2023

Get Certified

Certified Professional Engineering Surveyor

Candidate Guide

Survey and Spatial New Zealand
TĀTAI WHENUA

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Welcome to our 'Get Certified: Candidate Guide for applying to become a 'Certified Professional Engineering Surveyor'

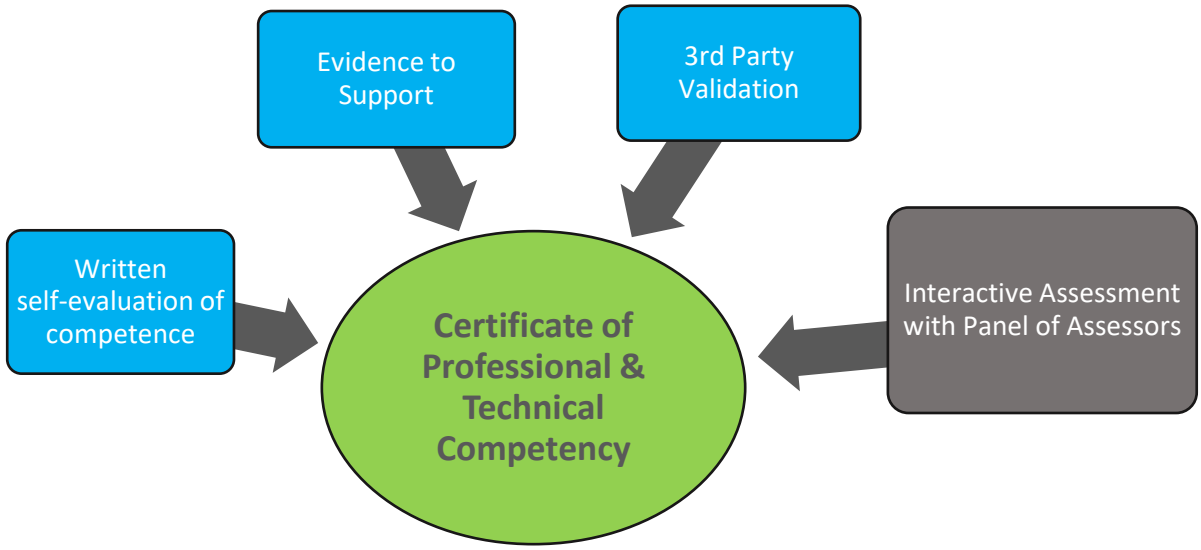
Congratulations on setting a goal to become a Survey and Spatial New Zealand Certified Professional Engineering Surveyor. This Guide is designed to inform you about the prerequisites for assessment and the details you need in order to successfully navigate the application and assessment process. Our aim is to make every step of the way as user friendly as possible. We invite you to give feedback on your experience.

Get Certified: What the overall Process looks like

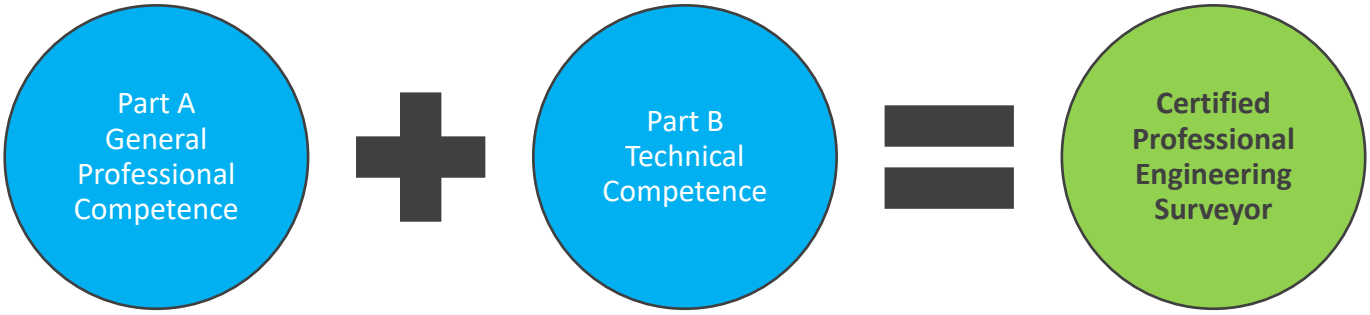
This diagram shows you what the process of getting certified entails. It starts at the top with a person gaining work experience in Engineering Surveying, along with qualifications that bring them to the level of competence required for getting certified. In general, a minimum of 5 years work experience in Engineering Surveying is *strongly recommended*, before applying for this Certification.

