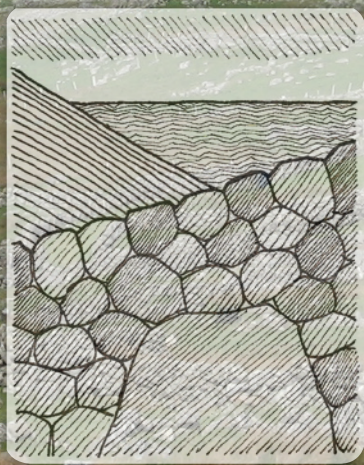


A Field Guide to the
**DRY-STONE WALLS OF
COUNTY DONEGAL**



by
Patrick McAfee

DONEGAL HERITAGE SERIES 3

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Revised 2009

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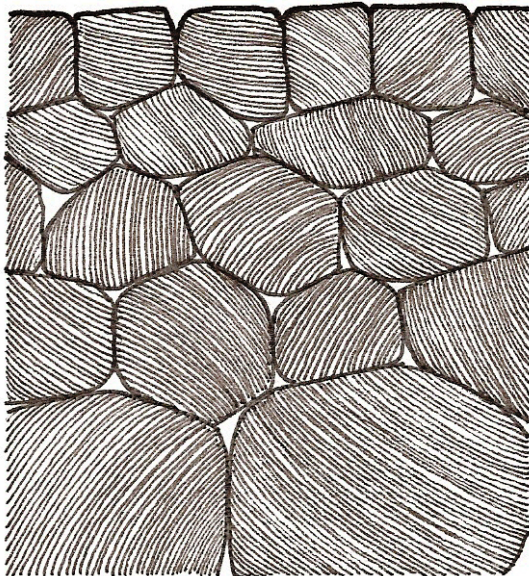
Cover Photograph:

Single granite dry-stone walls of Cnoc Fola / Bloody Foreland

(Photograph by Joseph Gallagher)

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Single Boulder Wall

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Seán Ó Gaoithín, Amanda Wilton

PREAMBLE

The County Donegal Heritage Office, Donegal County Council initiated a dry-stone wall survey seminar in June 2008 at Gort an Choirce / Gortahork, County Donegal for the general public. The objective of the seminar was to introduce the general public to the cultural heritage of the dry-stone walls of County Donegal and to enlist their assistance in a survey of dry-stone wall types in their individual areas. To assist this process, a detailed field survey form and a booklet titled 'Dry-Stone Wall Survey: A Field Guide' was given to each member. Subsequent to this, the County Donegal Heritage Office, Donegal County Council and The Heritage Council commissioned Consarc Design Group to undertake a survey of dry-stone wall types in County Donegal in 2011. This present booklet 'A Field Guide to the Dry-Stone Walls of County Donegal' was thought useful and is here updated.

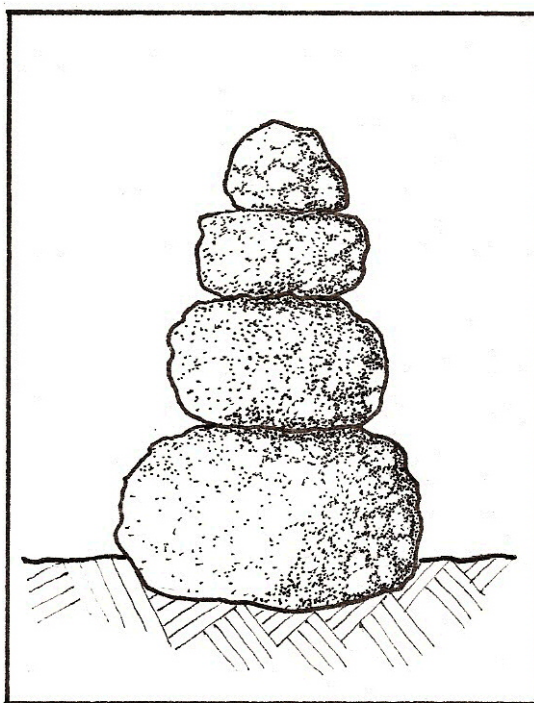
Introduction

This booklet is a field guide to assist in the identification of dry-stone walls in County Donegal. If you want to survey the dry-stone walls in your area then contact the County Donegal Heritage Office, Donegal County Council for a dry-stone wall survey recording form.

