

GEBERIT SUPERTUBE

THE SPACE GAINING SYSTEM

**KNOW
HOW**
INSTALLED



- More living and floor space
- Simple planning and installation
- Smaller, consistent pipe diameter
- No additional ventilation pipes
- Horizontal pipelines without slope*

* Up to 6 metres

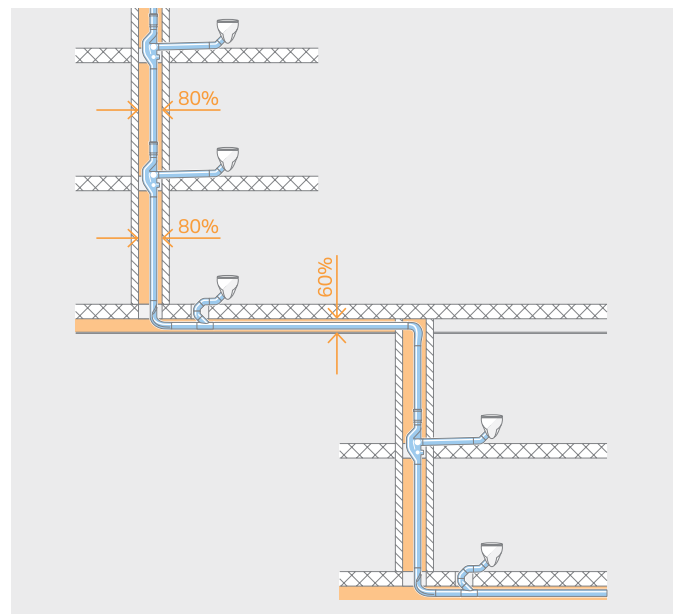
MORE SPACE AFFORDED BY OPTIMISED HYDRAULICS

The ingenious, flow-optimised Geberit SuperTube technology creates a continuous column of air in the discharge pipe, meaning a parallel ventilation pipe installation is no longer required.

The pipelines with smaller dimensions, which cope entirely without ventilation pipes, require significantly smaller pipe ducts. What's more, the horizontal pipelines can be laid to a length of up to 6 metres without a slope to save on space. As a result, the Geberit SuperTube creates more usable living space.

SOPHISTICATED HYDRAULICS

EVERYTHING AN EFFICIENT DRAINAGE SYSTEM NEEDS



GEBERIT SUPERTUBE

This technology facilitates a consistent discharge pipe with a single pipe dimension. There is no need for a ventilation pipe and, what's more, the horizontal pipeline can even be laid to a length of up to 6 metres without a slope.

