



THINKING PRECAST?
THINK FP MCCANN



STORMSTORE™ PRECAST TANK & CHAMBER SYSTEMS

v2.1



**STORM
CHAMBER™**



**DRAW
PITS**



**STORM
TANK™**



**MODULAR
TANK
SYSTEM**



**STORM
BRAKE™**



**STORM
HOLD™**



FP MCCANN'S STORMSTORE™ RANGE OF TANK AND CHAMBER SYSTEMS



FP McCann is the UK's market leader in the manufacture, supply and delivery of precast concrete solutions. Our comprehensive precast concrete business extends to include:

**AGRICULTURE | ARCHITECTURAL PRECAST | BOX CULVERTS | BUILDING PRODUCTS
DOCK LEVELLER PITS | DRAINAGE | FENCING | FILTER BED SYSTEMS | FLOORING
POWER & INFRASTRUCTURE | RAIL | SPECIALIST PRECAST | STRUCTURAL PRECAST
TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING**

Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Warwickshire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Kilrea (Northern Ireland), Magherafelt (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

Please note: all information is correct at time of going to print.

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FP MCCANN'S STORMSTORE™ RANGE OF TANK AND CHAMBER SYSTEMS

FP McCann's Stormstore™ range of precast tank and chamber systems is the most extensive in the UK. Products manufactured include StormTank™ bespoke precast concrete panel system, StormChamber™ bespoke precast concrete chamber system, a precast concrete storm and waste water management system called Modular Tank System and StormHold™ stormwater management system. Complementary products include StormCleanser™ hydrodynamic separator, StormBrake™ vortex flow control system and StormChannel™ heavy-duty precast concrete slotted drainage channel.

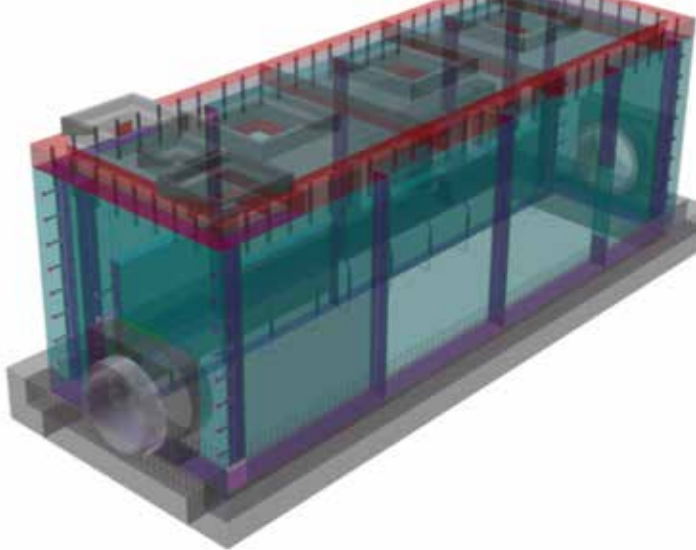
KEY ADVANTAGES OF OUR RANGE

- From receiving the specification, designs can be returned within 2 days
- Complete design package provided, including calculations and drawings
- Manufactured off-site, including factory-fitted pipework and flow control connections, ensures consistent quality, lower construction costs, faster installation and lower health and safety issues
- Design service life of 100 years
- Overall cost of the project can be estimated no matter how complicated the design
- Bespoke designs can be used for reproductions and for future alterations
- No vertical shuttering required, unless an in-situ floor is installed
- Complies with all relevant British Standards and Eurocodes



PARAMETRIC DESIGN -

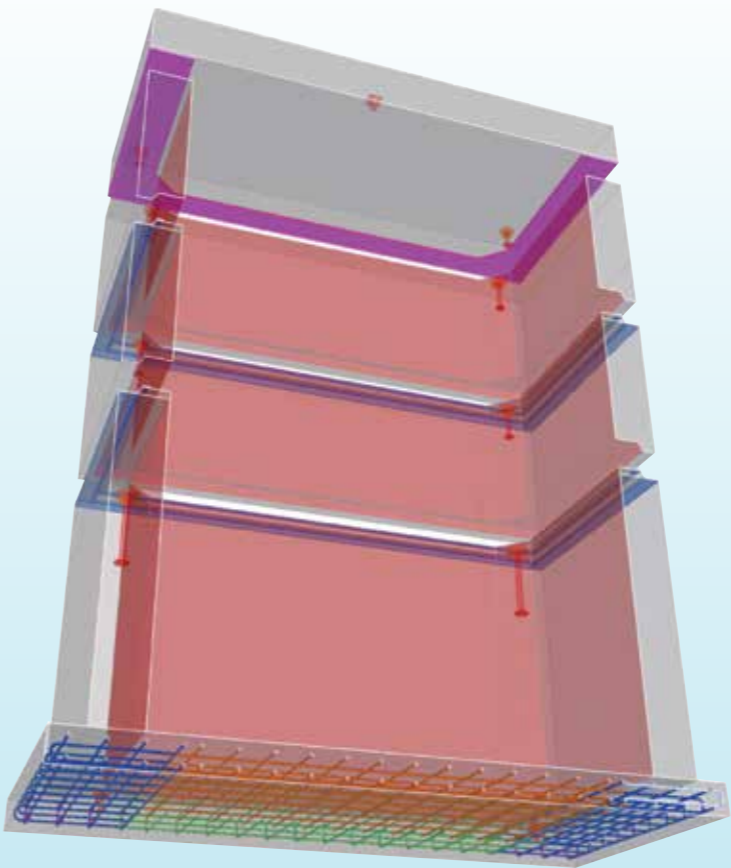
ONE DESIGN FOR ALL STORMSTORE™
STRUCTURES



FP McCann's StormStore™ precast tank and chamber range is designed using parametric 3D modelling. Specification details such as length, width, depth and loading category are entered into our in-house system by our Tekla engineers, along with additional options such as pipe entries, which will instantly produce the drawings, schedules, price etc.