The most common types of dry-stone walls likely to be found in County Donegal are shown here but on the ground many variations, combinations and sub-types will be found that have no names. Dry-stone walls were built to enclose fields, clear the land, mark boundaries, prevent soil erosion and control stock. They are also an important habitat for various flora and fauna.

Building dry-stonewalls in Ireland begins with the first farmers, the Neolithic people, over 5,000 years ago. Most of the dry-stone walls we see today are much later than this, originating when land was enclosed on a mass scale in the eighteenth and nineteenth centuries. Wall types and styles reflect the underlying geology of the land, function, stone type and the skill of those who built them. If built well, there is little to deteriorate. Given a little repair and maintenance they can last indefinitely.

These walls are very much part of the cultural landscape of County Donegal, they tell a story; this is just one part of that story.



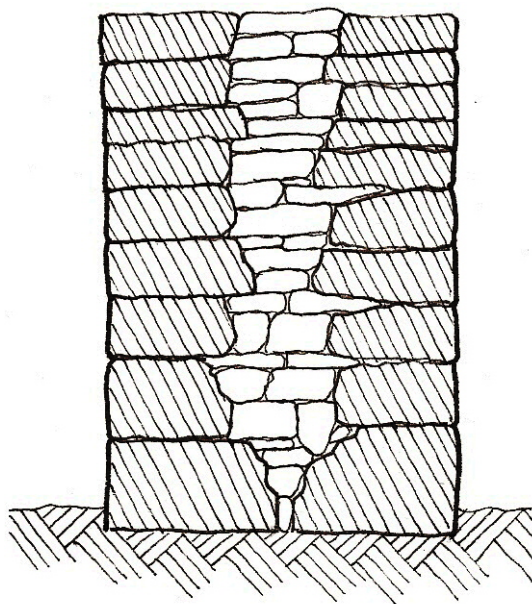
Single Boulder Wall

Single Wall

The single wall is one stone in thickness. It averages about 1.35 metres in height but there are higher examples. The most notable single walls in County Donegal are probably the granite boulder walls of Cnoc Fola / Bloody Foreland.

The surface of weathered granite is abrasive, this gives a 'bite' or a grip between stones that assists with stability. A filigree lace-like appearance is sometimes noted when light is seen filtering through the apertures between the stones. Look carefully and you will see the largest stones placed at the base of these walls and then gradually diminishing stone sizes as the walls ascend, this is a further aid to stability. It is difficult to hang a gate on such a wall without having piers or posts.

Some fields have no obvious means of entry or exit. In such cases the tradition is to dismantle and re-build a particular section of wall to let an animal in or out. In such cases it is necessary to dismantle and re-build a particular section of wall to let an animal in or out, a tradition possibly going back to the first farmers, the Neolithic people, over 5,000 years ago. On severe sloping ground these large boulders act as anchors that achieve additional stability.



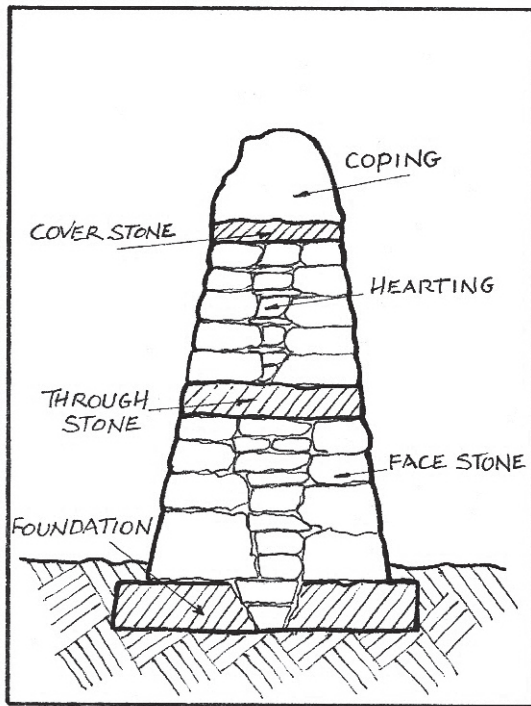
Double Wall at its most simple; face stones both sides with hearting in the centre (only two components). The vertical faces are shown plumb.

