

# DAWLISH

## SOUTH WEST RAIL RESILIENCE SCHEME



Case Study | Summer 2021



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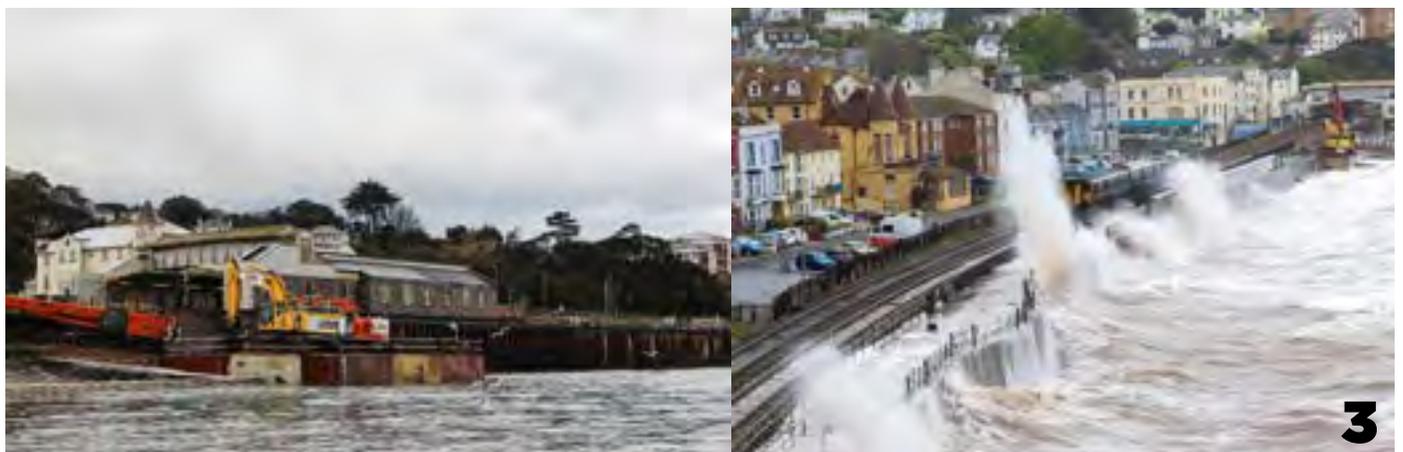
# INTRODUCTION

Lynch is proud to be working with BAM Nuttall to upgrade the sea wall in Dawlish



This is an exciting **sea defence project** and we are the **sole plant supplier**.

The completion of the new sea wall is set to **protect the railways** for the next **100 years or more...**



# OVERVIEW

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The railway line that runs through Dawlish is a vital link for both passenger transport and freight moves. MLN1 is the ONLY line running to the South West of England. This connects over **50** towns and cities on the peninsula to the rest of the UK.

In 2014, a massive storm damaged the railway. This forced it shut for **3 months** while emergency works took place. The closure of the railway had an estimated **£1.2B** impact on the South West economy. Upgrading the sea wall will safeguard this essential rail link for generations to come.



# OVERVIEW

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**2 phases to the project:** Lynch Operated Machinery working on both phases.

**Phase 1:** Boatcove Breakwater to Colonnade Breakwater.

**Phase 2:** Colonnade Breakwater to Coastguards Breakwater.

**The current sea wall was damaged:**

Since its construction in 1846, there have been minor works packages, such as foundation protection, but no major upgrades. This was causing frequent delays to passenger and freight services if there was inclement weather.

**Foundations:** 290m mass concrete foundation which was up to 3m deep had to be excavated and cast in a 5 hour low tide window.

**Facing panels:** 5.5m x 2m, each weighing 11t. These has to be lifted into place by Lynch machines in the 5 hour low tide window.

