



COMDECK 

Cutting costs with fast foundations



ABBAY PYNFORD



Comdeck is our patented piled raft foundation and ground floor system for commercial structures. Comdeck offers cost and programme certainty, and is safer and more environmentally friendly than traditional methods.

#### Benefits



**Cost certainty** - By reducing the programme, prelims and eradicating the elements stated to the right, we can offer cost certainty for your project.



**Faster** - Comdeck is up to 70% faster than traditional methods and offers improved program certainty.



**Safer** - Comdeck has many features that enhance a safer environment on site, and comes with warranty provider approval: NHBC, Premier Guarantee and LABC.



**Less environmental impact** - Comdeck uses less concrete, requires less spoil removal, and significantly reduced vehicle and plant movement. Reducing the carbon footprint of your site.

#### Comdeck does not require the following elements:

- ▶ Piling mats (in 95% of projects)
- ▶ Excavations for ground beams
- ▶ Ground beam construction
- ▶ Pre-cast floor
- ▶ Sub-structure brickwork blinding within footprint
- ▶ Resources to manage the above







Comdeck is suited to almost all commercial projects and replaces the need for traditional strip foundations and pile and beam. It can cater for the required loads and building techniques of low to mid-rise structures. It is suitable for all types of construction, such as timber frame, sealed panels or modular. Adding hold down bolts and starter bars can also be incorporated within the slab design.

Comdeck can be built on bored, driven, helical or displacement piles, vibro stone columns and other forms of improved ground. We offer either a ground bearing slab, or a suspended clear voided system to cater for heave risk or potential gas presence. Pile positions are designed to support either RC frame columns or steel.

Comdeck primarily cuts costs by removing the need for piling mats and ground beams. This reduces the cost of excavation, spoil removal and piling mat and beam construction. Due to the use of a uniformly thick raft slab Comdeck also requires a reduced drainage depth and significantly less underbuild. Ground treatment solutions are also available which could negate the need for piling. By removing these process

you can save time on site and the associated management costs.

By doing away with these elements we can cut time on site by up to 70% and reduce mobilisation time. Comdeck also allows you to commence construction on adjacent slabs.

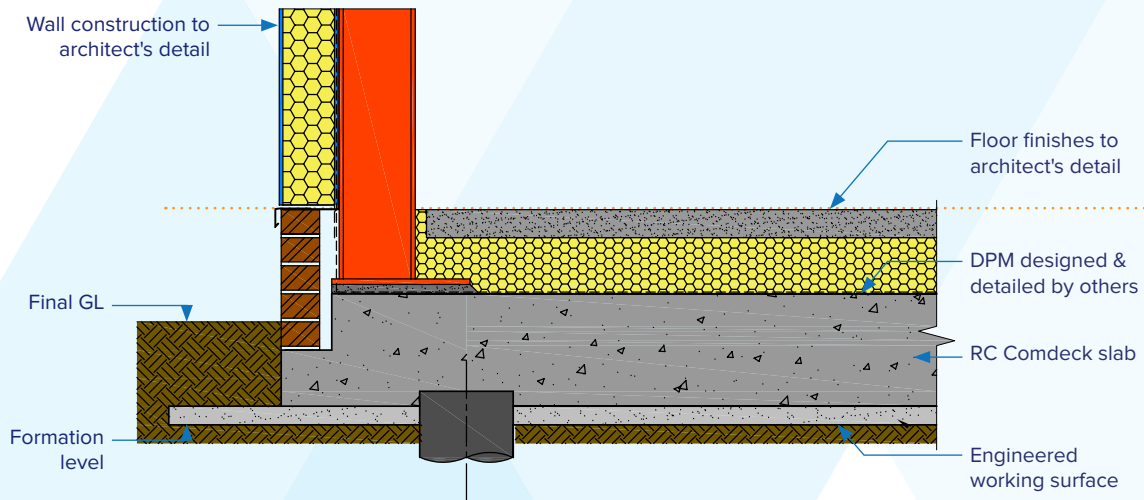
In removing these traditional processes we can make your site safer. Comdeck requires minimal manual handling; minimal trip hazards; no open excavations; no overhead cranes and reduced plant movement.

Comdeck is also more environmentally friendly than traditional methods. We achieve this by using less concrete and greatly reduced excavation, saving a huge amount of spoil from landfill. By typically using less concrete and minimal excavations we have less vehicle and plant movement, significantly reducing our CO2 emissions.

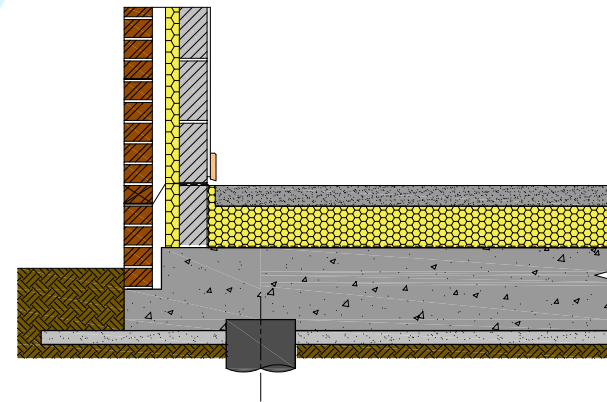
Comdeck is BBA certified and warranty provider approved: NHBC, Premier Guarantee and LABC. All engineered solutions are fully underwritten.

