

- Three patient recovery bays.

The service would also include:

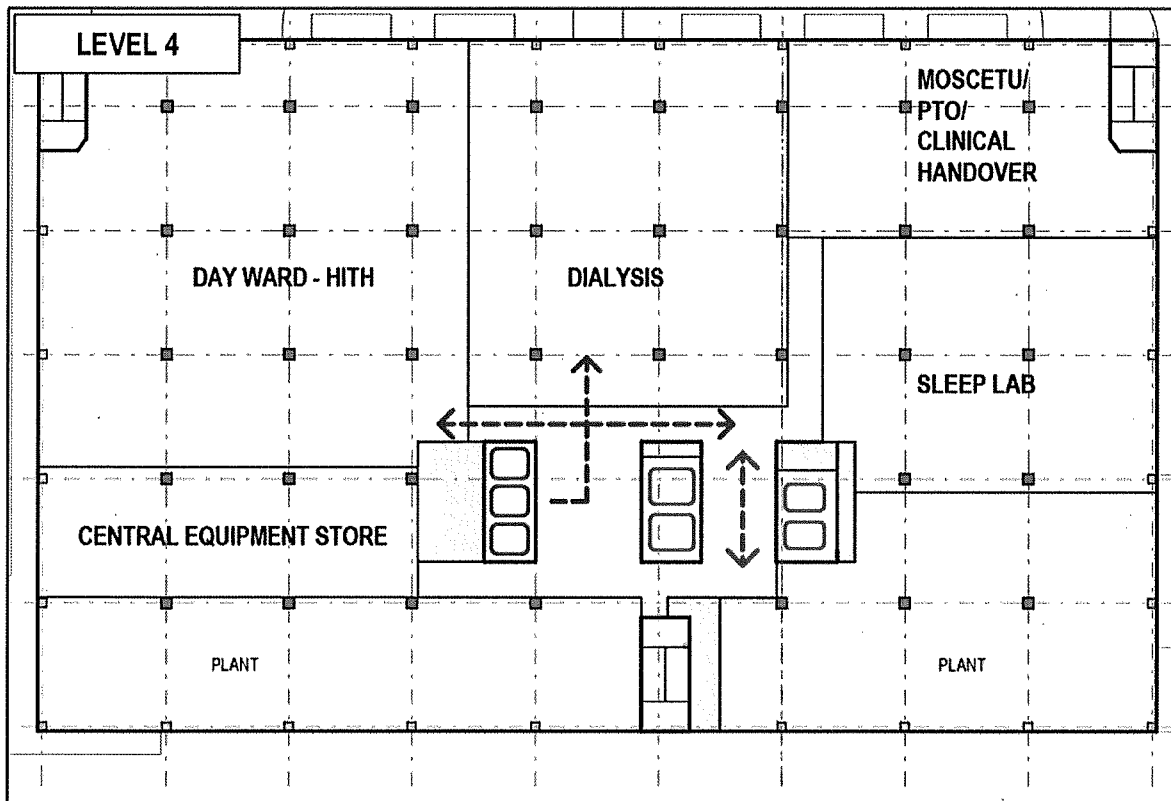
- A dedicated CSSD unit including sterilisation capability;
- 16m² of neonatal storage; and
- Clinical and non-clinical support areas, including reception and staff amenity areas.

6.6.1.6. Combined Medical Day Unit and Hospital in the Home

HITH, provides individualised clinical services in the patient's home or other community settings. The service will be based on Level 4 across 1,140m² (GBA) to accommodate 31 POC. The floor area will include 20 treatment bays, 8 patient bays for medical day treatments and an additional 3 bed rooms, one of which designed for bariatric patients.

Other day medical services such as dialysis and sleep labs will deliver 11 and 8 POC respectively. The Dialysis Unit will service inpatients in the CSB, the proposed new Inpatient and Outpatient Services Building, National Capital Private Hospital and North Canberra Hospital, as illustrated in Figure 40.

Figure 40: Floor plan layout of HITH and other day medical services



6.6.1.7. Administrative services and other functional areas

The Inpatient and Outpatient Services Building would include a range of administrative and other functional areas include:

- Medical Officers and Support Training Unit;
- General Practitioner (GP) Liaison Offices;
- Physician Training Office;
- Centralised equipment store;

- Junior Medical Officers (JMO) Lounge;
- Front-of-House including; and
- Transit Lounge including 10 chairs and 8 beds.

6.6.1.8. Back-of-House

The BOH unit will provide the functional logistics of the new Inpatient and Outpatient Building, including the following components:

- Loading dock, including provision for a larger class of service vehicle;
- Linen services;
- Supply and materials management;
- Cleaners storage;
- Waste management and removal;
- Food services;
- Medical gases;
- Separate clinical and public access lifts, including the provision of a Bariatric patient capable lift;
- Healthcare Technology Management; and
- Information, Communication and Technology.

6.6.1.9. Traffic Management

The management of traffic around the Building 10 site is complex. To facilitate direct access, a series of ground plan interfaces will be located on Level 1 with additional links to facilities in Building 1 and Women's and Children's Hospital in Building 11. This will also include access to car-parking, including at-grade provisions distributed in the vicinity of the entry point and a below ground carpark for regular users of the facility. The ground floor will facilitate logistics and service vehicle and emergency vehicle access and have a dedicated transit / discharge lounge. The proposed layout of the ground plan including the traffic flow is presented in Figure 41.

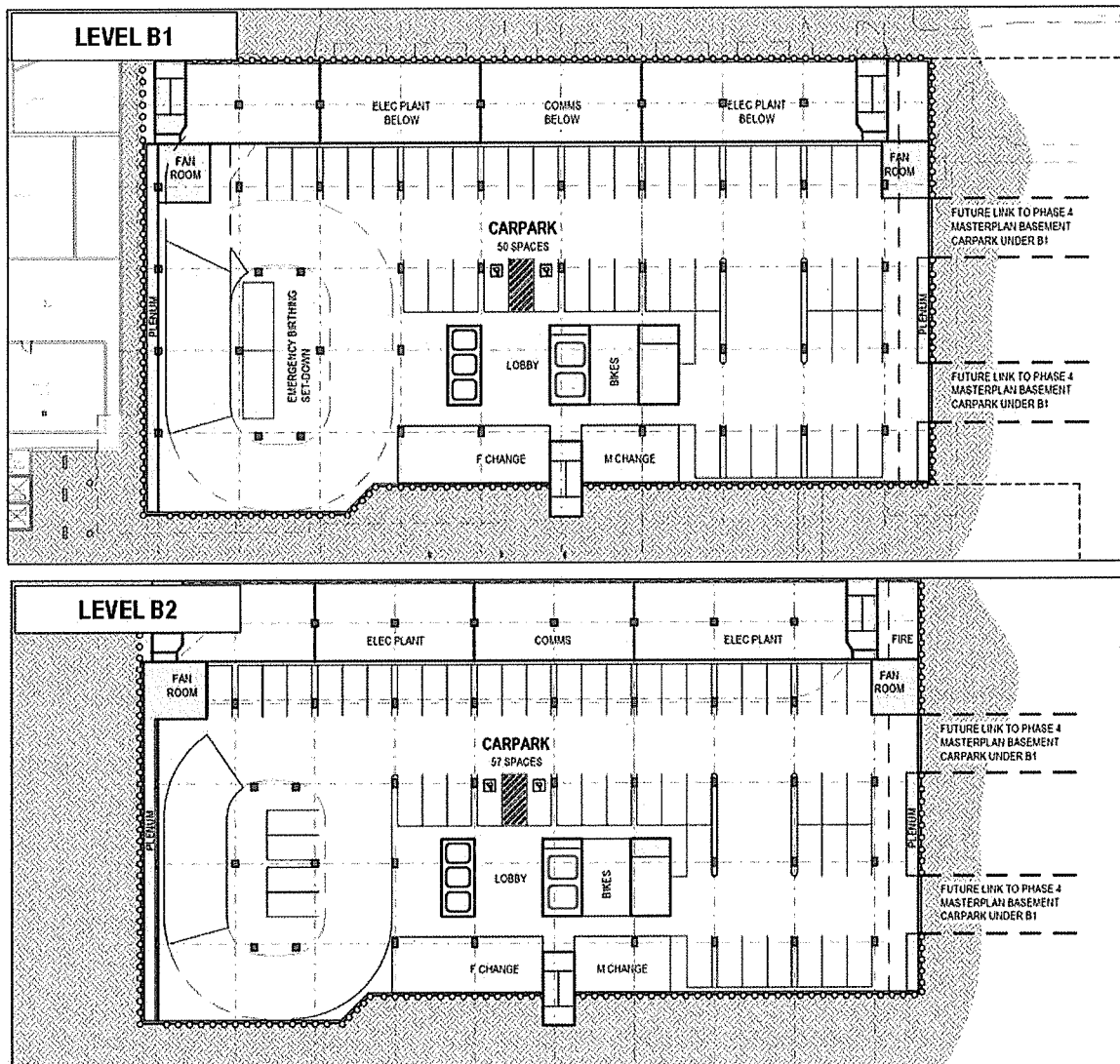
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- A dedicated public set down area; and
- Two (2) basement floors carparking area.

The two-level basement carpark will accommodate:

- Canberra Hospital Master Plan Phase 2

Figure 42: Floor plan layout of basement carpark



6.6.1.10. Site connections

The new Inpatient and Outpatient Building will deliver a range of building linkages to enable rapid access to services within, and to, other adjacent buildings. This includes:

- A ground floor logistics link to Building 1 stores, dock and kitchen, via a reconstructed linkway, and reconfigured accommodation within Building 1.
- A ground floor discreet linkway to Paediatrics in Building 11 including the provision of a non-public access doorway.
- A clinical link on Level 3 connecting the Women's and Children's services in Building 11 with theatres in the Perioperative Unit. This would include an extra doorway added along the existing East-West corridor to block public access and provide a discreet linkage for emergency Maternity patients transiting between Buildings 11 and 10 theatres.

6.6.1.11. Program

The Stage 4 works will be delivered over a 5-year program of work spanning FY29-34. Table 24 outlines the key program milestones for design, procurement, construction and commissioning activities.

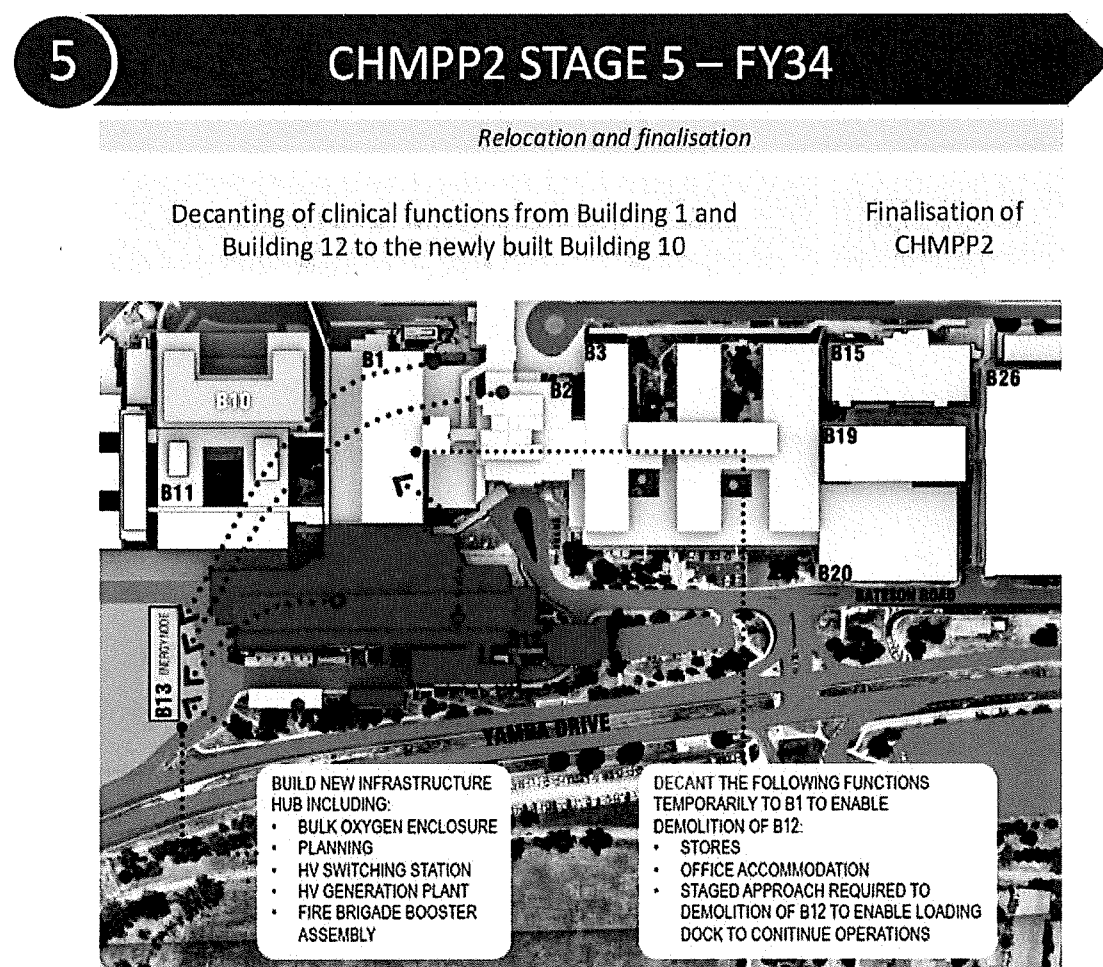
Table 24: Stage 4 program

Milestones	Anticipated Deadlines
Prepare new Inpatient and Outpatient Services ■ tender documentation	August 2028
Appoint new Inpatient and Outpatient Services Building ■ contractor	January 2029
Inpatient and Outpatient Services Building design finalisation and construction commencement	November 2030
Inpatient and Outpatient Services Building practical completion	March 2033
Inpatient and Outpatient Services Building operational commencement	July 2033

6.7 Stage 5

Stage 5 will be undertaken between FY34 and includes decanting of services to the new Inpatient and Outpatient Building. An overview of Stage 5 is outlined in Figure 43.

Figure 43: Overview of Stage 5



6.7.1. Decanting of inpatient and outpatient services

Inpatient and outpatient services currently located in Buildings 1 and 12 would be decanted and relocation into the newly commissioned Inpatient and Outpatient Services Building. This includes:

- Services decanted from Building 1:
 - Inpatient services including medical and surgical units;
 - Outpatient and ambulatory services, providing both medicine and surgical services
 - Haemodialysis day stay;
 - JMO and Discharge lounge; and
 - Administration units of patient flows.
- Services decanted from Building 12:
 - Medical Imaging; and
 - Obstetrics surgical services.

6.8 Alignment with the CHMP

6.8.1. Design considerations

The CHMPP2 and the development of the new buildings adhere to the core principles underpinning the *ACT Health Services Plan 2022-2030*, including the design of:

- Person-centred services;
- Inclusive and culturally appropriate services;
- Safe and quality services;
- Health outcomes and access; and
- Sustainable services.

A key element of the Canberra Health Services Vision and Service Direction emphasises the delivery of exceptional quality person-centred health care which is effective and efficient. Further information on design available in Appendix D – B6 Functional Design Brief.

6.9 Landscape and urban design

The planning and development of the CHMPP2 preferred option includes consideration of surrounding landscapes and urban design principles to promote healing and wellness, and improve the connection to the surrounding environment. This includes:

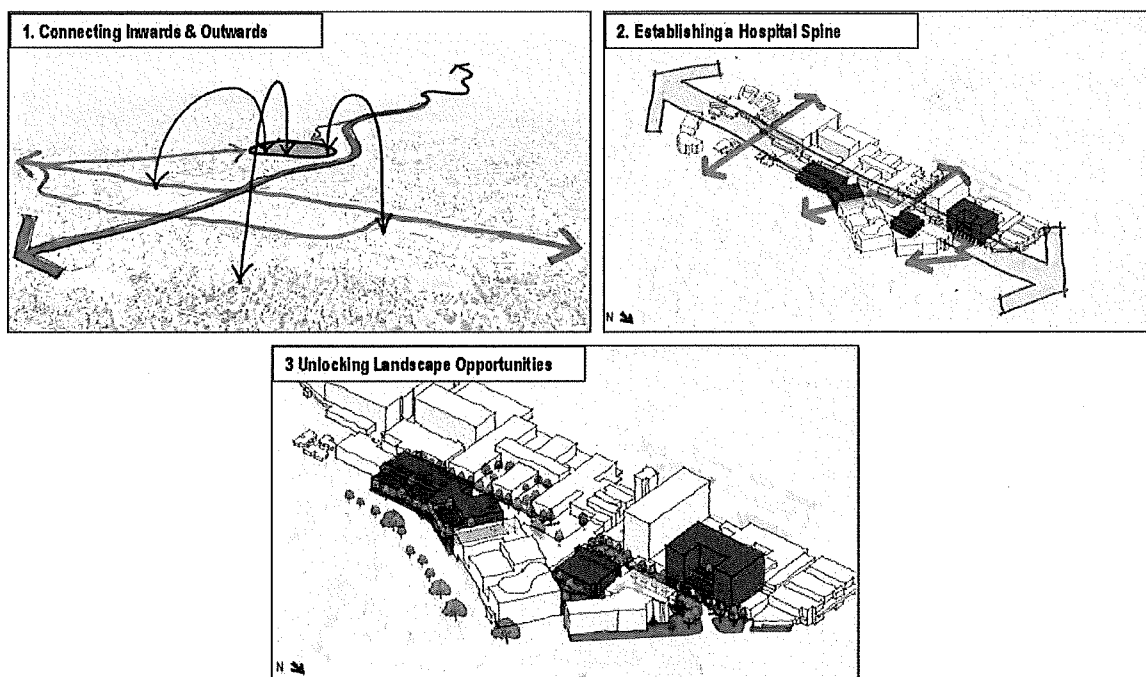
- Ensuring access to nature i.e., the integration of hospital gardens and terraces;
- Integrating natural air flow and ventilation for improved air quality;
- Creating spaces that are apolitical and culturally safe to address the gap between health outcomes and life expectancy of First Nations communities;
 - *Note: there is a cost allowance in this Business Case to develop a more comprehensive art and cultural framework to inform the development of culturally-sensitive infrastructure across the CHMP and beyond).*
- Implementing sustainable best practice architecture and landscape designs to promote social benefits such as a reduction in urban heat islands, increased biodiversity and connections to surrounding habitat networks, etc.

In line with the best-practice health considerations, the following key project design drivers were identified providing the foundational principles that shape the overall vision and direction of the project:

1. **Connecting Inwards and Outwards** to meaningfully integrate the proposed building and hospital campus with the surrounding landscape.
2. **Establishing a Hospital Spine** via Hospital Road as an identifiable main street for the hospital campus.
3. **Unlocking Landscape Opportunities** through the creation of new open spaces and connections to the landscape.

Each project design driver is visually presented in Figure 44.

Figure 44: The key project design drivers



6.9.1. Building 4 park

The demolition of Building 4 will enable the subsequent transformation of the site into a large open green space, providing an enhanced amenity offering, particularly for those working and visiting the new CSB.

The park will be located adjacent to the new CSB Welcome Hall and provide direct access to a large central lawn, offering recreation areas for patients, visitors and hospital staff, as well as opportunities to enhance cultural expression and host community events. The lawn will include a few sheltered areas offering protection from adverse weather conditions and deliver additional amenities such as a BBQ area for communal dining and organised gatherings. Additional areas at the edges of the Building 4 park will allow for private, individual reflection as well as places for small group gatherings. The Park will be connected to the CSB Reflective gardens and provide a direct link to the CSB entry.

An artist's impression of the B4 Park is illustrated in Figure 45.

Figure 45: Birds Eye View of B4 Park



A number of design opportunities have been identified on-site which would inform the future detailed design phase, including:

1. **Creating a flexible open lawn** to enhance both the physical and emotional aspects of hospital experience and to accommodate a myriad of activities, including recreation for patients, visitors and hospital staff, as well as additional room for patient rehabilitation activities.
2. **Complimenting and enhancing the CSB Reflective Gardens** located adjacent to the Building 4 park with additional terraces of native planting.
3. **Establishing a true park within the Canberra Hospital landscape** to elevate the overall Canberra Hospital experience through a more positive and conducive environment for staff, and visitors and deliver a holistic sense of wellbeing across the hospital community.
4. **Enhancing Site Biodiversity**, by planting trees, shrubs, grasses and increasing the overall open space within the hospital campus. The park will include a series of large terrace garden beds, which will positively impact the campus's biodiversity outcomes and contribute to the biodiversity of the hospital adjacencies.
5. **Creating equitable access throughout** by minimising the need for stairs. This can be achieved through a thoughtfully designed network of gentle ramps and walkways to enhance ease of movement, promote inclusivity and a sense of community engagement.
6. **Creating a series of inclusive and diverse landscape spaces** to cater various preferences and needs, i.e., vibrant and playful areas, serene gardens, accessible pathways and communal gathering spots.
7. **Considering site microclimate** through densely planted pockets of vegetation and overstory planting to provide cooler spaces of refuge during hot summer days and shelters from the dominant north westerly winds of Canberra.

An example of these design opportunities are presented in Figure 46 and spatially visualised in Figure 47, demonstrating how they could be integrated in the existing hospital setting and into the associated streetscape works.

Figure 46: Design opportunities for the proposed Building 4 park

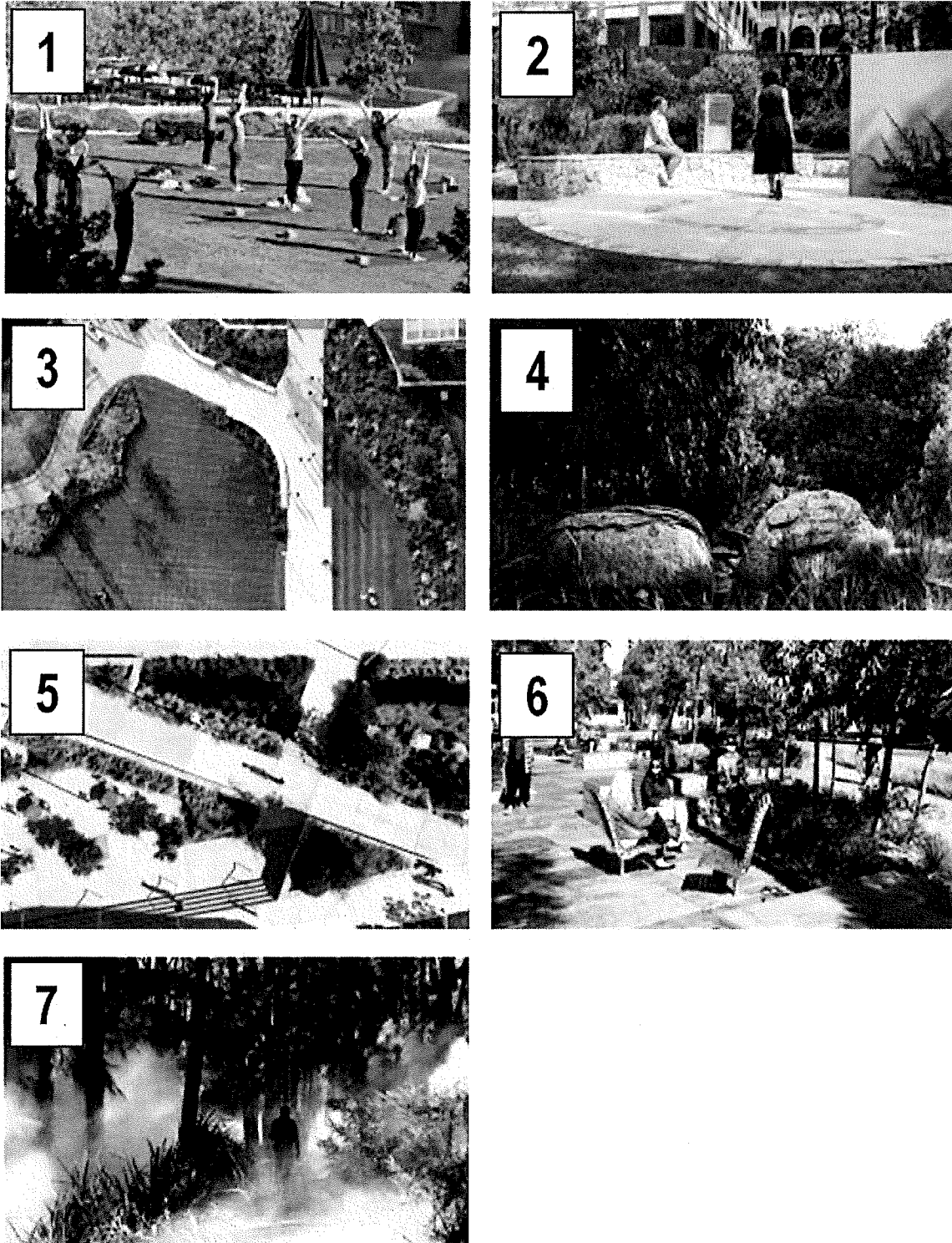
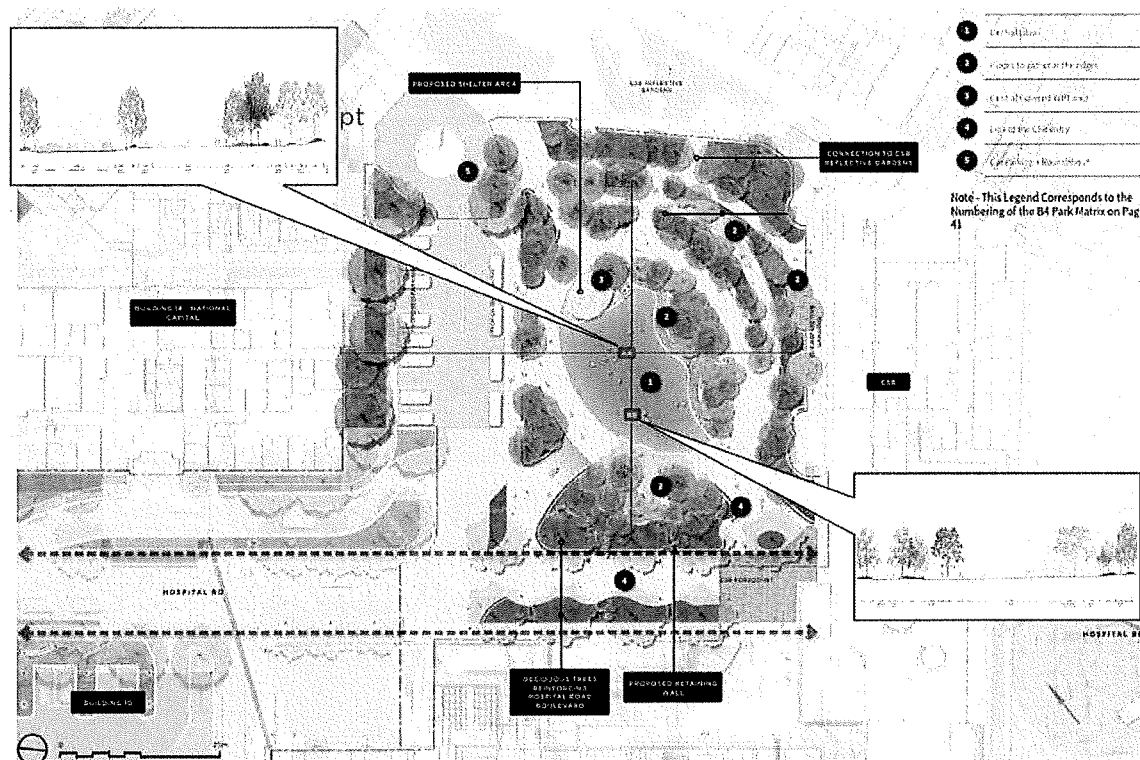


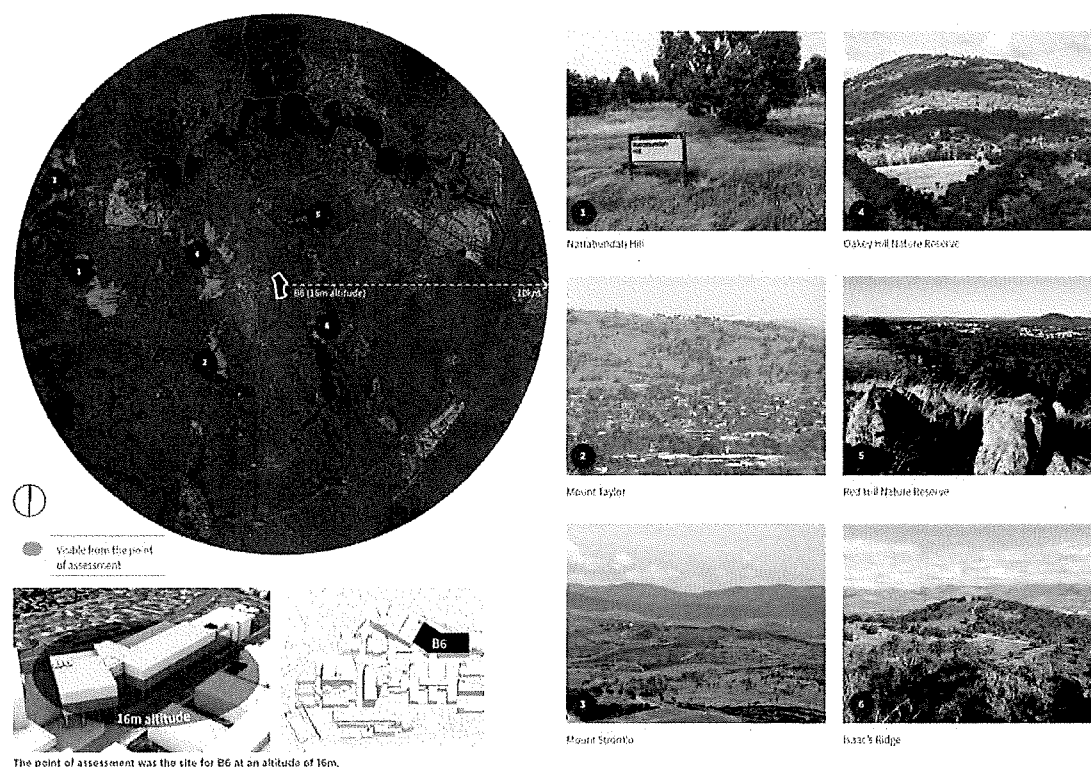
Figure 47: Spatial visualisation of the proposed Building 4 Park



6.9.2. PCSS Building Opportunities

The unobstructed views of the surrounding landscape provide picturesque views from the new PCSS Building, including several nearby landmarks such as Narrabundah Hill, Oakey Hill Nature Reserve, Mount Taylor, Red Hill Nature Reserve, Mount Stromlo and Isaac's Ridge as presented in Figure 48: .

