

RIN10

Vegetation compliance audit

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1 VEGETATION MANAGEMENT COMPLIANCE

1.1 Vegetation Management Summary

Ausgrid has overhead conductors operating at 400V, 12.7kV, 11kV, 22kV, 33kV, 66kV and 132kV. Contact from vegetation can cause mains to fail, breaching electrical clearances to the public and causing network outages; it can also create earth return paths and/or initiate a fire which can propagate into a bushfire. Trees and vegetation must be managed where they are near or will grow near power lines to maintain the safe and reliable operation of the network.

The legislative requirements for tree trimming around the electricity network are driven from section 48 of the Electricity Supply Act 1995, and the vegetation profile that is applied to the overhead network is defined in the NSW jurisdictional standard ISSC3 – ‘Guideline for managing vegetation near powerlines’. Ausgrid manages vegetation in accordance with industry guidelines and practices while remaining conscious of community expectations and respecting the environmental values of the streetscape and rural environment. Industry guidelines define the minimum accepted distance between vegetation and overhead lines under different network conductor and voltage configurations. This recognises both the minimum safety clearances to be achieved and the allowance for regrowth between cutting cycles. These guidelines are interpreted into Ausgrid specific standards that set the specification requirements that Ausgrid’s vegetation management contractors adhere to. ISSC3 allows Ausgrid to pursue a common level of risk across its network for cutting programs. Within bushfire areas specifically, the guideline clearance requirements are employed to manage vegetation. For assets outside of bushfire areas, a risk based approach to reducing clearances has been adopted, where exemptions can be applied where they do not adversely affect safety or reliability. This allows Ausgrid to balance the risks between community expectations with safety and reliability performance.

Ausgrid already undertakes vegetation management as part of its routine system maintenance program. The vegetation management maintenance activity is a sub-category of the total planned maintenance cost category. Vegetation clearance requirements including defect prioritisation and rectification timing are captured in Ausgrid’s Vegetation Management Network Standard based on the NSW Industry Safety Steering Committee guideline ISSC3. Rectification timeframes for vegetation defects in bushfire areas are reduced during the higher risk bushfire season.

Further controls such as pre-summer bushfire inspections act to audit the vegetation management maintenance program and provide a further layer of effectiveness to the clearance requirements before the start of the bushfire season. Further rectification is then undertaken based on Ausgrid’s Aerial Patrol Defect Library (APDL). Where practical, Ausgrid utilises LiDAR technology during aerial patrols to determine vegetation non-conformances and passes this information back to contractors to rectify before the start of the bushfire season, in-line with the terms of their contract. Light Detection and Ranging (LiDAR) provides a high level of accuracy. However, due to flight constraints (“no fly zones”), the remaining areas are inspected via foot patrol.

Ausgrid has been carrying out vegetation management (these works consist of routine trimming of trees, easement clearing, access track maintenance and tree removal programs) on a formal contractual basis since 1991/92. Between 1992 and 2013, the scope of the contracts has varied widely in the geographical area covered, the outsourcing structure and in the vegetation clearance requirements. In 2013 the entire vegetation management program was sourced using external contract companies. Ausgrid still continues to operate its vegetation management processes under this operating model.

The structure and scope of Ausgrid vegetation management contracts consist of maintenance and compliance. Ausgrid tender and award contracts based on regional areas. These regional areas consist of a number of local government areas. In general there are two companies awarded within each region which in turn maintain direct competition for additional works, and to maintain alternatives in the event of an underperforming contractor. Once awarded, the contractor is responsible for ensuring vegetation clearances are maintained by undertaking the scoping, cutting and auditing required to achieve compliance. The contract structure is for an initial three year period with three to six one year extension options. The annual options are issued based on satisfactory performance in the prior year and if approved.

Current contracts commenced between 2013 and 2017 and are at various stages of the contract lifecycle with extension options still available on most contracts.

This structure is designed to obtain maximum value from the market by enticing lower cost models from the offer of long term stability, which in turn allows contract companies to have a stable cost base for plant and equipment. In turn, if performance is not deemed satisfactory, the contract term is easily reduced by not awarding an extension year/s. This model offers the best value for Ausgrid in containing costs as the annual extensions are negotiated in line with a labour index. This also allows accurate estimation of costs for the life of the contract after the initial tendered period.

1.2 Contract compliance auditing and performance management measures

Ausgrid contracts are structured around an outcome based contract compliance model, the basis of which is the contract responsibility to maintain vegetation compliance to the Network Standard. Within the contract requirements, the contractor is required to undertake self-audit regimes for compliance and provide the results to Ausgrid in the form of a self-audit schedule. This schedule drives the maintenance program. Ausgrid then undertakes audits against the program to ensure that the product we are expecting complies with the contract requirements. This is undertaken in the form of post, pre-works and during works. Results from all audits and aspects of the contract works are administered against a KPI matrix to ensure consistency and compliance in all areas of performance. Each audit is represented by its outcome against the appropriate KPI in the form of a Worksite Inspection Report (WIR). These results are collated on a quarterly basis to measure performance, and result in contract quarterly meetings between Ausgrid and Contractor Management representatives.

Refer appendix for samples. Further details of audits undertaken by Ausgrid can be provided on request.

The system is effective in measuring and driving consistent performance throughout the contract period and not just at specific key points in time.

1.3 Further compliance requirements

In NSW the operation of each Electricity Network Operator is governed by the Electricity Supply Act 1995 (the Act) and associated regulations. The Electricity Supply (Safety and Network Management) Regulation 2014 (the EN(SNM) Regulation) is one of these regulations and came into force on 1 September 2014. The EN(SNM) Regulation requires that a network operator takes all reasonable steps to ensure that the design, construction, commissioning, operation and decommissioning of its network is safe (clause 5). The EN(SNM) Regulation requires that the network operator have a Safety Management System in place to assist with compliance to clause 5. Clause 6 of the EN(SNM) Regulation outlines five primary objectives of the Safety Management System as follows:

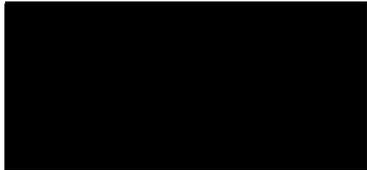
1. The safety of members of the public
2. The safety of persons working on networks
3. The protection of property (whether or not belonging to a network operator)
4. The management of safety risks arising from the protection of the environment
5. The management of safety risks arising from loss of electricity supply.

The EN(SNM) Regulation requires that the Safety Management System be prepared in accordance with AS 5577 – Electricity network safety management systems. The management of bushfire risk (including vegetation management) is a key aspect of managing this risk and Ausgrid's Safety Regulator, the NSW Independent Pricing and Regulatory Tribunal (IPART), oversee Ausgrid's level of compliance to managing this risk within its Safety Management System.

