

### List of redactions

The following table lists the basis for all redactions in the contract under section 32 of the *Government Information (Public Access) Act 2009*.

There is no intention to release any of the material redacted in this contract at a later date.

Page number(s) of redaction	Basis for redaction
16	Commercial-in-confidence
17	Commercial-in-confidence
107	Security
108	Commercial-in-confidence
112-263	Security
270-292	Security
318-328	Security
332-334	Commercial-in-confidence
373-378	Commercial-in-confidence
385-394	Commercial-in-confidence
395	Not part of disclosable contract
396	Commercial-in-confidence
397-415	Not part of disclosable contract
416	Commercial-in-confidence
417	Not part of disclosable contract
418	Commercial-in-confidence
419-420	Not part of disclosable contract
421	Commercial-in-confidence
423	Commercial-in-confidence
424	Not part of disclosable contract

425	Commercial-in-confidence
426	Not part of disclosable
427- 428	Commercial-in-confidence
429	Not part of disclosable contract
430	Commercial-in-confidence
431-433	Not part of disclosable contract
434	Commercial-in-confidence
435	Not part of disclosable contract
436	Commercial-in-confidence
437	Not part of disclosable contract
438	Commercial-in-confidence
439-441	Not part of disclosable contract
442	Commercial-in-confidence
443	Not part of disclosable contract
444	Commercial-in-confidence
445-450	Not part of disclosable contract
451	Commercial-in-confidence
452-453	Not part of disclosable contract
454	Commercial-in-confidence
455	Not part of disclosable contract
456	Commercial-in-confidence
457	Not part of disclosable contract
458	Commercial-in-confidence
459-460	Not part of disclosable contract
461-462	Commercial-in-confidence
463-466	Not part of disclosable contract



467	Commercial-in-confidence
468	Not part of disclosable contract
469	Commercial-in-confidence
470-481	Not part of disclosable contract
482	Commercial-in-confidence
483	Not part of disclosable contract
484	Commercial-in-confidence
485-510	Not part of disclosable contract
511	Commercial-in-confidence
513	Commercial-in-confidence
514-542	Not part of disclosable contract
543	Commercial-in-confidence
545	Commercial-in-confidence
546-572	Not part of disclosable contract
573	Commercial-in-confidence
574-576	Not part of disclosable contract
577	Commercial-in-confidence
579-584	Not part of disclosable contract
585	Commercial-in-confidence
588-594	Not part of disclosable contract
595	Commercial-in-confidence
596-610	Not part of disclosable contract
611	Commercial-in-confidence
613	Commercial-in-confidence
614-632	Not part of disclosable contract
633	Commercial-in-confidence

635	Commercial-in-confidence
637	Commercial-in-confidence
639	Commercial-in-confidence
640-642	Not part of disclosable contract
643	Commercial-in-confidence
644-658	Not part of disclosable contract
659	Commercial-in-confidence
660-665	Not part of disclosable contract
666	Commercial-in-confidence
667-678	Not part of disclosable contract
679	Commercial-in-confidence
681	Commercial-in-confidence
683	Commercial-in-confidence
684-690	Not part of disclosable contract
691	Commercial-in-confidence
694-696	Not part of disclosable contract
697	Commercial-in-confidence
698-702	Not part of disclosable contract
703	Commercial-in-confidence
704	Not part of disclosable contract
705	Commercial-in-confidence
706-707	Not part of disclosable contract
708-709	Commercial-in-confidence
710-713	Not part of disclosable contract
714	Commercial-in-confidence
715	Not part of disclosable contract

716	Commercial-in-confidence
717-728	Not part of disclosable contract
729	Commercial-in-confidence
730	Not part of disclosable contract
731	Commercial-in-confidence
732-757	Not part of disclosable contract
758	Commercial-in-confidence
759-761	Not part of disclosable contract
762	Commercial-in-confidence
763	Not part of disclosable contract
764	Commercial-in-confidence
765	Not part of disclosable contract
766	Commercial-in-confidence
767-772	Not part of disclosable contract
773	Commercial-in-confidence
774-775	Not part of disclosable contract
776	Commercial-in-confidence
777	Not part of disclosable contract
778	Commercial-in-confidence
779	Not part of disclosable contract
780	Commercial-in-confidence
781-783	Not part of disclosable contract
784-786	Commercial-in-confidence
787	Not part of disclosable contract
788	Commercial-in-confidence
789-807	Not part of disclosable contract

808	Commercial-in-confidence
809	Not part of disclosable contract
810	Commercial-in-confidence
811-812	Not part of disclosable contract
813	Commercial-in-confidence
814	Not part of disclosable contract
815	Commercial-in-confidence
816	Not part of disclosable contract
817	Commercial-in-confidence
818	Not part of disclosable contract
819-821	Commercial-in-confidence
822	Commercial-in-confidence
826	Commercial-in-confidence
828-829	Not part of disclosable contract
832	Commercial-in-confidence
833-839	Not part of disclosable contract
842	Commercial-in-confidence
843-851	Not part of disclosable contract
854	Commercial-in-confidence
855-883	Not part of disclosable contract
886	Commercial-in-confidence
891	Commercial-in-confidence
892-899	Not part of disclosable contract
904	Commercial-in-confidence
905-907	Not part of disclosable contract
908	Top half of page: Commercial-in-confidence

	Bottom half of page: Not part of disclosable contract.
909-911	Commercial-in-confidence
912	Commercial-in-confidence
914	Commercial-in-confidence
916	Commercial-in-confidence
918	Commercial-in-confidence
919-921	Not part of disclosable contract
922	Commercial-in-confidence
924	Commercial-in-confidence
926	Commercial-in-confidence
928	Commercial-in-confidence
930	Commercial-in-confidence
933-938	Commercial-in-confidence
939-945	Not part of disclosable contract
946	Commercial-in-confidence
948	Commercial-in-confidence
950-953	Not part of disclosable contract
954	Commercial-in-confidence
956	Commercial-in-confidence
958	Commercial-in-confidence
961	Commercial-in-confidence
962-963	Commercial-in-confidence
964-966	Not part of disclosable contract
967	Commercial-in-confidence
969	Commercial-in-confidence
973-976	Not part of disclosable contract

977	Commercial-in-confidence
979	Commercial-in-confidence
983	Commercial-in-confidence
987	Commercial-in-confidence
988-989	Not part of disclosable contract
990	Commercial-in-confidence
992	Commercial-in-confidence
993-995	Not part of disclosable contract
996	Commercial-in-confidence
1004	Commercial-in-confidence
1005-1015	Not part of disclosable contract
1016	Commercial-in-confidence
1018	Commercial-in-confidence
1022	Commercial-in-confidence
1024	Commercial-in-confidence
1026-1037	Not part of disclosable contract
1038	Commercial-in-confidence
1039-1040	Not part of disclosable contract
1041	Commercial-in-confidence
1042-1045	Not part of disclosable contract
1046-1047	Commercial-in-confidence
1049-1051	Commercial-in-confidence
1052-1054	Not part of disclosable contract
1056	Commercial-in-confidence
1057	Not part of disclosable contract
1058	Commercial-in-confidence

1060	Commercial-in-confidence
1061	Not part of disclosable contract
1062	Commercial-in-confidence
1064-1065	Commercial-in-confidence
1067	Commercial-in-confidence
1069	Commercial-in-confidence
1070-1072	Not part of disclosable contract
1073	Commercial-in-confidence
1074-1082	Not part of disclosable contract
1083	Commercial-in-confidence
1085-1086	Commercial-in-confidence
1088-1093	Commercial-in-confidence
1094-1100	Not part of disclosable contract
1102-1103	Commercial-in-confidence
1104-1106	Not part of disclosable contract
1107	Commercial-in-confidence
1110	Commercial-in-confidence
1111	Commercial-in-confidence
1114-1115	Commercial-in-confidence
1116	Not part of disclosable contract

**SYDNEY TRAINS  
PROFESSIONAL SERVICES AGREEMENT**

## **PROFESSIONAL SERVICES AGREEMENT**

**ROC MULTI-DISCIPLINARY DESIGN SERVICES**

**CONTRACT NUMBER: CW47307**

**BETWEEN**

**Sydney Trains**  
ABN 38 284 779 682

**(the Principal)**

**AND**

**Jacobs Group (Australia) Pty Limited**  
ABN 37 001 024 095

**(the Contractor)**



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## Formal Instrument of Agreement

**This Agreement is made at Sydney on the Commencement Date (as defined in the General Terms and Conditions)**

**Parties**                    **Sydney Trains (ABN 38 284 779 682)** of Level 20, 477 Pitt Street, Sydney, NSW 2000 (**Principal**); and

**Jacobs Group (Australia) Pty Limited (ABN 37 001 024 095)** of 100 Christie Street, St Leonards, NSW 2065 (**Contractor**)

### RECITALS

- A     The Principal issued a Request For Tender for the undertaking of the Services.
- B     The Contractor lodged a tender proposal to supply the Services to the Principal, which was received by the Principal.
- C     The Contractor's tender documentation represented to the Principal that the Contractor has the necessary skill, experience, available resources and professional competence to perform the Services in accordance with this Agreement.
- D     In reliance on the facts and matters above, the Principal wishes to engage the Contractor to undertake the Services on the terms and conditions set out in the Agreement.

### THE PARTIES AGREE

- 1.     Any word, expression, reference or term used in this Formal Instrument of Agreement (including the Recitals) which is defined in the General Terms and Conditions shall, unless the context otherwise requires, have in this Formal Instrument of Agreement the same meaning as in the General Terms and Conditions.
- 2.     The Principal engages the Contractor to perform the Works in accordance with the terms of this Agreement and the Contractor accepts the engagement.
- 3.     The documents listed below (in the following order of precedence) together comprise this Agreement:
  - (a)    this Formal Instrument of Agreement;
  - (b)    Part 1 - Contract Particulars;
  - (c)    Part 2 - General Terms and Conditions (but excluding all Annexures); and
  - (d)    All Annexures.

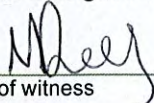
4. The parties agree that to the extent of any inconsistency between any of the documents which make up this Agreement, the terms of the document with a higher precedence above will prevail.


**EXECUTION**

6<sup>th</sup> August 2015

Signed as an Agreement

Signed for and on behalf of the **Sydney Trains (ABN 38 284 779 682)** by its authorised delegate in the presence of:

  
\_\_\_\_\_  
Signature of witness

  
\_\_\_\_\_  
Signature of authorised delegate



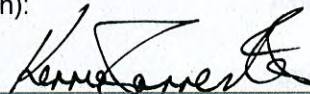
Michelle Day  
\_\_\_\_\_  
Name of witness (print)


Milee Beausieu  
\_\_\_\_\_  
Name of authorised delegate (print)

\_\_\_\_\_  
Date

6/8/2015  
\_\_\_\_\_  
Date

Signed by **Jacobs Group (Australia) Pty Limited (37 001 024 095)** in accordance with section 127 of the *Corporations Act 2001* (Cth):

  
\_\_\_\_\_  
Signature of director/company secretary

KARL RICHARD RIEDEL  
  
\_\_\_\_\_  
Signature of director

KERRIE ANNE FORRESTER  
\_\_\_\_\_  
Name of director/company secretary (print)

\_\_\_\_\_  
Name of director (print)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date



ch



4. The parties agree that to the extent of any inconsistency between any of the documents which make up this Agreement, the terms of the document with a higher precedence above will prevail.

**EXECUTION**

6<sup>th</sup> August 2015

Signed as an Agreement

Signed for and on behalf of the **Sydney Trains (ABN 38 284 779 682)** by its authorised delegate in the presence of:

M. Day  
Signature of witness

Michelle Day  
Name of witness (print)

[Signature]  
Signature of authorised delegate

MIKE BARNARD  
Name of authorised delegate (print)

6/8/2015  
Date



Signed by **Jacobs Group (Australia) Pty Limited (37 001 024 095)** in accordance with section 127 of the *Corporations Act 2001* (Cth):

[Signature]  
Signature of director/company secretary

KERRIE ANNE FORRESTER  
Name of director/company secretary (print)

\_\_\_\_\_  
Date

[Signature]  
Signature of director

KARL RICHARD RIEDEL  
Name of director (print)

\_\_\_\_\_  
Date



[Signature]

## PART 1 - CONTRACT PARTICULARS

- Item 1:** The Services are as described in the Services Brief.  
**Services**  
(clause 1.1 & 2)
- Item 2:** the lump sum amount of [REDACTED] excluding GST  
**Fees**  
(clauses 1.1 & 12.1)
- Item 3:** not used
- Item 4:** not used
- Item 5:** not used
- Item 6:** not used
- Item 7:** 100 Christie Street, St Leonards NSW 2065  
**Contractor's Premises**  
(clauses 1.1 and 2.12)
- Item 8:** 477 Pitt Street, Sth Tower (including level 13).  
**Worksite**  
(clauses 1.1 & 2.13)
- Item 9:** Nando Nicotra - Project Director  
**Key Personnel** Peter Boase - Project Manager  
(clauses 1.1 & 2.4) Vaughn Lane - Principal Architect  
Mong Seow - Architect Lead  
John De Luca - Architect Early Works  
Tim Eley - Structural / Civil Lead  
Mairead Hogan - Control Room Lead  
Ahmad Al Tamimi - Verification Validation  
Richard Todd - Structures  
Luis Martinez - Electrical
- Item 10:** The date specified in the Program.  
**Date for completion of Services**  
(clause 2.3(b)(i))
- Item 11:** not used  
)
- Item 12:** As required by section 295 of the Work Health and Safety  
**Safety Report** Regulations 2011 (NSW) or when requested by the Principal.  
(clause 2.16(b))
- Item 13:** Deed Poll required: Yes  
**Deed Poll**  
(Clause 2.18)

<b>Item 14: Insurances</b> (clause 7)	<p><b>Public Liability Insurance:</b> \$20 million] (Sydney Trains to be noted as an interested party on policy)</p> <p><b>Products Liability Insurance:</b> \$20 million (Sydney Trains to be noted as an interested party on policy)</p> <p><b>Professional Indemnity Insurance:</b> [REDACTED]</p> <p>Period for maintaining Professional Indemnity Insurance: 6 years following the date of completion of all Services under this Agreement)</p>
<b>Item 15:</b>	not used
<b>Item 16:</b>	not used
<b>Item 17: Disbursements</b> (clause 12.2)	<p>not used</p> <p>It is specified that the Contractor is not entitled to be reimbursed, and the Principal is not liable for, any Disbursements or part thereof</p>
<b>Item 18: Payment Claim</b> (clause 12.2)	On the last business day of each calendar month
<b>Item 19: Period for payment</b> (clause 12.4)	15 Business Days after the relevant Payment Claim is made
<b>Item 20: Limitation of Liability</b> (clause 16)	\$10 million
<b>Item 21: Representatives and Notices</b> (clause 1.1, 9.1, 9.3 and 19)	<p><b>Principal</b> Principal's Representative: Dean Cambridge ABN: 38 284 779 682 Address: Level 13 South, 477 Pitt St, Sydney NSW 2000 Australia</p> <p>Facsimile No: n/a Tel: +61 2 8922 0562 Attention: Dean Cambridge</p> <p><b>Contractor</b> Contractor's Representative: Nando Nicotra ABN: 37 001 024 095 Address: 100 Christie Street St Leonards NSW 2065 Australia Facsimile No: +61 2 9928 2500 Tel: +61 2 9928 2100 Attention: Nando Nicotra</p>
<b>Item 22: Quality management system</b>	<p>As specified in the Services Brief.</p> <p><i>If no standard is specified, the default standard is the more onerous of the NSW Government Guidelines relating to a quality management system and AS/NZS ISO 9001.</i></p>

**Item 23:**  
**Work Health & Safety**  
**System**  
(Annexure B)

As specified in the Services Brief.

*If no standard is specified, the default standard is the more onerous of the NSW Government Guidelines relating to a Work Health and Safety System and AS/NZS 4801.*

**Item 24:**  
**Rail Safety Work**  
(Annexure A)

Annexure A does apply to this Agreement.



## PART 2 - GENERAL TERMS AND CONDITIONS

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### 1 DEFINITIONS AND INTERPRETATION

#### 1.1 Definitions

In this Agreement, unless the context otherwise requires:

**Ad Hoc Services** means the services referred to in Annexure P or services of a similar nature and any incidental or related services.

**Ad Hoc Services Direction** has the meaning in clause 11.9(a).

**Ad Hoc Services Fee** has the meaning in clause 11.9(c).

**Ad Hoc Services Rates** means:

- (a) if this Agreement prescribes specific rates (including in Annexure E or Annexure P) to be used for the relevant Ad Hoc Services, those rates;
- (b) to the extent that (a) does not apply, reasonable industry rates having regard to the relevant Ad Hoc Services and the requirements of the Ad Hoc Services Direction.

**Ad Hoc Services Specialist** means a person suitably qualified and experienced to carry out the Ad Hoc Services in accordance with Good Industry Practice.

**Agreement** means this agreement between the Contractor and the Principal, comprising the documents listed in clause 3 of the Formal Instrument of Agreement.

**Authority** means any federal, state, territorial or local government department, body, instrumentality, state owned corporation, or other organisation having the right to give any consent, certificate, approval, permit or licence in relation to the Services.

**Business Day** means any day other than:

- (a) a day that is a Saturday, Sunday or public holiday generally in New South Wales; or
- (b) 27, 28, 29, 30 and 31 December of each year.

**Claim** means any action, suit, claim, demand, cause of action or notice, of any nature whatsoever, at law or in equity, including:

- (a) in contract, whether for breach or for an entitlement under a contract;
- (b) in tort for negligence or otherwise, including without limitation negligent misrepresentation;
- (c) for contribution or indemnity at common law, equity or statute;
- (d) for restitution, unjust enrichment or quantum meruit;
- (e) under or for breach of statute; or

(f) in any other way,  
whether for a Loss or a Remedy.

**Commencement Date** means the date that the last party executes the Formal Instrument of Agreement.

**Completion Base Number** means amounts described as such in Annexure N Part 1.

**Confidential Information** means:

- (a) information disclosed by or on behalf of the Principal to the Contractor or its representatives (or of which the Contractor or its representatives become aware) in the course of discussions in relation to the Services;
- (b) information acquired by the Contractor or its representatives in the course of discussions prior to the date of this Agreement in relation to the Services;
- (c) information designated as confidential by the Principal from time to time; and
- (d) any other information which by its nature should reasonably be considered to be the confidential information of the Principal,

whether or not marked as "Commercial in Confidence", "Proprietary" or "Confidential", and which may be provided in writing, electronically, verbally or otherwise, but does not include any information which the Contractor can demonstrate to be in the public domain or was known to the Contractor at the time of disclosure other than through a breach of this Agreement.

**Consequential Loss or Damage** means loss of production, loss of revenue, loss of profit, loss of goodwill, loss of reputation, business interruption of any nature, loss of business or business opportunities, loss of anticipated savings or wasted overheads, loss of use, loss or corruption of data or information or anything beyond the normal measure of damages but excludes the costs and losses associated with replacement of rail services with buses.

**Contract Material** means any Material created, written or otherwise brought into existence by or on behalf of the Contractor in the course of performing this Agreement in which subsists newly created Intellectual Property Rights.

**Contract Particulars** means the document which is so titled and attached at the front of this Agreement.

**Contractor's Premises** means the property or properties specified in Item 7 of the Contract Particulars or otherwise nominated by the Principal in writing.

**Contractor's Representative** means the person identified in Item 21 of the Contract Particulars.

**Date of Occupancy** means the date that a certificate of occupancy is issued in respect of the main building which will form part of the Project.

**Disbursements** means expenses of the Contractor.

**Event of Insolvency** means, in respect of the Contractor, if:

- (a) the Contractor informs the Principal in writing or creditors generally that the Contractor is insolvent or is financially unable to proceed with this Agreement;
- (b) execution is levied against the Contractor by a creditor;

- (c) if the Contractor is an individual person or a partnership including an individual person, that person:
  - (i) commits an act or bankruptcy;
  - (ii) has a bankruptcy petition presented against him or her or presents his or her own petition;
  - (iii) is made bankrupt;
  - (iv) makes a proposal for a scheme of arrangement or a composition;
  - (v) has a deed of assignment or deed of arrangement made, accepts a composition, is required to present a debtor's petition, or has a sequestration order made, under Part X of the Bankruptcy Act 1966 (Cth); or
  - (vi) any act is done or event occurs which has an analogous or similar effect to any of the events in paragraphs (a), (b) or (c); or
- (d) if the Contractor is a corporation:
  - (i) notice is given of a meeting of creditors with a view to the Contractor entering into a deed of company arrangement;
  - (ii) the Contractor enters into a deed of company arrangement with creditors;
  - (iii) a controller or administrator is appointed to the Contractor;
  - (iv) an application is made to a court for the winding-up of the Contractor and not stayed within 14 days;
  - (v) a winding-up order is made in respect of the Contractor;
  - (vi) the Contractor resolves by special resolution that the Contractor be wound up voluntarily (other than for a members' voluntary winding-up);
  - (vii) a mortgagee of any property of the Contractor takes possession of that property; or
  - (viii) any act is done or event occurs which has an analogous or similar effect to any of the events in paragraphs (a), (b) or (d).

**Existing Contract Material** means any Material which exists at the Commencement Date and which is incorporated in the Contract Material.

**Fee or Fees** means the fee described in Item 2 of the Contract Particulars.

**Good Industry Practice** means the care, skill, diligence, prudence and foresight reasonably or ordinarily expected of a competent, qualified, skilled and experienced Contractor providing similar services to the Services to an organisation like the Principal, seeking to comply with its contractual and legal obligations and having regard to the requirements of the Principal and any other circumstances affecting the carrying out of the Services.

**GST** has the meaning given to this term in the GST Law.

**GST Law** means A New Tax System (Goods and Services Tax) Act 1999, related legislation and any delegated legislation made pursuant to such legislation.

**ICAC** means the Independent Commission Against Corruption established under the Independent Commission Against Corruption Act 1988 (NSW).

**Incentive KPIs** means the KPIs set out in Annexure N Part 1.

**Information Document** means any information, data, document or material which:

- (a) forms part of the Principal's Material;
- (b) at the time of issue (or being provided or made available) by or on behalf of the Principal to the Contractor is expressly stated to be an "Information Document"; or
- (c) is referred to or incorporated by reference in an Information Document,

irrespective of the form of the information, data, document or material (including electronic and oral forms).

**Intellectual Property Rights** includes any and all intellectual and industrial property rights throughout the world, whether subsisting now or in the future and includes all copyright and analogous rights, all rights in relation to inventions (including patent rights), registered and unregistered trademarks, designs (whether or not registered or registrable), circuit layouts, trade names, trade secrets, business names, company names or internet domain names.

**Insolvency Event** means:

- (a) a person informs the other party in writing, or its creditors generally, that the person is insolvent or is unable to proceed with the Agreement for financial reasons;
- (b) execution is levied against a person by a creditor;
- (c) in relation to an individual person or a partnership including an individual person, the person:
  - (i) commits an act of bankruptcy;
  - (ii) has a bankruptcy petition presented against him or her or presents his or her own petition;
  - (iii) is made bankrupt;
  - (iv) makes a proposal for a scheme of arrangement or a composition; or
  - (v) has a deed of assignment or deed of arrangement made, accepts a composition, is required to present a debtor's petition, or has a sequestration order made, under Part X of the Bankruptcy Act 1966 (Cth); or
- (d) in relation to a corporation any one of the following:
  - (i) notice is given of a meeting of creditors with a view to the corporation entering into a deed of company arrangement;
  - (ii) the corporation entering a deed of company arrangement with creditors;
  - (iii) a controller, administrator, receiver, receiver and manager, provisional liquidator or liquidator is appointed to the corporation;
  - (iv) an application is made to a court for the winding up of the corporation and not stayed within 14 days;

- (v) a winding up order is made in respect of the corporation;
- (vi) the corporation resolves by special resolution that it be wound up voluntarily (other than for a members' voluntary winding-up); or
- (vii) a mortgagee of any property of the corporation takes possession of that property.

**Key Personnel** means the persons specified in Item 9 of the Contract Particulars as replaced from time to time in accordance with clause 2.4.

**KPI or Key Performance Indicator** means any of the key performance indicators set out in the table at Annexure N.

**Law** means:

- (a) all Commonwealth, New South Wales or local government legislation including any regulations, ordinances, instruments, codes, requirements, by-laws, orders, proclamations and other subordinate legislation;
- (b) common law (including equity); and
- (c) Authority approvals and the lawful requirements of any person acting in the exercise of statutory powers enabling them to give directions affecting the Contractor's obligations under this Agreement.

**Loss** means any money, cost, expense, damage, interest, penalty, fine, delay, disruption, costs and losses associated with a Remedy or detriment of any kind whatsoever.

**Material** includes documents, information and data stored by any means.

**Milestone** means the Milestones described as such in Annexure N Part 1.

**Milestone Base Number** means the amounts described as such in Annexure N Part 1.

**Moral Rights** means the right of integrity of authorship, the right of attribution of authorship and the right not to have authorship falsely attributed, more particularly as conferred by the Copyright Act 1968 (Cth), and rights of a similar nature anywhere in the world whether existing at the Commencement Date or which may come into existence on or after the Commencement Date.

**Payment Claim** means a payment claim issued by the Contractor under clause 12.2.

**Payment Statement** means a payment statement issued by the Principal under clause 12.3.

**Personal Information** has the same meaning as in the Privacy and Personal Information Protection Act 1998 (NSW).

**Personnel** means:

- (a) in respect of the Contractor, any Related Entity of the Contractor and any directors, officers, employees, consultants, agents and contractors of the Contractor; and
- (b) in respect of the Principal, any Related Entity of the Principal and any directors, officers, employees, consultants, agents and contractors of the Principal (other than the Contractor or any of its Related Entities).

**Potential Completion Incentive** has the meaning given to it in clause 8.5(c).

**Potential Milestone Incentive** has the meaning given to it in clause 8.5(b).

**Principal's Policies, Codes and Standards** means the most recent version of the policies, codes and standards set out in Annexure B and as updated from time to time and otherwise made known to the Contractor by the Principal's Representative.

**Principal's Material** means any Material supplied by the Principal to the Contractor by whatever means in relation to this Agreement.

**Principal's Representative** means the person identified in Item 21 of the Contract Particulars.

**Privacy Laws** means the Privacy and Personal Information Protection Act 1998 (NSW), the Privacy Act 1988 (Cth), and any applicable principles, codes of conduct or directions issued under those Acts and all other applicable Laws relating to privacy or personal information.

**Program** means

- (a) the program for the delivery of the Services set out in Annexure D;
- (b) as revised and approved in accordance with clause 10.1.

**Project** means the project described in the Services Brief.

**Rail Corridor** means any land used in relation to the operation of a railway station or a railway, being land defined by railway boundary fencing and in the absence of such fencing, is defined as everywhere within 15 metres of the outermost rails.

**Rail Safety National Law** means the Rail Safety National Law (NSW) No 82a and the Rail Safety National Law National Regulations 2012 (NSW).

**Rail Safety Worker** has the meaning given in section 4 of the Rail Safety National Law.

**RailCorp** means Rail Corporation New South Wales ABN 59 325 778 353.

**Related Entity** in relation to:

- (a) the Contractor, has the meaning given to 'related body corporate' in section 9 of the Corporations Act 2001 (Cth); and
- (b) the Principal, means any "public transport agency" (as defined in the Transport Administration Act 1988 (NSW)), the State of New South Wales, and any entity controlled by any of them.

**Remedy** means any entitlement, damages, interest, compensation, contribution, indemnity, injunction, specific performance, extension of time or other legal or equitable or statutory remedy of any kind whatsoever.

**Safety Report** means the report required to be prepared by a designer of a structure by regulation 295 of the Work Health and Safety Regulations 2011 (NSW).

**Services** means the services specified in Item 1 of the Contract Particulars and any incidental or related services requested in writing by the Principal, and also includes any Ad Hoc Services required to be performed under this Agreement.

**Services Brief** means the document which is annexed as Annexure C to this Agreement, as amended from time to time in accordance with clause 11.

**SOP Act** means the Building and Construction Industry Security of Payment Act 1999 (NSW).

**Standard KPIs** means the KPIs set out in Annexure N Part 2.

**Subcontractor** means a person engaged by the Contractor in accordance with clause 6 to provide part of the Services and includes a supplier of goods or services or both.

**Supply** has the meaning given to it in the GST Law.

**Transport Administration Act** means the Transport Administration Act 1988 (NSW).

**Variation** has the meaning given in clause 11.1.

**Weighted Score** has the meaning in clause 8.6(b).

**WHS Legislation** means:

- (a) the Work Health and Safety Act 2011 (NSW) and the Work Health and Safety Regulations 2011 (NSW); and
- (b) all other Laws relating to work health and safety which apply in the jurisdiction in which the Services are being executed, including the Rail Safety National Law.

**Worksite** means the site(s) (if any) for the provision of the Services set out in Item 8 of the Contract Particulars.

## 1.2 Interpretation

In this Agreement:

- (a) headings are for convenience only and do not affect interpretation, and the following rules apply in interpreting this Agreement unless the context makes clear that a rule is not intended to apply:
- (b) an obligation or a liability assumed by, or a right conferred on, two or more persons binds or benefits them jointly and severally;
- (c) "**person**" includes an individual, the estate of an individual, a corporation, an Authority, an association or a joint venture (whether incorporated or unincorporated), a partnership and a trust;
- (d) a reference to a party includes that party's executors, administrators, successors and permitted assigns, including persons taking by way of novation;
- (e) a reference to a document (including this Agreement) is to that document as varied, novated, ratified or replaced from time to time;
- (f) a reference to a statute includes its delegated legislation and a reference to a statute or delegated legislation or a provision of either includes consolidations, amendments, re-enactments and replacements;
- (g) a word importing the singular includes the plural (and vice versa), and a word indicating a gender includes every other gender;
- (h) a reference to a party, clause, schedule, exhibit, attachment or annexure is a reference to a party, clause, schedule, exhibit, attachment or annexure to or of this Agreement, and a reference to this Agreement includes all schedules, exhibits, attachments and annexures to it;

- (i) if a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning;
- (j) **"includes"** in any form is not a word of limitation;
- (k) a reference to "\$" or **"dollar"** is to Australian currency and unless specified otherwise, all monetary amounts are expressed to be exclusive of GST;
- (l) if the day on or by which anything is to be done under this Agreement is not a Business day, that thing must be done no later than the next Business Day;
- (m) no provision of this Agreement is to be interpreted to the disadvantage of a party because that party (or its representative) drafted that provision;
- (n) any provision of this Agreement which seeks to limit or exclude a liability of a party is to be construed as doing so only to the extent permitted by Law; and
- (o) where a reference is made to any Authority which ceases to exist (Former Body), that reference will be to that Authority which then serves substantially the same functions as the Former Body (Replacement Body). Any reference to any senior officer of the Former Body will be to the equivalent senior officer of the Replacement Body.

## **2 THE SERVICES**

### **2.1 Engagement**

The Principal engages the Contractor to perform the Services in accordance with this Agreement.

### **2.2 Not used**

### **2.3 Contractor's Obligations**

- (a) The Contractor must provide the Services in accordance with this Agreement.
- (b) Without limiting the generality of clause 2.3(a), the Contractor must:
  - (i) commence and progress the Services expeditiously and without delay and in accordance with the Program;
  - (ii) if a date for completion for all or any part of the Services is included in Item 10 of the Contract Particulars, complete the Services or the relevant part of Services (as applicable) by that date;
  - (iii) perform the Services in accordance with any directions of the Principal or the Principal's Representative, which directions may be given orally unless otherwise stated in this Agreement;
  - (iv) perform the Services in accordance with Good Industry Practice;
  - (v) comply with all obligations and meet all requirements set out in this Agreement, including the Services Brief;
  - (vi) if Item 24 of the Contract Particulars states that Annexure A does apply to this Agreement, comply with all obligations and meet all requirements set out in Annexure A;



- (vii) comply with all applicable Law, standards, codes and all applicable requirements of any Authority;
- (viii) carry out the Services having regard to the requirements of the Project and any other circumstances affecting the carrying out of the Services;
- (ix) ensure that it and its Personnel are familiar with and comply with the Principal's Policies, Codes and Standards;
- (x) use all reasonable efforts to inform itself of the requirements of the Principal and regularly consult with the Principal during the performance of the Services;
- (xi) allocate sufficient resources in order to perform the Services in accordance with this Agreement; and
- (xii) coordinate and liaise with every other person performing any other work in connection with the Services to ensure that the Services and the other work are completed in such a way that no additional costs and no delays are incurred with respect to the Services or any other work.

## 2.4 Personnel

- (a) The Contractor must:
  - (i) ensure that all Personnel utilised by it in connection with the Services are appropriately accredited, qualified, licensed, competent, experienced, reliable and trained in the provision of services of the nature of the Services;
  - (ii) subject to clauses 2.4(a)(iii) and 2.4(a)(iv), employ only the Key Personnel in the roles specified for them in Item 9 of the Contract Particulars;
  - (iii) ensure that neither it, nor its Personnel at any level, engage in any role in relation to the Services any person who has been identified by ICAC as having engaged in corrupt conduct;
  - (iv) immediately take steps to replace any Key Personnel who are unable to work or are requested by the Principal, acting reasonably, to be removed from the Services with replacement personnel of equivalent expertise and experience;
  - (v) without limiting clause 2.4(a)(iii), remove any Personnel within the time directed by the Principal if the Principal directs the Contractor to cease using that person in respect of any activity relating to the Services on the basis that the Principal considers that person's performance or conduct to be unsatisfactory; and
  - (vi) obtain the prior written approval of the Principal, which will not be unreasonably withheld, to the replacement of any Key Personnel or the appointment of any new Personnel to perform the Services.
- (b) The Principal may, at its sole discretion and at any time, require that the Contractor submit to, or require that the Contractor procure that any of its Personnel submit to, police checks or any other character or background checks required by the Principal. Where the Principal requires the Contractor or its Personnel to submit to such checks, the Contractor must procure all necessary consents from its Personnel, and must provide any other assistance reasonably required by the Principal in connection with the conduct of such checks.

- (c) The Contractor's responsibility for the performance of the Services and for the standard of performance by its Personnel is not altered in any way by anything done in accordance with this clause 2.4.

## 2.5 **Services not provided by the Contractor**

Without prejudice to any other right or remedy of the Principal, if the Contractor fails to provide the Services as required, the Principal may:

- (a) direct the Contractor to provide the Services so that they conform to the requirements of this Agreement and any directions given by the Principal's Representative; or
- (b) engage a third party to provide the Services and recover:
  - (i) the actual costs incurred by the Principal to engage a third party to provide the Services; or
  - (ii) if no costs have actually been incurred, the reasonable estimated cost of the Services being performed by a third party,

either by an adjustment in any monies due to the Contractor under clause 12.1 or by determining such amount and that amount being a debt due and payable from the Contractor to the Principal.

## 2.6 **Discrepancies in information**

If the Contractor considers that any documents forming part of this Agreement or other particulars made available to it by any person on behalf of the Principal and which may be relied on by the Contractor are inadequate or contain errors or ambiguities, the Contractor must give written notice to the Principal's Representative detailing the inadequacy, errors or ambiguities as soon as practicable. The Principal's Representative will direct the Contractor as to the interpretation to be followed following receipt of any such notice under this clause 2.6 having regard to the order of precedence set out in clause 3 of the Formal Instrument of Agreement.

## 2.7 **Reports and deliverables**

- (a) The Contractor must provide such reports and deliverables:
  - (i) containing the information;
  - (ii) in the format; and
  - (iii) meeting the requirements and standards,

as may be specified in or required by the Program or the Services Brief or as may otherwise be required by the Principal from time to time.

- (b) Any reports and deliverables required by this Agreement must be provided to the Principal by the date the relevant report or deliverable is required by the Program or the Services Brief.
- (c) If the Contractor submits a document to the Principal's Representative, then except where this Agreement expressly provides otherwise:
  - (i) the Principal's Representative does not assume or owe any duty of care or other responsibility to the Contractor, and shall not be required to check that

report or deliverable for errors, omissions, inconsistencies, ambiguities, discrepancies or compliance with this Agreement. The Contractor is not entitled to make any Claim in connection with the Principal's Representative not detecting or notifying the Contractor of any errors, omissions, inconsistencies, ambiguities or discrepancies;

- (ii) any review of, comments upon, or failure to review or comment upon, any report or deliverable provided by the Contractor or any other direction (including approval) by the Principal's Representative about the report or deliverable shall not:
  - (A) relieve the Contractor from, or alter or affect, the Contractor's liabilities or responsibilities under this Agreement or otherwise at Law; or
  - (B) prejudice the Principal's rights against the Contractor whether under this Agreement or otherwise according to legislative requirements.
- (d) If this Agreement or the Services Brief requires the Contractor to obtain the Principal's Representative's direction about that report or deliverable, the Principal's Representative shall give a direction, including reasons if the report or deliverable does not meet the requirements of this Agreement, including the Services Brief.
- (e) A direction by the Principal's Representative to vary anything in any report or deliverable will be a Variation to the Services only to the extent that the report or deliverable, before such Variation, complied, or would have complied, with the requirements of this Agreement and the Services Brief.
- (f) Without limiting the foregoing, the Contractor must, where reasonably required by the Principal, provide the Principal with status reports on the Services being provided under this Agreement.

## **2.8 Contractor's relationship with the Principal**

- (a) The Contractor must liaise, cooperate and confer with the Principal's Representative, other persons performing works relating to the Services and any other person nominated by the Principal.
- (b) Nothing in this Agreement will be construed or interpreted as constituting a relationship between the Principal and the Contractor of partners, joint venturers, fiduciaries, employer and employee or principal and agent.
- (c) The Contractor must not act outside the scope of the authority conferred on it by this Agreement and must not purport to bind the Principal in any way or hold itself out as having any authority to do so, except as specifically authorised pursuant to this Agreement or otherwise authorised by the Principal in writing.

## **2.9 Compliance**

- (a) Without limiting or otherwise restricting any other provision of this Agreement, the Contractor must perform the Services and meet the obligations and liabilities arising from or in connection with this Agreement in accordance with the requirements of applicable Laws (including the WHS Legislation and Privacy Laws), Australian standards, codes of practice and requirements of Authorities.
- (b) Without limiting or otherwise restricting clause 2.16, if the Contractor is required to have a licence or other approval from any Authority in order to provide the Services, the Contractor at its cost, will obtain and hold such licence or approval prior to commencement of the Services and will hold such licence or approval until the later

of the completion of the Services or termination of this Agreement and will provide the Principal with a copy of the same on request.

- (c) The Contractor must comply with all of the Principal's Policies, Codes and Standards relevant to the Contractor carrying out the Services.
- (d) The Contractor must comply with the Principal's requirements for working in the Rail Corridor and Rail Safety Work at Annexure A.

#### **2.10 Principal's Materials**

The Contractor must protect and keep safe and secure all of the Principal's Materials provided to the Contractor.

#### **2.11 Warranties and representations**

The Contractor warrants and represents to the Principal that:

- (a) it and its Personnel have the resources, knowledge, skill, ability, expertise, competence and qualifications to provide the Services and comply with this Agreement;
- (b) the Services and any deliverables will be fit and safe at all times for the purpose stated in this Agreement or otherwise made known to the Contractor;
- (c) whilst on the Worksite or the Principal's premises its Personnel will at all times comply with the Principal's Policies, Codes and Standards;
- (d) it has been duly incorporated in accordance with the Laws of the place of its incorporation and that it is validly existing under those Laws;
- (e) it has full authority and power to enter into and perform its obligations under this Agreement and can do so without the consent of any other person;
- (f) it has taken all action which is necessary to authorise the performance of this Agreement in accordance with its terms;
- (g) it is solvent; and
- (h) it has not entered or taken steps to enter and does not propose to enter into any arrangement, compromise or assumption with or assignment for the benefit of its creditors or any class of them.

#### **2.12 Access to Contractor's Premises**

The Contractor must:

- (a) at all reasonable times and upon reasonable notice, permit the Principal and its Personnel access to the Contractor's Premises in order for the Principal to inspect, discuss and assess the Contract Material, Existing Contract Material and any other material produced by or on behalf of the Contractor or obtained by the Contractor from any person in connection with the Services;
- (b) within a reasonable time of any request by the Principal, give the Principal access to, or verified copies of, any information, documents or materials (including its books and records) which may be reasonably required to enable any Claim by the Contractor for payment to be substantiated and verified by the Principal; and

- (c) do everything reasonably required by the Principal to allow the Principal to conduct an audit of the Contractor's compliance with this Agreement.

#### **2.13 Access**

- (a) This clause 2.13 applies if the Contractor is required to attend the Worksite in order to perform the Services and carry out its obligations in accordance with this Agreement.
- (b) The Principal shall give the Contractor sufficient access to the Worksite to enable the Contractor to perform its obligations under this Agreement.
- (c) The Contractor may only access the Worksite, and the areas around the Worksite, as directed by the Principal.
- (d) The Contractor acknowledges and agrees that:
  - (i) it will have non-exclusive access to the Worksite;
  - (ii) when arriving at the Worksite it must report to the Principal's Representative or any other party nominated by the Principal; and
  - (iii) it must not allow any person not connected with the provision of the Services into, or to remain on, the Worksite without the Principal's Representative's prior written consent.
- (e) When attending any Worksite, the Contractor and its Personnel:
  - (i) must not unreasonably obstruct, delay or interfere with the Principal's operations or Personnel at the Worksite; and
  - (ii) must comply with all reasonable directions from the Principal's Representative regarding their presence and activities at the Worksite.
- (f) The Principal's Representative may direct the Contractor to remove from the Worksite any person engaged in connection with the provision of the Services who, in the opinion of the Principal's Representative exercising absolute discretion, is guilty of misconduct, is incompetent, is negligent, has contravened any safety requirement of the Principal, or has interfered with the orderly progress of the Services. The Contractor must immediately comply with any such direction received from the Principal.
- (g) The Contractor must provide the Principal, and any other party whose details are notified by the Principal's Representative to the Contractor, with access to:
  - (i) all areas of the Worksite being used by the Contractor in connection with the provision of the Services; and
  - (ii) any other areas where a part of the Services is being carried out.
- (h) The Contractor must keep that part of the Worksite used for the Services clean and tidy and regularly remove rubbish and surplus material.

#### **2.14 No occupier's liability**

- (a) The Principal and its Personnel will not be responsible for any damage to the Contractor's property or to the property of the Contractor's Personnel or for any personal injury sustained by any of the Contractor's Personnel occurring on the

Principal's premises (including the Worksite) as a result of the carrying out of the Services or any act or omission of the Contractor or its Personnel.

- (b) The Contractor unconditionally and irrevocably releases the Principal and its Personnel from all responsibility and liability in respect of any Claim in relation to the matters referred to in clause 2.14(a).

## 2.15 Licensing and authorisation

The Contractor must:

- (a) ensure that if any Laws (including the WHS Legislation) require that:
  - (i) a person:
    - (A) be authorised or licensed (including in accordance with the WHS Legislation) to carry out any part of the Services at that workplace, that person is so authorised or licensed, and complies with any conditions of such authorisation or licence; and/or
    - (B) has prescribed qualifications or experience to carry out any part of the Services or, if not, is to be supervised by a person who has prescribed qualifications or experience (as defined in the WHS Legislation), that person has the required qualifications or experience or is so supervised; or
  - (ii) a workplace, plant or substance (or design), or work (or class of work) be authorised or licensed, that workplace, plant or substance, or work is so authorised or licensed;
- (b) not direct or allow a person to carry out work or use plant or substance at a workplace unless the requirements of clause 2.15(a) are met (including any requirement to be authorised, licensed, qualified or supervised); and
- (c) if requested by the Principal, the Principal's Representative or required by the WHS Legislation, produce evidence of any approvals, certificates, authorisations, licences, prescribed qualifications or experience, or any other information relevant to work health and safety (as the case may be) to the satisfaction of the Principal before the Contractor commences such work.

## 2.16 Duties under WHS Legislation

Without limiting the Contractor's obligations under any other clause of this Agreement, the Contractor must at all times

- (a) comply with the WHS Legislation; and
- (b) discharge its obligations under the provisions of the WHS Legislation, including by preparing a Safety Report if required by Law. If required, the Contractor must give a copy of the Safety Report to the Principal within the time specified in Item 12 of the Contract Particulars.

## 2.17 Safety and the environment

- (a) The Contractor must:
  - (i) prior to appointing any subcontractor, assess the work health and safety management capability of such a subcontractor and institute systems to obtain regular written assurances from all subcontractors about their ongoing

- compliance with the WHS Legislation including the due diligence obligation contained in the WHS Legislation;
- (ii) prior to commencing the Services on the Worksite ensure that all Key Personnel have undertaken any induction required by the Principal;
  - (iii) comply with and procure that any subcontractor and its employees comply with all the requirements of the WHS Legislation and any other requirements of this Agreement for work, health, safety and rehabilitation management;
  - (iv) comply with, and procure that any subcontractor complies with, any reasonable directions issued by the Principal's Representative, the Principal or any principal contractor in relation to work, health, safety or the environment including where the direction is given because Key Personnel are not complying with their obligations under this clause 2.17;
  - (v) provide to the Principal written assurances about its ongoing compliance with the WHS Legislation, together with written assurances from its subcontractors obtained pursuant to clause 2.17(a)(i);
  - (vi) comply with its obligation under the WHS Legislation to consult, cooperate and coordinate activities with all other persons who have a work health and safety duty in relation to the same matter including co-operate with the Principal's Representative and any contractor engaged by the Principal with respect to the Project and co-ordinate the Services with the work of the Principal's Representative and any contractor engaged by the Principal with respect to the Project;
  - (vii) exercise a duty of utmost good faith to the Principal in carrying out the Services to enable the Principal to discharge the Principal's duties under the WHS Legislation; and
  - (viii) ensure its subcontracts include provisions equivalent to the obligations of the Contractor in this clause 2.17 and any other provisions of this Agreement concerning work health and safety matters.
- (b) When the Contractor enters the premises of the Principal (including the Worksite), the Contractor must, and must ensure that its Personnel:
- (i) protect people and property;
  - (ii) prevent nuisance and unnecessary noise and disturbance; and
  - (iii) act in a safe and lawful manner and comply with the Principal's Policies, Codes and Standards.

## 2.18 Deed Poll

- (a) If Item 13 of the Contract Particulars states that a deed poll is required the Contractor must, before the Commencement Date, provide to the Principal an executed deed poll in favour of RailCorp in the form set out in Annexure F; and
- (b) provision of the deed poll in accordance with clause 2.18(a) is a precondition to payment of any part of the Fee or any Ad Hoc Services Fee.

## **2A SECURITY**

### **2A.1 Provision of Security**

- (a) The Contractor must, before the Commencement Date, provide the Principal with an unconditional undertaking:
  - (i) totalling 5% of the Fee ("**Security Amount**");
  - (ii) issued by a bank or other financial institution acceptable to the Principal;
  - (iii) in the form set out in Annexure O or as otherwise acceptable to the Principal,
- (b) Compliance with clause 2A.1(a) is a precondition to payment of any part of the Fee or any Ad Hoc Services Fee.
- (c) The Contractor must not take any steps whatsoever to:
  - (i) injunct the issuer of the unconditional undertaking or the Principal in respect of dealing with the unconditional undertaking or its proceeds; or
  - (ii) restrain the Principal from exercising its rights under the unconditional undertaking.
- (d) The Principal:
  - (i) is not obliged to pay the Contractor interest on the proceeds of the unconditional undertaking if the Principal converts it into cash; and
  - (ii) does not hold the proceeds of the unconditional undertaking on trust for the Contractor.
- (e) The Contractor is responsible for all stamp duty (including penalties if applicable) payable in connection with the unconditional undertaking and any demands made on the unconditional undertaking.

### **2A.2 Recourse to security**

The Principal may, without notice to the Contractor, have recourse to the security provided under this clause 2A whenever the Principal claims to be entitled to the payment of monies by the Contractor whether under this Agreement or otherwise.

### **2A.3 Additional security**

If the Security Amount or any part of it is appropriated by the Principal then the Contractor must within 5 Business Days of demand by the Principal provide to the Principal replacement or additional monies so that the amount secured is not reduced below the Security Amount.

### **2A.4 Release of security**

- (a) Subject to the terms of this Agreement, the Principal will release the unconditional undertaking to the extent that it has not had recourse to it, 30 Business Days after the date on which the final certificate is issued under the construction contract in relation to which the Services have been performed and the Contract Material has been produced.



- (b) The Principal has the right to retain the unconditional undertaking or proceeds thereof to the amount that it estimates to be the value of any outstanding obligations of the Contractor under this Agreement until such obligations are satisfied by the Contractor.
- (c) The Contractor acknowledges and agrees that following the release of the unconditional undertaking or proceeds to which the Contractor is entitled, the Contractor is not entitled to make and the Principal will not be liable in respect of any Claim under, out of or in connection with the provision of the Services or this Agreement.

### 3 INFORMATION DOCUMENTS

- (a) The Contractor acknowledges that the Principal does not warrant, guarantee, assume any duty of care or other responsibility for or make any representation about the accuracy, adequacy, suitability or completeness of the Information Documents and the Information Documents do not form part of this Agreement.
- (b) The Contractor acknowledges and warrants that:
  - (i) it did not place any reliance upon the completeness, accuracy, adequacy or suitability of any Information Documents;
  - (ii) it entered into this Agreement based on its own investigations, interpretations, deductions, information and determinations; and
  - (iii) it is aware that the Principal entered into this Agreement relying upon the acknowledgements, warranties and deemed matters in this clause 3 and that the Principal would not have entered into this Agreement but for those acknowledgements, warranties and matters.

### 4 CONFIDENTIALITY AND PRIVACY

#### 4.1 Confidentiality

- (a) Subject to clause 4.1(c), the Contractor must:
  - (i) not disclose any Confidential Information to any person without the prior written consent of the Principal;
  - (ii) take all reasonable steps to ensure that the Confidential Information in its possession or control is kept confidential and protected against unauthorised use and access; and
  - (iii) comply with any security measures required by the Principal in connection with the Confidential Information.
- (b) The Contractor agrees to use the Confidential Information solely for the purposes of the Services and for no other purpose unless otherwise approved in writing by the Principal.
- (c) Subject to clauses 4.1(d) and 4.1(g), the Contractor may disclose Confidential Information:
  - (i) to its Personnel (**permitted recipient**) to the extent only such disclosure is essential to carrying out their duties in accordance with this Agreement; or

- (ii) if required to be disclosed pursuant to Law, legal process or regulatory authority.
- (d) Before disclosing the Confidential Information to a permitted recipient, the Contractor must ensure that the permitted recipient is aware of the confidentiality requirements of this Agreement and is advised that he, she or it is strictly forbidden from disclosing the Confidential Information or from using the Confidential Information other than as permitted by this Agreement.
- (e) The Principal may, at its sole discretion and at any time, require the Contractor to arrange for a permitted recipient to execute a confidentiality deed poll in the form set out in Annexure G or such other form as is reasonably required by the Principal relating to the non-disclosure and use of Confidential Information and the Contractor must promptly arrange for such deed to be executed and provided to the Principal.
- (f) The Confidential Information must not be copied or reproduced by the Contractor and/or the permitted recipient without the express prior written permission of the Principal, except for such copies as may be reasonably required to accomplish the purpose for which the Confidential Information was provided pursuant to this Agreement.
- (g) If the Contractor receives a subpoena or other demand for information relating to documents provided to it by the Principal, the Contractor must:
  - (i) notify the Principal within 24 hours of receiving the subpoena or other demand for information;
  - (ii) provide the Principal with copies of all documents provided to it by the Principal which the Contractor proposes to produce in response to the subpoena or other demand for information, as soon as possible and before any documents are produced; and
  - (iii) provide all reasonable assistance to the Principal in making any Claim or application in relation to the production of the documents.
- (h) Without limiting any rights or remedies of the Principal, the Contractor acknowledges that damages may not be a sufficient remedy for the Principal for any breach of this clause 4.1 and that the Principal may seek injunctive relief for any breach or threatened breach of this clause 4.1.
- (i) Unless required to do so by Law, the Contractor must not disclose or advertise the existence of this Agreement, or issue any information, publication, document or article or make any statement to or advertise in any media any matters relating to this Agreement without the prior written consent of the Principal's Representative.

#### **4.2 Privacy and disclosure of Personal Information**

- (a) Each party must act, and ensure that its Personnel act, in accordance with the Privacy Laws, in its collection, use or disclosure of any Personal Information provided by the other party.
- (b) If the Contractor is required to collect Personal Information on behalf of the Principal, the Contractor must not put the Principal in breach of the Privacy Laws and the Contractor must comply with the Privacy Laws as if the Contractor was the Principal collecting the Personal Information.
- (c) The Contractor releases and indemnifies the Principal from and against any Claim arising out of the Contractor's breach of this clause 4.2.

**5 NOT USED**

**6 SUBCONTRACTING**

- (a) The Contractor must not engage another person to provide any part of the Services without the prior written approval of the Principal, which may:
  - (i) be given or withheld in the Principal's absolute discretion; and
  - (ii) be given subject to any conditions the Principal sees fit to impose.
- (b) The existence of any contract between the Contractor and a Subcontractor or any approval given by the Principal permitting the Contractor to engage a Subcontractor does not relieve the Contractor from any of its obligations and liabilities pursuant to this Agreement and the Contractor will be vicariously liable for all acts, omissions or defaults of its Subcontractors.
- (c) Prior to any Subcontractor or any employee or agent of the Subcontractor commencing work in respect of the Services, the Contractor must obtain from that person, and provide to the Principal, a written assignment (on terms reasonably satisfactory to the Principal) from the person to the Principal of the Intellectual Property Rights created as a result of the person performing that work.
- (d) The Principal will have no contractual relationship with and undertakes no obligations to any Subcontractor.
- (e) The Contractor must ensure that the services of all Subcontractors are coordinated to meet the Principal's requirements for the Services and that the Subcontractors comply with all relevant obligations imposed on the Contractor in this Agreement.
- (f) The Contractor must ensure that any Subcontractors engaged by the Contractor perform those services in accordance with Good Industry Practice.
- (g) The Contractor must, if requested to do so by the Principal, engage a subcontractor identified by the Principal to carry out part of the Services, and must, if requested by the Principal, enter into a deed of novation in the form of Annexure M or other form proposed by the Principal whereby the Principal's existing contract with a subcontractor is novated from the Principal to the Contractor.
- (h) If the Contractor fails to properly execute the deed of novation referred to in subclause 6(h) within the time period specified by the Principal, acting reasonably, then for the purpose of executing the deed of novation, the Contractor irrevocably appoints the Principal to be its attorney with full power and authority to complete the particulars and execute, sign, send and deliver in the name of the Contractor the deed of novation and all notices, deeds and documents for that purpose.

**7 INSURANCES**

- (a) Prior to commencement of the Services, the Contractor must, and must ensure that any Subcontractors have and maintain:
  - (i) a public liability policy of insurance in the amount specified for public liability insurance in Item 14 of the Contract Particulars in respect of each claim for so long as it has obligations under this Agreement and specifying the interested parties to whom the insurance cover provided by the insurance contract extends and which, if the Services are to be provided on or near rail, must not

- contain any exclusion or limitations in cover in respect of Services supplied near rail;
- (ii) a products liability policy of insurance in the amount specified for products liability insurance in Item 14 of the Contract Particulars in respect of each claim and in the annual aggregate for so long as it has obligations under this Agreement and specifying the interested parties to whom the insurance cover provided by the insurance contract extends and which, if the Services are to be provided on or near rail, must not contain any exclusion or limitations in cover in respect of Services supplied near rail;
  - (iii) workers' compensation insurance as required by Law;
  - (iv) a professional indemnity policy of insurance in the amount specified for professional indemnity insurance in Item 14 of the Contract Particulars in respect of each claim for the period commencing on the Commencement Date and ending on the expiry of the period stated in Item 14 of the Contract Particulars; and
  - (v) such other insurances as may be required by Law or by the requirements of any professional association of which the Contractor is a member.
- (b) The Service Provider must take out and keep current all of the insurance policies that the Service Provider is required to effect and maintain under this Agreement with an insurer:
- (i) that is authorised under the Insurance Act 1973 (Cth) to carry on an insurance business in Australia;
  - (ii) approved by the Principal; or
  - (iii) which has a security rating of at least A minus from Standard & Poor's, AM Best or an equivalent rating from another internationally recognised rating agency.
- (c) If the Principal at any time requires the Contractor to arrange insurance against a risk not provided for or contemplated under clause 7(a) or increase the extent of an existing insurance in relation to a risk contemplated under clause 7(a), it may notify the Contractor in writing and request that the Contractor give effect to its requirements.
- (d) The Contractor must promptly inform the Principal of the amount of any additional premium payable in giving effect to a notice of the Principal under clause 7(c) before it implements the requirement, and the Principal will advise the Contractor whether it still requires the Contractor to give effect to that requirement.
- (e) If the Principal directs the Contractor to give effect to the requirement in accordance with clause 7(c), the Fee shall be increased by an amount equal to the cost of any additional premiums paid on any additional, increased or varied insurances required by the Principal under clause 7(c).
- (f) The Contractor must, in respect of the insurances required under this Agreement:
- (i) on request from time to time by the Principal, produce to the Principal satisfactory evidence of insurance, including certificates of currency of the policies required under this Agreement within 5 Business Days of being required to do so:

- (A) that specify the "Business of the Insured" as declared to the Contractor's insurers; and
- (B) if the Services are to be provided on or near rail infrastructure, must provide confirmation that the insurance policy does not exclude work conducted on or near rail infrastructure;
- (ii) ensure that it:
  - (A) does not do anything which prejudices the insurance;
  - (B) if necessary, rectifies anything which might prejudice the insurance;
  - (C) does not cancel, vary or allow an insurance policy to lapse without providing prior notification to the Principal's Representative. Such notification will not constitute waiver of the Principal's rights under this Agreement;
  - (D) where any of the insurance policies are due to expire, prior to such expiration, obtains a replacement insurance policy and provide the Principal with evidence of the replacement insurance policy; and
  - (E) gives full, true and particular information to the insurer of all matters and things the non-disclosure of which might in any way prejudice or affect such policy or the payment of all or any benefits under the insurance;
- (iii) within 5 Business Days of the Contractor becoming aware of a claim against any of its insurance policies effected and maintained pursuant to clause 7(a), howsoever arising, the Contractor must notify the Principal in writing, if the claim may materially impact on the ability of the Contractor to:
  - (A) provide the Services or carry out its obligations under this Agreement; or
  - (B) obtain and / or maintain the insurance in accordance with the requirements of this Agreement.
- (g) If the Contractor fails to effect any insurance that complies with clauses 7(a)(i), 7(a)(ii), 7(a)(iii) and 7(a)(iv) (as the case may be), then the Principal may, without prejudice to other rights the Principal may have or the Contractor's obligations or liability under or in connection with this Agreement, effect the relevant insurance and the cost thereof will be a debt due from the Contractor to the Principal.

## **8 RECORD KEEPING AND PERFORMANCE REPORTING**

### **8.1 Keeping of records**

The Contractor must:

- (a) keep proper accounts, records (including information stored by computer and other devices) and timesheets in accordance with accounting principles generally applied in commercial practice in respect of its time charge billing, its reimbursable expenditure and fees and reimbursements payable to others properly engaged pursuant to this Agreement and maintain the same for a period of 7 years;
- (b) whenever requested by the Principal's Representative provide the Principal's Representative with a written report containing details on all work health and safety

matters arising out of the Services, including in respect of any matters concerning or arising out of clauses 2.9 and clauses 2.15 to 2.17.

- (c) manage all records relating to the provision of the Services in accordance with the Services Brief and the reasonable requirements of the Principal.

## 8.2 Auditing and probity

- (a) The Contractor acknowledges and agrees that the Principal's Representative (or any other person designated by the Principal's Representative) may carry out regular audits, as applicable, on:
  - (i) the Contractor's quality management system;
  - (ii) the Contractor's work health and safety system; and
  - (iii) quality and probity compliance by:
    - (A) inspections after the Contractor has provided the Services;
    - (B) random spot inspections;
    - (C) viewing CCTV footage available at the Worksite;
    - (D) inspecting reports prepared by the Contractor in accordance with this Agreement; and
    - (E) utilising the Principal's compliance auditors during possessions to check staff competencies, plant certifications and other relevant factors.
- (b) If the Principal's Representative (or any other person designated by the Principal's Representative) requires access to the Contractor's Premises in order to carry out an audit pursuant to clause 8.2(a), the requirements of clause 2.12 will apply.

## 8.3 Government disclosure

- (a) The Contractor authorises the Principal, its employees and agents to make information concerning the Contractor available to NSW government Authorities. Such information may include any information provided by the Contractor to the Principal and any information relating to the Contractor's performance under this Agreement.
- (b) The Contractor acknowledges that any information about the Contractor from any source, including substantiated reports of unsatisfactory performance, may be taken into account by the Principal and the Authorities in considering whether to offer the Contractor future opportunities for work.
- (c) The Contractor acknowledges that:
  - (i) the Principal may disclose certain information about this Agreement in accordance with the Principal's obligations under the Government Information (Public Access) Act 2009 (NSW) (**GIPA Act**), including making certain information about this Agreement publicly available in any disclosure log of contracts the Principal is required to maintain; and
  - (ii) if the Contractor reasonably believes that any part of this Agreement contains information which is commercial-in-confidence or could reasonably be

expected to affect public safety or security, the Contractor must immediately advise the Principal in writing, identifying the provisions and providing reasons so that the Principal may consider seeking to exempt those provisions from publication.

- (d) The Contractor agrees that the Principal will be entitled to rely on the defence of qualified privilege for the purposes of section 30 of the Defamation Act 2005 (NSW) in relation to the provision of information under clauses 8.3(a), 8.3(b) and 8.3(c).
- (e) The Contractor releases and indemnifies the Principal from and against any Claim arising out of its provision of information under this clause 8.3.

#### 8.4 Performance Assessment Regime

The Contractor's performance of the Services will be assessed by the Principal in accordance with clauses 8.5, 8.6, 8.7 and Annexure N.

#### 8.5 Determining the incentive amounts as at Milestones as against Incentive KPIs

The Principal may assess the performance of the Services as at each Milestone against the Incentive KPIs for that Milestone, in the manner set out in this clause.

- (a) The Contractor's performance against each Incentive KPI may be determined by the Principal as a percentage representing the extent to which the Principal assesses that the Incentive KPI has been satisfied ("**Percentage**").
- (b) The Percentage will be multiplied by the Milestone Base Number for that Incentive KPI in order to determine the potential Milestone incentive ("**Potential Milestone Incentive**") for the Incentive KPI for the purposes of the calculations described in clause 8.6.
- (c) The Percentage will be multiplied by the Completion Base Number in order to determine the potential completion incentive ("**Potential Completion Incentive**") for the Incentive KPI for the purposes of the calculations described in clause 8.7.

#### 8.6 Determining incentive amount as at the Date of Practical Completion

The Principal may assess the performance of all of the Services against each Standard KPI as at the Date of Occupancy, in the manner set out in this clause.

- (a) The Contractor's performance against each Standard KPI may be determined by the Principal as a score out of 10 representing the extent to which the Principal assesses that the Standard KPIs have been satisfied ("**Score**").
- (b) The Score for each Standard KPI will be multiplied by the weighting percentage for that Standard KPI set out in Annexure N Part 2 ("**Weighted Score**").
- (c) The Weighted Score for each Standard KPI will be added together to provide the total of the Weighted Scores ("**Total Weighted Score**").
- (d) The Potential Completion Incentive for each Incentive KPI will be added together to provide the total Potential Completion Incentive ("**Total Potential Completion Incentive**").
- (e) Where the Total Weighted Score for the Date of Practical Completion is:

- (i) equal to or greater than 85, then the incentive amount as at the Date of Practical Completion will be the Total Potential Completion Incentive;
- (ii) less than 85 out of a total of 100, then the incentive amount as at the Date of Practical Completion will be Total Weighted Score divided by 85 and multiplied by the Total Potential Completion Incentive.

## **8.7 Absolute discretion and no Claims**

- (a) Any assessment, determination or calculation made by the Principal under or in relation to clauses 8.4, 8.5, 8.6, 8.7 or Annexure N will be in the Principal's sole and unfettered discretion. The Contractor will have no Claim whatsoever against the Principal in respect of any fact, matter circumstance or thing (including the Principal's conduct, acts or omissions) in relation to clauses 8.4, 8.5, 8.6, 8.7 and Annexure N and the Contractor hereby releases the Principal from any Claim it might otherwise have had in relation thereto.
- (b) The assessment of the Contractor's performance in accordance with clauses 8.4, 8.5, 8.6, and Annexure N is without prejudice to any other rights which the Principal may have under this Agreement.

## **9 AGREEMENT MANAGEMENT**

### **9.1 Contractor's Representative**

The Contractor represents and warrants that the Contractor's Representative has full authority to act on behalf of the Contractor and the legal power to bind the Contractor in respect of any matters arising in connection with the Services and this Agreement.

### **9.2 Provide information**

The Principal will, as soon as reasonably practicable following a request from the Contractor, give all necessary instructions and answer any queries made by the Contractor relating to the Principal's requirements in connection with this Agreement.

### **9.3 Principal's Representative**

The Principal's Representative, or any alternate person the Principal nominates in writing, will act as the Principal's Representative and will have authority to act on behalf of the Principal for all purposes in connection with this Agreement.

## **10 TIME**

### **10.1 Program**

- (a) The Services Provider must:
  - (i) if directed for any reason by the Principal to do so, submit a revised program for approval by the Principal by not later than 5 Business Days following receipt of such request;
  - (ii) perform the Services expeditiously and in accordance with the most recent Program approved by the Principal; and
  - (iii) report on progress against the Program monthly or at such other interval as requested in writing by the Principal from time to time.



- (b) Within 21 days of receiving the Program submitted under clause 10.1(a)(i), the Principal's Representative must notify the Contractor whether or not the Program is approved, and if not approved, then the reasons why approval is not given. If the Principal's Representative fails to give such notice to the Contractor within the 21 day period, the Principal's Representative will upon the expiration of that period be deemed to have approved the Program. If the Principal's Representative notifies the Contractor that the Program is not approved, the Contractor must promptly submit a new Program to the Principal's Representative and clauses 10.1(a)(i) and 10.1(b) will apply to that Program.
- (c) The Service Provider will have no Claim for any delay or other costs in relation to the approval or non-approval of a revised program submitted in accordance with clause 2.8(a) unless otherwise agreed by the Principal in writing.

## 10.2 Suspension

- (a) The Principal may, for its sole convenience and at its absolute discretion, immediately suspend the provision of the Services and payments relating to those suspended Services, regardless of whether there has been any default by the Contractor, at any time by written notice to the Contractor. The Principal may only suspend payment in relation to those Services which are yet to be performed.
- (b) Subject to clause 10.2(c):
  - (i) if the Principal suspends the Services under clause 10.2(a); and
  - (ii) the reason for the suspension has not been caused by, or arisen as a consequence of any default by the Contractor,the Principal will pay the Contractor the reasonable costs incurred by the Contractor (excluding profit) as a direct result of the suspension.
- (c) The Contractor must, as a pre-condition to any entitlement to recover any costs under clause 10.2(b):
  - (i) immediately take all reasonable and practicable measures to mitigate all losses, costs, and expenses, arising from the suspension; and
  - (ii) provide the Principal with supporting documentation, to the reasonable satisfaction of the Principal, to enable the Principal to verify the amount claimed by the Contractor.
- (d) Payment by the Principal of the amount in clause 10.2(b) will be the Contractor's sole and exclusive remedy in respect of the Principal suspending the Services otherwise the Contractor releases the Principal from any Claim.
- (e) At any time after the Principal has issued a notice under clause 10.2(a), the Principal may issue a notice to the Contractor to recommence performing the Services.
- (f) Within 2 Business Days of receiving a notice from the Principal under clause 10.2(e), the Contractor must recommence performing the Services.

## 11 VARIATIONS AND AD HOC SERVICES

### 11.1 Proposal

- (a) The Principal's Representative may direct the Contractor to vary the Services in any way including a direction to:
  - (i) increase, decrease or omit any part of the Services, including omitting any part with a view to retaining a third party to perform any services that are the same or similar to the Services that would otherwise be performed by the Contractor (with no liability to compensate the Contractor for any loss of profit);
  - (ii) change the time for provision of the Services;
  - (iii) change the nature, character or quality of any Services or any report, deliverable or other thing specified in the Services Brief; or
  - (iv) carry out additional or different services or work,(each a "**Variation**").
- (b) The Contractor must not vary the Services except as directed by the Principal's Representative pursuant to this clause 11.
- (c) No Variation will vitiate this Agreement or amount to a repudiation of this Agreement.
- (d) For clarity, "Variation" does not include any Ad Hoc Services Direction, and no Ad Hoc Services Direction shall be considered a direction to vary the Services for the purposes of this clause 11.1.

### 11.2 Variation Proposal

- (a) The Principal's Representative may direct the Contractor to submit a detailed quotation for a proposed Variation. The Contractor must, within the time specified in the direction or, if no time is specified, within 5 Business Days of the direction, provide to the Principal's Representative a notice specifying:
  - (i) the effect which the Contractor anticipates that the proposed Variation will have on the Program and any date set out in this Agreement for completion of all of the Services or any part of the Services;
  - (ii) an estimate of the cost of the proposed Variation;
  - (iii) the detailed quotation of the proposed Variation supported by measurements or other evidence of cost; and
  - (iv) such other information as reasonably required by the Principal's Representative regarding the proposed Variation and its effects,(together the "**Variation Proposal**").
- (b) The Principal will not be liable for any work provided by the Contractor or any associated expenditure incurred by the Contractor in relation to any proposed Variation or Variation Proposal.

### 11.3 Principal's Representative direction

- (a) Without limiting or otherwise restricting clause 11.4(b), upon receipt of a Variation Proposal, the Principal's Representative may do any one of the following:
  - (i) direct the Contractor to provide further information;
  - (ii) accept the Variation Proposal and give the Contractor a direction to carry out the Variation on the terms contained in the Variation Proposal in which case a valuation under clause 11.4 will not be made and the addition or deduction to the Fee (as applicable) will be the amount contained in the Variation Proposal;
  - (iii) negotiate different terms with the Contractor upon which the Variation will be carried out;
  - (iv) give the Contractor a direction to carry out the Variation on the terms contained in this Agreement with a valuation to be made under clause 11.4; or
  - (v) reject the Variation Proposal, in which case the Principal may retain another person to carry out the Variation contemplated by the Variation Proposal.
- (b) The Principal's Representative may direct the Contractor to carry out an urgent Variation for the purpose of preventing a safety incident or for any other reason.
- (c) Whether or not the Contractor provides a Variation Proposal, the Principal may instruct the Contractor in writing to carry out a Variation and the Contractor must comply with such direction.
- (d) Where the Principal's Representative accepts a Variation Proposal and gives a direction in accordance with clause 11.3(a)(ii), the Contractor acknowledges and agrees that:
  - (i) the addition or deduction to the Fees pursuant to clause 11.3(a)(ii) includes payment on account of all its resulting costs; and
  - (ii) it will not have any further Claim arising out of, or in connection with, that Variation, under this Agreement or otherwise.

### 11.4 Pricing Variations

- (a) Unless the Principal's Representative and the Contractor agree upon the price for a Variation, the Variation directed or approved by the Principal's Representative pursuant to clause 11.3 will be valued under this clause 11.4.
- (b) Where a Variation is to be valued under this clause 11.4, the Principal will pay or allow the Contractor or the Contractor must allow or pay the Principal, as the case may require, an amount ascertained by the Principal's Representative as follows:
  - (i) if this Agreement prescribes specific rates or prices (including in Annexure E) to be applied in determining the value, those rates or prices will be used;

- (ii) if clause 11.4(b)(i) does not apply, the rates or prices in Annexure E will be used to the extent that it is reasonable to use them;
  - (iii) in any other circumstances, reasonable rates or prices determined by the Principal's Representative will be used; and
  - (iv) if the valuation is an increase or decrease in a fee or charge or is a new fee or charge under a Law, the value will be the actual increase or decrease or the actual amount of the new fee or charge without regard to overheads or profit.
- (c) For the purposes of a valuation made in accordance with clause 11.4(b):
- (i) in determining the deduction to be made for work or services which is taken out, the deduction will include a reasonable amount for profit and overheads; and
  - (ii) the Contractor will not have, and the Principal will not be liable in relation to, any Claim arising out of, or in connection with that Variation, under this Agreement or otherwise.

#### 11.5 Variation due to a change in a statutory requirement

If a new Law or a change in a Law after the date of this Agreement:

- (a) materially increases the cost of the Contractor performing the Services;
- (b) has effect after the Commencement Date; and
- (c) could not reasonably have been anticipated at that date having regard to Good Industry Practice,

any such additional cost shall be valued pursuant to clause 11.4(b)(iv).

#### 11.6 Omissions

If a Variation the subject of a direction by the Principal's Representative omits or deletes any part of the Services, the Principal may carry out the omitted or deleted Services itself or engage another contractor to do so.

#### 11.7 Directions not formally identified as Variations

- (a) If the Contractor considers that a direction by the Principal's Representative is a direction requiring the Contractor to carry out a Variation, but the Principal's Representative has not expressly identified it in writing as a direction under this clause 11, then within 5 Business Days of the date of the direction, the Contractor shall notify the Principal's Representative in writing that the Contractor considers it to be a direction requiring the Contractor to carry out a Variation.
- (b) The Contractor will not be entitled to make any Claim against the Principal arising out of, or in any way in connection with, the direction unless the Contractor gives the notice required by clause 11.7(a) within the time stated in that clause and either:
  - (i) within 15 Business Days of receiving the Contractor's notice, the Principal's Representative either withdraws the direction or confirms in writing that the direction is a proposed Variation, in which case clause 11.3 will apply; or

- (ii) within 20 Business Days of the Contractor giving its notice, the Contractor gives the Principal's Representative a notice of dispute pursuant to clause 1.1 regarding the direction of the Principal's Representative.

## 11.8 Variations for the convenience of the Contractor

- (a) If the Contractor requests the Principal's Representative to direct a Variation for the convenience of the Contractor the Principal's Representative may do so. The direction shall be in writing and may be conditional. Unless the direction provides otherwise, the Contractor shall not be entitled to either extra time or extra costs.
- (b) The Principal's Representative is not required to exercise its discretion under clause 11.8(a) for the benefit of the Contractor.

## 11.9 Ad Hoc Services

- (a) The Principal's Representative may from time to time direct that the Contractor perform Ad Hoc Services by providing the Contractor with a written notice setting out the nature of the Ad Hoc Services required ("**Ad Hoc Services Direction**").
- (b) Within 10 Business Days of receipt of an Ad Hoc Services Direction, the Contractor must make available to the Principal for such period as the Principal may direct an Ad Hoc Services Specialist:
  - (i) with the skills and experience relevant to the Ad Hoc Services the subject of the Ad Hoc Services Direction;
  - (ii) for the period set out in the Ad Hoc Services Direction, or such other period as the Principal's Representative may direct.
- (c) The Contractor will be entitled to be paid in respect of the Ad Hoc Services the subject of an Ad Hoc Services Direction an amount equal to the number of hours in which the relevant Ad Hoc Specialist is properly engaged in performing the Ad Hoc Services in accordance with the Ad Hoc Services Direction, as properly evidenced and documented to the satisfaction of the Principal's Representative, multiplied by the relevant Ad Hoc Services Rate, as determined by the Principal's Representative, acting reasonably ("**Ad Hoc Services Fee**").
- (d) The Contractor agrees that it shall have no Claim in respect of time or money, including any claim by way of Variation or to adjustment to the Fee or to the Program, in respect of any Ad Hoc Direction or any Ad Hoc Services, other than a claim to payment of the Ad Hoc Services Fee.
- (e) The parties agree that no Ad Hoc Direction shall vitiate or amount to a repudiation of the Agreement.

## 12 PAYMENT

### 12.1 Payment by the Principal

Subject to clause 12.5 and the performance of the Services by the Contractor in accordance with this Agreement, the Principal will pay the Contractor the Fee and any other amounts to which the Contractor is entitled by the provisions of this Agreement including any Ad Hoc Services Fees in accordance with this clause 12.

## 12.2 Payment Claims

- (a) It is a condition precedent to the Contractor's right to submit a Payment Claim under this clause 12.2 and any obligation of the Principal to pay the Contractor any amount under clause 12.4, that the Contractor must provide to the Principal:
- (i) evidence of the payment of any monies due and payable to any Personnel and / or Subcontractors of the Contractor in respect of the Services the subject of the Payment Claim;
  - (ii) a duly completed and signed statutory declaration and subcontractor's statement in the form set out in Annexure I (or in any other form requested or approved by the Principal) from the Contractor;
  - (iii) if the SOP Act applies to this Agreement and it is required in accordance with section 13(7) of the SOP Act, a duly completed and signed supporting statement by the Contractor in the form prescribed by the SOP Act and set out in Annexure J;
  - (iv) if requested by the Principal, proof of insurance in accordance with clause 7; and
  - (v) such further documentation as may reasonably be required by the Principal from time to time.
- (b) Until the earlier of termination of this Agreement or provision of all Services required under this Agreement, the Contractor is entitled to make a Payment Claim on the later to occur of:
- (i) the date that the Contractor satisfies all of the conditions precedent to the Contractor's entitlement to make a Payment Claim set out in clause 12.2(a); and
  - (ii) the date, set out in Item 18 of the Contract Particulars.
- (c) Unless otherwise specified all Disbursements (if any are specified in Item 17 of the Contract Particulars) will be reimbursed at cost.
- (d) Each Payment Claim must:
- (i) be given in writing:
    - (A) at the times stated in the Contract Particulars;
    - (B) in a form agreed by the parties or, failing agreement, as required by the Principal; and
    - (C) addressed to the accounts payable division of the Principal, or as otherwise notified by the Principal to the Contractor from time to time;
  - (ii) refer to the contract number on the cover page of this Agreement;
  - (iii) include a breakdown based on the Pricing Schedule at Annexure Q of how the Payment Claim is calculated including:
    - (A) evidence reasonably required by the Principal's Representative of the value of the Services completed in accordance with this Agreement and claimed in the Payment Claim and

- (B) itemising any Disbursements (if any) that the Contractor is entitled to claim pursuant to this Agreement;
- (iv) be accompanied by a valid tax invoice in the amount stated in the Payment Claim;
- (v) itemise any applicable GST;
- (vi) state the total amount claimed;
- (vii) state the Contractor's invoice number; and
- (viii) include any other details reasonably required by the Principal.

### 12.3 Payment Statement

- (a) Within 10 Business Days of receiving a Payment Claim under clause 12.2, the Principal's Representative must give the Contractor a Payment Statement which sets out:
  - (i) the value of the Services completed;
  - (ii) the amount already paid to the Contractor in respect of the relevant Services;
  - (iii) the amount that the Principal is entitled to retain, deduct, withhold or set-off under this Agreement;
  - (iv) the amount (if any) which the Principal proposes to pay to the Contractor in respect of the relevant Services;
  - (v) if the amount in paragraph (iv) is less than the amount claimed in the Payment Claim:
    - (A) the reason why the amount in clause 12.3(a)(iv) is less than the amount claimed in the relevant Payment Claim; and
    - (B) if the reason for the difference is that the Principal is retaining, deducting, withholding or setting-off payment for any reason, the reason for the Principal retaining, deducting, withholding or setting-off payment.
- (b) The failure of the Principal to set out in a Payment Statement an amount which it is entitled to retain, deduct, withhold or set off under this Agreement will not prejudice its right to subsequently exercise such right.
- (c) If the amount which the Principal proposes to pay the Contractor in a Payment Statement is less than the amount claimed in a Payment Claim, the Contractor agrees to withdraw the tax invoice submitted with the Payment Claim and issue a tax invoice in the amount stated in the relevant Payment Statement by not later than 2 Business Days following the date that the Contractor receives the relevant Payment Statement. Any invoice issued pursuant to this clause will not constitute a Payment Claim.
- (d) If the Contractor does not make a payment claim in accordance with subclause 12.2, the Principal's Representative may issue the payment certificate with details of the calculations set out above in paragraphs (i) to (v) of subclause 12.3(a) but the Principal's Representative is not obliged to do so.

## 12.4 **Payments**

- (a) The Principal must pay the Contractor the amount which the Principal proposes to pay the Contractor as stated in the relevant Payment Statement provided under clause 12.3(a), within the period stated in Item 19 of the Contract Particulars.
- (b) If a Payment Statement issued under clause 12.3 shows an amount owing by the Contractor to the Principal, the Contractor must pay that amount within 5 Business Days of receipt by the Contractor of the Payment Statement.
- (c) The making of a payment by the Principal under this clause 12.4:
  - (i) is not evidence of or an indication of the value of the Services performed;
  - (ii) does not constitute an admission by the Principal that any Services provided by the Contractor conform with the requirements of this Agreement;
  - (iii) is a payment on account only; and
  - (iv) does not amount to a waiver of any right or action that the Principal may have against the Contractor at any time.
- (d) The Contractor agrees that all claims for payment for any Services must be made in accordance with this Agreement. If this Agreement is terminated, the Contractor will not be entitled to any payment other than as calculated in accordance with this Agreement.
- (e) Unless otherwise agreed by the Principal, payment to the Contractor will be made by electronic funds transfer to:
  - (i) where the Principal holds bank account details in respect of the Contractor as at the Commencement Date, that bank account; or
  - (ii) such other bank account as may be notified by the Contractor to the Principal from time to time.

## 12.5 **Set Off**

The Principal may at any time deduct from amounts otherwise payable to the Contractor any debt or amount due from the Contractor to the Principal or any claim to money which the Principal may have against the Contractor whether for damages or otherwise. The Principal may recover any shortfall from the Contractor as a debt immediately due and payable.

## 12.6 **Security of Payment Act**

- (a) This clause applies if the SOP Act applies to this Agreement.
- (b) The Contractor agrees with the Principal that the date prescribed in clause 12.2(b) as the date on which the Contractor must make a Payment Claim is, for the purposes of section 8 of the SOP Act, the "reference date".
- (c) For the purposes of section 17(3)(b) of the SOP Act, the Contractor irrevocably chooses the Institute of Arbitrators & Mediators Australia as the authorised nominating authority (as that term is defined in the SOP Act) for any adjudication application it may make under the SOP Act in respect of the subject matter of this Agreement.
- (d) When an adjudication occurs under the SOP Act and the Principal has paid an adjudicated amount to the Contractor:



- (i) the amount will be taken into account by the Principal's Representative in issuing a Payment Statement; and
  - (ii) if it is subsequently determined pursuant to this Agreement that the Contractor was not entitled under this Agreement to payment of some or all of the adjudicated amount that was paid by the Principal (**Overpayment**), the Overpayment will be a debt due and payable by the Contractor to the Principal which the Contractor must pay to the Principal upon demand and in respect of which the Contractor is not entitled to claim or exercise any set-off, counterclaim, deduction or similar right of defence.
- (e) Without limiting clause 12.5, the Principal may withhold any amount that is less than or equal to the amount claimed to be owed under a payment withholding request served on the Principal pursuant to Division 2A of the SOP Act.
- (f) If the Principal withholds from money otherwise due to the Contractor any amount that is less than or equal to the amount claimed to be owed under a payment withholding request served on the Principal pursuant to Division 2A of the SOP Act, then:
- (i) the Principal may plead and rely upon Division 2A of the SOP Act as a defence to any Claim for money by the Contractor from the Principal; and
  - (ii) the period during which the Principal retains money due to the Contractor pursuant to an obligation under Division 2A of the SOP Act will not be taken into account for the purpose of determining:
    - (A) any period for which money owed by the Principal to the Contractor has been unpaid; and
    - (B) the date by which payment of money owed by the Principal to the Contractor must be made.
- (g) The Contractor agrees not to commence proceedings to recover any amount withheld by the Principal pursuant to a payment withholding request served on the Principal in accordance with Division 2A of the SOP Act.
- (h) Any amount paid by the Principal pursuant to section 26C of the SOP Act will be a debt due from the Contractor to the Principal.
- (i) If the Principal withholds money pursuant to a payment withholding request served on the Principal pursuant to Division 2A of the SOP Act and the Contractor:
- (i) pays the amount claimed to be due under the adjudication application to which the payment withholding request relates; or
  - (ii) becomes aware that the adjudication application to which the payment withholding request relates has been withdrawn,

then the Contractor must so notify the Principal within 5 days of the occurrence of the event in 12.6(i)(i) or 12.6(i)(ii) above (as applicable) by providing to the Principal a statement in writing in the form of a statutory declaration together with such other evidence as the Principal may require evidencing that the amount has been paid or the adjudication application has been withdrawn.

### **13 TAXES INCLUDING GOODS AND SERVICES TAX**

- 13.1 To the extent that a party to this Agreement (GST Supplier) is or becomes liable to pay GST in connection with any Supply made under this Agreement and the amount of any such GST is not included in the amount payable under this Agreement:
- (a) the GST Supplier may add to the price of the Supply an amount equal to the GST payable on the Supply (**GST Amount**); and
  - (b) the other party will pay the GST Supplier the price for the Supply in accordance with this Agreement plus the GST Amount.
- 13.2 If, for any reason, the GST Supplier's GST liability in respect of a particular Supply is different from the amount of GST paid by the other party:
- (a) the GST Supplier must immediately repay to the other party the amount of any excess paid by the other party above the GST Supplier's GST liability; or
  - (b) the other party must pay the deficiency in the amount previously paid by that party to the GST Supplier for that Supply.
- 13.3 Each party warrants that at the time that party makes any Supply under this Agreement on which GST is imposed, that party is or will be registered under the GST Law.
- 13.4 Any invoice rendered by a party to this Agreement in connection with a Supply under this Agreement which seeks to recover an amount of GST payable by that party must conform to the requirements for a tax invoice (as that term is defined in the GST Law).
- 13.5 Other than GST, the Contractor must pay all taxes and charges payable in connection with the provision of the Services or this Agreement.
- 13.6 The Contractor acknowledges that, despite any other provision of this Agreement, the Principal will be entitled to withhold any payment otherwise due to the Contractor until it has satisfied any conditions which the Law requires be satisfied prior to the Principal making a payment or to ensure the Principal does not become liable for any taxes or charges for which the Contractor is primarily liable.

### **14 INTELLECTUAL PROPERTY**

#### **14.1 Contract Material**

- (a) Copyright (including future copyright) in all Contract Material vests in the Principal or is otherwise hereby assigned by the Contractor to the Principal. Title to, and Intellectual Property Rights in, all Contract Material shall, on being created, written or otherwise brought into existence, vest or otherwise be assigned or transferred to the Principal, without the need for further assurance.
- (b) The Principal grants to the Contractor a non-exclusive licence to exercise Intellectual Property Rights in the Contract Material solely for the purpose of performing the Contractor's obligations under this Agreement.

#### **14.2 Existing Contract Material**

This Agreement does not affect ownership of the Intellectual Property Rights in Existing Contract Material. The Contractor hereby grants, and must ensure that relevant third parties grant, to the Principal, at no additional cost to the Principal, a perpetual, non-exclusive, royalty-free, irrevocable, transferable licence (which includes the right to sub-license to third

parties) to exercise the Intellectual Property Rights in the Existing Contract Material for the purposes of the Project or any other activities of the Principal.

#### 14.3 **Perfection of rights**

The Contractor must execute all documents and do all acts and things required, at its cost (unless otherwise agreed), for the purposes of giving effect to the provisions of this Agreement dealing with Intellectual Property.

#### 14.4 **Moral Rights**

The Contractor must:

- (a) hold, or obtain, consents from all authors of Contract Material for the use of and adaptation of the Contract Material by the Contractor or the Principal, its licensees and successors in title, without restriction even if that use or act would infringe any "moral rights" (as that expression is defined in the Copyright Act 1968 (Cth)) and without any requirement to attribute the Contract Material to its authors; and
- (b) promptly provide the Principal with written evidence of all such consents if required by the Principal.

#### 14.5 **Limitations on the use by the Contractor of the Contract Material**

The Contractor must ensure that the Contract Material is used, copied, supplied or reproduced only for the purposes of this Agreement unless it has obtained the prior written approval of the Principal to do otherwise. Any such approval may be given on any terms or conditions the Principal considers appropriate.

#### 14.6 **Warranty**

The Contractor represents and warrants that:

- (a) it has all appropriate licences of, or title to, all Intellectual Property Rights that are required by it for the purpose of its obligations under this Agreement;
- (b) it has authority to assign or license (as the case may be) all Intellectual Property Rights granted to the Principal under this Agreement;
- (a) in providing the Services, the Contractor will not infringe the Intellectual Property Rights any person; and
- (c) the Principal's use of the Services for any purpose will not infringe the Intellectual Property Rights of the Contractor or any third party.

### 15 **INDEMNITY**

#### 15.1 **Indemnity**

- (a) The Contractor agrees to indemnify and keep indemnified the Principal and its Personnel (**those indemnified**) against any Loss suffered or incurred by those indemnified where such Loss is suffered or incurred by reason of or in connection with:
  - (i) personal injury to, or the death of, any person caused or contributed to by the Contractor or its Personnel;

- (ii) loss of, or damage to, real or personal property of any kind caused or contributed to by the Contractor or its Personnel;
  - (iii) any unlawful, wrongful, wilful or negligent act or omission of the Contractor or its Personnel;
  - (iv) any infringement or alleged infringement by the Contractor or its Personnel of the Intellectual Property Rights (including Moral Rights) of any person; and
  - (v) any environmental damage, destruction or harm or contamination caused, or contributed to, by the Contractor or its Personnel.
- (b) The Contractor's liability to indemnify those indemnified under this Agreement shall be reduced proportionally to the extent that any negligent act or omission or default of those indemnified caused or contributed to the liability or loss.
- (c) The indemnity contained in this clause 15 is a continuing obligation of the Contractor separate and independent of any other responsibility or obligation of the Contractor and will survive expiry or termination of this Agreement. It is not necessary for those indemnified to incur expense or make any payment before enforcing its right of indemnity under this clause 15. The Contractor must pay on demand any amount it must pay under the indemnity in this clause 15.

## 15.2 Other beneficiaries of indemnity

To the extent that the indemnity in clause 15.1 extends to persons who are not parties to this Agreement, the Principal has sought and obtained that indemnity as agent for and on behalf of those persons and holds the benefit of that indemnity as trustee for those persons. It is further agreed that the Principal may enforce the indemnity for and on behalf of any relevant Principal's Personnel for their benefit and that such persons may plead the indemnity in answer to any Claim made by the Contractor against them.

