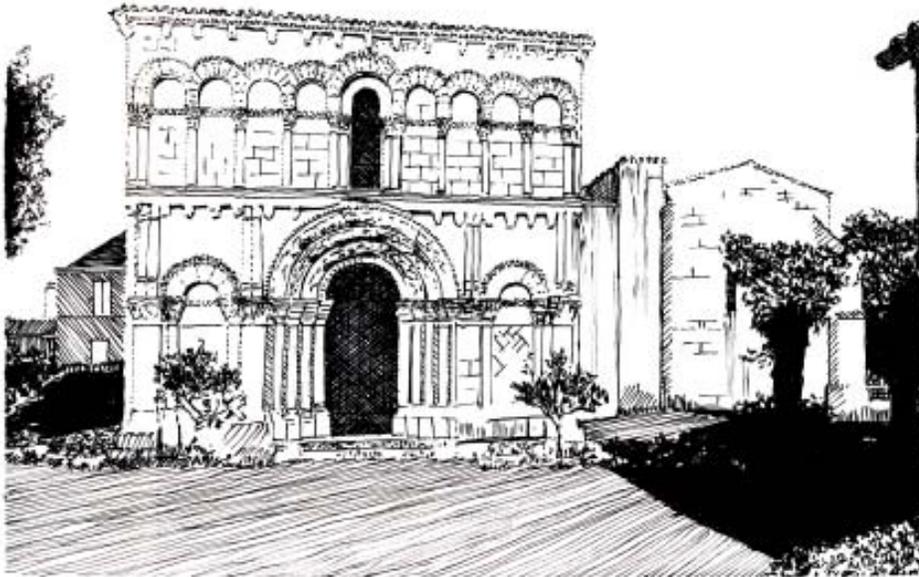




Église Notre-Dame d'Échillais, Echillais ou Goumard
Chapelle Sébastien et la chapelle St-Julien, France
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Église Notre-Dame d' Echillais

The Church of Échillais, this edition's print of a sketch by Ladd P. Ehlinger, AIA, is dedicated to Our Lady of the Assumption. It has a long and varied history, and is one of the most exquisite Romanesque churches in France. The Romanesque style is characterized by bold, semi-circular arches composed of very wide voussoirs (wedge-shaped or tapered stones used to construct an arch). The Romanesque style spanned from the 9th Century to the 12th Century, when it was replaced by the Gothic style.

The west front facade and the barrel vault nave with the apsidal choir of the church of Our Lady was erected in the beginning of the 12th Century, probably by Thibaut Gomar (Goumard) d' Échillais, Lord, on the footprint foundation of an older building. At the time of the restoration work of 1970-71, a base in a semi-circular pattern of an apse foundation was discovered. This foundation probably dates from the 9th Century. Close to these vestiges under big stones, skeletons were discovered and exhumed. In the nave, the four bays that

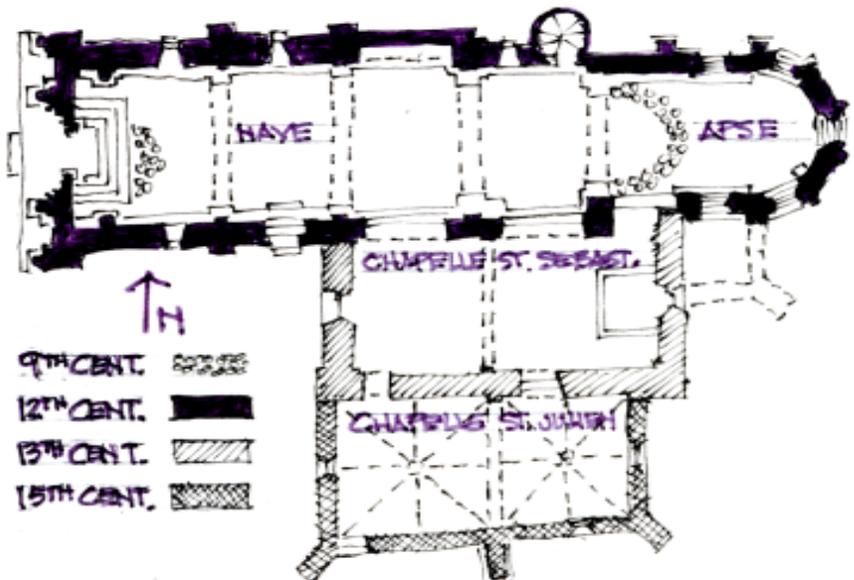
precede the choir seem to indicate what was intended to be the support of a dome that was not built.