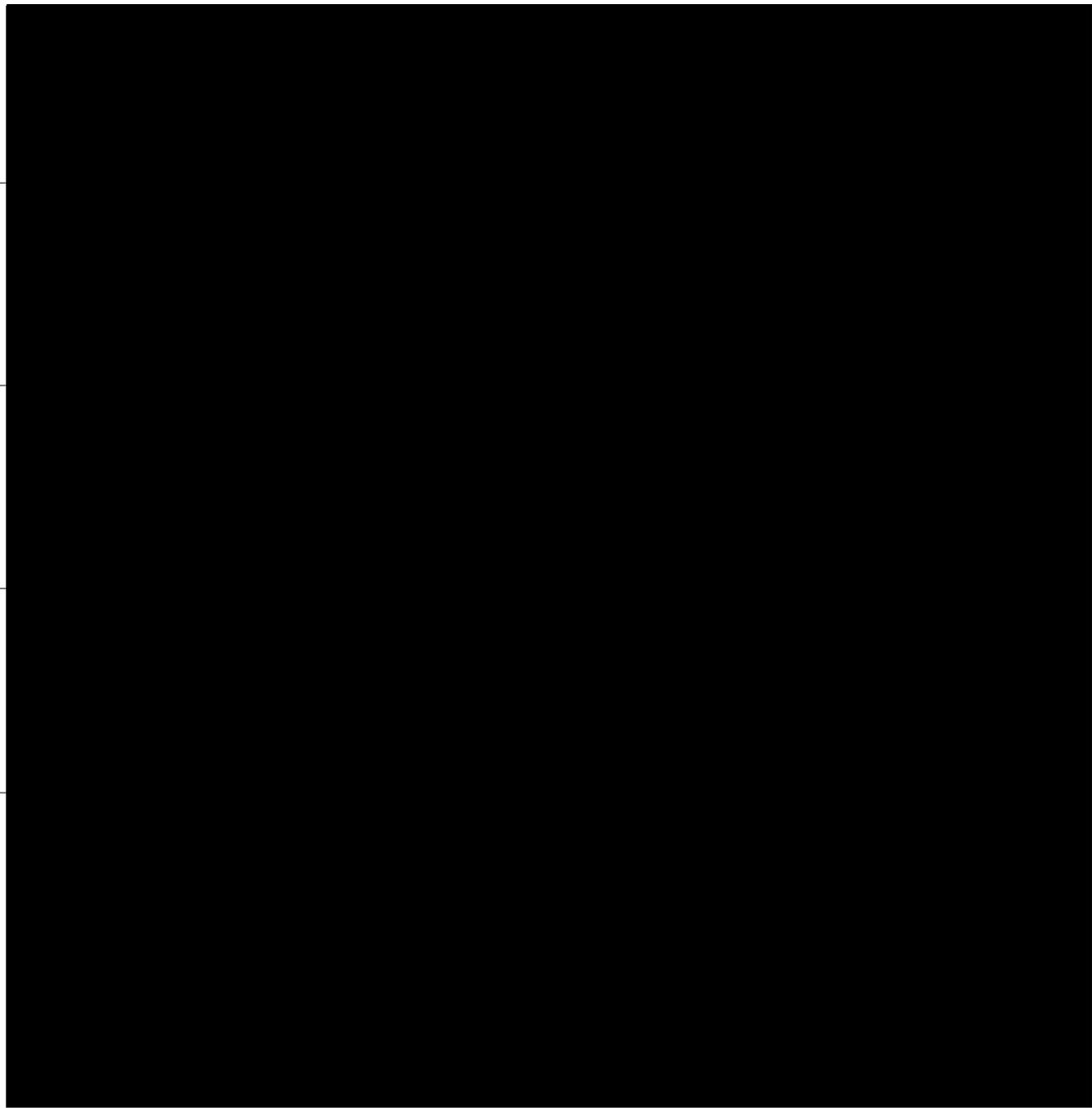
Pre-summer bushfire audits, including LiDAR, play a key role in proving to IPART that Ausgrid is compliant with its regulatory requirements.

APPENDIX A. COMPLIANCE AUDITS OF VEGETATION MANAGEMENT WORK (SAMPLES)

