

Reading through the publication “Papers on Sutherland Estate Management 1806-1816 by JR Adams M.A. published in 1972, it is possible to get a picture on the thoughts, opinions and ideals of those who were moulding the County of Sutherland into much as it remains to this day.

One project which has often fascinated me is the building of the Mound barrier to take the roadway across the Fleet estuary and the creation of arable land on its landward side. What is the story behind it?

The Mound

1811. William Young, the estates new factor was a man set upon a mission, to transform the estate of Elizabeth, Countess of Sutherland from a rather, as they saw it, backwards state into an ideal of modern estate management as perceived by the thinking of the times.

He had pushed himself hard into getting into the driving seat of this change and now that he had pushed aside the incumbent factor as not being progressive enough, he had his chance to prove himself, it was a task which he set to with much enthusiasm and relish, after all, had he not set an example with his own small estate of Spynie in Morayshire.

So, along with shifting around nearly everyone in the County, there were great schemes afoot, drainage works to do, farms created, villages to be laid out, coal mines to develop, along with brick works and salt pans, villages to be started, harbours built, shipping trade developed. Lots of crofters innocently going about what they had done in their glens since time immemorial were to be turned into fishermen, and then there was the “road works”.

The act of parliament which triggered the road improvement works of the early nineteenth century, came about as the result of the withdrawal of military funding for maintaining a road network in the Highlands, the need to extend this roadworks and how it was to be paid for.

Thomas Telford was asked to investigate and submit a report, this he did and his findings, published in 1802, were, as far as Sutherland was concerned, “*to make the intercourse of the County more perfect by the construction of good roads and Bridges,*” and that, “*these roads were to be built to suit the commercial and agricultural interests of the land owners, who would derive considerable benefit from them,*” and, in consequence, they were expected to bear half the cost.

Of interest is the required standard of road, “*They are to be 20 feet width, surface to be gravel to a depth of 14 inches in the middle and 9 inches at the sides, with no stone larger than a hens egg.*” (Highland Highways, John Kerr John Donald Edinburgh) 1991)

In response to the Sutherland Road Act of 1805, work was eventually underway to construct a roadway from Creich Ferry, (also known as the Meikle Ferry) to Golspie the fifth report of the Commission of Highland roads and bridges **April 1811** states that the road, begun in 1809, “*was all well formed and gravelled, with bridges carefully and regularly built, using mostly local labour, and that it was expected to be called to inspection come the summer of 1812*”, but, it also reports problems with the Heritors, i e, the land proprietors and also that “*an alternative line of crossing the Fleet had been advised.*”

May 1811. William Young has before him the plans to improve the road system within the county and the obligation placed upon the estate owners to co-operate with the parliamentary road system. A bridge had been planned for the river crossing at

Helmsdale, the Dornoch Firth was to be bridged up stream at the Bonar narrows, a new bridge was across the river Brora and a road network designed to fit in with these crossings was proposed (*from Commission report 1811 page 14*)

But there still remained the long sea inlet of Loch Fleet, with its tedious detour through Culmaly, Kirkton and Morvich to get a crossing at Pittentrail then back by Eiden and Torboll, where the rock itself was considered to be an insuperable barrier.

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The Commissions renowned consulting civil engineer, Thomas Telford, had been involved with the surveying of the intended line of the new road, and even submitting estimates for two new piers at the Little Ferry.

A bridge at the Little Ferry, or to give it its old name, "Ferry Unes", (Owens lands, Golspie Story page 22,) was ruled out as a none starter, money being allocated towards a pier construction project. The commissioners in their report of 1813 record that the Fleet crossing was "*the only one remaining to interrupt in the road from Edinburgh by Sterling to Thurfo*".

But Young's imagination had already been at work with an alternative idea, that of crossing the estuary by a mound, either from Skelbo to above the Little Ferry or else from Torboll to Craigtoun.

Young took it upon himself to get Mr Hughes, the mining expert then involved with the Brora coal mine project, as well as the Caledonian Canal and various other projects, to submit an approximate estimate.

