



# Installation Case Study: The Exchange Ilford

*Electrical small works part 1: LED lighting improvement to shopping centre car park and loading bay*



# Shopping Centre Improvements

From car parks, walkways to guest lounge areas, restaurants, entertainment and washrooms, the correct lighting and temperature is essential. It is a delicate balance between safety, compliance, comfort and ambiance.



Due to our close relationship with clients in the retail industry and our experience with shopping centres over the years. We have noticed the huge step up in the scale of renovation projects within shopping centre guest facilities.

JCW has taken part in large improvement projects in retail guest amenities within shopping centres. We have observed the trend shifting towards creating a more experience focussed environment, rather than the traditional focus on the convenience-driven shopping trip.

As the trend suggests, Brits' shopping habits are changing and they are now looking for more of a leisure and entertainment experience. It is no wonder "shopping" centres are increasingly being viewed as a hub of "retailtainment".



## Heart of Ilford Town

The Exchange Ilford is the main retail shopping mall in the town centre of Ilford, London. Opened in 1991, located opposite the train station, the Exchange comprises over 77 retailers including Department store: Debenhams and major national retailers: M&S, TK Maxx, Next, H&M, New Look, Wilko, Pandora, Sports Direct, and more. It welcomes an average footfall of 206,000 on a weekly basis plus the internal management and support staff.

In October 2017, a series of improvement phases at The Exchange commenced, with the aim to ensure the centre serves its local community as well as possible. Works included internal refurbishment and decluttering, the introduction of new pause points, improved parking with new dedicated parent parking zone, new toilets and parent & baby facilities, and a large free children's play area.



## The Car park

At the Exchange, the multi-storey car park offers just over 1,000 spaces, with an average dwell time of 1 hour, the car park handles a lot of traffic. So the decision was made to improve the lighting for this area. Not only to better the brightness and visibility, furthermore, to achieve an energy efficient way to light the multi-storey premise.



## The Scope

The full scope was for the **replacement of all florescent lighting on all six levels of the car park, emergency pathways, ramps and roof top, with energy efficient LED lighting, fitted with Passive Infra Red control for smarter daylight-saving.**

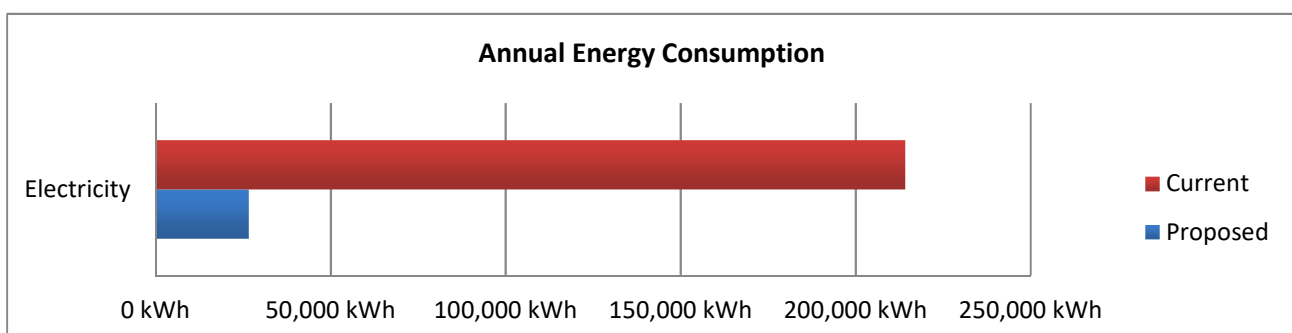
New light fittings to have **individual motion control with dimming/daylight saving capability.**

## Energy Consumption

The car park's fluorescent T5 lighting on levels 2 and 3 were operating on running costs in excess of £56,000 per annum. The light would be **in operation all hours** from opening to closing. The lights would be illuminated via simple BMS controls, at full capacity with no time out, dimming or daylight saving within the pre delivered time constraints. Within the 6 levels of the car parking, there are 1,000 customer parking spaces, goods loading bays, ramps linking the levels, roof top parking and emergency escape stairways. That needs a lot of energy!

The existing system had an estimated annual energy consumption exceeding 200,000kWh for each of the customer levels.

