



National Audit Office

Report

by the Comptroller
and Auditor General

BBC

E20: renewing the *EastEnders* set

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BBC

E20: renewing the *EastEnders* set

Report by the Comptroller and Auditor General

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Commons in accordance with Section 9 of the Act

Sir Amyas Morse KCB
Comptroller and Auditor General
National Audit Office

10 December 2018

This report examines whether the BBC has managed its E20 programme – to replace and enlarge the external *EastEnders* set (including ‘Albert Square’) and related infrastructure at BBC Elstree Centre – in a way that is likely to achieve value for money.

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Key facts

£59.7m **£86.7m** **31 months**

BBC's budget for the E20 programme in its October 2015 business case

revised programme budget approved in May 2018

estimated delay in the BBC completing the programme (compared with October 2015 plans) – from October 2020 to May 2023

- 45%** increase between the BBC's original E20 budget (£59.7 million) – subsequently increased to £62.1 million to account for some new activity – and the current budget (£86.7 million)
- March 2021** date the BBC now plans for the 'Front Lot' (which is predominantly a replacement for the existing external set) to be ready for filming, 22 months later than planned in 2015
- May 2023** date the BBC now plans for the 'Back Lot' (the site of new locations), and the overall programme, to be complete
- £54.7 million** BBC's latest budget for the Front Lot, up £23.5 million (75%) compared with its 2015 plans
- 11 months** time taken for the BBC and Wates, appointed to construct the Front Lot, to negotiate and agree the contract for this work
- £28.2 million** BBC spending on E20 up to the end of September 2018 – with some elements of the programme already completed

Summary

1 The BBC is the UK's main public service broadcaster. It is responsible for serving audiences with impartial, high-quality and distinctive output and services that inform, educate and entertain.¹ In 2017-18, the BBC spent around £2 billion of its licence fee income on television, including £1.3 billion on BBC One. One of the BBC's flagship TV programmes is *EastEnders*, which has been broadcast since February 1985. *EastEnders* had an average audience of 6.6 million in 2017 and is currently broadcast four times a week. The external filming set for *EastEnders*, including 'Albert Square', was built in 1984 with the original intention that it would be used for two years. However, it has never been rebuilt and is in poor condition, requiring ongoing maintenance.

2 The BBC is replacing the external filming set for *EastEnders* and the core infrastructure at BBC Elstree Centre (BBC Elstree) as part of a programme of activity (the programme) called 'E20' which, among other objectives, aims to enable improved audience engagement with *EastEnders*. A new external filming set will be built (on the 'Front Lot') near to the current site. It is being rebuilt and improved, using brick structures rather than the existing facades, as the current external set is in poor condition, which means *EastEnders* cannot be filmed in high-definition and there are increasing filming delays owing to stoppages in production due to health and safety concerns. The BBC also plans to enlarge the existing filming site, with the current external set being demolished to provide new locations (on the 'Back Lot') that better reflect modern East-End London. E20 is a complex and bespoke programme as, for example, the BBC needs to replicate the existing external set to an exact specification on the Front Lot to maintain continuity on-screen. Furthermore, both Lots border residential areas and production studios, meaning that construction works need to be coordinated with live filming.

3 E20 comprises other components at BBC Elstree. These include: the construction of two TV production control rooms (galleries); new edit suites; the installation and commissioning of more efficient boilers and upgraded facilities to house them (in the 'Boiler House'); new electrical infrastructure; and works to prepare the Front Lot site for construction (Front Lot enabling works), for example, by clearing underground obstructions. These works are now complete.

¹ Department for Culture, Media & Sport, *Royal Charter for the continuance of the British Broadcasting Corporation*, Cm 9365, December 2016, p.5.

4 E20 is one of the BBC's nine Tier One (particularly complex) projects within its Critical Projects Portfolio. In 2016, we examined the performance of the BBC's critical projects, which are subject to additional corporate and executive scrutiny. We concluded the BBC had strengthened oversight of its critical projects, but further action was required.² In 2016 we reported that E20 was forecast to complete 26 months later than originally planned owing to a substantial change in scope. At that time, the BBC considered that successful delivery of the project appeared probable. Subsequently, for E20, the BBC has taken action in response to our relevant 2016 recommendations.

Focus of our report

5 This report examines whether the BBC has managed E20 in a way that is likely to achieve value for money. Owing to a significant scope change, the report uses the programme's 2015 business case as the baseline to assess value for money. However, we report on the programme from 2013 when the first E20 business case was developed. This report focuses on:

- the early stages of the programme, including significant changes in scope in 2015 (Part One);
- the progress and costs of the programme (Part Two); and
- what went wrong with the programme and how the BBC has responded (Part Three).

Key findings

The BBC's revised approach to E20

6 The case for the programme, and the rationale for the current approach, is clear. The BBC is rebuilding and improving the external filming set near to the current site at BBC Elstree and will subsequently build new locations on the site of the existing external set. This approach is understandable as the BBC owns Elstree, the production infrastructure for *EastEnders* is in place there, and the programme offers wider benefits to the users of the Elstree site including more efficient energy usage and upgraded production infrastructure. Alternative options the BBC considered were discounted as they involved greater costs, risks and filming constraints. However, the Front and Back Lot approach the BBC is now working to was not formally considered as an option as part of the original business case in 2013 (paragraphs 1.3 to 1.5 and 1.9).

2 Comptroller and Auditor General, *Management of the BBC's critical projects*, National Audit Office, April 2016.

7 The BBC substantially revised its plans for E20 in 2015, owing to forecast increases in the cost of the programme. In 2013, the BBC proposed building a temporary set, two-thirds of the size of the existing external filming site, to use while it constructed a new permanent set. Based on advice from its previous cost consultants, the BBC expected the whole programme to cost £59.7 million and complete by August 2018. Subsequently, following an assessment of feasibility and further planning, in October 2015, the BBC's Executive Board approved the revised Front and Back Lot approach as the previous plan was forecast to cost up to £7 million more than it had budgeted. The BBC intended that the revised approach would also cost £59.7 million and would be completed in October 2020. This included a four-month delay to defer spending to later financial years and ease wider BBC budget pressures. This added £1.2 million to the programme costs (paragraphs 1.5 to 1.8).

8 The BBC's early planning processes led to underestimation of aspects of complexity, cost and risks of its revised Front and Back Lot approach.

In October 2014, the programme team, supported by various specialist consultants, spent seven weeks scoping and producing a feasibility report comparing the temporary and permanent set approach to the Front and Back Lot proposal. The report assessed that the revised approach would be cheaper on a like-for-like basis, estimating a total budget of between £59.2 million and £69.2 million, depending on the scope of the Back Lot. Following further planning, the full business case was approved in October 2015 with a budget of £59.7 million. The BBC's programme team later identified that the time taken to complete the feasibility report was too short, given the complexity of the programme, and that certain aspects of the design process, such as the approach to scenic ageing and the costing of the Boiler House works, were not assessed adequately. Given what was known to the BBC in 2015, it would also have been prudent for the BBC and its cost consultants AECOM to have allocated more funding to cover risk and contingency from the outset of the revised programme (paragraphs 1.6, 1.7 and 3.19).

The progress, costs and benefits of E20

9 In 13 of the 17 months between August 2016 and December 2017, the BBC considered successful delivery of E20 was in doubt. As a BBC critical project, E20 has been subject to ongoing scrutiny and reporting, and actions have been taken as a result. In October 2017, the BBC reported internally that its 2015 plans were no longer achievable due to forecast delays and cost increases. This was because of delays procuring the Front Lot construction contract, as well as anticipated delays in awarding the contract as costs were expected to be £10.3 million more than the BBC had budgeted for. Subsequently, following further contract negotiations and more realistic programme planning, the programme team submitted a paper to the BBC Board in May 2018, requesting an updated budget of £86.7 million and a new completion date in early 2023. The BBC Board approved this plan on the basis that there would be no further cost increases to the Front Lot contract, which was still under negotiation, and that various corporate functions, such as finance and procurement, approved the plan. The BBC recognises that E20 remains a high risk programme (paragraphs 2.2 to 2.4, 2.9 and 2.10).

10 As a result of more realistic plans, the BBC now forecasts E20 will cost £86.7 million – 45% more than the original budget. Most of this increase relates to the higher cost of the Front Lot, which the BBC now estimates will cost £54.7 million – £23.5 million (75%) more than planned. This is primarily because of higher than expected construction contract costs, partly as a result of inflation in the construction industry across the UK; increases to the funding to age the newly built set so that it looks comparable to the existing set; additional resources to manage the main construction contract; and extra programme team costs. The BBC has also significantly increased its funding to cover known and unknown risks. The BBC expects the Front Lot to be complete at the end of March 2021, 22 months later than planned in 2015 (paragraphs 2.2 to 2.4, 2.6, 3.8 and 3.9).

11 The BBC plans for E20 to be completed in May 2023 – 31 months later than envisaged in its 2015 plans. The most significant reason for the delay is that the BBC now has more realistic assumptions about the time needed to age the newly built Lots (13 months for the Front Lot and seven months for the Back Lot) – with the BBC previously intending to age them alongside construction. There were also delays because the BBC had to change its procurement approach on the Front Lot owing to limited market interest in the work, and the BBC subsequently having around 11 months of contract negotiations. The overall 31-month delay, which builds in some contingency time, is additional and separate to the 26 months that we reported in 2016 (paragraphs 1.12, 2.6 to 2.8, and 3.8).

12 The BBC still expects to realise the intended benefits of E20, albeit at a later date and greater cost than originally planned. Up to the end of September 2018, the BBC had spent £28.2 million and has completed various elements of E20. With the exception of the cost of the galleries, this work has all, to varying degrees, cost more and taken longer than planned in 2015. In October 2018, the BBC began constructing the Front Lot, the most challenging part of E20, and the Back Lot was at an early design stage. The BBC considers E20 as critically important as it has the intended benefits of: maintaining *EastEnders*' competitiveness; allowing new technology and high-definition filming to be used; and introducing design, structural and health and safety improvements. These all appear broadly achievable on the basis that the remainder of the programme is completed but will be realised later than planned. However, the extent of the benefits that can be achieved from the Back Lot may be revised when plans are more certain (paragraphs 2.11 to 2.15).

What went wrong with the programme and how the BBC has responded

The Front and Back Lot approach: problems in the early stages of the programme

13 The BBC had insufficient expertise in construction project management to identify critical issues, for example with the Front Lot design. The BBC's initial E20 resource plan did not consider the specific skills required in the programme team. Subsequently, in April 2017, a BBC internal audit report identified that the team had inadequate expertise in construction project management. This contributed to, for example, Front Lot design coordination problems that resulted in the BBC commissioning internal and external reviews to resolve design issues and inconsistencies, and ineffective technical review and challenge of programme documents and decisions. Subsequently, in 2017, the BBC recruited a new Programme Director and a Front Lot Project Manager. More recently, in early 2018, the Programme Director carried out a capability assessment that identified the resources required for the remainder of E20 (paragraphs 3.4 to 3.7).

