

## 10: Current Practice: Opportunities, Inspirations and Constraints

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I am one of the directors of PCKO. For those who do not know me I am very proud to say that the practice won the Architect of the Year in Residential Developments in 2005 and was shortlisted by *Building* in 2007. I have limited influence on the policies but we work very closely with our clients and the industry to see how we can address the policies in inspirational design and how to meet the budget expectations and requirements. Following from the morning presentation when our colleague from Chile said that the residents and the clients can only afford half of the house, I have to say that most of our clients can only afford half of the house as well and we spend the time trying to work out which half to design to make it successful.

I am pleased to say that my practice won this year's historic housing award for our first scheme in Crystal Palace, built as a result of a competition in 1981. What I am going to do today is tell you a little bit about the Crystal Palace scheme because it still remains as PCKO's manifesto. I will also try to show you a little bit of the research that our practice does into understanding the implications of the many regulations and seeing how we can implement them and use them as an inspiration in our design solution. I will also show you a couple of slides from abroad to show how we can learn from those countries where high densities have been implemented and what lessons can be brought back to the UK.

As I mentioned, the Crystal Palace Housing scheme was an open RIBA competition and as youngsters Peter and I and a couple of friends won the first prize and built the scheme in 1981. It was probably the first scheme in the UK implementing passive solar energy principles, but that was not really the key driver for us at the time. The key driver was how to create really attractive and fantastic accommodation for the residents, particularly in the English climate. How to use the benefit of light and sun, how to introduce the fantastic feature of a conservatory which I always think is magical in the English climate. In hot climates it is too hot and in cold climates it is too cold, but in England it always provides a very optimistic and pleasant environment to be in. In terms of energy consumption it provides a very useful buffer space and useful accumulation space for energy gains.


The houses were all oriented south and so were the gardens. The north elevation was the access elevation and each house has got a double storey conservatory, accessible from both the downstairs rooms and the upstairs rooms. The same element, but single storey was used as a porch at the rear elevation. A lot of principles that we would have to introduce as a result of the code for sustainable homes, like porches back and front and the orientation and insulation and passive solar gains were implemented in our design for the Crystal Palace scheme shown in illustration 1.



*Illustration 1: Crystal Palace housing scheme - double height conservatories*

What was perhaps unique, and it came from our ignorance about the design of housing at the time, was the fact that the gardens were completely open. They were open through the access space to the houses in the next row, so people going to their own houses were looking into the gardens of the others. We were told this would never work, people will build high fences and sheds and so on, but that never happened. In fact recently, after winning the historic award Design for Homes, we prepared a short video film about the winning examples and we visited Crystal Palace again. We found that most of the residents who bought the houses 25 years ago are still living there; in fact only three people left and those three people sold their houses to their children, so it was quite an amazing example of maintaining the same community.

I would like now to talk a little bit about our research. As you can see in illustration 2 I have listed a number of issues and a number of regulations that we have to comply with. England is a very highly regulated country; we have the highest number of security cameras and the highest number of regulations. The intention of the regulations is always good, it is always positive, so we always try and build to the regulations and see what boxes we have to tick, while trying to be governed by common sense – that yellow highlighted clause at the bottom of illustration 2. The overriding principle should always be common sense and the desire to create architecture which is the architecture of the place and to respond to people's dreams and aspirations. If we can comply with all the regulations at the same time, that is fine.



### Drivers For Change

- Market / Cost
- Consumer expectations
- Branding / Marketing
- Fashions / Pressures

### Logistics

- Planning Policies / Statutory Authorities Requirements, Highways, Refuse, etc...
- Building regulations
- Lifetime Homes Pressure on space?

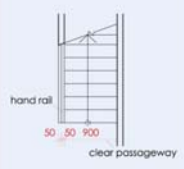
### Code of Sustainable Homes

- Light / natural light / orientation
- Insulation, glazing
- Ventilation / tightness
- Porch
- Laundry / Drying Space
- Plant, technology, energy
- Renewables (solar panels / PV / water collection / etc)
- Refuse recycling
- Storage (bicycles)

•**Common Sense** – to create architecture of the place to respond to people's dreams and aspirations

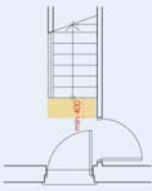
#### STANDARD DIMENSION

Lifetime Homes

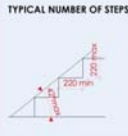


#### SAFE LANDING PASSAGE

Part K



#### TYPICAL NUMBER OF STEPS: 13




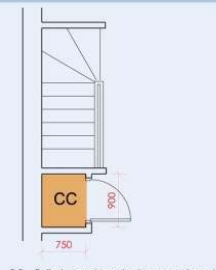


Illustration 2: Rules and regulations

In most cases the new regulations require more space – for example illustration 3 shows that corridors have to be between 1050 mm and 1200 mm rather than 800 mm as we used to do in the old days. Access areas have to accommodate the 300 mm leading edge and so on and so forth. The sizes of the accessible toilets are huge, the kitchens have to be bigger, everything grows; everything requires more space. The requirement of our clients is to see how we can accommodate and achieve a good standard without increasing the footprint, because obviously the footprint is the cost, so how do we make it work?