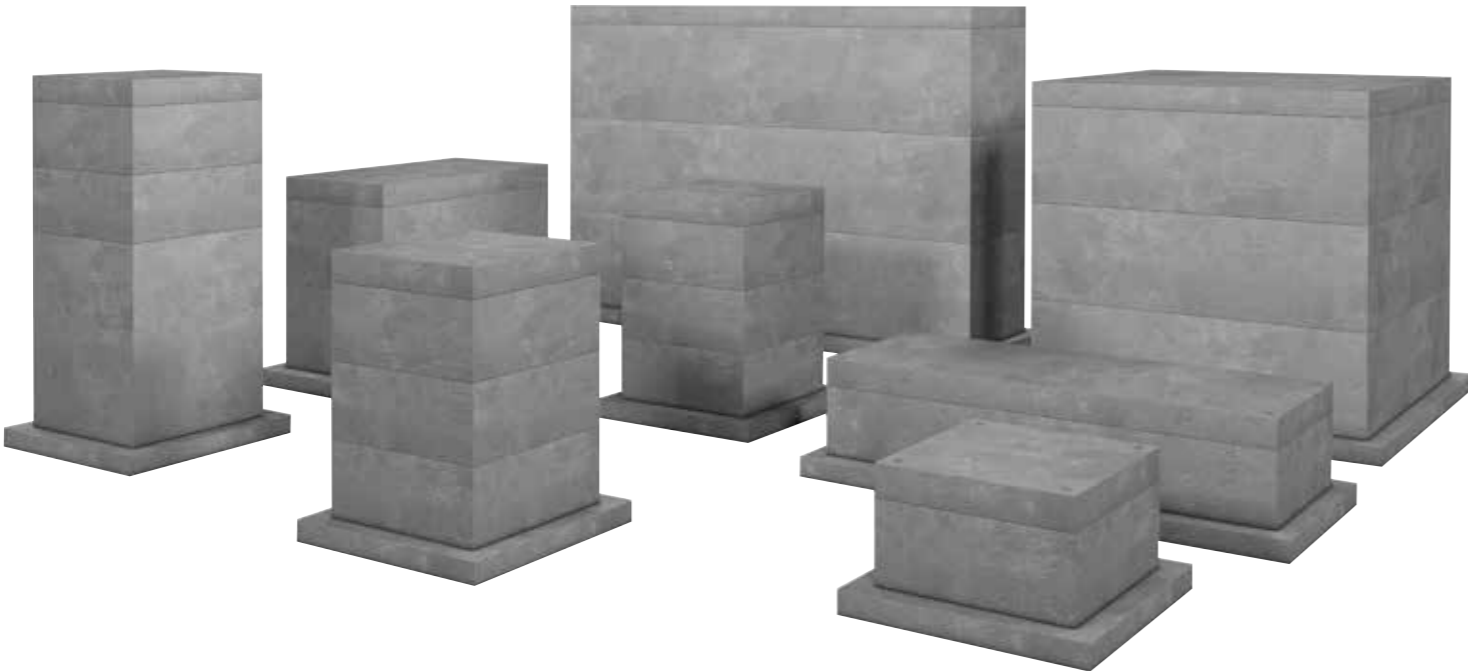
All multi-purpose chamber and panel systems are designed to BS EN 1992 and are CE marked.

THE DESIGN PROCESS...



STORMCHAMBER™

MULTIPURPOSE CHAMBER SYSTEM



FP McCann's StormChamber™ multipurpose chamber system is a single piece chamber system made up of a base unit, risers and cover slab to suit chamber depth and the specific application. A 3D dimensional drawing is available on request. This flexible modular system is suitable for most tank and chamber applications.

STORMCHAMBER™ – INTERNAL DIMENSIONS

1250 x 1250mm	2500 x 2000mm
1500 x 1500mm	2500 x 2500mm
2000 x 1500mm	3000 x 2500mm
2000 x 2000mm	3000 x 3000mm

The above size range do not generally have toe units.

Sizes above 3000x3000mm up to a maximum size of 5000x3500mm. The length and width of these chambers can be adjusted up/down in 250mm increments to suit requirements. The height of the chamber is flexible up to 6 metres, with 8 metres possible, subject to calculations.

If chamber dimensions are critical and don't fit with the above range, we can usually offer a solution.

TYPICAL CONSTRUCTION/ INSTALLATION

(Subject to specific application)

- Base unit is placed on level concrete blinding or type 1 sub base
- Riser unit/s are placed onto the base unit, if required
- Hydrophilic swell, butyl sealant and bearing strips are placed in the joint between the base unit and riser unit/s
- Internal wall is fitted at factory or at site and is connected with threaded rod, nuts and washers
- Pipework is connected and backfilling takes place
- Cover slab is bedded on with high strength mortar, contained to the inside by butyl sealant strip

You should consider the overall installed cost of the chamber when taking into account all the benefits and cost savings detailed below, not the upfront material cost.



BENEFITS

- Concrete surround is not required, saving time and money on site installation. Up to 85% reduction in on-site construction programme
- Pipe penetrations are done at the factory, avoiding the need for cutting or core drilling on site
- Weir walls, flow controls etc can be factory fitted, if required. Up to 95% reduction in site man-hours for pit construction
- Virtual elimination of on-site waste
- 55% reduction in lorry movements for deliveries
- Traffic calming/ management reduction

- Elimination of need for confined space working
- Significant reduction in site noise
- Clear openings to suit requirements
- Reduces enclosed spaces work and working at depth
- Reduction in Health and Safety and Dynamic Risk Assessment issues
- Enhanced functionality - product can be designed for future alterations
- A flexible modular system with a high quality factory finish
- Greatly reduces long term maintenance costs
- Smaller units may be adjusted using alternative increments, if required



DRAW PITS

Precast bespoke pit solutions provide a real alternative to in-situ built pits.