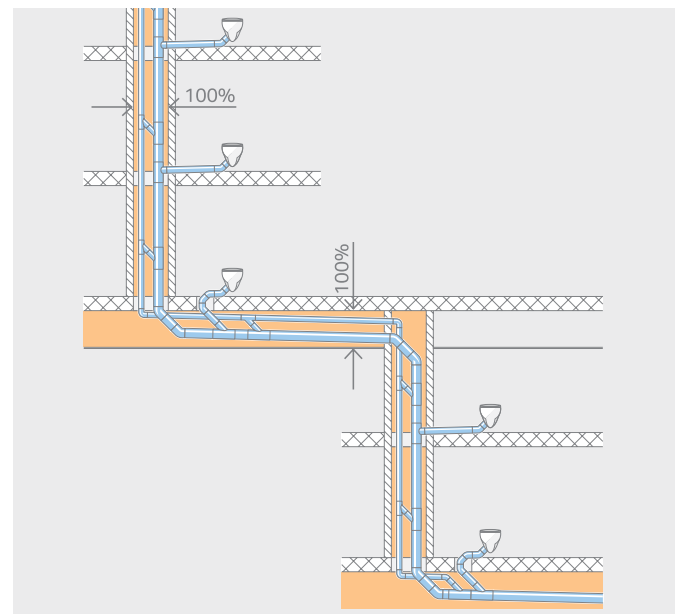
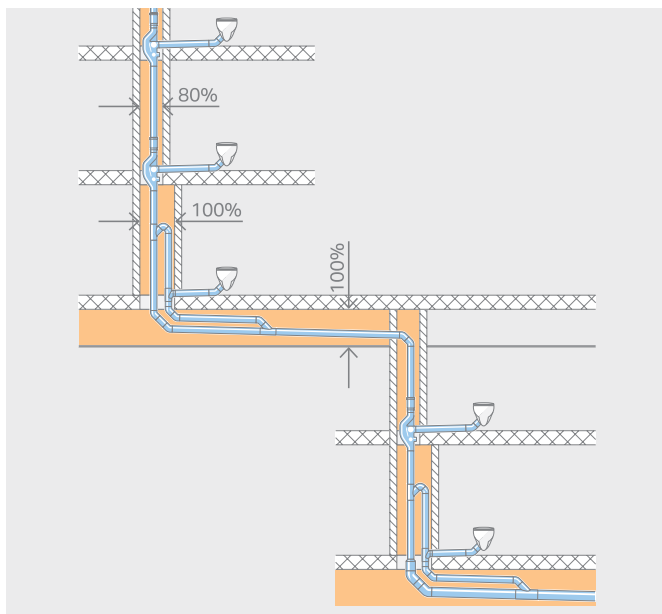
With its maximum discharge capacity of 12 l/s and a consistent pipe diameter of d110, Geberit SuperTube offers a comparable performance to a conventional system with considerable reductions in space and material requirements.

TAKING THE GEBERIT PE SOVENT FITTING TO THE NEXT LEVEL

The Sovent fitting has already allowed Geberit to succeed in offering a space-saving solution for high-rise buildings by making it possible to do away with a parallel ventilation pipe. The Geberit SuperTube technology is now taking this concept one step further. Changes in direction have always required an additional ventilation pipe in the past, but the SuperTube has now made this surplus to requirements.

SPACE-SAVING INSTALLATION

Geberit SuperTube saves space in every direction. The ability to do without the additional ventilation pipe reduces spatial requirements in both the vertical stack and in horizontal pipelines, for example with an offset or collector pipe. What's more, there is also no need for a slope any more in horizontal pipelines of up to 6 metres in length. This makes it possible, for example, to install ceiling suspensions extremely close to the concrete ceiling at an offset.

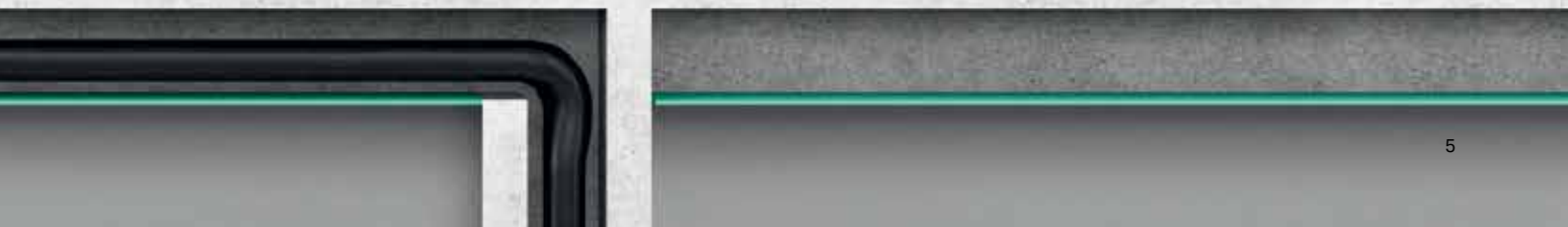


OPTIMISED SYSTEM WITH THE GEBERIT PE SOVENT FITTING

The solution featuring the Geberit Sovent does not require a parallel ventilation pipe. This achieves a maximum discharge capacity of 12 l/s with a pipe dimension of d110.

CONVENTIONAL SYSTEM

A conventional drainage system achieves a discharge capacity of 12.4 l/s with pipe dimensions of d160 and an additional d90 ventilation pipe.