14 While they did engage with each other, the programme team and *EastEnders* production (the end users of the set) were not sufficiently integrated, leading to ineffective design development and change processes:

- The 2015 business case emphasised the importance of collaboration between the programme team and the production team, given that *EastEnders* is a continuing drama and often requires set changes as part of its storylines. However, communication and relationships between them were ineffective, and their respective responsibilities, requirements and processes have not always been well communicated or understood by both parties. However, integration is now better. For example, having been indirectly represented since 2014, the *EastEnders* production team became directly represented in the E20 Steering Group in 2017. The programme team has also improved the way it manages the various stakeholders affected by E20 (paragraphs 3.11 to 3.14).
- The BBC's 2015 business case also recognised the importance of effective design development and change processes, but it did not include a design change process. Furthermore, no formal design change process was agreed between E20 and the *EastEnders* production team until September 2016, around a year after the business case was approved, and even then it was not used. Critical design stages were also completed without the appropriate approvals, which resulted in the production team making over 70 design change requests eight months after the design was supposed to be stable. These were subsequently rationalised into 16 changes at a cost of around £440,000. Furthermore, the E20 and production teams agreed more robust design change processes in April 2017 and further clarified them in April 2018 (paragraphs 3.15 to 3.17).

Other significant factors leading to cost increases and delays

15 The BBC has faced other issues such as higher than expected inflation in the construction sector, as well as asbestos and obstructions in the ground.

There have been inflationary pressures in the construction industry across the UK. In May 2018, the BBC attributed £9.2 million of cost increases to higher than forecast inflation and demand for construction services. However, it was unable to provide evidence to support this figure and the impact of inflation has increased owing to delays in the programme. The BBC also encountered asbestos and obstructions in the ground at various stages of the programme – particularly in the Boiler House and Front Lot enabling works. These issues cost the BBC around £1.8 million and were to some extent unforeseen by the programme team – partly due to poor BBC site records, and limited surveying work (paragraphs 3.18 to 3.21).

16 E20 has been delayed by around 12 months as a result of commercial challenges.

In 2017, the BBC revised its procurement approach for the Front Lot construction contract owing to a lack of market interest. This delayed the programme by around six months and increased costs by an estimated £2.3 million, although the BBC avoided further delays by separating the enabling works from this contract and carrying them out within its existing Boiler House contract. The BBC, acknowledging that its original single-stage approach had not worked, moved to a two-stage procurement with contractors on its construction framework in early 2017. Three contractors bid and two met the BBC's assessment criteria. During an initial stage, Wates was appointed by the BBC in April 2017. The second stage involved Wates seeking more clarity about the BBC's requirements and design before proposing costs for various elements of the work. There were around 11 months of negotiations – six months more than planned – between the contractor and the BBC. This was owing to Wates' contract price offers being higher than the BBC anticipated, the need to finalise clarifications, allocate risks, and confirm provisional sums, as well as both parties agreeing the type and supply of bricks for the Front Lot. The BBC and Wates signed the Front Lot contract in September 2018 at a fixed price of £24.2 million, £9.5 million more than the BBC budgeted for in October 2015 (paragraphs 2.7, 2.8 and 3.24 to 3.26).

17 The BBC has made many improvements to its project management of E20 over time, particularly since mid-2017.

In response to problems throughout E20 and issues identified by various assurance reviews, the BBC has made improvements, for example in capability, governance, stakeholder engagement, and in project management, scheduling and budgeting. Additionally, the programme team has carried out lessons learned exercises on discrete parts of the programme, such as the Boiler House work in 2016. However, it did not formally capture a set of programme-wide lessons learned until November 2017 (paragraphs 3.1, 3.6, 3.7, 3.10, 3.13, 3.14, 3.17 and 3.27).

Conclusion on value for money

18 The BBC built the external filming set for *EastEnders* (including 'Albert Square') in 1984, and originally planned to use it for two years. It has lasted for 34 years but is no longer fit for purpose. There are, for example, filming delays and maintenance costs as a result of stoppages in production due to health and safety concerns. The BBC will not be able to deliver value for money on the E20 programme in the way that it envisaged in 2015. Disappointingly, some of the reasons for this were built into E20 at the outset and could have been addressed earlier. These include insufficient construction project management expertise that contributed to a lack of appropriate technical challenge, inadequate integration between the programme team and end users, and early planning processes that led to underestimation of aspects of complexity, cost and risks of its revised approach. The programme costs have also been adversely impacted by inflation in the construction industry across the UK, which has had a greater impact than it would have done had the programme completed without any delays.

19 E20 has been subject to ongoing scrutiny and reporting and, in the past 18 months, the BBC has made many improvements to the programme and various elements of E20 have been completed. Furthermore, the benefits of the programme still appear to be broadly achievable, albeit at a later date. As the Front Lot construction only started in October 2018 and the Back Lot is at an early design stage, it is not yet possible to conclude on the value for money of the latest programme plan. Therefore, sustained scrutiny, including by the Board, is required to prevent this programme going off-track again, and to ensure the maximum benefits are achieved for licence fee payers, albeit at a substantially higher cost and later than originally planned.

Recommendations

- a** Given that E20 remains high risk, in addition to the work of the BBC's Programme Management Office (PMO), the BBC should continue periodic, independent scrutiny of the feasibility of its new programme plans.
- b** Following the BBC's problems with design development and change request processes on E20, and subsequent changes in these areas in 2017 and 2018, the BBC should keep these processes under active review, particularly as the Front Lot has now entered the important construction phase and the Back Lot plans advance.
- c** The BBC should ensure, via its corporate PMO, that the E20 programme team continues to capture lessons systematically, and that learning is applied for the remainder of the programme.
- d** The BBC should ensure, via its corporate PMO, that appropriate assessments of the skills needed for all current and new critical projects have been carried out, particularly in terms of technical and specialist roles.
- e** The BBC should review its wider portfolio of critical projects to ensure that end users are sufficiently integrated and engaged in the scope, development and progress of projects from the outset.

Part One

Introduction to E20 and the early stages of the programme

1.1 The BBC is the UK's main public service broadcaster. It is responsible for serving all audiences with impartial, high-quality and distinctive output and services that inform, educate and entertain.³ It provides a range of services, including nine television services. The BBC receives public funding from television licence fees, totalling £3.8 billion in 2017-18.

1.2 In 2017-18, the BBC spent £2 billion of its licence fee income on television services, including £1.3 billion on BBC One. One of the BBC's flagship TV programmes is *EastEnders*, which was first broadcast in February 1985. *EastEnders* had an average audience of 6.6 million in 2017 and is currently broadcast four times a week. The external filming set for *EastEnders*, including 'Albert Square', was built in 1984 using steel frames, plywood and plaster brick panels. Its intended lifespan was two years, but it has never been rebuilt and is in poor condition. Therefore, the BBC is rebuilding the external filming set (using brick structures rather than the existing facades) and improving the core infrastructure at BBC Elstree Centre (BBC Elstree) as part of a programme of activity (the programme) called 'E20'. E20 is a particularly complex and bespoke programme because, for example, the BBC needs to replicate the existing external filming set to an exact specification to maintain continuity on-screen. Furthermore, the site borders residential areas and production studios, meaning that construction works need to be coordinated with live filming. This part of the report provides an overview of E20, explains how its scope has changed over time, and introduces the programme's team and governance structures.

³ Department for Digital, Culture, Media & Sport, *Royal Charter for the continuance of the British Broadcasting Corporation*, Cm 9365, December 2016, p.5.

Introduction to E20

1.3 The BBC plans to rebuild and improve the existing external filming set (on the 'Front Lot') near to the current site at BBC Elstree. The existing set is being replaced because its poor condition means high-definition filming is not possible as it would, for example, expose the artificial nature of the plaster brick panels. Furthermore, degradation has led to increasing filming delays owing to stoppages in production due to health and safety concerns, and there are ongoing maintenance costs to ensure filming can continue.⁴ The BBC also plans to enlarge the existing filming site (on the 'Back Lot') (**Figure 1** overleaf) with the current external set being demolished to provide new locations to support storylines and better reflect the appearance of East-End London. The BBC wants to ensure *EastEnders* performs well (within the context of declining audiences for continuing dramas).^{5,6} As part of E20, the BBC aims to enable improved audience engagement with *EastEnders*.

1.4 E20 comprises other components at BBC Elstree. These include: the construction of two TV production control rooms (galleries); new edit suites; commissioning and installing more efficient boilers and upgraded facilities to house them (the 'Boiler House'); new electrical infrastructure; and preparing the Front Lot site for construction (Front Lot enabling works), for example, by clearing underground obstructions. These works are now complete.

The early stages of the programme

The original 2013 plans

1.5 The BBC's Executive Board approved the first business case for E20 in January 2014. This business case, which was developed in 2013, presented the Executive Board with three options with the preferred choice being to build a temporary set, two-thirds the size of the existing external filming site, followed by a permanent set. The BBC planned this would cost £59.7 million and complete in August 2018. The temporary set would have allowed shooting of *EastEnders* to continue while the new permanent set was being built. This option planned to increase the filming area by 21% with new roads and buildings. The BBC had also explored other options, such as moving *EastEnders* to other locations, which were discounted as they involved greater costs, risks and filming constraints.

4 There is a £160,000 annual E20 programme team budget for essential maintenance works, with additional contributions funded by the BBC's Content division.

5 Ofcom, *Media Nations: UK*, July 2018, p.31.

6 BBC analysis of Broadcasters' Audience Research Board (BARB) data on the average audience figures in 2017, including playback of content within seven days of the original broadcast: *Coronation Street*, 7.7 million; *EastEnders*, 6.6 million; and *Emmerdale*, 6.5 million.

Figure 1
Elstree site map



- Back Lot (currently the existing external set)
- Front Lot (new external set)
- Boiler House

Note

1 The BBC does not own the Stratfield Gate entrance and has a licence to use it for a specified period.

Source: National Audit Office review of Hertsmere Borough Council planning information

Change in approach from 2014

1.6 In October 2014, the programme team, supported by various specialist consultants, spent seven weeks scoping and producing a feasibility report. This proposed revising the scope of E20 as the cost of the temporary and permanent set approach was forecast to go over budget by between £5 million and £7 million, based on advice from the BBC's previous cost consultants. The revised approach presented was the Front and Back Lot plan. The Front Lot would be 80% of the size of the existing external set, and there were plans to build a total of 60 buildings and facades on both Lots. In comparison, the previous approach intended to build 66 buildings and facades on the permanent set.

1.7 The feasibility report estimated the revised approach would be cheaper on a like-for-like basis, with a total budget of between £59.2 million and £69.2 million (depending on the scope of the Back Lot). Following further planning, the business case was approved in October 2015 with a budget of £59.7 million – the same as for the original permanent and temporary set approach – with the BBC focused on maintaining this as a financial cap. The programme team later identified the time taken to complete the feasibility report was too short, given the complexity of E20, and that aspects of the design process, such as the approach to scenic ageing and costing the Boiler House works, were not assessed adequately. The BBC is following RIBA stages, which is good practice,⁷ but did not complete RIBA stages A or B for the Front Lot owing to time pressures and design work having already been carried out in support of the 2013 scope.

1.8 The BBC originally aimed to finish the programme in July 2020. However, the October 2015 plan had a new completion date of October 2020, which included a four-month delay, to defer spending to later financial years as part of wider activities to ease budget pressures across the BBC. This added £1.2 million to the programme costs. The revised plan to complete E20 26 months later than originally envisaged – in October 2020 rather than August 2018 – is what we reported in 2016.⁸

1.9 The Front and Back Lot approach was not formally considered as an option as part of the original business case in 2013. However, the case for E20, and the rationale for the current approach, are clear and understandable given that the BBC owns BBC Elstree Centre and the production infrastructure for *EastEnders* is already in place there. Furthermore, E20 provides wider benefits to the Elstree site, which is used for filming other programmes such as *Holby City*. These benefits include more efficient energy usage across Elstree as a result of the upgraded Boiler House and an upgraded production infrastructure, including the two new galleries.

