

NSW PROJECT FEATURE
LUNA PARK

Lipman



TIME FOR SOME FUN!

DEVELOPER : Luna Park Sydney
MAIN CONSTRUCTION COMPANY : Lipman
ARCHITECT : In & Out
STRUCTURAL ENGINEER : TTW
CONSTRUCTION VALUE : \$8.3 million

The Luna Park upgrade is its biggest revamp since 2004 and involves the installation of nine state-of-the-art permanent rides over 2 Stages, which includes a 'family coaster' and 'thrill rides' transforming it into a worldclass amusement park, right on Sydney Harbour.

Delivered by main contractor Lipman, the relaunched Luna Park is set to provide fun and entertainment for generations of Sydneysiders for years to come. The project scope included providing substructure, installation, rigging and power for new rides plus decking, roofing, queuing rails, perimeter fencing, stairs and other ancillary works.

Luna Park's spectacular location on Sydney Harbour brought both benefits and challenges. "Our site office had one of the most spectacular views in Sydney," said George Kent, Project Manager. "However, the location also brought logistical problems. The site is small with a single way in and out that was only just big enough to accommodate a shipping container, and delivery of the rides involved 42 containers coming to the site."

Careful planning and management was key to ensuring the project was delivered successfully, especially given COVID-19 related shipping delays.

One outcome of the pandemic was that the operational parts of Luna Park were closed to the public during most of the works however Lipman were still required to work around scheduled functions such as weddings, parties and commercial events.

Despite the challenges the construction process went smoothly. "We had a very

positive experience on the job," George said. "We had no reportable incidents or lost time injuries which was a big success and reflects Lipman's safety focus."

Lipman already had specialist theme park sector experience as they had previously delivered a similar scope for the Raging Waters theme park in Western Sydney.

"Many members of the Lipman team on the project were heavily involved in the Raging Waters job so we were able to transfer all of that experience across," George explained. "We offered Luna Park an all-in solution with a collaborative approach and specialist sector experience, all of which helped us win the job."

During the Early Contractor Involvement (ECI) phase of the project Lipman were able to hand-pick their team of subcontractors. "We were looking for the right fit to best deliver the works," said George. "We got the team we wanted and it was a pleasure to work with everyone on the project."

The new extension is now open and Luna Park saw tickets sell out in the opening days. A special 'contractor's open day' was arranged in advance of the official opening for the whole construction team. "We all had a lot of fun trying out all the rides," said George. "It was a great reward for everybody's hard work."

The successful delivery of the Luna Park project showcased Lipman's commitment to delivering construction solutions that exceed client expectations, providing a positive outcome for society and the environment in which they operate. As a family-owned business they recognise the value and dedication of their people and strive to ensure every project continues the Lipman legacy.

Lipman's strong reputation for quality and performance has been built over more than 50 years of industry experience. Their focus is always to deliver projects that are defect free, on time and within budget across every sector in which they operate.

Lipman has regional offices servicing Western NSW, The Hunter, The North Coast and the Northern Rivers, as well as their Head Office in Sydney. They have just been awarded the upcoming URBN Surf wave pool park in Sydney and are looking to further build on their theme park experience in years to come.

"These are fun projects to work on," George said. "All our people got a lot of pride from building something that brings enjoyment to so many people."

For more information contact Lipman, Level 6, 66 Berry Street, North Sydney NSW 2060, phone 02 9955 7000, email lipman@lipman.com.au, website www.lipman.com.au



Below HF Hand Constructors supplied and installed a range of steel products for Luna park's new rides as well as assembling the rides themselves.



Sydney's Luna Park's extensive \$30 million overhaul includes nine new rides, and HF Hand Constructors were responsible for supplying and installing base steel, access platforms and stairways for several of Luna Park's new rides as well as the construction services and assembly of the rides themselves.

The steel was fabricated at HF Hand's factory and transported by road to the site. The rides were procured from specialist suppliers overseas and shipped along with detailed drawings and installation videos.

HF Hand had prior experience with main contractor Lipman. "We worked well with them before, particularly on the Macquarie University atrium steelwork where Lipman could see our capability and what we could do," said Ian Bird, General Manager. "This was our first theme park project and it was a great job to work on, our team enjoyed the challenge and the amazing views and we are proud to have worked on such an iconic project!"

