



Feasibility Study

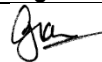
PRESENTED TO



FOR


Control Room Merge

Document Revision History

Revision	Date	Status Description	Issued By	Signature
1	21/1/15	First Stage Report	G Ross	

Initial Proposal Completed by:

Graeme Ross

Signature: 

In the capacity of: **Projects Manager**

Dated:

**Acorn House, Acorn Close, Five Oak Green, Tonbridge, Kent
TN12 6RH**

Email: g.ross@chroma-vision.co.uk

Tel: 01892 832112 – Fax: 01892 836651

1. Preamble

Sevenoaks Borough Council have issued an instruction to complete a feasibility study for the 'merging' of 3 control room operations into one. The basis of this merger is prescriptive at this stage and seeks to achieve the aim with the minimal investment and disruption to the existing systems. This document presents the most effective actions required to achieve these aims.

The original brief provided has given two options for moving forward; -

Option 1 – Merge into one control room while maintaining current (Control Equipment Room) CER arrangements

Option 2 – Merge into one control room but moving Tunbridge Wells CER into another nearby building

The document is divided into 6 Sections; -

- Section 1 (This Section) provides a description of the basis of the directive and how the document has been developed and presented in order to achieve that directive.
- Section 2 – Lists the full operational requirements as identified by the three boroughs.
- Section 3 – Provides the initial observations from these Operational Requirements and hence sets the scene for moving forward with the study.
- Section 4 – Provides details of surveys made at the three current locations and what conclusions can be brought from the result of those surveys.
- Section 5 – Provides the conclusions that are derived from Sections 2 – 4 and hence the basis of providing a full and final solution.

Within Section 5 we will take each location and work through each of the two options individually, obviously cross-referring where the options 'intersect' and the activities are basically the same. Where there are multiple considerations regarding the actions that could be taken, we will provide all those considerations and offer a conclusion on the one we believe to be the best after all points have been considered. This way you will have the opportunity to follow out train of thought and decide on any other options you wish to consider for stage two of the report.

Stage 2 of this report, should you choose to commission it will provide far more detail on the works that will be undertaken to achieve the final agreed solution, based upon the final conclusions and any post-report dialogue.

2. Operational Requirements

2.1. Basis of enquiry

- 2.2. The Tri-Council CCTV operation (TCCO) formed by Tonbridge & Malling District Council, Tunbridge Wells Borough Council and Sevenoaks District Council are seeking to rationalise their control room operations into one location.
- 2.3. There are two basic options; -
 - 2.3.1. The Tunbridge Wells Control Equipment Hub to remain where it is
 - 2.3.2. The Tunbridge Wells Control Equipment Hub to move to a new location within 500m of the current location.

2.4. Operational Requirements

- 2.5. The control room would have 3 separate workstations with their own associated wall monitors to allow Tonbridge, Tunbridge Wells and Sevenoaks to operate separately.
- 2.6. There is no requirement for the systems to operate as a single integrated solution at this time.
- 2.7. There is no requirement for use as a silver command for the police
- 2.8. At this stage there is no operational requirement to replace the existing control & recording systems.
- 2.9. The current arrangement at Tonbridge can be retained
- 2.10. Downloads will be carried out using two separate review systems on one PC, one for Sevenoaks and one for Tonbridge/Tunbridge Wells.
- 2.11. Training and use of operatives across both systems will continue as they currently are and will be managed by Sevenoaks.

2.12. Perceived Solution

- 2.13. The solution should concentrate on delivering the same service but from one single control room
- 2.14. The solution should not, at this stage, consider changing the recording or control solution, unless it is necessary to achieve the required aims stated in Section 1

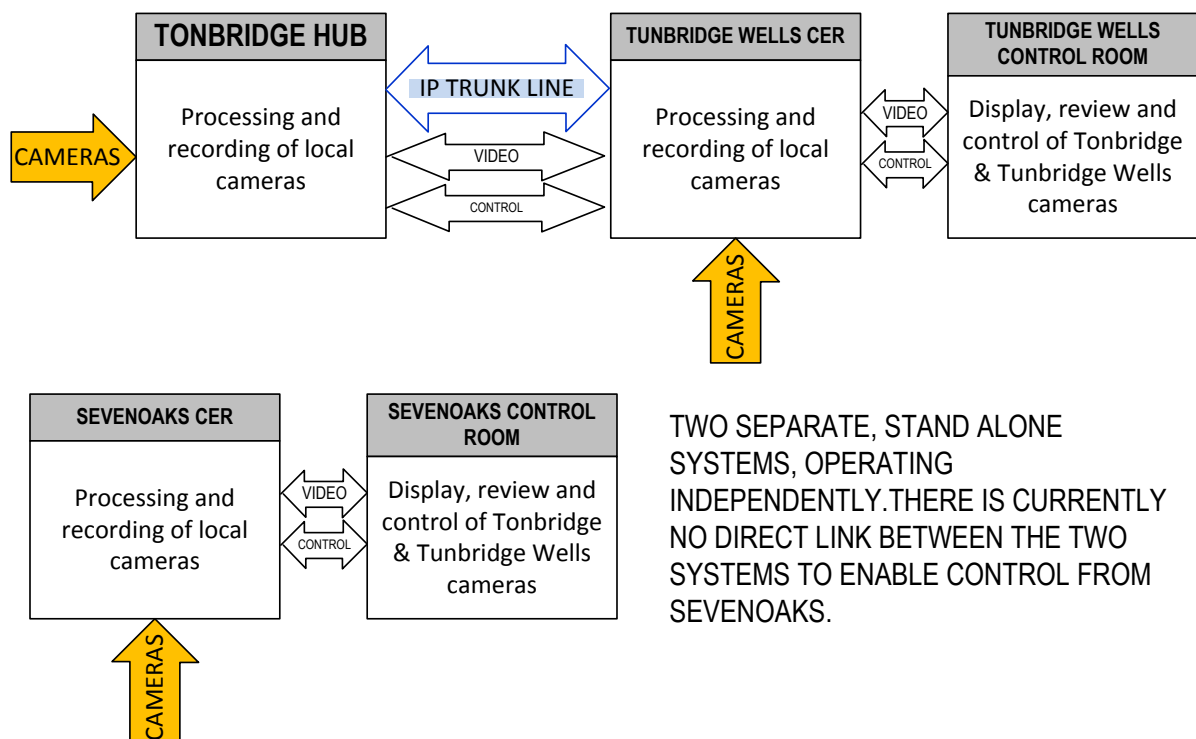
3. Initial Observations

3.1. Option 1 – All Systems are controlled from Sevenoaks as they currently operate

3.1.1. This option calls for the current set up to be effectively transferred to Sevenoaks control room and continue to be structured and operate in exactly the same way.

3.1.2. Current Structure

- Currently the 3 systems (Tonbridge, Tunbridge Wells and Sevenoaks) operate from two control rooms. Tonbridge system has already been successfully merged with the Tunbridge Wells Operation, with a Tonbridge Hub and 'Trunk' IP feed from the Tonbridge Hub to the Tunbridge Wells CER.
- The intention is for Sevenoaks to become the single operational control room for all three councils.
- Figure 2.1.2 shows the current arrangement in flowchart form.