Get Certified – How Candidates are assessed

The Assessment has two parts. Part A (General Professional Competence) and Part B (Technical Competence) both have their own set of competencies. These competencies are assessed in four different ways as in the diagram below. The first three in blue, are part of the online application. The fourth in brown, is scheduled after the online application has been assessed.

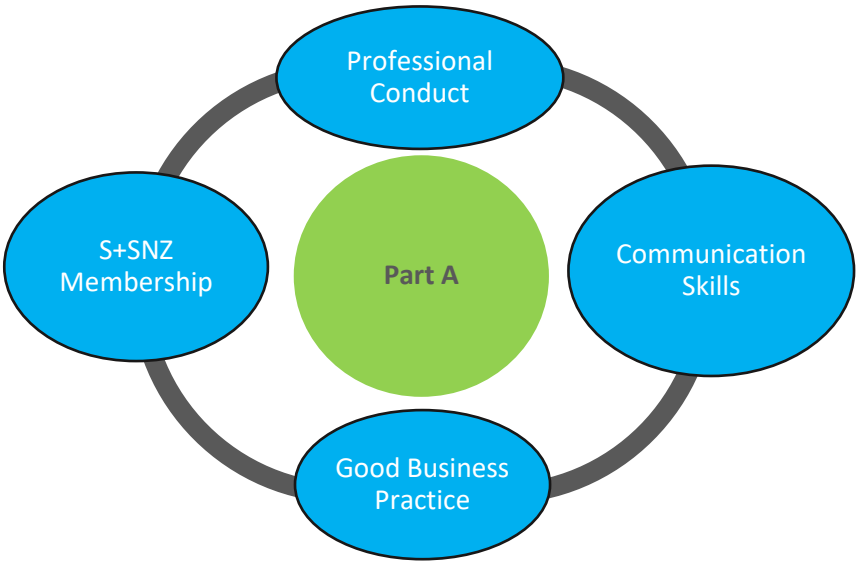


Overview of Assessment for S+SNZ Certified Professional Engineering Surveyor



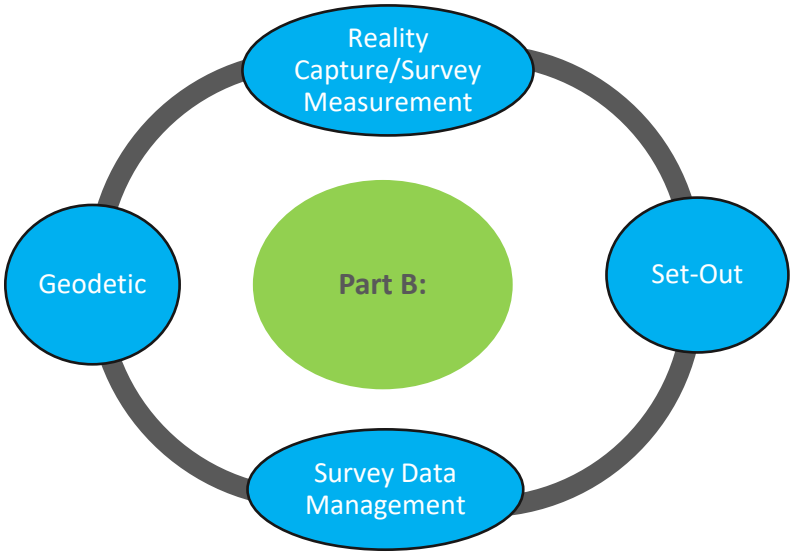
Part A: General Professional Competence

Part A is the assessment of General Professional Competence. It assesses competence in the following areas:



Part B: Technical Competence – Engineering Surveying

Part B is the assessment of Technical Competence in Engineering Surveying. It assesses competence in the following areas:



Certification of Professional Engineering Surveying Competence

Purpose Statement

The Certification of Professional Engineering Surveying Competence is formal recognition by Survey and Spatial New Zealand of those who have been assessed against a defined set of professional and technical competencies which meet standards and technical sign off criteria required by Private and Public Asset Owners, Territorial and Local Authorities and other such Entities.

The Annual Practising Certificate as a *Survey and Spatial New Zealand Certified Professional Engineering Surveyor* sets a quality benchmark for the industry to maintain public confidence across the following areas:

- **Earthworks, Erosion and Sediment Control**
- **Access, Roading and Transportation**
- **3 Waters (Stormwater Management, Wastewater Management, Potable Water)**
- **Utilities (Energy and Communication)**
- **Construction (Residential, Infrastructure, Commercial)**

Competence Standard

This Certification recognises prior learning and current competency to the standard required to sign (but not limited to):[1]

- **A component of As-Built Drawings, verifying that the position (vertical and horizontal) of all features (including Stormwater and Wastewater) is a true and accurate representation of an XXX site/project.**
- **A Set-Out/Siting Certificate to confirm that buildings and other assets have been set out in terms of the consented plans.**
- **The Positional accuracy of a Monitoring system/regime**
- **That Material Quantity Calculations are accurate, and a true representation of the material(s) moved**

[1] *This Certification assesses to the standards required and recommended by (but not limited to): the LINZ Utility Location Standard, NZS 4404 (2010), the Health and Safety at Work Act 2015 and the Resource Management Act (RMA).*

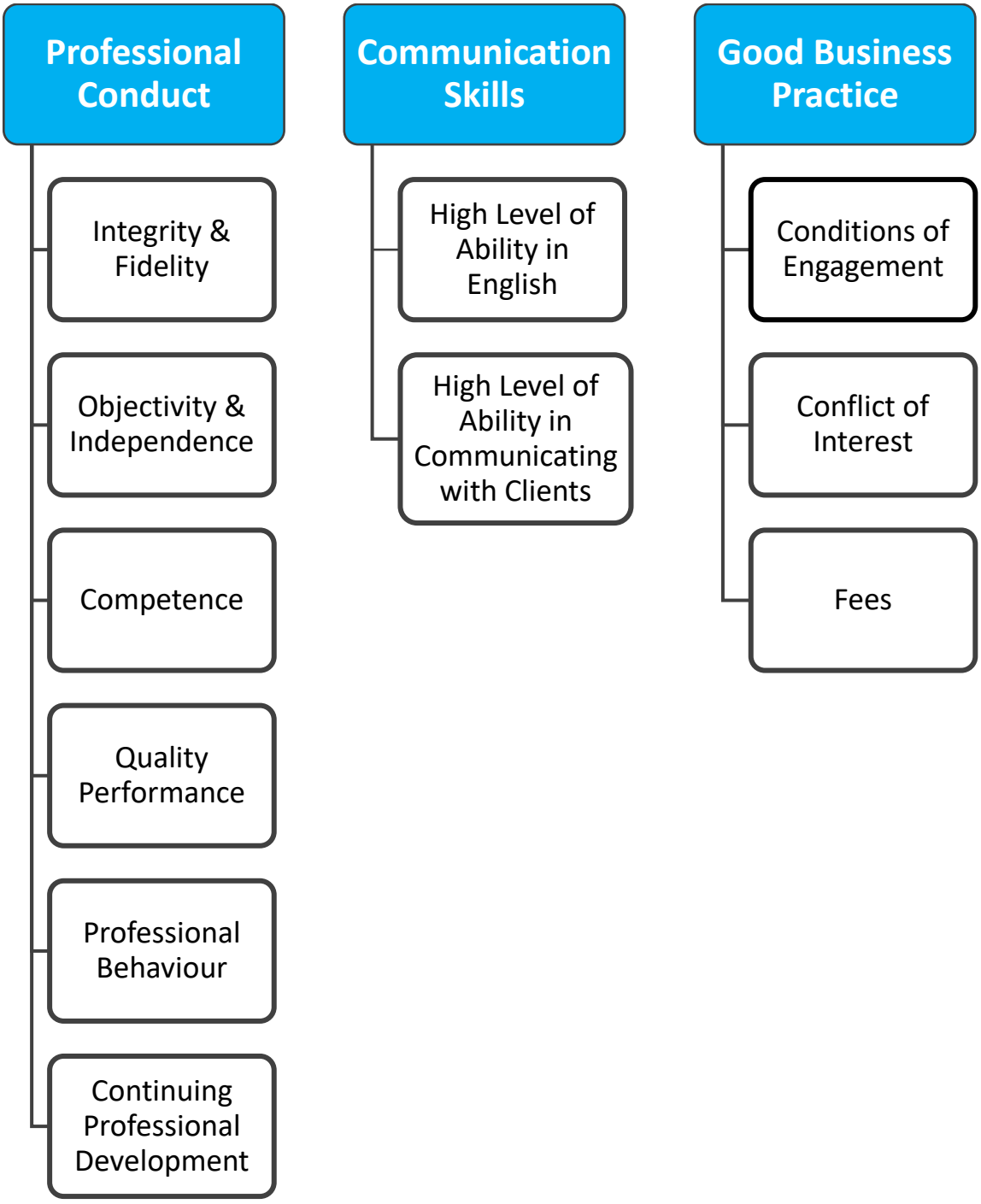
Certified Professional Engineering Surveyor: Eligibility Criteria Guide