Part of our StormChamber™ multipurpose chamber range, FP McCann's draw pits can be adapted to suit any site requirements. Their flexible design means that they can be factory fitted with duct couplers, step irons, sump units, rebated walls and ring beam units, as required.

Draw Pit Internal Dimensions	
1250 x 1250mm	2500 x 2000mm
1500 x 1500mm	2500 x 2500mm
2000 x 1500mm	3000 x 2500mm
2000 x 2000mm	3000 x 3000mm

The below size range do not generally have toe units. Sizes above 3000 x 3000mm up to a maximum size of 5000 x 3500mm. The length and width of these chambers can be adjusted up/down in 250mm increments to suit requirements. The height of the chamber is flexible up to 6 metres, with 8 metres possible, subject to calculations. If chamber dimensions are critical and don't fit with the above range, we can usually offer a solution.

Drawpits can be supplied to suit any loading requirements such as F900+ for airports and similar heavy duty applications.

This whole approach has produced a solution which has made a significant and sustainable contribution towards reducing the impact of construction works on-site, including time spent on-site, noise pollution etc.

The end product is of a consistently high quality and has the added value of being easier to maintain and alter in the future.

ADDITIONAL BENEFITS

- Concrete surround is not required, saving time and money on site installation
- Pipe penetrations are done at the factory, avoiding the need for cutting or core drilling on site
- 95 per cent reduction in site man-hours for pit construction
- 85 per cent reduction in on-site construction programme
- 55 per cent reduction in lorry movements for deliveries and traffic calming
- Significant reduction in confined space working and working at depth
- Significant reduction in site noise
- Significant reduction in the number of potential safety hazards and DRA issues
- Modular system with a consistently high quality product
- Clear openings to suit requirements
- Product designed for future alterations
- Virtual elimination of on-site waste
- Reduces long term maintenance

Contact our highly experienced sales team for further information.



STORMTANK™

MULTIPURPOSE PANEL SYSTEM

The StormTank™ multipurpose panel system is an underground structure consisting of wall panels, an in-situ or precast concrete base and cover slab, which are assembled on-site by the contractor or an approved installer using a range of standard joining types. The panels can be made with cast-in pipe connections, recesses and openings and have penstocks or flap valves pre-installed. Internal weir-walls, overflows, underpasses and baffle walls can also be incorporated into the structure.

This system can be used for a variety of uses such as CSO chambers, storage tanks, large size manholes, pumping stations, valve chambers etc. The main advantage of using this system is that there is no size limitation, except for the height, which cannot exceed six metres, with a two metre overburden. A detailed installation guide is available. Please contact FP McCann for further details.

PRODUCT APPLICATIONS

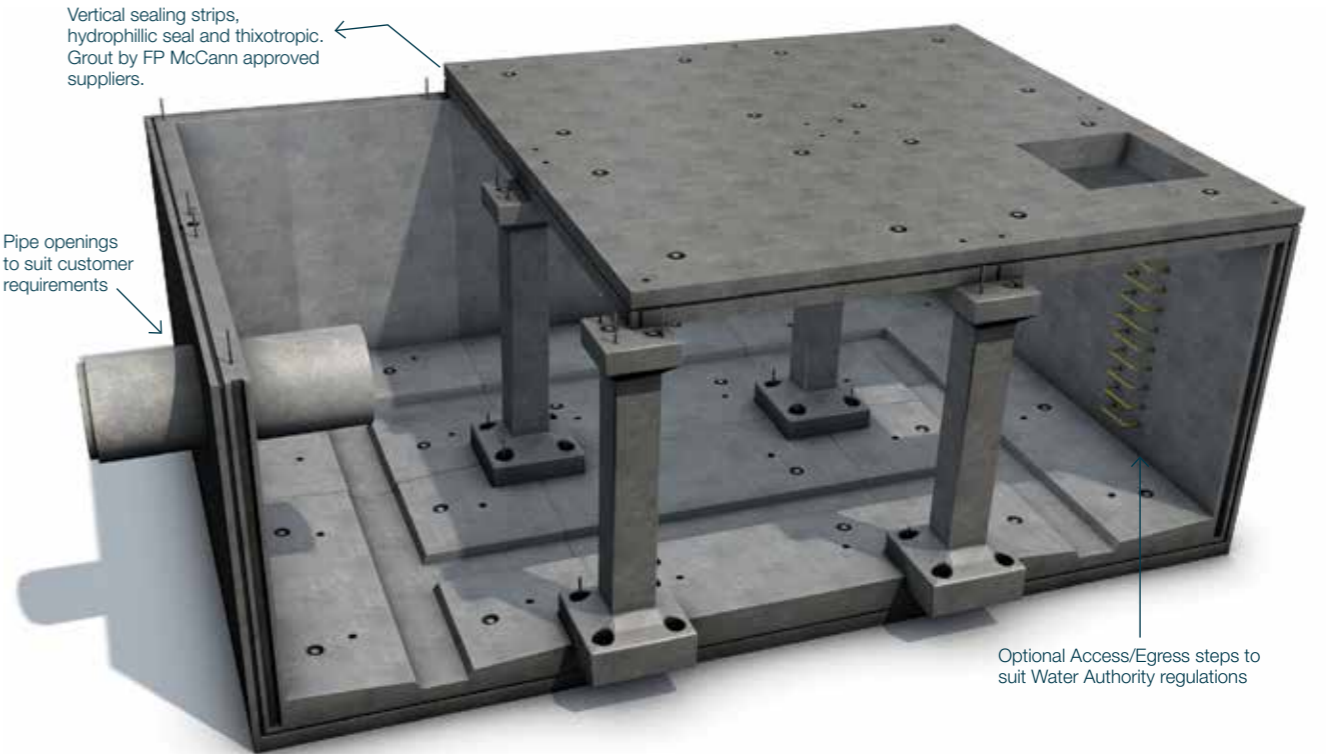
- Air-infiltration chambers
- Hydro-brake chambers
- Large CSO chambers
- Water storage tanks
- Pumping stations
- Attenuation tanks
- Large manholes
- ASP structures
- Sludge tanks
- Basements
- Headwalls