- 1 The outflowing water is set in rotation in the Geberit PE Sovent fitting.
- 2 The annular flow becomes a layered flow in the Geberit PE BottomTurn bend.
- 3 The layered flow becomes an annular flow once again in the Geberit PE BackFlip bend.

The result: A continuous column of air from the top floor to the collector branch pipe.

COMPONENTS

FITTINGS

THAT PUT A WHOLE NEW SPIN ON THINGS

The Geberit SuperTube technology is based on the perfect interplay between four system components. Three clever fittings coupled with the tried-and-tested Geberit PE discharge pipe with its high load-bearing capacity combine to create an innovative hydraulic solution that also brings clear additional benefits. These components are permanently welded to ensure a tight connection in the long term.



GEBERIT PE SOVENT FITTING D110

The optimised product geometry of the Geberit PE Sovent fitting guides the water into the stack and sets it in rotation, which causes it to press against the pipe wall. The resulting annular flow creates a stable, continuous column of air on the inside, which facilitates a discharge capacity of 12 l/s.



GEBERIT PE BOTTOMTURN BEND

With the Geberit PE BottomTurn bend, a change in direction causes the wall of water to break and the annular flow to become a layered flow without disrupting the column of air. This change significantly reduces impulse losses compared with conventional solutions.



GEBERIT PE BACKFLIP BEND

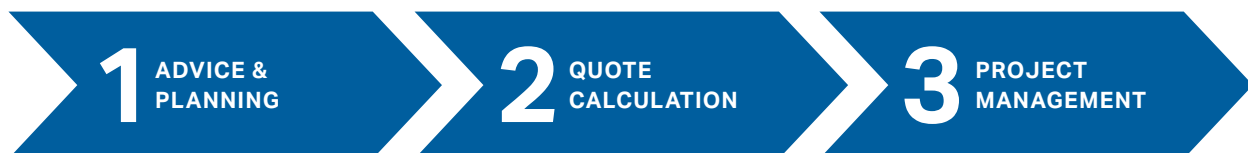
The twisted Geberit PE BackFlip bend causes the layered flow of water to swirl, which allows it to rotate through the vertical pipeline as it drains away in an annular flow. The inner air column in the subsequent stack is maintained.

GEBERIT SERVICE

HIGH AMBITIONS CALL FOR A STRONG PARTNER

Finding cost-effective and reliable drainage systems for high-rise buildings often presents a challenge for building owners, sanitary engineers and plumbers alike. With its consistent research into hydraulics and its own, in-house product development, Geberit is raising the bar not only on a technical level, but also when it comes to service.

Partnership and reliability are core values that our customers around the world can expect from us. Whether you are looking for sound initial advice, planning support, help with invitations to tender, or building site support, the Geberit team is always by your side when you need it.



1 GOOD ADVICE & PLANNING

- Support with checking the possible applications of Geberit SuperTube
- Complete planning service including construction plans
- Geberit Tool for SuperTube Planning
- Material planning
- Provision of BIM data for Autodesk® Revit® and CAD data

2 EASY, RELIABLE CALCULATIONS

- Support with preparing a quotation
- Creation of a material list
- Creation of complete packages (pipelines, fittings, tools) for Geberit SuperTube

3 ON SITE SUPPORT

- Building site training for plumbers
- On-site inspections by Geberit specialists
- Support with change planning
- Final project acceptance



GEBERIT SUPERTUBE DIMENSIONING TOOL

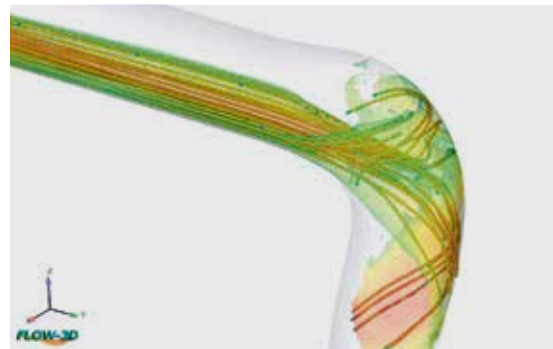
Straightforward planning thanks to the dimensioning tool. The web tool guides you through the process of planning a one-dimensional discharge pipe step by step. The values and information obtained can then be collated and downloaded as a PDF file.