# Typical Comdeck details\_

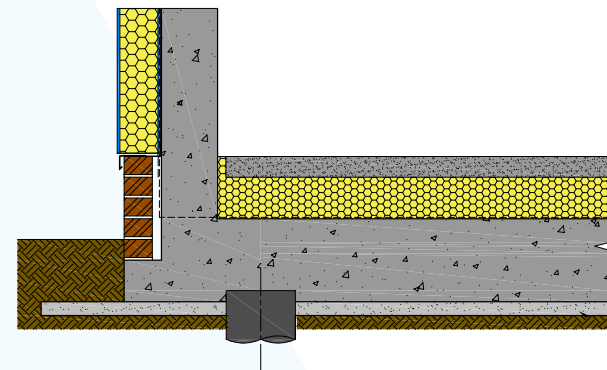
## Typical Comdeck non voided piled raft



**Non voided.**  
**Steel superstructure**  
Typically for schools & hospitals.



**Non voided.**  
**Masonry superstructure**  
Typically for care homes and apartment blocks.

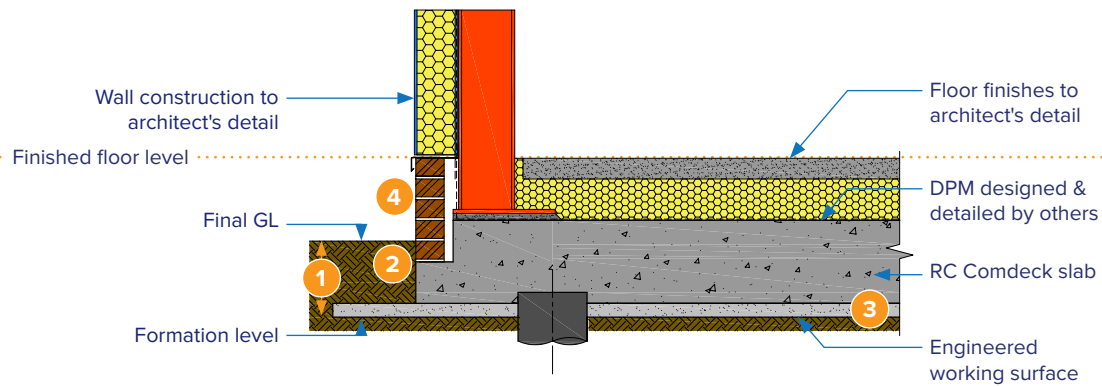


**Non voided.**  
**Reinforced concrete superstructure**  
Typically for schools and hospitals.



# Comdeck comparison\_

## Typical Comdeck non voided piled raft

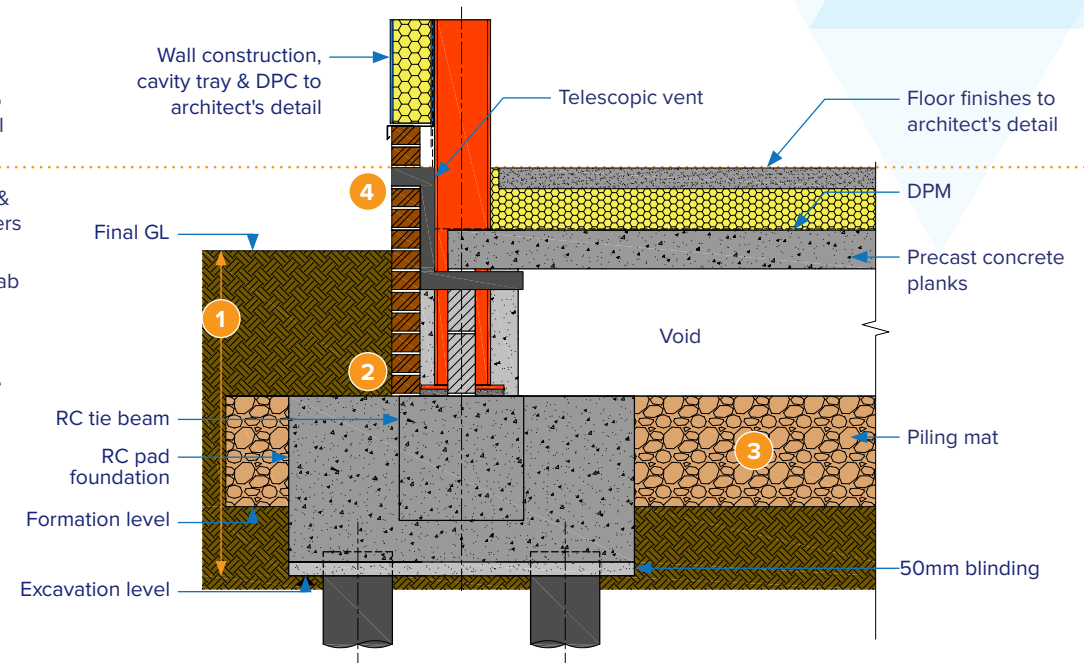


### Benefits of Comdeck:

- 1 Significant reduction in excavation.
- 2 Significant reduction in under build.
- 3 Engineered working surface in place of piling mat.
- 4 No venting required.