The rides were delivered as separate panels and other components in a series of containers and had to be carefully assembled onsite.

"We worked closely with Lipman to manage the sequence of containers arriving onsite to ensure an efficient assembly flow and minimise congestion," explained Ian. "COVID had affected the delivery of many of the overseas components and sequencing

became an issue, however we managed to work through the delays."

The site's location adjacent to the Harbour Bridge on the harbour foreshore presented some challenges. "We had to obtain a number of permits through the council to get specialised equipment and other oversize items onto the site," Ian said. "We also experienced site shutdowns and supply issues due to COVID-19 but we were able to work around all the challenges."

Based on the mid-north coast of New South Wales, HF Hand have a long history in the region and originated as a blacksmithing, crane and cart manufacturer in the late 1800's. Today the firm is a successful steel fabrication company providing onsite construction coverage across all states of Australia.

HF Hand offer a full fabrication, supply and install company with inhouse labour and equipment. They have a total of 8,000m² undercover manufacturing area across three separate specialised facilities with the capability to fabricate, weld and coat products with CNC beamline processing machinery, CNC plasma cutting and plate rolling, and automated welding. They also provide onsite construction services with fully qualified industry tradespeople in a number of disciplines.

The headquarters of HF Hand at Sancrox near Port Macquarie is a 6ha site housing their main fabrication facility while their second facility at Kempsey is used for both

fabrication and specialised indoor protective coatings. They also own a third facility at Mt Thorley in the Hunter Valley.

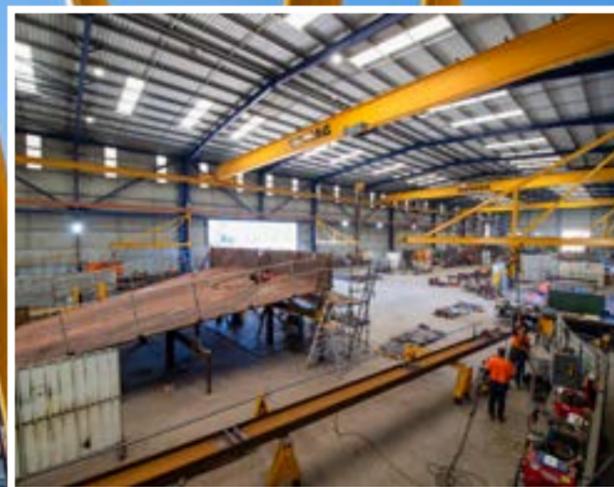
HF Hand services a variety of industry sectors including but not limited to large scale infrastructure, mining and metalliferous industries, water storage and other technologies, gas and fume treatment plants, road and bridge works and other commercial and industrial applications.

HF Hand are AS5131 CC3 qualified for high level infrastructure works which allows them to work on large scale projects yet they remain flexible to work on projects of any scale to suit their customers' convenience. HF Hand pride themselves on their ability to cultivate long term client relationships by providing a quality experience and personalised service at all times.

Today HF Hand are leaders in the steel fabrication and construction industry. Fully Australian owned and operated, they pride themselves on providing innovative construction solutions.

"We've been around a long time and have a proud history," said Ian. "We have a lot of knowledge and expertise in the company with people we can trust and that's what's important to us."

For more information contact HF Hand Constructors, phone 1300 434 263, email info@hfhand.com.au, website www.hfhand.com.au



Below All Districts Coating created the vibrant colour scheme throughout the park painting operating booths, frame elements, steel structure and walls.

Below Elite Survey completed a range of surveying tasks utilising a Terrestrial Laser Scanner and Digital Engineering and their BIM team.



All Districts Coating is a specialist commercial, remedial, industrial and residential painter serving Sydney and surrounding areas for more than 20 years. They offer tailored professional painting services with a skilled team and a commitment to delivering quality solutions using premium products.

For the recent redevelopment of Sydney's iconic Luna Park, All Districts Coating were appointed by main contractor Lipman to complete painting works in a range of colours and patterns for the new rides and surrounding areas including operating booths, frame elements, steel structure and walls.

The new paintwork had to be customised to match the colour of the new rides which had been painted using European colours which are not standard in Australia. All Districts Coating also had to provide additional manpower to meet challenging timescales in a congested site environment requiring boom lifts and scissor lifts to access some areas.

