

POST GRADUATE TRAINING PLAN (PTP)

NAME OF GRADUATE: Jack Smith

Signature: *JSmith*

This training plan has been prepared in conjunction with the graduate surveyor's supervisor.

NAME OF SUPERVISOR: Helen Nguyen

Registration Status: Registered Surveyor, Engineering Endorsement

Signature: *Helen Nguyen*

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Evidence of Progression to Surveyor Registration

Progression 2022

I gained additional experience in total station and GNSS operation in numerous example set out surveys.

I prepared 2 CERs covering the Framework Unit 1 and Set-out surveys. I have calibrated 3 total stations at the Gold Coast range and have completed an IE describing the results. CER 2 also covered elements of S3.4 – Occupational Health and Safety.

I submitted CERs for progressive lodgement in August, 2022 and received a pass in all descriptors submitted with the exception of 2.3(v) and 2.3 (viii).

I updated my PTP and submitted it for my 2023 registration.

Progression 2023

I am currently preparing 2 CERs for Topographic Surveys (one T/Stn and one GNSS). I intend to complete these CERs and submit them in August 2023.

I was also given some introductory training in using calculation software (12D) and AutoCAD drafting. This has provided me with the knowledge necessary to undertake topographical and volume surveys.

I am getting more experience on small and medium size topographic jobs and expect to independently undertake a large topographic job soon.

Future Planned Learning

S6.3 Static Networks – more practice and experience required in processes and adjustment software.

Unit 5 Communication – more exposure required to dealing directly with other professionals and clients.

Unit 1: Personal Qualities

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|--|--|--|---------------------------|--------------------------|
| S 1.1 Possess a tertiary qualification in surveying | Applicants will need to demonstrate that they: <ul style="list-style-type: none"> i. Have completed a course of study of at least three years fulltime duration acceptable to the Surveyors Board of Queensland or have been previously registered as a Surveyor by the Surveyors Board of Queensland | Copy of 4 year Degree SBQ assessment of overseas 4 year degree | Submit August, 2022 | Passed Sept 2022 |
| S 1.2 Are professional in their dealings with the public | Applicants will need to demonstrate that they: <ul style="list-style-type: none"> i. Have not conducted themselves in a manner that erodes the public confidence in the profession | CER Description of personal Qualities Statement of no contrary evidence | Submit August, 2022 | Passed Sept 2022 |
| | <ul style="list-style-type: none"> ii. Have not been unfair or unethical in their dealings with the public | Reference from supervisor | Submit August, 2022 | Passed Sept 2022 |
| S 1.3 Know and comply with published ethical codes | Applicants will need to demonstrate that they: <ul style="list-style-type: none"> i. Understand and can explain the Surveyors Board of Queensland's <i>Code of Practice for Surveyors</i> | CER Description of personal Qualities Reference to elements of code | Submit August, 2022 | Passed Sept 2022 |
| S 1.4 Keep their knowledge and skills current | Applicants will need to demonstrate that they have made themselves aware of changes in surveying practice through activities such as: <ul style="list-style-type: none"> i. Attending continuing professional development events | CER Description of personal Qualities Attendance at conferences | Submit August, 2022 | Passed Sept 2022 |
| | <ul style="list-style-type: none"> ii. Reading literature relevant to surveying practice | Research on Scanners | Submit August, 2022 | Passed Sept 2022 |
| | Applicants will need to demonstrate that they: <ul style="list-style-type: none"> i. Can describe the regulation of surveying in Queensland | CER Description of personal Qualities | Submit August, 2022 | Passed Sept 2022 |

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| S 1.5 Know what limitations apply to their work | ii. Have not undertaken work beyond limits of personal skills and expertise | Refer to Surveyors Board Presentation Statement and reference from supervisor | Submit August, 2022 | Passed Sept 2022 |
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Unit 2: Collection of Data and Measurement

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|--|--|---|--------------------|-------------------|
| S 2.1 Collect data by measurement | Applicants will need to demonstrate that they: i. Use adequate redundant measurements to validate data | CER on detail survey b/s checks, known points, overlapping | Submit Sept 2023 | |
| | ii. Ensure measurements are legally traceable | IE on Total Station at Gold Coast Range DNRM Software analysis | Submit Sept 2023 | |
| | iii. Evaluate the various measurements methods and procedures available | CER on detail survey Consider methods suitable to accuracy specifications | Submit Sept 2023 | |
| | iv. Assess the effectiveness of the measurement method adopted | CER on detail survey Were specifications met efficiently | Submit Sept 2023 | |
| S 2.2 Search and acquire existing data | Applicants will need to demonstrate that they are able to: i. Extract required information from relevant geographic and land information records, survey data bases, and general information depositories | CER on detail survey DBYD search, cadastral search and form 6 Qld Globe | Submit Sept 2023 | |