3.1.3. Considerations

- For this option the main focus of work would be the Sevenoaks Control Room. The following actions would need to be taken.
- The Sevenoaks Control Room would need to have substantially more space to comfortably accommodate the additional control positions.
- The increased level of personnel would add to the general noise and discomfort of the room, therefore ancillary equipment would need to be in a separate area.
- The need for a specific, separate review office would be increased as there would be more general activity within the room.
- The room would need to be restructured to accommodate the new operator positions.

3.1.4. There would be other works required such as; -

- The addition of a 'trunk' connection from the current Tunbridge Wells Control Room to Sevenoaks
- The suitable restructuring of the Tunbridge Wells Control Equipment Room (CER) to accommodate the new set up.
- Adequate securing of the new CER as it will no longer have associated staff in attendance.

3.1.5. There are also operational considerations to be considered such as; -

- Keeping the system operational for the period of the works

- Keeping Sevenoaks control room operational for the control room refurbishment to accommodate the new set up
- The transfer of operations from Tunbridge Wells to Sevenoaks (equipment transfer)
- The Tonbridge & Tunbridge Wells storage systems are different to the Sevenoaks storage systems

3.1.6. Contributing Factors

There are a number of factors that have provided a contribution to the progress of these works, those being; -

- There is space within the room adjacent to the Sevenoaks control room that will allow expansion of the room.
- There is adequate space within the Tunbridge Wells CER to accommodate the provision of a new hub there.
- The 'hub' model is already established at Tonbridge and offers a proven operational, acceptable, set up.
- The current Sevenoaks control room has an amount of space due to poor layout.
- The three systems all operate using the same matrix manufacturer

3.1.7. The challenges to the systems merging

3.1.8. Keeping the systems operational

3.2. Option 2 – Merging the Control Rooms but moving the current location of the Tunbridge Wells CER

The three councils have indicated that one option would be to move the current location of the Tunbridge Wells Control Equipment Room (CER) and Control Room (CR) away from the current building. The CER to be housed in a building within 500m of the current location and the CR to be moved to Sevenoaks as per Option 1.

The initial observations are the same as Option 1 with the following additional following considerations; -

- 3.2.1. The impact of the technical works would be far greater due to the need to move the whole of the BT and Virgin signals.
- 3.2.2. Consideration would need to be given as to the longevity of the new location
- 3.2.3. The new location would effectively be a hub in the same format as the Tonbridge hub, which means the new location can be much smaller than the current CER.
- 3.2.4. The impact of BT/Virgin on the whole budget would be by far the largest impact both programme and cost wise.

4. Results of surveys

We have completed a number of surveys to the various key locations and have collected the following information; -

4.1. Tonbridge Hub

- This location is already suitable as a control hub as it is structured for remote connectivity already
- The security of this location is acceptable
- This hub can continue to feed an IP connection to Tunbridge Wells CER.
- There is the consideration of latency by having effectively 2 'legs' of connectivity from Tonbridge Hub via Tunbridge Wells to Sevenoaks. The final design will need to eliminate this possibility, it may require the re-designation of the link from Tonbridge to Tunbridge Wells as a link directly to Sevenoaks, however at this stage there is not sufficient time to obtain the contract information from Tonbridge and Malling.

4.2. Tunbridge Wells CER

- This is a large room with racks of BT and virgin transmission
- The storage for Tunbridge Wells cameras is located here
- There is sufficient space for the additional processing and transmission equipment for the link to Sevenoaks

4.3. Tunbridge Wells CR

- A modern control room that has enjoyed a recent upgrade
- There are 2 control positions and two review positions
- It is quite a spacious room, however, as an alternative to Sevenoaks it does not have sufficient additional space.
- The equipment in this room is modern and very useable

4.4. Sevenoaks CR

4.5. A relatively dated and cramped space

4.6. Old furniture that takes up far more space than modern solutions

4.7. A lot of control equipment is housed within this space that creates excessive noise and heat as well as causing the space to be cramped.

4.8. New equipment is house within older furniture and will lend themselves to being mounted on modern mountings.

4.9. There has been additional space allocated within the vicinity to allow expansion.

5. Conclusions and moving forward

5.1. Option 1 – Simple Merger

Overall this option is relatively simple and less expensive than Option 2. Although it will need considerable activity and planning, the impact upon the operation will be manageable and not overly significant. Although the original brief was specifically to look into the merging of the system control at Sevenoaks, it would have been inappropriate of us to ignore all other options, we considered the merger taking place at Tunbridge Wells, given the more modern nature of the equipment and room itself. However, regardless of the council's own considerations, we could identify enough space to accommodate Sevenoaks control within the same layout. The reason we considered this was the fact that there was already a modern control room in place and operational and would have addressed a number of issues such as latency, cost and simplicity. However, after careful consideration we cannot recommend this without further discussions with the councils. At this early stage we are considering the original proposal by the authorities and the feasibility of completing it.

5.1.1. The Sevenoaks Control Room

There is more to consider at this location than simply accommodating the additional video feeds. The current layout is cramped, has poor space utilisation and gives rise to concern about noise and heat being generated by housing the BT and CCTV Control Equipment. This will be made worse by the addition of more

operators from two boroughs, more control equipment and more display equipment. Therefore it is important to address this first.

The additional space available in the adjacent room can be put to good use to house all the BT transmission and CCTV Control Equipment. Allowing the main room to be cleared of all the intrusive equipment and hence reducing the heat and noise impact risk. This will also allow the equipment to be further protected by having a secure entrance from the control room to the equipment room. Please see drawing reference TWST4.1 for the advised layout. This also releases 3-5 sq meters of space to enable monitoring space to be increased, significantly it allows over a meter of width to be added to the room and hence increase the number of operator positions comfortably.

The current monitor wall was designed originally for holding the deep 'Cathode Ray Tube' monitors, they have since been replaced with more modern LED display monitors that are much slimmer, this means the monitor wall is actually 70% deeper than it should be and also has wasted access space behind it, which modern monitor mounting methodology does not require, hence some 4-5 Sq meters of space can be released to allow increased monitoring space. The new monitor mounting arrangement would be positioned in line with the 'cupboard on the front wall, the current purpose for this cupboard still needs to be confirmed and suitable access to it would need to be designed into the new layout. These works will enable to whole front area of the control room to be re-worked to provide 3 comfortable live workstations. The current desks are unsuitable for accommodating the additional live workstation and hence we would recommend that new purpose built desks are installed to provide the most ergonomically adept solution.

The rear of the control room is currently also underutilised and the space here could be used to provide the review suites for both systems. Currently the review suites will need to be separate for Sevenoaks and Tonbridge/Tunbridge Wells, by re-arranging the space at the rear of the control room a supervisory and review office could be created allowing all supporting activities to be carried out without impacting upon the operational activities of the main control room.

These arrangements will ensure that all 3 systems can be comfortably accommodated in the Sevenoaks control room, with improved operational processes.

5.1.2. System Rationalisation

There are currently two different control and recording (storage) solutions for the 3 systems, Tonbridge and Tunbridge Wells operate one solution, which is compatible, Sevenoaks operates a different solution which is not easily compatible with the systems at Tonbridge and Tunbridge Wells. Hence, currently the most cost effective solution would be to have separate live workstations for each location (i.e. 3 workstations), and to have two separate review suites for the recording solutions that are currently operating. This would mean that the systems could be relatively easily rationalised as they currently stand without the need for significant investment in new technology.