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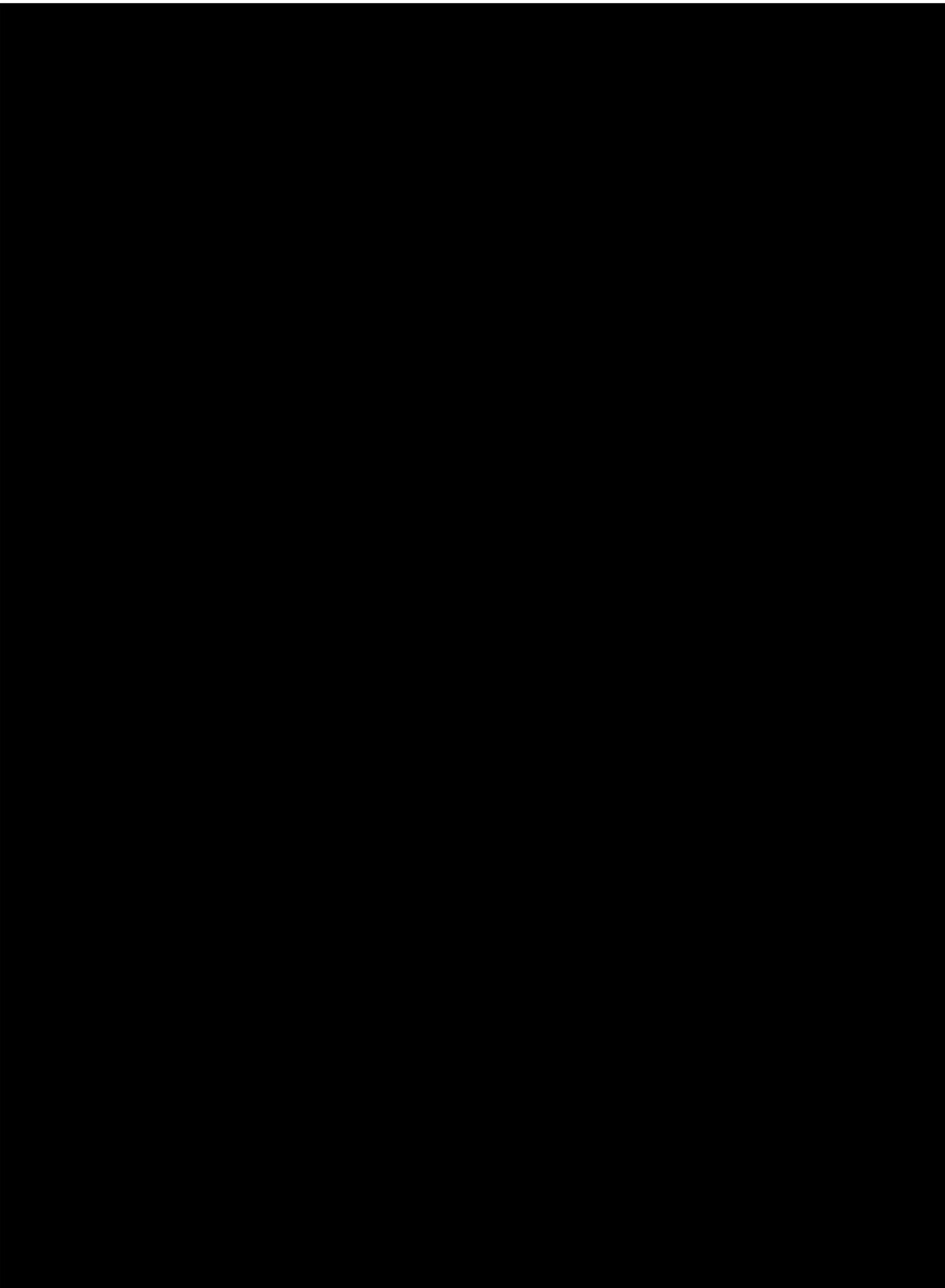
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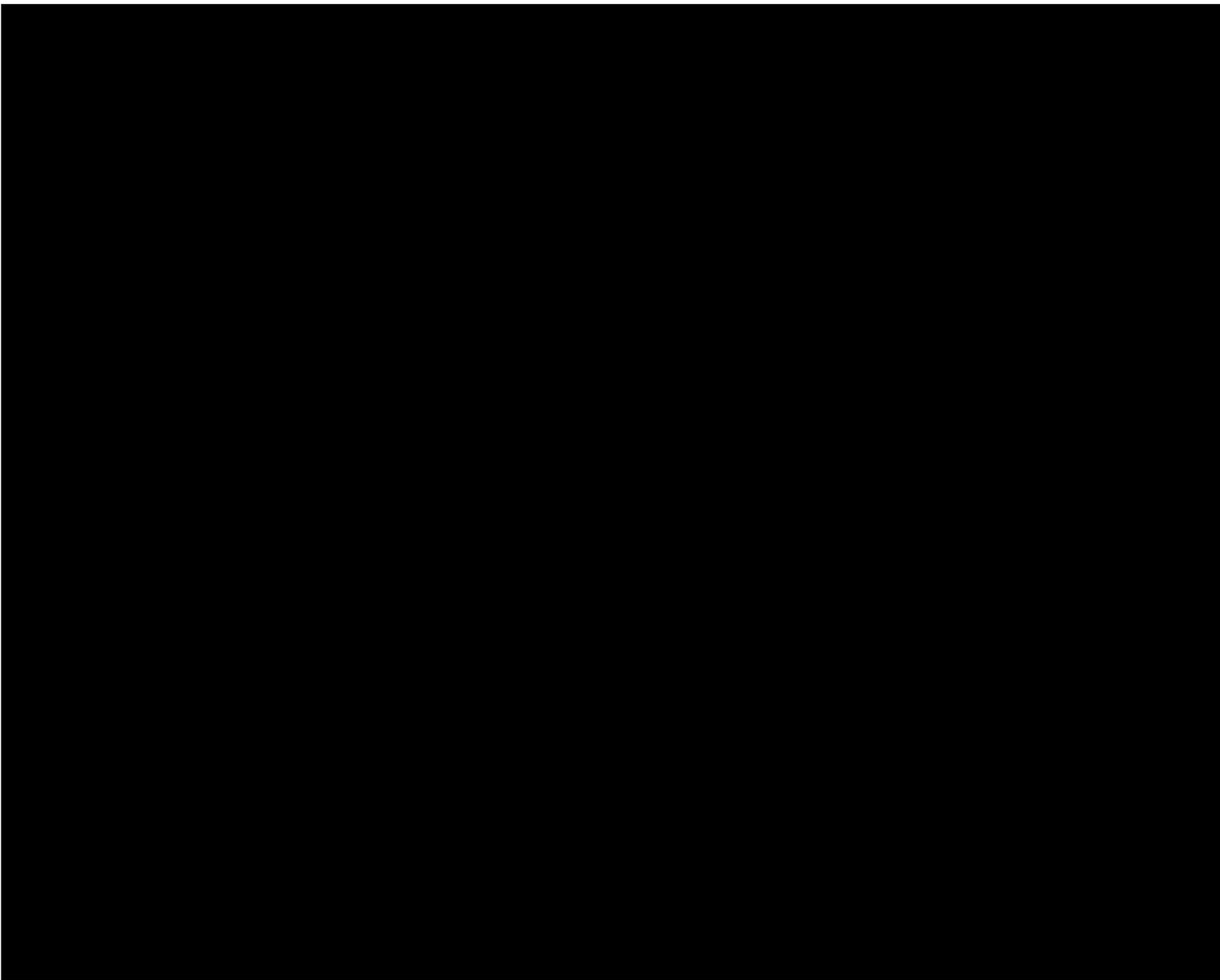
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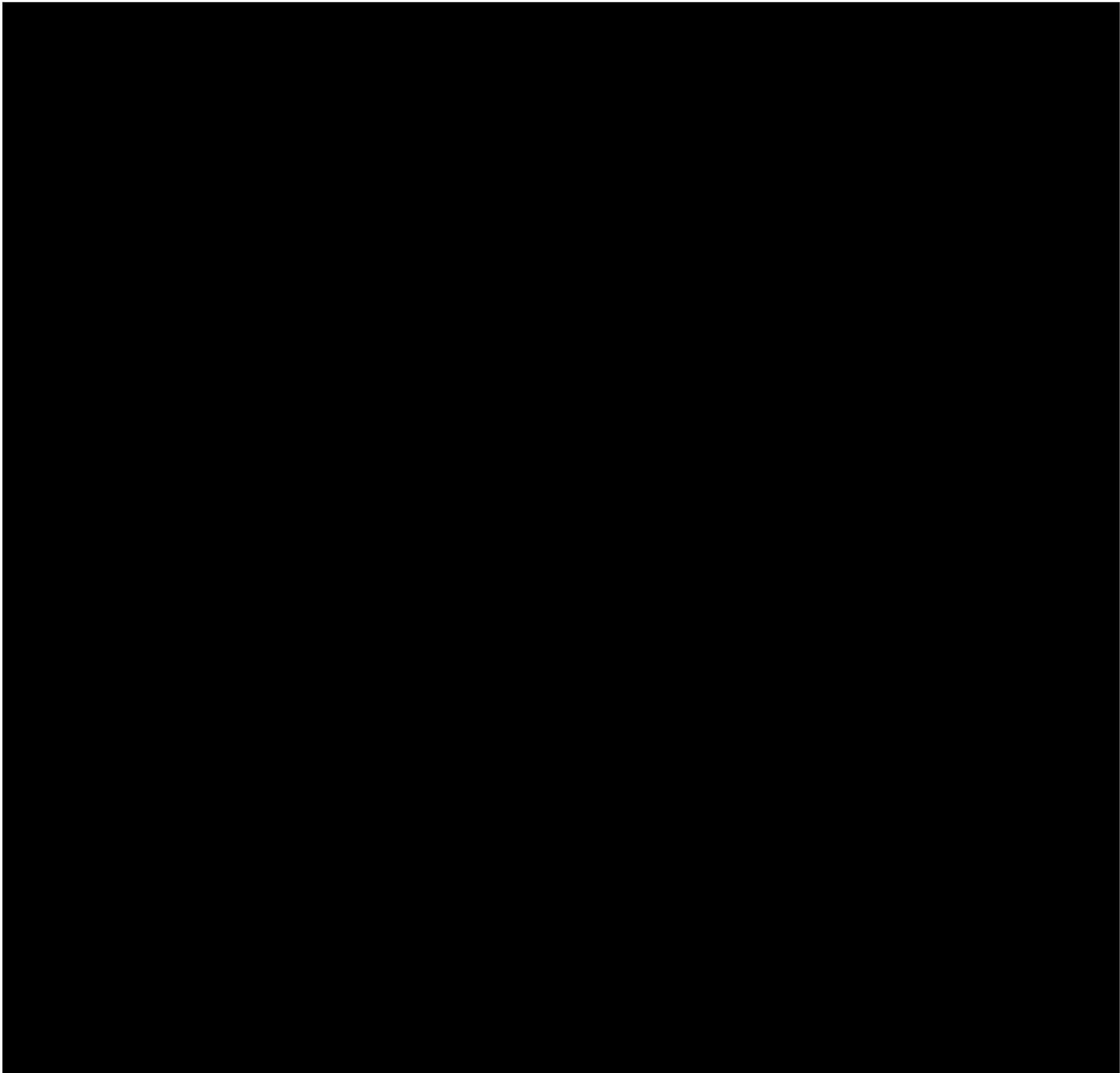
