

**Decision Session – Executive Member for
Transport and Planning**

9 June 2016

Report of the Director of City and Environmental Services

Concrete Column replacement Programme

Summary

1. This report presents a review of how the current concrete column stock is deteriorating and how the street lighting team are currently managing the risk. The review proposes the implementation of a replacement programme of age expired concrete columns.

Recommendations

2. The Executive Member is requested to note the findings of the report, and approve the column replacement programme in its present form.

Reasons:

3. Council Officers and the specialist structural engineer consider that the identified columns represent a credible risk of structural failing or collapse. The manufacturers' serviceable life of a concrete column is 20 years. The City of York Council has not installed any concrete columns since 1997 and there are no records of installation dates. However from testing information some columns date back to 1970.

Background

4. Street lighting columns all have manufacturer's recommended serviceable life, in years, at the date of manufacture for both concrete (20 years) and steel units (30years). The majority (90%) of York's concrete street lighting stock has exceeded this date.

- Columns which have exceeded their serviceable life are being managed on an annual program of structural testing. The testing includes metal fatigue and corrosion for steel and visual inspections for concrete. The authority has approx 19,000 columns / street lights of various heights and construction, of which approx 5778 are concrete. The concrete columns are no longer being installed due to the fragile nature and deterioration over time. The last recorded concrete unit to be installed was in 1997. In 2015 there were 53 concrete failures / collapse which required immediate response to remove the columns.

Assessment of the risk and proposed accelerated replacement programme

- The objectives of an ongoing concrete column replacement program are various. Concrete columns are deemed to be at a higher risk of collapse than tubular/sheet steel due to the nature of the manufacturing process and the way they have been constructed. City of York Council have been managing their column asset with a regime of structural testing and visual inspections for concrete and steel over a number of years with a specialist structural tester, to adhere with legislation and TR22 managing a vital asset.
- The table below shows an accelerated replacement programme. If the street lighting team replace the Concrete columns on an average of 289 columns per year, to completely replace all concrete columns it would still take 20 years.

Table 1: Proposed replacement Programme 2016 / 2036

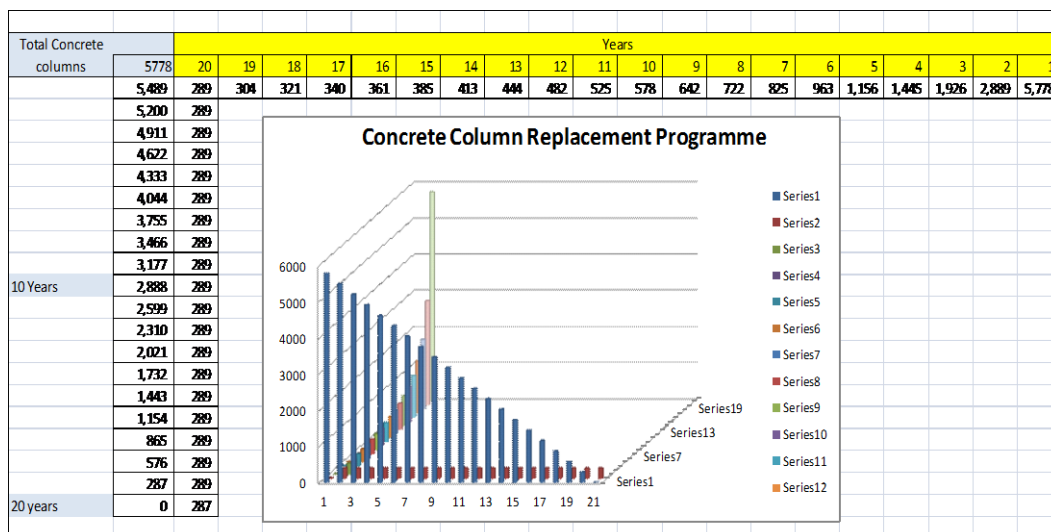


Table 1 above explained:

8. The yellow header numbers 1~20 these numbers represent the programme in years. The numbers directly below the highlighted year numbers, represent the total number of columns required to be replaced on an annual basis to complete the programme.