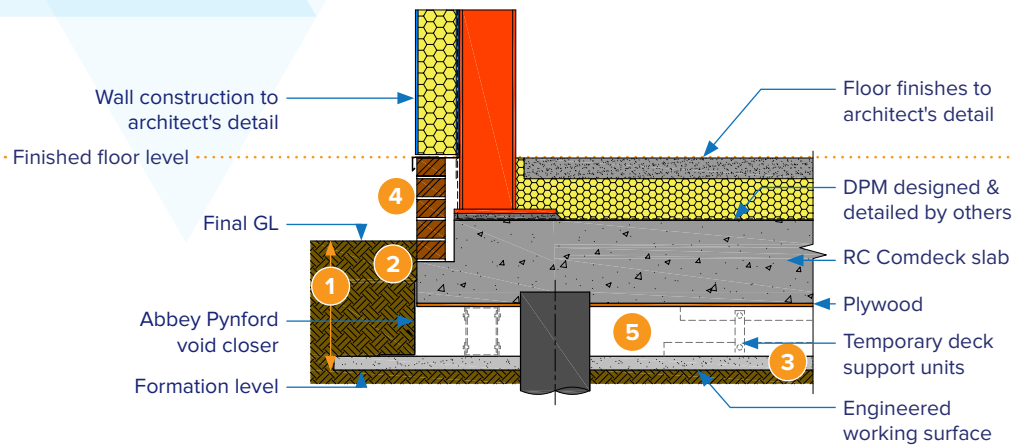
## Traditional pile and beam

Piled, in situ RC pads & beams foundation with precast concrete plank floor



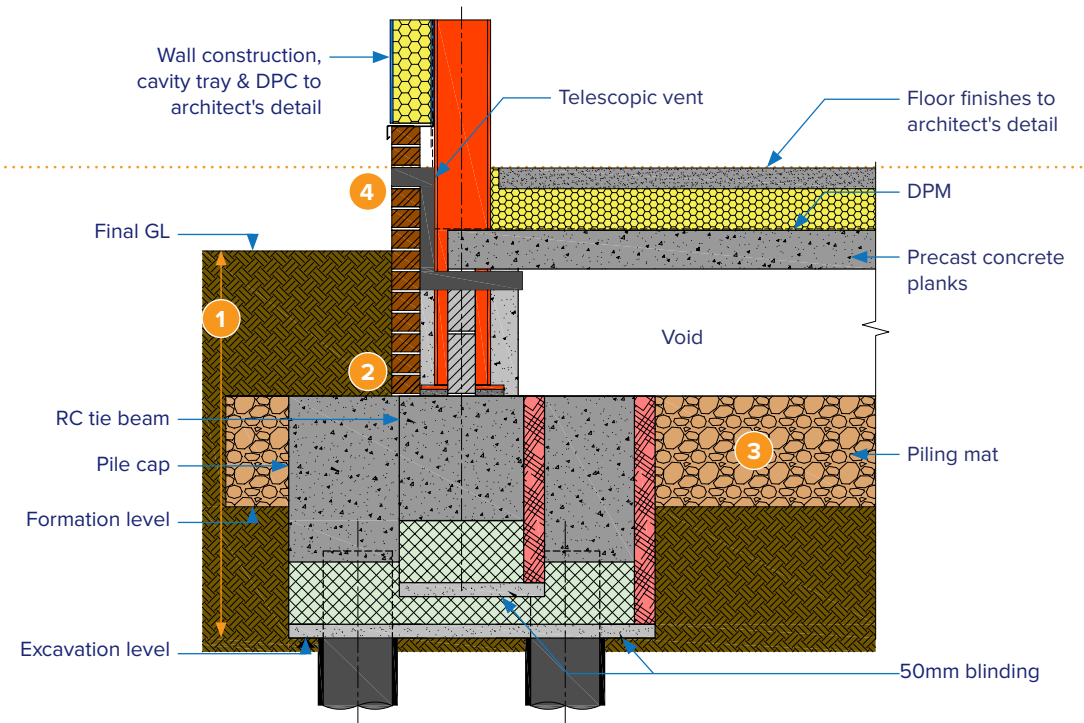
# Comdeck comparison for heave susceptible soils\_

## Typical Comdeck voided piled raft



## Traditional pile and beam

Piled, in situ RC pad & beam foundation with precast concrete plank floor for heave susceptible soils

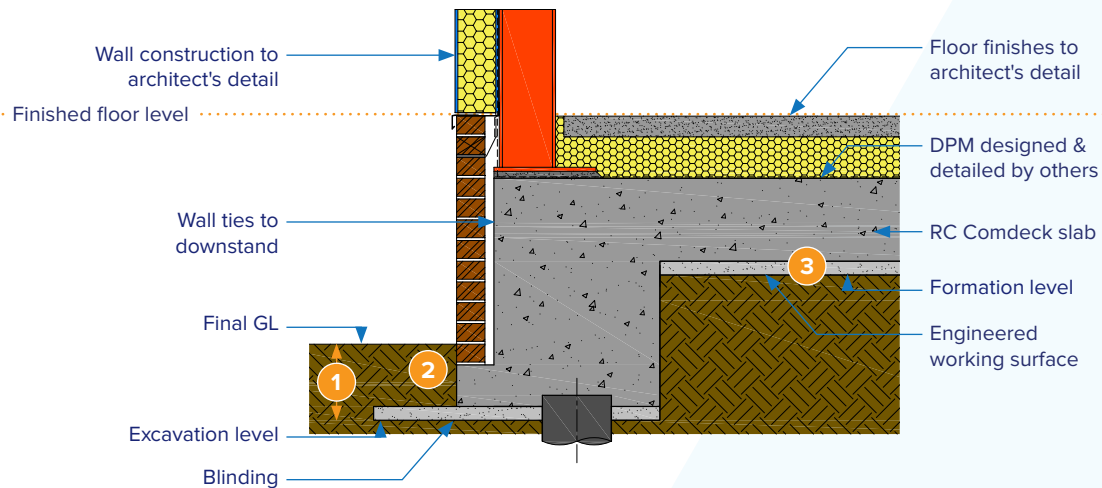


### Benefits of Comdeck:

- 1 Significant reduction in excavation.
- 2 Significant reduction in under build.
- 3 Engineered working surface in place of piling mat.
- 4 No venting required.
- 5 Clear void to mitigate heave risk.

