to whom the Supplier shall sell or otherwise dispose of the Article;
- 1.2** The term "Supplier" or "Subcontractor" means the individual, partnership, corporation or other entity contracting to furnish the Article;
- 1.3** The word "Articles" refers to the goods, products, services, supplies, parts, work, performance, assemblies, technical data, drawings, units or other items constituting the subject matter of this contract which are to be furnished by the Supplier to the Customer hereunder.
- 1.4** The term "Contract" includes in order of precedence, the following documents, the Supplier's Purchase order, an Amendment Advice, changes or supplements thereto, any special terms and conditions included herein and all specifications and terms made part hereof or incorporated by reference and the General Terms and Conditions of Purchase set forth herein.
- 1.5** The term "PPSA" means the Personal Property Securities Act 2009 (Cth), as amended from time-to-time.
- 2.0 ACCEPTANCE**
The Supplier will be deemed to have accepted these terms and conditions by either:
- 2.1** communicating acceptance of a purchase order to the Customer; or
- 2.1.1** supplying the Articles to the Customer with the Articles requested under the purchase order.
- 3.0 SPECIFICATIONS**
All Articles supplied shall be in accordance with Quality Management Systems – Requirements AS/NZS ISO9001:2016 and the specification prepared by the Supplier provided that where the specification is not prepared by the Supplier all Articles shall be in accordance with the specification prepared by the customer or, if that specification is not relevant to the Articles, the Standards Australia's specification or, if that specification is not relevant to the Articles, the British Standard Specification or, where none of these specifications are relevant, in accordance with the detailed specification prepared by the Supplier and accepted by the Customer. In the case of project specific switchboards or luminaires, approval prior to manufacture is subject to the supply of samples and/or 1 original and 2 prints of "As For Construction" drawings. Within 10 days of the Articles supply "As Built" drawings and "Installation and Maintenance Manuals" shall be supplied. Switchboards shall include touch up paint to match and schedule cards with cover sheets mounted in each switchboard as a minimum or as per the specification.
- 4.0 INSPECTION AND RIGHT OF REJECTION**
Inspectors nominated by the Customer shall have access to the Suppliers premises at all times during working hours for the purpose of inspecting the Articles at any stage of their manufacture or preparation. The Supplier may reject the Articles either in the course of manufacture or preparation or at any time thereafter (including after delivery) if it considers the Articles to contain defects in material or workmanship or to be not in accordance with the specification and, if requested by the Supplier, the Articles rejected shall be removed from the premises of the Supplier or the customer (if delivered there) by the Supplier at the Suppliers expense and the cost of any demurrage, freight, cartage or haulage paid by the Supplier on the rejected articles together with the costs incurred by the Supplier (if any) in testing the Articles shall be paid by the Supplier to the Customer. Except in the case of sub clause (4.3) applying, all Articles rejected shall be promptly replaced at the expense of the Supplier.
- 4.2** The required date of delivery stated for the Articles is the essence of this Contract. The Supplier may refuse any Articles and may cancel all or any part of this Contract if the Supplier fails to deliver all or any part of the Articles in accordance with the terms of this Contract. Extensions of time may be granted provided they are submitted in writing immediately the delay has become apparent and granted in writing by the Supplier.
- 4.3** If the Articles are rejected under either sub clause (4.1) or sub clause (4.2) of this clause and in either case the Supplier notifies the Supplier of its determination to act under this sub clause the Supplier may contract with any person, firm or corporation to supply the Articles and may charge the Supplier or deduct from the amount owed by the Customer to the Supplier the costs, expenses and losses, including incidentals and consequential damages incurred thereby, which are in excess of the Suppliers price for the Articles.
- 5.0 PROTECTION AND DELIVERY**
The Supplier shall provide appropriate means to protect the Articles from damage or deterioration during any storage, handling and delivery. Until an accredited representative of the Customer accepts the delivery all risks shall be the Suppliers, in all respects. All Articles shall be delivered FIS (Free into Store) at the location nominated in this Contract. Deliveries must be delivered in accordance with the delivery schedule nominated in the Contract and must arrive prior to 2.00 pm with identification on each package clearly describing its contents and the relevant Purchase Order Number.
- 6.0 WARRANTIES**
The Supplier represents and warrants:
- 6.1** That the price charged for the Articles shall be no higher than the price nominated in this Contract and no higher than the Suppliers current price to any other customer for the same quantity of such Articles and under like conditions;
- 6.1.2** That all Articles delivered pursuant hereto will be new unless otherwise specified and free from any and all defects in materials and workmanship and that all Articles will conform to applicable specifications (including Drawings and standards of Quality and Performance) and that all Articles will be free from defects in design (when design is the responsibility of the Supplier) and suitable and safe for their intended use or purpose;
- 6.1.3** That all services performed pursuant hereto will be free from any and all defects in material and workmanship and will be performed in accordance with the specifications and instructions of the Supplier and the Supplier shall retain direction and control with respect to the manner and means of performing such service and shall at all times remain an independent Contractor.
- 6.2** The Supplier warrants and guarantees all Articles for a period of Twelve Months (or longer if Specified) after practical completion of the project.
- 7.0 SUBCONTRACTING AND ASSIGNMENT**
The Supplier shall not assign its rights or obligations or any sums that may accrue to it or be due to it hereunder or subcontract any of the work provided for herein without the prior written consent of the Customer.
- 8.0 TAXES AND DUTIES**
Unless otherwise specified in this Contract the prices to be paid to the Supplier as shown herein include all Federal, State and local taxes and all foreign taxes and all duties, foreign or domestic which are applicable to the Articles being furnished hereunder.
- 9.0 APPLICABLE LAWS**
This Contract shall be governed by, subject to and construed according to the laws of the State or Territory in which the Supplier's Branch or site is situated and the parties accept the jurisdiction of the courts of that State or Territory and the Commonwealth of Australia. The Supplier shall comply with all applicable Federal, State and Local Laws.
- 10.0 LIABILITY**
The Supplier shall be liable and shall indemnify the Customer against any liability, loss, claim or proceeding in respect of any injury, loss or damage whatsoever to any property, real or personal, or in respect of any personal injuries to or death of any person whomsoever insofar as such injury, loss or damage arises out of or in the course of or by reason of the execution of the works or the Articles in relation to this contract provided always that the same is due to the negligence, omission, default or breach of the Supplier, the Supplier's servants or agents or of any Subcontractor, or the Subcontractor's servants or agents and provided further that the indemnity hereby given shall not be defeated or reduced by reason of any negligence, omission, default or breach of the Supplier or any person.
- 11.0 EXTRAS, CORRESPONDENCE AND PAYMENTS**
The terms of payment are 60 Days from the invoiced end of month subject to the invoice being received by and dated on or before the 25th of each month ("the Cutoff Date"), the invoice displaying an approved Purchase Order Number and receipt from the Supplier of all documentation required by law and/or by this order. If the Cutoff Date falls on a non-business day, the Cutoff Date will be deemed to be the next business day following the non-business day. Any invoice not displaying an approved Purchase Order Number will be rejected. Retention may be held until the above requirements are fulfilled.
- 11.2** Except as otherwise provided in this contract, no payment for extra work of any type or description shall be made unless such extras and the price therefore has been authorised in writing by the Customer.
- 11.3** All correspondence regarding this order shall be expressly with the Supplier unless written permission is granted to the Supplier and/or Subcontractor by the Customer.
- 11.4** Monthly progress claims for Articles furnished to the Customer will be paid under normal trade terms and conditions of trading provided they are received by the Cutoff Date, include an itemised statement detailing the Articles supplied, the period of supply and the relevant Purchase Order Number.
- 11.5** In the event of late delivery of goods or late completion of services required under this order the Supplier shall be liable for ALL damages incurred by the Customer and other parties.
- 11.6** Offsite payments will only be made under the terms and conditions of the Supplier's head contract. Where progress payments or off-site payments are made the Supplier shall retain full title of the goods or services.
- 12.0 PPSA**
Terms in this clause 12.0 have the same meaning as in the PPSA.
- 12.2** By accepting these terms and conditions in the manner specified in clause 2.0, the Supplier agrees that this clause 12.0 takes precedence over any clause in the Supplier's terms and conditions that deals with or purports to deal with the PPSA, notwithstanding any statement in the Supplier's terms and conditions to the contrary.
- 12.3** The parties agree that the Supplier does not grant to the Supplier a purchase money security interest in the Articles, whether supplied previously or in the future, or a security interest in any of the Articles present and after acquired personal property.
- 12.4** The Supplier agrees that it will not register, or attempt to register, a security interest of any kind on the Personal Property Securities Register, in relation to the Articles or the present and after acquired personal property of the Supplier without the prior written consent of the Customer.

This image shows a blank white page with numerous small black specks and smudges scattered across it. These marks appear to be artifacts from scanning or dust on the original document. There is no legible text or other graphical elements present.