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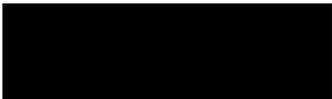
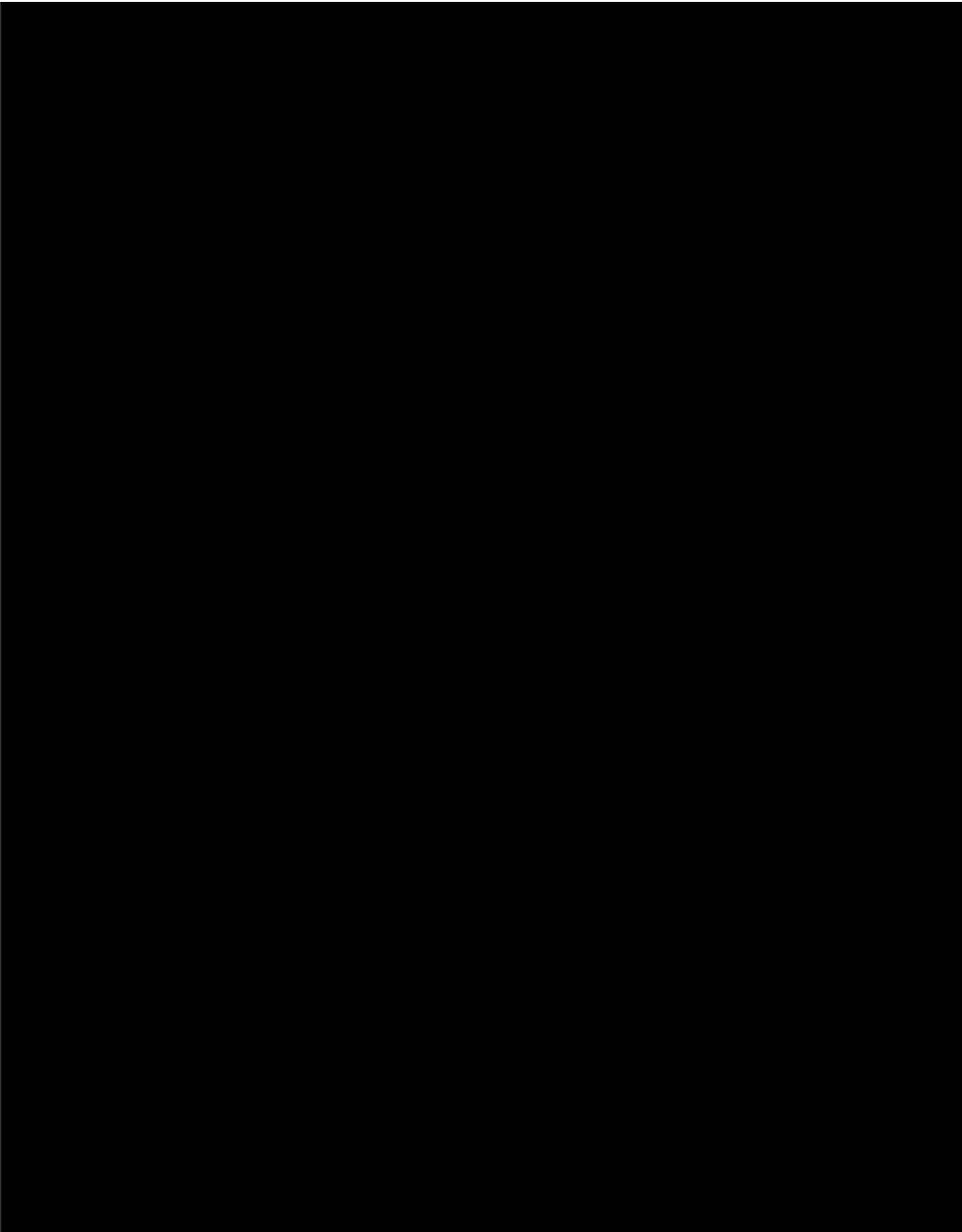
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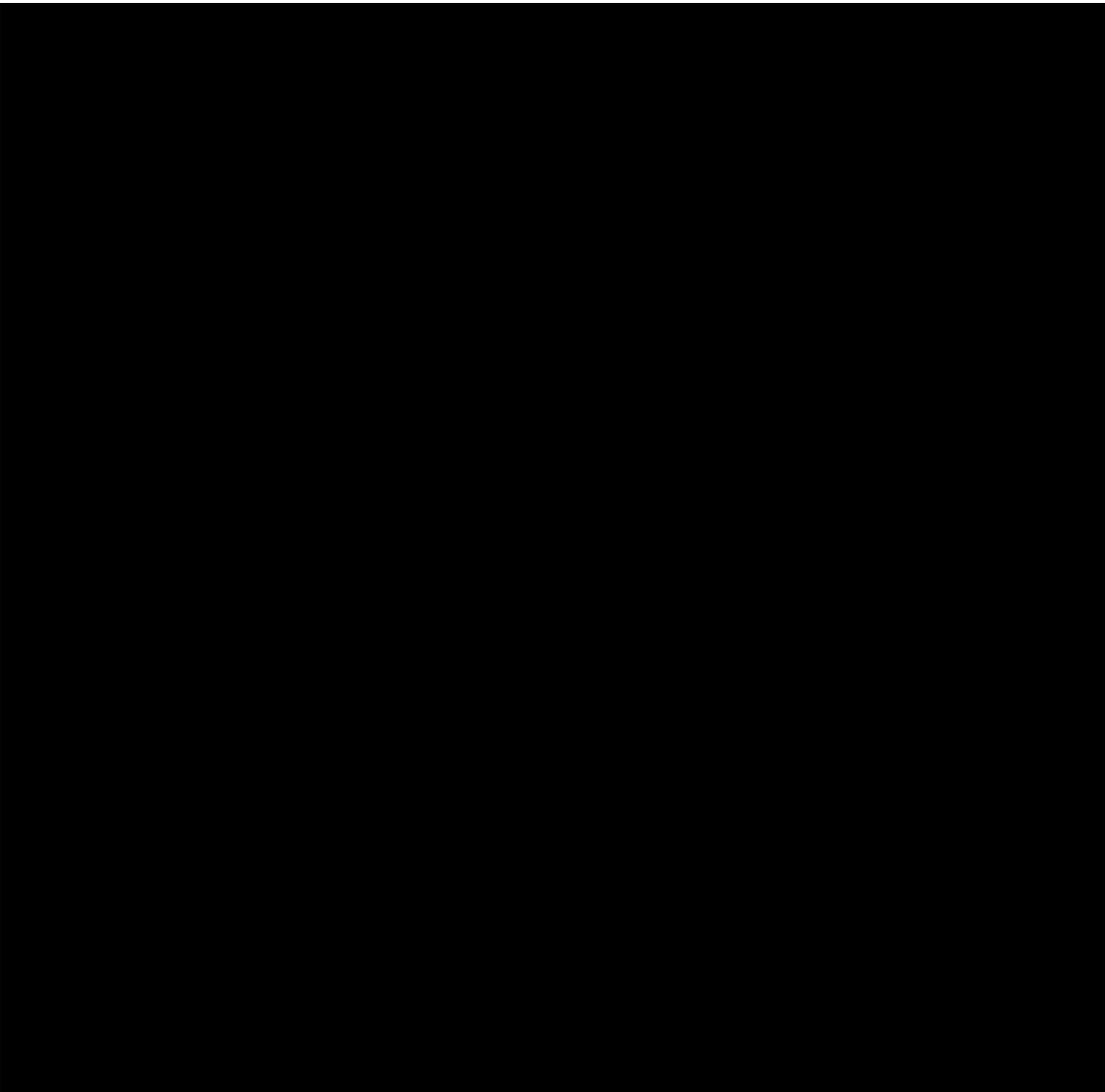