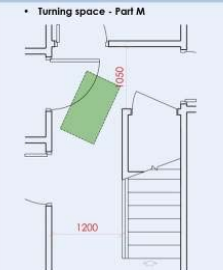
#### SPACE UTILITY



CC - Cylinder cupboard solar convert model

#### CORRIDOR

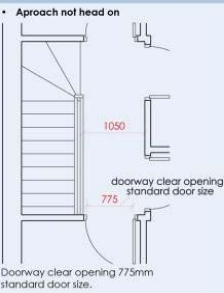
- Turning space - Part M



#### CORRIDOR / DOOR

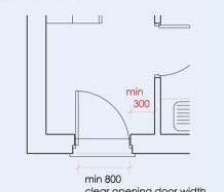
Part M

- Approach not head on



Doorway clear opening 775mm standard door size.

#### DOOR - Part M



#### Summary

1. Corridors are wider
2. Clear openings of doors are wider.
3. Space required adjacent to door leading edge.
4. Standard door sizes:  
(Imperial) 838 x 1981  
(Imperial) 686 x 1981

Illustration 3: some of the new regulations for space

A lot of areas in our design have been looked at from the point of view of different or alternative functions like, for example, the big toilet can be used as a storage space, as a laundry, as a plant room - in the more upmarket housing it can be converted into a sauna or jacuzzi. We always thought that every house should have a large area of storage so rather than thinking that we need to have a large toilet, we designed a large pantry/laundry/storage or whatever.

Similarly, those large circulation areas which are required by adaptability and mobility standards could be used very easily for other functions like a play space, like computer space, like gossiping space for the ladies in pink, but in most places it can also be used as a double volume, as an open gallery. Very often in our design we increase that central part of the house in order to get the added attraction but also the added value of the light and sun penetrating into the depths of the plan, into the area which is normally dark and not very interesting. So there is tremendous scope for using the regulations or the indications of the regulations as an inspiration for the design.

It is very difficult in small units and illustration 4 shows one of the plans that we submitted for our winning scheme for the £60K competition. We then developed it into the Ikea house concept and affordable housing in Wales.



*Illustration 4: PCKO's plans for the £60k house*

The basic concept is really to see how flexible the plan can be and how the elements of the plan can be used in the most imaginative way, so the flexibility is based on the fact that we do not have any load-bearing partitions, that the space can be sub-divided using storage – like the spaces in an Ikea store – and that sort of storage is manufactured by a lot of affordable furniture manufacturers nowadays. To design the staircase as something really interesting and doing something else –providing storage, providing laundry, providing a sculpture, a feature to the house, an attraction to the design – as Andy and Walter have shown in their schemes before (Symposium papers 05 & 06).

However, there are limits to what we can do within a given area and obviously if we add all the floor areas of all the ancillary spaces for storage and porches and everything else and the sum is higher than the floor area of the house, then we have a problem.

In all these schemes we try to add a very strong lifetime factor – I mentioned those galleries that send light into the centre of the house, that was very much the case in both houses that were designed for the £60K competition, but we have a problem with the three-storey structure because then we come to the point of having to provide the fire-rated enclosure for the staircase. That is where the space parameters have to grow and where the key elements of the attraction would suffer.

The obvious way to go with the zero carbon house was to provide an upside-down house where the bedroom accommodation is on the ground floor which can also accommodate the porches, the plant room area, the drying facility and the large bathroom accessible to the disabled user, and then put the living accommodation on the upper floors. This uses the space to the best advantage. It is not a new idea. The BRE light house by Kingspan at the BRE is representing the same principle.

Our winning design for the David Wilson Homes competition shown in illustration 5 accommodated the assumption that on the ground floor we need a lot more area and therefore we stretched the ground floor and provided the glass space in the middle of the house, moving apart the accommodation on the first floor. The scheme built by Barratt has won this year's *Daily Mail* award and is short listed for the Leaf Award this year.