"The project was a big push right from the start," said Carlos Habibeh, Director. "We worked closely with Lipman and managed to achieve a good result on a project that is really iconic in New South Wales."

All Districts Coating have a long previous relationship with Lipman spanning many years. "We know Lipman very well," said Carlos. "At Luna Park they trusted us to meet their high standards for an important client."

All Districts Coating is a proud family owned business with a strong focus on maintaining good client relationships. They are experienced in a wide range of project types including apartments, aged care, offices, industrial units and more. They have expertise in both new projects and surface restoration of existing buildings.

"We stand by our quality and reliability which are the basis of building new relationships and ensuring repeat business," Carlos said. "We will do anything necessary to meet our clients' needs because if they are happy we are happy."

For more information contact All Districts Coating, 10 John Hines Avenue, Minchinbury NSW 2770, phone 02 9064 4040, email info@alldistricts.com.au, website www.alldistricts.com.au

Elite Survey were contracted on a full-time basis to perform all aspects of the construction set-out and verification for the Luna Park Ride Replacement project including all services, excavation, concrete and structural works. This was performed over the period of February to October of 2021 with various targets and shutdowns set to coincide with NSW school holiday openings.

Throughout the project Elite Survey were involved in boundary surveying, construction and structural surveying and employed the use of our Terrestrial Laser Scanner and Digital Engineering and BIM team to help get this project over the line on time.

This was a unique project in that Luna Park is likely one of the most recognisable places in Sydney, if not nationally. It wouldn't be far fetched to say that visions of the mouth at the entrance to Luna Park bring memories to everyone's mind. "Certainly, in our memory, no ride upgrade had been performed so the Luna Park Ride Replacement is sure to be well received by the public," said David Kelleher, General Manager at Elite Survey.

One aspect of this project which was quite unique was providing conformance reports for a roller coaster. The largest new roller coaster,

The Big Dipper, has varying conformance points scattered throughout the ride. These are not all on the same plane as they coincide with the varying rotation of the rails. Traditional surveying techniques would take far too long so a different method of measurement had to be employed. "The entire roller coaster was measured with a terrestrial laser scanner, allowing millions of points on the roller coaster to be measured and then allowing our Digital Engineering and BIM team to digitally reconstruct the roller coaster and provide conformance reports as required," David explained.

"Elite Survey, having previously worked with the main contractor on multiple projects, is engaged knowing that we can provide the staff, equipment and solutions available to handle even the most complex solutions, working collaboratively with the various contractors onsite to ensure all works are completed within the specified tolerances and timeframes."

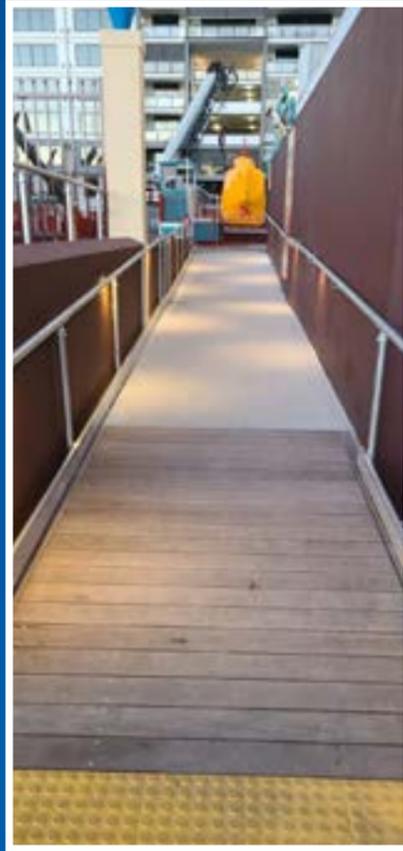
For more information contact Elite Survey, 28/3 Box Road, Taren Point NSW 2229, phone 02 9526 7002, email admin@elitesurvey.com.au, website www.elitesurvey.com.au



Below Well Connected Electrical completed a range of electrical works including exterior lighting and electrical infrastructure works on the project.



Below Aadler was engaged as the electrical engineer to facilitate the construction of the park's expansion.



Sydney's Luna Park has undergone a major transformation with nine new rides including a new Big Dipper and associated infrastructure. Well Connected Electrical (WCE) was engaged by Lipman to deliver the electrical package for the project.

Established in 2005, WCE serves Sydney and regional New South Wales. For Luna Park, WCE was engaged to deliver all the electrical requirements for the park's upgrade.