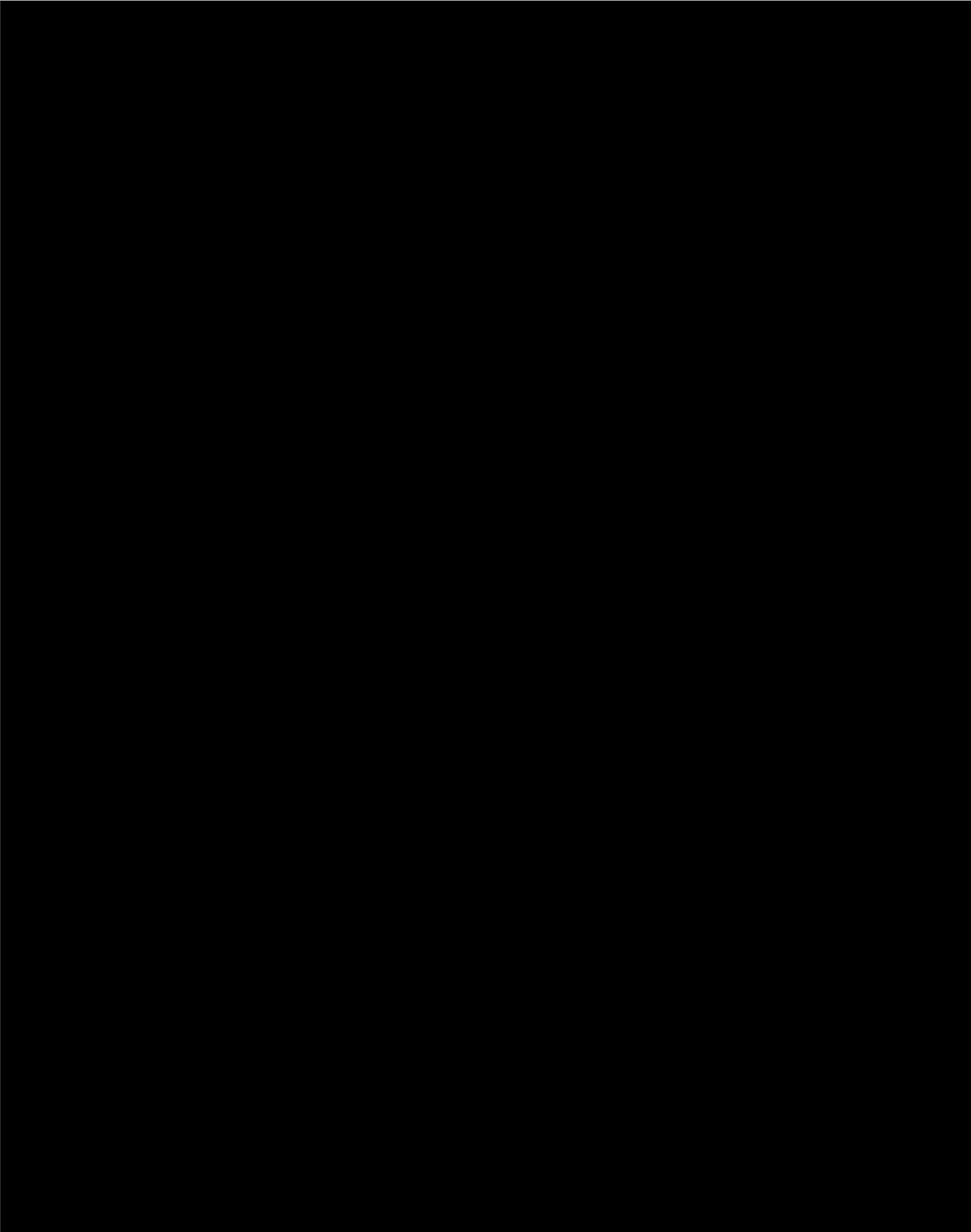


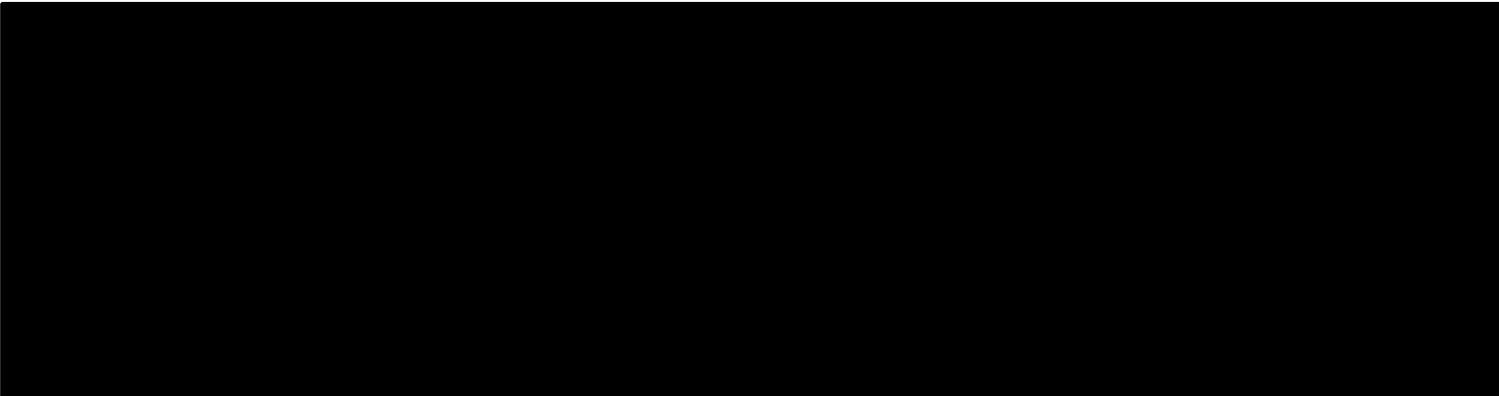
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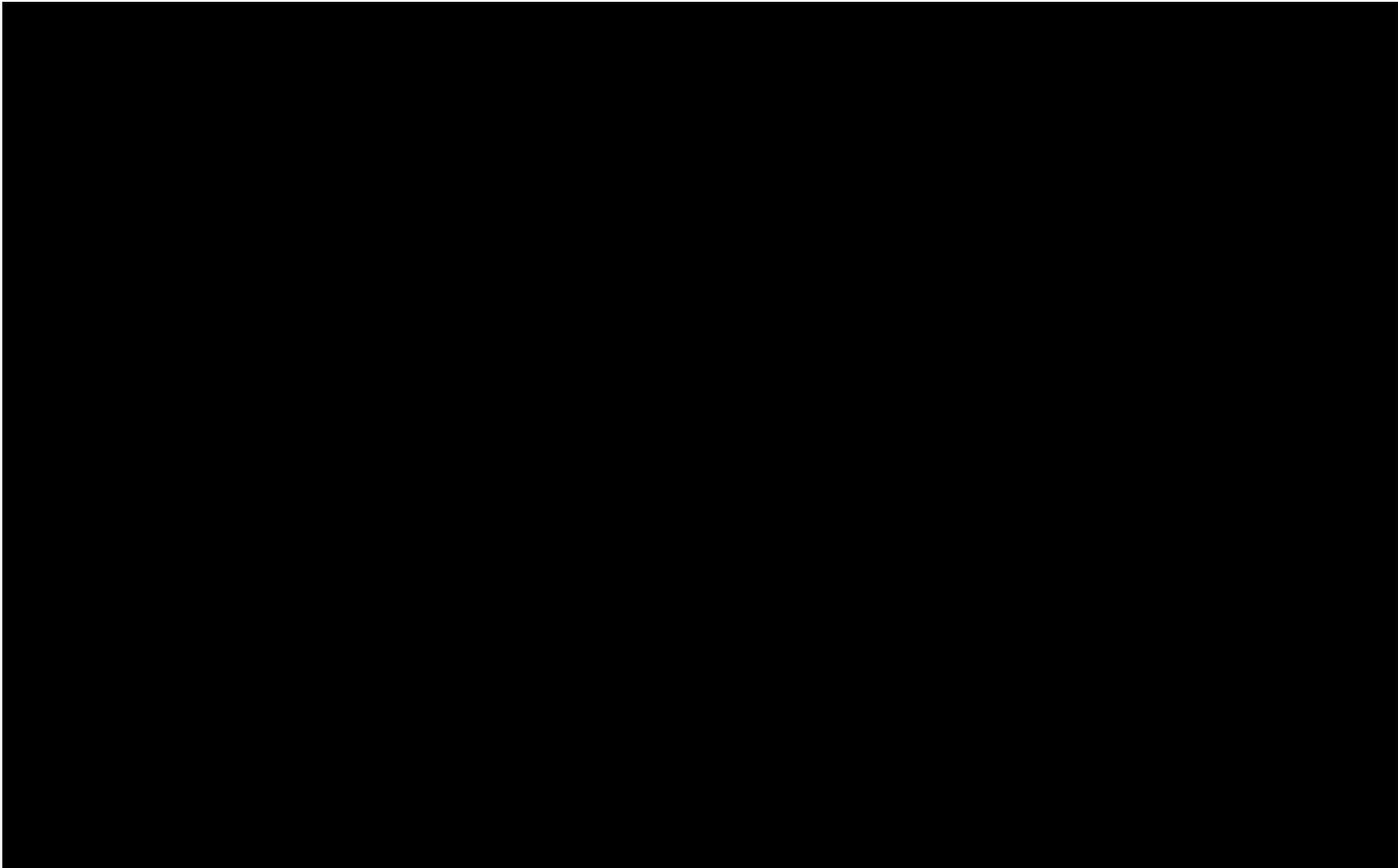




