**4C Survey**
BC Survey Pty Ltd ABN 81166236424
**Member of** Surveyors Australia
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Arundel QLD 4214
**4csurvey.com.au**

Looking to build a new home, secondary dwelling or extend your existing home?

## Consultants and Contractors

| OCCUPATION | COMPANY | NAME | PHONE | EMAIL |
|---|---|---|---|---|
| Architect/ Building Designer | | | | |
| Consulting Cadastral Surveyor | 4C Survey | Byron Carson | 0490 177 730 | byron@4Csurvey.com.au |
| Civil/Structural Engineer RPEQ | | | | |
| Town Planner | | | | |
| Building Certifier | | | | |
| Licensed Builder | | | | |

What Consultants will you need, why you need them, what do they do?

## 1. Architect/Building Designer

Normally the first port of call for the building design and construction process. The Architect/Building Designer is not only instrumental in coming up with great building designs, but they also have valuable experience in the design, approval and construction process. They liaise with other consultants at design, approval and construction stages to execute your project.

### Design Stage

The Architect/Building Designer can assist with the following:

- Building design knowledge when combined with your ideas brings a concept to life in the real world.
- Help you convert your dream concept into a set of detailed plans that comply with the building code and are ready to lodge with the local council.
- Approximate build costs per $m^2$ to establish budget. It is better to realise early in the process if re-design is required to meet budget limitations.
- Approximate Council approval timeframes for specific projects.
- **Liaise with Land Surveyor early on to avoid costly non-compliance issues in the future. Delaying the preliminary detail survey does not save time or money, but often the opposite.**
- Liaise with RPEQ Civil & Structural Engineer.
- Liaise with a Town Planner.
- Liaise with a Building Certifier.
- Liaise with Building Contractor (Project Manager).
- **Great design = Great outcome**

## 2. Consulting Cadastral Surveyor

(Only use survey companies that have a Consulting and Cadastral endorsement in Queensland).

What can 4C Survey do for you, your design team and construction team?

### Design Stage

- Safeguard the project from costly errors due to incomplete site investigation and representation. Reliable and thorough survey data translates to informed decision making at the preliminary design stage of project, leading to better building and civil design, reduced construction costs and improved project compliance.
- Provide a Detail and Level Survey at pre-design stage so Architects, Building Designers, and Engineers, make well informed decisions regarding existing features, services, topography, hazards, vegetation, easements, and property boundaries. Identify potential design constraints.
- Provide accurate contours, spot levels on plans so that Building and Civil Designers can provide most cost-effective design. Including, building footings, floor types, stormwater, access and location and size of retaining walls.
- Provide DTM / Surface Models / TINS / Triangles to allow Architects/Building Designers to quickly and accurately build 3D models for design and rendering
  in their own software. Important for modern software (such as Autodesk Revit) with 3D visualisation capabilities.
- Fly Drone survey of site and provide high resolution (less than 10mm) rectified Ortho-Mosaics (aerial imagery) of property. Part of our Detail and Level Survey workflow. Very useful tool for visualising site detail for Designers and owners.
- Our Drone imagery (<10mm) is 4-10 times higher resolution than Nearmaps or Metromaps which are the industry standards. Their imagery is frequently 3-6 months out of date. 4C Survey capture aerial imagery the day of site survey, subsequent decision making is current and relevant. Our imagery is 15-30 times better resolution than Google Maps that can also be 1-3 years out of date.
- Provide Point Cloud if required. Millions of 3D points collected during drone survey and used by some designers if they have the required software capability.
- Survey location of critical public and private infrastructure and relate to AHD heights.
- Highlight location of boundaries in relation to building/construction area.
- Advise on any anomalies (if any) in the underlying property boundaries, dimensions and areas. If physical boundaries do not agree with dimensions on existing survey plans, then an Identification Survey may be required. Are there any encroachments with neighbouring properties?

### Construction Stage

- Building Set-out survey, guarantees builders and contractors correctly position and level buildings and infrastructure during construction. Critical to final compliance.