Figure 48: The viewshed of the new Pathology and Clinical Support Services Building



This would be complemented with additional opportunities identified on-site which would inform the future detailed design phase, including:

8. **Creating continuity in the Hospital Road streetscape** by establishing Hospital Road as the main spine of the campus and developing a continuous pedestrian-focused environment.
9. **Maximising opportunities for canopy trees** to generate shade, reduce thermal mass and increase the aesthetic appeal of the hospital campus.
10. **Creating safe and legible crossing points for pedestrians** to reduce stress and confusion of both pedestrians and vehicle drivers.
11. **Increasing road reserve width to add to Hospital Road amenity**, easing the movement of traffic and enabling a clear line of sight.
12. **Adding to site permeability and a connection to Palmer Street** to improve the connectivity to, and circulation around the hospital, strengthening the Hospital Road spine and ensuring the residential area around Palmer Street has easy access to the hospital campus.
13. **Creating a boulevard along Palmer Street with a double row of trees** to provide amenity to residents on Palmer Street and to ensure the PCSS Building does not dominate the horizon for people traveling along Palmer Street.
14. **Creating new and desirable open spaces** in front of the northern entry and staircase to Level 4 of the PCSS Building which would become one of the largest, landscape spaces delivered across the CHMP.

An example of these opportunities is presented in Figure 49: and spatially visualised in Figure 50: , showing how the proposed new building and associated streetscape works could be integrated in the existing hospital setting.

Figure 49: The opportunities on site for the new PCSS Building

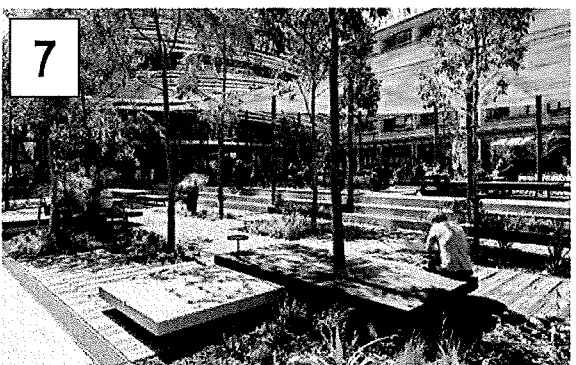
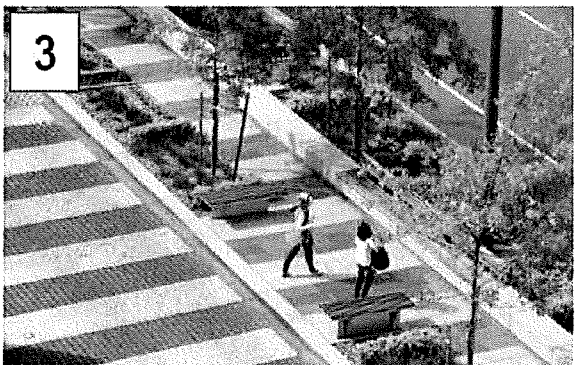
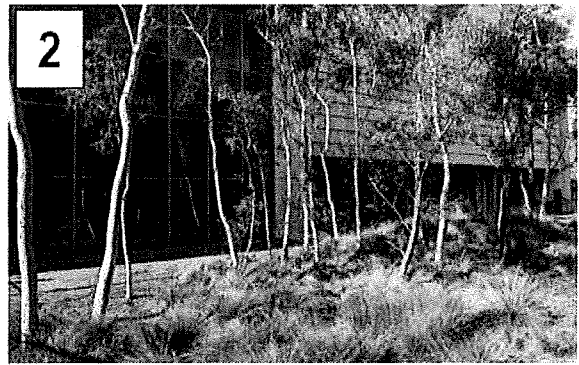
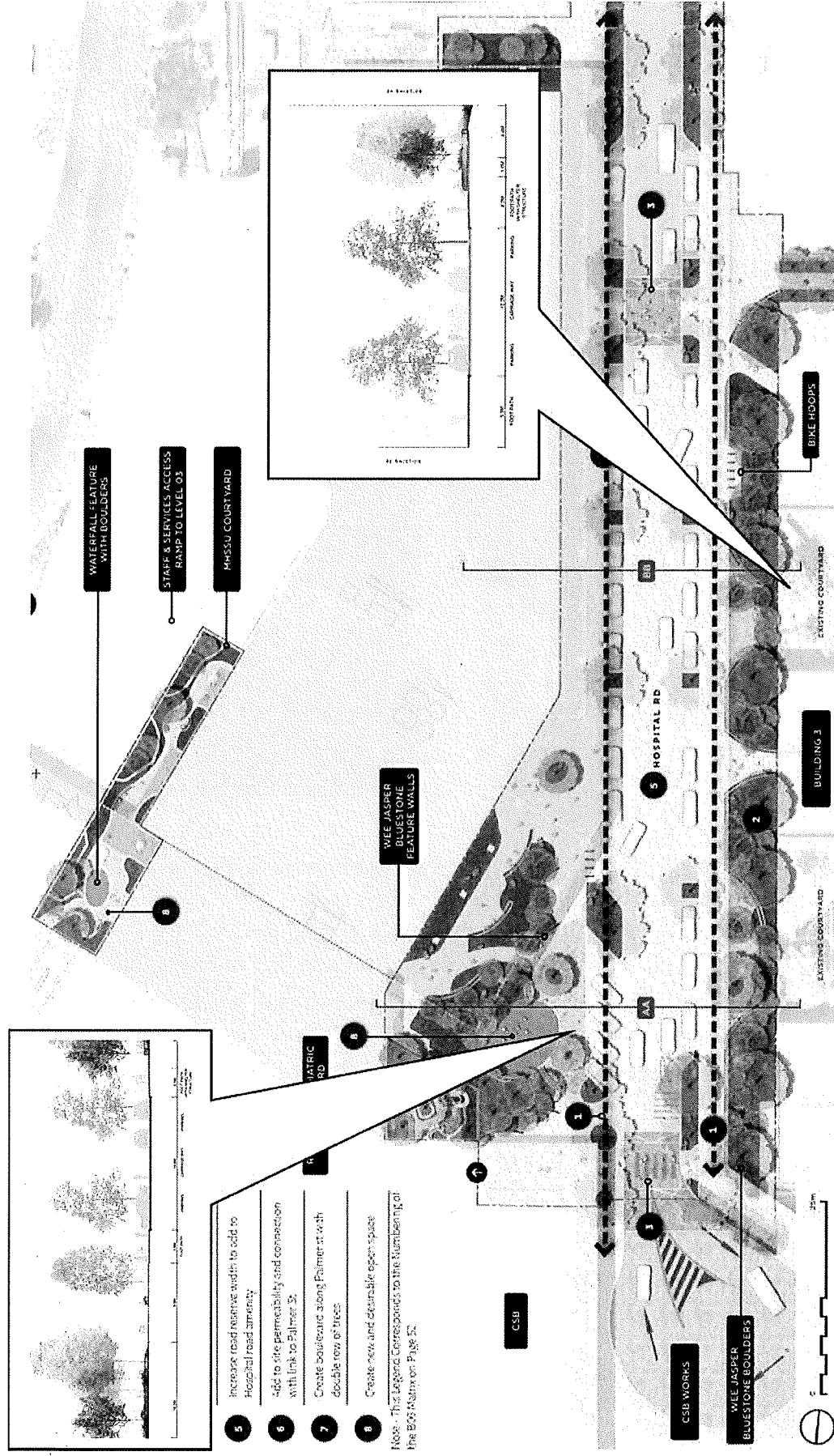


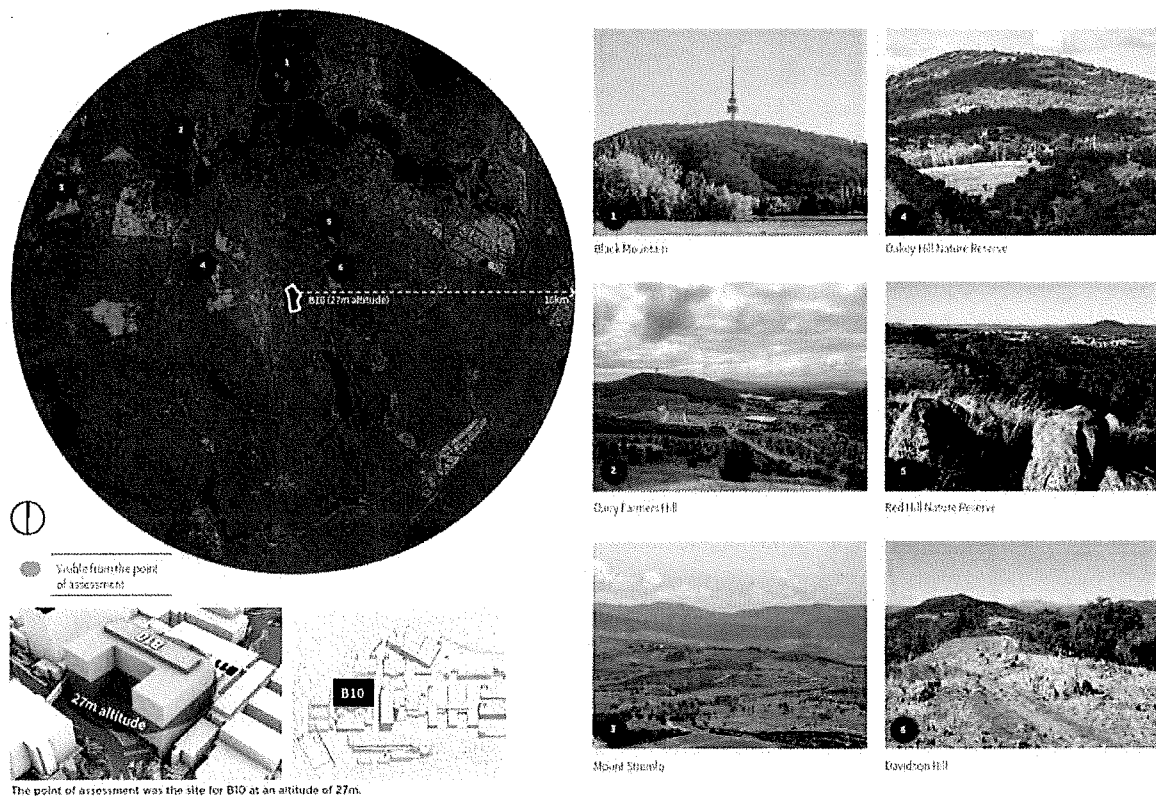
Figure 50: Spatial visualisation of the PCSS Building opportunities



6.9.3. Inpatient and Outpatient Services Building Opportunities

The location of the new Inpatient and Outpatient Services Building will deliver unobstructed views of several nearby landmarks including Black Mountain, Oakey Hill Nature Reserve, Dairy Farmers Hill, Red Hill Nature Reserve, Mount Stromlo and Davidson Hill as depicted in Figure 51:.

Figure 51: The viewshed of the new Inpatient and Outpatient Services Building



There are additional opportunities which would complement the landscape and urban design of the new Inpatient and Outpatient Services Building, including:

1. **Creating continuity in the Hospital Road streetscape** by establishing Hospital Road as the main spine of the campus and developing a continuous pedestrian-focused environment.
2. **Maximising opportunities for canopy trees** to generate shade, reduce thermal mass and increase the aesthetic appeal of the hospital campus.
3. **Creating safe and legible crossing points for pedestrians** to reduce stress and confusion of both pedestrians and vehicle drivers.
4. **Enhancing the Gilmore Crescent Boulevard** by increasing tree cover, vegetation and enhancing the wider pedestrian environment.
5. **Leveraging open space opportunities for staff, patients and visitors** to create exciting, flexible and visually attractive new spaces.
6. **Establishing a unified hospital getaway** through the Gilmore Crescent providing access to the heart of the campus via safe and easily identifiable crossings, and vegetation increasing public amenity.
7. **Creating a green archway utilising the existing upper-level pedestrian bridge infrastructure** to enhance the bridge using greenery such as climbing species and tall trees.

8. **Enhancing Service Road and pedestrian connection with increased canopy cover** to improve the pedestrian experience on a linkway that is likely to be a busy thoroughfare for staff members travelling between buildings.

An example of these opportunities are presented in Figure 52: and spatially visualised in Figure 53;, showing how the proposed new building and associated streetscape works could be integrated with the existing hospital setting.

Figure 52: The opportunities on site for the new Inpatient and Outpatient Services Building

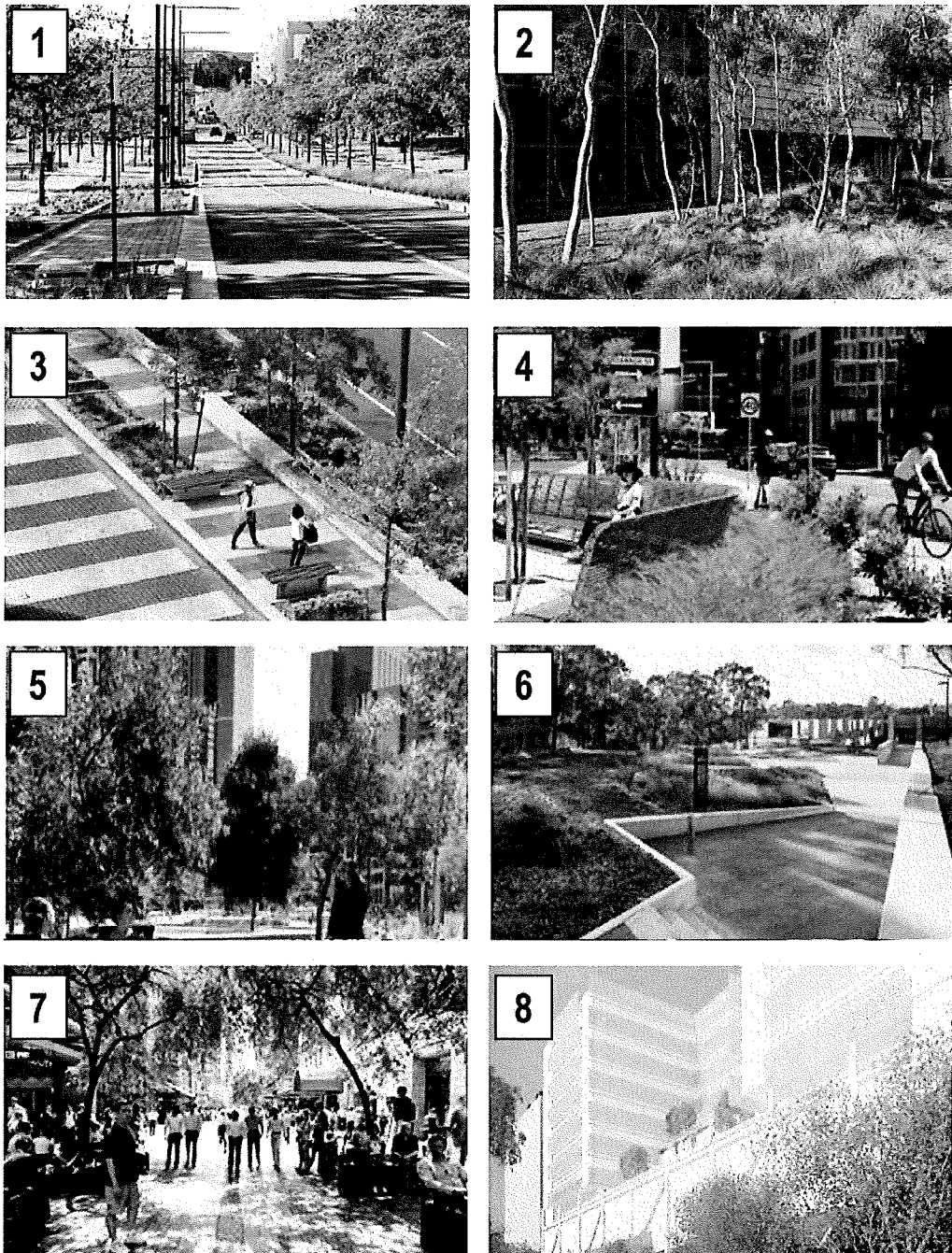
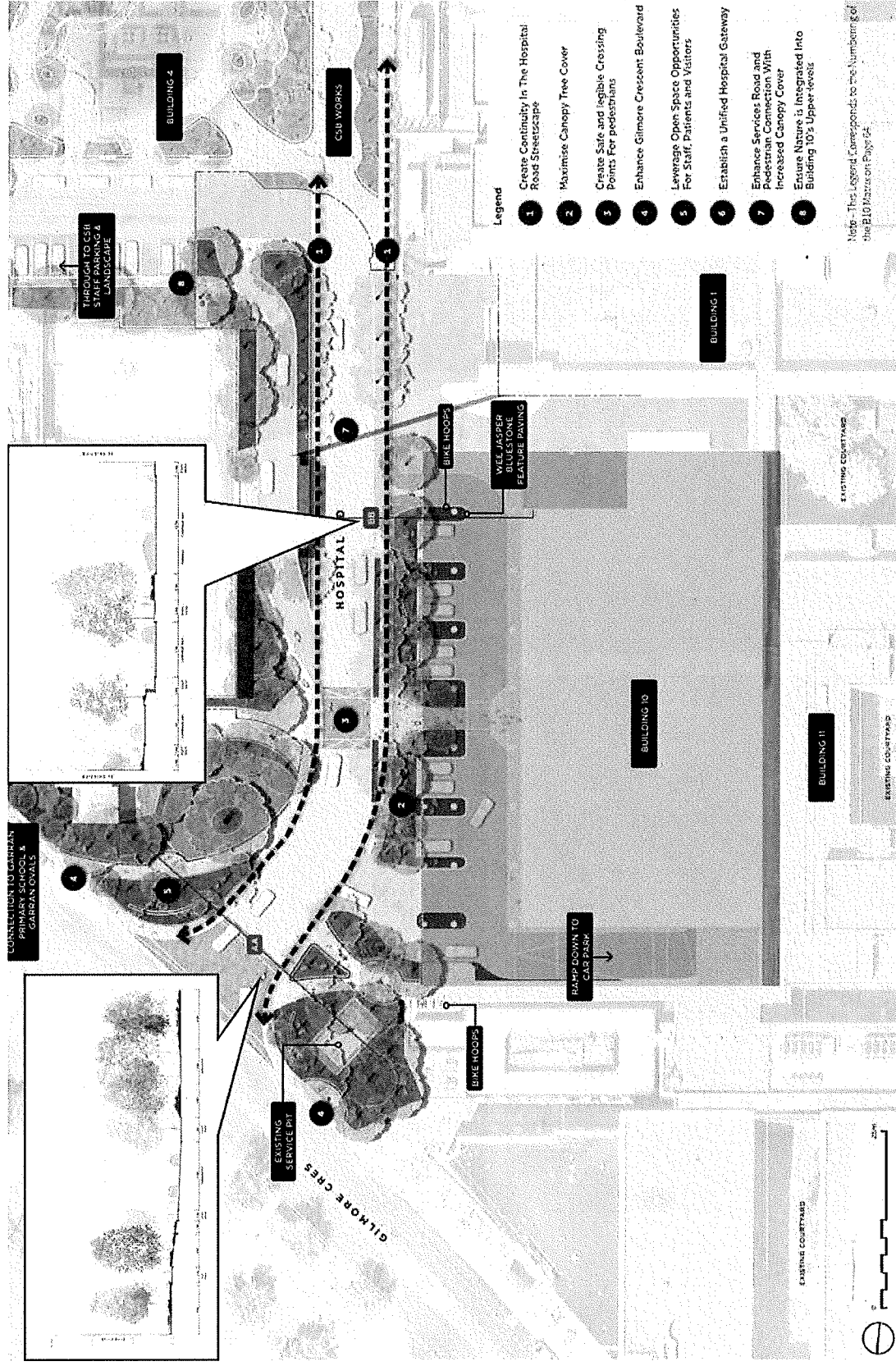


Figure 53: Spatial visualisation of the Inpatient and Outpatient Services Building opportunities.



6.10 Sustainability

The preferred option will comply with the requirements of the National Construction Code 2022 with a focus on energy efficient plant selection and low water use equipment, fixtures and fittings. This includes a costed [REDACTED] total construction cost to enable the development and delivery of sustainability elements across the project. The design process will be guided by the Net Zero Carbon Guide for New and Existing Buildings in Australia and include the following elements:

- **Green Star Rating:** The new developments will target a 5-star Green Star Building v1 rating and, for this reason, a registration for the Green Start certification with the Green Building Council of Australia will be required to be completed by December 2025 at the latest to enable the continuous involvement of a Green Star Accredited Professional in the further development of the preferred Option;
- **Allowance for climate change:** The building design will be futureproofed against the impacts of climate change, including but not limited to a suitable representative concentration pathway;
- **Removal of all site fuel sources:** To ensure the transition to an-electric hospital campus, all fossil fuels are to be removed from new buildings' sites with the exception of the diesel back-up generator systems for power redundancy;
- **Installation of photovoltaics:** The development will require roof mounted photovoltaic systems installed where permissible. Additional glare analysis will be required to inform any impact of solar panel systems on helicopter operations in proximity to the CSB;
- **Selection of building materials:** All materials selected for the development should have low embodied carbon to minimise the environmental footprint of the CHMPP2 project. This also includes the use of zero or low-carbon concrete, the installation of no- or low-emitting materials inside the waterproofing barriers, and other;
- **Reducing energy transfer:** The new building design would seek to reduce energy transfer with a focus on roofing insulation, sky lights and associated glare screens, under floor insulation, façade insulation, glazing systems with double low e-glass and thermally split frames, and airtightness etc.;
- **Efficient building services:** including tuning mechanical and hydraulics plant, vehicle charging systems, water tanks and efficient tapware;
- **Development of end-of-trip facilities:** including change rooms with lockers and shower facilities, and additional bicycle parking areas;
- **Landscape designs incorporating the requirement of Green Star credits:** including the improvement of biodiversity, meeting minimum landscape area guidelines and introducing a wide range of species, genus and families to further promote biodiversity; and
- **Earth works:** to limit the removal/disposal of materials and encourage the re-use of topsoil across the site where possible.

Further detail about these considerations is provided in the Proof of Concept Design Reporting, Appendix L.

6.11 Project interdependencies

- **Delivery of the PCSS Building:** the delivery of the new Inpatient and Outpatient Services Building is dependent on the completion of the new PCSS Building. These projects must be delivered sequentially to enable the decanting of existing services from the existing Building 10 to the newly completed PCSS Building. This includes Pathology and other clinical support

services currently accommodated in Building 10. Once these services have relocated, Building 10 can be decommissioned and demolished to enable the delivery of the new Inpatient and Outpatient Services Building.

- **Energy node:** A new precinct-wide energy node is required to meet the long-term energy needs of the campus and enable the progressive transition from natural gas to an all-electric facility. The energy node will upgrade power supplies needed to cater for new heat pumps and electric boilers. Consultant advice is to undertake the upgrades in four stages, with Option 2 to include the first two stages to meet the energy needs of the new buildings and wider campus. The inclusion of the energy node in the scope of this Business Case represents a significant cost, however it has been deemed necessary in line with the site's ageing HV infrastructure, Territory's electrification initiative and the power authority's (Evo Energy) transition of the hospital to a High Voltage tariff.
- **Consideration of the NH Project:** Once a preferred planning option is determined for the Northside Hospital Project, it would need to be incorporated into the CHMPP2 to reflect the State's preferred scope, program and cost parameters.

7. Risk Analysis

Key messages

- The ACT Government Risk Management Policy 2021 has been adopted for the identification and assessment of critical project risks.
- Based on the risk assessment undertaken to date, the following risks have been identified as high risk and/or material to project delivery:
 - That planning processes and demand modelling for Territory-wide hospital projects need to be aligned with the CHMPP2 Project.
 - That planning processes and designs do not adequately consider service and infrastructure integration and connectivity with existing and new facilities, including the CSB (new Building 5).
 - That planning and approvals processes take longer than anticipated or impose unforeseen conditions on the Project.¹⁰⁰
 - That the proposed decanting strategy, particularly with respect to Building 7, is inadequate and there are insufficient contingencies provided for delays.
 - That the enabling works and extension of life buildings are not appropriately scoped, funded and implemented impacting on the ability to commence construction and the continuity of service provision at adjacent buildings.
 - Risk associated with utilities, such as unanticipated utilities/services upgrades are required or that unknown utilities/services are discovered onsite.
- Mitigation strategies to address critical risks include:
 - Detailed project management and planning to understand sequencing, dependencies, and approvals processes.
 - Early and ongoing engagement with key stakeholders, including clinicians, community groups, planning agencies, operational commissioning teams and utilities providers.
 - Detailed technical surveys and site investigations.
 - Detailed design definition stage, including ensuring that Functional Design Briefs (FDB's) are incorporated into the tender for design.
 - Incorporating sufficient time for planning, design and decanting in the Master Program.
- The Programme Director, Project Control Groups (PCGs) and the Executive Steering Committee will be responsible for monitoring project risks throughout planning and implementation phases within existing project governance committee structures.

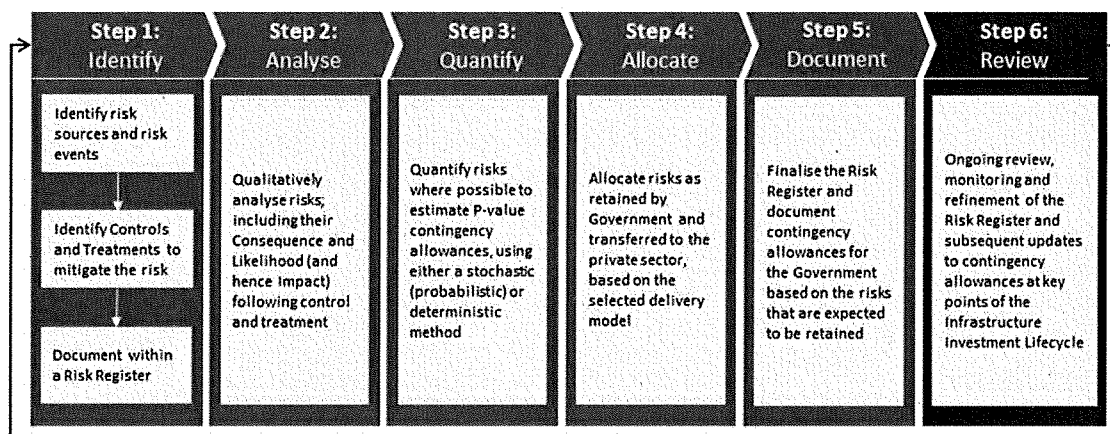
7.1 Risk Analysis Process

A risk assessment and quantification process has been undertaken in developing this Business Case. The approach has aligned with the ACT Government Risk Management Policy 2021 and Capital

¹⁰⁰ It should be noted that, although this risk is well-understood and able to be mitigated, it was assessed as material to project delivery due to its high delay consequence rating of "catastrophic", which equates to a potential delay of greater than six months (refer to Table 27).