# Comdeck comparison with underbuild\_

## Typical Comdeck piled raft with downstand

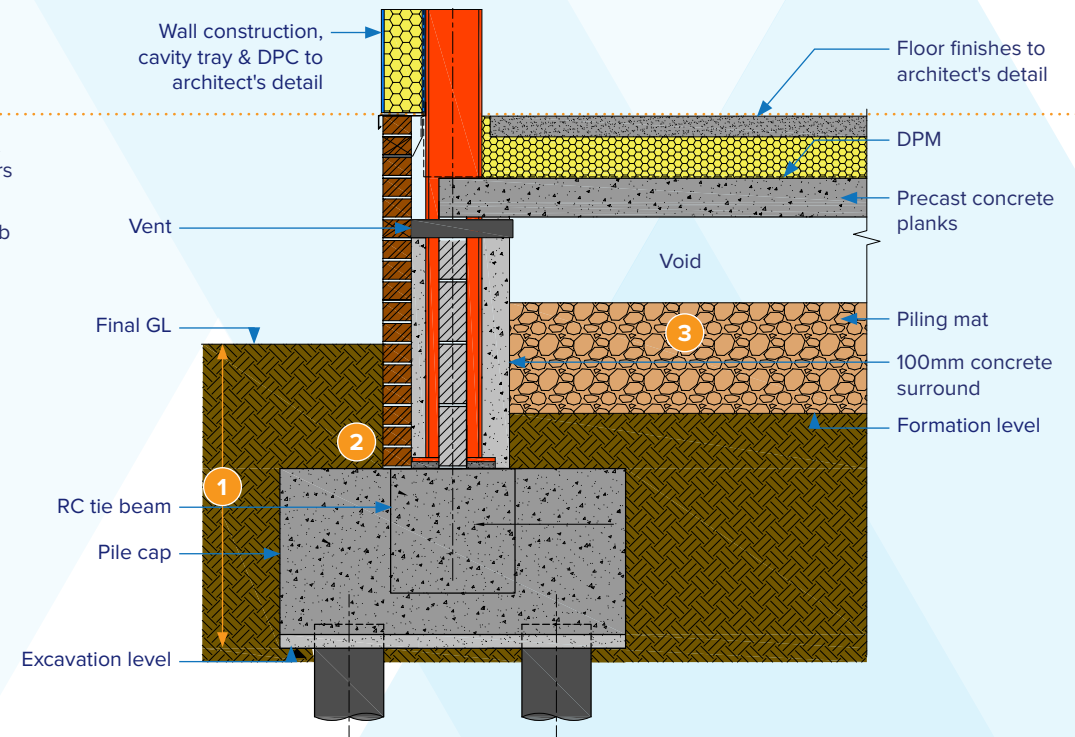


### Benefits of Comdeck:

- 1 Significant reduction in excavation.
- 2 Significant reduction in under build.
- 3 Engineered working surface in place of piling mat.

## Traditional pile and beam

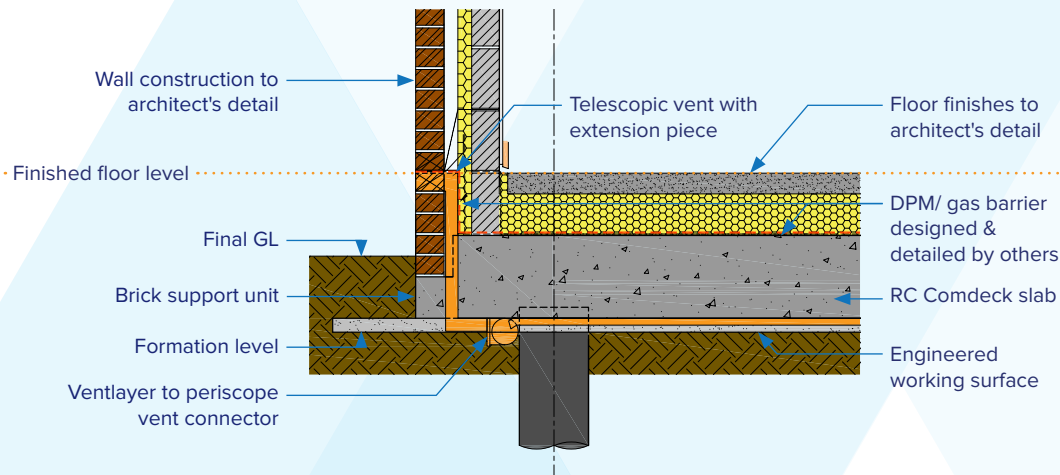
Piled, in situ RC pads & beams foundation with precast concrete plant floor



