

FORENSIC INVESTIGATIONS AND EXPERT EVIDENCE
PROJECTS UNDERTAKEN BY INFRA TECH STAFF

BUILDINGS

New Merredin District Hospital, Western Australia, Client: Rapley Wilkinson Pty Ltd. Work consisted of investigating the possible causes of cracks and softness of wall plaster in the hospital building. Work consisted of undertaking investigations, review of contract specifications and workmanship issues and providing an independent opinion to the Health Department.

Assessment of Plaster Defects at Residence, Western Australia. Client: Mr Ron Weeks. Report consisted of inspecting the plaster defects and providing an independent report on the possible causes.

Residential Building tile delamination, Western Australia Client: Mr Detlev Schultz. Independent assessment of cause of floor tile delamination including assessment of floor and tile adhesive, construction methods and tile quality.

External tiles delamination for Mandurah City Council building, Western Australia, Client: Rocco Italiano. Investigated the external tile design, detailing, construction practice and submitted report on all possible causes of tile delamination and attending meetings to settle dispute

Steel Industries Building Assessment of cause of cracks, Singapore. Client: Steel Industries Pte Ltd. Investigated settlement cracks in industrial building on timber piles in soft clays including expert witness reports and appearance in legal proceedings.

Assessment of structural defects and ground movement in Multi storey Hotel, Singapore. Client Carlton Hotels Pte Ltd. caused in basement of multi-storey hotel building adjacent to construction site consisting of rare underground tunneling works were being carried out.

Investigation and cause of failure of external tile walls in Sony Building, Singapore Client: Chuang Uming Construction Pte Ltd. Investigation of cause of external tiles falling/delaminating from building, including assessment of workmanship, materials and specification review and appearance as expert witness in court proceedings

Shangrila Hotel, Singapore: Client: Allgreen Properties Pte Ltd. Investigation of foundation conditions, structural conditions using nondestructive ultrasonic techniques, radar, half-cell potential. Full scale loading testing of facade to assess structural capacity.

Multistorey Carpark building, Singapore, Client Dr. Y.S.Lau Consulting Engineers. Investigation of cracks in beams of a multi-storey car park building including assessment of structural strength and appearance as independent witness in legal proceedings

Fire damaged Power station Building, Singapore. Client: Jurong Engineering Pte Ltd. Investigation of the condition of fire damaged steel building and assessment of areas that needed repair/ areas that could be retained and that needed demolition and replacement

Pharmaceutical factory floor cracks investigation, Singapore. Client: Glaxochem Pte Ltd. Independent investigation of industrial floor screed cracks in cold room followed by attendance at meetings to settle dispute with contractor

Industrial Building façade stains, Singapore Client: Progressive Builders Pte Ltd. Independent investigation of the cause of staining on tiled façade of industrial building, including investigation of the joint sealant quality.

Investigation of a bulging basement floor in shopping center, Cheras Malaysia Client: Manalom Sdn.Bhd. Independent investigation and report on cause of bulging and remedial measures for the bulge. Work consisted of studying groundwater flow, ground conditions, review of building and foundation design and construction details and determining cause of floor bulging and advice on remedial measures.

Residential development on hill slope, Penang, Malaysia. Client: Sharma & Zakaria Consulting Engineers. Investigation of floor slab collapse in residential housing on hill slope; utilised Ground Penetrating Radar techniques to assess the underground conditions and providing remedial measures.

Multi story building in Penang concrete quality assessment. Work consisted of assessing Client expert reports on quality of work done, strength and preparing expert report on behalf of contractor attend arbitration proceedings to explain the issues to Arbitrator.

Settlement of School building in Kuching, Client: Suhaili Bong & Associates (for Moden Bina Sdn Bhd, work consisted of reviewing all earthworks designs, pile designs, construction records , defects in the buildings, carrying out additional site investigations and preparing an Expert Report on the cause of building settlement and long term implications for an arbitration with the Ministry of Education

TRANSPORTATION STRUCTURES

Kwinana Freeway Busway, Western Australia, Client: Henry Walker Eltin / Clough Joint Venture. Work consisted of investigating condition of bridge columns, which exhibited high level of honeycomb and voids, assessing the condition and providing remedial measures.

Road Tunnel investigation, Singapore. Client Land Transport Authority of Singapore. Independent investigation of corrosion in leaking concrete tunnel, assessment of roof cracks and durability condition of tunnel structure.

Railway tunnel condition study, Singapore. Client: Gammon Pte Ltd. Assessment of premature railway tunnel corrosion after accidental flooding from sea water.

Railway track corrosion, Singapore. Client: Henry Boot Pte Ltd. Independent investigation of cause of premature corrosion of railway track

PAVEMENTS

Investigation of pavement failure at Utah Point iron ore loading facility loop roads, Port Hedland, Western Australia, Client: Atlas Iron. The investigation works consisted of an independent assessment of the causes of premature pavement failure, rutting, asphalt fatigue and reporting on causes and remedial measures. A variety of investigation techniques comprising of GPR scanning, Light Weight Deflectometer testing, trial pits etc were carried out to assess the potential causes.

Investigation of concrete block paving crack at loading facility for lead mine, Wiluna, Western Australia, Client: ACP Hardstands

Investigation for cause of bleeding of newly sprayed road seal. Client: CSR Emoleum. The investigation consisted of an independent assessment of the cause of premature bleeding and softening of road seal. The investigation consisted of assessing the quality of the seal, quality of bitumen supplied, workmanship issues, etc.