Framework guidance and has involved workshops with key stakeholders and advisors from across ACT Government (ACTHD, CHS and MPC) and external advisors. Figure 54 provides an overview of this process.¹⁰¹

Figure 54: Risk analysis process



Further detail of the actions taken as part of each step in Figure 54 are provided below.

7.1.1. Step 1: Identify

Risks were identified and collated within a preliminary risk register. The register outlined potential risks according to key risk categories;¹⁰² a detailed description of each risk and additional context to support the allocation of likelihood and consequence ratings (refer to Step 3); a description of the potential consequences of each risk; and potential risk mitigation strategies.

A variety of different types of risks were identified and classified into key risk categories, in alignment with ACT Government Capital Framework guidance on recommended risk categories. Table 25 presents some of the key project risk categories.

Table 25: Risk categories

Type of risk category	Risk description
Design	Risks associated with the design of the Project, such as ensuring the design is fit for purpose and aligns with the required Model(s) of Care
Planning	Risks associated with the planning approvals required to progress the Project to implementation, including that processes take longer than anticipated or impose unforeseen conditions on the Project
Procurement	Risks associated with processes for procurement of the Project; for example, that the documentation required to proceed with procurement is inadequate
Stakeholder	Risks associated with the varying and conflicting interests of stakeholders, including governance arrangements
Site	Risks associated with the condition of the site, including unknown geotechnical conditions, contamination and utilities upgrades
Construction	Risks associated with the construction and delivery of the Project, including accessibility considerations and impacts on existing operations

¹⁰¹ Source: ACT Government Capital Framework (2023). Risk analysis process. Retrieved on 1 December 2023 from <https://www.treasury.act.gov.au/capital-framework/prove/detailed-technical-guidance/risk-analysis/risk-analysis-process>

¹⁰² Utilising ACT Government Capital Framework guidance on recommended risk categories.

<i>Type of risk category</i>	<i>Risk description</i>
Safety	Risks associated with the safety of the community, workforce and others
Climate	Risks associated with the physical and economic impacts of natural hazards and climate change, including force majeure events that may impact project timelines
Market	Risks associated with the wider market, including the supply of labour, materials and equipment needed to undertake the Project, as well as market capacity and interest to undertake the Project
Financial	Risks associated with the financial sustainability and structure of the Project, such as insufficient OPEX cost provisions to deliver the intended outcomes of the Project
Operational	Risks associated with the operations and implementation of the Project once delivered, including risks related to changes in clinical practice, laws, contractors and demand

This preliminary risk register was developed using key project information, technical sources and scope documents shared as part of the overall business case optioneering process. In addition, the business case considered risk identification work undertaken for other relevant projects at CH.

Additional risk identification analysis and refinement of the preliminary risk register was then conducted through an internal Risk Identification workshop with input from relevant ACT Government stakeholders and technical advisors. During this workshop, identified risks were tested and validated, and any missing or obsolete risks were identified.

7.1.2. Step 2: Analyse

Following the risk identification workshop, the preliminary risk register was refined based on stakeholder feedback.

Likelihood and consequence rating systems were developed for the risks (refer to Table 26 and Table 27 respectively). The likelihood consequence rating system is based on the ACT Insurance Authority (ACTIA) Risk Matrix 2021 and the indicative probability ranges were informed by similar infrastructure projects, including hospital brownfield redevelopment projects, such as the CSB project. The cost consequence rating system was developed in consultation with the cost advisors for this Project, and the delay consequence rating system was informed by ratings used for other similar projects on the Canberra Hospital campus.

Table 26: Likelihood rating system

Level	Likelihood	Historical frequency	Expectation	Indicative probability range
5	Almost certain	Occurs on most occurrences of the activity.	Expected to happen this time.	More than 90%
4	Likely	Occurs on some occurrences of the activity.	Expected to occur on one of the next few occasions.	50-90%
3	Possible	Infrequently occurs here.	Could occur at some time in the future. Would not be surprised if occurred.	25-50%
2	Unlikely	Has never occurred here.	Might occur but unlikely. Would be surprised if it occurred.	10-25%
1	Rare	Has never occurred here but may have/has occurred somewhere.	Might occur, but only in exceptional circumstances. Would be very surprised if occurred.	Less than 10%

Table 27: Consequence rating system (Preferred Option)

Level	Consequence	Capital value ¹⁰³	Time
5	Catastrophic	Greater than \$40m	More than 6 months
4	Major	\$20m – \$40m	2-6 months
3	Moderate	\$10m - \$20m	1-2 months
2	Minor	\$4m - \$10m	0.5-1 months
1	Insignificant	Less than \$4m	Less than 0.5 months

Each risk was assigned an initial likelihood and consequence rating (for both cost and delay impacts), in accordance with the ACT Government Capital Framework guidance. These ratings were applied based on residual risk i.e., the likelihood and consequence of the risk once the proposed mitigation strategies have been implemented.

A Risk Quantification workshop was conducted with key relevant ACT Government stakeholders and technical advisors to test and validate the likelihood and consequence ratings for all risks.

7.1.3. Step 3: Quantify

The risk quantification approach followed the requirements of the Capital Framework for Tier 1 business cases and included a Monte Carlo probabilistic analysis. This process consists of modelling the probability and impact values for each risk identified in the risk register to a P50 and P90 level of confidence to estimate the contingency allowances for the Project.

To quantify cost and delay impacts, the following calculation was used:

$$\text{Cost Risk / Delay Risk} = P \times \frac{BC + 4ML + WC}{6}$$

Where:

- P = Probability
- BC = Best case (lower range of the capital value for the relevant consequence rating)
- WC = Worst Case (upper range of the capital value for the relevant consequence rating)
- ML = Most Likely (average of the best case and worst case)
- 4-times the weight is given to the Most Likely value and divided by 6 to get the average.

The contingency allowance was subsequently verified through a top-down assessment, including consideration of risk profile and other recent health infrastructure projects, to ensure the determined allowance was appropriate relative to total project capital.

Further detail on the risk quantification and contingency allowance methodology can be found in Chapter 9 – Financial Analysis.

7.1.4. Step 4: Allocate

For each risk identified in the risk register, the risk allocation was determined giving consideration to the following categories:

- Fully retained, and therefore managed, by the Territory;

¹⁰³ Capital values were determined based on the latest CHMPP2 Cost Plan B and consultation with MBM.

- Transferred, and borne entirely by the private sector; and
- Shared between the Territory and the private sector.

The risk allocation process was informed by the ongoing delivery model analysis and precedent case study projects. However, it should be noted that the ability to allocate risks to the private sector is also dependent on:

- The changing risk appetites of market participants over time;
- The capability of the private sector counterparty to manage the risk allocated to it;
- The financial capacity of the private sector counterparty to absorb the risk should it eventuate; and
- The robustness of the contractual arrangement of the delivery model in terms of the Territory's ability to enforce the allocation of risk to the private sector.

Further information on the delivery model analysis for this Project is set out at Chapter 8 – Delivery Model Analysis.

7.1.5. Step 5: Document

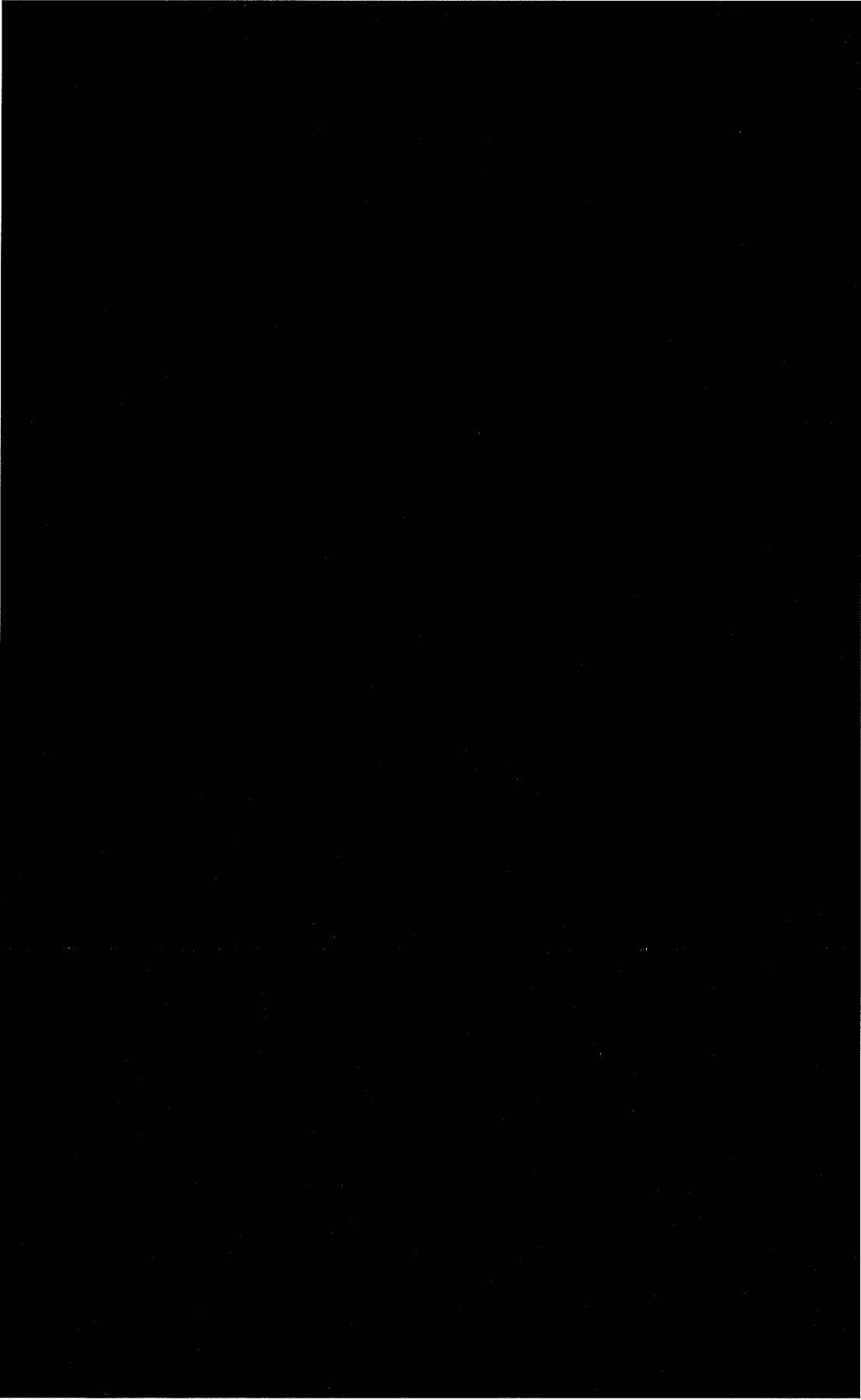
Following Step 4, the risk register was updated and finalised. The complete risk register, including ratings and proposed mitigation strategies, is included at Appendix N. An outline of the key project risks is contained in Section 7.2.

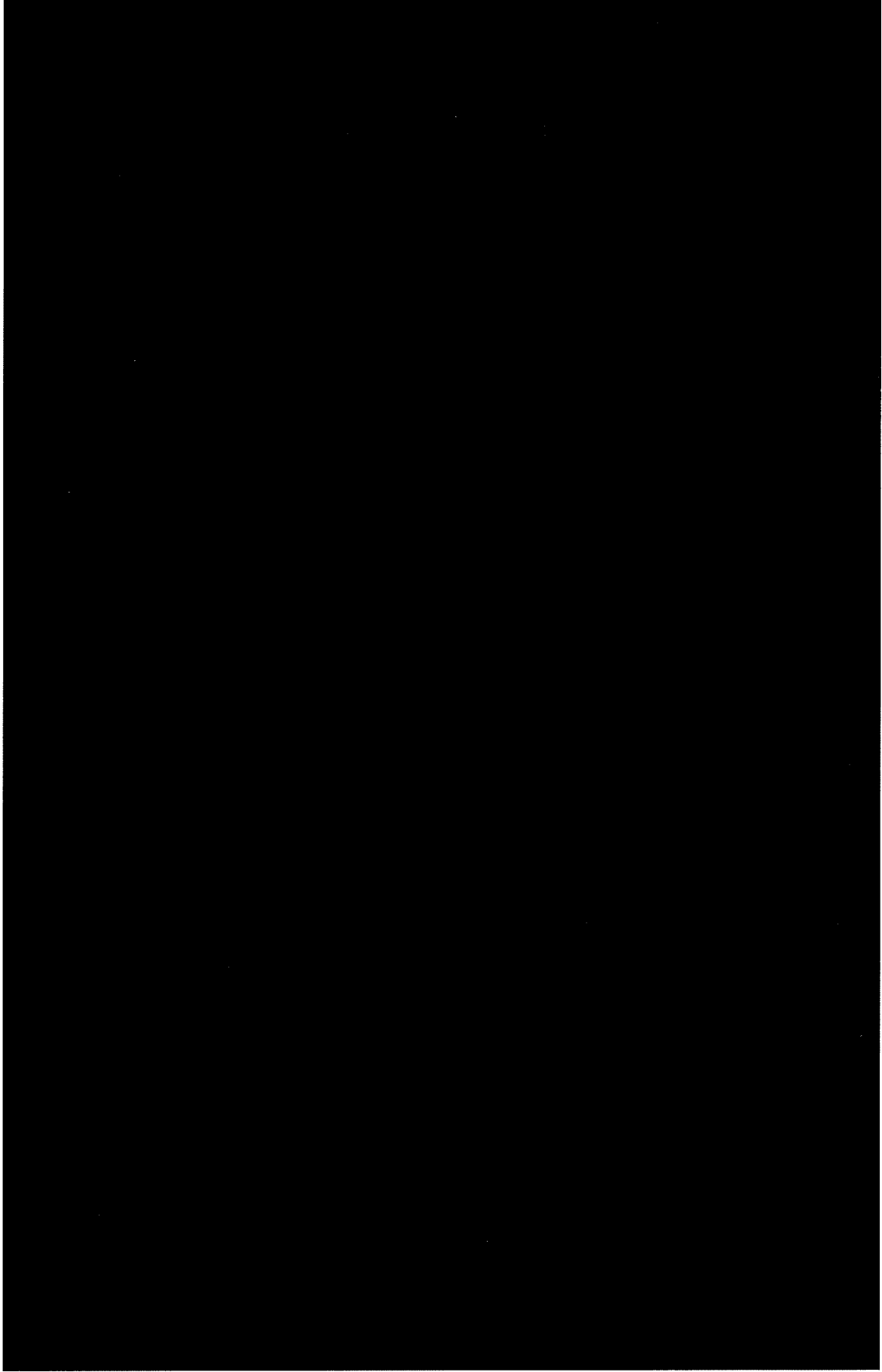
The final contingency allowance in terms of cost and time impacts for the Government based on the retained risks can be found in Chapter 9 – Financial Analysis.

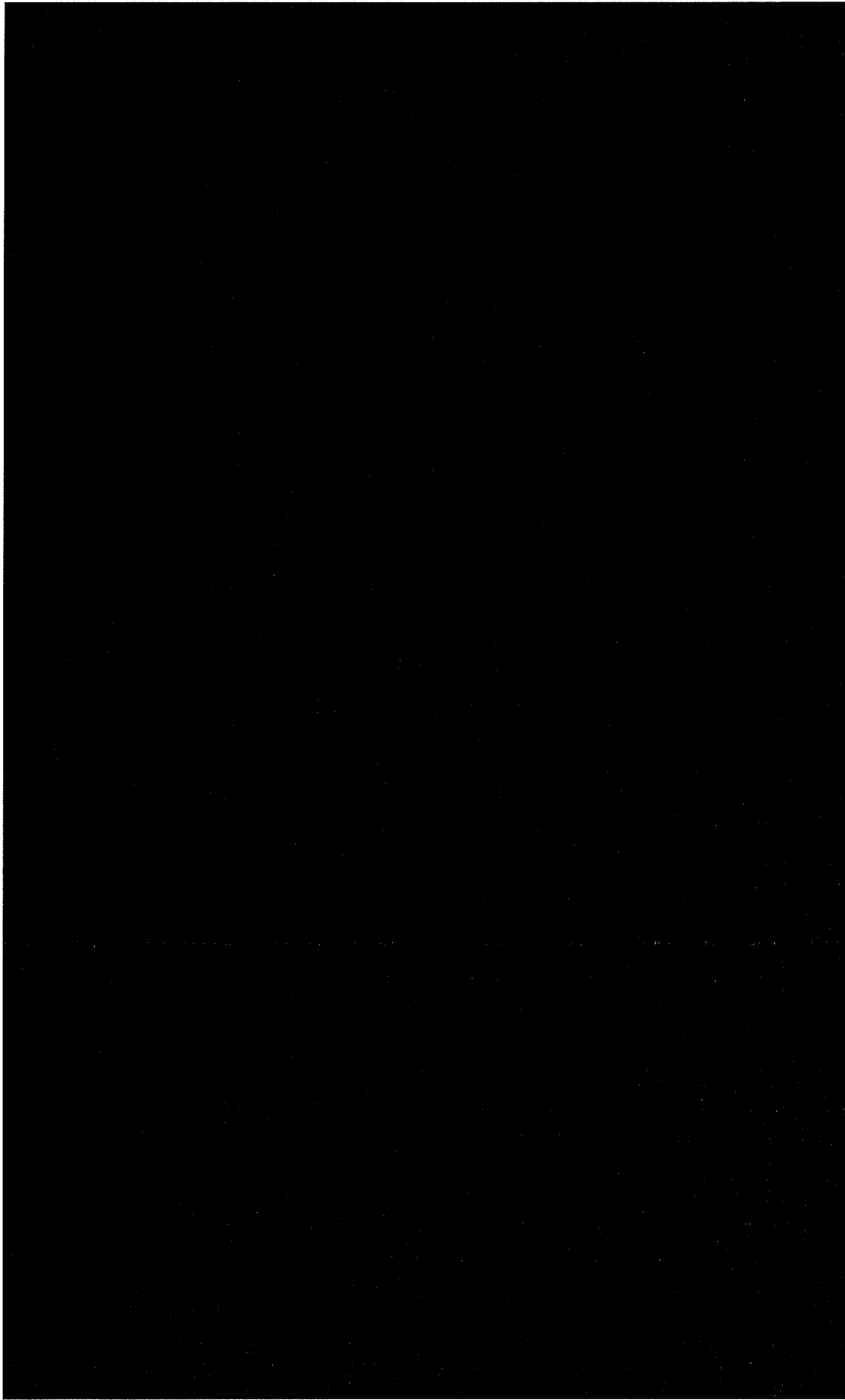
The risk register should be considered a living document and at key points of the Project, it should be reviewed and updated to ensure that it is fit for purpose, which will inform whether any updates to the contingency allowance are required, and to ensure that the Project is achieving its intended outcomes and providing value for money for key stakeholders. Further detail on how risks should be managed on an ongoing basis as the Project progresses can be found in Appendix N.

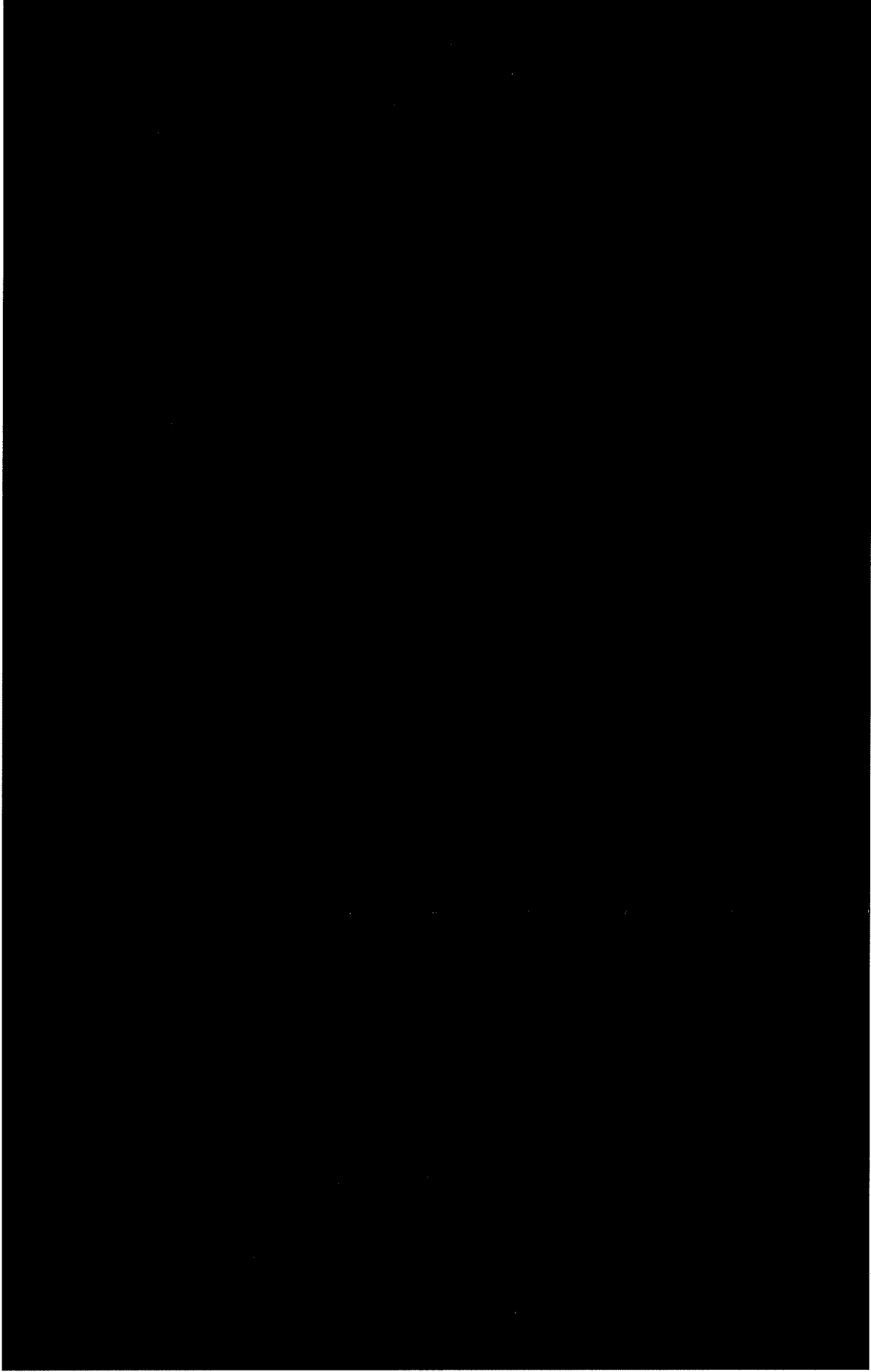
An outline of the key project risks – comprising the risks considered material to this Project – is contained in Table 28.

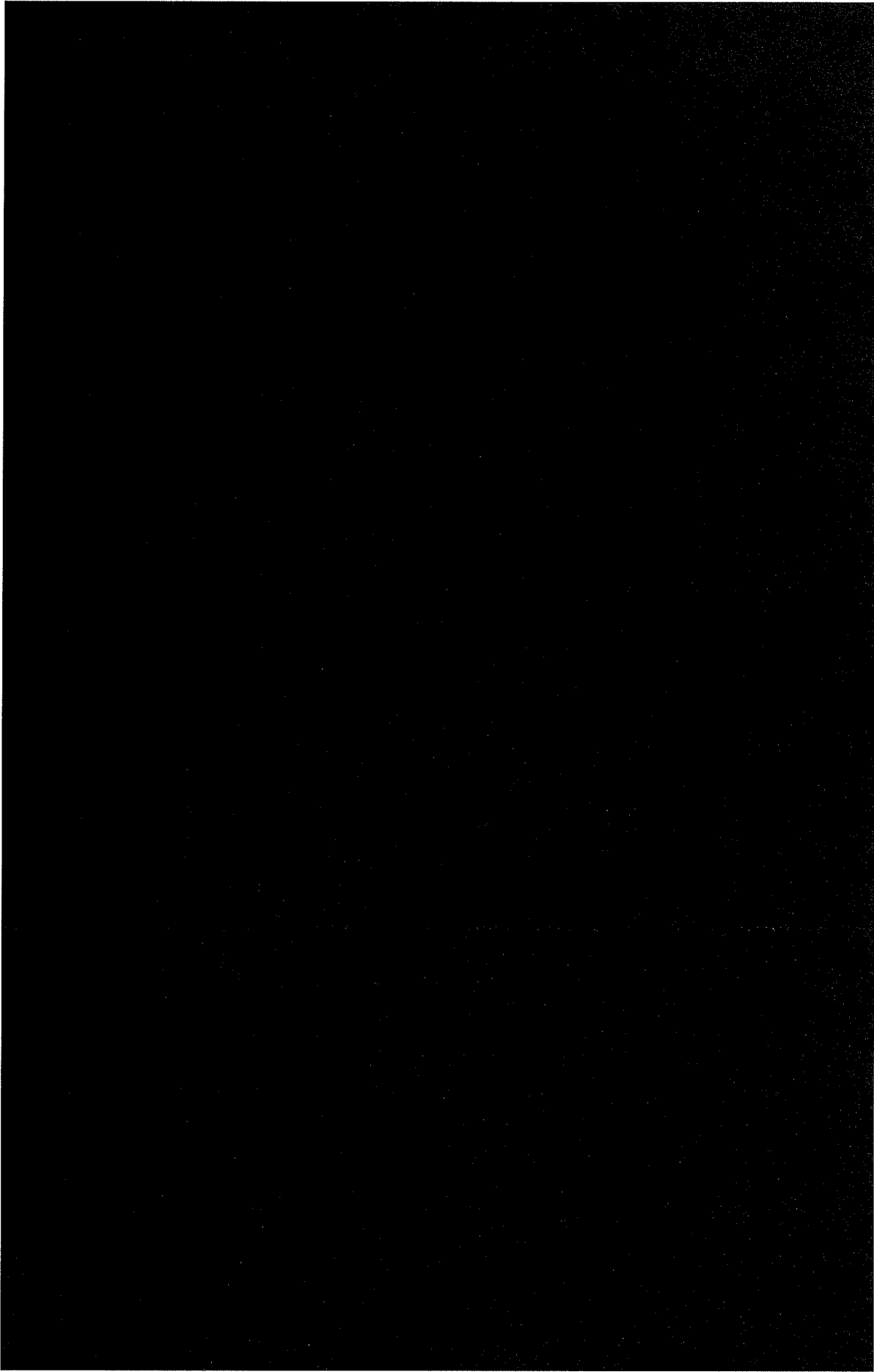
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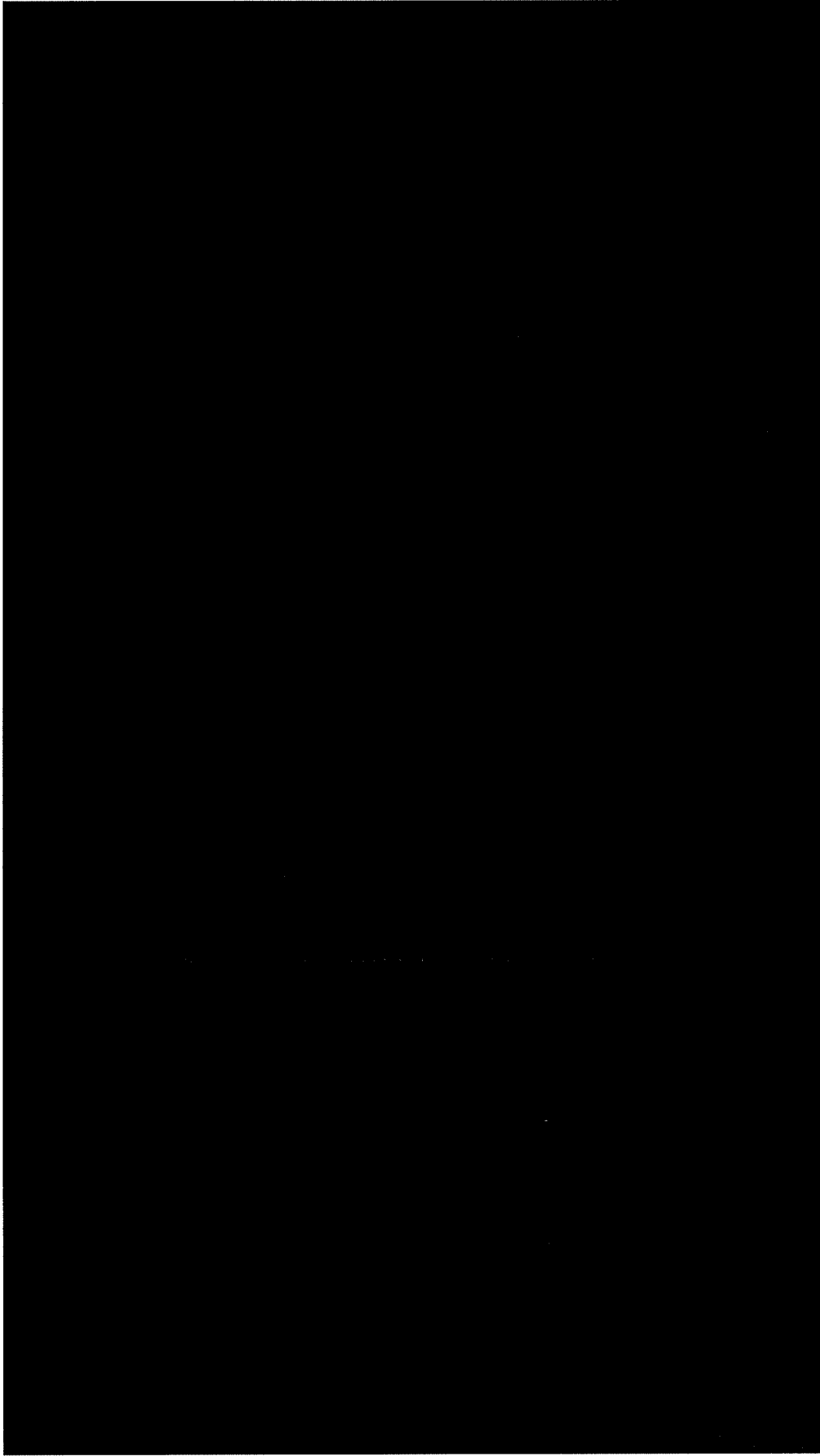












7.2.1. Ongoing Risk Management

The Project's governance framework provides a whole-of-territory framework that enables collaborative decision making and will ensure accountability and transparency throughout project planning, development and delivery. This framework allows cross-directorate executive leadership representation from ACTHD, CHS, MPC, and ACT Treasury. Further detail on the governance framework can be found in Chapter 11 – Project Governance, Stakeholder Engagement Plan and Advisor Engagement Plan.