Double Wall

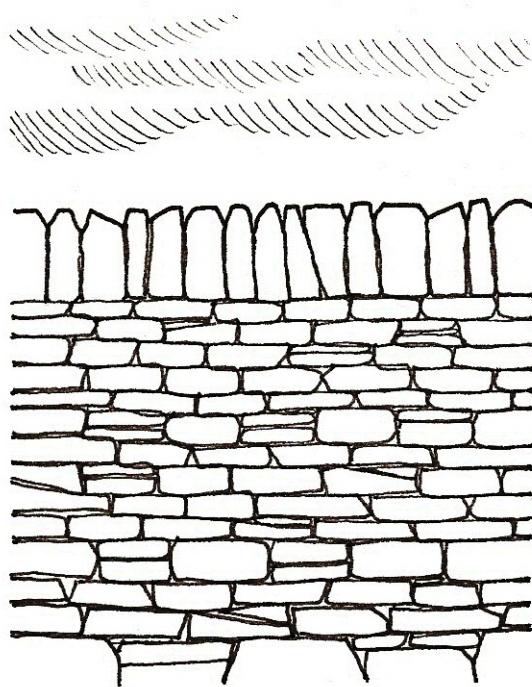
The double wall is structurally more stable than a single wall. In essence it is the wall type used to build most stone structures like houses and barns but, in that case, using lime or earth mortar. The base width of the double dry-stone wall is often about half the overall height of the wall.

A double wall can have from two to seven structural components ranging from just face stones and hearting in the middle of the wall to in addition a foundation, quoin stones at wall ends and returns, through stones to hold both faces of the wall together, a cover stone on top of the wall to tie it together and act as a seating for coping stones above. A face batter provides additional stability and reduces the wall thickness on top sufficiently to be covered by a single coping stone.

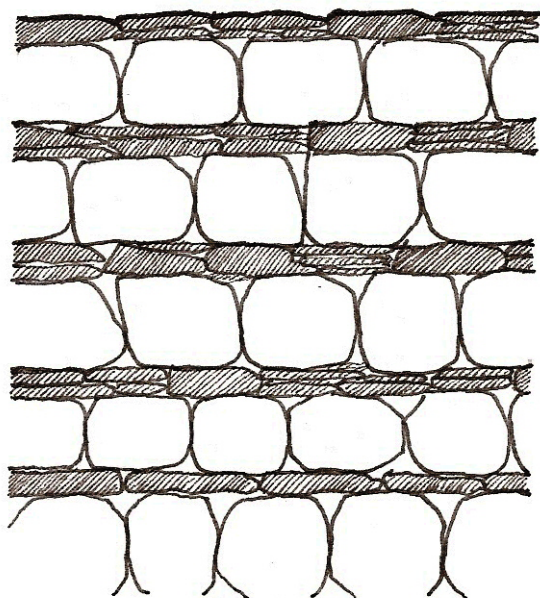
A double wall can be built with more or less any type of stone. As a field and road boundary wall it is generally 1,200 millimetres to 1,500 millimetres high but it can be built higher if the base width is increased accordingly. In good practice the larger stones are placed at the bottom of the wall.



Double Wall showing all its components except quoins stones used at the ends of the wall and at returns. The wall also has a face batter that aids stability and reduces the top width to accept a coping