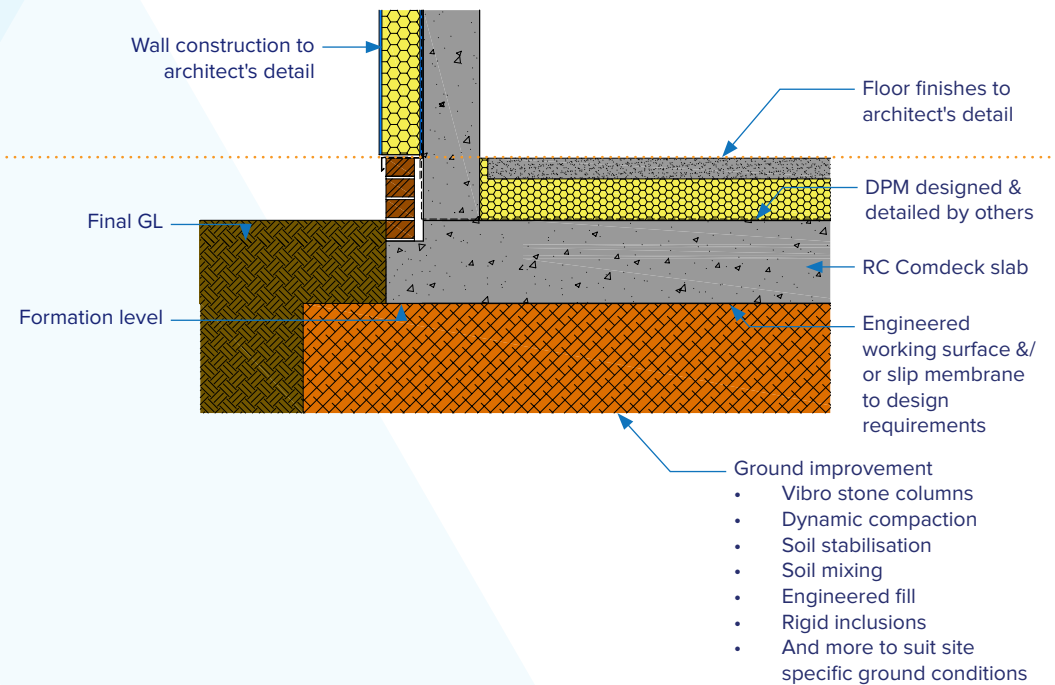


# Comdeck for gas venting & improved ground\_

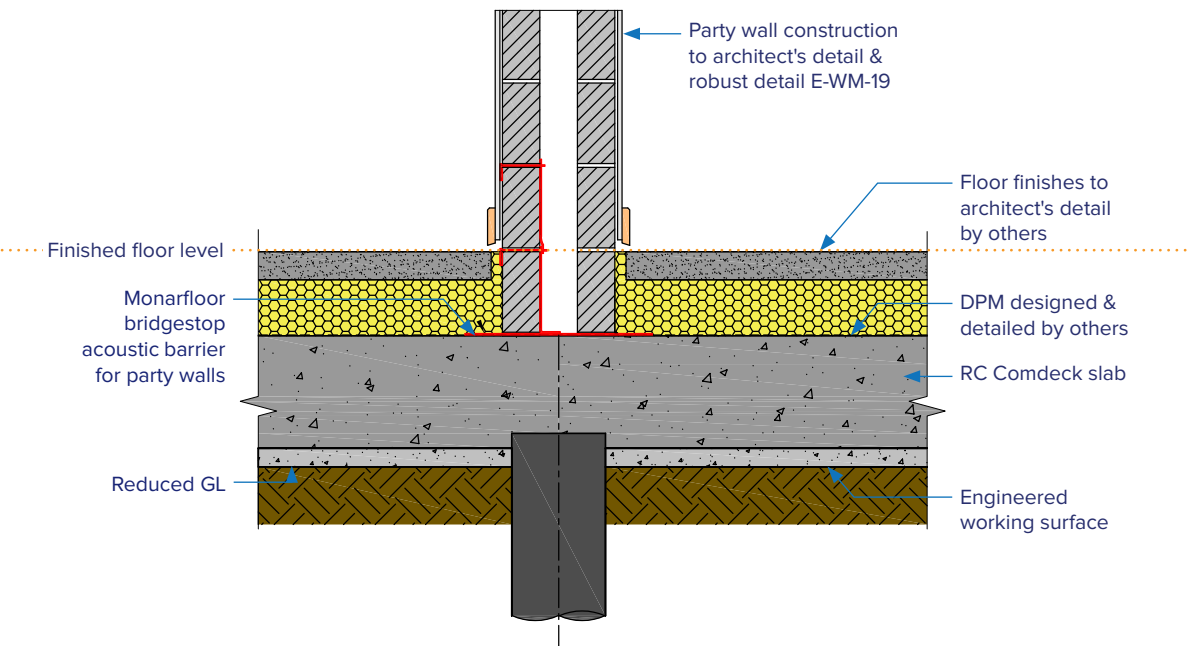
## Typical Comdeck piled raft for gas venting system