## 16 LIMITATION OF LIABILITY

- (a) Subject to clauses 16(b) and 16(c), the Contractor's aggregate liability to the Principal in contract, tort (including negligence) or otherwise under this Agreement is limited to the greater of:
- (i) the amount stated in Item 20 of the Contract Particulars, or if no amount is stated, \$5 million; and
  - (ii) the Contractor's statutory limit of liability (if any) under the *Professional Standards Act 1994* (NSW).
- (b) Subject to clause 16(c), neither party is liable to the other with respect to any Consequential Loss or Damage suffered or incurred by the other party.
- (c) The limitation of liability in clause 16(a) and the exclusion in clause 16(b) will not apply to any liability arising out of or in any way in connection with:
- (i) liability which cannot be limited at Law;
  - (ii) fraud, wilful misconduct or criminal conduct, wilful or reckless acts or omissions or gross negligence by the Contractor or any of its Personnel;
  - (iii) infringement of third party Intellectual Property Rights by the Contractor or its subcontractors;

- (iv) liability to the extent that the Contractor is entitled to recover that liability from a third party or would have been entitled to recover that liability but for a failure by the Contractor to diligently pursue a Claim against that third party; or
- (v) liability to the extent that the Contractor is entitled to be indemnified for that liability under a policy of insurance required under this Agreement, or would have been entitled to be indemnified for that liability but for:
  - (A) a breach by the Contractor of the terms of the policy of insurance; or
  - (B) a failure by the Contractor to effect or maintain (or cause to be effected or maintained) a policy of insurance required under this Agreement .
- (d) Nothing in this clause 16 limits or otherwise restricts the Contractor's obligations to comply with the *Professional Standards Act 1994* (NSW).
- (e) In determining:
  - (i) whether an insurance policy extends to cover:
    - (A) this Agreement in respect of any matters referred to in clause 16(a); and
    - (B) the liability (if any) of the Contractor arising out of or in connection with the matter; or
  - (ii) the amount recovered or recoverable by the Contractor under an insurance policy in connection with a matter referred to in clause 16(a),  
  
 (together the **Determinable Matters**), the limitation on the Contractor's liability pursuant to clause 16(a) will be disregarded and it must be assumed that the Contractor has paid in full the amount of its liability to the Principal (unlimited by clause 16(a)) in a manner which entitles the Contractor to claim under the relevant insurance policy.
- (f) The Contractor waives and disclaims any right or entitlement it may now or in the future have, but for this clause 16(f), to:
  - (i) not disregard clause 16(a), in connection with any determination of the Determinable Matters; or
  - (ii) do any of the following:
    - (A) claim or assert (including by way of defence, counter-claim or third party proceeding); or
    - (B) instigate, participate in, consent to, or lend its name to, any action or proceedings of any kind under which it is claimed or asserted (including by way of defence, counter-claim or third party proceeding),  
  
 that clause 16(a) is not to be disregarded in connection with the determination of the Determinable Matters.
- (g) The parties agree that clauses 16(e) and (f) may be pleaded in bar to any Claim or assertion by:

- (i) the Contractor; or
- (ii) any insurer;

in any Claim to the effect that clause 16(a) is not to be disregarded as provided in clause 16(e).

- (h) If for any reason in relation to a Determinable Matter:
  - (i) clauses 16(e) to 16(g) (or any of them) are unenforceable, void, voidable or illegal, then for the purpose of determining the Determinable Matters, clause 16(a) will be of no force or effect and will be treated as if they were severed from, and had never been terms of, this Project Contract; and
  - (ii) the Contractor, or an insurer is for any reason not obliged to disregard, or is for any reason entitled to have regard to, clause 16(a) in determining the Determinable Matters, then for the purpose of determining the Determinable Matters, clause 16(a) will be treated as if it was severed from and had never been terms of, this Project Contract and as of no force or effect whatsoever as against the person(s) who is so not obliged, or who is so entitled.

## **17 FORCE MAJEURE**

- (a) A party is not liable for any failure to observe its obligations under this Agreement where that failure is wholly or substantially due to a force majeure event.
- (b) A force majeure event includes any cause beyond the control of that party, including strike, industrial action, war, sabotage, terrorist activity, national emergency, blockade or governmental action, inaction or request, and act of God, provided that the party seeking to rely on the benefit of this clause:
  - (i) as soon as reasonably practicable, notifies the other party of the extent to which it is unable to perform its obligations; and
  - (ii) uses its best endeavours to mitigate the adverse effects of the force majeure event and perform its obligations under this Agreement as quickly as possible.
- (c) Where the force majeure event prevents a party from performing a material obligation under this Agreement for a period in excess of 3 months, then the other party may by notice terminate this Agreement, which will be effective immediately, unless otherwise stated in the notice.
- (d) A force majeure event will not relieve either party from its obligations to make payments of amounts then due and payable in respect of obligations under this Agreement which have been performed prior to the occurrence of the force majeure event.

## **18 TERMINATION**

### **18.1 Preservation of Rights**

Subject to clause 18.7, nothing in this clause 18, nor anything that a party does or fails to do pursuant to this clause 18 will prejudice the right of that party to exercise any right or remedy (including recovering damages) which it may have where the other party breaches (including repudiates) the Agreement.

### **18.2 Contractor default**

The Principal may give a written notice under clause 18.4 to the Contractor, if the Contractor:

- (a) where that party is the Contractor, the Principal may by written notice to the Contractor terminate the Agreement; or
- (b) does not commence the Services in accordance with the requirements of the Agreement;
- (c) abandons the Services or otherwise plainly demonstrates the intention not to continue the performance of its obligations under the Agreement;
- (d) fails to execute the Deed of Novation as required by clause 22.6(c);
- (e) fails to effect, have in place or otherwise maintain or provide evidence of, insurance as required by clause 7;
- (f) suspends the Services in breach of this Agreement or otherwise does not proceed with the Services in accordance with this Agreement;
- (g) fails to exercise the standard of skill, care and diligence required by the Agreement;
- (h) does not comply with any direction of the Principal's Representative made in accordance with the Agreement; or
- (i) is otherwise in substantial breach of the Agreement.

### **18.3 Principal default**

The Contractor may give a written notice under clause 18.4 to the Principal, if the Principal fails to pay the Contractor an amount due and payable under the Agreement.

### **18.4 Contents of notice of default**

A notice under this clause 18.4 must state:

- (a) that it is a notice under clause 18.4;
- (b) the breach relied upon; and
- (c) that the party giving the notice requires the other party to remedy the breach within 21 days of receiving the notice.

### **18.5 Termination for insolvency or breach**

If:

- (a) an Insolvency Event occurs to a party, or where the party comprises 2 or more persons, to any one of those persons; or

- (b) a party does not remedy a breach of Agreement the subject of a notice under clause 18.4 within 21 days of receiving the notice under clause 18.4,

then:

- (c) where that party is the Contractor, the Principal may by written notice to the Contractor terminate the Agreement; or
  - (d) where that party is the Principal, the Contractor may by written notice to the Principal:
    - (i) suspend the whole or any part of the Services; and
    - (ii) if within 21 days of the date of this suspension the Principal fails:
      - (A) to remedy the breach; or
      - (B) if the breach is not capable of remedy or in the case of an Insolvency Event, to make arrangements reasonably satisfactory to the Contractor,
- terminate the Agreement.

The Contractor:

- (e) must remove a suspension under clause 18.5 if the Principal remedies the breach or makes arrangements reasonably satisfactory to the Contractor; and
- (f) may at any time it sees fit remove a suspension under this clause 18.5.

after which clause 10.2 will apply.

#### **18.6 Principal's entitlements after termination**

Subject to clause 18.1, if the Principal terminates the Agreement under clause 18.5 or if the Contractor repudiates the Agreement and the Principal otherwise terminates the Agreement:

- (a) the Principal will:
  - (i) be entitled to require the Contractor to novate to the Principal or the Principal's nominee, any or all subcontracts between the Contractor and its subconsultants as required by the Principal;
  - (ii) not be obliged to make any further payments to the Contractor, including any money the subject of a Payment Claim under clause 12.2 or a payment statement under clause 12.3 and
  - (iii) be entitled to recover from the Contractor any Loss incurred or suffered by it as a result of, or arising out of, or in any way in connection with, such termination; and
- (b) the Contractor must immediately hand over to the Principal all copies of:
  - (i) the Principal's Material; and



- (ii) Contract Material brought into existence by the Contractor prior to the date of termination (whether complete or not).

#### **18.7 Contractor's entitlements after termination**

If the Contractor terminates the Agreement under clause 18.5 or if the Principal repudiates the Agreement and the Contractor otherwise terminates the Agreement, the Contractor will:

- (a) be entitled to claim damages; and
- (b) not be entitled to a quantum meruit.

This clause 18.7 will survive the termination of the Agreement.

#### **18.8 Termination for convenience**

Without prejudice to any of the Principal's other rights under this Agreement, the Principal may:

- (a) at any time for its sole convenience, and for any reason, by written notice to the Contractor terminate the Agreement effective from the time stated in the Principal's notice or if no such time is stated, at the time the notice is given to the Contractor; and
- (b) thereafter, at its absolute discretion, complete the uncompleted part of the Services either itself or by engaging other contractors.

#### **18.9 Costs**

If the Principal terminates the Agreement under clause 18.8, the Contractor:

- (a) will be entitled to payment of the following amounts as determined by the Principal's Representative:
  - (i) for Services performed prior to the date of termination, the amount which would have been payable if the Agreement had not been terminated and the Contractor submitted a Payment Claim for Services performed prior to the date of termination; and
  - (ii) the amount specified in the Contract Particulars as payable to the Contractor upon termination by the Principal for its convenience; and
- (b) must immediately hand over to the Principal all copies of:
  - (i) the Principal's Material; and
  - (ii) the Design Documentation brought into existence by the Contractor prior to the date of termination (whether complete or not).

### **19 NOTICES**

- (a) Any notice or other communication given under this Agreement:
  - (i) must be in writing addressed to the intended recipient at the address shown for the recipient in Item 21 of the Contract Particulars or the address last notified by the intended recipient to the sender;

- (ii) must be signed by an authorised officer of the sender;
  - (iii) will be taken to have been delivered:
    - (A) in the case of delivery in person – when delivered to the recipient's address for service;
    - (B) in the case of delivery by post – within 3 Business Days of posting;
    - (C) in the case of delivery by facsimile – at the time of dispatch if the sender receives a transmission report which confirms that the facsimile was sent in its entirety to the facsimile number of the recipient.
- (b) If delivery or receipt of a notice occurs on a day that is not a Business Day, or occurs later than 5.00 pm (local time) on any day, it will be taken to have occurred at the commencement of business on the next Business Day.
- (c) The parties acknowledge and agree that any notice, approval, consent or other communication in connection with this Agreement given by email must, if it relates to or is in connection with:
- (i) the Fee or any Ad Hoc Services Fee, novation or any Variation;
  - (ii) termination of this Agreement; or
  - (iii) any dispute under this Agreement,
- in addition to being given an email, also be sent either by post or facsimile or given by hand.

## 20 DISPUTE RESOLUTION

### 20.1 Notice of dispute

If a dispute or difference (**Dispute**) arises between the Contractor and the Principal or between the Contractor and the Principal's Representative in respect of any fact, matter or thing arising out of, or in any way in connection with, the Services or the Contract, or either party's conduct before the Contract, the Dispute must be determined in accordance with the procedure in this clause 20.

Where such a Dispute arises, either party may give a notice in writing to the Principal's Representative and the other party specifying:

- (a) the Dispute;
- (b) particulars of the party's reasons for being dissatisfied; and
- (c) the position which the party believes is correct.

### 20.2 Expert determination

If the Dispute is not resolved within 14 days after a notice is given under clause 20.1, the Dispute may be referred to expert determination conducted in accordance with the Institute of Arbitrators and Mediators Australia (IAMA) Expert Determination Rules as modified by clause (a) and Annexure K to this Agreement.

### 20.3 **Appointment of Expert**

- (a) Any Dispute which is referred to expert determination will be conducted before a person to be:
  - (i) agreed between the parties; or
  - (ii) failing agreement within 10 days after the referral of the Dispute to expert determination, a person nominated by IAMA (**Expert**).
- (b) Where an Expert is agreed under clause 1.1(a)(i), the parties will enter into an agreement with the Expert in the terms contained in Annexure L to this Contract.
- (c) An expert determination conducted under this clause 20 is not an arbitration and the Expert is not an arbitrator. The Expert may reach a decision from his or her own knowledge and expertise.
- (d) Each party will:
  - (i) bear its own costs in respect of any expert determination; and
  - (ii) pay one-half of the Expert's costs.

### 20.4 **Determination of the Expert**

The Expert's determination will be:

- (a) made on a de novo basis; and
- (b) final and binding, unless a party serves a notice of appeal on the other party within 28 days of the determination.

### 20.5 **Non-compliance with Expert's determination**

If a party fails or refuses to comply with the Expert's determination, then the other party may, without prejudice to any other rights it may have, commence proceedings in relation to any dispute about the non-compliance.

### 20.6 **Survive termination**

This clause 20 will survive the termination of the Contract.

### 20.7 **Continuation of Services**

Despite the existence of a dispute or difference between the parties the Contractor must:

- (a) continue to perform the Services; and
- (b) otherwise comply with its obligations under the Contract.

### 20.8 **Summary relief**

Nothing in this clause 20 shall prejudice the right of a party to institute proceedings to enforce payment due under the Agreement or to seek injunctive or urgent declaratory relief.

## **21 PROPORTIONATE LIABILITY**

- (a) To the extent permitted by Law, Part 4 of the Civil Liability Act 2002 (NSW) (and any equivalent statutory provision in any other state or territory) is excluded in relation to all and any rights, obligations or liabilities of either party under this Agreement whether such rights, obligations or liabilities are sought to be enforced in contract, tort or otherwise.
- (b) Without limiting clause 21(a), the rights, obligations and liabilities of the Contractor and the Principal under this Agreement with respect to proportionate liability are as specified in this Agreement and not otherwise, whether such rights, obligations or liabilities are sought to be enforced by a Claim in contract, in tort or otherwise.
- (c) To the extent permitted by Law:
  - (i) the Contractor must not seek to apply the provisions of Part 4 of the Civil Liability Act 2002 (NSW) in relation to any Claim by the Principal against the Contractor (whether in contract, tort or otherwise); and
  - (ii) if any of the provisions of Part 4 of the Civil Liability Act 2002 (NSW) are applied to any Claim by the Principal against the Contractor (whether in contract, tort or otherwise), the Contractor will indemnify the Principal against any loss, damage, cost or expense which the Principal is not able to recover from the Contractor because of the operation of Part 4 of the Civil Liability Act 2002 (NSW).

## **22 GENERAL**

### **22.1 Governing Law**

This Agreement is governed by and must be construed according to the Law applying in New South Wales and, subject to clause 20, the parties submit to the non-exclusive jurisdiction of the courts of New South Wales.

### **22.2 Amendments**

Subject to a direction to carry out a Variation in accordance with clause 11, this Agreement may only be varied by a document signed by or on behalf of each party.

### **22.3 Waiver**

- (a) Failure to exercise or enforce, or a delay in exercising or enforcing, or the partial exercise or enforcement of, a right or remedy by a party, does not preclude, or operate as a waiver of, the exercise or enforcement of that right or remedy.
- (b) A waiver or consent given by a party under this Agreement is only effective and binding on that party if it is given or confirmed in writing by that party.
- (c) No waiver of a breach of a term of this Agreement operates as a waiver of another breach of that term or of a breach of any other term of this Agreement.

### **22.4 Further acts and documents**

Each party must promptly do all further acts and execute and deliver all further documents (in form and content reasonably satisfactory to the other party) required by Law or reasonably requested by the other party to give effect to this Agreement.

## 22.5 Consents

A consent or approval required under this Agreement from a party may be given or withheld, or may be given subject to any conditions, as that party (in its absolute discretion) thinks fit, unless this Agreement expressly provides otherwise.

## 22.6 Assignment and Novation

- (a) The Contractor cannot assign, novate or otherwise transfer any of its rights or obligations under this Agreement without the prior written consent of the Principal.
- (b) The Principal may, for its sole convenience and at its absolute discretion, assign, novate or otherwise deal with its rights and obligations under this Agreement without the Contractor's consent to any third party including any other Authority. The Contractor must execute any document reasonably required to give effect to the assignment, novation or other dealing.
- (c) The Principal may at any time, without the consent of the Contractor, novate the Agreement to another contractor on the terms of the Deed of Novation at Annexure M.
- (d) If the Principal elects to novate the Agreement it will notify the Contractor, and subject to all Fees and any Ad Hoc Services Fees due and payable to the Contractor having been paid, the Contractor must promptly execute and provide to the Principal the Deed of Novation within 7 days of receipt of the Principal's notice. If the Principal elects to novate the Agreement it will notify the Contractor, and the Contractor must promptly execute and provide to the Principal the Deed of Novation within 7 days of receipt of the Principal's notice.
- (e) If the Contractor fails to execute the Deed of Novation within the time period specified in the previous paragraph, then for the purpose of executing the Deed of Novation, the Contractor irrevocably appoints the Principal to be its attorney with full power and authority to complete the particulars and execute, sign, send and deliver in the name of the Contractor the Deed of Novation and all notices, deeds and documents for that purpose.

## 22.7 No representation or reliance

- (a) Each party acknowledges that no party (nor any person acting on a party's behalf) has made any representation or other inducement to it to enter into this Agreement, except for representations or inducements expressly set out in this Agreement.
- (b) Each party acknowledges and confirms that it does not enter into this Agreement in reliance on any representation or other inducement by or on behalf of any other party, except for representations or inducements expressly set out in this Agreement.

## 22.8 Entire agreement

To the extent permitted by Law, in relation to its subject matter, this Agreement:

- (a) embodies the entire understanding of the parties, and constitutes the entire terms agreed by the parties; and
- (b) supersedes any prior written or other agreement of the parties.

## 22.9 Severance

If at any time a provision of this Agreement is or becomes illegal, void, invalid or unenforceable in any respect under the Law of any jurisdiction that will not affect or impair:

- (a) the legality, validity or enforceability in that jurisdiction of any other provision of this Agreement; or
- (b) the legality, validity or enforceability under the Law of any other jurisdiction of that or any other provision of this Agreement.

## 22.10 Exclusivity

- (a) The Contractor must not and must procure that:
  - (i) any Related Entity of the Contractor; and
  - (ii) any employees, agents, subcontractors and consultants who are involved in the provision of the Services,  
  
do not, prior to the date of completion of the Project:
    - (iii) have any direct or indirect involvement in the Project other than for the Principal or the New South Wales Government; or
    - (iv) provide services to or advise any other person in relation to the Project,  
  
except with the prior written consent of the Principal which may be withheld or granted in its sole discretion.
- (b) The Contractor agrees that:
  - (i) having regard to the Project and the Services, clause 22.10(a) is reasonable as regards the nature of the involvement restrained and the duration and scope of the restraint and that the restraints are reasonably necessary for the probity of the Project and to ensure the best value for money for the Project; and
  - (ii) damages may not be a sufficient remedy for the breach of clause 22.10(a) and the Principal may be entitled to specific performance or injunctive relief (as appropriate) as a remedy for any breach or threatened breach by the Contractor, in addition to any other remedies available at Law or in equity.

## 22.11 Publicity

The Contractor must obtain the written approval of the Principal before publishing or publicising any information associated with the Project, the Principal or the Services or seeking to use the Principal's name as a reference.

## **ANNEXURE “A” – The Principal's requirements for working in the Rail Corridor and Rail Safety Work**

All clause references in this Annexure are references to clauses in this Annexure unless otherwise indicated.

Unless otherwise defined, capitalised terms in this Annexure have the meaning given in the General Terms and Conditions.

### **1 Working in the Rail Corridor**

#### **1.1 Definitions**

In this clause:

**Approved Suppliers of Protection Officers** means the list of suppliers of Protection Officers maintained by the Principal, details of which can be obtained by contacting the Principal.

**Competence Records** means, with respect to any Rail Safety Worker engaged in connection with the Works (including those engaged by subcontractors), the following information:

- (a) the rail safety training undertaken by the Rail Safety Worker, including when, and for how long, the training was undertaken;
- (b) the qualifications of the Rail Safety Worker, including (if applicable):
  - (i) the units of competence undertaken to achieve the qualification;
  - (ii) the level of qualification attained;
  - (iii) if, and when, a re-assessment of competence is to be conducted;
  - (iv) if, and when, any re-training is due and was undertaken; and
  - (v) the name of any organisation conducting training or re-training;
- (c) the name and qualifications of any person who assessed the competence of the worker; and
- (d) any further information requested by the Principal with respect to the competence of the Rail Safety Worker.

**Controlled Signal Blocking** has the meaning given in the RailSafe Network Rules.

**Danger Zone** has the meaning given in the RailSafe Network Rules.

**Local Possession Authority** has the meaning given in the RailSafe Network Rules.

**No Authority Required** has the meaning given in the RailSafe Network Rules.

**Possession** has the meaning given in the RailSafe Network Rules.

**Possession Protection Officer** has the meaning given in the RailSafe Network Rules.

**Protection Officer** has the meaning given in the RailSafe Network Rules.

**RailSafe Network Procedures** means the Network Procedures which can be obtained from the RailSafe website at <http://railsafe.sydneytrains.nsw.gov.au/> or by contacting the Principal.

**RailSafe Network Rules** means the Network Rules which can be obtained from the RailSafe website at <http://railsafe.sydneytrains.nsw.gov.au/> or by contacting the Principal.

**Rail Safety Work** has the meaning given in section 8 of the Rail Safety National Law.

**Rail Safety Worker** has the meaning given in section 4 of the Rail Safety National Law.

**Railway** has the meaning given in the Rail Safety National Law.

**Railway Operations** has the meaning given in the Rail Safety National Law.

**Running Line** has the meaning given in the Rail Safety National Law.

**Track Occupancy Authority** has the meaning given in the RailSafe Network Rules.

**Track Work Authority** has the meaning given in the RailSafe Network Rules.

## 1.2 **General requirements**

The Contractor must comply with the Safety Specification which sets out the specific work health and safety requirements of the Agreement, including such matters as safety requirements for carrying out work in the Rail Corridor and the Principal's Policies, Codes and Standards that relate to drugs, alcohol and fatigue management.

## 1.3 **Working in the Rail Corridor**

- (a) The RailSafe Network Rules and RailSafe Network Procedures prescribe the rules and procedures for carrying out work in the Rail Corridor.
- (b) The Contractor must comply with, and must ensure that its employees, subcontractors and visitors comply with, the RailSafe Network Rules and RailSafe Network Procedures.
- (c) This Annexure does not limit or otherwise restrict the Contractor's obligation to comply with the RailSafe Network Rules and RailSafe Network Procedures.

## 1.4 **Method of working in the Danger Zone**

- (a) Without limitation, the RailSafe Network Rules prescribe:
  - (i) that work in the Danger Zone must be carried out only by using one of the following five methods:
    - (A) Local Possession Authority;
    - (B) Track Occupancy Authority;



- (C) Track Work Authority;
  - (D) Controlled Signal Blocking; or
  - (E) No Authority Required, and
- (ii) mandatory minimum safety measures for each method.
- (b) If the Contractor is to provide the Works in the Danger Zone, the Contractor must carry out work in the Danger Zone using the method(s) notified by the Principal's Representative to the Contractor's Representative no later than 24 hours prior to the Commencement Date of the relevant Works.

### 1.5 Working hours

- (a) Subject to the other provisions of this Annexure (including those relating to Possessions), the hours of work applicable to the Works to be carried out in the Rail Corridor and the Danger Zone will be notified by the Principal's Representative to the Contractor's Representative no later than 24 hours prior to the Commencement Date of the relevant Works.
- (b) The Principal does not guarantee access and/or Possessions for the Worksite for the whole of the working hours notified by the Principal's Representative to the Contractor's Representative under clause 1.5(a).

### 1.6 Removal of 1500V electrical supply

The hours, times and locations during which the 1500V supply will be removed by the Principal will be notified by the Principal's Representative to the Contractor's Representative no later than 24 hours prior to the Commencement Date of the relevant Works.

### 1.7 Possessions

- (a) Possessions are closures and/or occupation of defined portions of one or more Running Lines to allow work to be carried out in the Danger Zone using either a Local Possession Authority or a Track Occupancy Authority. Subject to the requirements of this Annexure, the Principal's Representative will notify the Contractor's Representative of any Possession(s) no later than 24 hours prior to the Commencement Date of the relevant Works.
- (b) The Contractor:
- (i) acknowledges that any Possession arranged by the Principal is not necessarily available for the sole purpose of allowing the Works to proceed in the Danger Zone;
  - (ii) acknowledges that the Principal does not guarantee Possessions for the whole of the Danger Zone working hours notified by the Principal's Representative to the Contractor's Representative under clause 1.5(a);

- (iii) warrants that it shall, if directed by the Principal's Representative, co ordinate the Works with:
  - (A) other contractors engaged by the Principal to carry out work in the Danger Zone during the Possession(s); and
  - (B) the Principal's Personnel operating and maintaining the Railway;
- (iv) warrants that it shall comply with, and ensure that its Personnel comply with, any direction that may be given by the Possession Protection Officer or any Protection Officer (whether engaged by the Contractor or the Principal), including a direction to attend a safety briefing (or "Toolbox Talk") or to suspend work;
- (v) warrants that it shall take all necessary steps to ensure that the Works in the Danger Zone are carried out utilising the specified methods and the arranged Possession(s) pursuant to clauses 1.4 and 1.7 respectively;
- (vi) warrants that, unless otherwise approved by the Principal, it shall not carry out any of the Works in a way which may result in disruption or alteration of the Principal's Railway Operations;
- (vii) acknowledges that the Principal may alter or cancel any Possession and as a result of this action the Principal's Representative may direct the Contractor to suspend the Works;
- (viii) acknowledges that Possessions are difficult to obtain and are normally planned up to 12 months ahead of required dates, and as such arranged Possessions must be fully utilised;
- (ix) indemnifies the Principal against any damage, expense, loss or liability suffered or incurred by the Principal arising out of or in connection with:
  - (A) the under utilisation of any Possession during which the Works were, or ought to have been, carried out; or
  - (B) any disruption to the Principal's Railway Operations caused by a negligent act or omission of the Contractor or its Personnel relating to a Possession.

## 1.8 Protection Officers

- (a) All Worksites in the Rail Corridor must have a Protection Officer whose primary duty is to keep the Worksite and workers safe. The Contractor must (unless otherwise directed by the Principal) provide sufficient Protection Officers, possessing the Principal issued certificate of competency, to:
  - (i) assess the work to be carried out by the Contractor for safety and its potential to intrude on the Danger Zone;
  - (ii) ensure a safe place exists or can be created in the Danger Zone;

- (iii) prepare Worksite protection plans;
  - (iv) ensure all work is carried out safely and in accordance with the RailSafe Network Rules and RailSafe Network Procedures; and
  - (v) keep records about Worksite protection arrangements.
- (b) When carrying out work in the Rail Corridor the Contractor must comply with, and must ensure that each of its Personnel complies with, any direction that may be given by a Protection Officer.
  - (c) The Principal has Approved Suppliers of Protection Officers. The Contractor must procure Protection Officers from one of the Principal's approved suppliers and must not, without the Principal's written permission, provide or deploy a Protection Officer provided by any other supplier.

## 1.9 Clearances and other requirements

The Contractor must ensure that, when working in the Rail Corridor:

- (a) if specified in the Safe Access Plan and work methodology to be provided by the Tenderer, demarcation fencing (for example, star picket and plastic tape) is erected, as the minimum requirement, to indicate the horizontal boundary of the Danger Zone;
- (b) no metal object (including metal ladders, tapes, rules and scaffolding) is used or comes within six metres of the 1500V overhead wiring or equipment;
- (c) no person, plant or other object comes within one metre of the 1500V overhead wiring or equipment;
- (d) no structure that may affect entry to or egress from the Rail Corridor, or may obstruct the view of a train driver, is erected;
- (e) artificial lighting is not used to illuminate the place of work unless the Principal or the Possession Protection Officer approves the type and placement of the lighting;
- (f) level crossings are not constructed unless the Principal or the Possession Protection Officer gives the Contractor written permission; and
- (g) each of the Contractor's employees and subcontractors:
  - (i) wears high visibility safety clothing (including an ORANGE coloured safety vest with retro reflective strips); and
  - (ii) does not wear any RED or GREEN coloured clothing.

### 1.10 "Kick off" meeting

- (a) The Contractor's nominated safety personnel must attend and participate in a "Kick off" meeting to be held prior to the commencement of work at the Worksite. This meeting will be conducted by the Principal's Representative and attended by other stakeholders nominated by the Principal's Representative. The purpose of the meeting will be to discuss safety issues associated with the Worksite and the Works and to ensure that the Contractor understands its safety management obligations including its obligations to:
- (i) in consultation with the Principal, identify hazards associated with the Worksite and the Works to be carried out by the Contractor, assess the associated risks and either eliminate the risks or develop measures to effectively control the risks;
  - (ii) prepare safety management plans and Safe Work Method Statements; and
  - (iii) ensure that each of its employees and subcontractors:
    - (A) holds any required qualification or certificate of competency;
    - (B) receives any required health assessment; and
    - (C) is provided with all required safety induction training.
- (b) During the "Kick off" meeting the Principal will provide the Contractor's nominated safety Personnel with initial induction training including an overview of the relevant Principal's Policies, Codes and Standards with which the Contractor and its employees and subcontractors must comply.

### 1.11 Rail Industry Safety Induction training

The Contractor must, before the Principal will provide the Contractor with access to the Rail Corridor, provide to the Principal satisfactory evidence that each of the Contractor's Personnel entering the Rail Corridor whose work will require them to intrude into the Danger Zone has been provided with Rail Industry Safety Induction (RISI) training and issued a duly authorised RISI card in accordance with sections 5 and 6 of the Rail Industry Safety Induction (RISI) Standard.

### 1.12 Pre-work safety briefing

The Contractor must conduct daily pre-work safety briefings for all Personnel at the Worksite at the commencement of each shift and whenever work conditions change. During the pre-work safety briefings the Contractor must discuss:

- (a) any Worksite specific hazards;
- (b) Safe Work Method Statements associated with the work activities scheduled during the day or shift;
- (c) the Worksite protection in place and the boundaries of such protection;

- (d) the times at which protection will be in place;
- (e) the signals which will be given when it is necessary to clear the Railway tracks;
- (f) the location of safe places / refuges to be used when required to clear the railway tracks; and
- (g) access and egress to the Worksite.

#### 1.13 **Competence Records**

Without limiting or otherwise restricting any other provision of this Agreement, the Contractor must:

- (a) prior to any Rail Safety Worker carrying out any Rail Safety Work in connection with the Works, provide the Principal with the Competence Records in the form directed by the Principal (which may be electronic);
- (b) ensure that any Rail Safety Worker who carries out Rail Safety Work in connection with the Principal's railway operations has the competence to carry out that work; and
- (c) ensure that each Rail Safety Worker used in connection with the Works has a form of identification that is sufficient to enable the type of competence and training undertaken by that Rail Safety Worker to be checked by a rail safety officer or the Principal if requested.

## **ANNEXURE "B" – The Principal's Policies, Codes and Standards and related Contractor Obligations**

All clause references in this Annexure are references to clauses in this Annexure unless otherwise indicated.

Unless otherwise defined, capitalised terms in this Schedule have the meaning given in the General Terms and Conditions

### **1 Ariba Supplier Network**

The Contractor acknowledges that:

- (a) The Principal generally conducts business with contractors electronically, including by transacting and exchanging data with contractors for the purposes of:
  - (i) creating purchase orders and for the acknowledgement of the receipt of purchase orders;
  - (ii) processing invoices and payments;
  - (iii) conducting spend analyses; and
  - (iv) supplier management;
- (b) As at the Commencement Date, the Principal uses:
  - (i) the Ariba Spend Management™; and
  - (ii) the Ariba Contractor Network™,

(collectively, "**Ariba**") as the platform for transacting and exchanging data with contractors;
- (c) If the Contractor is requested by the Principal to register as a "supplier" on Ariba, the Contractor must, at its own cost, do all things necessary to give effect to such request; and
- (d) The Principal may from time to time, in its absolute discretion, nominate a platform or tool other than Ariba as the platform for transacting and exchanging data with contractors, in which case, the Contractor must do all things required by the Principal, at its own cost, to enable transactions and the exchange of data to be undertaken using such other platform or tool.

### **2 Contractor's compliance with Government Policies and Agreements**

- (a) The Contractor acknowledges that when selecting the Contractor, the Principal, as a NSW Government authority, was obliged to consider the Contractor's compliance with the:
  - (i) NSW Government Procurement: Small and Medium Enterprises Policy Framework;
  - (ii) Australian New Zealand Government Procurement Agreement; and

- (iii) Australia-United States Free Trade Agreement.
- (b) The Contractor warrants that any information it provided to the Principal in its tender proposal in respect of its compliance with the requirements of the documents listed in clause 2(a)(i) to 2(a)(iii) will remain true for the duration of this Agreement.

### **3 Corruption Prevention**

- (a) The Contractor must ensure that, except as declared to the Principal prior to the Commencement Date, no Personnel of the Contractor has or is engaged in corrupt conduct as defined by the Independent Commission Against Corruption Act 1988 (NSW).
- (b) If the Contractor or any Personnel of the Contractor is found by the Independent Commission Against Corruption to have engaged in corrupt conduct (as defined by the Independent Commission Against Corruption Act 1988 (NSW)) or if the Contractor has engaged any person in contravention of clause 3(c), the Principal may terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.
- (c) The Contractor must not, and must ensure that subcontractors at any level do not, engage any person named at:
- (d) <http://www.transport.nsw.gov.au/railcorp/individuals-adversely-named-icac> to do anything in connection with this Agreement whether as an employee, agent, contractor or in any other capacity whatsoever.
- (e) If the Contractor breaches this clause 3, the Principal may terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.
- (f) The Principal may, in its absolute discretion and at any time, require that the Contractor or any of its Personnel submit to police checks or any other character or background checks required by the Principal. Where the Principal requires the Contractor or its Personnel to submit to such checks, the Contractor must procure all necessary consents from its Personnel, and must provide any other assistance reasonably required by the Principal.

### **4 Statement of Business Ethics**

- (a) The Contractor must at all times comply with the Statement of Business Ethics (as defined in clause 10 of this Schedule). Prior to performing any Services, or performing any other work of any kind in relation to the Agreement, the Contractor must:
  - (i) read and understand the Statement of Business Ethics;
  - (ii) ensure that the Contractor's Personnel have read and understood the Statement of Business Ethics; and

- (iii) provide a signed statement to the Principal verifying that the Contractor has received, read and understood the Statement of Business Ethics.
- (b) Prior to the engagement of any subcontractor by the Contractor, the Contractor must obtain a written acknowledgement from such subcontractor that it has received, read, understood and will comply with the Statement of Business Ethics. The Contractor must retain the documentation required by this clause 4(b) for a period of seven years and must provide such documentation to the Principal as and when requested.
- (c) If the Contractor fails to comply with the Statement of Business Ethics, the Principal's Representative may issue a written notice to show cause why this Agreement should not be terminated in respect of the Contractor's breach of its obligations under this clause 4.
- (d) If a person has committed a material breach of the Statement of Business Ethics and the Contractor has material information, knowledge of, or believes that such a breach has been committed, the Contractor must notify the Principal's Representative of such information, knowledge or belief. If the Contractor fails without reasonable excuse to notify the Principal's Representative of such information, knowledge or belief, the Principal's Representative may issue a written notice to the Contractor to show cause why this Agreement should not be terminated in respect of the Contractor's breach of its obligations under this clause 4(d).
- (e) A notice issued by the Principal's Representative pursuant to this clause 4 must state:
  - (i) that it is a notice issued under this clause 4;
  - (ii) details of the alleged failure by the Contractor to comply with the Principal's Statement of Business Ethics or clause 4(d);
  - (iii) that the Contractor is required to show cause as to why the Principal should not exercise the right referred to in clause 4(g);
  - (iv) the date and time by which the Contractor must show cause; and
  - (v) the address to which the Contractor must submit its written response to the notice issued by the Principal's Representative.
- (f) The Contractor must respond to a notice received pursuant to this clause 4 in writing to the Principal's Representative within 10 Business Days of the date of the notice.
- (g) If the Contractor fails to show reasonable cause within the time required by clause 4(f) and without limiting any other right available to the Principal, the Principal's Representative may:



- (i) advise the Contractor that the Principal will take no further action in respect of the notice;
  - (ii) require the Contractor to provide further information or clarification by another date;
  - (iii) suspend this Agreement; or
  - (iv) terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.
- (h) If the Principal's Representative suspends this Agreement under clause 4(g) the Principal's Representative may, at any time after such suspension, by written notice:
- (i) lift the suspension either conditionally or unconditionally; or
  - (ii) terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.
- (i) For the purposes of this clause 4 "Contractor" includes the Contractor's Personnel.

## **5 Conflicts of interest**

- (a) The Contractor warrants that at the Commencement Date and each Project Commencement Time, no conflict of interest exists or is likely to arise in the performance of the Services in respect of the Contractor or any of its Personnel, except as has been disclosed in writing by the Contractor to the Principal prior to the execution of this Agreement or otherwise in accordance with this clause 5.
- (b) The Contractor agrees that it will not act for any third party where so acting may give rise to a conflict of interest.
- (c) The Contractor must use its best endeavours to ensure no conflicts of interest arise and must notify the Principal, in writing, immediately upon becoming aware of the existence, or possibility, of a conflict of interest.
- (d) On receipt of a notice under clause 5(c), the Principal may:
  - (i) approve the Contractor continuing to perform the Services, which approval may be subject to conditions specified by the Principal (including requirements relating to separation arrangements) to ensure appropriate management of the conflict; or
  - (ii) where in the Principal's view the conflict of interest cannot be appropriately managed, terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.

- (e) The Principal may, in its absolute discretion and at any time, require that the Contractor signs, and procure that each of its Personnel involved in the performance of the Services signs, and delivers to the Principal a Statement of Interests and Associations in the form attached in Schedule 10 or such other form as may reasonably be required by the Principal.

## **6 Quality Management**

- (a) The Contractor must establish, implement and maintain for the duration of this Agreement a quality management system complying with the requirements of the standard specified in section 19 of the Deed Particulars.
- (b) Any quality system must be used only as an aid to achieving compliance with this Agreement and to document such compliance and does not discharge the Contractor's other obligations under this Agreement.
- (c) The Contractor will not be relieved from compliance with any of its obligations, or any of its liabilities, under this Agreement or otherwise at Law as a result of:
  - (i) the implementation of, and compliance with, the quality system requirements of this Agreement;
  - (ii) any direction by the Principal's Representative concerning the Contractor's quality system or its compliance or non-compliance with that system; or
  - (iii) any audit or other monitoring by the Principal's Representative of the Contractor's compliance with the quality system.

## **7 Competitive Pricing**

### **7.1 Competitive pricing principles**

The Principal and the Contractor agree that it is their common intention that the Fee and any Ad Hoc Services Fees will be (and will remain for the duration of this Agreement) commercially competitive in terms of:

- (a) the price offered by the Contractor to other customers whose orders for its works are of a comparable type to the Services; and
- (b) prices and terms and conditions offered by other providers in the market for works that are the same as or equivalent to the Services.

### **7.2 Most favoured pricing**

The Contractor must ensure at all times during the duration of this Agreement that the Fee and any Ad Hoc Services Fee is no less favourable than that which the Contractor provides or offers to provide works that are equivalent or similar to the Services supplied to any other customer of the Contractor, whose orders for its works are of a comparable type to the Services.

## **8 Access to Records**

### **8.1 Contractor to retain records**

The Contractor must, for the duration of this Agreement and for a period of seven years after the end of this Agreement, keep true and accurate accounts and records of:

- (a) the Services supplied under this Agreement; and
- (b) all associated accounts and records including all supporting materials used to generate and substantiate invoices submitted in respect of Services.

### **8.2 Right to access and audit**

- (a) In order for the Principal to ensure the Contractor's compliance with its obligations under this Agreement and to assist the Principal to perform its obligations under this Agreement the Contractor acknowledges and agrees that the Principal's Representative and/or any person authorised by the Principal's Representative (and notified to the Contractor's Representative) may, at any time during normal working hours and after giving reasonable notice to the Contractor's Representative, inspect and/or audit the records, information and correspondence of the Contractor relating to the Contractor's compliance with this Agreement.
- (b) The Principal, the Principal's Representative and/or any person authorised by the Principal's Representative (and notified to the Contractor's Representative) will be entitled (at the expense of the Principal) to take copies of or extracts from any such records.

- (c) The right of access and audit granted under this clause 8.2 may be exercised by the Principal at any time during the duration of this Agreement or in the seven year period after the end of this Agreement.
- (d) The Principal will be solely responsible for the costs of conducting any audit under this clause 8.2.

### 8.3 Auditing and probity

The Contractor acknowledges and agrees that:

- (a) The Principal's Representative (or any other person designated by the Principal's Representative) may carry out regular audits on:
  - (i) the Contractor's quality management system;
  - (ii) the Contractor's work health and safety system; and
  - (iii) a quality and probity basis including:
    - (A) inspections after the Contractor has provided the Services;
    - (B) random spot inspections;
    - (C) viewing CCTV footage available at the Project Site;
    - (D) inspecting reports prepared by the Contractor in accordance with this Agreement; and
    - (E) if applicable, utilising the Principal's compliance auditors during possessions to check staff competencies, plant certifications and other relevant factors.
- (b) The Contractor must provide reasonable access to its premises to enable the Principal or its Personnel to carry out any such audit and must co-operate with and provide all assistance requested by the Principal or its Personnel when carrying out any such audit.
- (c) If the Contractor is appointed as the Principal Contractor for the Services the Contractor acknowledges and agrees that:
  - (i) the Principal's Representative (or any other person designated by the Principal's Representative) may carry out regular audits on the Contractor's compliance with its obligations as Principal Contractor; and
  - (ii) by exercising its right under this clause 8.3(c), the Principal is not assuming any management or control of the Project Site.
- (d) If the Contractor is not appointed as the Principal Contractor for the Services then the Contractor acknowledges and agrees that the Principal's Representative (or any other person designated by the Principal's Representative) may carry out regular audits on the Contractor's Work Health and Safety System.

#### 8.4 Inspection of plant and equipment

- (a) If the Contractor utilises plant or equipment in connection with the Services, from time to time the Principal may in its absolute discretion inspect and evaluate such plant and Equipment that is located at the Worksite without prior notice to the Contractor (**Principal's Inspections**).
- (b) Without limiting any obligation of the Contractor, at the time of any Principal's Inspection the following documentation pertaining to each item of plant and equipment must be made available, at the Contractor's cost, to the relevant Principal's Personnel:
  - (i) the operating and servicing manuals produced by the original equipment manufacturer (**OEM**) in respect of the plant and equipment; and
  - (ii) evidence of the maintenance history in respect of the plant and equipment.
- (c) Where an item of plant and equipment is:
  - (i) not made available for a Principal's Inspection; and/or
  - (ii) determined by the Principal's Representative to not comply with any requirement of Sydney Trains' Policies, Codes and Standards or this Agreement,

the relevant Construction Plant and Equipment must be removed from the Worksite by the Contractor at the Contractor's cost, until such time as the Principal's Representative notifies the Contractor otherwise.
- (d) Each party will bear its own costs in connection with the conduct of a Principal's Inspection.
- (e) The Contractor is not entitled to make, and the Principal will not be liable upon, any Claim by the Contractor arising out of or in any way connected with any Principal's Inspection or any determination made by the Principal's Representative under clause 8.4(c)(ii).

#### 9 Public Access to Government Information

- (a) The Contractor acknowledges and agrees that the Principal is subject to the GIPA Act. The Principal may disclose information in this document (including the entire document) on its nominated website established for GIPA Act disclosures. The Contractor irrevocably consents to the Principal acting in accordance with this clause.
- (b) In accordance with section 121 of the GIPA Act, the Contractor must, upon receipt of a written request by the Principal, provide the Principal with immediate access to the following information contained in records held by the Contractor:

- (i) information that relates directly to the carrying out of the Services provided to the Principal by the Contractor;
  - (ii) information collected by the Contractor from members of the public to whom it provides, or offers to carry out, the Services; and
  - (iii) information received by the Contractor from the Principal to enable it to carry out the Services.
- (c) For the purposes of clause 9(b), information does not include:
- (i) information that discloses or would tend to disclose the Contractor's financing arrangements, financial modelling, cost structure or profit margin;
  - (ii) information that the Contractor is prohibited from disclosing to the Principal by provision made by or under any Act, whether of any State or Territory, or of the Commonwealth; or
  - (iii) information that, if disclosed to the Principal, could reasonably be expected to place the Contractor at a substantial commercial disadvantage in relation to the Principal, whether at present or in the future.
- (d) The Contractor will provide copies of any of the information in clause 9(b), as requested by the Principal, at the Contractor's own expense.
- (e) Any failure by the Contractor to comply with any request pursuant to clause 12(b) or clause 12(d) will be considered a material breach of this Agreement and the Principal may terminate this Agreement under clause 23.1(b)(iii) of the General Terms and Conditions.

## **10 No Public Statements**

- (a) The Contractor must not disclose or advertise the existence of this Agreement, or issue any information, publication, document or article or make any statement to or advertise in any media any matters relating to this Agreement without the prior written consent of the Principal's Representative (unless required to do so by Law).
- (b) All media or public enquiries in relation to the Agreement or the Services must be referred by the Contractor to the Principal' Representative as soon as reasonably practicable following the Contractor becoming aware of such enquiry.

## **11 Additional policies, codes and standards**

- (a) The Contractor acknowledges and agrees that:
  - (i) prior to commencing the Services it has, and it will ensure that its Personnel have, read each of the documents set out in clause 7(c) (as replaced, amended or updated from time to time);

- (ii) it will, and will ensure that its Personnel, comply with the Principal's Policies, Codes and Standards set out in clause 11(c):
    - (A) when undertaking the Services or any other activities under or in connection with this Agreement; and
    - (B) unless the context requires otherwise, as though references to the Principal and its Personnel in the Principal's policies, codes and standards referred to in clause 11(c) were references to the Contractor and its Personnel; and
  - (iii) it will not, and it will ensure that its Personnel do not, put the Principal in breach of any of the Principal's policies, codes and standards referred to in clause 11(c).
- (b) The policies, codes and standards referred to in clause 11(c) are available on the Principal's website at <http://www.transport.nsw.gov.au/sydneytrains/commercial/contractors> or upon request from the Principal.
- (c) The Contractor and its Personnel must comply with all of the following Government Policies, Codes and Standards.
- (i) Code of Conduct;
  - (ii) Statement of Business Ethics;
  - (iii) Safety Policy;
  - (iv) Environmental and Sustainability Policy;
  - (v) the Principal's Safety Specification;
  - (vi) Drug and Alcohol Policy;
  - (vii) Work Health Safety Management System (WHSMS) documents;
  - (viii) Environment Management System (EMS) documents;
  - (ix) the Principal's Hazardous Rail Corridor Locations;
  - (x) Asset Operations Possessions;
  - (xi) SMS-06-SP-3026 WHS Risk Management;
  - (xii) SMS-08-OP-3128 Managing Shift Work and Rostering;
  - (xiii) SMS-08-OP-3129 Managing Fatigue Risks;
  - (xiv) SMS-08-FM-4130 Fatigue Risk Profile;
  - (xv) SMS-06-OP-3043 Managing Risks Using Safe Work Practices;
  - (xvi) SMS-06-GD-0268 Working Around Electrical Equipment;

- (xvii) SMS-06-OP-3114 Pre-Work Briefings;
- (xviii) SMS-17-SR-1491;
- (xix) Rail Industry Safety Induction (RISI) Standard;
- (xx) relevant Incident Management Plans for the Project Site;
- (xxi) relevant network rules and procedures, including those relating to Rail Safety Worker cards, the Project Site protection program, asset operation possessions and contractor's health assessments and drug and alcohol information (the "RailSafe" website provides safe working information for people working in the rail corridor); and
- (xxii) any other policies, rules and standards notified by the Principal to the Contractor from time to time during the performance of the Services.



## ANNEXURE “C” – Services Brief



### Design Services ROC Program – Infrastructure

Project Information	
Project or Program	ROC Program / Infrastructure Stream
Document Type	Design Brief

**Document Name and Version Control**

<b>Document Name &amp; Location</b>		ROC Design Services – Design Brief	
<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Reason for Issue / Changes Included</b>
1.0	19/05/2015	Nicolas Di Condio	Issue for Tender
2.0	15/07/2015	Darren Gordon	Contract issue

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**1 Introduction**

**1.1 The purpose of this document**

The purpose of this document is to describe the scope of services the appointed professional services provider (hereinafter called 'Contractor') will provide Sydney Trains (ST), together with a full set of approved for construction designs, specifications and reports in-line with Sydney Trains Procedures for Delivery of Designs (PR-DPM-001) and Design Management Manual (MN-A-00001).

Sydney Trains (ST) intends to use these designs to appoint a Main Contractor (contractor engagement model is yet to be selected) for the construction and delivery of the scope of works as defined by this engagement, including for all other associated design services.

**1.2 References**

The following documents are relevant to this Design Brief:

	<b>Title</b>	<b>Version / Date</b>	<b>Author</b>	<b>Attachment</b>
<b>A</b>	Sydney Trains Rail Operations Centre Development – Performance Specification	C/ 4-11-2014	CM+A/ Jacobs	A
<b>B</b>	Sydney Trains Rail Operations Centre Development – Architectural Concept Design Report	5/ 24-09-2014	CM+A	B
<b>C</b>	Full set of Concept Architectural Drawings Sheets 1 to 14	A1/ 11-09-2014	CM+A	C
<b>D</b>	Sydney Trains Rail Operations Centre Development - Concept Design Report NB00103	3/ 16-09-2014	Jacobs	D
<b>E</b>	Town Planning Advice – Approval Pathways and Applicable Planning Controls Fire & Rescue Centre, Alexandria	22-08-2014	Planning Ingenuity	E
<b>F</b>	Design Specification – Building Code of Australia – Rail Operations Centre	2/ 28-08-2014	Trevor R Howse	F
<b>G</b>	Brief & Strategy Report: Acoustics	1/ 09-09-2014	Jacobs	G
<b>H</b>	Sydney Trains Rail Operations Centre – Provisional Security Risk Assessment	B/ 17-10-2014	Jacobs	H
<b>I</b>	Safety In Design Engineering Service	1/ 04-11-2014	Jacobs	I
<b>J</b>	Design Risks & Assumption Table	5-11-2014	Sydney Trains	J
<b>K</b>	Report on Geotechnical Due Diligence Assessment	0/ 01-08-2014	Douglas Partners	K
<b>L</b>	Report on Phase 1 Environmental Site Assessment	0/ 31-07-2014	Douglas Partners	L
<b>M</b>	Design Management Manual MN A 00001	1.3/ 24-07-2013	Sydney Trains	M
<b>N</b>	Procedures for delivery of designs PR-DPM-001	1.0/ June 2014	Sydney Trains	N
<b>O</b>	CAD & Drafting – All Design Areas Sections 1 & 2	1.0/ 21-10-2013	Sydney Trains	O

**1.3 Acronyms and Definitions**

The following acronyms and definitions will be used in this project:

<b>Acronym</b>	<b>Definition</b>
AEO	Authorised Engineering Organisation
AFC	Approved For Construction
ASA	Authorised Standard Authority
ASP	Authorised Services Providers
CDR	Critical Design Review
DCP	City of Sydney Development Control Plan
DIP	Design Information Package
DLP	Defects Liability Period
EP&A	Environmental Planning & Assessment Act
FF&E	Furniture, Fixtures & Equipment
LEP	City of Sydney Local Environmental Plan
PCA	Physical Configuration Audit
PDR	Preliminary Definition Review
ROC	Rail Operations Centre
SDR	Systems Definition Review
SVR	Systems Verification Review
TfNSW	Transport for New South Wales

**2 Background**

**2.1 ROC Program**

The Rail Operations Centre (ROC) program is a Sydney Train’s led program that seeks to improve management of Day of Operations activities and improve the delivery of services for Sydney Trains and NSW Trains and their customers.

**ROC vision**

The ROC vision supports the strategies of TfNSW, Sydney Trains, and NSW Trains, who want to transform the customer experience in line with their vision of “putting the customer at the heart of everything we do”.

Better coordination, communication, and management will be achieved through the ROC, which will co-locate teams and transform the processes, systems, and communications of the functions focused on managing Day of Operations activities. This co-location is expected to include computer based signalling locations, train control, security, customer information, fleet management, asset monitoring and incident response functions.

This transformation is expected to deliver consistent, accurate, timely and up to date information to customers about delays and improve processes and systems allowing faster incident resolution and service recovery. It will provide the operational management of the Sydney Trains network with a highly coordinated customer focus and will support the realisation of benefits from future initiative including major infrastructure programs, the Rail Futures Strategy, and future business model changes.



### ROC benefits

The ROC will transform the customer experience of train services. It will deliver the following benefits to customers:

- **Reduced delay times and improved confidence in rail** – improved processes, systems and relationships between Day of Operations functions will result in faster identification and allocation of incidents, more effective management of service disruption, faster incident resolution and service recovery.
- **More accurate, timely, relevant and consistent customer information during disruption** – improving the customers' ability to make decisions about their transport options.

The ROC will also deliver benefits to the rail business units:

- **Improved efficiency in incident management and resolution** – providing opportunities for Day of Operations role consolidation and labour savings.
- **Better realising the benefits of future investments in rail capacity** – The ROC will be critical to fully realising the benefits of future network efficiency and reform initiatives, strategic initiatives including network enhancements such as North West and South West Rail Links, new rolling stock, new signalling technologies and progressive network segmentation. This enablement is driven by creation of a scalable network control function that can manage incidents effectively and adapt to changes in network demand.
- **Providing a new world standard operating centre and culture** – The ROC will transform the way Day of Operations activities are managed within Sydney Trains/ NSW Trains, fostering a new culture of collaboration and efficient coordination. This is enabled by new system capabilities and enhanced by process redesign, organisational redesign and a centre built around key cultural goals.

## 2.2 Project Description

The ROC building is to be a purpose built, world class rail operations facility which will co-locate teams and transform the processes, systems, and communications of the functions focused on managing Day of Operations activities. This co-location is expected to include computer based signalling locations, train control, security, customer information, fleet management, asset monitoring and incident response functions.

This transformation is expected to deliver consistent, accurate, timely and up to date information to customers about delays and improve processes and systems allowing faster incident resolution and service recovery. It will provide the operational management of the Sydney Trains network with a highly coordinated customer focus and will support the realisation of benefits from future initiatives including major infrastructure programs, the Rail Futures Strategy, and future business model changes.

## 2.3 The Proposed Site

The proposed site for the ROC facility is at the Corner of Wyndham and Mandible Streets Alexandria NSW. Lot 701 in Deposited Plan 713555 and Lot 2 in Deposited Plan 552864 form the boundaries in part for the proposed site. Refer to attachment E Town Planning Advice.

Lot 701 has a total site area of 2,127m<sup>2</sup> and is located on the north-east corner of the site. Lot 2 has a total land area of approximately 1,970m<sup>2</sup> and has its main frontage to Mandible Street and a battle-axe handle to Wyndham Street.

The current conceptual building footprint for the ROC facility is 2,500m<sup>2</sup> spanning across both of these allotments. Sydney Trains ('the Principal') is still in negotiation with the site owner Minister for Emergency Services to finalise the site boundaries and footprint, which may increase to cover the entire corner allotments (Lot 701 & Lot 2) of approximately 4,000m<sup>2</sup>.

The site is currently occupied by Fire & Rescue NSW for training purposes.

## 2.4 Initial Concept Design and Functional Relationships

Collard Maxwell Architects and Jacobs were engaged to carry out the initial conceptual design (architectural & engineering) for the ROC project. The scope of this commission was to briefly identify potential user group functional relationships and present a typical building footprint to be used for the derivation of a business case for approval by The Principal.

Preliminary planning advice has been obtained for the site. Refer to attachment E. The Contractor should note that reference to development approval via City of Sydney Council is no longer applicable. The Principal intends to determine the development under Part 5 of the EP&A Act and has commenced the Review of Environmental Factors to support this determination. As part of the REF process it is The Principal intention to consult with City Sydney and the wider community. The Contractor must be aware of the requirements of City of Sydney's LEP and DCP as guide documents only to inform the design.

Over and above the information produced to inform the business case the following design packages are being progressed by Sydney Trains as separate engagements:

- REF author, including Environmental Impact Assessments
- Town planning and consultation
- Phase 2 Geotechnical & Contamination Investigations
- Power and Fibre feeds/ routes to the building. **Note:** External Power & ICT routes are being designed under a separate engagement to the allotment boundary only.
- Stage 2 – Threat, security and blast analysis
- Land Surveying
- High level Systems Requirements Specification

**Note** - The initial concept design information produced to date and provided as an appendix to this design brief is for guidance purposes only.

## 2.5 Performance Specification for the ROC building

A preliminary building performance specification has been developed by Collard Maxwell/ Jacobs for the ROC building. Refer to attachment A: The Principal Rail Operations Centre Development – Performance Specification date 4th of November 2014.

The Contractor is to review the document produced to date and assess this against the stakeholder and user requirements to be developed by the Contractor as part of this engagement, including a final building performance specification for the ROC building.

## 3 Scope of Works

### 3.1 Design Philosophy

The design outcome for the ROC is to enable establishment of a purpose built facility that allows The Principal to operate a world class rail operations and management facility, co-locating all the current rail management and operations facilities to one location.

As the building sits outside the rail corridor within the wider City of Sydney, The Principal requires the delivery of an architecturally impressive facility in keeping with its surroundings.

The facilities should be functional and of a style commensurate with The Principal standing in the transport cluster and the wider community. It should be attractive to those who use it and those who may visit it. Particular attention should be given to the external elements of the building and the use of interior space.



Users of the building shall be able to access the outdoors within the secure zone without compromising security. The design should also respond to the security and blast parameters. The design of the new facilities must take into account the use of the building and the types of services to be provided therein. The building management philosophy must compliment the various user groups as detailed in the preliminary building performance specification. Refer to attachment A. The building performance specification is to be finalised as part of this engagement.

The finishes and materials to be used throughout the facilities are to be of a high and durable quality, reflective of the importance of the various user groups within the building and also the potential visitors that will be invited or request to see the facility.

The project shall provide the following key design success factors:

- Architecture that reflects the buildings function as a key rail operations facility for The Principal, NSW Trains and TfNSW;
- An engineering solution reflective of the high performing customer services environment that The Principal's network operates;
- A design solution that clearly identifies and provides easy access to all functional element of the facility;
- A design solution that incorporates the security and blast elements as building features;
- Industry leading engineering principles and responsive building services to support the demands of the work environment;
- Meet availability and reliability requirements to operate a ROC, as per TIA 942 standards;
- The ability to maximise and take advantage of the use of natural light as a means of "de-stressing" interiors;
- An energy efficient solution for the facility that meets the current NSW Government standards;
- The maximum and effective use of technology in the facility which meets the functional requirements;
- A low maintenance design outcome for the facility;
- Minimum risk in relation to security, WHS and public safety within the facility;
- Ease of access for disabled persons;
- A high degree of "constructability";
- A landscape solution, which provides a degree of integration with the surrounding environment, "de-stressing" of functional work spaces and incorporates security and blast requirements.

### 3.2 Purpose

The Contractor is to carry out a comprehensive and detailed analysis of all information produced to date, including development of user requirements and implementation of the design brief document; into final project design documentation inclusive of drawings, reports, schedules and specifications that will be;

1. "appropriate for assurance & stakeholder sign-off"
2. "appropriate for going out to tender for the facility construction" and
3. "contract documents" for the construction of the facility.

The scope of work includes development of options (minimum of 3) for some significant portions of the project during the concept and preliminary design phases of the project. Several options will need to be developed and finalised for many items. The Contractor should note that all documents produced to date



and appended to this design brief were produced to inform the business case and considered for information purposes only with their accuracy not to be relied upon. These documents are required to be reviewed and assessed by the Contractor to extract the relevant information for the project as necessary. Examples of some issues that will require option analysis during the concept and finalisation of the preliminary design phase of the project including, but not limited to, the following:

- General building layouts need to be rigorously reviewed during an extensive stakeholder consultation process;
- Architectural building features including but not limited to façade, shape, building character and material composition. Colour artistic perspective view schematics, Colour 3D views to give understanding of the concept. These will be required in order to assist The Principal with the decision making process. The Principal would like a minimum of three (3) architecturally different concepts for review and development into one (1) final concept. Refer to section of architectural design excellence below.
- Blast and security analysis for the different concept designs produced. Development of the preferred option to completion.
- Substructure and basement layout optioning to include, core stability, carpark layouts and car park numbers associated with the varying options.
- An option to delete the basement substructure, creating at grade parking as part of the building superstructure to limit ground works and excavation associated with the site.
- Interaction with adjoining Buildings;
- Building services and infrastructure options are to be fully investigated, costed and analysed prior to seeking The Principal's instruction on preferred option prior to incorporation into detailed design;
- Other crucial components as subsequently identified during the extensive stakeholder consultation process;
- Sample board options of all fixtures, finishes and inclusions;
- Control room floor layouts and services associated.
- Services risers, routes and incorporation of a services level below the control room floor.

For the purposes of design optimisation, studies and options will also be required for the following:

- Staffing numbers including staff facilities, meeting rooms and visitor requirements;
- Hazards and risks (Control room, administration facilities, plant rooms, parking);
- Workspace and work environment, benches and services;
- Equipment and Storage;
- Special requirements for services and control room functions;
- Teaching and training facilities and virtual displays;
- Special work stations, cabinets, amenities and facilities to support operator requirements;
- Integration of proposed operator computers, instrumentation and equipment;
- Studies on security, blast, work stations, control room layout, human factors, lighting and room temperature;
- Dangerous Goods Consultation;

- Waste management for the operational facility

The scope of the design services for this project includes engagement of all necessary architectural, engineering and sub consultant / design disciplines required to carry out the design and documentation as necessary to complete the project.

### 3.3 Exclusions / inclusions and scope clarifications

The Principal's topographical survey to be supplied to the Contractor is to be in 3D digital format suitable for importation into 12D, including a Digital Terrain Model (DTM), contours, levels, strings and break lines. Similarly it is assumed that the services, DSS and drainage survey will show all fittings, locations, depths sizes and invert levels – as deemed necessary by the Principal;

The project will be documented using Revit 3D software for co-ordination and clash detection;

Exclusions: additional geotechnical investigations, pavement investigations, contamination studies, arborist assessments, other environmental studies, community consultation and stakeholder engagement (including local business owners), traffic monitoring, determination of heavy vehicle numbers, DSS survey, utilities survey, topographical survey, structural condition assessments;

The utilities assessment will be based on a review of existing survey, the DBYD information and a visual inspection of surface fittings. Contractor can prepare a brief for the later engagement of a suitable contractor to undertake a survey of existing site in ground services – if required;

Traffic assessments, modelling, amendments to existing traffic intersections and design of traffic control systems is excluded;

Additional work or consultation for property adjustments and acquisitions is excluded;

DA submission is excluded, the project approval shall be an REF by other Party;

Fees associated with obtaining utility authority, Council reviews and other third party reviews and approvals are excluded;

Geotechnical & Contamination Audit services are excluded;

Contractor will coordinate attendance of the Contractor's design team at Design Meetings as necessary and as required by the Principal;

The preparation of Engineering as-built drawings is excluded. These will be the responsibility of the trade contractors. Contractor will oversee the shop drawings and as-built drawing process, as a part of the assurance process that the final drawings accurately represent the site construction and installation;

The development of post AFC design changes to suit Main Contractor preferences, construction traffic management solutions, construction staging are excluded;

Should the primary building structure be a concrete frame with final post tensioned concrete, design of floor elements shall be carried out by a Post Tensioning sub-contractor.

Final design of the basement cut-off wall will be provided by a piling subcontractor.

RMS or Council approval and associated works for the Early Works is excluded.

Contractor shall design the external lighting for the development, however we have not allowed for any street lighting upgrade beyond the property boundary;

The design includes for Building Code of Australia (**BCA**) deemed-to-satisfy documentation. The seeking of dispensation and / or alternate solutions for the design is excluded.

Complete **BCA** consultant services as required for the project are included, along with Construction and Occupation Certification services;

Preparation of project cost estimates is to be undertaken by the nominated Quantity Surveyor for the project engaged by the Principal;



Minimum efficiency standard (REF: NSW Government Resource Efficiency Policy – OEH 2014/0567 as amended from time to time). The new building shall be designed and built to predicted performance of at least 4.5 stars NABERS energy rating, such that energy consumption is predicted to be at least 10% lower than if built to minimum compliance with National Construction Code requirements. It is assumed that BCA Section J compliance will be deemed-to-satisfy, however JV3 verification modelling is included; - Note: GREP registration of the project (including the costs of registering) is excluded. Energy modelling outside the JV3 modelling is also excluded;

Refer section 3.11 Control Room Floor, to identify the Contractor's scope of work concerning the Control Room floor;

The complete acoustic design and associated works (inspections and the like) is included; including all surface finishes in the control room and at workstations / desks. The acoustic scope assumes predominantly open space offices, plus some general meeting/training rooms as well as the design of the control room including surface finishes and privacy requirements. A review of workstation finishes and subsequent design advice / documentation is also included.

The complete design of all security and security systems, necessary for the building / occupancy, is included.

The complete hydraulics design including rainwater harvesting, on-site detention and flood modelling is included.

Concerning the design alternatives competition and the winning architects scope of work, it is proposed that at completion of the design competition the winning design concept shall be refined / clarified by the winning designer to the satisfaction of the Principal; and once this design concept is approved by the Principal it shall be developed, detailed and documented for tender / construction by the incumbent architectural design team, in accordance with the requirements of the contract. Note: The winning designer may be engaged by the Principal to review the design being developed by the incumbent architect and provide comment / suggestions (if any) – as required by the Principal - for the Principal's consideration and direction. Additionally, the Principal can, in its role discretion, (by giving written direction to the Contractor) determine the extent of design services that the "winning designer" shall carry out.

All items listed in section 6.1 of Sydney Train's SRS for Ops Technology and external interfaces are included (REF: Annexure T: ROC Ops Technology System Requirements Specification and Annexure Q – Infrastructure SRS - Communications network design). Design for electromagnetic interference (EMF) is excluded.

'End to end' management of DOORS / Holocentric software, including all inputs / uploads / populating and the like is included.

The Contractor shall follow the AEO requirements / process for documentation and approvals (including safety in design). Any concessions / departure to ASA standards (if any) will be managed by the Contractor.

The Contractor shall manage, identify and develop a register of all interface points which interact with the design services, including a responsibility matrix to ensure no scope gaps exist in the documentation.

Contractor shall discover the project's reasonable risk and blast requirements including undertaking a full review of security risk and blast and not rely upon any information received up to the Date of Commencement. Preparation of guidelines, including engagement of stakeholder, such as ASIO, NSW counter terrorism and other necessary consultations is included.

### 3.4 Design Packages

To expedite delivery of the ROC infrastructure, it is required that the design services be programmed by the Contractor to provide staged release of "trade packages" for tender and progressive construction, allowing site works (eg: Stage 1 Early Works construction) to progress in parallel with the design development for Stage 2).

The following staged releases are needed as a minimum to support the project delivery program:

- **Stage 1: Early Works**
  - Architectural concept design
  - Services relocation
  - Demolition (if required)
  - Excavation and ground works
  - Retaining structure
  - Piling
  - Detail excavation
  - Footings
  - Substructure
  - Utilities design (Power/ ICT/ Water/ Sewer/ Gas/ Stormwater)
  - Associated civil works
  - **Note:** External Power & ICT routes are being designed under a separate engagement to the allotment boundary only.
- **Stage 2: Building and fitout design**
  - Super structure
  - Building services
  - Building fit out to include administration and training facilities, building amenities, entrance lobby, car park arrangement, etc
  - Base building fitout FF&E
  - Envelope/ facade
  - External works/ landscaping
  - Building signage
- **Stage 3: Control room fitout**
  - Control room layout, including human factors and control room specialist
  - Workstation concept design, specification & prototyping
  - Control room services
  - Specialist lighting
  - Control room FF&E

### 3.5 Project Master Planning

The following hierarchical order will apply to the various phases of the ROC project. The Contractor is to ensure that each of the phases forms part of their deliverables for the facility.

#### Phase 1 – Concept Design (SDR):

- Initiation Phase
- Initial concept designs, specifications and reports produced to date to be reviewed and finalised
- Concept defined

#### Phase 2 – Preliminary Design (PDR):

- Preliminary Design
- Project Definition
- Schematic Design
- Architectural design optioning (façade/ externals/ internal amenities/ landscaping)

#### Phase 3 – Detail Design (CDR):

- Detailed design
- Contract documentation for tender

#### Phase 4 – Approved for Construction (AFC):

- Finalise detail design
- Contract documentation for construction

#### Phase 5 – Construction and Certification (SVR):

- Ongoing design input, clarifications, shop drawing reviews/ approval, details and quality compliance monitoring during construction phase including changes within the functional intent, as required by the project stakeholders as directed by The Principal.
- Commissioning phase with The Principal's Engineering and technical services team in accordance with the relevant commissioning standards.

#### Phase 6 – Post Construction/ Defects Liability Period (PCA):

- Operational Readiness
- Assist Project Manager in ensuring confirmation of contract works to documentation and expected quality and standards.
- Building life-cycle assessment/ report
- Defects inspections at the following stages: PC/ 6 months/ 8 months/ 12 months (end of DLP).

### 3.6 Quality Assurance Requirements

The Contractor shall ensure that all documentation produced and submitted to the Principal is accurately reviewed, checked and "signed off", in accordance with Quality Assurance Certification ISO 9001 requirements and defined by TfNSW AEO qualification requirements.

In the event of ambiguity, inconsistency or discrepancy with the information provided by the Principal on any of the reference documents, the Contractor shall detail the ambiguity, inconsistency or discrepancy



found, assess the impact and advise the Principal as soon as such ambiguity, inconsistency or discrepancy is found and comply with the Conditions of Contract.

### 3.7 Assurance Framework

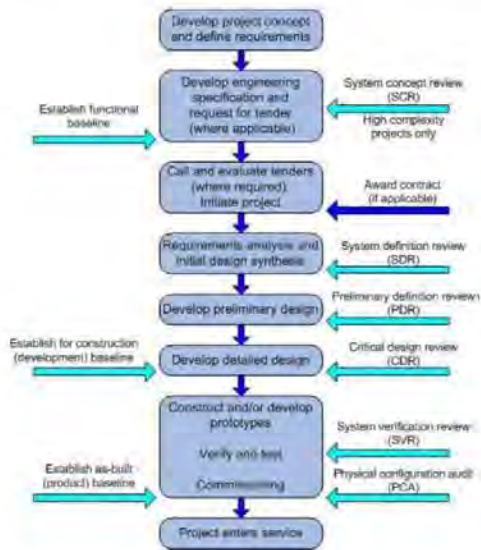
The Principal is developing an assurance framework for the ROC program. The Contractor will comply with the approved assurance framework document and link design deliverables back to the relevant sections in accordance with the AEO/ design verification and validation process.

### 3.8 Technical Reviews

As part of the safety assurance process, technical design reviews are essential and form critical hold point (milestone) at the following stages (refer figure 1 below):

- System definition review (SDR) = 30% Design
- Preliminary definitions review (PDR) = 70% Design
- Critical design review (CDR) = 85% Design
- Approved for Construction (AFC) = 100% Design
- System verification review (SVR) = Construct & Commission
- Physical configuration audit (PCA) = Operational Readiness

Figure 1 – Technical review process for application



The Contractor shall ensure that each of the above technical reviews is incorporated into the design management program developed for the project.

### 3.9 User Requirements and Stakeholder Management

The Contractor will lead the development and finalisation of user requirements for the ROC facility, including all necessary Stakeholder engagement and management. These user requirements are the basis for design development and continual stakeholder engagement throughout each of the design phases.

The Contractor will implement a project specific User Requirements management plan for approval by The Principal, which identifies the various user groups, documents the methodology of engagement and outlines the decisions needed within each of the design phases. The Contractor will facilitate and coordinate the various stakeholder groups and manage the inputs required to develop the final User Requirements document for the ROC.

This will ensure there is a clearly defined process for communication and early buy-in from the various stakeholders.

User Requirements will cover the entire facility and include but not be limited to; control room, administration, training, amenities, security, parking, safety, risk, services, operating and maintenance of the building.

The Contractor will be driving the 'end to end' User Group requirements process, including facilitation of all User Group meetings, gathering of requirements and documenting following the AEO process and assurance requirements. This includes managing the requirements in IBM DOORS Software. The Principal's Infrastructure team will work alongside the Contractor's team to assist the Contractor in unblocking Sydney Train's resources to respond.

The Principal's response times throughout this process is within 10 business days i.e. to accept and sign off on the User Requirements management process.

The Contractor acknowledges that its Program will include the necessary length of time required to capture requirements and inputs from all Stakeholders, that are gathered progressively, to inform the design services activities (including the Principal's approvals).

The Contractor shall adopt an approved Governance process (approved by the Principal) for User Requirements as part of AEO process and Stakeholder Management Plan.

### 3.10 Security and Blast

The security and blast requirements are considered key constraints in finalising the building design. To date preliminary security and blast information is available in Jacobs Sydney Trains Rail Operations Centre Development – Concept Design Report NB00103 dated 16th September 2014. Refer attachment D.

The Principal is progressing with a Stage 2 threat, security and blast preliminary analysis for the facility to establish design parameters for consideration going forward. Once this preliminary analysis has been completed the report will be made available to the Contractor.

The Contractor is to design the building concept in line with the established parameters and finalise the analysis based on the defined concept as part of this engagement.

### 3.11 Control Room Floor

The Contractor will lead the control room floor design process. User Requirements and inputs from the varying stakeholder group, both within the Principal and externally to the organisation, will contribute varying levels of information for consideration to a number of possible design solutions. The Contractor will include all requirements as defined in ISO 11064 Ergonomic Design of Control Centres.

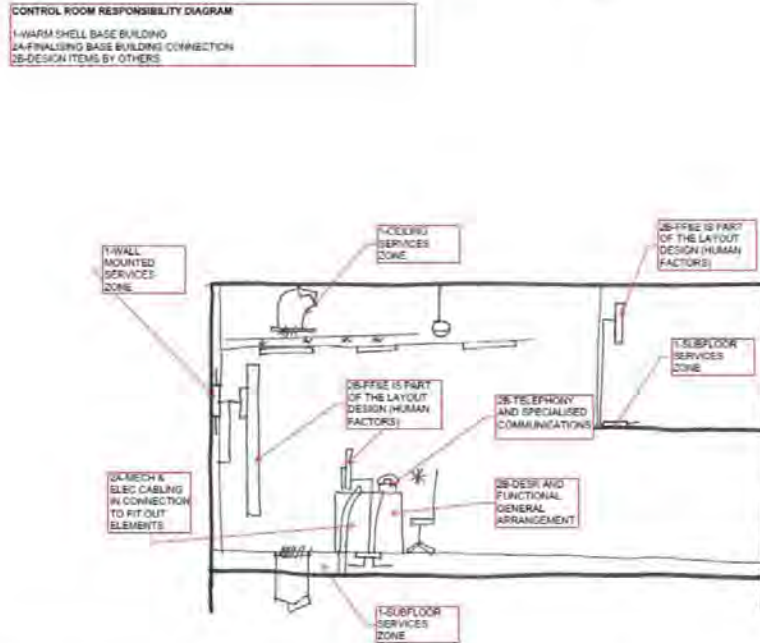
The Contractor shall complete the whole control room design, but excluding the following:

Workstation desks / layout / final location (by others); and



Workstation PC's / monitors and telephone (by others)

– as clarified in the diagram below (REF: 'Control room responsibility diagram'):



The Contractor shall design all other necessary scope, including **Audio Visual** (which will be developed as part of the stakeholder engagement process).

The design shall include a completely flexible soft wiring system to the workstation to allow easy floor layout alteration / relocations.

### 3.12 Architectural Design Alternatives

To ensure architectural excellence and the delivery of a facility that supports both the rail network and in keeping with Green Square, the Contractor shall instigate, carry out and complete a design competition to provide architectural design alternatives for the façade, external areas and building "amenity" – as determined by the Principal.

The Contractor is to propose six (6) architects from which The Principal will select three (3) to engage in an early design competition to promote architectural excellence for the ROC. It is important that the architects proposed are recognised for design excellence within NSW government and the City of Sydney. Architects with recent Green Square projects will be looked upon favourably.

The design competition will run for 4 weeks with each of the selected architects receiving a fee of ten thousand dollars (\$10,000) to develop at least three (3) concepts for consideration by the judging panel. The judging panel is to be determined by The Principal.

As part of the design competition submission, each of the architects is to provide a fee proposal in the same format as that provided in the fee schedule. Ultimately the successful architects design will be incorporated into the architectural design of the building – to the extent determined by the Principal.

The following planning controls will assist the architects in producing these designs:

- Security and blast parameters for the building
- Spatial requirements for the building, based on a GFA of 10,000 to 12,500m<sup>2</sup>. Based on the User Requirements and area available for control room, parking, administration and plant, the lead designer will define the maximum number of building occupants.
- City of Sydney LEP and DCP (where relevant)

The concept design will inform and contribute a key input for the Part 5 determination for the development. To inform this approval, a Review of Environmental Factors (REF), town planning and consultation process is to be undertaken by the Principal. As such, the Contractor will provide key inputs but not be the author of such document.

### 3.13 Room Data Sheets

Room data sheets have not been provided. The Contractor is to provide room data sheets for all areas. Furniture, fittings and equipment (FF&E) must be included in room data sheets. These are to be developed as the design process progresses from preliminary to detailed design and include stakeholder acceptance.

### 3.14 Design Verification and Validation

The Contractor will lead the design verification and validation process for the entire ROC project and be recognised as an Authorised Engineering Organisation (AEO) and have the appropriate competencies internally or as a sub consultant to their team.

The design verification process is undertaken to ensure all design tasks are completed in accordance with the requirements of the design brief and systems requirements specification. The design verification process ensures all designs produced are carried out in accordance with the appropriate standards and methods, and take account of all statutory requirements applicable to the task. Design verification leads to design approval of that element of the design.

Design validation is carried out to ensure the final product conforms to the design briefs and systems requirements specifications. It is the final stage in making sure the design is fit for the intended purpose before the item or system is released for use.

The design verification and validations processes are clearly defined in the Sydney Trains Design Management Manual MN A 00001 appended to this design brief.

The Contractor shall submit its design management plan to the Principal for approval, within 15 business days of the Commencement Date of the Contract.

### 3.15 Design Reports

To support the technical review process, the Contractor is to produce a written design report (at the times directed by the Principal) that provides written descriptions to support each phase of the design development process. The report is to document each design discipline and define the design methodology in progressing the design development, relevant design drawings and specifications.

The Contractor will provide The Principal with 2 colour copies in A4 format and an electronic format that can be edited.

### 3.16 Meetings

The designer shall make allowance to attend design coordination meetings and workshops with the Principal throughout each of the design phases.

The Contractor shall attend coordination meetings with the Principal and the Main Contractor (once engaged) as required.



### 3.17 Design Program

The Contractor shall submit a program to the the Principal for approval in accordance with the Conditions of Contract.

The Program shall be in the form of a gantt chart and shall be prepared on a computerised project management program. The preferred type of project management programme is Microsoft Project.

The program shall include the Contractor's bona fide planned work activities and sequence and sequences for bringing the design works to completion.

Without limitation the programme must include:

- All significant key dates and milestones
- An appropriate number of activities
- Activity durations not longer than 15 days
- Total float for each activity
- Resource and logical constraints
- Activity weightings expressed as a percentage of the total cost of works under the contract
- The estimated value of work programmed in each month throughout the contract
- One or more paths of zero float (Critical Path) from the start activity to the end activity
- All milestones in line with project staging and phases
- All external constraints
- Ad hoc services; and
- The potential increase in building size and functionality scope.

The program shall be prepared and administered in accordance with the Conditions of Contract.

### 3.18 Project Information Management System

In order to facilitate collaboration, improve the efficiency and integrity of information management on the project, and ensure a secure record of all project correspondence and documents, the Contractor will use[web-based] Project Information Management System (PIMS) Aconex (or equal approved by the Client / Principal) on project-wide basis.

'Project-wide' means a system that can be used by every participant on the project.

Note: notwithstanding the Contractor has procured the PIMS for the project, it herein confirms it transfers its ownership of the use of the PIMS to the Principal, including the Principal having the complete management / administration rights and full access to the PIMS for the entire duration of the PIMS contract of engagement.

#### **Requisite elements of the PIMS**

The PIMS proposed to be used by the Contractor must be provided with the following capabilities and features:

- Be fully web based. No installation or licenses should be needed by users
- Handle formal correspondence/ mail, with or without attachments

- Manage transmittals of drawings
- Integrate print shops, to enable direct print orders
- Permit faxing in and out, to allow involvement of participants that are not web-enabled
- Handle bulk up/ downloads and zip up/ downloads
- Handle workflows and shop drawing approvals
- Include an on-line viewer with mark-up capabilities
- Automatically generate reports, such as;
  - all outstanding RFIs
  - late drawing progress
  - status reports for drawings in workflows

Reports must be exportable to Excel

- Provide;
  - unlimited system use, uploads and downloads
  - any number of participants
  - unlimited storage capacity
  - unlimited training for participating organizations at no additional cost
  - 24/7 hotline support for all participants at no additional cost
- Be fully available for project duration and for 12 months of defect liability period upon project completion
- Allow each participant to download all their information at any time they choose.
- Allow each participant to request archive disks with their complete information (cost to be paid by the requesting participant)
- Be fully-redundant and have a guaranteed uptime of at least 99.8%
- Offer redundant internet connections to ensure stability and accessibility
- Perform data backups several times daily or at least once every 24 hours
- Have in place disaster recovery procedures guaranteeing full system accessibility within 12 hours of major disaster in main servers/ hosting centres. Data loss must be no more than 24 hours in worst case scenario
- Be provided by a vendor;
  - with at least 5 years' experience in web- based project collaboration
  - with local support staff
  - with local reference projects
- Be hosted by a neutral party/ hosting centre. Systems hosted internally by the winning contractor are not acceptable due to intellectual property rights issues

- Be provided at no direct cost to participants other than the Contractor, to ensure early and widespread adoption

**3.19 Drafting Standards**

The Contractor will produce drawings in CAD format. The Principal has standards with relation to drafting, which the Contractor will comply. Refer attachment N CAD and Drafting – All Design Areas Sections 1 and 2.

**3.20 Design co-ordination and 3D design**

The Design Services include all necessary design co-ordination, including services co-ordination, resolving potential clashes and the like, necessary for construction – to avoid costs on site. The Contractor shall establish a hierarchy of services and safe / clear path of travel, during design development.

'3D Revit' will be heavily utilised by the Contractor for co-ordinating its design.

Prior to commencing the design the Contractor will create an order of services priority for the critical services intense spaces. This will assist in design co-ordination by flagging key risk areas for the Contractor to address and highlight the importance of coordination and communication on the development of the individual design elements for these areas.

In addition to the 'Revit' coordination mentioned above, the Contractor will develop a general works specification and interface specification which is a single document outlining all common discipline requirements and work by others interfaces. This document shall include, but not be limited to the following:

1. O&M manual - standard for all trade packages to follow
2. Training requirements- standard for all trade packages to follow
3. Shop drawing requirements- standard for all trade packages to follow
4. Trade interface requirements.

The Contractor shall provide a 3D design model, at least to the level of detail tabled below:

**Table B: 3D task schedule by design phase**

Phase	Overview	Methodology
<b>Phase 1 Concept design (SDR)</b>		No 3D modelling required.
<b>Phase 2 Preliminary Design (PDR)</b>	Set up of protocols	Agree process and protocols for transferring data. Typical floor plate, risers, corridor service zones and plantrooms developed to LOD 200. Upload model to Aconex or similar document management system.
<b>Phase 3 Detailed Design (CDR)</b>	Set up model and clash detection	Prepare LOD 200 Services 3D model from Preliminary Design information. Prepare LOD 300 Building 3D model from Preliminary Design information. Carry out workshop for model review and clash detection. Assumed to be fortnightly, held in design team meeting.



		Manage and track clash detection results. Contractor to escalate any issues that require the input of the broader team to resolve. Upload model to Aconex or similar document management system.
<b>Phase 4 Approved for Construction (AFC)</b>	Ownership of 3D model transferred to Main Contractor	Subcontractor would own and manage the model at this point. Main Contractor would manage ongoing clash detection.
<b>Phase 5 Construction &amp; Certification</b>	Ownership of 3D model by Main Contractor	Subcontractor would own and manage the model at this point. Main Contractor would manage ongoing clash detection.

**3.21 The Main Contractor Tender Package**

The Contractor shall provide a comprehensive tender package to allow The Principal to procure a main contractor to deliver the works. The tender package will include;

1. All relevant drawings, specifications, schedules and reports produced throughout the design phase/s and lead coordinating all project information, including that provided by 3<sup>rd</sup> parties.
2. Provide technical support during the tender phase and until contract execution to include responding to tender queries, attendance at pre-tender briefing sessions and technical support during post tender negotiations.
3. Technically review tender submissions against evaluation criteria and ensure proposals are in-line with design documents.
4. Technically review alternative proposals put forward by contractors ensuring these still achieve the desired project outcomes.

**3.22 Construction Services, including Testing & Commissioning**

The Contractor shall provide construction services throughout the delivery phase of the main contractor's scope of works. Construction services will include, but not limited to;

1. Complete BCA consultant services
2. Design advice during construction and responding to RFI's
3. Review and approval of contractor shop drawings and specifications
4. Witness and sign-off construction hold points and report on quality
5. Witness and sign-off during testing and commissioning
6. Validation of the installed works
7. Site coordination meetings

Specifically, inspection and commissioning services as follows:

8. Complete construction services including inspection at rough-in, all hidden services eg. Inspection before walls and ceilings are closed and final fit off. Check BMS software programming and operation.
9. Development of all Testing and commissioning plans and hold points. Implementation and management with Main Building Contractor.

- 10. Witnessing of all testing and commissioning activities at site.
- 11. Inclusion of point to point witnessing and sign off.
- 12. Thorough review of shop drawings to ensure contractor proposals are in line with design documentation

Further details:

The diagram below describes the four tiers of commissioning (responsible party); 1- Base Building (Contractor i.e. Jacobs), 2A-Client Fit Out Integration (Contractor i.e. Jacobs), 2B-Client Specialist Systems, 3-Operational Readiness (The Principal i.e. The Principal) & 4-Post Occupancy (Contractor i.e. Jacobs / the Principal i.e. The Principal).

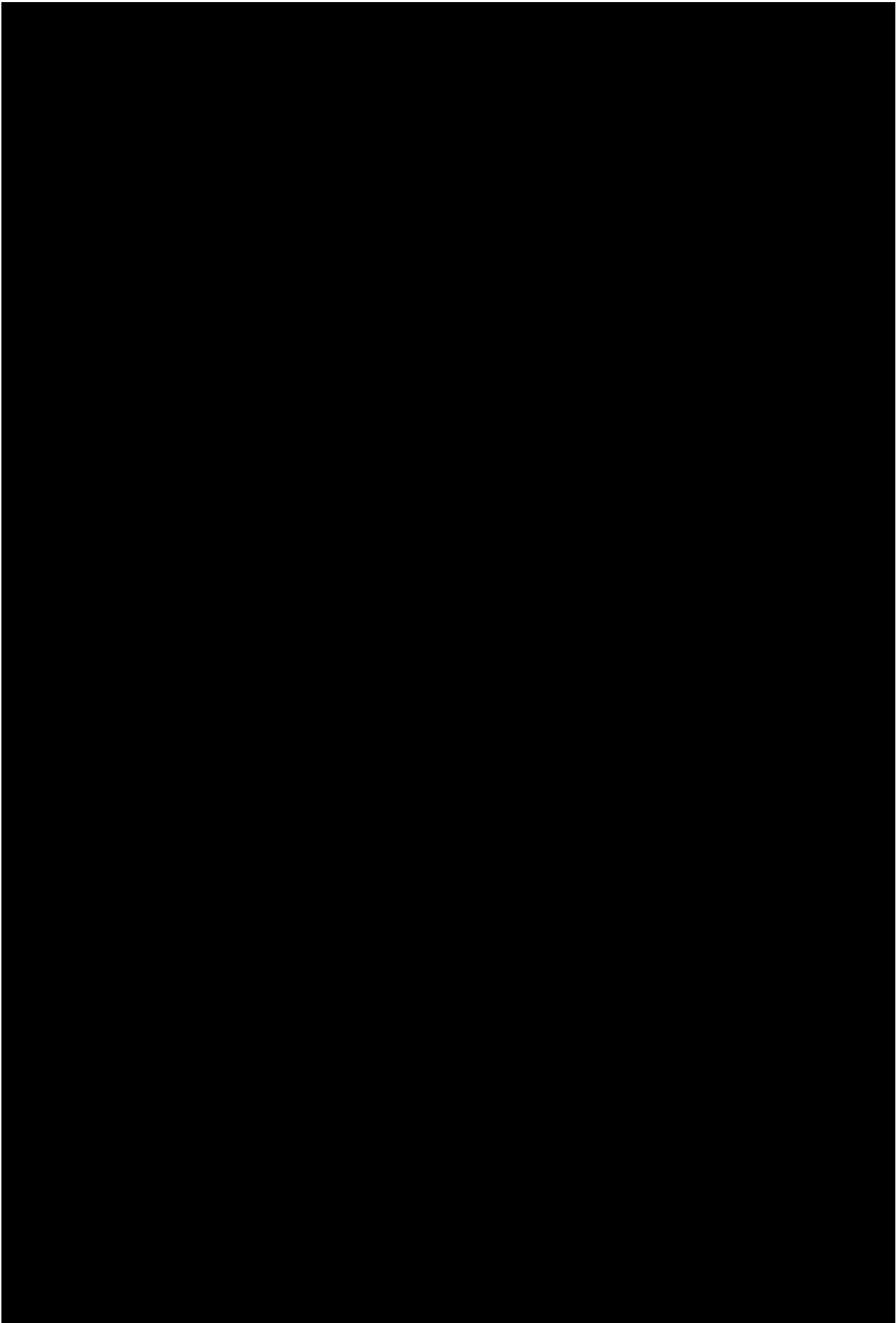


The table below gives an overview of the responsibility split.

<b>Tier</b>	<b>Description</b>	<b>Responsible Party</b>	<b>Description</b>
1	Base Building	Contractor	Commissioning of Contractor's design services scope
2a	Client Fit out Integration with Base Building	Contractor	Additional, detailed commissioning within the control room and comms. rooms.
2b	Client specialist services (Ops Tech)	Principal	Principal's systems as defined in the Ops Tech SRS
3	Operational Readiness	Principal	Principal's operational testing of the ROC and integration testing with other of the Principal's facilities.
4	Post Occupancy (Defects Liability)	Contractor / Principal	Evaluation and building retuning during the Defects Liability Period.