In the 12th Century, an addition was built at the south. the chapel of St. Sebastian or chapel of the Catechisms, also a barrel vault. Its construction is of

Gothic style. This chapel had some ogives (pointed arches) in the crossing connection. In the first half of the 15th Century was built the second chapel of groin pointed vaults, dedicated to St. Julien, where the Lord d' Échillais, the Goumard, is buried.

The west facade shown in the print is the jewel of this assemblage. The facade is a square, divided almost in half vertically with strong ledges moldings. The proportions are aesthetically very satisfying with golden rectangles dominant. The main entrance is a telescoping assembly of Romanesque arches suggesting a triumphal arch. It is flanked by two arches and strong engaged columns. The second level is an arcade of Romanesque arches about a slightly larger center arch piercing the wall as a window. The sculpture decorating all arches was beautifully done, depicting saints and elements from nature. Unfortunately, acidic rain from industrialization effects on the climate, has caused severe erosion and damage to most all of the stones of the west facade, but especially to the sculptures.

To the rear is a bell tower which is not remarkable architecturally, and the foundation remains of an earlier sacristy.



Batten Down the Hatches

R. Perrin Ehlinger

With the pounding the U.S. has taken over the past couple of weeks from Hurricanes Harvey and Irma, and with the constant news of troubles and poor flood planning from government and quasi-government programs, a lot of people are looking for ways to protect their homes from flooding that don't rely on urban planning projects, insurance, and blind luck.

The temporary floodwall most are familiar with is made of sandbags. The problem with sandbags is the sand. Delivery and storage is difficult and unsightly, and filling and moving the bags is labor intensive. Clean-up afterward is also difficult. During a flood, sandbags tend to seep and leak, so any flood of duration requires a pump to keep behind the wall dry. For personal property protection - this is extremely cumbersome.



FEMA sandbag wall in MO.

There are two products on the market that are worth looking at for temporary flood protection: the tubewall, and the boxwall. They are relatively inexpensive (certainly compared to flood damage), and they are both easy to set up and dismantle, and can be stored compactly.

The tubewall comes in two types: air inflatable, and water inflatable. The air inflatable tubewall has a flat roll-out that faces into the flood, which allows the water pressure to hold it in place as a flood rises. The water tubewall is filled with water, so it's own weight and the air pressure behind it keep it in place.



Inflatable Tubewall (Gadelius.com)

While both work well, they each are vulnerable to puncture from water borne debris, and the air inflatable ones are subject to wind shifting before the floods are high enough to hold it firmly in place.



Boxwall (Gadelius.com)

The boxwall, or book-end, flood protection, is a solid fabrication in the shape of an 'L'. The lower leg is placed facing the flood, and the weight of the water holds the wall portion upright. They're interlocking pieces, so additional strength is achieved by the connections, particularly at corners. When not in use, they stack like chairs and take up little room.

The limitations of most temporary flood barriers is height, good for 18"-24" of water. If a higher barrier is desired, then a more permanent floodwall should be installed.

One method is building a flood fence. As the name implies, this is a fencing system capable of holding back flood waters, and they can be built from 3' to 8' in height. They can be built of either concrete or steel, and the taller they are, the greater the spread of the fence's foundation must be, in order to prevent overturning. Some taller fences rely on an angled brace for additional strength, so they don't need to be as thick, nor the foundation as wide. The brace can be removable.



Interlocking Metal Panel Floodwall Fence (Fargo, ND)

Where access is needed through the fence, flood-proof gates can be provided, even up to driveway width, or tracking for removable flood barriers can be put in place, so access can remain open, but the fence can be completely closed during potential flooding. While a flood fence can be expensive, particularly for higher flood requirements, its



Floodproof driveway gate (flooddivert.co.uk)



Removable Flood Panels covering floor to ceiling window system (Flood-Barriers.com)

cheaper than repairing a flooded building, particularly if used more than once.

Finally, a building itself can be floodproofed. While much easier to accomplish with new construction, if the exterior siding of a building needs to be replaced, then a certain amount of floodproofing can be retrofitted.

The walls must be structurally strong enough to hold back against the desired water height, and then the sheathing of the wall needs to be waterproofed, usually using a spray or roll-on rubber coating, similar to how many basement walls are waterproofed. Base flashings need to be set in sealant, and all penetrations sealed.

Openings and windows are fitted with tracks for removable flood barrier shields. Large openings or spans of full height windows can be covered with flood panels.

If waterborne debris is a potential problem, bollards can be installed to help slow or stop larger pieces.

No amount of waterproofing is perfect, unfortunately, so any system will likely need a backup pump to handle any water that comes through joints.

Where raising an existing structure is infeasible or cost prohibitive, or building out of the floodplain is not possible - these are some of the strategies employed to help keep a building from being flooded.