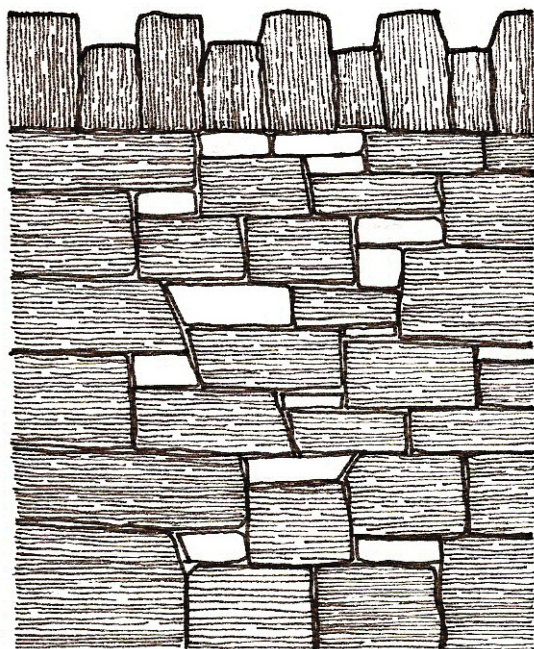


Stones laid in courses with soldier coping on top
Double Wall at Mountcharles

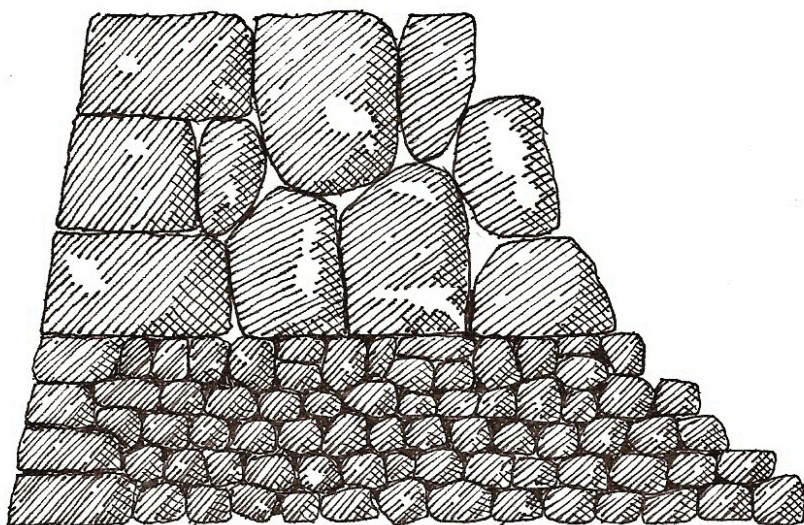


Boulder and Flag (white quartzite boulder and a flat pelite flag to create stability)

Double Wall at Baile Chonaill / Ballyconnell,
An Fál Carrach / Falcarragh



Squared and snecked (unshaded)
Double Wall with cow and calf coping



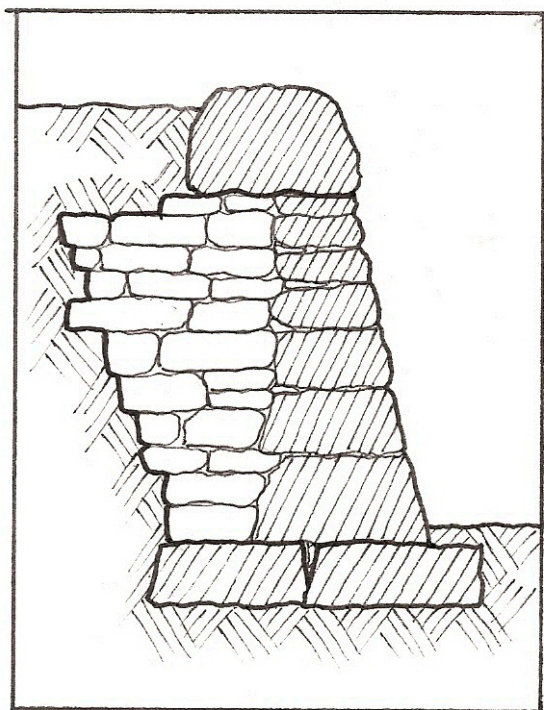
Feidin Wall with small stones at the base forming a double wall
and the larger stones on top creating a single wall

Feidín Wall

The feidín wall combines both the double and the single dry-stone wall. It is not really a native of County Donegal but some variations exist. Here is a wall that has the smallest stones at the bottom and the largest on top, the opposite to normal.

The solid double wall at the bottom is said to prevent rabbits migrating from field to field and to provide shelter for lambs in the early part of the year when it is cold. It is reckoned that the apertures in the single wall on top reduces wind speed compared to a solid wall and therefore prevents soil erosion, creating a more benign environment for animals and crops. A similar wall is to be found on the west coast of Scotland and the east coast of Australia.