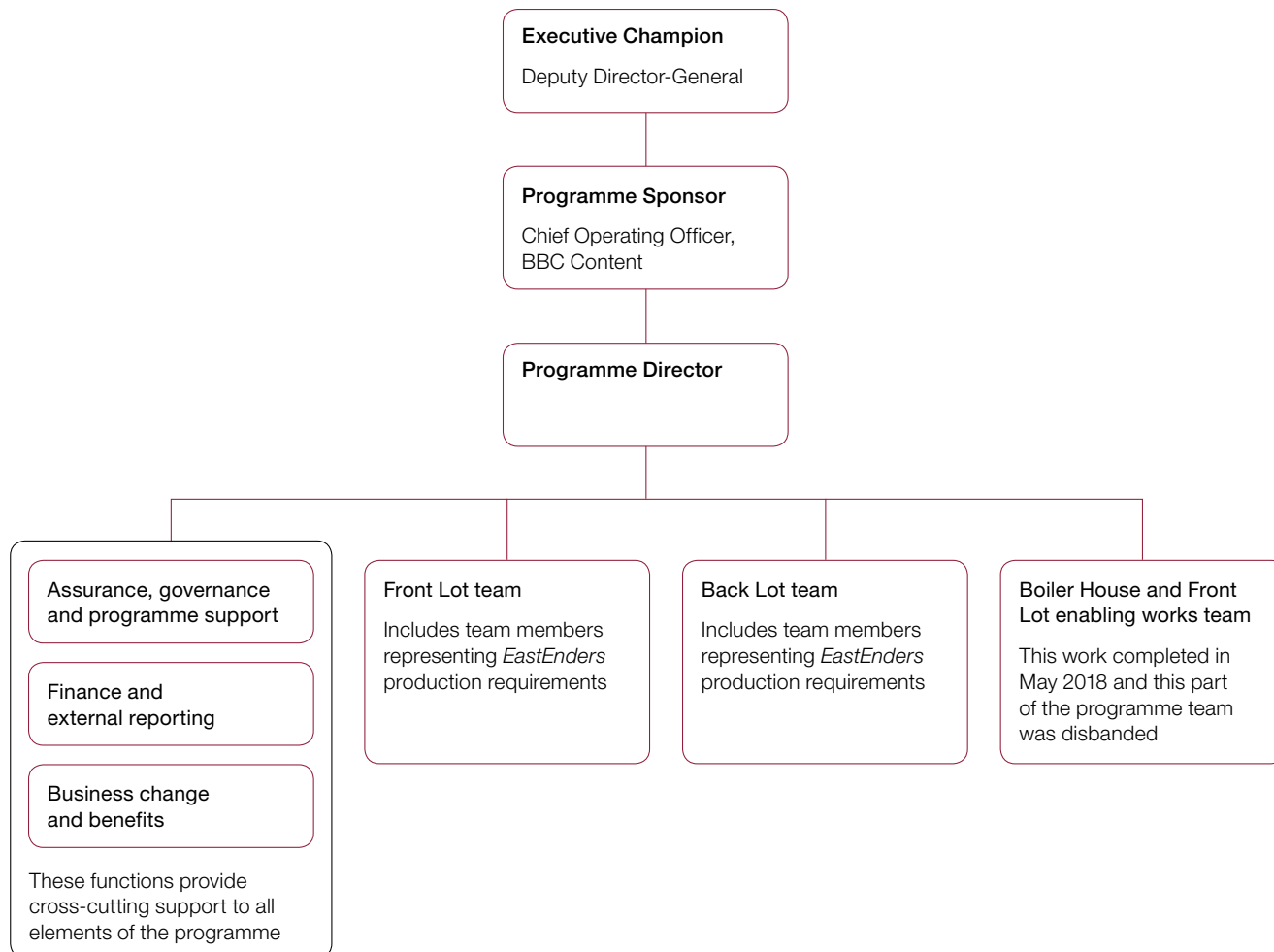
⁷ The RIBA (Royal Institute of British Architects) *Plan of Work* is the UK model for organising the process of briefing, designing, constructing and operating building projects. RIBA design stages were previously A to L but are now 0 to 7. Available at: www.architecture.com/-/media/gathercontent/riba-plan-of-work/additional-documents/ribayoutlineplanofwork2007revised2008pdf.pdf

⁸ Comptroller and Auditor General, *Management of the BBC's critical projects*, National Audit Office, April 2016.

E20 programme team and governance

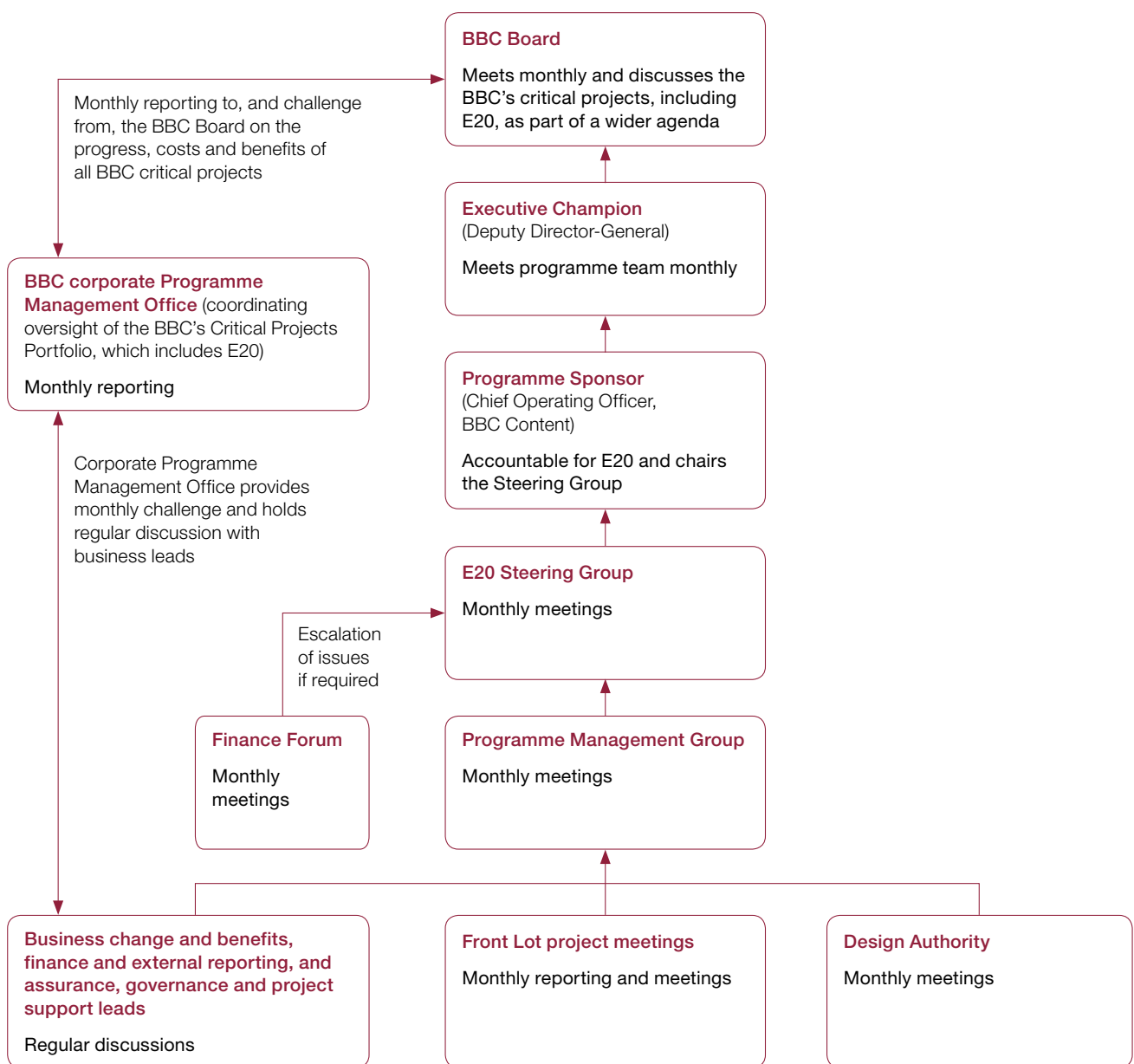
1.10 The E20 programme team was structured around the three main parts of the programme – the Front Lot, Back Lot, and the Boiler House and Front Lot enabling works – although the latter was completed in May 2018 (**Figure 2**). The programme team also includes support functions that monitor performance and finances, oversee governance and assurance activity, and manage business change and benefits. In 2017-18, the team comprised around 20 full-time equivalent staff with additional support provided by a range of contractors and consultants, including architects, engineers, quantity surveyors and cost consultants.

Figure 2
E20 programme team structure



1.11 Accountability for E20 rests with the Programme Sponsor (now the Chief Operating Officer of BBC Content) who is held to account for programme outcomes by an Executive Champion (the Deputy Director-General). The overarching governance body for E20 is the Steering Group, which meets monthly to assess programme progress, challenge the programme team where appropriate, and make various decisions. This group is supported by four forums (**Figure 3**).

Figure 3
E20 programme governance structure



1.12 E20 receives additional oversight from the BBC Board and the BBC's corporate Programme Management Office as it is one of nine Tier One (particularly complex) projects within the BBC's Critical Projects Portfolio.⁹ The Board receives monthly headline reporting and detailed underlying reports on the costs and progress of these projects. We examined the performance of the BBC's critical projects, and its management of them, in 2016. We concluded that the BBC had strengthened oversight of its critical projects but needed to take more concerted action. On E20, we reported the programme was forecast to complete 26 months later than originally planned owing to the substantial change in scope. At that time, the BBC considered that successful delivery of the programme appeared probable.¹⁰ Subsequently, for E20, we found the BBC has taken action in response to our relevant 2016 recommendations.

⁹ As at September 2018, the BBC also had 10 Tier Two projects, which are reported to the BBC Board by exception.

¹⁰ See footnote 8.

Part Two

The costs and progress of E20

2.1 As noted in Part One, the BBC planned to complete E20 in October 2020 at a cost of £59.7 million. However, it is now scheduled to complete the programme in May 2023, 31 months later, at a total cost of £86.7 million. This part of the report explores the progress and costs of E20 in more detail.