The Tonbridge hub is a Meyertech ZoneVu solution and consists of; -

- 1 x Meyertech local control matrix 328
- 1 x Meyertech ZV-Site Controller 1000+
- 1 x Meyertech ZV Site Controller 500
- 1 x Meyertech ZV Keyboard
- 2 x Veracity 32Ch DVR 3UX
- 1 x Veracity 16CH DVR 2U
- 2 x Veracity Coldstore 15 Bay 4U
- 5 x Addlestone 16CH Video Distribution Amplifier (to ensure video is of good quality when split between the Meyertech & Veracity systems)

The Tunbridge Wells CER is a Meyertech ZoneVu solution and consists of

- Meyertech control matrix Series 3
- Meyertech Fusion operating system
- Meyertech ZoneVu Audit – VMM
- Fusion Audit ZVK
- Fusion Audit
- Fusion Incident Vantage Software
- Meyertech ZoneVu Site Controller 1000+
- Veracity 32Ch DVR 3UX
- Veracity 16CH DVR 2U
- Veracity Coldstore 15 Bay 4U
- 4 x Tecon Video Distribution Amplifiers (to ensure video is of good quality when split between the Meyertech & Veracity systems)

The Tunbridge Wells Control Room Equipment consists of; -

- 2 x Meyertech Keyboards type (2 workstations)
- 2 x Meyertech Fusion Solar Workstation
- Veracity review Workstation
- Monitor wall

The Sevenoaks Control Equipment Room consists of; -

- Meyertech control matrix Series 2
- Meyertech ZoneVu Site Controller 1000+
- Meyertech MSI 23
- 7 x Bosch Dibos 16Ch DVR (+1 spare)

The Sevenoaks Control Room equipment consists of; -

- Meyertech Keyboards type
- Vigilant review workstation
- Monitor wall

The Meyertech solutions between Tonbridge/Tunbridge Wells and Sevenoaks are not directly compatible, it would be possible to upgrade the Sevenoaks System to work with the Tonbridge/Tunbridge Wells system, however, unless there was a specific operational requirement to have the systems controlled from any workstation then this would be a needless cost. However there is a risk associated with reducing the Sevenoaks control to one workstation in that there would be no immediate 'fail-over' if the workstation stopped working, there would be spares generated but no quick solution operationally if the workstation failed. This has to be considered as an operational risk.

The review suites would be PC solutions and could accommodate both recording solutions upon them providing a quick 'fail-over' solution if one workstation failed. Hence operationally this would be a lower risk strategy.

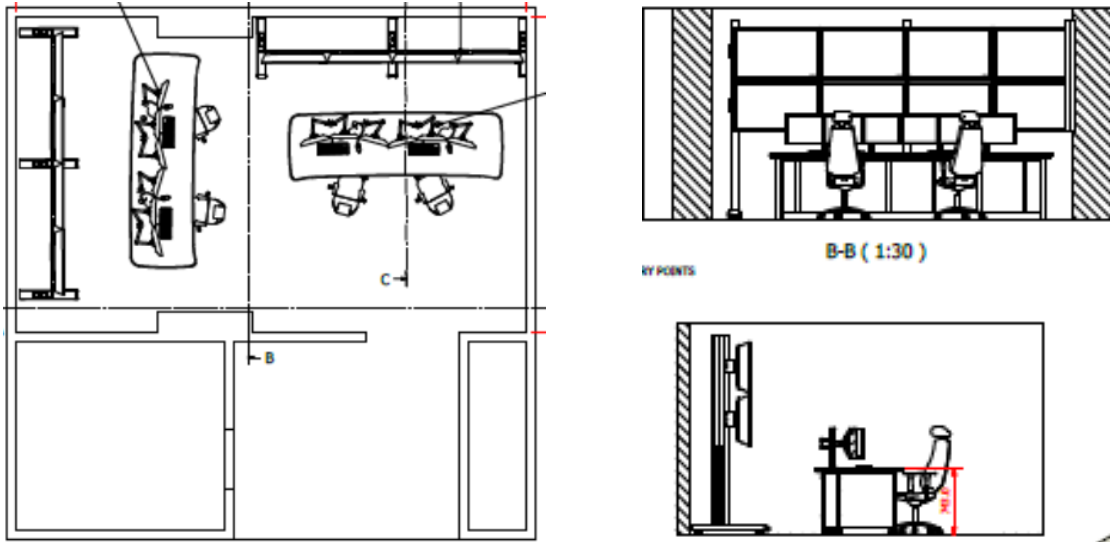
The Control Room at Sevenoaks will be refurbished to accommodate the three systems, there are a number of ways that this can be achieved, but most options will require the re-siting of BT racks, which will result in significant down times for the Sevenoaks System. Here would be further investigation required with BT to fully identify the actual system down times, at this stage of the report there is insufficient time to accommodate this. Stage two of this study, if commissioned, will develop this in detail.

There were a number of designs considered, only two of which were wholly practicable and these have been presented within this Section.

5.1.3. Possible Control Room Designs

'Thinking Space' was commissioned to provide a range of designs based upon the current control room situation and we can report as follows; -

Design 1

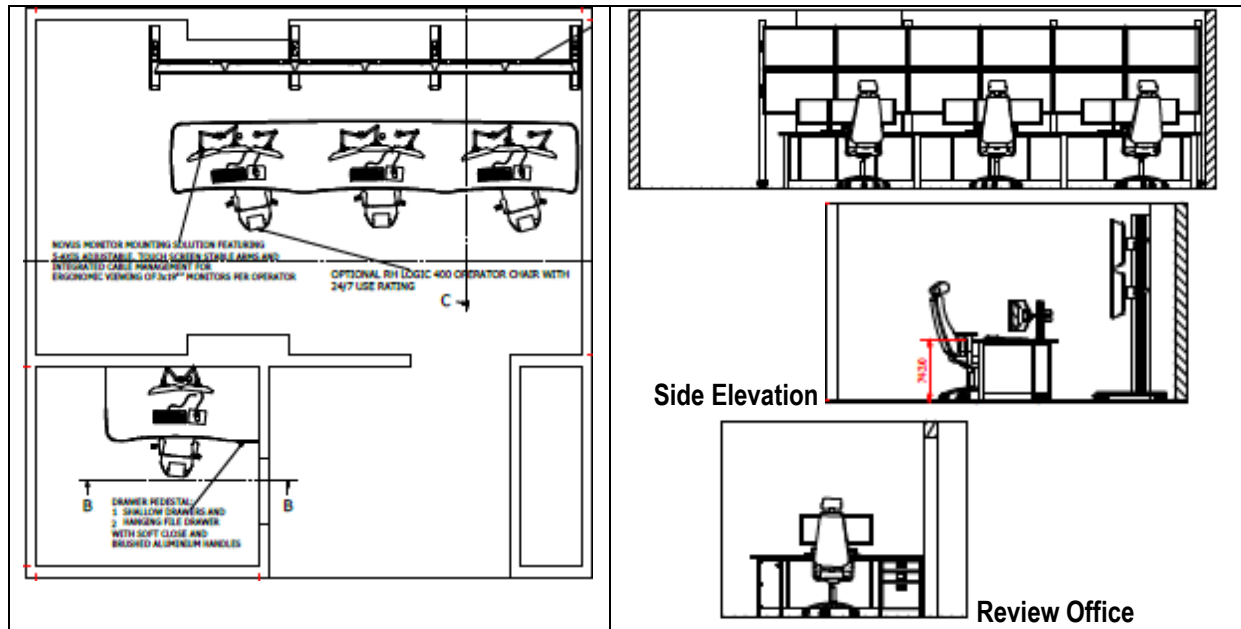


This design provides 3 workstations and a review station within the same space, this would allow the racks etc.. to be placed into a rear office, or keep the rear office free purely for supervisory work. We feel that this would make the room too cramped and also the three workstations would be disjointed, providing less of a flow between them. Also it takes up space along the wall that would provide access to the potential new equipment room. Hence we felt that this was an unworkable solution, despite the fact that the supervisor's office would be left free.