Refer the sketches below for a further representation of the Contractor's scope of work:





The Contractors fees for this work are summarised in the table below in column titles "Revised Scope Option 1\*":

Ref	Basis of Tender		Revised Scope Option 1**	
	Scope	\$, excl GST	Scope	\$, excl GST
1	Base commissioning plan (SDR/PDR)		Detailed commissioning plan (SDR/PDR)	
2	Pre commissioning/ SRS validation		Pre commissioning/ SRS validation	
3	Defects & base witness testing		Defects & detailed witness testing	
4	Post commissioning/ SRS validation		Post commissioning/ SRS validation	
5	Milestone reporting		Milestone reporting	
<b>Total</b>				
<b>BAFO</b>			<b>Extra over Basis of Tender (220,000-63,921)</b>	

### 3.23 As Built Design

The Contractor shall provide "As Built" design and drawings after completion of construction (but excluding engineering as-built drawings REF: 3.3). The "As Built" Design shall include the following design deliverables as a minimum:

1. Report including non-compliances and deviations from the "for construction" design.
2. Recommendation to address identified non-acceptable non-compliance and deviations from the "for construction" design.
3. Set of updated "as built" design drawings (signed) in micro station and adobe PDF format.
4. Set of updated design reports (signed, if any) in adobe PDF and Microsoft word format.
5. Closed and updated issues register.

### 3.24 Drawings Requirements

It is the Contractor's responsibility to provide a comprehensive set of drawings and technical specifications showing sufficient detail for the work to be completed as designed. The design shall make allowance for the methods of construction likely to be used during installation.

The Contractor is responsible to maintain a document register for the scope of services being supplied and to keep this document register up to date with each revision or amendment of documentation being produced. A soft copy is to be supplied to The Principal, including for x2 A0 hard copies of each drawing revision.

### 3.25 Technical Maintenance Plans

The Contractor will develop Technical Maintenance Plans (TMPs) for the ROC building in accordance with TfNSW Standards.

The Contractor will undertake a maintenance requirements analysis for ROC, which leads to the development of technical maintenance plans.

### 3.26 Preliminary Cost Plan

It is proposed that the building have a gross floor area (GFA) of between 10,000 to 12,500m<sup>2</sup>.

A preliminary cost plan for the facility has been prepared with a total build cost in the range of \$30M to \$38M.

### 3.27 Applicable codes, standards and statutory controls

The design of the works shall be undertaken in accordance with all relevant Australian Standards, ISO Standards, TfNSW ASA Standards, Building Code of Australia (BCA), Legislative Requirements, Government Policies and all other relevant codes, statutes and guidelines which may be applicable.

This includes the relevant sections of the Multi-Disciplinary Engineering Panel Agreement.

### 3.28 Construction Principles

The construction of the ROC facility is to encompass Best Practice in the use of modern construction methods and technology. The inclusion of these methods and technology will help to produce time and cost savings and also to provide a thoroughly modern, technologically advanced building.

### 3.29 Design Team Co-Location

Generally the Contractor will perform the design works from their own office.

The Principal may request that from time to time members of the Contractor's team are co-located to the Principal's office at 477 Pitt St. Sydney for certain key deliverables.

Certain individuals may be required to co-locate and form part of the site delivery team once the project is in the construction delivery phase.

The Contractor is to allow for all site inspections, site meetings, witnessing during testing, commissioning and handover of the facility to the Principal.

**3.30 Project Program and Milestones**

The Contractor must deliver the design services in a manner and by the times necessary to ensure the following critical “not to exceed” milestone dates are achieved (at the latest):

<b>Milestone description</b>	<b>Milestone timing</b>
All management plans submitted for approval and agreement reached with the Principal concerning key deliverables of the scope of services (including relevant AEO and Sydney Train’s requirements).	Within 15 business days of the Commencement Date
Suitable documentation completed for inclusion in the RFT for tendering the Main Contractor services	Within 40 business days of the Commencement Date
Engagement of the design competition architect to commence its design services	Within 60 business days of the Commencement Date
Main Contractor’s Date for Practical Completion of the building	June 2017

**3.31 Commercial matters and Contract Terms**

**Variations and / or Ad Hoc services:**

For additional design services or any other work instructed by the Principal that requires the Contractor to engage a subcontractor, the Contractor is entitled to claim 10% of the approved (by the Principal) subcontract amount for the Contractors design services associated with the subcontract works. The 10% ‘mark-up’ is the Contractor’s whole entitlement to compensation for the services associated with the subcontract work, including procurement, all design services, profit and overheads.

**Principals response time:**

Except to the extent otherwise specifically stated in the Contract, the Principal’s response times under the Contract shall be at least 10 Business days or as deemed reasonable by the Principal. The Contractor acknowledges and accepts this Principal’s response time and has allowed for these times in its Program.



## ATTACHMENTS

Attachment A: Sydney Trains Rail Operations Centre Development – Performance Specification

Attachment B: Sydney Trains Rail Operations Centre Development – Architectural Concept Design Report

Attachment C: Full set of Concept Architectural Drawings Sheets 1 to 14

Attachment D: Sydney Trains Rail Operations Centre Development - Concept Design Report NB00103

Attachment E: Town Planning Advice – Approval Pathways and Applicable Planning Controls Fire & Rescue Centre, Alexandria

Attachment F: Design Specification – Building Code of Australia – Rail Operations Centre

Attachment G: Brief & Strategy Report: Acoustics

Attachment H: Sydney Trains Rail Operations Centre – Provisional Security Risk Assessment

Attachment I: Safety In Design Engineering Service

Attachment J: Design Risks & Assumption Table

Attachment K: Report on Geotechnical Due Diligence Assessment

Attachment L: Report on Phase 1 Environmental Site Assessment

Attachment M: Design Management Manual MN A 00001

Attachment N: Procedures for delivery of designs PR-DPM-001

Attachment O: CAD and Drafting – All Design Areas Sections 1 and 2

Attachment P: Outline of the Commissioning scope of works

Attachment Q: Infrastructure System Requirements Specification

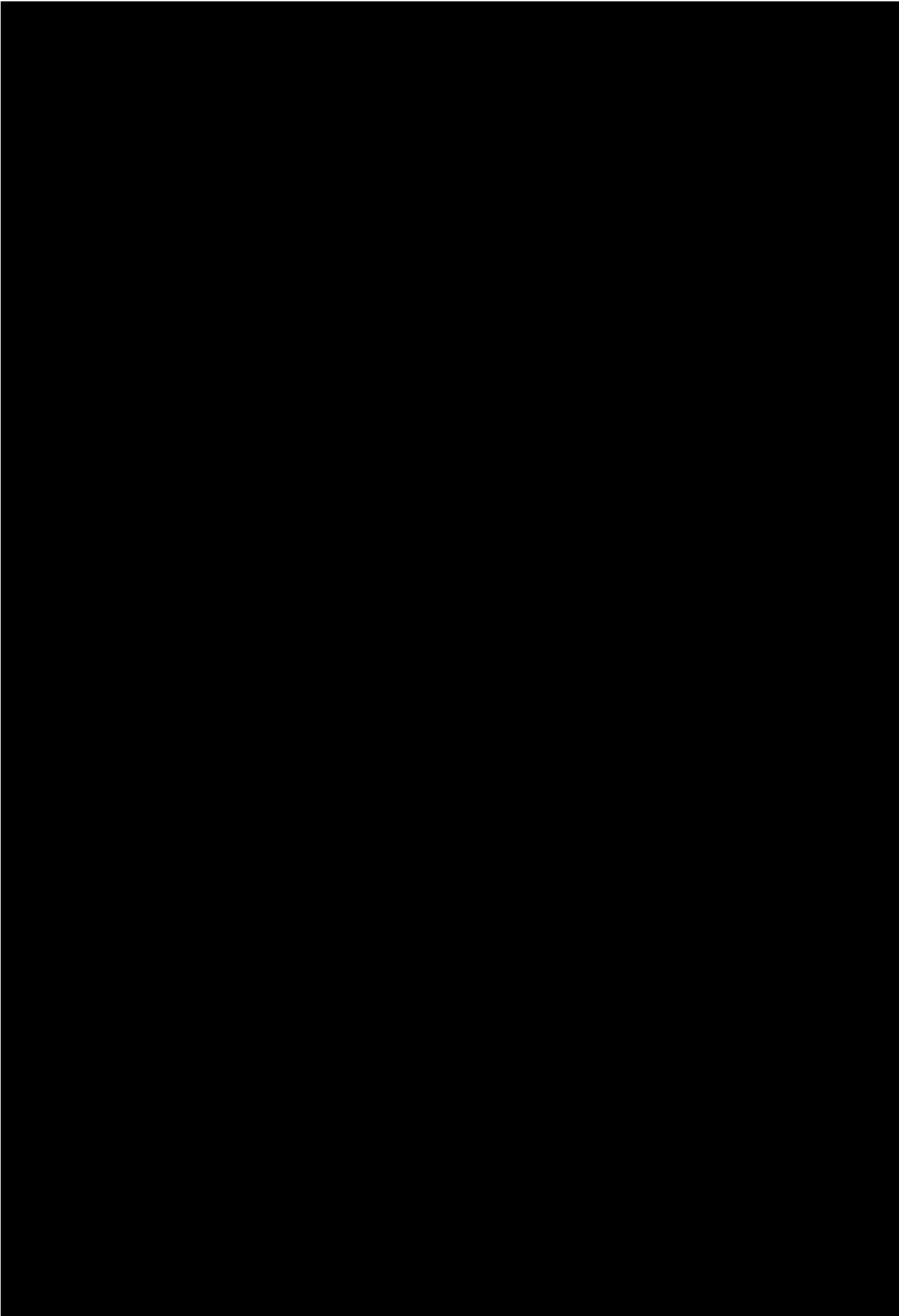
Attachment R: Program Business Requirements Specification

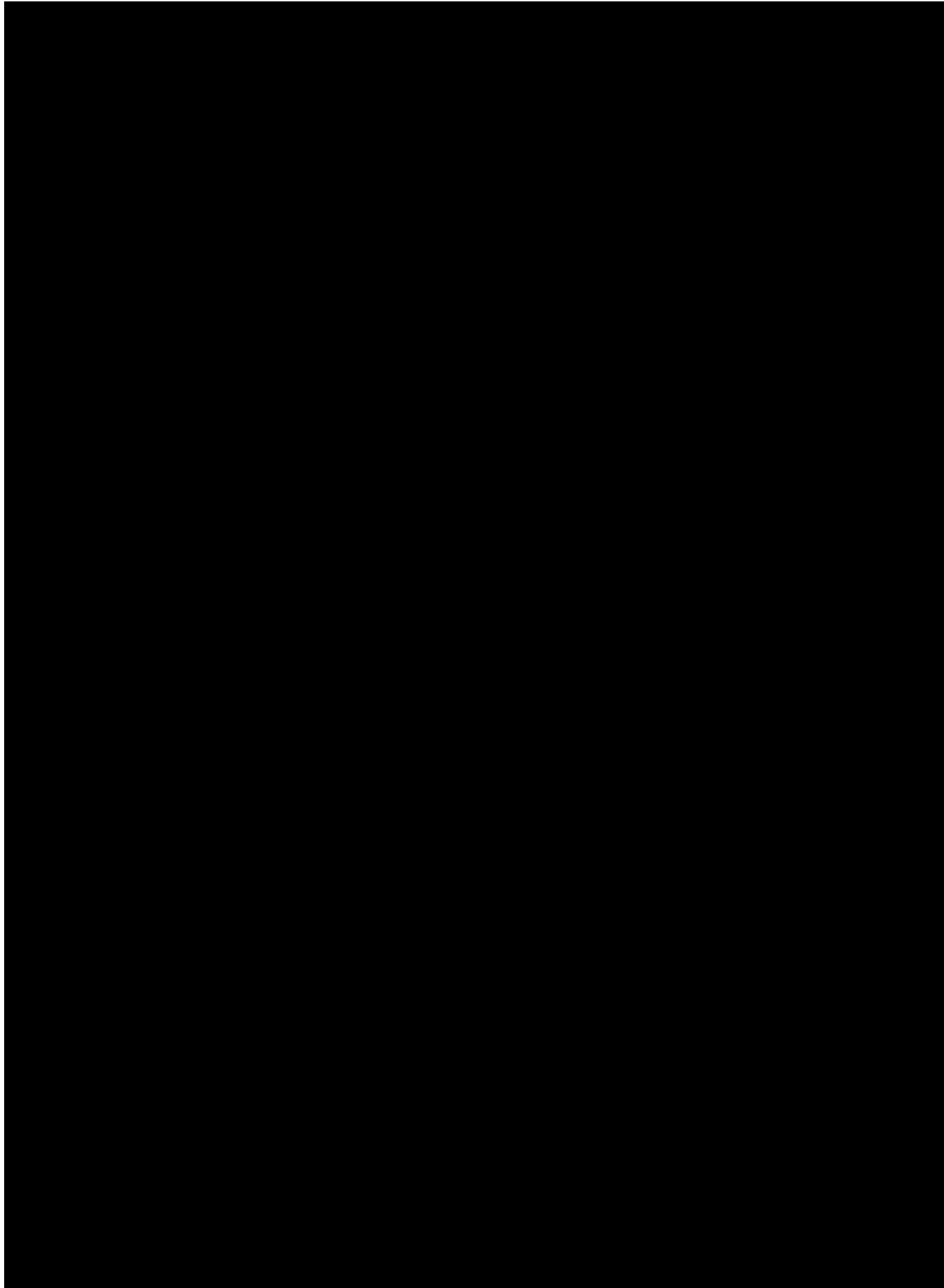
Attachment S: A. Contractor's proposed CV's for Ops Technology design support.

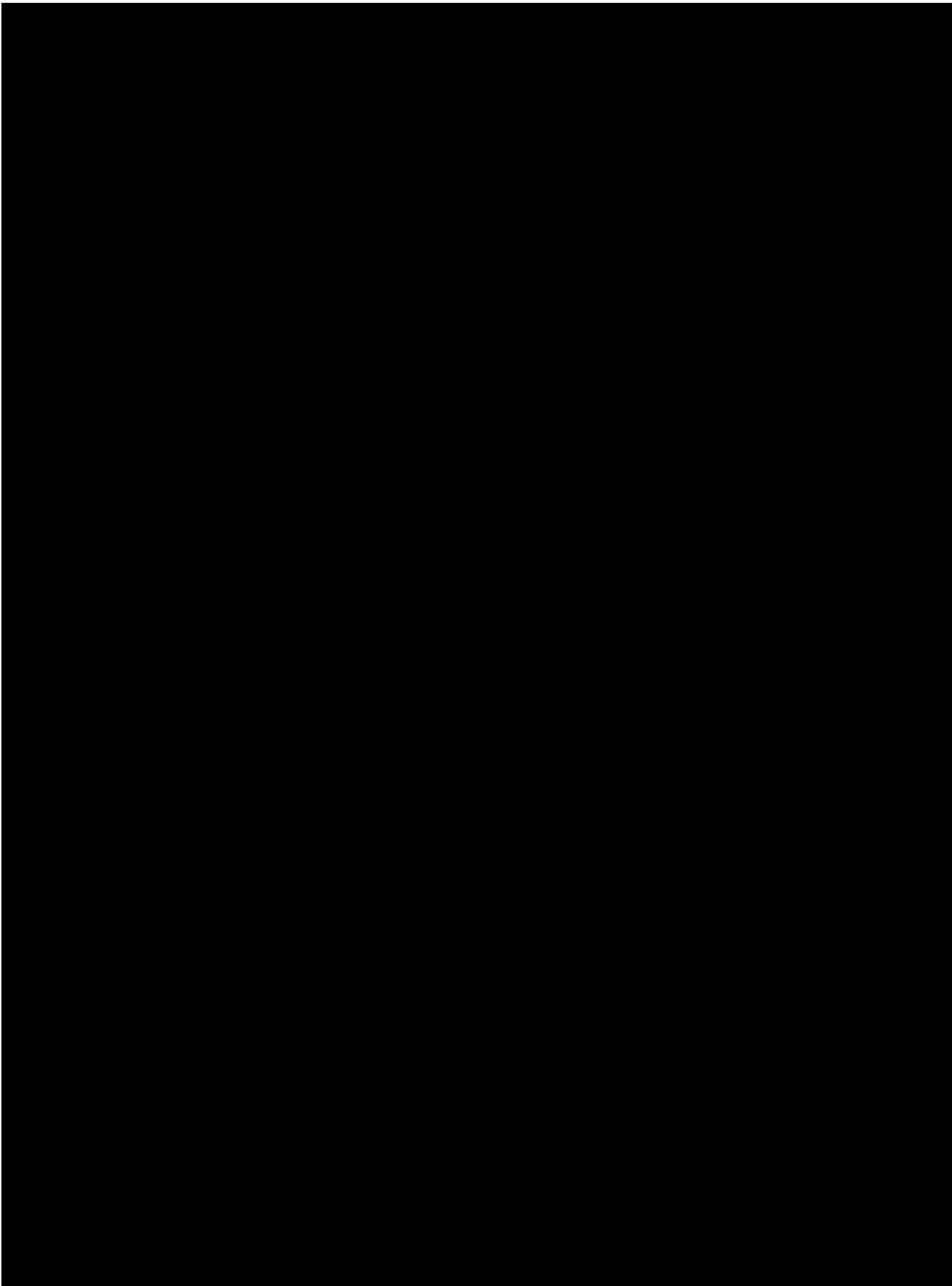
Attachment S: B. optional Ops Technology design support work overview.

Attachment T: ROC Ops Technology System Requirements Specification

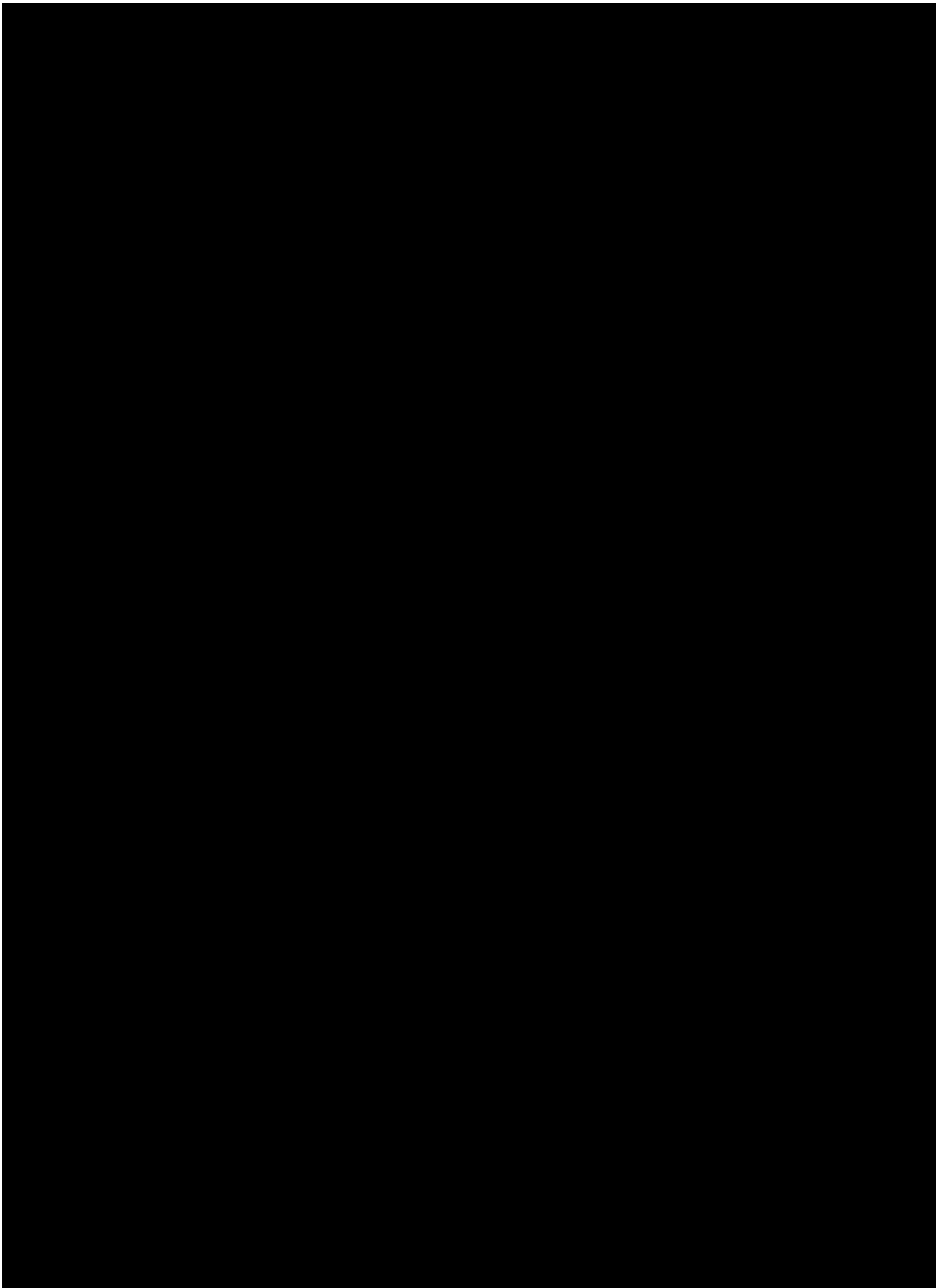
**NOTE: The parties acknowledge that the above attachments and the following copies have been supplied to the Contractor in a high quality format separately**