Programme budgets and costs

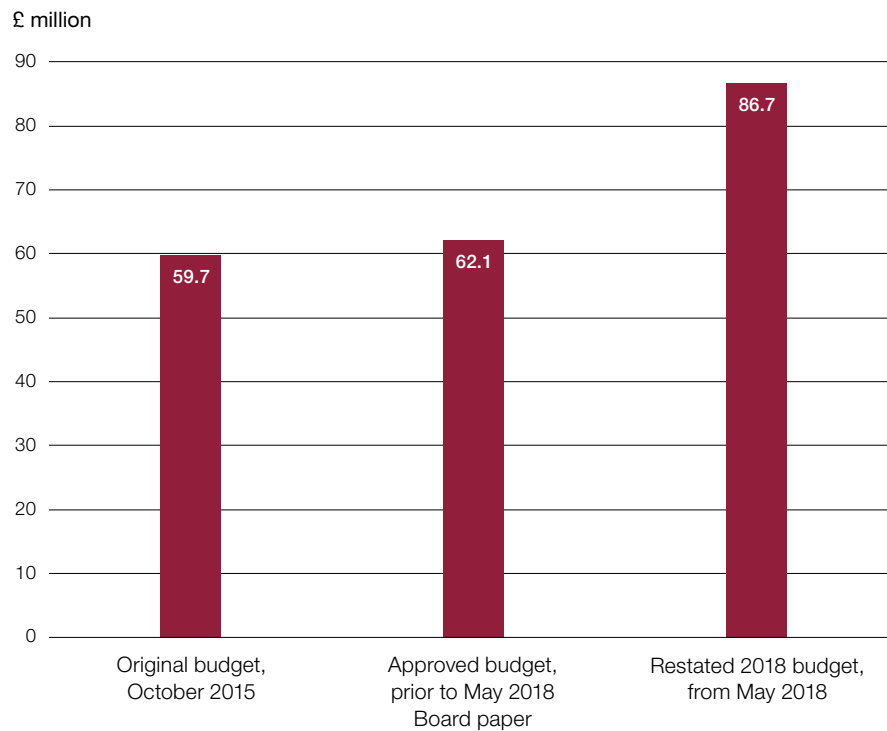
2.2 The initial budget in 2015 was £59.7 million. This was the same amount of funding originally approved for the substantially different 2013 plan involving temporary and permanent sets (paragraph 1.5). Between 2015 and 2018 the programme's budget was revised in increments, to £62.1 million, partly to account for new activity such as removing asbestos from the galleries and undertaking additional surveys. In October 2017, the BBC reported that its 2015 plans were no longer achievable owing to anticipated delays in awarding, and significant increases (£10.3 million) in the forecast cost of, the Front Lot construction contract. Subsequently, following contract negotiations and more realistic planning, the programme team submitted a paper to the BBC Board in May 2018 to request an increased budget of £86.7 million – £27 million (45%) more than what was approved in 2015 (**Figure 4** overleaf) – and a new completion date in early 2023. This Board paper emphasised the impact of:

- high inflation and demand for services in the construction sector since 2015;
- delays in procuring the Front Lot construction contract;
- updated assumptions based on learning throughout the programme;
- new resources needed to manage the Front Lot contract; and
- the risk of discovering further asbestos and obstructions in the ground.

2.3 The Board approved the new budget and timetable in May 2018, on the conditions that the Front Lot construction contract – at that stage under negotiation – cost no more than budgeted for in the Board paper, and that various corporate services, such as finance and procurement, approved the latest plan. The BBC recognises E20 remains a high risk programme.

Figure 4
E20 budgets, 2015 to 2018

The budget has increased by 45% up to £86.7 million



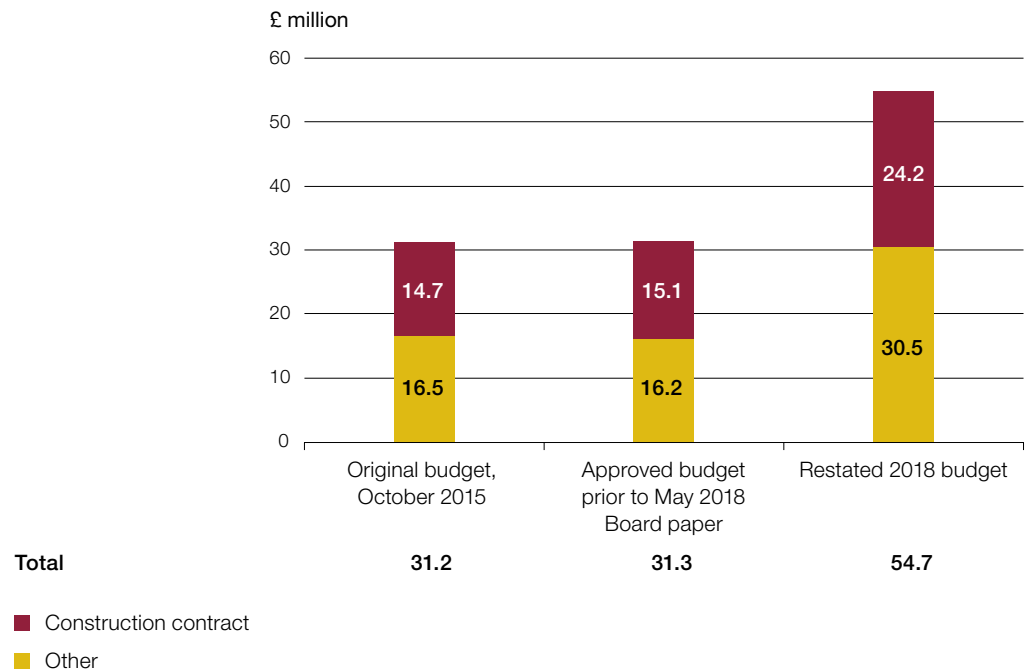
Source: National Audit Office analysis

2.4 The majority of the programme's cost increase relates to the Front Lot. In the new programme plan, this has a budget of £54.7 million – £23.5 million (75%) more than the originally approved budget of £31.2 million (**Figure 5**). This increase has been caused by various factors. The most significant is the cost of the Front Lot construction contract, which has increased by £9.5 million compared with original plans and now requires an additional £4.4 million (£1.6 million of professional services and £2.8 million of internal programme team costs) to support its management. Furthermore, the BBC has significantly increased its funding to cover known and unknown risks. This takes into account the underestimation of aspects of complexity, cost and risks at the outset of the programme, as well as learning throughout E20.

Figure 5

The Front Lot budgets, 2015 to 2018

The Front Lot budget has increased by 75% to £54.7 million

**Notes**

- 1 Restated 2018 budget data includes the actual construction contract cost.
- 2 'Other' includes costs for: the programme and professional team, known risks and unknown contingency, scenic ageing, and other works.

Source: National Audit Office analysis

2.5 Following programme cost increases and funding pressures, the BBC reduced the Back Lot design and build budget by around £3 million. To minimise the impact on the Back Lot and avoid the risk of further reductions, in November 2017, the BBC ring-fenced the overall Back Lot budget. Progressing the Back Lot will be subject to additional approval by the BBC Board. The Back Lot is at an early design stage and, owing to its reduced budget, the BBC is exploring various options, such as increasing the use of facades rather than actual structures.

Programme delays

2.6 Under current plans, the Front Lot will be ready for filming at the end of March 2021. This is a delay of 22 months against the 2015 plan and prolongs, for example, measures needed to mitigate health and safety risks to the cast and production staff, and the BBC's inability to film *EastEnders* in high-definition. The Back Lot, the final part of the programme, is now scheduled to be ready for filming in May 2023, 31 months later than planned. **Figure 6** shows these and other delays. The 31-month delay, which builds in some contingency time, is additional and separate to the 26 months that we reported in 2016 (paragraph 1.12).¹¹

2.7 The BBC's 2015 programme plan included four months to carry out the Front Lot enabling works before the Front Lot construction started. When difficulties were encountered with the initial procurement approach in 2016, the BBC separated these works from the main Front Lot contract and incorporated them into the existing Boiler House contract. This removed the risk of the Front Lot construction being delayed further if the BBC waited until the main contract was signed before beginning the enabling works.

2.8 The overall programme will take longer to complete than the BBC expected due to several factors, which are explored in further detail in Part Three. The most significant of these are:

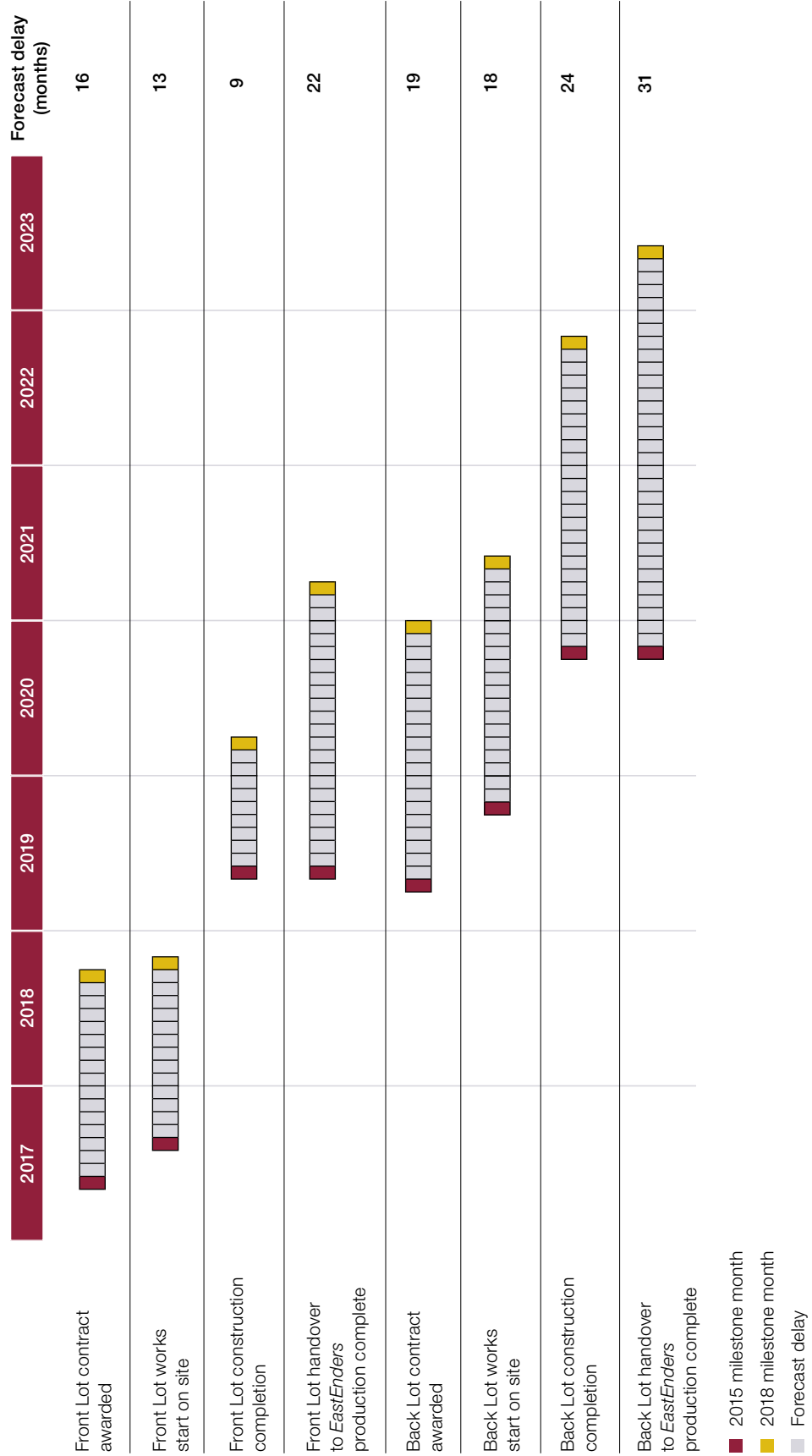
- Front Lot procurement delays: owing to limited interest from the market when the BBC carried out an open, single-stage procurement in 2016, the BBC revised its approach and carried out a two-stage procurement in 2017. This delayed the programme by around six months at a cost of £2.3 million;
- negotiations for the Front Lot construction contract were longer than planned: the BBC planned for the negotiation period to last around five months. However, owing to the preferred contractor offering a contract price that was higher than the BBC budgeted for, the negotiations lasted 11 months. This included confirming the design specification, allocating risks and ensuring the type and supply of bricks selected. The contract was signed in September 2018 with a fixed price of £24.2 million;¹² and
- the BBC originally gave insufficient consideration to its approach to ageing the new sets to make the Front Lot visually comparable to the existing set and ensure the new Back Lot locations look realistic to viewers. It originally intended to age the new sets alongside construction, but the BBC now plans for the ageing to be done after construction has completed, recognising its original intentions would add risk and complexity. As part of this decision, the BBC has now made more realistic assumptions of the time needed for scenic ageing and has scheduled 13 months to age the Front Lot and seven months to age the Back Lot.