In addition to this a view of the actual layout in isographic format shows just how disjointed it would be. The supervisor's office couldn't effectively work as such without having a suitable window overseeing the room, but this wouldn't be feasible given the utility cupboard located in front of it. All in all this design did not provide the sort of working environment conducive to an effective control room.

Design 2



This design takes advantage of the current supervisor's office as a review office. Initial discussion with local management about re-utilising this office in this way made it clear that it would not have a negative operational effect. The whole flow of the room means that, although there are 3 workstations, they can operate across the same plane and at least provide the opportunity for all 3 operators to work together.

This also allows for a door to be added within the room to provide access to the new CER, which we recommend is installed within the spare space being released from the next room. Please see Section 6 regarding this proposal.

The addition of a review office means that evidence can be collated in an organised and structured fashion from a dedicated desk.

Access would still need to be achieved to the 'utility' cupboard behind the monitor wall, this will be investigated in Stage 2 of this study. Once the final way forward is agreed the cupboard can be investigated and the necessary measures put in place to ensure a working arrangement.

The next image demonstrates just how effective this arrangement will be from an operational perspective



5.1.4. Important Consideration

Although operationally nothing has been indicated by any of the councils, the current situation is high risk as there is no alternative control room that could be used in the case of business continuity. This move provides an option, should it be desirable, to set up the system to operate from either Tunbridge Wells or Sevenoaks. The space in the CER means that a temporary control position could be set up within the current CER, releasing the control room but retaining the standby location for business continuity purposes. This may already be available at Sevenoaks but the amount of space available at Tunbridge Wells CER means that it will be a simple 'fail-over' task to do. It will mean additional cost up front but may deal with a number of on-going issues.

5.2. Option2 – Moving Tunbridge Wells CER

Effectively all the works that are required for Option 1 will be required for Option 2, nothing will be required to be significantly different except that there will be a significant increased cost for the BT work and for the transfer of

control equipment. You will see within our recommendations section that this option makes the changeover more complex and carries far higher risks, with significant down times, if the CER is moved to a completely new location.

One thing that could be considered is actually retaining the CER room but providing an alternative entry route from the outside of the building and securely sealing off the current entrance. This would wholly depend upon what purpose there was for the Town Hall after it had been vacated by the council. This is something that should be considered as it would significantly reduce the costs and risks involved with this option.

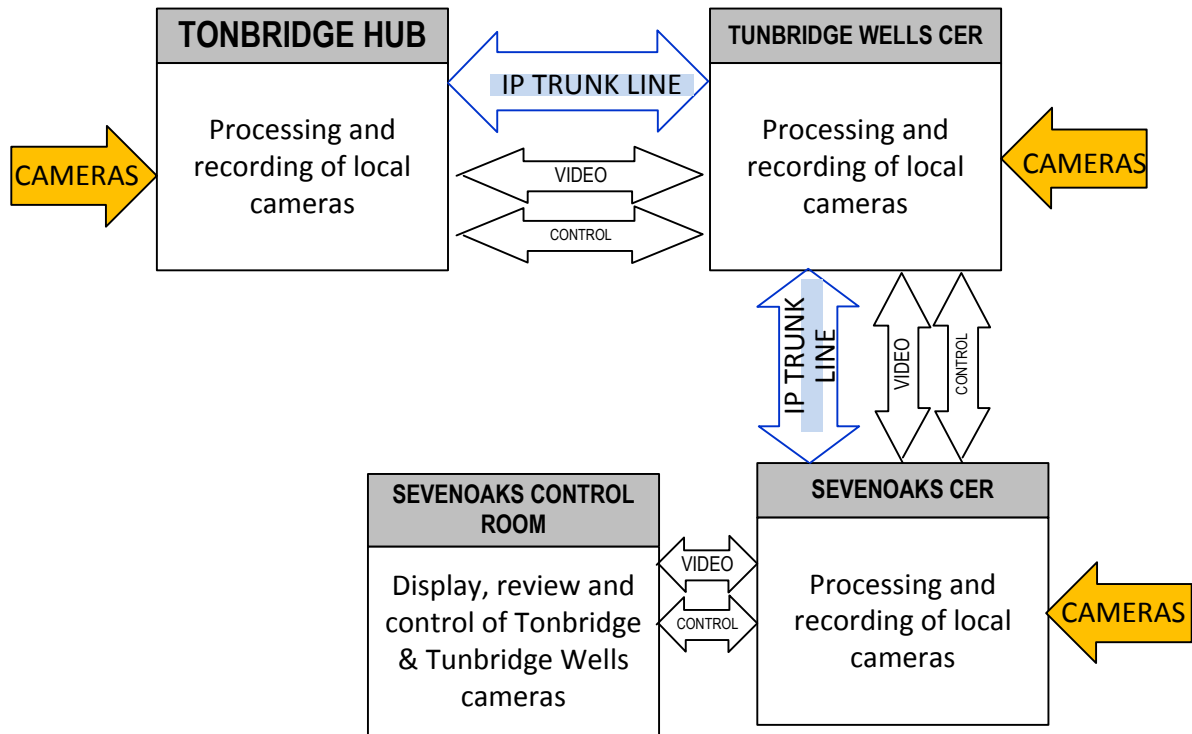
Currently, if the Town Hall is to be vacated completely then BT would install new equipment within an agreed location within 500m of the Town Hall, the control equipment would then need to be transferred to the new location. This would mean significant down time for the system at Tunbridge Wells, as well as Sevenoaks. It would also mean a similar cost to transfer the Virgin circuits to the new location and hence will be a significant investment with no operational gain to the CCTV service.

6. Recommendations

6.1. Option 1

This option is based upon retaining the Tunbridge Wells CER.

Overview



Our recommendation is that the two systems remain independent for the purposes of this merger. We have investigated costs of merging the two systems and this would be a significant amount for this particular option and operationally does not provide anything that has been indicated as required.

The hub at Tonbridge and the link to Tunbridge Wells can remain undisturbed and hence no activity or cost is required.

The Tunbridge Wells CER will be converted to a hub the same as Tonbridge and an additional leased line installed in the same way as Tonbridge. This would allow the control room equipment to be moved to Sevenoaks. The timing of this would be such that the systems could operate 'in tandem' with a Tonbridge/Tunbridge Wells control position in Sevenoaks as well as Tunbridge Wells to accommodate the transfer of equipment. Part two of this study will provide a suitable programme and plan to ensure minimum disruption to the system.

Sevenoaks Control Room would have one temporary workstation established in a new room to allow the refurbishment of the control room there. A new Control Equipment Room would be built in identified space adjacent to the current control room, allowing the equipment to be transferred by BT and releasing the space within the main control room to facilitate the refurbishment.