*Illustration 5: PCKO's winning design for David Wilson Homes competition*

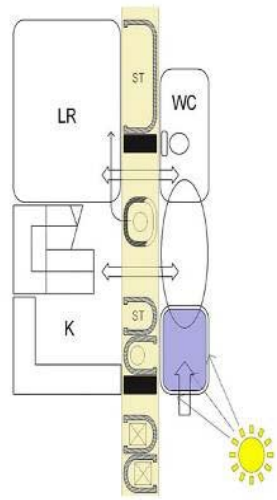
The plan I just indicated is incorporating the zone where all the vertical circulation is located. The spaces above the ground floor bedrooms can overlook the central court, creating a fantastic environment and a feature in the centre of the plan. The house can be reversed so it can have three storeys in front or two storeys in front, so in the urban environment it can create a very strong urban edge and in the rural environment it can be sympathetic to the scale of the development, creating an interesting skyline. Illustration 6 shows the central space of the house and the outside which is fairly defensible; it provides good surveillance but at the same time it creates good privacy for the resident since everything is opening into that wonderful central space.



*Illustration 6: the central space in the house and the outside*

Illustration 7 shows the development of our living wall concept where all the services in the house are located along one zone and provide the flexibility for the future use of technologies which will become available and affordable, like for example the water recycling system, central hoovers and so forth.

• LIVING WALL CONCEPT - HOUSES



- Living Wall - a dedicated service zone running from the front to the rear of the house and manifesting itself on the elevation.
- Accommodates and distributes all horizontal and vertical services runs and plant
- Wet rooms adjacent to or extending into the living wall allow for direct service connections
- Centralised, all-house ventilation system
- Adjacent sunspaces provide opportunities for solar gains absorption and redistribution
- External interface refuse storage, utility metres, extracts and flue outlets
- Potential for green water recycling
- Provides space and potential for future upgrade and technology.



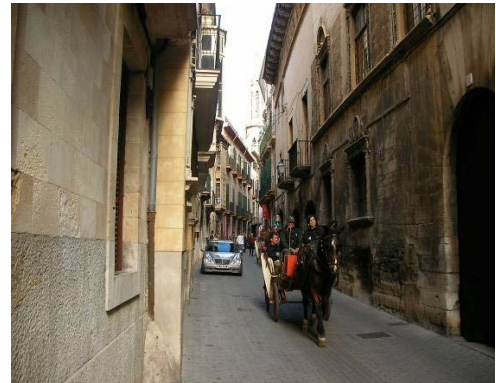
*Illustration 7: the living wall*

The living wall is expressed on the outside face of the house. The amenity space is in the form of the double wall, the glazed walls, balconies and sun spaces – again something that we did in Crystal Palace 25 years ago is still alive and healthy in relation to the blocks of apartments.

This living wall is also extending as a storage space and a recycling space. Refuse disposal becomes a huge element, especially at high densities and the distances – how far we can carry the rubbish and how far the people who collect it are prepared to walk towards it and so on. In the existing environment it does create a serious problem: every dwelling has got three bins, they create the entrance area to the flat, and that is certainly not satisfactory. That is in the scale of the urban environment, the frontage of our street nowadays is shown in illustration 8 and we are reaching the sort of saturation point where we know that something has got to be done. It can be done – the Spanish city in illustrations 9 & 10 obviously sorted out the problem by utilising the L-Vac refuse system and so the streets are returned to the use of the residents.



*Illustration 8: street frontage in the UK*



*Illustration 9: street frontage in Spain*



*Illustration 10: utilising the L-Vac refuse system in a Spanish city*

We have not got a problem in creating a fantastic environment, the only problem is the highways and the refuse and the amenity that is left. In terms of the arrangement of spaces we really have to be very clear about keeping the public domain as an attractive environment and the private domain, which is the amenity, as a really good amenity space rather than mixing the two and not providing either.



*Illustration 11: The Radial, Wandsworth*

Our scheme in Wandsworth (illustration 11) again created the regeneration of the urban block. The amenity space is recessed creating privacy and the ultimate conditions for the residents. Obviously, internally we have the urban environment of a clearly residential character where we have peace, quiet and rest from the

city (illustration 12), but the cars, all the plant and everything else is underground under the scheme. The basement is completely impermeable to water.



*Illustration 12: peace and quiet*

What is important to remember, because several speakers mentioned it earlier, is that the cost of building in Europe is lower and the floor areas are higher. Very often the floor areas are given together with the basement and when they ask people in Germany “How can you build for €800 per square metre they say “Oh, but that includes the basement.” The basement is obviously a very cheap area whereas in the UK it is a very expensive area.

The last picture is just showing the importance of balance between the quality of the external urban environment and the quality of the amenity space. That environment really has to be based on common sense good use of the regulations as an intention, but not just ticking boxes. That environment cannot be created by the indication given by the size of the refuse lorry; it has to be created by common sense.