WCE's scope included the supply and install of external lighting systems, earthing and lightning protection systems, switchboards and distribution boards, in-ground reticulation and power supply and upgrades to the existing substation and security system. They also procured and installed specialised harmonic filters to serve the control systems of the new rides.

With high winds and consistent exposure to salt water, the project was not short of its challenges. Materials had to be carefully selected.

WCE successfully navigated through all of the existing grounding infrastructure to accommodate the new reticulation. WCE completed the works with help of their subconsultant Aadler.

The electrical services were the key trade on this project and the WCE and Aadler team delivered on time and under budget. By maintaining consistent dialogue with the builder and all the project's stakeholders, WCE was able to keep up with the curve ball that is the COVID pandemic. Procurement, site and staff management were tested.

"From humble beginnings to working on Luna Park has been a humbling journey," said WCE's Director. "We pride ourselves on delivering the best outcome for every single client. Whether it be a residential development or the most recognised amusement park in Australia, we are grateful for the experience and hope to leave behind a legacy of quality and innovation"

For more information contact Well Connected Electrical, phone 1300 677 693, email info@wellconnected.com.au, website www.wellconnected.com.au

Aadler is a building services engineering firm founded in 2013 to serve the construction industry with an agile, client-focused consultancy. They were engaged by electrical contractor Well Connected Electrical (WCE) to deliver the construction design for the redevelopment of Sydney's Luna Park including nine new rides sourced from different international suppliers.

Part of Aadler's role was to interpret the technical requirements of each ride and design electrical packages to facilitate their operation in compliance with Australian standards, including:

- New power upgrades including facilitation of contestable works
- A new main switchboard and distribution boards
- New in-ground reticulation including coordination with existing services
- New lighting and automated digital controls
- New lightning protection systems that worked in conjunction with the functioning rides
- A new equipotential earthing system that integrated the steel frames, ride structures and control rooms.

Aadler are experienced at partnering with contractors to deliver successful projects. They have completed numerous successful

projects with WCE and share common ground in their client-focused approach and commitment to quality.

Working on a technically complex project on an iconic harbour front site was a challenging but an enjoyable process for the whole Aadler team. The relationship between Aadler, WCE and the project team was one of respect and enthusiasm and everyone relished the opportunity to deliver something different for the community.

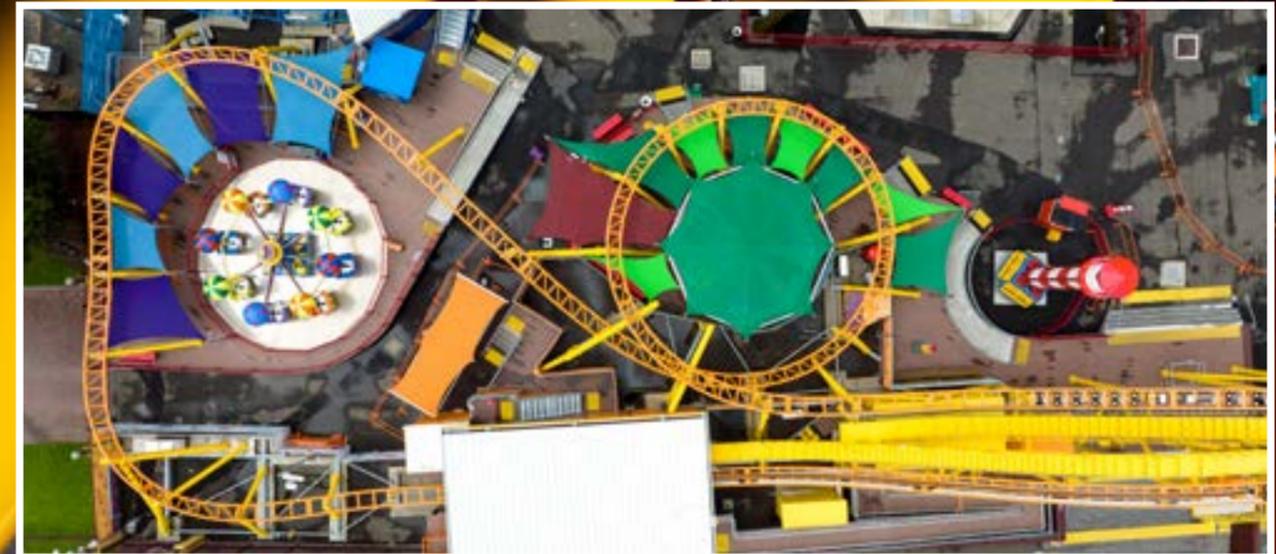
"When we were first invited by WCE to tender for these works, excitement filled the office," said Director, John Farag. "We knew the project would be challenging with a restricted budget and COVID on the horizon, however with WCE we knew we could deliver the best possible outcome."