¹¹ Comptroller and Auditor General, *Management of the BBC's critical projects*, National Audit Office, April 2016.

¹² This excludes £130,000 of Front Lot access works and £49,000 to produce sample brick panels – both carried out by Wates prior to the main contract being signed.

Figure 6 E20 programme milestones (as at October 2018) compared with the BBC's October 2015 plans

All milestones are delayed compared with the 2015 plans, with the overall programme delayed 31 months



Note

1 The delays do not total 31 months because many occur concurrently.

Source: National Audit Office analysis

BBC assessment of E20 as part of its Critical Projects Portfolio

2.9 E20 has been subject to ongoing scrutiny and oversight, as it is part of the BBC's Critical Projects Portfolio (paragraph 1.12), and actions have been taken as a result. The Board receives updates on the costs, progress and challenges of these projects through extensive monthly reports prepared by the BBC's corporate Programme Management Office (PMO). This assurance is additional to internal E20 programme team reports, including a monthly dashboard presented to the Steering Group and reports providing more detail on each component of E20.

2.10 In 13 of the 17 months between August 2016 and December 2017 the BBC rated E20 as amber-red, meaning successful delivery of the programme was in doubt. In autumn 2017, the BBC commissioned external assurance reviews relating to the overall programme and the Front Lot contract, and it has subsequently made changes as a result of the reviews' recommendations. Owing to the increasing programme costs and delays, between January and April 2018 the rating deteriorated to red. This meant the BBC felt successful delivery against the time, budget and scope approved in October 2015 appeared unachievable. Since 2014, only one other project in the BBC's Critical Projects Portfolio has been rated red. However, based on the assumption that the updated programme plan would be approved, the programme rating returned to amber-red in May 2018. Following approval of the new plan with an increased budget and later target completion date, as well as the impending signing of the Front Lot construction contract, the programme was rated as amber (completion appears feasible) in June and between August and October in 2018 (**Figure 7**).

Various elements of the programme have been completed

2.11 Despite forecast cost increases and delays, the BBC has completed the construction of a new Boiler House, electrical switch room and two TV production control rooms (galleries), and prepared the Front Lot site for construction. Apart from the cost of the galleries, these programme elements have all, to varying degrees, cost more and taken longer than planned in 2015 (**Figure 8** on page 26). In October 2018, the BBC started the construction of the Front Lot, the most challenging part of E20, and the Back Lot was at an early design stage.

2.12 Up to the end of September 2018, the BBC had spent £28.2 million on E20. **Figure 9** on page 26 shows the breakdown of these costs, with the largest amount (£9.3 million) relating to the construction of the Boiler House and electrical switch room.

Figure 7
 BBC Programme Management Office (PMO) ratings for E20 as part of the Critical Projects Portfolio, September 2014 to October 2018

The BBC currently rates E20 as amber, meaning successful completion appears feasible



The BBC defines its ratings as follows:

- Successful delivery outcomes appear to be unachievable. There are major issues which at this stage do not appear to be manageable or resolvable. Re-baselining or overall viability to be re-assessed, or both.
- Successful delivery is in doubt with major risks or issues apparent in a number of vital areas. Urgent action is needed to address these issues.
- Successful delivery appears feasible but significant issues already exist requiring management attention. These appear resolvable if addressed promptly.
- Successful delivery appears probable. Constant attention will be needed to ensure risks do not materialise into major issues threatening delivery.
- Success appears highly likely and there are no major outstanding issues at this stage that appear to significantly threaten delivery.

Note

- 1 The grey circles represent months with no reporting.

Source: National Audit Office analysis

Figure 8

The cost and duration of completed programme elements, compared with 2015 plans

Programme component	2015 plans		Actual position (and variance against 2015 plans)	
	End date	Total cost (£m)	End date	Total cost ¹ (£m)
Two production control rooms (galleries)	August 2016	1.5	September 2016 (+ one month)	1.4 (-0.1)
Boiler House and electrical switch room	November 2017	7.6	May 2018 (+ six months)	9.7 (+2.1) ²
Work to prepare the Front Lot site for construction (enabling works)	October 2017	1.9	May 2018 (+ seven months)	3.0 (+1.1)

Notes

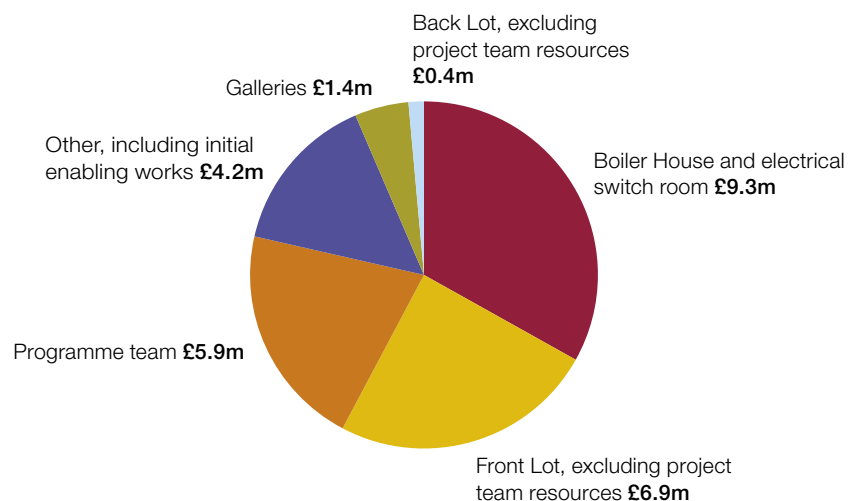
- 1 The cost increases primarily relate to issues encountered during the programme, such as asbestos in the Boiler House. See Part Three for more information.
- 2 The £9.7 million includes £0.3 million forecast costs in December 2018.

Source: National Audit Office analysis

Figure 9

Programme costs of the various components of E20 (£ million), April 2013 to September 2018

The majority of the £28.2 million costs to date relate to the Boiler House and electrical switch room, the Front Lot and the programme team



Notes

- 1 Figures do not sum to £28.2 million due to rounding.
- 2 The Boiler House and electrical switch room, the galleries, and the Front Lot enabling works have been completed.

Source: National Audit Office analysis

Programme benefits

2.13 The BBC's 2015 business case stated that E20 would provide benefits in five areas:

- maintaining the competitiveness of *EastEnders* by providing the infrastructure to future-proof the programme;
- allowing the use of new technology and high-definition filming;
- introducing design, structural, and health and safety improvements;
- improving production capacity and flexibility, for example by reducing the need to film away from Elstree; and
- supporting the BBC's property and estates management strategy.

2.14 Currently, E20 benefits appear broadly achievable, albeit later than planned. For example, the BBC's July 2015 business case planned that *EastEnders* would be in a competitive position and that there would be health and safety improvements, following the construction and handover of the Front Lot to the production team in October 2018. However, under current plans this will not take place until March 2021. Similarly, the BBC had planned for 50% less off-site filming following the completion of Back Lot works in June 2020, but this is now not scheduled until the end of May 2023.

2.15 While not the core aim of the programme, the BBC plans to make savings of £480,000 per annum from E20. These will be achieved later and over a shorter period than was planned in the 2015 business case (**Figure 10** overleaf). The BBC estimates that £247,000 per annum of these savings will be achieved once the Back Lot is completed. However, the extent of the benefits that can be achieved from the Back Lot may be revised when plans are more developed (paragraph 2.5). Other benefits, such as £83,000 a year (after April 2019) from more efficient energy usage at BBC Elstree because of the Boiler House improvements, are more certain, although this is a slightly smaller saving than was originally envisaged.

Figure 10

E20 financial benefits, the 2015 business case versus the latest position (October 2018)

The benefits of E20 are set to be achieved later and over a shorter period than was planned in 2015

Area of savings	2015 business case		BBC reporting as at October 2018	
	Saving (per annum)	Duration	Saving (per annum)	Duration
Maintenance cost savings once the Front Lot is built	£150,000	Ongoing from October 2018	£150,000	2021 to 2036
Reallocation of budget for locations now provided by the Back Lot	£127,000	Ongoing from June 2020	£127,000	2023 to 2036
Costs avoided from not having to film elsewhere on the Elstree site	£120,000	Ongoing from June 2020	£120,000	2023 to 2036
Lower utility and maintenance costs	£100,000	Ongoing from October 2018	£83,000	April 2019 to December 2033
Total	£497,000	Not applicable	£480,000	Not applicable

Source: National Audit Office analysis

Part Three

What went wrong with the programme and how the BBC has responded

3.1 E20 is set to cost more, and complete later, than originally planned. The reasons for this include issues relating to the set-up of the programme, over-optimistic initial estimates of costs and delivery timescales, and other factors such as inflation, and commercial challenges. In response to some of these issues, the programme team carried out lessons learned exercises on discrete parts of the programme, such as on the Boiler House work in late 2015. However, it did not formally capture a set of programme-wide lessons learned until November 2017. This part of the report explores these issues and their impact on the cost, schedule and risks of the programme.

Issues during the set-up of the programme

Skills and capability

3.2 Up to the end of September 2018 the BBC had spent £5.9 million on the E20 programme team. The team included around 11 full-time equivalent (FTE) staff in 2014-15, and this increased to around 20 FTEs in 2017-18 (**Figure 11** overleaf). The team is supported by contracted professional services who provide a wide range of specialist services, including architectural work, cost consultancy, engineering services, and legal and procurement advice.

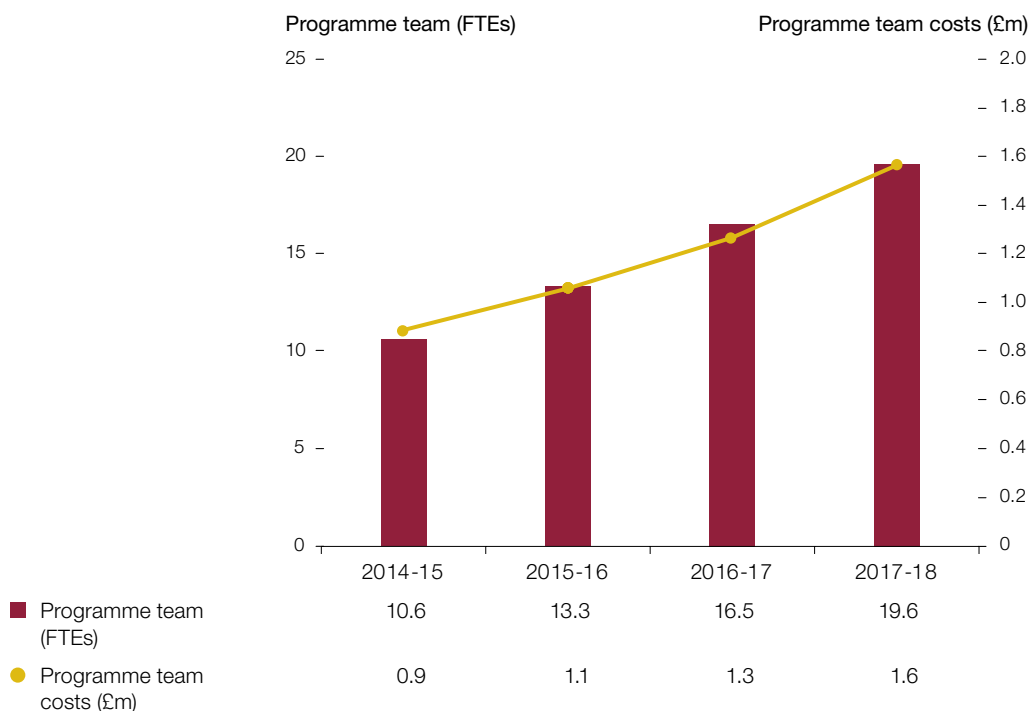
3.3 The programme team was originally structured around seven areas. However, following an external assurance review in 2017, in December 2017, the BBC restructured the team around the three parts of the programme: the Front Lot; Back Lot; and the Boiler House and work to prepare the Front Lot site for construction (enabling works). The team is supported by cross-cutting functions focused on, for example, finance and external reporting (Figure 2).