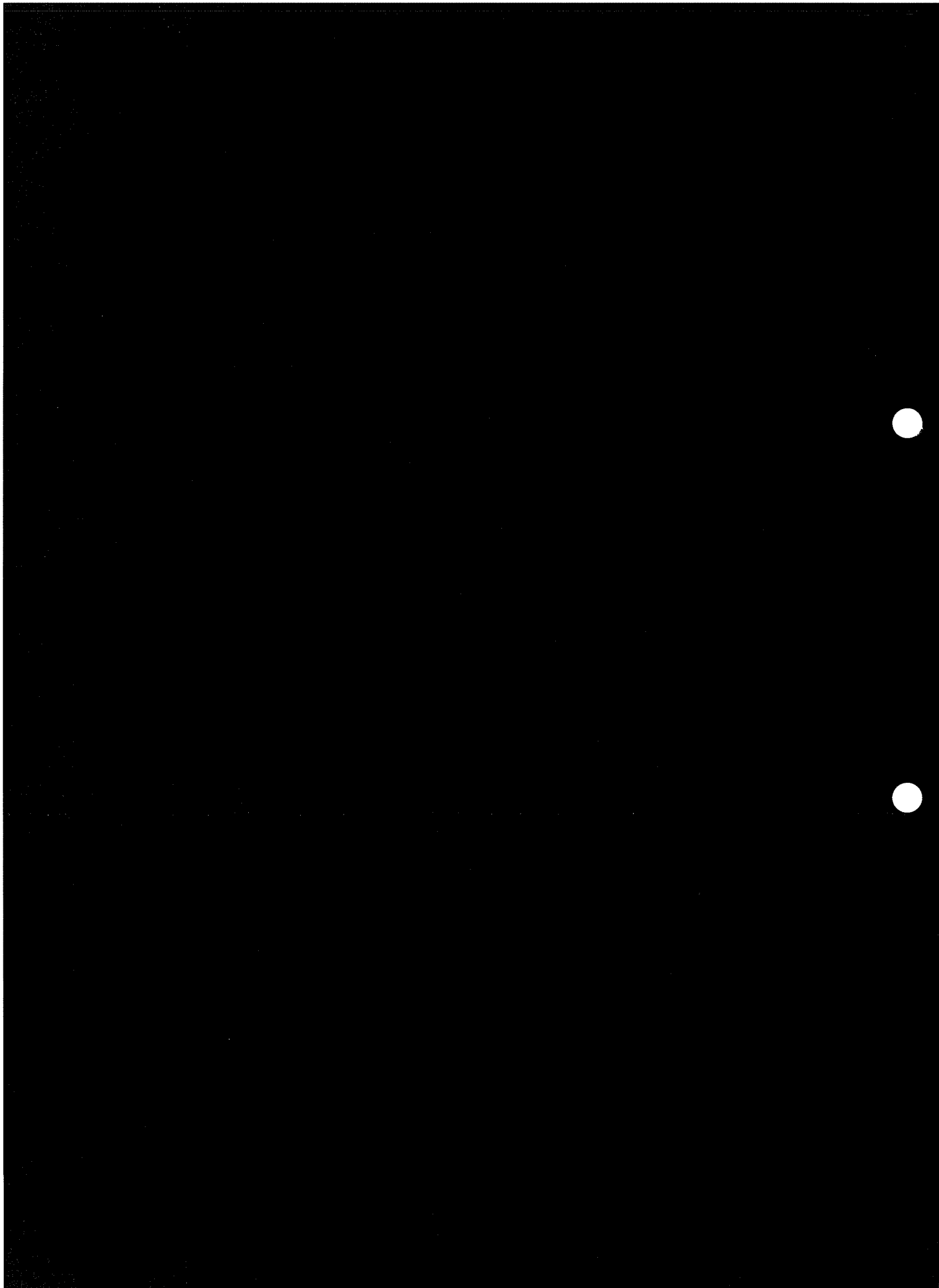
The following project governance bodies will have responsibility for risk oversight on the Project.

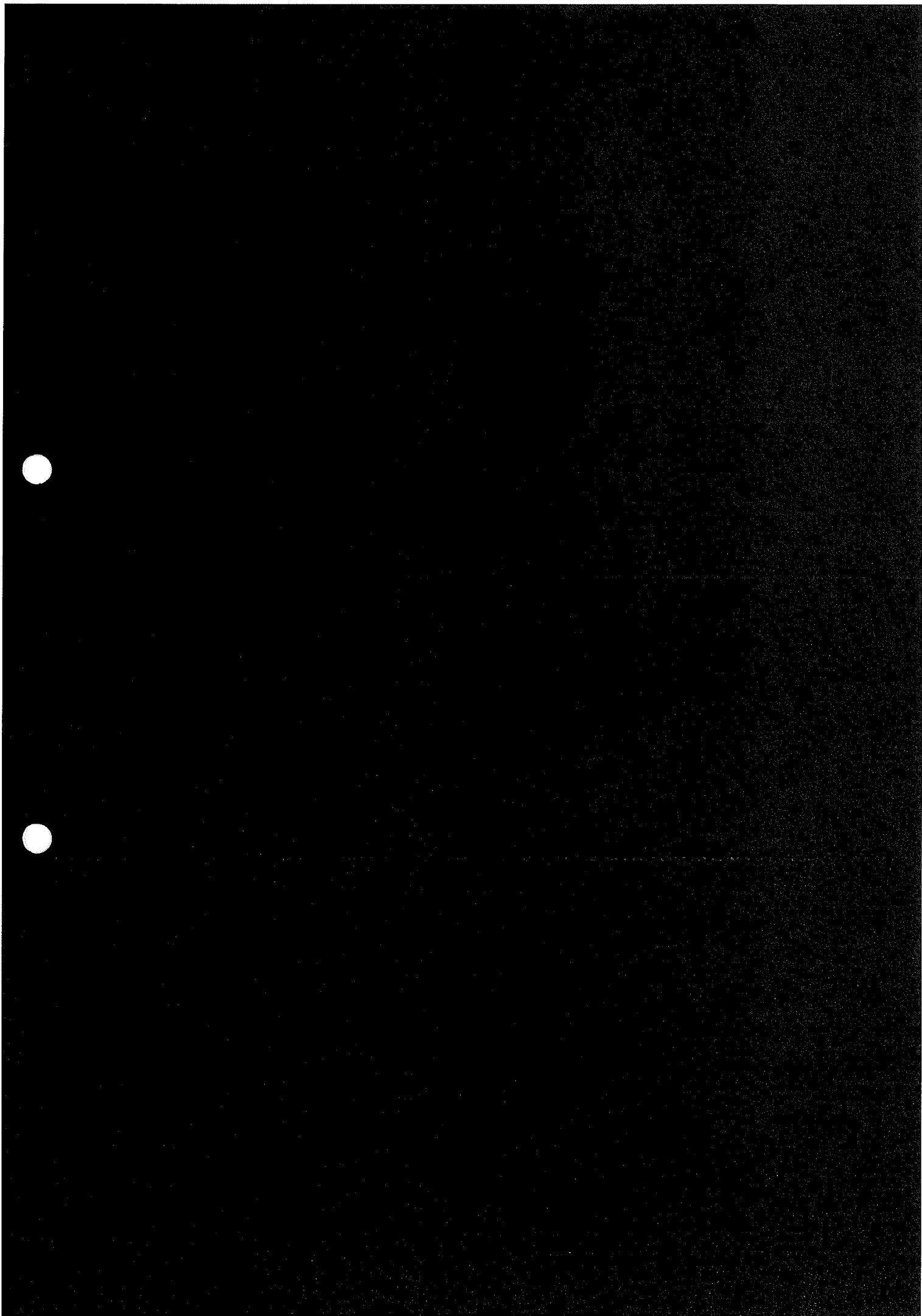
Table 29: Risk management and reporting responsibilities

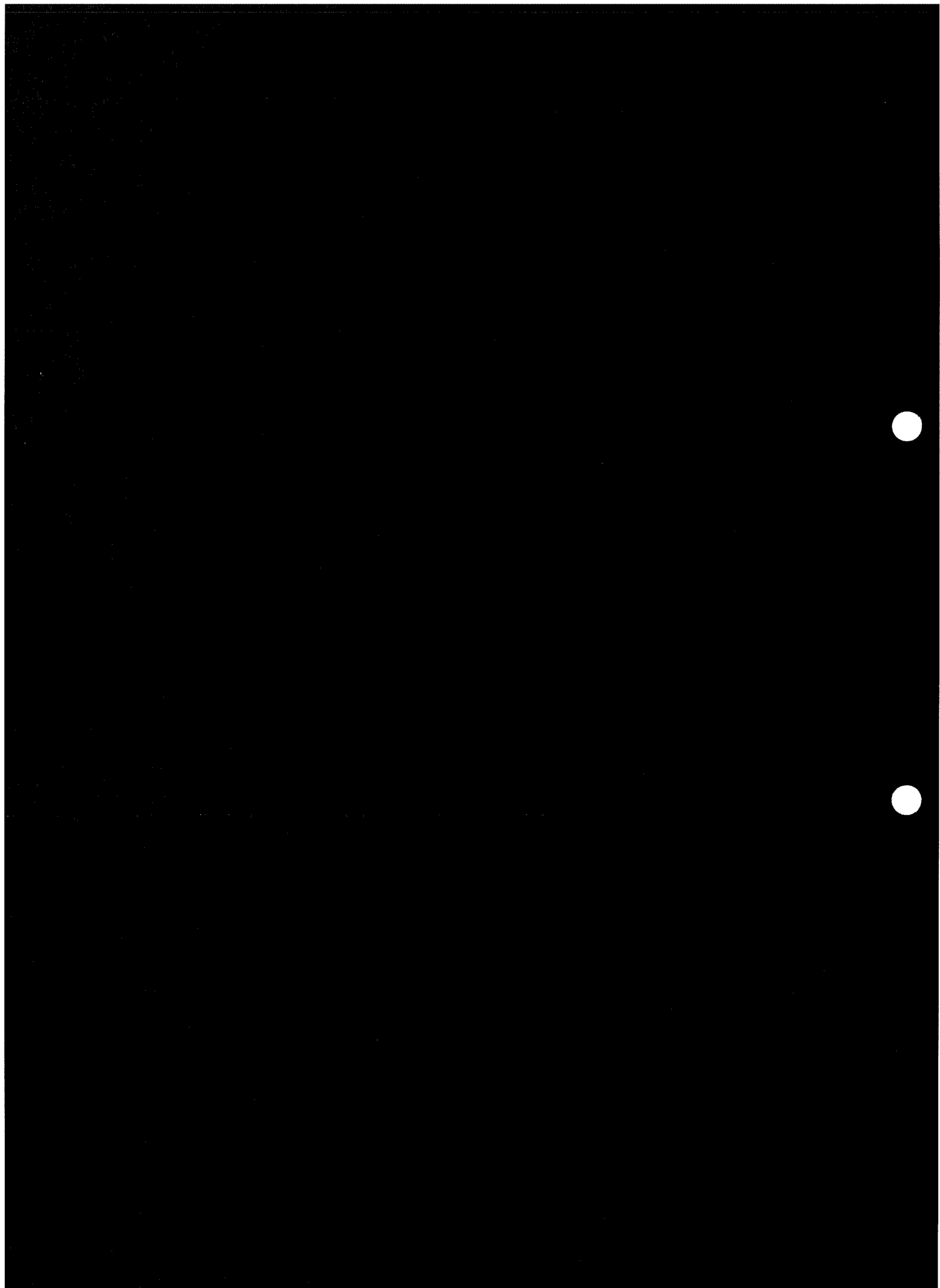
Individual/group	Roles and responsibilities
Executive Steering Committee	The Executive Steering Committee will oversee and provide collective endorsements and/or approval as necessary for the development of the Project, as well as provide guidance and advice to the Director-General and Deputy Director-General of ACT Health. Responsibilities will include identifying and monitoring risk and issues management and assist in the establishment of mechanisms to effectively mitigate these.
Programme Director	The Programme Director will have oversight of the PCGs and will be responsible for the ongoing review of the risk register and contingency allowances.
Project Control Groups	PCGs will act as decision setting and monitoring bodies for various components of the Project, including decanting, demolition, early works and main works. They will be responsible for escalating relevant issues to the Executive Steering Committee as they arise, according to risks identified in the risk register.

It is recommended that the risk register is continually monitored throughout the project lifecycle and updated at key milestones to ensure that contingency allowances are accurate. The Programme Director, as the individual responsible for oversight of the PCGs, will have ultimate responsibility for ensuring the risk register is kept up to date. To monitor and update the risk register, the following activities should be undertaken:

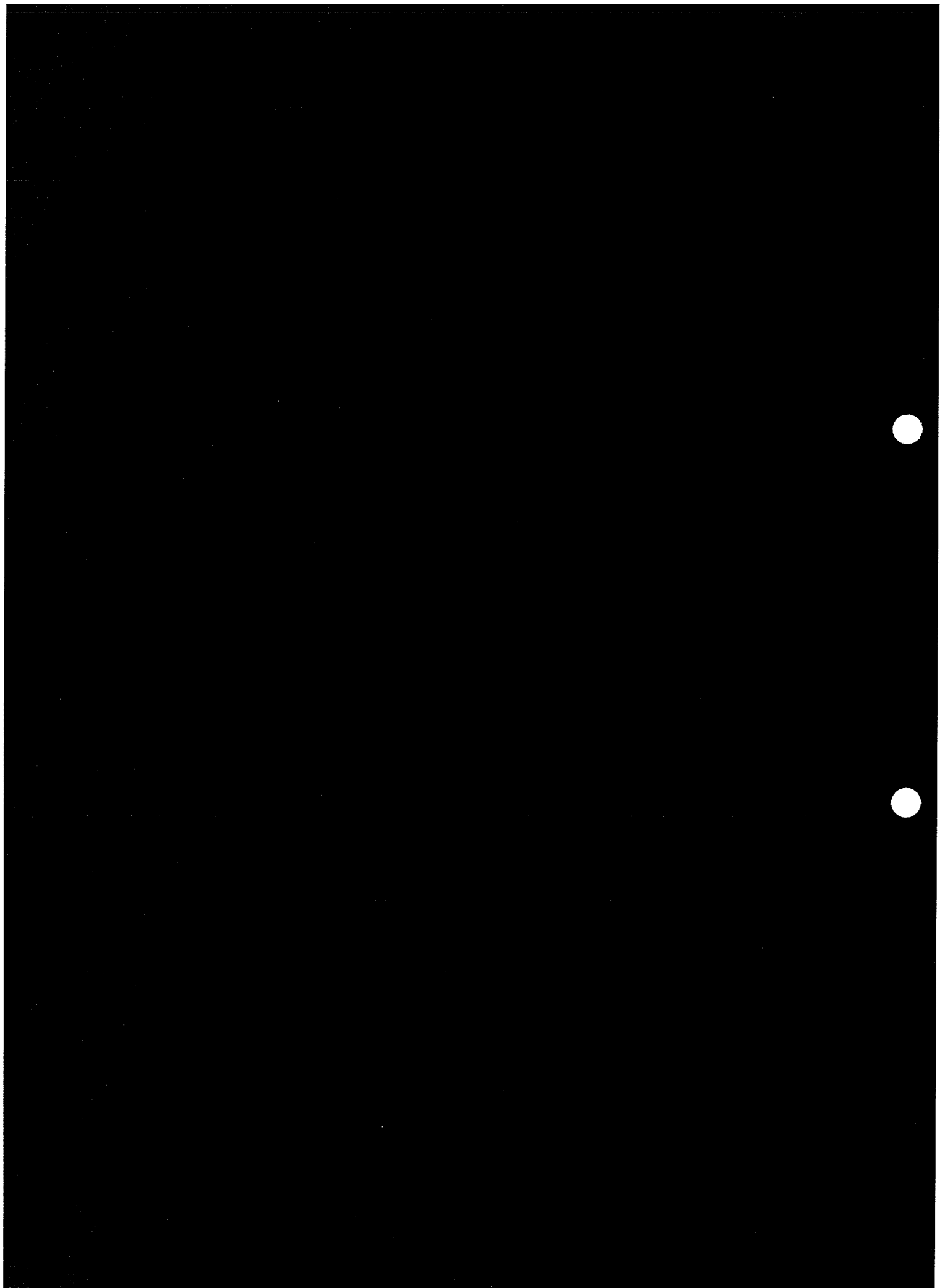
- Contact individuals with responsibility for risk management and mitigation strategies and ensure they are being enacted;
- Review the effectiveness of mitigation strategies that have been implemented;
- Update the mitigation strategies and the consequence and likelihood of ratings of risks occurring once mitigation strategies have been implemented, as required;
- Add new risks as they arise and close risks that have occurred or are no longer relevant to the Project;
- Table and discuss the Risk Register regularly at Executive Steering Committee meetings; and
- Update the risk allocation as required.