Goods Received

PO
Supplier
Project
Job Number
Delivery Address
Date Ordered

87056
CNW
Single dwelling
19032
7 cassim Pl Redland bay
Monday, 17 August 2020

Date
Reference

Line	Part Number	Description	Unit	QTY Ordered	Balance	Qty Received
1	0	600MM FIRE RATED CABLE LADDER 6M (102M)	0	17	17	
2	0	450MM FIRE RATED CABLE LADDER 6M	0	1	1	
3	0	300MM FIRE RATED CABLE LADDER 6M	0	1	1	
4	0	150MM FIRE RATED CABLE LADDER 6M	0	6	6	
5	0	FIRE RATED 600MM 90DEG BEND	0	11	11	
6	0	FIRE RATED 600MM T BEND	0	3	3	
7	0	FIRE RATED 150MM 90DEG BEND	0	2	2	
8	0	FIRE RATED 150MM T BEND	0	2	2	
9	0		0	0	0	
10	0		0	0	0	
11	0	600MM LADDER HOT DIPPED GALV 6M (140m)	0	24	24	
12	0	450MM LADDER HOT DIPPED GALV 6M	0	1	1	
13	0	300MM LADDER HOT DIPPED GALV 6M (60m)	0	10	10	
14	0	150MM LADDER HOT DIPPED GALV 6M (122m)	0	20	20	
15	0	LADDER HOLD DOWN CLAMPS	0	200	200	
16	0	LADDER JOINERS	0	100	100	
17	0	LADDER RISER PLATES SETS	0	60	60	
18	0	LADDER BENDS 600MM X600MM X600MM T	0	2	2	
19	0	LADDER BENDS 300MM X150MM X300MM T	0	3	3	
20	0	LADDER BENDS 150MM X300MM X150MM T	0	2	2	
21	0	LADDER BENDS 300MM X300MM X300MM T	0	1	1	
22	0	LADDER 90 DEGREE BEND 600MM	0	2	2	
23	0	LADDER 90 DEGREE BEND 450MM	0	1	1	
24	0	LADDER 90 DEGREE BEND 300MM	0	1	1	
25	0	LADDER 90 DEGREE BEND 150MM	0	18	18	
26	0	LADDER JOINER BOLTS	0	600	600	
27	0	LADDER JOINER NUTS	0	600	600	
28	0		0	0	0	
29	0		0	0	0	
30	0		0	0	0	
31	0	450MM TRAY HOT DIPPED GALV 3M	0	1	1	
32	0	600MM TRAY HOT DIPPED GALV 3M (1600M)	0	533	533	
33	0	450MM TRAY HOT DIPPED GALV 3M	0	32	32	
34	0	300MM TRAY HOT DIPPED GALV 3M (1200M)	0	400	400	
35	0	150MM TRAY HOT DIPPED GALV 3M (1775M)	0	591	591	
36	0	TRAY RISER PLATES	0	150	150	
37	0	TRAY T BRACKET SETS	0	140	140	
38	0	TRAY RADIUS PLATE 2M LONG	0	50	50	
39	0	TRAY HOLD DOWN BRACKETS	0	2200	2200	
40	0	TRAY JOINERS	0	1500	1500	
41	0	TRAY JOINER NUTS	0	2000	2000	
42	0	TRAY JOINER BOLTS	0	2000	2000	
43	0	"L" shape channel (250M)	0	80	80	
44	0	20MM LIGHT GAGE UNI-STRUT 6M (1200M)	0	200	200	
45	0		0	0	0	
46	0	10MM BOOKER ROD	0	100	100	
47	0	40MM HEAVEY GAGE UNI-STRUT 6M (480m)	0	80	80	
48	0	UNI-STRUT END CAPS 40MM	0	100	100	
49	0	UNI-STRUT END CAPS 20MM	0	100	100	
50	0	CANTERLEAVER BRACKETS 900MM	0	20	20	
51	0	CANTERLEAVER BRACKETS 700MM	0	20	20	
52	0	CANTERLEAVER BRACKETS 450MM	0	20	20	
53	0		0	0	0	
54	0		0	0	0	
55	0	ezy tray 150mm 3 m	0	1	1	
56	0	luma locks 460mm 15KG tray supports bag of 10	0	1	1	
57	0		0	0	0	
58	0		0	0	0	
59	0		0	0	0	
60	0		0	0	0	
61	0		0	0	0	
62	0		0	0	0	
63	0		0	0	0	

~~SECRET~~



Price Comparison				Supplier	Supplier	Supplier	Supplier	Supplier	Supplier
				Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration
Line	Qty	Part No.	Description	Unit	\$	\$	\$	\$	\$
1	17	0	600MM FIRE RATED CABLE LADDER 6M (102M)	0					
2	1	0	450MM FIRE RATED CABLE LADDER 6M	0					
3	1	0	300MM FIRE RATED CABLE LADDER 6M	0					
4	6	0	150MM FIRE RATED CABLE LADDER 6M	0					
5	11	0	FIRE RATED 600MM 90DEG BEND	0					
6	3	0	FIRE RATED 600MM T BEND	0					
7	2	0	FIRE RATED 150MM 90DEG BEND	0					
8	2	0	FIRE RATED 150MM T BEND	0					
9	0	0	0	0					
10	0	0	0	0					
11	24	0	600MM LADDER HOT DIPPED GALV 6M (140m)	0					
12	1	0	450MM LADDER HOT DIPPED GALV 6M	0					
13	10	0	300MM LADDER HOT DIPPED GALV 6M (60m)	0					
14	20	0	150MM LADDER HOT DIPPED GALV 6M (122m)	0					
15	200	0	LADDER HOLD DOWN CLAMPS	0					
16	100	0	LADDER JOINERS	0					
17	60	0	LADDER RISER PLATES SETS	0					
18	2	0	LADDER BENDS 600MM X600MM X300MM T	0					
19	3	0	LADDER BENDS 300MM X150MM X300MM T	0					
20	2	0	LADDER BENDS 150MM X300MM X150MM T	0					
21	1	0	LADDER BENDS 300MM X300MM X300MM T	0					
22	2	0	LADDER 90 DEGREE BEND 600MM	0					
23	1	0	LADDER 90 DEGREE BEND 450MM	0					
24	1	0	LADDER 90 DEGREE BEND 300MM	0					
25	18	0	LADDER 90 DEGREE BEND 150MM	0					
26	600	0	LADDER JOINER BOLTS	0					
27	600	0	LADDER JOINER NUTS	0					
28	0	0	0	0					
29	0	0	0	0					
30	0	0	0	0					
31	1	0	450MM TRAY HOT DIPPED GALV 3M	0					
32	533	0	600MM TRAY HOT DIPPED GALV 3M (1600M)	0					
33	32	0	450MM TRAY HOT DIPPED GALV 3M	0					
34	400	0	300MM TRAY HOT DIPPED GALV 3M (1200M)	0					
35	591	0	150MM TRAY HOT DIPPED GALV 3M (1775M)	0					
36	150	0	TRAY RISER PLATES	0					
37	140	0	TRAY T BRACKET SETS	0					
38	50	0	TRAY RADIUS PLATE 2M LONG	0					
39	2200	0	TRAY HOLD DOWN BRACKETS	0					
40	1500	0	TRAY JOINERS	0					
41	2000	0	TRAY JOINER NUTS	0					
42	2000	0	TRAY JOINER BOLTS	0					
43	80	0	"L" shape channel (250M)	0					
44	200	0	20MM LIGHT GAGE UNI-STRUT 6M (1200M)	0					
45	0	0	0	0					
46	100	0	10MM BOOKER ROD	0					
47	80	0	40MM HEAVEY GAGE UNI-STRUT 6M (480m)	0					
48	100	0	UNI-STRUT END CAPS 40MM	0					
49	100	0	UNI-STRUT END CAPS 20MM	0					
50	20	0	CANTERLEAVER BRACKETS 900MM	0					
51	20	0	CANTERLEAVER BRACKETS 700MM	0					
52	20	0	CANTERLEAVER BRACKETS 450MM	0					
53	0	0	0	0					
54	0	0	0	0					
55	1	0	ez tray 150mm 3 m	0					
56	1	0	luma locks 460mm 15Kg tray supports leg of 10	0					
57	0	0	0	0					
58	0	0	0	0					
59	0	0	0	0					
60	0	0	0	0					
61	0	0	0	0					
62	0	0	0	0					
63	0	0	0	0					
64	0	0	0	0					
65	0	0	0	0					
66	0	0	0	0					
67	0	0	0	0					
68	0	0	0	0					
69	0	0	0	0					
70	0	0	0	0					
71	0	0	0	0					
72	0	0	0	0					
73	0	0	0	0					
74	0	0	0	0					
75	0	0	0	0					
76	0	0	0	0					
77	0	0	0	0					
78	0	0	0	0					
79	0	0	0	0					
80	0	0	0	0					
81	0	0	0	0					
82	0	0	0	0					
83	0	0	0	0					
84	0	0	0	0					
85	0	0	0	0					
86	0	0	0	0					
87	0	0	0	0					
88	0	0	0	0					
89	0	0	0	0					
90	0	0	0	0					
91	0	0	0	0					
92	0	0	0	0					
93	0	0	0	0					
94	0	0	0	0					
95	0	0	0	0					
96	0	0	0	0					
97	0	0	0	0					
98	0	0	0	0					
99	0	0	0	0					
100	0	0	0	0					
101	0	0	0	0					
102	0	0	0	0					
103	0	0	0	0					
104	0	0	0	0					
105	0	0	0	0					
106	0	0	0	0					
107	0	0	0	0					
108	0	0	0	0					
109	0	0	0	0					
110	0	0	0	0					
111	0	0	0	0					
112	0	0	0	0					
113	0	0	0	0					
114	0	0	0	0					
115	0	0	0	0					
116	0	0	0	0					
117	0	0	0	0					
Notes:				Quote Amount					
				Budget	\$	\$	\$	\$	\$
				Difference	\$	\$	\$	\$	\$

