

A NAVIGATION SCHEME FOR THE RIVER LEA IN THE 1570s

BY

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By the mid-1500s the demand in London for goods from the surrounding countryside was rising, which led to the City of London to question the over reliance on road transport and the need to improve the navigation along the “Ware River”. There was a concern in the city that if the road hauliers remained dominant in the transport of goods, they could dictate higher charges and hence raise prices significantly in London. The plans and actual improvements that were made to the navigation in the second half of the 1570s gave rise to conflict between those who used the river and those who felt their livelihoods related to road transport were under threat. Despite the twists and turns in the fortunes of the navigation improvement scheme the growth in barge traffic by 1600 indicates that a considerable increase in transport by barge on the River Lea was achieved. This article attempts to give an overview of the situation as it developed over time with a specific focus on the changes that occurred along the river close to Stanstead Abbots.

The Alderman of London appointed a committee in June 1560 charged with surveying the river between Ware and the Thames. The objective being to see if it could be improved for navigation and how that might be achieved. The main concern of the merchants of London being the transport of fuel [wood], corn, hay flour and other essential provisions to meet the growing demand in the city. The report presented on August 8th was to be used some time later in formulating proposed changes to the channel of the River Lea. At this point there seems to have been no mention of constructing a separate canal for barge traffic.

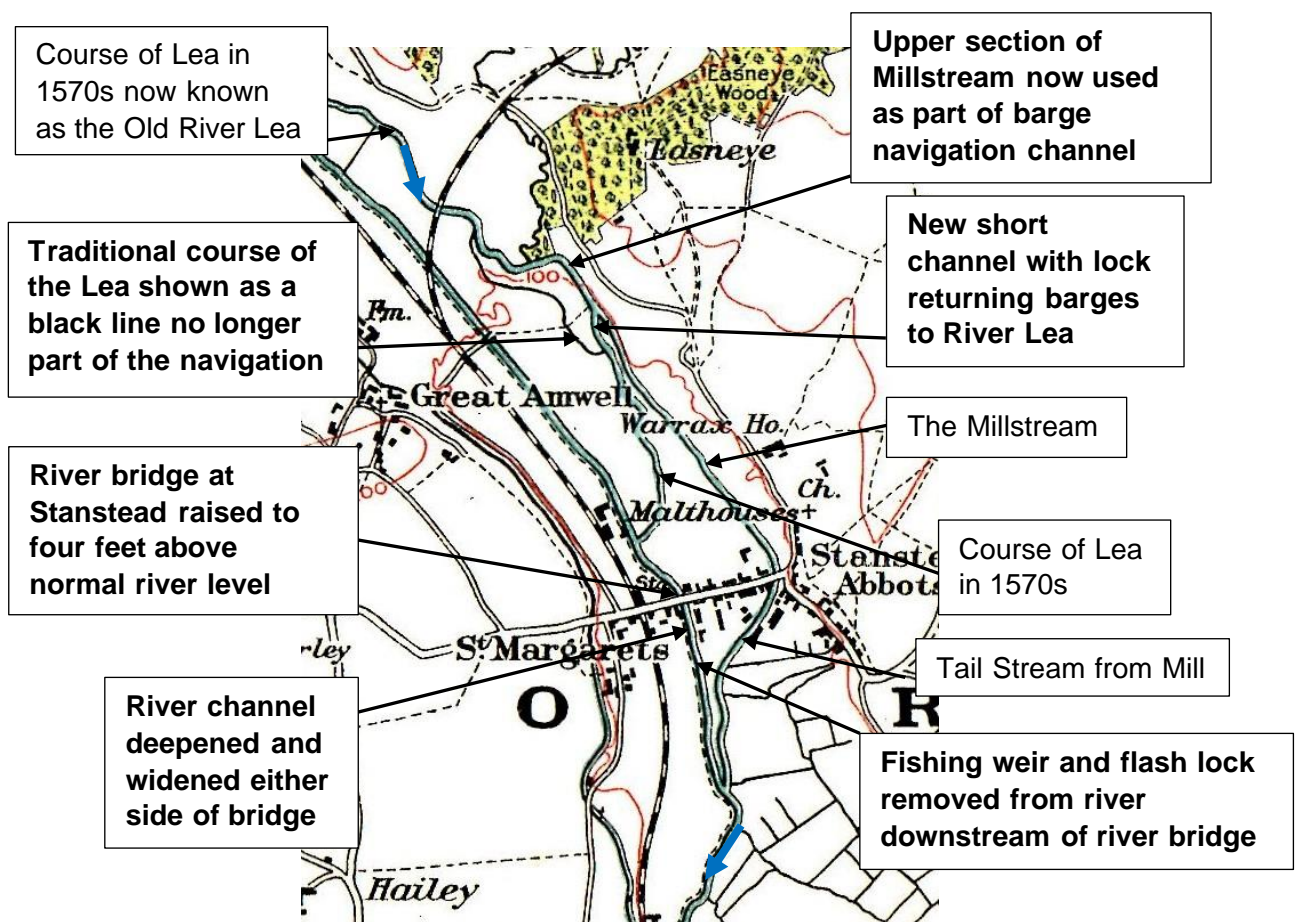
On the 24th September 1566 a Commission of sewers was appointed to improve the navigation along the Ware River. It was given ten years to achieve its objectives. Among its 95 members was Edward Baeshe the Lord of the Manor of Stanstead Abbots. The Commission carried out a survey of the weirs and millstreams in 1567 to supplement the findings of the 1560 report. The interests of the London based commissioners was very much to the fore in the deliberations which led to the 1571 Act of Parliament. As presented the Act proposed the improvement of the river from Ware through Stanstead Abbots to Hoddesdon beyond which powers were sought to build a canal which would lead to the City itself rather than where the Lea meets the Thames at Bow Creek. Due to limited time, the Bill was rushed through parliament but not before a parliamentary committee dominated by road haulage supporters introduced a considerable number of extra clauses. These all being designed to frustrate the implementation of an improved navigation. One of the amending clauses that was to come back to haunt the navigation later stated that no improvements to the existing channel of the Lea could be made until the canal was completed and in use. The amendments had so effectively sabotaged the Bill, both by making the practicalities of implementation very difficult but also considerably raising the already high cost, that it seems no attempt was made to even commence work on the scheme.