3.4 The original structure of the team was based on roles and responsibilities outlined in a plan that the BBC developed to support the programme's 2015 business case. This plan stated that the BBC needed 16 different programme roles with various responsibilities, and outlined a requirement for around 14 FTEs during the initial stage of the programme (November 2015 to May 2017). The plan did not, however, refer to the specific skills required for the different roles within the team.

Figure 11

Programme team costs and full-time equivalent staff, 2014-15 to 2017-18

Programme team costs and the number of full-time equivalent (FTE) staff have increased over time as the programme has developed, with £1.6 million spent and around 20 FTE staff in 2017-18

**Note**

1 The BBC spent £0.3 million on the programme team in 2013-14 and it has spent £0.7 million on the programme team in 2018-19 (up to the end of September 2018).

Source: National Audit Office analysis

3.5 In April 2017, a BBC internal audit report concluded that there was insufficient construction project management experience within the programme team, particularly in the crucial roles of Programme Director and Manager. This meant there was limited construction knowledge to manage the programme's design, procurement and construction activities. This contributed to, for example: Front Lot design coordination problems that resulted in the BBC commissioning internal and external reviews to resolve design issues and inconsistencies; and ineffective technical review and challenge of programme documents and decisions.

3.6 The 2017 internal audit report recommended that the BBC should add construction experience to the team. Subsequently, the BBC recruited a new Programme Director in September 2017 and a Front Lot Project Manager in July 2017 – both with construction experience.

3.7 More recently, in early 2018, the Programme Director assessed the resources required for the remainder of the programme. This identified the need for capability in the following areas:

- a full-time Back Lot Project Manager – this role was vacant or filled on a temporary basis until December 2018 when a full-time manager was appointed;
- a third-party contractor, who was appointed in August 2018, to carry out contract management and administration throughout the duration of the Front Lot construction contract; and
- additional corporate procurement support, which has now been secured, for the forthcoming work to age the new sets.

Business case cost and delivery estimates

3.8 The £27 million (45%) programme budget increase against the 2015 business case plan (paragraph 2.1) is partly the result of the BBC, on the basis of advice from cost consultants, being over-optimistic in its original assumptions about the costs of the programme. The BBC also underestimated the time taken to complete E20. For example:

- in addition to £1.2 million savings required by the BBC as a result of deferring spending into later financial years (paragraph 1.8), the 2015 business case built in a requirement for the BBC to save £0.5 million due to forecast overspending against the 2015 budget. The BBC did not achieve any of the required £1.7 million savings and, because of this and other funding pressures, the design and build budget for the Back Lot was reduced by around £3 million; and
- in 2015, the BBC intended to age the new sets alongside construction as part of a single contract. However, following more detailed consideration, the BBC currently plans for this work to be carried out by specialists under separate contracts. Beyond stating a budget, the 2015 business case made limited reference to the need to age the new sets. In 2018, under new leadership and with advice from an existing supplier, the programme team planned increases to the funding to age the Front Lot, and additional time to age both Lots (paragraph 2.8).

3.9 The BBC, on the basis of advice from its cost consultants (AECOM) for the majority of items, underestimated the cost of the Front Lot, which is now forecast to cost £54.7 million, £23.5 million (75%) more than planned. Furthermore, AECOM's most recent estimate on the Front Lot construction contract, in July 2018, was £3.1 million below the final contract price of £24.2 million that was agreed between Wates and the BBC. AECOM attributes this difference to the bespoke nature of the E20 programme, which meant that for some items there was a lack of benchmark data, and also considers that limited market interest led to inflated prices. Despite the £3.1 million gap, an external assurance review commissioned by the BBC recommended the BBC award the contract as carrying out another procurement exercise would introduce cost increases and delays that outweigh the continuation of the current approach.

3.10 The BBC has made improvements in this area with more realistic budget and schedule estimates. It has done this by applying lessons learned from the programme, having greater clarity on the set design over time, and adding additional expertise. For example, as well as the new Programme Director and Front Lot Project Manager, the BBC added project management and scheduling experience to the team in 2017, with a member of staff being seconded from the BBC's corporate Programme Management Office (PMO).

The BBC's integration of the E20 programme and *EastEnders* production teams

3.11 An important part of any construction project is consultation and engagement with end users.¹³ For E20 the main end users are the *EastEnders* production team who will use the new Lots. The 2015 business case emphasised the importance of collaboration between the E20 programme team and *EastEnders* production team, particularly in relation to any changes in the designs of the new Lots.

3.12 In 2015, the E20 programme governance structure, in addition to the overarching Steering Group, included a forum (the Design Authority) to ensure the design was fit for purpose and to approve any design changes up to £100,000. There was also a Production Direction Group to ensure the set design met the requirements of production, and that appropriate plans were in place to handover the set to the *EastEnders* production team in due course.

3.13 Despite governance structures being in place there have been various issues, which have contributed to design and change request problems:

- The respective responsibilities, requirements and processes of the programme and production teams have not always been well communicated or understood. For example, the absence of clearly defined roles and responsibilities has previously resulted in a lack of clarity about who could make design decisions.
- Communication and relationships between the programme and the *EastEnders* production teams have not always been effective, and important production team members did not have good working relationships with members of the E20 team. These relationships did, however, improve in early 2017.
- The *EastEnders* production team was represented at the Steering and Production Direction Groups, in the Design Authority, and at sponsor level (until 2017) by senior production staff. However, communication links between these groups were poor and the programme team raised concerns that the *EastEnders* production team was only indirectly involved in the Steering Group for the first three years of the programme, before becoming directly represented in early 2017.

¹³ RIBA, *Client Conversations: Insights into successful project outcomes*, 2013; National Audit Office, *Framework to review programmes*, September 2017.

3.14 E20 affects various stakeholders, including decision-makers in the BBC, staff working on *EastEnders* and at Elstree, and residents near the Elstree site. Therefore, stakeholder management is important. The programme team has improved the way it engages with stakeholders. In early 2018, the BBC refined its approach by dividing stakeholders into distinct groups and giving key stakeholders a programme team owner to manage that relationship. The BBC also now routinely monitors stakeholder engagement levels.

The effectiveness of design development and change processes

3.15 As *EastEnders* is a continuing drama and often requires set changes as part of its storylines, the BBC noted the importance of effective design development and change processes in its 2015 business case. This is a relevant issue in all complex construction projects and was also emphasised to the programme team during a 2015 visit to *Coronation Street*, where the set had recently been rebuilt. Yet despite this, the 2015 business case did not include a change request and design change process.

3.16 In April 2017, a BBC internal audit report on E20 design development and change controls found substantial problems. It was the only internal audit report in 2016-17 (out of 41 audits) to receive an overall rating of 'poor' and concerns were also raised by four external reviews. These issues included:

- the first two design stages recommended in RIBA guidance¹⁴ were not completed, which meant there was no detailed basis against which the E20 team could track design development (paragraph 1.7);
- in July 2015, an important design stage was completed without the appropriate review and sign-off by *EastEnders* production staff. This resulted in the *EastEnders* production team making more than 70 design change requests eight months after the design should have been stable. The Steering Group was not made aware of these issues at the time. However, following liaison between the programme and production teams, these requests were subsequently rationalised to 16 changes at a cost of around £440,000; and
- no formal design change process was agreed between the E20 and *EastEnders* production teams until September 2016 after a key design stage had already been completed, around a year after the business case was approved. However, the *EastEnders* production team did not use this process, and this led to an additional build-up of change requests from the team.

3.17 The E20 programme team and *EastEnders* production team agreed a more robust change request process in April 2017. In April 2018, the programme and production team's roles and responsibilities were further clarified.

¹⁴ The RIBA (Royal Institute of British Architects) *Plan of Work* is the UK model for organising the process of briefing, designing, constructing and operating building projects. RIBA design stages were previously A to L but are now 0 to 7. Available at: www.architecture.com/-/media/gathercontent/riba-plan-of-work/additional-documents/ribaoutlineplanofwork2007revised2008pdf.pdf

Encountering problems with asbestos and obstructions in the ground

3.18 The BBC has encountered a wide range of issues at various stages of the programme. For example, it found asbestos in the Boiler House and underground obstructions on the Front Lot site. These issues, to some extent unforeseen by the programme team owing to poor BBC site records and limited surveying work, have cost the BBC around £1.8 million and delayed works by around four months. Some of these issues, including the existence of an underground oil tank, have been known to the BBC for several years, with Overbury, a contractor appointed by the BBC, asked to confirm the size and location of the oil tank when carrying out preliminary ground works on the Front Lot site in 2014.

3.19 The BBC has learned from these issues and recognises that unexpected asbestos has been discovered at each major phase of construction and works. AECOM advised the BBC on its risk and contingency funding levels for the 2015 business case and the BBC applied a contingency rate at the upper end of the range proposed by AECOM. However, given the complexity of the programme, poor site records, limited surveying work and the existing knowledge of obstructions in the ground, it would have been prudent for the BBC to have allocated more funding to cover risk and contingency from the outset.

The impact of inflation in the construction industry

3.20 The BBC has always intended that E20 would be completed over several years – initially five, but now around seven and a half, from October 2015. This has meant that the BBC, and its cost consultants AECOM, have had to consider the impact of inflation on the cost of the programme. The BBC's 2015 business case allocated £4.1 million of funding to cover inflation increases, as there have been inflationary pressures in the construction industry across the UK.¹⁵

3.21 Inflationary pressures on the construction industry have been greater than anticipated by the BBC and its cost consultants. The programme team has attributed £9.2 million of the programme's cost increases to higher than forecast inflation and demand for services in the construction sector. However, the BBC was unable to provide validation to support this figure, which alone represents a 63% increase against the BBC's original budget for the Front Lot construction contract cost. The impact of inflation has been greater owing to the 22-month Front Lot delay, and the wider programme delay of 31 months.

¹⁵ Office for National Statistics, *Output in the construction industry*, July 2018.

Commercial and contract management

3.22 To date, the BBC has used 42 contracts to support E20. Work is still being carried out on 14 of these. The BBC planned to spend £36.9 million on these 42 contracts, with the Front Lot construction contract with Wates accounting for £24.2 million of this. However, subsequently there have been contract variations and delays to the programme, meaning some contractor support has been required for longer. The BBC now forecasts that total contract expenditure for the 42 contracts will be £43.5 million – 18% more than planned.

Market management and sourcing the Front Lot construction contract

3.23 The largest E20 contract is for the construction of the Front Lot. The original approach in 2016 used a single-stage open procurement. This was the preferred approach, explored by BBC Procurement with the support of AECOM. The BBC also sought the views of the wider market by consulting with the six contractors on its Building Contractor Services Framework. However, while we recognise the BBC would not necessarily follow an approach suggested by its contractors, four of these expressed a preference for an alternative procurement approach.