GEBERIT HYDRAULIC COMPETENCE

RELIABLE BUILDING DRAINAGE IS NO ACCIDENT

Contemporary buildings are setting ever-higher requirements, including for drainage systems. Large quantities of rainwater and waste water have to be drained safely and reliably over long distances. The hydraulics specialists at Geberit develop and optimise product solutions and systems that can take on this task effortlessly. Our many years of experience in flow engineering, comprehensive physical know-how, and unparalleled simulation and testing opportunities also establish firm foundations in this regard.



SIMULATIONS AND TESTS

The Geberit researchers start by using computational fluid dynamics (CFD) to establish potential development variations on a virtual basis in order to filter out optimal solutions for further development within the laboratory environment. The in-house drainage tower, which has been part of the test laboratory for over 50 years, then offers the opportunity to subject the new developments to all relevant hydraulic tests under real-life conditions in a subsequent step. It is only once the prototypes have successfully confirmed the simulation results in intensive laboratory tests that additional practical tests are conducted to develop them further for market.

TAKING DEVELOPMENT TO THE NEXT LEVEL

With the Geberit PE Sovent fitting, which was first developed in Switzerland back in 1959, it was finally possible to create a drainage system that did not require an additional ventilation pipe. Countless private and national test installations throughout the world verified the capabilities of this revolutionary innovation before the product eventually made its way onto the market in 1970. Over the course of the continuous product development process, the familiar Geberit PE Sovent fitting with d110 dimensions was later relaunched on the market in a flow-optimised version. The basic physical concept behind this was constantly being redeveloped until the new Geberit PE BottomTurn bend and Geberit PE BackFlip bend fittings were finally created. These have now also made their way onto the market in the form of an optimal combination known as SuperTube technology.



COMPREHENSIVE PRODUCT TESTS

The existing drainage tower was expanded considerably as part of the development process for the SuperTube technology in a bid to simulate real high-rise conditions in practice and create an offset at a length of up to 6 metres. The structures above the roof were designed to represent floors above the offset. The successful results – as well as all of the installations including the comprehensive measuring technology – were documented and confirmed by an external, accredited testing facility once the development process was complete.



NIMIT LANGSUAN, BANGKOK THAILAND

SPACE-SAVING DRAINAGE OF ULTRA HIGH RISE BUILDINGS



“By incorporating innovative products and ideas from around the world that combines aesthetics and function like Geberit Sovent, we strive to achieve our vision in delivering an unsurpassed essence of living to our clients”

Sorapoj Techakraisri
CEO, PACE, Thailand

PROJECT OVERVIEW

- Developer: Pace Development corporation Public Company
- Architects: The Beaumont Partners Co., Ltd
- Owner: Pace Development corporation Public Company
- Consultant: Turner Consulting (Thailand) Co., Ltd.
- Contractor: Bouygues-Thai Ltd.
- Sub Contractor: GME Co., Ltd.
- Height: 210 m.
- Floors: 55 Floors
- Bathrooms: 450 Bathrooms
- Completion: within 2019