The new equipment proposed, with smart sensors fitted, is estimated to be **only 12% of this consumption rate.**





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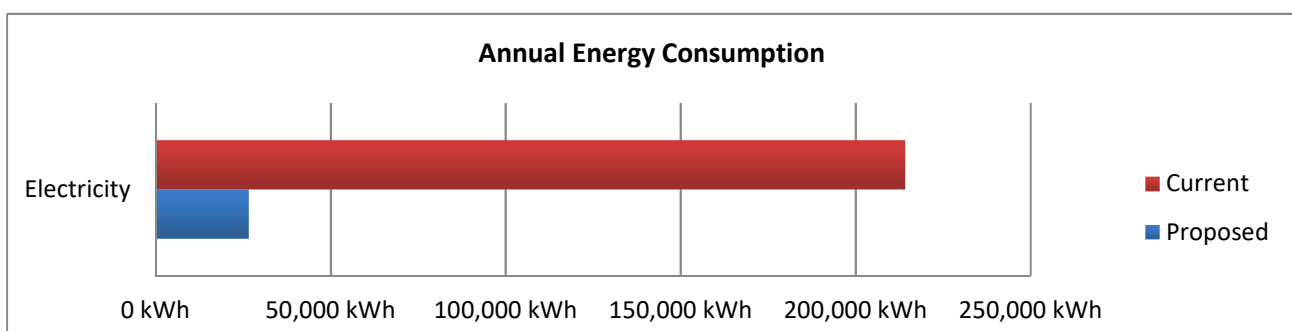
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## What we did

Once JCW completed the design and submission of the tender, works were signed off in stages. The first three stages are complete, commissioned and fully operational. Our responsibilities included:

- Tailored design to suit clients' specification for replacement.
- PIR control integral to the fitting, overall control via the existing BMS.
- Issue RAMS to client and obtain sign off permission for working parameters.
- Set up site with restricted access, signage and temporary task lighting.
- Remove existing equipment and leave for client disposal.
- Identify existing light fittings that are serviceable and mark for re-use.
- Isolate and make safe the lighting circuits.
- Test function and check lux levels in accordance with CIBSE guidelines, and client specification.
  - 75-100 lux in parking bays and vehicle lanes.
  - Test installation and complete test certificates

## Key Facts

- Completed works value circa £100k
  - Loading Bay 1 – 1500sq metres
  - Loading Bay 2 – 1000sq metres
  - Customer Car Park level 2 & 3
- PIR control set at, as recommend and agreed with management:
  - Sensors on detection of movement > Light on 0% to 100%>
  - Sensor detects no movement after 5 minutes > Lights dims 100% to 10% >
  - Sensor detects no movement after 1 hour > Lights turn off 10% to 0%.
- Customer Car Park level 1a, 4, 5, 5a, emergency pathways and roof are due to be signed off
- Completed within planned time and night working
- Proposed saving of approx. 50+%
- Project payback period at 1.36 years by calculation



# Challenges

The original plan was for all works to be carried out, out of hours during the night, to keep disruption to the car park to a minimum. However, after the level of noise from the drilling became an issue. Our Project Manager switched up the plans for all noisy works to be carried out in the afternoon during normal working hours, and the quieter fitting works to be continued into the night. This made it more manageable for our work force as well as appeasing our customer by reducing night time noise levels.

# Conclusion

Customer of the Exchange are already benefiting from the most frequent used levels during this busy holiday season for shopping, but we are only half way there with further car park levels, emergency pathways and ramps to complete.

Moving forward from this half way point, our team have worked out ways to **reduce** the **installation completion** time, to select the **best equipment** for **tailored** needs and ways to keep **disruption** to a **minimum**.

JCW hope projects like these pave the way for all shopping centres, shopping parks and multi-storey car parks to take the LED route and start reducing their energy consumption drastically, while providing reliable, well lit and a safer environment for their visitors.

# Would you like to read more?



## Sharing our industry expertise

As a **specialist provider** of mechanical and electrical maintenance and installation services we are a **hub of industry knowledge** and experience and we often asked for advice and guidance from our clients. We believe in giving **added value** to every customer, every visit and always on the extra mile. As part of our service we began to publish a range of **world eBooks** for our customers, each providing information on **legislation, compliance requirements and hints and tips** on general good practice with regard to installations and asset maintenance.