The following table is a general guide to candidates looking to apply to become Certified Professional Engineering Surveyors. Everyone's experience is different depending on the company they work for, the projects they work on, the level of responsibility they are given, how driven they are to advance and how much effort they put into learning from peers and upline management. In general, we have seen that most candidates require 5 years solid Engineering Surveying experience to meet the competency required to be a Certified Professional Engineering Surveyor. We will continue to review this and report as our data set of applications grows.

Before you start: Generic Requirements for Your Application

Summary of Competencies for Engineering Surveying Part A – General Professional Competence:

Certified Professional Engineering Surveyors must have a foundational knowledge and understanding of, a commitment to and ability in, the following:



Requirements and Guide for Engineering Surveying Part A – General Professional Competence:

Written self-evaluation of competence

- You are required to write 3 paragraphs for the 3 subsections: Professional Conduct, Communication skills, Best Business Practice (each one to be 400-600 words), outlining why you believe you meet the competencies under those sections. This is intended as a self-reflection style of assessment, giving you the opportunity to write what really makes you stand out in terms of the values you incorporate into your work, your ethics, moral compass and how that influences your engagement and communication with clients and in your general business practice.

Evidence to Support the Self-Evaluation

- You are required to provide specific examples of evidence from work situations and projects that prove you meet the standards required for the 3 subsections. Note that for Part A, this is mainly values based as per the competencies under Professional Conduct, ability to communicate under Communication Skills, and under Good Business Practice, it is based on proving your ability and experience in dealing with contracts, conditions of engagement, fees, conflicts of interest, including risk and liability. It is recommended also to note the foundational knowledge and understanding required and to include evidence of those points, if you have it. Evidence can include (but is not limited to) emails (communication with clients, peers, superiors and others), references, client feedback and quality assurance documentation.

3rd Party Validation of Competency

- This section requires written validation from two 3rd Parties, of your ability to meet, and commitment to uphold, the General Professional Competencies: Your employer or equivalent, AND Your Choice of referee (such as Local Authority/Council personnel who are familiar with your work or suitably qualified peers). At least 1 referee must be a member of Survey and Spatial New Zealand. Family members are NOT allowed to be referees. Upload 2 References that have been PDFed & emailed to you, when your Referees filled in the S+SNZ Part A General Professional Reference Forms online.