## Typical Comdeck ground bearing raft on improved ground

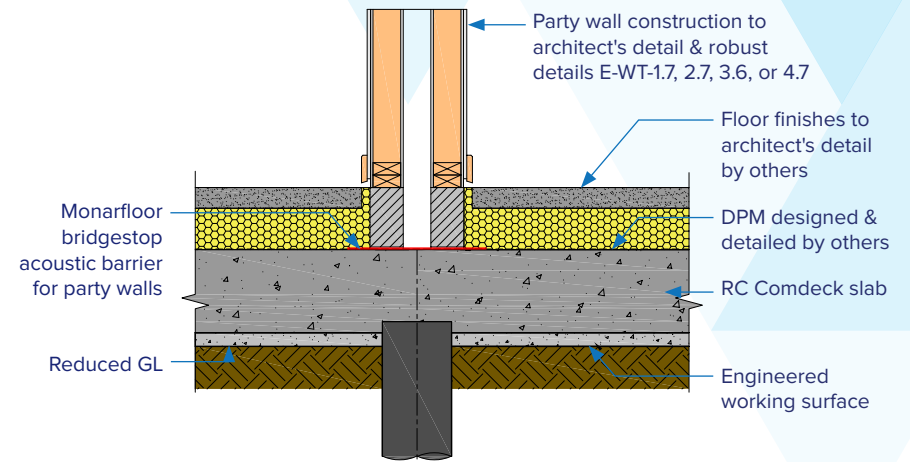


# Comdeck indicative wall details\_



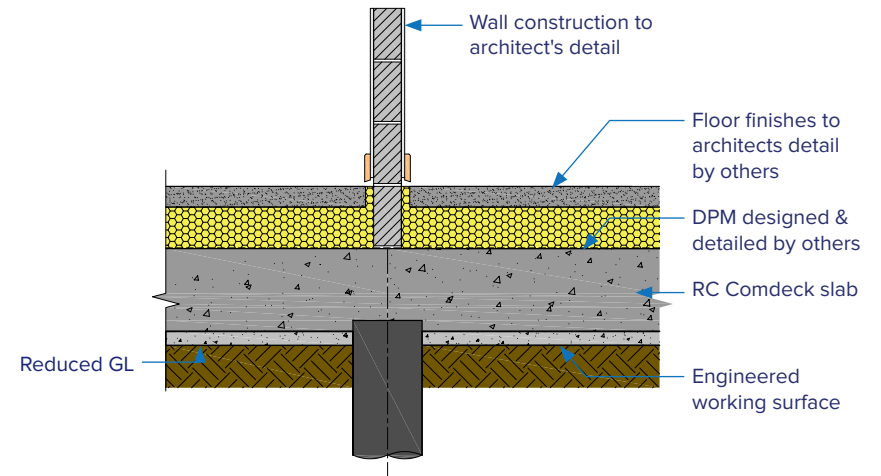
## Comdeck party wall detail Block construction

Robust details are part E compliant.



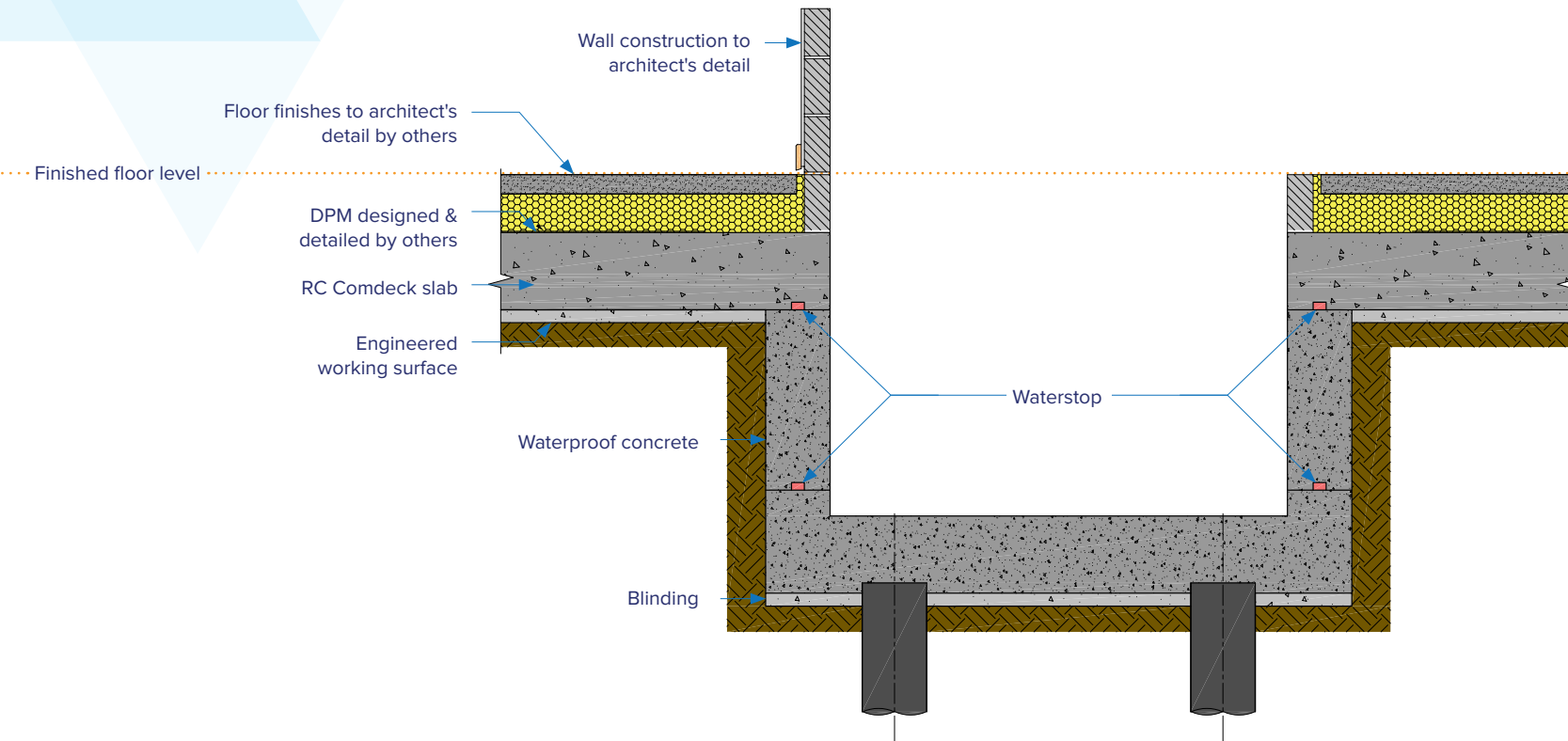
## Comdeck party wall detail Timber construction

Robust details are part E compliant.