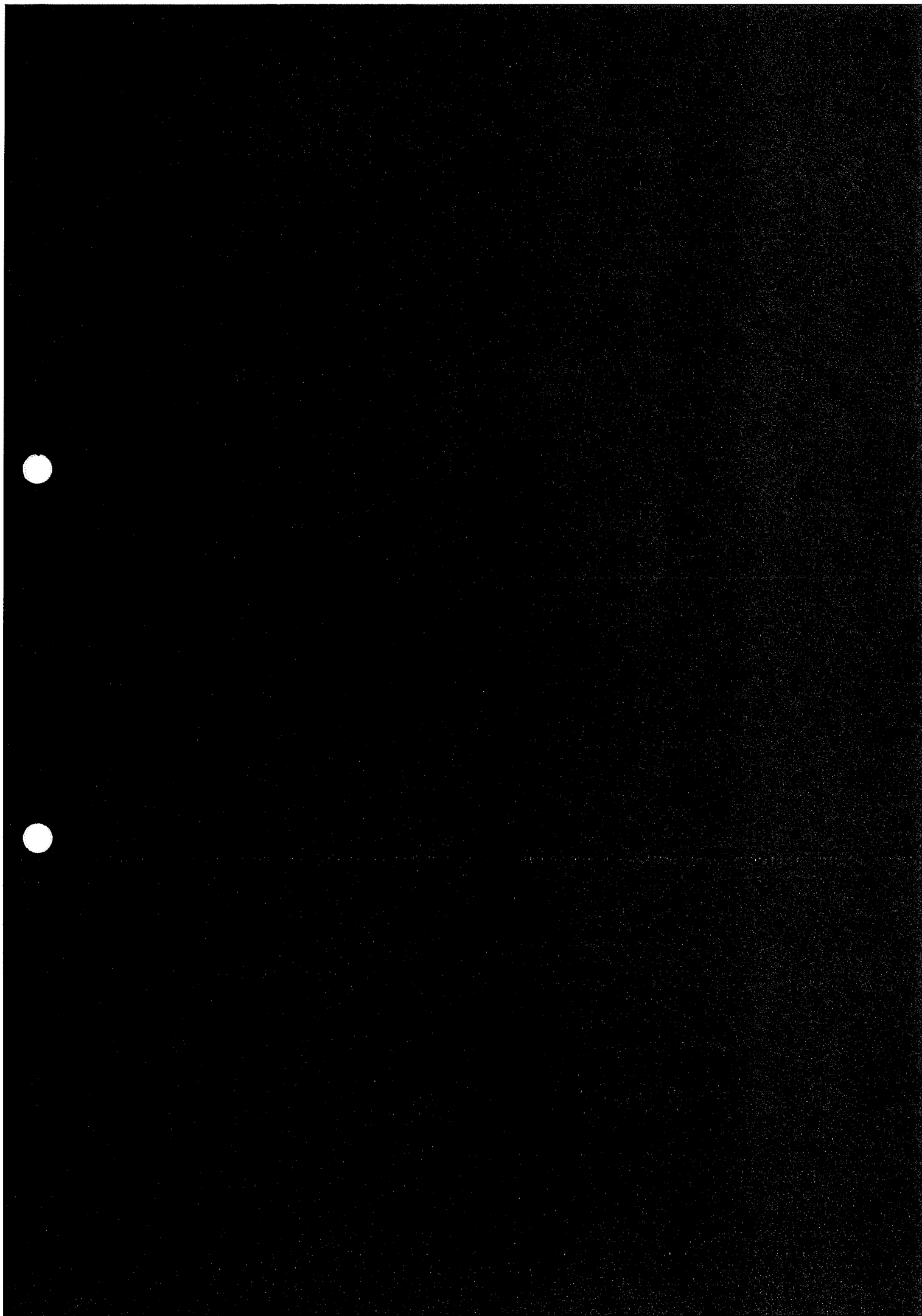


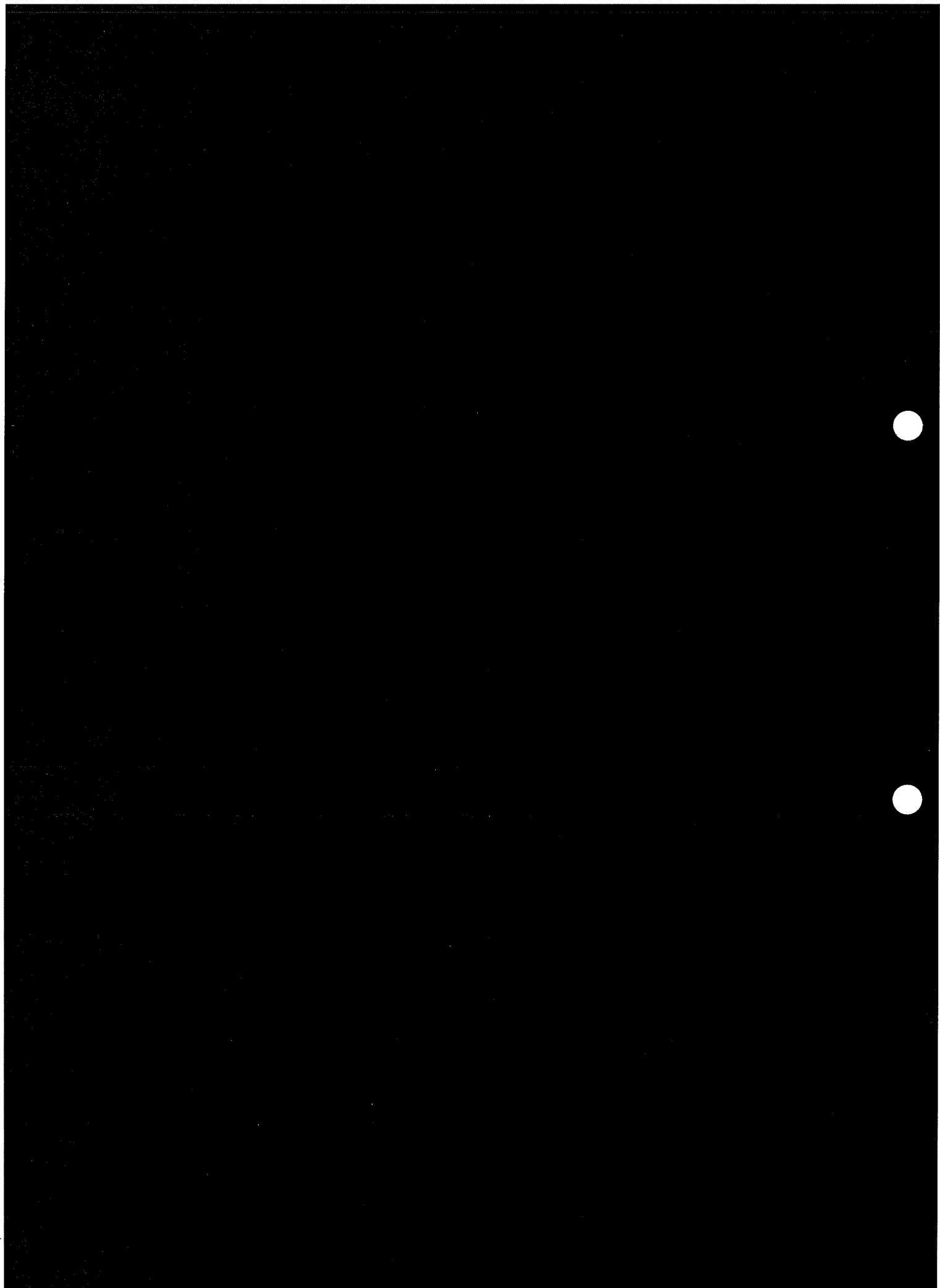




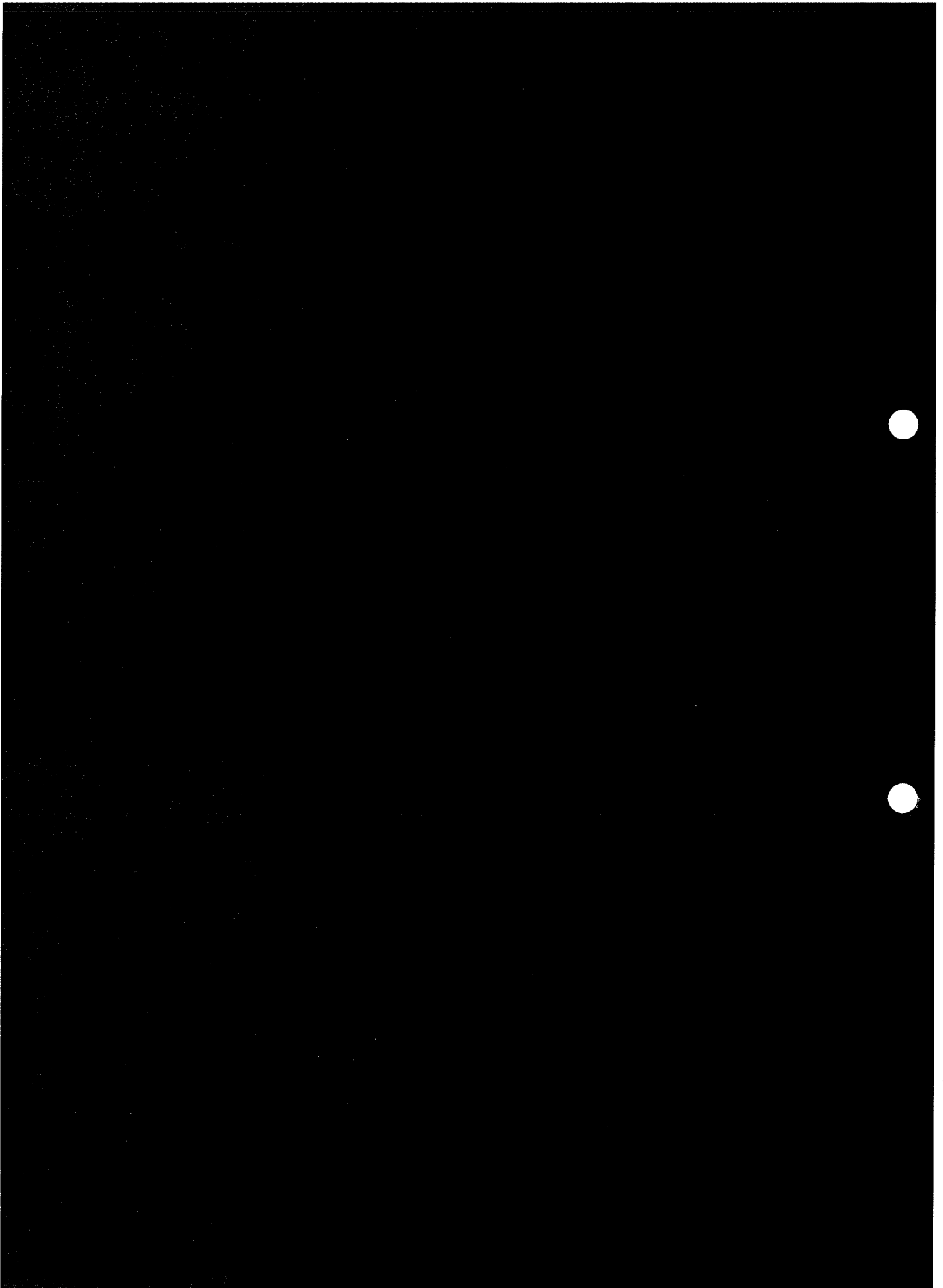


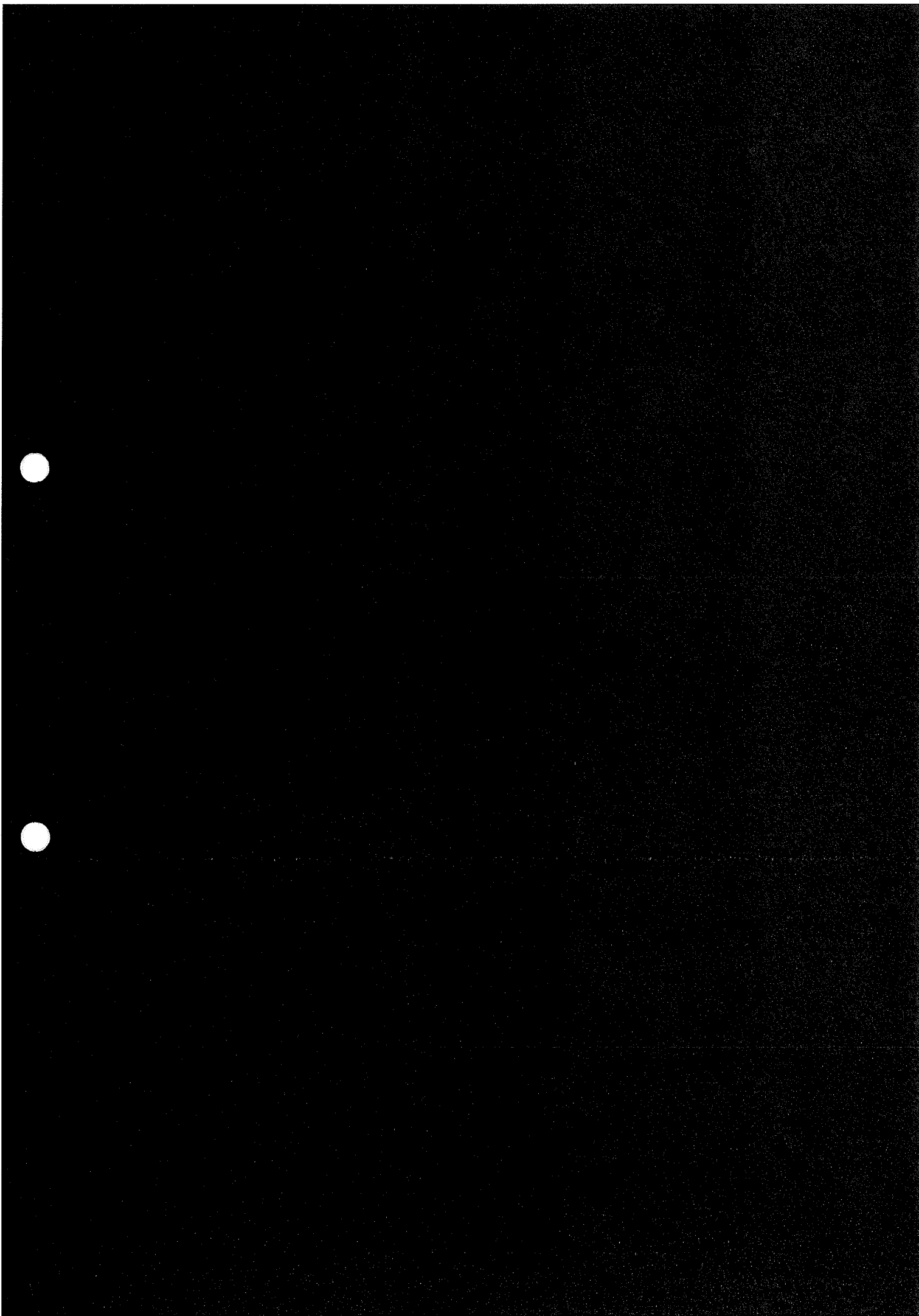


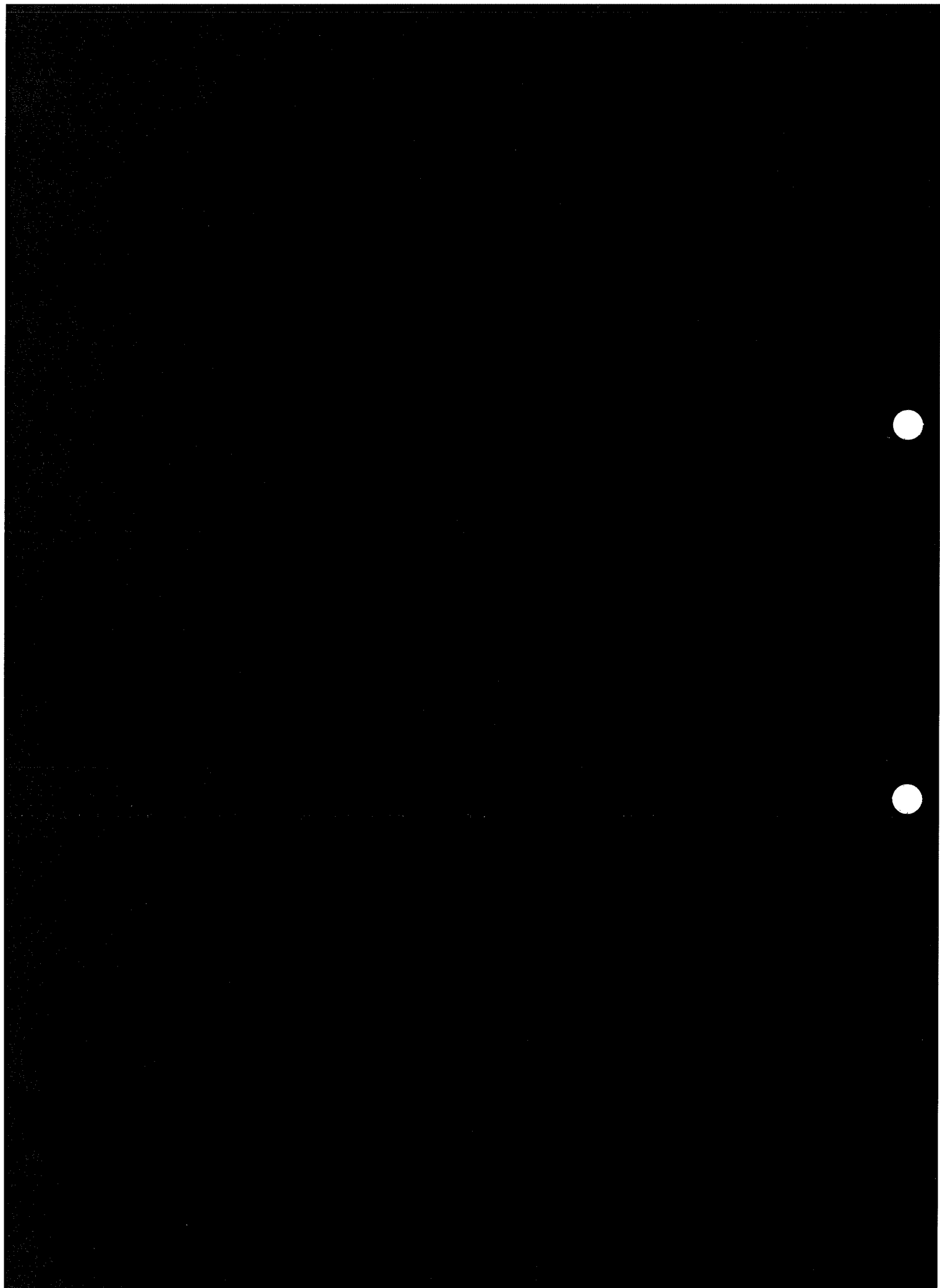




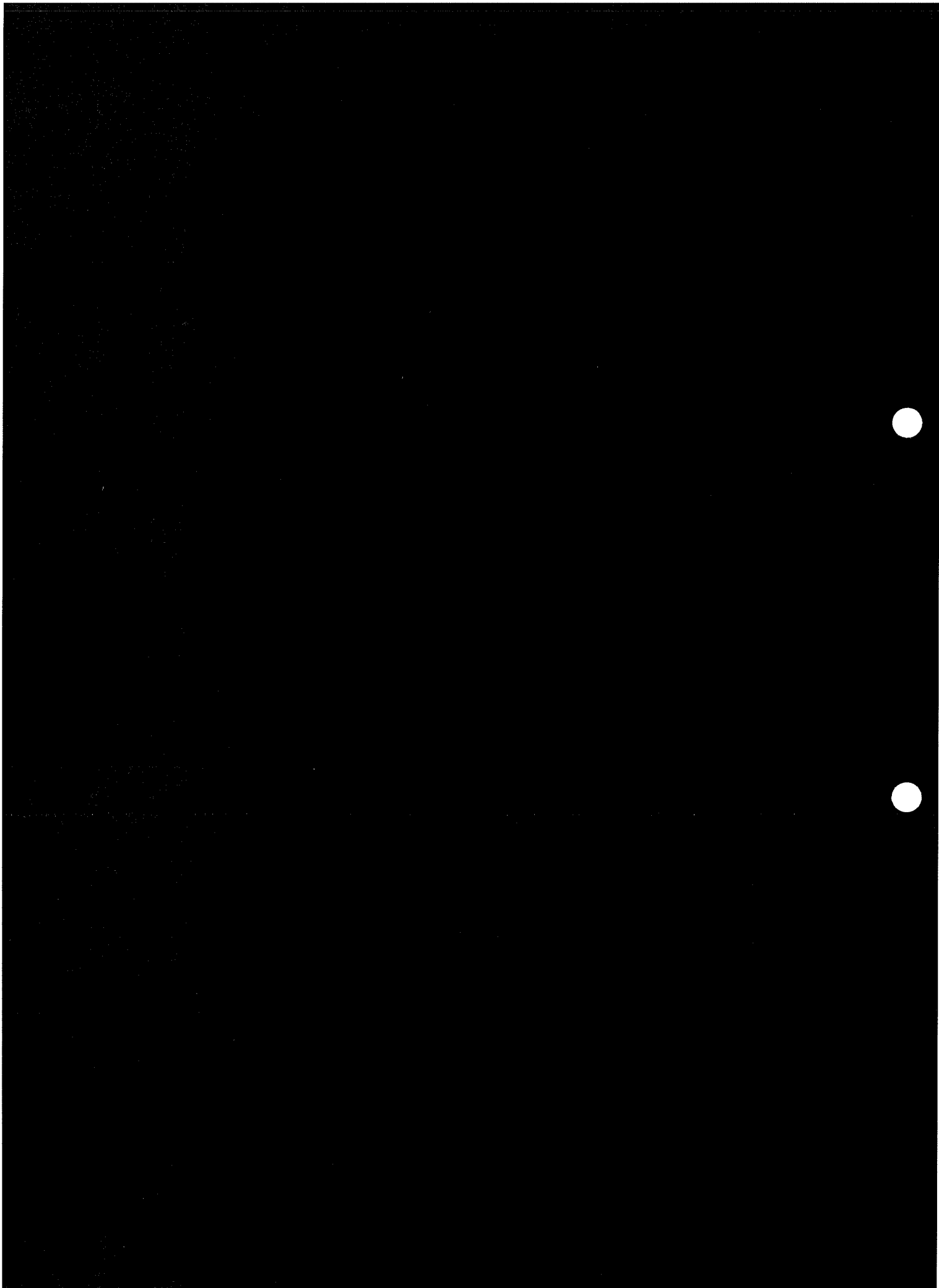


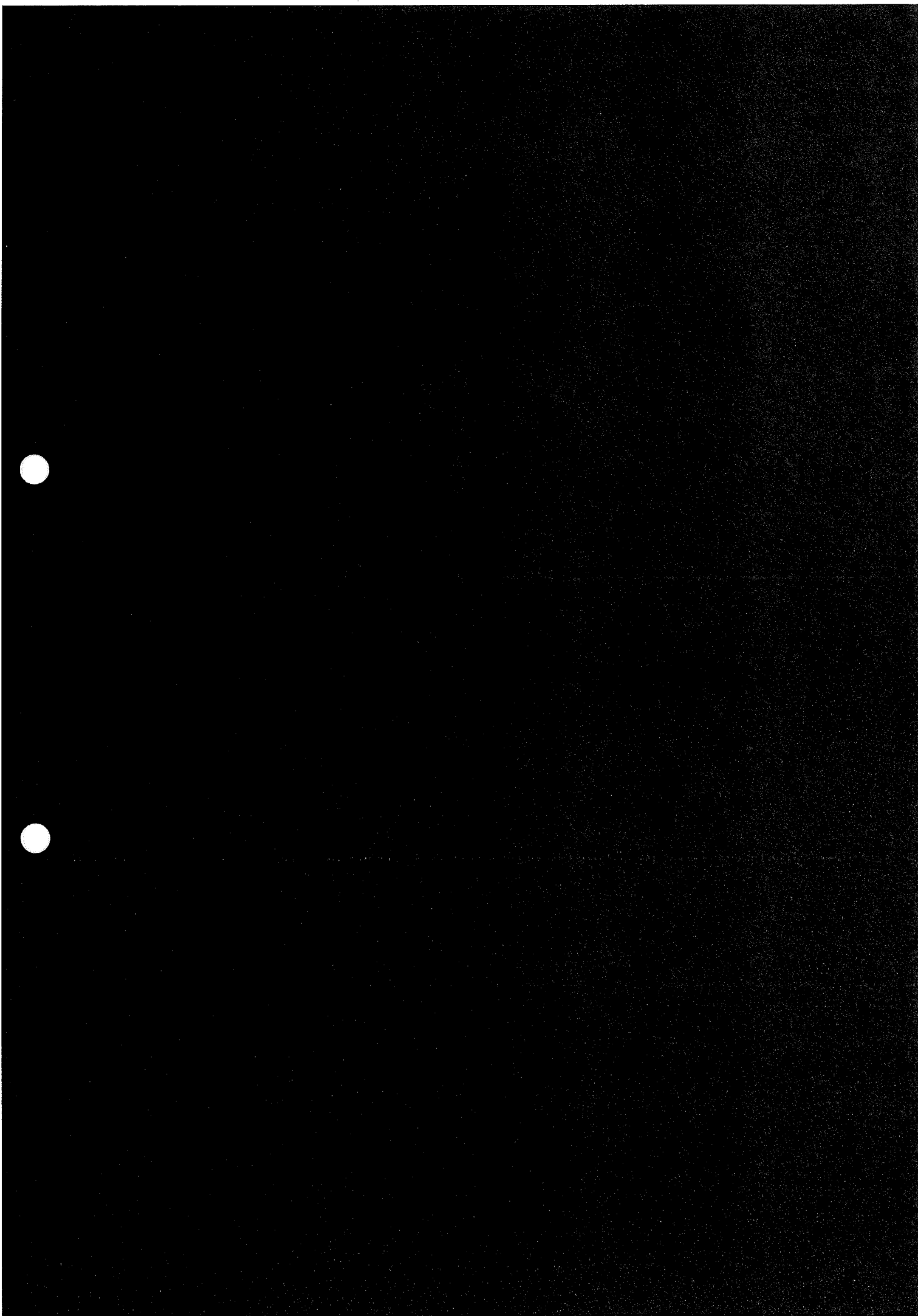


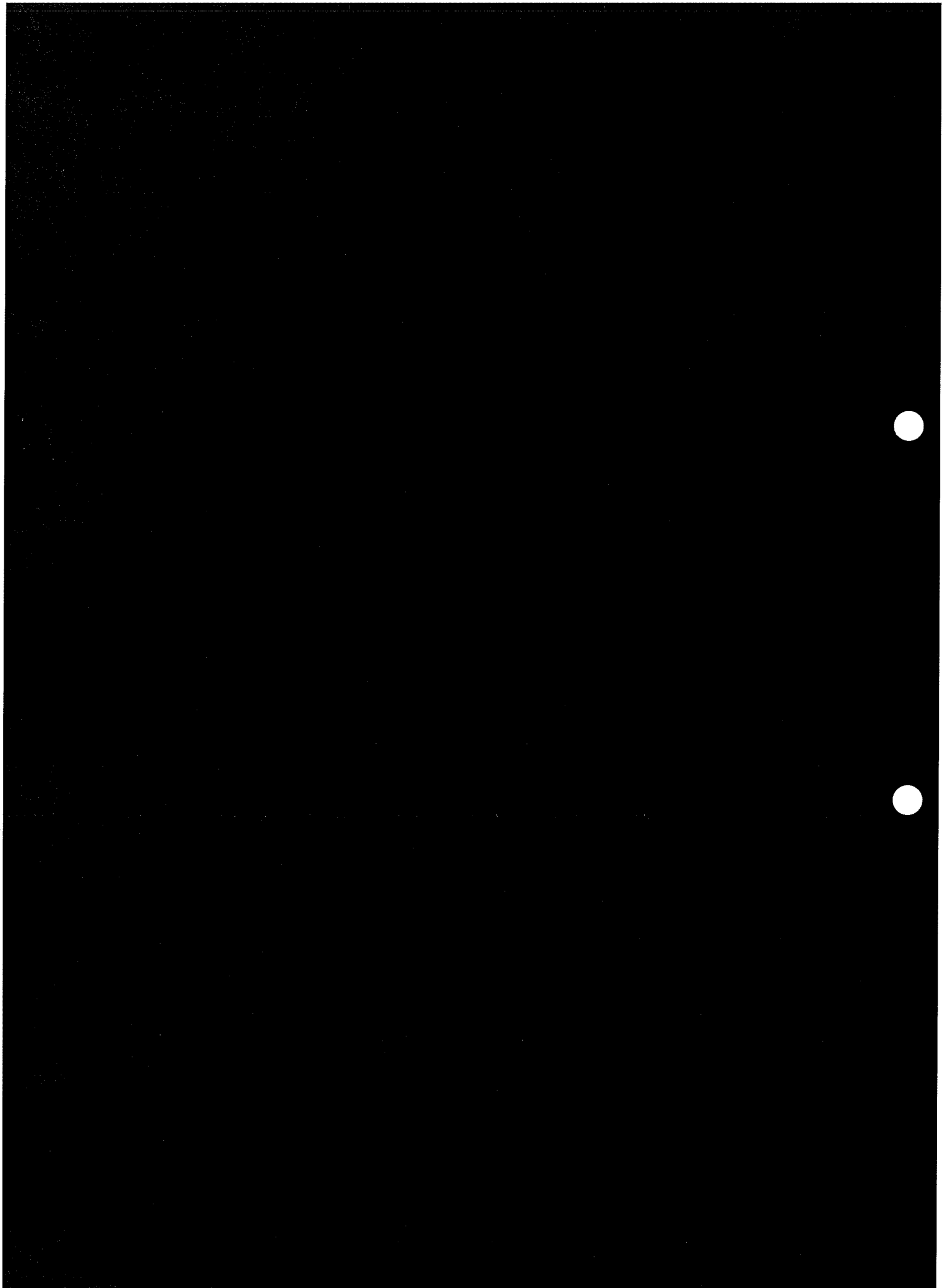




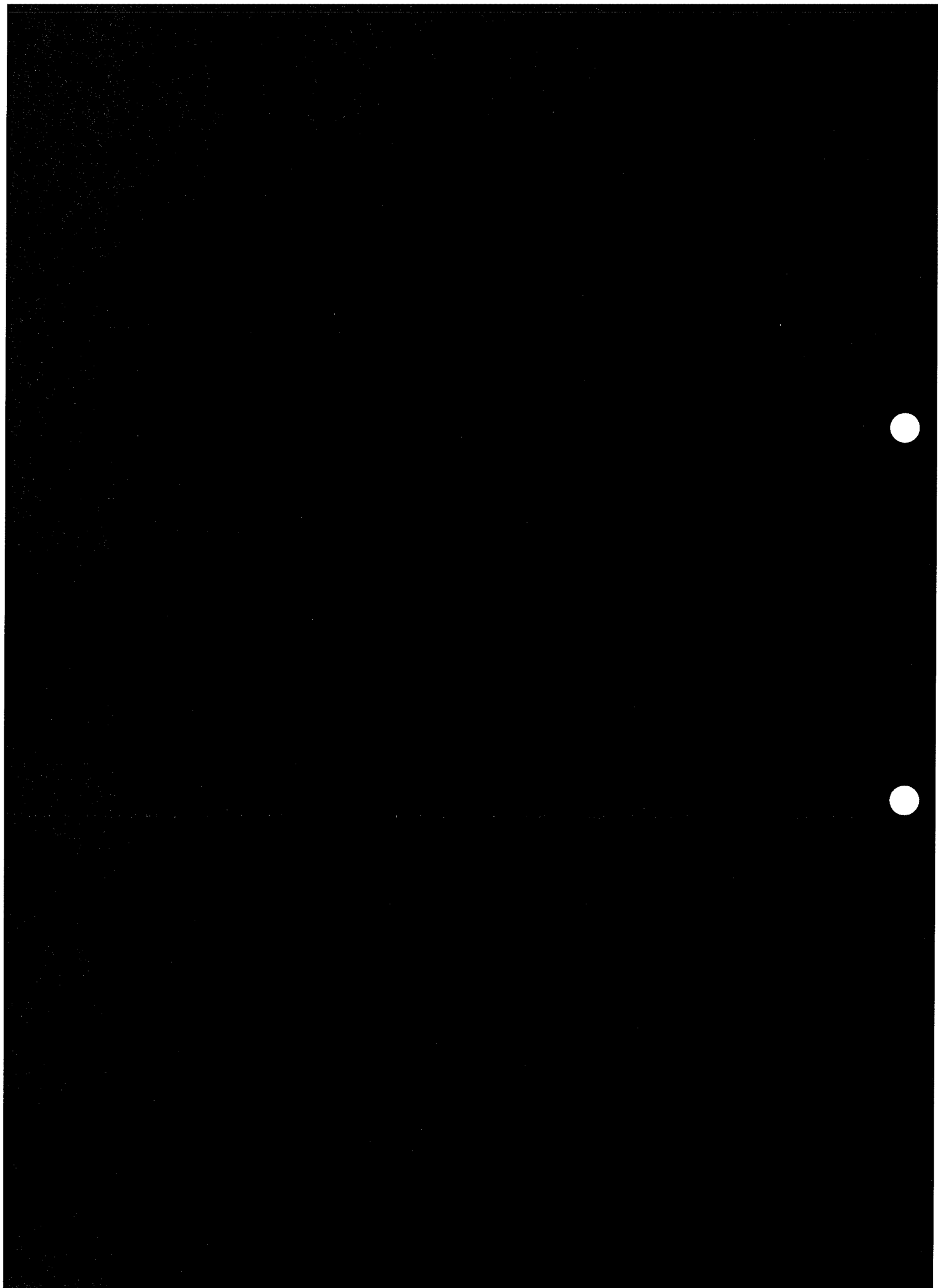




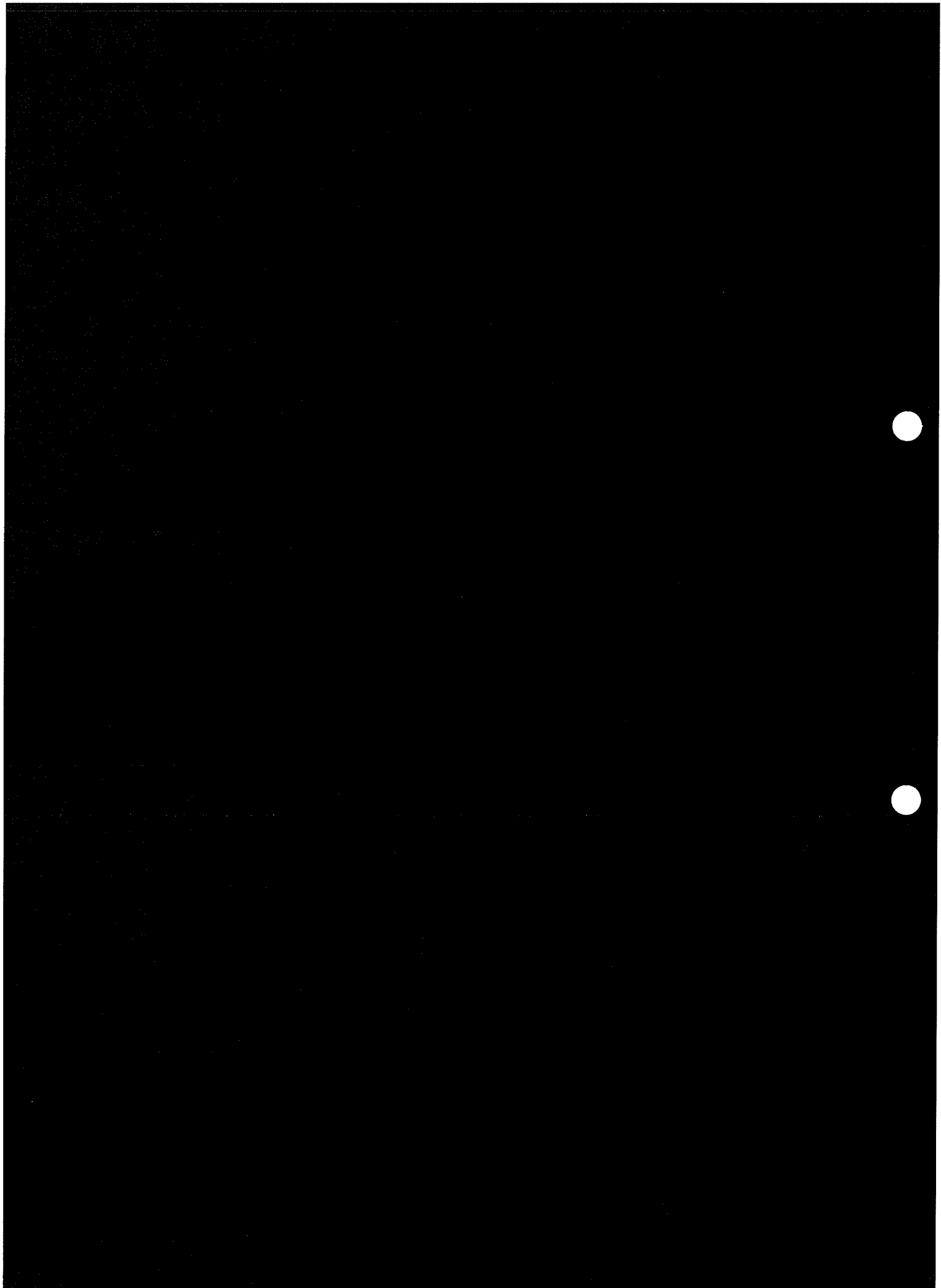




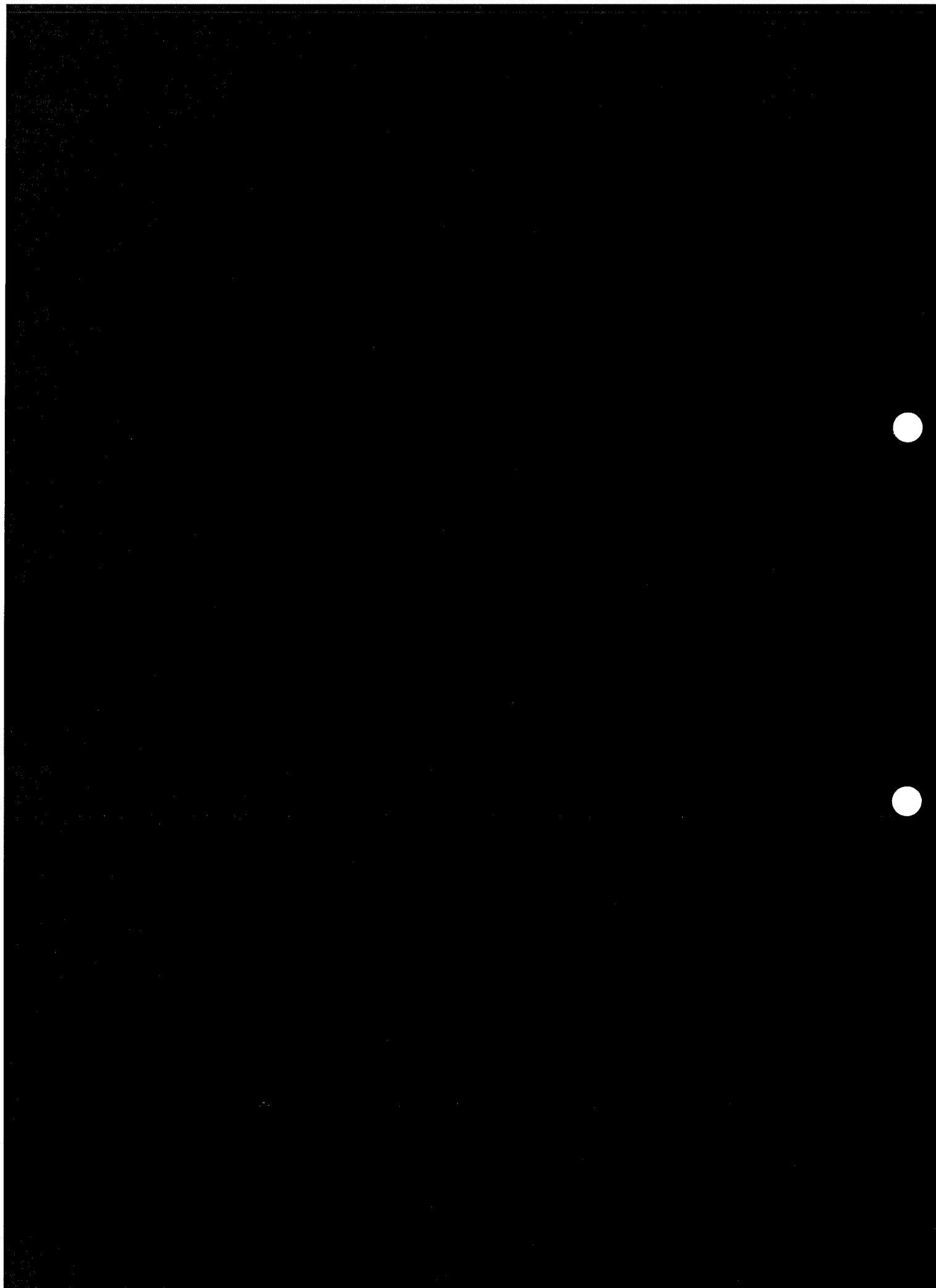




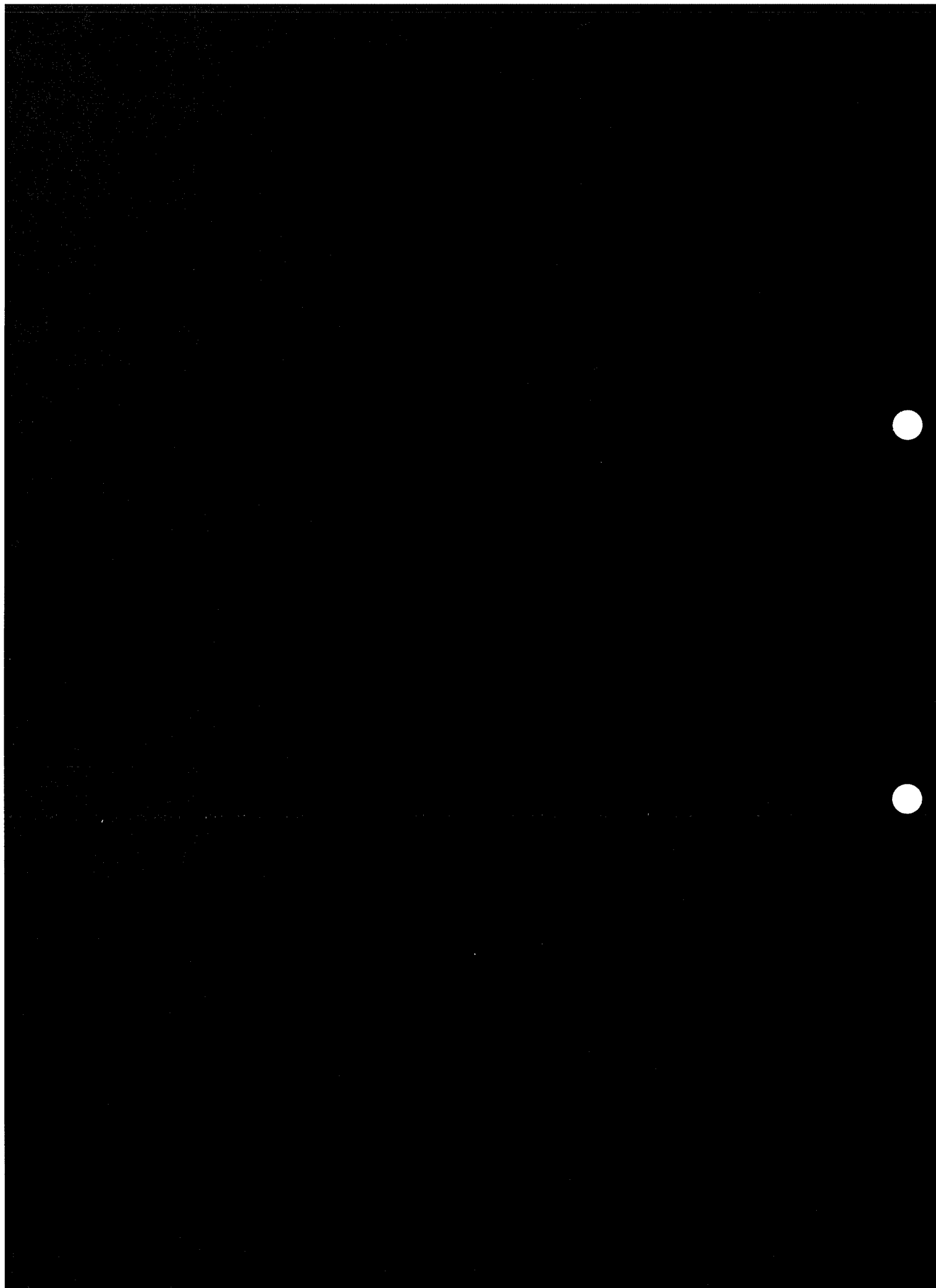




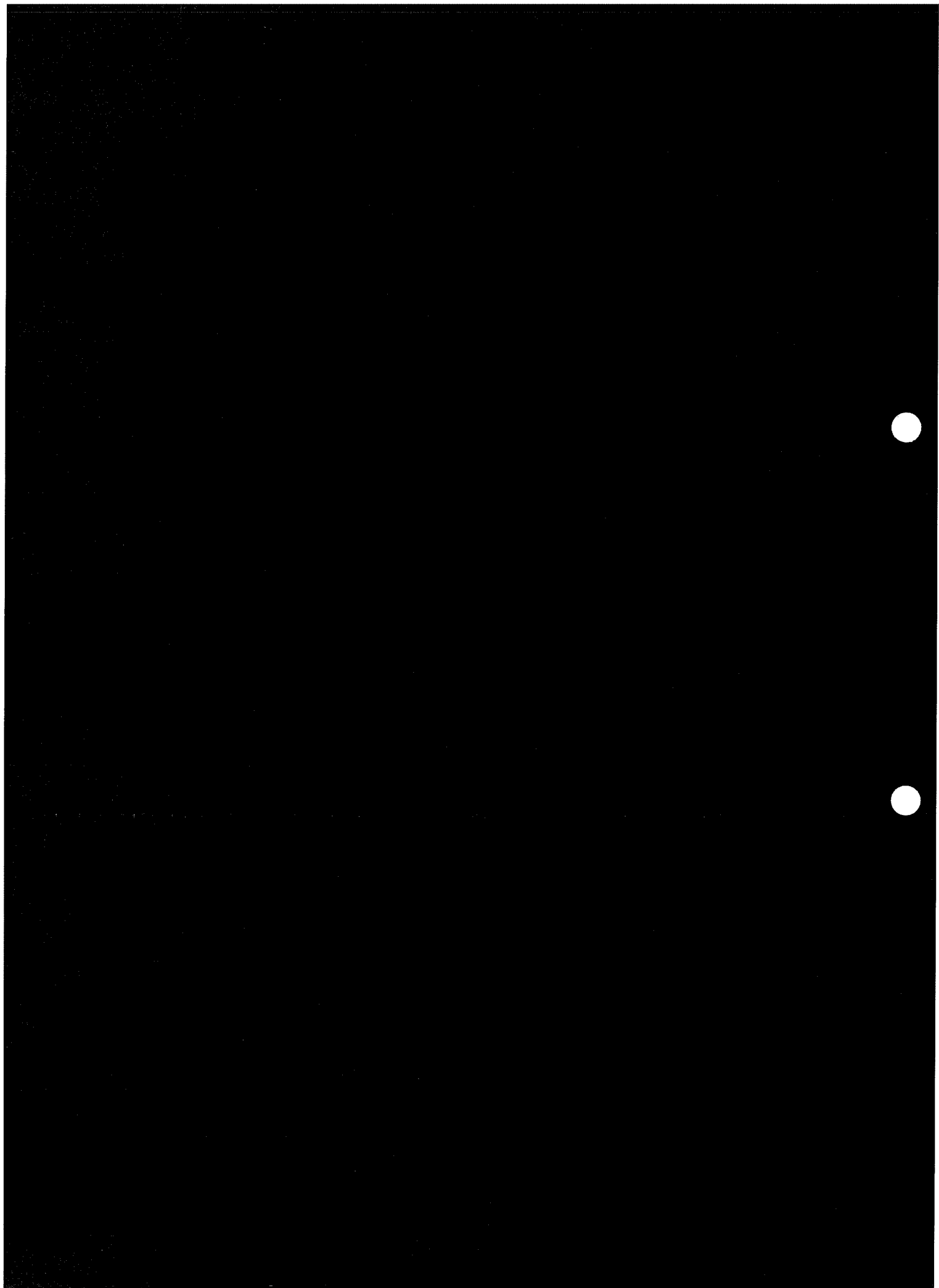


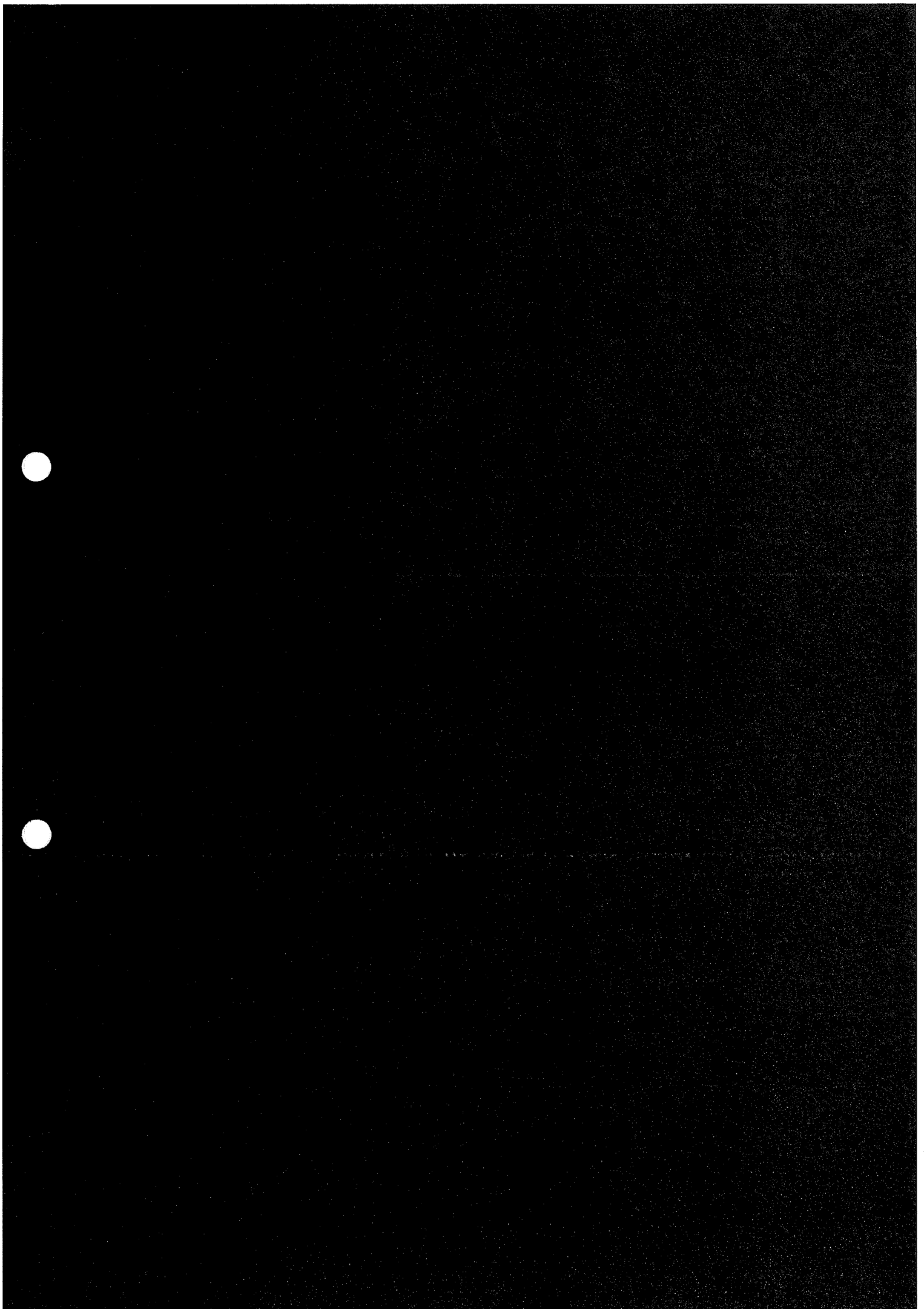


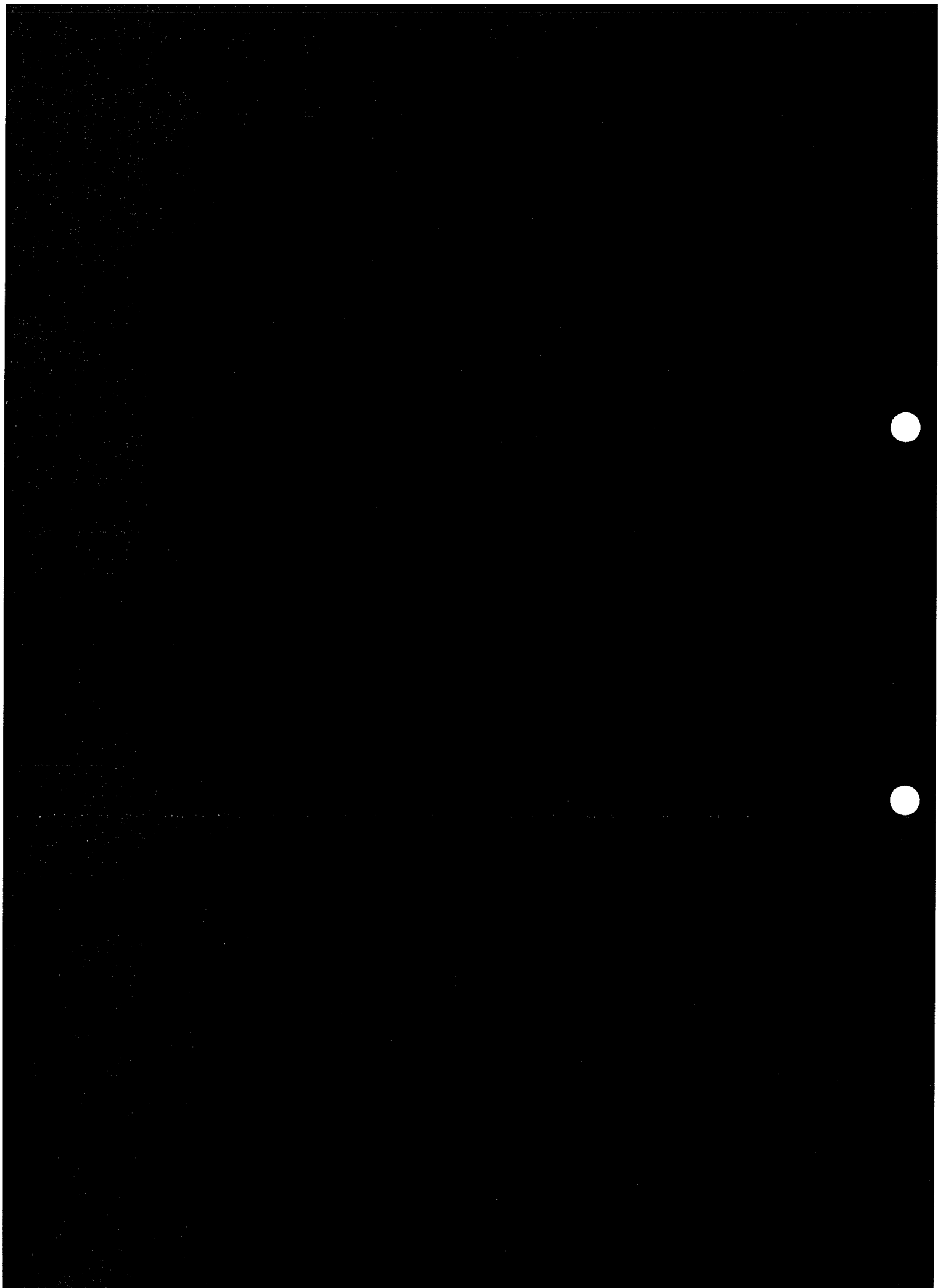




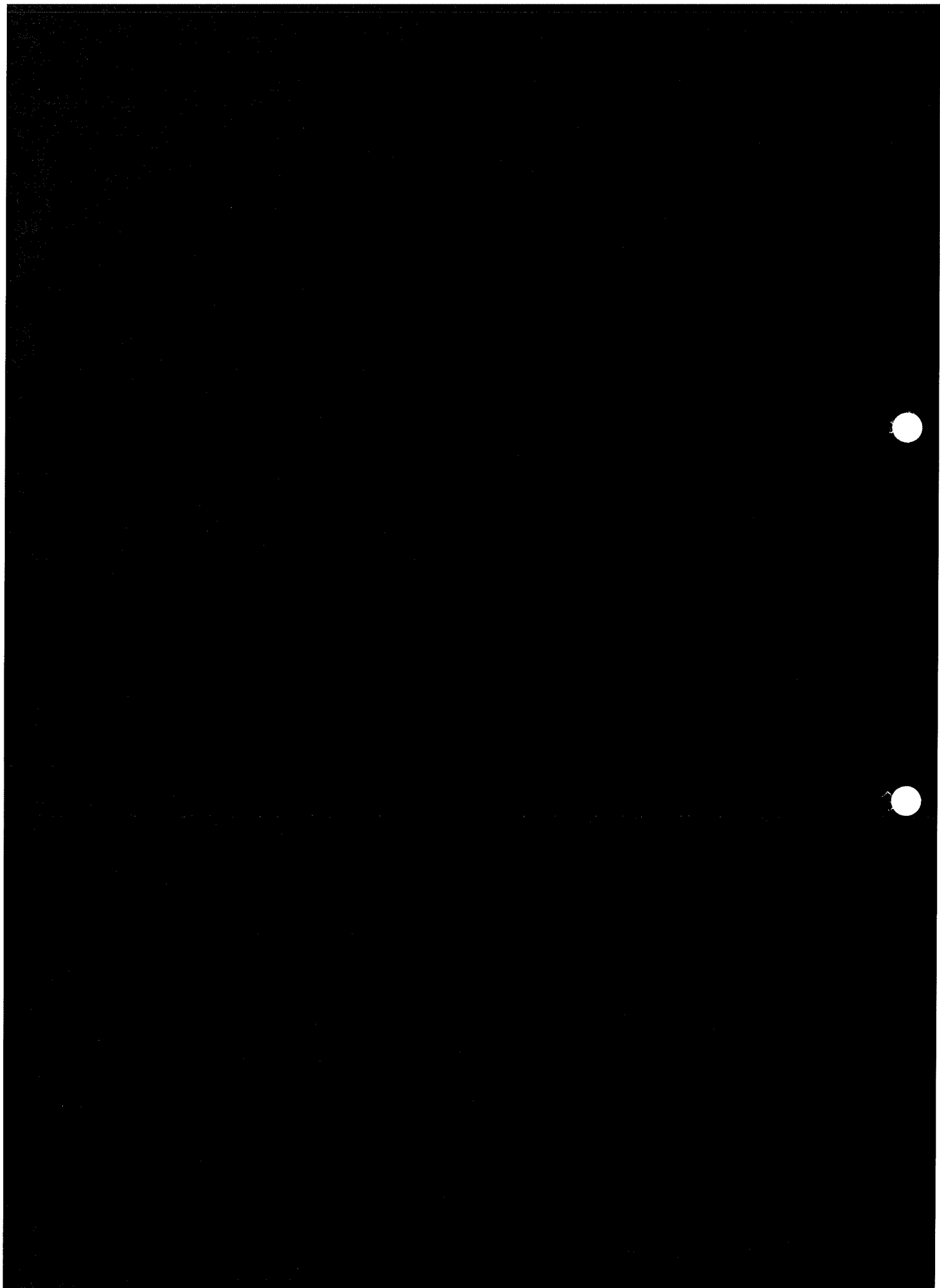






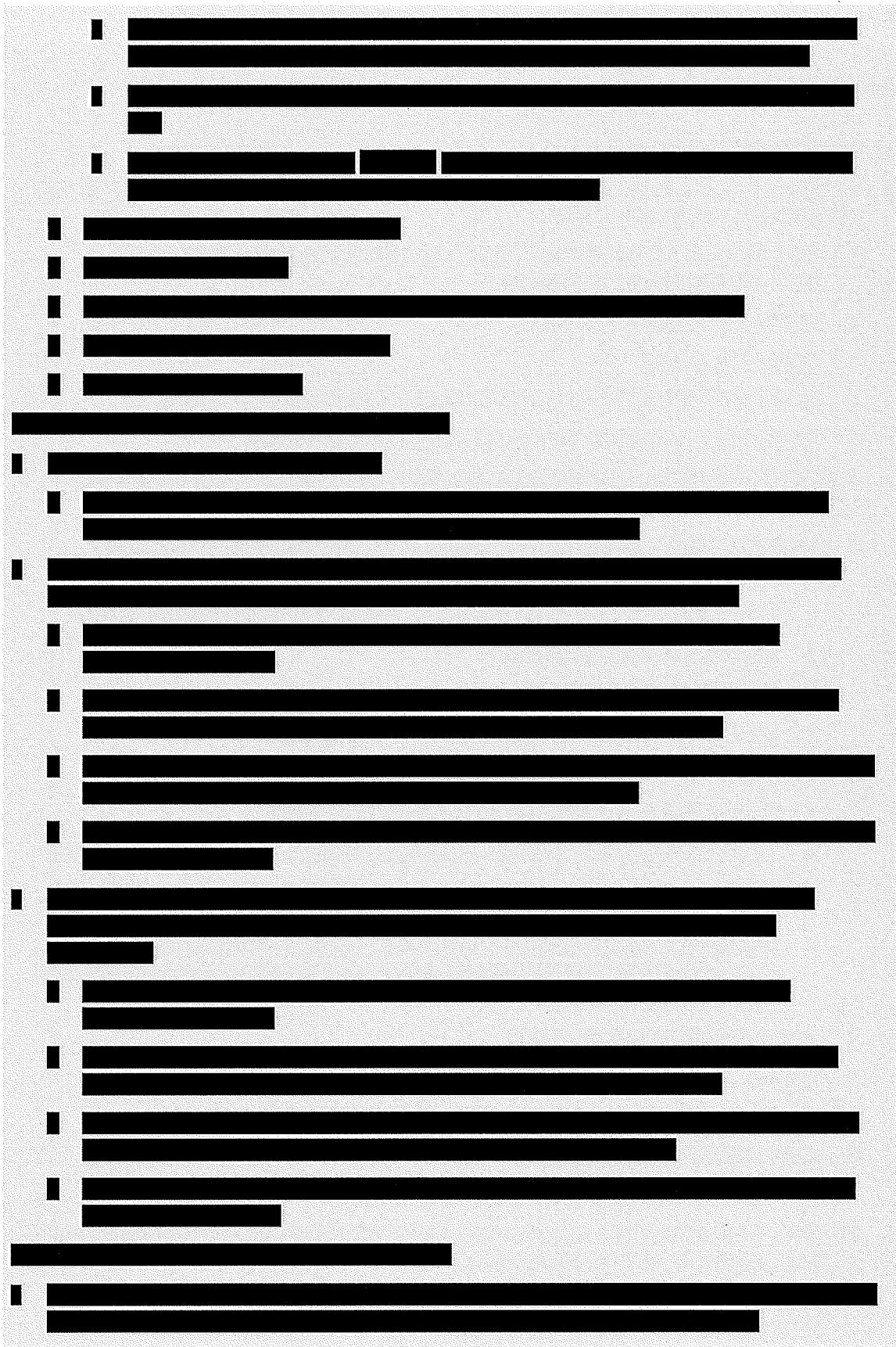






9. Financial Analysis

[illegible]



This chapter sets out the costs of the Project Case Options identified in Chapter 5 – Options Analysis to inform an assessment of the options and the funding request to government. Appendix Q1, Q2 and Q3 consist of ACT Treasury cost templates for options 1, 2 and 3 respectively.

Costs in this chapter have been separated by funding arrangements, that is:

- **Indicative Project Costs** – Costs in which ACTHD has not yet sought funding but relates to key aspects of future project costs. Understanding indicative costs allows ACT Government to be more informed when making project decisions. These costs include CAPEX, OPEX, and contingencies. Appendix O1 and O2 provides detailed capital costs and cashflows.
- **Funding Related Costs** – Costs in which ACT Health will seek direct funding from the Government. These costs include ongoing planning and development costs to finalise feasibility assessments and the concept design for the preferred option including alignment with the NH planning. Appendix P provides detailed annual cashflows.