Dry-stone wall building occurred on a large scale in Ireland during the eighteenth and nineteenth centuries as a result of the Agricultural Revolution. Emigration from Ireland during that period brought dry-stone wall skills, wall types and styles to the North American continent, Australia and elsewhere.



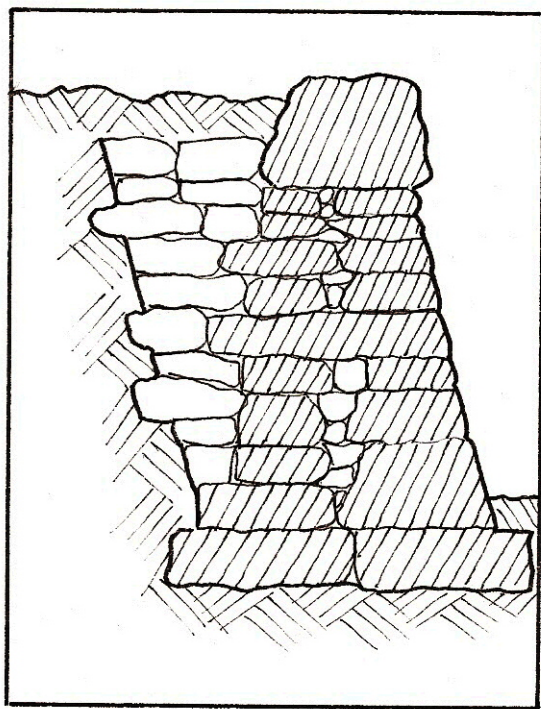
Single-Faced Retaining Wall built against an existing earth bank

Retaining Walls

There are two types of retaining wall. The **Single-Faced Retaining Wall** is built against an existing earth bank. The wall is built carefully course-by-course from the wall face back tight to the earth bank.

Dry-stone retaining walls are used where there's a change in ground levels and to retain embankments alongside roads and pathways. Retaining walls are best built with a face batter (inclination) to resist the natural push of the earth, hydrostatic pressure and any applied loads above. A projecting foundation is critical.

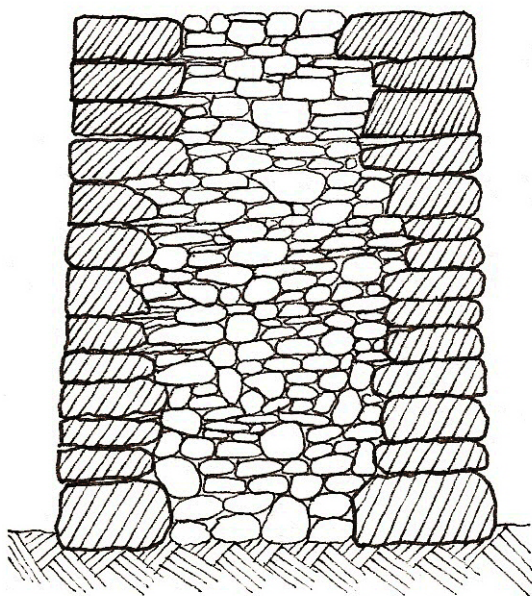
Face stones are laid either flat or on edge. Stones laid on edge are wedged tightly one against the other and have the advantage of reducing slip planes that can lead to collapse of the wall. Retaining walls along the embankments of rivers and estuaries also have to resist the effects of scour from flowing water. All retaining walls need to be carefully built and have sufficient mass.



Double Retaining Wall built in advance of the placement of the earth bank. The stone (unshaded) shown at the rear of the wall is carefully built as the earth fill is placed and consolidated in layers.

The **Double Retaining Wall** is built somewhat like a double faced freestanding wall. This type of retaining wall is built when the earth bank is not sufficiently stable or is to be backfilled later after the wall is built. Additional stone is placed carefully at the rear of the wall as the backfilling takes place and the earth is consolidated in layers. A general rule of thumb is that a retaining wall is not higher than twice its base width and not more than 1,200 millimetres high unless specially designed.