We are delighted to share these with you, for **free**, all available in one area of our website. So, welcome to our new **JCW Publications** page.

We hope that our **shared knowledge** will help you to **more proactively and preventative** with regard to your buildings assets and that this in turn will help your **competitiveness** save time and money.

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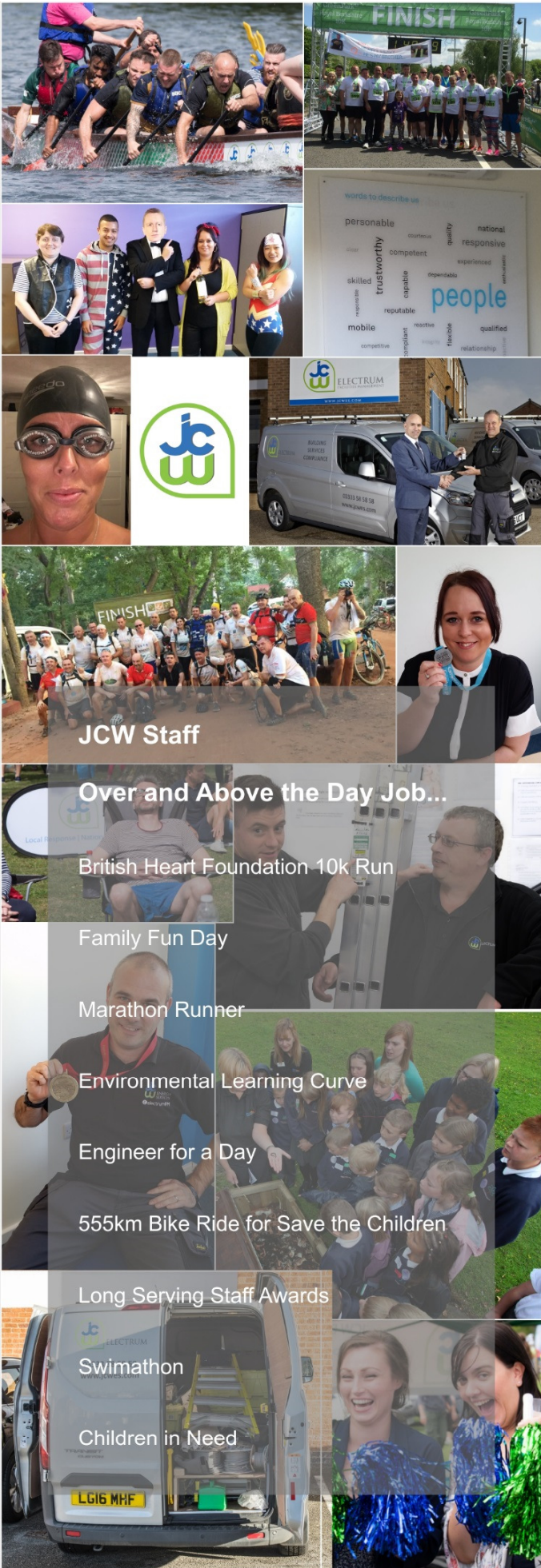
- Current **legislation** with regard to HFC gases (Hydro-Fluoro-Carbon)
- The **differences** in refrigerant availability
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We provide complete project management, installation, in house maintenance and tailored managed solutions to a broad range of clients across the UK.

We are a national mechanical and electrical building service provider, offering integrated planned preventative as well as reactive maintenance services across all property portfolios.

Although JCW Energy Services Limited in its current form is a relatively new company, the group has history within the industry dating back to 1903.

Today JCW is in a unique position where it not only employs nearly 200 dedicated staff but also can offer mechanical and electrical services with an equal amount of engineers within each discipline. This means that we can self deliver hard services nationally through our mobile engineering workforce as well as provide full project management and installation services through our network of six offices.

Our offices are strategically placed and take ownership of their areas customers to provide a fast, reliable, local service. Our engineers are fully qualified, have a wealth of experience, are accommodating and genuinely care about the work they conduct and the service they provide.

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