Thomas Telford was in the area himself at this time, inspecting the new bridge over the Helmsdale, he was given information about this alternative idea and is assumed to have looked at it and favoured the Craigtoun rock Torboll crossing, as did Hughes and Young, to whom the idea was seen as being the most practical and it had the potential of a bonus, it would wrestle an area of a good 200 acres of arable ground from the sea along with 108 acres of meadow land, it all fitted in with his existing plan to straighten out the river fleet above Morvich. (ser Lxxiv vol 1).

The commission were a bit put out by this change of direction as they were already near Skelbo with the approach road to the ferry and this meant that this money was wasted and a new approach road constructed to come in further west. Also, the cost of the causeway was given as £8,500, as against £1,359 for two piers. They wanted to take into the equation all this new land that the estate was going to acquire and benefit by. (ser Lxxv vol 1)

Young was indignant at this approach by the commission and wondered who had put them up to it, he writes to the Marchioness of Stafford in April of 1812, "*with the Mound, something may be attempted at a future period, without it, nothing ever can, and Strath Fleet, one of the finest valleys of its extent in the North, must remain in ruins*" (ser, vol 2, p162)

30 April 1812, Telford was being called upon to submit an estimate on the likely value of the land which would be reclaimed, we can assume that Telford, being a very busy man, did not give this task much priority, and Young was left frustrated as another season passed.

By September, the estate decided to give proceedings a stir; The Marquis approached the commission with an offer of £1000, as a contribution towards the lands to be reclaimed.

The commission were again in no particular hurry to respond and it was into **1813** and on the 24th of February before their proposals were finally submitted, and the work put out for tended by the 3rd of April, the estimate had by now gone up to £9,866, but

contractors were not forthcoming for what was seen as a difficult operation with many pitfalls. (ser Lxxvi)

Hughes the engineer was again approached and was plainly preferred as the man for the job, but he was reluctant to commit himself. Two estimates had been received, one from an Edinburgh contractor for near £11.000 and another from James Forsyth, a Morayshire man, of £7.500. The first was considered a bit stiff and the second, Earl Gower thought to be of doubtful competence, so things were in abeyance.

Hughes was again approached, but continued to be unenthusiastic, except at an exorbitant rate, so to break this stalemate, Young got round Earl Gower to submit an alternative, an estimate from a consortium of the Earl, Young and Patrick Sellar, the co factor for the estate. This was formally put forward on the 29th of September 1813. (ser vol 1 xxvi)

This submission brought forth a furious rebuke from Thomas Telford who resented this intrusion into his profession by a group whom he regarded as amateurs, he had still hopes of getting Hughes on board the project, on a sort of actual cost basis, similar to the arrangement which he had used to build the bridge at Bonar.

Young decided to counter the accusation of amateurism by engaging as foreman, Forsyth, whose tender for the job had previously been rejected, his choice was not to enjoy the confidence of his partners.

Young was pragmatic about Telford's outburst, "*he has done much for us and most people are at times, subject to a little spleen*". (ser lxxvi vol 1)

It was **January 1814** before the contract was finalised. The plan was to start at Craigtoun rock, at the north end, with a bridge and sluice gates, to be undertaken during the forthcoming summer, and left over the winter to settle, before the main embankment was undertaken the following spring of 1815.

So work began, on **March 26th 1814**. Fifty-four men from Rogart and Strathnaver were engaged along with 27 waggons. Work on the embankment began at the Torboll side with a horse drawn railway. The material coming from the hillside nearby.

On the North side, during May, a boat cargo of freestone was delivered on site from Morayshire to enable the mason's work to begin on a bridge.

It is interesting to note that for the construction of the Skelbo farm and buildings begun three years previous, Young had found the Strathnaver men to be much better workers than the local east coast men (Lxxvii, vol 1)

As is often the case, problems soon arose, the expected rock foundation, as predicted by Telford, could not be found, Telford was called in to give advice, various alternatives were suggested but in the end, the decision was just to keep going down.

It was to be the **5th of November** before Young was able to report to the Countess that a solid rock foundation had been found. Work was suspended for the winter; they now had a big hole, no bridge, only a small part of the Torboll causeway completed and £2000 gone.