The new control room would house 3 workstations, one per town, each independently operated, although Tonbridge & Tunbridge Wells could continue to operate from either of two workstations.

Specific Works

Tunbridge Wells – Work here would be carried out in 5 phases; -

Phase 1 – New CER Established.

The new CER building would need to be identified and then enabled through building works, without the actual location being identified and all the necessary building works considered to make it operational and secure we can only make the worst case scenario pertinent here. This would mean extensive walling and partitioning, full electrical works, new heavy duty doors and full environmental package to maintain operating temperature and humidity. Estimated time – 4 – 5 weeks.

Phase 2 – BT & Virgin Circuits Established

The establishment and preparation to receive CCTV signals from Tunbridge Wells and the leased line from Tonbridge. It is important to note that this will also need to consist of a temporary link between the new CER and the Town Hall Control Room, to allow a transfer of service with minimal down time. Estimated timescales after CER established 4 – 5 weeks.

Phase 3 – Transfer of CCTV Control Equipment

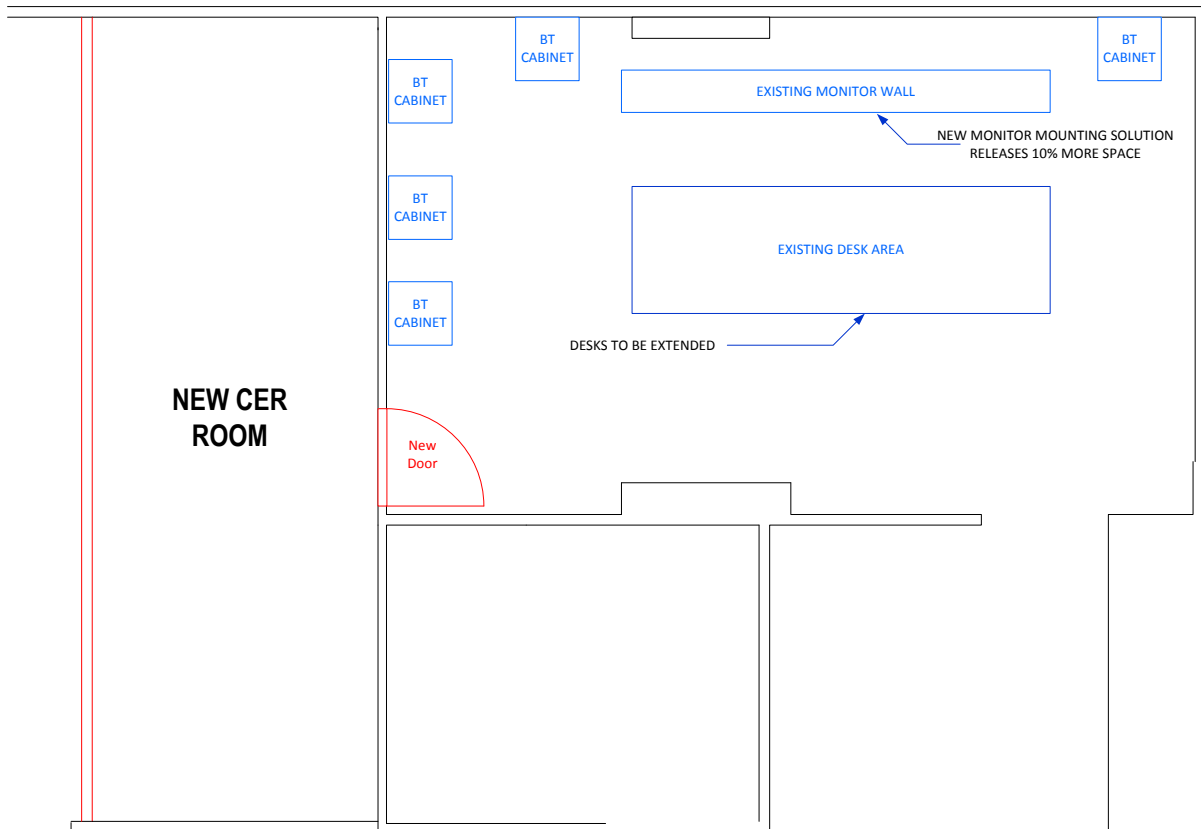
The control equipment will be transferred from the Tunbridge Wells CER to the new CER. This will need to be carefully timed and coordinated with BT to ensure that circuits are switched in association with this move. There will be a significant period of time where the service will be lost for this; it will be a matter of days without any service and could be up to two weeks with partial down times from specific cameras as they are transferred.

Phase 4 – Once the Sevenoaks control room had been upgraded and was ready to accept equipment, one live workstation would be disassembled and transferred to Sevenoaks and installed, commissioned and brought back online. At this stage, operationally the councils would need to operate both workstations in a way that would suit their needs. The review workstation would remain at Tunbridge Wells and continue to be operated from there at this stage.

Phase 5 – Once the new workstation at Sevenoaks was operational and had been proven, then the remaining workstation and replay suite would be disassembled and transferred to Sevenoaks. This would leave Tunbridge Wells CER as an operational hub, the same as Tonbridge.

Sevenoaks – Work here would be carried out in 7 phases; -

Phase 1 – New CER building works. The room adjacent to the current control room will provide a suitable location for all the BT and CCTV Control Equipment. This can be built independently of the control room and only actually affect the control room when the new door between the two rooms is added.

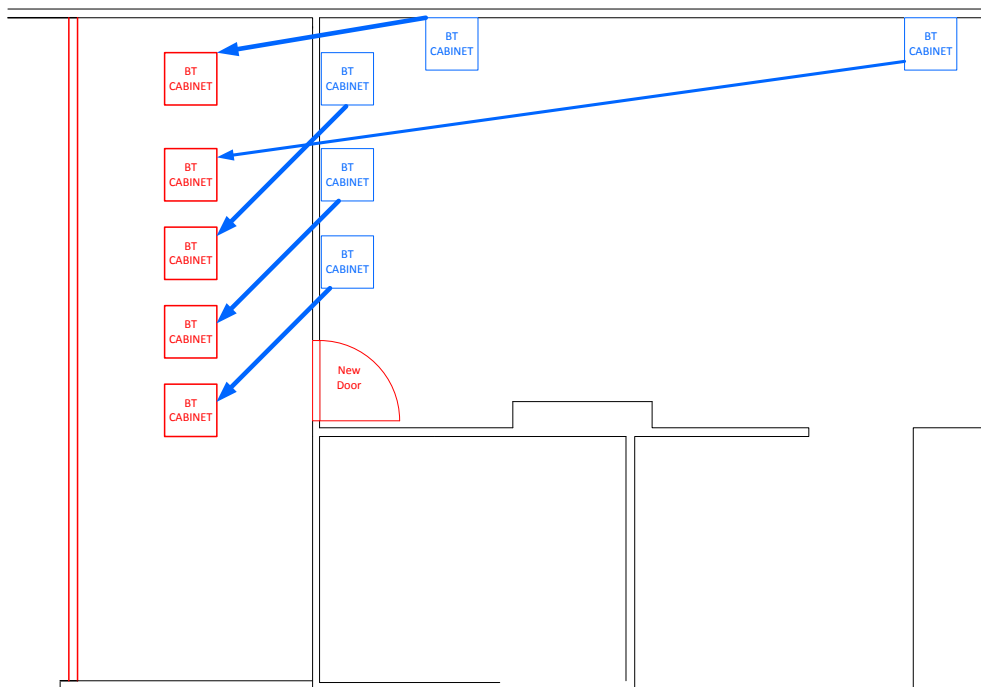


This phase of the works will be completed without any impact upon the operational activities of any of the systems; it will be in advance of TW works and is an enabling phase for the control room refurbishment. We would expect this phase of the works to take approximately 3 weeks.