## Internal load bearing wall detail

# Comdeck lift pit detail\_







Treesafe is our patented foundation system that allows construction close to or within a tree Root Protection Area (RPA).

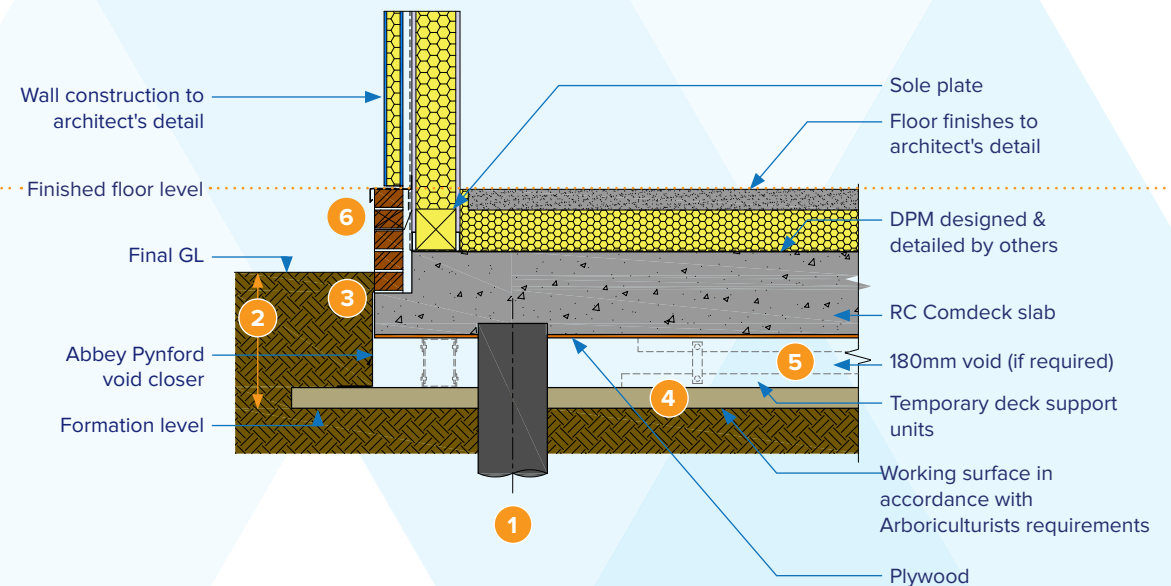
Treesafe prevents damage to tree roots in a number of ways, such as using hand augering techniques to identify any roots that may conflict with the proposed pile locations. We use a bespoke working surface to support our custom lightweight piling rigs and take precautions to prevent concrete leaching into the protected ground. This system is approved by Arboriculturists.

By preventing damage in RPA, Treesafe provides an opportunity to increase the footprint of your site.

Treesafe is a version of our Comdeck system, which is BBA certified and warranty provider approved: NHBC, Premier Guarantee and LABC. All engineered solutions are fully underwritten.

### Benefits of Treesafe:

- 1 Allows construction of buildings within RPA.
- 2 Significant reduction in excavation.
- 3 Significant reduction in under build.
- 4 Open core deck system in place of piling mat.
- 5 Clear void to mitigate heave risk.
- 6 No venting required.



# Construction process\_

## Stages of typical slab build



### Reduced Level Dig

We start by re-levelling or excavating to the formation level of the plot area, plus 1m around the perimeter, to allow for the engineered working surface.



### Setting Out

The pile locations are then set out according to the Abbey Pynford design. To increase piling accuracy, we use pile formers to help guide the pile installation.



### Working Surface

The engineered working surface is then installed to the plot size. This replaces the need for a traditional piling mat.



### Piling

Once the working surface is cured, the piles are installed. We offer various piling techniques to suit any project.



### Drainage & Services

Next the drainage and services are installed. This can be done by us or the client, project dependant.



### Pile trimming

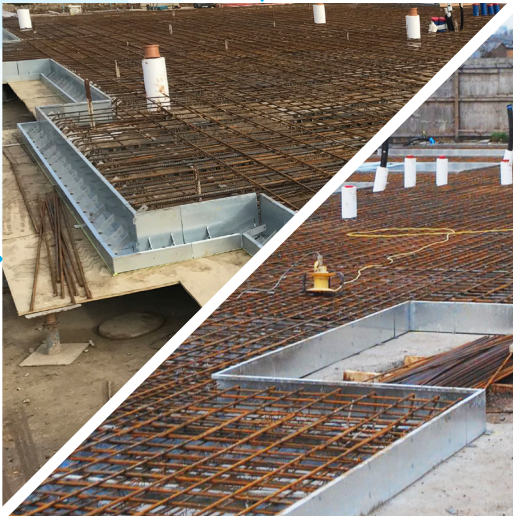
After the drainage and services have been installed the piles are trimmed to cut off level.





### Voided

If voided, the decking will be built on our patented Deck Support Units to create the void & removed once the slab is complete.