Although those with interests in maintaining the dominance of road transport had prevented the canal being built the City of London remained determined to achieve an increase in the use of less expensive river transport along the Lea Valley. A new Commission of Sewers was formed on the 27th September 1575 which aggressively pursued the interests of the City of London. A new and radical scheme was adopted that had never been tried before or attempted since. This involved converting the natural river to a navigation not obstructed in any way by impediments and measures put in place to minimise the loss of water from the navigable channel. This was to be achieved by deepening and narrowing the river and removing all islands, weirs and locks in the navigation. In addition, side channels for irrigating the land were either to be removed or partially blocked to limit the amount of water directed away from the barge channel.

In practice it proved impossible to avoid locks in the navigation where three water mills had millstreams that diverted water away from the navigation. These three water powered mills were located at Stanstead, Broxbourne and Waltham. By October of 1577 work had progressed sufficiently for a practical demonstration of the potential of the new navigation to be carried out. A barge loaded with 2 tons of cargo, giving it a draft of 18 inches, was taken downstream from Ware to Bow Creek. Despite the channel having previously been dredged to give a minimum depth of 2 feet throughout the barge did scrape the bottom at places, although it did not actually get stuck at any point. The offending shallows were noted and additional dredging took place. Shortly after this the new navigation came into use.

The specific changes to the Lea in the vicinity of Stanstead included an alteration to the route of the navigation involving use of part of the millstream. In addition, the fishing weir downstream of the river bridge was removed and the bridge was raised to give greater clearance for river traffic.