MODULAR TANK SYSTEM



FP McCann’s modular, storm and waste water management system provides a multifunctional, durable solution for the detention, retention, infiltration, harvesting and treatment of water, comprising of a combination of standardised precast concrete elements, which are designed to solve your storm and waste water management needs.



DETENTION

Provides a cost-effective solution for site applications where stormwater needs to be detained and allowed to discharge at a controlled rate.

RETENTION

Modular retention systems are ideal for applications where the goal is to retain rainwater or stormwater for some type of harvest and reuse applications.

INFILTRATION

Eliminates the issues created with discharging stormwater off-site by using the modular system to infiltrate stormwater into the soil for natural treatment and to replenish local aquifers.

HARVESTING

Water harvesting is the collection, storage, cleaning and recycling of stormwater to replace or reduce the consumption of municipal potable water.

TREATMENT

Stormwater treatment options such as pre-treatment, post-treatment and oil water separators are available as stand-alone systems, as well as integrated modular systems

BENEFITS OF MODULAR TANK SYSTEM

MANUFACTURING BENEFITS

- Manufactured locally
- Bespoke inlets and outlets
- An adoptable system which can cater for the 1 in 30 and 1 in 100 year storm event
- FP McCann uses state-of-the-art tooling to manufacture products of the highest quality
- A fully modular system encompassing inherent health and safety benefits

MAINTENANCE AND CLEANING BENEFITS

- The modular system excels where most other systems fail, incorporating features that provide maximum system performance and life cycles. As with all stormwater systems, inspection and maintenance of the modular system is vital for satisfactory performance and extended life cycle of the stormwater management system
- A self-cleansing and easy maintainable system which includes silt collection areas
- Designed to create safe walking channels during the maintenance, cleaning and inspection process
- Easily inspected visually, offering reduced inspection costs
- System provides clear lines of sight to aid health and safety during maintenance and cleaning

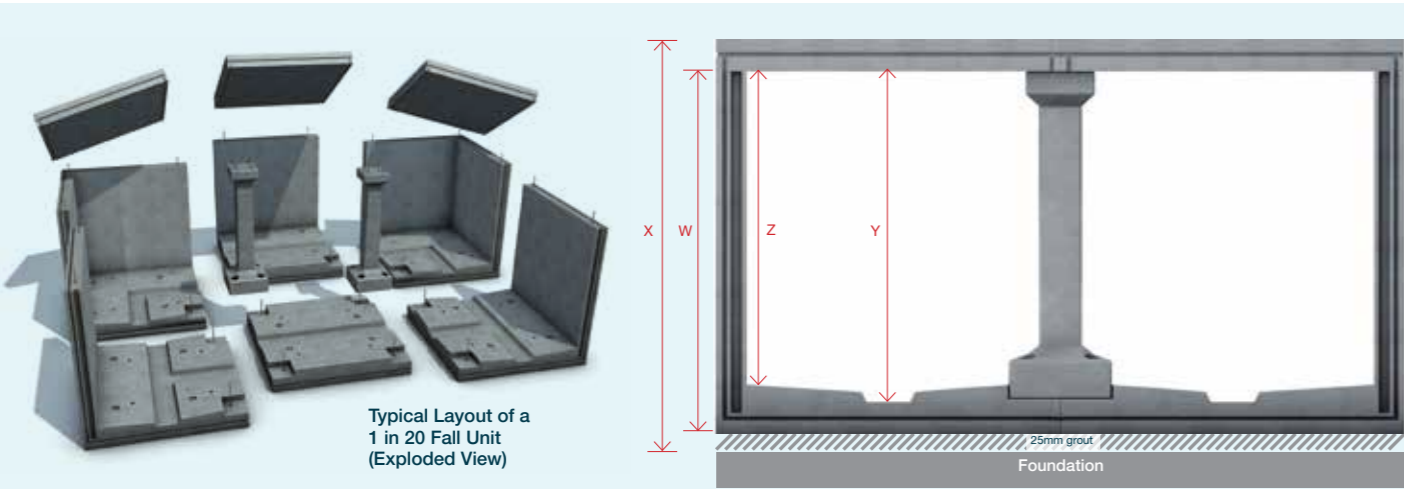
DESIGN BENEFITS

- Complies with BS EN 1992
- Grated inlets may also be incorporated to accommodate surface stormwater flows directly into the modular system, reducing the requirements for conventional site drainage components. Any grated inlets may also include pre-treatment devices for pollutant removal
- Standard units reduce design cost
- No requirement for in-situ structural topping to roof slab –