It is very difficult to tell if a retaining wall is single-faced or double unless it is partly collapsed and you can see its inner anatomy.

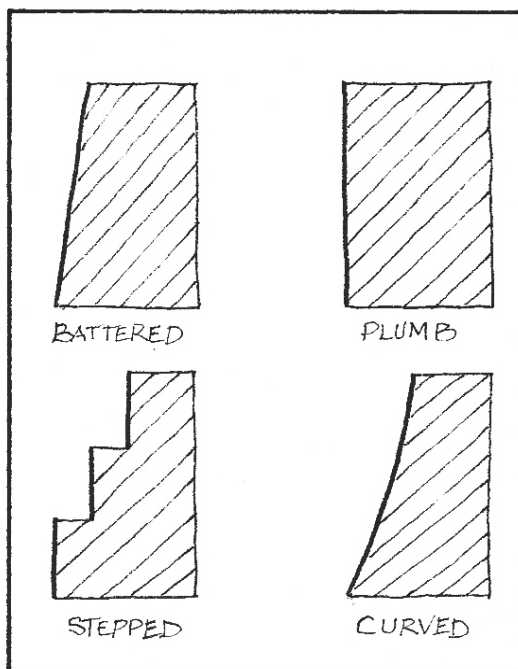


Consumption Wall *used to clear stone from the land*

Consumption Wall

The consumption or clearance wall was built on farms to get rid of excess stone lying on the surface of the land. The land was then more productive although the thick wall took up valuable land as well.

In some areas frost brings stone to the surface of the land every winter which then has to be cleared. Existing single and double walls were sometimes added to over time, increasing their thickness to become consumption walls. Stone was a valuable asset for the construction of farm buildings, sheep pens, walls and gate piers.

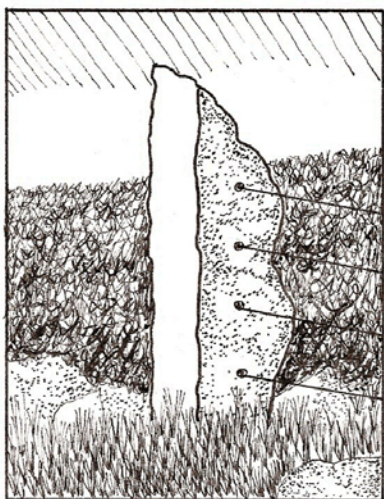


Wall Faces

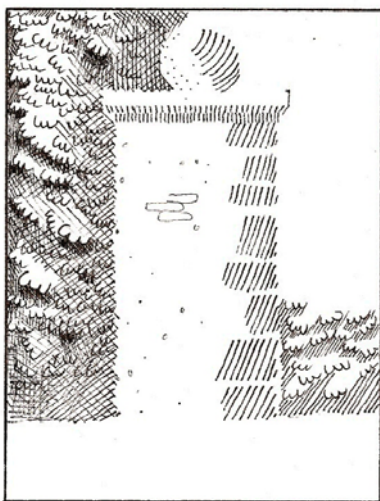
Wall Profiles & Faces

Wall faces can be battered, plumb, stepped or curved to suit their function, stone type, stone shape and surface texture.

A batter is normally advantageous in dry-stone wall building but the tradition in some areas is to build plumb faces, even for retaining walls. Stepped faces are sometimes seen on retaining walls on roadside embankments; it is also a common profile for buttresses used to support existing leaning walls. Curved faces are associated with water and sea defence work.