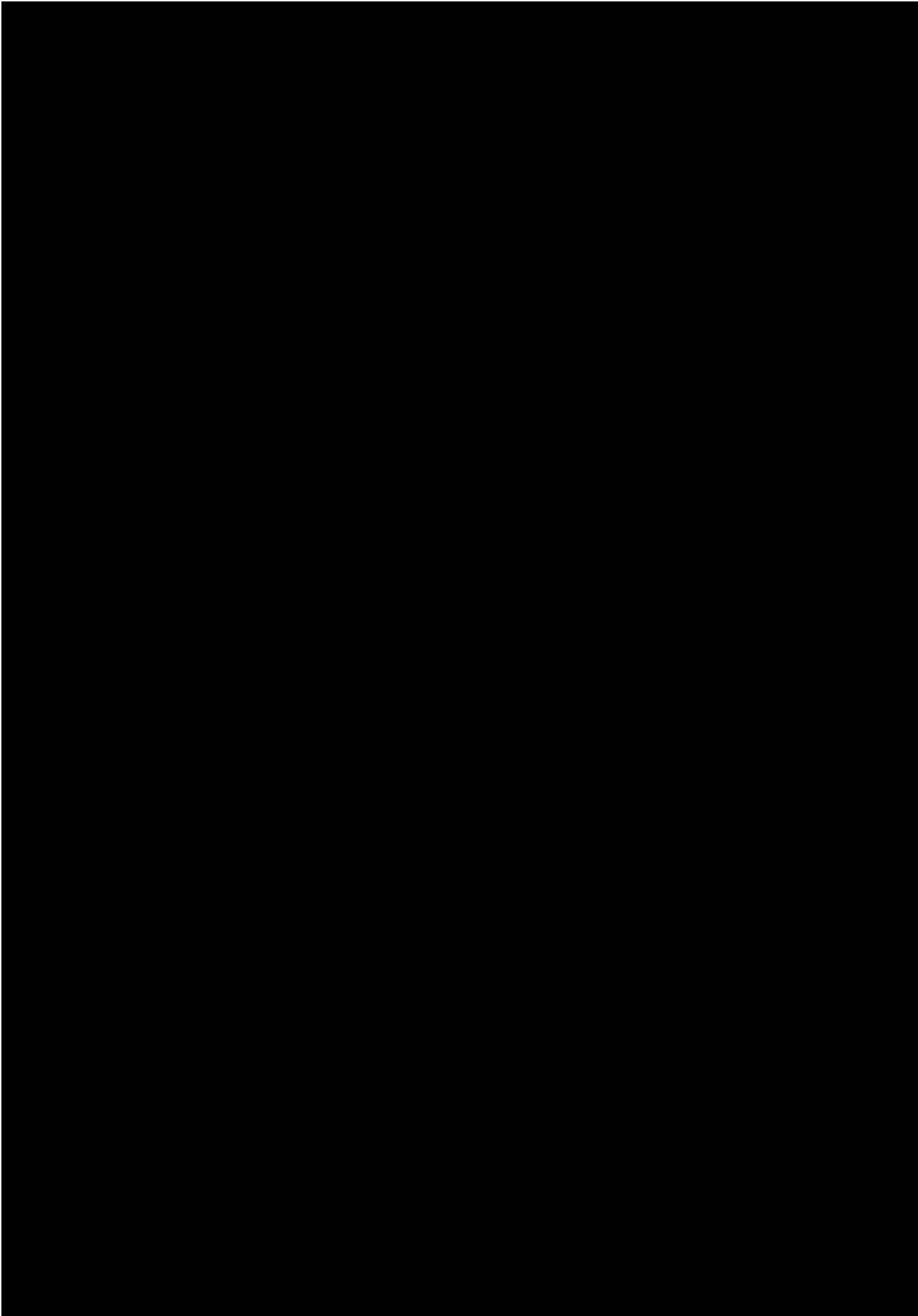


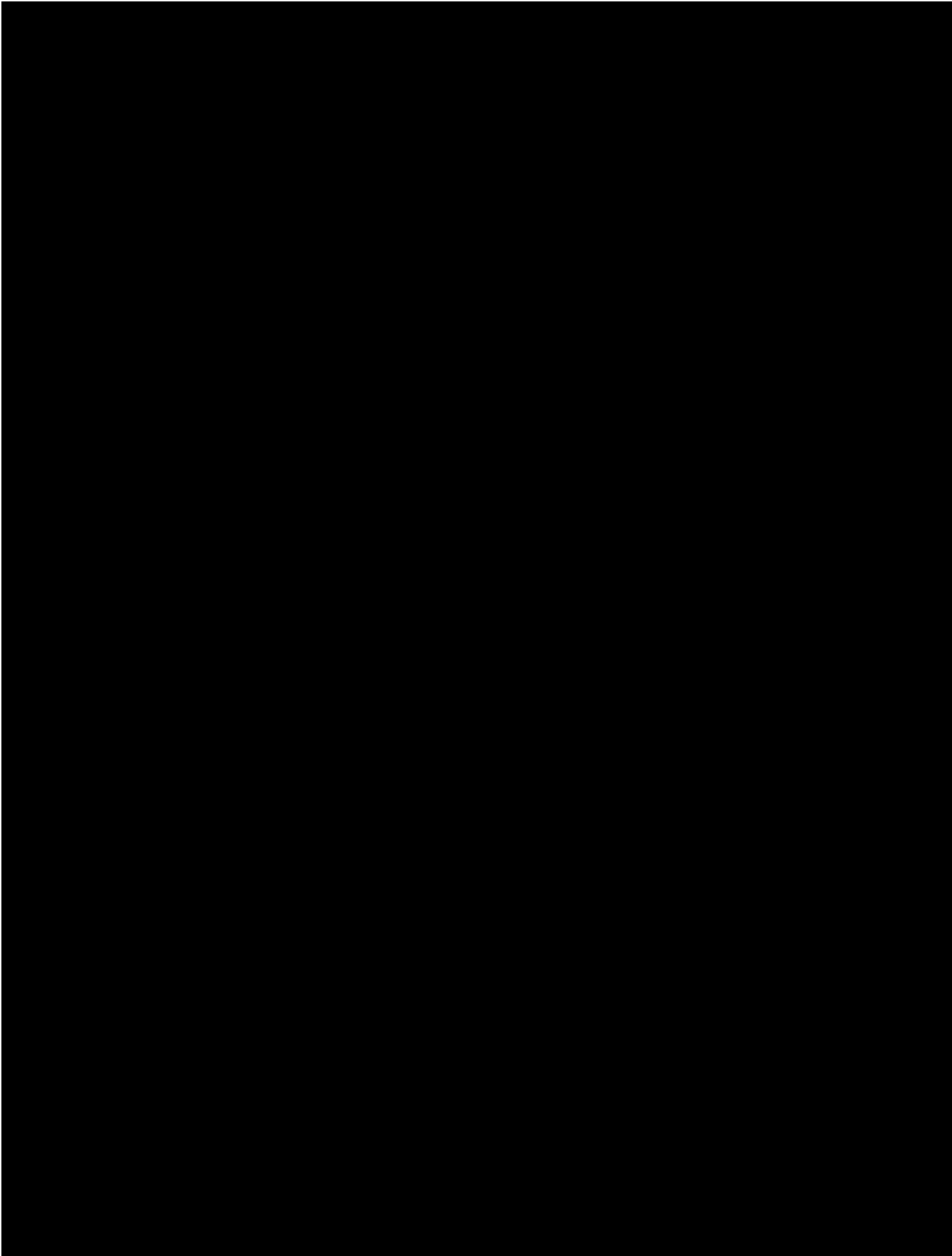


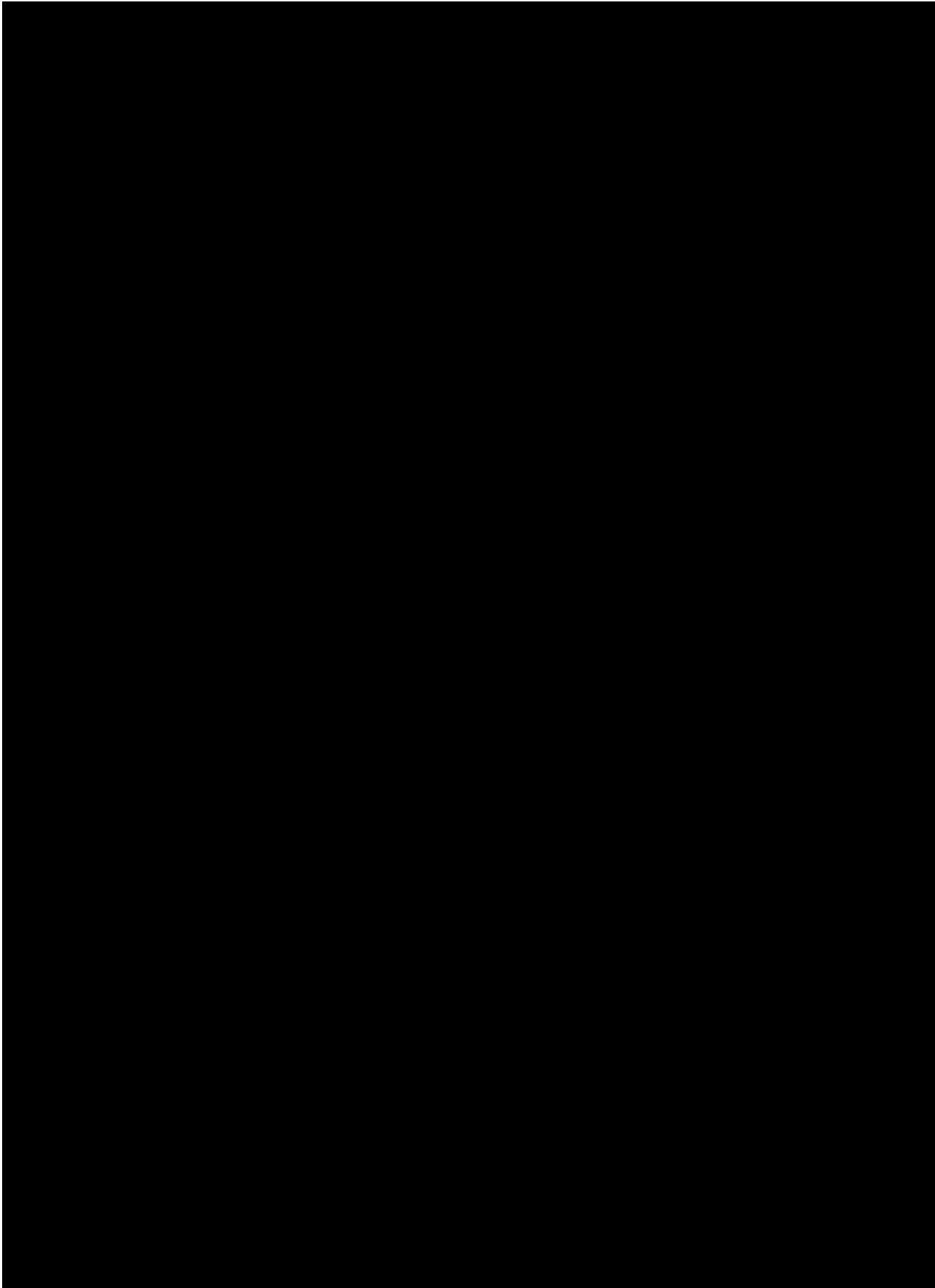


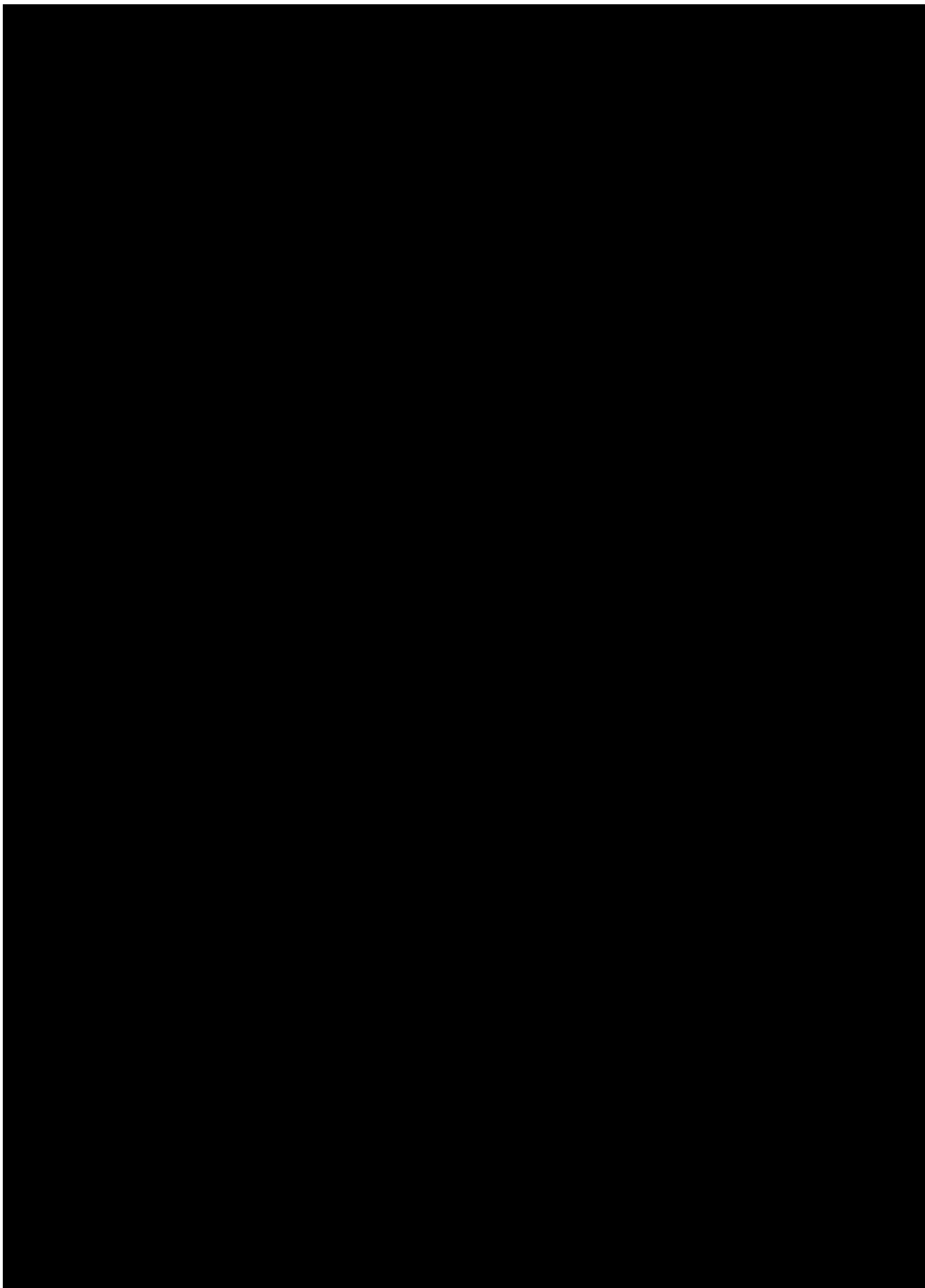


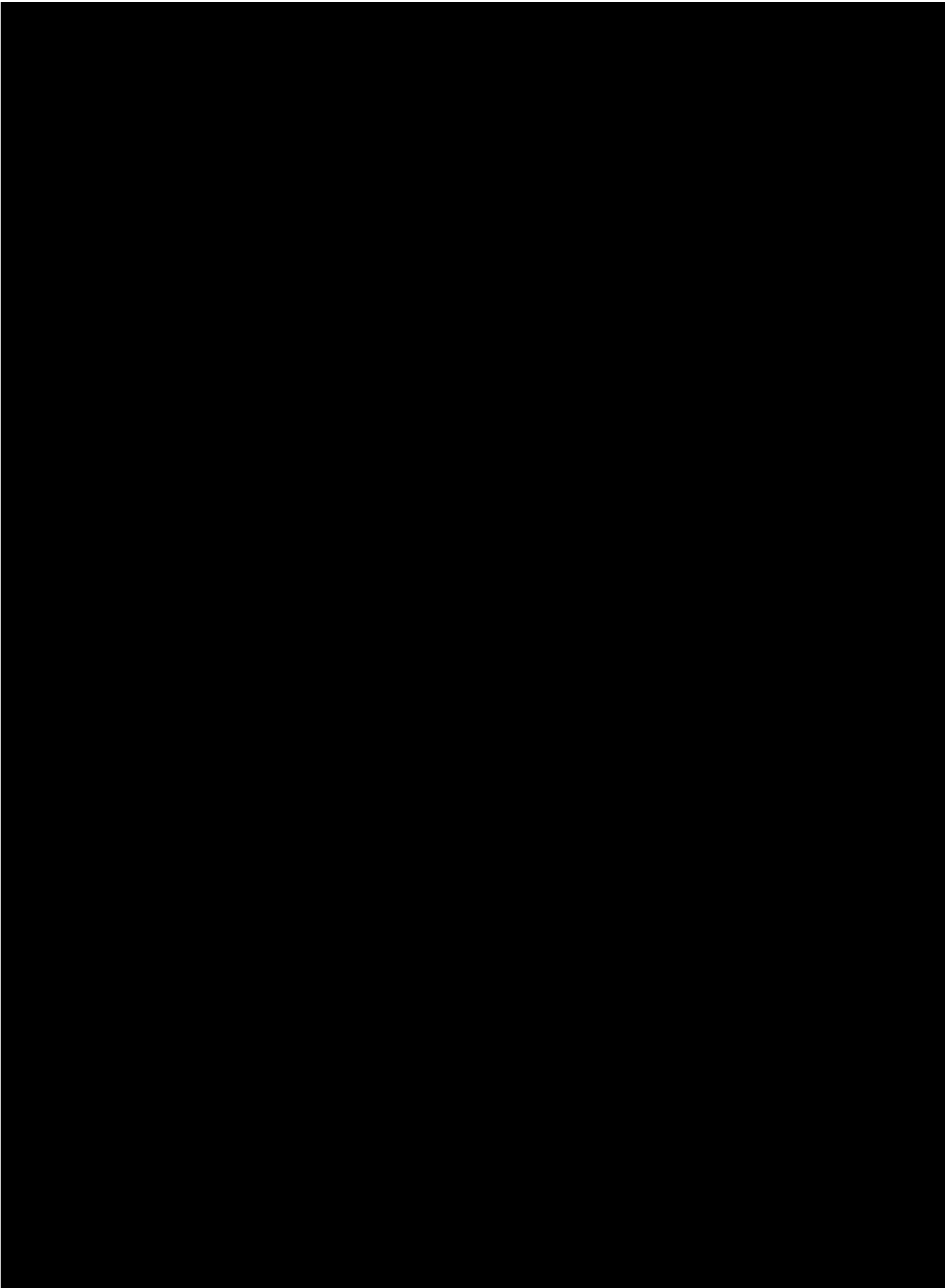


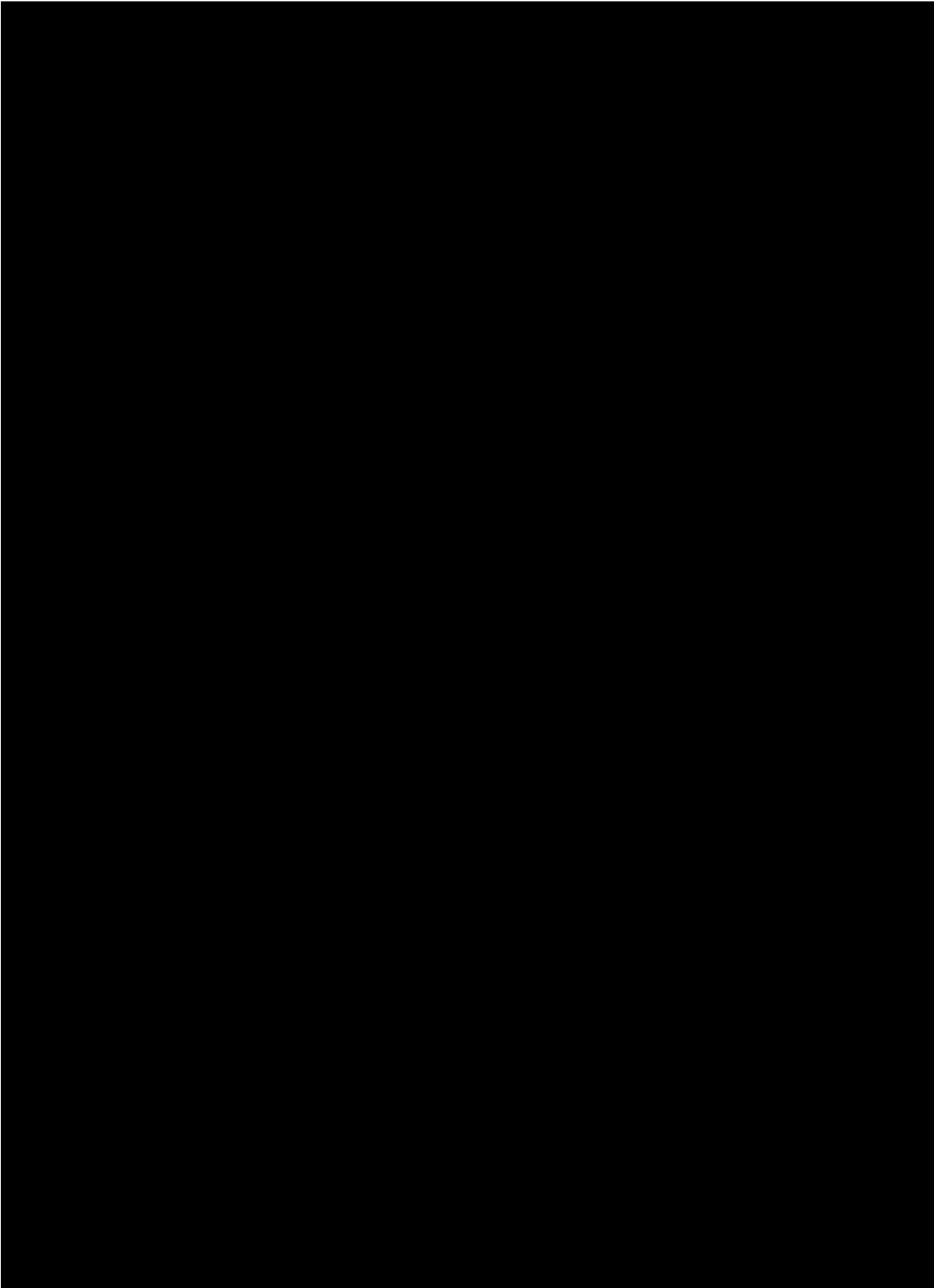


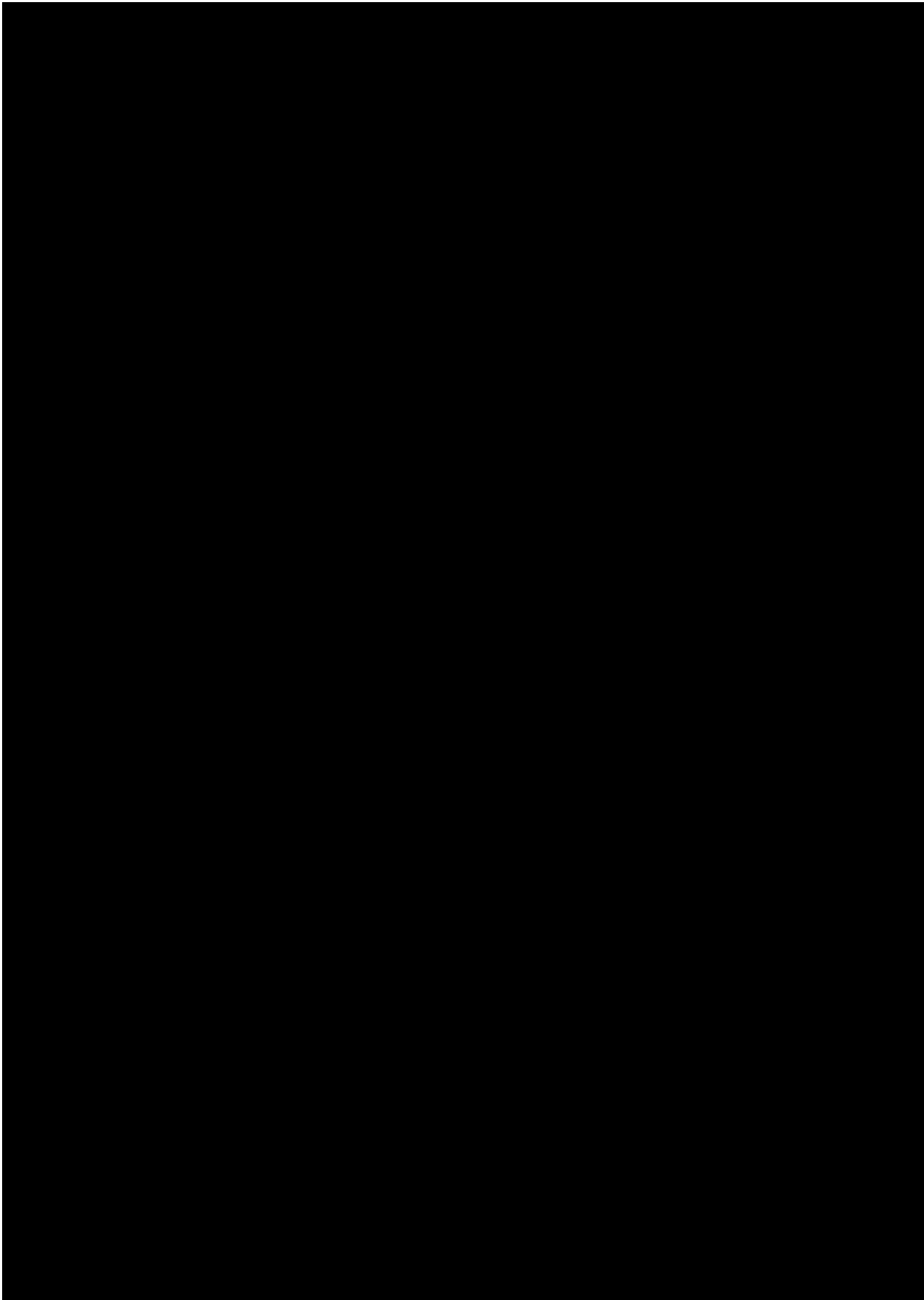






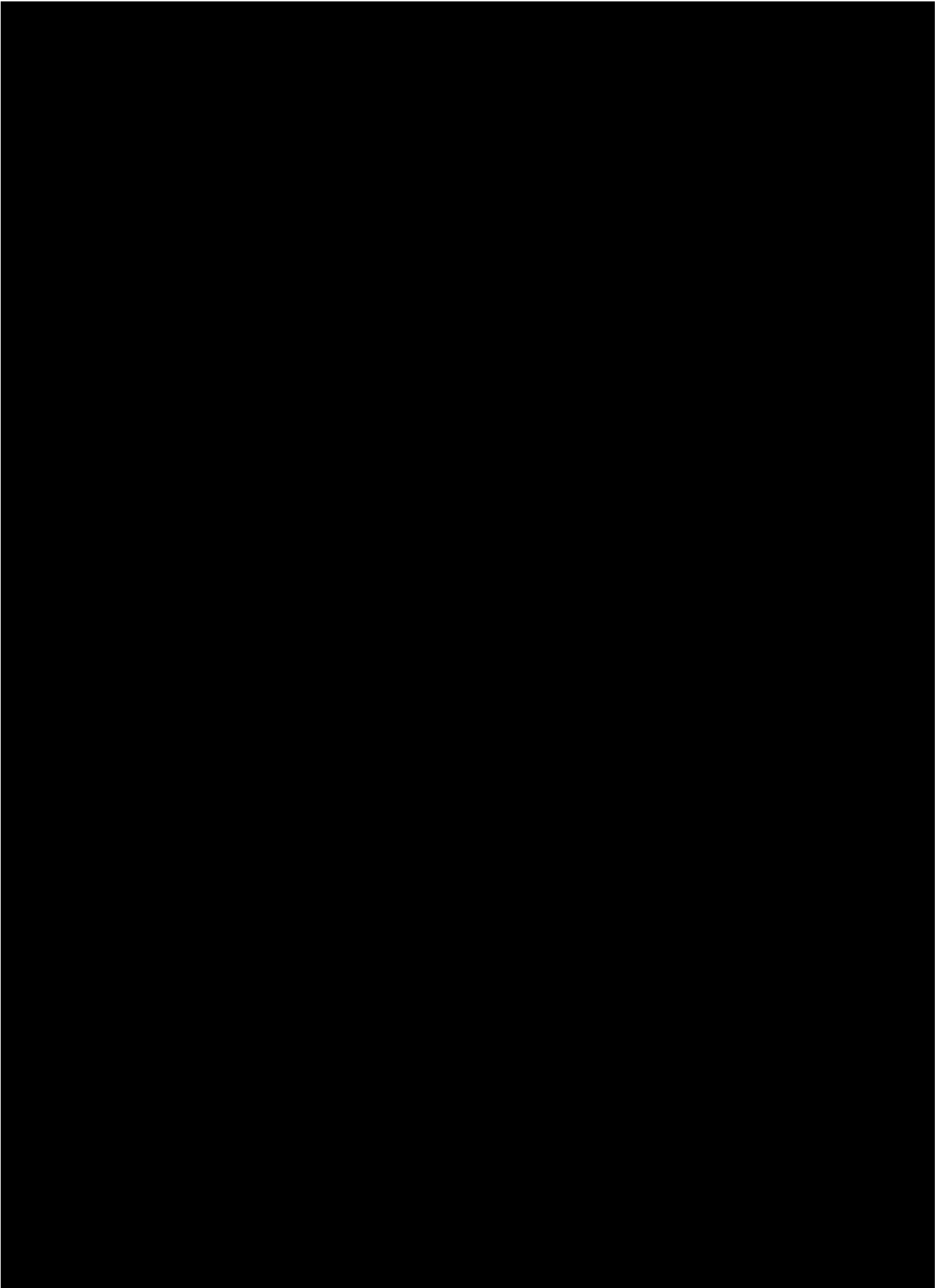


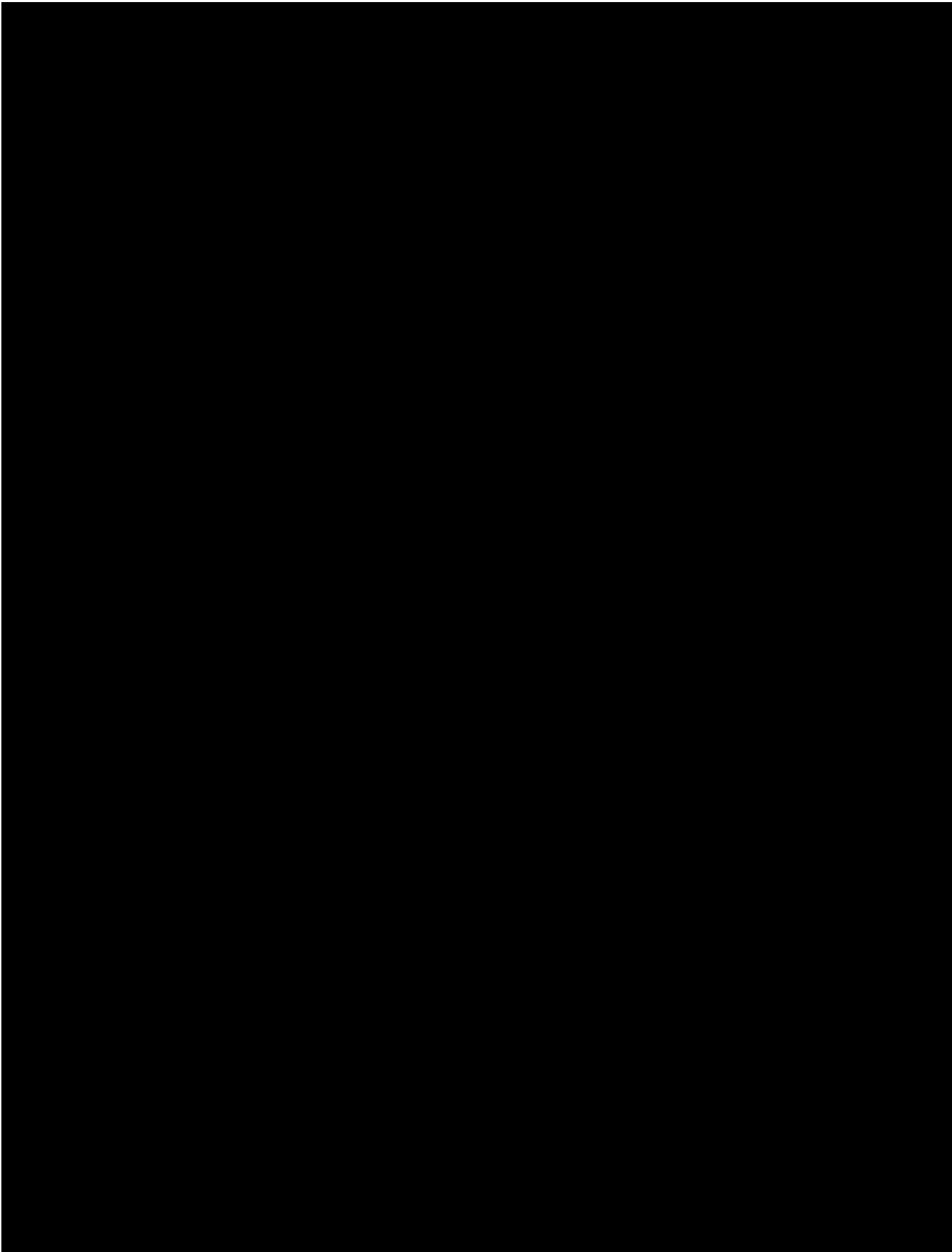


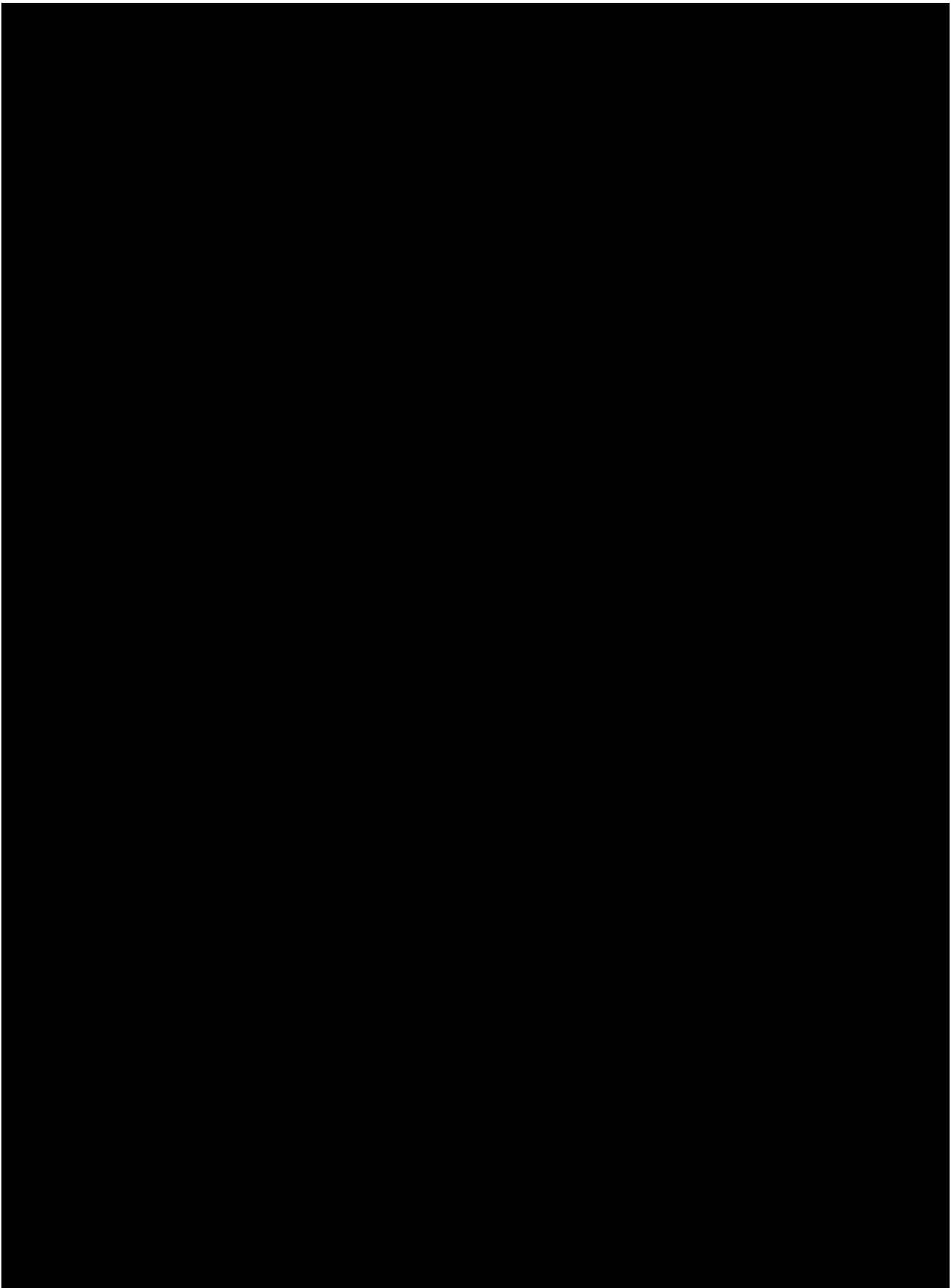




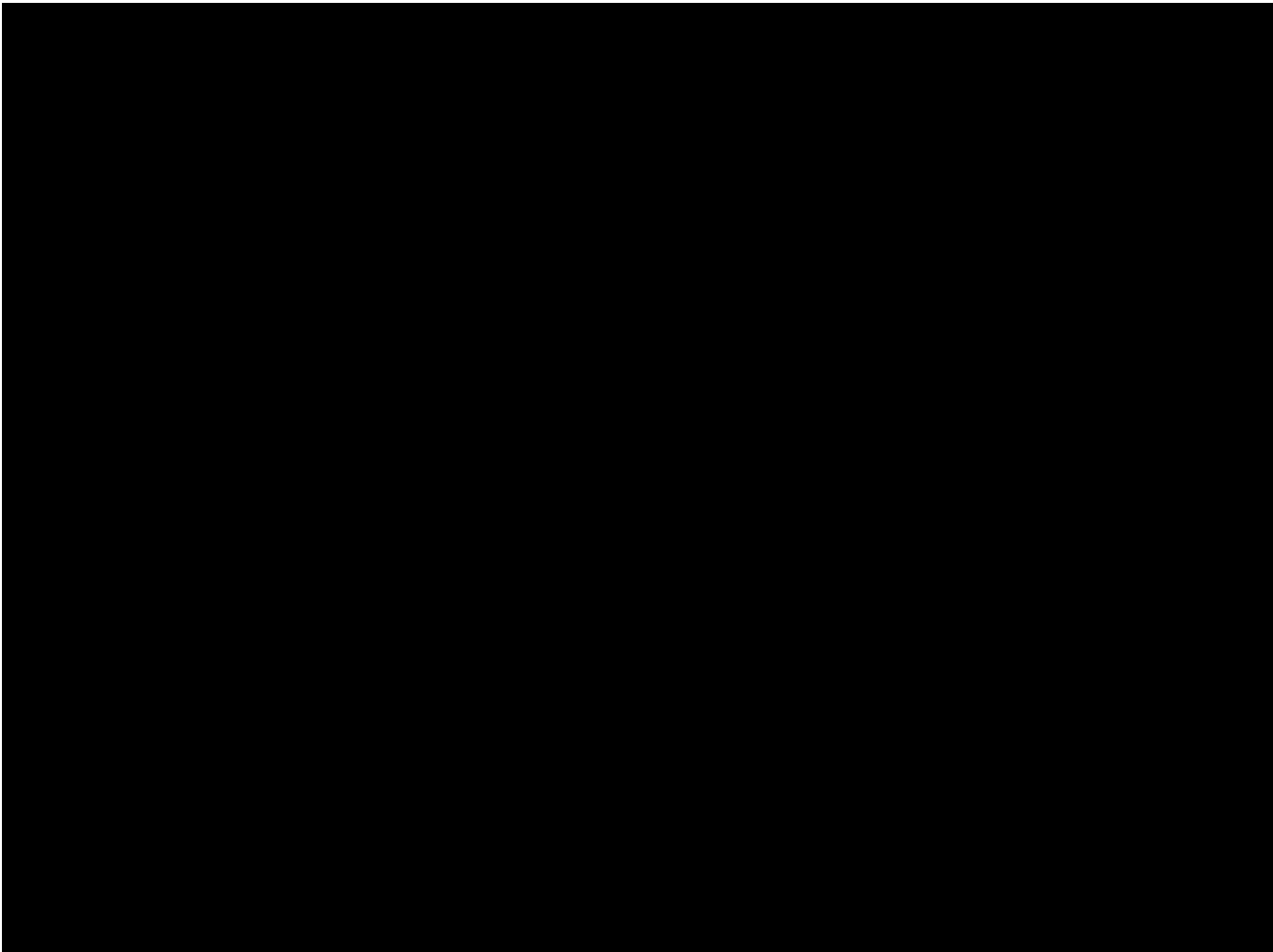


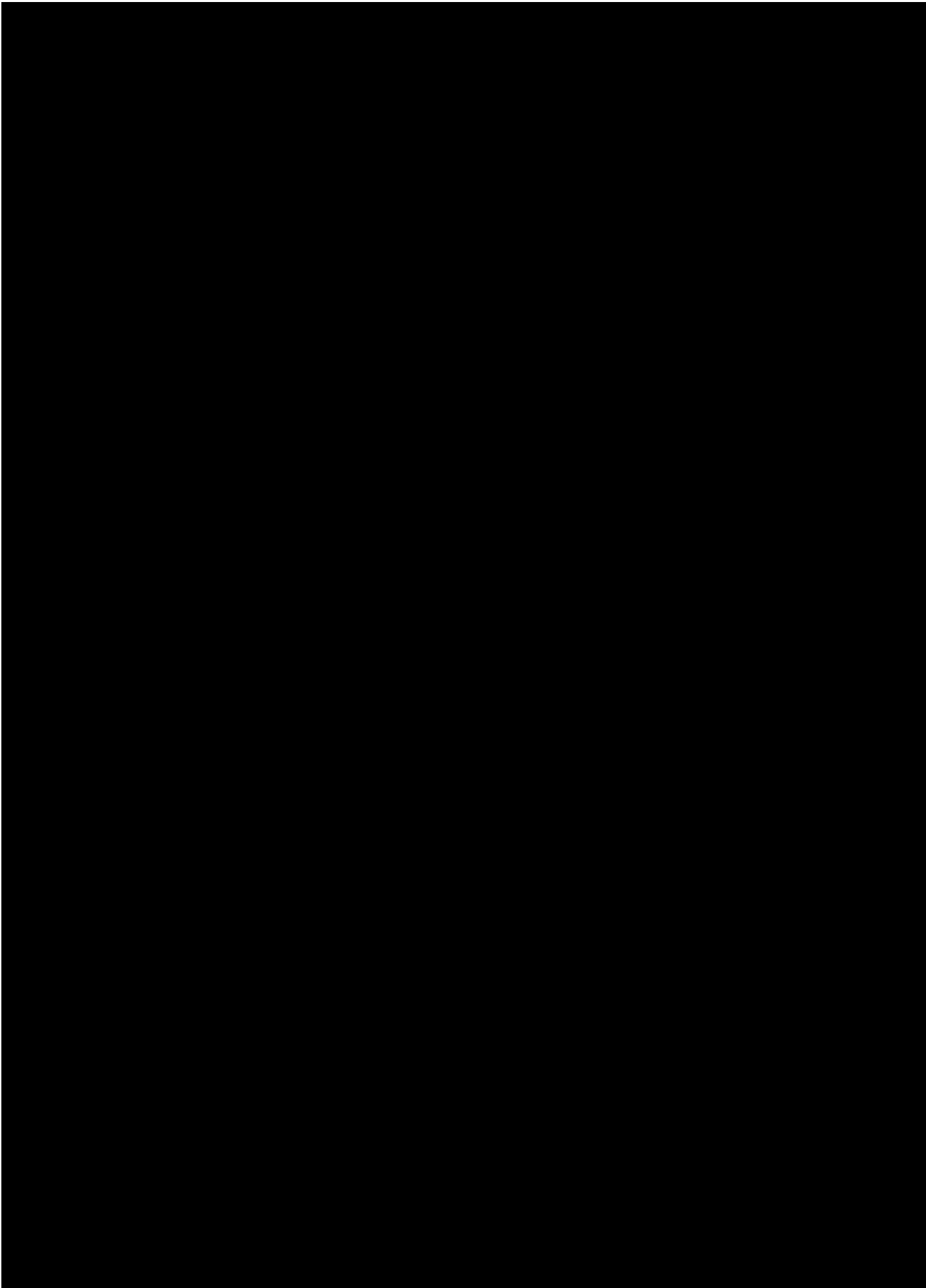


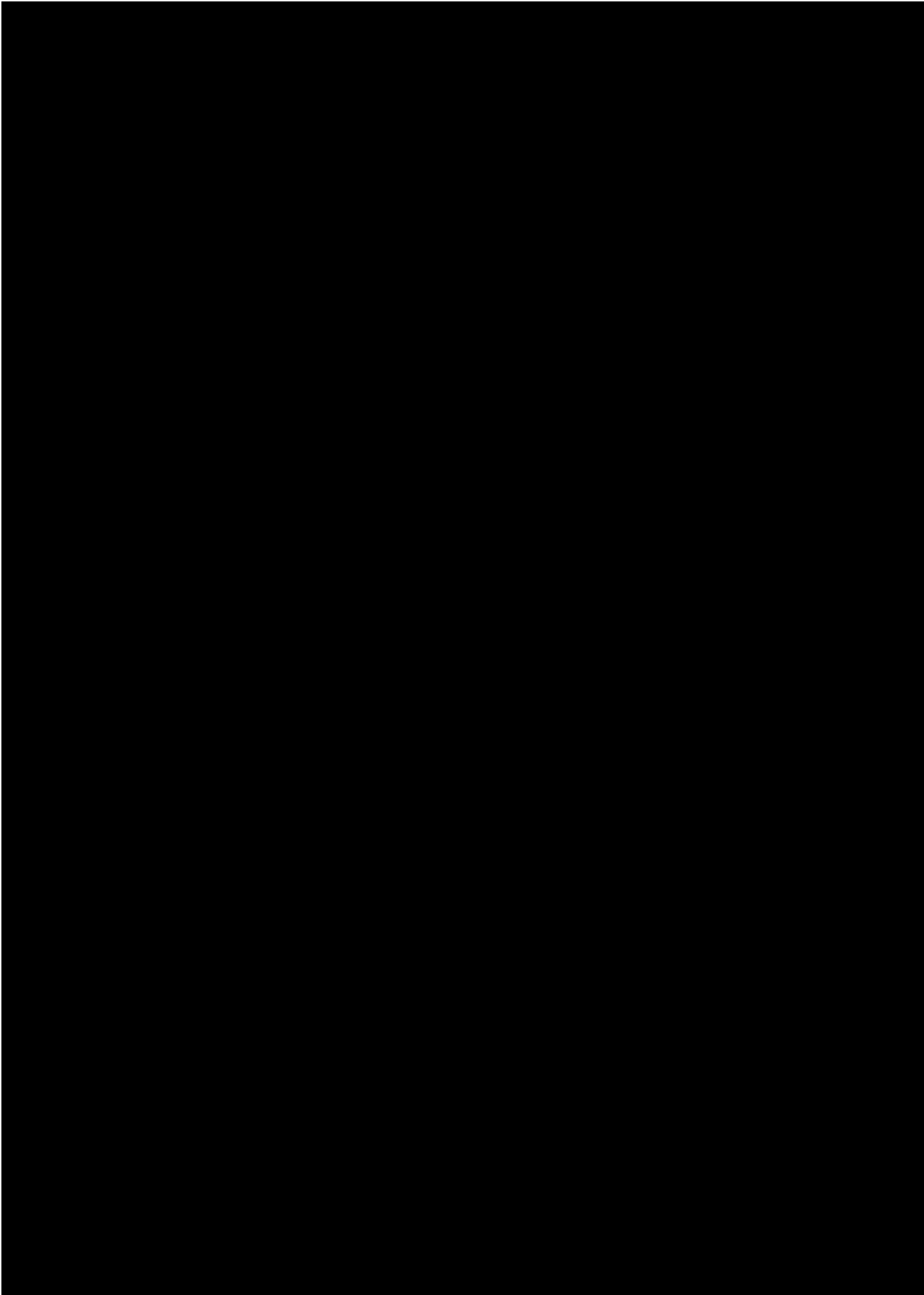




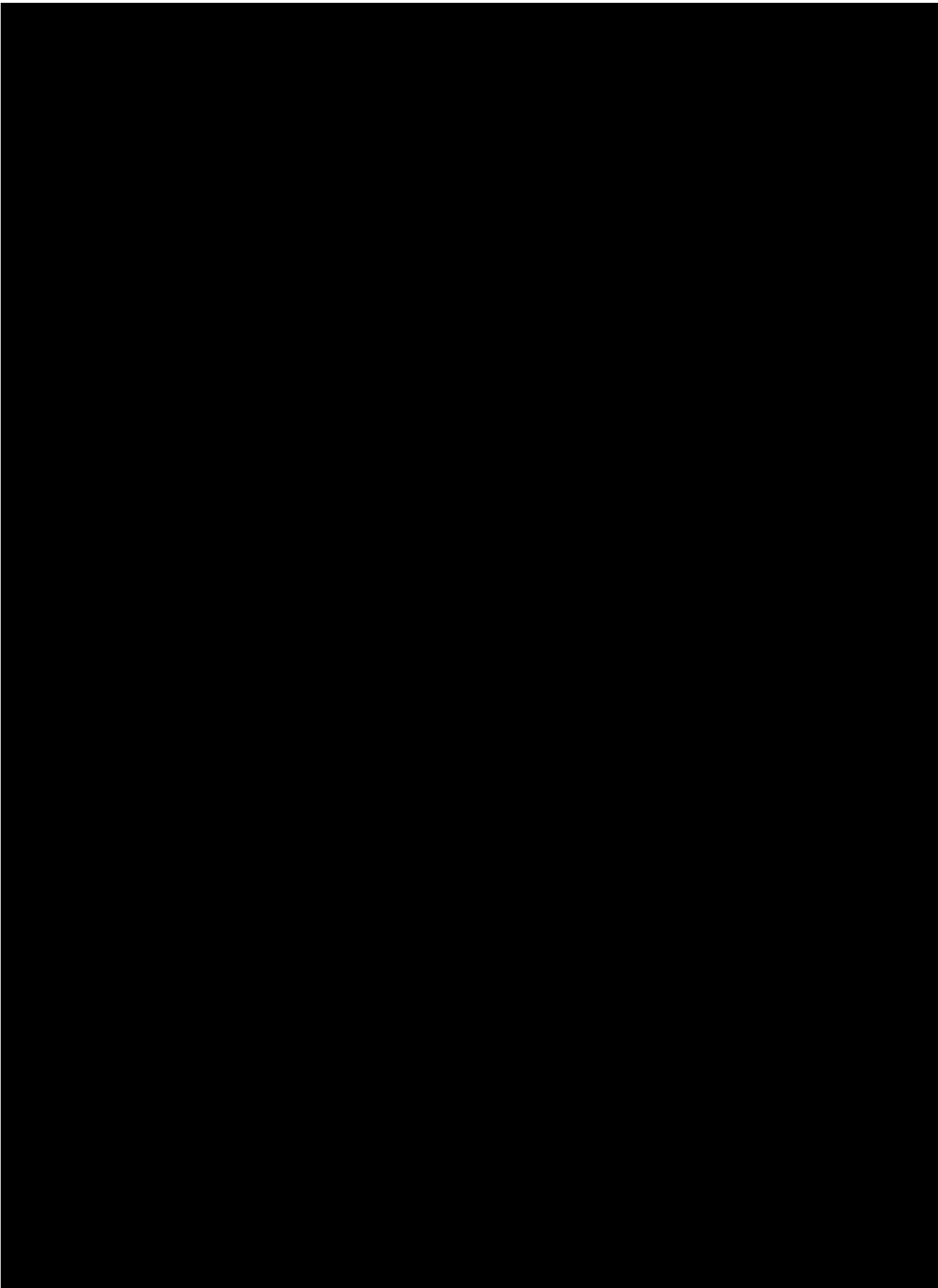


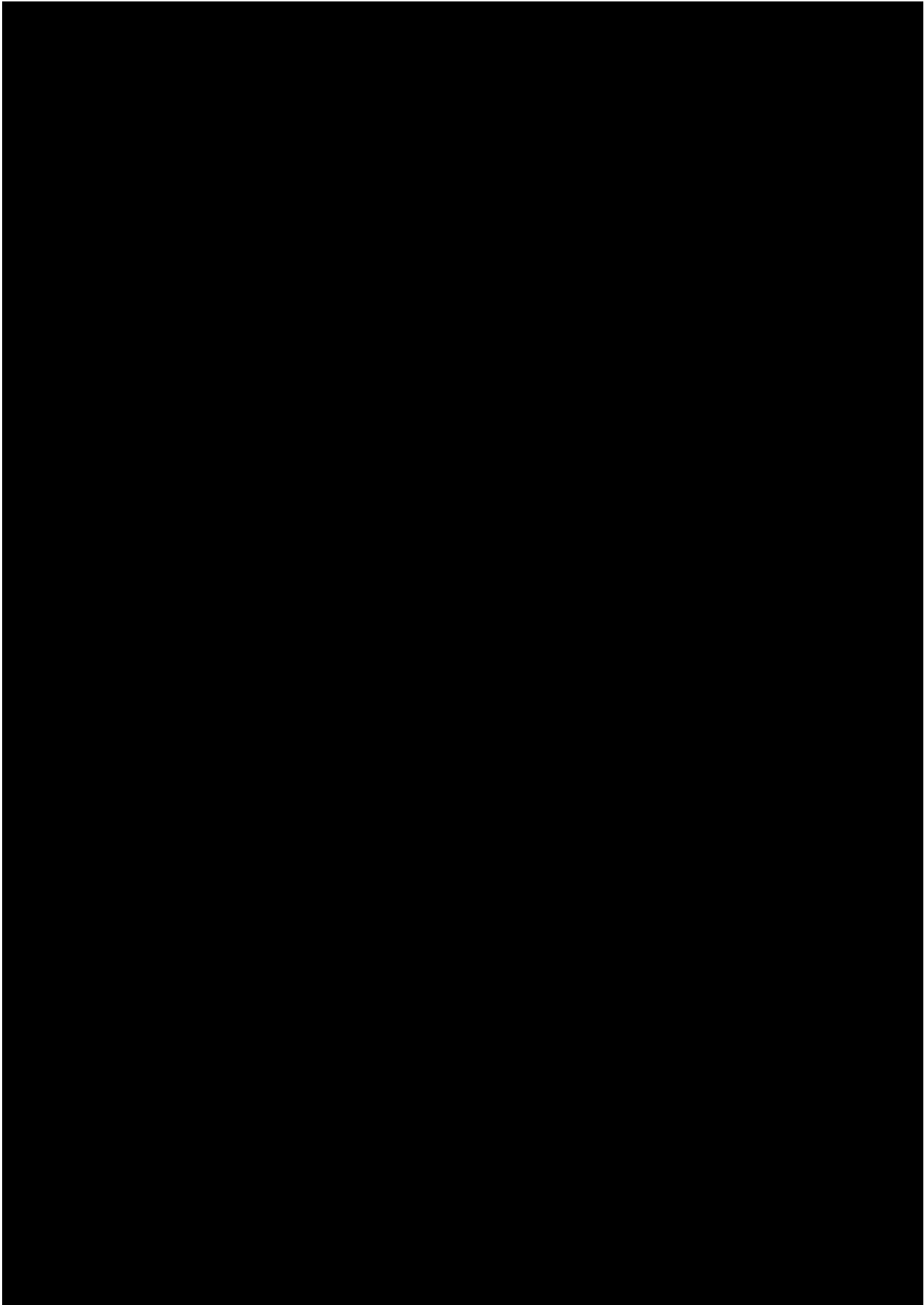


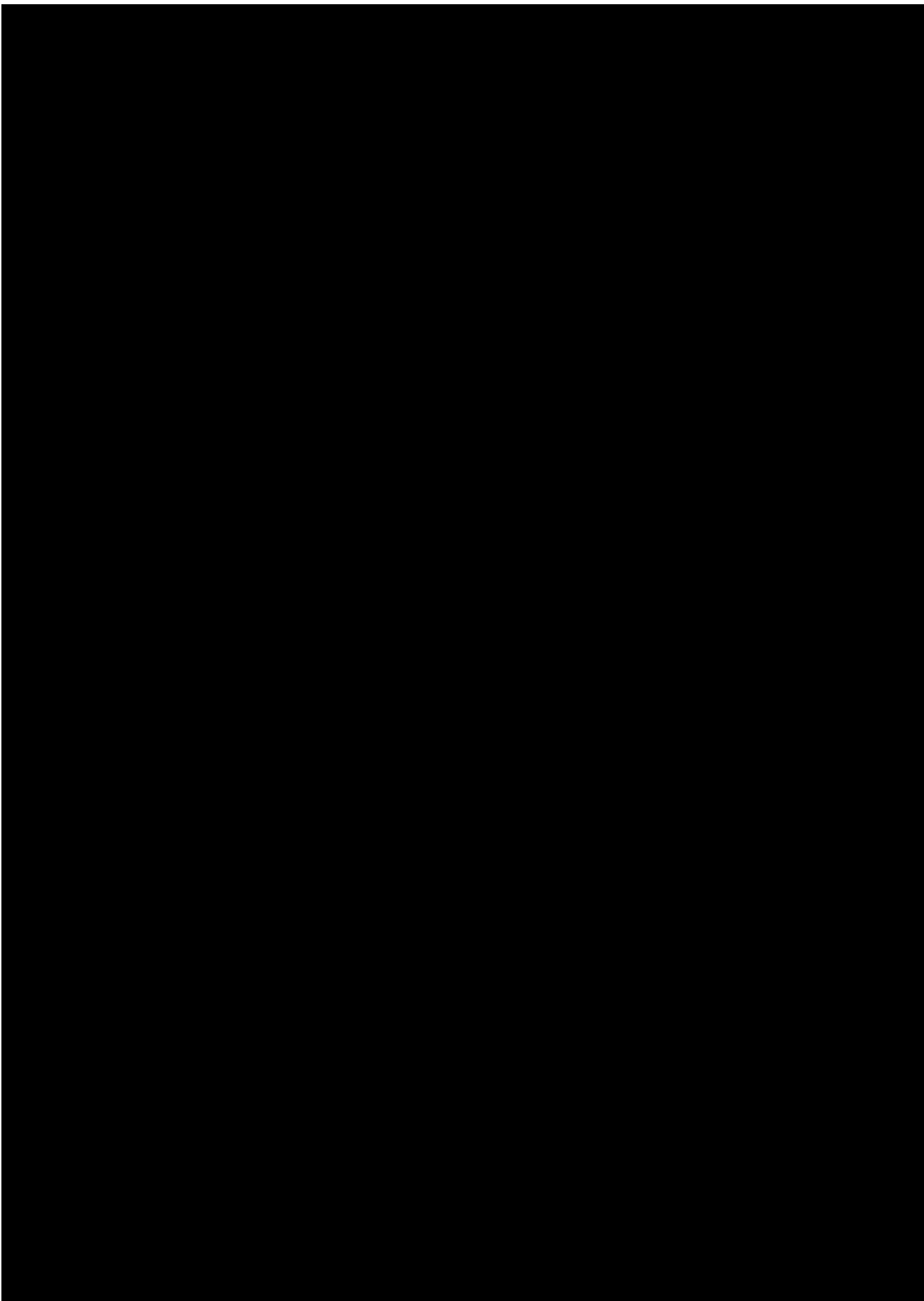


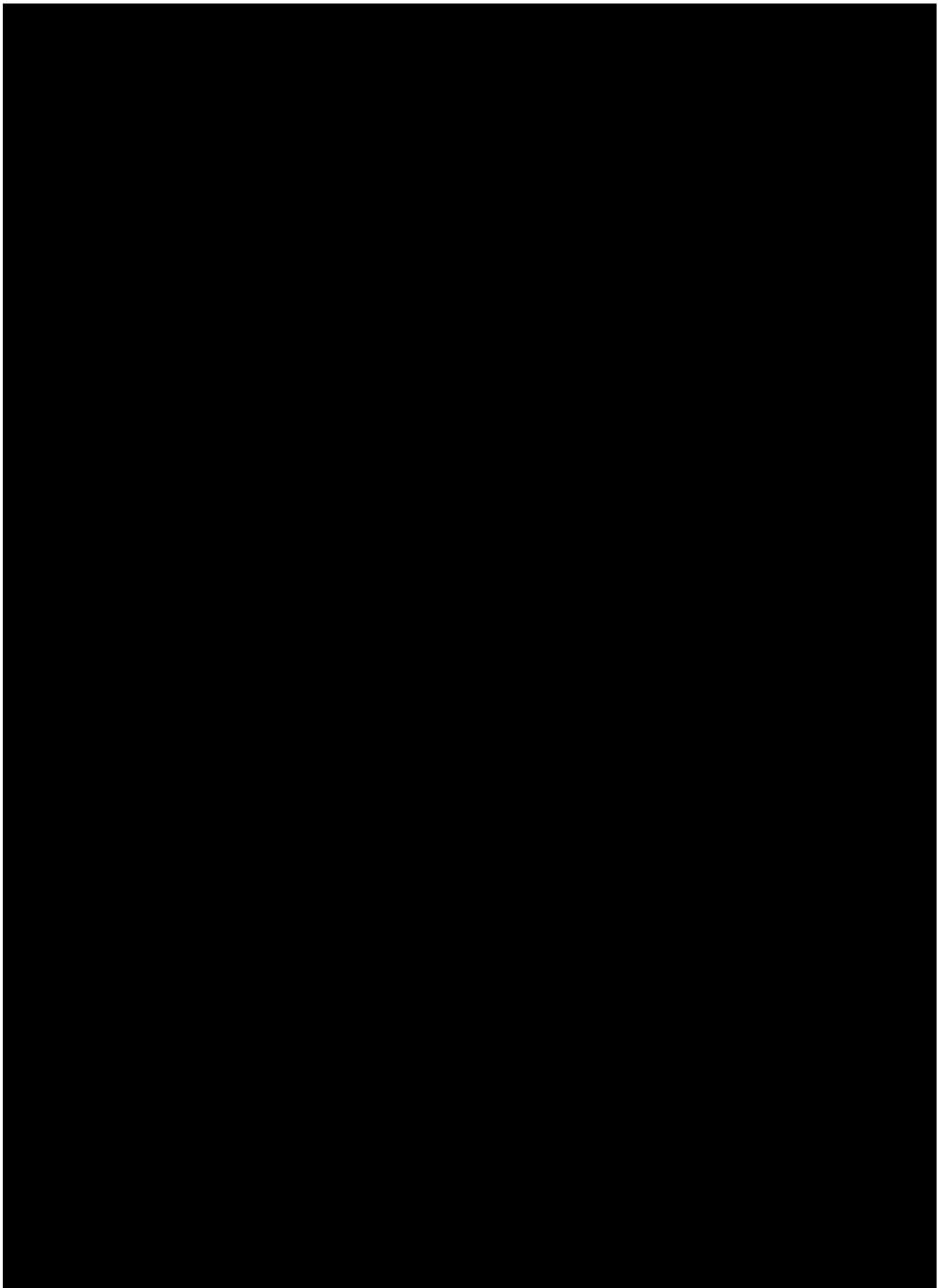




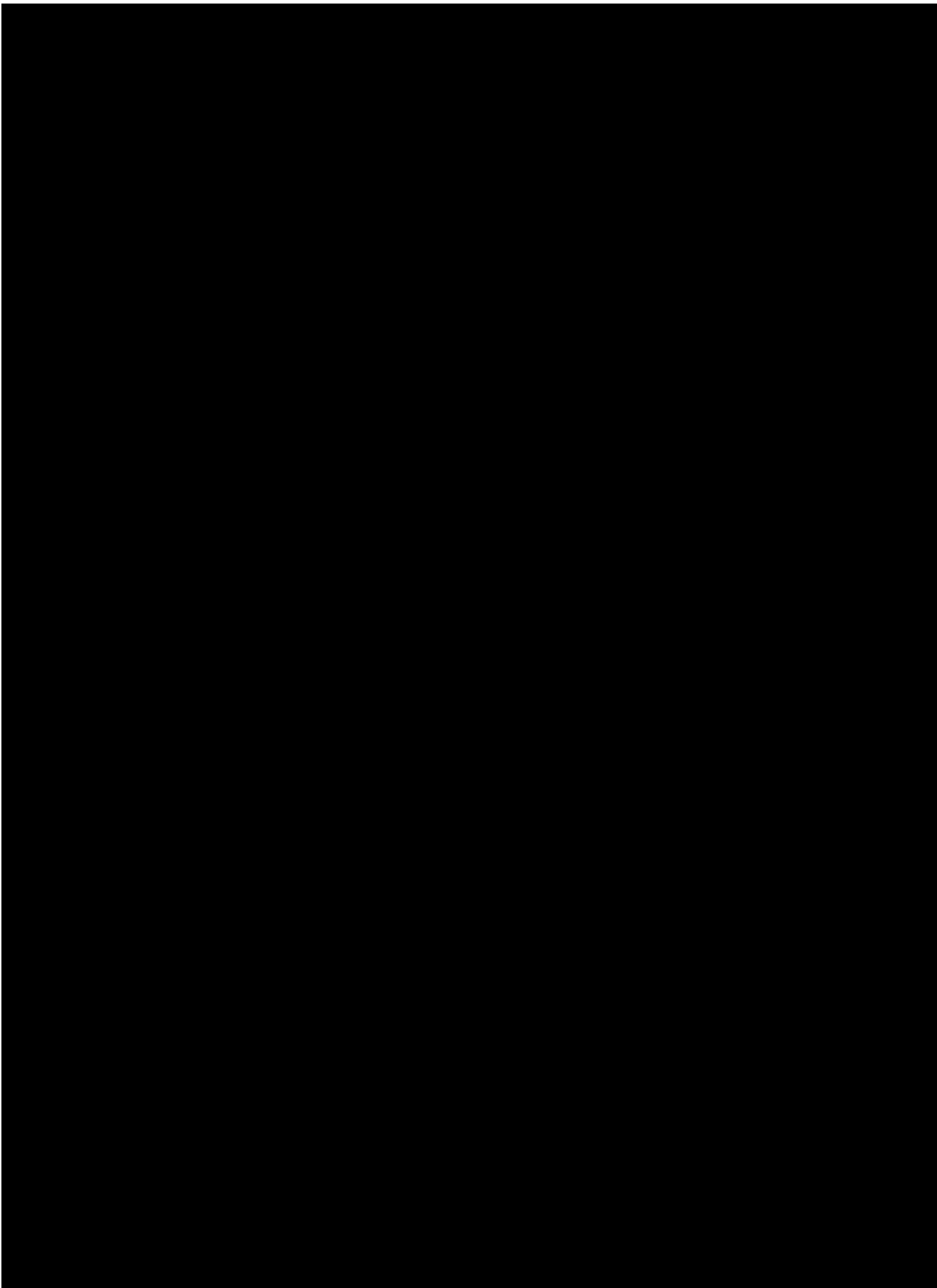


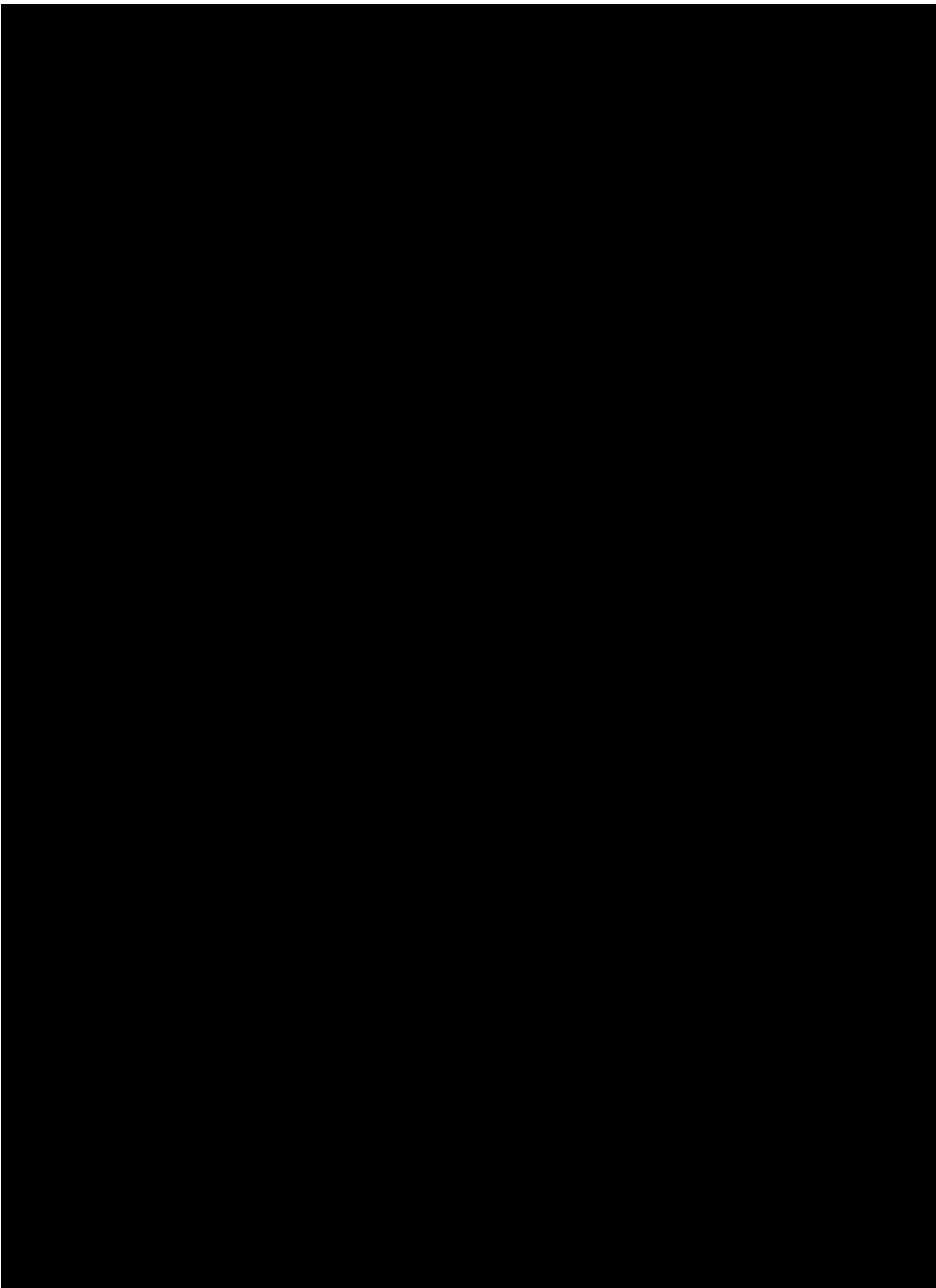


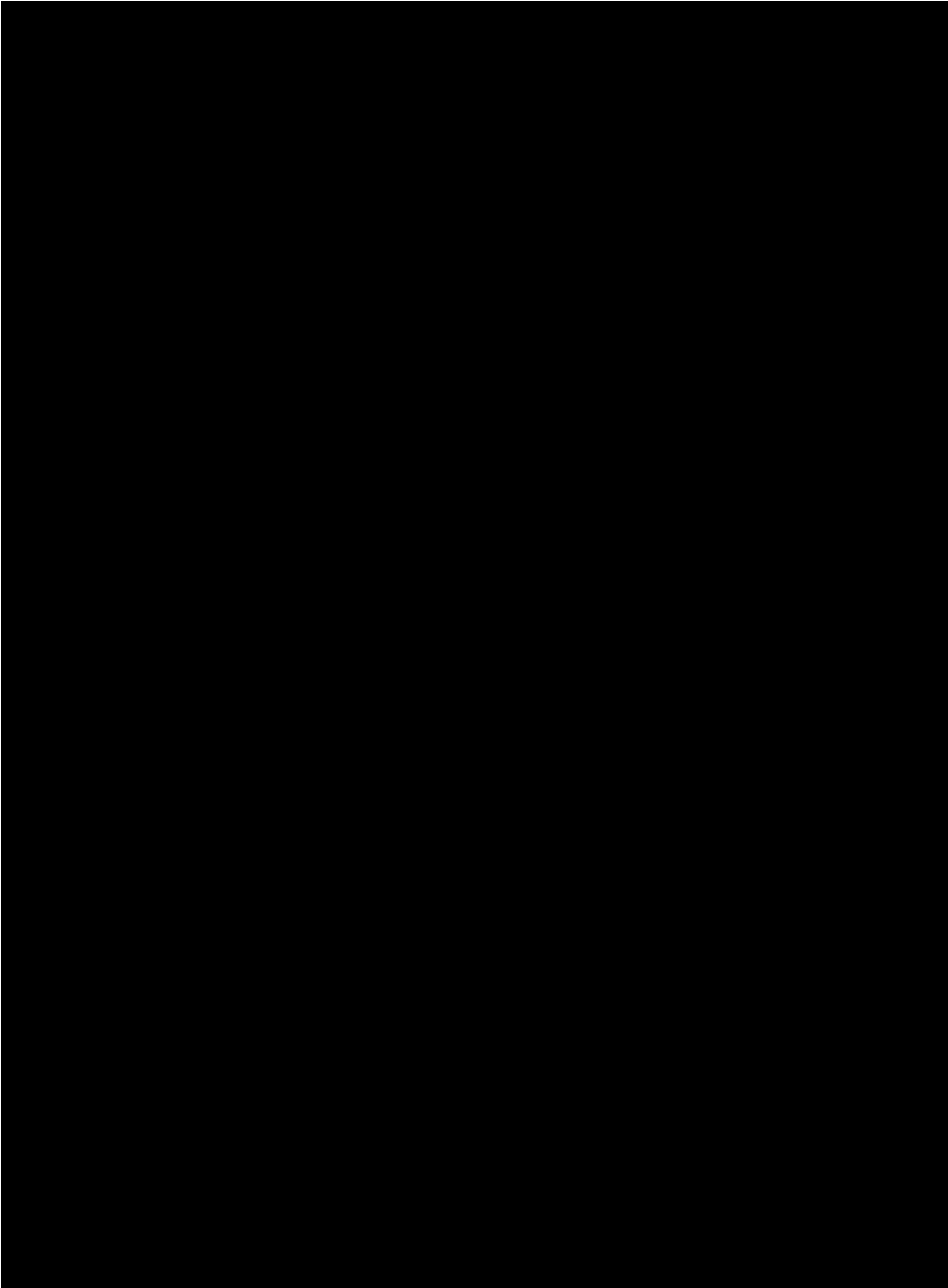




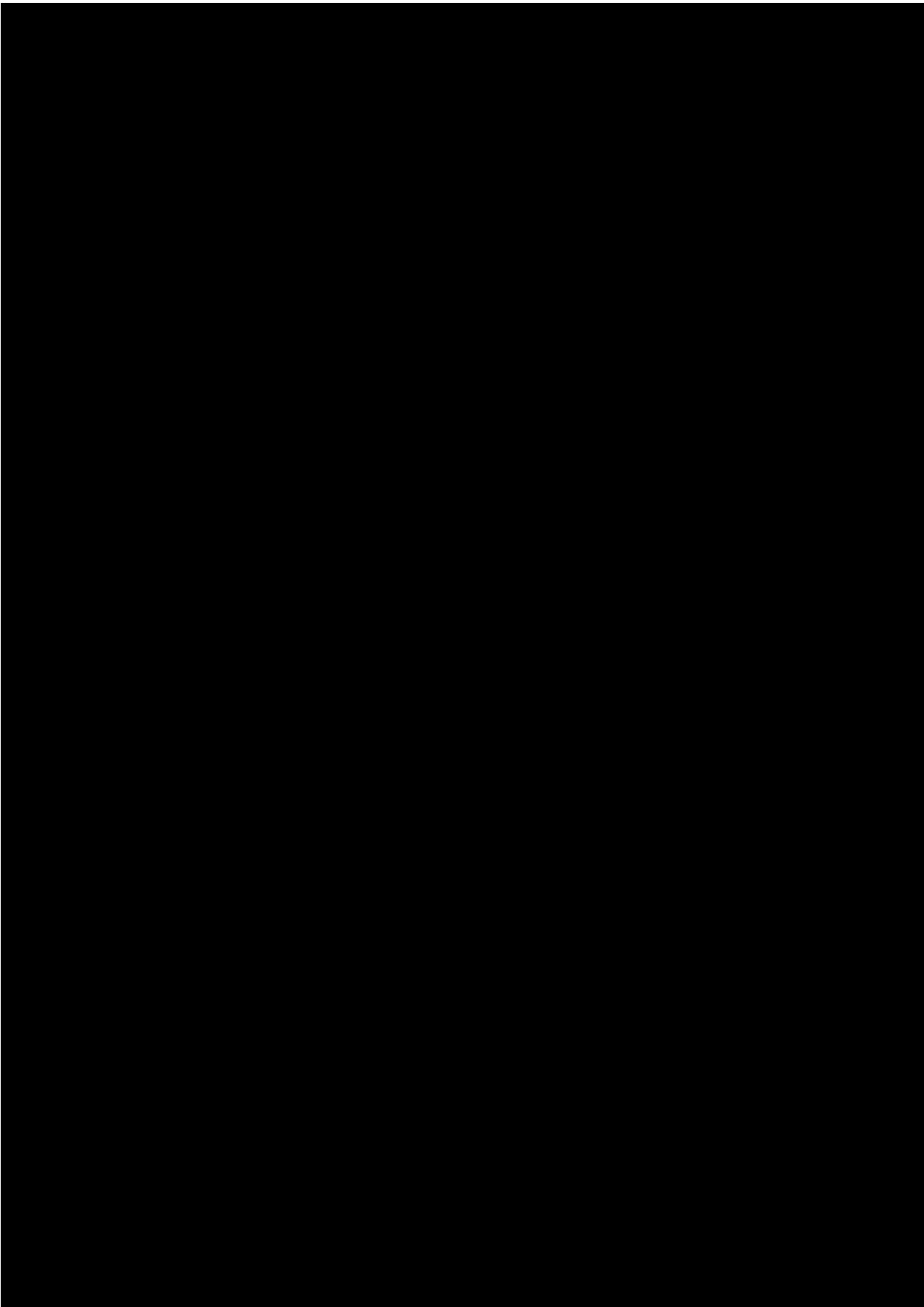


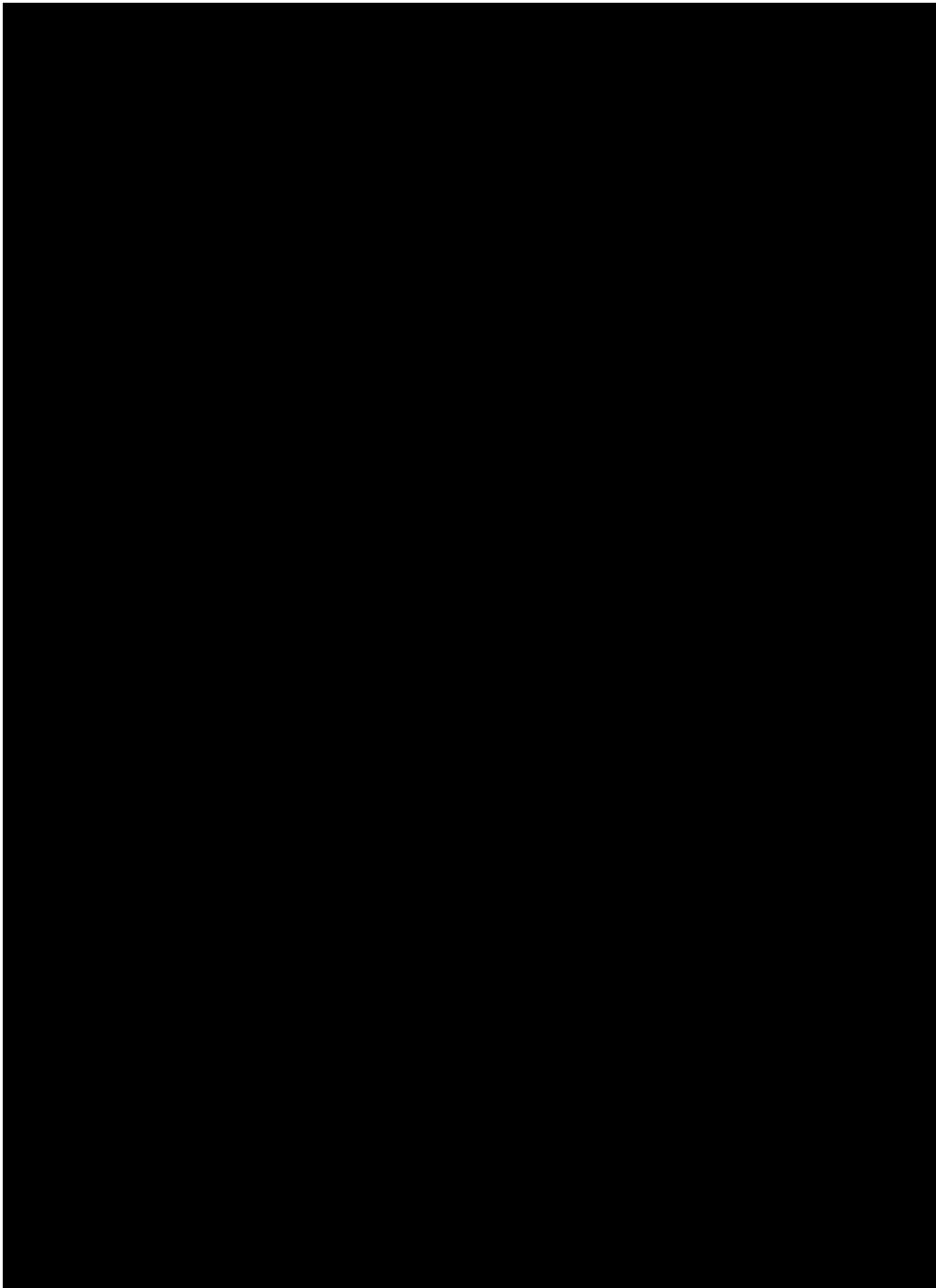


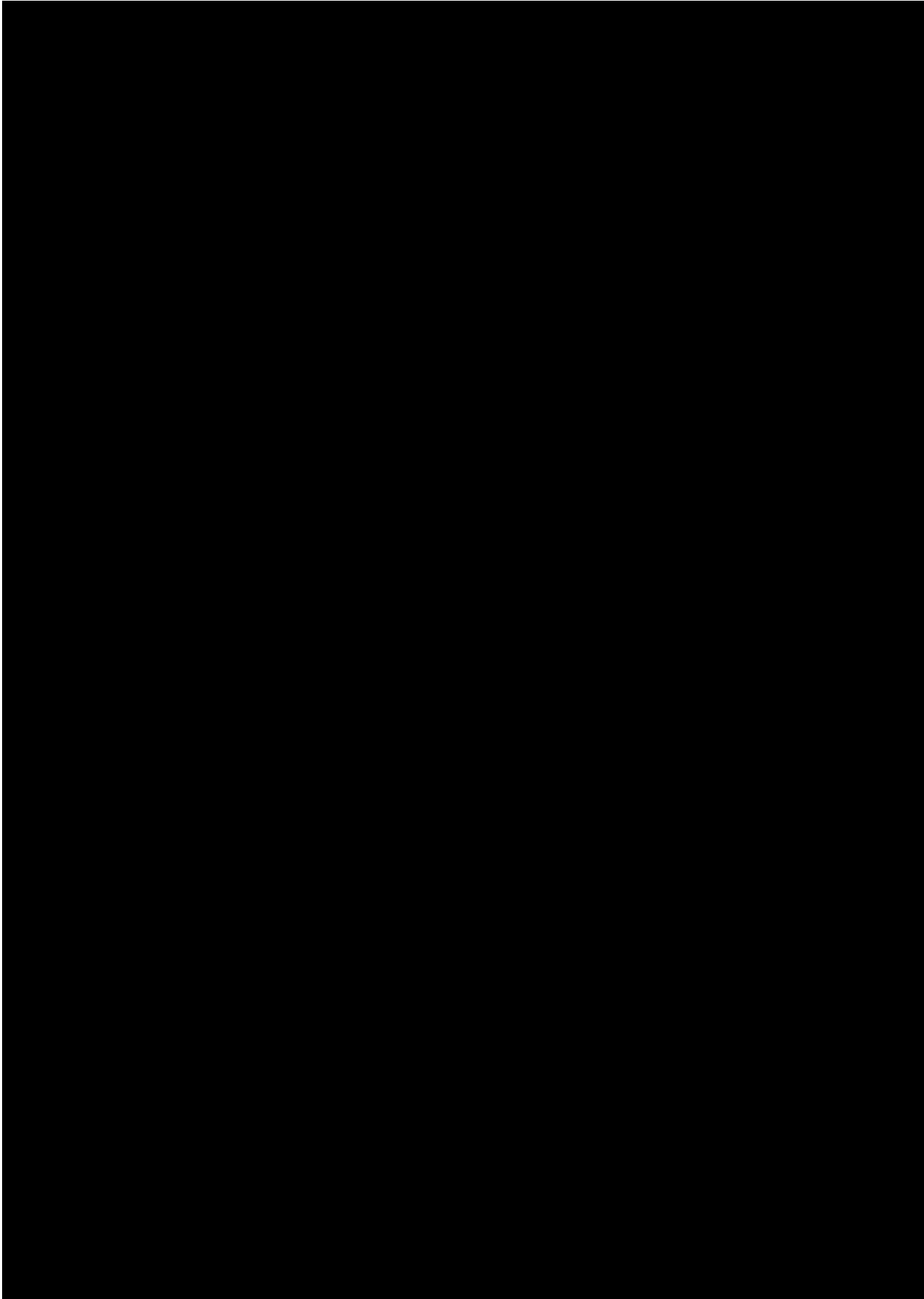


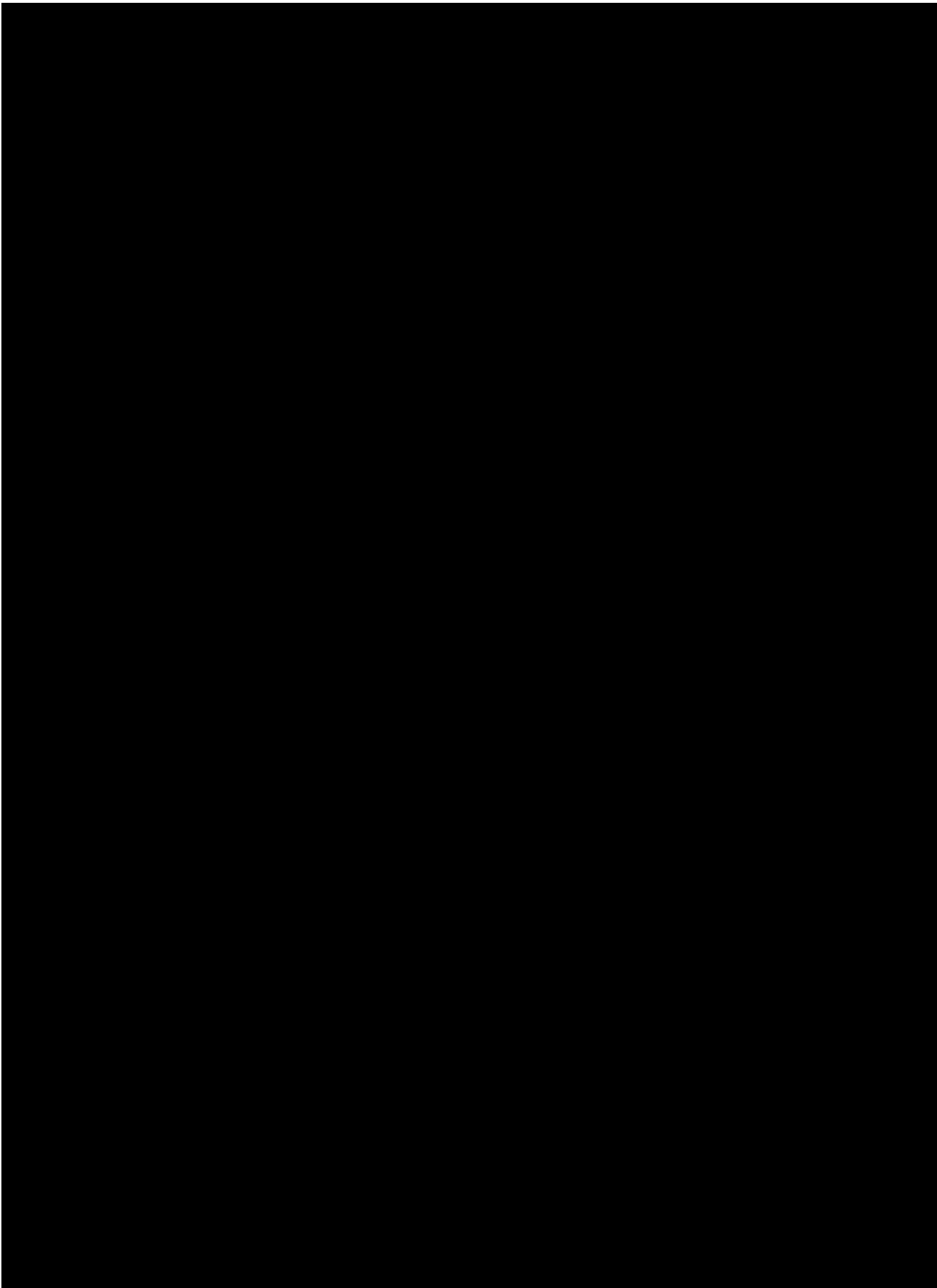


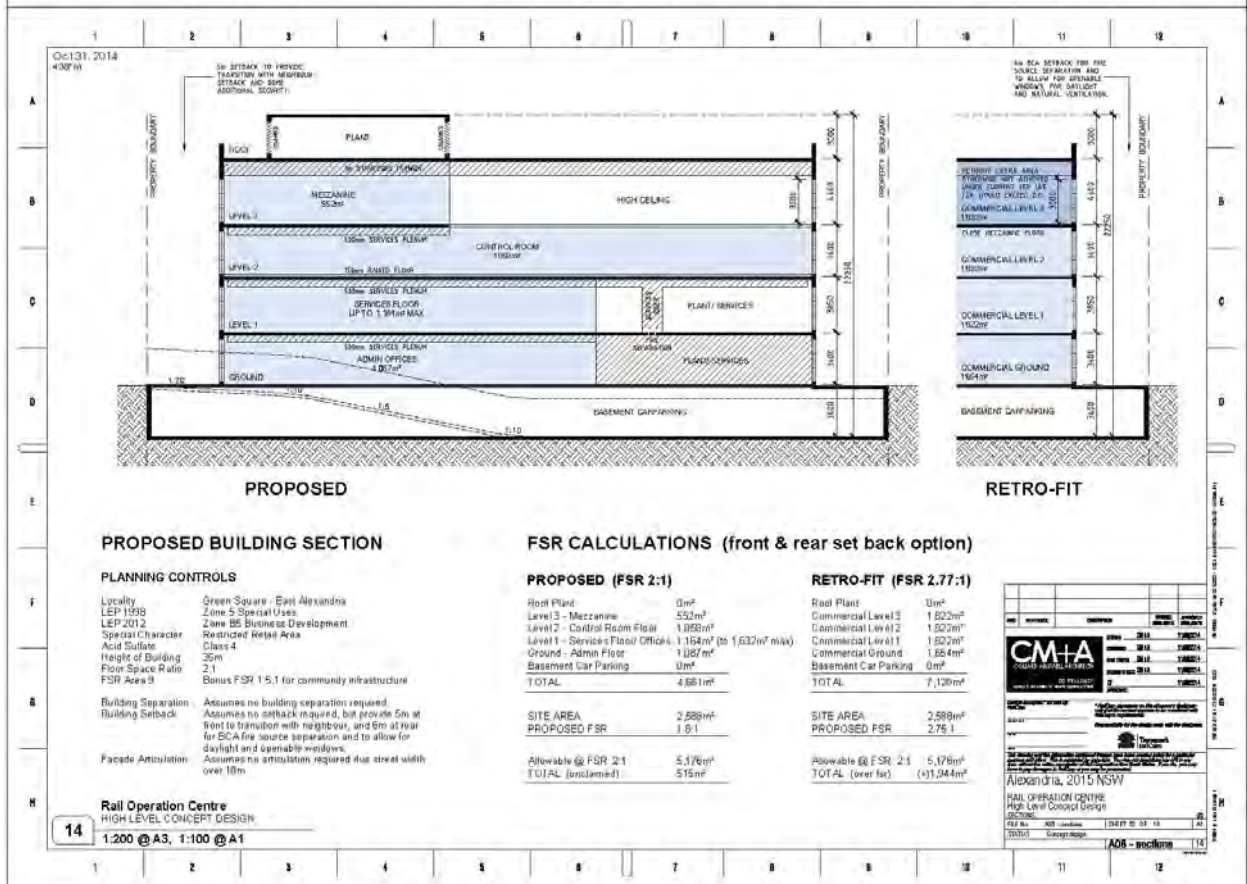
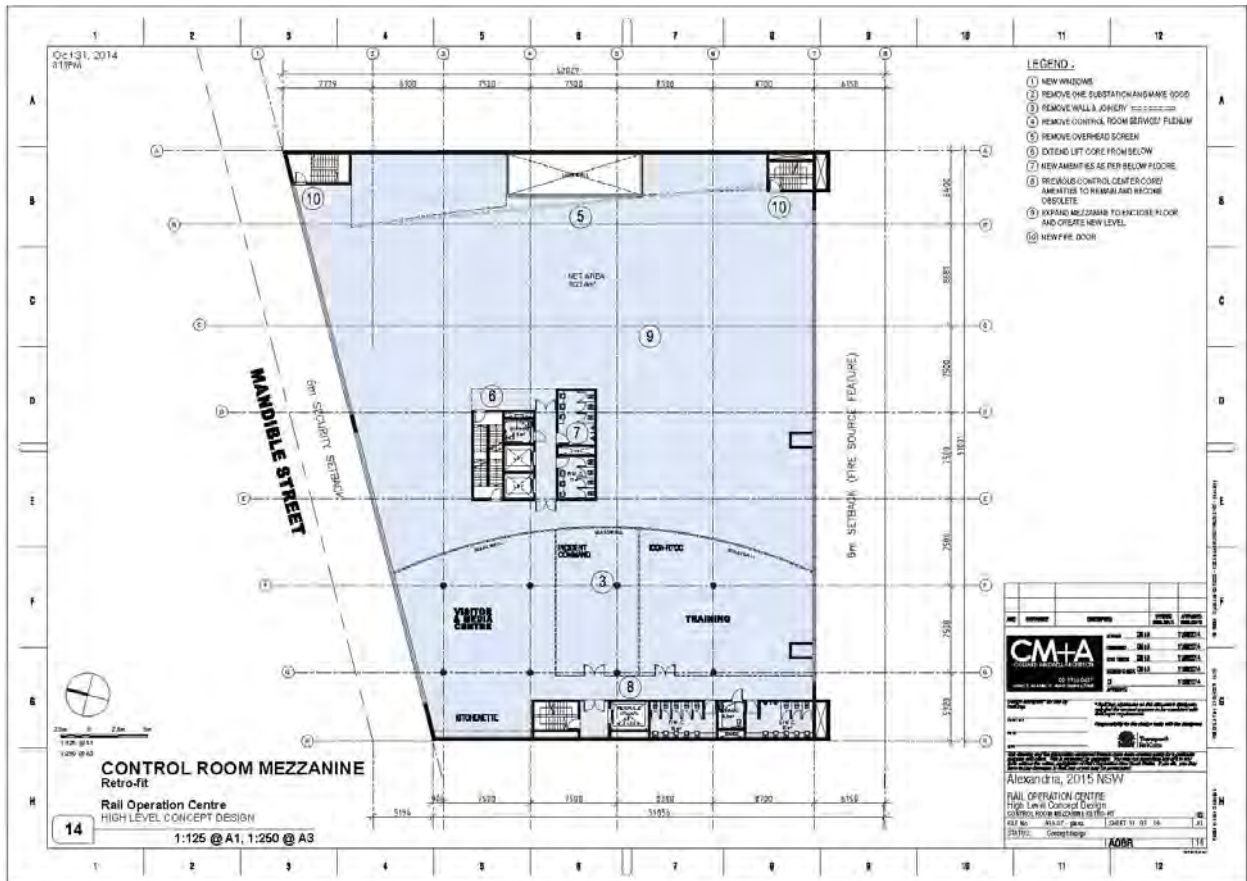