February 1815, Young has got his squad into action again, by the **4th of April** he had ordered that a temporary embankment be made round the site of the bridge so that the foundation could be dug out properly and not to delay the mound construction.

Work progressed, but as it did, another problem arose. The narrowing of the waters between the encroaching embankments was increasing the tidal flow so much that, during May, work was suspended as the waters were undermining their work.

So the best time of the year for the work passed by without much progress, it was not until the Bridge was finished on the **23rd of July** when the new sluice gates were opened to relieve the tide, that work on the embankment continued.

These problems arose at a bad time for Sellar, he had become embroiled in the court action taken against him over the allegation of cruelty arising during his clearance of the lands on Strathnaver. A letter gives a hint of this with the reference, “*As for poor Sellar, Jardine says that he is by no means in a state of mind to give his attention to the concern*”.

Sellar himself wrote to James Loch in March of 1816, when he asks himself how it came about that he had managed to get himself embroiled in such a civil engineering adventure in the first place, from which one could expect very little financial profit, if any, as they were puzzling their brains out carrying through another mans trade and he vowed, that if he survived this, “scrape”, he would keep to his own sphere in times to come.

The problems which he referred to began with his arrest in May 1815, at which point the Mound had been extended 180 yards into the sea, and on his return from Edinburgh in July, when he noted that the extra extent of enclosure had increased the velocity of the water, it had washed out the infill at the head of the mound, leaving a huge hole with the larger stones lining the bottom, giving the impression that firm ground had been reached, which was not the case, as the hole continued to deepen.

To stop the breach was a lengthy tedious business, with a great muster of carts, the fill being mixed with brushwood and paved over with stone, by which time September was upon them and the days were shortening. The site was considered stable so work was stopped for the winter. (ser vol2 pg 274)

1815 had passed, some progress had been done, £5800 had been used up, but the major task lay ahead, how to close the final gap against the main current of tide and river. It was still the intention to bring the embankments close enough together to permit of one grand drive during a favourable tide to enable the gap to be closed.

The magnitude of this problem can be picked up from the correspondence. The Marchioness, coming north that August, found works in full swing and reported back to the Marquis that it was a very big work, the bridge and the flood gates were finished and about one third of the mound completed to within six feet of its height, and so far, repelling the tide. (ser lxxviii vol 1)

But the marchioness was having doubts; as was James Loch, her estate supremo, about the competence of Forsyth as foreman and sought advise from consultants and engineers. (ser lxxxviii vol 1)

Loch had already consulted with another of the engineers working on the Caledonian Canal, Matthew Davidson, who advised consulting with a Mr John Rennie, this was done on the **28th Feb 1816**. Further advice was sought from Joseph Jessop, a design engineer who had done major works in Bristol, he was emphatic. “*The only way to accomplish it is to heighten the whole, gradually but regularly, from one end to the other, at once permitting the tide to flow over it every tide, until it is so high as to be above high water mark.*” He had in mind a similar embankment built across the Glaslyn River in Caernarvonshire in 1807, when an attempt to enclose it in the middle met with failure. It had been visited in 1811 by the Earl and Young, when they must have had in mind their own project. (serlxxviii)

Jessops report alarmed Loch sufficiently for him to be put in touch with Professor John Playfair of Edinburgh who suggested that they approach James Jardine of Union Canal fame. This engineer came north in early April and made a report with suggestions as to what should be done, Loch was alarmed, he cautioned delay until he secured a further opinion.

An interesting item of Jardines report is the fact that to fill in the breach at the embankment head, they had sunk a lighter and a boat, loaded with large stones, the

boat they could not now find and the lighter lay on 14 foot of water, as against 5 feet as when it was at first sunk, this gives a dramatic indication of the force of undertow against which they were battled.

There now arose a dilemma, in that there were conflicting methods on how to finish the task. Young thought that what they were doing was the best way and he was not for changing it, Sellar suggested that Hughes be brought back into the picture, while Loch wrote to Telford, who arranged an inspection, this time by Hughes and Davidson, his canal expert.