Interactive Assessment with Assessor Panel

- This is a professional conversation where the Assessors ask you to discuss your application and to address any gaps the Assessors may have found. Ensure that you are prepared to discuss any of the points under 'Foundational Knowledge and Understanding' for each section in Part A, as the Assessors can include these in the Interactive Assessment. The format is of a round table discussion rather than a traditional formal interview. You will receive separate notification of the day and time for your interactive assessment.

Preparing to Apply for Certification: Checklist for Part A – Professional Conduct, Communication Skills, Best Business Practice

3 x 400-600 word paragraphs. One for Self-Evaluation of Professional Conduct, one for Communication Skillls and one for Best Business Practice. It is recommended that you write these in a Word Document so that you can copy and paste them into the online application form.

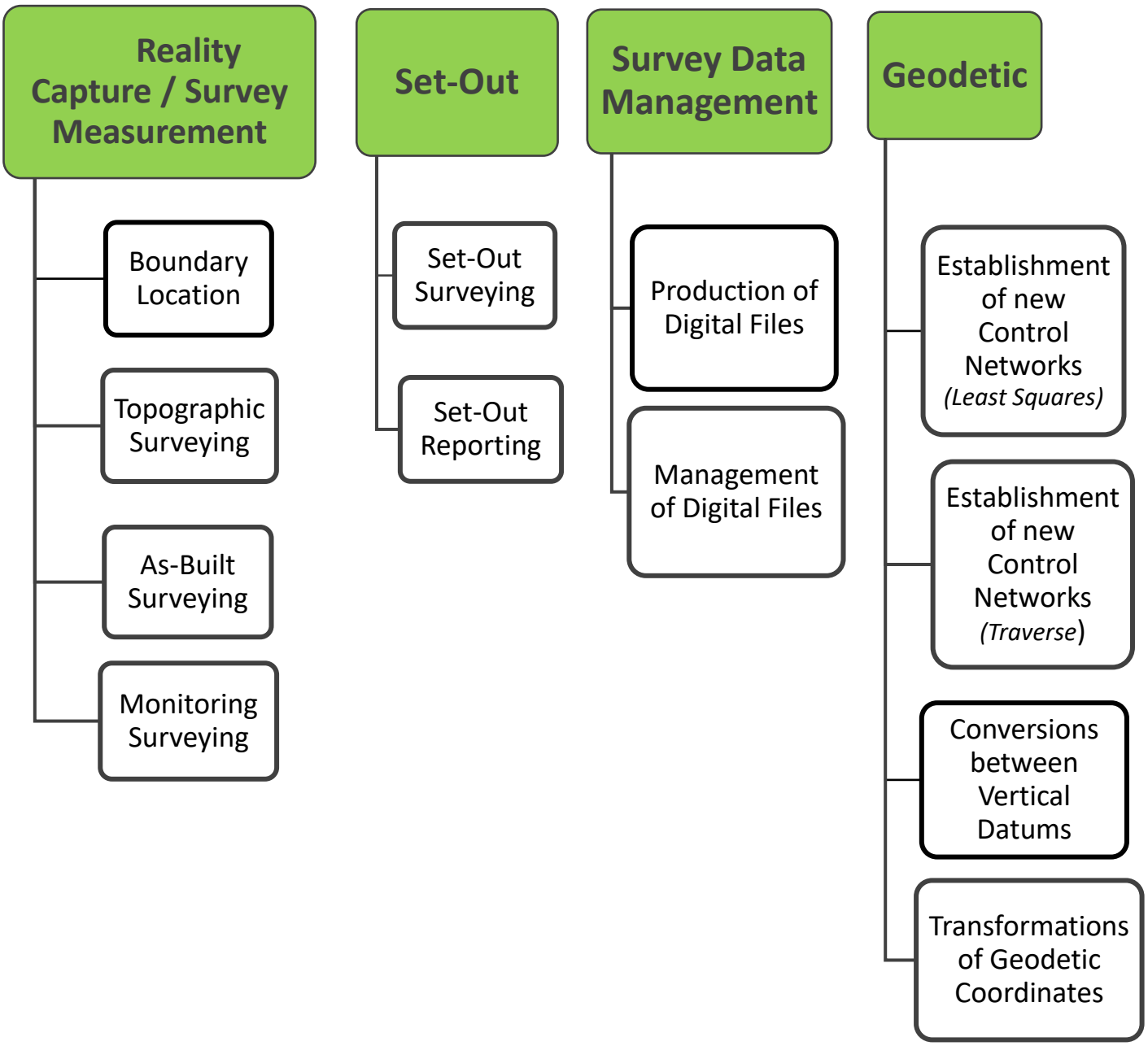
3 x Separate zip files of Evidence. One to prove your ability to meet and commitment to uphold the Professional Conduct Competencies: Integrity and Fidelity,Objectivity and Independence, Competence, Quality Performance, Professional Behaviour, Continuing Professional Development, one for proof of Communication Skills and one for proof for Best Business Practice (Conditions of Engagement, Conflict of Interest, Fees). Put all evidence in clearly labelled files to upload into the online application form