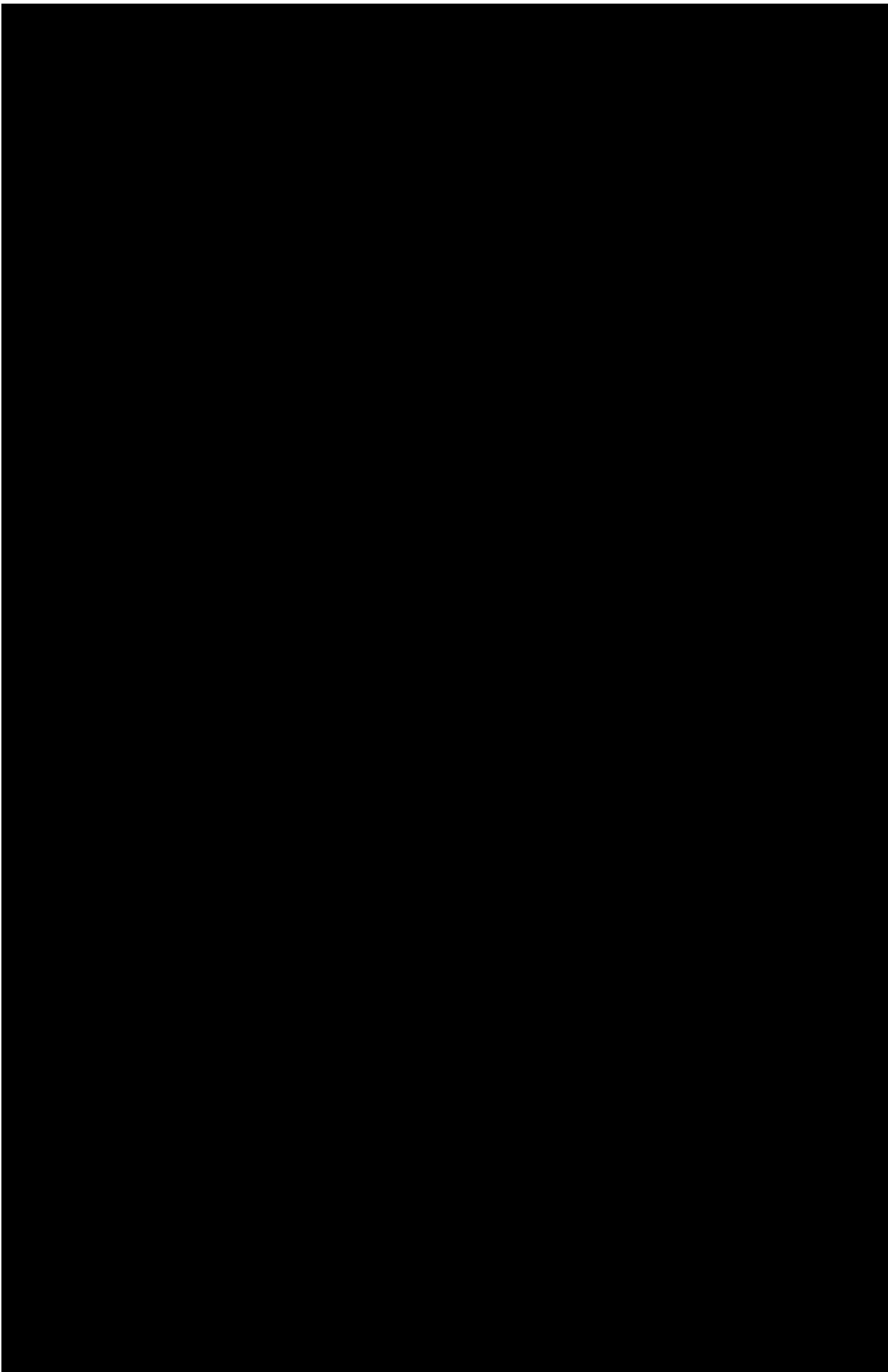


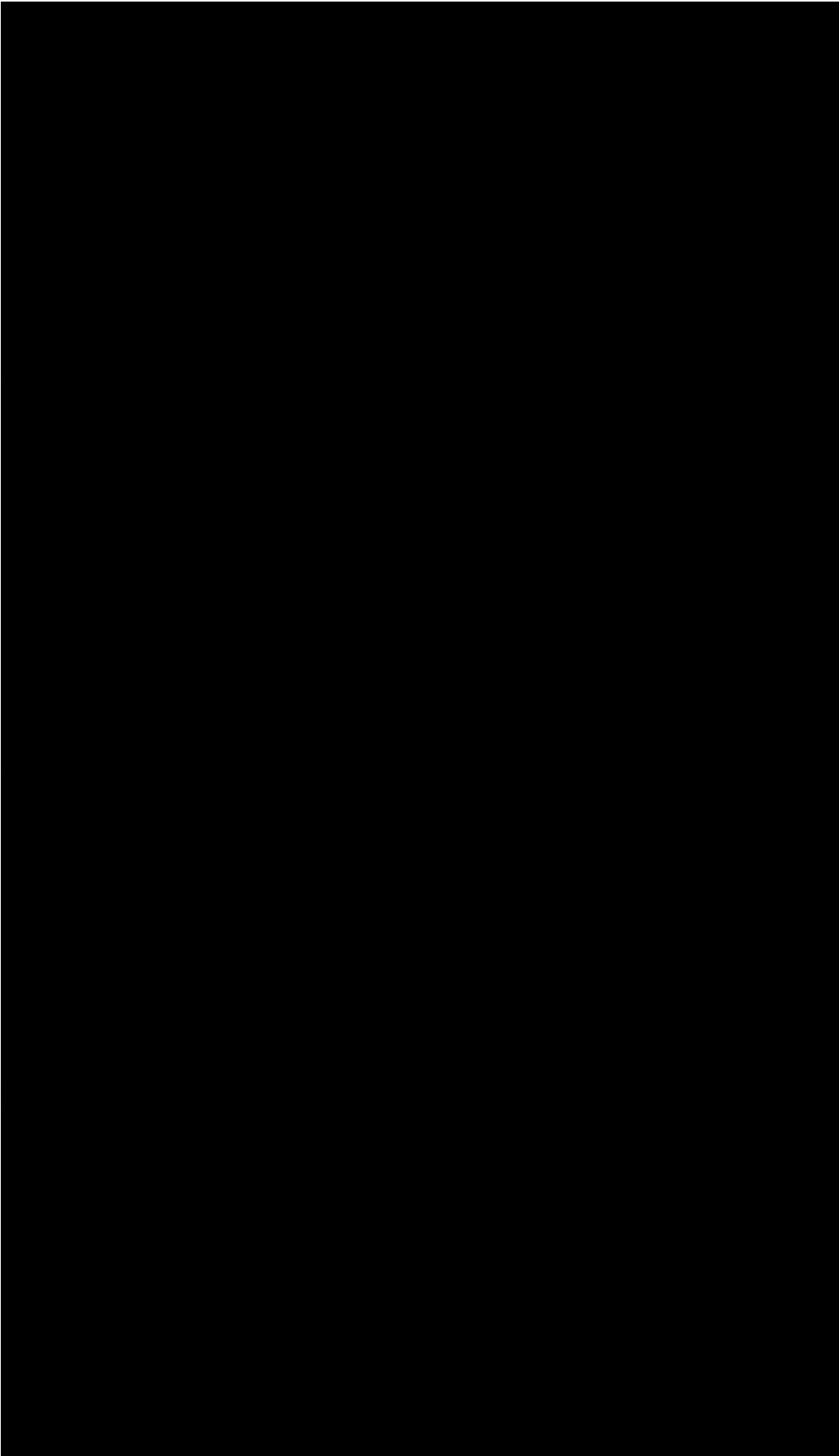




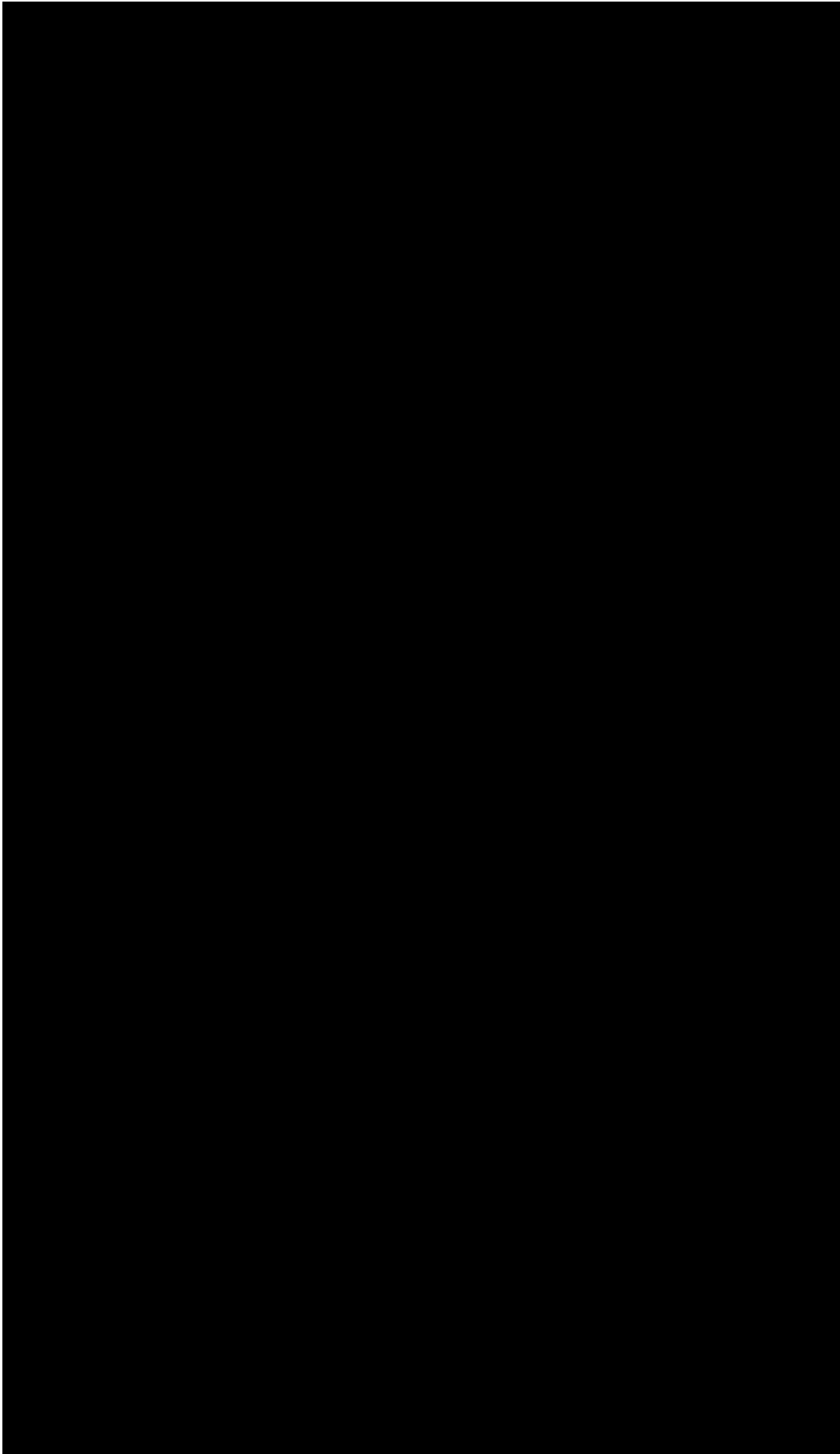


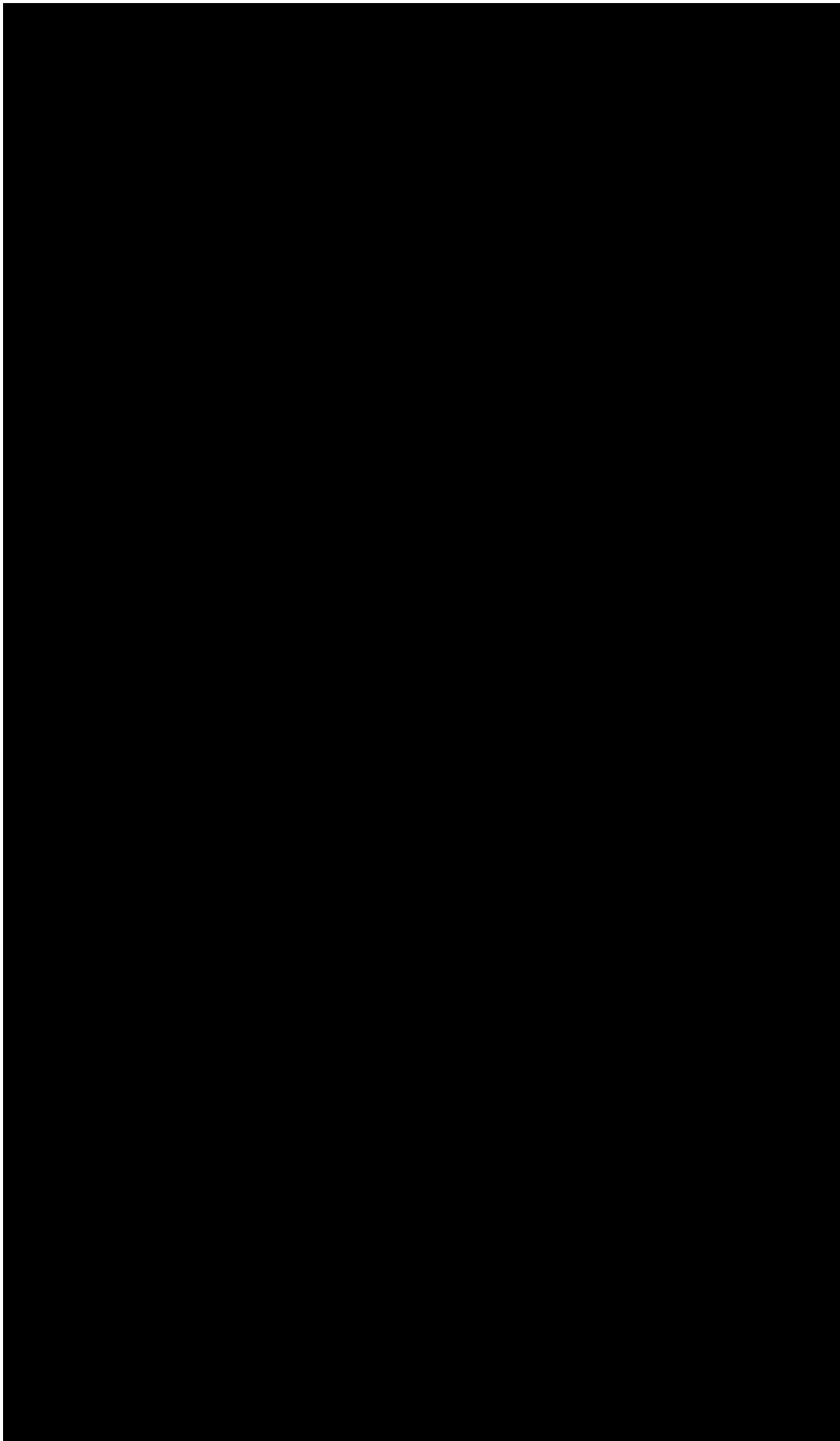


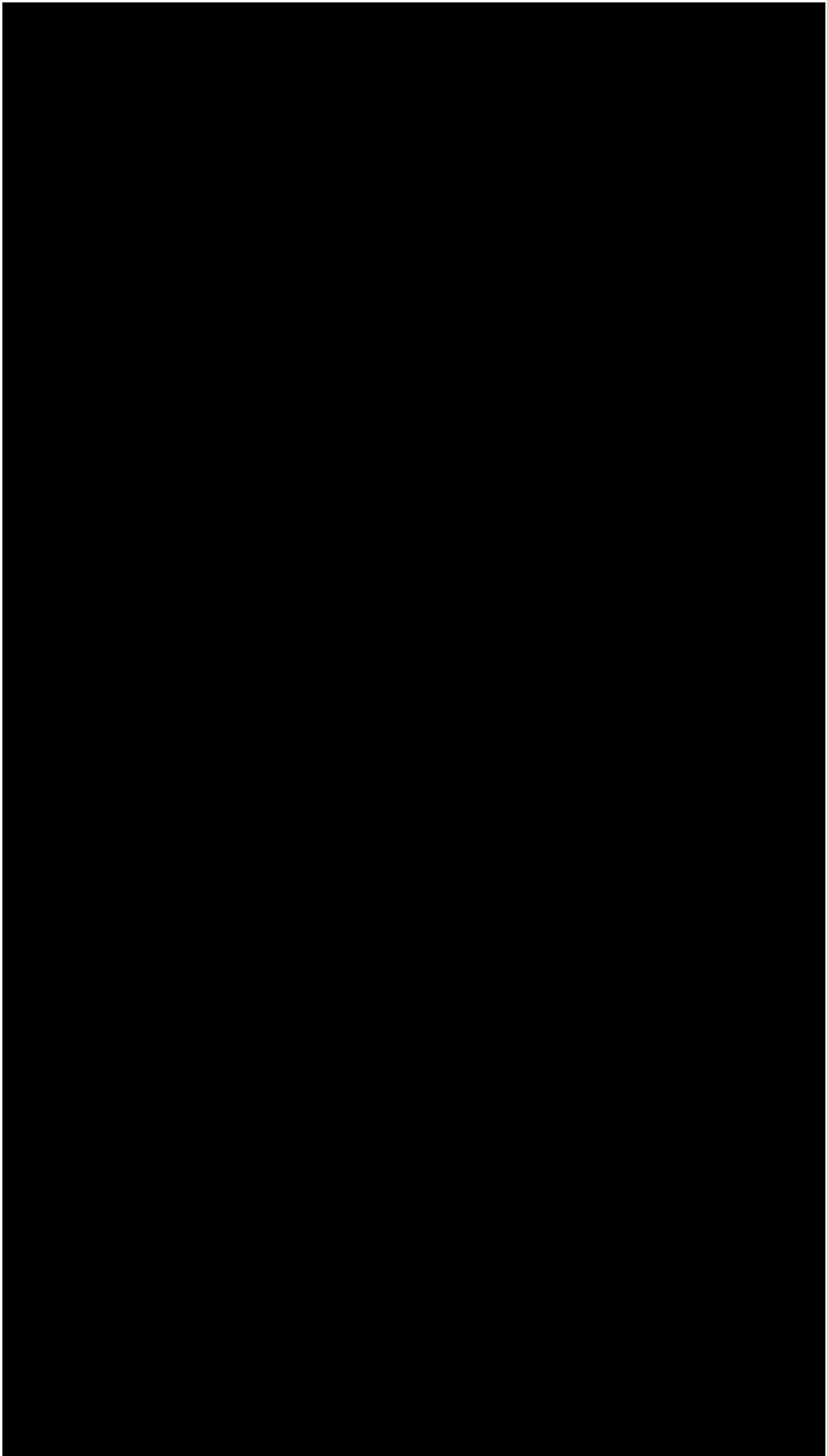


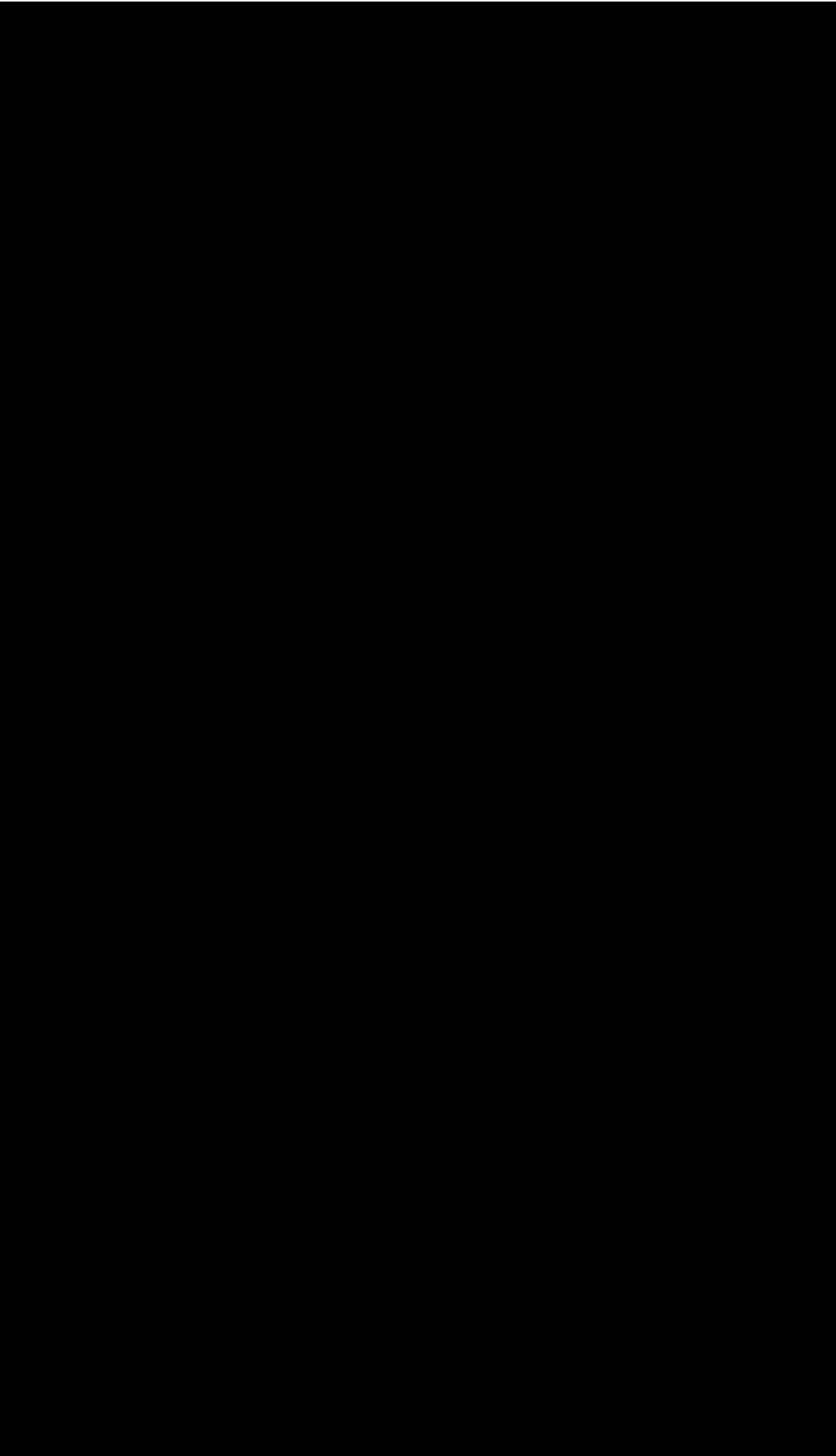


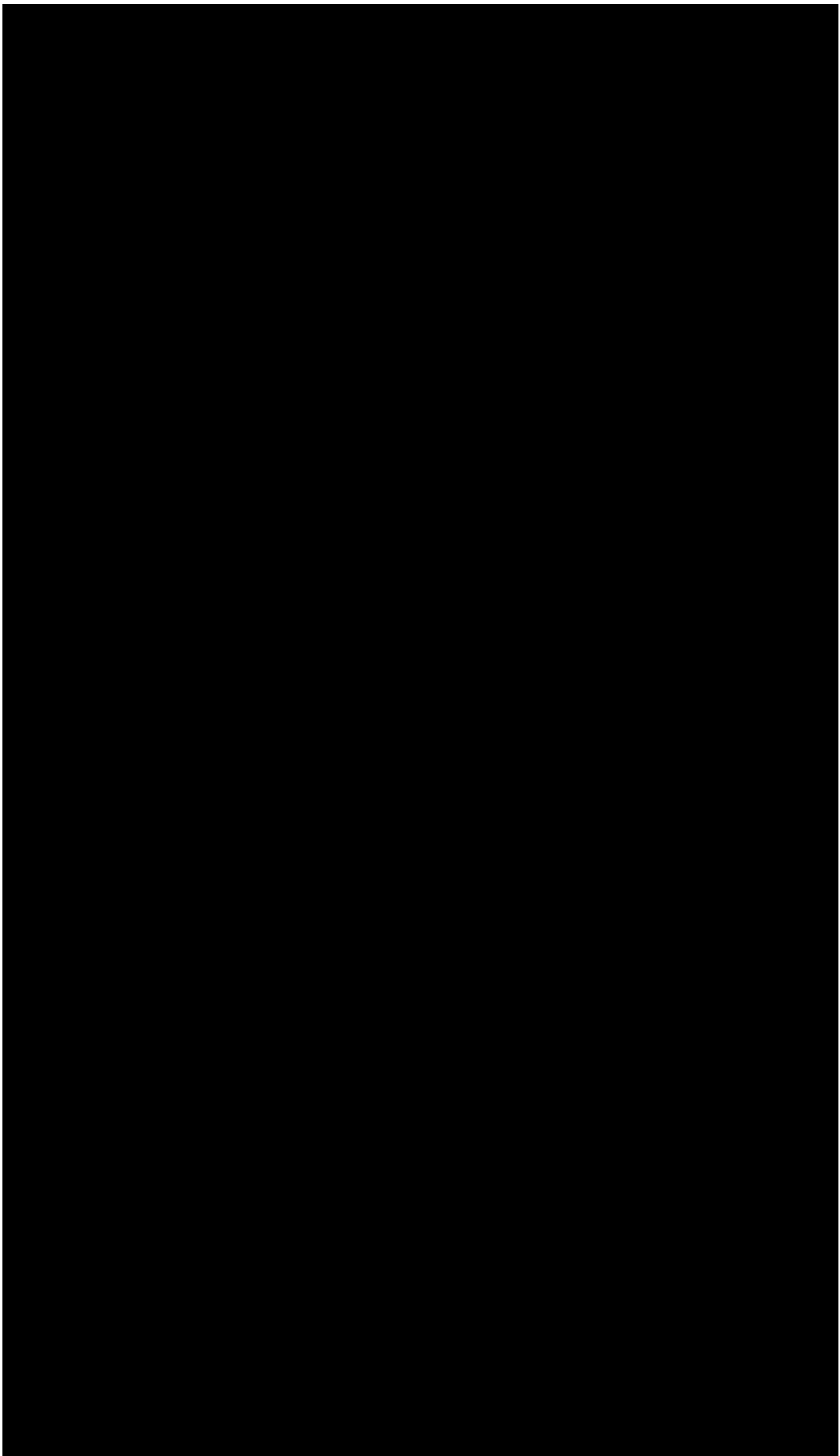


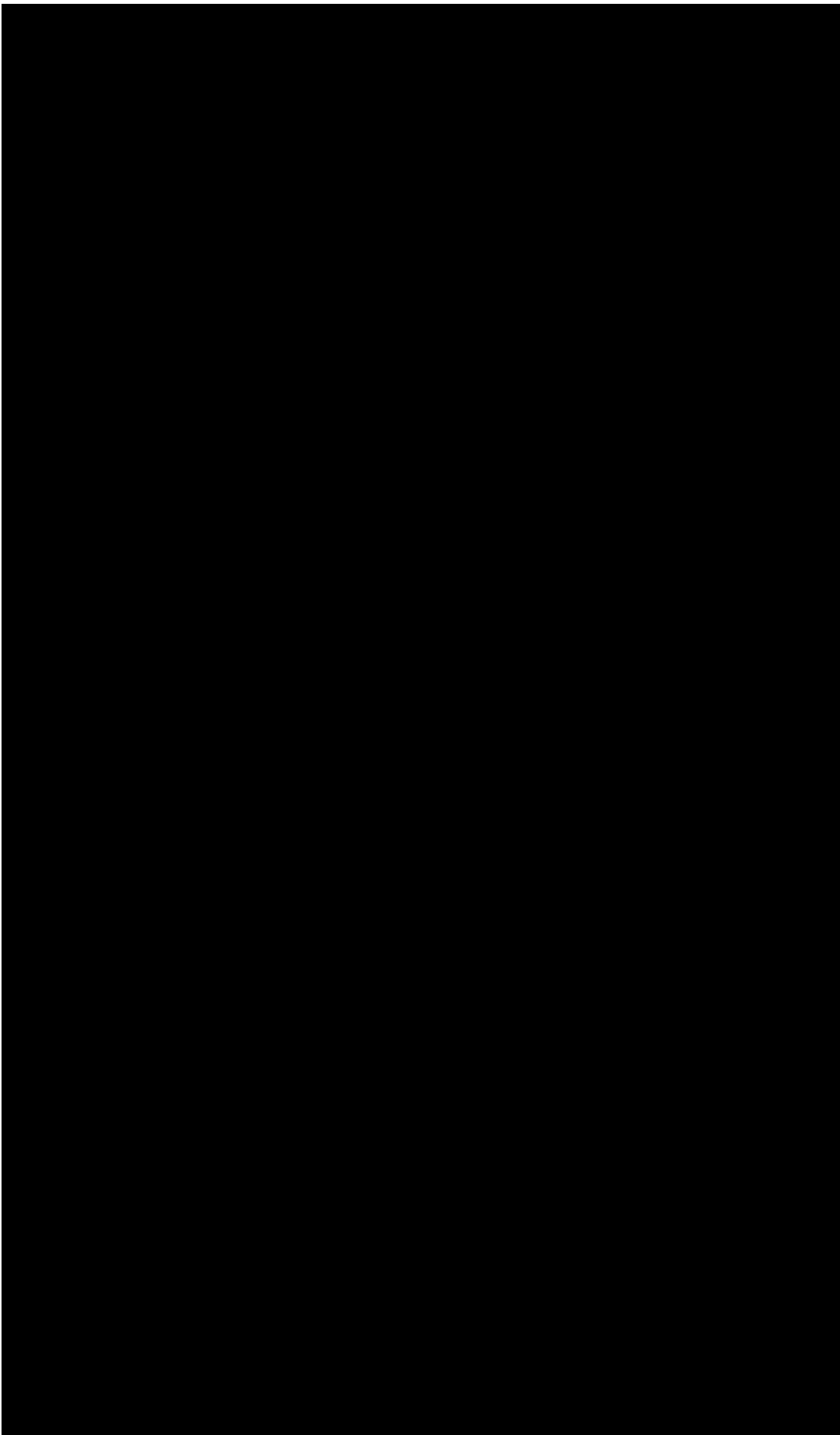


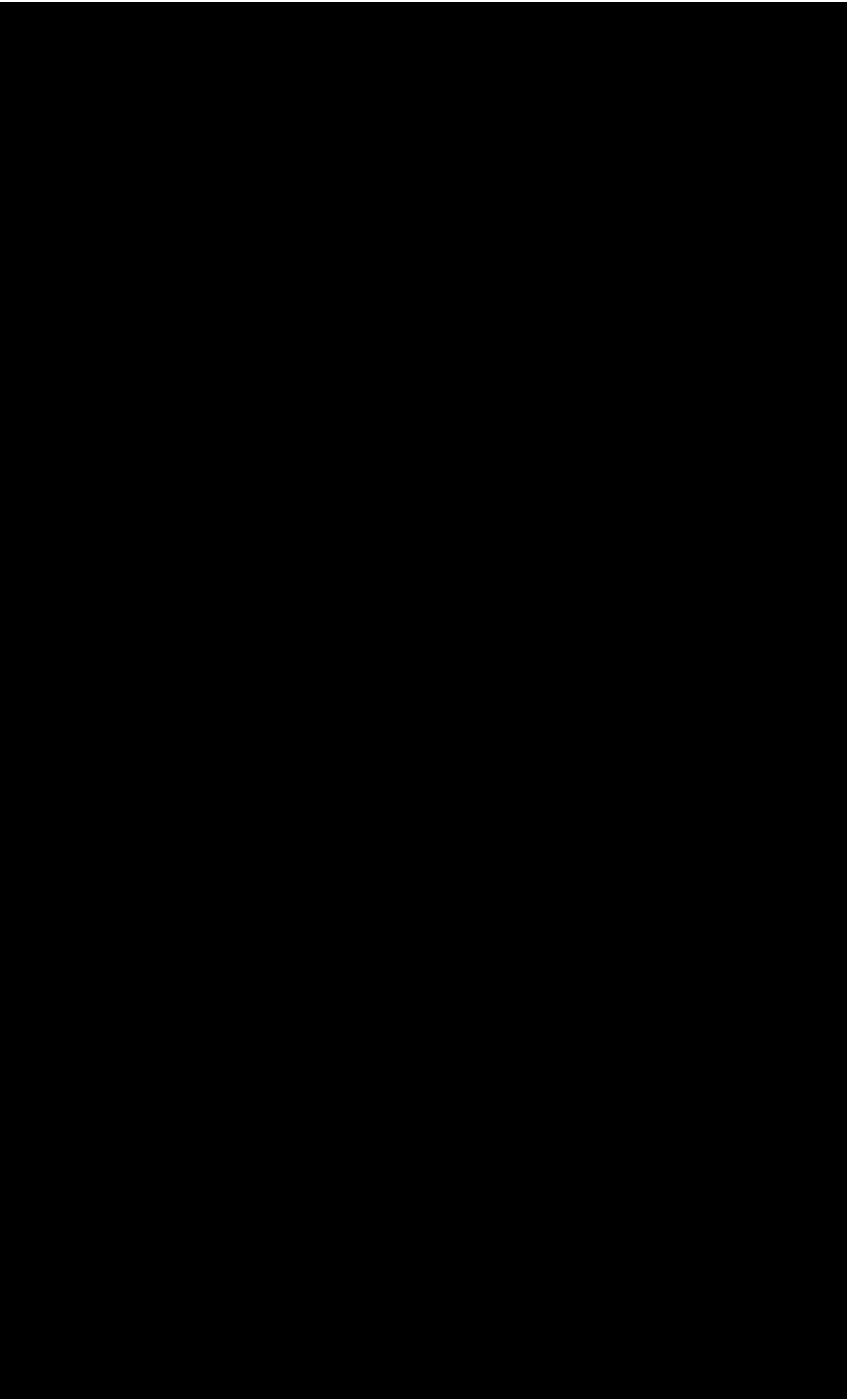


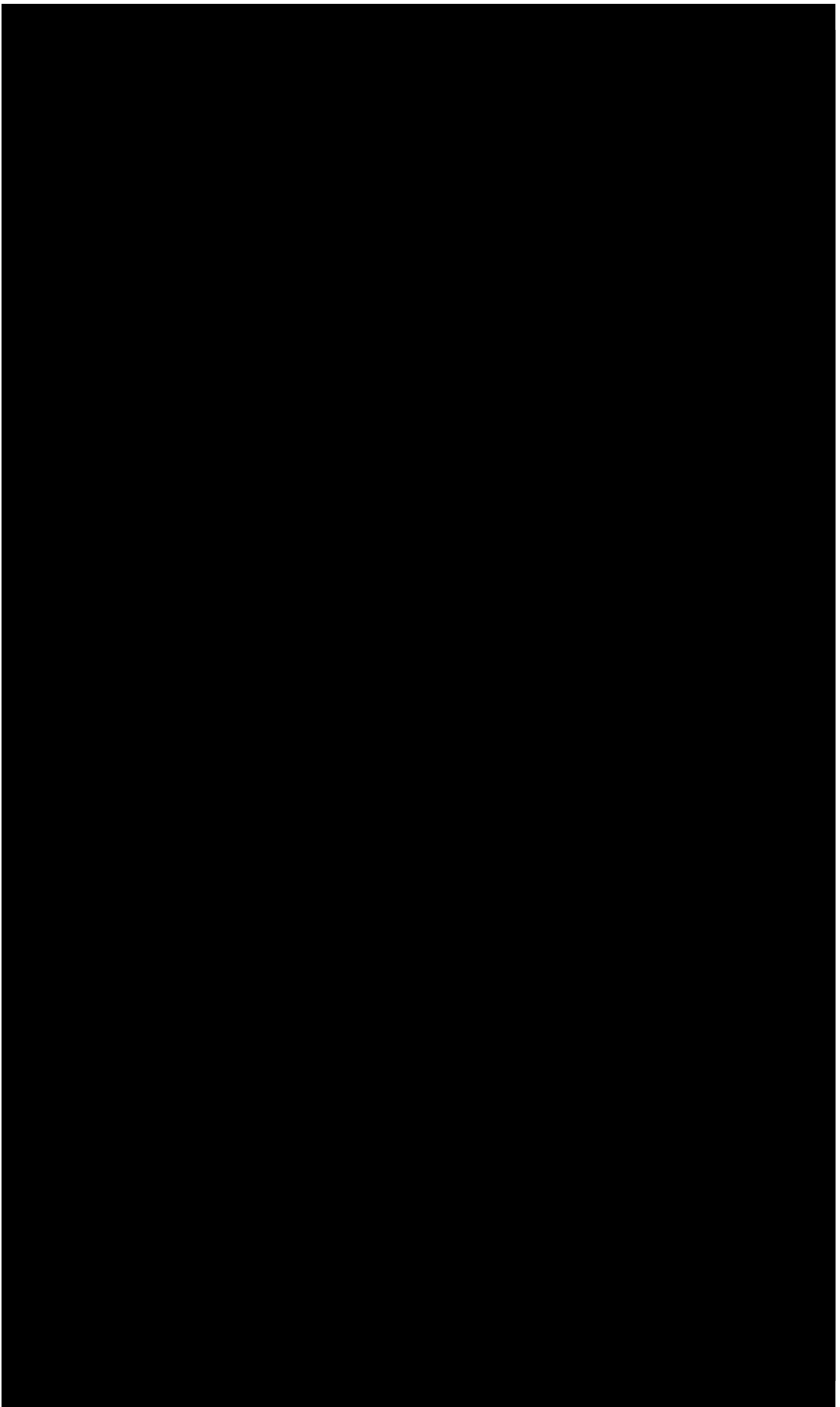




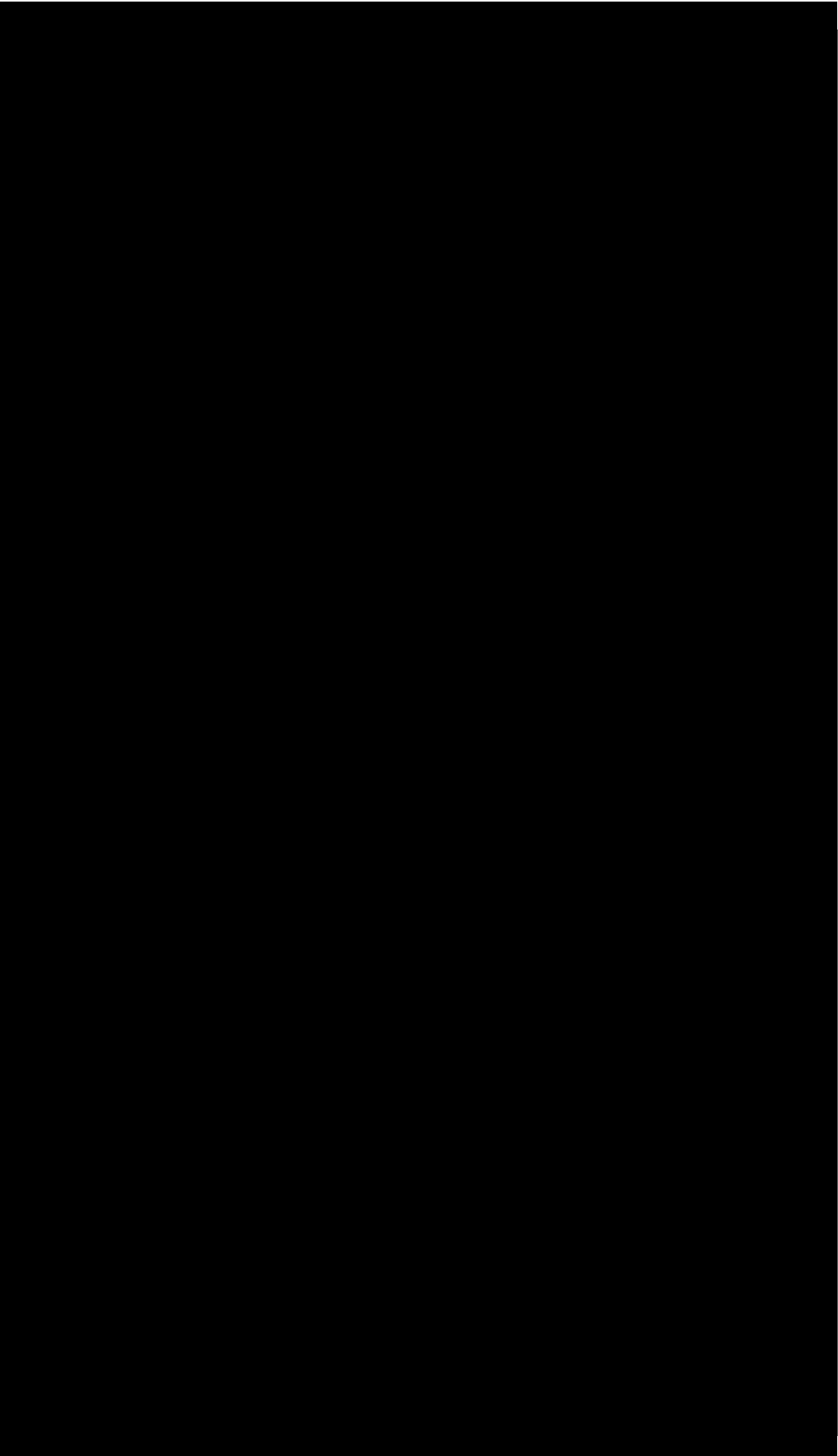


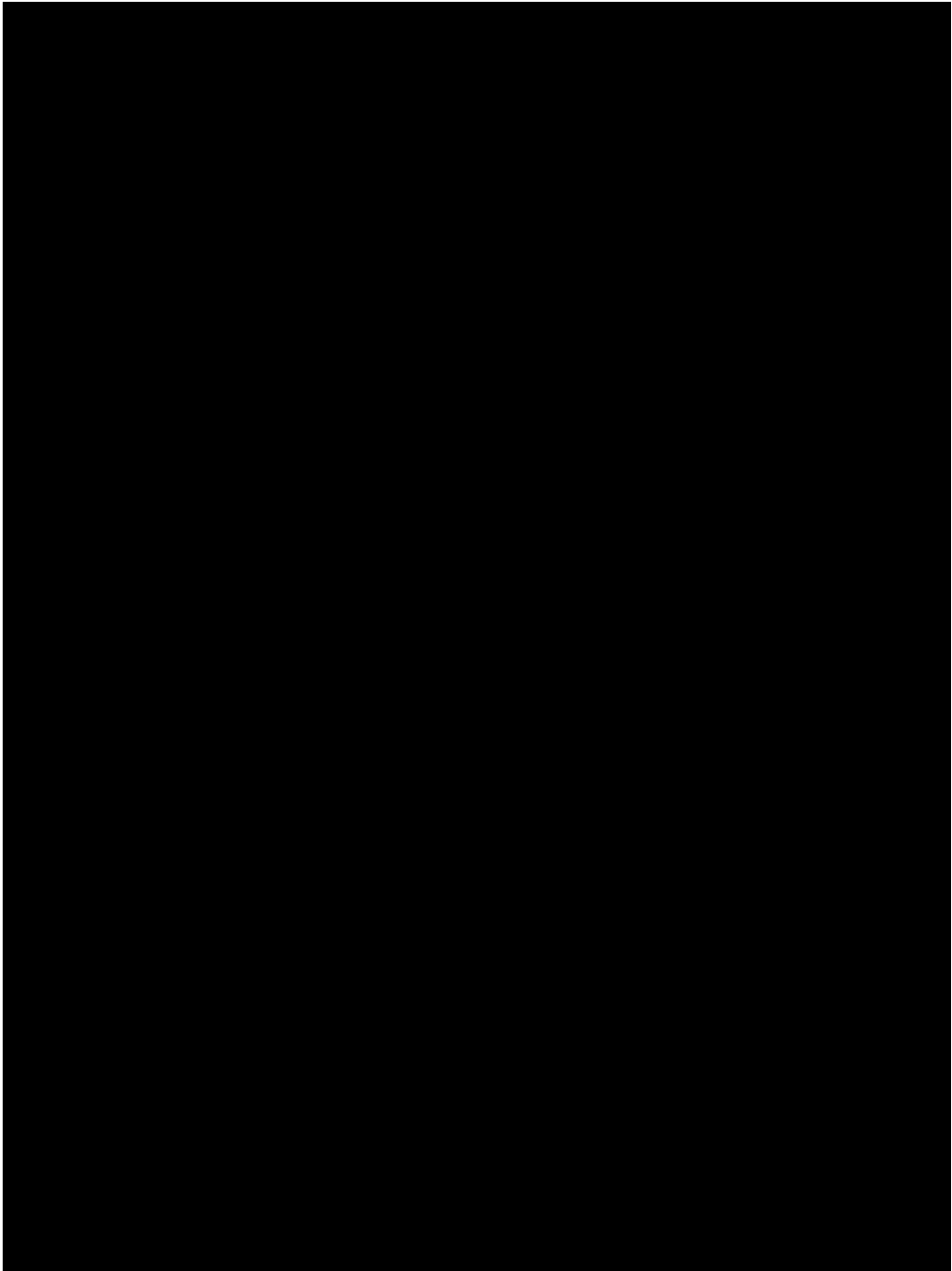


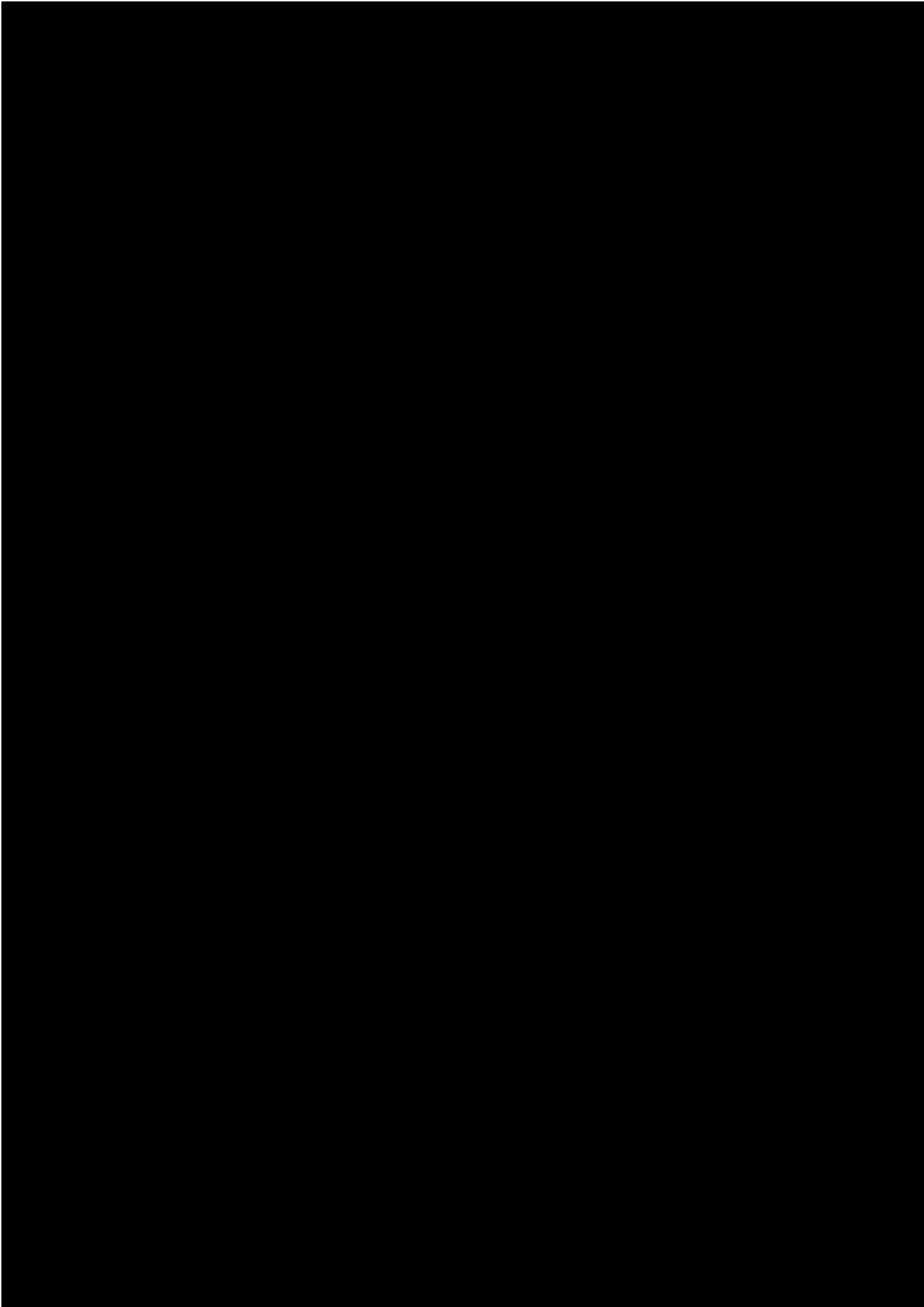


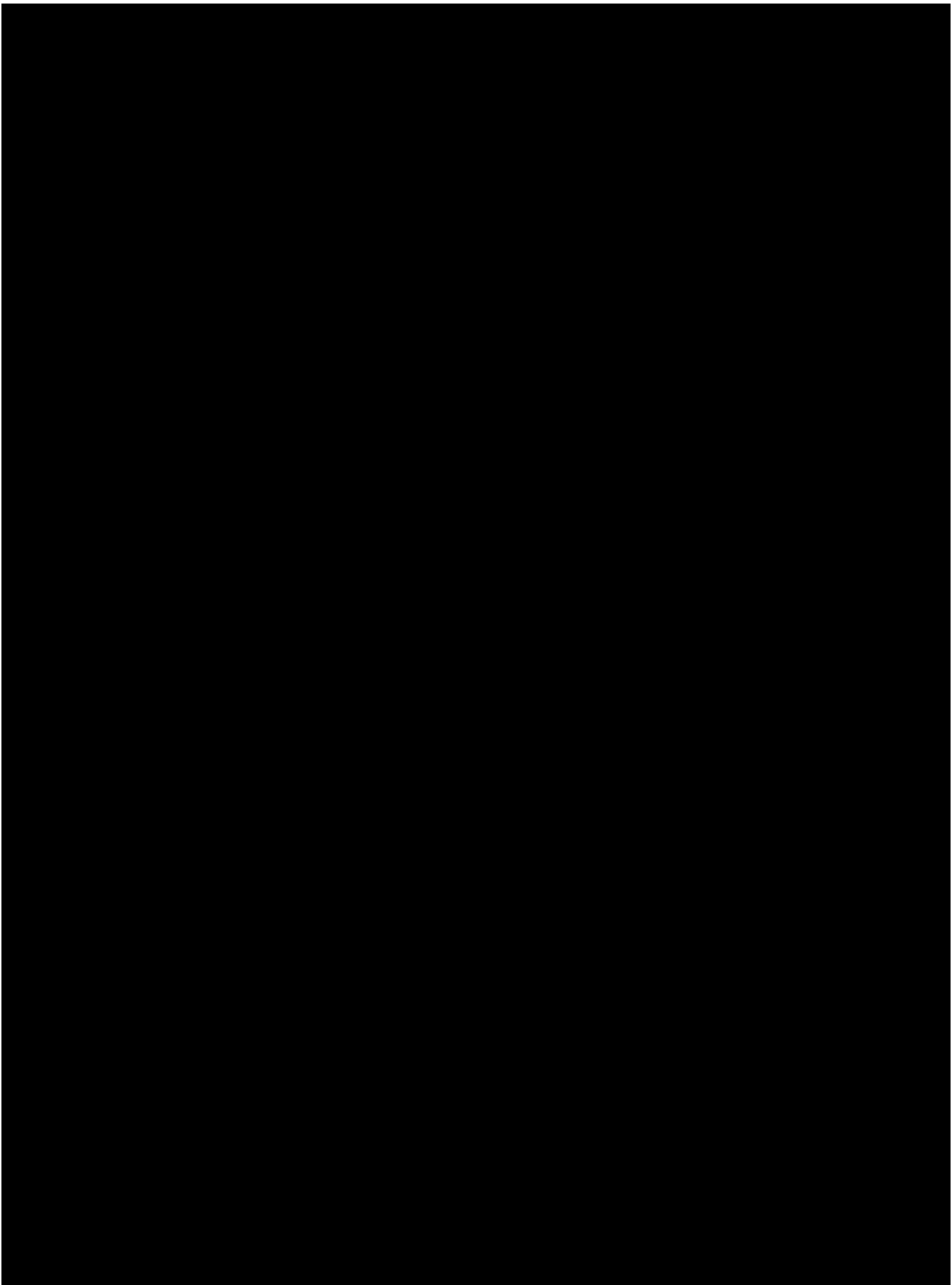


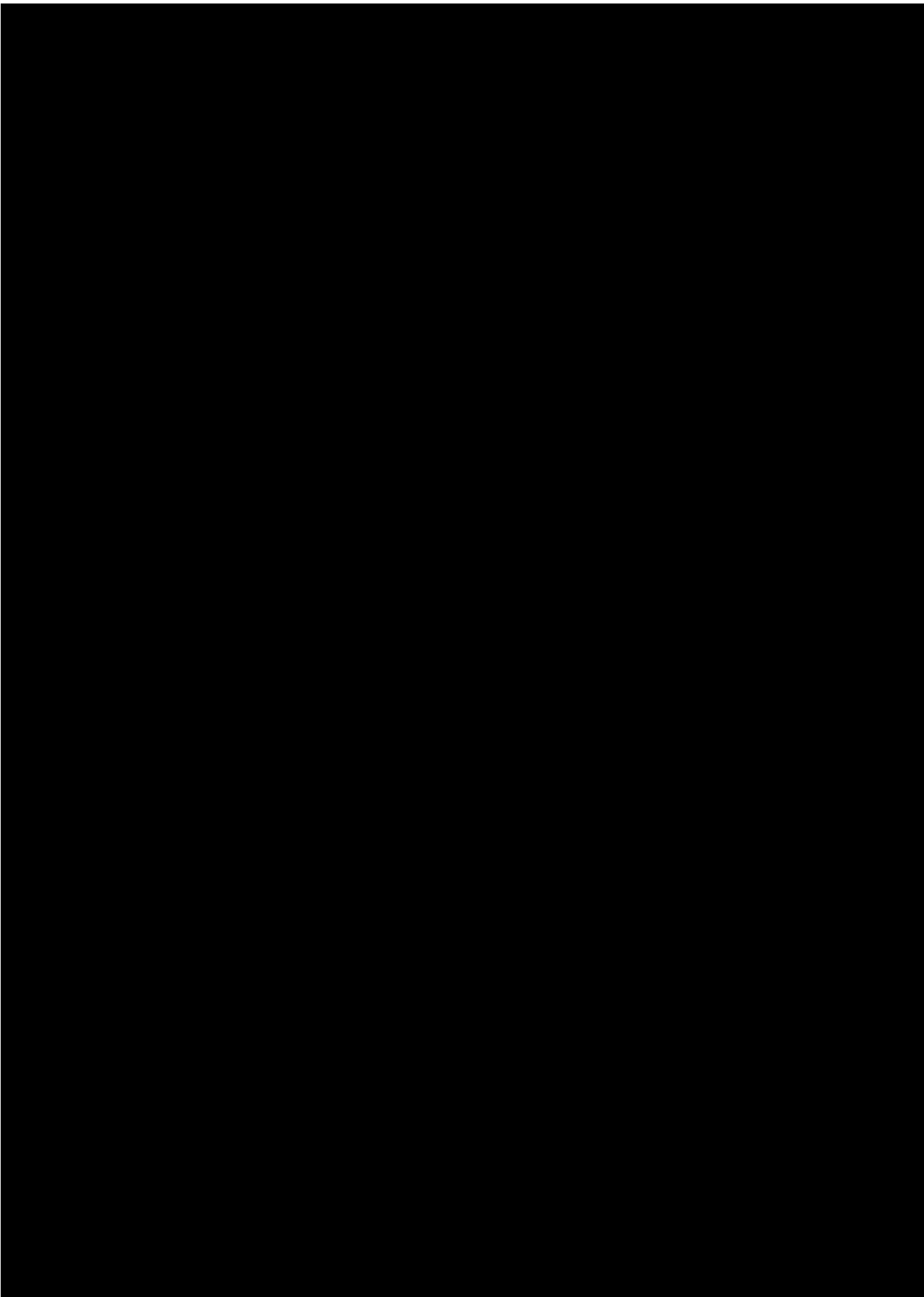


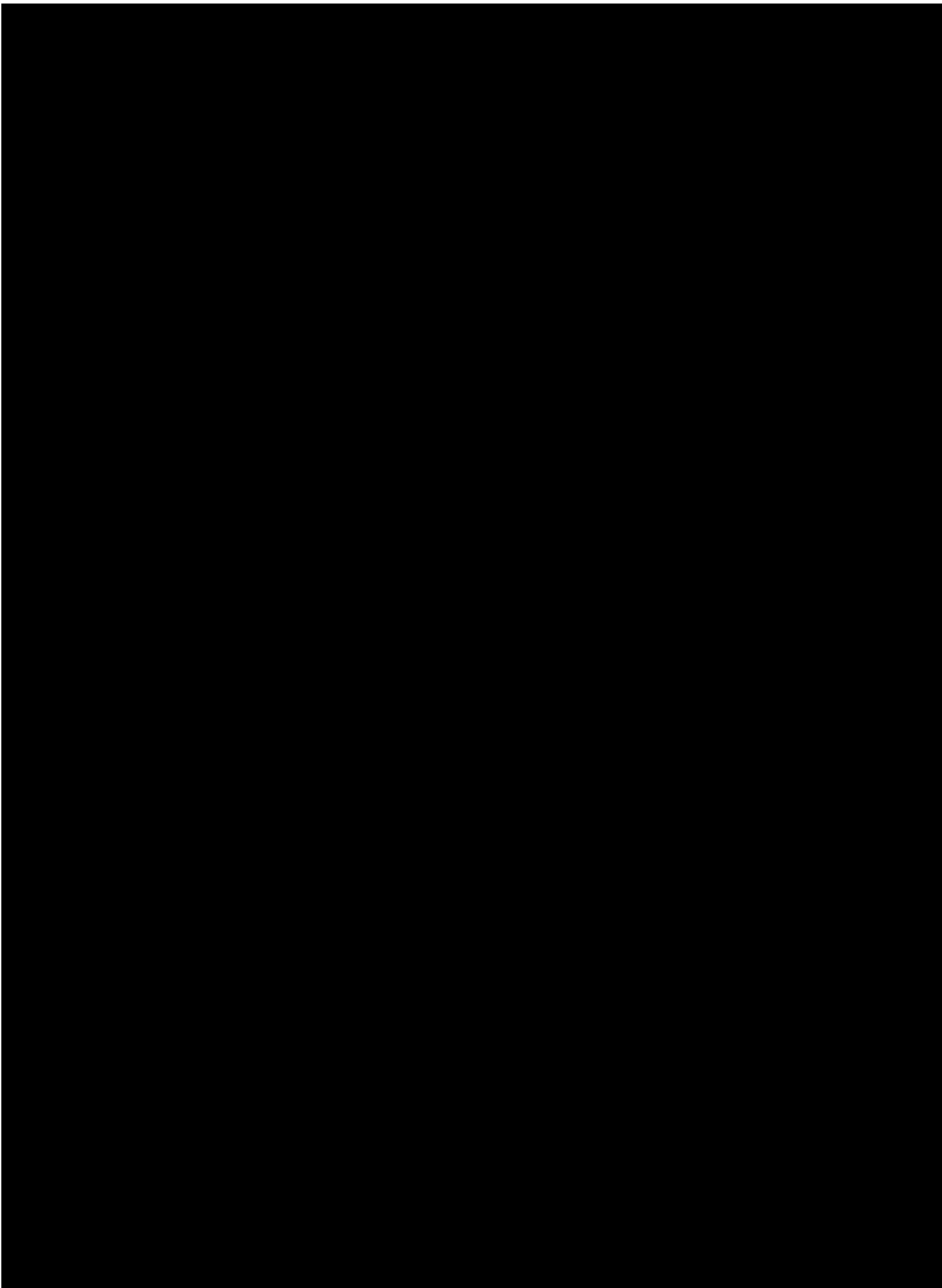


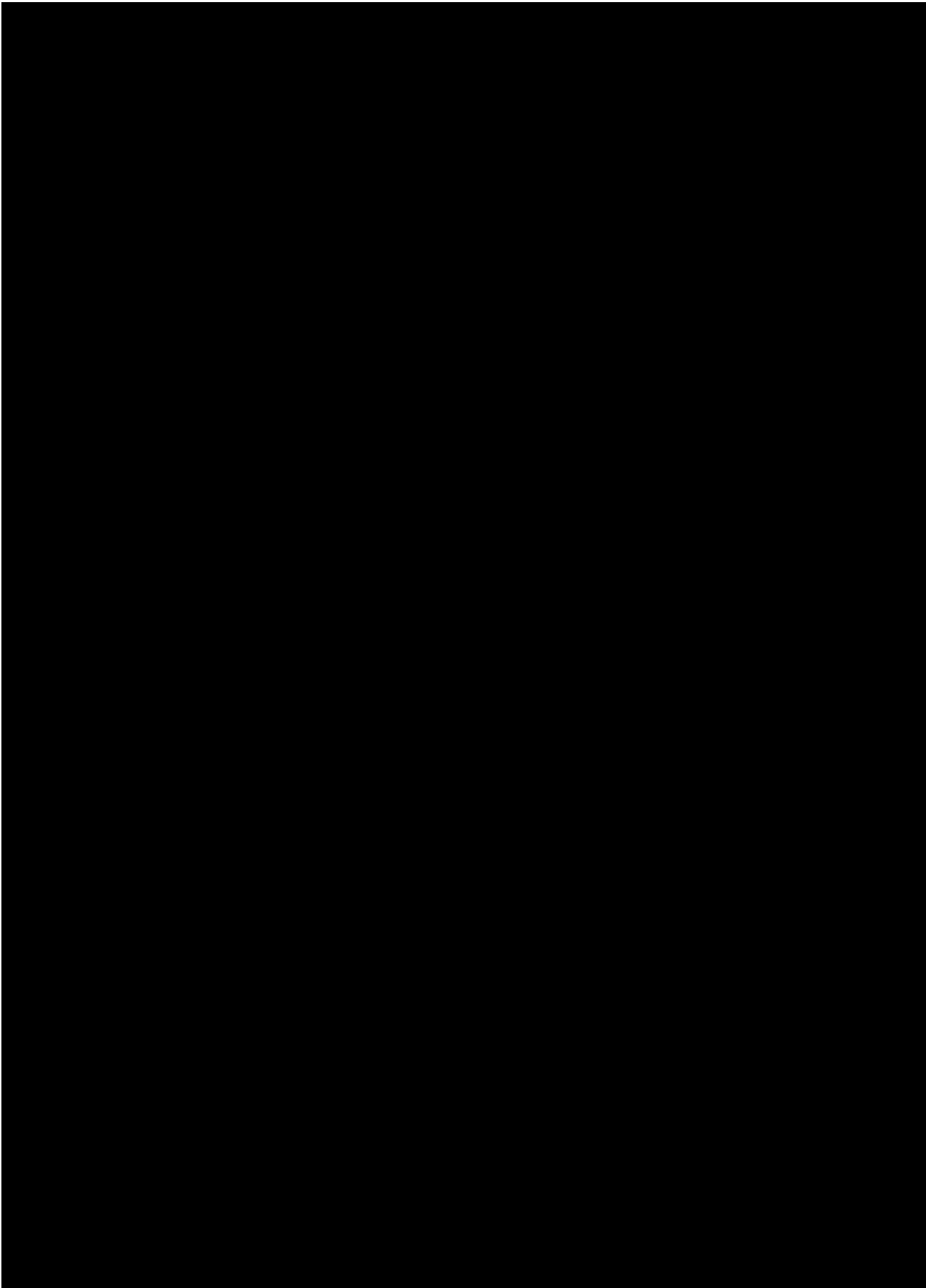


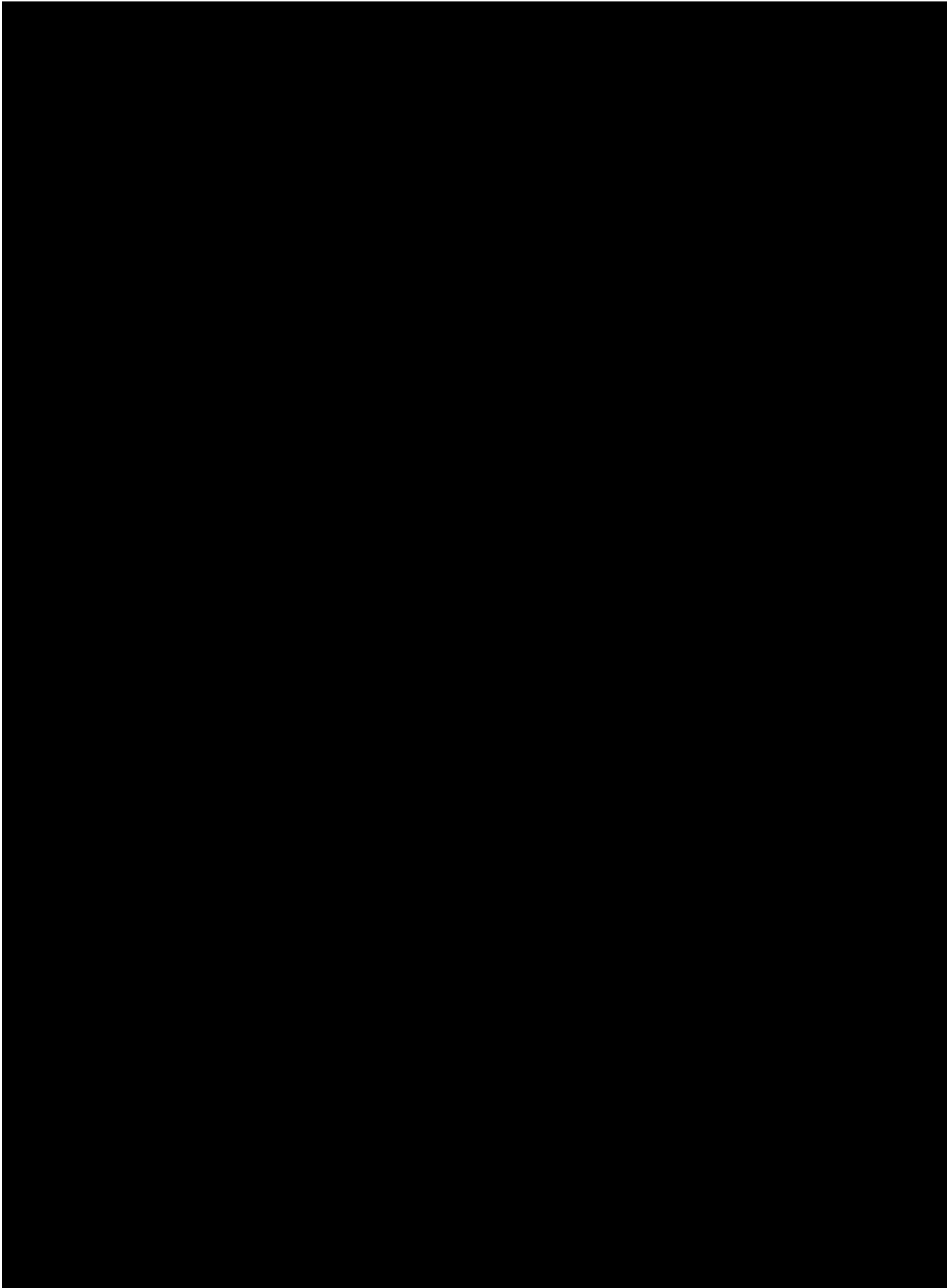




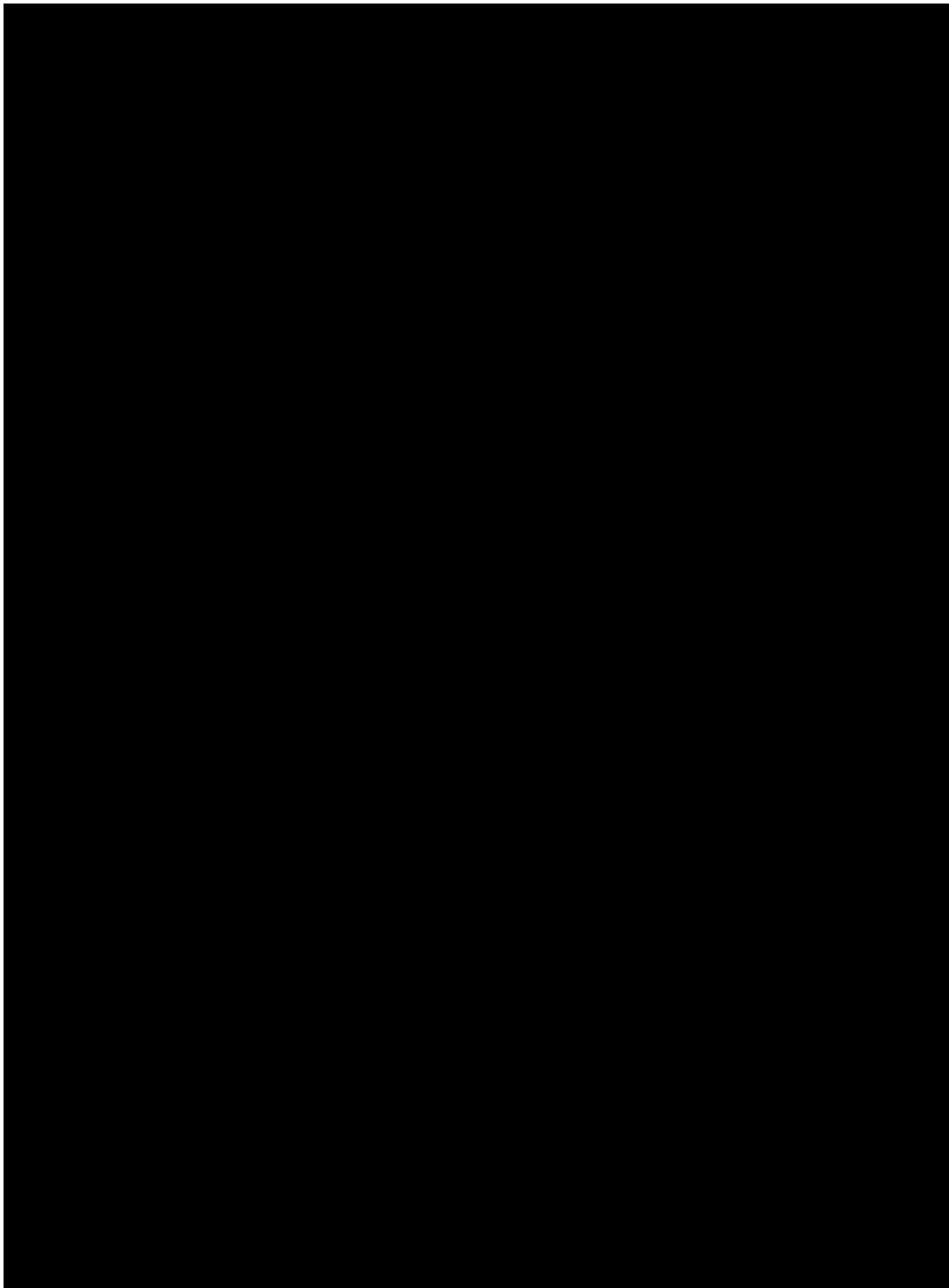


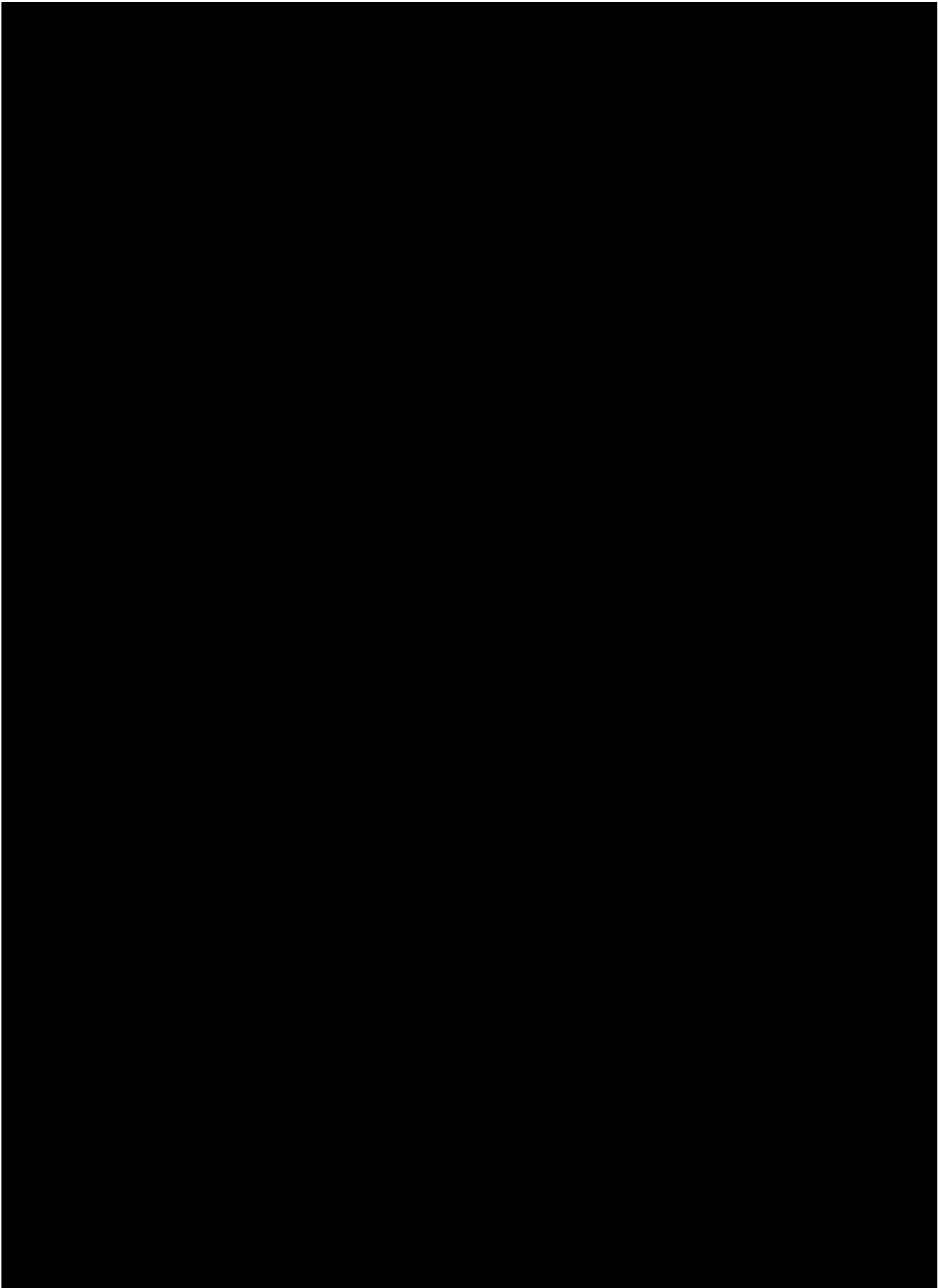


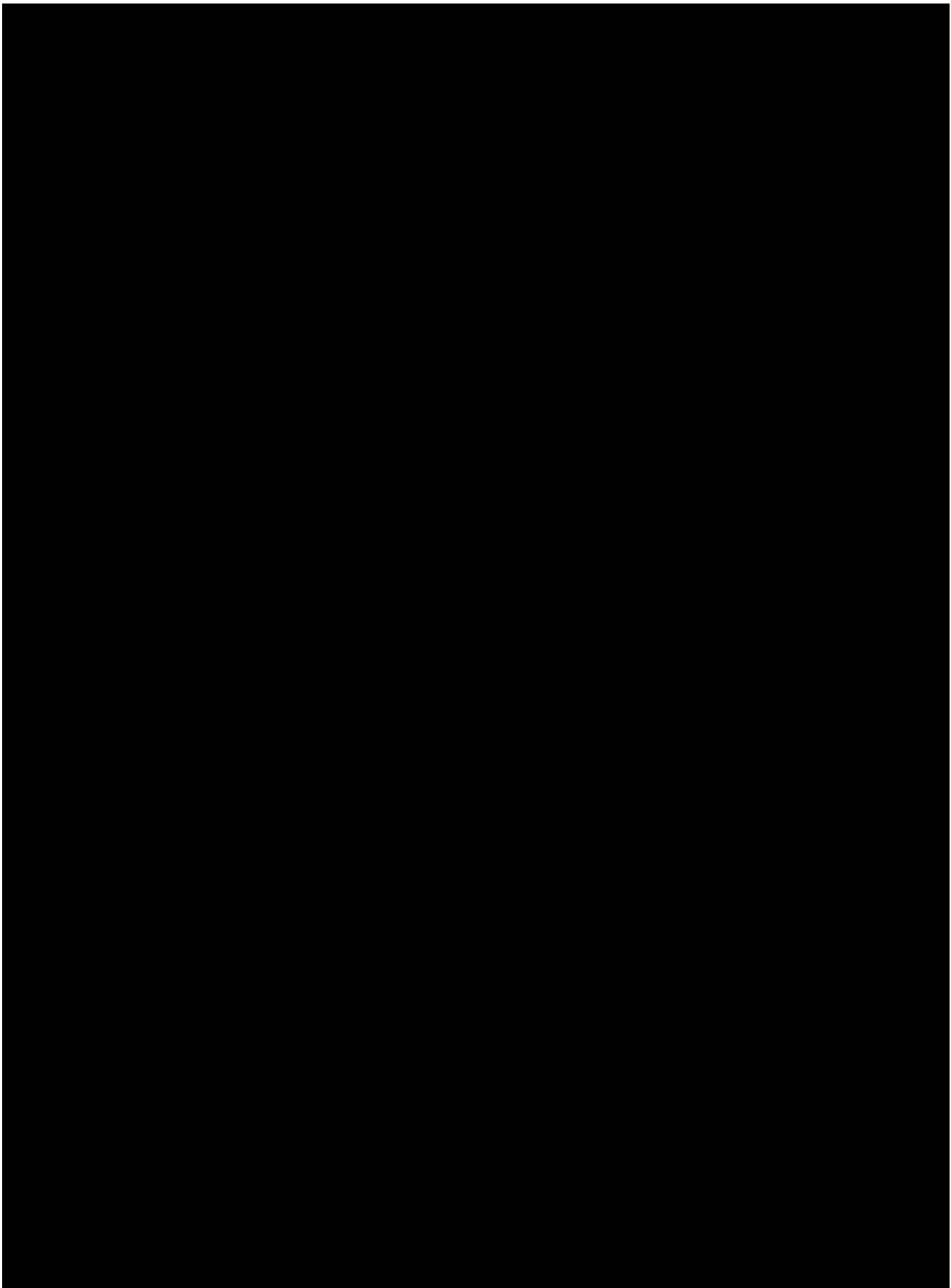


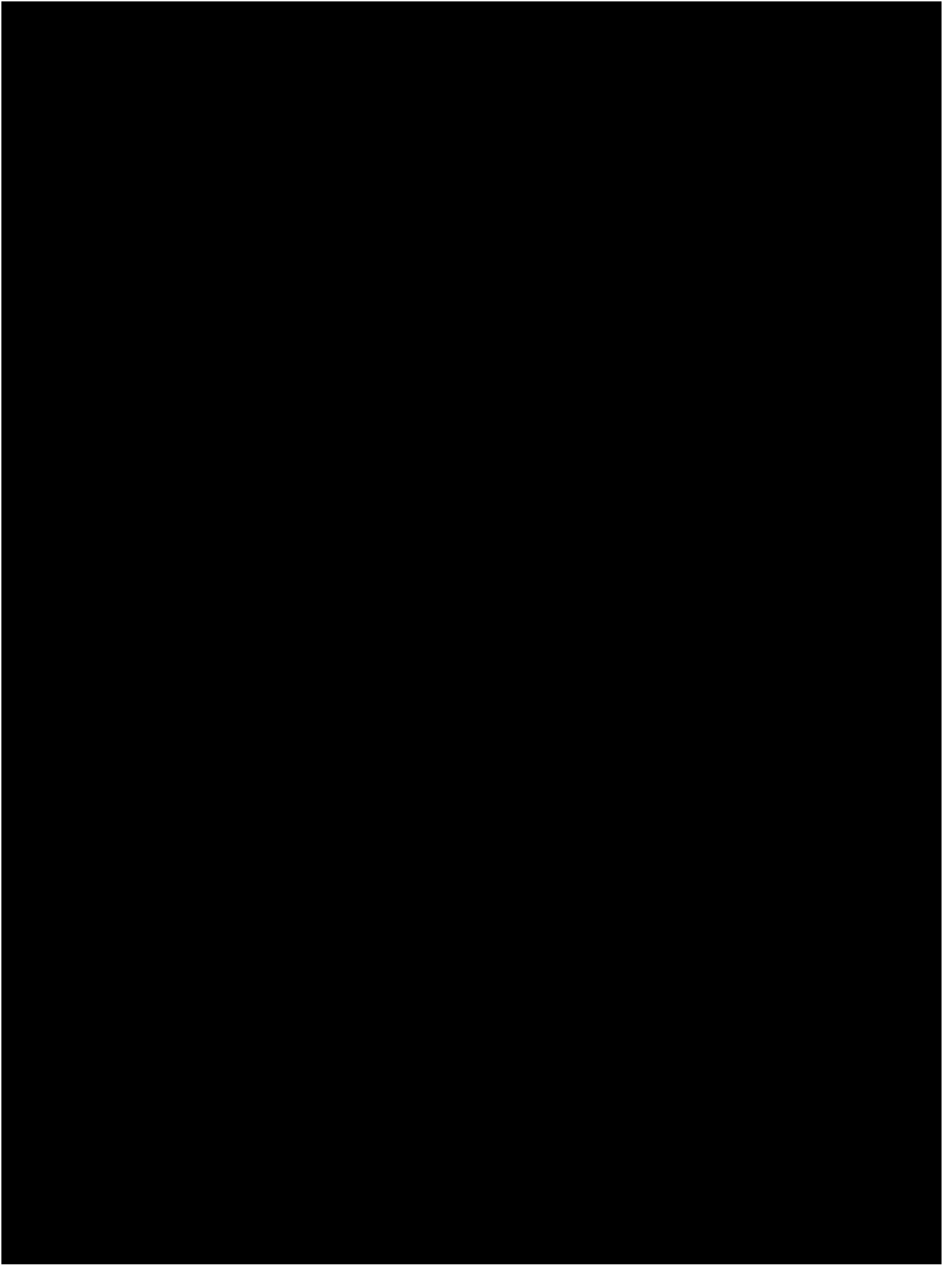


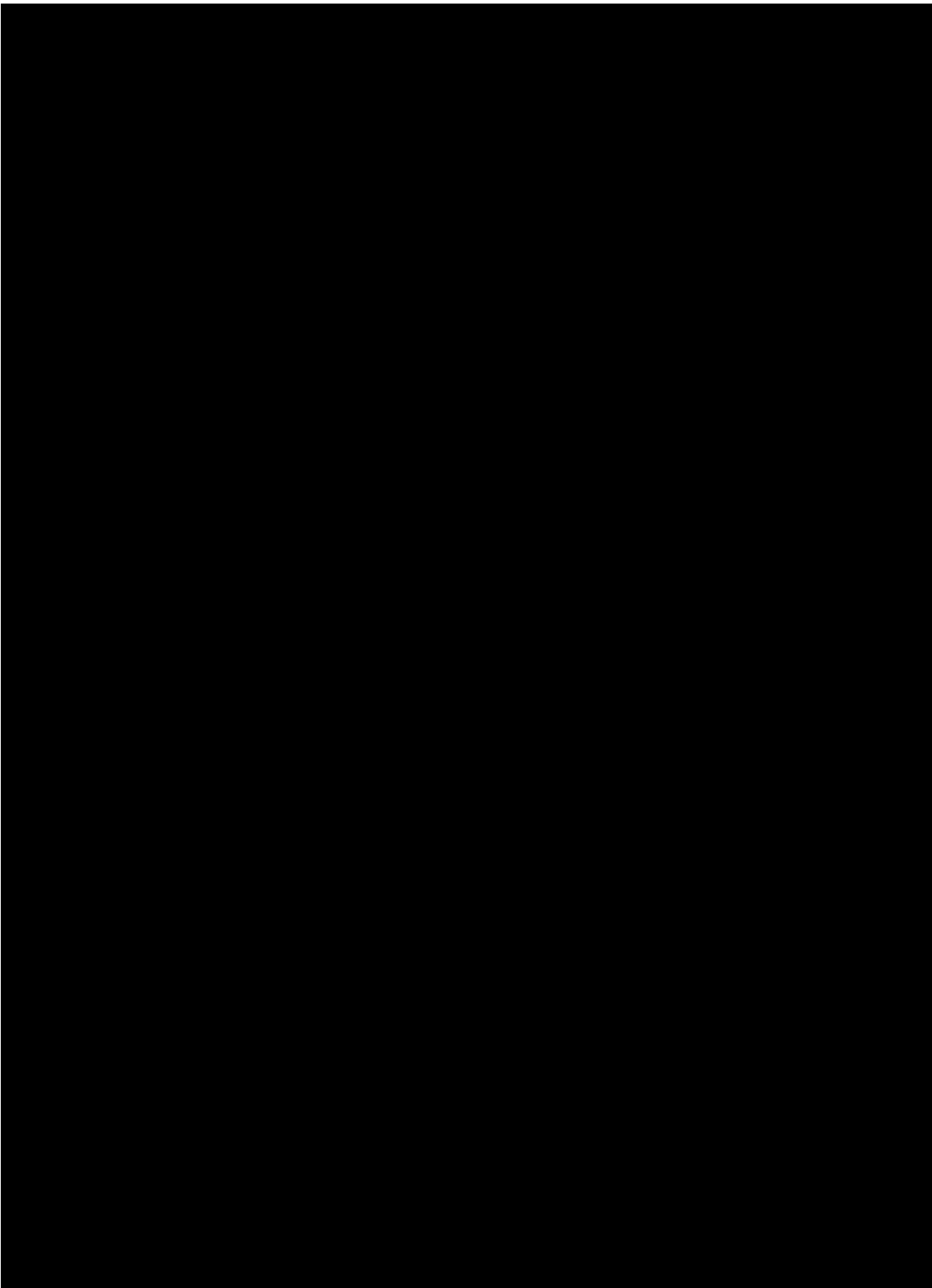


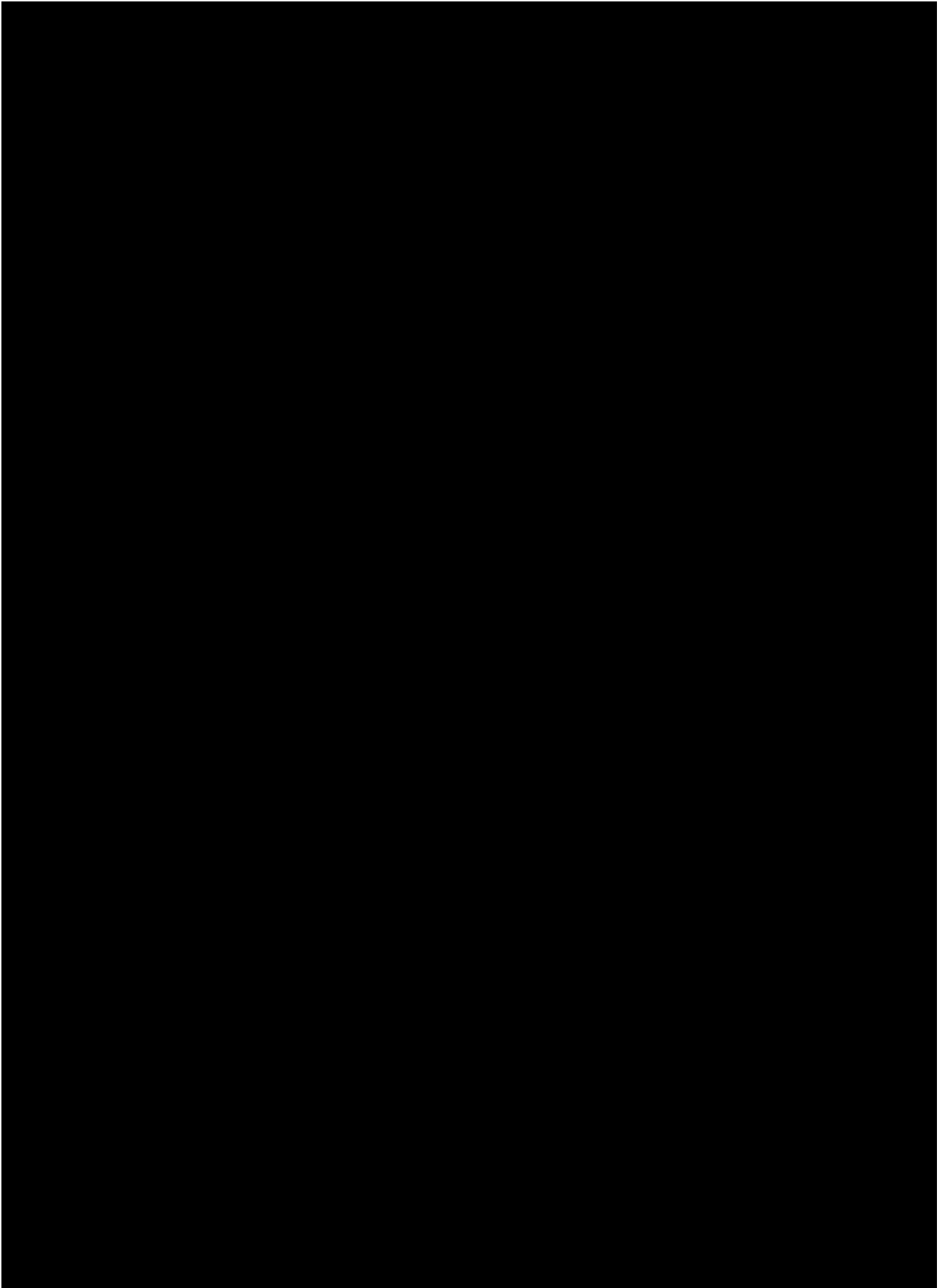


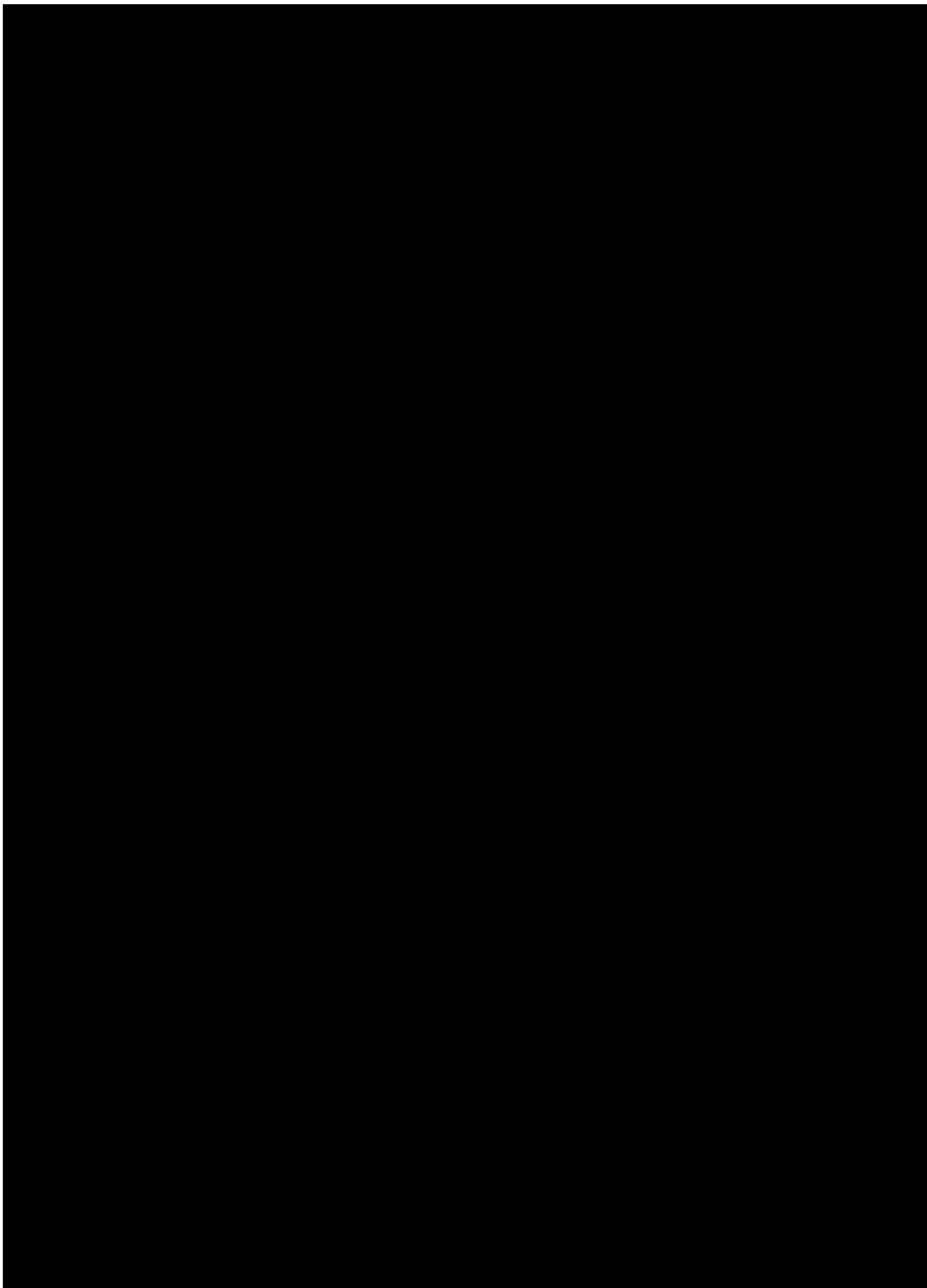


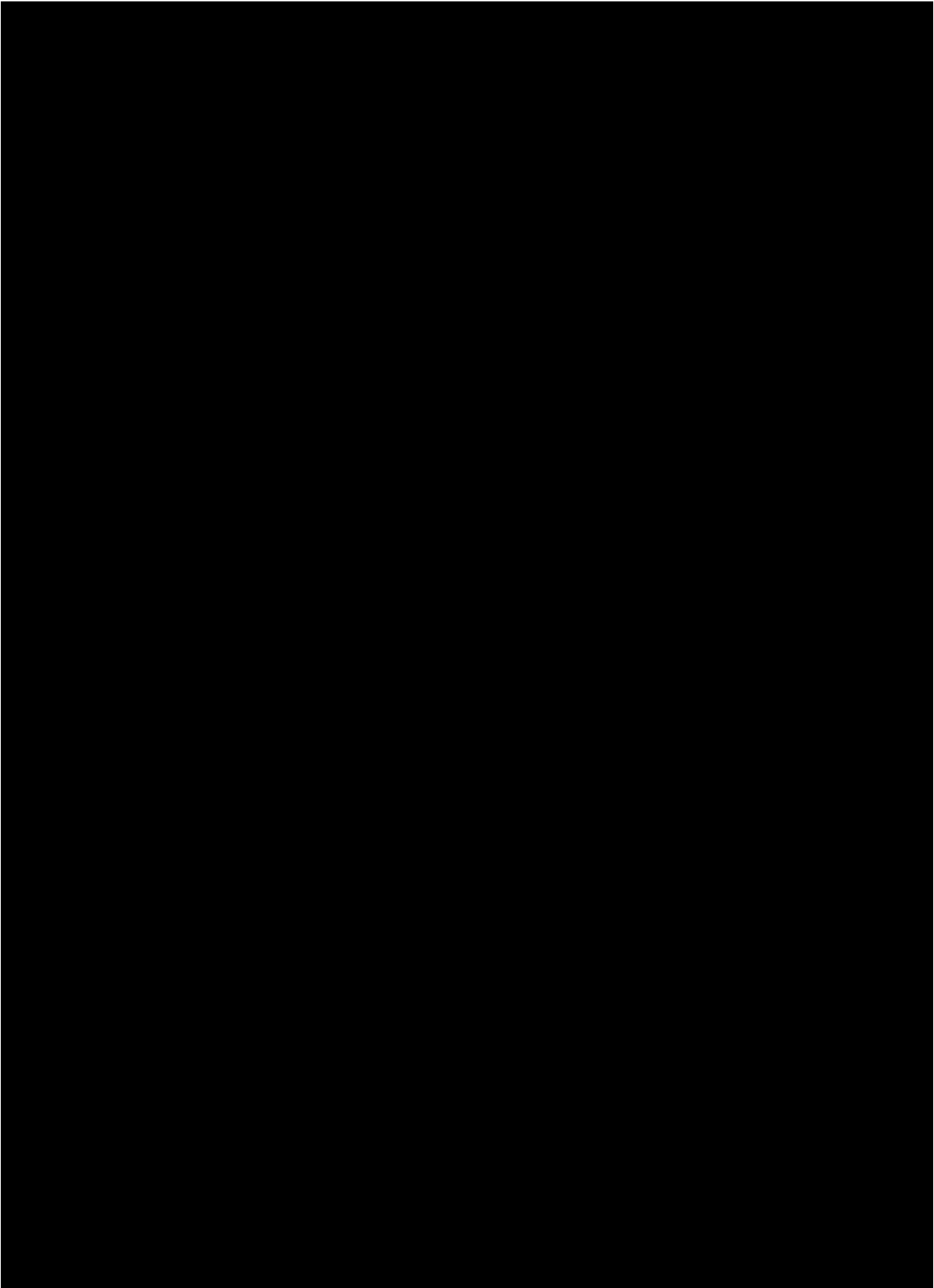




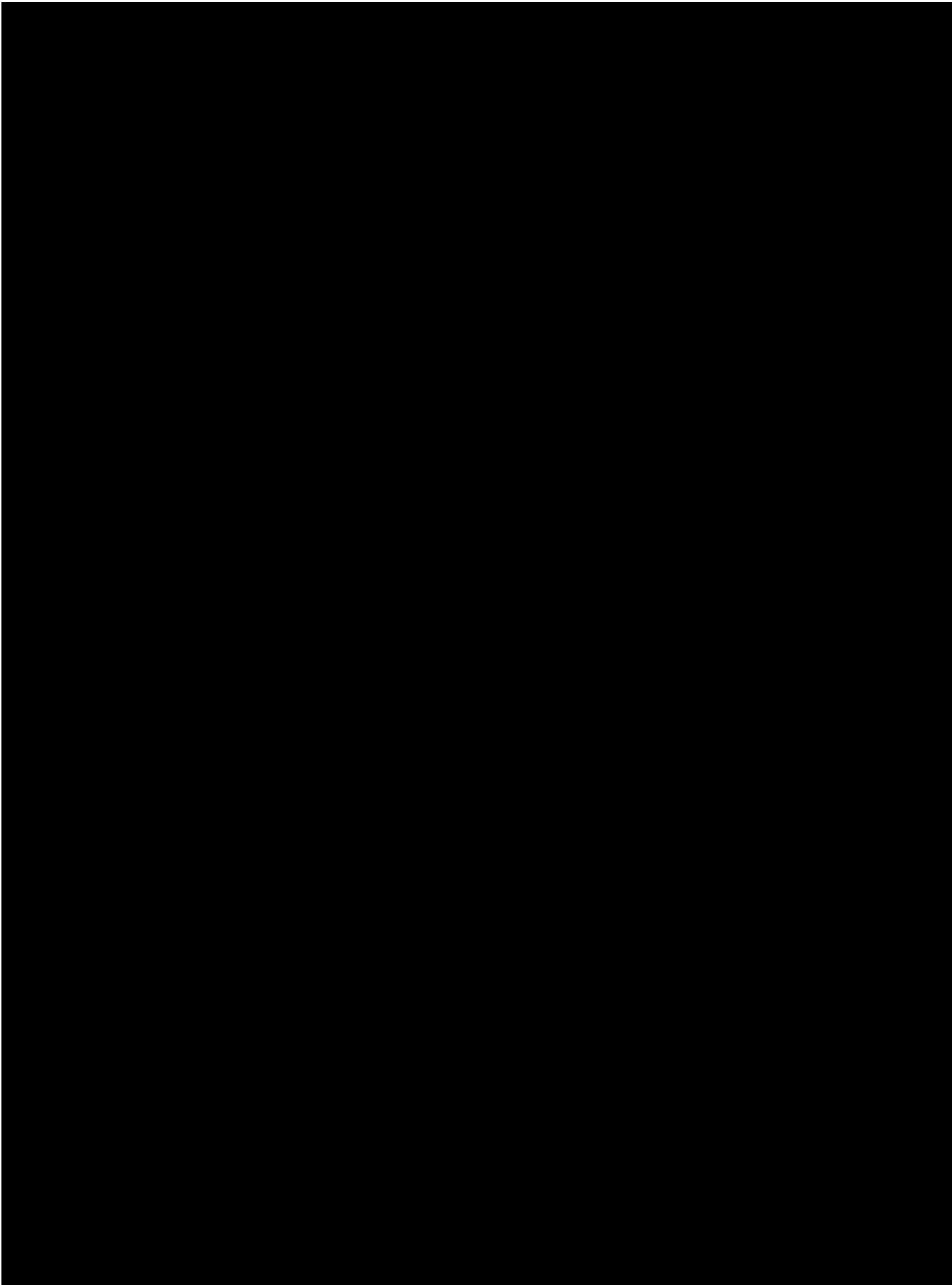


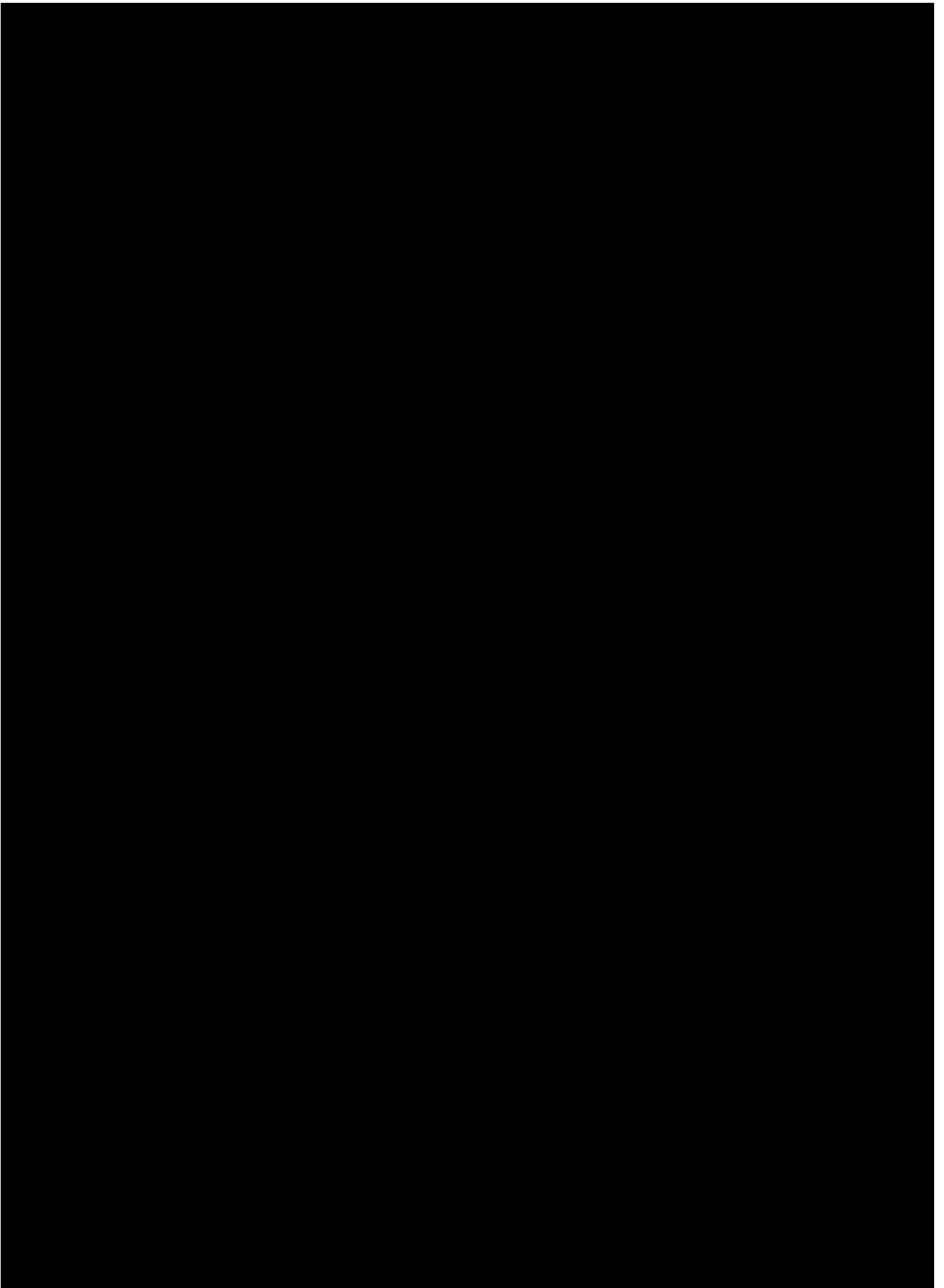


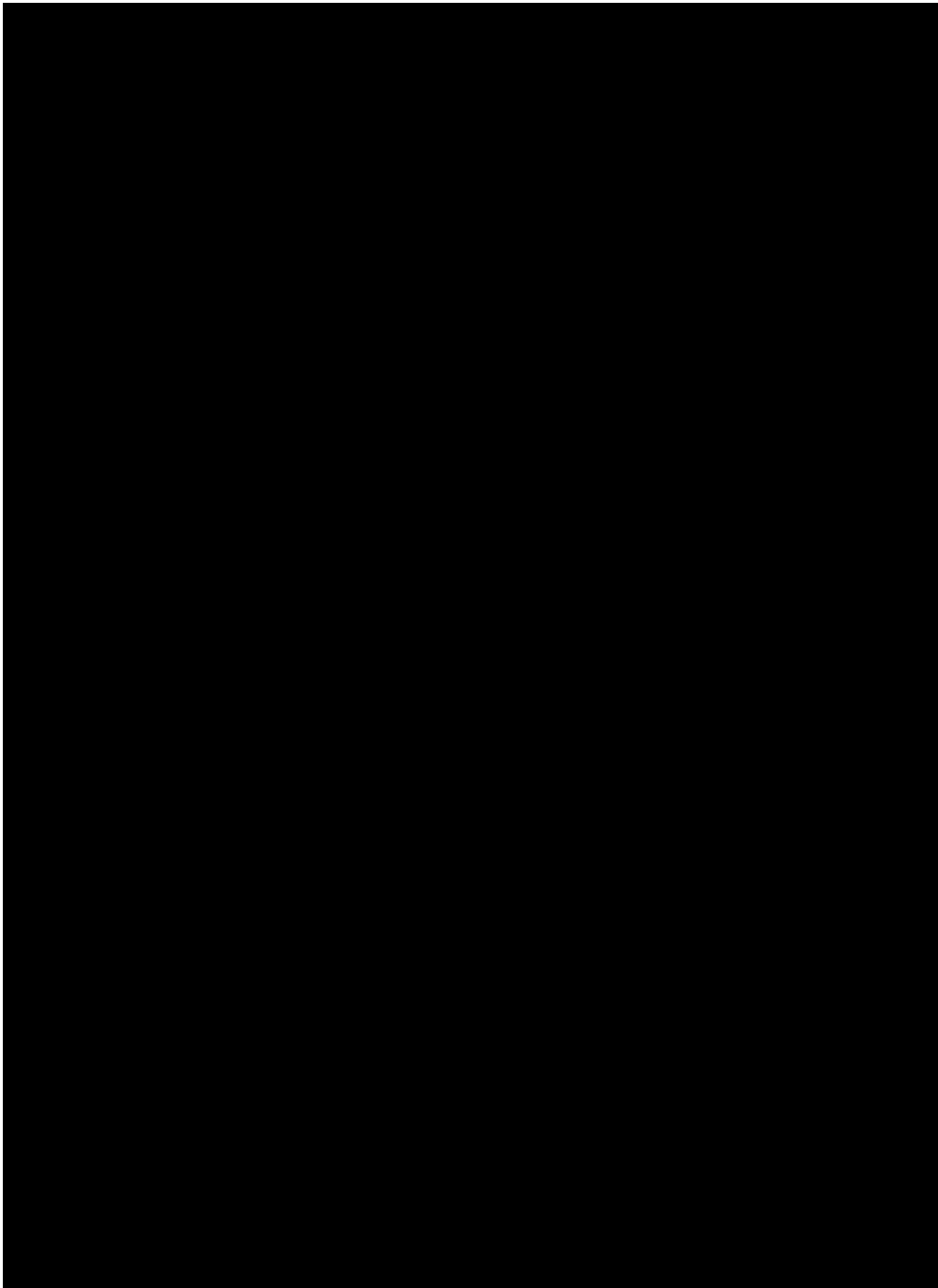


