

**Title: “Ageless Engineering”**

**Presentation by Christopher McCarthy of  
Battle McCarthy Consulting Engineers and Landscape Architects**

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## **Profile – Christopher McCarthy**

Christopher McCarthy co-founder of the international multi-disciplinary practice Battle McCarthy, is a well-renowned Civil/Structural Engineer in his field; he is responsible for Sustainable Masterplanning and Building Engineering. Christopher has been practising in his field for almost 25 years, where he commenced his first fifteen years at Ove Arup and Partners. In the pursuit of interdisciplinary design with the desire and passion to promote sustainability, Christopher left Ove Arup with Guy Battle and set up Battle McCarthy. The practice has recently completed over a decade of its existence and it continues to go from strength to strength. The practice is unique in combining the disciplines it offers and by doing so, it successfully integrates and delivers the services as a single entity rather than as packages. The success of their work is seen in their recent commission of the Freedom Tower in New York, The UK Government Home Office, Greenwich Millennium Village, The Point at Paddington Basin, the new Centrica call centre in Edinburgh, New Malaysian Bank Headquarters and the current mixed-use regeneration at Elephant & Castle in London.

The practice has also set up a separate company called ECOS, which specialises in housing for special needs and utilises sustainable off site manufacturing processes worldwide.

## **Presentation**

The subject on ageing or “ageless” is something we all become aware of overtime. Of course it is an inevitable part of an ongoing process of our lives, something the majority of us will or will be experiencing. Something we have to face. A process that has become all too familiar and predictable.

Engineers akin to many other professions are faced with the challenges of the prolonged span of human lives. As I am sure you will appreciate it is an infinite discussion that cannot be tackled in such a short space of time. However, each profession does have the ability to narrow the challenges on this subject to their individual areas of expertise and debate it out accordingly. As Engineers, we are increasingly confronted with challenges in our ever changing environment and in today’s society, we are confronted with dealing on how to support growing human need with the utilisation of technological opportunities.

Engineering is a discipline about the future, the forward thinking of how buildings sustain the longevity of its life, which is contributed by the health and feel good factor of the occupants by providing location, space, heating, shading, cooling, well being and comfort for the occupants. Vice versa, the same process can be applied to “Ageless Engineering” where we aim to increase the longevity and quality of the expectation of life by the utilisation of technological opportunities.

However, although the engineer at the optimum level is trying to achieve “Best Value Engineering” it is inevitably hurdled by a process, which is embedded with barriers. This eventually affects the service the engineer may provide to the end user. Incidentally, it really does not matter if we are looking at a Masterplan or the plans for a building, the same process applies and it will be up against the same blocks.

It is difficult to solve the hurdles and we recognise this as part of life during our ageing wisdom. However, our profession recognises increasingly that we are here to aid and preserve the well-being of the individual both at the community and society at large. We are here to strengthen the process by how we skilfully use the art of

engineering which is innovative and sustainable. The engineer is using his/her “ingenium” to obtain Best Value Engineering and to create “Ageless Engineering” in support of human need.

Applying sustainability, innovation and ingenium for an ageing population can be a beautiful and meaningful process and not necessarily “mechanical” in its approach.

In today’s highly powered technological society, we are able to apply such techniques to the masterplanning and Environmental Impact Assessment process where we can make it a meaningful process, that is thought provoking, innovative, sustainable and “beautiful”.

If we look at the history of the Victorians, we see that there was a noticeable movement from the country to town areas. Urban growth was made within Engineering Infrastructure Capacity limits. The UDP is used by Local Authorities to influence how the growth of their areas of responsibility is managed.

We then had the first Rio Conference more than a decade ago, which made it very clear that we had to analyse changes at the grass roots level and learn the needs of the local citizen. Subsequently to the Rio conferences, the United Nations has introduced various Directives where the impact to the economic, environmental and social environment is considered at the local level and the needs of the local population and limits are seriously taken into consideration. This process has been packaged by the EU in what is most commonly called the Environmental Impact Assessment (EIA), which is part of Local Authority procedures. The EIA is a very complex process dependent on engineering ability to predict the future with the aid of advanced analytical tools.

Who’s to say that the same process can’t be extended to the impact of ageing care in the masterplanning process. This is implemented by measuring the benefit of being able to release patients from hospitals to return earlier to the community or to their homes, where an environment is established to speed recovery in support of human need.

### **Case Study: Elephant & Castle**

For the past three years, Battle McCarthy has been the Sustainable Consultants for the £1.5 Billion Elephant & Castle project in London. Elephant & Castle is principally about the urban regeneration of the local environment dealing with economic, social and environmental issues. We looked at the needs of the elderly as well as those with special needs as part of the whole masterplanning process. To accommodate the needs of the variety of end users, the ideal concept of a mixed use development was promoted.

### **Wansey Street: Demonstration Project**

Following on from Elephant & Castle, Battle McCarthy have taken a step further and are working on a demonstration project consisting of a row of terrace houses.