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| S 2.3 Can use and maintain GNSS surveying instruments | Applicants will need to demonstrate that they are able to: | | | |
| | i. Define coordinates systems likely to be encountered by GNSS users and calculate GNSS coordinates | Topo CER | | |
| | ii. Discuss the principles of GNSS observations | Topo CER | Submit Sept 2023 | |
| | iii. Make observations using a GNSS receiver | Topo CER | | |
| | iv. Explain GNSS observations techniques, and calculate and | Topo CER | Re-Submit Sept 2023 | Not Passed Sept 2022 |
| | v. evaluate levels of accuracy associated with GNSS observations | Setout / Topo CER | | |
| | vi. Identify error sources in GNSS observations, and explain | Topo CER | Submit Sept 2023 | |
| | vii. the uses and critical factors of differential GNSS techniques | Topo CER | | |
| viii. Output GNSS observations in existing local co-ordinate systems including ground-based systems | Setout / Topo CER | Re-Submit Sept 2023 | Not Passed Sept 2022 | |
| S 2.4 Apply quality assurance principles | Applicants will need to demonstrate that they are able to: | | | |
| | i. Comply with an accepted quality assurance program | Compliance audit of CER related to company QS | Submit Sept 2025 | |
| | ii. Rectify non-compliance with quality standards | Correction to QS element identified in external audit 2022 | Submit Sept 2025 | |

Unit 3: Development Surveys

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|---|--|--|------------------------|-------------------|
| S 3.1 Setout minor works | Applicants will need to demonstrate that they are able to : i. Read, interpret and understand design and construction plans | I have substantial setout experience Proposed CER – House Setout 243 Willow Street, Coomera. | Submit CER August 2022 | Passed Sept 2022 |
| | ii. Set out works | | Submit CER August 2022 | Passed Sept 2022 |
| | iii. Communicate results to client, construction staff and other consultants | | Submit CER August 2022 | Passed Sept 2022 |
| | iv. Use adequate redundant measurements to validate data | | Submit CER August 2022 | Passed Sept 2022 |
| S 3.2 Perform topographic surveys | Applicants will need to demonstrate that they have: i. Completed a variety of topographic surveys that were fit for purpose using terrestrial and GNSS instruments. | I have experience but no appropriate project. Expect to complete a project by middle of 2023. | Submit Sept 2023 | |
| | ii. Use adequate redundant measurements to validate data | | Submit Sept 2023 | |
| | iii. Accurately described the origin of datums and other explanatory notes | | Submit Sept 2023 | |
| S 3.3 Survey and calculate volumes and quantities | Applicants will need to demonstrate that they: i. Collect topographic data at appropriate accuracy and density for volume purpose | <u>Require more experience in this area</u> <u>Undertaking 12D training and projects under direction of supervisor.</u> | Submit CER July, 2025 | |
| | ii. Calculate and report volumes to an accuracy justified by the measurement method | | Submit CER July, 2025 | |

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| S 3.4 Know and apply occupational health and safety requirements | Applicants will need to demonstrate that they: i. Can describe the requirements of occupational health and safety legislation in Queensland that is pertinent to their work environment | CER Completed | Submit CER August 2022 | Passed Sept 2022 |
| | ii. Use occupational health and safety procedures that comply with the relevant legislation | CER Completed | Submit CER August 2022 | Passed Sept 2022 |

Unit 4: Process Field Measurements

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|---|---|---------------------------------|---------------------------|--------------------------|
| S 4.1 Can detect errors in existing data and field observations. | i. Identify errors in data that is supplied by other parties | CER future topographic | August 2023 | |
| | ii. Use quality assurance processes to ensure that errors are detected and eliminated | | August 2023 | |
| S 4.2 Understands the accuracy of existing data and creates new data with appropriate accuracy. | i. Determine the accuracy and reliability of data | CER future topographic | August 2023 | |
| | ii. Define the limitations of collected data | | August 2023 | |
| S 4.3 Can combine existing data with new survey data | i. Are able to deduce or estimate the accuracy limitations of existing data sets | CER future topographic | August 2023 | |
| | ii. Do not use data sources of insufficient accuracy in survey products | | August 2023 | |