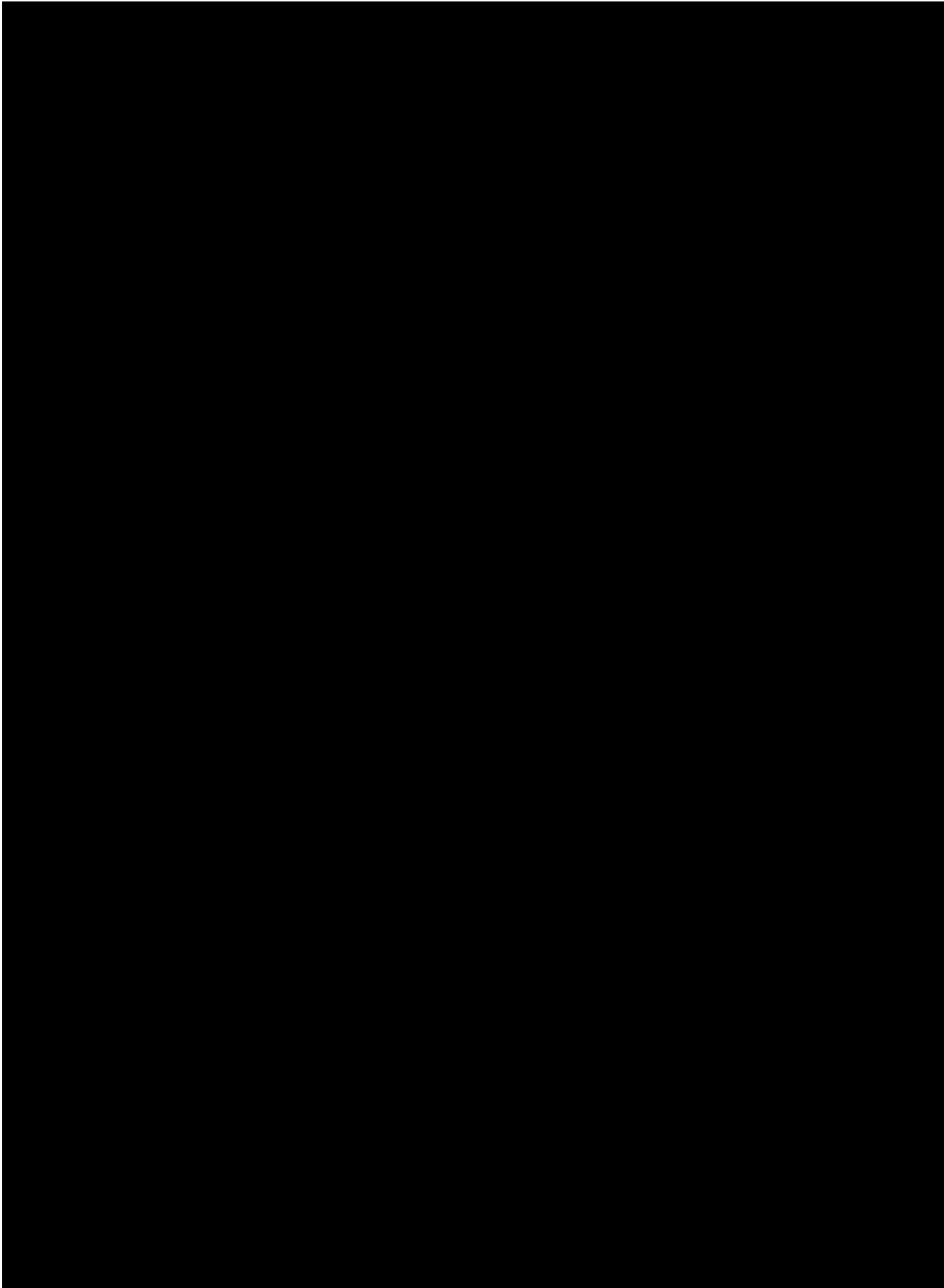


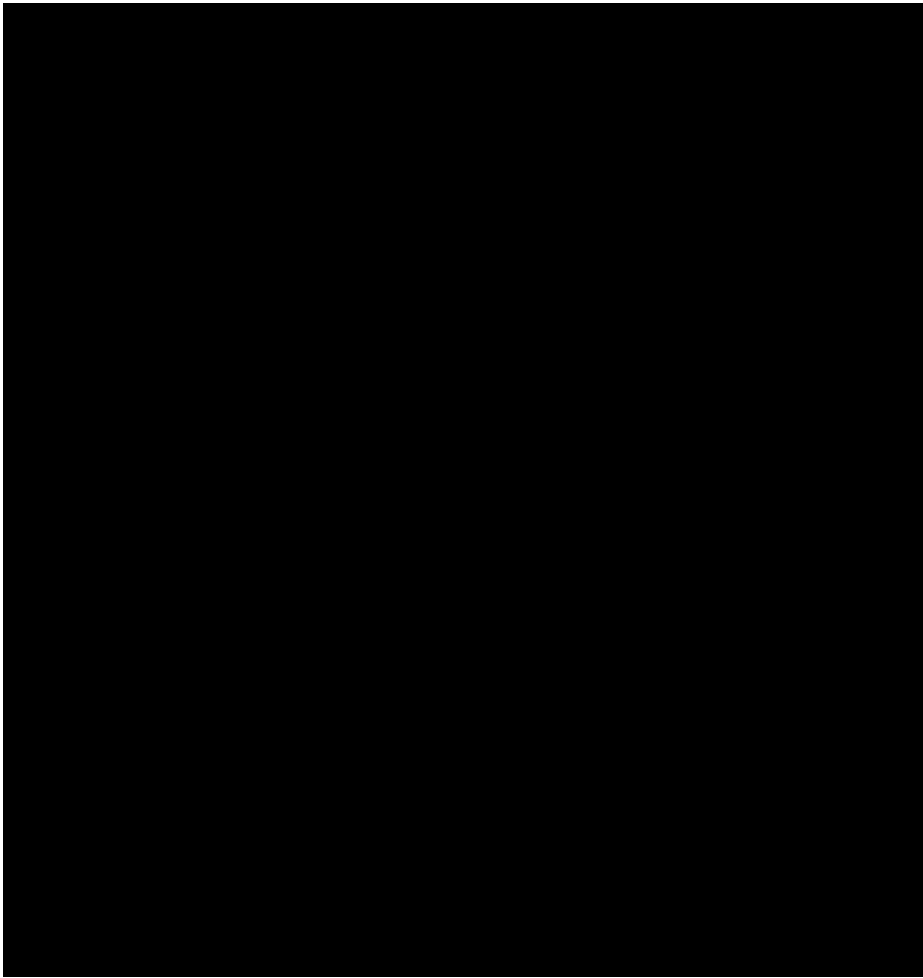


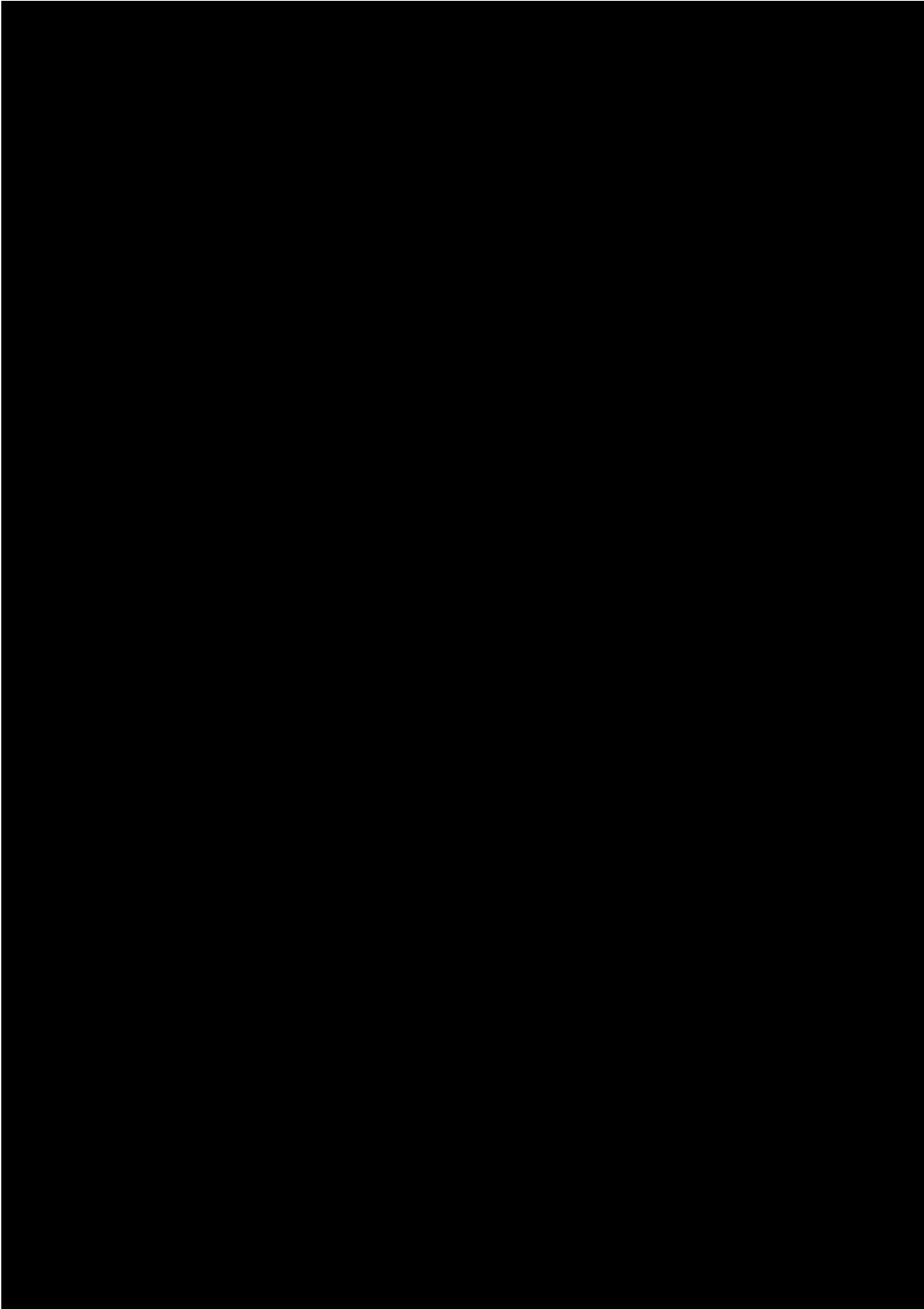


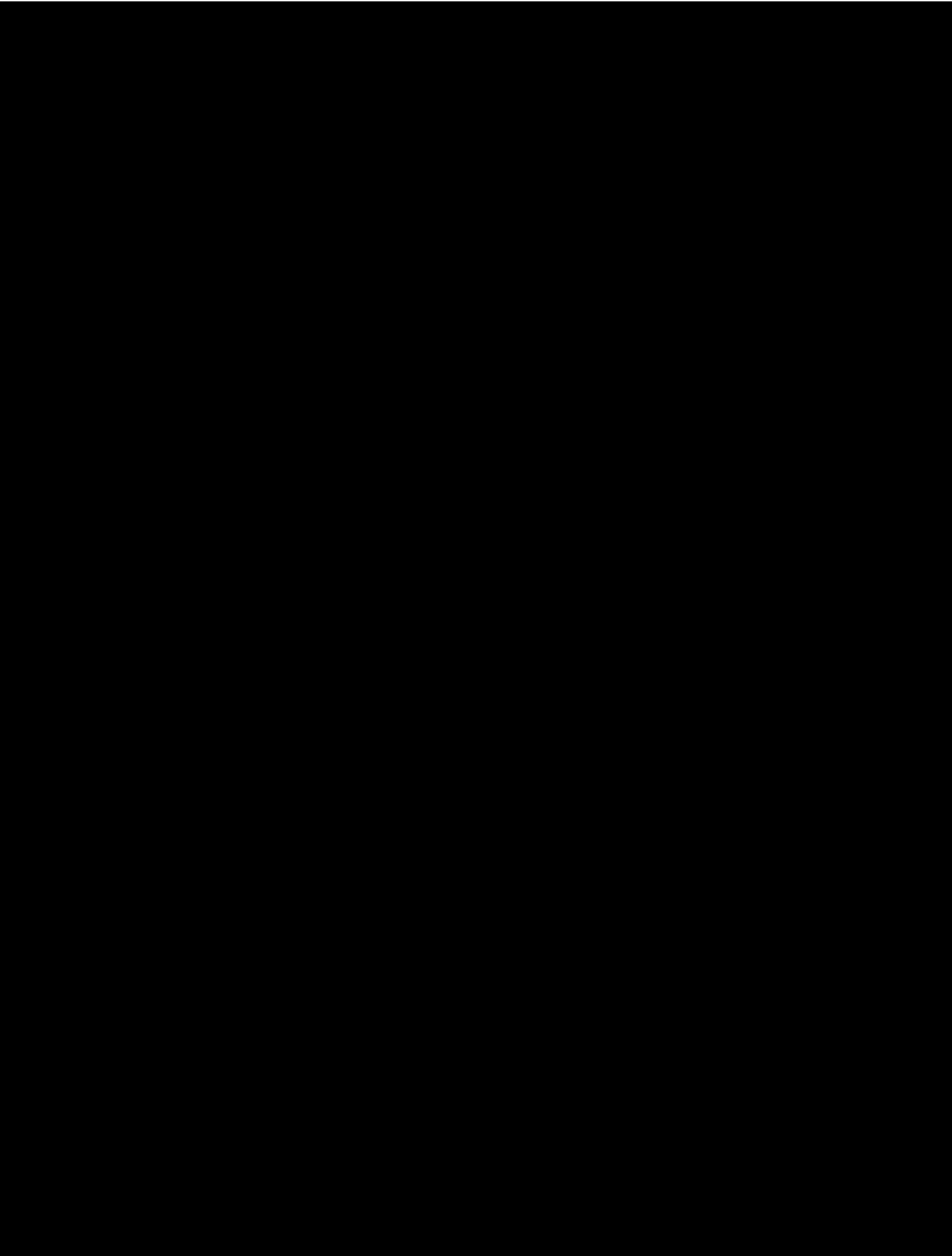


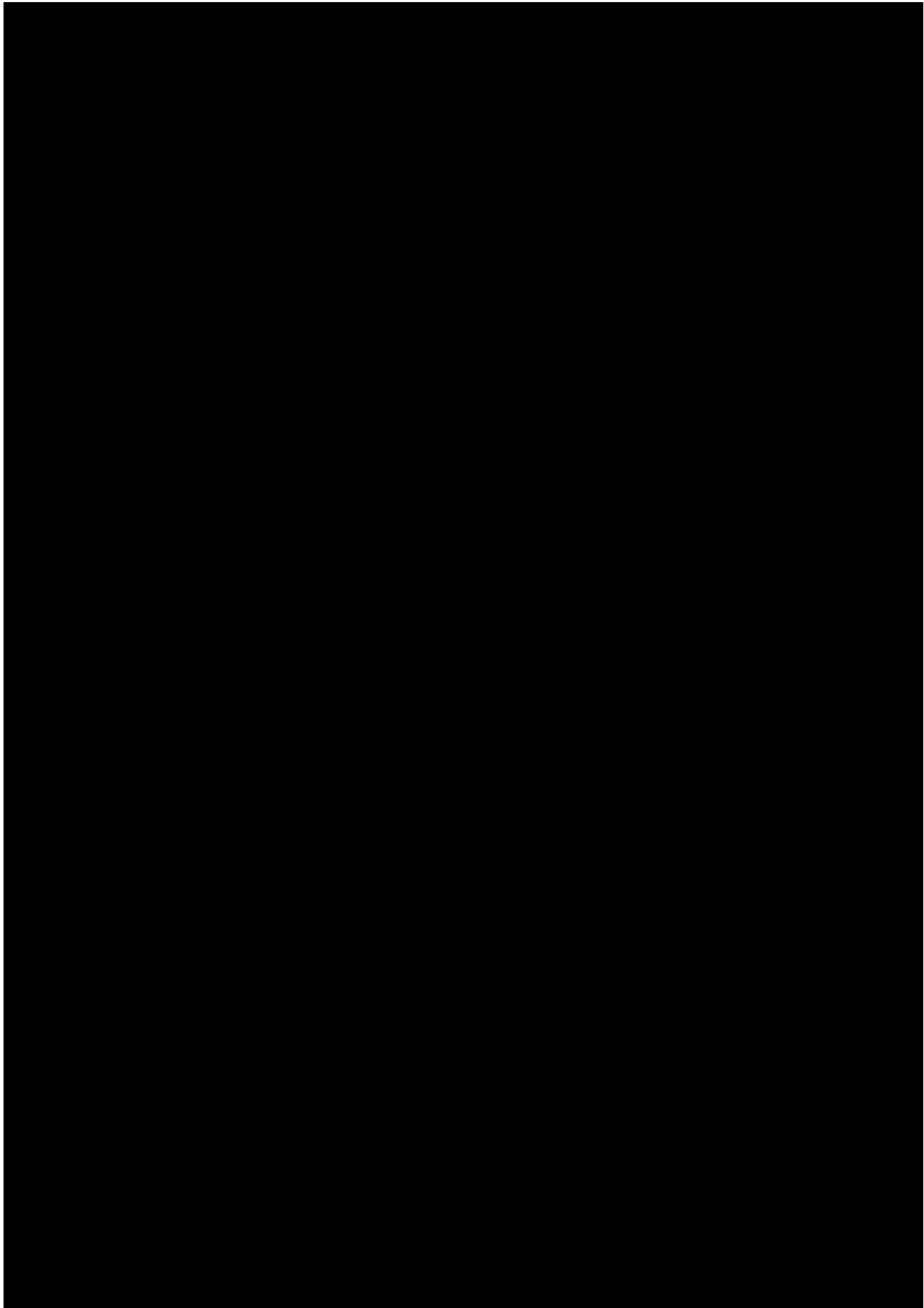




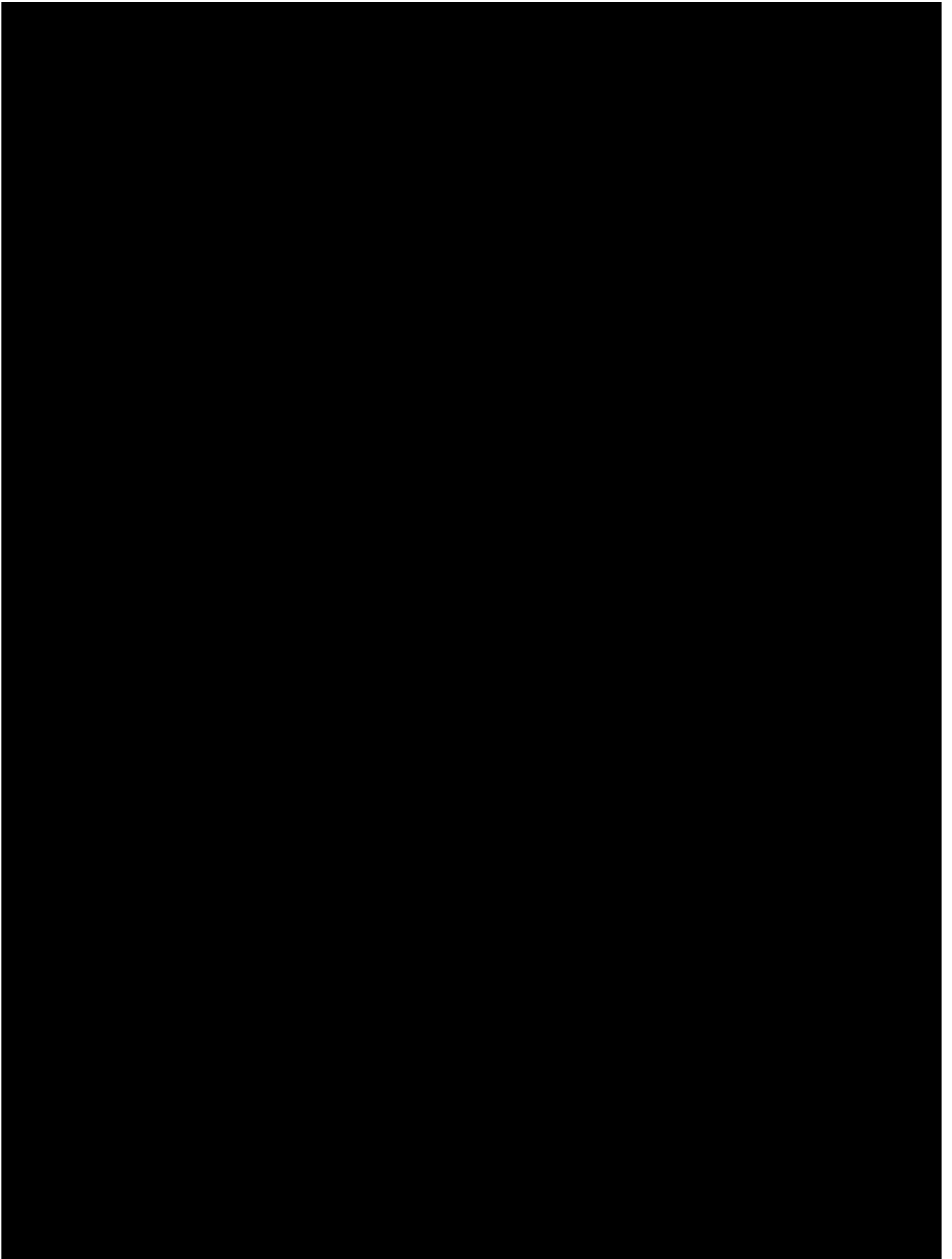


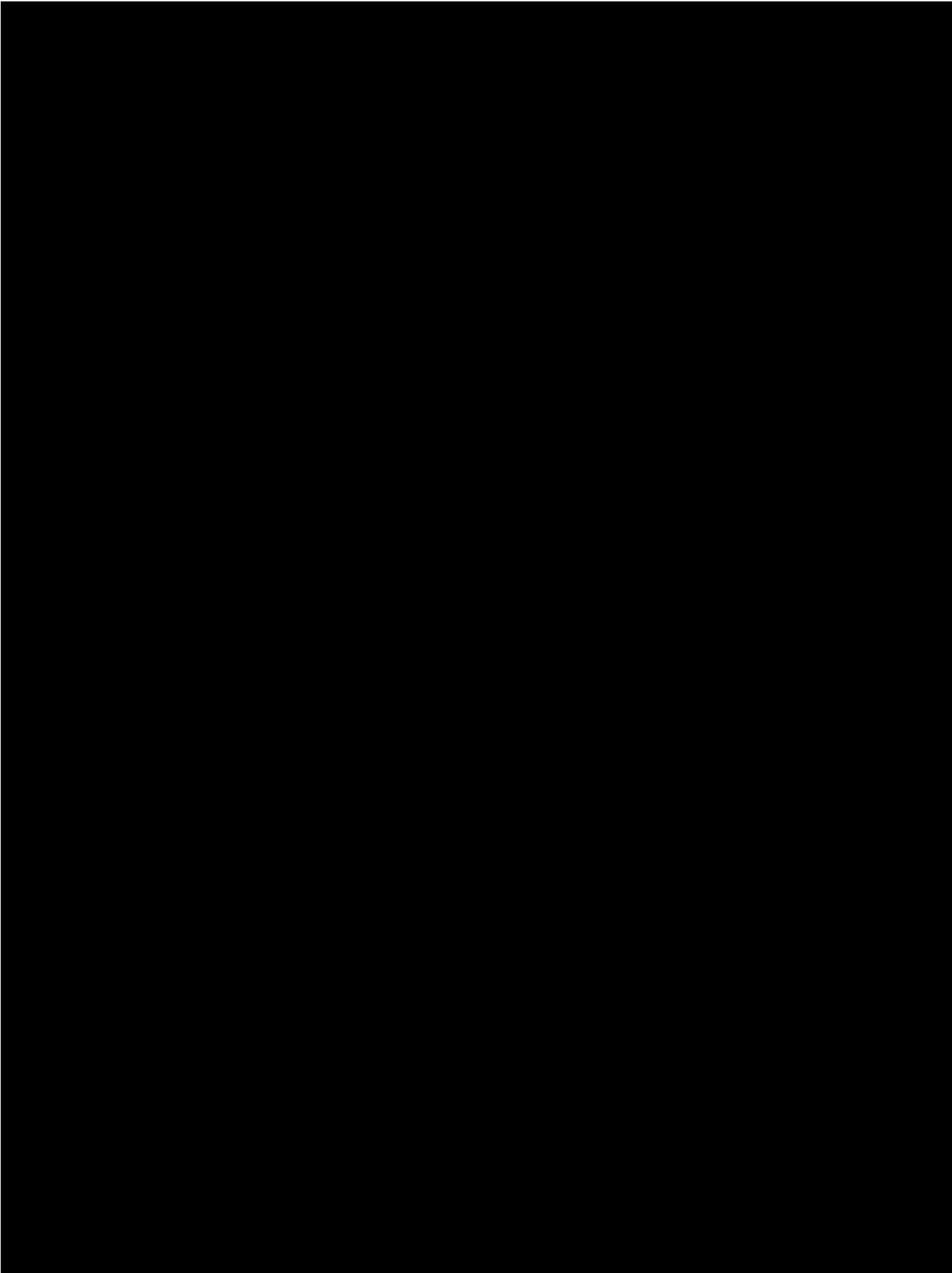


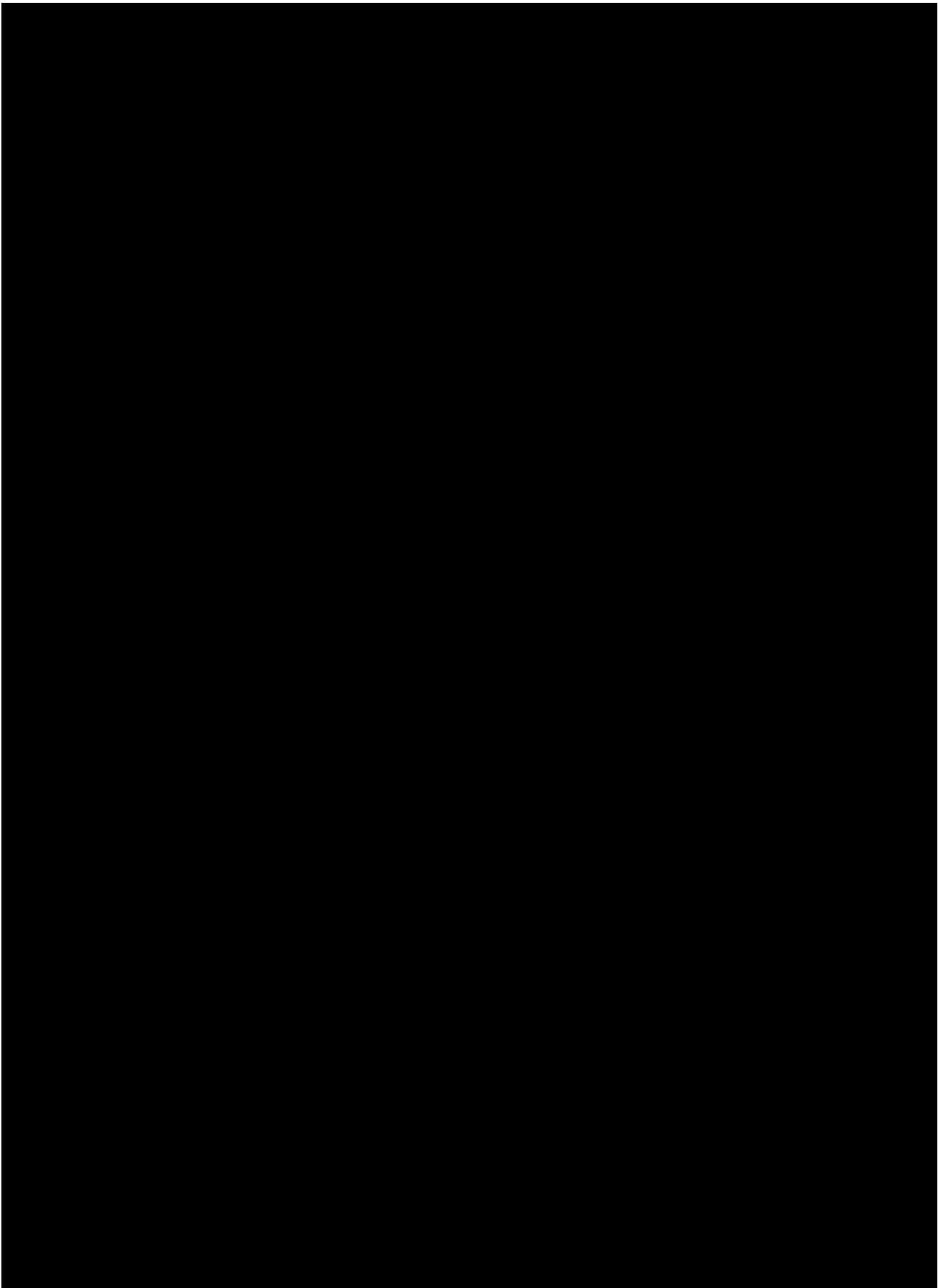


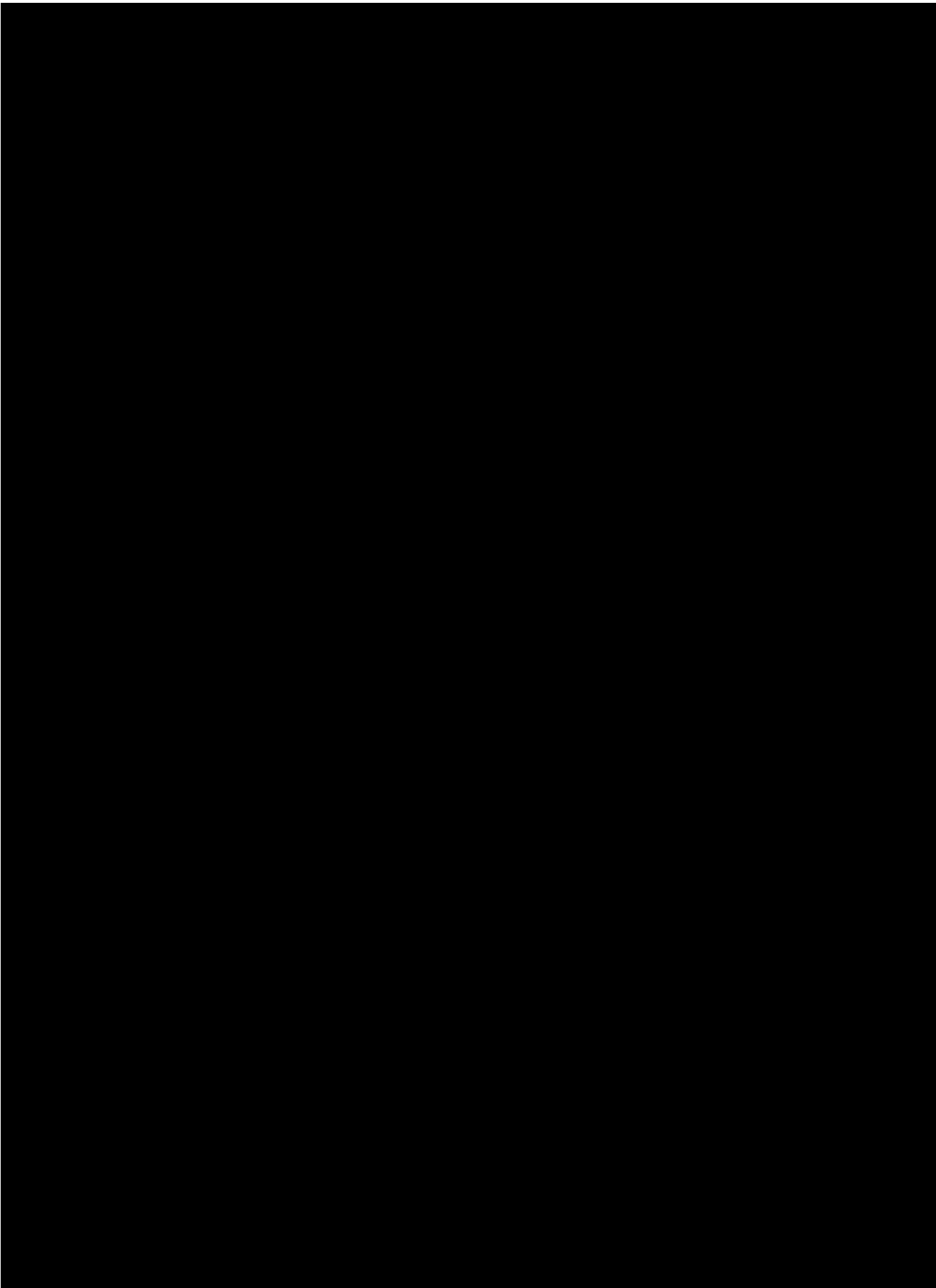


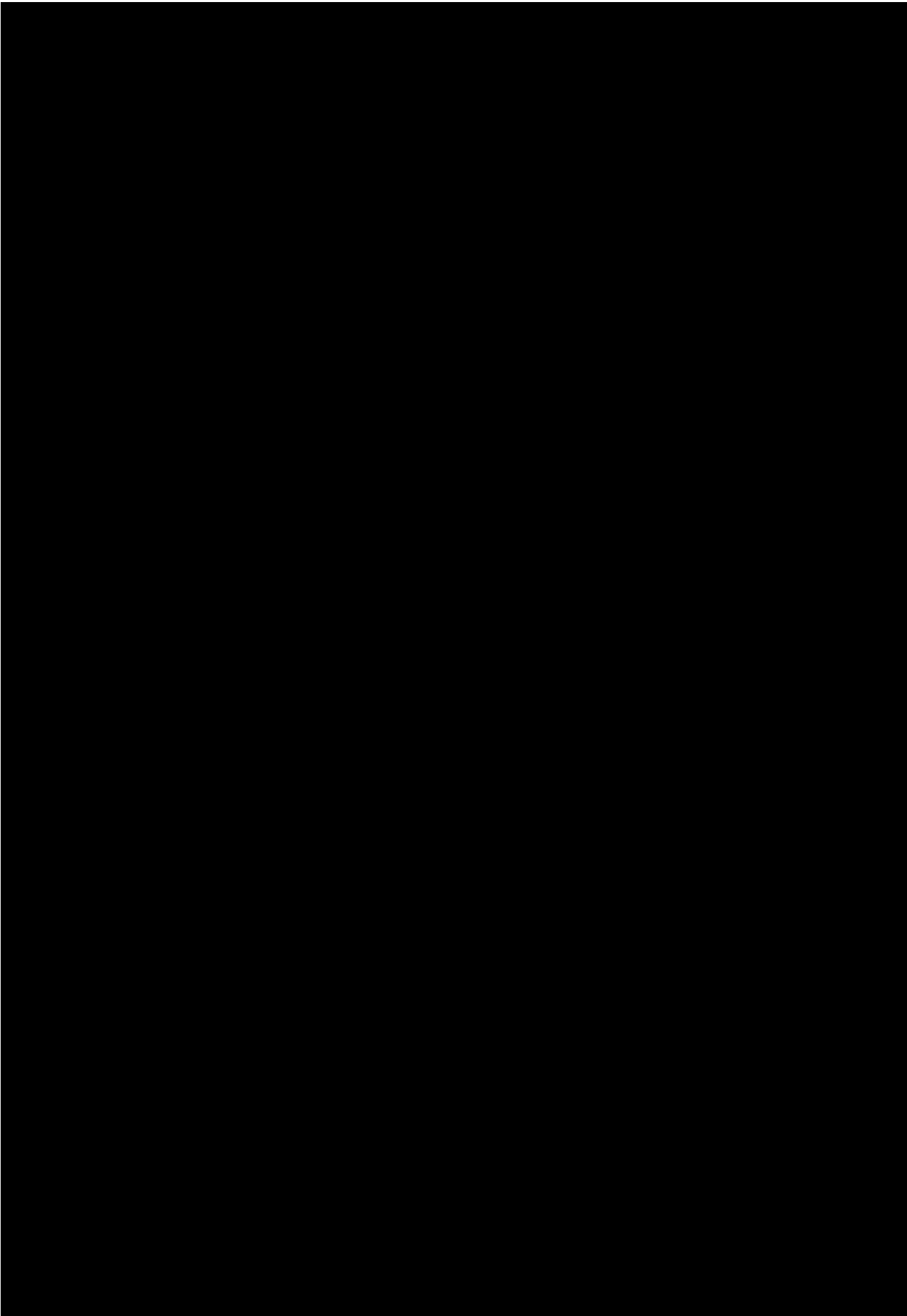




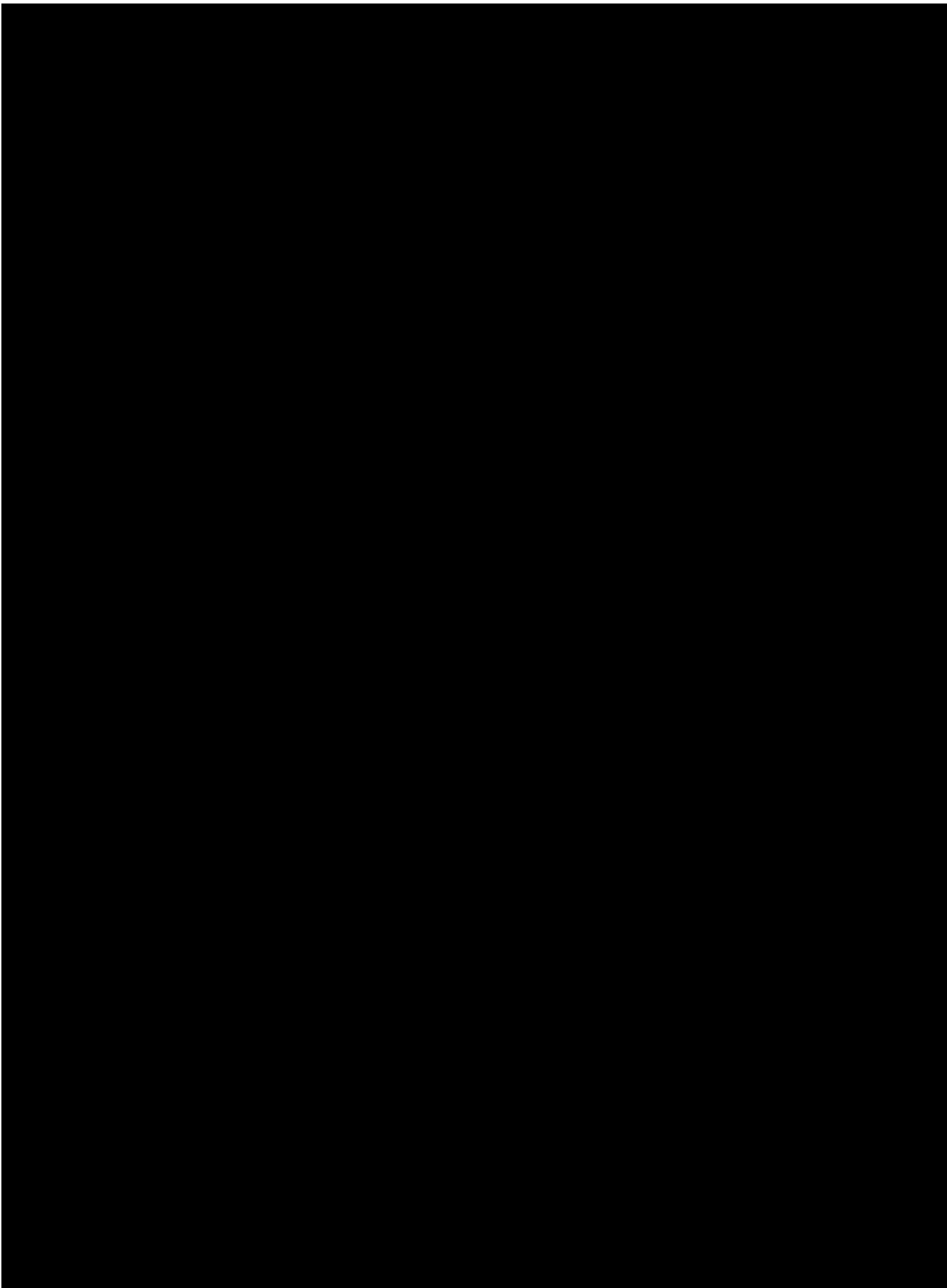






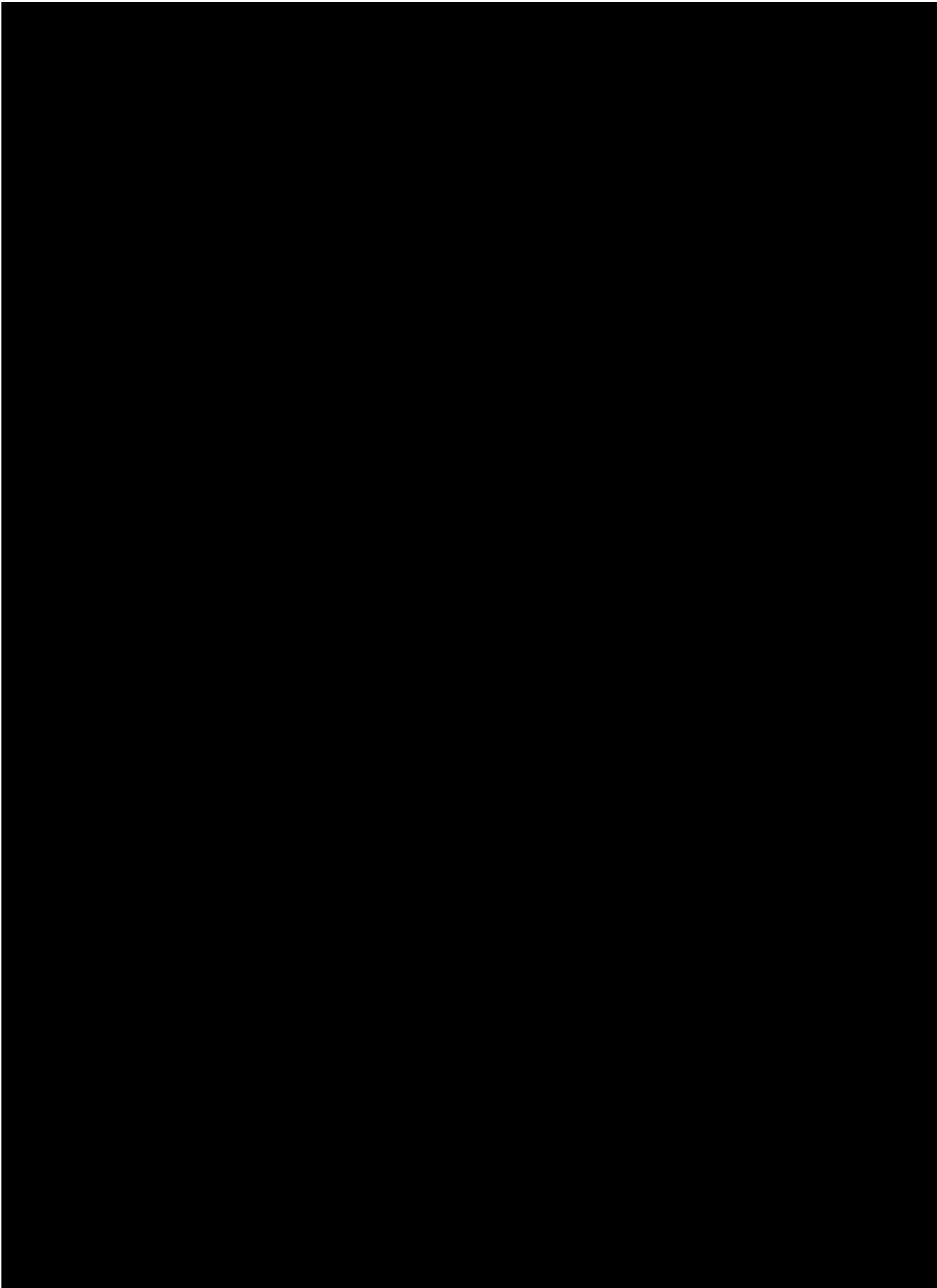


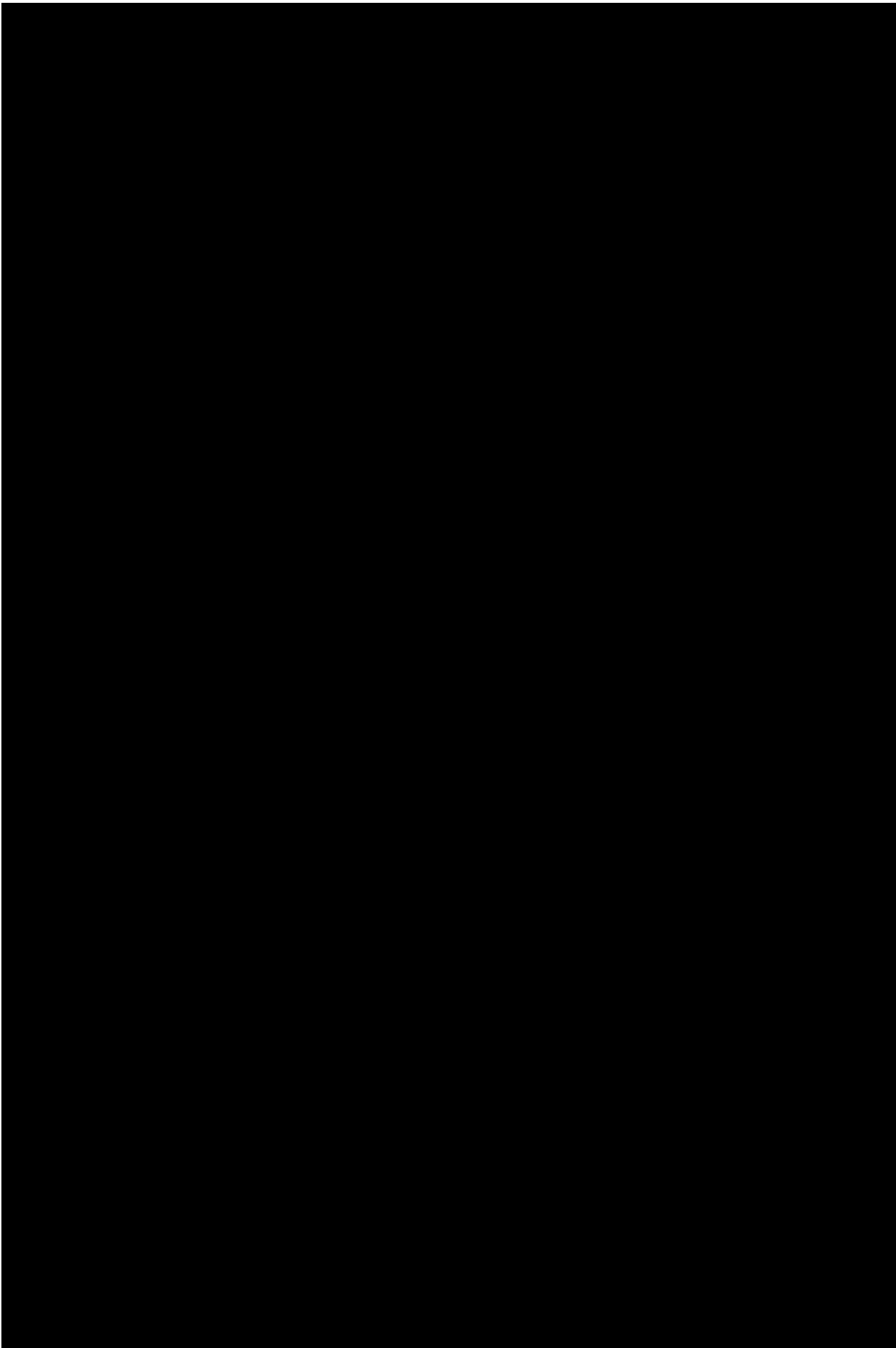


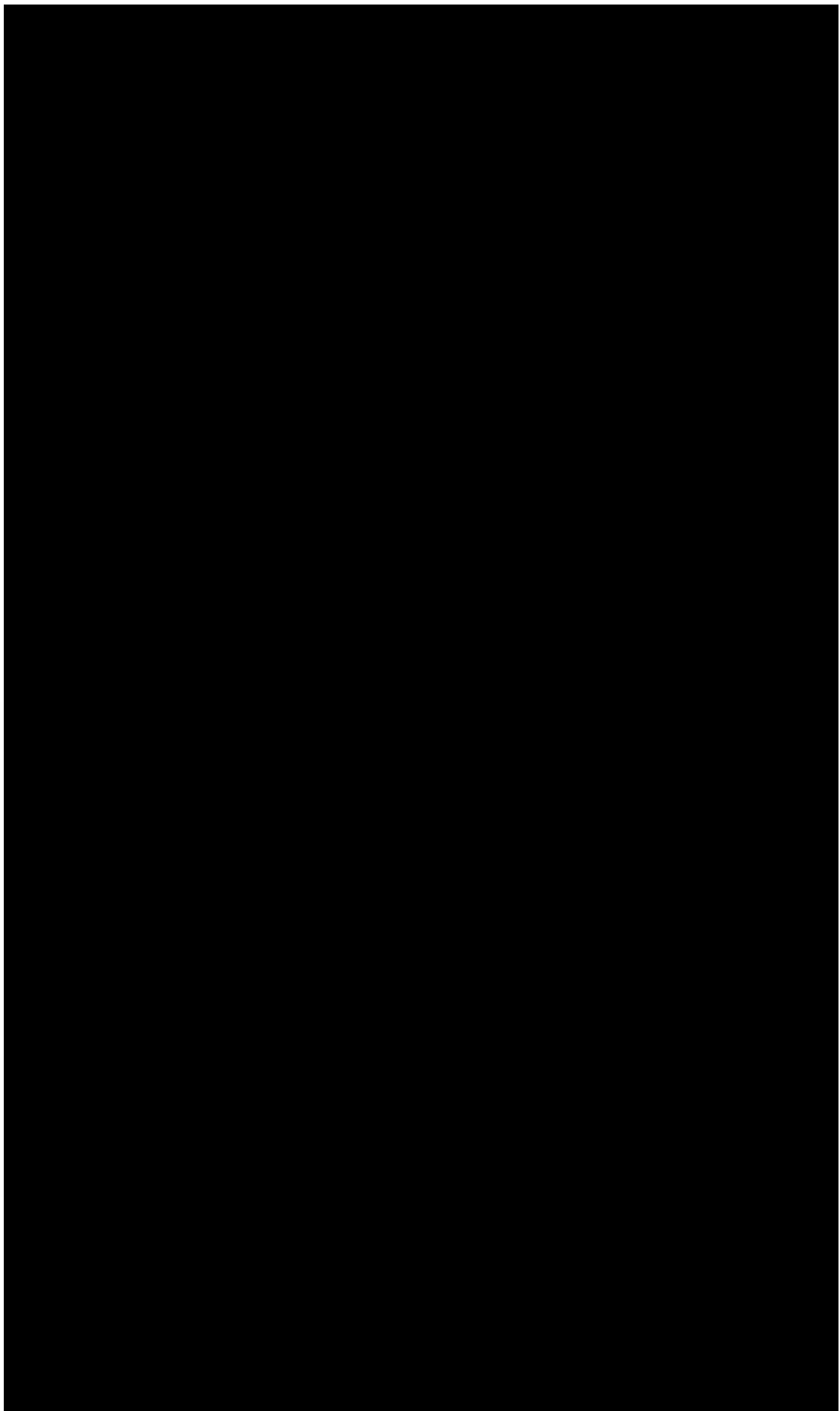


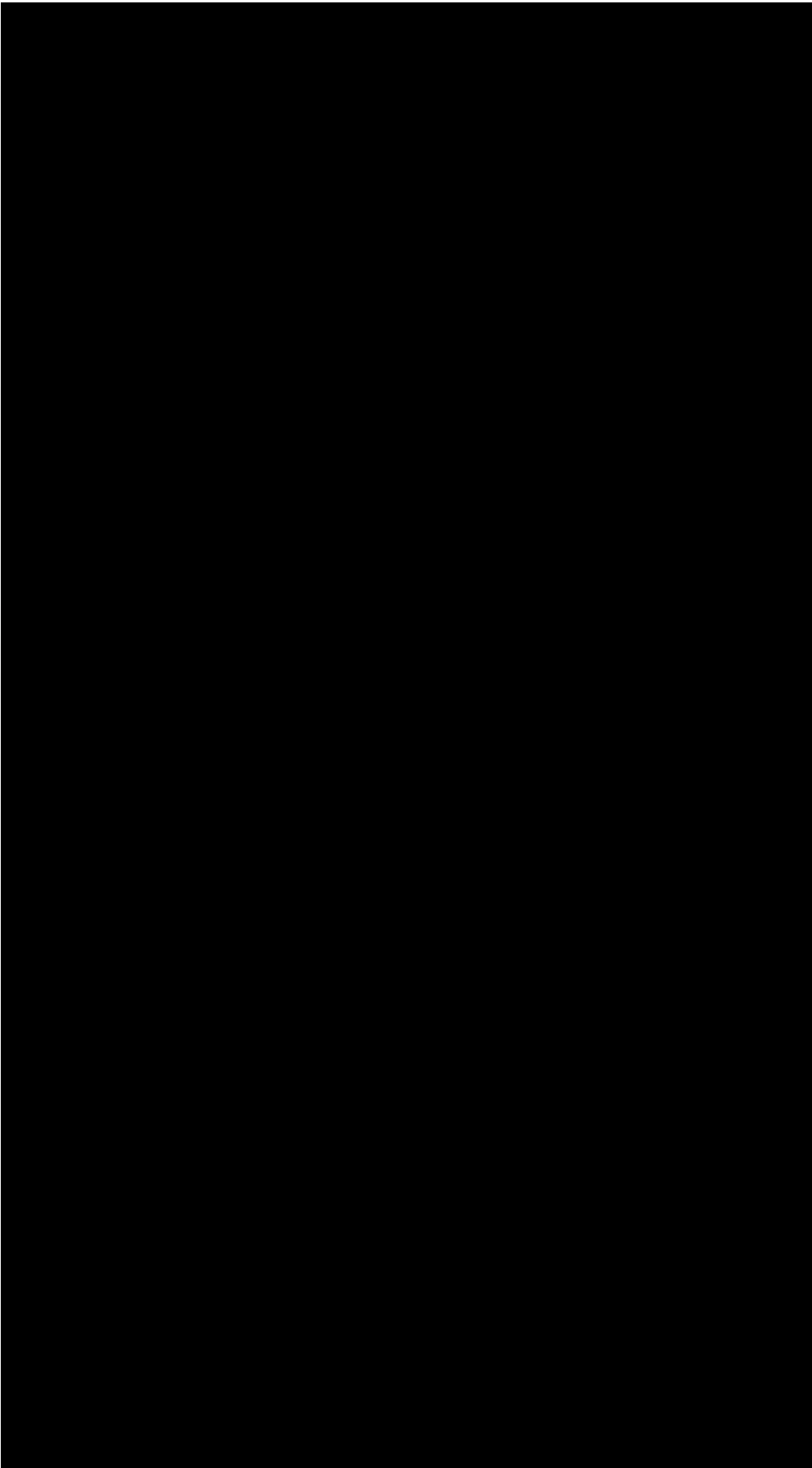


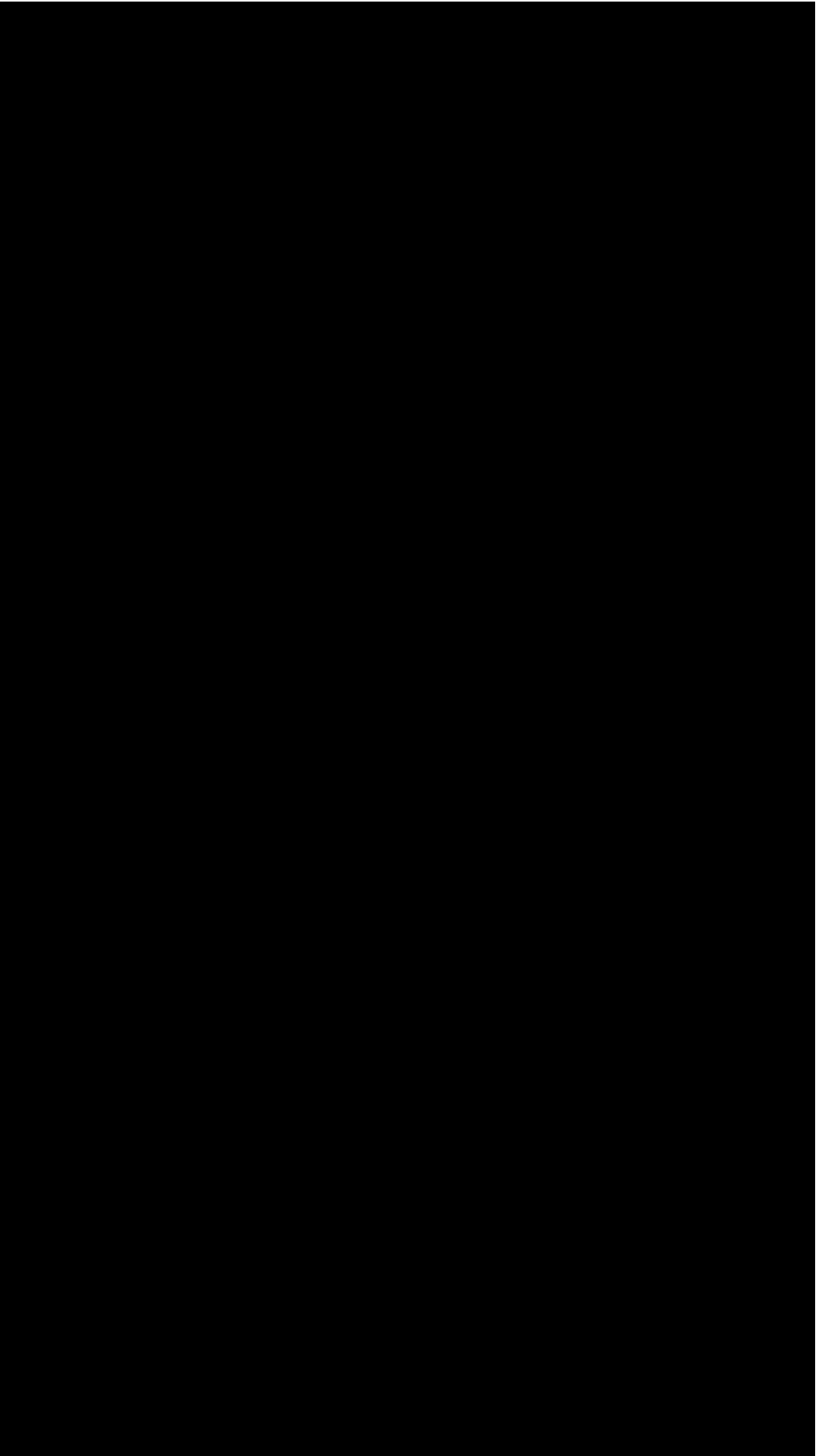


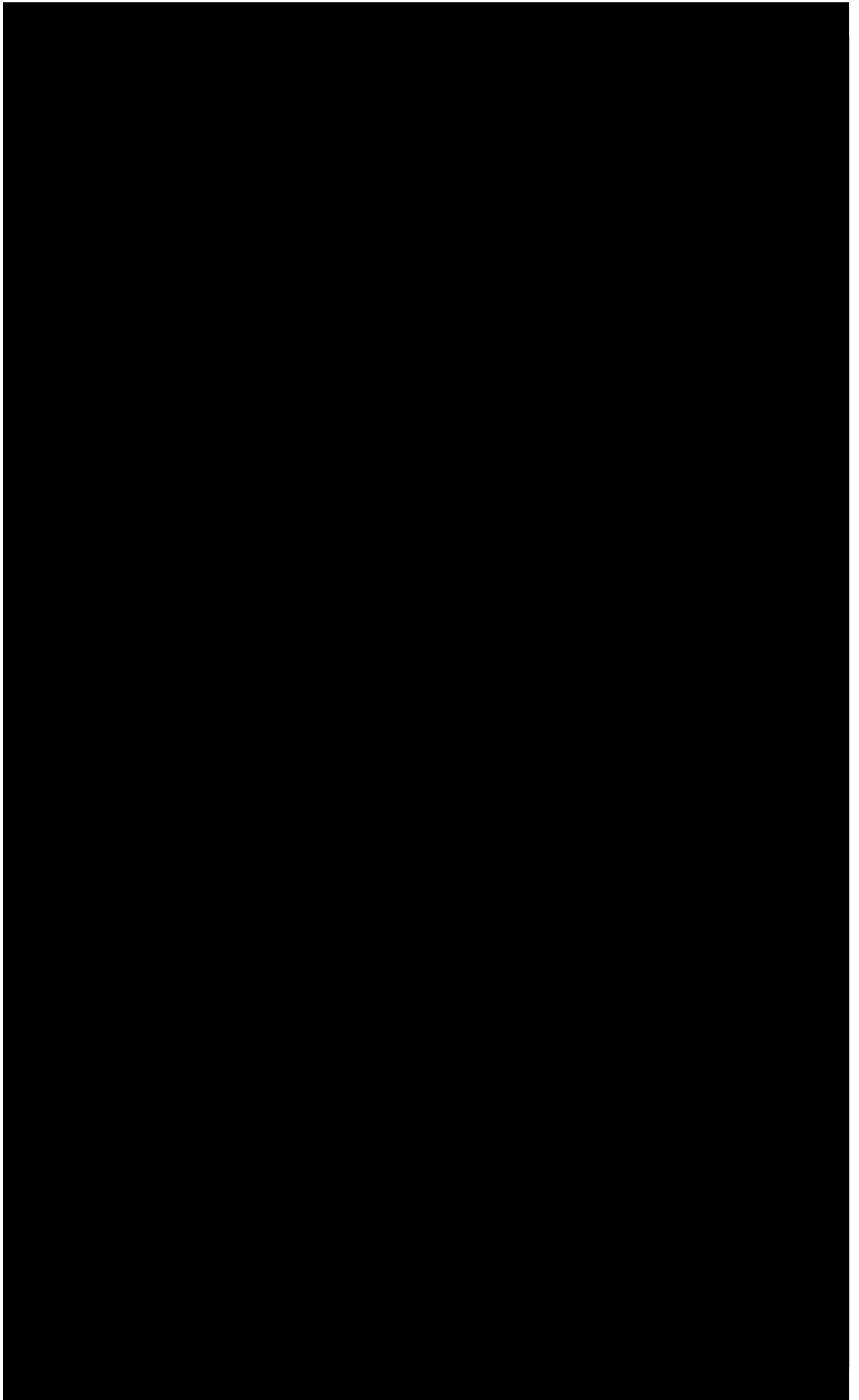


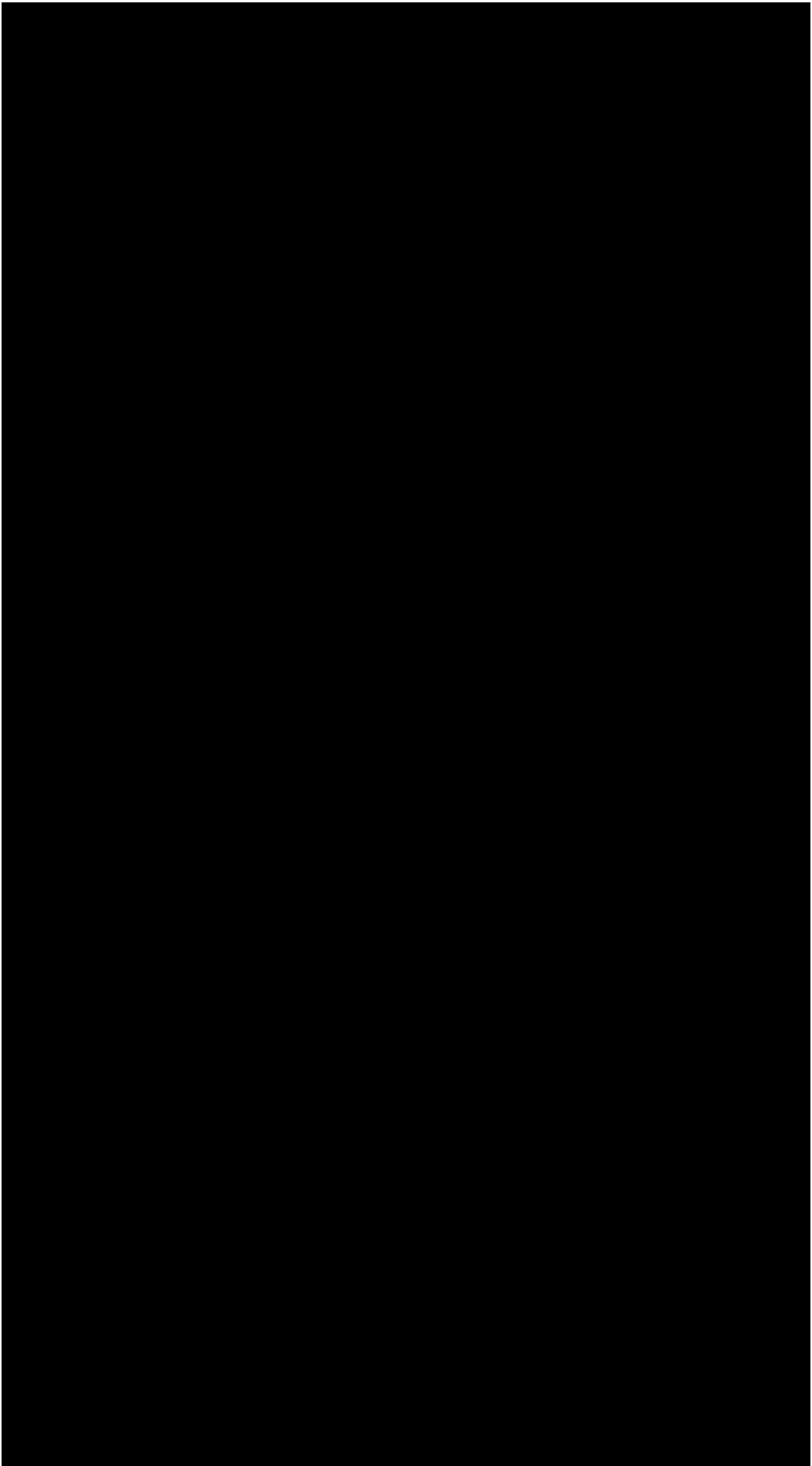


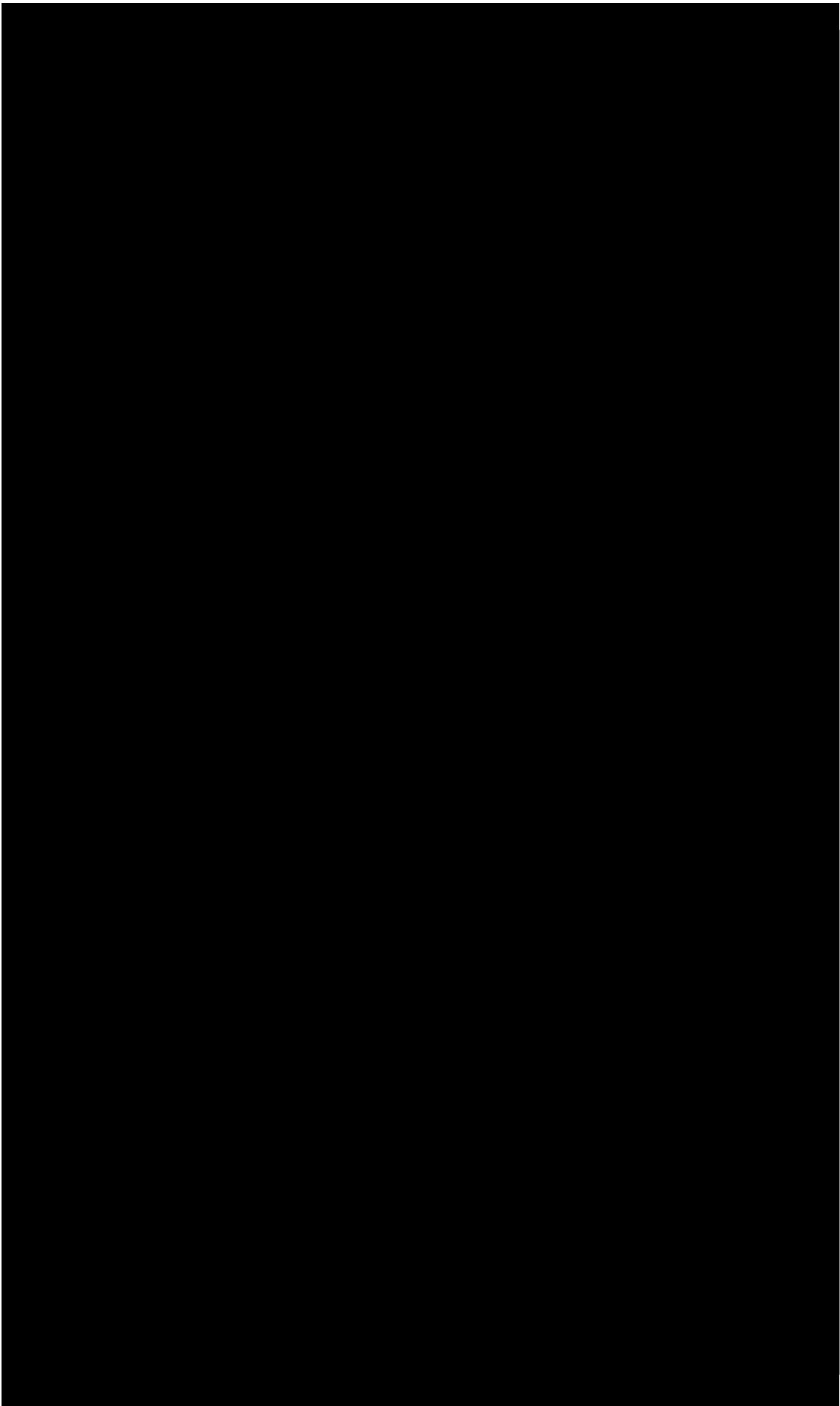




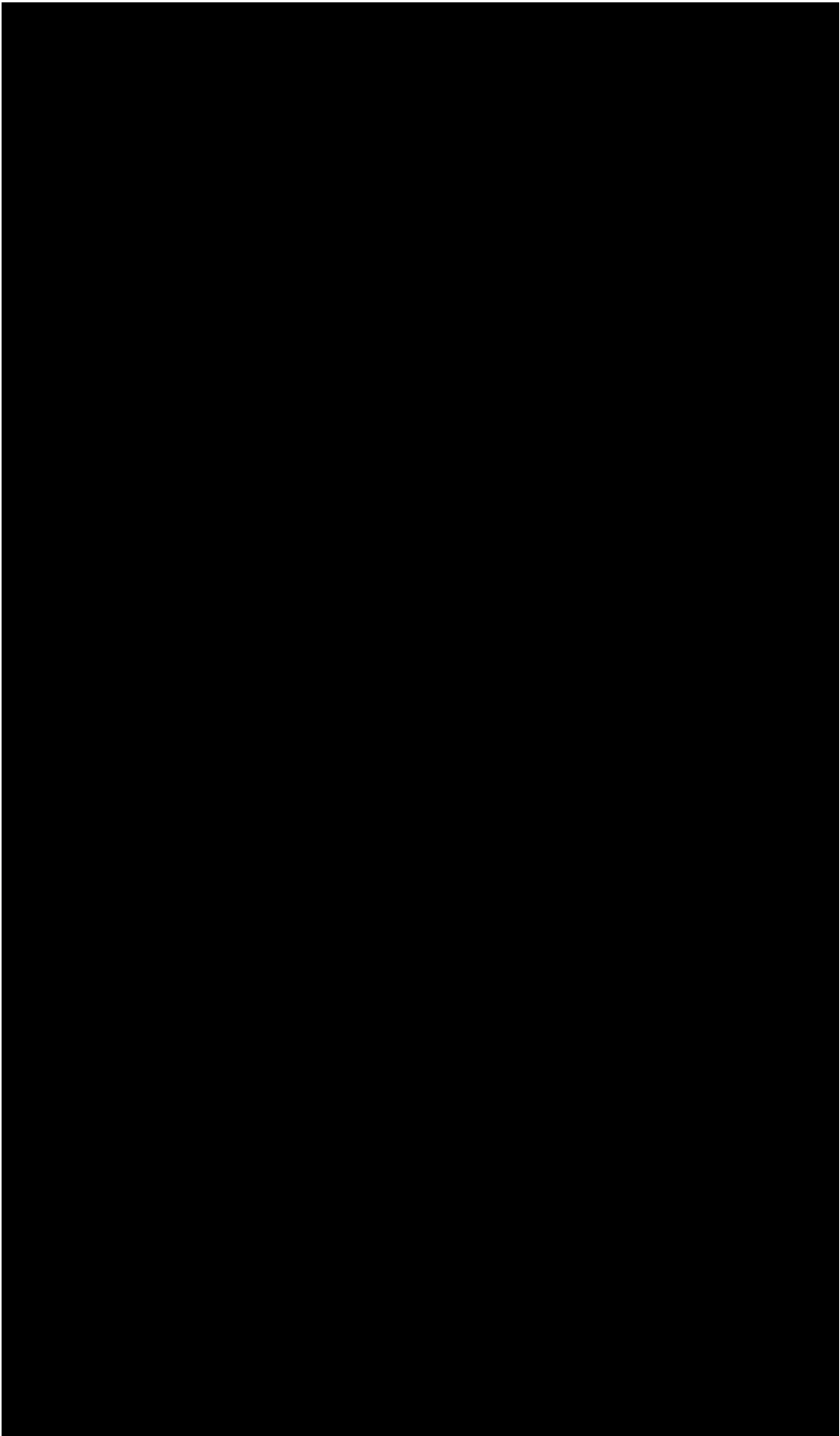


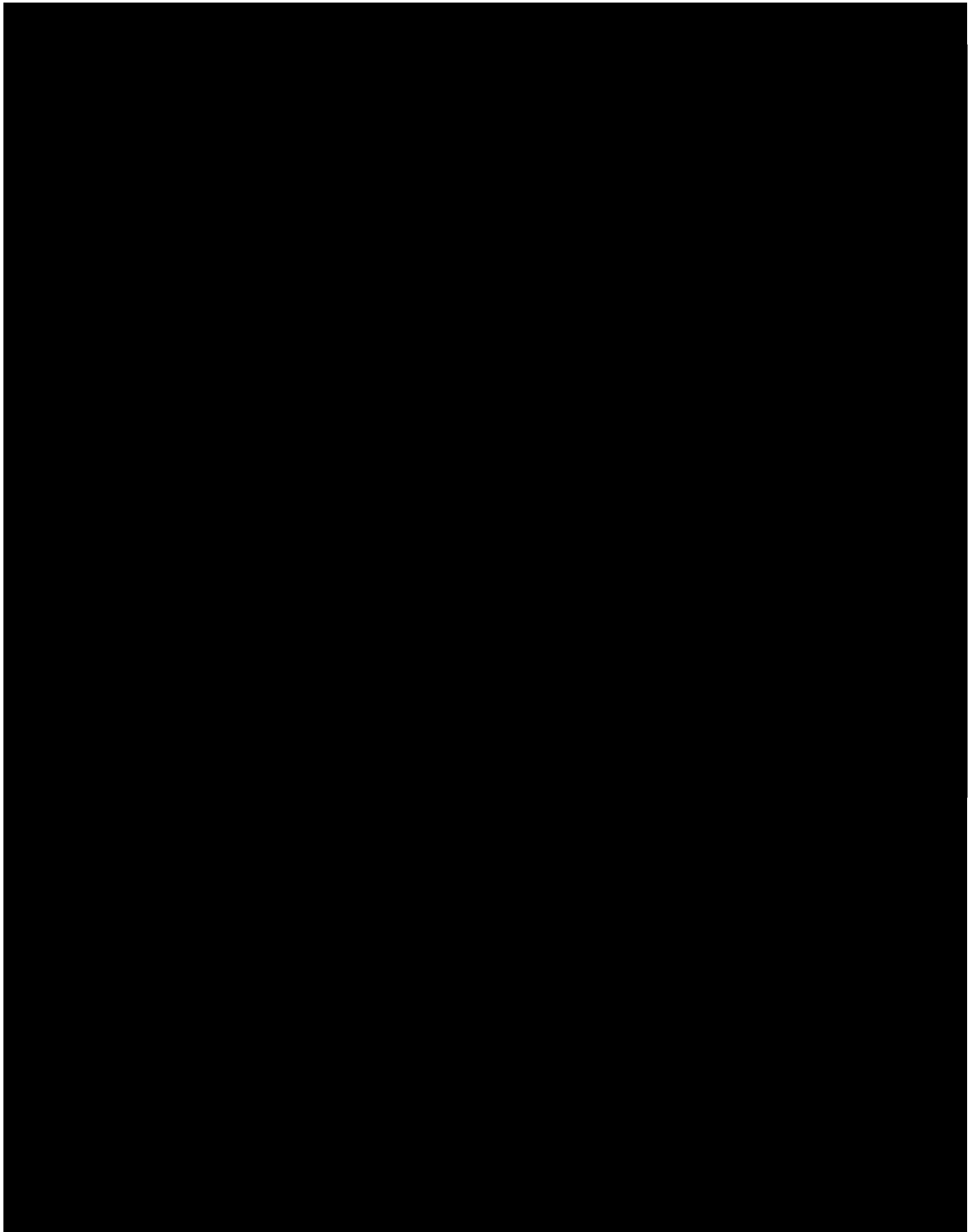


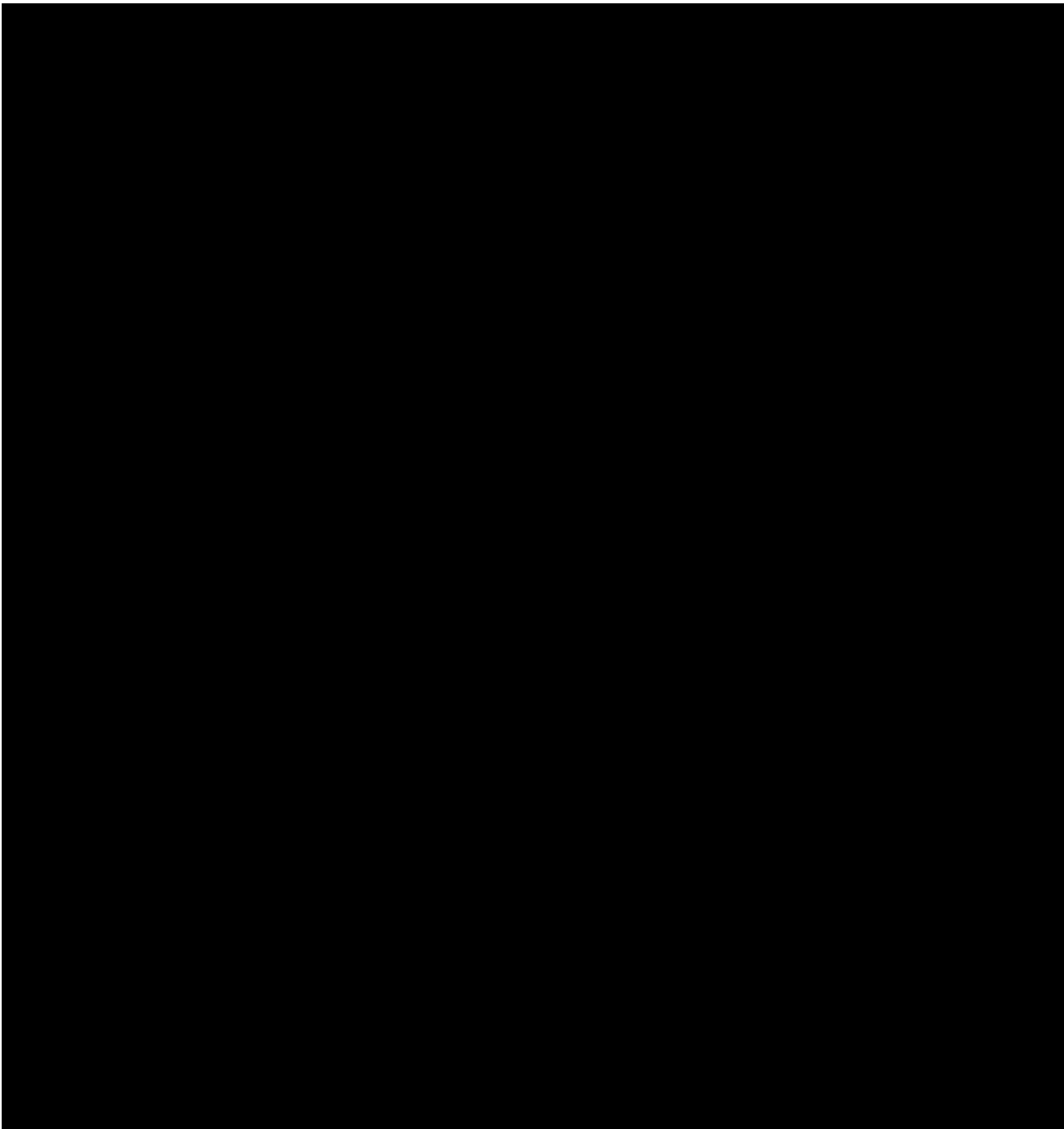


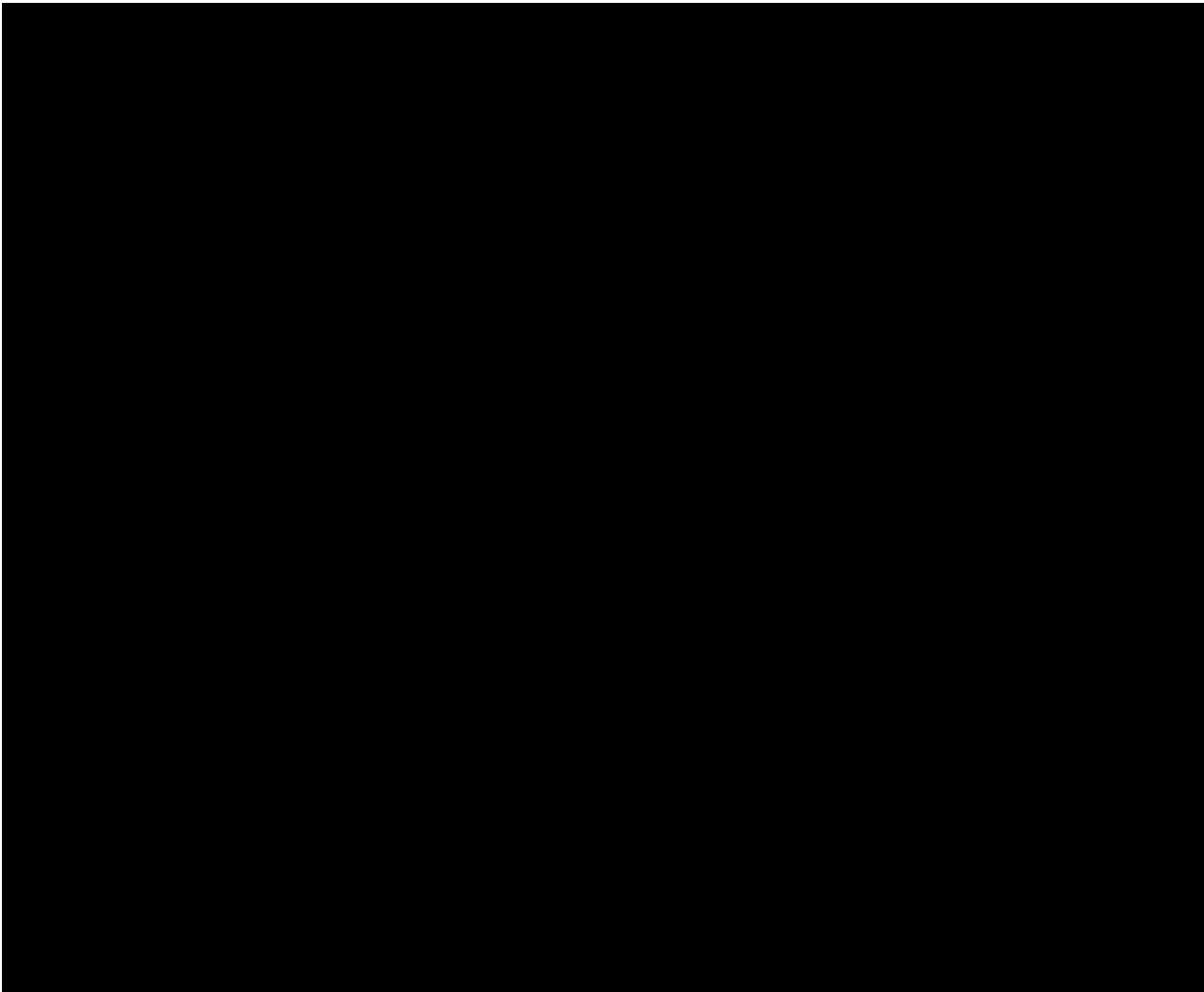


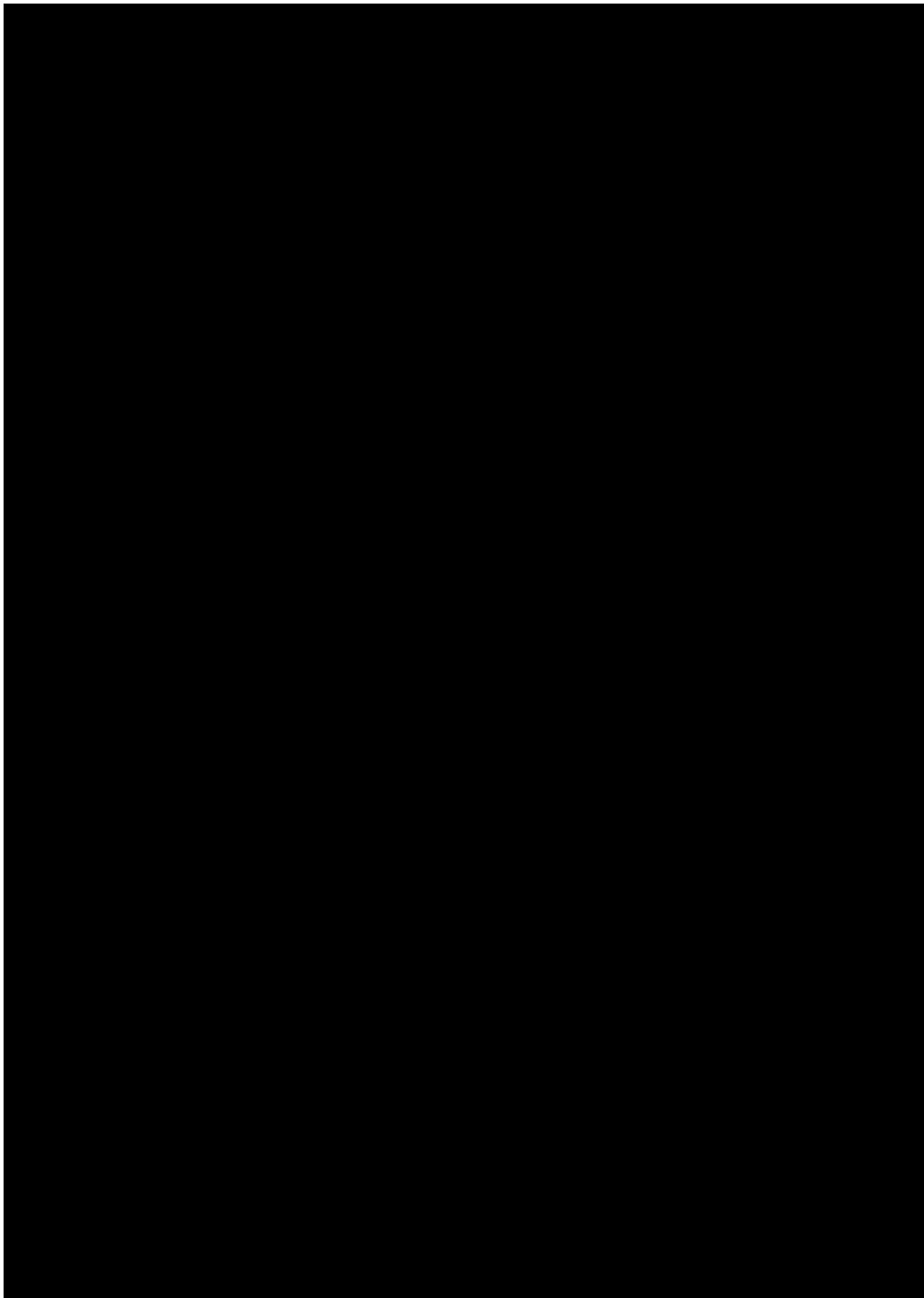


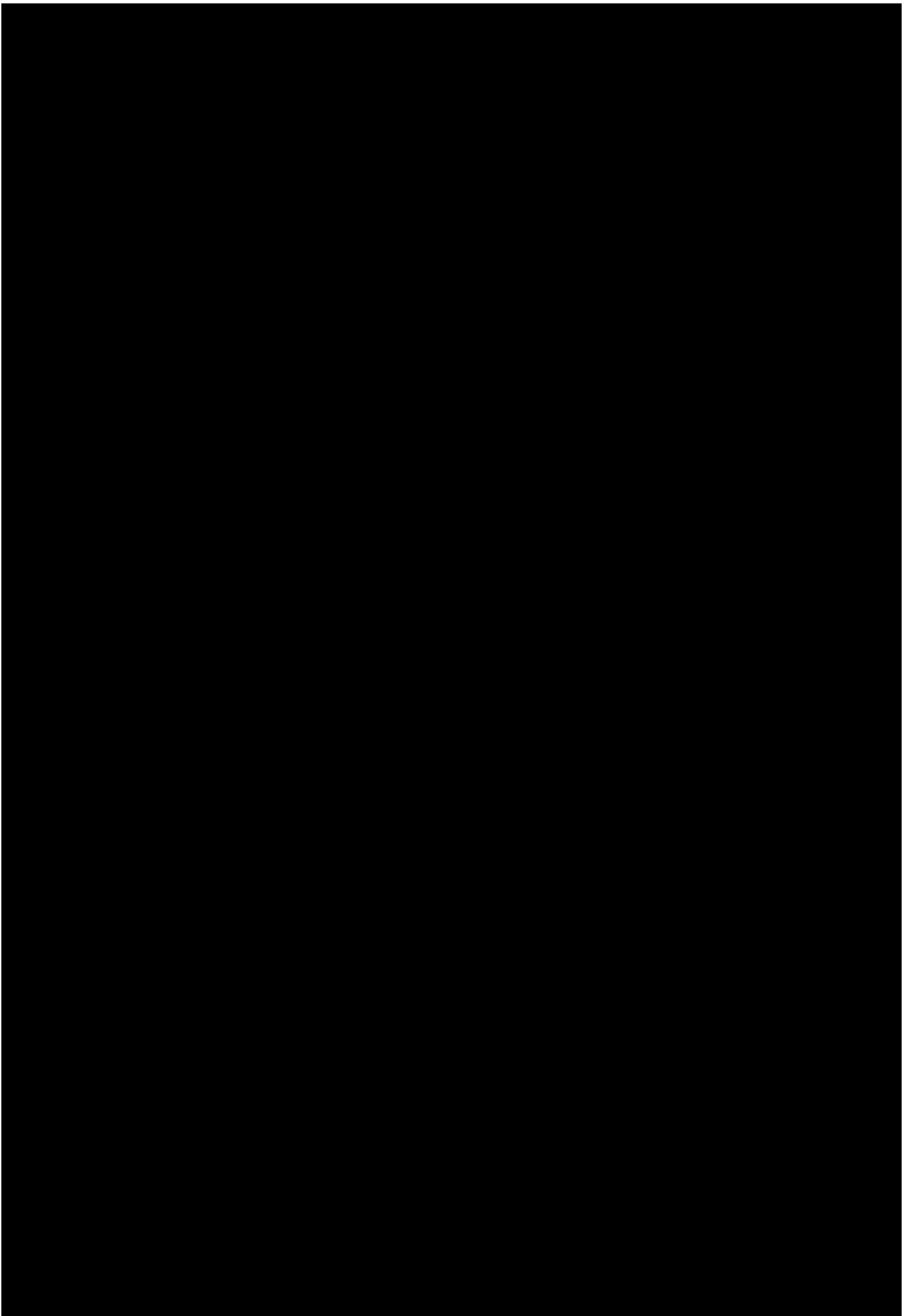


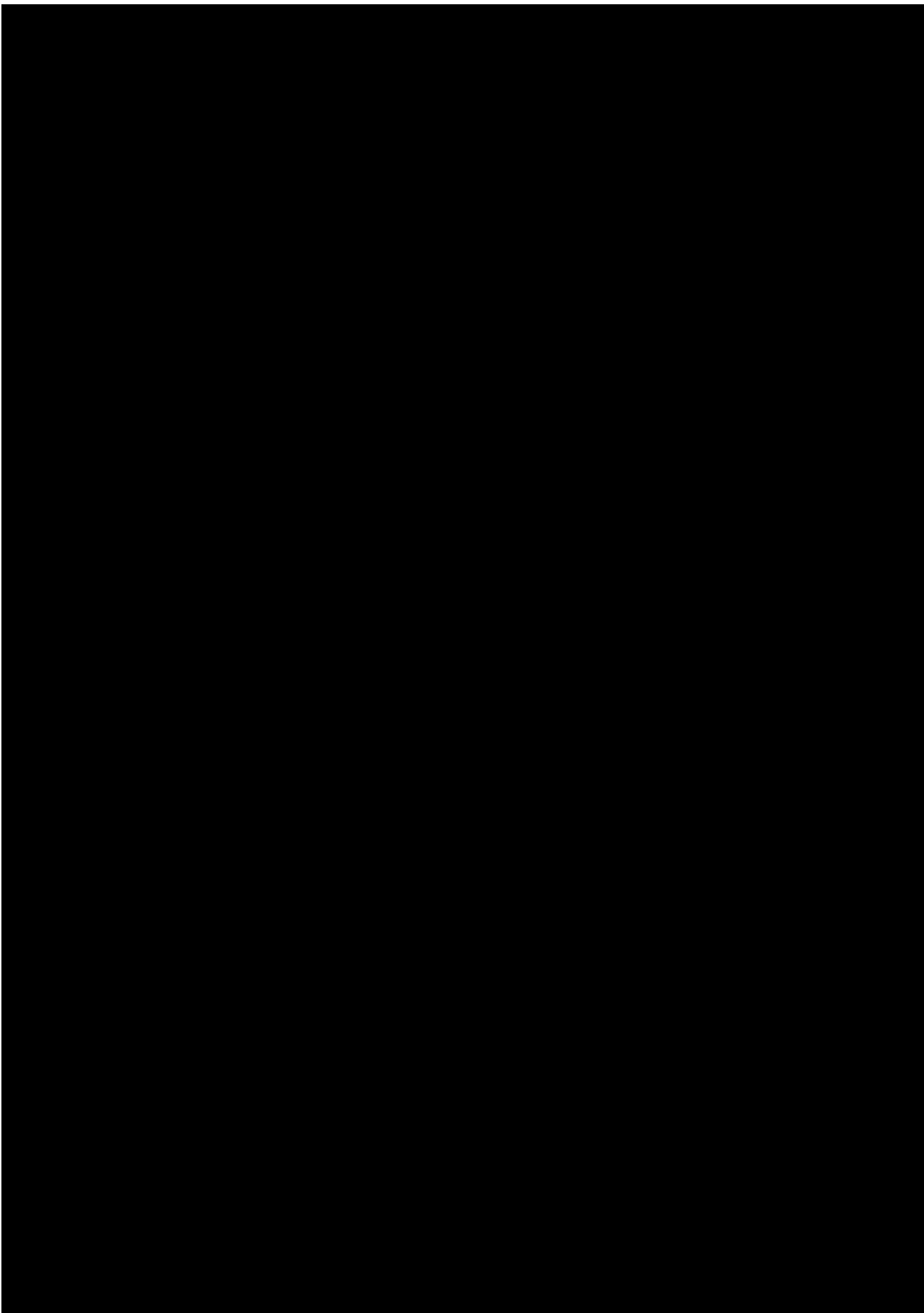


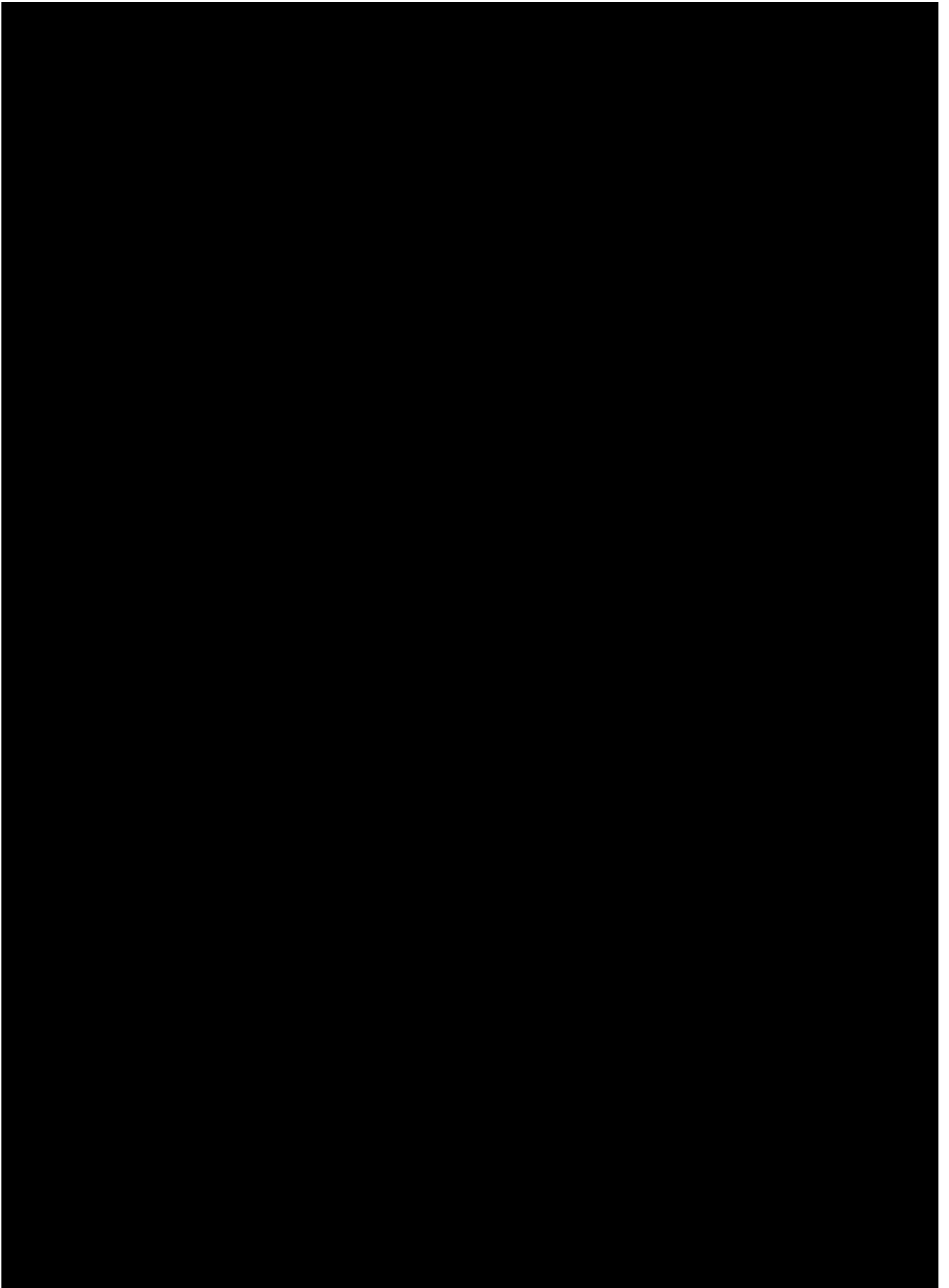




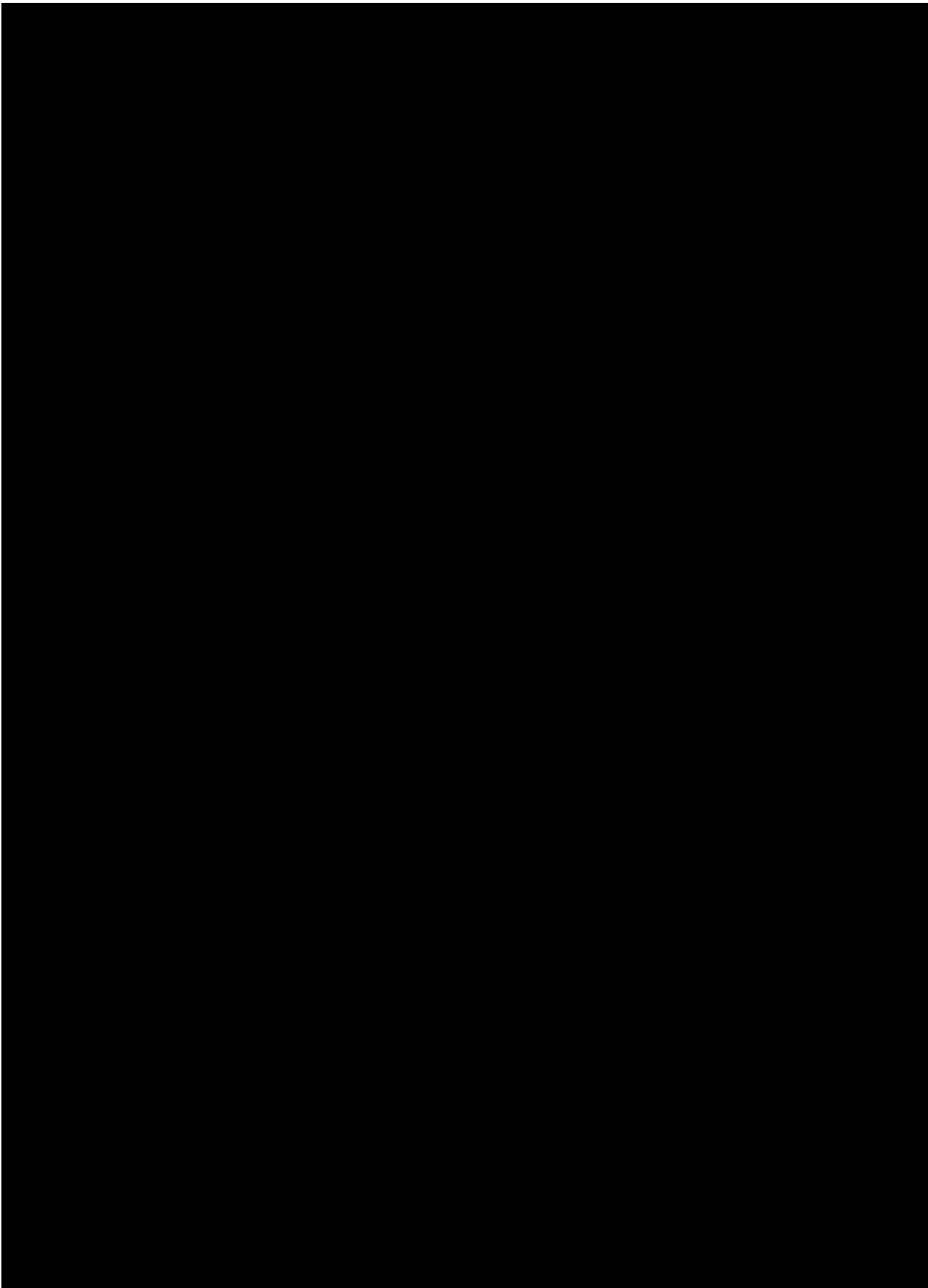