Material Request Draw Down

PO
Supplier
Project
Job Number
Delivery Address
Site Contact
Date
Items

87056
CNW
~~19032~~
0
17/08/2020
*Single dwelling
1000sqm pip
Redland bay*

All Figures EX GST		
Total		\$91,939.60
Total Invoiced		\$49.09
Total Remaining		\$91,890.51

Date Req
Contact

Line	Part Number	Description	Unit	Unit Cost	QTY Ordered	Total Received	Total Invoiced	Balance to Receive	Qty Required
1	0	600MM FIRE RATED CABLE LADDER 6M (102M)	0	\$ 256.5000	17	0	0	17	
2	0	450MM FIRE RATED CABLE LADDER 6M	0	\$ 239.0000	1	0	0	1	
3	0	300MM FIRE RATED CABLE LADDER 6M	0	\$ 220.0000	1	0	0	1	
4	0	150MM FIRE RATED CABLE LADDER 6M	0	\$ 195.0000	6	0	0	6	
5	0	FIRE RATED 600MM 90DEG BEND	0	\$ 108.0000	11	0	0	11	
6	0	FIRE RATED 600MM T BEND	0	\$ 143.4700	3	0	0	3	
7	0	FIRE RATED 150MM 90DEG BEND	0	\$ 70.0000	2	0	0	2	
8	0	FIRE RATED 150MM T BEND	0	\$ 189.0000	2	0	0	2	
9	0		0	\$ -	0	0	0	0	
10	0		0	\$ -	0	0	0	0	
11	0	600MM LADDER HOT DIPPED GALV 6M (140m)	0	\$ 132.0000	24	0	0	24	
12	0	450MM LADDER HOT DIPPED GALV 6M	0	\$ 123.0000	1	0	0	1	
13	0	300MM LADDER HOT DIPPED GALV 6M (60m)	0	\$ 113.0000	10	0	0	10	
14	0	150MM LADDER HOT DIPPED GALV 6M (122m)	0	\$ 104.0000	20	0	0	20	
15	0	LADDER HOLD DOWN CLAMPS	0	\$ 2.2000	200	0	0	200	
16	0	LADDER JOINERS	0	\$ 4.2000	100	0	0	100	
17	0	LADDER RISER PLATES SETS	0	\$ 5.5000	60	0	0	60	
18	0	LADDER BENDS 600MM X600MM X600MM T	0	\$ 87.3000	2	0	0	2	
19	0	LADDER BENDS 300MM X150MM X300MM T	0	\$ 118.0000	3	0	0	3	
20	0	LADDER BENDS 150MM X300MM X150MM T	0	\$ 118.0000	2	0	0	2	
21	0	LADDER BENDS 300MM X300MM X300MM T	0	\$ 76.0000	1	0	0	1	
22	0	LADDER 90 DEGREE BEND 600MM	0	\$ 67.0000	2	0	0	2	
23	0	LADDER 90 DEGREE BEND 450MM	0	\$ 63.0000	1	0	0	1	
24	0	LADDER 90 DEGREE BEND 300MM	0	\$ 50.0000	1	0	0	1	
25	0	LADDER 90 DEGREE BEND 150MM	0	\$ 41.0000	18	0	0	18	
26	0	LADDER JOINER BOLTS	0	\$ 0.1800	600	0	0	600	
27	0	LADDER JOINER NUTS	0	\$ 0.1800	600	0	0	600	
28	0		0	\$ -	0	0	0	0	
29	0		0	\$ -	0	0	0	0	
30	0		0	\$ -	0	0	0	0	
31	0	450MM TRAY HOT DIPPED GALV 3M	0	\$ 41.0000	1	0	0	1	
32	0	600MM TRAY HOT DIPPED GALV 3M (1600M)	0	\$ 51.2000	533	0	0	533	
33	0	450MM TRAY HOT DIPPED GALV 3M	0	\$ 40.4000	32	0	0	32	
34	0	300MM TRAY HOT DIPPED GALV 3M (1200M)	0	\$ 31.5000	400	0	0	400	
35	0	150MM TRAY HOT DIPPED GALV 3M (1775M)	0	\$ 24.6000	591	0	0	591	
36	0	TRAY RISER PLATES	0	\$ 0.6600	150	0	0	150	
37	0	TRAY T BRACKET SETS	0	\$ 5.3500	140	0	0	140	
38	0	TRAY RADIUS PLATE 2M LONG	0	\$ 8.9000	50	0	0	50	
39	0	TRAY HOLD DOWN BRACKETS	0	\$ 1.1200	2200	0	0	2200	
40	0	TRAY JOINERS	0	\$ 1.0500	1500	0	0	1500	
41	0	TRAY JOINER NUTS	0	\$ 0.1800	2000	0	0	2000	
42	0	TRAY JOINER BOLTS	0	\$ 0.1800	2000	0	0	2000	
43	0	"L" shape channel (250M)	0	\$ 14.5000	80	0	0	80	
44	0	20MM LIGHT GAGE UNI-STRUT 6M (1200M)	0	\$ 31.5000	200	0	0	200	
45	0		0	\$ -	0	0	0	0	
46	0	10MM BOOKER ROD	0	\$ 4.7000	100	0	0	100	
47	0	40MM HEAVEY GAGE UNI-STRUT 6M (480m)	0	\$ 39.5500	80	0	0	80	
48	0	UNI-STRUT END CAPS 40MM	0	\$ 0.7500	100	0	0	100	
49	0	UNI-STRUT END CAPS 20MM	0	\$ 0.7500	100	0	0	100	
50	0	CANTERLEAVER BRACKETS 900MM	0	\$ 19.0000	20	0	0	20	
51	0	CANTERLEAVER BRACKETS 700MM	0	\$ 16.8000	20	0	0	20	
52	0	CANTERLEAVER BRACKETS 450MM	0	\$ 12.9000	20	0	0	20	
53	0		0	\$ -	0	0	0	0	
54	0		0	\$ -	0	0	0	0	
55	0	ezy tray 150mm 3 m	0	\$ 15.2800	1	1	1	0	
56	0	luma locks 460mm 15KG tray supports bag of 10	0	\$ 33.8100	1	1	1	0	
57	0		0	\$ -	0	0	0	0	
58	0		0	\$ -	0	0	0	0	
59	0		0	\$ -	0	0	0	0	
60	0		0	\$ -	0	0	0	0	
61	0		0	\$ -	0	0	0	0	
62	0		0	\$ -	0	0	0	0	
63	0		0	\$ -	0	0	0	0	
64	0		0	\$ -	0	0	0	0	
65	0		0	\$ -	0	0	0	0	
66	0		0	\$ -	0	0	0	0	
67	0		0	\$ -	0	0	0	0	
68	0		0	\$ -	0	0	0	0	
69	0		0	\$ -	0	0	0	0	
70	0		0	\$ -	0	0	0	0	
71	0		0	\$ -	0	0	0	0	
72	0		0	\$ -	0	0	0	0	
73	0		0	\$ -	0	0	0	0	
74	0		0	\$ -	0	0	0	0	
75	0		0	\$ -	0	0	0	0	
76	0		0	\$ -	0	0	0	0	
77	0		0	\$ -	0	0	0	0	
78	0		0	\$ -	0	0	0	0	
79	0		0	\$ -	0	0	0	0	
80	0		0	\$ -	0	0	0	0	
81	0		0	\$ -	0	0	0	0	
82	0		0	\$ -	0	0	0	0	
83	0		0	\$ -	0	0	0	0	
84	0		0	\$ -	0	0	0	0	
85	0		0	\$ -	0	0	0	0	
86	0		0	\$ -	0	0	0	0	
87	0		0	\$ -	0	0	0	0	
88	0		0	\$ -	0	0	0	0	

Delivery Schedule

PO
Supplier
Project
Job Number
Delivery Address
Date Ordered

87056
CNW
~~19032~~
Monday, 17 August 2020

single dwelling
7cassim PI redland bay

Date Required	Date Required	Date Required
Comment	Comment	Comment
24/08/20	31/08/20	