They undertook this on the **8th of May 1816** and in principal supported Young's point of view, with a few modifications. Loch had this report by the **24th of May** and rather reluctantly gave the go ahead to Young and Sellar, along with their existing squad, which was just as well, as they were already in full action.

Of the 900 yards, 600 remained to be done, of this 200yds was in shallow water and was not a big problem, the major challenge was to be the 400 yards in the middle, where there was a tidal stream of between 3 and 8 feet. (Ser vol I lxxix)

. Hughes plan was to build a skirting of timber along the whole length, on each side of the piling, and then back fill it, another layer was to be added and so on until the whole was above the high tide mark

Everything was organised to permit of a smooth operation, wooden boxes each capable of holding 10 tons of rock were spaced out for the purpose of boarding up the intervening space and filling it with earth. The boarding was cut to length and bored for nailing and placed on rafts moored along the piling. It was planned out how much each squad could have in place and back filled within the time tide would allow.

Trees 13 to 18 feet were machine driven in at one yard intervals to support the two inch boarding which formed the skirting of the backfill, it was going to be a race against the incoming tide (ser vol 1 p 173)

Sellar reported on **20th May 1816** that a foot passage had been established so as to enable the final piling to be undertaken, he was not at all happy with Young and Forsyth only erecting one line of piles instead of the two lines which he had thought was the intention.

The **27th of May** saw Sellar once again on to Loch about the absence of the back up piling, he also noted that the tide had once again cut into the head of the northern causeway, as he had feared would happen. It had created a hole about 55 feet long and about 9 feet deep. This was a trifle alarming, as the planned final push had now to take into account this large hole. None the less, plans went ahead for the Grande Finale.

Sellar went into Ross shire recruiting road construction workmen, further men were diverted from the Tongue road. Ten extra local gangs and their overseers were recruited, in all, upwards of 700 men, 250 wheel barrows, 50 horses and carts and 40 rail wagons were organised for action. For sustenance they had laid on 30 hogshead of ale and 40 bolls of meal converted into bread. D-day was the **4th of June**, to catch the neap tide and the long daylight hours, it was to be a busy day.

However, nature was not going to give in easily, the night brought forth a tempest of considerable violence, from which direct is not reported, but its effect was to create a major problem.

Sellar got up at 4am that morning, wrote a hurried note to the Marchioness and left Culmally to make his way to the Mound through the storm. When he arrived there one hour later, he found that Young was over on the Cambusavie side and that there was no communication, worse, the storm meant that their efforts to fill in the hole at the

end of embankment were getting nowhere. Sellar resigned himself to holding their present position as going to be a big enough task for the day.

However, when the tide had receded a bit, he saw squads of men on the far side set to and begin the boarding and backfilling so it was to be all systems go after all. An hour later and they had established a crossing and work continued a pace.

High Tide was at 7pm, and all was watched with anxiety, the weak point was going to be where the hole had been, they were unable to enclose it with piling so it was boarded and filled without this support, nor as Sellar warned against, the whole be braced with deals in the absence of piles. It meant that with the original 10 foot of hole, the tide would add a further 5 feet making it all of 15 feet of freshly laid earth back fill to deny the waters.

At ten minutes to seven and almost full tide, the wood above the 15 foot hole began to buckle and it gave way, the sea rushed over, washing everything before it and undoing all their labours, and in doing so, created a chasm deeper than had ever been there before.

They were cut off. And it was 10pm before a tired and despondent Patrick Sellar returned to Culmally and immediately set pen to paper with a report of the disasters to the Marchioness (*ser vol2 p 289*).

The confidence of Young and Sellar was severely dented by this setback, Young even wrote on the **8th of June**, to James Loch, suggesting that he should retire from the estate. Sellar was more pragmatic, he realised that although the gulph was now deeper, it had not widened and the rest of the works had held firm.

He was however, critical of Young and Forsyth for not sticking to plan, and for the way they mustered and fed the men, the manner of discipline used was too punitive and he was going to have nothing more to do with them, the only point of agreement between the partners was that Hughes should be sent for.