Gin Gin Air Base, Western Australia Client: Kinhill Pty Ltd. Work consisted of assessing the cause of cracks in newly stabilised pavement. And providing an independent report.

Investigation of Defective Driveway. Client: Carl Lynhem. Work consisted of assessing the condition of defects for driveway and paving and providing an independent report outlining remedial measures including appearing as an expert witness at proceedings.

Assessment of cause of cracks in Limestone Concrete Pavement, Western Australia, Client: Giacci Bros. Work consisted of investigating the possible causes of cracks in limestone paving being made around Bunbury and providing an independent report to the client.

Assessment of pedestrian skid resistance of restaurant floor, South Perth, Western Australia Independent investigation for legal dispute where restaurant customer is suing the restaurant owner for compensation after slipping and falling.

Concrete pavements in Port area, Singapore Client: Progressive Builders Pte Ltd. Independent investigation of the cause of cracking and raveling of concrete pavements in port loading area.

Independent report on 400 tonne crane collapse during launching of heavy concrete beams for overhead bridges, Singapore. Client: Resources Development Corporation Pte Ltd. Investigation consisted of assessing work site ground conditions, specialised testing study of crane hauling and ground preparation methods and expert opinion including appearance at court proceedings.

FOUNDATIONS, EARTHWORKS AND SLOPES

Windsor Hills Development, Kwinana. Client: Roadstone Quarries. Investigation consisted of assessing the strength of geogrid reinforced limestone wall, quality of the mortar and providing an independent report to client's and consultants for the project.

Investigation of the causes of concrete bored pile failure for Jurong Tidal gate. Client: Engineering Construction Pte Ltd. Independent geotechnical investigation of pile foundation failure for major floodgate construction work in soft river settlements.

Investigation of water leaks in a basement structure of a multi-story building, Singapore. Client: Citiport Building Management Committee. Independent investigation of basement water leaks including project management of water leak repair.

Independent investigation of the cause of slope movements and retaining wall failure during adjoining roadwork's. Client: Crawford Graham Miller. Work was carried out for international loss adjusters firm. Investigation consisted of assessing slope movements using

slope instrumentation, studying the ground conditions at the road works site and proposing slope stabilization solutions.

Assessment of causes of Felda water dam earthworks in Sabah and providing expert report on behalf of earthworks contractor. Work carried out included assessing the dam design, earthworks specifications, Client nominated borrow pit materials quality, their properties and suitability for earthworks, contractors earthworks practices and expert report on most probable causes of dam failure

MARINE STRUCTURES

Canal Wall, Bunbury, Western Australia, Client: Stoneridge Group. Work consisted of investigating the condition of the newly built canal wall mortar, assessing its long term durability and providing an independent assessment of the wall.

Geraldton Port Berth 1 and 2 Rehabilitation Investigation, Geraldton, Western Australia, Client: Geraldton Port Authority / Connell Wagner Pty Ltd. Investigation of durability conditions of concrete piles and pile cap of approximately 60 year old marine structure. Chloride attack, carbonation, mix proportions and remaining load capacity of piles, including conducting geotechnical investigations and application of down hole micro wave technique to assess existing concrete pile depths.

Performance of marine anchor for mooring structures, Western Australia. Client: Clough Sandwell JV. Investigated the cause of non-performance of sea bed anchors permanently anchoring marine dolphins and remedial treatment solutions.

Kallang river walls failure, Singapore Client: Resources Development Corporation Pte Ltd. Independent investigation of cause of cracking/movement of seawalls during construction in soft marine clay river/sea bed.

Flotilla Base boat repair yard and jetty Muara, Brunei. Client: Ministry of Defence, Brunei.

Independent investigation of cause of premature deterioration of jetty structure including assessment of concrete conditions, corrosion and remaining economic life.

PIPELINES AND WATER RETAINING STRUCTURES

Concrete water retaining structure, Baldvis, Western Australia. Client: Water Corporation. Investigation of water leak and location of voids under tank floor using under water ground penetrating radar techniques

Study of earth dam, construction quality control problems. Client Lim Kar Bee & Sons. Assessed design, specification and construction practice for irrigation and water supply dam encountering problems during construction related to inability to compact adequately.

Investigation of sewerage pipe breakages and settlement for deep sewer through soft clays, Singapore. Client: Crawford Graham Miller The work was carried out for loss adjusters to provide an opinion on the possible causes of sewer pipe settlement and breakage adjacent to a construction site.

Swimming Pool Water leakage. Independent investigation of cause of leak from swimming pool and assessment of liner quality.

Investigation of jet fuel leak in an underground pipeline at an international airport, , Singapore Client: CAFHI Pte Ltd. Independent investigation to assess the extent of jet fuel leakage into groundwater for client consisting of joint venture between major all multi-nationals.

Sungei Mangsalut Canal Slope and Concrete Lining Failure: Client: Panorama Construction. Investigation of slope failure, including review of hydraulic and geotechnical conditions, and preparation of report on cause(s) of failure and recommendations for remediation.

MISCELLANEOUS

Rawlinson vs Treasure. Client: Joe Scurria & Assoc. Work consisted of investigating the causes of deterioration of anti-bird netting in an orchard at Brunswick Junction and providing an independent report on with cost estimate for remedial measures.