

# **ALTURA SPATIAL CAPABILITY STATEMENT**

With over 25 years of experience in business as a Project Surveying Consultancy with projects ranging from motorways and rural town bypasses to inner city high rise, Altura Spatial has the skill set to provide measurement, mapping & construction surveying solutions for all aspects of development or infrastructure projects.

We specialise in NSW Registered Land Surveying support to infrastructure where accurate reliable survey control and boundary modelling are required to enable projects to start in the correct location and remain there during the progression of works.

Specialised project planning for complex public & private proposals is provided with an emphasis on land titling, 3D modelling of both natural and built environment and constraints where environmental and legal constraints impact on client outcomes.

The use of State of the Art data collection systems and Civil Engineering software allow solutions to be developed for even the most demanding and complex projects. Land form modelling is possible through the use of 3D Laser Scanning and low level photogrammetry using remotely piloted aircraft and management of the collection, processing and deliverable preparation is ensured so that reliable precise and accurate data is presented.

Our surveyors are team orientated and outcome driven and only those individuals with skills beyond that needed for each project are assigned to deliver the client requirements. With over sixteen years commitment to one particular Western Sydney motorway project is testament to the quality of results delivered and service provided.

With the years of experience gained, the following areas of measurement and management are offered as our core service.



## STRUCTURAL MONITORING

Altura Spatial provides experience in the field of monitoring using high precision techniques – structures such as bridges and public structures, earth embankments, road pavements, railway lines are assessed for position before, during and after construction interference.

Methods employed allow us to monitor for short duration projects such as construction of service main below major road pavements to settlement of concrete and earth structures over longer periods where movement would be considered almost imperceptible.

High precision 3D laser can be employed to provide settlement heat maps for complex surfaces and ease of interpretation. This may provide cost effective solutions for irregular surfaces such as shotcrete walls or tunnel surfaces.

Infrastructure settlement surveys are a specialty of our monitoring surveyors where motorway corridor surveys, water supply and transport infrastructure surveys have been planned with the client and carried out over long periods of time.

Project Specific capabilities include

- Bridge and abutment movement assessment & reporting
- Road pavement monitoring
- Earth fill batter measurement
- Bridge movement joint measurement and monitoring
- Land fill settlement monitoring
- Railway line construction monitoring
- Building settlement monitoring
- Building façade measurement
- Concrete surface monitoring and heat map reporting
- Laser Scanning of any surface and reporting of change due to construction or settlement.



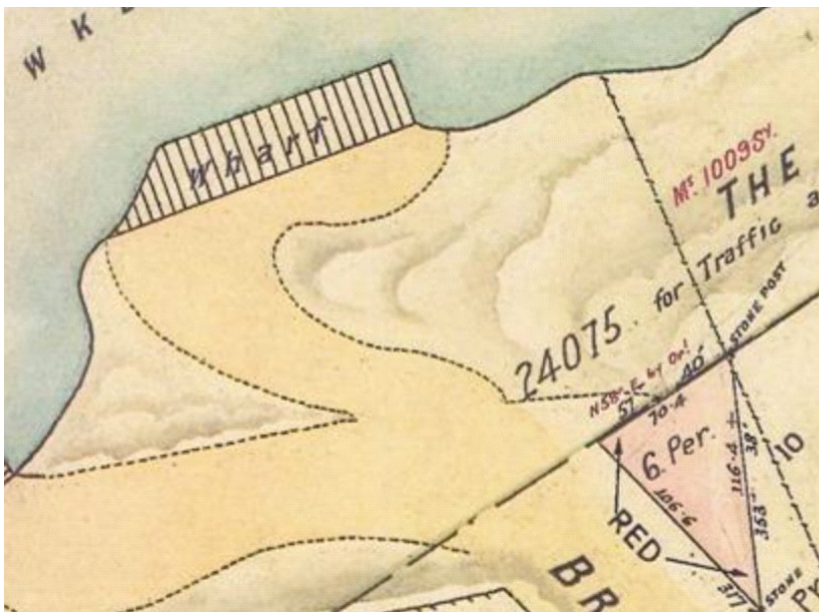
## PROPERTY SURVEYS

From residential property boundary marking in an urban environment through to large scale rural development, our NSW Registered Surveyor skill set is scalable to enable any project to be completed, on time and on budget.

Land subdivisions through to major motorway corridor boundary models are able to be developed for plan registration at the NSW Land Registry Service or digital boundary models provided for designers on projects such as the Westlink M7 and NorthConnex. Data management and modelling skills enable quality and accuracy to be guaranteed.

Altura Survey Legal Boundary Services include

- Motorway Stratum Surveys
- Urban & Rural Land Subdivisions
- Strata surveys
- Land acquisitions surveys
- Protection of Survey Infrastructure Surveys (POSI) for construction projects
- Site Topographic surveys for planning of any sized project
- Lease surveys
- Complex land titling surveys
- Surveys and assessment of Old System Title
- Title Conversion Surveys for removal of title limitations (delimitation)
- Easement surveys
- Mean High Water Mark (MHWM) Determination and Ministerial Applications for Approval



## CIVIL CONSTRUCTION, ENGINEERING SURVEYS AND DESIGN

Altura has experience with construction projects varying from railway corridor bridge construction, motorway segmentally launched bridges, water and sewer mains including thrust boring through to complex bespoke residential dwellings, commercial buildings and correctional centres.

Services include

- Building planning and construction set out surveys
- Public road planning and construction surveys to RMS Specifications (G71 & G73)
- Survey Control Planning and Placement for Large Infrastructure
- Pipeline Route planning and surveys
- Bridge construction set out
- Site Topographic surveys using total station, GNSS or laser scanning techniques
- Road or structure alignment set out
- Work-as-Executed (As Built) surveys
- Minor road and drainage design
- Earthworks modelling and volume extraction
- Land fill modelling, design, set out & quantities
- Earth filled dam surveys, planning and design





## PROJECT PLANNING & DEVELOPMENT CONSULTANCY

Altura has development experience which includes land use planning for rural, rural-residential and urban residential development. Initial development or subdivision design through to specialist consultant engagement then preparation and lodgement of development applications to local government, our experience with difficult sites will assist land owners and developers to realise the best outcome for the applicable land zoning.

Experience with the facets of land development include

- Land optimisation from existing planning codes
- Site planning from topographic and legal constraints
- Engagement with specialist consultants such as flora & fauna, geotechnical, NSW Rural Fire Service, potable and waste-water, archaeological, indigenous and environmental.
- Early phase planning with local government
- Early phase planning with Roads & Maritime Service
- Early phase planning with NSW Office of Water
- Farm management Planning
- Development application preparation
- Civil road & stormwater design
- Utility and rural service design and coordination
- Construction Contractor tendering and selection
- Civil road set out
- Civil construction superintendency
- Post construction Local Government civil compliance
- Development consent condition compliance
- Final submissions to local government
- Sales Plans for development realisation
- Plans for NSWLRS submission for registration



## **LARGE CLIENTS**

TRANSURBAN – NorthConnex, Hills M2, Westlink M7  
LEND LEASE  
CPB CONTRACTORS  
WARD CIVIL ENGINEERING  
ROBSON CIVIL PROJECTS  
DOWNER EDI  
Roads & Maritime Service

## **SPECIALIST EQUIPMENT**

LEICA GEOSYSTEMS – GNSS & Robotic terrestrial instruments  
3d TERRESTRIAL SCANNING  
High Definition Survey Grade Point Cloud Modelling  
UAV Photogrammetry  
12d MODEL Survey Civil Engineering Software

## **KEY PERSONEL**

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