Cost estimates for Option 1 (Base Case – Do Minimum), Option 2 (Replace and Upgrade) and Option 3 (Capacity to Meet Future Demand) have been calculated as incremental to the status quo. These costs have been developed based on Cost Plan B (as provided on 12 February 2024).

Please note that costs presented in this chapter are an estimate only. Costs are based on the SOA for the new PCSS Building and the new Inpatients and Outpatients Building (December 2023 version).

In general, changes to the project scope, cost allocation and timing for the Project's delivery are likely to impact on the total capital cost estimate outlined in this Business Case. WoL costs will be impacted by actual demand and activity for the services in the new PCSS Building and the new Inpatient and Outpatient Building.

Whilst a significant amount of work has been undertaken with ACT Government's cost advisor to estimate total capital cost, ultimately it is the market that will determine the cost of the Project through a competitive process. This cost will be a function of many factors, including:

- The final project scope and the ACT Government's project requirements during the procurement process;
- Market capacity and competitive tension in the bidding process, noting the significant pipeline of health infrastructure projects in planning, procurement, and delivery;
- The delivery model selected for the project's capital works;
- Costs and existing contractual arrangements (as relevant) for the delivery of operations and maintenance activities; and
- The ultimate allocation of risk between parties and the realisation (or otherwise) of such risks.