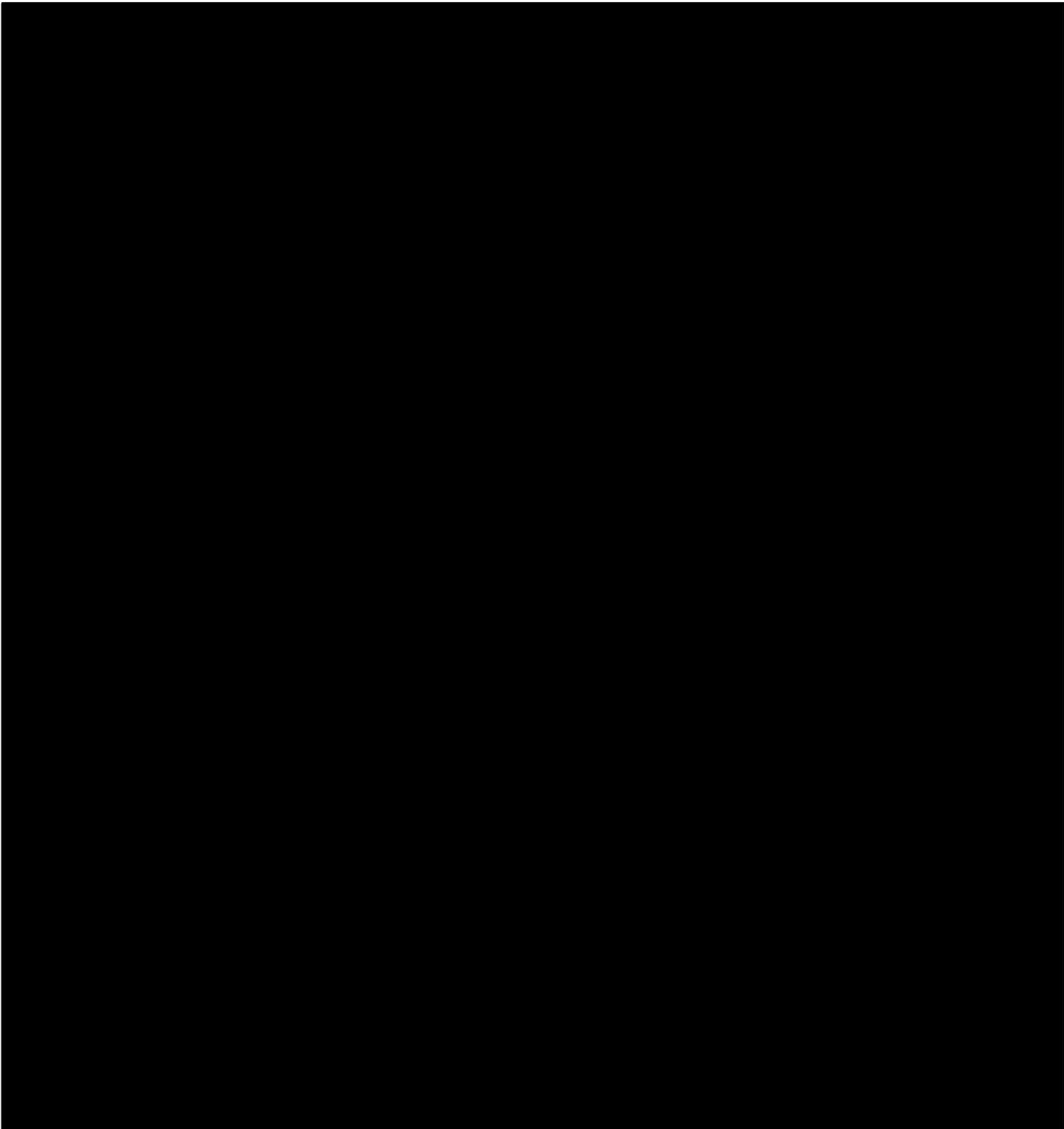


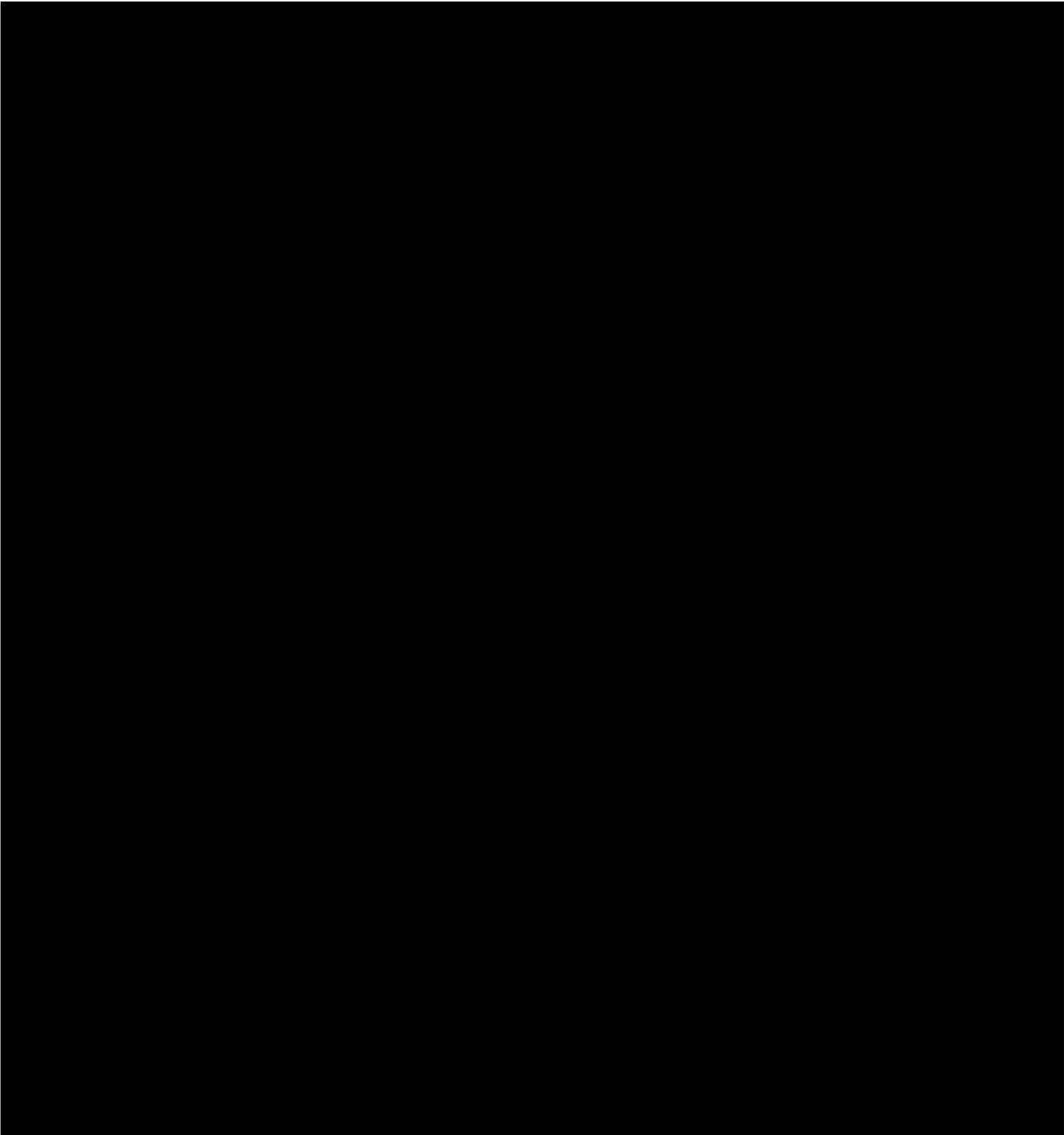


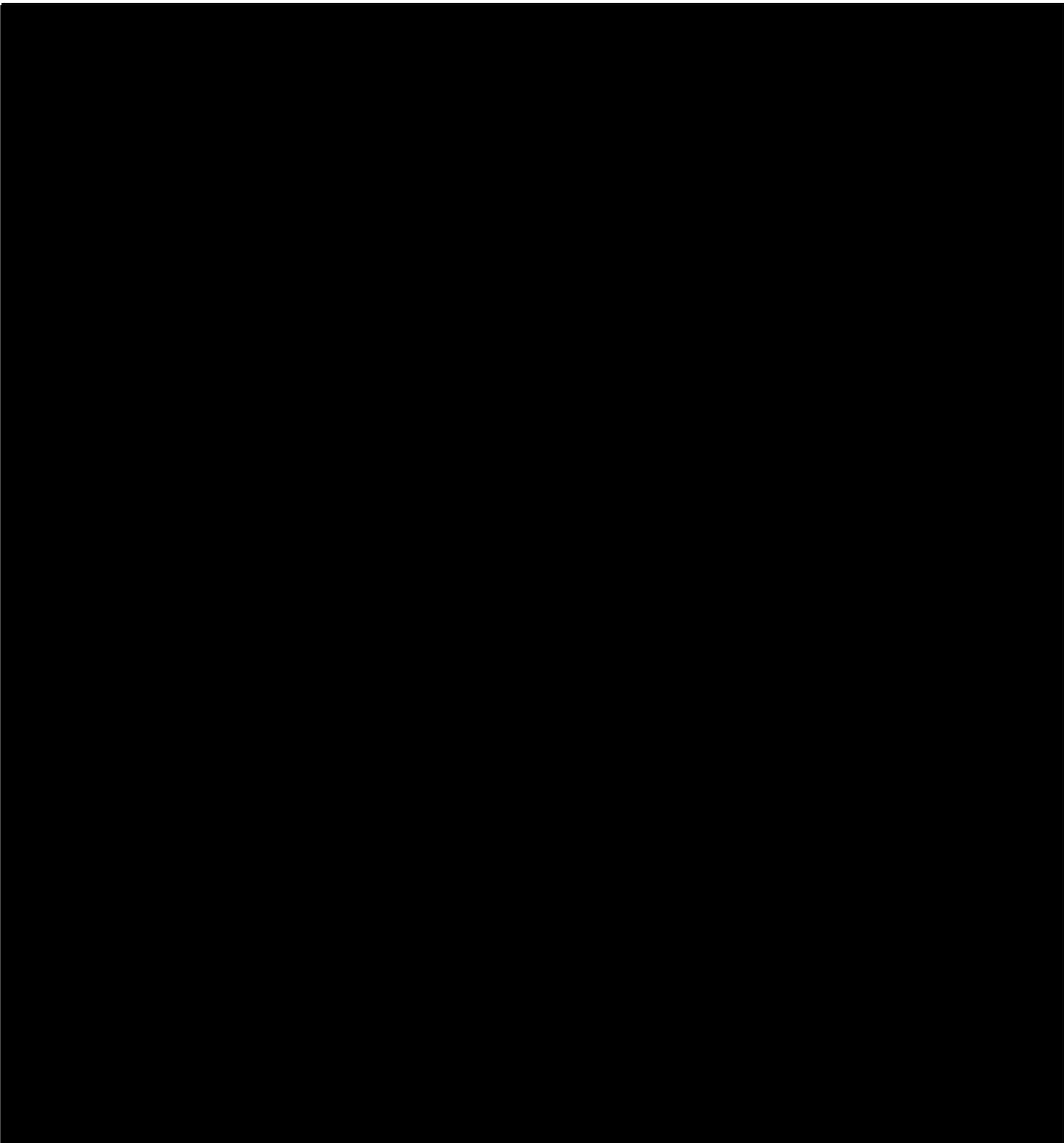