Line	Part Number	Description	Unit	Qty Ordered	Overall Balance	Qty Required	Qty Remaining	Qty Required	Qty Remaining	Qty Required
1	0	600MM FIRE RATED CABLE LADDER 6M (102M)	0	17	17		17		17	
2	0	450MM FIRE RATED CABLE LADDER 6M	0	1	1		1		1	
3	0	300MM FIRE RATED CABLE LADDER 6M	0	1	1		1		1	
4	0	150MM FIRE RATED CABLE LADDER 6M	0	6	6		6		6	
5	0	FIRE RATED 600MM 90DEG BEND	0	11	11		11		11	
6	0	FIRE RATED 600MM T BEND	0	3	3		3		3	
7	0	FIRE RATED 150MM 90DEG BEND	0	2	2		2		2	
8	0	FIRE RATED 150MM T BEND	0	2	2		2		2	
9	0		0	0	0		0		0	
10	0		0	0	0		0		0	
11	0	600MM LADDER HOT DIPPED GALV 6M (140m)	0	24	24		24		24	
12	0	450MM LADDER HOT DIPPED GALV 6M	0	1	1		1		1	
13	0	300MM LADDER HOT DIPPED GALV 6M (60m)	0	10	10		10		10	
14	0	150MM LADDER HOT DIPPED GALV 6M (122m)	0	20	20		20		20	
15	0	LADDER HOLD DOWN CLAMPS	0	200	200		200		200	
16	0	LADDER JOINERS	0	100	100		100		100	
17	0	LADDER RISER PLATES SETS	0	60	60		60		60	
18	0	LADDER BENDS 600MM X600MM X600MM T	0	2	2		2		2	
19	0	LADDER BENDS 300MM X150MM X300MM T	0	3	3		3		3	
20	0	LADDER BENDS 150MM X300MM X150MM T	0	2	2		2		2	
21	0	LADDER BENDS 300MM X300MM X300MM T	0	1	1		1		1	
22	0	LADDER 90 DEGREE BEND 600MM	0	2	2		2		2	
23	0	LADDER 90 DEGREE BEND 450MM	0	1	1		1		1	
24	0	LADDER 90 DEGREE BEND 300MM	0	1	1		1		1	
25	0	LADDER 90 DEGREE BEND 150MM	0	18	18		18		18	
26	0	LADDER JOINER BOLTS	0	600	600		600		600	
27	0	LADDER JOINER NUTS	0	600	600		600		600	
28	0		0	0	0		0		0	
29	0		0	0	0		0		0	
30	0		0	0	0		0		0	
31	0	450MM TRAY HOT DIPPED GALV 3M	0	1	1		1		1	
32	0	600MM TRAY HOT DIPPED GALV 3M (1600M)	0	533	533		533		533	
33	0	450MM TRAY HOT DIPPED GALV 3M	0	32	32		32		32	
34	0	300MM TRAY HOT DIPPED GALV 3M (1200M)	0	400	400		400		400	
35	0	150MM TRAY HOT DIPPED GALV 3M (1775M)	0	591	591		591		591	
36	0	TRAY RISER PLATES	0	150	150		150		150	
37	0	TRAY T BRACKET SETS	0	140	140		140		140	
38	0	TRAY RADIUS PLATE 2M LONG	0	50	50		50		50	
39	0	TRAY HOLD DOWN BRACKETS	0	2200	2200		2200		2200	
40	0	TRAY JOINERS	0	1500	1500		1500		1500	
41	0	TRAY JOINER NUTS	0	2000	2000		2000		2000	
42	0	TRAY JOINER BOLTS	0	2000	2000		2000		2000	
43	0	"L" shape channel (250M)	0	80	80		80		80	
44	0	20MM LIGHT GAGE UNI-STRUT 6M (1200M)	0	200	200		200		200	
45	0		0	0	0		0		0	
46	0	10MM BOOKER ROD	0	100	100		100		100	
47	0	40MM HEAVEY GAGE UNI-STRUT 6M (480m)	0	80	80		80		80	
48	0	UNI-STRUT END CAPS 40MM	0	100	100		100		100	
49	0	UNI-STRUT END CAPS 20MM	0	100	100		100		100	
50	0	CANTERLEAVER BRACKETS 900MM	0	20	20		20		20	
51	0	CANTERLEAVER BRACKETS 700MM	0	20	20		20		20	
52	0	CANTERLEAVER BRACKETS 450MM	0	20	20		20		20	
53	0		0	0	0		0		0	
54	0		0	0	0		0		0	
55	0	ezy tray 150mm 3 m	0	1	1		1		1	
56	0	luma locks 460mm 15KG tray supports bag of 10	0	1	1		1		1	
57	0		0	0	0		0		0	
58	0		0	0	0		0		0	
59	0		0	0	0		0		0	
60	0		0	0	0		0		0	
61	0		0	0	0		0		0	
62	0		0	0	0		0		0	
63	0		0	0	0		0		0	
64	0		0	0	0		0		0	
65	0		0	0	0		0		0	
66	0		0	0	0		0		0	

[illegible]

galvanising providing more protection. Non – ferrous materials include stainless steel, copper, zinc etc. The corrosion resistance is greatly superior due to the ceramic coating of oxide or salt on the metal in production stages.

Occasion 2 - Class 2 to 9 not exceeding 2000 square metres – Aged care building with separate dwellings

Evaluate building materials

To: dion@bluestar.com.au
From: tessveldink@bluestar.com.au
Subject: Aged Care building – Prince William

Hi Dion,

The other project we will be working on is a new aged care building at an established aged care facility at Prince William in Wellington Point. The new building will cater for separate dwellings for residents and not exceeding 2000 square metres.

We will be contracted to design and install all electrical works for the house and carport and liaising with the builder's Coral Homes throughout as it's important to let them know what stages we are up to. For the next couple of days, you will be helping me in organising the suitable materials for the project. First, we have to evaluate the building materials as it is important to have a general understanding of the builder's processes.

Commonly used materials for builders on a low-rise building are cements, flooring, framing, roofing glass, plasterboard and engineering timber products. Some commonly used materials for electricians to use on a low-rise building are electrical connectors, circuit breakers, conduit and cables.

Different materials have their different quality and compatibility levels in order to maintain effectiveness. There are a range of processes to identify material suitability these include; analyse reports from the manufacturer, industry standards – external quality tests or inspections, arranging on-site quality tests on products that are being used, referencing external reports/manufacturer specifications and seeking expert appraisal. Material characteristics should also be taken into considerations such as the properties and behaviours, quality of materials (initial cost and long-term cost) and how the materials interact with each other.

The choice of materials should not depend only on the price and installation cost, but also on the cost of repair, maintenance and replacement of short-life span products. Less durable materials may be cheap to buy but to repair or replacement is usually high. Cheap materials usually lower the values of the building as more durable materials mellow with age and give the structure a more aesthetic appearance.

There are a large range of new materials on the market today that are chemical based which has led to new chemical and physical problems with materials and seem to breakdown many times faster than normal materials. Incompatible building materials can be grouped together under the following headings, corrosion of metals, stains and discolouring affect, problem with surface finishes, chemical reaction ect. Ensure to look out for these heading with researching materials for the aged care building separate dwellings.

Materials are usually categorised into two sources, natural and synthetic. Natural materials include glass or timber, synthetic include paints and plastics. These different types of materials have different environmental impacts. Environmentally friendly building is a building that is energy efficient. They utilise construction wisely – including recycling, renewable and reused resources and ensure it's a healthy living space for occupants by lowering costs and being eco-friendly for the planet. See below a number of terms for measuring environmental aspects of buildings and building materials.

Term	Definition
GHG	Greenhouse gas emissions
CO2e	CO2equivalent tonnes emitted into the atmosphere
Carbon footprint	Total GHG emissions produced during manufacture construction and use
Embodied energy	The amount of energy required to manufacture a product, including energy used in the extraction of raw materials, transporting those materials, and processing them into the final product.
Embodied water	The amount of water required to manufacture a product, including water used in extraction of raw materials, transportation and processing

However, it's important for us to be aware of resources which are threatened or have a negative environmental impact, we should be using materials that save the planet in many ways and not just one. If you are unsure about a material being environmentally friendly there are a number of sources for environmental performance. For builders they can reference the NCC, BMAS system or BES index and electricians can refer to the Australian Electrical Standards.

Materials with a low energy content are cheaper because energy has not been used in their production for example stone, timber or sand – these do not require a primary manufacturing process and materials which are by-products of other industrial processes (eg. Wood particles)

Materials with a high energy content require energy in their production – glass, bricks, plastics, metals. This adds to their overall costs and if local supplies of the raw materials are limited, purchasing and transports should be considered.

The QBCC and Australian Standards both have a tolerance guide for installing materials to a building. The materials will also come with a material safety data sheet or a testing sheet laying out the tests that have been performed on that material. These guides are to help with tradesmen limit the dangers and ensure the material is only being used within its tolerance limits. As we are electricians, we will follow the safety data sheets and also the Australian Electrical Standards.

Material selection

When selecting materials ensure you are selecting structurally appropriate materials that are part of the building system that is specified in the contract as a schedule initialled by both parties. The materials included in the building system can be attached using; drawings, specifications and schedules. The building specifications sets out the project description and the requirements for materials and workmanship, so you need to establish all building materials.

Ensure to select materials that are safe and appropriate building materials. To determine the most suitable materials, refer to the NCC for builders and the Australian Electrical Standards for electricians. These documents contain technical provisions for the design and construction of the building and other information on fire resistance, safe building structure, access & egress and services and equipment.

As you already know different building materials have range of different life cycles. The selection of building materials greatly impacts the sustainability and life of a project therefore you need to consider the short and long-term degradation of these materials. By choosing materials wisely you can provide advice to client as well as reduce the impact of the project to the environment.