2 References that have been PDFed & emailed to you, when your Referees filled in the S+SNZ Part A General Professional Reference Forms. Note that you can get as many referees as you like to fill in the form and then select the 2 you want to upload as part of your application online.

Be prepared for the **Interactive Assessment**. Have your application printed out or on an additional screen in front of you, be familiar with what you submitted and be prepared to talk through all your examples and elaborate on them if asked. Make sure you have read through and are prepared to talk about the points under Foundational Knowledge & Understanding as well as the points under the competency subsections. .

Summary of Competencies for Engineering Surveying Part B – Technical Competence:

Certified Professional Engineering Surveyors must have a sound ability in & solid foundational knowledge of the following:



Requirements and Guide for Engineering Surveying Part B – Technical Competence:

Written self-evaluation of competence

- You are required to write 4 paragraphs for the 4 subsections: Reality Capture/Survey Measurement, Set-Out, Survey Data Management & Geodetic (each one to be 400-600 words), outlining why you believe you meet the competencies under those sections. This is intended as a self-reflection style of assessment, giving you the opportunity to write what really makes you stand out in terms of your technical knowledge, understanding ability, competence and experience in all 4 areas.

Evidence to Support the Self-Evaluation

- You are required to provide specific evidence for each section. These are detailed in the Part B Checklists in this document. You must be prepared to talk through your evidence in the Interactive Assessment and demonstrate a comprehensive understanding of the evidence you have provided.

3rd Party Validation of Competency

- This section requires written validation from three 3rd Parties, of your ability to meet, and commitment to maintain, the Technical Competencies for Engineering Surveying: Your employer or equivalent, AND Your Choice of 2 referees(such as Local Authority/Council personnel who are familiar with your work or suitably qualified peers). At least 1 referee must be a member of Survey and Spatial New Zealand. Family members are NOT allowed to be referees. Upload 3 References that have been PDFed & emailed to you, when your Referees filled in the S+SNZ Part B Technial Competence: Engineering Surveying Reference Forms online.

Interactive Assessment with Assessor Panel

- This is a professional conversation where the Assessors ask you to discuss your application and to address any gaps the Assessors may have found. Ensure that you are prepared to discuss any of the points under 'Foundational Knowledge and Understanding' for each section in Part B, as the Assessors can include these in the Interactive Assessment. The format is of a round table discussion rather than a traditional formal interview. You will receive separate notification of the day and time for your interactive assessment.

Preparing to Apply for Certification: Checklist for Part B – Reality Capture/Survey Measurement

400-600 word paragraph for Self-Evaluation of Reality Capture/Survey Measurement (Boundary Location (Cadastral Surveying),Topographic Surveying As-Built Surveying, Monitoring Surveying). It is recommended that you write this in a Word Document so that you can copy and paste it into the online application form.