However, Hughes was at the far end of the Caledonian Canal and it was the **12th of June** before word of the setback reached him, but by now, Young had bounced back and was anxious to get on with filling the gulph, this time with piling, stronger timbers and hard fill. So he set too and a reluctant Mr Sellar came along as well. Loch was again on the pen to them, demanding that they do nothing until Hughes had done an inspection, but he was too late, work was in progress. (*ser lxxx vol 1*)

This time, there were no slip-ups, Forsythe was relegated to take charge of a small squad of earthmovers and the supervision of the piling was given to George Alexander, the superintendent in charge of the Tongue road project.

On June 18th, work started that day at 10am and continued all day and the following night, stopping only for the high tide so that by 10am on the **19th of June 1816**, Sellar returned to Culmally and sat down to write his masters that the Mound embankment had been created.

There was still much work to be done, the embankment was 100 feet wide but where the sea had encroached, the rock fill was still only 20 feet wide.

On the **26th of June**, the Marquise of Stafford, accompanied by his Marchioness the Countess of Sutherland, crossed it in style, making for their castle of Dunrobin.

(Golspie story, Mgt Grant 1983)

The final completion certificate was given on the **6th of December 1816**. The cost over budget was £644, which was not bad, all things considered; the Marquis met this from his own finances. It was a major works for its time, £7000 of wages went into the local economy.

It is a common misconception that Thomas Telford built the Mound, for example, read "New ways through the Glens" Nelson and Sons Edinburgh. Telford did indeed, along with his

engineers, hover in the background and gave advice when asked, but the operation was in reality, mainly undertaken by the Sutherland Estate, in particular, Young the factor, whose enthusiasm kept the thing going in spite of the difficulties which he created in the process, and, importantly, he was able to carry along with him Earl Gower and his money.

The Commission road report of March 1817 gives mention of the troubles encountered during the final stages and records that Telford inspected it during September, when he recommends that the sluice gates be protect against ice and debris. The report of 1821 also gives confirmatory detail.

For Young, this new road was to be his last major undertaking for the estate; his enthusiasm for creating new enterprises without thinking out fully the implications had led the estate into financial crises. Even as James Loch came north that summer, to make his first crossing of the new causeway, he was in touch with William Mackenzie, the Estate legal arm, about the need to reorganise.

Young had resigned from office and vacated his factorship by Martimas term 1816. He had been in office 6 years, but in that short time, was the instigator of changes more radical than any war, invasion or famine had ever inflicted upon the inhabitants of Sutherlandshire.

Patrick Sellar was the man who came into the estate management at the same time as Young, his role was under factor, his was the heavy arm of the machine, initially an accountant and lawyer, he was in charge of rents and the enforcement of the estate policy. He also resigned in 1816, but to become one of the biggest farmers in the North, he had created plenty of space for himself. He preferred this element to civil engineering.

The other major personality drawn north by Young's actions was James Loch, the chief agent for the extensive Leveson-Gower estates in England. He was to become more and more involved. After 1816 he had a firm grip on estate matters.

Although there were extensive evictions undertaken in 1819 and 1821. They were never to be on the grand scale as carried out by Young and Sellar. Indeed, to the latter gentleman, he wrote one letter telling him in effect to cool it and not get himself into legal scrapes and that more consideration be given to the outcome of his actions. He also criticised the manner in which Sellar sometimes approached people, especially where two languages were involved, i.e., the Gaelic.

So how do we, nearly 200 years later, relate to what was achieved by this adventure? The Mound is still there, it has never breached, it has been widened and a railway put over it and 60 years later the line closed. A fine new road bridge now graces the Craigtoun end.

The sluice gates in the original bridge are still there and doing their duty to this very day, testimony to the skill of those who built them.

Young's reclamation ideas were only partly successful, instead of meadow pasture he had created the greatest estuary Alder Wood in the country, of national importance and high ornithological interest.

Oral material is rare but one tale related to me was concerning a carter who worked on it and the ancestor of a Brora man of today. His job was carting the rock from the quarry below Craig Amail and his bill to the estate was always written out as follows. ***Twenty comes and twenty wents***, at whatever his charge was.

John Macdonald. Rogart. Sutherland.

Any comment or correction to this interpretation of the event is welcome. john@macd25.fsnet.co.uk