Phase 2 – Establish a New Control Location

For the entirety of the control room refurbishment works it will be necessary to provide a new position within the Town Hall to allow the service to continue, this would consist of transferring a keyboard, monitor and providing a large screen with the capability to display multi-screens from each of the DVR units. This would consist of cabling from the current control positions up to the new position and transferring one control position. The new cabling would be sufficiently long enough to allow the later control equipment move.

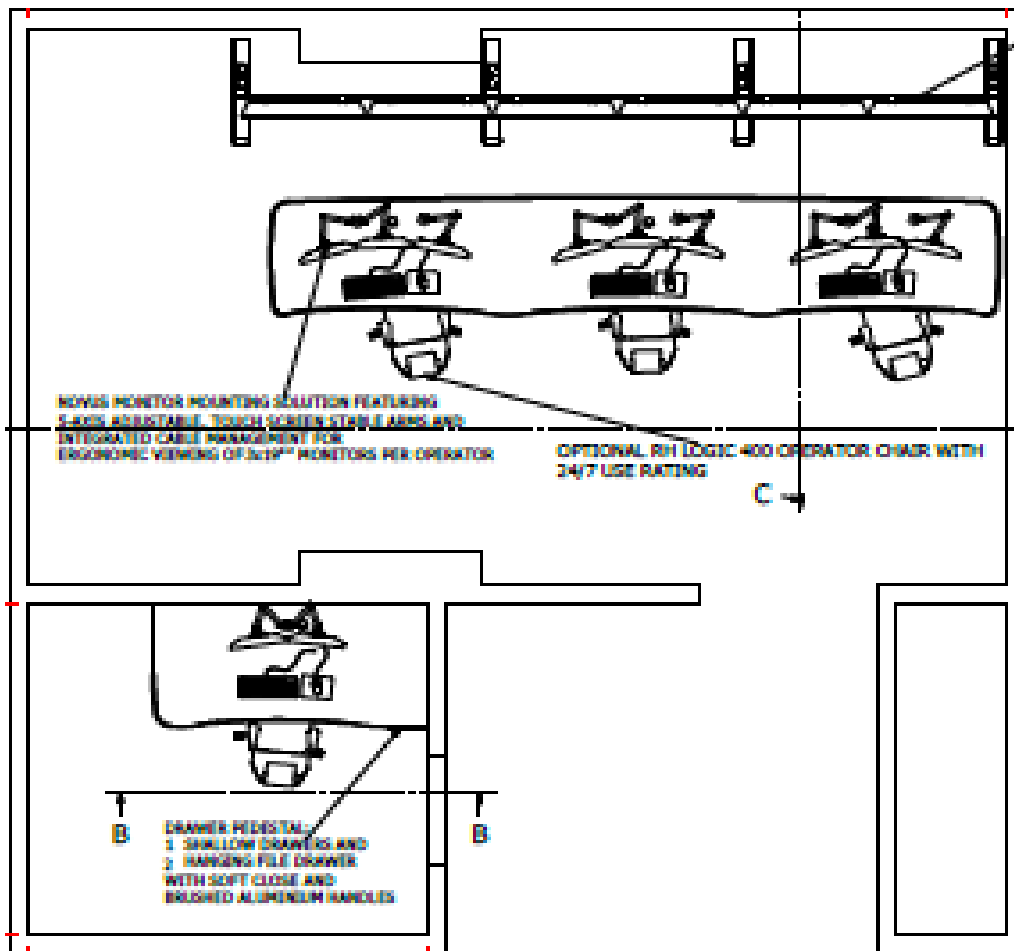
Phase 3 – Transferring to new CER



This would consist of BT disconnecting, moving, extending and reconnecting their existing cabinet and associated equipment. Initial estimates of time would be approximately 3 – 4 weeks, with significant down time for parts of the system but this will need to be investigated further with BT as part of stage 2 study.

Once established the CCTV control equipment and recorders would be needed to be moved to the new control position. A new equipment rack would need to be established to accommodate the move. Time for this transfer will be approximately 5 days in total with only partial down time at any one time.

Phase 4 – Control Room Refurbishment Works



The control room will be stripped of all old equipment and furniture, one workstation will be placed in safe storage for the duration of the works. Please note, none of the current wall monitors will be re-useable for these works, four new monitors will be required for the new layout.

The control room will then be refurbished to provide a better environment for the new control room, new carpets etc. to accommodate the new furniture and provide a good working environment.

New electrics will be provided to accommodate the new layout

New furniture will be established within the control room and all mountings prepared ready for the new control positions to be established.

Phase 5 – Establishing Sevenoaks Workstation

The stored equipment will be installed and commissioned along with new monitors to the new Sevenoaks position; all will be cabled back to the CER and connected. The location would be commissioned and handed over to Sevenoaks.

Phase 6 – Establish Tonbridge Workstation

The equipment from Tunbridge Wells Phase 2 will be installed and commissioned to the new Tonbridge position within the control room and handed over for the assigned operator to continue.

Phase 7 – Establish Tunbridge Wells Workstation

The equipment from Tunbridge Wells Phase 3 will be installed and commissioned to the new Tonbridge position within the control room and handed over for the assigned operator to continue.

The new control room will now be established and operational.

Option 2 – Moving Tunbridge Wells CER

Tunbridge Wells – Work here would be carried out in 3 phases; -

Phase 1 - The CER would be converted to house all the necessary control equipment from the Control Room to accommodate the facility to 'network' with both Tonbridge and Sevenoaks via a leased line. This would need an additional rack to house the control equipment and a new network switch to handle the IP Signalling between all 3 systems. We would recommend that this be a secure switch to ensure that the network remain robust from anywhere in the 3 towns.