Alterations at Stanstead 1575 - 1577



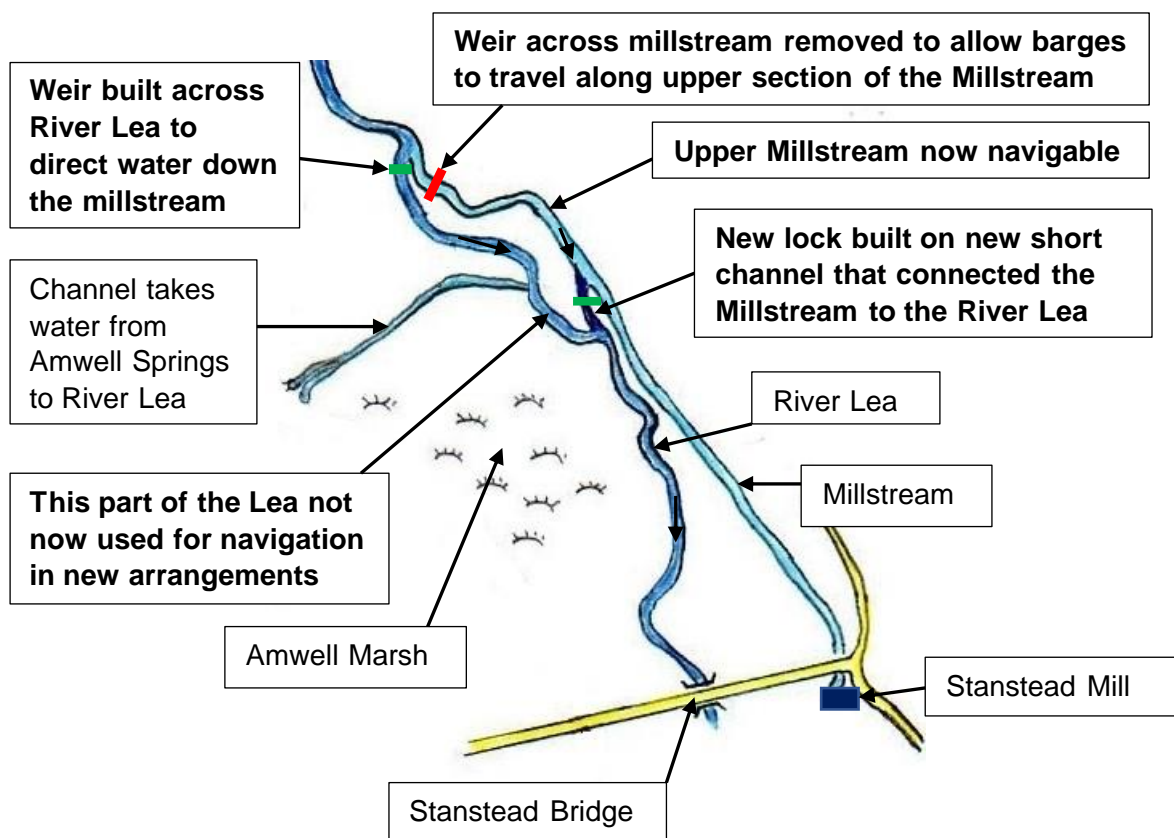
The features of interest in the 1570s have been shown on a base map dating from the 1890s to show their position in relation to the village and environs we are more familiar with today

The most noticeable change for those living in the village at the time would have been the work to raise the height of the height of the river bridge . Before the rebuilding the clearance under the bridge for river traffic was just 2 feet, as was common at many bridges along the River Lea at the time. The Commissioner of Sewers demanded a minimum clearance of 4 feet above normal river level for all structures over the Lea which saw Stanstead Bridge raised by 2 feet.

By looking to ensure all structures over the River Lea had a height clearance of at least 4 feet and the river had a minimum depth throughout of 2 feet, the Commissioners hoped to encourage the use of larger boats and barges on the river. This would they hoped lead to greater efficiency and therefore even cheaper transport costs on the altered navigation. Although not clearly documented it is thought that this change would have required the building of a new bridge at Stanstead. Research among the rare source materials in the centuries previous to these changes appear to suggest that there were two bridges over the river at this location, one in Stanstead and the other in St Margarets [Thele]. Other evidence suggests that there may have been an island in the river thus one bridge for each channel. It is not clear when or if two bridges became one, but the insistence of the Commission to remove all islands in the navigable channel makes the period 1575 to 1577 the most likely time for this to occur. The historic toll was still applicable and would have been transferred to the remaining bridge, subsequently referred to as Stanstead Toll Bridge. Previously the toll had been attributed to Thele [St. Margarets] Bridge

Either side of the bridge the river had always been shallow and this had been mitigated to some extent by a fishing weir downstream of the bridge [*just beyond todays Riverside Cottages*]. This had a central flash lock gate which allowed river traffic to pass. As the weir was removed under the Commissioners plans the river either side of the bridge was deepened and narrowed. It is known that a malting and wharf existed, at this time, just downstream of the bridge on the left bank as did warehousing and maltings on the St Margarets side. It was therefore important for a sufficient depth of water close to the banks to allow for the loading and unloading of cargo as well as an adequate depth of water mid-channel for navigation to be maintained. Less obvious to the villagers were the changes that took place upstream of the village in order to ensure the new navigation did not deprive the water mill of sufficient power. This was particularly important as the demand at the time for flour in London had been increasing and was expected to rise further.