Evidence required:

Boundary Location: 1x plan showing calculated cadastral boundaries for a site, reproduced from existing cadastral survey data, supported by calculations and checks.

1x comprehensive **Topographic Plan** (that includes Council Asset records).

1x **As-Built Survey for Drainage,** 1x **As-Built Survey for Roading,** 1x **As-Built Survey for Structural.**

1x **Monitoring Survey** including results & reporting . Put all evidence in clearly labelled files to upload into the online application form.

Preparing to Apply for Certification: Checklist for Part B – Set-Out

400-600 word paragraph for Self-Evaluation of Set-Out (Set-Out Surveying, Set-Out Reporting). It is recommended that you write this in a Word Document so that you can copy and paste it into the online application form.

Evidence required:

2x examples of a **Set-Out Plan/Diagram/Sketch or graphic** to show a combination of items set out on site.

1x example of a **Stake-Out Report** of any Set-Out you have undertaken. Put all evidence in clearly labelled files to upload into the online application form.

Preparing to Apply for Certification: Checklist for Part B – Survey Data Management

400-600 word paragraph for Self-Evaluation of Survey Data Management (Production and Management of Digital Files). It is recommended that you write this in a Word Document so that you can copy and paste it into the online application form.

Evidence required:

1x 3D client deliverable **CAD file for set-out.**

1x 3D client deliverable **CAD file for as-built.**

Management of Digital Files: Take Screen Shots and write an explanation of the traceable management system you use, that details revisions and shows how they are updated for use by the survey team. It is recommended that you do this as a Word Document and then export it to PDF and upload the PDF as your evidence.Put all evidence in clearly labelled files to upload into the online application form.

Preparing to Apply for Certification: Checklist for Part B – Geodetic

400-600 word paragraph for Self-Evaluation of Geodetic (Establishment of New Control Networks: Least Squares, Establishment of New Control Networks: Traverse, Conversion between Horizontal Datums, Conversion between Vertical Datums, Transformations of Geodetic Coordinates). It is recommended that you write this in a Word Document so that you can copy and paste it into the online application form.

Evidence required:

1x **Least Squares Adjustment** including calc sheets and reporting.

1x **Traverse Sheet** and **Traverse Report**.

1x example of a **conversion between Vertical Datums** that you have done. Include why you did the conversion and how you did it.

1x example of **a transformation between geodetic coordinates** that you have done. Include why you did the conversion and how you did it.

Preparing to Apply for Certification: Checklist for Part B – Third Party Validation and Interactive Assessment

3 References that have been PDFed & emailed to you, when your Referees filled in the S+SNZ Part B Engineering Surveying Reference Forms. Note that you can get as many referees as you like to fill in the form and then select the 3 you want to upload as part of your application online.

Be prepared for the **Interactive Assessment**. Have your application printed out or on an additional screen in front of you, be familiar with what you submitted and be prepared to talk through all your examples and elaborate on them if asked. Make sure you have read through and are prepared to talk about the points under Foundational Knowledge & Understanding as well as the points under the competency subsections. Pay particular attention to competencies you are less familiar with, especially those under the Geodetic Section. Make sure you can explain what, why and how and upskill if you need to, in order to be well prepared.

Final Advice

The Get Certified Engineering Surveying Competency Doc is your friend. Read it, study it, be super familiar with it, practice talking through it with a peer, be prepared to talk about anything and everything in it. If you are a bit rusty or need to upskill on any of the competencies then do that before applying.

Always get documents from the S+SNZ website - the latest versions will always be uploaded under Certification: Certified Professional Engineering Surveyor

Get involved in the Engineering Surveying Stream. Email *engineering@surveyspatialnz.org* to connect.

Get involved with your Local Branch - start networking and meeting other Engineering Surveyors and Certified Professional Engineering Surveyors

Let us know if you need help - especially if you don't know a S+SNZ Member who can write you a reference. Email us on *certification@surveyspatialnz.org*