Building life cycle refers to the view of a building over the course of its entire life, including operational build, design, construction, demolition and waste treatment.

Life Cycle Costing (LCC) Many clients are now requesting long-term environmentally sustainable solutions which take energy and sustainable innovations, to a new level.

LCC and sustainable solutions need to be considered when designing, building, installing, maintaining and branding.

Many materials deteriorate due to weathering which may cause a consequent failure of the structure. In the electrical field short term materials include, light switches, GPO's as they are exposed to high volumes of lights the plastic may start to crack and turn yellow. Long term materials include the different types of metals that make up electrical conductors/ wires. These will corrode due to the oxygen in the air but not for a long period of time. Main switchboards also need replacing over a long period of time because the metals start to corrode and seize up.

When selecting electrical materials for the project be sure to keep in mind the client requirements, availability, environmental issues and the material life cycle. Having an alternative material in mind is good practise in case the initial material doesn't have a good environmental rating, poor performance test or isn't cost effective. At Blue Star we have an alternative materials comparison spreadsheet, that rates the material considerations. Please see attached a blank spreadsheet which we can fill in for the aged care building.

Once the research on alternative material are done and you have a better understanding on the types of materials you are after, it's time to get quotes from suppliers. It's recommended to get minimum three quotes so you can see a price comparison and availability. Once you have chosen your supplier you send them a purchase order and the material request spreadsheet showing all material you need in detail. Please find attached a purchase order and a material request spreadsheet. Ensure that all materials align with the contractual obligations and any other special requests are approved by the client.

Supervising materials on site

Once the quote for the goods has been approved it's important to let the supplier know what dates materials need to be delivered to site. At Blue Star we always work 2 weeks ahead, so we would submit a delivery schedule with a two week look ahead. Showing the description of the materials, quantity needed, and the date needed. Please see attached an example of the delivery schedule for a previous single dwelling. Once the goods are delivered, we then update the PO spreadsheets, the materials are moved to a separate spreadsheet that tracks all of the received goods. Please see goods received tracking spreadsheet for reference.

Transportation is almost guaranteed to be able to acquire all the materials required for the dwellings. The travel may be quite lengthy depending on where the items are sourced from. There can be a number of risks involved in transport especially with fragile materials. Before signing for the goods confirm there is the correct quantity and confirm the condition of the delivery. Ensure that the materials are the perfect condition. If you see any damages reject the entire shipment or accept the shipment with conditions. If you reject the entire shipment you must prepare for delays for the replacement.

Tradesmen can be exposed to manual handling injuries and hazardous chemical exposure from the electrical materials. Please follow the below steps

Area of the body	How it should be
Neck	Upright
Back	Natural curve
Feet	Flat, facing load
Shoulders	Level
Knees	Bent
Hands	Good grip

To avoid manual handling don't lift too heavy, ensure the pathway is clear, take breaks, no jerky movements and not twist with lifting objects. Handling hazardous items like drums of fuel or chemical requires the person to use a Material Safety Data Sheet, use correct PPE and use a trolley for easy movement and ensuring the items are on a stable ground.

Testing on materials is an important step and is usually carried out by the manufacturer or supplier before delivery. The materials are testing for quality and suitability for the construction situation intended.

Once the materials are delivered it is important to ensure they are stored in the correct way. Ensure there is enough space for the goods, adequate security so nothing is stolen, weather can't affect the goods and the future deliveries are well coordinated.

It's important to ensure that the materials are free from defects before they are used. Manufactured materials should be checked for defects and naturally occurring materials should be examined for suitability. Being aware of the types of defects that are associated with certain materials is important. Common household defects include; circuit breaker tripping which can be caused by high wattage items like microwaves and hair dryers especially when they are on the same power source and sags and dips in the electrical supply, this can often be attributed to devices connected to your power grid that are faulty or made with substandard materials and draw a lot of power when they turn on.

When defects occurring after building process depends upon whether, the correct selection has occurred, the goods have been installed properly and the positioning is correct. The contractor for the electrical work will rectify the issue as per the contract. However, this can be difficult sometimes as the tenant can be already in the dwelling so it's crucial to ensure the materials are suitable before installation.

As electricians we don't use a lot of timbers in our work however, we do use steel and non-ferrous metals such as copper. There's multiple ways we can preserve and protect these materials. Steel is the most commonly used material in construction, and it rust from the atmosphere, to reduce this try and control the environment or provide barrier to moisture and oxygen and try corrosion inhibitors. Painting is also an option to slow down the rust as well as other coatings such as galvanising providing more protection. Non – ferrous materials include stainless steel, cooper, zinc etc. The corrosion resistance is greatly superior due to the ceramic coating of oxide or salt on the metal in production stages.

PURCHASE ORDER

87058



Electro Technology
Engineering and
Contractors

To: Paul Healy Attn: Paul Healy
Address: 60 Riverside Place morning side
4170
Project: Subtle

IMPORTANT NOTICE No invoice will be paid unless it bears an official order number. please **QUOTE THIS NUMBER** on external packaging of each item, delivery notes and other correspondence. For terms and conditions of purchase please see overleaf.

Please supply the following and charge to our account:

AUTHORISED BY:

COlor LB Signature (NOT Initials)

Delivery Address: (or if not stated, deliver to address identified below)

360 Lynton Road
Deb Moringside 4170
(or ☐ received and checked in person)

Date Ordered: 18/2/20
Date Required: (NOT ASAP) / /

Job Number	Print Name	Quantity Ordered	Description of Material, Equipment or Service	Unit Type	Unit Cost
1	19032		Supply deliver for the Subtle project in accordance with		\$ C
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

ENTERED
18-19/04/20

SUBTOTAL \$ \$67,105.30

PLUS GST \$

TOTAL COST \$

DISTRIBUTION: WHITE - Supplier Copy

GREEN - Receiving Inspection Copy

BLUE - Supervisor or Site Records Copy

YELLOW - Data Entry Copy (Office)





Please supply the following and charge to our account

Bluestar Pacific Purchase Order Details

PO 87058

#N/A

Supplier CNW
Attn NICK
Address [REDACTED] 60 Riverside Pl.
Project [REDACTED] Aged care building
Job Number 19032
Authorised By [REDACTED] Tess Veldink
Signed 0
Delivery Address [REDACTED] 360 Lytton Road

IMPORTANT NOTICE No invoice will be paid unless it bears an official order number. Please **Quote This Number** on external packaging of each item, delivery notes and other correspondence. For Terms and conditions of purchase please see page 3

Confirm Delivery with Site Contact Below

Date Ordered Monday, 17 August 2020

Site Contact 0

Line	Qty	Part No.	Description	Unit	Unit Cost	\$
1	1000	0	1.5MM TWIN ACTIVE	0	\$ 0.4775	\$ 477.50
2	500	0	2.5MM TWIN ACTIVE	0	\$ 0.7615	\$ 380.75
3	10000	0	2.5MM TWIN & EARTH	0	\$ 0.9400	\$ 9,400.00
4	20000	0	2.5MM 4-CORE & EARTH (LIGHTING)	0	\$ 1.9700	\$ 39,400.00
5	3000	0	2.5MM RED BUILDING WIRE	0	\$ 0.3500	\$ 1,050.00
6	3000	0	2.5MM WHITE BUILDING WIRE	0	\$ 0.3500	\$ 1,050.00
7	3000	0	2.5MM BLUE BUILDING WIRE	0	\$ 0.3500	\$ 1,050.00
8	3000	0	2.5MM BLACK BUILDING WIRE	0	\$ 0.3500	\$ 1,050.00
9	4000	0	2.5MM EARTH BUILDING WIRE	0	\$ 0.3500	\$ 1,400.00
10	500	0	4MM TWIN & EARTH	0	\$ 1.4900	\$ 745.00
11	500	0	6MM TWIN & EARTH	0	\$ 1.9500	\$ 975.00
12	500	0	6MM 4 CORE & EARTH	0	\$ 3.8000	\$ 1,900.00
13	100	0	10MM 4 CORE & EARTH	0	\$ 6.4500	\$ 645.00
14	1000	0	6MM EARTH BUILDING WIRE	0	\$ 0.8400	\$ 840.00
15	500	0	FIGURE 8	0	\$ 0.3500	\$ 175.00
16	10	0	DYNET CABLE	0	\$ 388.0000	\$ 3,880.00
17	0	0	CAT 6 A	0	\$ -	\$ -
18	2000	0	2.5MM BLACK TWIN & EARTH	0	\$ 0.9700	\$ 1,940.00
19	2135	0	CAT 5 CABLE FOR METERING	0	\$ 0.3500	\$ 747.25
20	0	0	0	0	\$ -	\$ -
21	0	0	0	0	\$ -	\$ -
22	0	0	0	0	\$ -	\$ -
23	0	0	0	0	\$ -	\$ -
24	0	0	0	0	\$ -	\$ -
25	0	0	0	0	\$ -	\$ -
26	0	0	0	0	\$ -	\$ -
27	0	0	0	0	\$ -	\$ -
28	0	0	0	0	\$ -	\$ -
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31	0	0	0	0	\$ -	\$ -
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41	0	0	0	0	\$ -	\$ -
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45	0	0	0	0	\$ -	\$ -
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Please supply the following and charge to our account