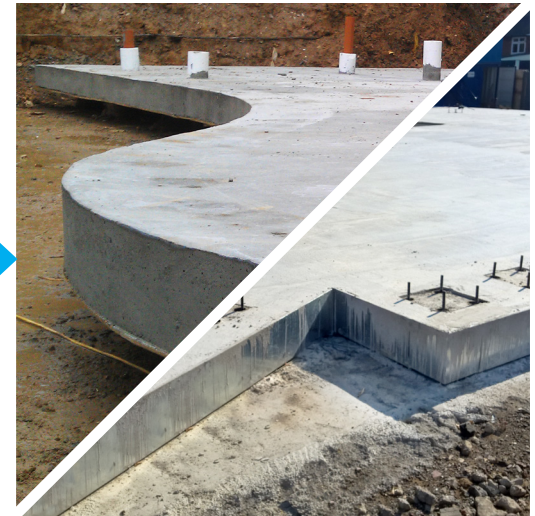
### Edge Shuttering & Fix Reinforcement

Next our patented edge systems are installed, followed by the steel reinforcement to create the Housedeck raft.



### Concrete Pour

Once final levelling is complete the concrete is poured.



### Finished Structural Slab

If voided, a void barrier or membrane will be attached once the slab is cured.

The finished slab is ready for trades on average 5-7 days after the concrete pour.



# Case Study\_

## Kender Flats & Offices\_

London

**Value:** £1.1m

**Size:** 5420m<sup>2</sup> (over 9 slabs)

**Duration:** 24 weeks

### Scope of work:

- ▶ This project with Osborne involved the design and installation of our non-voided Comdeck system for multi-story buildings, comprised of flats and offices.
- ▶ Our design was completed in-house and included a spanning system, incorporated within some of the proposed slabs, to bridge a Thames Water sewer of 2.4m diameter, located 6m below ground level.
- ▶ We used a 50mm engineered working surface in place of a piling mat, upon which we installed a total of 1453 piles of varying diameter and depth.
- ▶ Using our galvanised straight edge shutter system we installed 225 and 300mm thick reinforced concrete Comdeck slabs.
- ▶ One of the benefits of using Comdeck on this site was that it allowed Osborne to continue construction on adjacent slabs, saving them time.



# About us\_

At Abbey Pynford we provide a more integrated approach to our services, offering a one stop shop to commercial contractors and private developers. Founded in 1988, Abbey Pynford Group has 30+ years of industry experience to support you through your project.

We offer a wide range of services ranging from our patented engineered foundation systems, various types of piling and underpinning.

We have our own in-house design team comprised of Structural and Geotechnical Engineers, providing underwritten design solutions across all our services.

We also have our own plant hire business providing specialist and bespoke equipment to the group and wider external market.

Our ethos is to provide a fully integrated service for our customers, providing support from conception through to construction. We always seek to provide the most cost-effective solution for your project, through innovation, product development, and a wealth of experience gained from 30+ years working in the industry.

## Our services\_

**HOUSEDECK** 

**COMDECK** 

**TREESAFE** 

**FLOODSAFE** 

**PILING** 

**UNDERPINNING** 





# Health & Safety, Quality & Environmental Overview\_



We have 30+ years industry experience to support your project.



Leading home construction warranty & insurance provider.



BBA approved quality management system.



Local Authority Building Contractor warranty.



Structural warranty for residential & commercial builds.



Certified workplace safety.



Certified H&S (18001), Quality (9001) & Environmental (14001) management system.



IMS Certified H&S, quality & environmental management systems.



H&S accreditation forSSIP.



Gold member.



Premier member.



Home Builders Federation members.



ASUC full members. Assured professional & technical competence.



Members of FPS - the industry body for foundation contractors.



Treesafe offers a tree friendly way to build in Root Protection Areas. Approved by Arboriculturists.



We send less waste to landfill by reducing dig and spoil removal with our foundation solutions.



Through our reduced vehicle and plant movement we produce significantly less CO<sub>2</sub> emissions.



We use less concrete with our foundation solutions than traditional techniques.



SSIP accredited principle & sub contractor.



Accredited contractor for H&S assessed scheme.



In-house design team and all designs and engineered solutions are fully underwritten.

# Our commitment to you\_

- ▶ You will receive the same **attention and quality of service** whether you are a small developer or corporate builder.
- ▶ We will provide you with a fully documented **proposal within two weeks** after receiving all required information.
- ▶ Our dedicated in-house design team, using the latest software finite element analysis, ensures that **each project is value engineered**.
- ▶ We will always **operate in the best practice**, complying with health, safety and environmental legislation.
- ▶ We promise to **serve in your best interests** and if we believe that one of our foundation systems is not the most appropriate scheme for your needs, we will advise you accordingly.

## Our clients\_

“ From the beginning of the order process right through to design, construction and signing off the works it was a pleasure working alongside Abbey Pynford on this challenging project.

*Michael Hayes, Senior Site Manager, Keir*



“ The Comdeck product is such a simple but effective method. From design through to completion Abbey Pynford offer a second to none service with excellent health and safety

*Colm O'Boyle, Surveyor, T&B Contractors*



“ Abbey Pynford's system is the complete package offering a straightforward fully designed solution, saving us money and 6 weeks from our original programme.

*Nick Jude, Construction Manager, Willmott Dixon*



WILLMOTT DIXON

“ Abbey Pynford worked fantastically well with us. Through solid communication and collaboration the construction has been a success. I would strongly recommend them for future projects.

*Sam Kemp, Project Manager, Morgan Sindall Construction*



thomas sinden



Taylor  
Wimpey



LOVELL

MESSENGER | BCR GROUP





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