9.1 Indicative Project Capital Cost

9.1.1. Methodology

The estimated Project Capital Cost in delivering the Project was calculated in two stages:

- a) **Indicative capital cost estimate:** A cost estimation firm with experience preparing cost estimates for health projects in the Territory and around Australia was engaged to calculate a capital cost estimate. The cost estimate was based upon:
 - Preliminary SOA's developed by ACT Health and the Territory's design and technical advisors;

- b) Risk (contingency):** A risk (contingency) figure was generated by ACT Health's commercial advisors following:

- | | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |

Category	Item	Value
Category 1	Item 1.1	Value 1.1.1
	Item 1.2	Value 1.2.1
	Item 1.3	Value 1.3.1
Category 2	Item 2.1	Value 2.1.1
	Item 2.2	Value 2.2.1
Category 3	Item 3.1	Value 3.1.1
	Item 3.2	Value 3.2.1
	Item 3.3	Value 3.3.1
	Item 3.4	Value 3.4.1
Category 4	Item 4.1	Value 4.1.1
	Item 4.2	Value 4.2.1
	Item 4.3	Value 4.3.1
	Item 4.4	Value 4.4.1
	Item 4.5	Value 4.5.1
	Item 4.6	Value 4.6.1
	Item 4.7	Value 4.7.1
Category 5	Item 5.1	Value 5.1.1
	Item 5.2	Value 5.2.1
Category 6	Item 6.1	Value 6.1.1
	Item 6.2	Value 6.2.1
	Item 6.3	Value 6.3.1
	Item 6.4	Value 6.4.1

9.1.3. Project Capital Cost Estimate

The total indicative Project Capital Cost for CHMPP2 under Cost Plan B comprises:

- **Construction costs:** the indicative estimated cost to construct the new PCSS Building and the new Inpatient and Outpatient Building (under Cost Plan B), excluding contingency, agency, and other government costs;
- **Escalation:** based on the assumed project delivery timeline;
- **Contingency:** contingency at a P90 level; and
- **Planning and Development Resources:** the cost to recruit and operate a project team to manage and deliver the CHMPP2 project.

1. The first group of variables is the set of variables that are used to describe the individual's characteristics. These variables are: age, sex, education, income, and occupation. The second group of variables is the set of variables that are used to describe the individual's health status. These variables are: self-rated health, physical health, and mental health. The third group of variables is the set of variables that are used to describe the individual's social support. These variables are: social support, social network, and social capital. The fourth group of variables is the set of variables that are used to describe the individual's health behaviors. These variables are: smoking, drinking, and exercise. The fifth group of variables is the set of variables that are used to describe the individual's health outcomes. These variables are: mortality, morbidity, and quality of life.

- 1 [REDACTED]
- 2 [REDACTED]
- 3 [REDACTED]

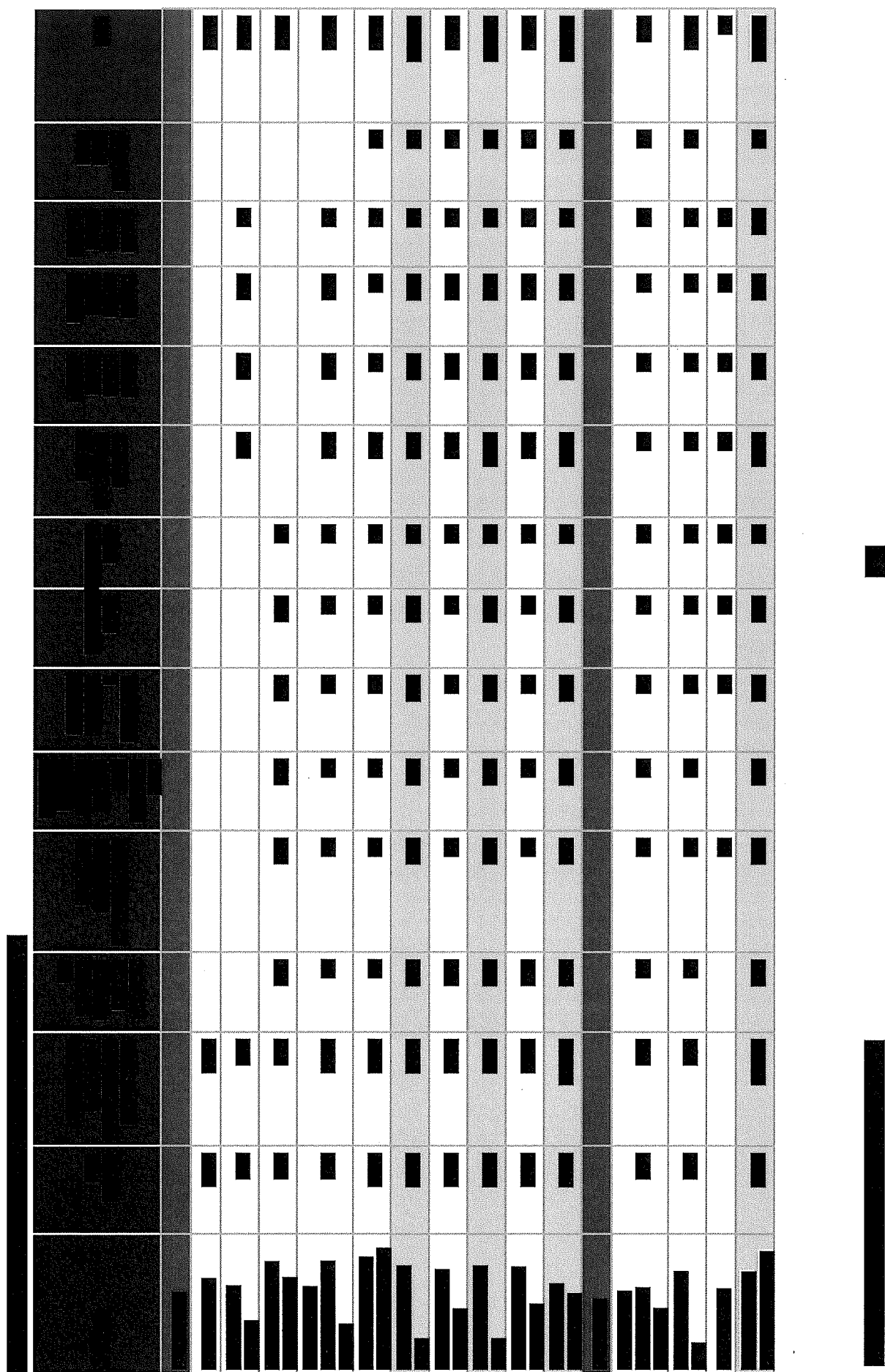
A summary of the total project capital cost under each option is outlined in Table 38, while the detailed breakdown of project capital cost by 'project' is outlined in Table 39, Table 40 and Table 41 for Options 1, 2 and 3 respectively.

Option 2 builds on the activities of Option 1 and involves the construction of the new PCSS Building and the new Inpatients and Outpatients Buildings. In addition, this option sees the implementation of stage 1 and 2 of the precinct energy node and the demolition and redevelopment of Building 4 into open space. Key observations of Option 2 includes:

- [REDACTED]
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
- [REDACTED]
 - [REDACTED]
 - [REDACTED]
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- [REDACTED]
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- [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
 - [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[illegible]

A breakdown of the project capital costs under Option 3 is presented in Table 41 below:



- [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
 - [REDACTED]
 - [REDACTED]
- [REDACTED]
[REDACTED]
- [REDACTED] [REDACTED] [REDACTED]
[REDACTED]
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- [REDACTED]
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- [REDACTED]
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- [REDACTED]

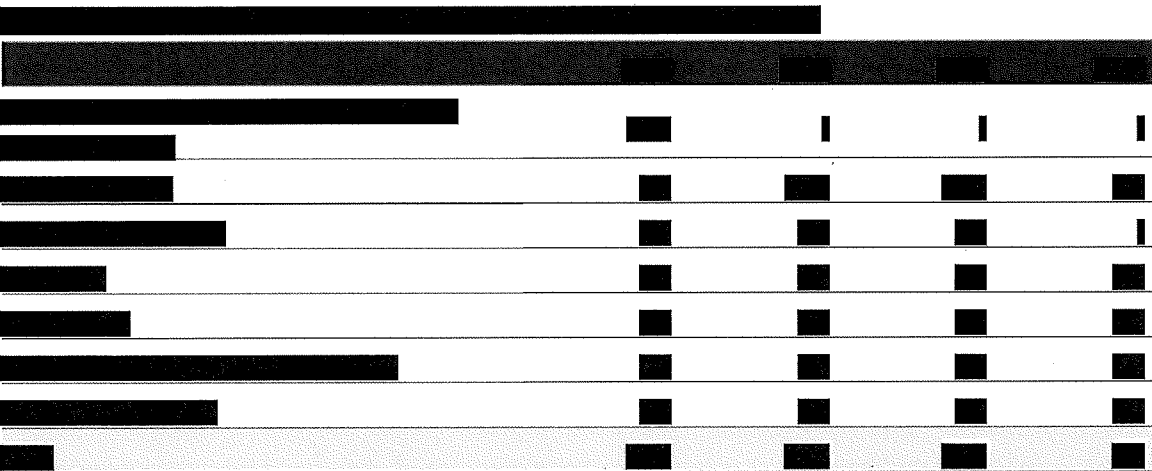
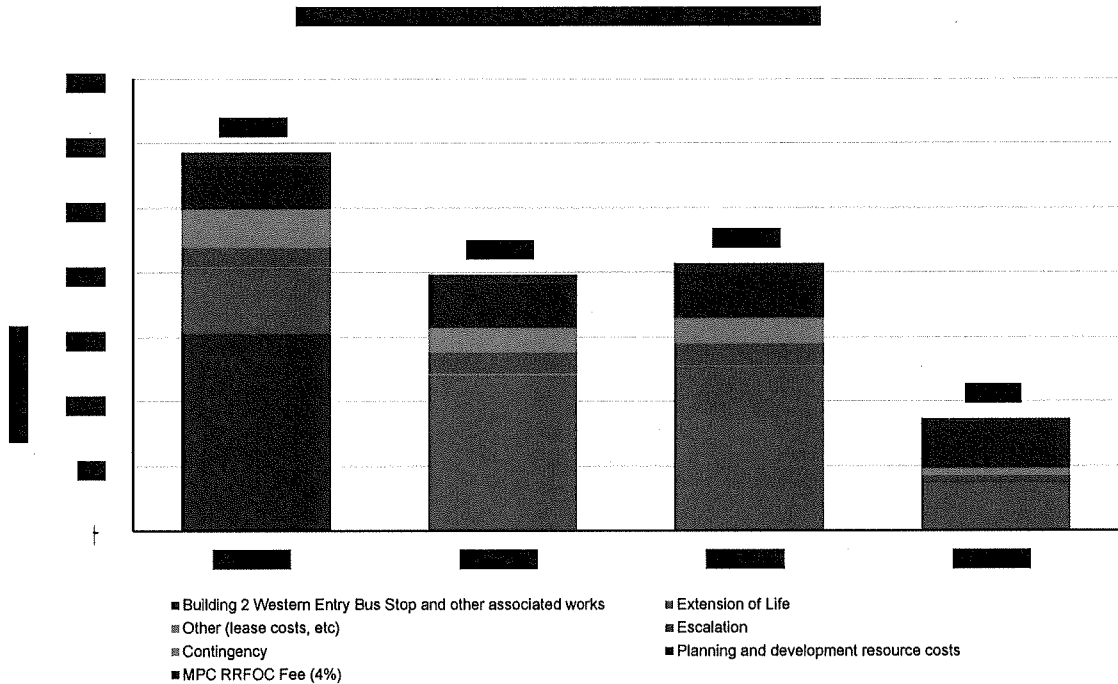
This section provides the annual breakdown of capital costs under each option. Assumed commencement and completion dates for each project as well as the indicative cost profile are in line with Cost Plan B.

Capital costs are assumed to commence in February 2024 (with design and planning activities associated with the Building 2 Western Entry Bus Stop and other associated works). Final works for all projects are expected to be completed by February 2028. The assumed project timings are presented in Table 42 below:

Cost item	Design Commencement	Design Completion	Construction Commencement	Construction Completion
Building 2 Western Entry Bus Stop and other associated works	February 2024	June 2024	July 2024	March 2025
Extension of Life	March 2024	December 2024	January 2025	January 2028

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Figure 59: Net Capital Costs – Option 1 (\$m, P90, nominal)



Analysis of the above cost profile highlights the following:

- Capital costs will peak in FY25 due to the completion of construction works for the Building 2 Western Entry Bus Stop and other associated works and the commencement of extension of life activities [REDACTED]
- Extension of life activities are inclusive of Façade Works and a Business Case to scope activities that are required beyond the Façade Works.
- The Business Case activities are expected to commence in March 2024. *Note: It is understood that official funding is likely to be released in Jul-24 (beginning of FY25) and ACTHD will manage the interim cost to progress critical scope components from Mar-24 to Jun-24.*
- Façade Works are expected to commence in January 2025, and be complete in February 2028.

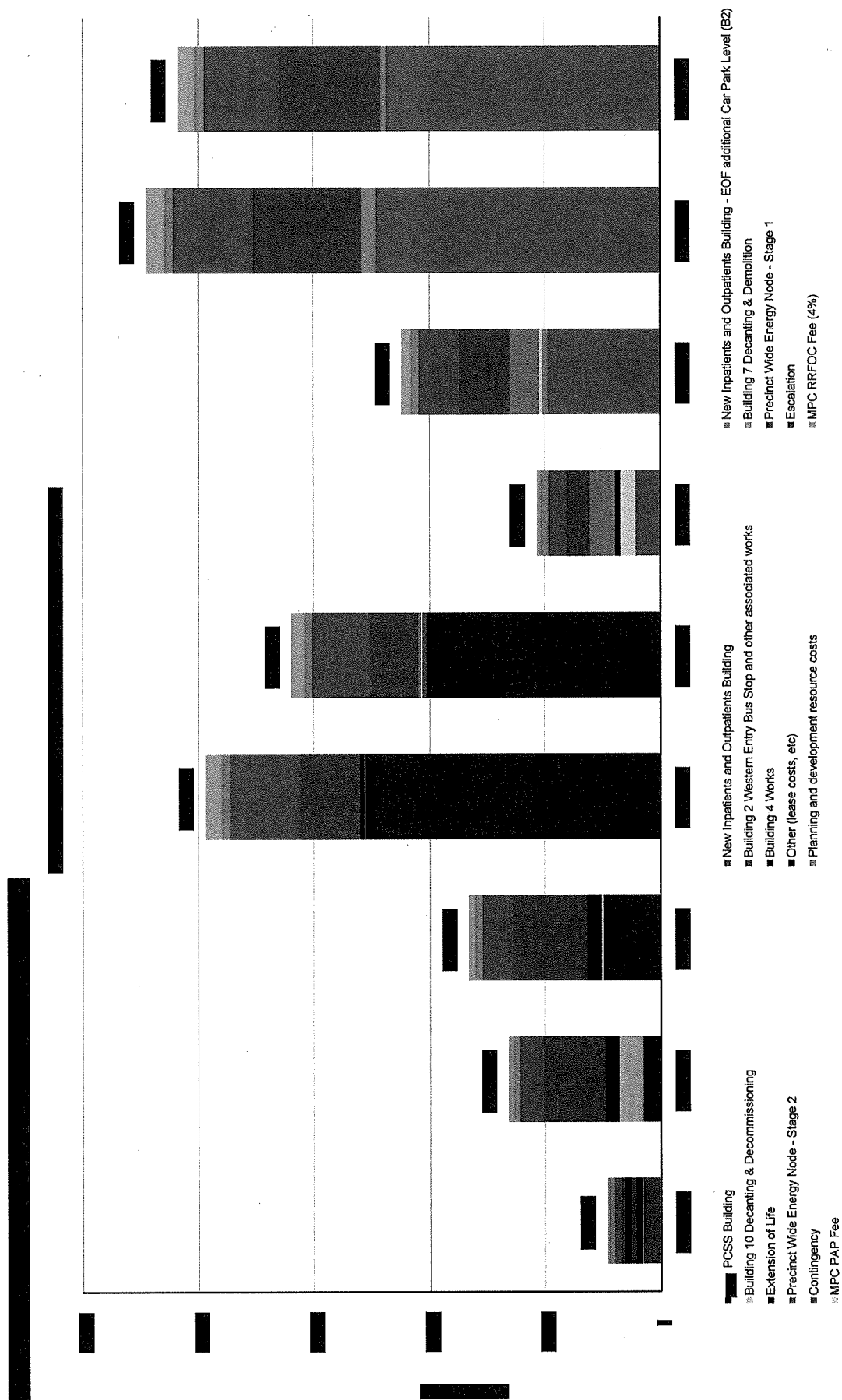
9.1.4.2. Option 2: Replace and Upgrade

Capital costs under Option 2 have been assumed to commence in February 2024 (with design and planning activities associated with the Building 2 Western Entry Bus Stop and other associated works). Final works for all projects are expected to complete by February 2033, with the completion of the new Inpatient and Outpatients Building. The assumed project timings are presented in Table 44 below:

Table 44: Option 2 Project Commencement and Completion Dates

Cost item	Design Commencement	Design Completion	Construction Commencement	Construction Completion
New PCSS Building	July 2025	October 2027	November 2027	September 2029
New Inpatients and Outpatients Building	August 2029	February 2031	March 2031	January 2033
New Inpatients and Outpatients Building - additional Car Park Level (B2)	August 2029	February 2031	March 2031	January 2033
Building 10 Decanting & Decommissioning	December 2027	June 2029	July 2029	January 2033
Building 2 Western Entry Bus Stop and other associated works	February 2024	June 2024	July 2024	March 2025
Building 7 Decanting & Demolition	June 2024	December 2024	January 2025	January 2026
Extension of Life	March 2024	December 2024	January 2025	January 2028
Building 4 Works	February 2028	July 2029	August 2029	July 2030
Precinct Wide Energy Node - Stage 1	June 2024	December 2025	January 2026	June 2026
Precinct Wide Energy Node - Stage 2	June 2028	December 2029	January 2030	June 2030
Other (lease costs, etc)	December 2023	January 2024	March 2024	January 2025

Figure 60 and Table 45 provides an indicative capital cost profile for Option 2 (Replace and Upgrade).



Analysis of the above cost profile highlights the following:

- Capital costs will peak in FY28 and FY32 due to the construction works for the new PCSS Building and the new Inpatient and Outpatients Building. [REDACTED]
- For the new PCSS Building, the following observations are noted:
 - Construction work commences in November 2027 with completion in September 2029.
 - Works on FFE, as well as Information, Technology and Communication are expected to commence in April 2029, completing in September 2029.
- For the new Inpatients and Outpatients Building, the following observations are noted:
 - Construction work commences in March 2031 with completion in January 2033.
 - Works on FFE as well as Information, Technology and Communication are expected to commence in August 2032, completing in January 2033.

Option 2 is the preferred solution for CHMPP2. Funding for Option 2 under this Business Case has been modelled to commence in FY24-25. [REDACTED]

[REDACTED]. This includes funding for:

- Undertaking a further round of feasibility assessment to progress the new PCSS and Inpatients and Outpatients Buildings conceptual designs from a Proof-of-Concept to a Preliminary Sketch Plan (PSP) level;
- Top-up funding for Building 2 Western Entry Bus Stop and other associated works;
- Extension of Life works (including critical façade remediation works and a feasibility study);
- Building 7 Decanting and Demolition; and
- Precinct Wide Energy Node – Stage 1 works.

Table 46 summarises the total CHMPP2 funding profile for Option 2, while Table 47 provides an annual breakdown of funds to be committed and released now and Table 48 provides an annual breakdown of funds to be released at a later date.

[REDACTED]	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

It is understood that official funding is likely to be released in Jul-24 (beginning of FY25) and ACTHD will manage the interim cost to progress two critical scope components from Mar-24 to Jun-24, including:

- Procurement of consultants to undertake a further round of feasibility assessment to progress the new PCSS and Inpatients and Outpatients Buildings conceptual designs from a Proof-of-Concept to a Preliminary Sketch Plan (PSP) level;
- Top-up funding for Building 2 Western Entry Bus Stop and other associated works (as part of the ongoing CHE project).

An order of magnitude estimate indicates that ACTHD will require ~\$855,000 to continue these two critical activities.

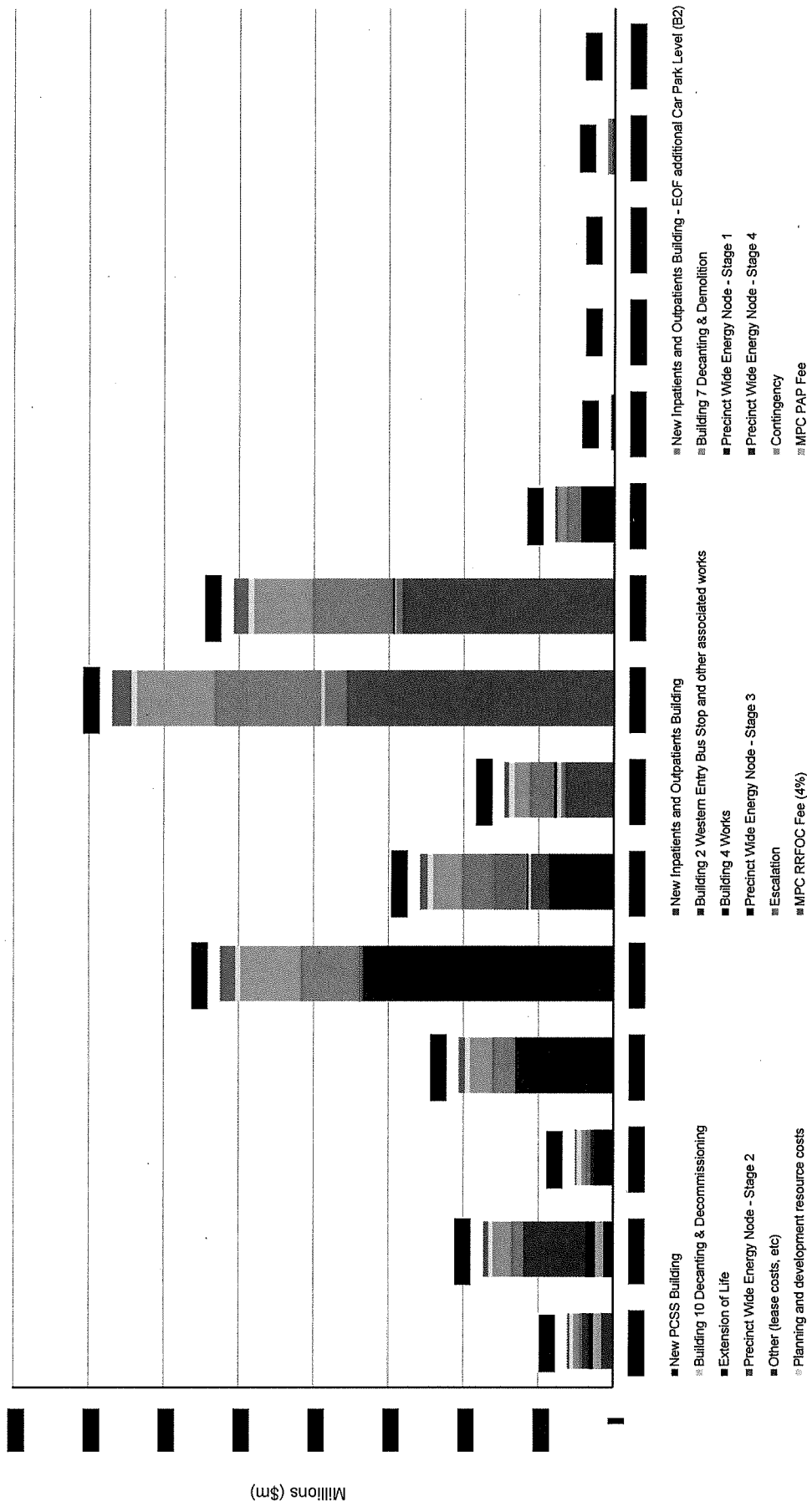
9.1.4.3. Option 3: Capacity to meet future demand

Capital costs under Option 3 have been assumed to commence in February 2024 (with design and planning activities associated with the Building 2 Western Entry Bus Stop and other associated works). Final works for all projects are expected to wrap-up by July 2038 with the completion of Stage 4 of the Precinct Energy Node. The assumed project timings are presented in Table 49 below:

Table 49: Option 3 Project Commencement and Completion Dates

Cost item	Design Commencement	Design Completion	Construction Commencement	Construction Completion
New PCSS Building	July 2025	October 2027	November 2027	September 2029
New Inpatients and Outpatients Building	August 2029	February 2031	March 2031	January 2033
New Inpatients and Outpatients Building - EOF additional Car Park Level (B2)	August 2029	February 2031	March 2031	January 2033
Building 10 Decanting & Decommissioning	December 2027	June 2029	July 2029	January 2033
Building 2 Western Entry Bus Stop and other associated works	February 2024	June 2024	July 2024	March 2025
Building 7 Decanting & Demolition	June 2024	December 2024	January 2025	January 2026
Extension of Life	March 2024	December 2024	January 2025	January 2028
Building 4 Works	August 2028	January 2030	February 2030	January 2031
Precinct Wide Energy Node - Stage 1	June 2024	December 2025	January 2026	June 2026
Precinct Wide Energy Node - Stage 2	June 2028	December 2029	January 2030	June 2030
Precinct Wide Energy Node - Stage 3	June 2032	December 2033	January 2034	June 2034
Precinct Wide Energy Node - Stage 4	June 2036	December 2037	January 2038	July 2038
Other (lease costs, etc)	December 2023	January 2024	March 2024	January 2025

Figure 61 and Table 50 provides an indicative capital cost profile for Option 3 (Growth).



Analysis of the above cost profile highlights the following:

- Capital costs will peak in FY29 and FY32 due to the construction works for the new PCSS Building and the new Inpatient and Outpatients Building. [REDACTED]
- The construction timeframes for the new PCSS Building and the new Inpatients and Outpatients Building are consistent between Options 2 and 3.
- Capital costs under Option 3 extend beyond FY33, out to FY39 due to the implementation of Stages 3 and 4 of the Precinct Energy Node.

9.1.5. Project Capital Costs – Other Costs

The ACT Government will incur project related costs which will not be included in the contracted amounts. These have been classified as 'other costs'.

In this regard, the ACT Government will incur costs during the procurement, construction and operational phases of the project which are not passed to third parties (for example costs associated with independently certifying construction works). Actual ACT Government costs will be:

- In part influenced by the commercial principles adopted during the procurement process and in accordance with the delivery approach.
- Subject to the realisation or otherwise of risk events during the procurement and delivery process.
- A function of ordinary budget discussions from year to year. The apportionment of costs as either capital or operating expenditure is subject to future assessment.
- Planning and Development Resources fee has been included comprising ACT Health and CHS resources to finalise the planning and commissioning of the new buildings. This is discussed in greater detail Section 9.4 – Funding Related Costs.

- [REDACTED]
- [REDACTED]

9.1.6. Project Capital Cost Estimate Notes

The following is noted regarding the Project Capital Cost estimate:

- The table above does not represent a Project budget. It represents an estimate of capital based on the preliminary Schedule of Accommodation which is subject to further development and consultation with key project stakeholders, including clinicians. A Project budget will only be finalised following completion of the project's procurement process.
- The Project Capital Cost may be impacted by the Project's delivery model approach. For example, more collaborative approaches (such as an ECI), may include additional margins.
- There exist several risks and mitigation strategies associated with the project which may impact upon the ultimate project cost.
- The expected Project Capital Cost includes a P90 capital cost contingency.
- Any apparent errors in summation are due to rounding.
- All years in tables and charts are expressed in financial years.

9.1.7. Project Capital Cost Estimate Exclusions

The Project Capital Cost outlined in this chapter excludes the following costs:

- Night works;
- Land costs;
- Good and Services Tax GST;
- Finance Charges;
- Latent site conditions beyond allowances made;
- Escalation beyond identified completion date;
- Environmentally Sustainable Development (ESD) initiatives beyond existing allowances (e.g., solar infrastructure);
- Demolition beyond allowances made;
- Prolongation costs;
- Unforeseen archaeological and heritage discoveries; and
- Impacts on materials supply and price fluctuation due to delays of deliveries and material shortage.

9.2 Indicative Whole-of-Life Cashflows

9.2.1. Methodology

Estimated WoL costs are forecasted over a 20-year period commencing from the first year after construction has completed for each new building. For the new PCSS Building, the forecast appraisal is between January 2030 to December 2049. For the new Inpatient and Outpatient Building, the forecast appraisal period is between March 2033 to February 2053. The figures presented in this section are incremental WoL costs, calculated as the difference between each option to the Base Case. The approach for estimating WoL costs was carried out in two stages.

a) Operating cost estimate

A series of workshops and consultations were undertaken with ACT Health and CHS to understand data availability and the various components for inclusion in operating costs. Information requests were issued for key cost items to be utilised as inputs in a financial model constructed to forecast future costs. The cost estimate was based upon:

- Historical Opex and Full-time Equivalent (FTE) data provided by ACT Health for the existing pathology and inpatient and outpatient buildings (i.e., Buildings 10, 1 and 12).
- Revised current GBA estimates provided from Aspex Canberra Hospital Capital Planning SOA's for both buildings (PCSS and Inpatient and Outpatient) under Options 2 and 3. There is no additional area provisioned under Option 1 (Base Case – Do Minimum).
- Historical utility cost data for Canberra Hospital (all existing buildings 1 to 28).
- Discussions with project stakeholders regarding costings and assumptions.
- Research on WoL ACT Capital Framework and escalation rates.

b) Escalation

Escalation has been embedded into individual cost items and incremental differences are shown at the cost item level.