**Refuge construction:** 14 containers filled with material welded together, delivered to the beach by vessel.

**Piling works:** These were all loaded at auxiliary compound, ready for installation on the beach.



# LOCATION



# WORKING WITH



# VALUE

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PHASE 1:

**£20.5M** CONTRACT

PHASE 2:

**£27M** CONTRACT



# STATISTICS

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**25845**

PLANT OPERATING HOURS

**03/06/2019**

FIRST LYNCH MACHINE START DATE

**15T EXCAVATOR**

FIRST MACHINE ON HIRE

**115**

MACHINES AND ATTACHMENTS  
SUPPLIED IN TOTAL

**6**

MARINE VESSEL MOVEMENTS

**2**

70T EXCAVATORS ACQUIRED



# PLANT INSIGHT: 70T

## 70T KOMATSU PC700LC-11 SUPPLIED TO THE PROJECT

Maximum efficiency: 6% **fuel reduction**. Powered by **Stage V** technology: complying with latest emission requirements. Idle shutdown and fuel saving technology. Switching to bio-oils: comes from entirely renewable sources and **further lowers the environmental impact of the project**.

**Powerful lifting and digging force.**  
Engine power: 439 HP.  
Operating weight: 69549 kg.  
Max bucket capacity: 5,58 m<sup>3</sup>.  
Powerful bucket digging force: 37 tonnes.  
Arm crowd force: 30 tonnes.  
**Ideal for heavy lifting on the beach and in the compound.**

Select the right setting for each job:  
PowerMax **increases digging force** by almost 10%.  
Swing priority setting allows the Operator to select either boom or swing as the priority for increased production.  
Fine operation mode gives 17% **more lifting force on the boom**.



# PROJECT CHALLENGES

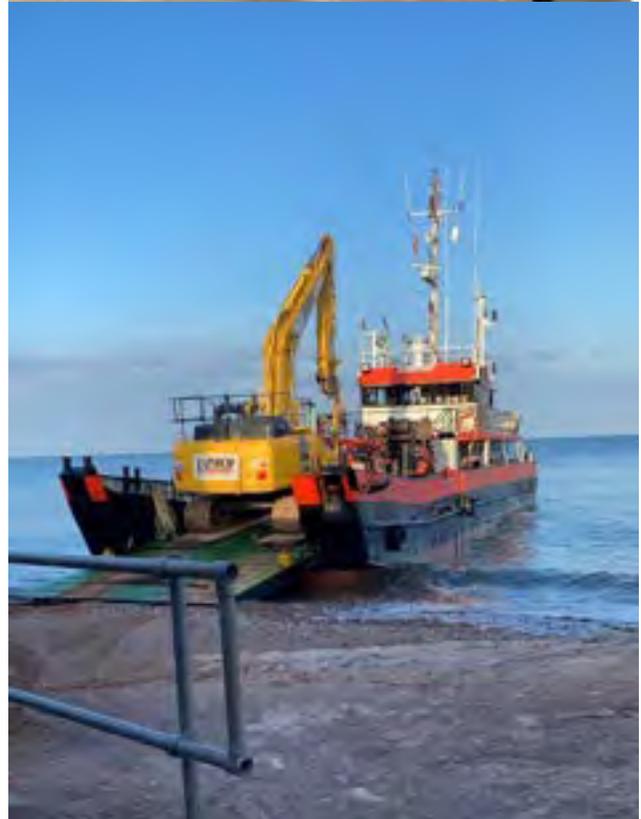
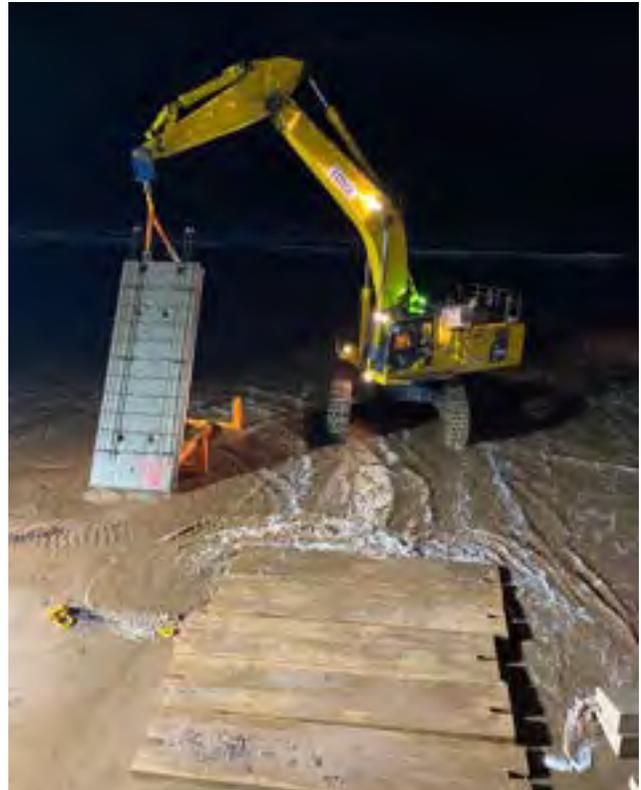
## Working Patterns