### Compliance Stage

- Provide Form 12 certification to Building certifier confirming location of buildings are compliant on completion of construction. Important to obtaining the Form 21 Final Inspection Certificate and formal building completion.
- Non-compliance equals reduced property value, or expensive rectification works.
- Prepare any survey plans required for boundary remarking, easements, or subdivision purposes.

## 3. Civil/Structural Engineer RPEQ

What will you need an Engineer for?

**Design Stage**

- Advise on soil strengths and suitability, particularly when related to footings, piling, earthworks and retaining walls.
- Advise on drainage and stormwater. Is the site subject to flooding?
- Advise on non-sewered sites, is on-site effluent disposal feasible and possible?
- Advise on Structural elements, retaining walls, large building spans, any design elements that are complex and not standardised in the building code.
- Form 15 certification, stating that structural design for proposed building and structures is compliant with relevant codes at pre-approval stage.

**Construction Stage**

- Carry out site inspections at various stages of construction. Such as earthworks compaction, footings, slabs, framing and others as required by Decision Notice.
- Sometimes redesign is required during civil works due to practical reasons, cost of materials or material availability.

**Compliance Stage**

- Provide Form 12 certifications to Building Certifier for different stages of construction.

## 4. Town Planner

(Ensures the project complies with local and state planning laws)

When should you use a Town-planner?

**Design Stage**

- Non-compliant Development, exceeding height limits, less than minimum setbacks to boundaries, excessive site coverage, etc.
- Located in a designated area such as heritage protection, bushfire, flood or environmental protection zones.
- Material Change of use, changing how the land is used.
- Secondary dwellings including granny flats.
- A Development Application is required in addition to Building Application, in some cases, Planning Zone dependant.
- Anything out of the ordinary.
- When you want to reduce the risk of application rejection or time delays.

## 5. Building Certifier

(Private certifiers or Council Employees)

What does a Building Certifier do?

**Design Stage**

- Assess new buildings, alterations and additions to ensure compliance with building standards.
- Issue RFI's (Request for information) on issues that may be non-compliant requiring more explanation on the design intent.
- Recommend changes to Architect/Building Designer based on compliance issues.
- Specify what inspections are required during construction, by whom and when.

**Construction Stage**

- Issue inspection certificates during certain stages during the build, upon builder's request, issue enforcement notices for rectification and or more information, should the work completed be non-compliant with the building code and or approved documentation.

**Compliance Stage**

- Issue the final inspection certificate allowing for building occupation, and lodge approved documents with the council.

## 6. Licenced Builder

- ☑ Ensure Builder is licenced with QBCC and has the appropriate class of licence.
- ☑ Check Builders references and inspect previous projects to determine if their capabilities align with your desired outcome.

Sometimes a Building Company may offer Design and Build Services.

This is typical for larger or niche Building Companies.

In this instance they will be the first Consultant in the building process.

The Builder will often have their own on-staff Building Designers.

What does the builder do?

**Construction Stage**

- Advise on the construction process and timeline.
- Provide a budget of costs to complete the building component of project.
- Will often manage the entire construction process from site clearance to final handover.
- Liaise with Architect/Building Designer to discuss the design intent.
- Liaise with Building Certifier throughout construction.
- Liaise with Civil/Structural Engineer regarding inspections.
- **Liaise with Surveyor regarding set-out works, heights or boundaries.**
- Manage other trades and subcontractors and ensure quality of materials and work.
- Manage Approval Compliance, ensure that all mandatory inspections are carried out at correct stage of construction.
- Manage site safety.
- Responsible for rectifying non-compliant work.

## Glossary of Terms:

### A

**(AHD) Australian Height Datum**, national height datum with zero elevation based on mean seal level. Useful for relating site elevations to Council infrastructure GIS records, such as sewer and stormwater drainage.

**Architect**, registered with the Board of Architects of Queensland (BOAQ) under the Architects Act 2002, tasked with designing and supervising building projects.