Alterations to the Lea and Millstream 1575 - 1577



The Commissioners faced a particular problem where a watermill had a millstream taking water from the traditional navigation. As once a strategy of an unimpeded navigation had been implemented water would flow more freely down the natural river rather than the millstreams. This was because millstreams were built with a minimum gradient to create the greatest head of water at the mill wheel and thus maximise the available power for the mill. At the point where the millstream diverged from the Lea at Stanstead the natural river had a considerably steeper gradient than the millstream which exaggerated the problem. In order to ensure Stanstead Mill had sufficient water, as was its legal right, it was decided to divert the barge traffic down the upper reaches of the millstream and construct a weir across the Lea just downstream of where the millstream branched away. By this means more than sufficient water was sent in the direction of the mill. At a suitable point a short channel was constructed to return the barges back into the River Lea and weirs were provided close by to divert excess water from the millstream back into the river. Given the gentler gradient of the millstream the difference in water levels between the millstream and Lea at this point was approximately 4 feet requiring a lock to be built at the upstream end of the newly constructed short connecting channel. The cost of this work it is believed was paid for by Edward Baeshe the Lord of the Manor of Stanstead Abbots who owned the millstream and mill. He was also one of the active members of the 1575 Commission of Sewers implementing the Lea improvements scheme.

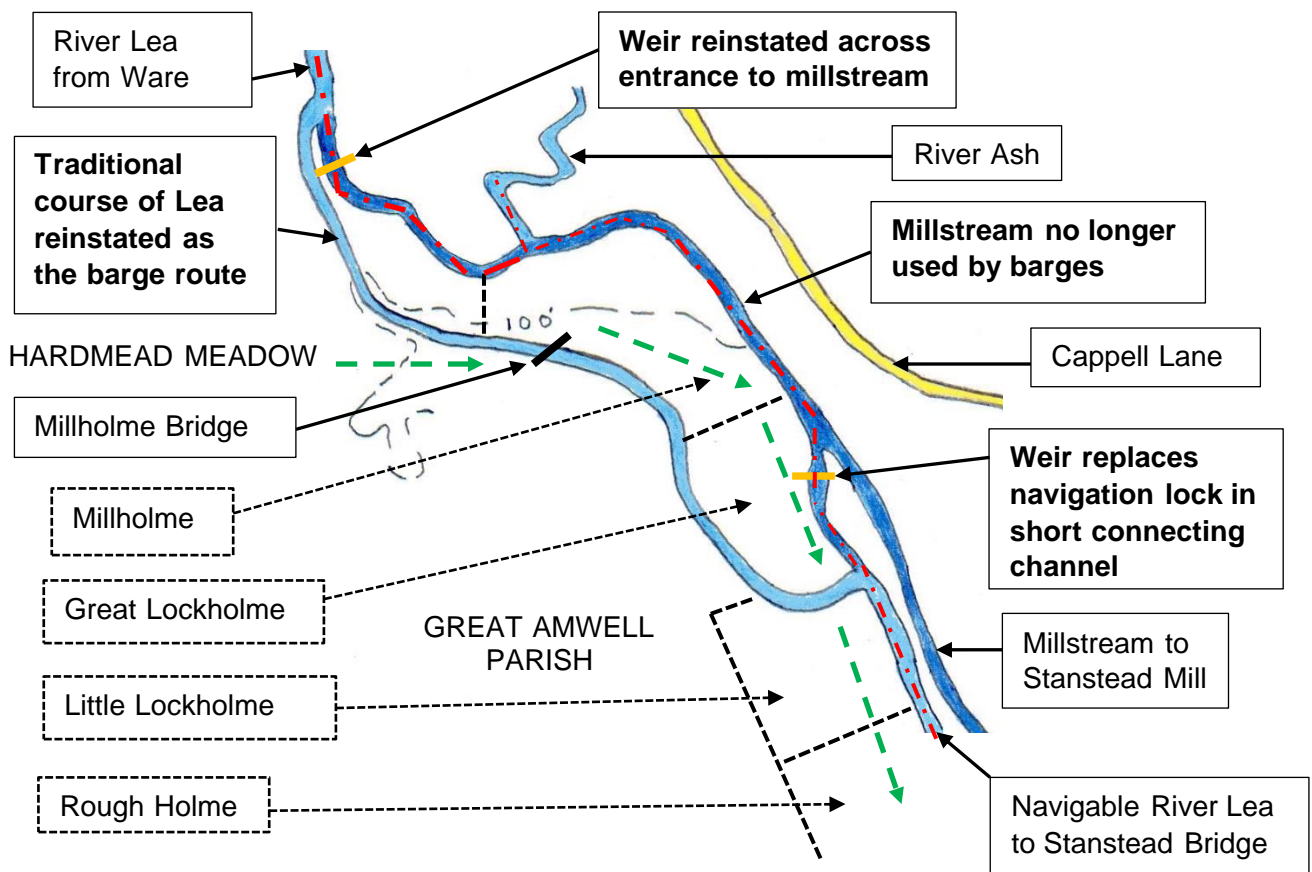
It is worth mentioning that the Commission of Sewers of 1575 had been given considerably more powers than most Commissions that came before it. However, changes made to the river were done using the powers under the 1571 Act of Parliament. This had forbidden any alteration to the natural course of the Lea before the Hoddesdon to the City of London Canal had been completed. No such canal was ever built so legally the changes made by the 1575 Commission could be regarded as having no legal basis. Secondly the actual course of the navigation down the Ware River had been set in stone by Royal Charter many years before and required an Act of Parliament to specifically change or remove the right of navigation anywhere along the Ware River. Both these matters were to come back to cause problems for the 1570s scheme. The second matter was a key factor in deciding a 45-year long dispute at the same location on the river at Stanstead. This took place in the first half of the 1700s, between successive Lords of the Manor of Stanstead and the river authorities.