- ⦿ We are working in the sea, we must align our working patterns with tidal patterns
- ⦿ This involves being aware of the tide, and carefully planning works in a low tide window: odd hours and shifts
- ⦿ We have mobile fitters on shift 24/7 to work within the low tide window when needed



## Delivery

- ⦿ The only access point to the beach via road is a very small underpass
- ⦿ We have had to deliver Plant and Material to the beach via vessel
- ⦿ This is subject to change very quickly, and we have to be flexible
- ⦿ 50t weight capacity limit on the vessel meant that machines needed to be stripped down and rebuilt - counterweights had to be carefully removed and reattached when on the beach
- ⦿ Communication between Lynch and BAM Nuttall was key to make this happen and ensure deliveries could be made safely



# Weather

- ⦿ The South West Coast is subject to extreme weather conditions, as seen when the storm in 2014 damaged a part of the railway
- ⦿ The works on the beach may need to be aborted due to storms, waves, wind and rainfall
- ⦿ Because this can be unpredictable, we must be flexible in our working



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# Environment

- ⦿ The station is a Grade II listed building and this is adjacent to the works taking place on the beach
- ⦿ Use of bio-oil, as this is non hazardous if spilled and safer for the environment: marine life and the listed building
- ⦿ As we are working adjacent to a SSSI, all parts of the project require consent from the MMO (Marine Maritime Organisation), reviewing all construction and environmental management plans prior to any works commencing
- ⦿ Special conditions must be met, including pre-determined transiting reach across the beach for plant to avoid the Sabellaria (environmentally protected reef).



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# Deadlines

- ⦿ Network Rail has made a commitment to the council for reopening the promenade
- ⦿ We are accelerating works that were previously slowed down by the pandemic



# PROJECT TEAM

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**George Sutch**  
Sales Manager



**Kirk Golden**  
Fitter and  
Foreman



**Kara Lee**  
Key Accounts



**Matthew Wilson**  
Transport  
Manager



**Chelsea Wright**  
Operator  
Recruiter



**Luke LeCoyte**  
Operations  
Manager



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“Lynch have been a delight to work with on both Marine Parade and Coastguards to Colonnade.

Your input from the planning stages through to the Operators/Fitters on site has been part of why we are able to safely deliver our work in line with our clients expectations.

Despite the challenging logistical and tidal constraints both schemes have endured, and also supporting us to continue running through a global pandemic and multiple national lockdowns, I cannot fault the service provided from both the management team and operating staff.

I look forward to continue working with you and I hope to extend our relationship with you onto future packages of work.”

## Jack Brookes - BAM Nuttall Project Team

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“Through early engagement with the project team, we were able to understand the scope of works and plan accordingly. We placed Operators with the appropriate skill set (Sea Defence) and planned the correct Plant.

With regular safety communication across the project we are proud to report no incidents or lost days reporting. The team are very pleased to assist with this prestigious project in Dawlish”

## George Sutch - Lynch Sales Manager





Lynch Plant Hire & Haulage

# RELATED PRODUCTS AND SERVICES

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## HEAVY EXCAVATORS 13T - 70T



## SAFETY TRAINING DAYS Red Zone, Thumbs Up and Incident Free Environments



## RAIL PROJECTS

HS2, Crossrail



## MACHINE CONTROL TECHNOLOGY

Excavators, Dozers and Rollers





Scan to watch the video



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call: **020 8900 0000**  
email: **[info@i-lynch.com](mailto:info@i-lynch.com)**



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