54	0	0	0	0	\$	-	\$	-
55	0	0	0	0	\$	-	\$	-
56	0	0	0	0	\$	-	\$	-
57	0	0	0	0	\$	-	\$	-
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91	0	0	0	0	\$	-	\$	-
92	0	0	0	0	\$	-	\$	-
93	0	0	0	0	\$	-	\$	-
94	0	0	0	0	\$	-	\$	-
95	0	0	0	0	\$	-	\$	-
96	0	0	0	0	\$	-	\$	-
97	0	0	0	0	\$	-	\$	-
98	0	0	0	0	\$	-	\$	-
99	0	0	0	0	\$	-	\$	-
100	0	0	0	0	\$	-	\$	-
101	0	0	0	0	\$	-	\$	-
102	0	0	0	0	\$	-	\$	-
103	0	0	0	0	\$	-	\$	-
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114	0	0	0	0	\$	-	\$	-
115	0	0	0	0	\$	-	\$	-
116	0	0	0	0	\$	-	\$	-
117	0	0	0	0	\$	-	\$	-
Notes: Minimum 48 Hours Notice Required to Confirm Delivery					Sub Total		\$	67,105.50
					GST		\$	6,710.55
					Total		\$	73,816.05



Please supply the following and charge to our account

BLUE STAR PACIFIC PTY LTD - GENERAL TERMS AND CONDITIONS OF PURCHASE

- 1.0 DEFINITIONS**
As used throughout these terms and conditions the following terms, shall have the same meanings set forth below unless otherwise indicated.
- 1.1** The term "Customer" means the party or parties, if any, to whom the Supplier shall sell or otherwise dispose of the Article;
- 1.2** The term "Supplier" or "Subcontractor" means the individual, partnership, corporation or other entity contracting to furnish the Article;
- 1.3** The word "Articles" refers to the goods, products, services, supplies, parts, work, performance, assemblies, technical data, drawings, units or other items constituting the subject matter of this contract which are to be furnished by the Supplier to the Customer hereunder.
- 1.4** The term "Contract" includes in order of precedence, the following documents, the Supplier's Purchase order, an Amendment Advice, changes or supplements thereto, any special terms and conditions included herein and all specifications and terms made part hereof or incorporated by reference and the General Terms and Conditions of Purchase set forth herein.
- 1.5** The term "PPSA" means the Personal Property Securities Act 2009 (Cth), as amended from time-to-time.
- 2.0 ACCEPTANCE**
The Supplier will be deemed to have accepted these terms and conditions by either:
- 2.1** communicating acceptance of a purchase order to the Supplier; or
- 2.1.1** supplying the Articles with the Articles requested under the purchase order.
- 3.0 SPECIFICATIONS**
All Articles supplied shall be in accordance with Quality Management Systems – Requirements AS/NZS ISO9001:2016 and the specification prepared by the Customer. Provided that where the specification is not prepared by the Customer, all Articles shall be in accordance with the specification prepared by the customer or, if that specification is not relevant to the Articles, the Standards Australia's specification or, if that specification is not relevant to the Articles, the British Standard Specification or, where none of these specifications are relevant, in accordance with the detailed specification prepared by the Supplier and accepted by the Customer. In the case of project specific switchboards or luminaries, approval prior to manufacture is subject to the supply of samples and/or 1 original and 2 prints of "As For Construction" drawings. Within 10 days of the Articles supply "As Built" drawings and "Installation and Maintenance Manuals" shall be supplied. Switchboards shall include touch up paint to match and schedule cards with cover sheets mounted in each switchboard as a minimum or as per the specification.
- 4.0 INSPECTION AND RIGHT OF REJECTION**
Inspectors nominated by the Customer shall have access to the Suppliers premises at all times during working hours for the purpose of inspecting the Articles at any stage of their manufacture or preparation. The Supplier may reject the Articles either in the course of manufacture or preparation or at any time thereafter (including after delivery) if it considers the Articles to contain defects in material or workmanship or to be not in accordance with the specification and, if requested by the Customer, the Articles rejected shall be removed from the premises of the Supplier or the customer (if delivered there) by the Supplier at the Suppliers expense and the cost of any demurrage, freight, cartage or haulage paid by the Supplier on the rejected articles together with the costs incurred by the Supplier (if any) in testing the Articles shall be paid by the Supplier to the Customer on demand. Except in the case of sub clause (4.3) applying, all Articles rejected shall be promptly replaced at the expense of the Supplier.
- 4.2** The required date of delivery stated for the Articles is the essence of this Contract. The Supplier may refuse any Articles and may cancel all or any part of this Contract if the Supplier fails to deliver all or any part of the Articles in accordance with the terms of this Contract. Extensions of time may be granted provided they are submitted in writing immediately the delay has become apparent and granted in writing by the Supplier.
- 4.3** If the Articles are rejected under either sub clause (4.1) or sub clause (4.2) of this clause and in either case the Supplier notifies the Supplier of its determination to act under this sub clause, the Supplier may contract with any person, firm or corporation to supply the Articles and may charge the Supplier or deduct from the amount owed by the Customer to the Supplier the costs, expenses and losses, including incidentals and consequential damages incurred thereby, which are in excess of the Suppliers price for the Articles.
- 5.0 PROTECTION AND DELIVERY**
The Supplier shall provide appropriate means to protect the Articles from damage or deterioration during any storage, handling and delivery. Until an accredited representative of the Customer accepts the delivery all risks shall be the Suppliers, in all respects. All Articles shall be delivered FIS (Free into Store) at the location nominated in this Contract. Deliveries must be delivered in accordance with the delivery schedule nominated in the Contract and must arrive prior to 2.00 pm with identification on each package clearly describing its contents and the relevant Purchase Order Number.
- 6.0 WARRANTIES**
The Supplier represents and warrants:
- 6.1** That the price charged for the Articles shall be no higher than the price nominated in this Contract and no higher than the Suppliers current price to any other customer for the same quantity of such Articles and under like conditions;
- 6.1.2** That all Articles delivered pursuant hereto will be new unless otherwise specified and free from any and all defects in materials and workmanship and that all Articles will conform to applicable specifications (including Drawings and standards of Quality and Performance) and that all Articles will be free from defects in design (when design is the responsibility of the Supplier) and suitable and safe for their intended use or purpose;
- 6.1.3** That all services performed pursuant hereto will be free from any and all defects in material and workmanship and will be performed in accordance with the specifications and instructions of the Supplier and the Supplier shall retain direction and control with respect to the manner and means of performing such service and shall at all times remain an independent Contractor.
- 6.2** The Supplier warrants and guarantees all Articles for a period of Twelve Months (or longer if Specified) after practical completion of the project.
- 7.0 SUBCONTRACTING AND ASSIGNMENT**
The Supplier shall not assign its rights or obligations or any sums that may accrue to it or be due to it hereunder or subcontract any of the work provided for herein without the prior written consent of the Customer.
- 8.0 TAXES AND DUTIES**
Unless otherwise specified in this Contract the prices to be paid to the Supplier as shown herein include all Federal, State and local taxes and all foreign taxes and all duties, foreign or domestic which are applicable to the Articles being furnished hereunder.
- 9.0 APPLICABLE LAWS**
This Contract shall be governed by, subject to and construed according to the laws of the State or Territory in which the Supplier's Branch or site is situated and the parties accept the jurisdiction of the courts of that State or Territory and the Commonwealth of Australia. The Supplier shall comply with all applicable Federal, State and Local Laws.
- 10.0 LIABILITY**
The Supplier shall be liable and shall indemnify the Customer against any liability, loss, claim or proceeding in respect of any injury, loss or damage whatsoever to any property, real or personal, or in respect of any personal injuries to or death of any person whomsoever insofar as such injury, loss or damage arises out of or in the course of or by reason of the execution of the works or the Articles in relation to this contract provided always that the same is due to the negligence, omission, default or breach of the Supplier, the Supplier's servants or agents or of any Subcontractor, or the Subcontractor's servants or agents and provided further that the indemnity hereby given shall not be defeated or reduced by reason of any negligence, omission, default or breach of the Supplier or any person.
- 11.0 EXTRAS, CORRESPONDENCE AND PAYMENTS**
The terms of payment are 60 Days from the invoiced end of month subject to the invoice being received by and dated on or before the 25th of each month ("the Cutoff Date"), the invoice displaying an approved Purchase Order Number and receipt from the Supplier of all documentation required by law and/or by this order. If the Cutoff Date falls on a non-business day, the Cutoff Date will be deemed to be the next business day following the non-business day. Any invoice not displaying an approved Purchase Order Number will be rejected. Retention may be held until the above requirements are fulfilled.
- 11.2** Except as otherwise provided in this contract, no payment for extra work of any type or description shall be made unless such extras and the price therefore has been authorised in writing by the Customer.
- 11.3** All correspondence regarding this order shall be expressly with the Supplier unless written permission is granted to the Supplier and/or Subcontractor by BLUE STAR PACIFIC PTY LTD.
- 11.4** Monthly progress claims for Articles furnished to the Customer will be paid under normal trade terms and conditions of trading provided they are received by the Cutoff Date, include an itemised statement detailing the Articles supplied, the period of supply and the relevant Purchase Order Number.
- 11.5** In the event of late delivery of goods or late completion of services required under this order the Supplier shall be liable for ALL damages incurred by the Customer and other parties.
- 11.6** Offsite payments will only be made under the terms and conditions of the Supplier's head contract. Where progress payments or off-site payments are made, the Supplier shall retain full title of the goods or services.
- 12.0 PPSA**
Terms in this clause 12.0 have the same meaning as in the PPSA.
- 12.1** By accepting these terms and conditions in the manner specified in clause 2.0, the Supplier agrees that this clause 12.0 takes precedence over any clause in the Supplier's terms and conditions that deals with or purports to deal with the PPSA, notwithstanding any statement in the Supplier's terms and conditions to the contrary.
- 12.3** The parties agree that the Supplier does not grant to the Supplier a purchase money security interest in the Articles, whether supplied previously or in the future, or a security interest in any of the Supplier's present and after acquired personal property.
- 12.4** The Supplier agrees that it will not register, or attempt to register, a security interest of any kind on the Personal Property Securities Register, in relation to the Articles or the present and after acquired personal property of the Supplier, without the prior written consent of the Customer.