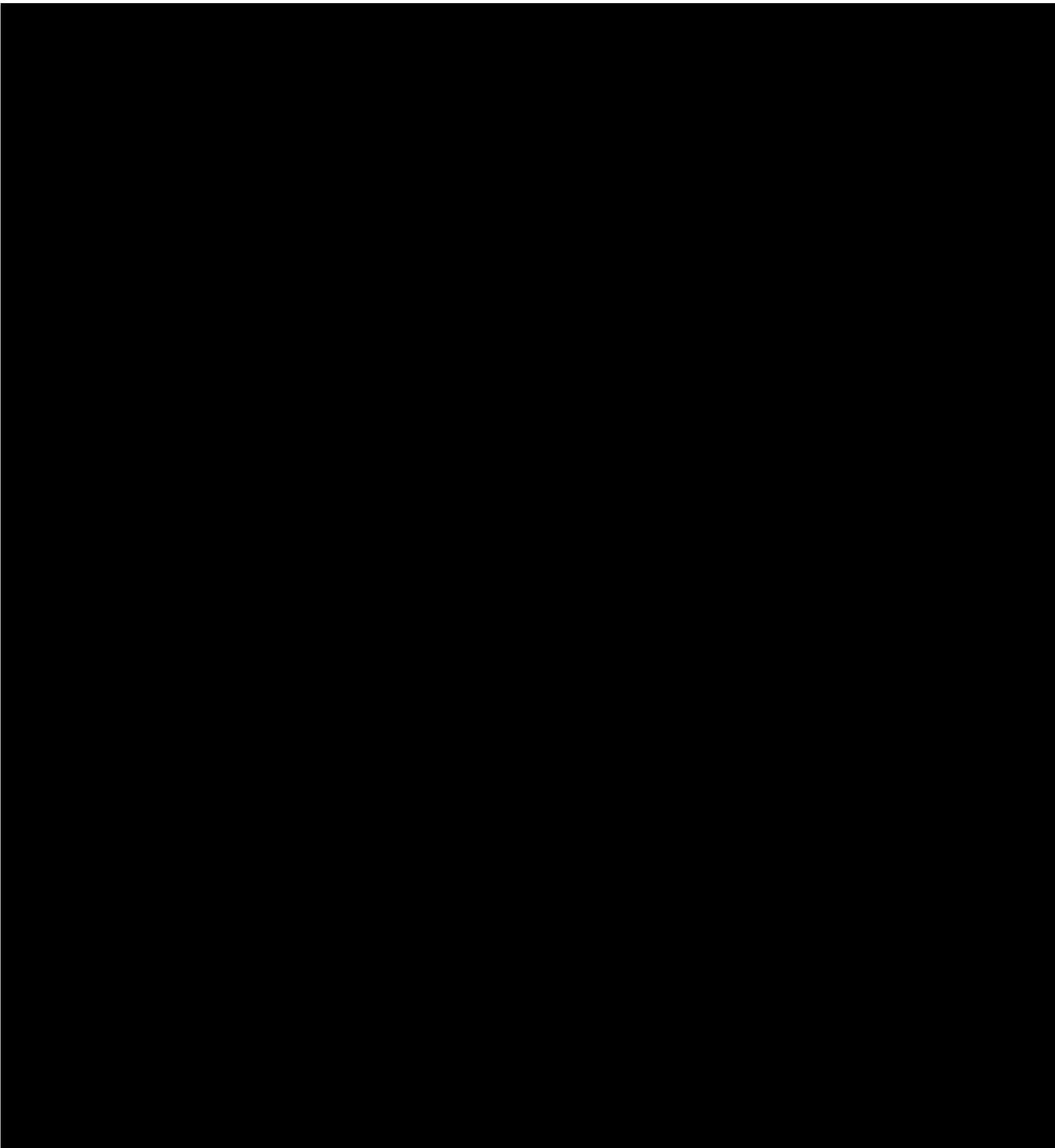


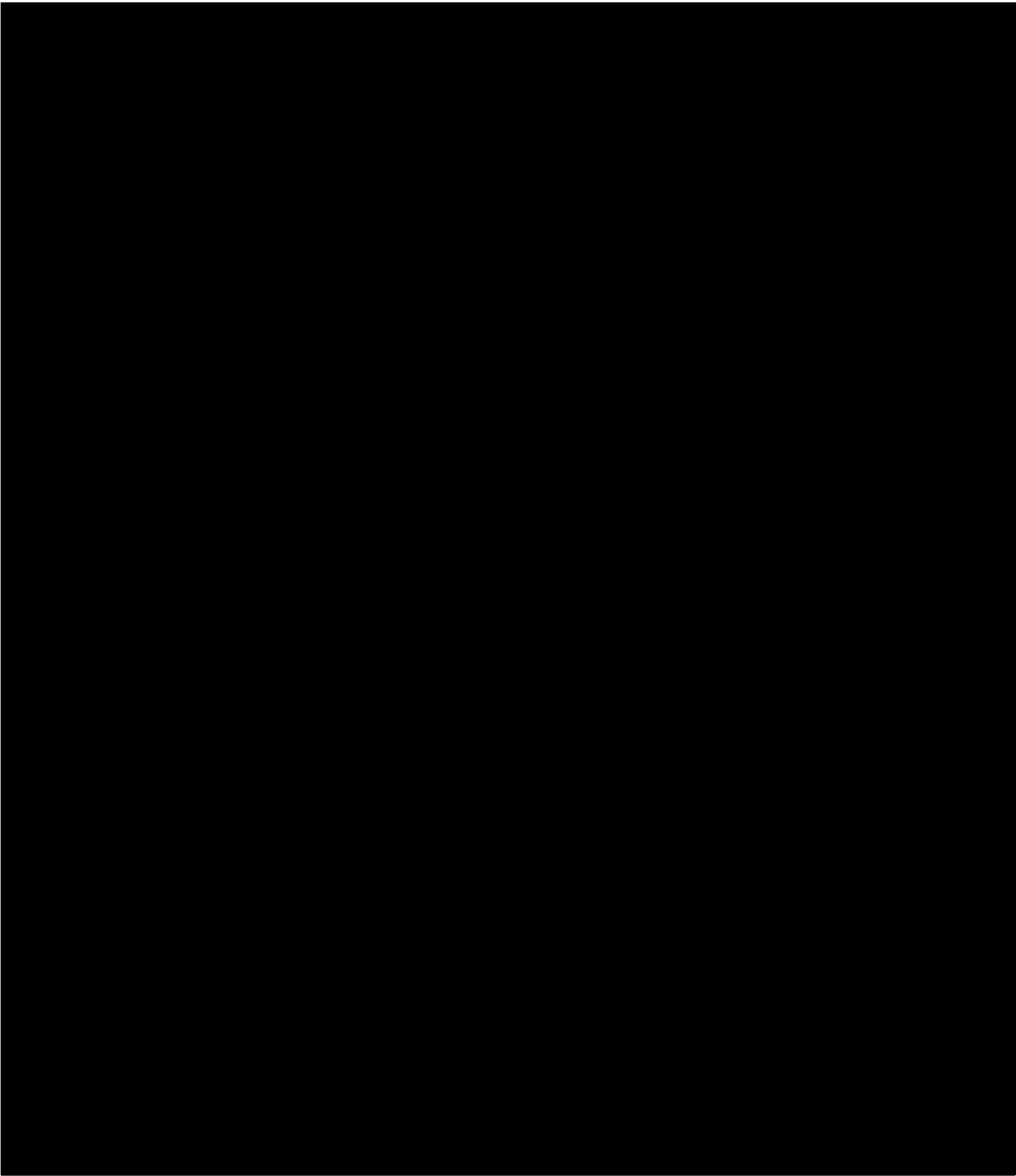


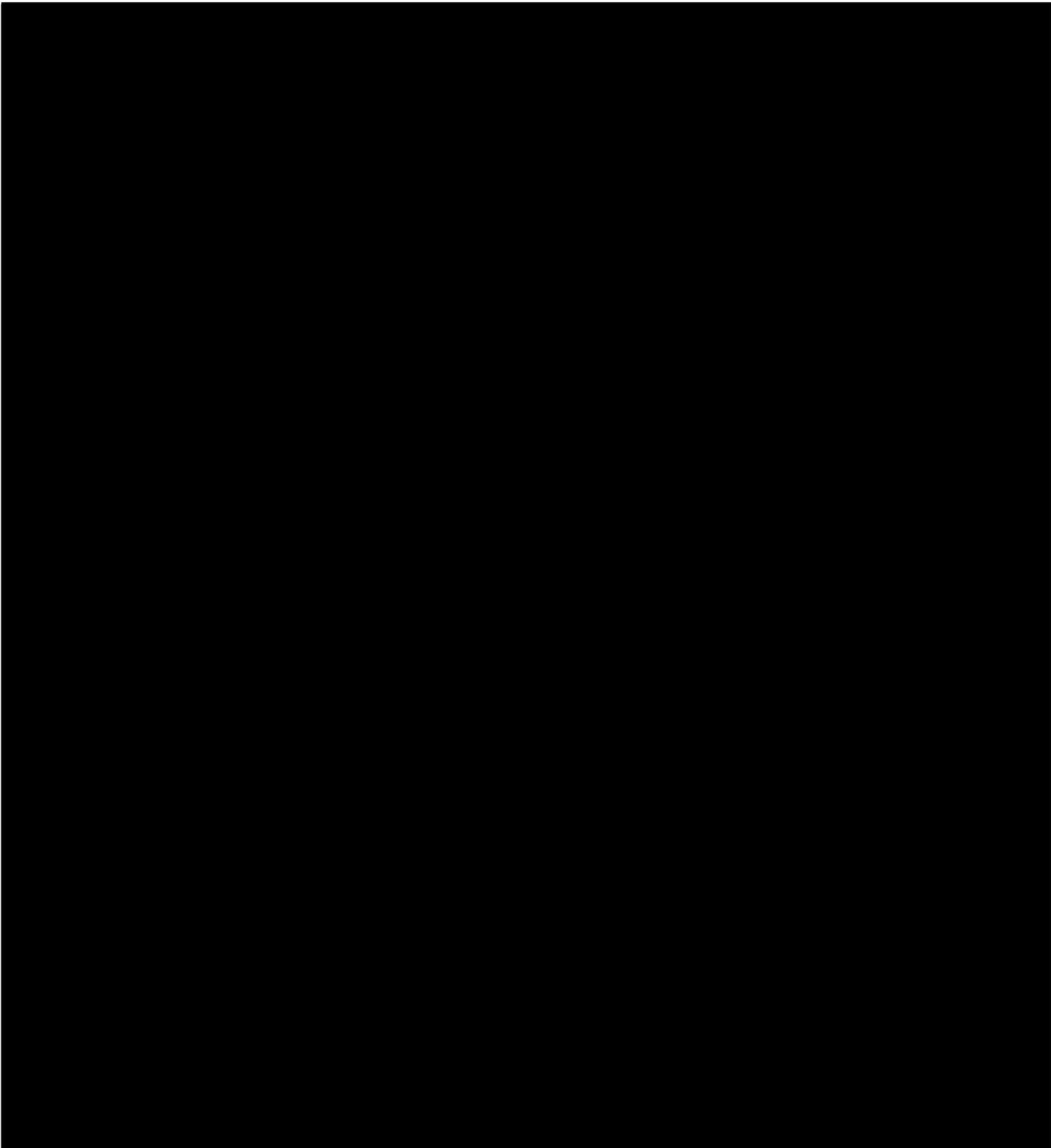