- offering reduced fill depths and cost savings
- Fully accessible system with the option of including step rungs or ladders
- A fully modular system that brings with it inherent health and safety benefits
- The design and performance meets CESWI 7th edition
- Standard internal heights from underside of roof slab to the channel inverts of 1500, 1800, 2100 and 2400mm. All available with either 1 in 4 or 1 in 20 benching gradients
- The system fully meets CE Marking requirements
- The system and installation is approved by WRc
- Complies with Sewers for Adoption 7th edition and Sewers for Scotland 3rd Edition 2015
- Precast elements manufactured using concrete with a DC4 design chemical class in accordance with BRE SD1
- Up to 2.5m overburden with a 10kN/m2 surcharge
- 100 year design life
- Complies with watertightness class 1 of BS EN 1992-3
- Assumed water table at roof slab level
- Suitable for use within wastewater and stormwater drainage systems

INSTALLATION BENEFITS

- Potential savings on temporary works
- Reduced disruption due to speed of installation
- No need to wait 28 days before back filling. Backfilling can follow on after installation
- No requirement for in-situ concrete topping to roof slab
- No requirement for on-site in-situ benching
- No requirement for in-situ joint-stitching



STORMWATER 1 IN 20 FALL UNIT DIMENSIONS

2400 internal height tank

Benching	1 in 20 fall		
Height from Top of Unit to Channel Invert (Y)	2400 internal height tank	Unit Height (W)	2650
Overall Construction Height (X)	*2925	Internal Height from top of Benching (Z)	2275
** Weight (T)		Storage m3	
Corner Unit	11.41	11.88	
Type 1 Wall Unit	8.49	12.95	
Type 2 Wall Unit	8.34	13.01	
^Intermediate Base Unit	5.31	14.05	
Column	0.88	N/A	
Roof	3.88	N/A	

1800 internal height tank

Benching	1 in 20 fall		
Height from Top of Unit to Channel Invert (Y)	1800 internal height tank	Unit Height (W)	2050
Overall Construction Height (X)	*2325	Internal Height from top of Benching (Z)	1675
** Weight (T)		Storage m3	
Corner Unit	9.81	8.79	
Type 1 Wall Unit	7.66	9.56	
Type 2 Wall Unit	7.50	9.63	
^Intermediate Base Unit	5.31	10.36	
Column	0.75	N/A	
Roof	3.88	N/A	

* Includes a 25mm allowance for base grout / ** All weights are approx / ^ Each unit has an overall base area of 2.5 x 2.5m

2100 internal height tank

Benching	1 in 20 fall		
Height from Top of Unit to Channel Invert (Y)	2100 internal height tank	Unit Height (W)	2350
Overall Construction Height (X)	*2625	Internal Height from top of Benching (Z)	1975
** Weight (T)		Storage m3	
Corner Unit	10.61	10.33	
Type 1 Wall Unit	8.08	11.26	
Type 2 Wall Unit	7.92	11.32	
^Intermediate Base Unit	5.31	12.20	
Column	0.82	N/A	
Roof	3.88	N/A	

1500 internal height tank

Benching	1 in 20 fall		
Height from Top of Unit to Channel Invert (Y)	1500 internal height tank	Unit Height (W)	1750
Overall Construction Height (X)	*2025	Internal Height from top of Benching (Z)	1375
** Weight (T)		Storage m3	
Corner Unit	9.01	7.24	
Type 1 Wall Unit	7.24	7.87	
Type 2 Wall Unit	7.09	7.94	
^Intermediate Base Unit	5.31	8.51	
Column	0.68	N/A	
Roof	3.88	N/A	

COMBINED & WASTEWATER 1 IN 4 FALL UNIT DIMENSIONS

2400 internal height tank

Benching	1 in 4 fall		
Height from Top of Unit to Channel Invert (Y)	2400 internal height tank	Unit Height (W)	2650
Overall Construction Height (X)	*2925	Internal Height from top of Benching (Z)	2120
** Weight (T)		Storage m3	
Corner Unit	12.26	11.54	
Type 1 Wall Unit	9.55	12.53	
Type 2 Wall Unit	9.10	12.71	
^Intermediate Base Unit	6.57	13.55	
Column	0.86	N/A	
Roof	3.88	N/A	

1800 internal height tank

Benching	1 in 4 fall		
Height from Top of Unit to Channel Invert (Y)	1800 internal height tank	Unit Height (W)	2050
Overall Construction Height (X)	*2325	Internal Height from top of Benching (Z)	1520
** Weight (T)		Storage m3	
Corner Unit	10.66	8.45	
Type 1 Wall Unit	8.72	9.14	
Type 2 Wall Unit	8.27	9.32	
^Intermediate Base Unit	6.57	9.85	
Column	0.73	N/A	
Roof	3.88	N/A	

* Includes a 25mm allowance for base grout / ** All weights are approx / ^ Each unit has an overall base area of 2.5 x 2.5m

2100 internal height tank

Benching	1 in 4 fall		
Height from Top of Unit to Channel Invert (Y)	2100 internal height tank	Unit Height (W)	2350
Overall Construction Height (X)	*2625	Internal Height from top of Benching (Z)	1820
** Weight (T)		Storage m3	
Corner Unit	11.46	9.99	
Type 1 Wall Unit	9.13	10.84	
Type 2 Wall Unit	8.68	11.02	
^Intermediate Base Unit	6.57	11.70	
Column	0.80	N/A	
Roof	3.88	N/A	

1500 internal height tank

Benching	1 in 4 fall		
Height from Top of Unit to Channel Invert (Y)	1500 internal height tank	Unit Height (W)	1750
Overall Construction Height (X)	*2025	Internal Height from top of Benching (Z)	1220
** Weight (T)		Storage m3	
Corner Unit	9.86	6.90	
Type 1 Wall Unit	8.30	7.45	
Type 2 Wall Unit	7.85	7.63	
^Intermediate Base Unit	6.57	8.00	
Column	0.66	N/A	
Roof	3.88	N/A	

See tables opposite for dimensions



STORMHOLD™

LARGE DIAMETER PIPE STORMWATER MANAGEMENT SYSTEM

The production of water-impermeable surfaces in construction is inevitable. This includes roof areas on buildings, car parks, loading bays and road pavements. The provision of these surfaces interrupts the natural drainage process, creating increased stormwater run-off in respect of both volume and flow rate.