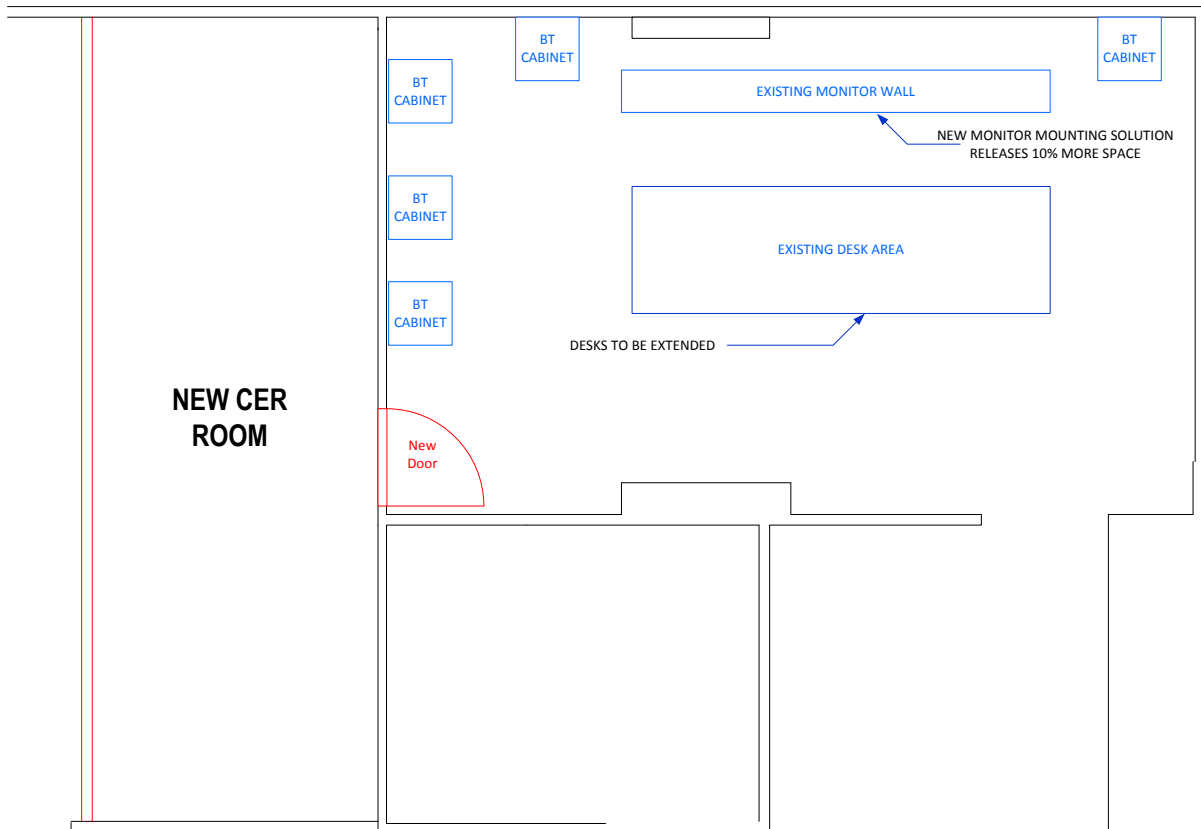
This initial phase would be an 'enabling phase' preparing it to handle the other two phases of the transfer. During this enabling Phase the system will continue to operate as normal with no changes taking place within the Control Room.

Phase 2 – Once the Sevenoaks control room had been upgraded and was ready to accept equipment, one live workstation would be disassembled and transferred to Sevenoaks and installed, commissioned and brought back online. At this stage, operationally the councils would need to operate both workstations in a way that would suit their needs. The review workstation would remain at Tunbridge Wells and continue to be operated from there at this stage.

Phase 3 – Once the new workstation at Sevenoaks was operational and had been proven, then the remaining workstation and replay suite would be disassembled and transferred to Sevenoaks. This would leave Tunbridge Wells CER as an operational hub, the same as Tonbridge.

Sevenoaks – Work here would be carried out in 7 phases; -

Phase 1 – New CER building works. The room adjacent to the current control room will provide a suitable location for all the BT and CCTV Control Equipment. This can be built independently of the control room and only actually affect the control room when the new door between the two rooms is added.

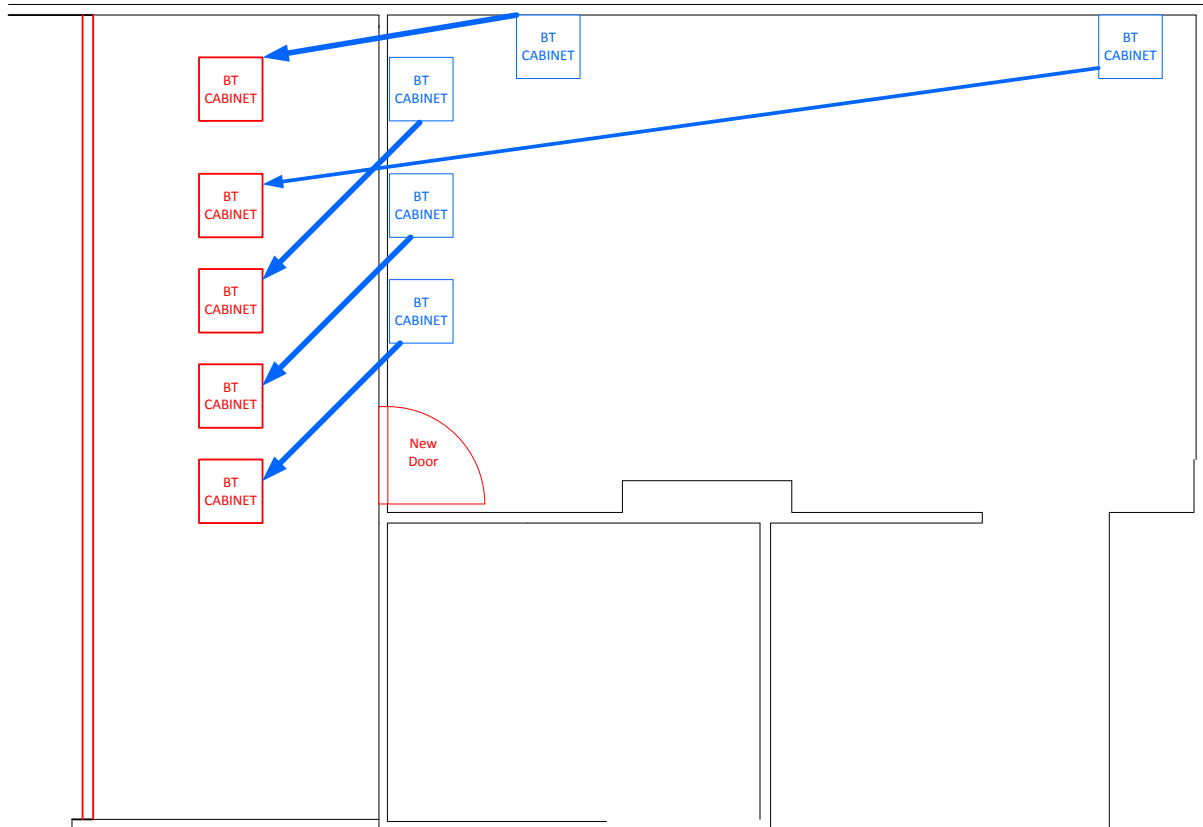


This phase of the works will be completed without any impact upon the operational activities of any of the systems; it will be in advance of TW works and is an enabling phase for the control room refurbishment. We would expect this phase of the works to take approximately 3 weeks.

Phase 2 – Establish a New Control Location

For the entirety of the control room refurbishment works it will be necessary to provide a new position within the Town Hall to allow the service to continue, this would consist of transferring a keyboard, monitor and providing a large screen with the capability to display multi-screens from each of the DVR units. This would consist of cabling from the current control positions up to the new position and transferring one control position. The new cabling would be sufficiently long enough to allow the later control equipment move.