By 1580 the Commissioners had created a much-improved navigation with the appearance of more and larger barges and boats on the Lea. Those opposed to the navigation continued their opposition which turned to violence, damage to the navigation and rioting mainly at Enfield and Waltham. In 1581 the Commissioners appointed a committee of three of their number to investigate the illegal nature of these activities. The members of the committee were Sir Henry Cocke of Broxbourne, Thomas Fanshaw [who had a close connection to the town of Ware] and Edward Baeshe of Stanstead. The committee heard evidence on the 21st August & 2nd September and later in September they held a meeting at Stanstead Bury at which had a long discussion with Lord Hunsdon about how the problems could be resolved took place. The investigation of illegal activity seems to have brought people from the road interests back to the table to talk. However, the different views persisted through the 1580s. Those who had vested interests in road transport, who were known as "Badgers" even attempted but failed to put a Bill through Parliament that would have banned malt being carried by river to London. After much discussion no real progress was made and a further outbreak of rioting occurred in 1592. The 1575 Commission of Sewers had come to an end in 1585 and despite three attempts to form another in the late 1580s the next Commission was not granted until 1607. Less formal discussions between the parties had continued and, in the end, it became apparent the barges could continue to navigate the traditional route of the Ware River under an ancient Royal Charter reinforced by later Acts of Parliament. It was however conceded that the barges had no legal right to use the alternative navigable channels created by the Commissioners. This included the diversion down the upper reaches of the Millstream at Stanstead. There was more to it than just the legal aspects as it must be remembered that fishing weirs had been removed and farmers had seen their share of water drastically reduced. It should also be born in mind that the knowledge of how rivers constantly alter their bed and banks as water flow changes was little understood in the 1500s. With today's greater depth of knowledge and understanding we can be sure that the maintenance work to maintain this unique 1570s navigation would have placed a considerably increased annual financial burden on the barge and mill owners. Given the above it is no surprise that from 1593 much of the Commissioners new works to create a unique unimpeded navigation were removed.

Despite the removal of many of the changes introduced in the 1570s enough of the improvements to the navigation remained to ensure that the number and size of boats and barges continued to increase into the 1600s. The reintroduction of fishing weirs and navigation weirs on the Lea both revitalised local fishing but also held back sufficient water where needed to maintain adequate water depth as they had done before 1575. Bankside landowners also benefitted with a greater share of water for their fields and the ability to recreate islands in the river which were used for the growing of Osiers mainly used for making wickerwork products. These included many items like household baskets and eel traps. The latter being important locally as eels were a notable local speciality enjoyed in many a Hostelry, particularly in the town of Ware.