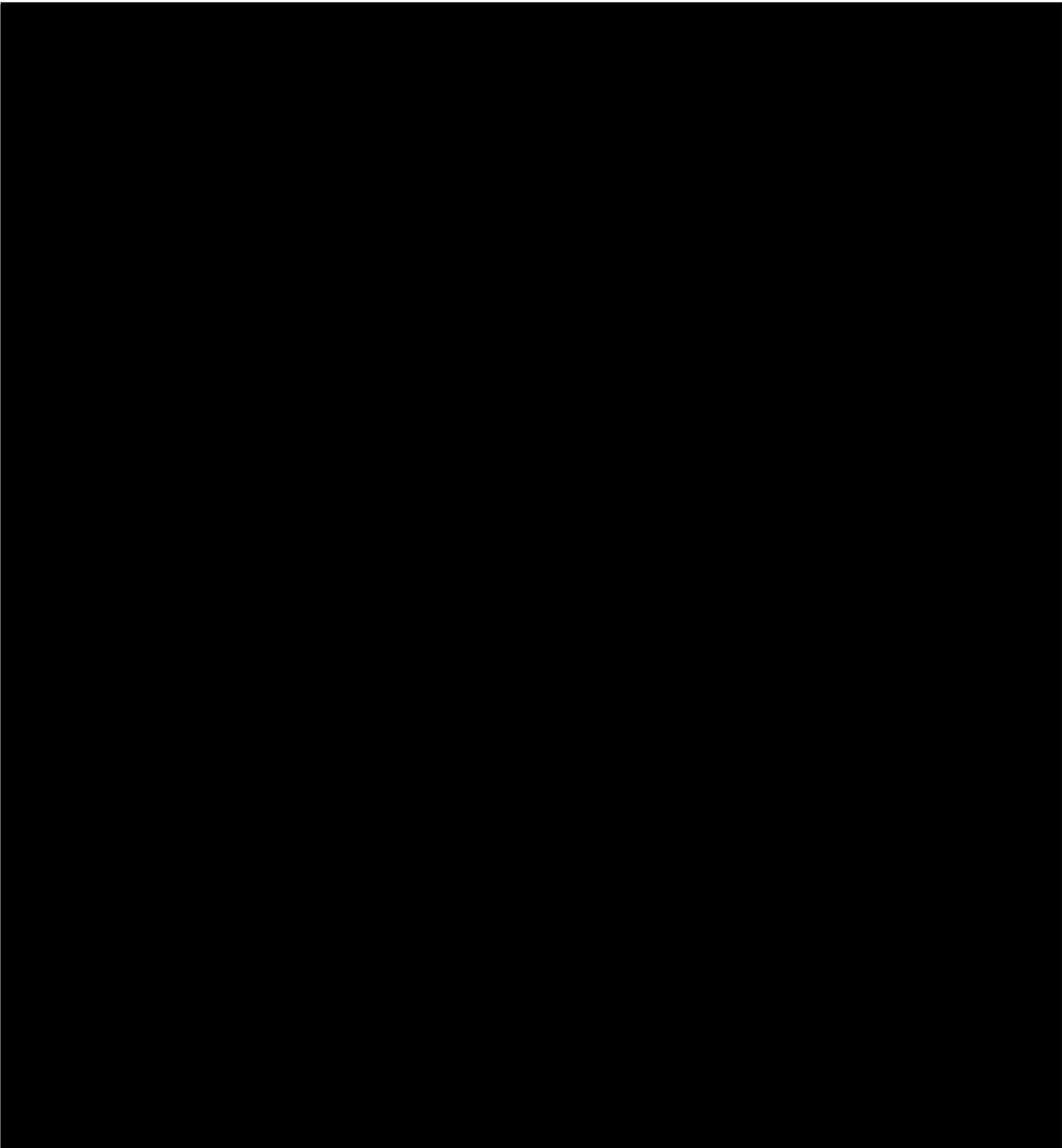












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