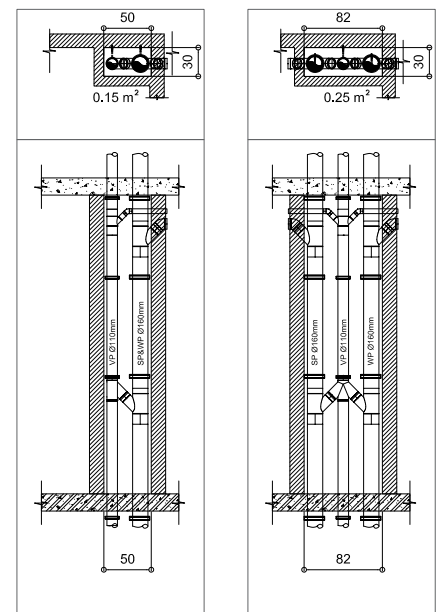
THE CHALLENGE

CONVENTIONAL PVC TRIPLE STACK DRAINAGE SYSTEM

The Nimit Langsuan project initially started with a conventional triple stack design with a single ventilation pipe. the project is situated in an exclusive area in Bangkok, the service areas were shrunk down in size to optimize the overall cost of the project. However, this posed several challenges for the extremely tight installation process and hinders ease of access for maintenance and servicing in the future.

Image to the right

The original design plan by a 3rd party supplier, was to have 3 parallel stacks consisting of 160mm soil pipe, 110mm waste pipe and ventilation pipe.



NIMIT Langsuan is a freehold super luxury high-rise condominium situated in the most sought-after location of Bangkok, Langsuan Road. The development is directly adjacent to Lumpini Park, with a land size of over 2 rai, and a project value of 8 Billion Baht. NIMIT Langsuan features 178 luxury residential units range in size from 78 sqm – 640 sqm. The development has achieved more than 90% sales worth a total value of 6.914 Billion Baht.



NIMIT LANGSUAN, BANGKOK THAILAND

THE SOLUTION

THE GEBERIT WAY

The flow-optimised Geberit Sovent fittings facilitate a cost-effective configuration of stacks for this project. The fitting produces a continuous column of air in the stack. This facilitates pressure compensation thereby increases the discharge rate. Geberit Sovent increases the pipe capacity and makes installing a parallel-running ventilation line unnecessary. This means that the stack can be dimensioned smaller in many cases.

1. SPACE SAVING

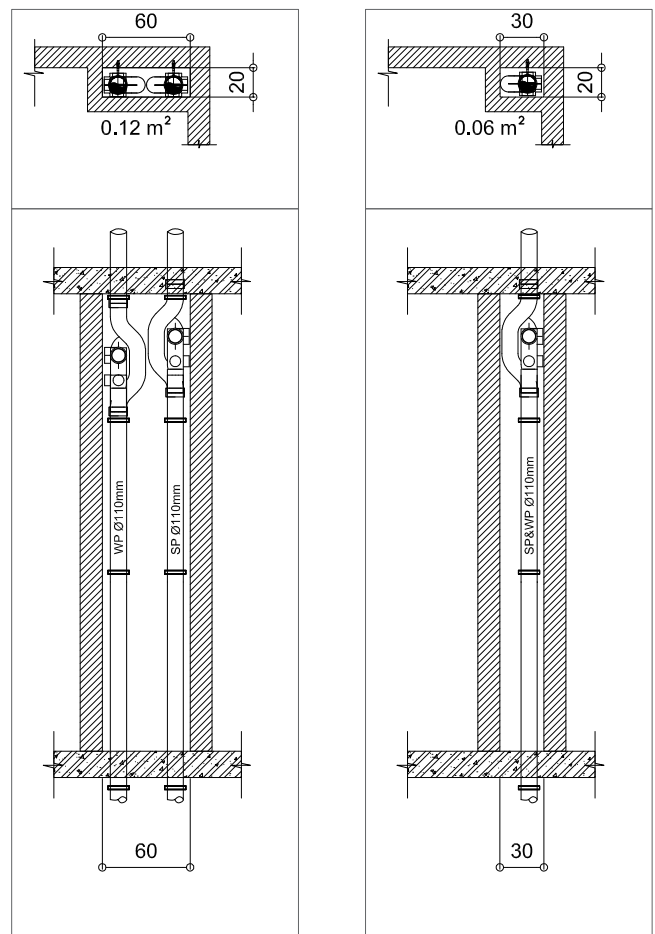
This project is very particular for Thailand because all high-rise projects are customarily built with 3 stacks (SP+WP+VP). Early 2016, the M&E consultant Ramboll contacted Geberit NSEA because they were facing space constraints and did not have a viable solution for the tight tolerances of the project drainage stack. The Geberit NSEA team proposed the Sovent System, which saves space by taking away the vent pipe away and reducing the diameter of the stacks from 160mm to 110mm. The solution would save approximately 50% of the space in every stack and more than 200 square meters for the entire project.