"Working with a quality project management team and an electrician who valued the technical details, made this challenging project seamless. Aadler looks forward to working with WCE and Lipman again and we are thrilled to see the community enjoying the park!"

For more information contact Aadler, phone 02 8007 6895, email admin@aadler.com.au, website www.aadler.com.au

Below Northern Fencing Specialists manufactured and installed tubular powder coated fencing and chain wire throughout the park.

Below Alfresco Shade designed and constructed new shade structures that attached to the ride supports.



Northern Fencing Specialists fabricated, supplied and installed a substantial amount of new tubular powder coated fencing and chain wire fencing to the project, which was required around the rides and throughout the park.

The fencing was fabricated at Northern Fencing Specialists' Penrith facility with a special protective zinc coating to protect the product from the Harbour environment. For an eye-catching pop, the fencing then received a topcoat in Luna Park's iconic red.

"Everything onsite was custom fabricated to meet the customer's specific needs," explained Tim Bugeja, Project Manager. "We specialise in custom projects and in this case we managed once again to get everything done to the customer's satisfaction within tight timescales."

The company's ability to fabricate, supply and install their products gave them full end-to-end control over both quality and timescales. "It's something that sets us apart," Tim said. "We also had a very good installation and project management team onsite which helped us be responsive to the customer's needs."

With over 20 years experience, Northern Fencing Specialists has

become a market leader in the fencing and perimeter security industry for the commercial, government sectors and rural applications. They fabricate and supply tailored fencing solutions including gates and physical security products such as bollards and boom gates.

Northern Fencing Specialists holds 3rd party quality, environmental and safety accreditations and has a wide range of contract panel memberships with leading government and statutory bodies in New South Wales. Northern Fencing has an extensive local branch network throughout New South Wales Regional areas to ensure that resources are always available no matter where projects are located throughout New South Wales

With extensive experience in large scale projects, the competitive advantage of Northern Fencing Specialists lies in their skill to design and fabricate tailored solutions for specific problems and meet custom requirements.

For more information contact Northern Fencing Specialists, (Head office) 44 Preston Street, Penrith NSW 2750, phone 02 9972 5800, email sales@northernfencing.com.au website www.northernfencing.com.au

Alfresco Shade was appointed by main contractor Lipman to design and construct new shade structures for the extension of Sydney's iconic Luna Park.

A premium fire-retardant polymer shade cloth from Gale Pacific was used and combined with customised digital printing that matched the park's colour scheme and reflected the character of the individual rides.

The shade structures were fully bespoke and designed to be integrated with the framing of the rides as much as possible to avoid the additional cost and congestion that would be created by an independent structure.

"Designing a safe attachment to non-static structures was a challenge," said Ben Westcott, Business Development Manager. "Our shade structures act as sails on windy days and induce forces which could affect the rides. We engaged with the ride engineers to work within the design parameters of their framework."

Alfresco Shade had experience working at Luna Park having provided umbrella structures previously. "We were excited to be back at Luna Park for this great project," Ben said. "It was also our first time

working with Lipman and they were a dream to work with. Everything onsite was very well organised with great communication from the project team."

With 21 years experience providing shade sails and structures, Alfresco Shade work with many leading contractors and clients on commercial, education, government and other projects around New South Wales and interstate.

With the ability to provide a wide range of stylish and cost effective shade sails and waterproof fabric structures with materials proven to last in Australian conditions, Alfresco Shade are a family-owned company with a proud tradition of quality.

"Unlike some competitors we design, manufacture and install all of our products," Ben explained. "This allows us to control quality across the whole process and ensure we are always able to deliver what we have promised."

For more information contact Alfresco Shade, 74 Wellington Street, Riverstone NSW 2765, phone 1300 798 700, email sales@alfrescoshade.com.au, website www.alfrescoshade.com.au