Stone Post *used with wire fence*



Round Pier *with flag and boulder capping*
Gaoth Dobhair / Gweedore

Piers & Posts

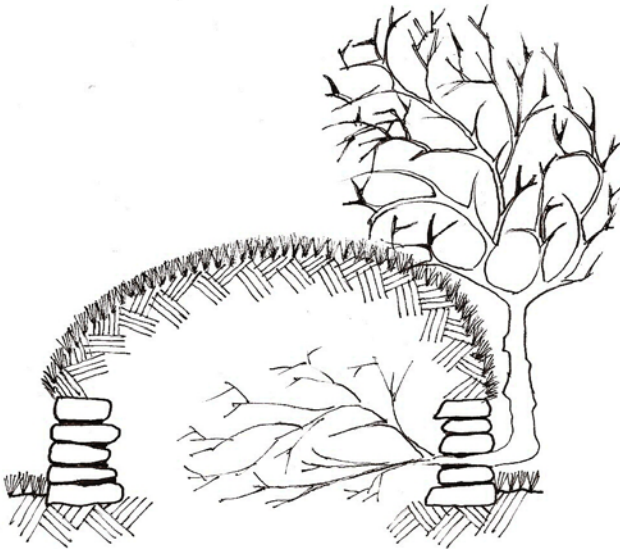
As mentioned earlier, it is difficult to hang a gate on a dry-stone wall and 'gaps' or a designated part of some walls is demolished and rebuilt to allow an animal in and out of a field. Alternatively these gaps are filled with thorn bushes or some other means to secure them.

In order to hang a heavy wrought-iron gate, piers or posts are used. Piers are square or circular on plan. The drawing shows a round pier with a flat flag and a rounded boulder on top. In other parts of the country a conical-shaped capping is more common.

A wrought-iron hanging eye is built into the pier near the top to catch the vertical stile of the gate. At the base of the pier, a spud stone and cast-iron socket set in lead takes the bottom of the stile and the weight of the gate. Instead of a pier sometimes a single standing stone or post is deployed with a hole cut near its top to take a hanging eye.

Ditches

Various combinations of stone and earth are to be seen in ditches often incorporating a hawthorn hedge. Ditches vary greatly in style, some being stone-faced one or both sides. The stone faces can, at times, be near the full height of the ditch, at other times no stone is used. Ditches are a major habitat for flora and fauna and act as wildlife corridors.



Stone-Faced Ditch

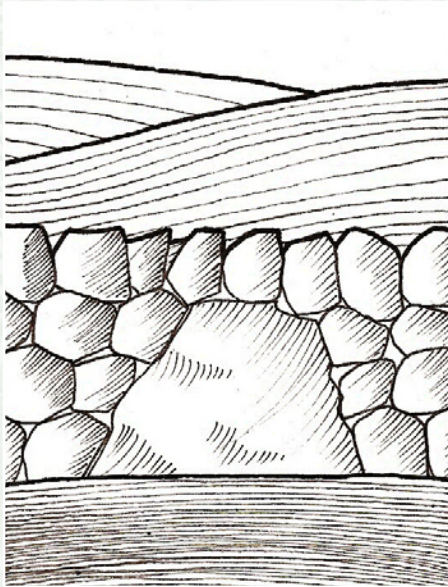
(only one of the many styles of ditch is shown here)

Conclusion

Old dry-stone walls are undoubtedly built with the stone from the top of the field or near the surface geology. This is one of the reasons dry-stone walls and vernacular farm buildings fit in so well with the natural landscape. The geology, colour, shape and texture of the stone are all critical and it is very important when repairing or building new to match the local indigenous stone but if not available then at least the same stone type and colour. In addition the local stone type creates specific habitats for the flora and fauna that live there.

In the past, solutions to problems regarding function, weather, ground surface, stone type and shape, surface abrasion, bonding pattern and gravity taught lessons that were hard learnt and became part of each local tradition. Repairs and new-build should reflect this local tradition.

Interest is growing in our dry-stone wall heritage; we have one of the oldest and most extensive cultural landscapes of dry-stone walls in the world. We need to study and record it but most importantly to physically work at it, repair and maintain it for the future.



*Single Boulder Wall with individual large boulder,
possibly an original boundary marker*

FURTHER INFORMATION

If you would like to find out more about the survey of dry-stone wall types of County Donegal, please contact:

County Donegal Heritage Office,
Donegal County Council,
Station Island,
Lifford,
County Donegal.
Telephone: (074) 917 2576
E-mail: heritage@donegalcoco.ie

This booklet can be downloaded free-of-charge from
the County Donegal Heritage Office website at:
www.donegalcoco.ie/heritage



**Comhairle Contae
Dhúna nGall**
Donegal County Council

An Chomhairle Oidhreachta
The Heritage Council



An Action of the County Donegal Heritage Plan