2. MATERIAL SAVING

By reducing more than 35% of the material BOQ, the proposed solution saved material cost as well as total installation time for the project. The project had very tight timelines for completion, and the Geberit NSEA team is proud to provide this solution which met the Pace Development's needs.

3. HDPE

For this project the pipe will be imbedded into the concrete floor for every bathroom and kitchen areas. The high resistance and strength of Geberit HDPE drainage systems, which enables prefabrication off-site, makes Geberit HDPE the perfect system for this luxurious project.



LOBBY 33, GUADALAJARA, MEXICO

INNOVATIVE TECHNOLOGY FOR GREATER ENVIRONMENTAL AWARENESS



“Space savings are always a crucial consideration. As far as investors are concerned, maximising the usable selling space is paramount. Cost-effectiveness also has a role to play, although this is not always clear when comparing the material costs of different systems.”

Aldo Reyes
Artexa in Mexico

PROJECT OVERVIEW

- Project Developer:
Numel Constructora Integral
- Architect: Carlos Santoscoy
- Owner: Promodesa Habitat
- Plumber: Servi
- Height: 140 m
- Floors: 30
- Completion: 2018

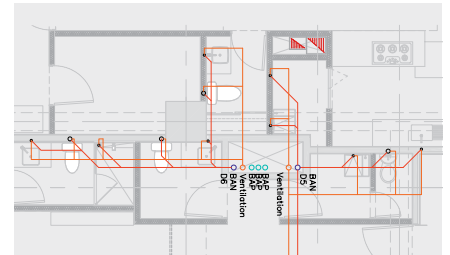
THE CHALLENGE

The Lobby 33 architects were keen to establish a better balance between architecture and environmental friendliness through the use of innovative technologies. The concept behind the building was to create a sustainable oasis that would reduce waste and improve the CO₂ balance. Its use of the latest technologies is also contributing to a change in architectural mindset within Mexico.

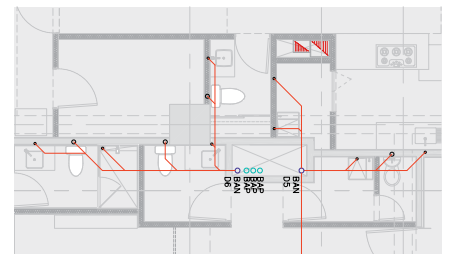
THE SOLUTION

The Geberit PE Sovent fitting won out as the favourite solution for the building drainage systems, as it required no additional ventilation pipe and allowed for the use of smaller pipeline dimensions. This resulted in significant space savings as well as a more straightforward overall installation process, which not only saved time for all involved but also reduced the final costs for the customer. An equally positive factor with regard to timing was the possibility to prefabricate the parts in the Geberit PE pipe system.

Both the high quality standards and the time savings afforded by the Geberit PE Sovent fittings allowed the architects to achieve their objectives.



Planning with conventional ventilation system



Planning with Geberit Sovent

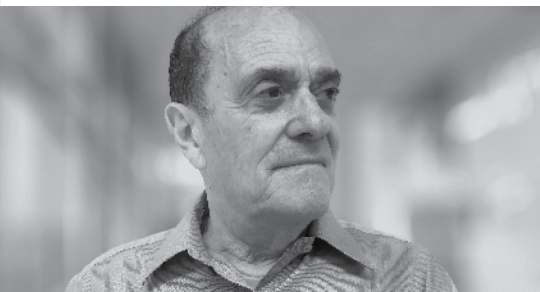


RESULTS

- Reduction of stacks from four to two per duct
- Reduction of raw material by 40%
- Reduction of installation time by 40%

GINDI TLV TOWERS, TEL AVIV, ISRAEL

A HIGH-RISE ISLAND AT THE HEART OF THE CITY



“Space is a crucial aspect of any project. Here, we were able to reduce the size of the pipe duct by using the Geberit PE Sovent fitting. We actually achieved an average saving of 0.06 m² per pipe, which – at a total of 45 m² – amounted to the size of a small apartment.”