3.24 The BBC originally planned to start the procurement in February 2016 and award the contract in November 2016. It planned to launch the invitation to tender in July 2016 by which point it had intended to have completed RIBA design stage F.¹⁶ However, the BBC did not start the procurement until September 2016 (after completing RIBA design stage E) and only three companies bid for the work – with only one meeting the BBC's cost and quality requirements. The BBC, after a review carried out by AECOM, attributed the limited market interest to the highly bespoke nature of the programme and the economic environment making contractors more selective.

3.25 The Steering Group approved a new two-stage procurement approach in January 2017. This began in March 2017, six months after the first approach started. The BBC estimates that this delay cost it around £2.3 million. Following learning from the Front Lot procurement, the BBC intends to use a two-stage procurement approach for the construction of the Back Lot.

¹⁶ See footnote 15.

3.26 The BBC decided to use its Building Contractor Services Framework rather than going to the wider market. The BBC's internal guidance states that the framework should only be used for contracts with a maximum value of £10 million. It considered the market appetite for this work had already been tested and that therefore the framework was the most appropriate approach. Three of the six contractors on this framework bid for the work and two met the BBC's requirements. During an initial stage, Wates was appointed by the BBC in April 2017. The second stage involved Wates seeking more clarity about the BBC's requirements and design before proposing costs for various elements of the work. The second stage also involved the BBC and Wates negotiating a fixed contract price and allocating risks before construction. This negotiation, which the BBC originally planned would take five months, began in October 2017. The contract was not signed until the end of September 2018. The negotiation took six months longer than expected as Wates' contract price offers were higher than the BBC anticipated, and both parties were also agreeing the type and supply of bricks for the Front Lot having reviewed a number of sample brick panels. After an initial offer from Wates of £21.7 million, following clarifications and the confirmation of provisional sums and change requests, the agreed contract price was £24.2 million, £9.5 million more than the BBC had originally planned but within the revised 2018 budget.¹⁷

Contract management

3.27 E20 project managers are responsible for contracts, with support from BBC corporate services teams. The BBC also relies on contracted professional services to provide some support for procurement and construction contract management. For example, AECOM provided Front Lot procurement advice and contract management of the Boiler House works during 2016-17. The BBC has also appointed a contractor to manage the administration of the Front Lot construction contract (paragraph 3.7) between August 2018 and March 2020.

3.28 For E20's main construction elements, the BBC is using industry-standard NEC3 contracts with payments based on milestones being met.¹⁸ The BBC manages performance through monitoring when programme milestones are completed, and regular contractor discussions and reports, for example on progress and any health and safety issues. These contracts use an early warning notice system. The BBC or its contractor updates the other party on any issues that will affect the programme's cost or timetable. Poor contractor performance results in non-payment or, in extreme cases that have not materialised, termination of the contract. The BBC is using the same approach on the Front Lot construction contract.

3.29 The BBC's professional service contracts for E20, such as with its cost consultants (AECOM) and architects (Jenkins Design Services) have agreed scopes and payment profiles. These contracts, beyond non-payment or the right to terminate contracts if contractors fail to comply with their contractual obligations three times, do not contain formal performance management or reporting mechanisms, such as key performance indicators or financial penalties ('service credits').

¹⁷ This excludes £130,000 of Front Lot access works and £49,000 to produce sample brick panels – both carried out by Wates prior to the main contract being signed.

¹⁸ NEC, *NEC3: Contracts*. Available at: www.neccontract.com/NEC3-Products/NEC3-Contracts

Appendix One

Our audit approach

1 This study examined whether the BBC has managed its E20 programme – to replace and enlarge the external *EastEnders* set (including ‘Albert Square’) and related infrastructure at BBC Elstree Centre – in a way that is likely to achieve value for money.

2 Our analytical framework was based on evaluating whether the programme was set up in a way that maximised the chances of success; assessing whether E20 is on track to achieve its intended benefits, within the timescales and budget expected; reviewing whether the E20 programme governance manage risks, changes and variations effectively; and assessing whether the right resources and capability are in place to complete the programme successfully. We reviewed:

- the nature and scope of E20, including the early stages of the programme and the change of approach that was approved in 2015;
- the progress and costs of the various elements of E20, as well as the overall programme; and
- what went wrong with the programme, and how the BBC has responded.

3 Our audit approach is summarised in **Figure 12** on pages 38 and 39. Our evidence base is described in Appendix Two.

Figure 12
Our audit approach

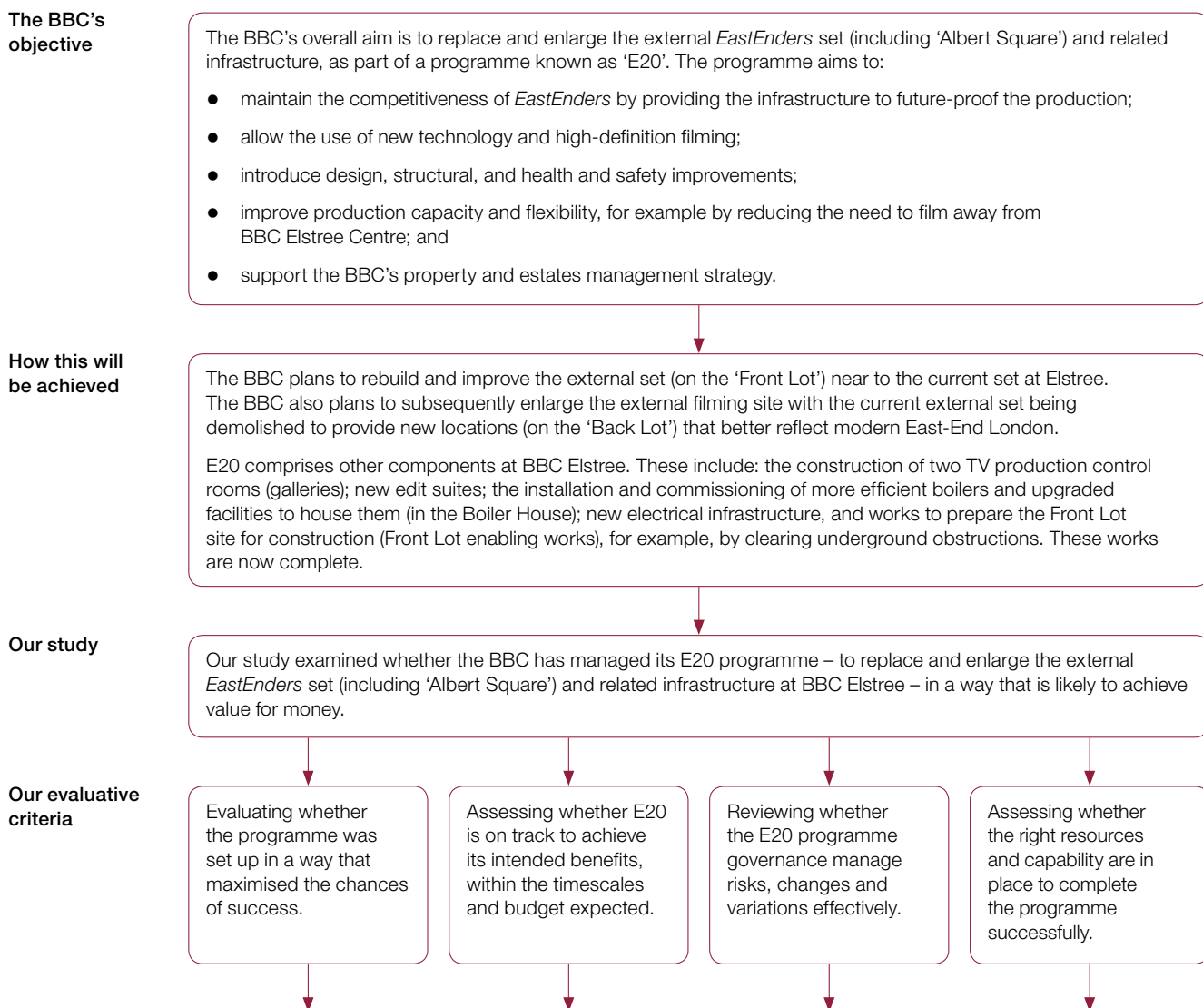


Figure 12 continued**Our audit approach****Our evidence**
(see Appendix Two for details)

We reviewed internal documents and data, including the BBC's 2013 and 2015 business cases for E20; and interviewed staff who have worked on E20 between 2013 and 2018.

We used our internal options appraisal toolkit to assess the maturity of the BBC's 2013 and 2015 business cases for E20. We also used our *Framework to review programmes* and *commercial assessment framework* to support our analyses.

We reviewed internal documents and data, and interviewed staff who have worked on E20 at between 2013 and 2018.

We analysed a wide range of data within the BBC Programme Management Office's (PMO) Critical Projects Portfolio reports on E20. We also reviewed extensive qualitative information within the PMO reports over the four-year period covered by this review.

We also used our *Framework to review programmes* and *commercial assessment framework* to support our analyses.

We reviewed various documents, including: BBC and external assurance reviews; and previous and current governance structure diagrams.

We interviewed staff who have worked on E20 at various times between 2013 and 2018.

We used our *Framework to review programmes* and *commercial assessment framework* to evaluate the appropriateness of E20's governance structures and processes, including those relating to design development and change.

We reviewed internal documents and data including: the BBC's E20 capability plan, which supported the 2015 business case, and the BBC's recent resource plan for the programme.

We interviewed staff who have worked on E20 at various times.

We used our *Framework to review programmes* and *commercial assessment framework* to support our analyses.

We analysed quantitative data, including on: full-time equivalent staff from 2014-15 to 2017-18; programme and team costs, and contract expenditure in support of the programme.

Our conclusions

The BBC built the external filming site for *EastEnders* (including 'Albert Square') in 1984, and originally planned to use it for two years. It has lasted for 34 years but is no longer fit for purpose. There are, for example, filming delays and maintenance costs as a result of stoppages in production due to health and safety concerns. The BBC will not be able to deliver value for money on the E20 programme in the way that it envisaged in 2015. Disappointingly, some of the reasons for this were built into E20 at the outset and could have been addressed earlier. These include insufficient construction project management expertise that contributed to a lack of appropriate technical challenge, inadequate integration between the programme team and end users, and early planning processes that led to underestimation of aspects of complexity, cost and risks of its revised approach. The programme costs have also been adversely impacted by inflation in the construction industry across the UK, which has had a greater impact than it would have done had the programme completed without any delays.

E20 has been subject to ongoing scrutiny and reporting and, in the past 18 months, the BBC has made many improvements to the programme and various elements of E20 have been completed. Furthermore, the benefits of the programme still appear to be broadly achievable, albeit at a later date. As the Front Lot construction only started in October 2018 and the Back Lot is at an early design stage, it is not yet possible to conclude on the value for money of the latest programme plan. Therefore, sustained scrutiny, including by the Board, is required to prevent this programme going off-track again, and to ensure the maximum benefits are achieved for licence fee payers, albeit at a substantially higher cost and later than originally planned.

Appendix Two

Our evidence base

1 We reached our conclusions on whether the BBC has managed its E20 programme in a way that is likely to achieve value for money, following analysis of evidence collected between May and November 2018. Our audit approach is outlined in Appendix One.