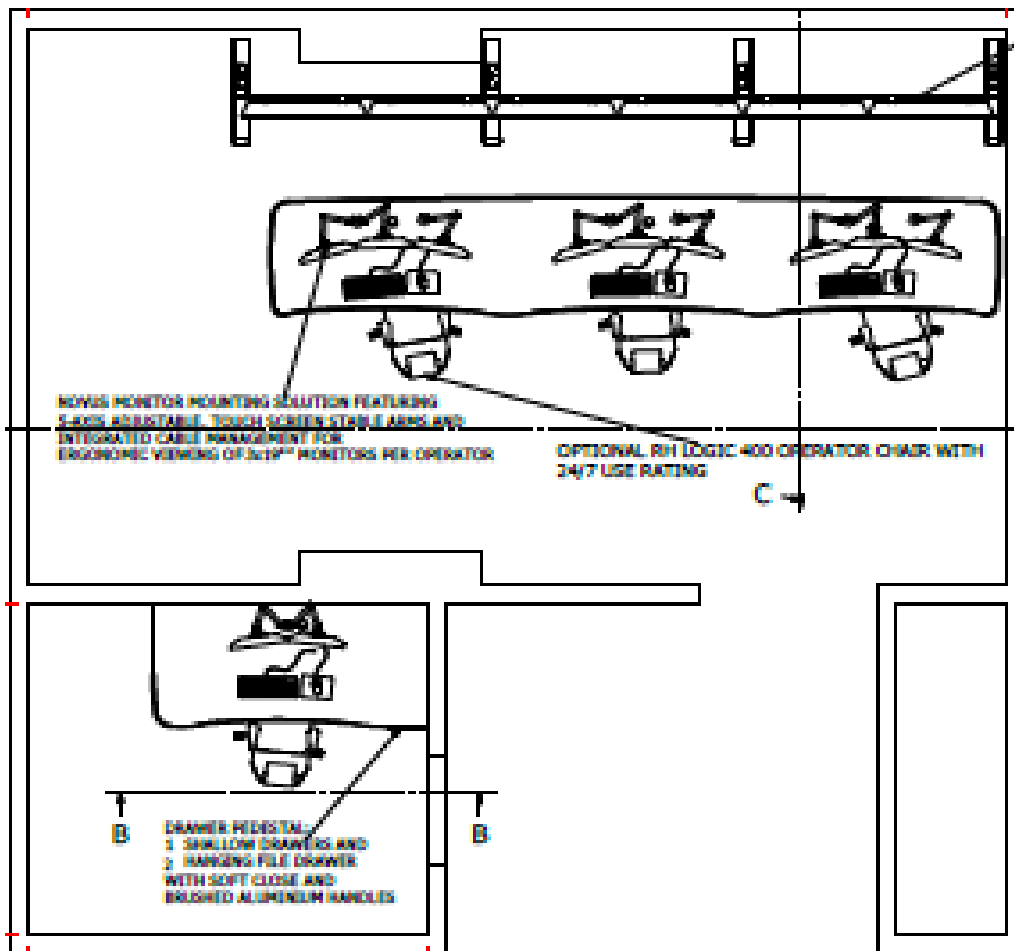
Phase 3 – Transferring to new CER



This would consist of BT disconnecting, moving, extending and reconnecting their existing cabinet and associated equipment. Initial estimates of time would be approximately 3 – 4 weeks, with significant down time for parts of the system but this will need to be investigated further with BT as part of stage 2 study.

Once established the CCTV control equipment and recorders would be needed to be moved to the new control position. A new equipment rack would need to be established to accommodate the move. Time for this transfer will be approximately 5 days in total with only partial down time at any one time.

Phase 4 – Control Room Refurbishment Works



The control room will be stripped of all old equipment and furniture, one workstation will be placed in safe storage for the duration of the works. Please note, none of the current wall monitors will be re-useable for these works, four new monitors will be required for the new layout.

The control room will then be refurbished to provide a better environment for the new control room, new carpets etc. to accommodate the new furniture and provide a good working environment.

New electrics will be provided to accommodate the new layout

New furniture will be established within the control room and all mountings prepared ready for the new control positions to be established.

Phase 5 – Establishing Sevenoaks Workstation

The stored equipment will be installed and commissioned along with new monitors to the new Sevenoaks position; all will be cabled back to the CER and connected. The location would be commissioned and handed over to Sevenoaks.

Phase 6 – Establish Tonbridge Workstation

The equipment from Tunbridge Wells Phase 4 will be installed and commissioned to the new Tonbridge position within the control room and handed over for the assigned operator to continue.

Phase 7 – Establish Tunbridge Wells Workstation

The equipment from Tunbridge Wells Phase 5 will be installed and commissioned to the new Tunbridge position within the control room and handed over for the assigned operator to continue.

The new control room will now be established and operational.

Option 2A – Current CER Isolated

As previously highlighted another option would be to carry out building works to the current CER to isolate it from the Town Hall and provide an external secure entrance from the outside. This is difficult to cost at this stage but would be significantly less expensive than transferring to a new CER, this could actually be carried out as part of Option 1 to provide on-going options over the future use of the Town Hall.

7. Budgetary Pricing Summary

This section provides a phase by phase budgetary cost for all the works necessary at each of the phases, this can be broken down into specific disciplines if required, but will not affect the overall budget by doing so.

Option 1

Phase	Description	Budget
TW 1	Enabling TW CER	£3,000.00
TW2	Transfer Tonbridge Workstation (TW works only)	£500.00
TW3	Transfer TW Workstation (TW works only)	£500.00
S1	New CER Building	£5,500.00
S2	Establish New Workstation	£1,500.00
S3	Transfer of BT & CCTV Equipment within Sevenoaks	£18,000.00
S4	Control Room Refurbishment Works	£30,000.00
S5	Establishing Sevenoaks Workstation	£3,000.00
S6	Establishing Tonbridge Workstation	£500.00
S7	Establishing TW Workstation	£500.00
All	Additional works such as clearing old control room, project management etc...	£5,000.00
Cont.	Contingency sum to cover unforeseen issues at this stage	£5,100.00
Total	Total Estimated Budget	£73,100.00

Option 2

Phase	Description	Budget
TW 1	New CER Enabling & Building works	£15,000.00
TW2	BT & Virgin Circuits Established	£98,000.00
TW3	Transfer of CCTV Control Equipment	£5,000.00
TW4	Transfer Tonbridge Workstation (TW works only)	£500.00
TW5	Transfer TW Workstation (TW works only)	£500.00
S1	New CER Building	£5,500.00
S2	Establish New Workstation	£1,500.00
S3	Transfer of BT & CCTV Equipment	£18,000.00
S4	Control Room Refurbishment Works	£30,000.00
S5	Establishing Sevenoaks Workstation	£3,000.00
S6	Establishing Tonbridge Workstation	£500.00
S7	Establishing TW Workstation	£500.00
All	Additional works such as clearing old control room, project management etc..	£8,000.00
Cont.	Contingency sum to cover unforeseen issues at this stage	£16,000.00
Total	Total Estimated Budget	£202,000.00

Option 2A – We would estimate an approximate cost of between £20,000.00 and £30,000.00 to isolate the room and provide an external entrance (without survey).

If implemented within Option 1 this would alter the budget to £103,100.00

If implemented instead of Option 2 this would alter Option 2 budget to £134,000.00

Annual Revenues – Given the short timescales for this report we have not, as yet, been able to identify the Annual revenue costs for BT links between Tunbridge Wells and Sevenoaks. These will be required to establish the links shown. The current annual cost from Tonbridge to Tunbridge Wells has been identified as £16,000.00 per annum plus a Data/Video link which we have been unable to obtain the information for due to client

confidentiality. This link will be based upon geographical as well as technical constraints and hence we would need more time as well as client confidential information to be able to accurately present this cost.

At this stage Meyertech are still developing an IP only link which would eradicate the need for the video and data link, however, at this stage it is still too early to be able to detail this solution.