[Illegible text block containing multiple lines of faint, mostly horizontal markings and fragments of characters.]

Delivery Schedule

PO
Supplier
Project
Job Number
Delivery Address
Date Ordered
Date Required
Items

87058
CNW
19032
Monday, 17 August 2020
Saturday, 0 January 1900

aged care building
360 Lytton Road.

Date Required	Date Required	Date Required
Comment	Comment	Comment

Line	Part Number	Description	Unit	Qty Ordered	Overall Balance	Qty Required	Qty Remaining	Qty Required	Qty Remaining	Qty Required
1	0	1.5MM TWIN ACTIVE	0	1000	1000		1000		1000	
2	0	2.5MM TWIN ACTIVE	0	500	500		500		500	
3	0	2.5MM TWIN & EARTH	0	10000	10000		10000		10000	
4	0	2.5MM 4-CORE & EARTH (LIGHTING)	0	20000	20000		20000		20000	
5	0	2.5MM RED BUILDING WIRE	0	3000	3000		3000		3000	
6	0	2.5MM WHITE BUILDING WIRE	0	3000	3000		3000		3000	
7	0	2.5MM BLUE BUILDING WIRE	0	3000	3000		3000		3000	
8	0	2.5MM BLACK BUILDING WIRE	0	3000	3000		3000		3000	
9	0	2.5MM EARTH BUILDING WIRE	0	4000	4000		4000		4000	
10	0	4MM TWIN & EARTH	0	500	500		500		500	
11	0	6MM TWIN & EARTH	0	500	500		500		500	
12	0	6MM 4 CORE & EARTH	0	500	500		500		500	
13	0	10MM 4 CORE & EARTH	0	100	100		100		100	
14	0	6MM EARTH BUILDING WIRE	0	1000	1000		1000		1000	
15	0	FIGURE 8	0	500	500		500		500	
16	0	DYNET CABLE	0	10	10		10		10	
17	0	CAT 6 A	0	0	0		0		0	
18	0	2.5MM BLACK TWIN & EARTH	0	2000	2000		2000		2000	
19	0	CAT 5 CABLE FOR METERING	0	2135	2135		2135		2135	
20	0		0	0	0		0		0	
21	0		0	0	0		0		0	
22	0		0	0	0		0		0	
23	0		0	0	0		0		0	
24	0		0	0	0		0		0	
25	0		0	0	0		0		0	
26	0		0	0	0		0		0	
27	0		0	0	0		0		0	
28	0		0	0	0		0		0	
29	0		0	0	0		0		0	
30	0		0	0	0		0		0	
31	0		0	0	0		0		0	
32	0		0	0	0		0		0	
33	0		0	0	0		0		0	
34	0		0	0	0		0		0	
35	0		0	0	0		0		0	
36	0		0	0	0		0		0	
37	0		0	0	0		0		0	
38	0		0	0	0		0		0	
39	0		0	0	0		0		0	
40	0		0	0	0		0		0	
41	0		0	0	0		0		0	
42	0		0	0	0		0		0	
43	0		0	0	0		0		0	
44	0		0	0	0		0		0	
45	0		0	0	0		0		0	
46	0		0	0	0		0		0	
47	0		0	0	0		0		0	
48	0		0	0	0		0		0	
49	0		0	0	0		0		0	
50	0		0	0	0		0		0	
51	0		0	0	0		0		0	
52	0		0	0	0		0		0	
53	0		0	0	0		0		0	
54	0		0	0	0		0		0	
55	0		0	0	0		0		0	
56	0		0	0	0		0		0	
57	0		0	0	0		0		0	
58	0		0	0	0		0		0	
59	0		0	0	0		0		0	
60	0		0	0	0		0		0	
61	0		0	0	0		0		0	
62	0		0	0	0		0		0	
63	0		0	0	0		0		0	
64	0		0	0	0		0		0	
65	0		0	0	0		0		0	
66	0		0	0	0		0		0	
67	0		0	0	0		0		0	
68	0		0	0	0		0		0	
69	0		0	0	0		0		0	

~~SECRET~~

Material Request Draw Down

PO
Supplier
Project
Job Number
Delivery Address
Site Contact
Date
Items

87058
CNW
19032
0
17/08/2020

aged care building
360 lytton road

All Figures EX GST

Total
Total Invoiced
Total Remaining

\$67,105.50
\$0.00
\$67,105.50

Date Req	
Contact	INV \$

Line	Part Number	Description	Unit	Unit Cost	QTY Ordered	Total Received	Total Invoiced	Balance to Receive	Qty Required	
1	0	1.5MM TWIN ACTIVE	0	\$ 0.4775	1000	0	0	1000		\$ -
2	0	2.5MM TWIN ACTIVE	0	\$ 0.7615	500	0	0	500		\$ -
3	0	2.5MM TWIN & EARTH	0	\$ 0.9400	10000	0	0	10000		\$ -
4	0	2.5MM 4-CORE & EARTH (LIGHTING)	0	\$ 1.9700	20000	0	0	20000		\$ -
5	0	2.5MM RED BUILDING WIRE	0	\$ 0.3500	3000	0	0	3000		\$ -
6	0	2.5MM WHITE BUILDING WIRE	0	\$ 0.3500	3000	0	0	3000		\$ -
7	0	2.5MM BLUE BUILDING WIRE	0	\$ 0.3500	3000	0	0	3000		\$ -
8	0	2.5MM BLACK BUILDING WIRE	0	\$ 0.3500	3000	0	0	3000		\$ -
9	0	2.5MM EARTH BUILDING WIRE	0	\$ 0.3500	4000	0	0	4000		\$ -
10	0	4MM TWIN & EARTH	0	\$ 1.4900	500	0	0	500		\$ -
11	0	6MM TWIN & EARTH	0	\$ 1.9500	500	0	0	500		\$ -
12	0	6MM 4 CORE & EARTH	0	\$ 3.8000	500	0	0	500		\$ -
13	0	10MM 4 CORE & EARTH	0	\$ 6.4500	100	0	0	100		\$ -
14	0	6MM EARTH BUILDING WIRE	0	\$ 0.8400	1000	0	0	1000		\$ -
15	0	FIGURE 8	0	\$ 0.3500	500	0	0	500		\$ -
16	0	DYNET CABLE	0	\$ 388.0000	10	0	0	10		\$ -
17	0	CAT 6 A	0	\$ -	0	0	0	0		\$ -
18	0	2.5MM BLACK TWIN & EARTH	0	\$ 0.9700	2000	0	0	2000		\$ -
19	0	CAT 5 CABLE FOR METERING	0	\$ 0.3500	2135	0	0	2135		\$ -
20	0		0	\$ -	0	0	0	0		\$ -
21	0		0	\$ -	0	0	0	0		\$ -
22	0		0	\$ -	0	0	0	0		\$ -
23	0		0	\$ -	0	0	0	0		\$ -
24	0		0	\$ -	0	0	0	0		\$ -
25	0		0	\$ -	0	0	0	0		\$ -
26	0		0	\$ -	0	0	0	0		\$ -
27	0		0	\$ -	0	0	0	0		\$ -
28	0		0	\$ -	0	0	0	0		\$ -
29	0		0	\$ -	0	0	0	0		\$ -
30	0		0	\$ -	0	0	0	0		\$ -
31	0		0	\$ -	0	0	0	0		\$ -
32	0		0	\$ -	0	0	0	0		\$ -
33	0		0	\$ -	0	0	0	0		\$ -
34	0		0	\$ -	0	0	0	0		\$ -
35	0		0	\$ -	0	0	0	0		\$ -
36	0		0	\$ -	0	0	0	0		\$ -
37	0		0	\$ -	0	0	0	0		\$ -
38	0		0	\$ -	0	0	0	0		\$ -
39	0		0	\$ -	0	0	0	0		\$ -
40	0		0	\$ -	0	0	0	0		\$ -
41	0		0	\$ -	0	0	0	0		\$ -
42	0		0	\$ -	0	0	0	0		\$ -
43	0		0	\$ -	0	0	0	0		\$ -
44	0		0	\$ -	0	0	0	0		\$ -
45	0		0	\$ -	0	0	0	0		\$ -
46	0		0	\$ -	0	0	0	0		\$ -
47	0		0	\$ -	0	0	0	0		\$ -
48	0		0	\$ -	0	0	0	0		\$ -
49	0		0	\$ -	0	0	0	0		\$ -
50	0		0	\$ -	0	0	0	0		\$ -
51	0		0	\$ -	0	0	0	0		\$ -
52	0		0	\$ -	0	0	0	0		\$ -
53	0		0	\$ -	0	0	0	0		\$ -
54	0		0	\$ -	0	0	0	0		\$ -
55	0		0	\$ -	0	0	0	0		\$ -
56	0		0	\$ -	0	0	0	0		\$ -
57	0		0	\$ -	0	0	0	0		\$ -
58	0		0	\$ -	0	0	0	0		\$ -
59	0		0	\$ -	0	0	0	0		\$ -
60	0		0	\$ -	0	0	0	0		\$ -
61	0		0	\$ -	0	0	0	0		\$ -
62	0		0	\$ -	0	0	0	0		\$ -
63	0		0	\$ -	0	0	0	0		\$ -
64	0		0	\$ -	0	0	0	0		\$ -
65	0		0	\$ -	0	0	0	0		\$ -
66	0		0	\$ -	0	0	0	0		\$ -
67	0		0	\$ -	0	0	0	0		\$ -
68	0		0	\$ -	0	0	0	0		\$ -
69	0		0	\$ -	0	0	0	0		\$ -
70	0		0	\$ -	0	0	0	0		\$ -
71	0		0	\$ -	0	0	0	0		\$ -
72	0		0	\$ -	0	0	0	0		\$ -
73	0		0	\$ -	0	0	0	0		\$ -
74	0		0	\$ -	0	0	0	0		\$ -
75	0		0	\$ -	0	0	0	0		\$ -
76	0		0	\$ -	0	0	0	0		\$ -
77	0		0	\$ -	0	0	0	0		\$ -
78	0		0	\$ -	0	0	0	0		\$ -
79	0		0	\$ -	0	0	0	0		\$ -
80	0		0	\$ -	0	0	0	0		\$ -
81	0		0	\$ -	0	0	0	0		\$ -
82	0		0	\$ -	0	0	0	0		\$ -
83	0		0	\$ -	0	0	0	0		\$ -
84	0		0	\$ -	0	0	0	0		\$ -
85	0		0	\$ -	0	0	0	0		\$ -
86	0		0	\$ -	0	0	0	0		\$ -
87	0		0	\$ -	0	0	0	0		\$ -
88	0		0	\$ -	0	0	0	0		\$ -