■ [Redacted]

9.2.2. Assumptions

The below details the assumptions that were utilised in the quantification of WoL estimates for the new PCSS Building and the new Inpatient and Outpatient Building.

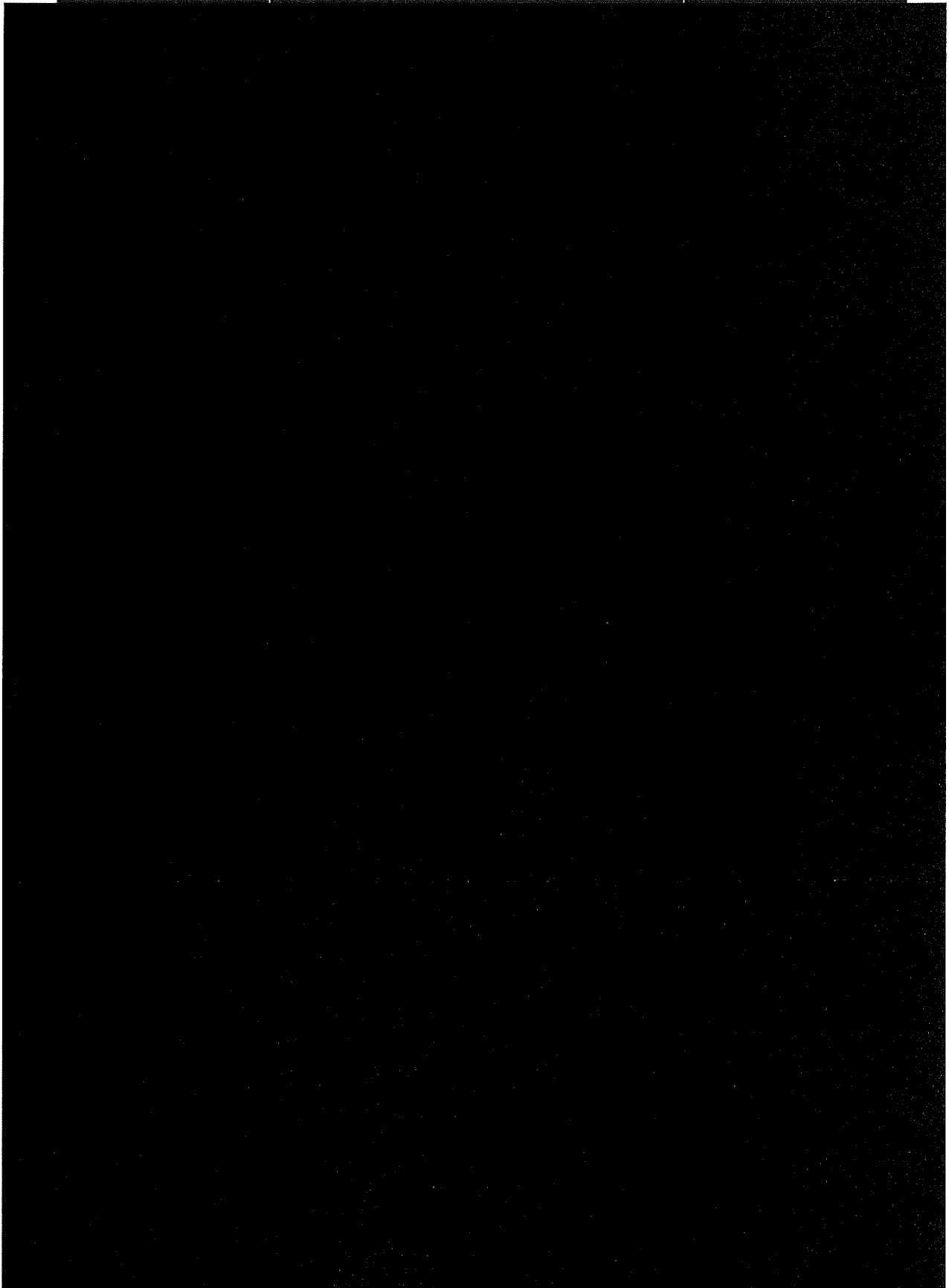
Table 51: Whole of Life estimate assumptions

Assumption	Detail	Source
[Redacted Table Content]		

Assumption

Detail

Source





9.2.3. Indicative Cashflows

Table 52 and Table 53 outlines the estimated WoL cost over a 20-year operating period for the new PCSS Building and the new Inpatient and Outpatient Building, respectively. The figures presented illustrate the incremental cost relative to the Base Case. A positive figure indicates an increase in costs over the Base Case, while a negative figure represents a reduction in costs relative to the Base Case. The WoL cashflow estimate comprises:

- **Operating costs:** the costs and expenses relating to business operations and services conducted in the new PCSS Building and Inpatient and Outpatient Building including:
 - Staff salaries: Wages and salary costs for all FTEs, including superannuation.
 - Other staff: Other staff labour expenses including Visiting Medical Officers and Agency Nurse and Non-Contract Services.
 - Non-Staff costs: Expenses including Medical and Surgical Supplies, Pharmaceuticals, Domestic Services Computer & Communication expenses and Grants and Purchased Services.
 - Utility costs: Electricity, natural gas, and water costs.
 - Repairs and Maintenance costs: Costs including building maintenance, repairs, and work undertaken to inspect, keep, restore, and improve building facilities.
- **Escalation:** escalation used in the cost modelling process include:
 - CPI: Applied and embedded within the cost estimates. [REDACTED]
 - [REDACTED] ts. [REDACTED]

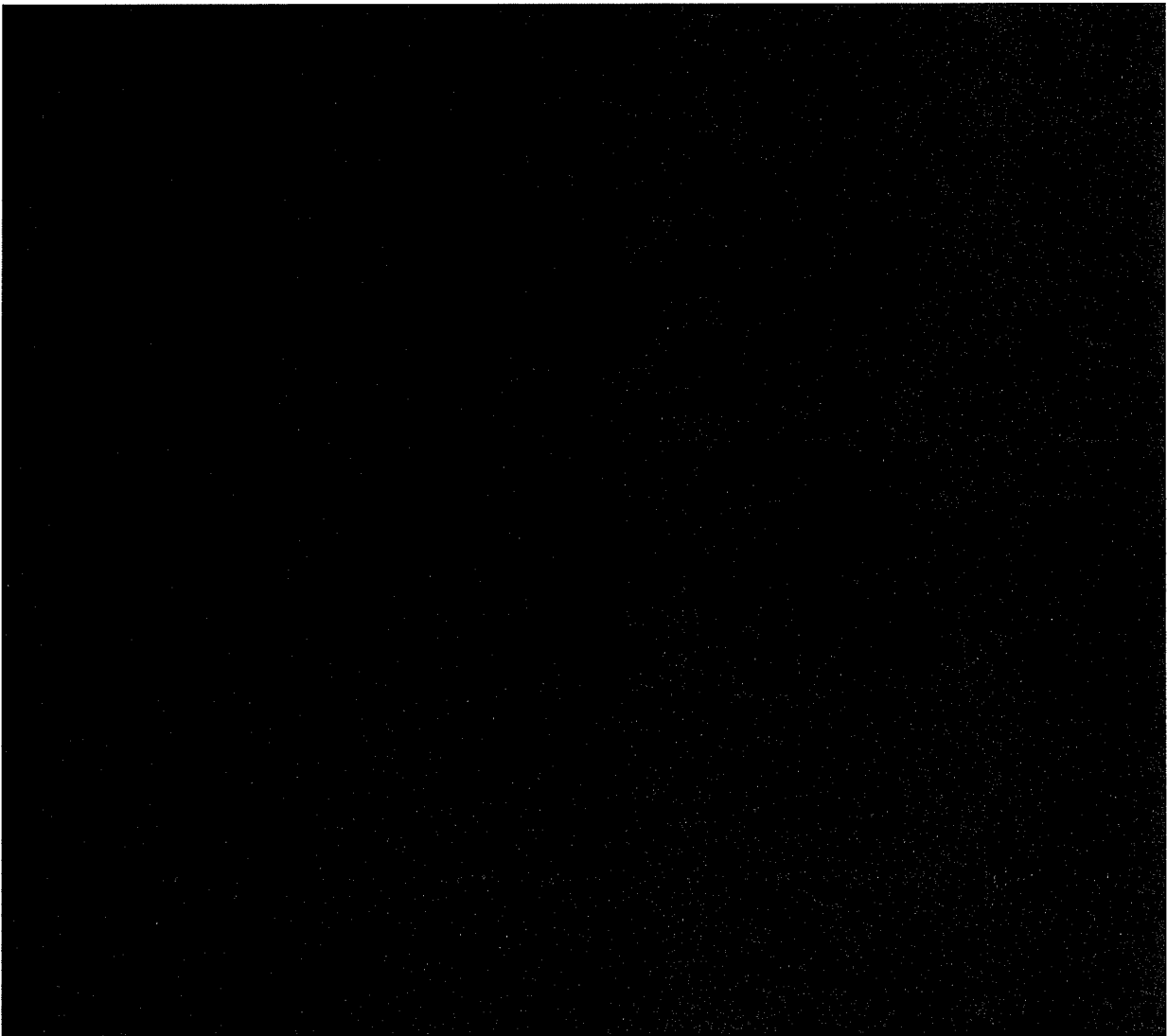
9.2.3.1. PCSS Building

Table 52 shows the incremental WoL costs of the PCSS Building under Option 2 and 3. Cost figures show the difference to Option 1.

Table 52: New PCSS building Whole of Life cashflows (\$m. P90. nominal)



* Historical costs not available.



9.2.3.2. Inpatient and Outpatient Services Building



Table 53: New Inpatient and Outpatient building Whole of Life cashflows (\$m, P90, nominal)

Cost item	Option 2 (Replace and Upgrade)	Option 3 (Capacity to Meet Future Demand)
Operating costs		

[illegible]

9.2.4. Cost Profile

The assumptions around the operational commencement dates for the new PCSS Building and the new Inpatients and Outpatient Building are based on the key milestones for the Project. Both buildings have an assumed operational life of 20-years. The assumed operational timings for the new buildings are presented in Table 54, while the annual breakdown of operating costs for the new buildings for each option is presented in the sections below.

Table 54: Timing of Whole of Life Costs

Building	Assumed Operational Date	Assumed End-Of-Life Date
Pathology and Clinical Support Services Building	September 2029	August 2049
Inpatient and Outpatients Building	January 2033	December 2052

It is important to note with all options for operational costings, the following are excluded and will need to be subject to a subsequent operational commissioning business case:

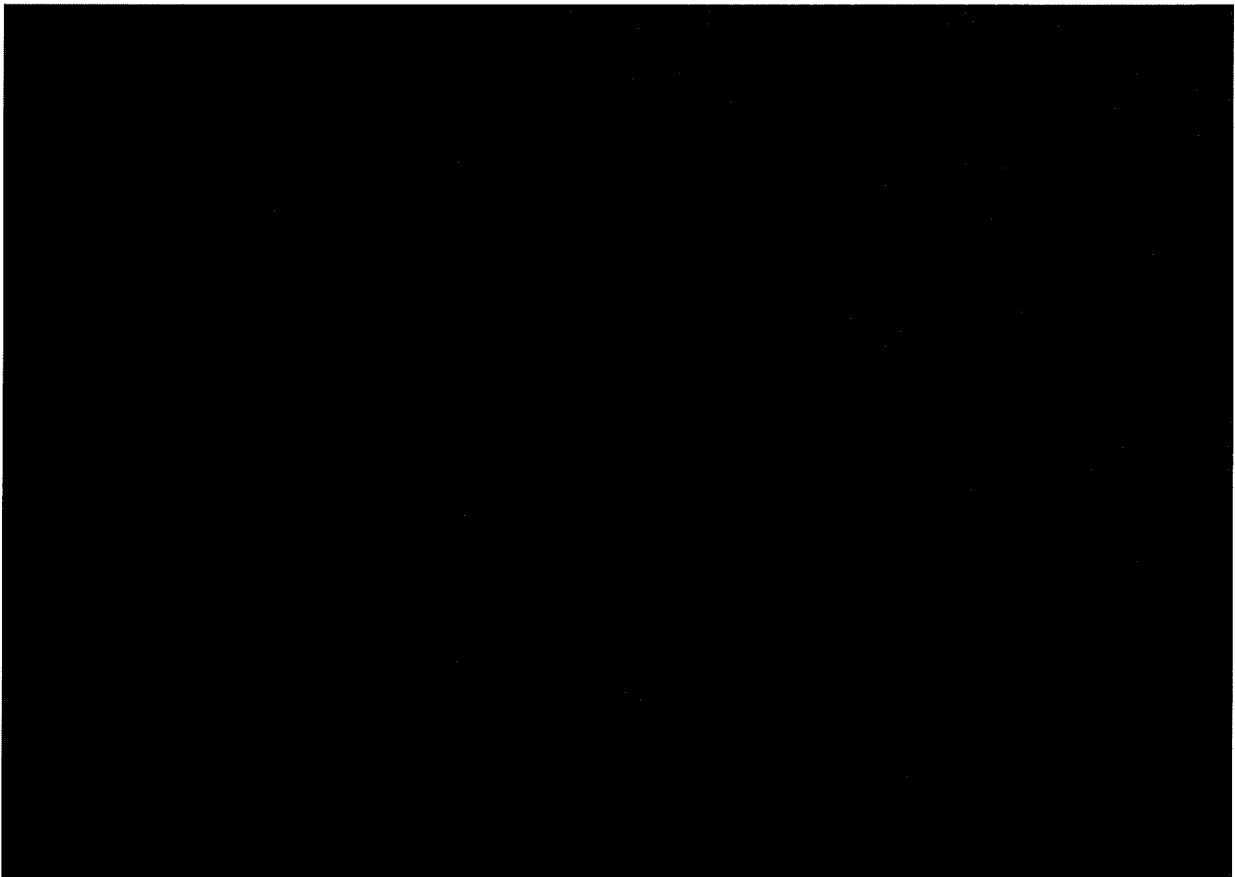
- ICT costs for application configuration, integration, etc. are not included here as the models of care, workflows and understanding of service delivery are not known at this time; and
- Ongoing operational cost increases for ICT support and maintenance are not included here. They will need to be determined when the detailed fit out of the facilities are known and the ICT operating budget will need to be adjusted accordingly.

9.2.4.1. PCSS Building

The annual breakdown of operating costs under Option 2 (Replace and Upgrade) and Option 3 (Capacity to Meet Future Demand (2040-41)) for the new PCSS Building are presented below. Since the assumed operational dates start in-between financial years, costs have been prorated for the first and last financial years presented.

Option 2 (Replace and Upgrade)

The figure below outlines the profile of WoL costs over the assumed 20 years of operations under Option 2.



Analysis of the above profile of WoL costs highlights the following:

- Staff salaries (including wages and superannuation) increase gradually over the forecast periods. Costs are driven by the increase in POC and grow gradually with WPI throughout the forecast period.
- Non-staff costs increase gradually with CPI over time.
- Repairs and maintenance costs increase sharply in the first three years of forecast and remains consistent throughout the remaining forecast periods.
- Utility costs are slightly negative across the profile of WoL costs representing a cost savings in shifting from natural gas-powered equipment to electric equipment. The savings gradually increase with CPI over time.

[REDACTED]

[REDACTED]

[REDACTED]

Analysis of the above profile of WoL costs highlights the following:

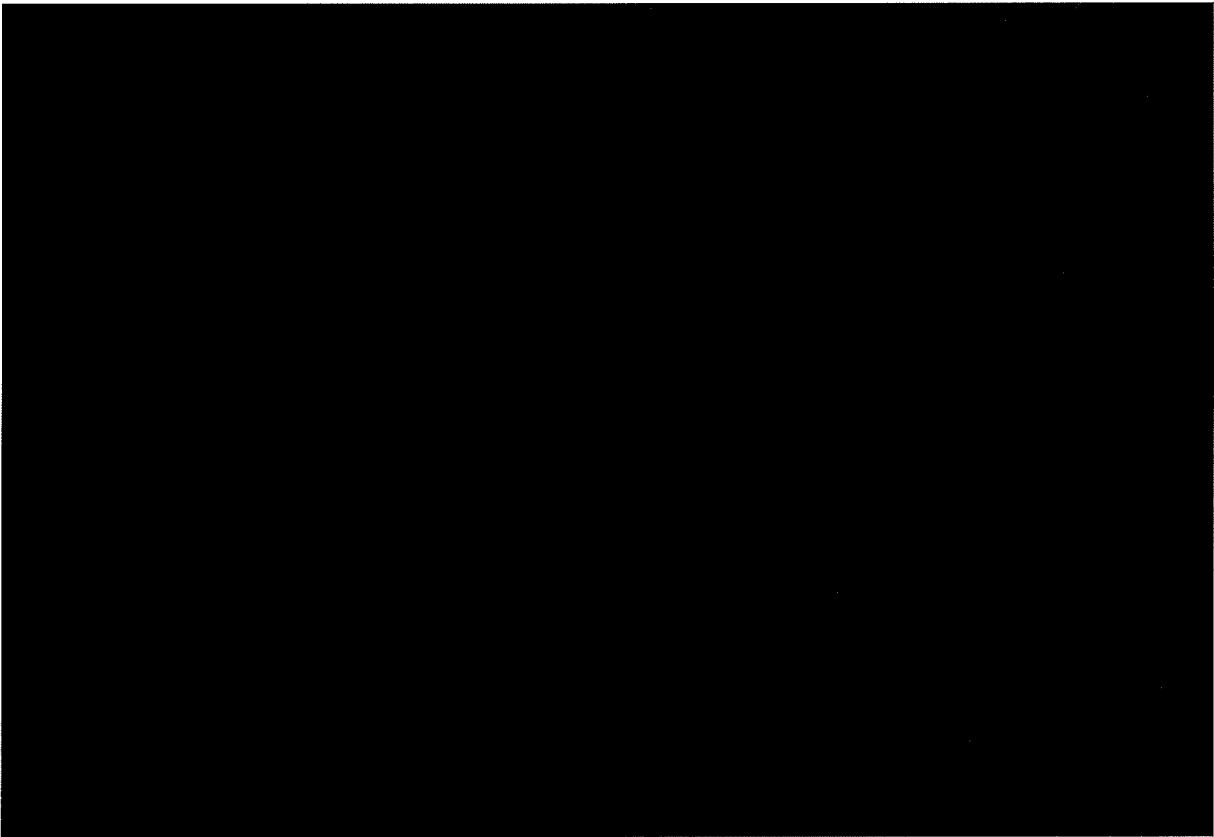
- Cashflows evolve gradually over time similar to Option 2. However, total nominal cashflows are greater in each year as under Option 3, the assumed percentage fit out of the building is larger and overall POC is also slightly greater.

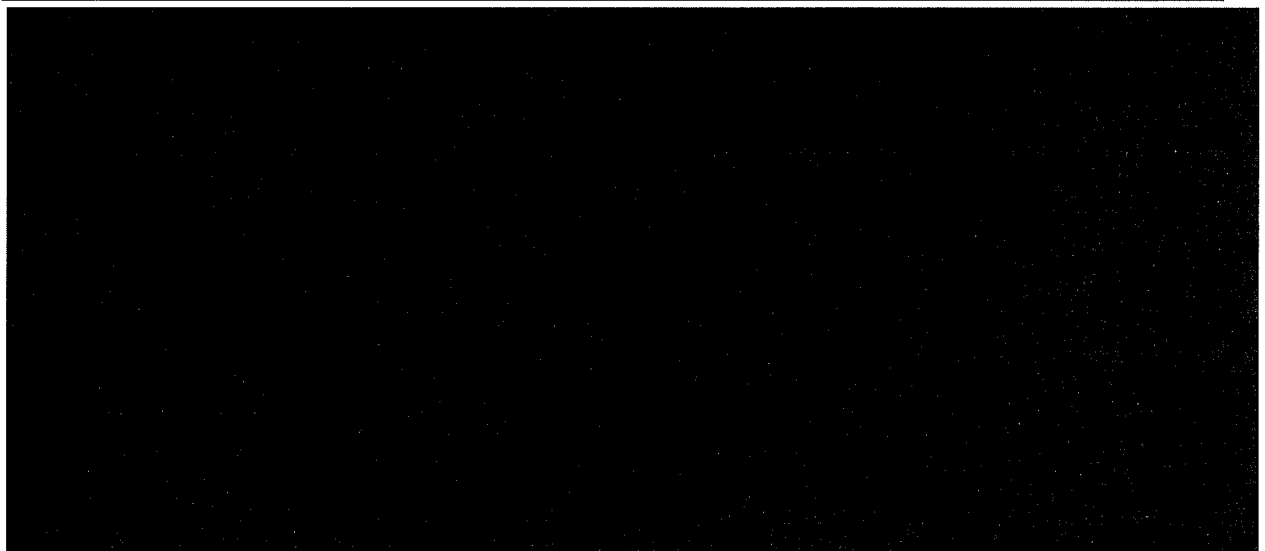
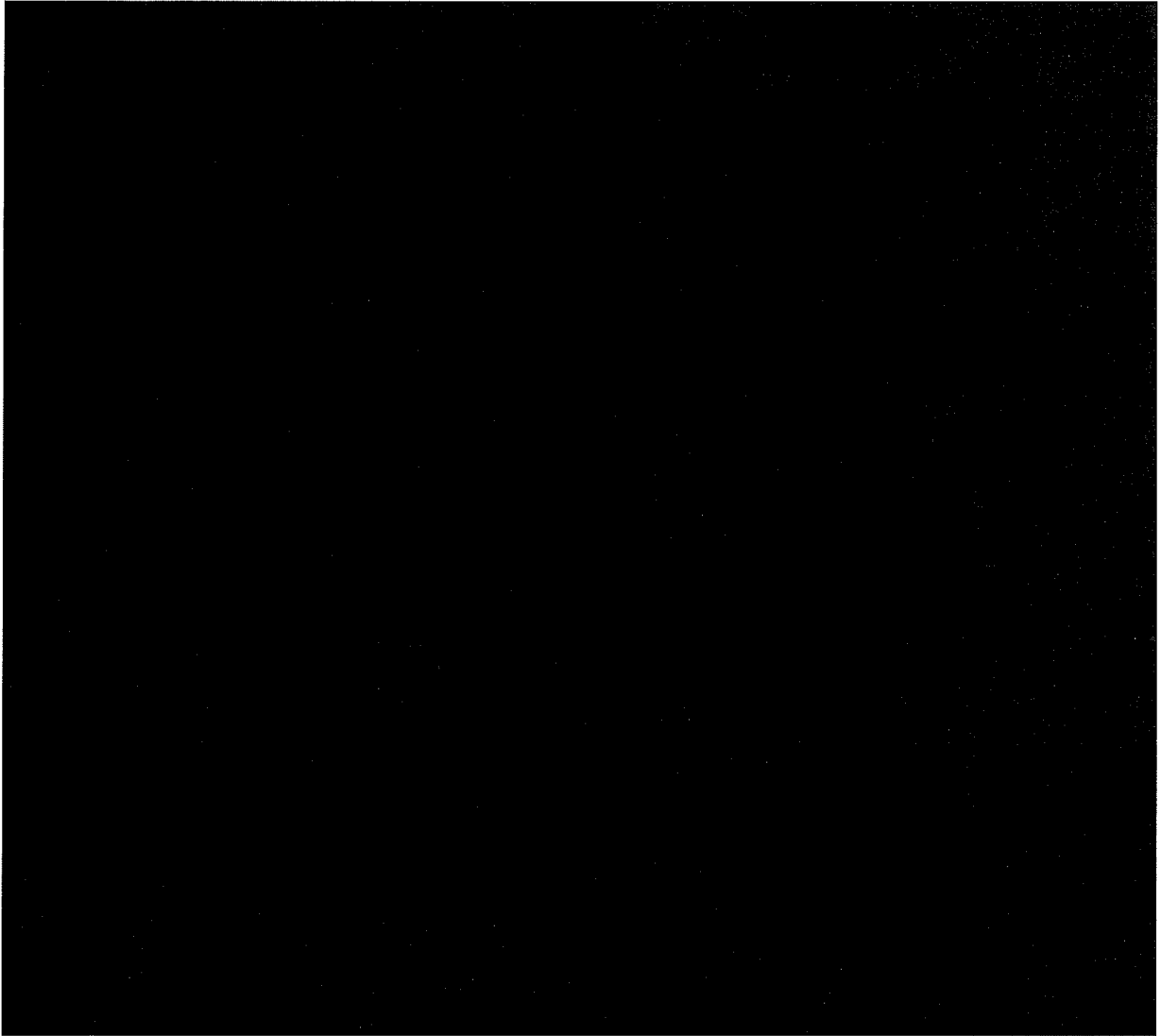
9.2.4.2. Inpatient and Outpatient Services Building

The annual breakdown of operating costs under Option 2 (Replace and Upgrade) and Option 3 (Capacity to Meet Future Demand (2040-41)) for the Inpatient and Outpatient Building are presented below. Since the assumed operational dates start in-between financial years, costs have been prorated for the first and last financial years presented.

Option 2 (Replace and Upgrade)

The figure below outlines the Inpatient and Outpatient Building profile of WoL costs for the assumed 20-years of operations under Option 2.





9.3 Project Contingency

9.3.1. Introduction

The project contingency included in the Project Capital Cost are made up of the following risks:

- Design;
- Planning;
- Procurement;
- Stakeholder;
- Site;
- Construction;
- Safety;
- Climate;
- Market;
- Financial; and
- Operational.

For descriptions of the above risks, please refer to the Chapter 7 – Risk Analysis.

9.3.2. Interpretation

In this section, P50, P75 and P90 contingency will be presented for the identified risks. In this regard:

- P50 is a mid-point estimate. It represents the project cost with sufficient risk provisions to provide 50% level of confidence in the outcome – i.e., that there is a 50% likelihood that the project cost will not be exceeded.
- P75 represents the project cost with sufficient risk provisions to provide a 75% level of confidence in the outcome – i.e., there is a 75% likelihood that the project cost will not be exceeded. In other words, it represents an estimate that has a 25% chance of being exceeded.
- P90 represents the project cost with sufficient risk provisions to provide a 90% level of confidence in the outcome – i.e., that there is a 90% likelihood that the project cost will not be exceeded. In other words, it represents a conservative position, one that has an anticipated 10% chance of being exceeded.

9.3.3. Methodology

ACT Health hosted a series of risk identification and quantification workshops and meetings. The risk identification workshops identified project risks and potential mitigation measures. Subsequent risk quantification workshops were held to seek inputs into:

- The likelihood of a risk event occurring;
- The likely cost and delay impact of a risk event occurring; and
- The likely distribution around anticipated cost and delay impacts.

The risk workshops resulted in the identification and costing of the project's key risks. Risks were separately identified as either having a cost or a delay impact (or both). Following these workshops, the project's commercial advisors performed Monte Carlo simulations to estimate the uncertainty levels and probability distributions associated with the project. The aforementioned process resulted

As Option 1 (Base Case) reflects a "Do minimum" approach, it is not exposed to the same risks as Options 2 and 3. As such, [REDACTED]

[illegible]

Assumption	Detail	Source
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

9.3.5. Capital Cost Contingency

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]			[REDACTED]		
		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The project contingency presented in the above table (for Options 2 and 3) can be broken down into their respective cost and delay impacts:

[REDACTED]	[REDACTED]			[REDACTED]		
	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

9.3.6. Risk Allocation

A proportion of the contingency under Cost Plan B will be 'transferred' to the private sector, with the remaining risk to be 'retained' by the ACT Government. As the preferred delivery model is yet to be finalised for all of the project packages, the risk allocations have not been estimated in this Business Case.

[REDACTED]

9.4.1. Methodology

Funding and related costs were calculated in two stages:

Capital cost estimates as provided by the cost estimation firm was utilised in estimating all planning and development cost, with the exception of resourcing cost.

Resourcing FTE estimates and their corresponding costs were prepared by ACT Health and Canberra Health Services.

9.4.2. Funding Related Costs

[illegible]

- [illegible]

- [REDACTED]

- [REDACTED]

[REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

[REDACTED]

- Sufficient planning and development resource costs are critical to the success of CHMP2:
 - The project involves intricate design and delivery requirements. The project will involve constant coordination with healthcare professionals, hospital staff and stakeholders to ensure seamless process and regular communication.
 - The project involves complexities that arise from the need to integrate new design and delivery elements with the existing hospital clinical and infrastructure services, ensuring minimal disruption to ongoing operations.
 - Additional staging is required to mitigate risks associated with the delivery of these buildings within a live hospital environment. Additional staging is essential to provide thorough planning, monitoring and solution development to maintain business continuity and assure patient, staff and visitor safety during construction.