In many cases, this increase in stormwater flow and volume is a problem as the local sewer or watercourse does not have the sufficient capacity to cope. This problem could be alleviated by an increase in the size of the stormwater sewer or watercourse, thus providing the capacity within the drainage system to cope with the increased surface water. This, however, may be expensive, cause major infrastructure disruption, and can often be completely unfeasible.

Legislation under Planning Policy Statement 25 and Building Regulations approved Document H3 for flood risk assessment (SuDS), has created the need for planners and developers to design and install effective stormwater management systems.

The types of systems that can be employed to overcome these issues are well documented and varied. Quite often they can be very technically demanding in their operation, maintenance and construction. The selection of a system will depend on site constraints, position, expected loading, geographical limitations and inevitably cost.

The StormHold™ system offers a complete solution to the stormwater attenuation problem and utilises a tried, tested and approved method of stormwater storage. FP McCann can provide the complete package of design, product specification and supply of products and installation advice.

PRODUCT FEATURES

- Available in a range of sizes
- Can use and combine a number of techniques and products such as pipes, culverts, tanks, manifold systems and soakaways
- A complete solution with all connections
- Established and familiar products
- Can be laid in short lengths
- The system can be adapted to load-bearing and non-load bearing applications
- 120 year design life
- Adoptable by water companies
- Manufactured in accordance with a BSI accredited quality management system conforming to ISO 9001
- Available straight from stock

STRUCTURAL

The inherent structural strength of concrete is well documented and can be designed to meet the severest of loading criteria.

StormHold™ systems can be tailored to suit low load situations, for example, when the tank is to be situated below verges or gardens.

BENEFITS

- System can be designed specifically to suit the application
- Quick construction using a standard joint
- No need for fabrication on-site or external specialist contractors
- Straightforward installation using known techniques, no need to retrain

- Can be installed under roads and car parks
- Can cope with construction plant loading
- Flotation is not a concern – no need for geotechnical anchors when located below the water table
- Long term solution
- Enhanced bedding performance - the superior strength of concrete pipes enables recycled aggregate to be used as a bedding material, thus reducing costs associated with granular material and environmental impact during installation.

DESIGN

The design of the system can be tailored to suit most structural and hydraulic criteria.

RELEVANT LEGISLATION/ INFORMATION

- Planning Policy Statement 25 (PPS25) December 2009
- Department of Communities and Local Government (DCLG)
- Future Water February 2008, Department for Environment, Food and Rural Affairs (DEFRA)
- The Pitt Review, Learning Lessons from the 2007 floods by Sir Michael Pitt
- The Code for Sustainable Homes February 2008, Department for Communities and Local Government (DCLG)
- The SuDS Manual 2007, CIRIA C697
- Sustainable drainage systems - hydraulic, structural and water quality advice 2004, CIRIA C609
- Flood and Water Management Act 2010

FP McCann's StormHold™ systems can be designed to suit a wide range of construction projects and drainage schemes. Precast concrete attenuation components include products such as side entry manholes, stop end bends and spigot and socket end wall pipes. These products can either be engineered into an on-line sewer pipe system or utilised off-line as single or multiple stormwater holding tanks.

FP McCann's' storm attenuation products comply with the requirements set out within 'Sewers for Adoption 7th Edition' and are made from Kitemarked precast concrete components, which comply with the relevant Standards: BS EN 1916 / BS 5911-1 and Manholes BS EN 1917.

EXAMPLES

Spigot and Socket Tank End Wall Pipes
(Adaptor/Fitting - BS EN 1916)

- Consists of a standard 2500mm long flex pipe with a cast-in end wall. Inlet/outlet holes are generally cored into the wall

Side Entry Manholes (Junction - BS EN 1916)

- Entry shafts factory-fitted to pipes 900mm diameter and above
- Ideal for use in restrictive locations where conventional manhole build is not possible

- Can be supplied in left or right hand configuration. Access steps can be fitted, if required
- Can be used in conjunction with an end wall pipe
- Additional chamber sections or a reducing slab can be used to build height

Stop End Bends (Bend - BS EN 1916)

- Tank end access for pipes 900mm diameter and above
- Access steps fitted, if required
- Drainage inlet/outlet holes cored, as requested
- Additional chamber sections or a reducing slab can be used to build height

Side Entry Manhole with Bend (Junction/Bend -BS EN 1916)

- 2500mm long Easi-Flex standard pipe with cast-in bend
- Entry shaft fitted to pipes 900mm diameter and above

Mid Entry Manholes (Junction/Bend BS EN 1916)

- Standard pipe with a sealed manhole joint, complete with fitted slab
- Manhole joint and slab factory-fitted to pipes 1200mm and above
- Access to the tank via winch or removable ladder. Reduced access via slab, available on request
- Additional chamber sections or a reducing slab can be used to build height

End Entry Manholes (Junction - BS EN 1916)

- Standard pipe with a sealed manhole joint, fitted slab and cast-in end wall
- Manhole joint and slab factory-fitted to pipes 1500mm diameter and above
- Drainage inlet/outlet holes cored, as requested
- Access steps factory-fitted, if required

PRODUCT BENEFITS

- Flexibility of design - adaptable to meet client requirements
- Products can be used in space restrictive on-line sewer systems, providing the required storage volume
- Reduction in construction times
- Quality assured and kitemarked products used
- Sustainable systems with design life in excess of 100 years
- Site safety benefits related to reduction of man hours spent in excavation
- Ease of access for maintenance
- Can be linked to other SuDS related systems such as rainwater capture and re-use

Note: Concrete haunching should be used to provide local stiffening to the concrete pipes with manhole entries. Use a minimum 150mm thickness surround to the pipe, extending to a height of 300mm above the pipe, in order to support the shaft joint.