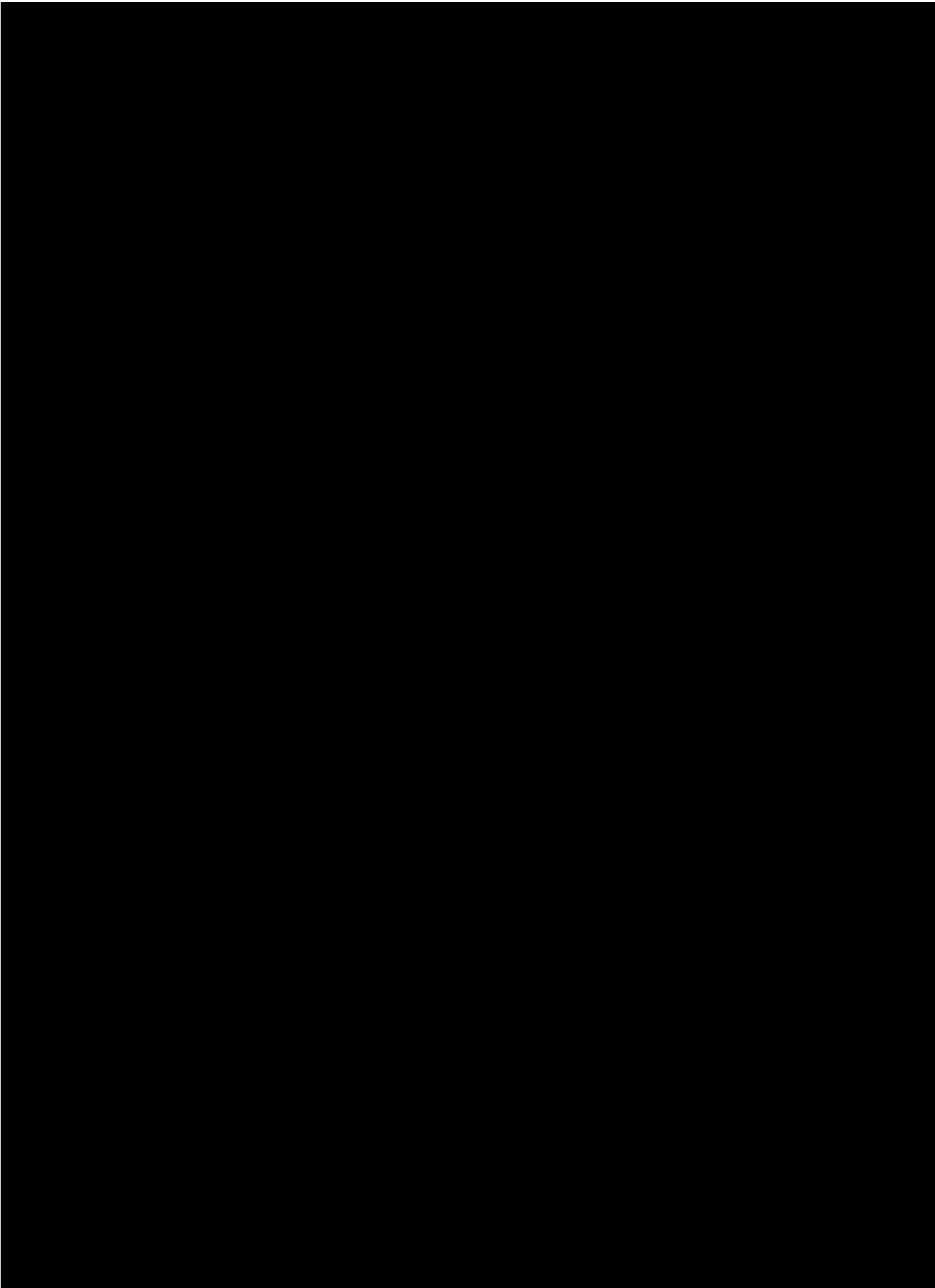




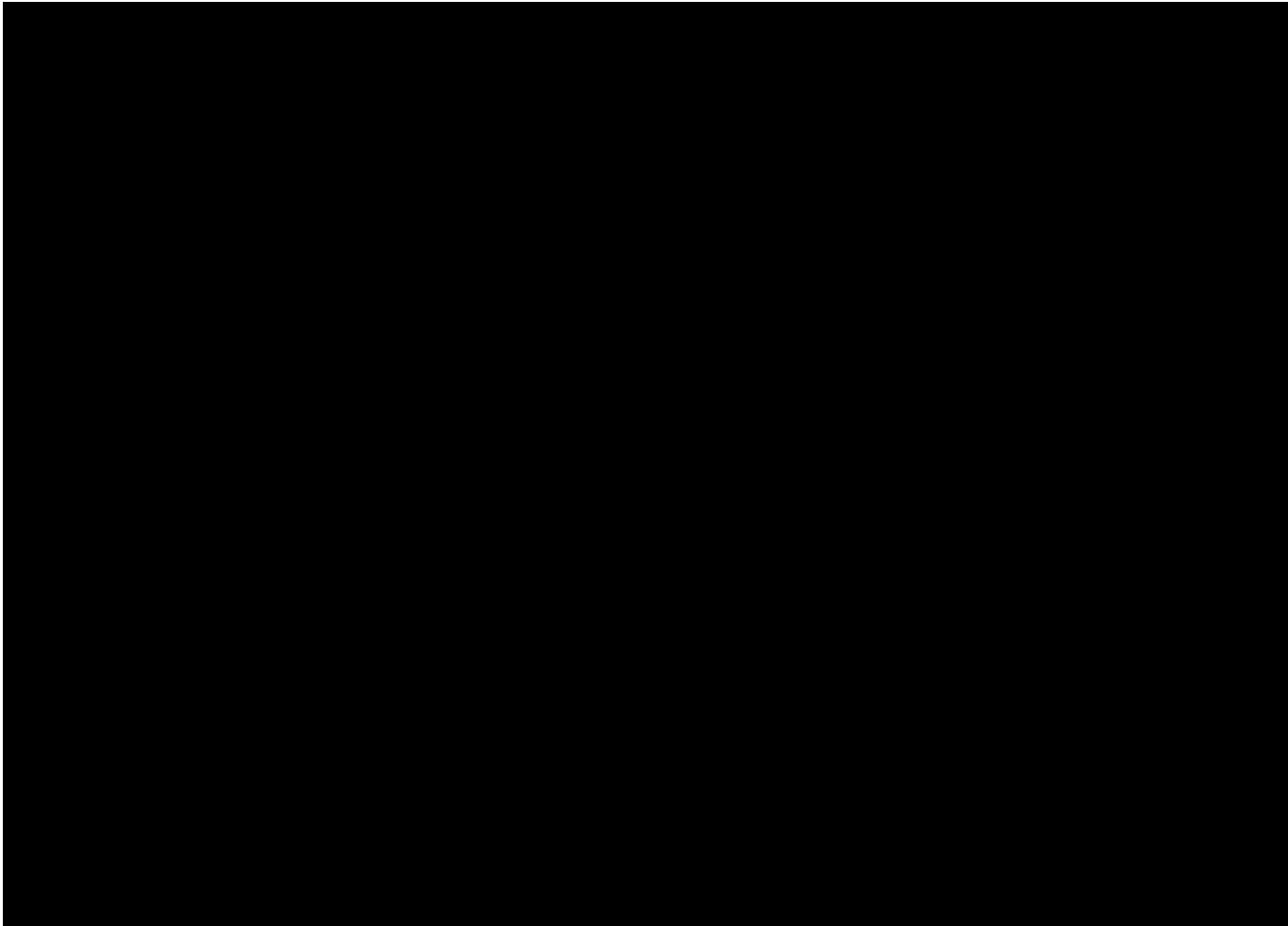


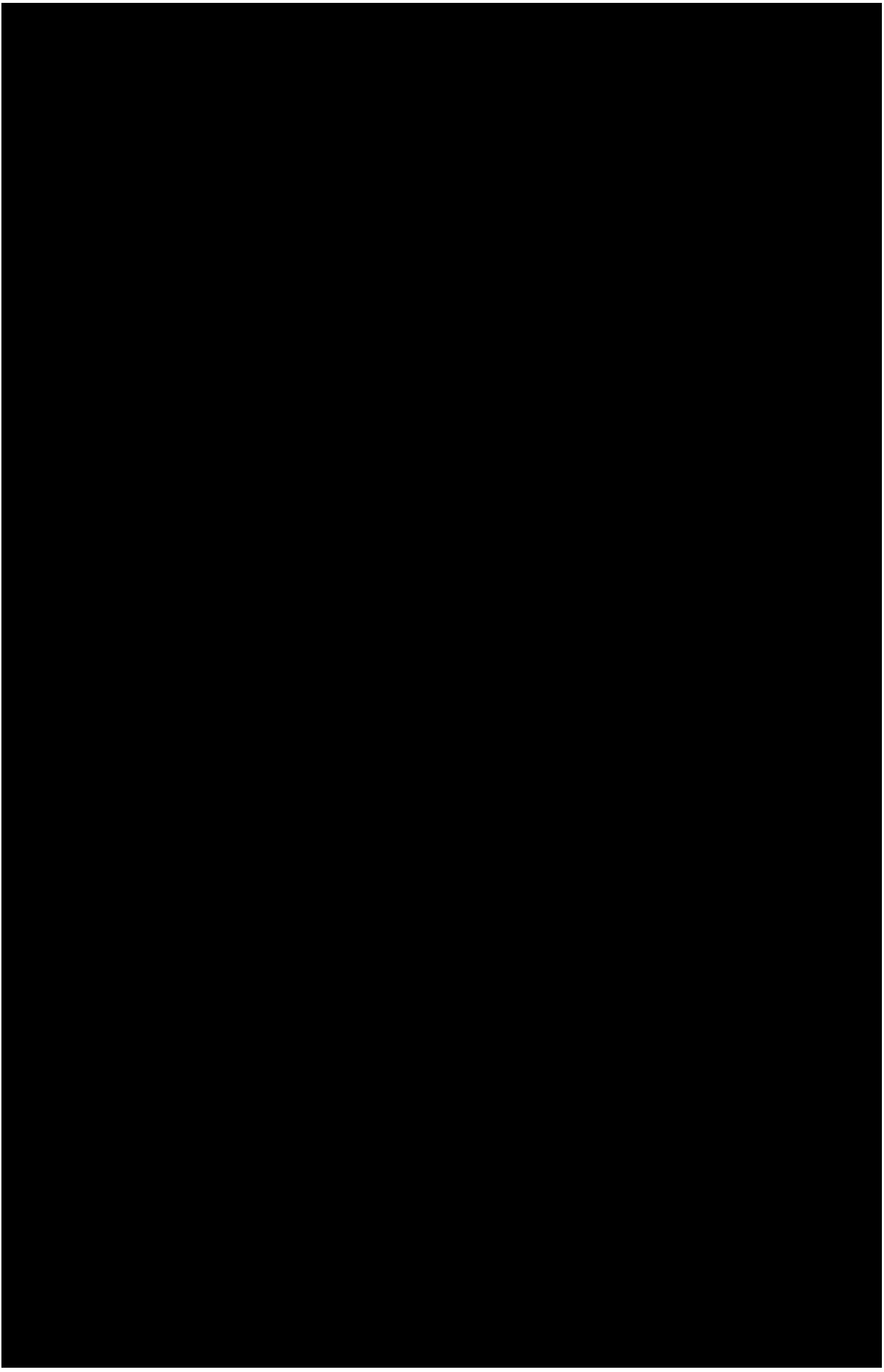


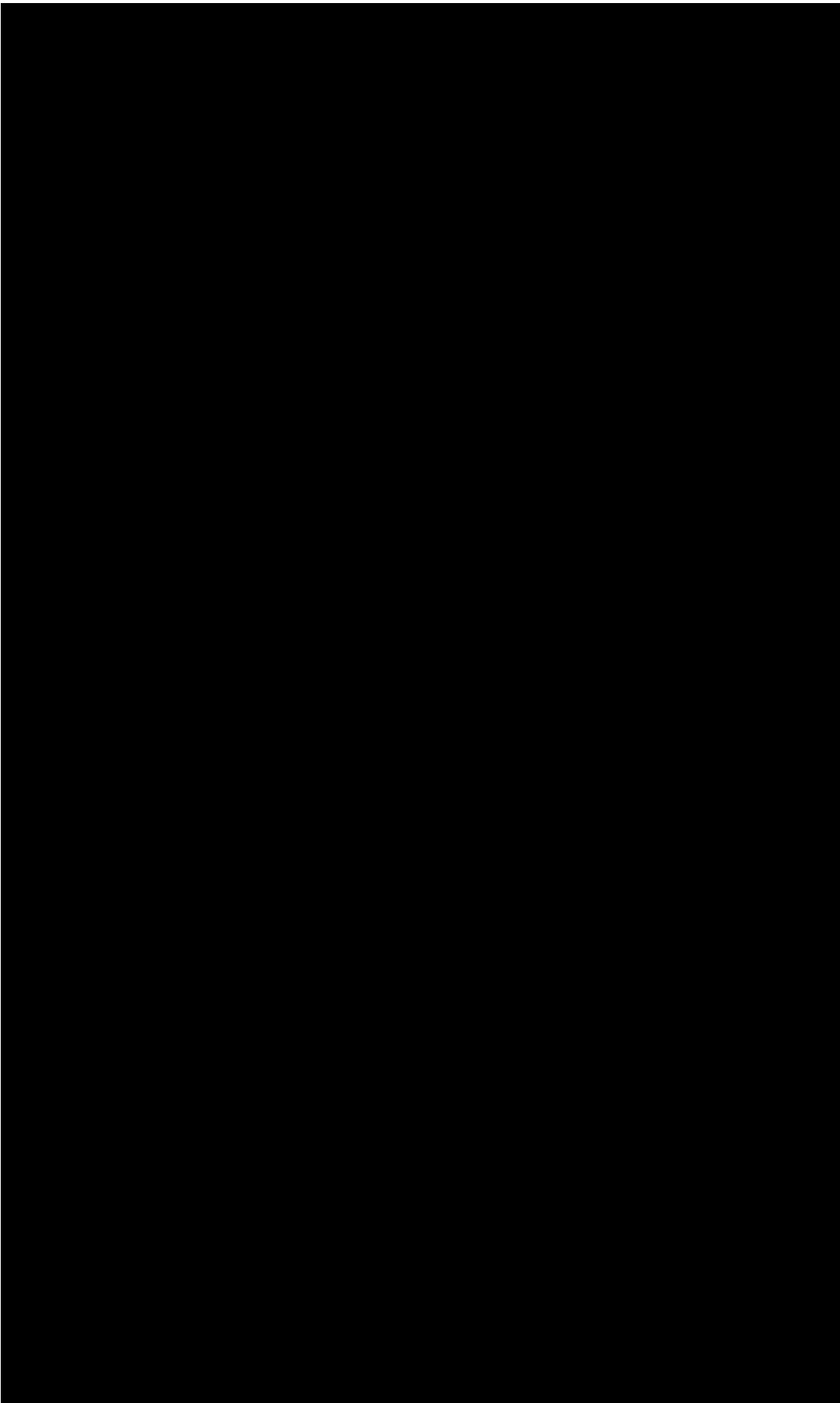


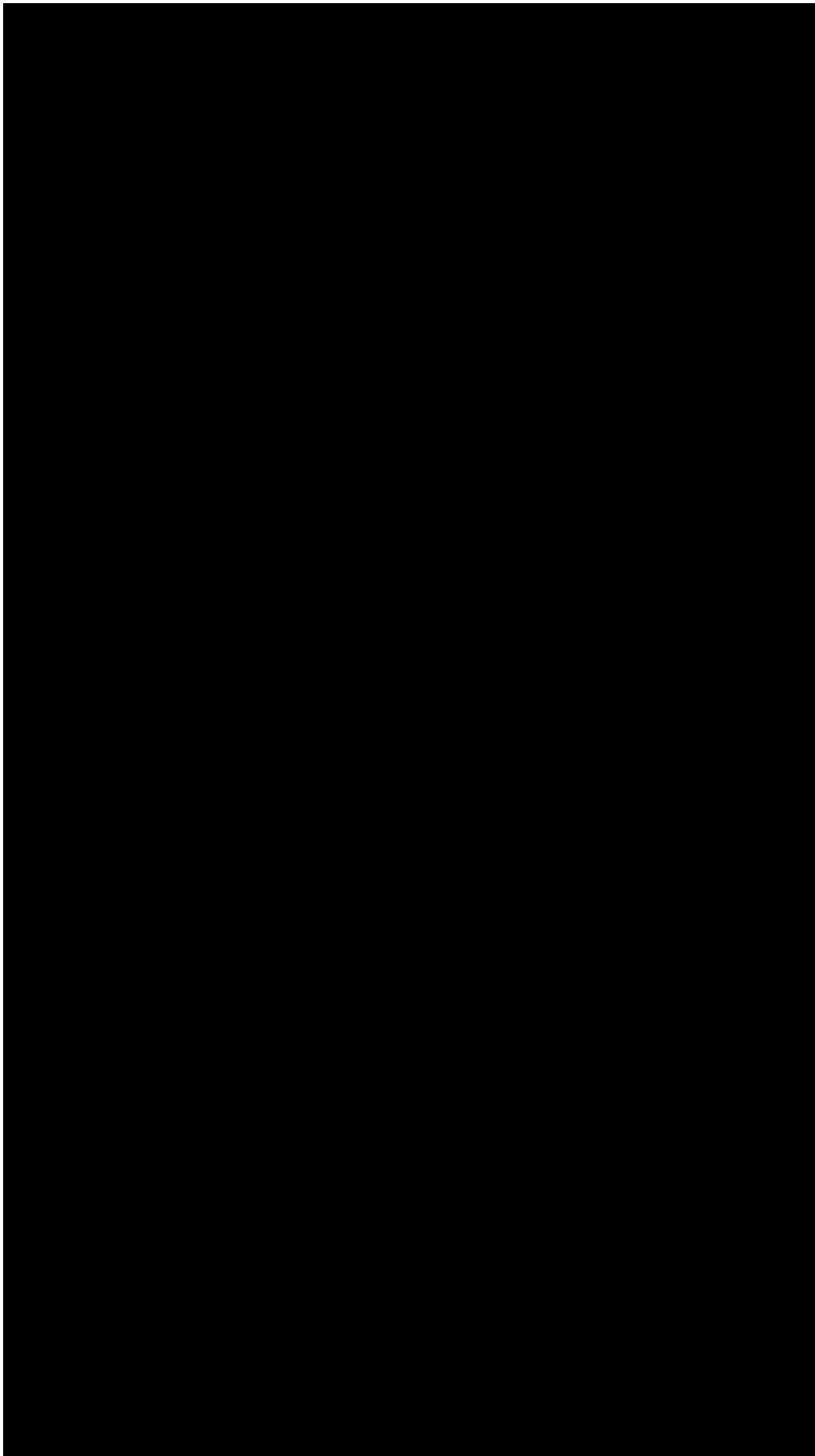


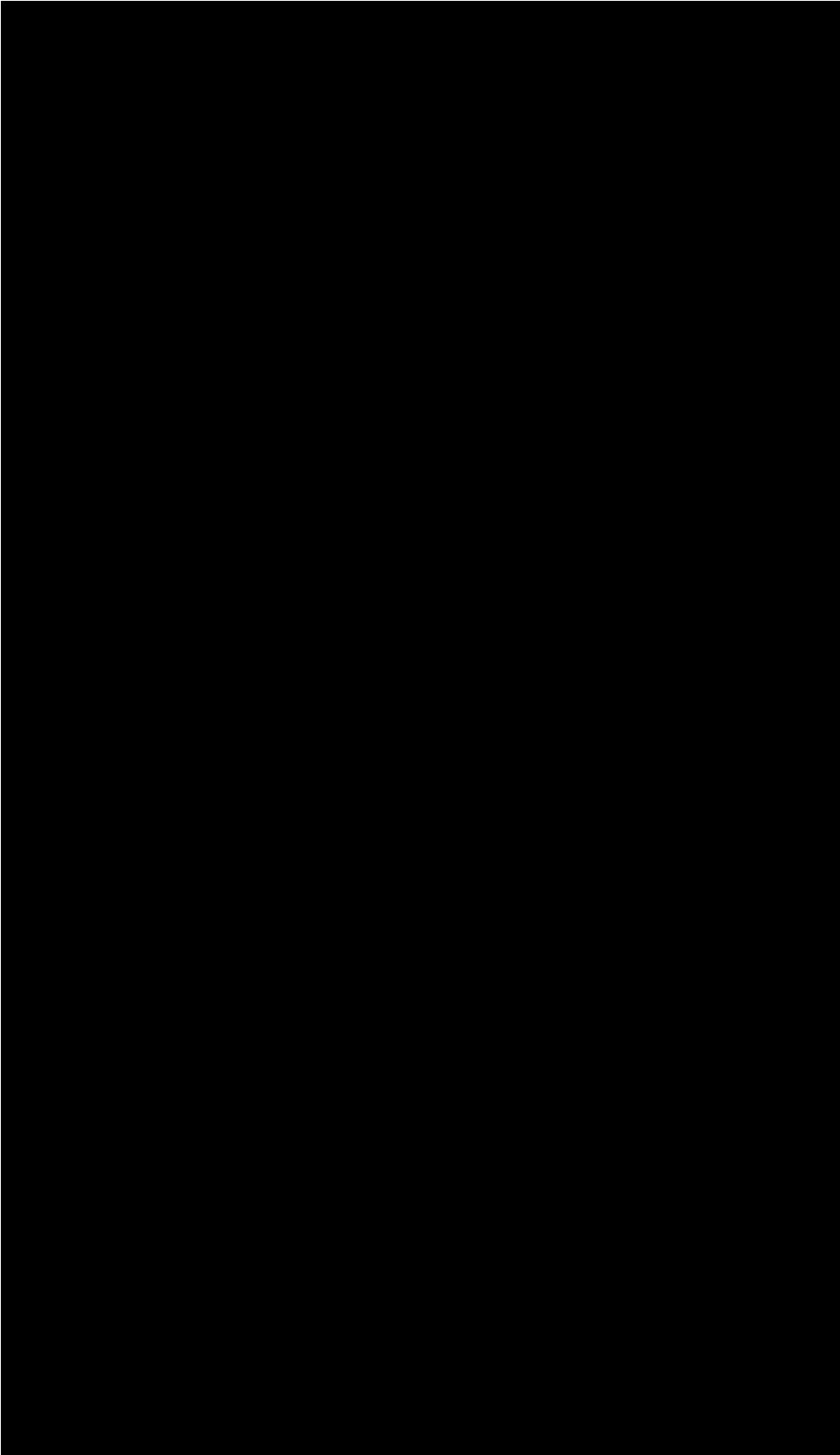




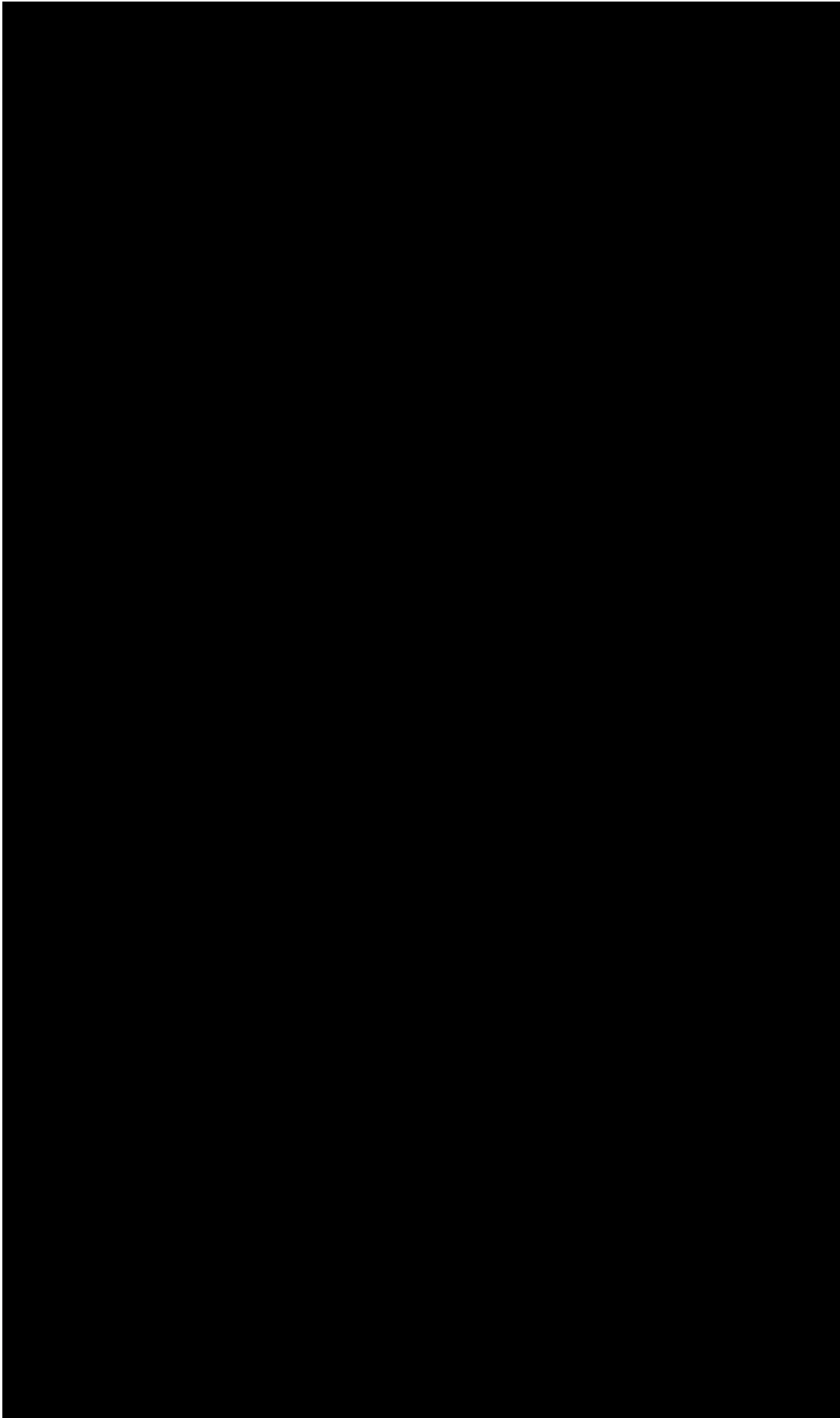


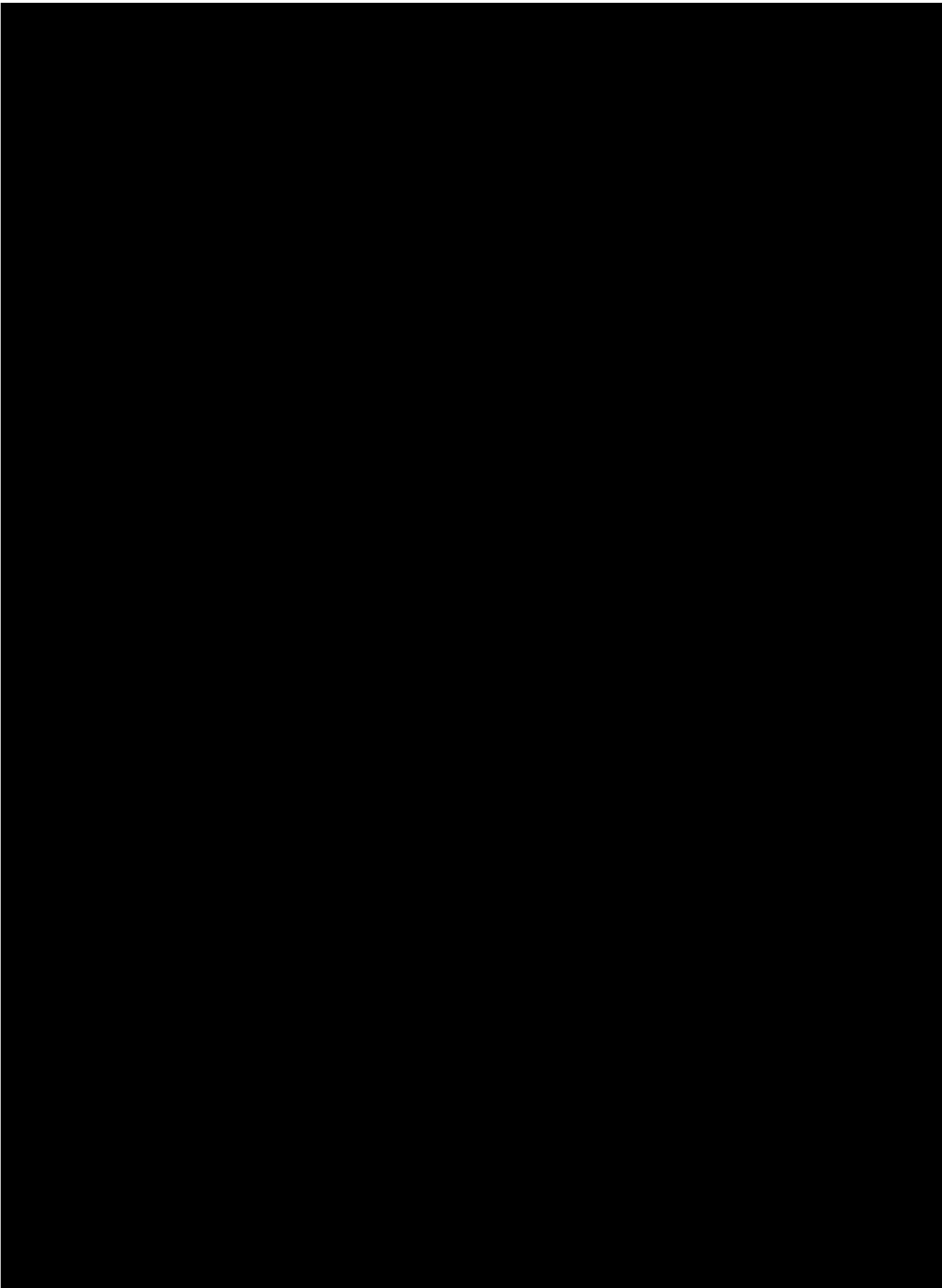


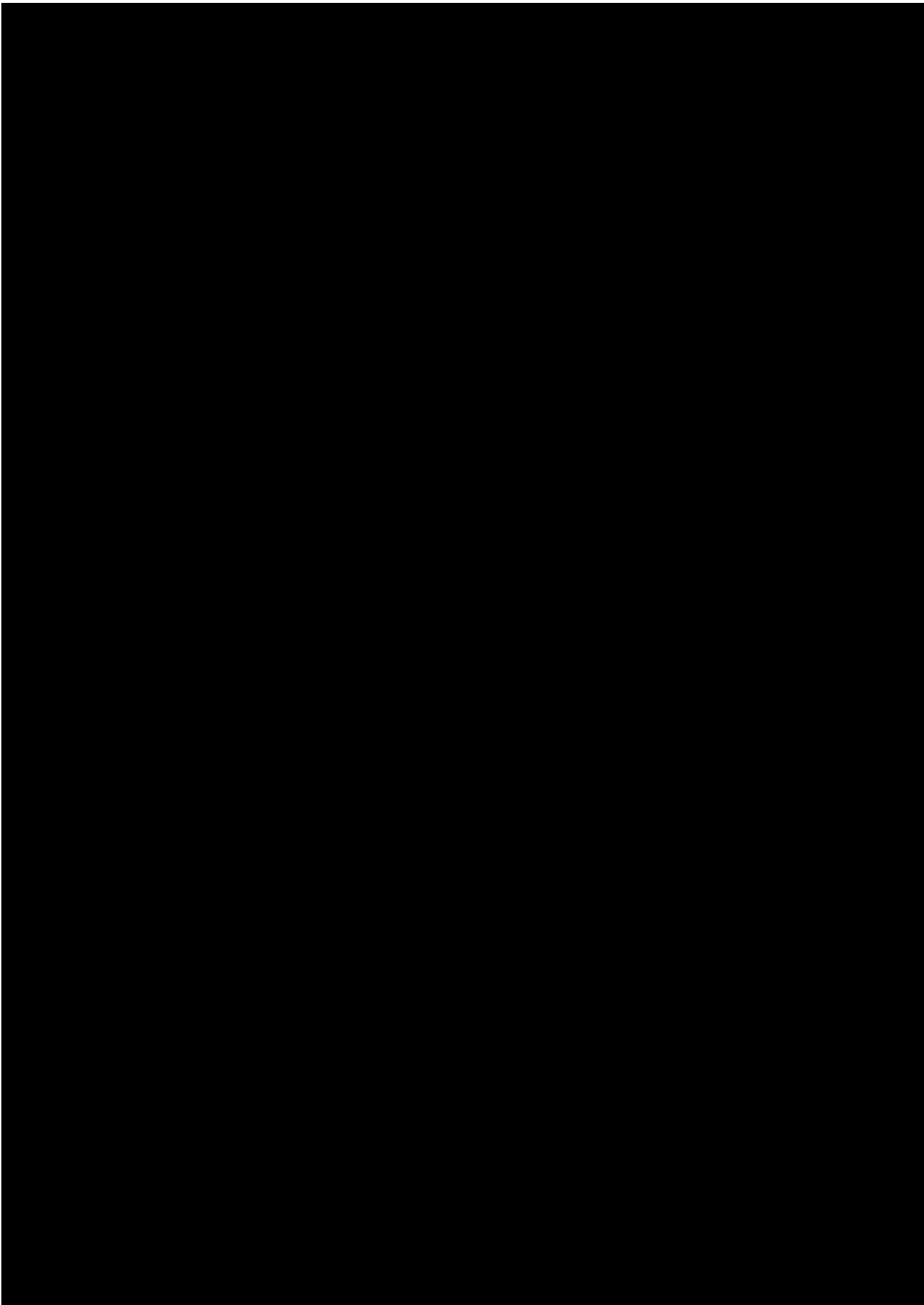


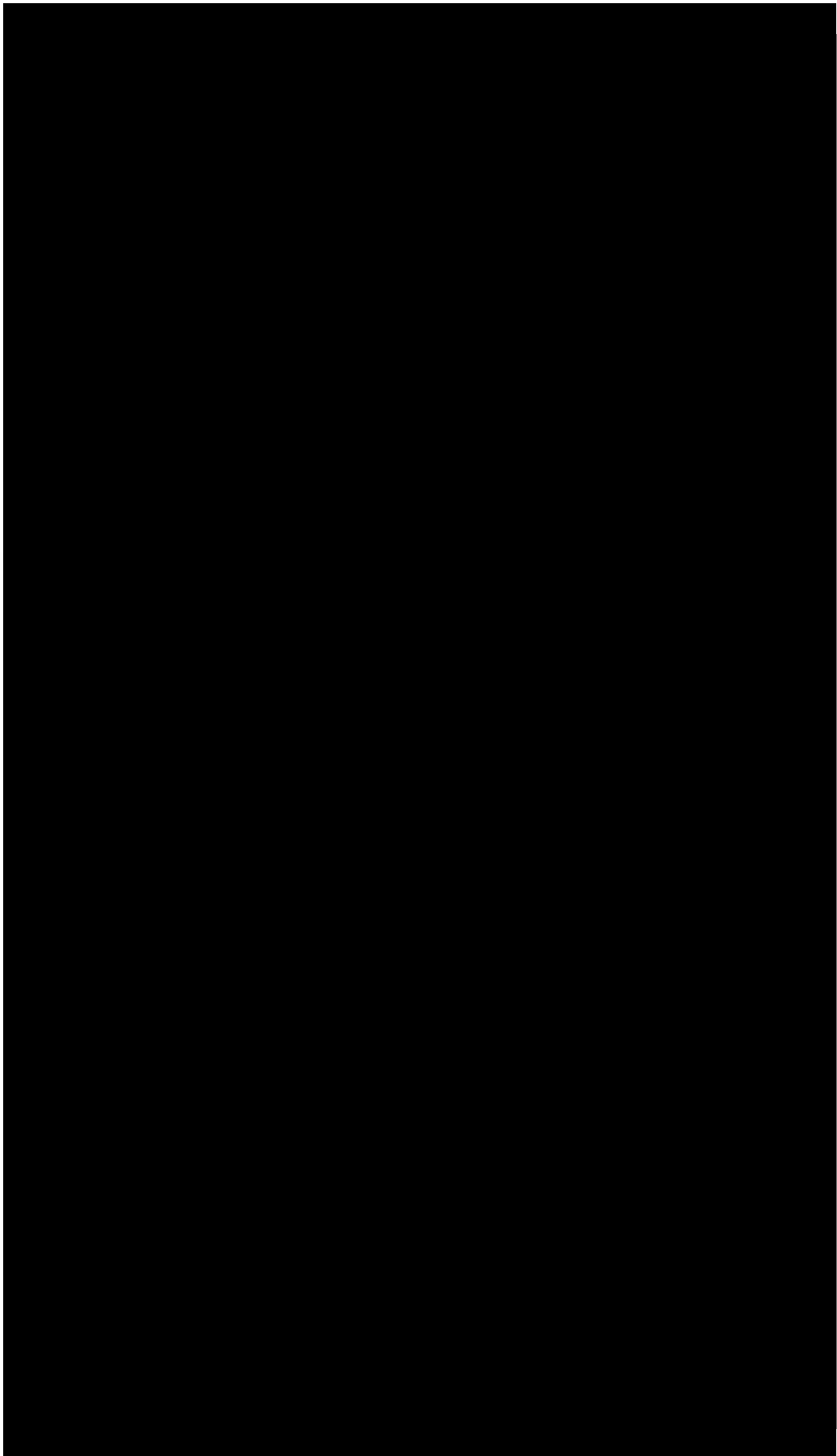


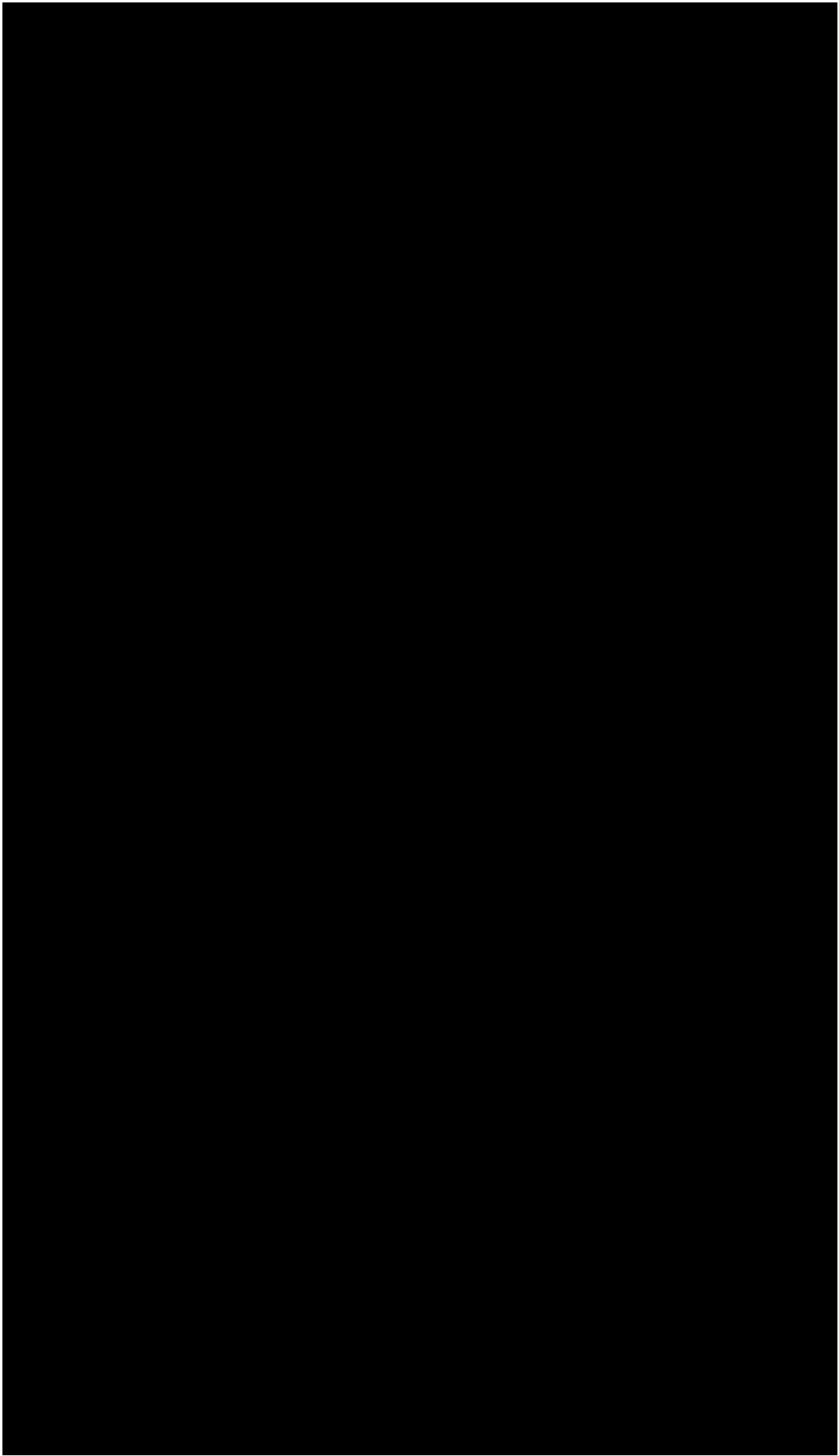


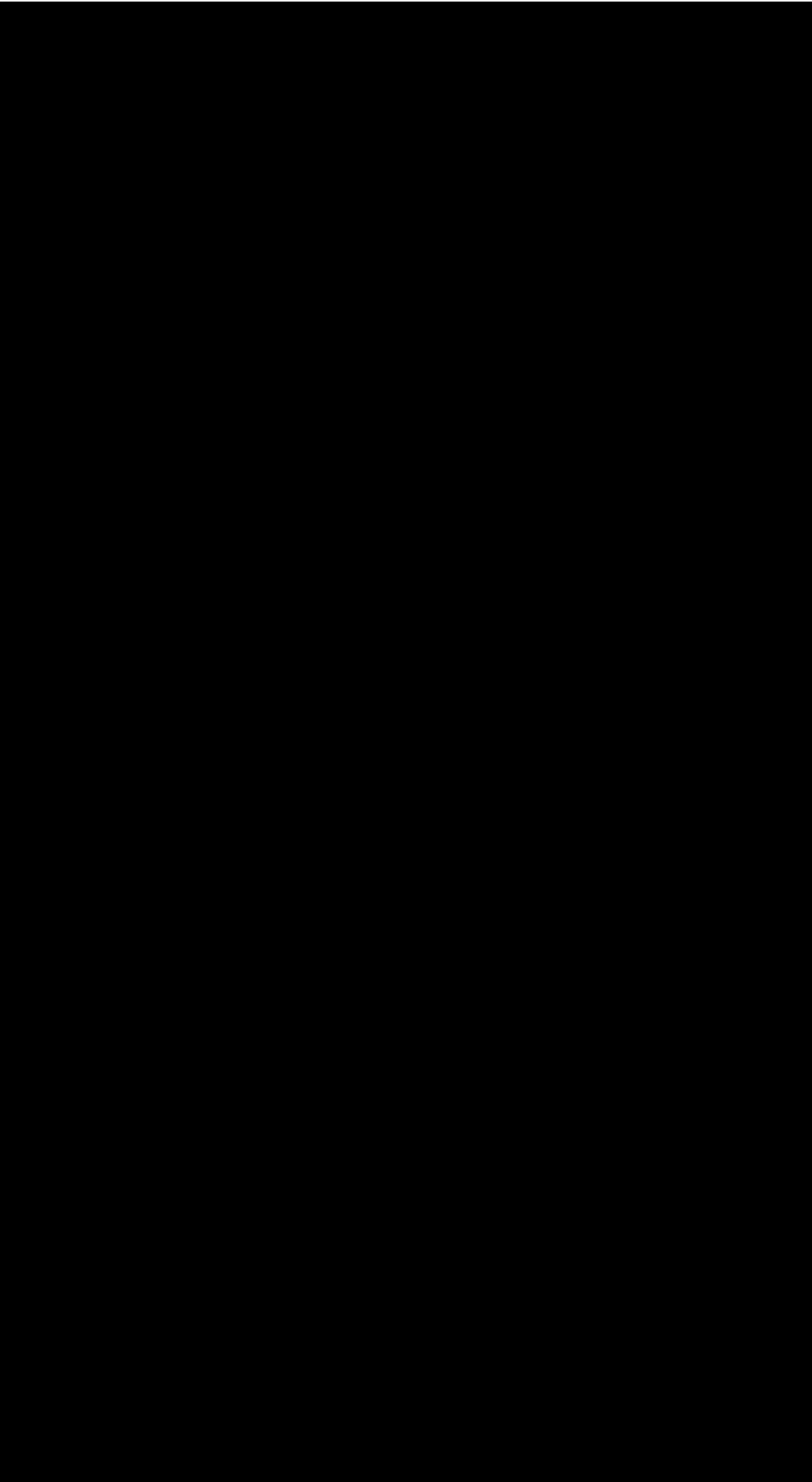


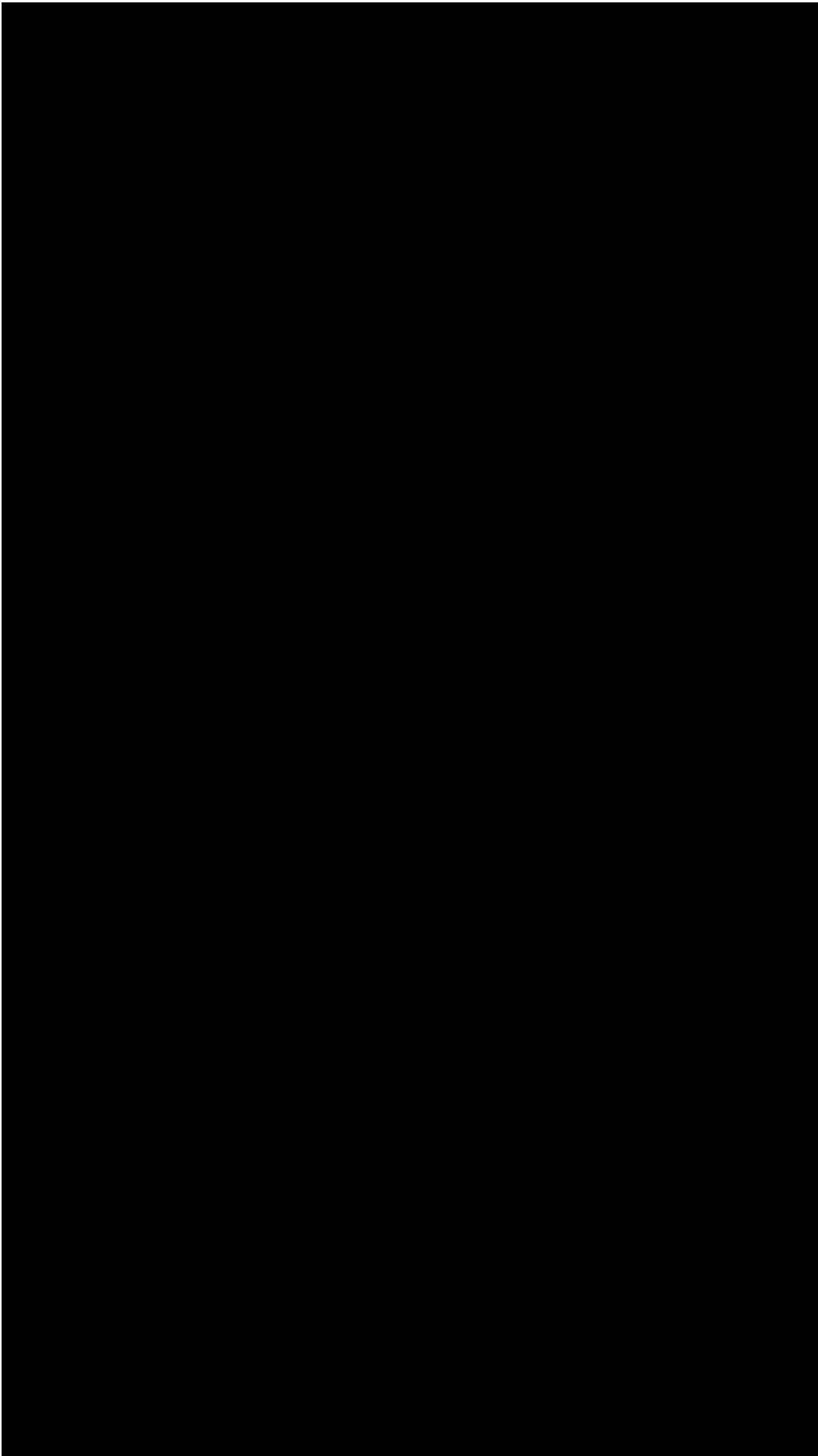


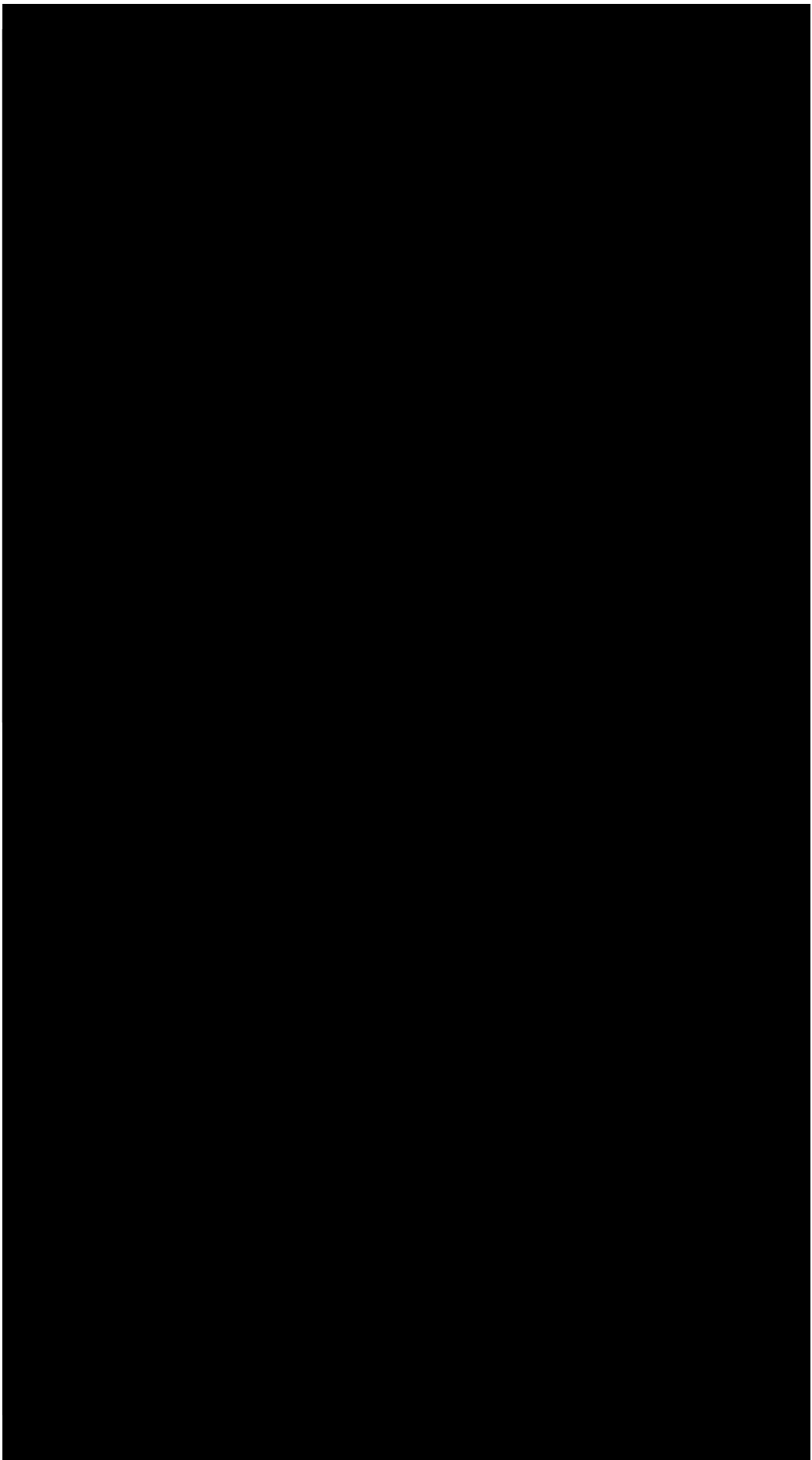




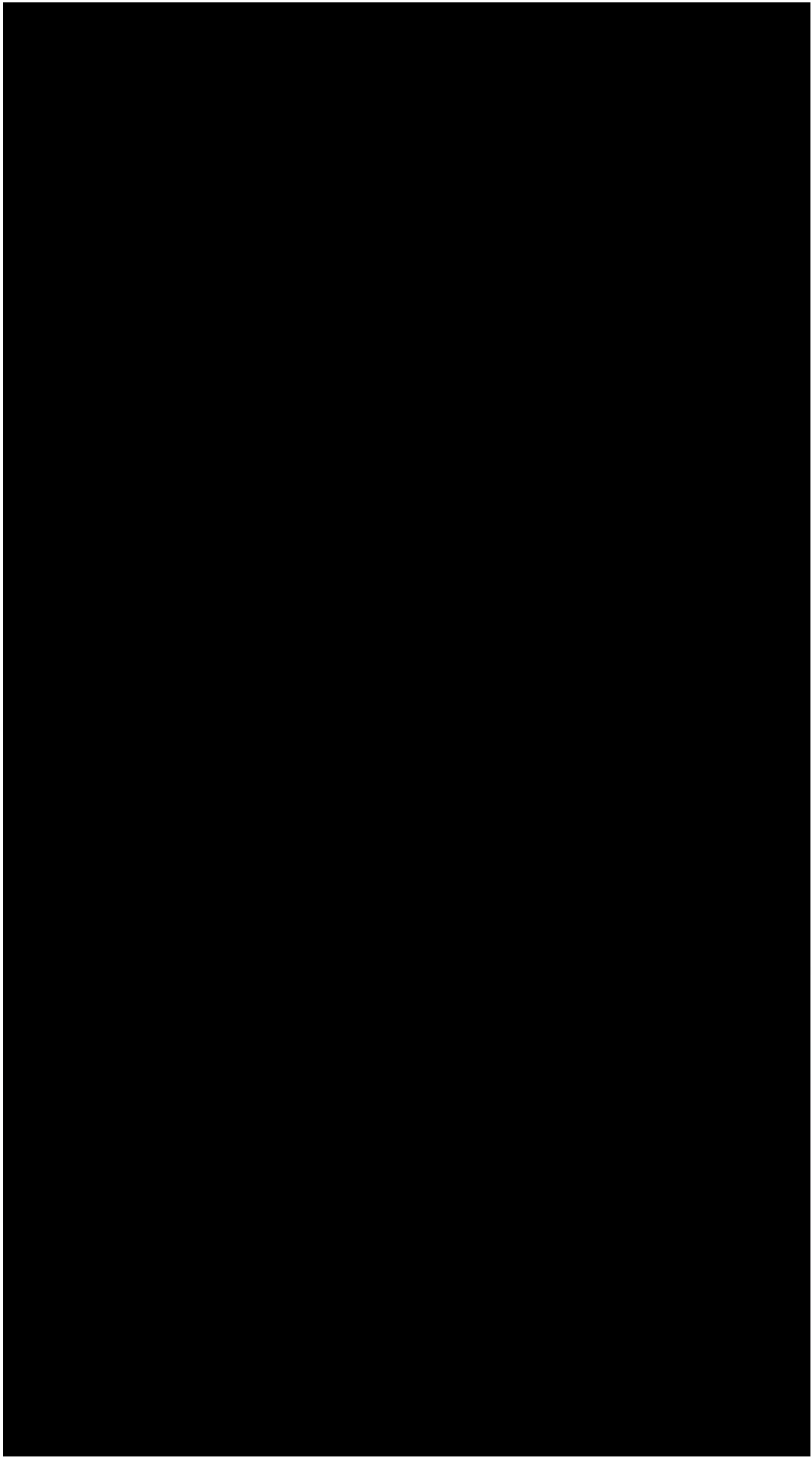


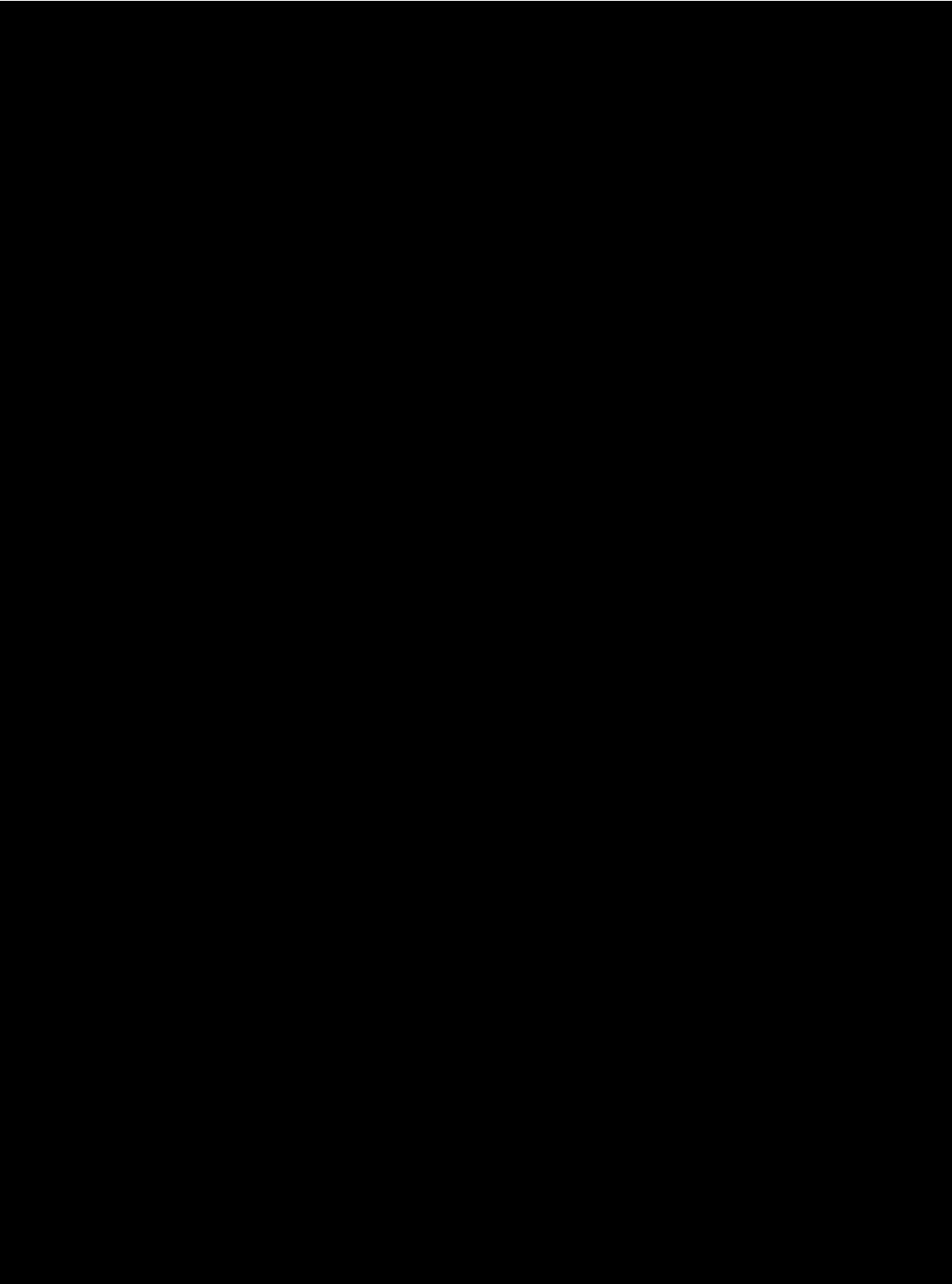


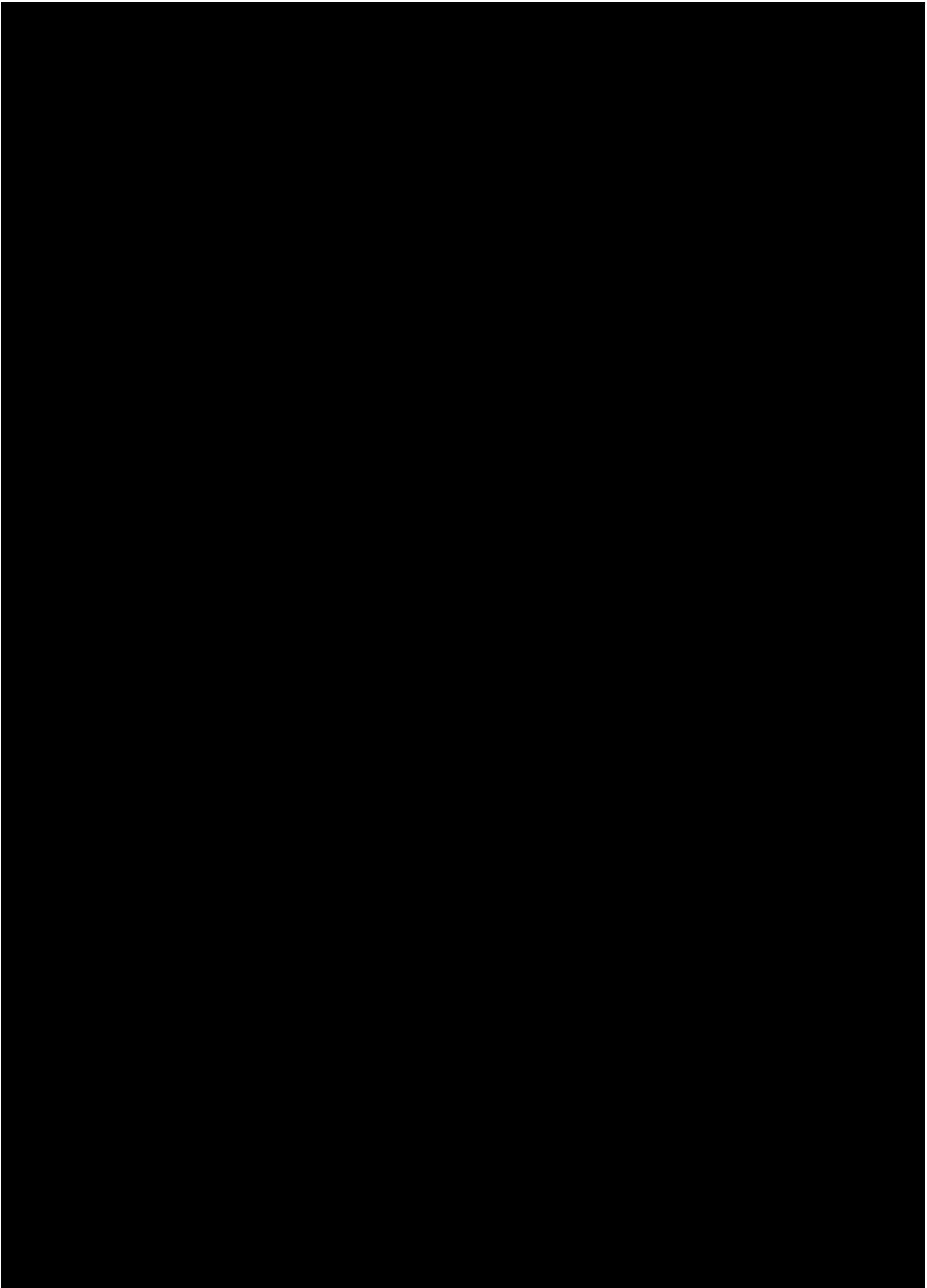


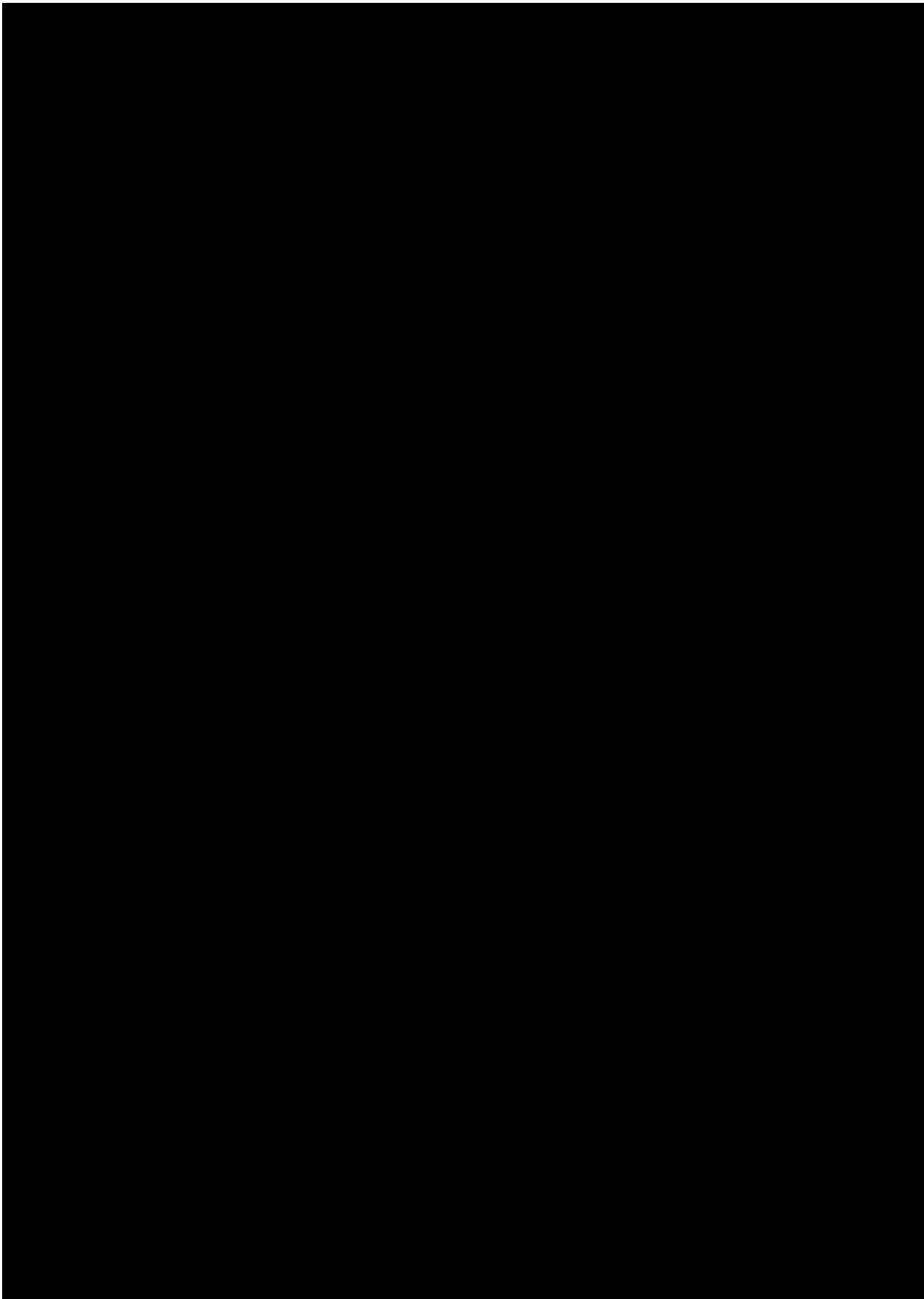


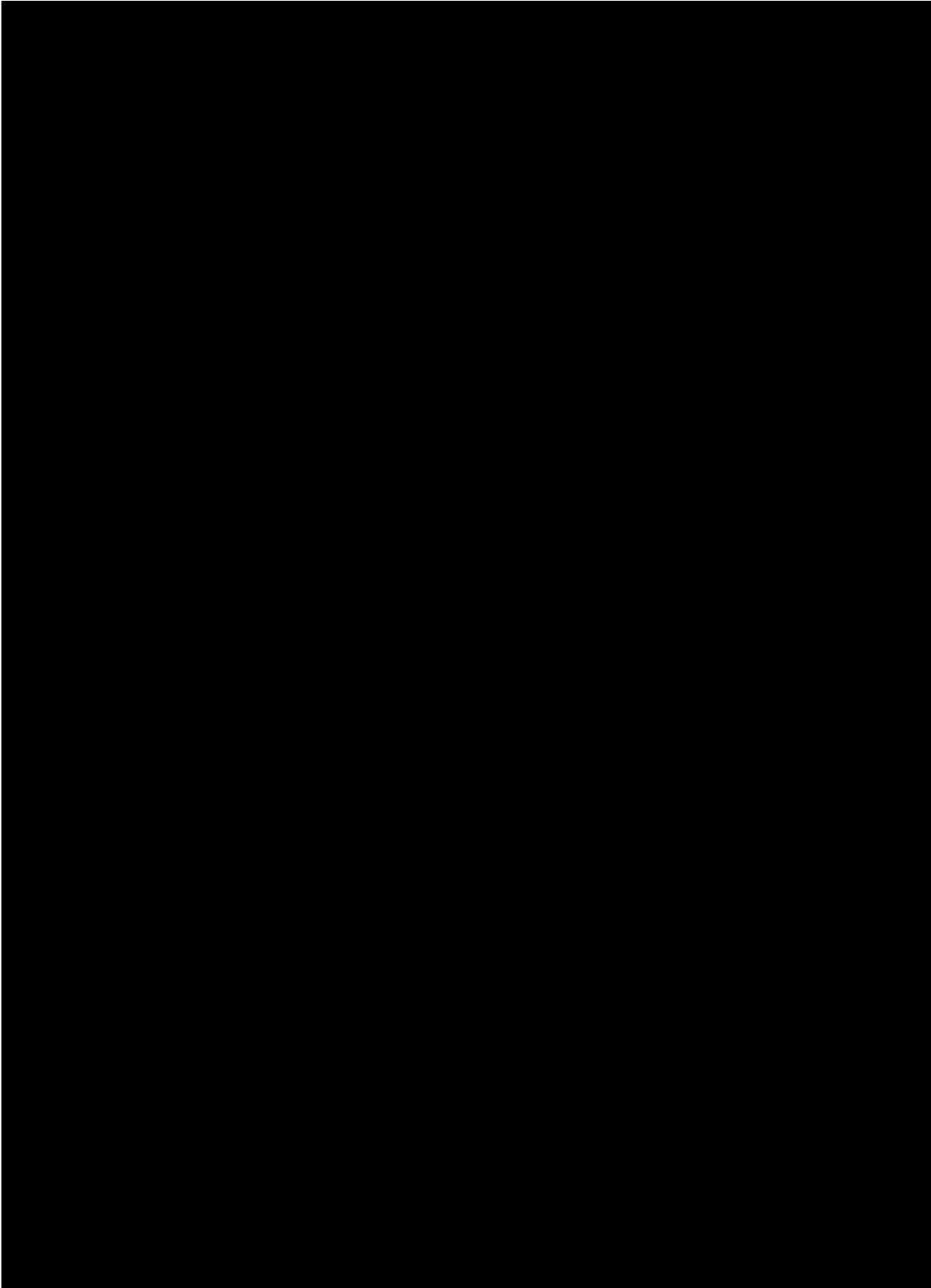


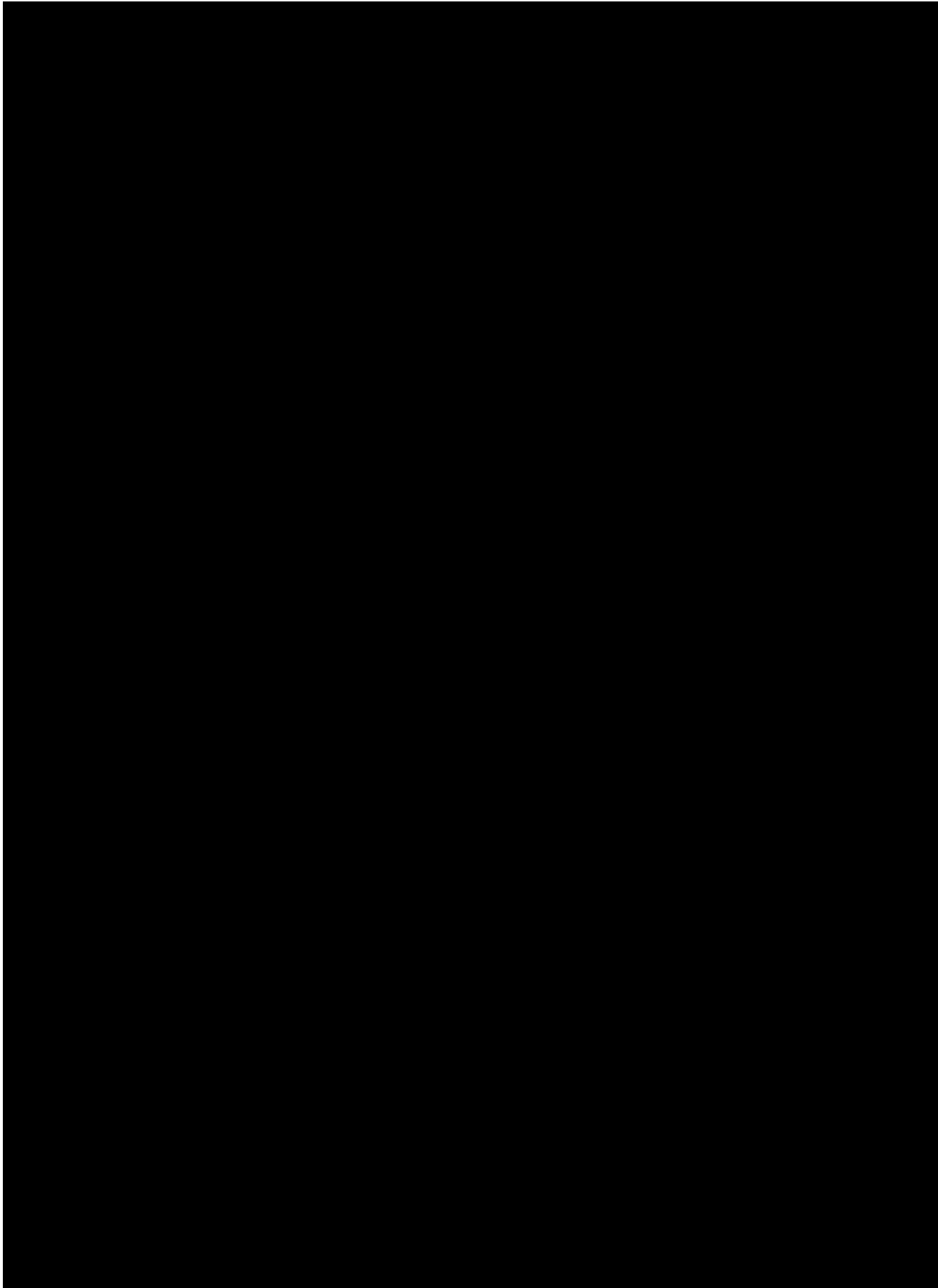


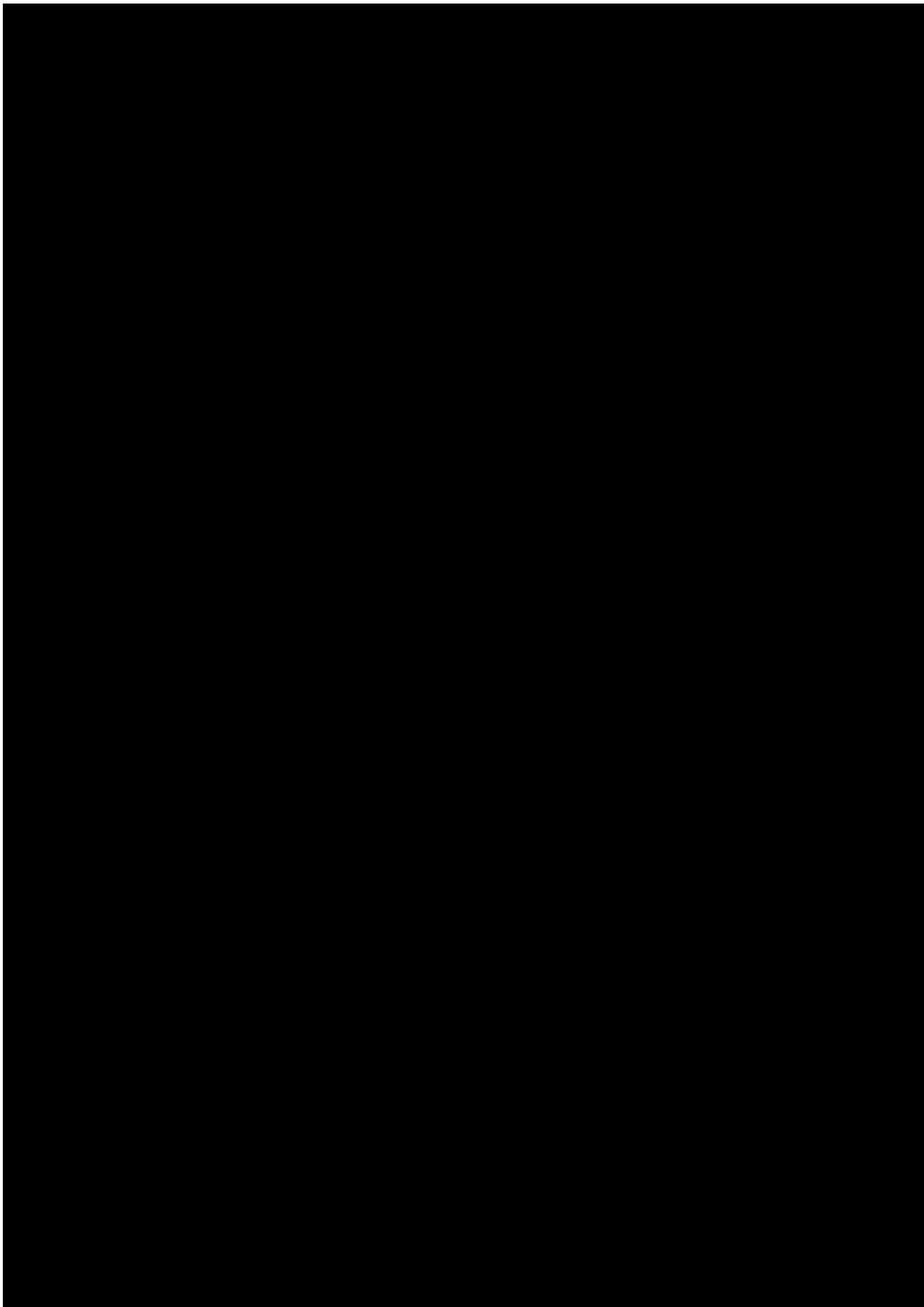


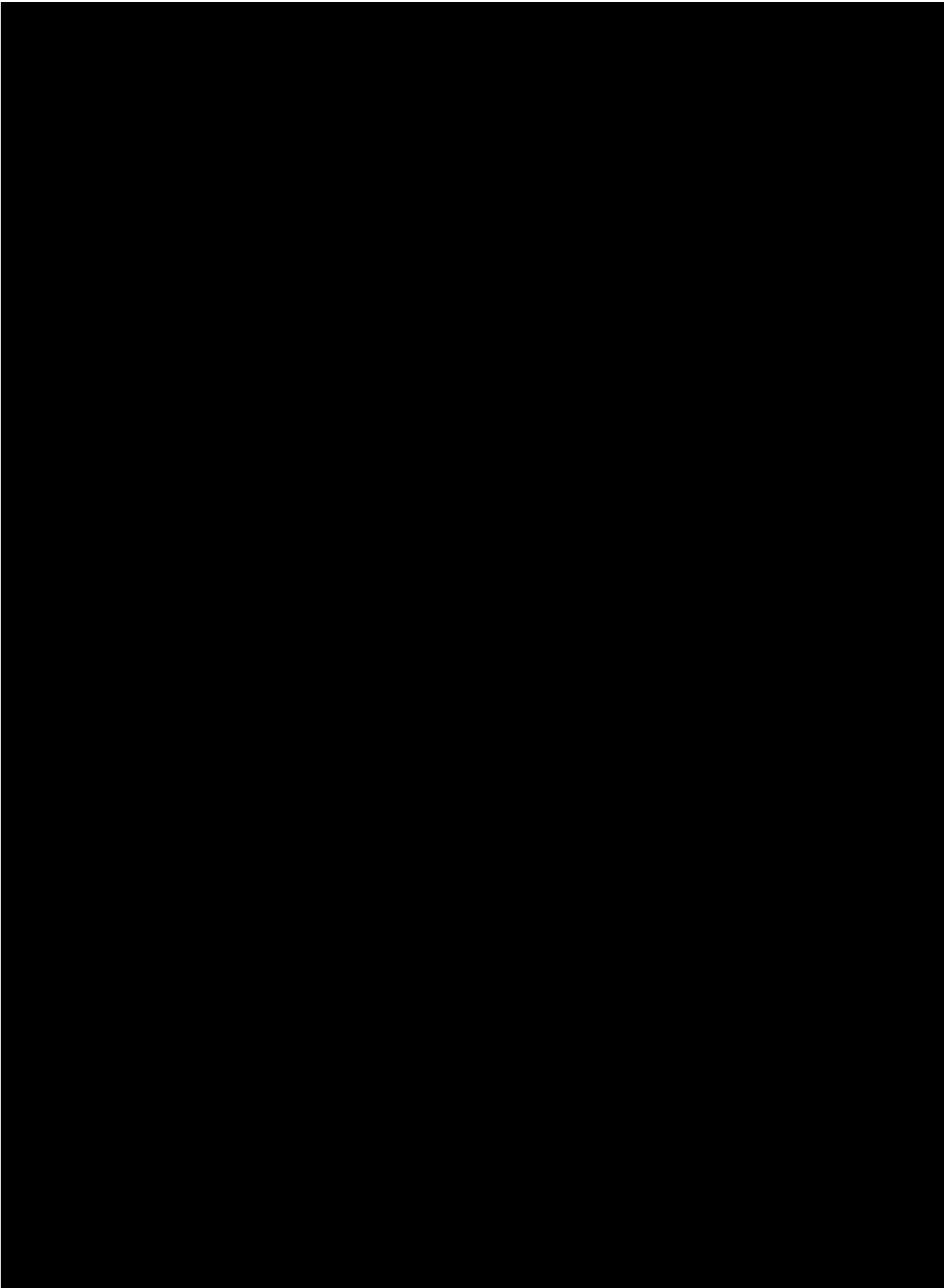




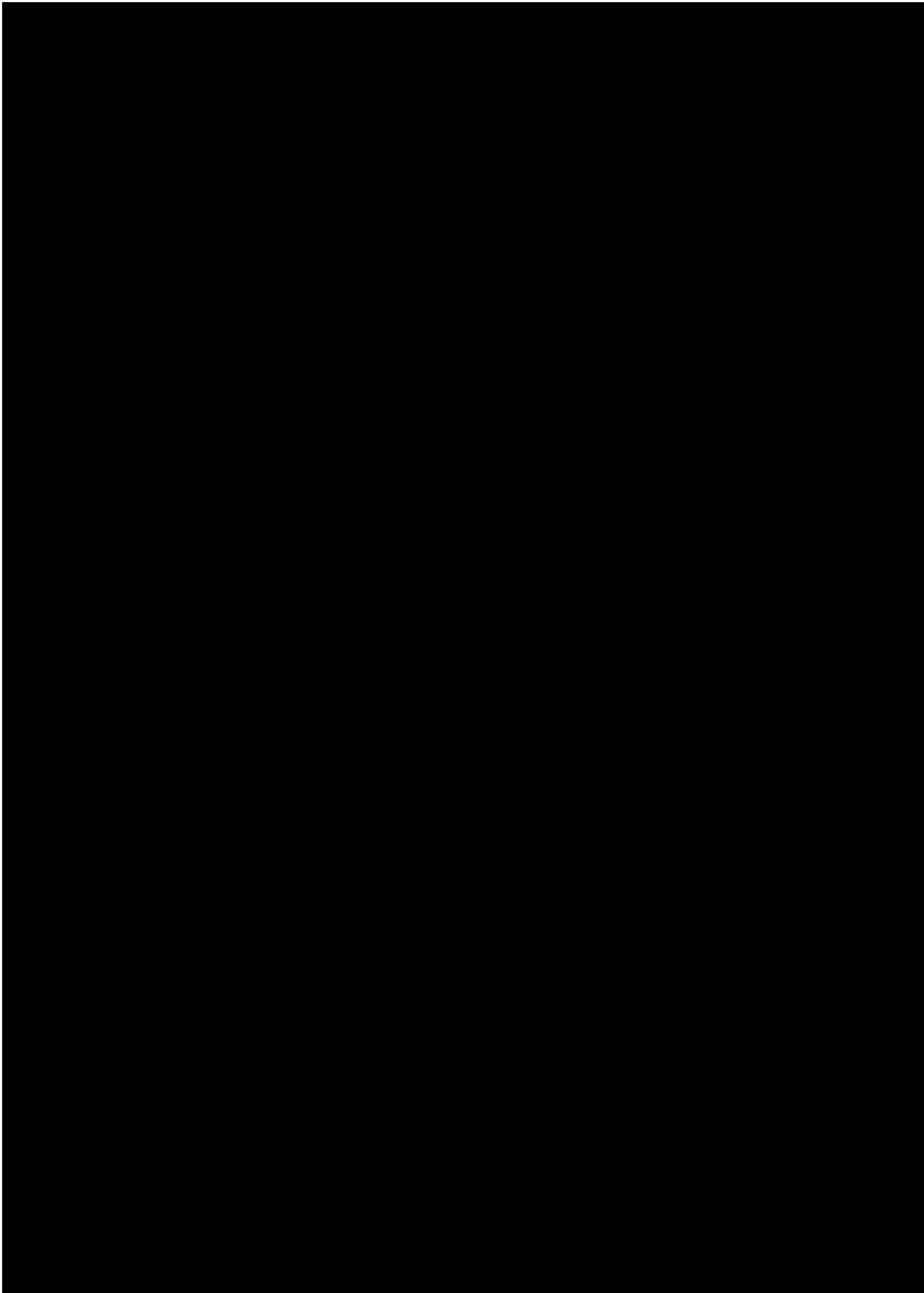


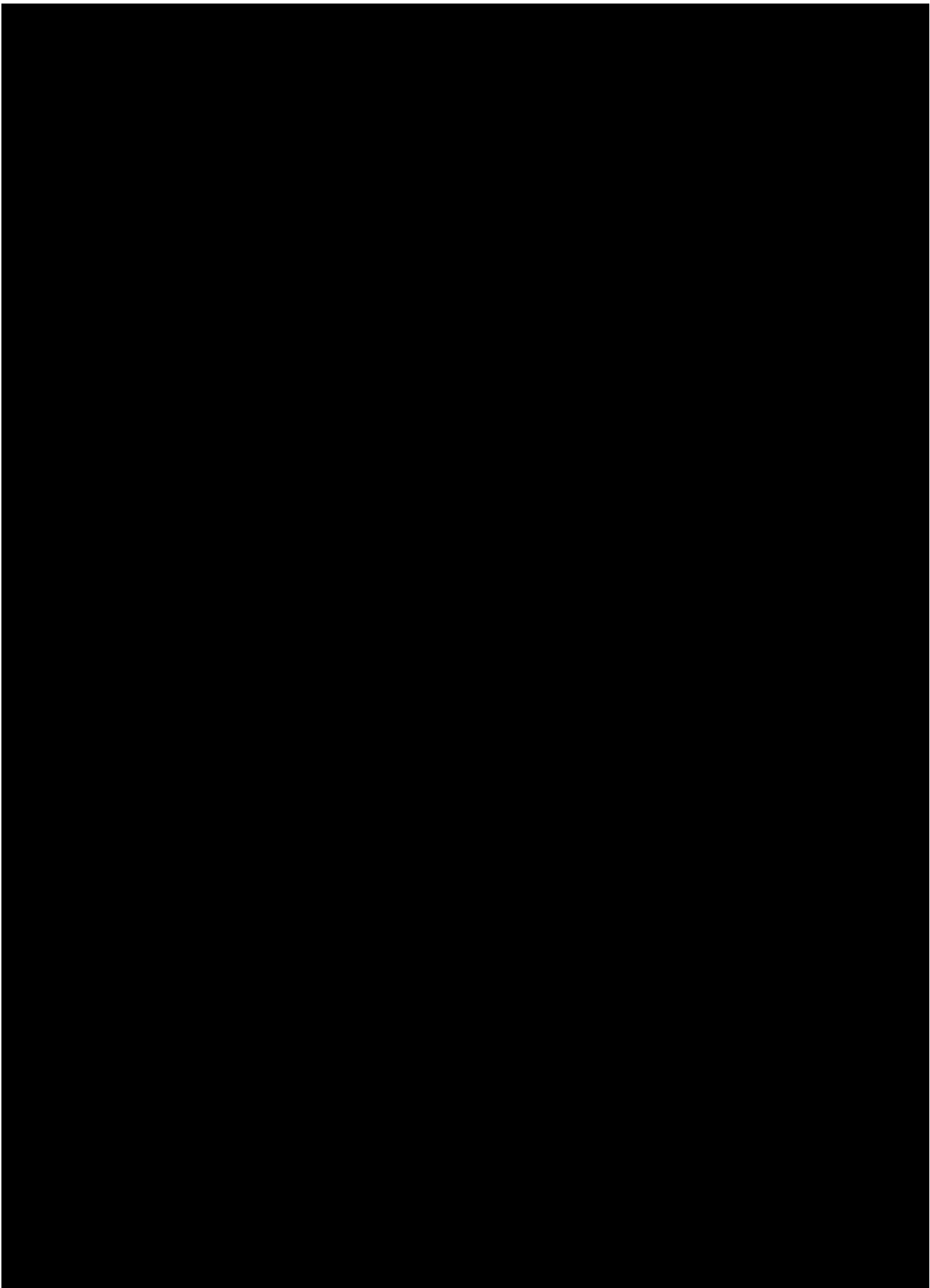


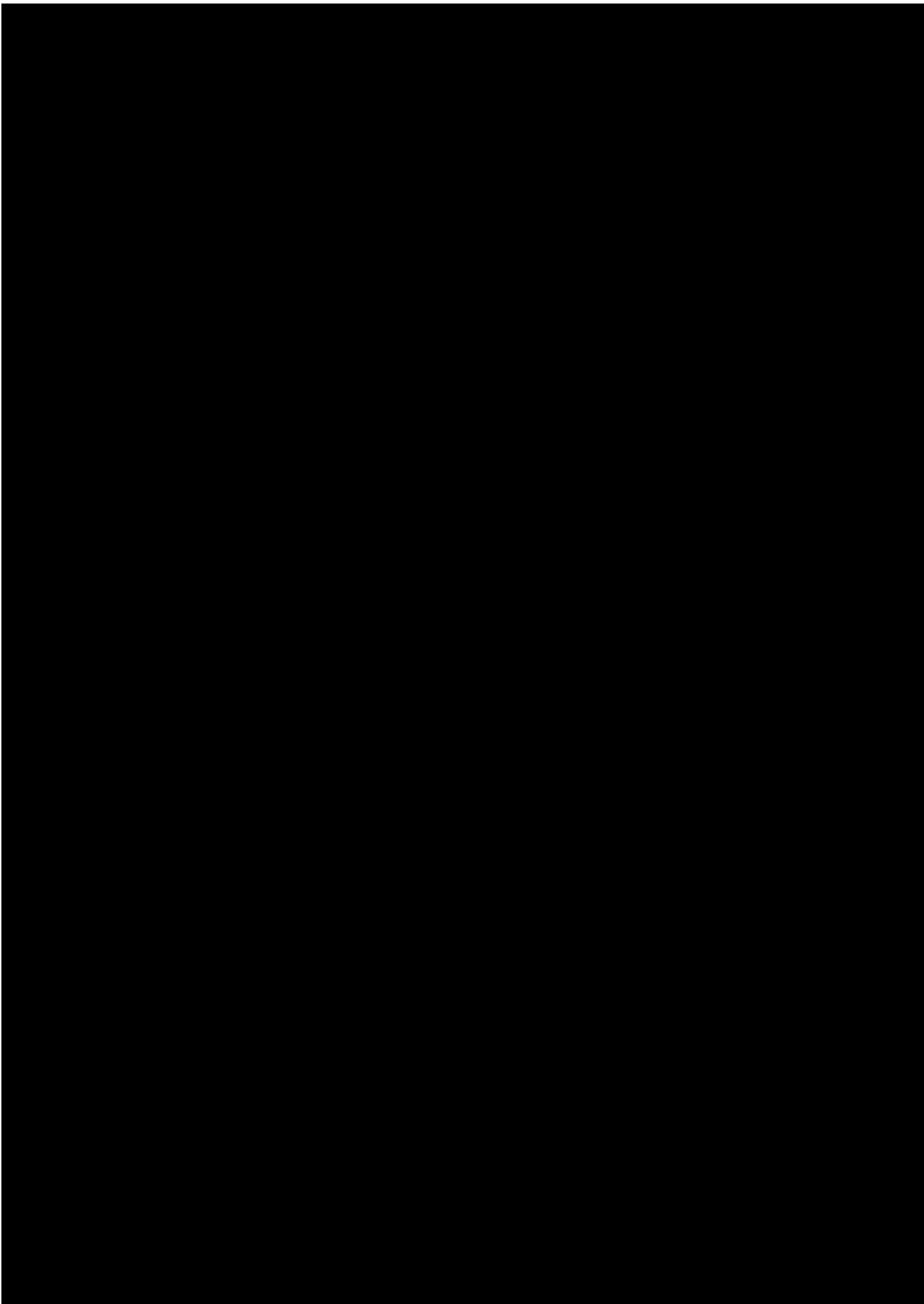


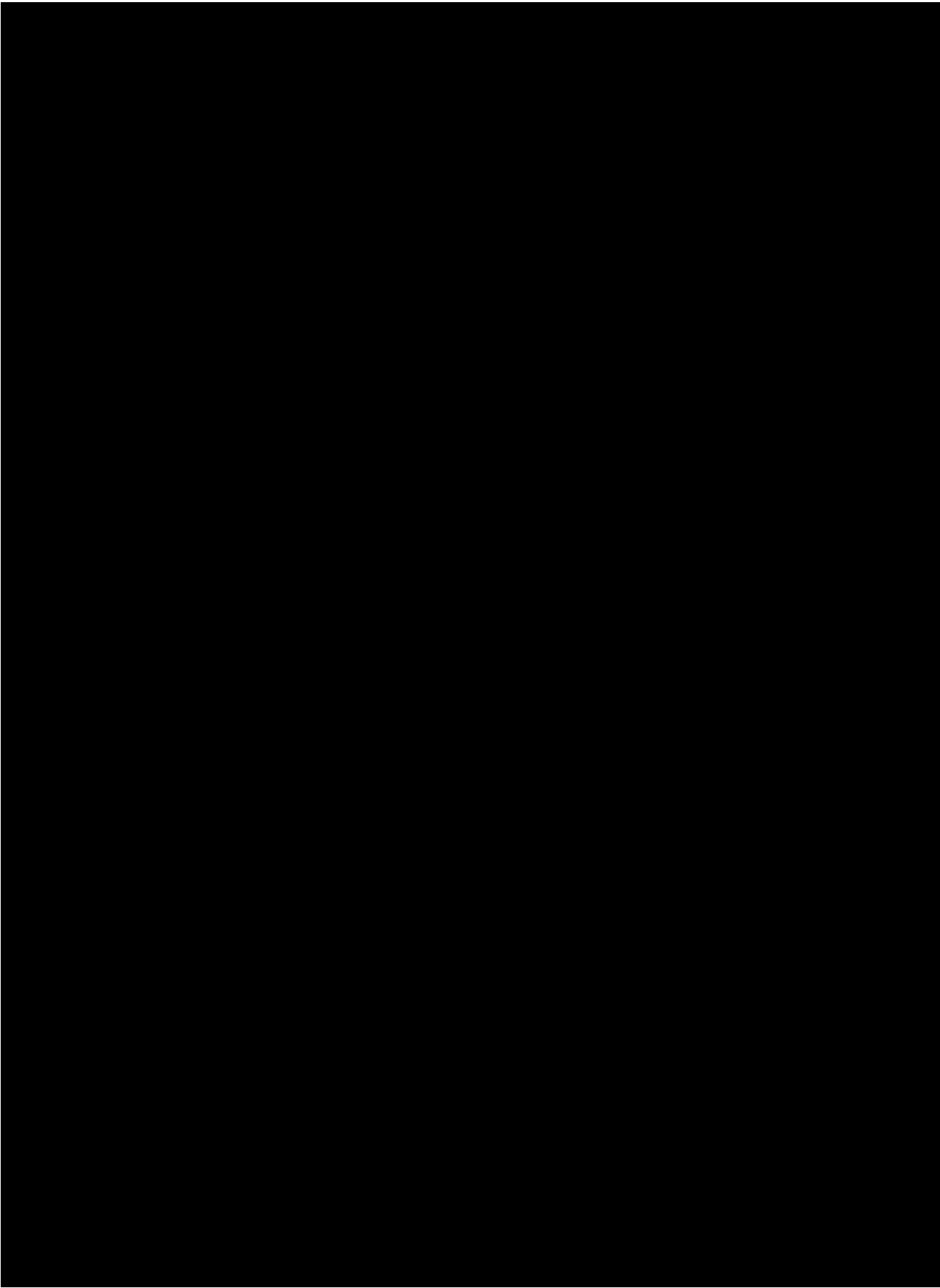


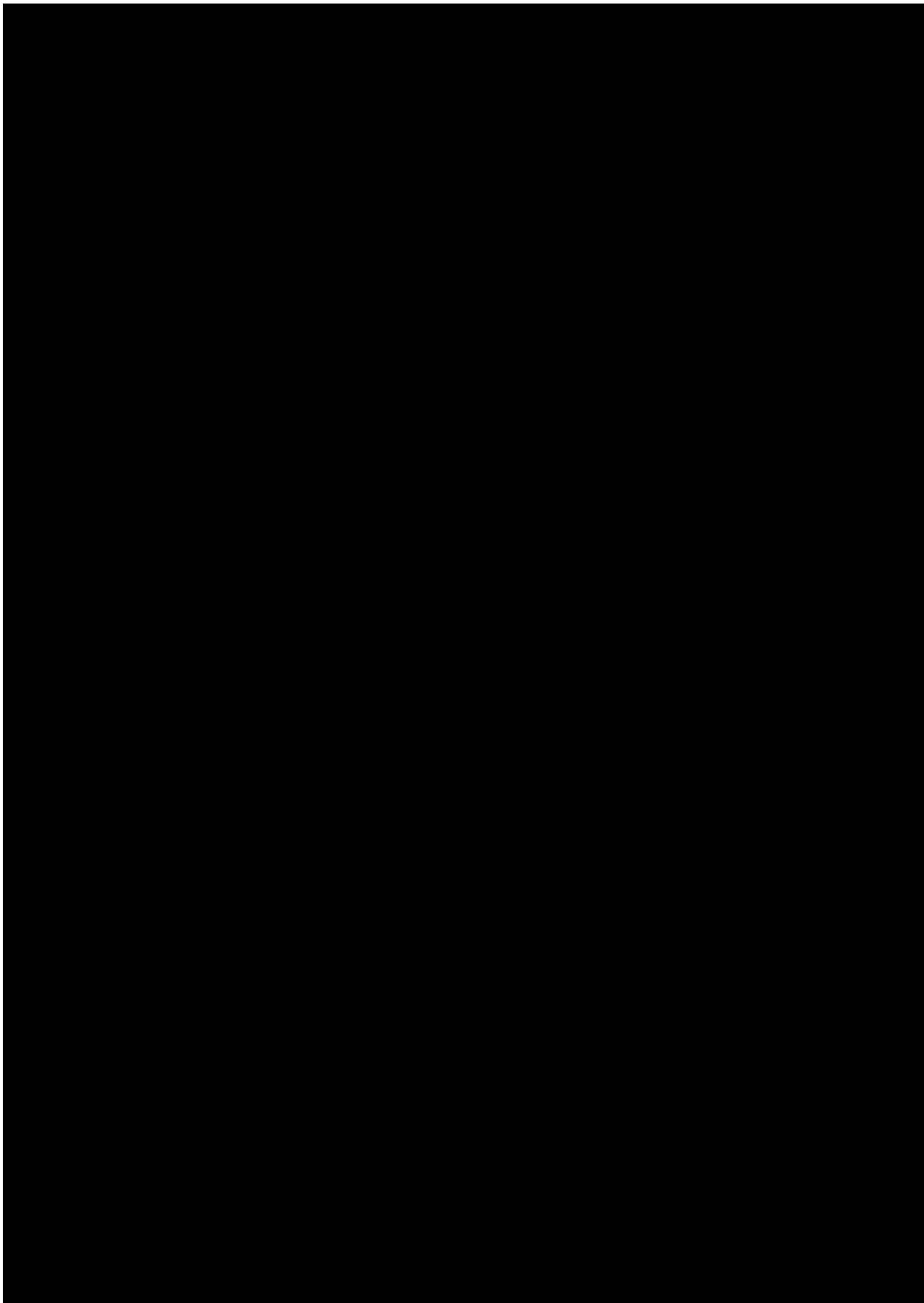


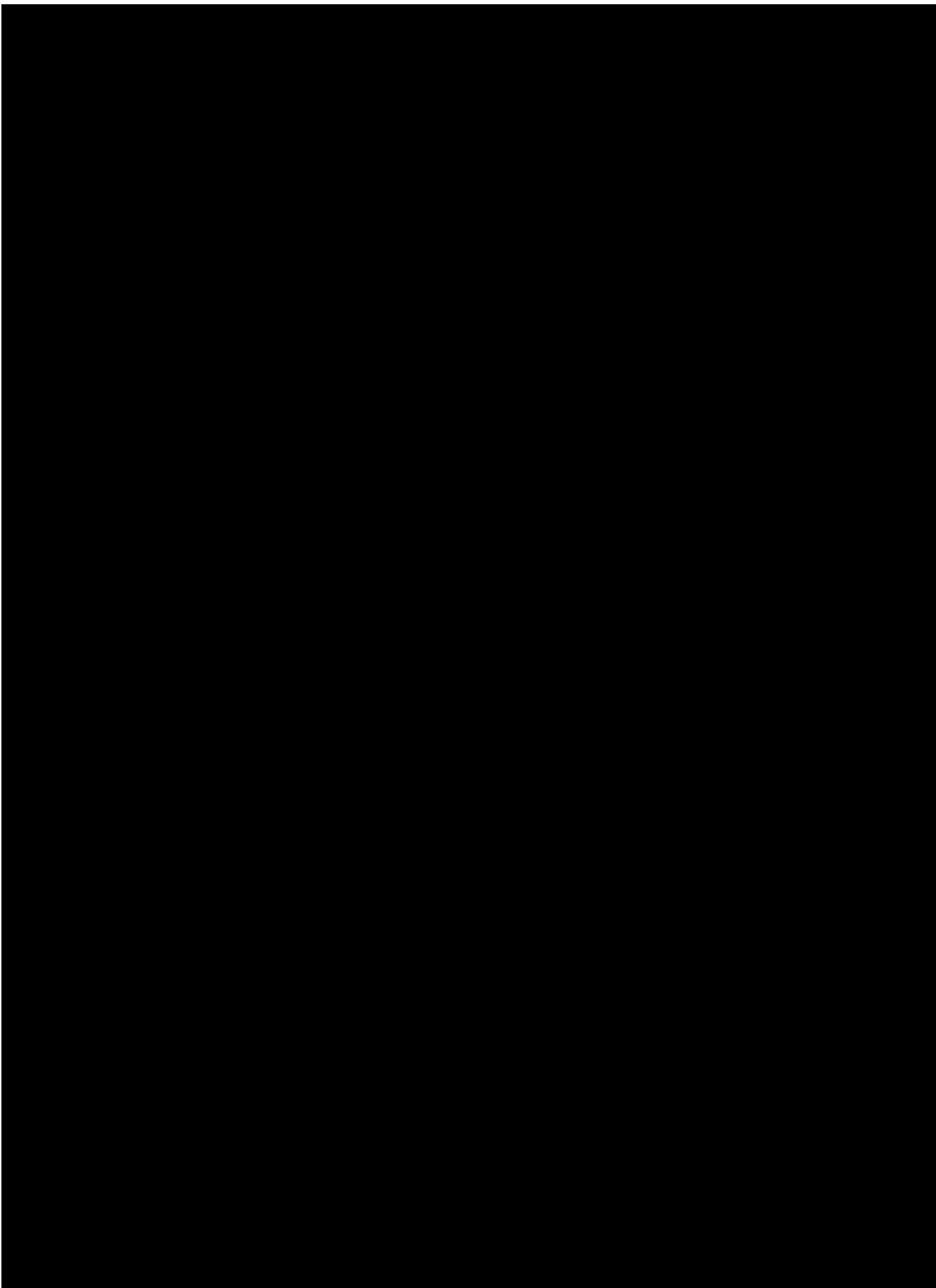