Zvi Pollak
Leading Consultant

PROJECT OVERVIEW (ALL FOUR TOWERS)

- Project developer: Gindi Developers
- Architect: MYS Architects / Yasky Mor Sivan
- Owner: Gindi Developers
- Plumber: Danya Cebus Ltd. / Y. Adiv
- Height: 160-180 m
- Floors: 46-50
- Completion: 2023

THE CHALLENGE

GINDI TLV is a huge new residential and lifestyle complex at the heart of Tel Aviv. The project called for the most cutting-edge technology along with the objective to save as much space as possible, as this comes at an expensive premium in Tel Aviv.

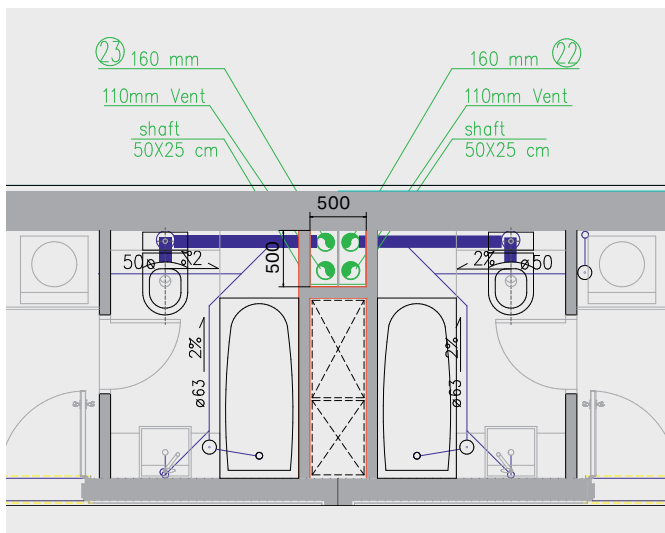
THE SOLUTION

Since the project consultant spoke highly of Geberit products, having relied on them for many years, the decision to use Geberit PE Sovent fittings was an easy one. This meant the pipe diameter for the drainage system could be reduced from 160 mm to 110 mm, thereby saving valuable space.

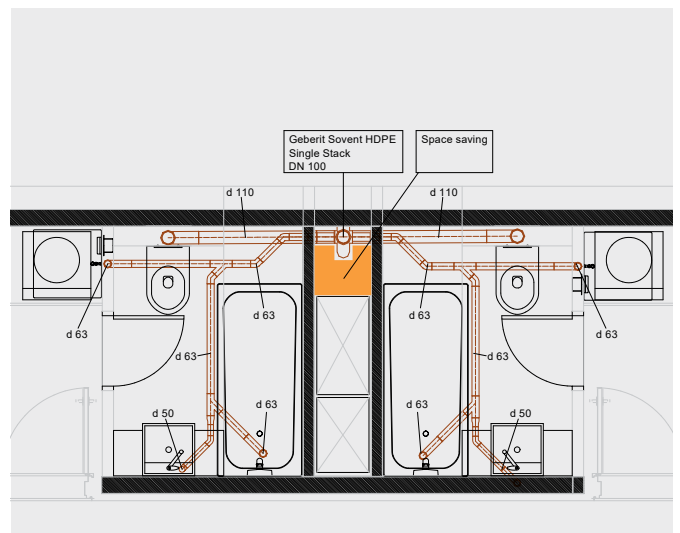
The regular visits from the Geberit team during the construction phase were also very well received and proved invaluable to the progress of the project.

RESULTS

- Planning support from Geberit
- Reduction of stacks from 71 to 36
- Time savings due to prefabrication
- 40% reduction in costs



Initial plan for the drainage system with additional ventilation



Final plan with Geberit Sovent

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