STORMCLEANSER™

HYDRODYNAMIC SEPERATOR

FP McCann has designed and developed the enhanced StormCleanser™ for the treatment of urban catchment stormwater run-off.

The StormCleanser™ provides a cost-effective solution for designers, engineers and contractors involved in the provision of Sustainable Drainage Systems (SuDS). This unit has no moving parts, requires no power, and is constructed within standard precast concrete chambers.

The units come as factory fitted in precast chambers and could also be installed on-site, as required. The modular stainless steel built assembly is designed to provide installation simplicity. The material provides very high corrosion resistance and excellent longevity, beyond the design life of a typical drainage system.

The enhanced StormCleanser™ design allows for an inlet at varying angles with respect to the outlet. Moreover, the design also enables configuration with multiple inlets, at different orientations and of various sizes. The symmetric inlet design provides the freedom of clockwise or counter-wise flow direction, and allows the vortex formation with minimal hydrodynamic losses and turbulence.



Fixed flow direction separators tend to lose efficiency especially when a higher flow inlet is placed ahead of a lower flow inlet. The changeable flow direction provides drainage engineers the freedom to set the desired orientation of multiple inlets. StormCleanser™ allows for preferential flow direction of the main inlet, providing optimum performance for a wide range of configurations. StormCleanser™ is developed with state-of-the-art hydraulics technology, using Computational Fluid Dynamics (CFD) modelling and full-scale experimentation.



OPERATION

The StormCleanser™ is specifically designed to remove suspended solids, hydrocarbons, and floatable debris from the stormwater run-off. Water and pollutants enter the system via the inlet pipe, where the internal geometry enables low energy forced vortex flow patterns. This allows the floatables to gather and solids to settle to the bottom of the treatment chamber for subsequent removal.

Re-suspension of the solids is minimised by the provision of a baffle plate, positioned above the solids storage sump. Floatable debris is retained within the sump storage of the unit, allowing easy access for suction cleaning. A central core allows for convenient suction hose entry down to the sump for cleaning and maintenance. Stormwater surges in excess of 125% of maximum treatment flow rate, overflow a weir, bypass the treatment zone and directly discharge through the outlet pipe. This helps to minimize the effects of scour within the treatment region and prevents wash out of typical sediment downstream.



FEATURES

- Developed at inhouse high-flow Hydraulic Rig, and rigorously tested against actual rainfall inlet conditions
- High retention at most frequent rainfall events per annum
- High treatment flow rate to size ratio preventing oversized separators in the drainage design i.e. minimise footprint
- Wide range of chamber sizes (Ø1200 – Ø4000mm) and pipe sizes (Ø150 – Ø900mm)
- Tested using extremely fine sand particles starting from 2µm
- Modular and innovative design for multiple inlet orientation
- Choice of flow direction providing optimal configuration performance
- Complies with SuDS legislation

APPLICATIONS

- SuDS based drainage networks
- Housing Developments
- Retail Parks
- Commercial Centres
- Leisure Facilities
- Industrial Developments
- Highway Drainage Products
- Car Parks, Roads, Motorways and Trafficked Areas
- Existing surface water sewer discharges

SPECIFICATIONS

Tank Size	Max Treatment Flow Rate	Hydraulic Capacity	Pipe Size	Min. Sediment Storage Capacity	Min. Oil Storage Capacity
(mm)	(l/s)	(l/s)	(mm)	(m³)	(L)
1200	43	86	300	0.50	790
1500	67	134	375	0.82	1235
1800	96	192	450	1.23	1780
2100	131	262	525	1.75	2420
2400	172	344	600	2.38	3165
2700	217	434	675	3.13	4000
3000	268	536	750	4.01	4950
3600	387	774	900	6.20	7125
4000	477	954	900	8.00	8795

Notes:

- MTRF is per WRC specified annualised removal efficiency of at least 50%, for a particle size distribution (PSD) of 2 – 1000 microns with a D50: 63µm and density of 2650 kg/m3
- Hydraulic capacity indicates the maximum flow rate per WRC scour test criteria
- Customized solutions such as: oriented inlet, multiple inlets, and different pipe sizes available as required
- Sediment storage capacity could be extended as required, per the desired maintenance frequency

STORMBRAKE™

VORTEX FLOW CONTROL SYSTEM



Vortex Flow Controls (VFCs) are commonly used in drainage schemes to regulate the storm water runoff from urban areas. Through the use of vortex flow technology, FP McCann’s StormBrake™ provides solutions to a variety of stormwater management problems. These include accurately controlling storm/surface water flow, minimising upstream storage requirements and reducing the risk of blockages compared to traditional orifice plates.

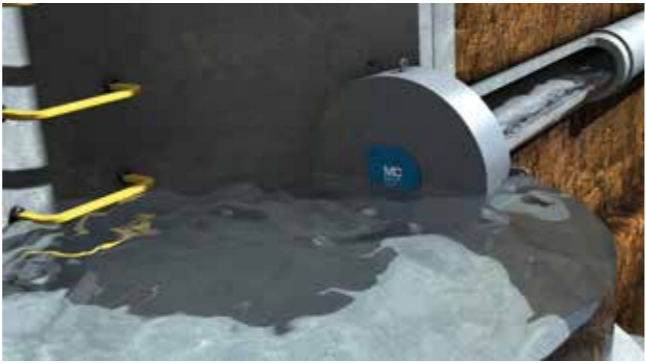
WHAT IS VORTEX FLOW TECHNOLOGY?