Thanks to the Rev Thomas Hassell Vicar of Great Amwell 1600 to 1657, we have written historic evidence of the 1590s changes to the river and millstream. He left us an account of his record of the boundary of his parish which he wrote in 1613 from notes made between 1601 and 1613.

Navigation upstream of Stanstead in the early 1600s



KEY	
Labels for field names	-----
Parish Boundaries	- - - - -
Rev. Hassell's Parish Boundary Walk Route	- - - - ->

Note

The two fields Greater and Little Lock Holme were shown on the tithe map of 1840 as an unnamed meadow and Round Mead respectively. Millholme is a name related to Amwell Mill which had once been located with its mill pond and small cluster of dwellings within this riverside meadow.

The following extract is taken from Rev Hassell' description of Great Amwell Parish boundary completed on May 10th 1613.

“ through Hardmead to the New Great Streame and went over Millholme Bridge as far as the Old River of Lee (which now runs to Stanstead Mill) taking in those grounds which lye beyond the New Streame , as namely Millholme, Great Lockholme and Little Lockholme at which point the streame meets Rough Holme”

It should be remembered that the Rev Hassell began writing his account less than ten years after the navigation had been altered from 1893 onwards. He had first lived in Great Amwell in early 1600 and therefore he was learning about his new parish from locals who had witnessed those changes he wrote about. Therefore, when he refers to the "New Great Streame" he is referring to the historically traditional course of navigation along the River Lea proper that had so recently been reinstated. He names the upper section of the Millstream as the "Old River of Lee" as it had for about 16 years [1577 – 1593] been the barge route. The names of Great Lockholme and Little Lockholme undoubtedly relate to the Lock built by the Commissioners of Sewers between 1575 & 1577, which allowed barges to use the upper section of the millstream. Other information supplied by the Rev Hassell tells us that islands in the river for the growing of Osiers had already been reinstated. Indeed, some twelve islands within the Parish of Great Amwell are mentioned by him along the River Lea between the Town of Ware and Stanstead Bridge. It is known that the fishing weir downstream of Stanstead Bridge was also reinstated and local farmers were once again able to extract adequate water from the Lea to water their riverside meadows. There is little doubt that the Lord of the Manor would have found it more difficult to always have enough power at his mill wheel to meet his requirements. As always with these things when changes are made some locals would have benefitted and others would have come off worse. One local person we know who did benefit was a barge owner by the name of Thomas Tyler of Stanstead. He was able to move up from operating with a small boat in 1581 to a much larger barge by 1588, that could carry 28 quarters of malt equivalent to 5.6 Imperial tons. However, all the community stood in some-way to have gained by the improved local economy brought about by the increased traffic on the river.

The dispute between those improving the navigation on the Lea and those very much opposed seems to have been resolved once the reinstatement of a flash lock navigation had occurred in the 1590s. The improvements that remained were to see a considerable increase in goods moved to London by barges on the River Lea. In effect this was over time to ensure that the cheaper transport by water became the predominant transport for goods down the Lea Valley to London. Something that the "Badgers" of Hoddesdon, Enfield and Waltham had fought so hard to prevent and the Alderman of the City of London had worked tenaciously hard to achieve.

Stanstead Abbots as well as Ware did indeed benefit from an upturn in economic activity due to the increased river traffic. Traffic that was to continue to increase during the 1600s particularly after the Restoration of the Monarchy in 1660. However, the political turmoil of the 1600s saw less attention paid to ideas of a major project to improve the navigation of the Lea. By the early 1700s as the population continued grew in London the demand for flour rose. Sir Edmund Fielde Lord of the Manor of Stanstead found he was unable to gain enough additional power at his mill wheel to earn more money from the opportunity this offered. To do so he illegally re-introduced the previous arrangement of diverting the navigation down the upper reaches of the millstream. This lasted just over 40 years and was the focus of a major and long-lasting local dispute between the Sir Edmund Fielde and the barge owners and river authorities. Other than this the overall arrangements put in place in the vicinity of Stanstead by the 1590s amendments to the navigation were to last until the major changes of the 1760s.

Stuart Moye July 2021.