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Goods Received

PO
Supplier
Project
Job Number
Delivery Address
Date Ordered
Date Required
Items

87058
CMM/
aged care building
19032
360 Lytton Road.
Monday, 17 August 2020
Saturday, 0 January 1900

Date
Reference

Line	Part Number	Description	Unit	QTY Ordered	Balance	Qty Received
1	0	1.5MM TWIN ACTIVE	0	1000	1000	
2	0	2.5MM TWIN ACTIVE	0	500	500	
3	0	2.5MM TWIN & EARTH	0	10000	10000	
4	0	2.5MM 4-CORE & EARTH (LIGHTING)	0	20000	20000	
5	0	2.5MM RED BUILDING WIRE	0	3000	3000	
6	0	2.5MM WHITE BUILDING WIRE	0	3000	3000	
7	0	2.5MM BLUE BUILDING WIRE	0	3000	3000	
8	0	2.5MM BLACK BUILDING WIRE	0	3000	3000	
9	0	2.5MM EARTH BUILDING WIRE	0	4000	4000	
10	0	4MM TWIN & EARTH	0	500	500	
11	0	6MM TWIN & EARTH	0	500	500	
12	0	6MM 4 CORE & EARTH	0	500	500	
13	0	10MM 4 CORE & EARTH	0	100	100	
14	0	6MM EARTH BUILDING WIRE	0	1000	1000	
15	0	FIGURE 8	0	500	500	
16	0	DYNET CABLE	0	10	10	
17	0	CAT 6 A	0	0	0	
18	0	2.5MM BLACK TWIN & EARTH	0	2000	2000	
19	0	CAT 5 CABLE FOR METERING	0	2135	2135	
20	0	0	0	0	0	
21	0	0	0	0	0	
22	0	0	0	0	0	
23	0	0	0	0	0	
24	0	0	0	0	0	
25	0	0	0	0	0	
26	0	0	0	0	0	
27	0	0	0	0	0	
28	0	0	0	0	0	
29	0	0	0	0	0	
30	0	0	0	0	0	
31	0	0	0	0	0	
32	0	0	0	0	0	
33	0	0	0	0	0	
34	0	0	0	0	0	
35	0	0	0	0	0	
36	0	0	0	0	0	
37	0	0	0	0	0	
38	0	0	0	0	0	
39	0	0	0	0	0	
40	0	0	0	0	0	
41	0	0	0	0	0	
42	0	0	0	0	0	
43	0	0	0	0	0	
44	0	0	0	0	0	
45	0	0	0	0	0	
46	0	0	0	0	0	
47	0	0	0	0	0	
48	0	0	0	0	0	
49	0	0	0	0	0	
50	0	0	0	0	0	
51	0	0	0	0	0	
52	0	0	0	0	0	
53	0	0	0	0	0	
54	0	0	0	0	0	
55	0	0	0	0	0	



Price Comparison

Line	Qty	Part No.	Description	Unit	Supplier	Supplier	Supplier	Supplier	Supplier	Supplier
					Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration	Price and Material Consideration
1	1000	0	1.5MM TWIN ACTIVE	0	\$	\$	\$	\$	\$	\$
2	500	0	2.5MM TWIN ACTIVE	0						
3	10000	0	2.5MM TWIN & EARTH	0						
4	20000	0	2.5MM 4-CORE & EARTH (LIGHTING)	0						
5	3000	0	2.5MM RED BUILDING WIRE	0						
6	3000	0	2.5MM WHITE BUILDING WIRE	0						
7	3000	0	2.5MM BLUE BUILDING WIRE	0						
8	3000	0	2.5MM BLACK BUILDING WIRE	0						
9	4000	0	2.5MM EARTH BUILDING WIRE	0						
10	500	0	4MM TWIN & EARTH	0						
11	500	0	6MM TWIN & EARTH	0						
12	500	0	6MM 4 CORE & EARTH	0						
13	100	0	10MM 4 CORE & EARTH	0						
14	1000	0	6MM EARTH BUILDING WIRE	0						
15	500	0	FIGURE 8	0						
16	10	0	DYNET CABLE	0						
17	0	0	CAT 6 A	0						
18	2000	0	2.5MM BLACK TWIN & EARTH	0						
19	2135	0	CAT 5 CABLE FOR METERING	0						
20	0	0	0	0						
21	0	0	0	0						
22	0	0	0	0						
23	0	0	0	0						
24	0	0	0	0						
25	0	0	0	0						
26	0	0	0	0						
27	0	0	0	0						
28	0	0	0	0						
29	0	0	0	0						
30	0	0	0	0						
31	0	0	0	0						
32	0	0	0	0						
33	0	0	0	0						
34	0	0	0	0						
35	0	0	0	0						
36	0	0	0	0						
37	0	0	0	0						
38	0	0	0	0						
39	0	0	0	0						
40	0	0	0	0						
41	0	0	0	0						
42	0	0	0	0						
43	0	0	0	0						
44	0	0	0	0						
45	0	0	0	0						
46	0	0	0	0						
47	0	0	0	0						
48	0	0	0	0						
49	0	0	0	0						
50	0	0	0	0						
51	0	0	0	0						
52	0	0	0	0						
53	0	0	0	0						
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59	0	0	0	0						
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63	0	0	0	0						
64	0	0	0	0						
65	0	0	0	0						
66	0	0	0	0						
67	0	0	0	0						
68	0	0	0	0						
69	0	0	0	0						
70	0	0	0	0						
71	0	0	0	0						
72	0	0	0	0						
73	0	0	0	0						
74	0	0	0	0						
75	0	0	0	0						
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77	0	0	0	0						
78	0	0	0	0						
79	0	0	0	0						
80	0	0	0	0						
81	0	0	0	0						
82	0	0	0	0						
83	0	0	0	0						
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89	0	0	0	0						
90	0	0	0	0						
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103	0	0	0	0						
104	0	0	0	0						
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106	0	0	0	0						
107	0	0	0	0						
108	0	0	0	0						
109	0	0	0	0						
110	0	0	0	0						
111	0	0	0	0						
112	0	0	0	0						
113	0	0	0	0						
114	0	0	0	0						
115	0	0	0	0						
116	0	0	0	0						
117	0	0	0	0						

Notes:

Quote Amount					
Budget	\$	\$	\$	\$	\$
Difference	\$	\$	\$	\$	\$