### B

**Building Designer**, licensed by the Queensland Building and Construction Commission (QBCC), prepare detailed building plans and concepts, coordinate with consultants, ensure compliance with building regulations, and help manage the approval process.

**Building Certifier**, is a QBCC licenced professional who assesses building plans, issues approvals, and inspects construction work to ensure it complies with the Building Act 1975 and safety standards

**Building Set-out**, Surveyor places reference marks on site that enable builders and other contractors to construct buildings, services, and infrastructure in the correct position and height. Significantly reduces the likelihood of costly and timely errors. Required for compliance purposes.

### C

**Cadastral Surveyor**, Surveyors Registered under The Surveyors Act 2003 and hold a Cadastral endorsement with the Surveyors Board of Queensland (SBQ).

**Civil/Structural Engineer (RPEQ)**, Registered Professional Engineer of Queensland, registered under the professional Engineers Act 2002.

**Consulting Cadastral Surveyor**, Surveyors Registered with the Surveyors Board who hold a Cadastral Endorsement and a Consulting Endorsement.

**Contour**, A line of equal elevation shown on a plan to quickly illustrate the shape and steepness of the land.

### D

**Decision Notice**, an official document issued by Council and or Private Certifier advising the outcome of a Development Application such as approval, partial approval, or refusal. It outlines the conditions of approval

**(DA) Development Application**, formal request to Council to change land use, subdivide land or carry out significant building work that does not meet "accepted development" criteria.

**Development approval**, official permission from Council to carry out significant building work, subdivide land or change how a property is used.

**Detail & Level Survey (Contour & Feature)**, A survey that shows all the existing site features and levels, including buildings, services, access, infrastructure, walls, fences, gardens, significant vegetation, spot levels and contours. Property boundaries are normally overlaid. The information allows for other consultants to make important design decisions.

### E

**Encroachment**, when buildings, retaining walls, eaves and other structures cross the legal boundary. May include a significant deviation in a fence.

**Encroachment Notice**, when an encroachment is identified the Surveyor must notify all affected parties under the Survey and Mapping Infrastructure Regulation 2024.

### F

**Form 12 (Aspect Inspection Certificate)**, a formal document provided by a specialist such as a Cadastral Surveyor or RPEQ Engineer certifying that certain design or inspection aspects comply with building codes and conditions of approval.

## I

**Identification Survey (boundary repegging)**, Involves the remarking of boundaries based on physical evidence in conjunction with existing survey plans on public record. The survey must be supervised and signed by a Cadastral Surveyor and a plan of the survey lodged with the Queensland Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development.

## M

**(MCU) Material Change of Use**, mandatory development application submitted to Council when changing how a property is used, intensifying its activity, or re-establishing an abandoned use.

## O

**(OPW) Operational Works**, onsite construction distinct from building or plumbing that materially affect land, triggered by conditions of a DA. Examples include earthworks, roadworks, vegetation clearing, infrastructure installation.

**Ortho-mosaic Image**, highly accurate, detailed and distortion free, top-down image created by stitching together hundreds drone photos to remove perspective, and terrain distortions using specialist AI based photogrammetry software. Images can be accurately scaled.

## Q

**(QBCC)Queensland Building and Construction Commission**, independent state regulator for Queensland's building industry. Licences contractors, ensures compliance, provides home warranty insurance, and assists in resolving disputes over defective work.

## R

**(RFI) Request for Information**, formal notice issued by Council or private building certifier stating that application is missing essential details and cannot be approved until the required information is provided.

## S

**(SBQ) Surveyors Board of Queensland** is the statutory body established under the Surveyors Act 2003 to regulate the surveying profession in Queensland.

## T

**Town Planner**, hold a bachelor's degree recognised by the Planning Institute of Australia (PIA). Work for landowners, developers and the Council. Assess compliance with planning rules at State and Local levels.

# survey

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*We are your go to professional Surveying Consultancy with experience in cadastral, civil and construction surveying.*

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