2 We evaluated whether the programme was set up in a way that maximised the chances of success, in the following ways:

- Reviewing internal documents and data, including: the BBC's 2013 and 2015 business cases for E20 and their accompanying appendices; the 2014 feasibility report exploring the revision of the scope of E20; the programme's two Front Lot procurement strategies; and the programme's original and revised team and governance structures. We also reviewed relevant documents from our 2016 report, *Management of the BBC's critical projects*.¹⁹ In total, we reviewed more than 300 documents.
- Interviewing BBC staff and contractors who have worked on E20 at various times between 2013 and 2018, including the former and current programme sponsors, the Programme Director, the former Programme Manager, and other staff from across all areas of the programme (Figure 2). We also gained the views of the Deputy Director-General who is the 'Executive Champion' of the programme.
- Using our internal options appraisal toolkit to assess the maturity of the BBC's 2013 and 2015 business cases for E20.
- Using our *Framework to review programmes* to shape our analytical framework,²⁰ as well as support our document review, interview topic guides and data analyses. We also received advice from project and programme management experts at the National Audit Office (NAO).
- Using our commercial assessment framework to evaluate the BBC's commercial and contracting approach for E20.²¹ This included systematic document review, data analysis, and interviews exploring commercial and contracting issues. We also received advice from commercial and contract management experts at the NAO.

19 Comptroller and Auditor General, *Management of the BBC's critical projects*, National Audit Office, April 2016.

20 National Audit Office, *Framework to review programmes*, September 2017. Available at: www.nao.org.uk/report/framework-to-review-programmes/

21 National Audit Office, *Commercial and contract management: insights and emerging best practice*, November 2016, pp.13–75. Available at: www.nao.org.uk/wp-content/uploads/2016/11/Commercial-and-contract-management-insights-and-emerging-best-practice.pdf

3 We assessed whether E20 is on track to achieve its intended benefits, within the timescales and budget expected. We did this in the following ways:

- Reviewing internal documents and data, including: the programme team's new programme plan that was submitted to and approved by the BBC Board in May 2018; various programme progress reports; commercial and programme management documentation; and a wide range of BBC and external assurance reviews.
- Undertaking quantitative analysis of the wide range of data within the BBC Programme Management Office's (PMO) Critical Projects Portfolio reports on E20 – covering the period from September 2014 to October 2018. This included data on: programme costs (budget, actuals and forecast); contingency and risk budgets and spending; and progress against various programme milestones. We also reviewed extensive qualitative information within the PMO reports.
- Interviewing BBC staff and contractors who have worked on E20 at various times between 2013 and 2018.
- Using our *Framework to review programmes and commercial assessment framework* to support our analyses of the programme's cost, benefits and progress against specified milestones.
- Visiting BBC Elstree Centre in June 2018 to explore the progress of E20, including the upgraded Boiler House.

4 We reviewed whether the E20 programme governance manages risks, changes and variations effectively. We did this by:

- Reviewing various documents, including: BBC and external assurance reviews; previous and current governance structures; terms of reference for E20 governance bodies, such as the Steering Group and Design Authority, and minutes and papers to the various forums outlined in Figure 3.
- Interviewing BBC staff and contractors who have worked on E20 at various times between 2013 and 2018.
- Using our *Framework to review programmes and commercial assessment framework* to evaluate the appropriateness of E20's governance structures and processes, including those relating to design development and change.

5 We assessed whether the BBC has the right resources and capability in place to complete the programme successfully. We did this in the following ways:

- Reviewing internal documents and data including: the BBC's resource plan for the programme team, which supported the 2015 business case, the previous and current organisation charts, full-time equivalent (FTE) staff data from between 2014-15 and 2017-18; and the BBC's recent resource plan for the remainder of the programme.
- Interviewing BBC staff and some contractors who have worked on E20 at various times between 2013 and 2018.
- Using our *Framework to review programmes and commercial assessment framework* to inform our evaluation of the appropriateness of the programme's overall and commercially focused resources, as well as its use of external advice and support.
- Undertaking quantitative data analysis, including on: programme team FTE data from 2014-15 to 2017-18; programme and team costs, overall and by component parts of E20; and (planned, actual and forecast) contract expenditure in support of the programme.

Appendix Three

The National Audit Office's Framework to review programmes

1 To structure part of our review we used our *Framework to review programmes*. **Figure 13** overleaf highlights our findings against each of the four areas of the framework.

Figure 13 Index of findings against the National Audit Office's Framework to review programmes

1	<p>Purpose</p> <p><u>Need for programme</u> Is it clear what objective the programme is intended to achieve?</p> <p><u>Portfolio management and dependencies</u> Does the project make sense in relation to the organisation's strategic priorities?</p> <p><u>Stakeholder engagement</u> Have the right people bought into the programme, for example users, suppliers, those who have to implement it?</p>	2	<p>Value</p> <p><u>Option appraisal</u> Does the option chosen meet the programme's objective and provide long-term value?</p> <p><u>Business case</u> Does the business case demonstrate value for money over the lifetime of the programme?</p> <p><u>Cost and schedule</u> Has the programme built up robust estimates of cost and schedule, including all programme components?</p> <p><u>Benefits</u> Does the programme: have a baseline; know what measurable change it is going to make; and actually measure it? Are benefits being achieved?</p>	3	<p>Programme set-up</p> <p><u>Governance and assurance</u> Are there effective structures (internal and external) which provide strong and effective oversight, challenge and direction?</p> <p><u>Leadership and culture</u> Does the programme have strong leadership with the necessary authority and influence?</p> <p><u>Resources</u> Does the organisation have the resources (staffing, skills, equipment etc.) required to deliver the programme?</p> <p><u>Putting the programme into practice</u> Are scope and business requirements realistic, understood, clearly articulated and capable of being put into practice?</p> <p><u>Risk management</u> Are key risks identified, understood and addressed?</p>	4	<p>Delivery and variation management</p> <p><u>Delivery strategy</u> Are there appropriate incentives for all parties to deliver their objectives (contractual, performance management, or other)?</p> <p><u>Change control</u> Is there an effective mechanism to control programme scope?</p> <p><u>Responding to external change</u> Is the programme sufficiently flexible to deal with setbacks and changes in the operating context?</p> <p><u>Performance management</u> Is progress being measured and assessed including consideration that the programme is still the right thing to do?</p> <p><u>Lessons learned</u> Is the programme learning from experience on the current programme and previous relevant programmes?</p> <p><u>Transition to business as usual</u> Does the programme have a clear plan for transfer to operations/business as usual?</p>
	See paragraphs 1.2 to 1.4, 1.9 and 3.11 to 3.14.		See paragraphs 1.5 to 1.9, 2.13 to 2.15 and 3.8 to 3.10.		See paragraphs 1.10 to 1.12, 2.2 to 2.5, 2.9, 2.10 and 3.2 to 3.10.		See paragraphs 2.6 to 2.12, 3.1, 3.11 to 3.21 and 3.27 to 3.29.

Appendix Four

The National Audit Office's commercial assessment framework

1 To structure part of our review we used our *commercial assessment framework*. The framework has been developed to help audit commercial relationships across seven stages of a contract's lifecycle. It uses existing knowledge and experience from across public bodies to identify what good practice looks like. **Figure 14** on pages 45 and 46 outlines our findings against the framework.

Figure 14

Findings against the National Audit Office's commercial assessment framework

Area of focus	Findings
<p>Commercial strategy: Is there an overarching commercial strategy, with a clear rationale for the approach being taken?</p>	<ul style="list-style-type: none"> There is no overarching commercial strategy for E20 as each of the programme components has its own procurement strategy and approach. The Front Lot procurement strategy had to be revised, from a single-stage to two-stage procurement, owing to limited market interest.
<p>Commercial capability and governance: Does the BBC have the capability needed to manage the contracts and is it developing capability for the future?</p>	<ul style="list-style-type: none"> Project managers are responsible for managing particular contracts, with ad-hoc support from BBC corporate services teams. Professional services contractors provide contract management support in some areas. A recent capability assessment identified commercial resource needs over the remainder of the programme, with these needs being responded to.
<p>Market management and sourcing: Has sourcing supported the commercial strategy and followed recognised good practice to optimise value for money?</p>	<ul style="list-style-type: none"> All the contracts we reviewed had some competition and used clear assessment criteria. The BBC carried out some market sounding, seeking the views of the market by consulting the six contractors on the BBC's Building Contractor Services Framework. However, while we recognise the BBC would not necessarily follow an approach suggested by its contractors, four of these expressed a preference for an alternative procurement approach. Owing to the limited market interest, the BBC had to revise its approach and carry out a two-stage procurement, which led to a delay of around six months and an estimated £2.3 million of additional costs. The BBC used its Building Contractor Services Framework, as it considered this to be the most appropriate approach, while recognising the BBC's internal guidance stating that the framework should only be used for contracts with a maximum value of £10 million. Three of the six contractors on the framework bid for the work and two met the BBC's requirements – with Wates being appointed owing to a higher-quality bid. The BBC and Wates had around 11 months of negotiations to, in part, agree the contract price, which was agreed at £24.2 million (£9.5 million more than the BBC budgeted but within the revised 2018 budget). As part of the negotiation both parties were also confirming provisional sums, dealing with change requests, and agreeing the type and supply of bricks for the Front Lot having reviewed a number of sample brick panels.

Figure 14 *continued*

Findings against the National Audit Office's commercial assessment framework

Area of focus	Findings
Contract approach: Does the balance of risk and reward, encourage service improvement, minimise perverse incentives and promote good relationships?	<ul style="list-style-type: none"> ● For E20's construction elements, the BBC has used NEC3 contracts with payments based on milestones being met. ● The BBC's professional services contracts for E20, such as with its cost consultants (AECOM) and architects (Jenkins Design Services) have agreed scopes and payment profiles. ● E20 contracts do not use key performance indicators.
Contract management: Is the service being managed well, with costs and benefits being realised as expected?	<ul style="list-style-type: none"> ● For the construction elements of the programme, the BBC manages performance through: monitoring the completion of programme milestones; regular provider engagement; and contractor reports. These contracts also use an early warning notice system with the BBC or contractor telling the other party of any issues that will affect the cost or timetable of the programme. Poor contractor performance results in non-payment or, in extreme cases that are yet to materialise, contract termination. ● For the BBC's professional services contracts for E20, poor performance can be managed by non-payment or the right to terminate contracts if contractors fail three times to comply with their contractual obligations.
Contract lifecycles: Will the service continue to demonstrate value for money through its lifecycle?	<ul style="list-style-type: none"> ● Boiler House and Front Lot enabling works: completed in May 2018, albeit later, and at a greater cost, than planned (Figure 8). ● Front Lot construction contract: £24.2 million, £9.5 million more than the BBC budgeted, with the overall Front Lot part of the programme costing 75% more and set to complete 22 months later, than originally planned. ● Back Lot: at an early, pre-procurement stage. ● E20 benefits appear broadly achievable, albeit at a later date. However, the extent of the benefits that can be achieved from the Back Lot may be revised when plans are more certain. Other benefits, such as utilities savings, are more certain.
Contract transitions and exit planning: Is the BBC ready for the end of its contracts?	<ul style="list-style-type: none"> ● Market engagement has, in some cases, been undertaken to support new contracts. ● The Boiler House has been completed and handed over to the BBC's facilities management contractor. ● Following the programme team carrying out lessons learned exercises on discrete parts of the programme, the BBC produced a formalised programme-wide lessons learned log in November 2017, which includes some commercial lessons, for example on commercial capability. ● Procurement challenges on the Front Lot have led to an early intention to use a two-stage approach again on the Back Lot.

Source: National Audit Office analysis

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