Example: Year 10 would require an annual replacement programme of 578 concrete columns.

9. Column year 20 shows this year's investment in replacing concrete columns, This indicates if we continue to invest at this current rate it will take 20 years to remove all concrete columns from York's inventory.
10. Funding has been allocated for the replacement of 289 concrete columns. These columns have been identified through structural testing and are the highest risk. The concrete columns will be replaced with tubular steel including PPA coating and a life expectancy of 35 years in northern Europe.

Table 2: Proposed 2016/17 replacement Programme

Proposed replacement Programme	no	Date
Column installs	289	June / Aug
Lantern installs	289	June / Aug
Column removals	289	Aug / Sep
Underground transfers	289	Aug / Sep

11. The proposed programme has been split into a number of blocks (shown in Table 2), which summarise the strategic aims of the team
12. A further report will be prepared for Members to consider options regarding accelerating the replacement programme as part of future years Budget setting process.
13. The allocations shown in Table 2 include an allowance for over programming. Over programming is used in the capital programme to ensure the funding allocation is fully spent within the year. It allows reserve column locations to be developed

and delivered if other columns are delayed due to unforeseen circumstances.

Consultation

14. The column replacement programme is decided through a formal process, using a Capital Resource Allocation Model (CRAM). CRAM is a tool used for allocating the council's scarce capital resources to schemes that meet corporate priorities.

Accidents

15. Incidents of column collapse and damage to property have been reported. A column arm bracket collapsed on to a parked vehicle in Monkgate (2014). No personal injury was recorded.

Options

16. The options for the Executive Member to consider in relation to the proposed scheme are as follows:

Option 1 - Approve the current scheme layout

Option 2 - Amend the current scheme layout.

Analysis

17. Option 1 – the scheme will achieve its main objective, making the identified structurally compromised assets safe. Further benefits will be realised with the introduction of a new asset life of 35 years for the replacement columns, complete with a lower energy lantern.
18. Option 2 – the scheme could be altered in-line with the suggestions in table 1, however, this would have significant cost implications or if the programme was reduced the drawbacks would be likely to result in the risks being greater and increase in the structural inspections to manage the risk.
19. Based on the review findings, and the analysis above, Option 1 is recommended.

Council Plan Priorities

20. This report contributes to two of the three key Council Plan priorities, demonstrating that it is a **“Council that listens to residents”**, and **“A Focus on Front Line Services”**. Summarising the feedback from residents when renewing the street lighting assets has proven to be a positive result which shows that the council is listening, and issues raised will be considered and acted upon.
21. The street lighting team will deliver the column replacement programme. This programme will support the team and achieves the Focus on front line services.

Implications

Financial/Programme Implications

22. The cost of the column replacement programme is estimated at £289K, which includes lantern replacement costs and staff fees. This will be accommodated within the 16/17 Capital Programme without any significant impact on other priorities.

Funding	£K	Date
Capital Resource Allocation Model (CRAM)	280	2016/2017
Total Budget	280	

23. If the scheme were to be increased, there would be significant additional costs, for which there is currently no budget provision.

Human Resources

24. There are no Human Resources implications.

Equalities

25. There are no Equalities implications.

Legal

26. There are no Legal implications

Crime and Disorder

27. There are no Crime and Disorder implications.

Information Technology (IT)

28. There are no Information Technology implications.

Property

29. There are no Property implications.

Risk Management

Risk Category	Impact	Likelihood	Score
Organisation/Reputation	Medium (3)	Possible (3)	3x3=9

30. In compliance with the Council's risk management strategy, the main risk that has been identified in this report is the potential damage to the Council's image and reputation, if effective safety improvements regarding these structural assets are not carried out.

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Report Approved



Date 27.05.16

Specialist Implications Officer(s)

None

Wards Affected: All Wards

All



For further information please contact the author of the report.