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| S 4.4 Can produce plans that are accurate, legible and useful | Applicants will need to demonstrate that they are able to: i. Use a computer aided drafting package to produce paper plans | CER Future Topographic | August 2023 | Passed Sept 2022 |
| | ii. Produce sketches that are fit for purpose | Set-out CER | August 2022 | |
| S 4.5 Can produce electronic models and plans | Applicants will need to demonstrate that they are able to: i. Use a computer aided drafting package to produce electronic plans | CER future topographic <u>Require more experience in this area</u> | August 2023 | |
| | ii. Create digital models of physical surfaces | | | |
| | iii. Attach attribute information to a digital model | | | |
| | iv. Transfer files between various formats | | | |

Unit 5: Communication

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|---|---|--|---------------------------|--------------------------|
| S 5.1 Communicate effectively | Applicants will need to demonstrate that they are able to: i. Communicate effectively, orally and in writing | CER – onsite meetings, emails, | July 2024 | |
| | ii. Issue clear, accurate instructions to subordinates | | July 2024 | |
| | iii. Successfully use electronic communications technologies | | July 2024 | |
| S 5.2 Can speak effectively at meetings | Applicants will need to demonstrate that they are able to: i. Explain surveying matters in comprehensible and unambiguous language at small meetings of allied professions | <u>Require more experience in this area – particularly other professionals</u> | July 2025 | |

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| S 5.3 Prepare reports | Applicants will need to demonstrate that they are able to: i. Prepare logical and coherent reports for the benefit of surveyors, other professions and clients | Examples of survey plans and written reports | July 2025 | |
| S 5.4 Certify data | Applicants will need to demonstrate that they are able to: i. Write certificates that are accurate and limited to areas of their professional competence | form 12, checklist, signed off by endorsed surveyor | July 2025 | |
| S 5.5 Provide advisory services | Applicants will need to demonstrate that they are able to: i. Provide sound advice to clients and fellow professionals on surveying and land management matters at an appropriate level of detail. | Require more experience in this area | July 2025 | |

Unit 6: Survey Control

| Element | Descriptors | Proposed Work Experience | Proposed Timeframe | Date CER Assessed |
|--------------------------------------|--|---|--------------------|-------------------|
| S 6.1 Use geodetic reference systems | Applicants will need to demonstrate that they are able to: i. Use appropriate geodetic datums and map projections | CER on updating existing control using GNSS | Sept 2026 | |
| | ii. Perform geodetic calculations of traverses and intersections using geographic coordinates | | Sept 2026 | |
| | iii. Perform geodetic calculations of traverses and intersections using UTM grid coordinates | | Sept 2026 | |
| | iv. Transform three dimensional coordinates between systems and between datums, with the aid of suitable software, to the required level of accuracy | | Sept 2026 | |

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| S 6.2 Integrate survey control | Applicants will need to demonstrate that they are able to: i. Describe and comply with the regulation of surveying and mapping infrastructure in Queensland | Refer CER to appropriate acts and regulations | Sept 2026 | |
| | ii. Find and recognise evidence of previous surveys | CER on updating existing control using GNSS | Sept 2026 | |
| S 6.3 Establish, measure and adjust horizontal survey control | Applicants will need to demonstrate that they are able to: i. Establish project control networks using GNSS and terrestrial measurements | Relate to SP1 for control surveys by GNSS. | Sept 2026 | |
| | ii. Evaluate and adjust measurements by appropriate adjustment methods | CER on control survey using T/STN | Sept 2024 | |
| | iii. Use adequate redundant measurements to validate data | Use 12D adjustments. | Sept 2024 | |
| | iv. Mathematically adjust survey networks by the method of least squares using computer software packages | CER on GNSS fast static control | Sept 2026 | |
| | v. Analyse and critically evaluate the adjustment | Use TBC software. | Sept 2026 | |
| S 6.4 Establish, measure and adjust vertical survey control | Applicants will need to demonstrate that they are able to: i. Perform precise level measurements | CER on Vertical control using a bar code precise levelling instrument | Sept 2024 | |
| | ii. Identify the effects of curvature and refraction on levelling and apply this knowledge to trigonometrical levelling | Relate to SP1 for differential levelling recommendations. | Sept 2024 | |
| | iii. Identify the equipment and methods used in precise levelling and the sources of error and the techniques to minimise their effects | | Sept 2024 | |