Vortex flow technology is based on the principle of a forced vortex, where under sufficiently high upstream water levels a vortex is induced in the flow by the device. The vortex motion results in significant energy loss, creating a pressure drop across the device and restricting the discharge leaving the outlet. The geometric properties of the device control the amount of flow restriction and can be tailored to suit the design conditions for a specific site.



BENEFITS

- Minimal maintenance required after installation. FP McCann’s StormBrake™ is self-activating and function without any mechanical components
- Outlet diameters of up to 4-6 times larger than an equivalent orifice plate, significantly reducing the risk of blockages and the associated maintenance costs
- Reduces the amount of upstream storage required, minimising the cost of providing attenuation facilities
- Accurately designed to meet a wide range of design conditions:
 - flows between 3 – 40 l/s;
 - heads between 0.5 – 2.0 m
- For design conditions outside of this range, please contact FP McCann directly
- Contains a bypass door which can be manually opened at ground level using a pull cable to allow easy access for inspection or blockage removal
- Provides minimal flow restriction at low upstream heads to allow fast discharge of water during the initial stages of a storm



STORMCHANNEL™

THE HEAVY DUTY PRECAST DRAINAGE CHANNEL DESIGNED TO REMOVE SURFACE WATER

WHAT IS STORMCHANNEL™?

FP McCann’s StormChannel™ is a heavy duty, precast concrete slotted drainage channel designed to remove surface water from many areas, including roads, motorways, car parks, industrial, commercial and residential areas. This helps to prevent flooding and run-off.

FP McCann offers two types of StormChannel™:

1. A precast concrete bullnosed kerb drainage channel has a linear slot drain and a profiled, oblong drainage channel.
2. A standard precast concrete drainage channel with an interrupted slot and stabiliser bars for increased stability.

StormChannel™	Length (mm)	Height (mm)	Weight (kg)	Width (mm)
300 Standard	2500	550	1400	520
400 Standard	2500	740	1700	520
400 Kerb	2500	790	1700	520
500 Standard	2500	805	2300	700
600 Standard	2500	990	2600	700

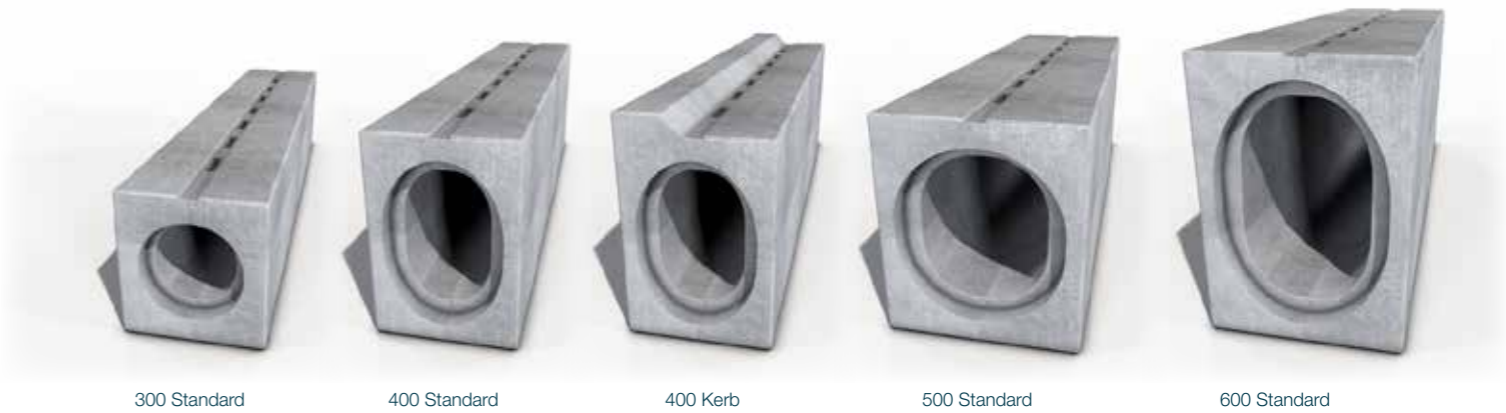
BENEFITS:

- Quick installation
- Minimal maintenance
- Excellent flow rates even at zero or shallow gradients
- Modular system
- Robust product
- Economical product
- Integrated watertight seal
- No concrete surround required
- Conforms to EN 1433

FEATURES:

- Resilient up to classes D400kN, E600kN or F900kN
- 2% surface slope to the slot
- Supplied with interrupted slot only – slot width 30mm
- Standard inner diameter: 480mm x 300mm
- Drainage cross section: 0.125m²
- Spigot and socket end for correct alignment and joining

Additional connections can be provided on request. Junction box sump unit also available in all sizes.



**WELLESBOURNE OFFICE:**

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ARCHITECTURAL PRECAST

London 020 3905 7640

BOX CULVERTS

Weston Underwood 01335 361269

BUILDING PRODUCTS

Cadeby 01455 290780

DOCK LEVELLERS

Weston Underwood 01335 361269

DRAINAGE

Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland/NI)

FENCING

Cadeby 01455 290780

FILTER BED SYSTEMS

Littleport 01353 861416

FLOORING

Weston Underwood 01335 361269 Uddingston 01698 803300

POWER & INFRASTRUCTURE

Littleport 01353 861416

RAIL

Littleport 01353 861416

SPECIALIST PRECAST

Littleport 01353 861416

STRUCTURAL PRECAST

Byley 01606 843500 Grantham 01476 562277

TANKS & CHAMBERS

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TUNNELS & SHAFTS

Cadeby 01455 290780

WALLING

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