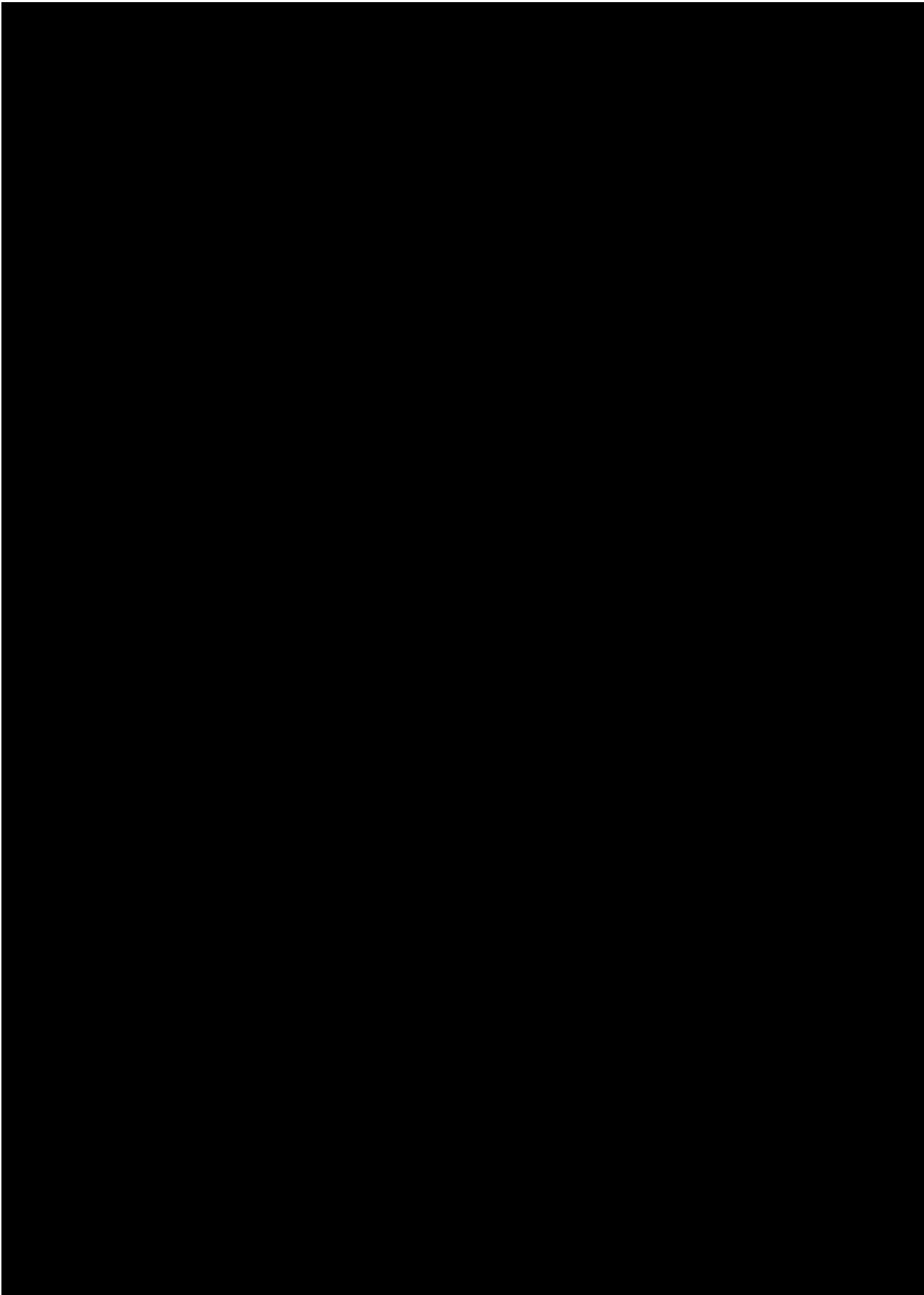


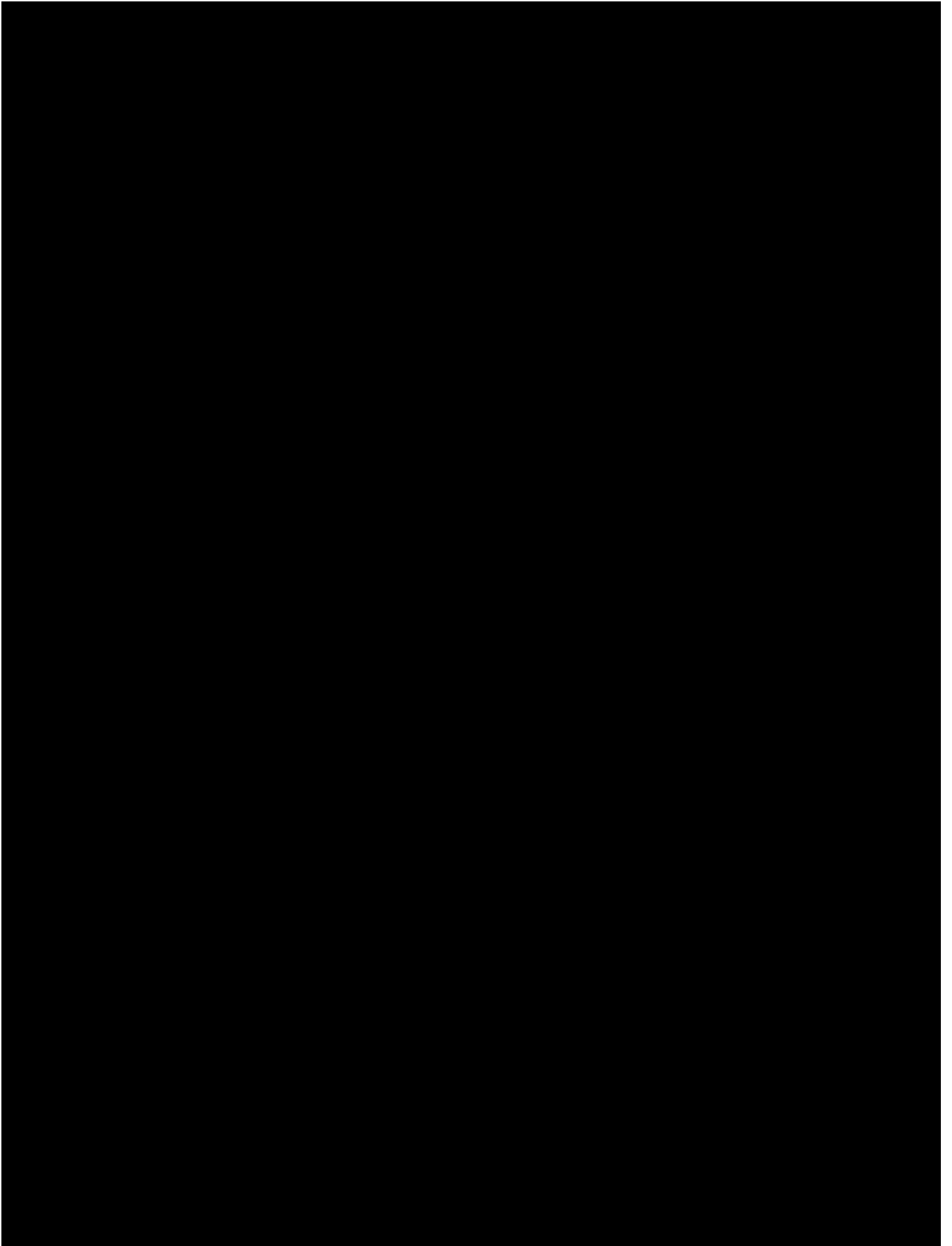




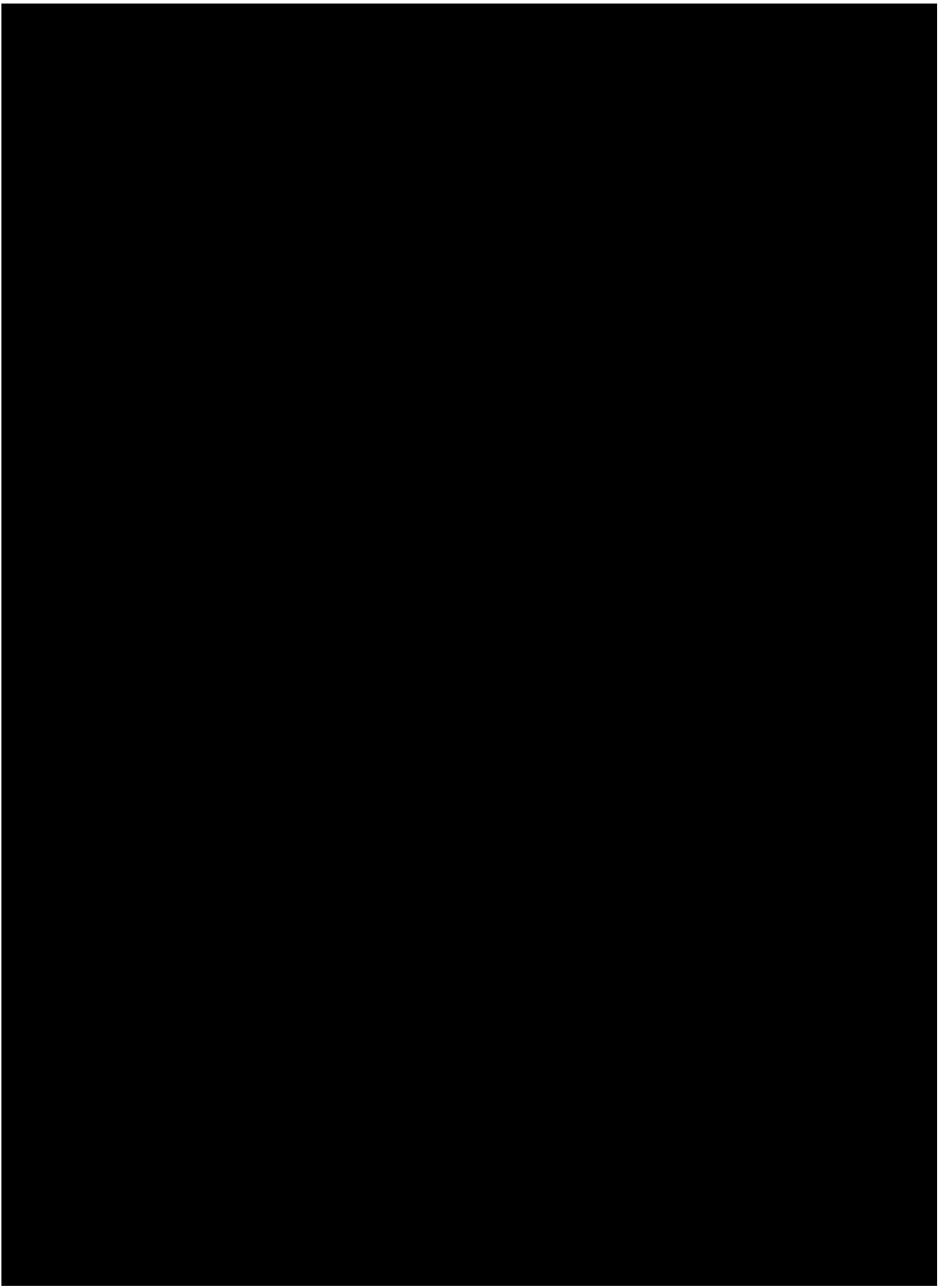


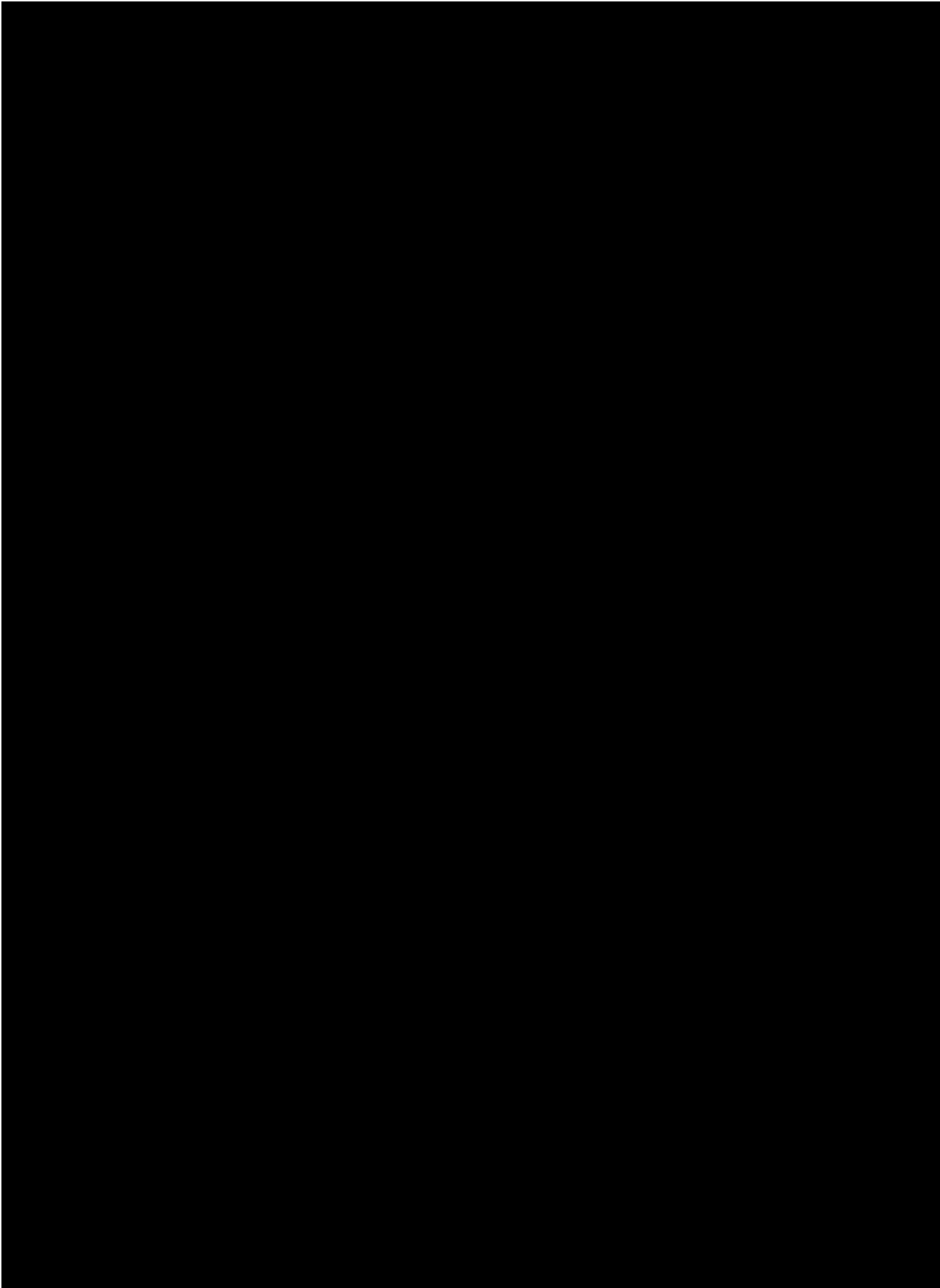


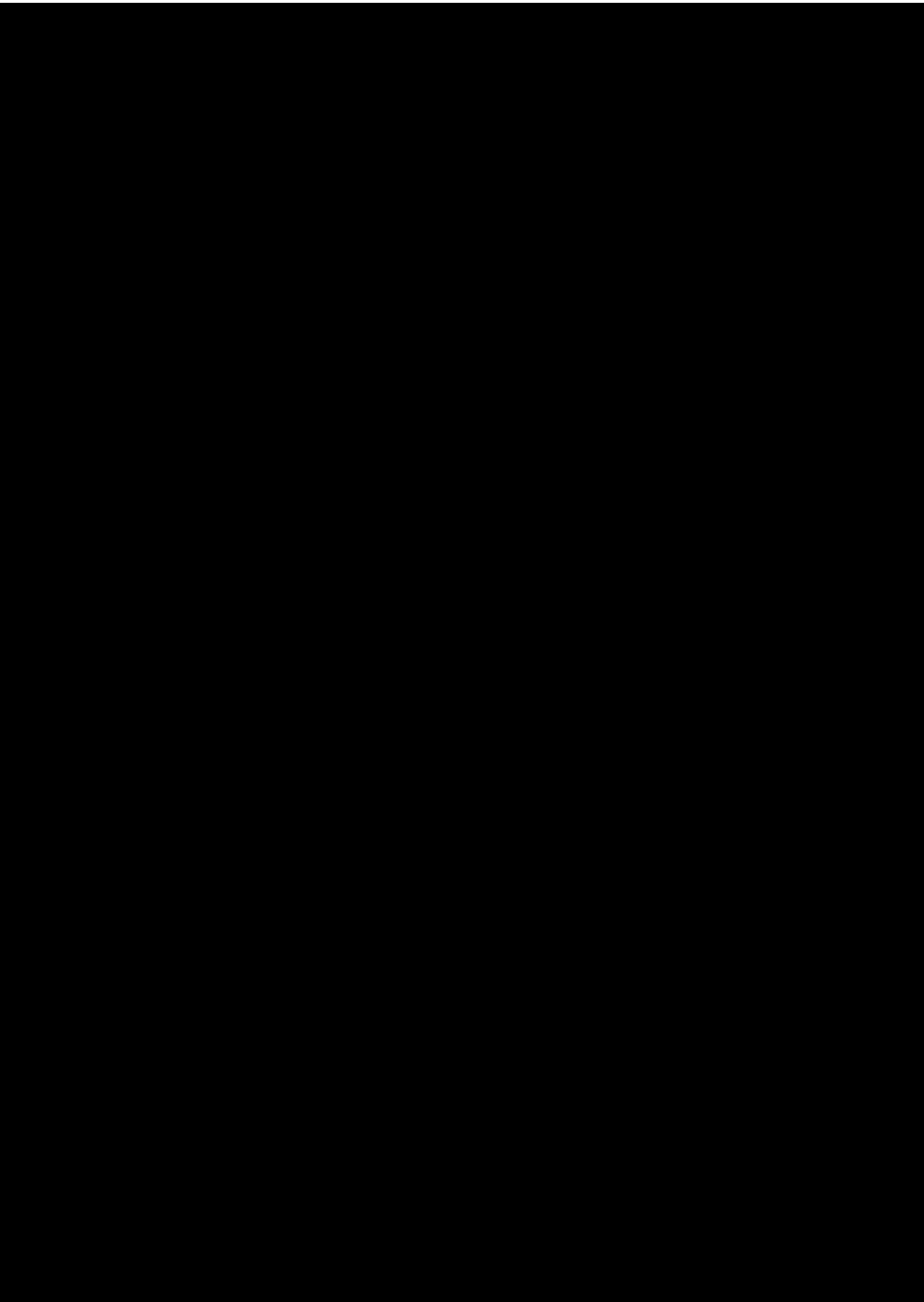


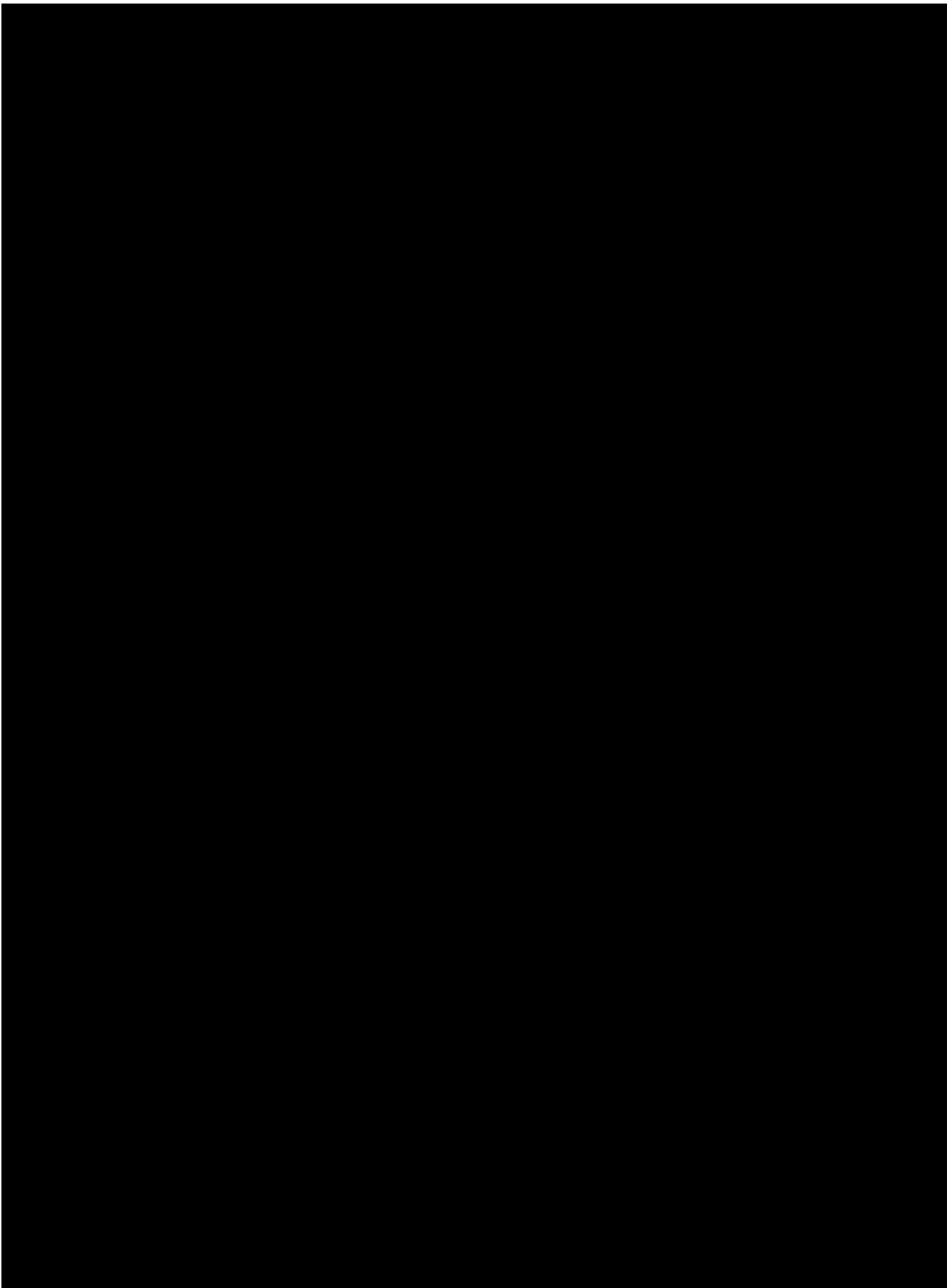


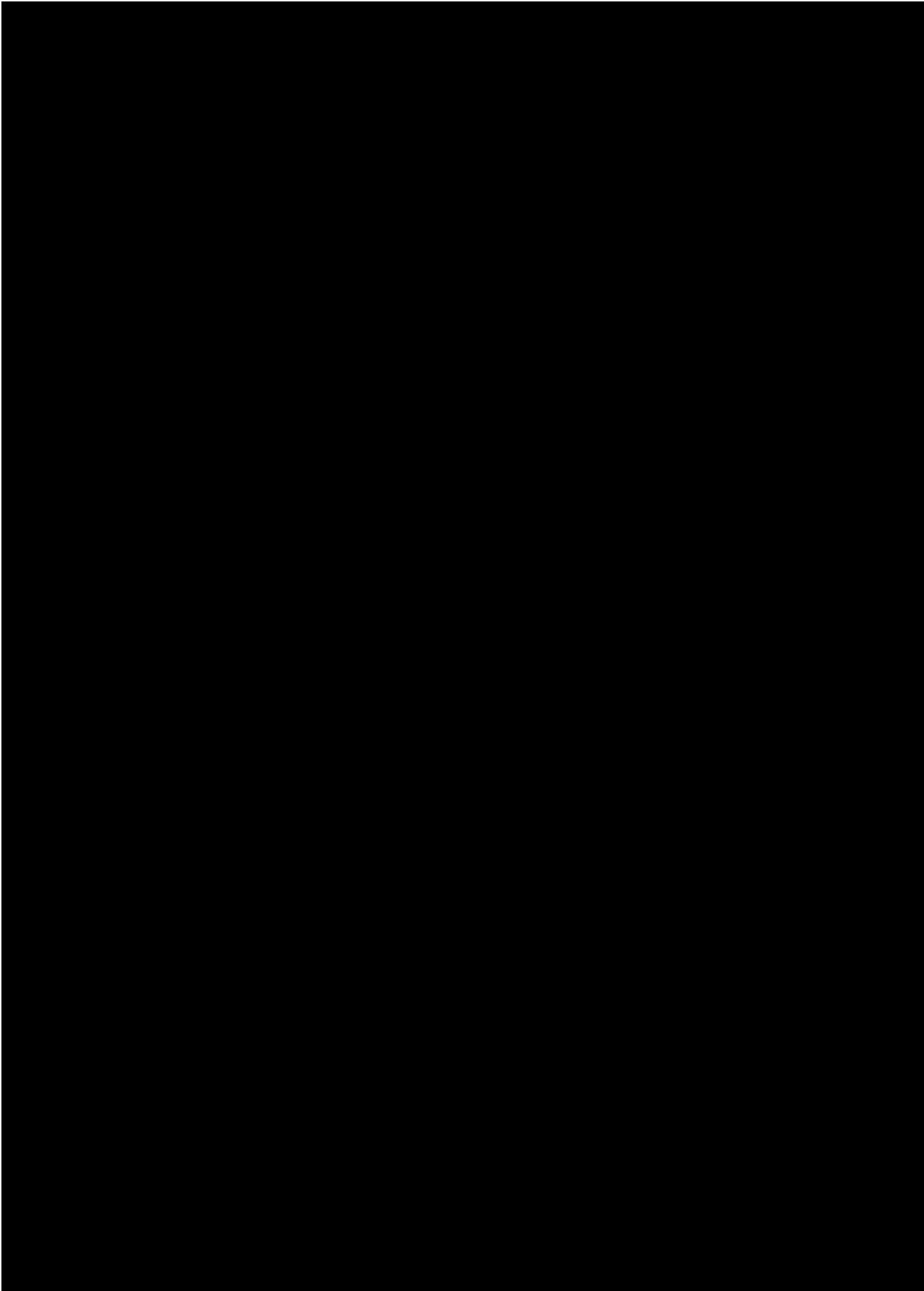


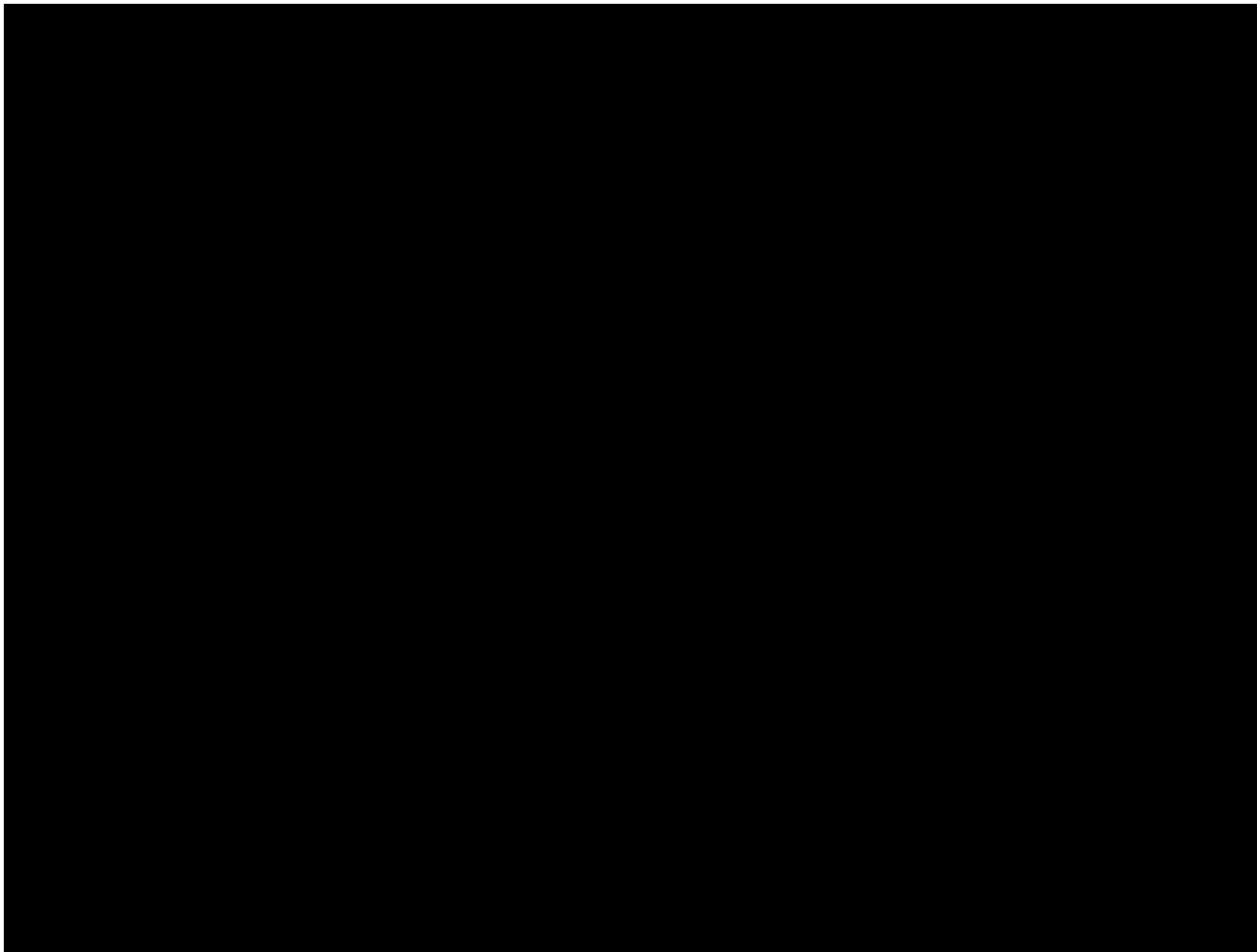


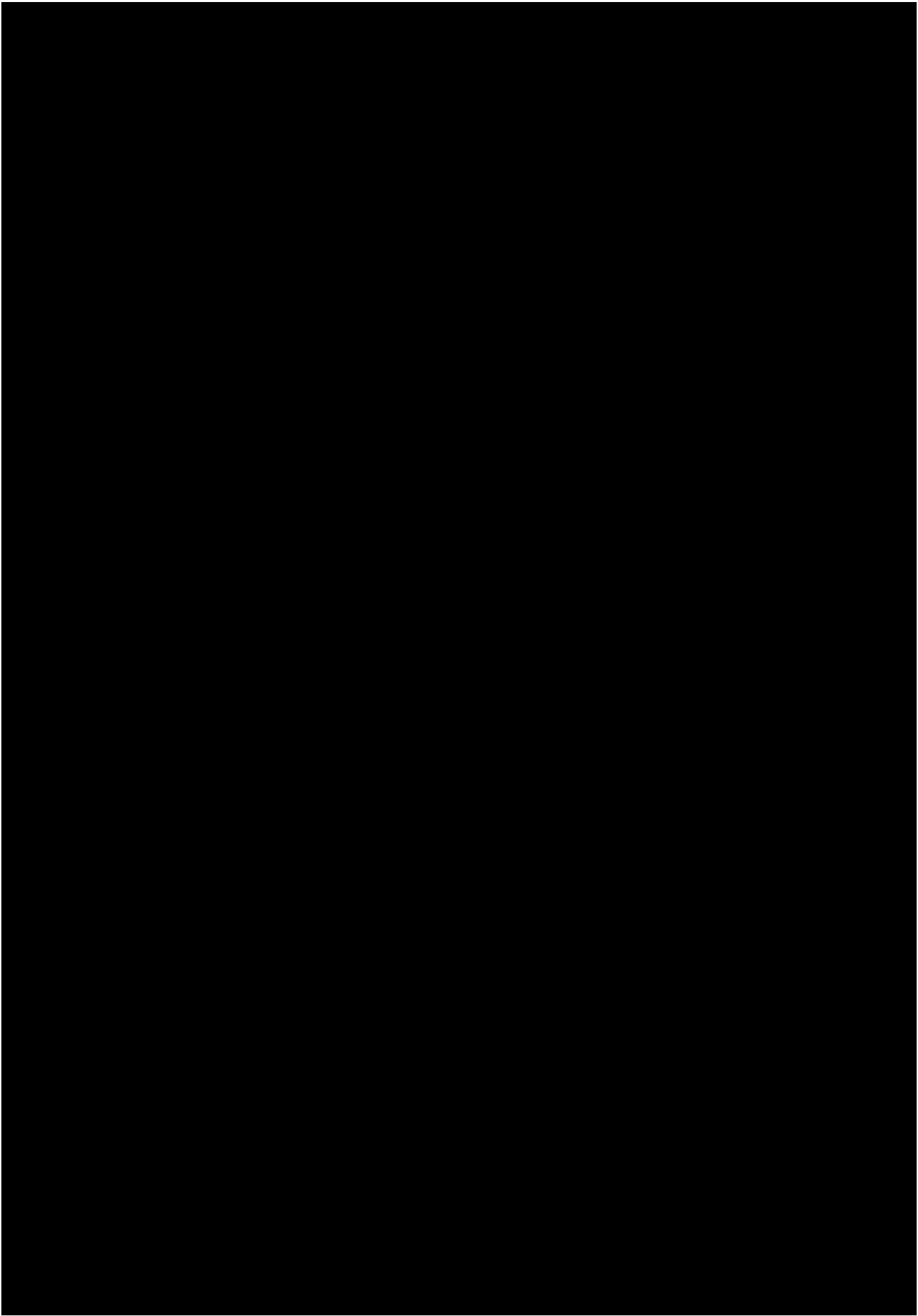


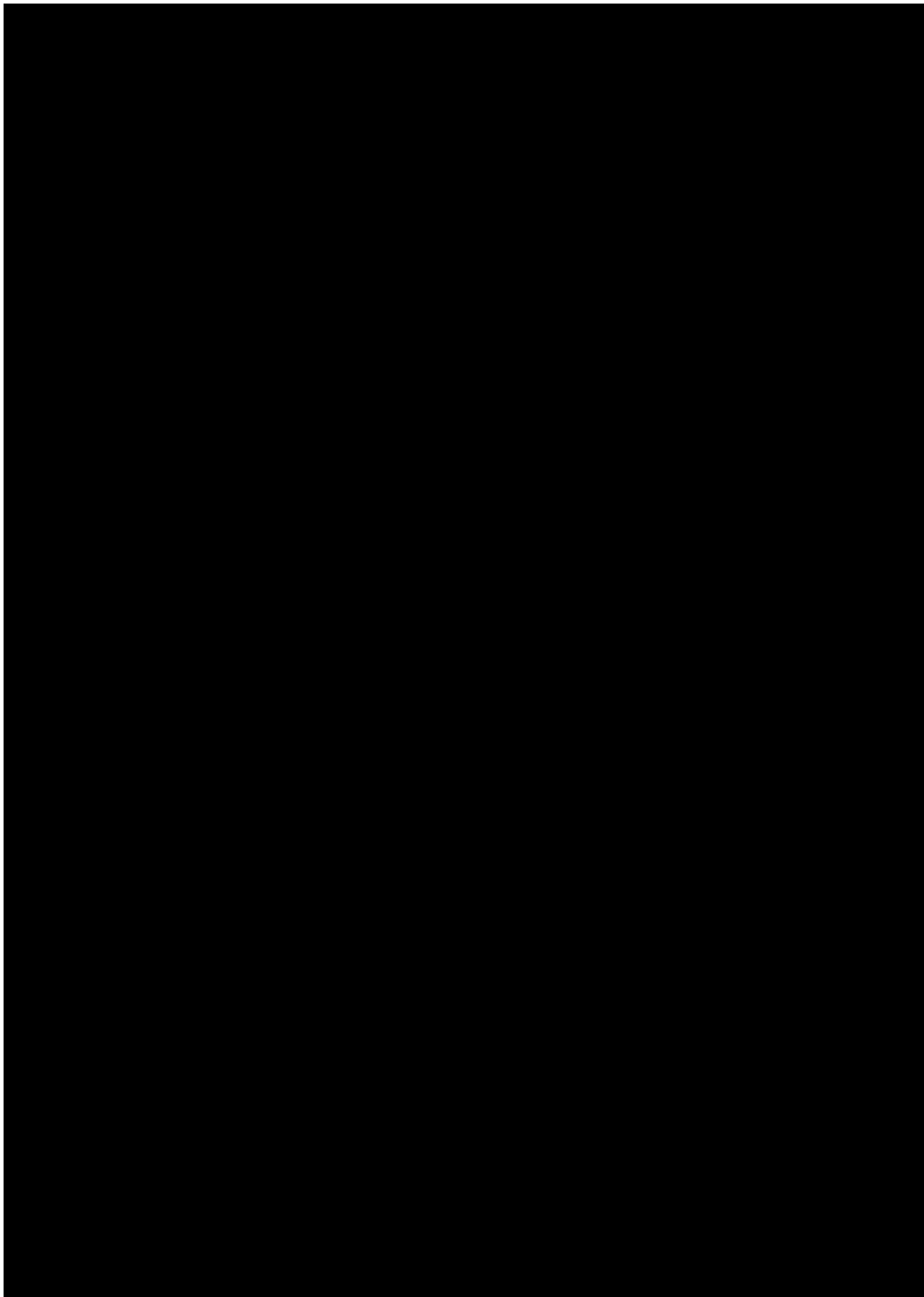




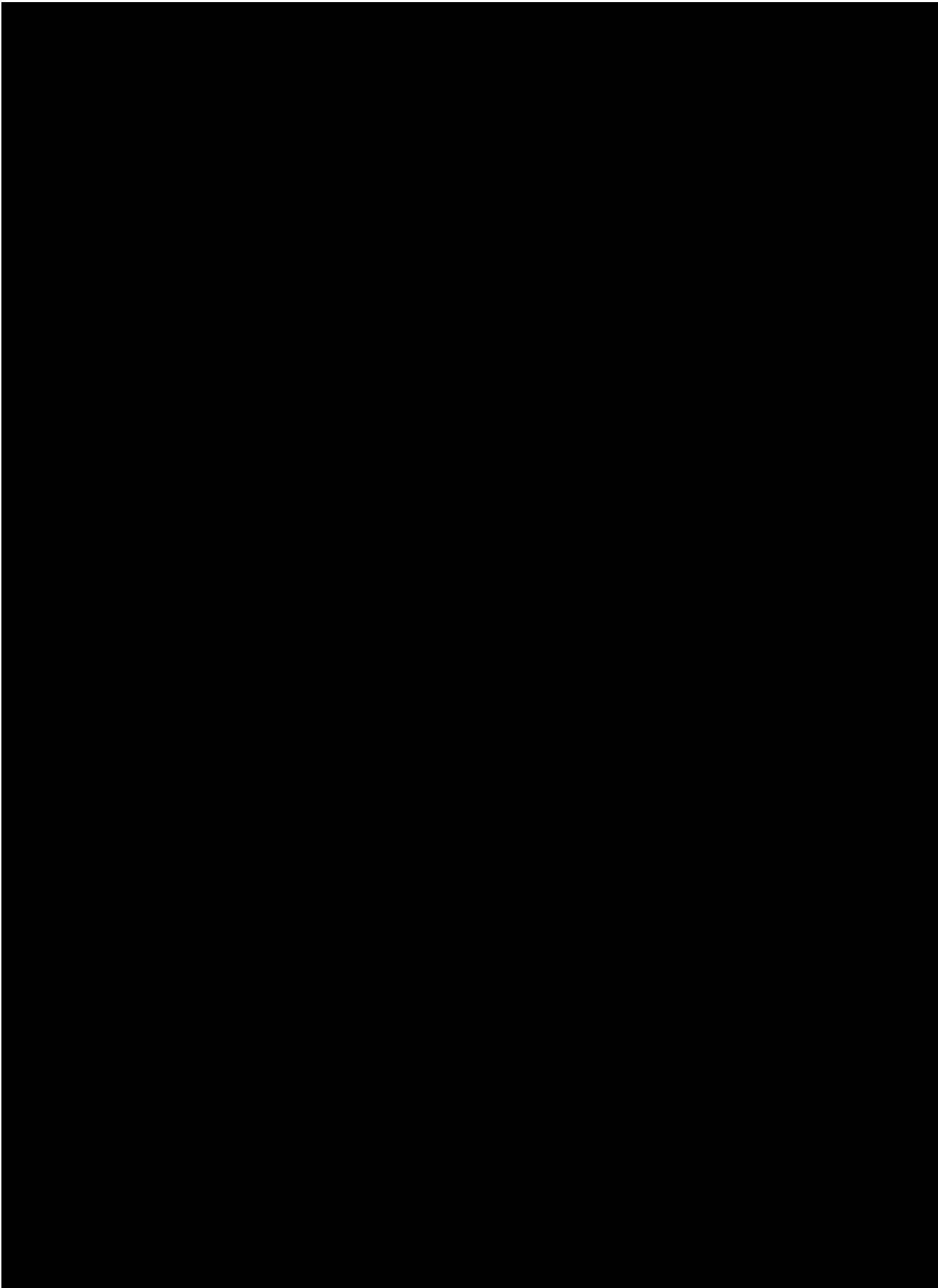


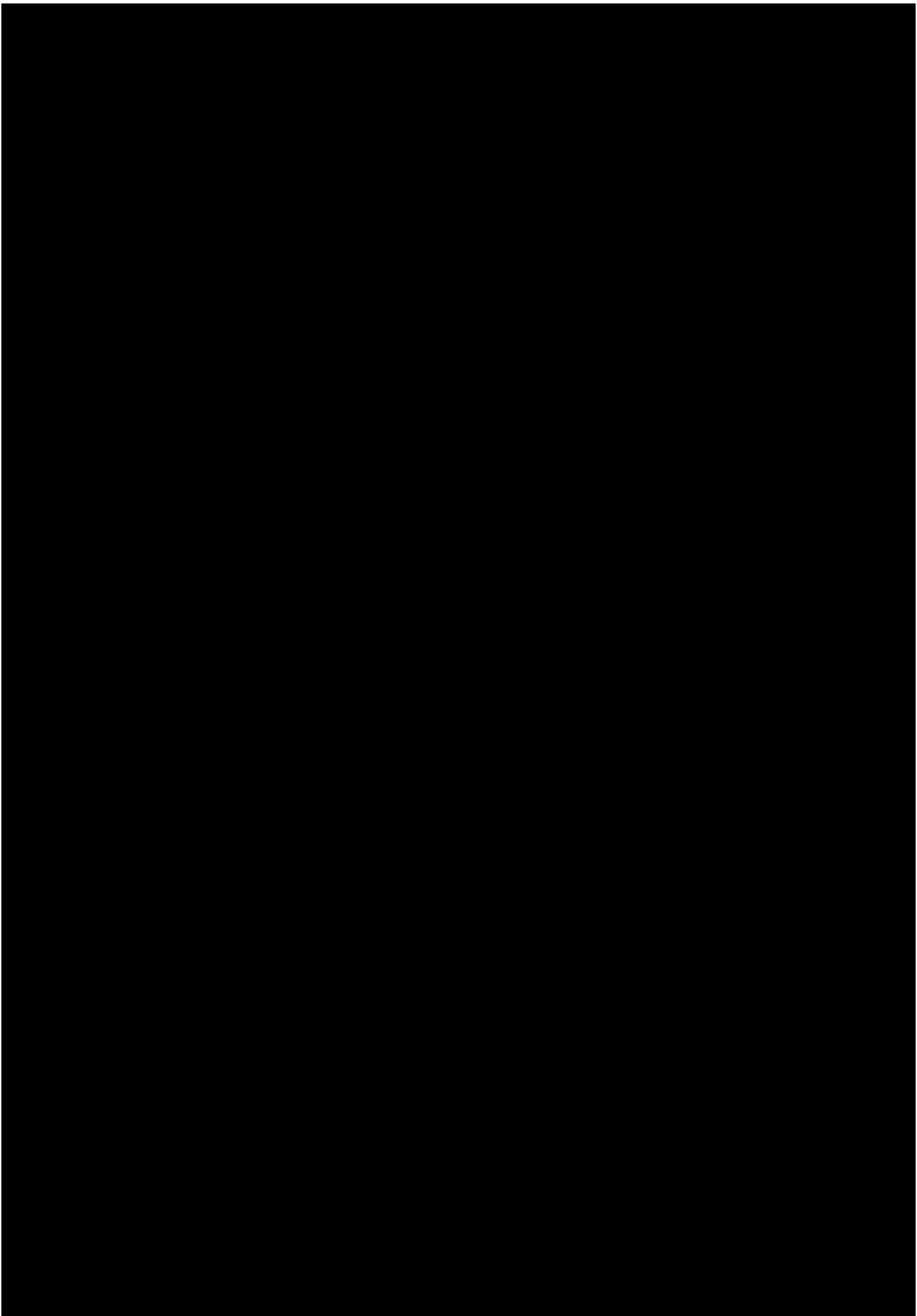


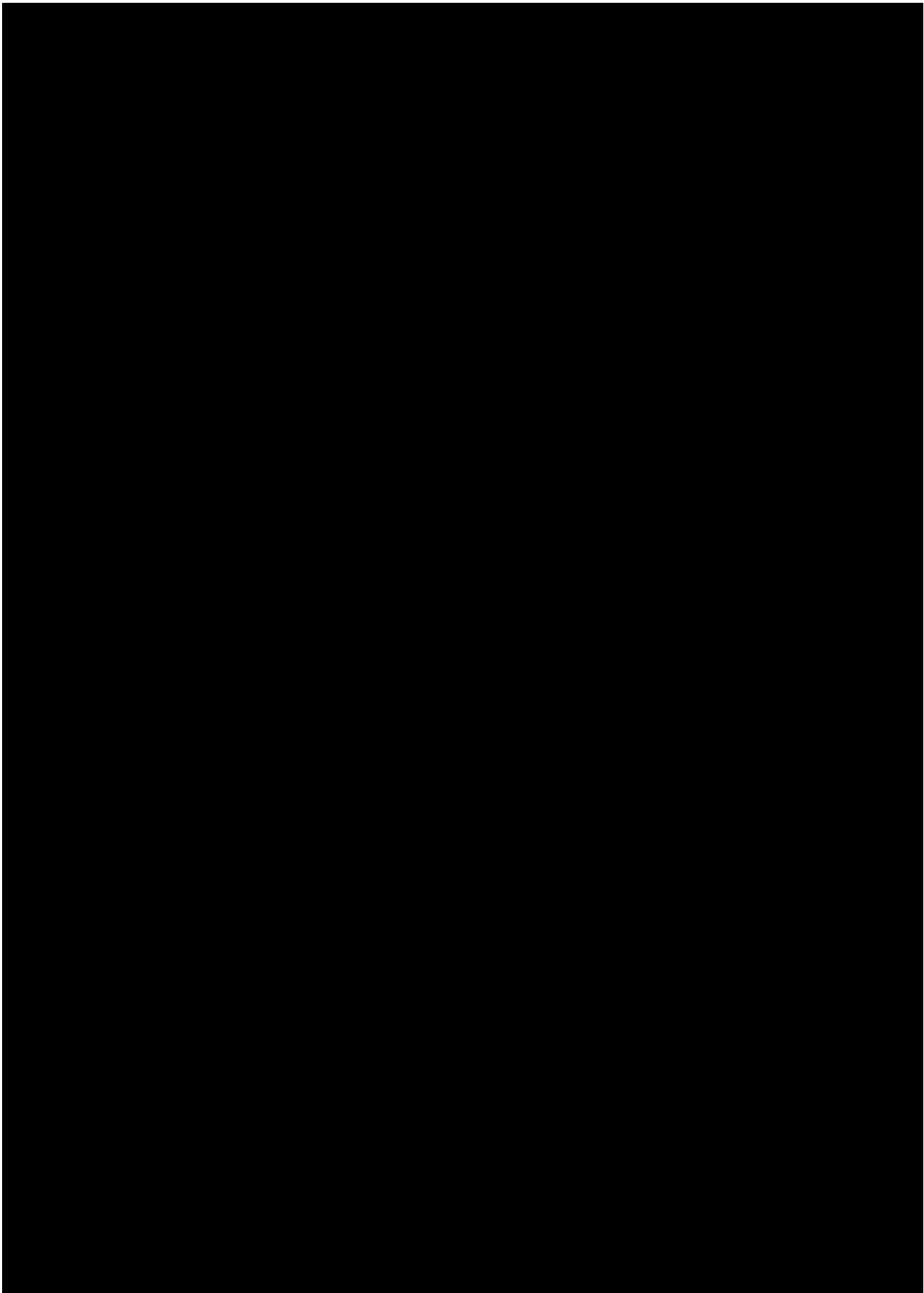


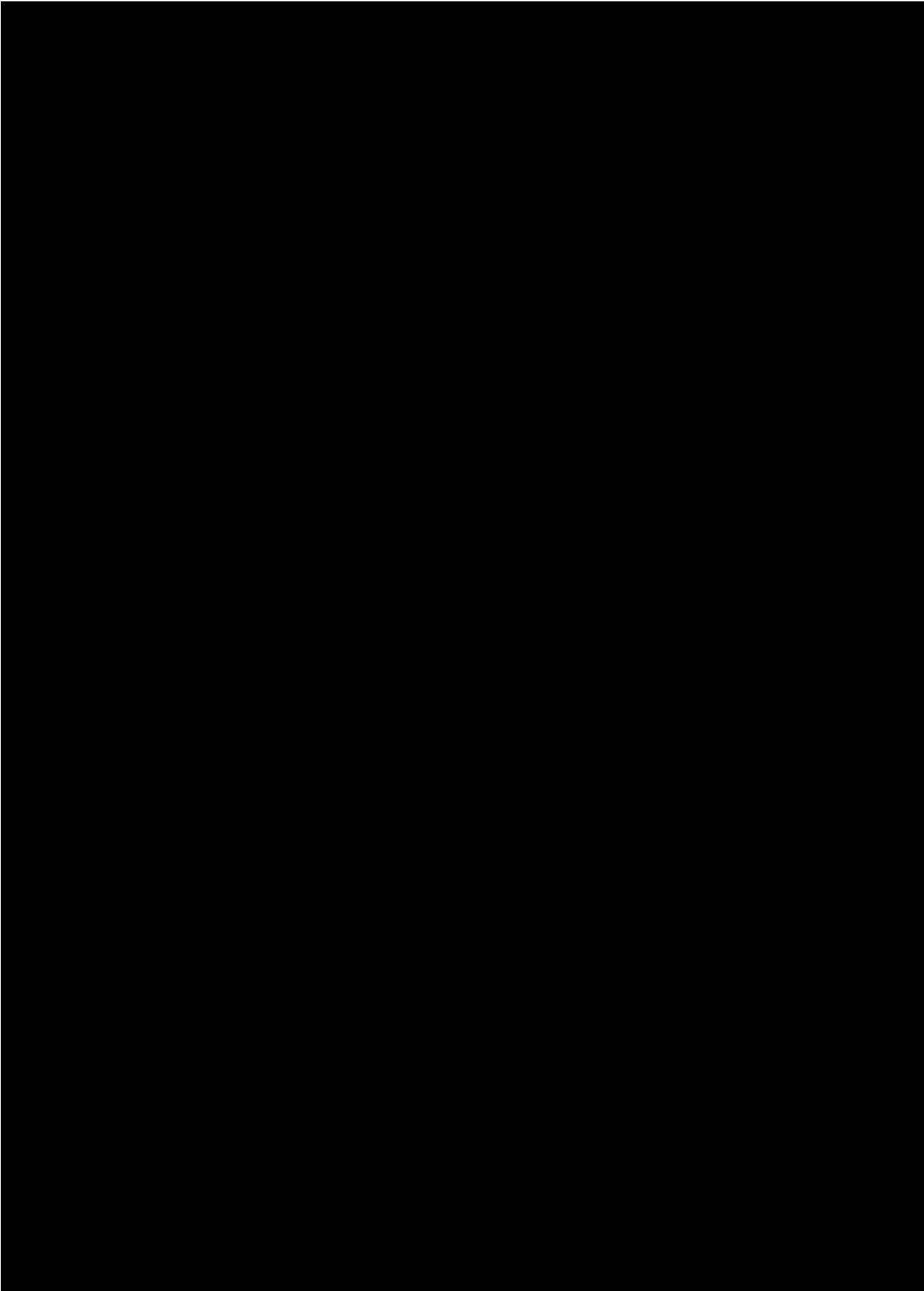


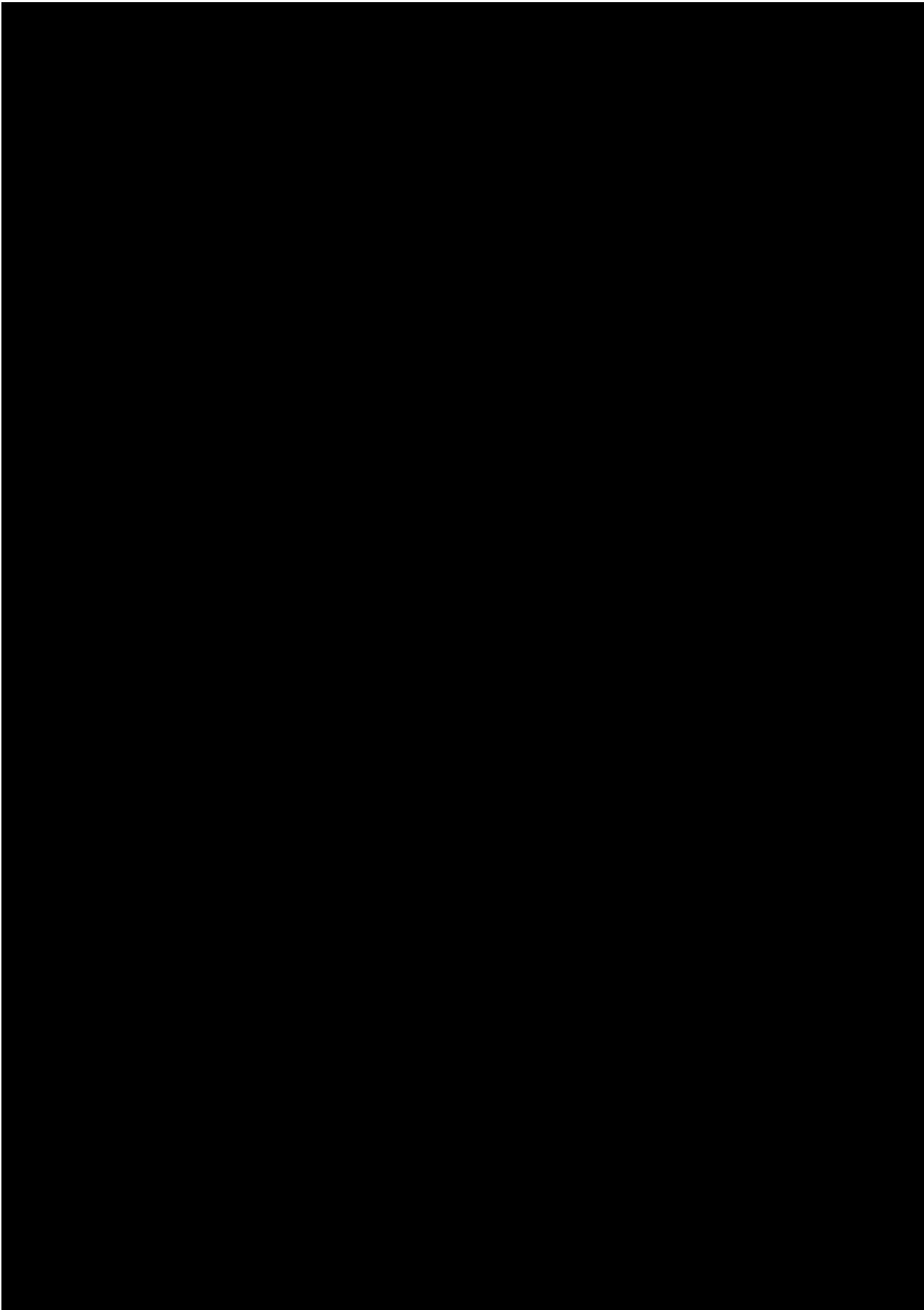


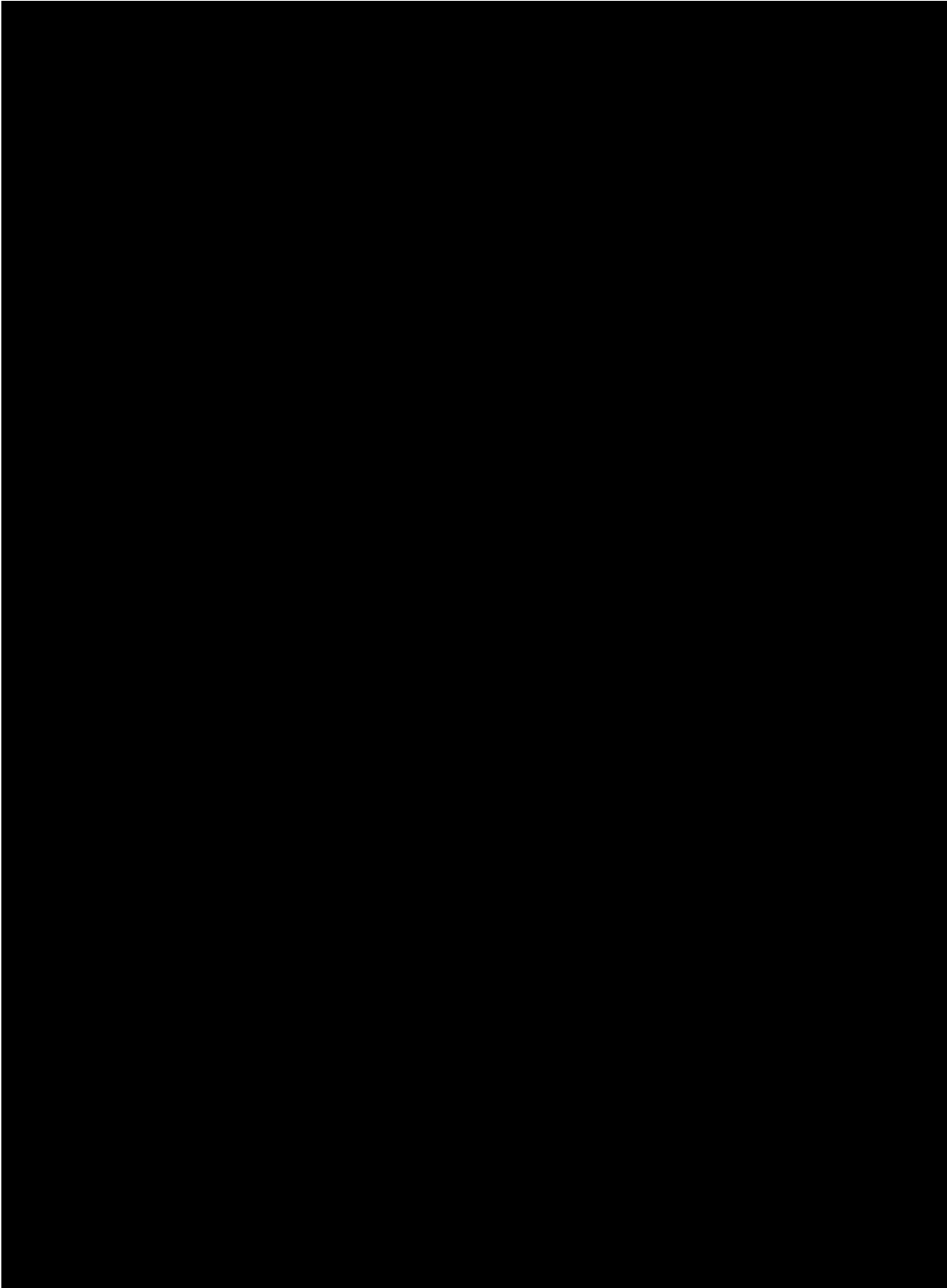


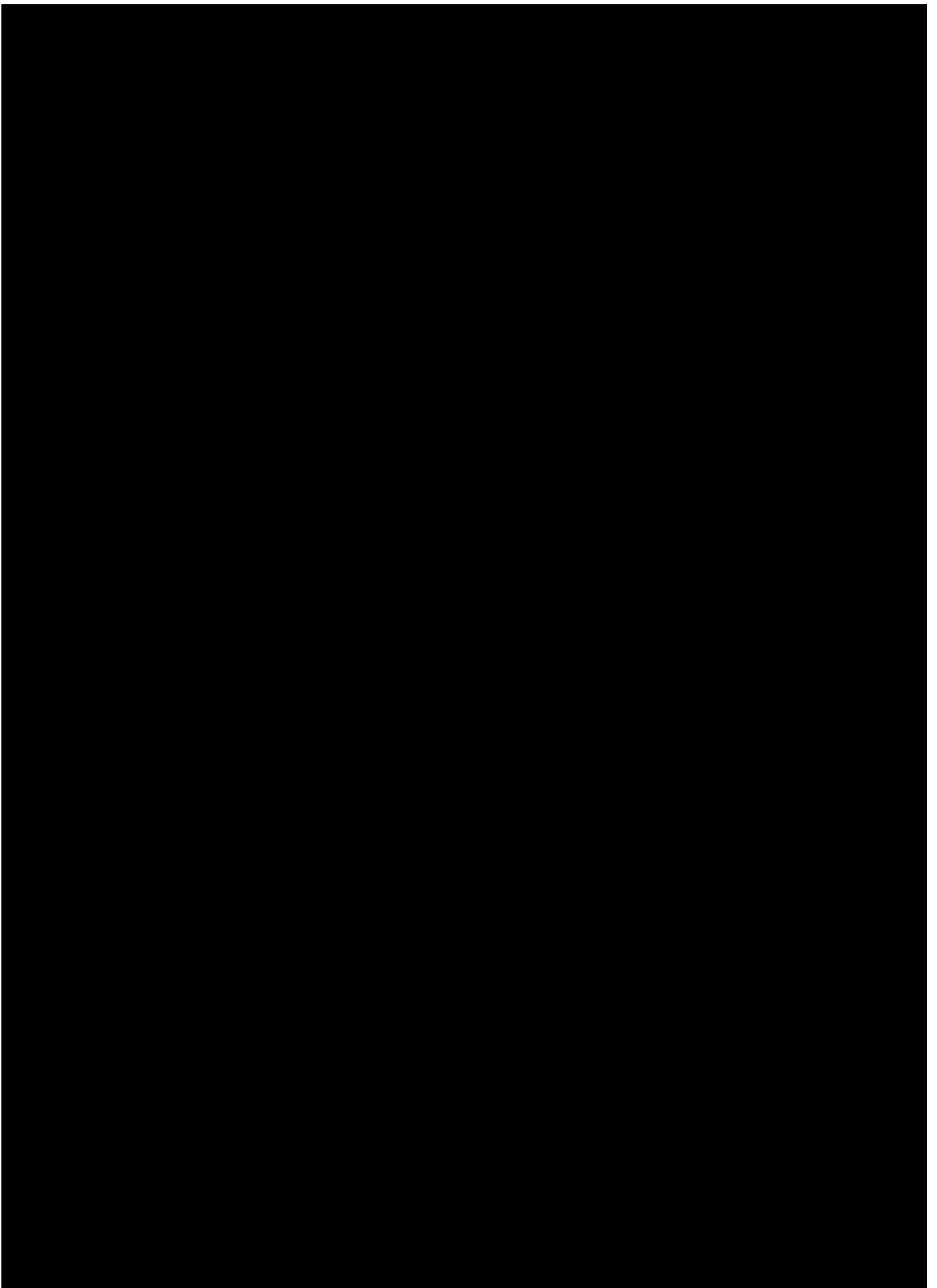


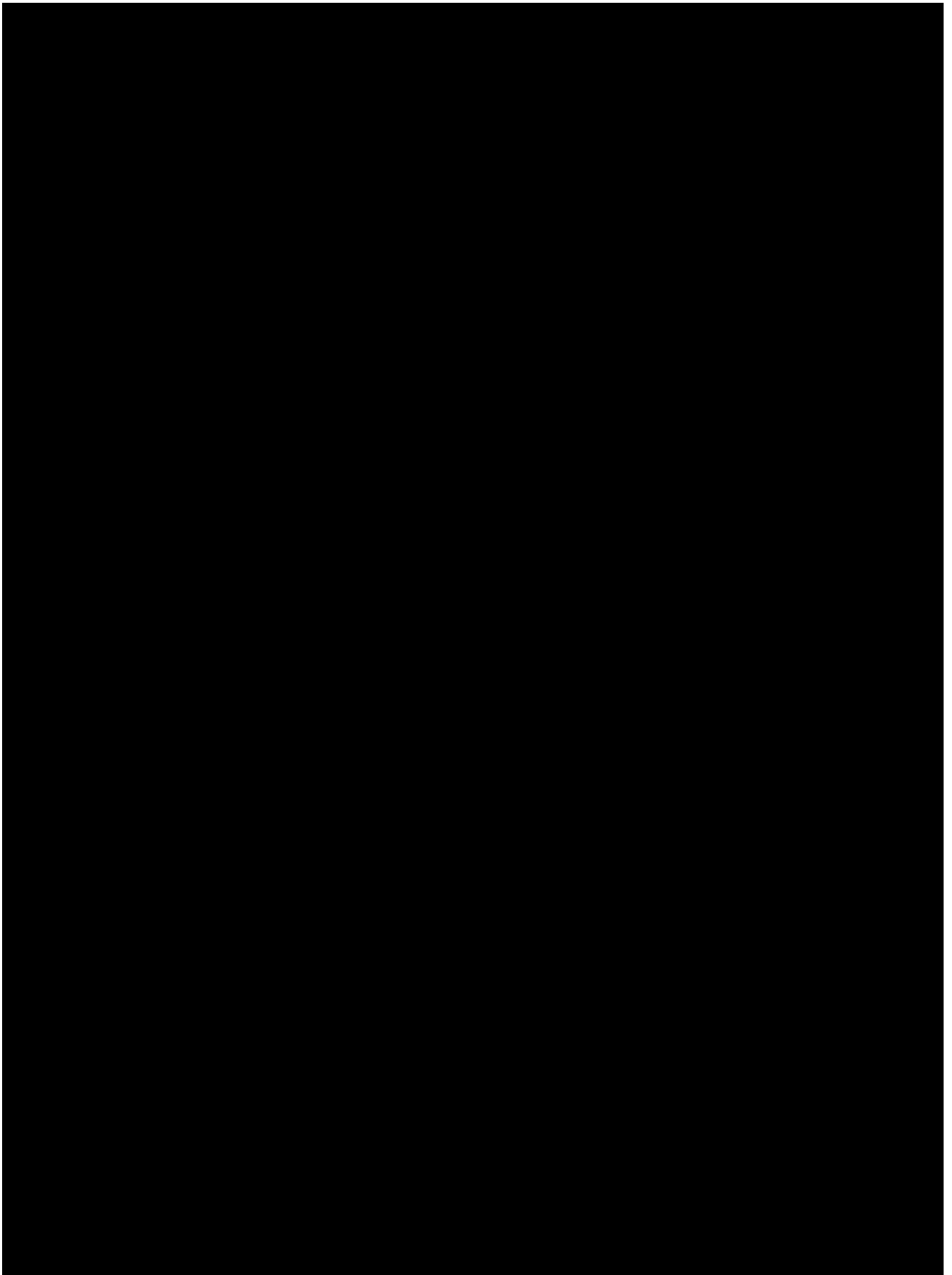




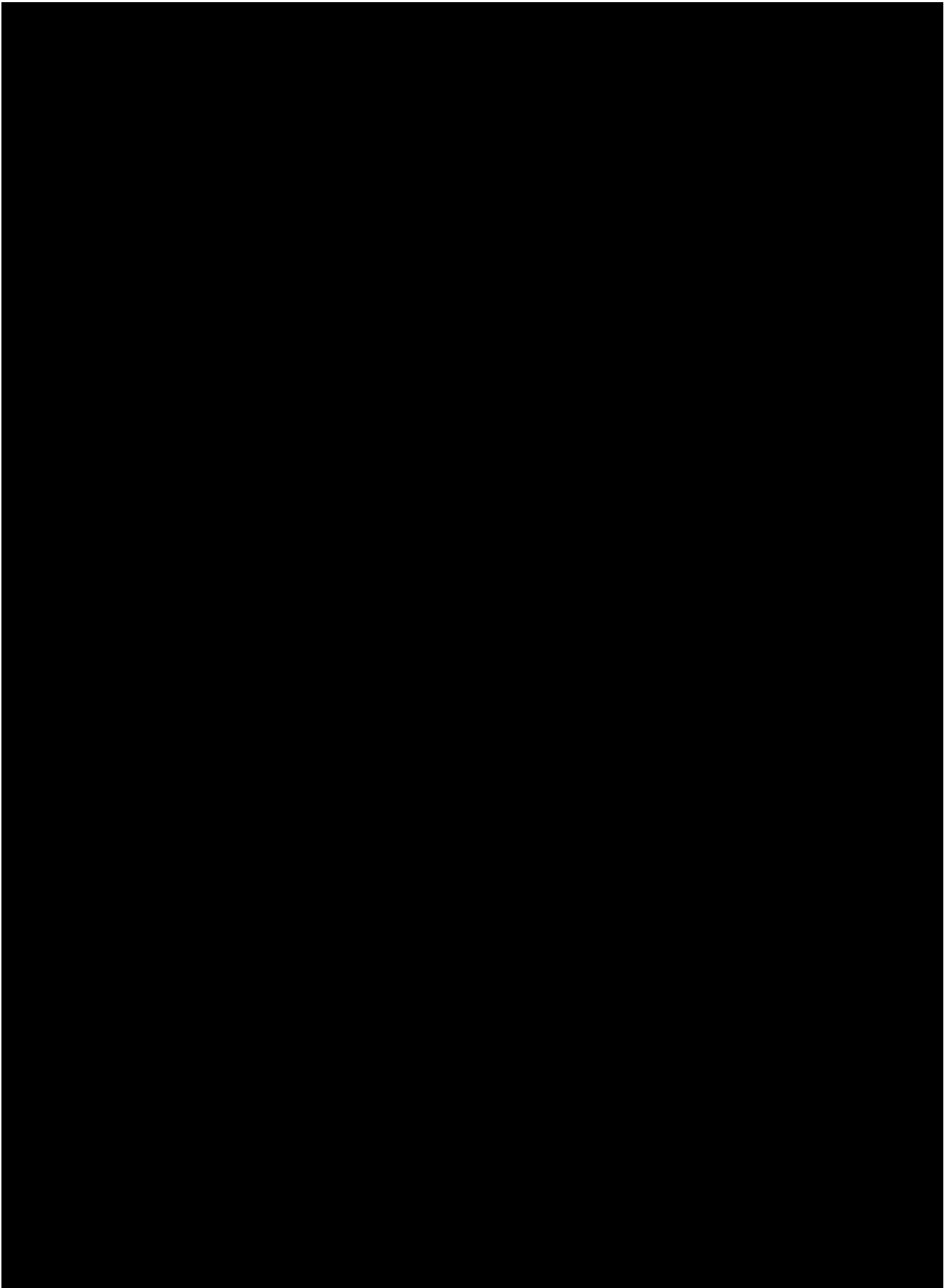


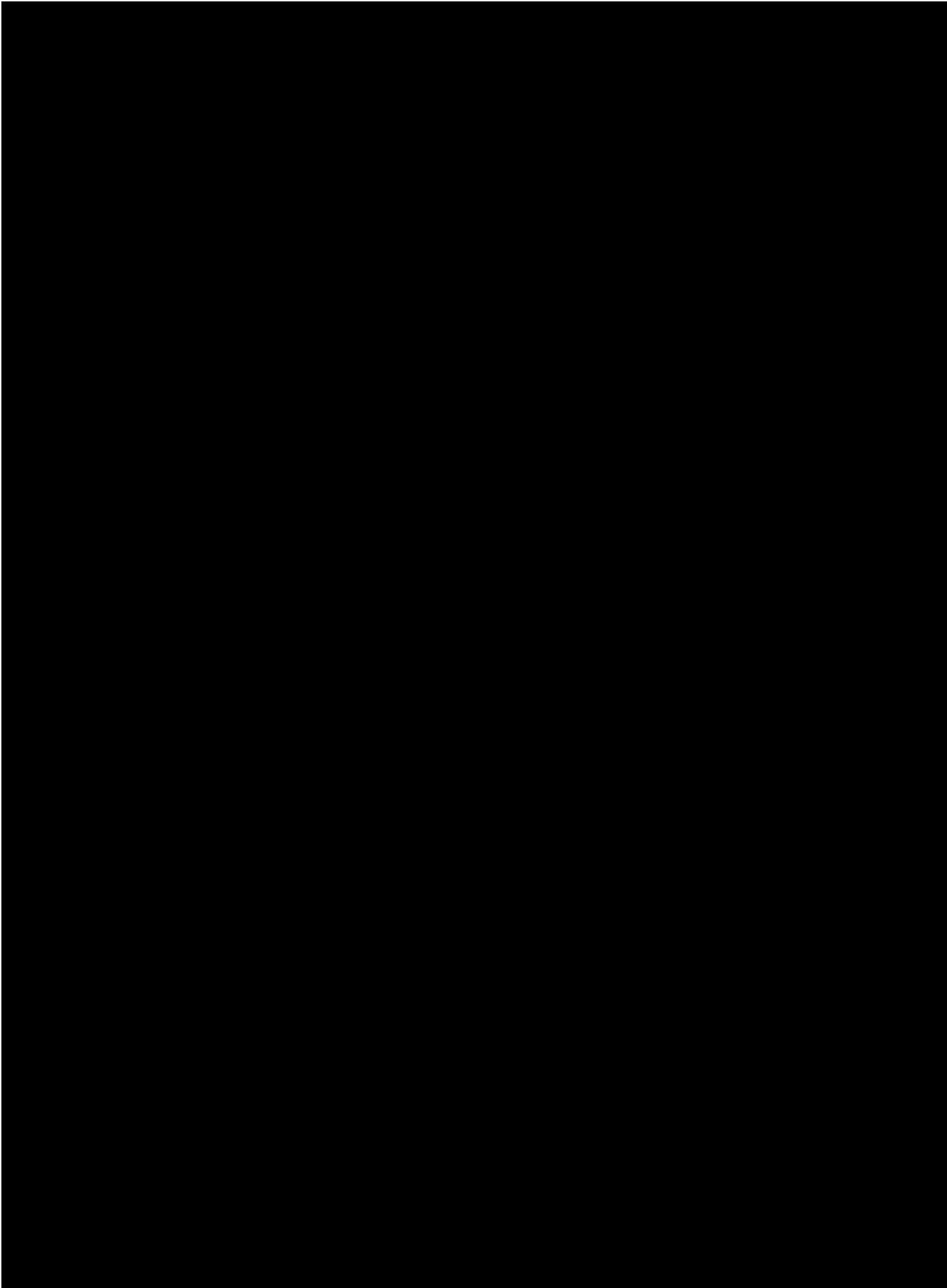


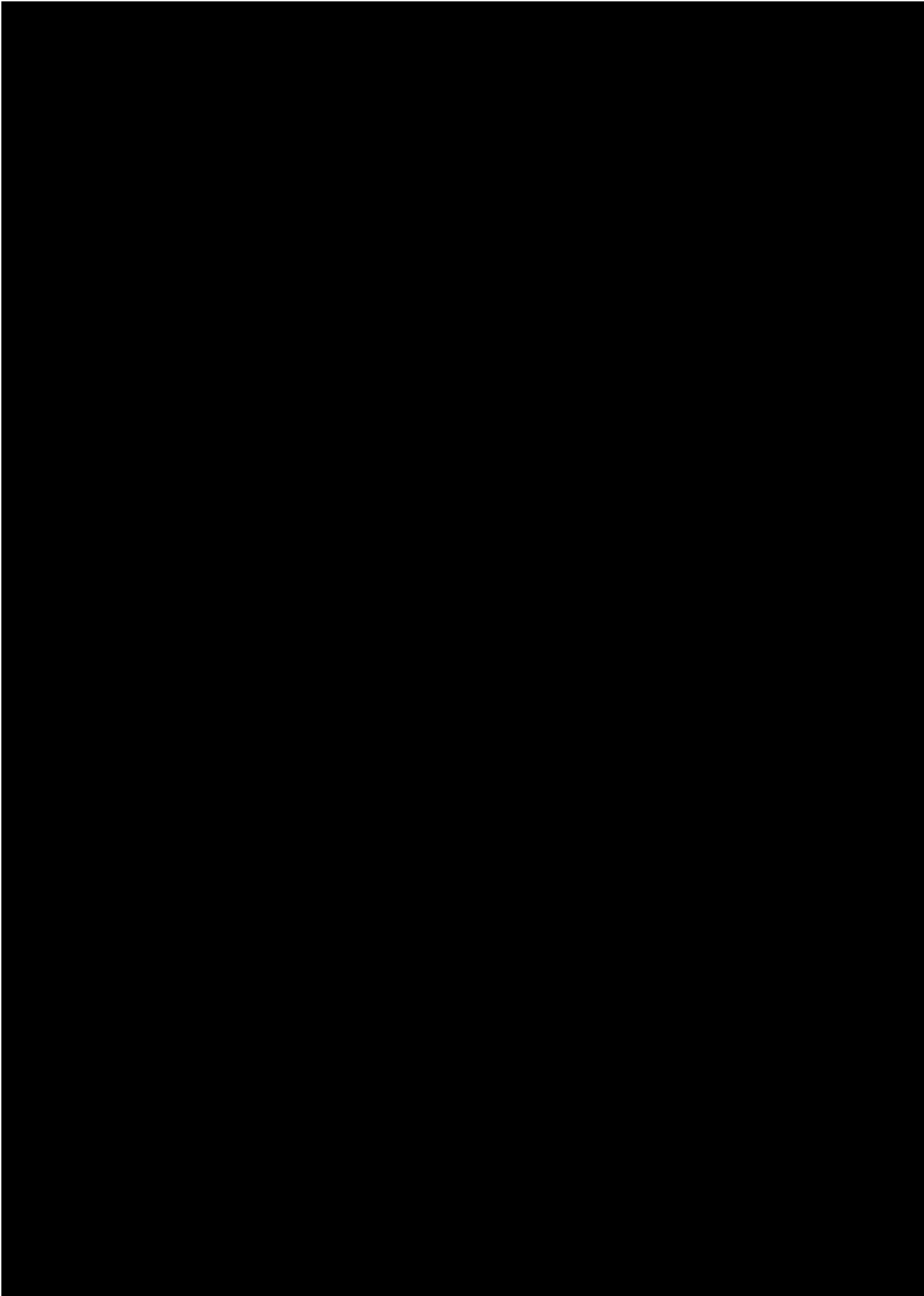


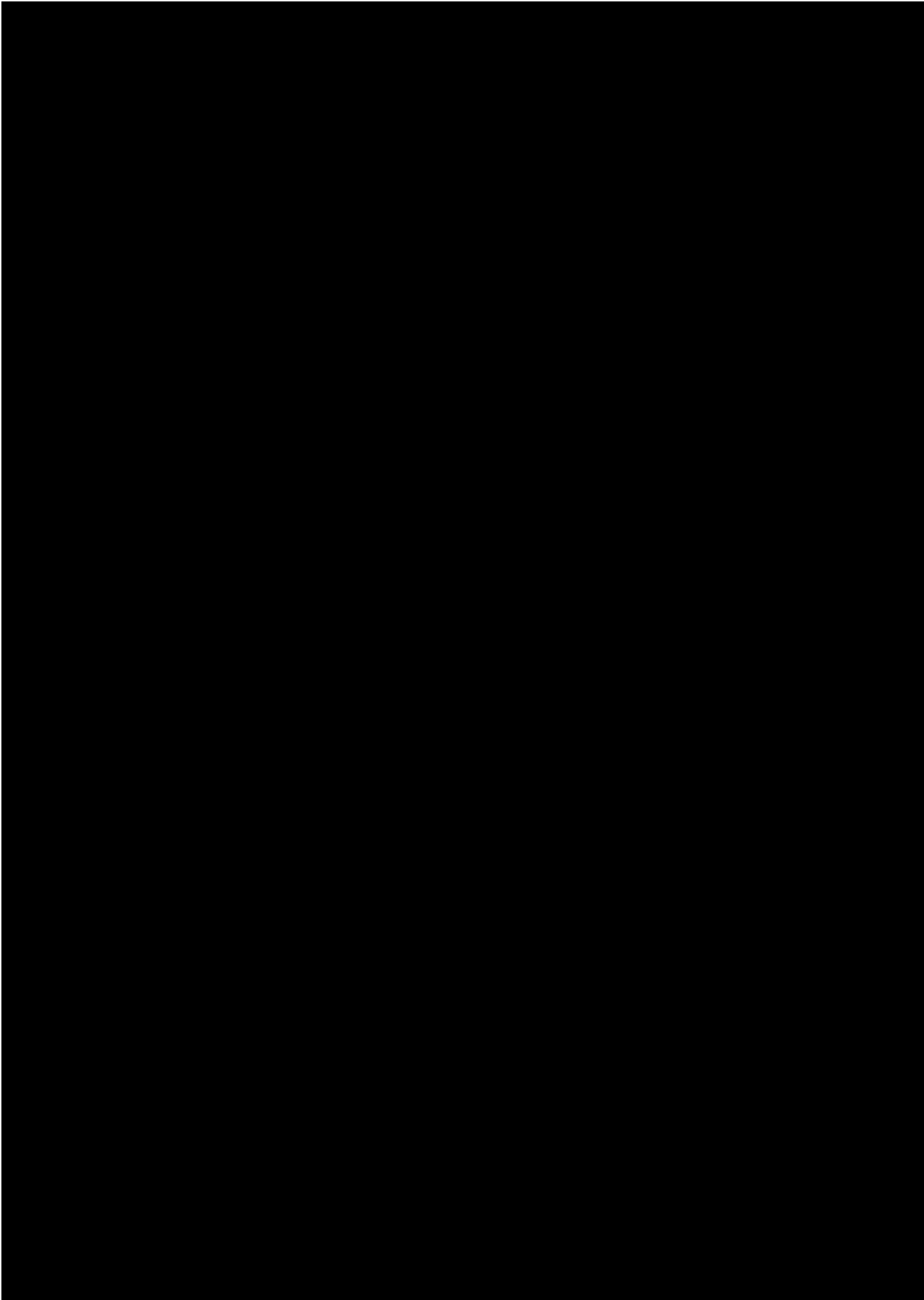


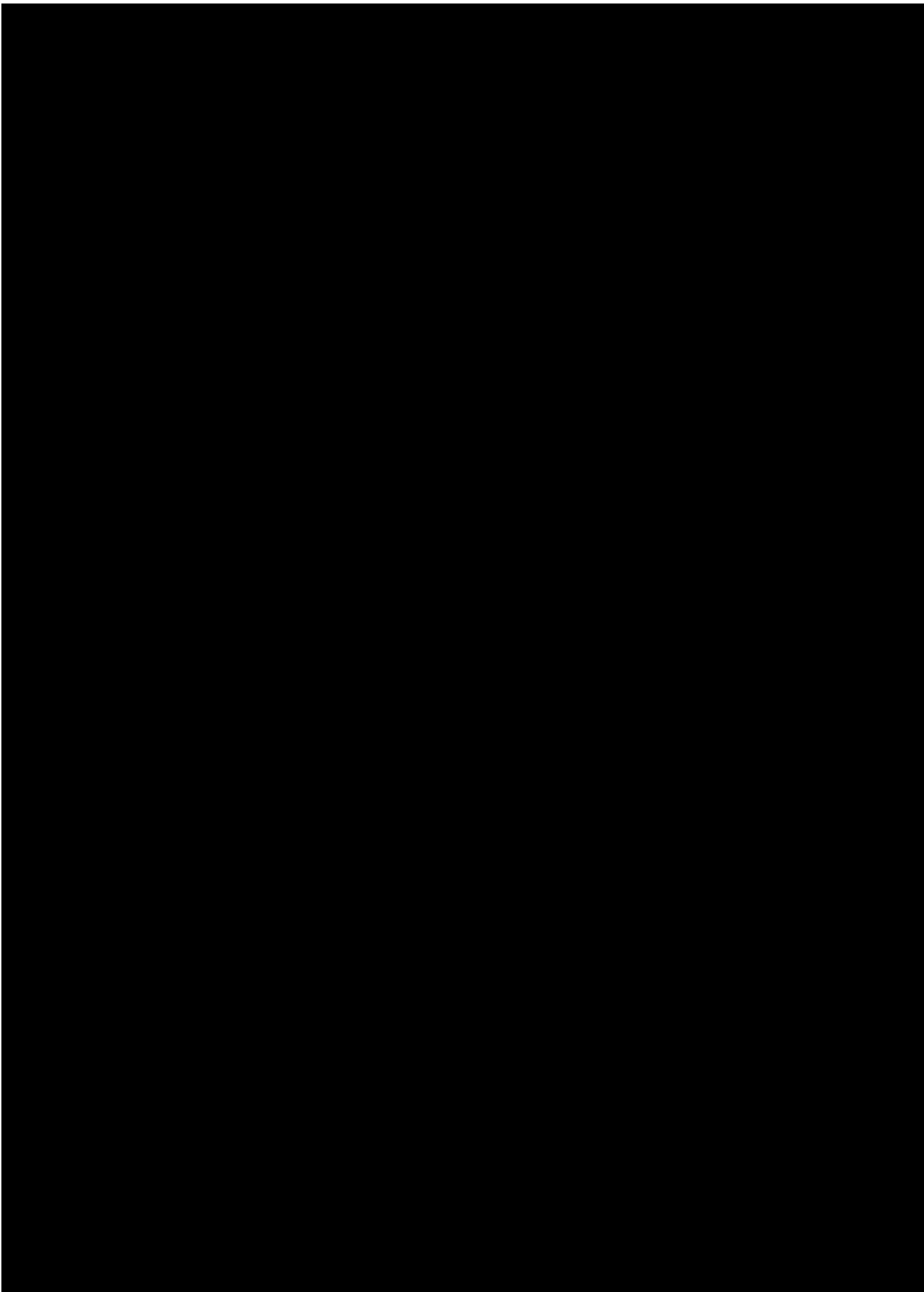


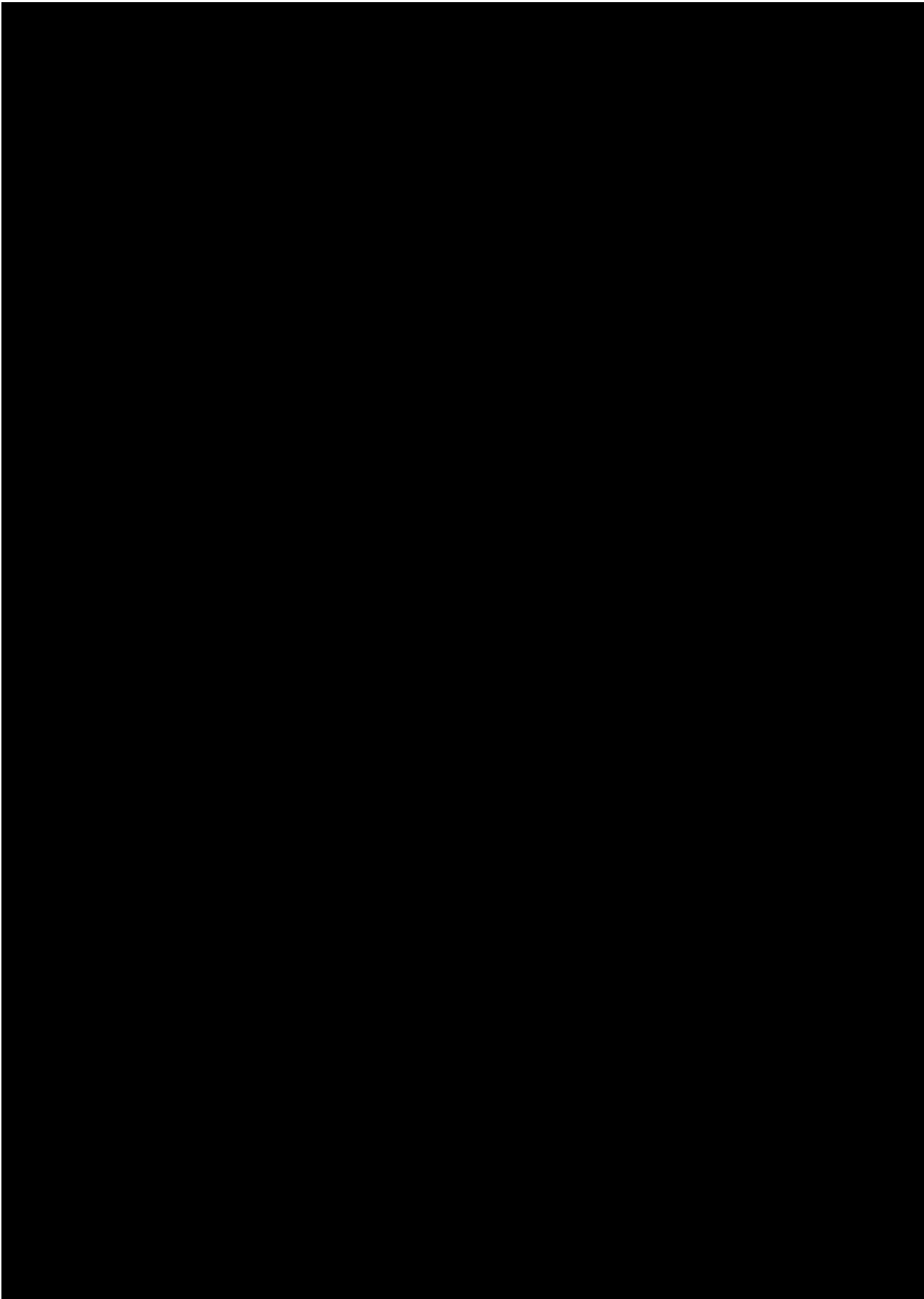


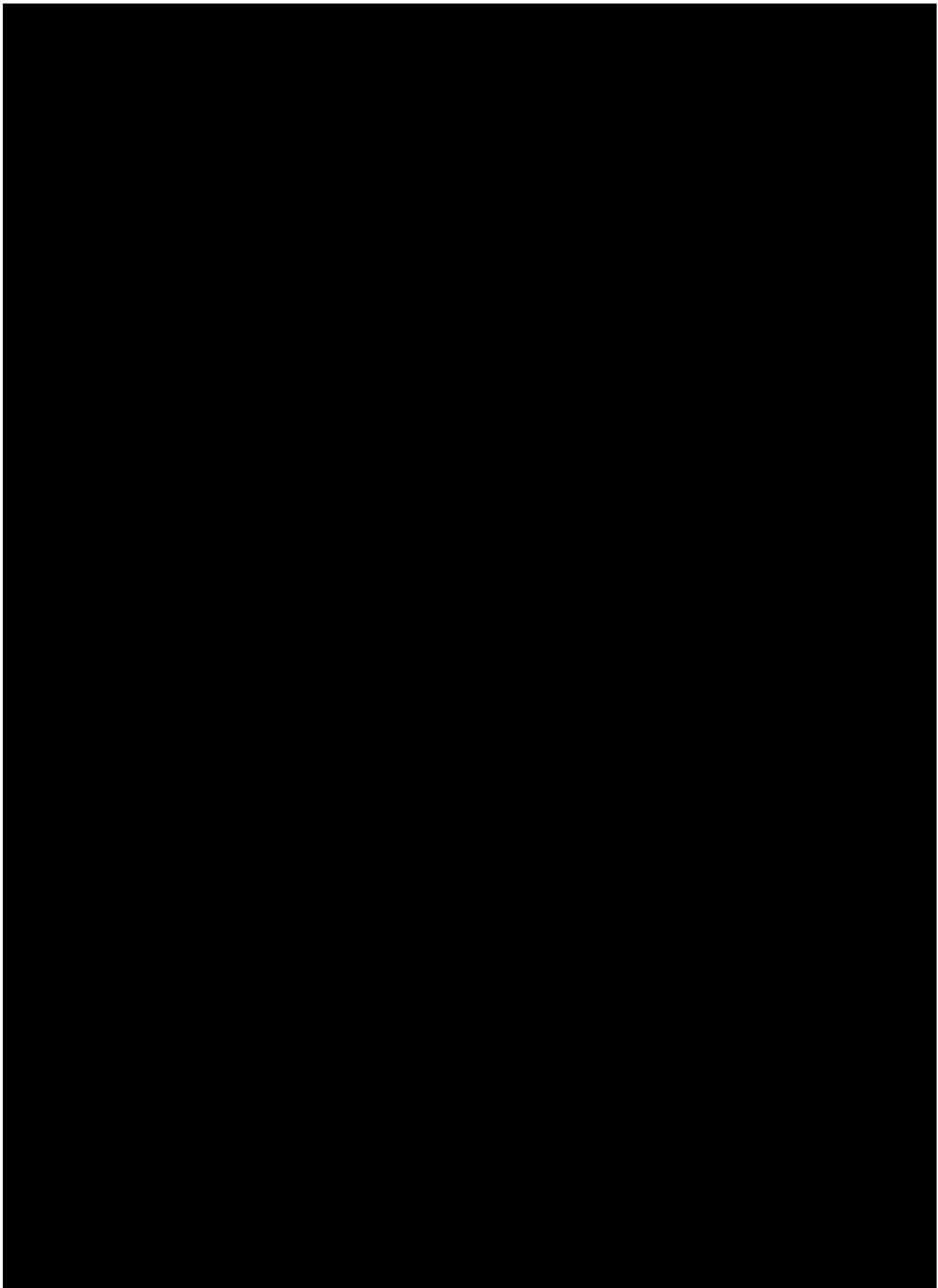


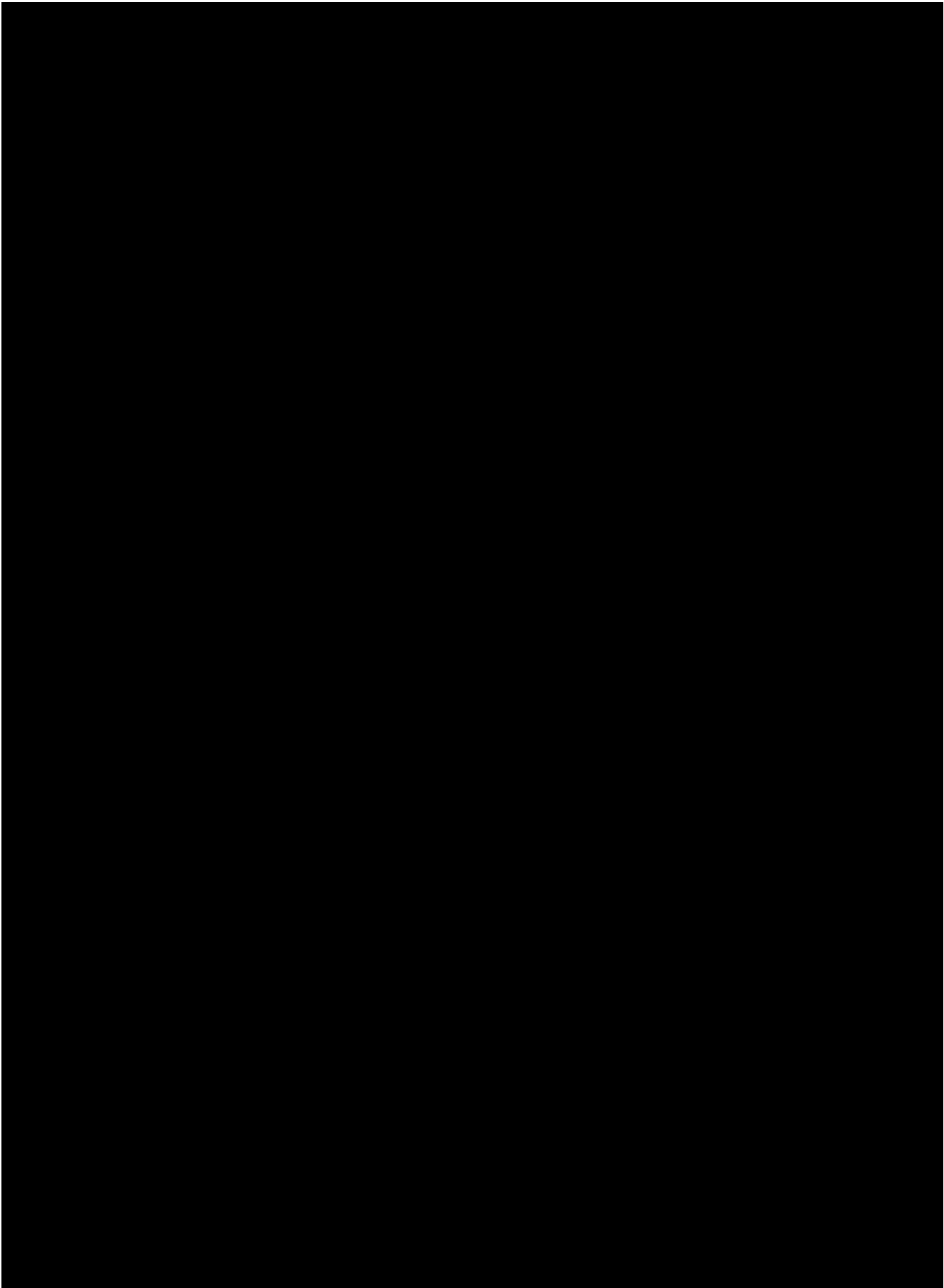




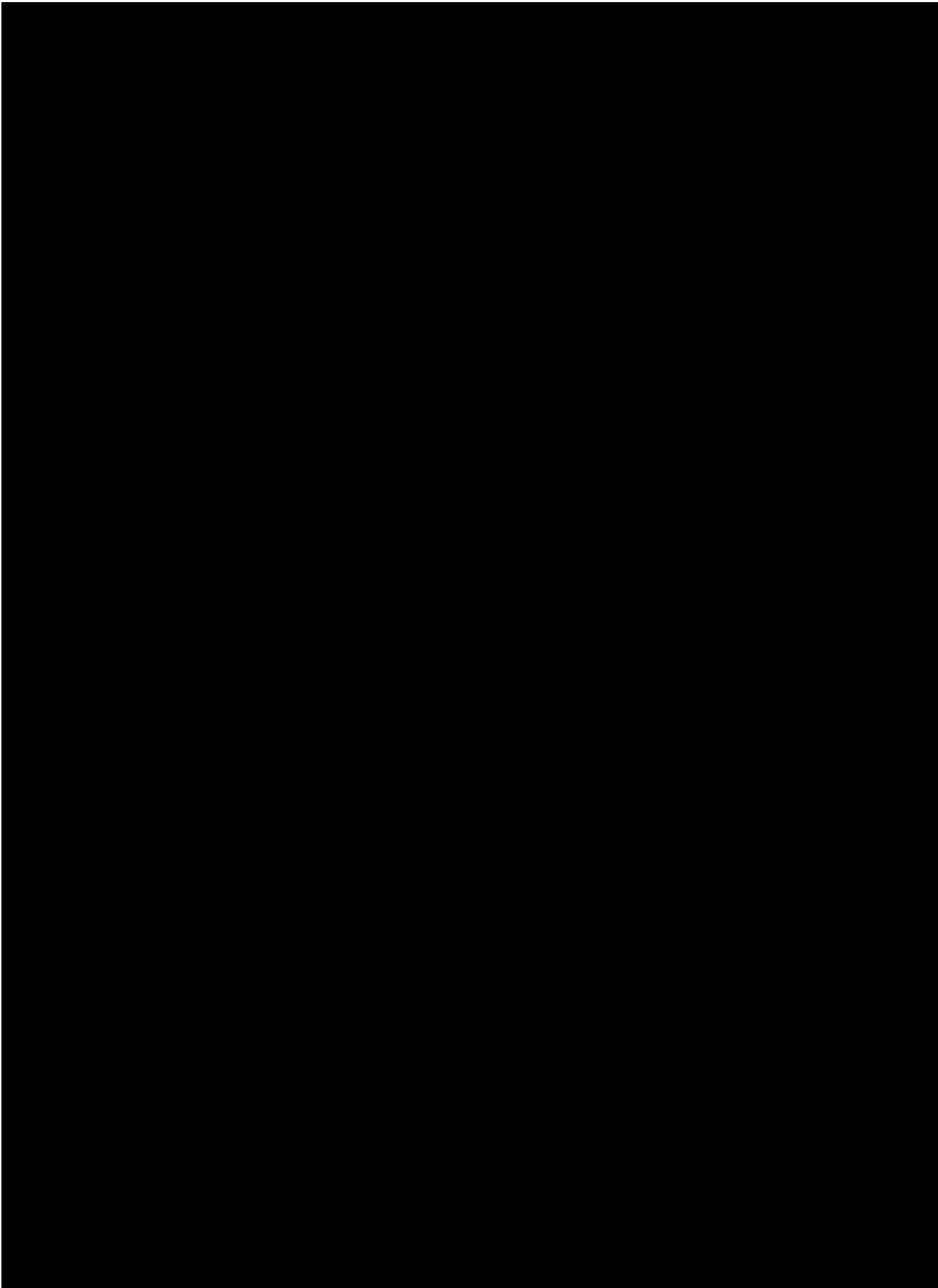


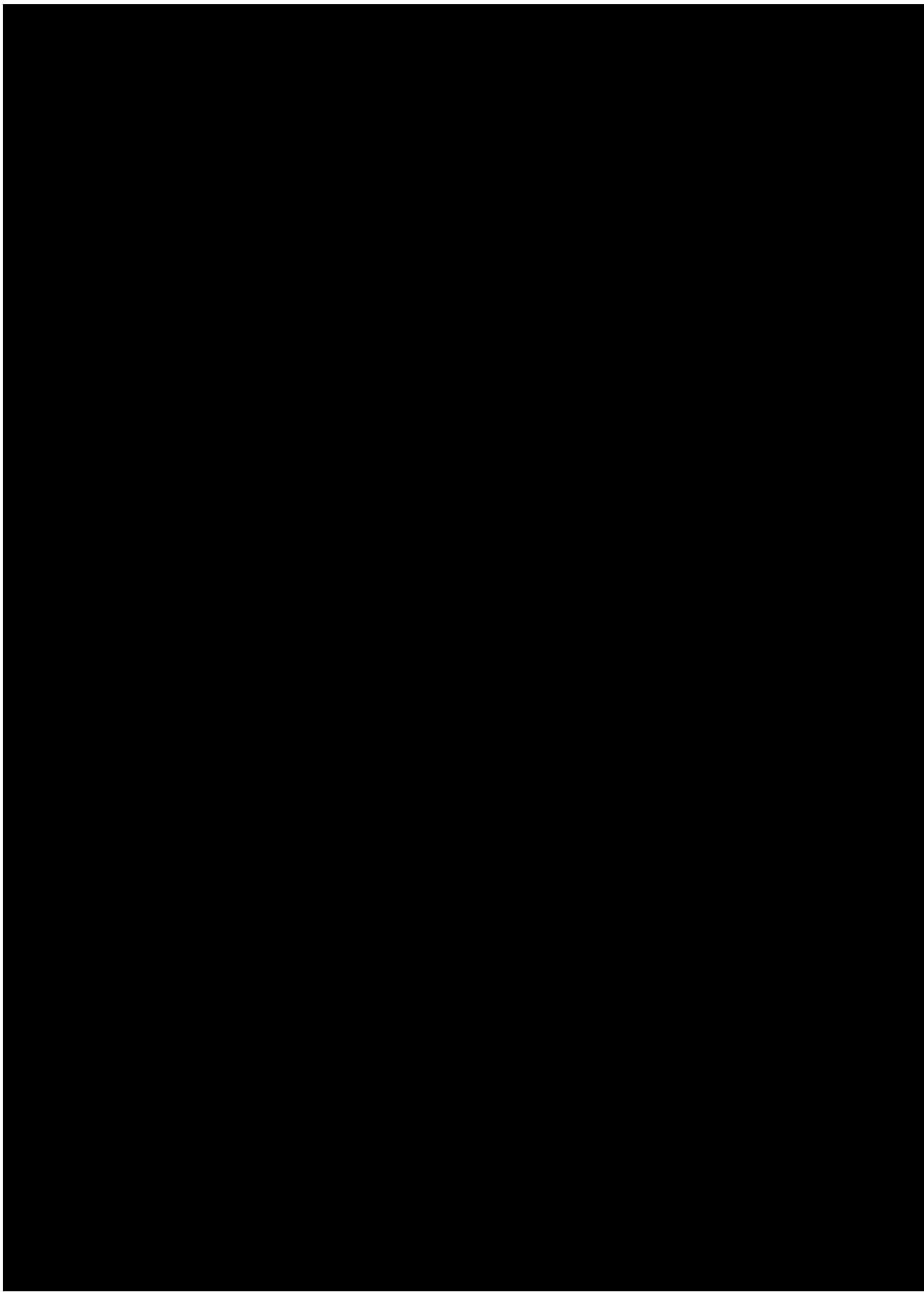


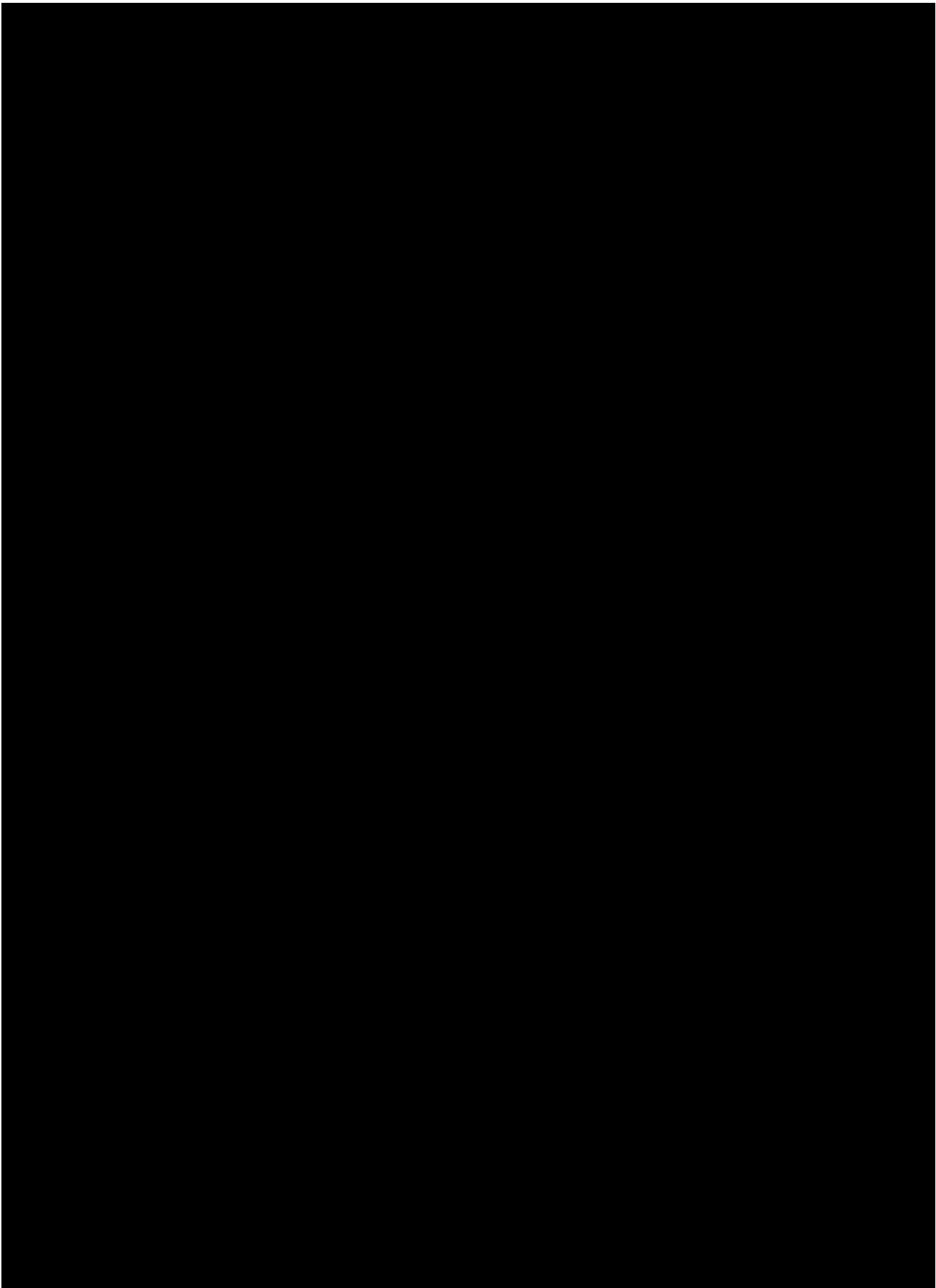


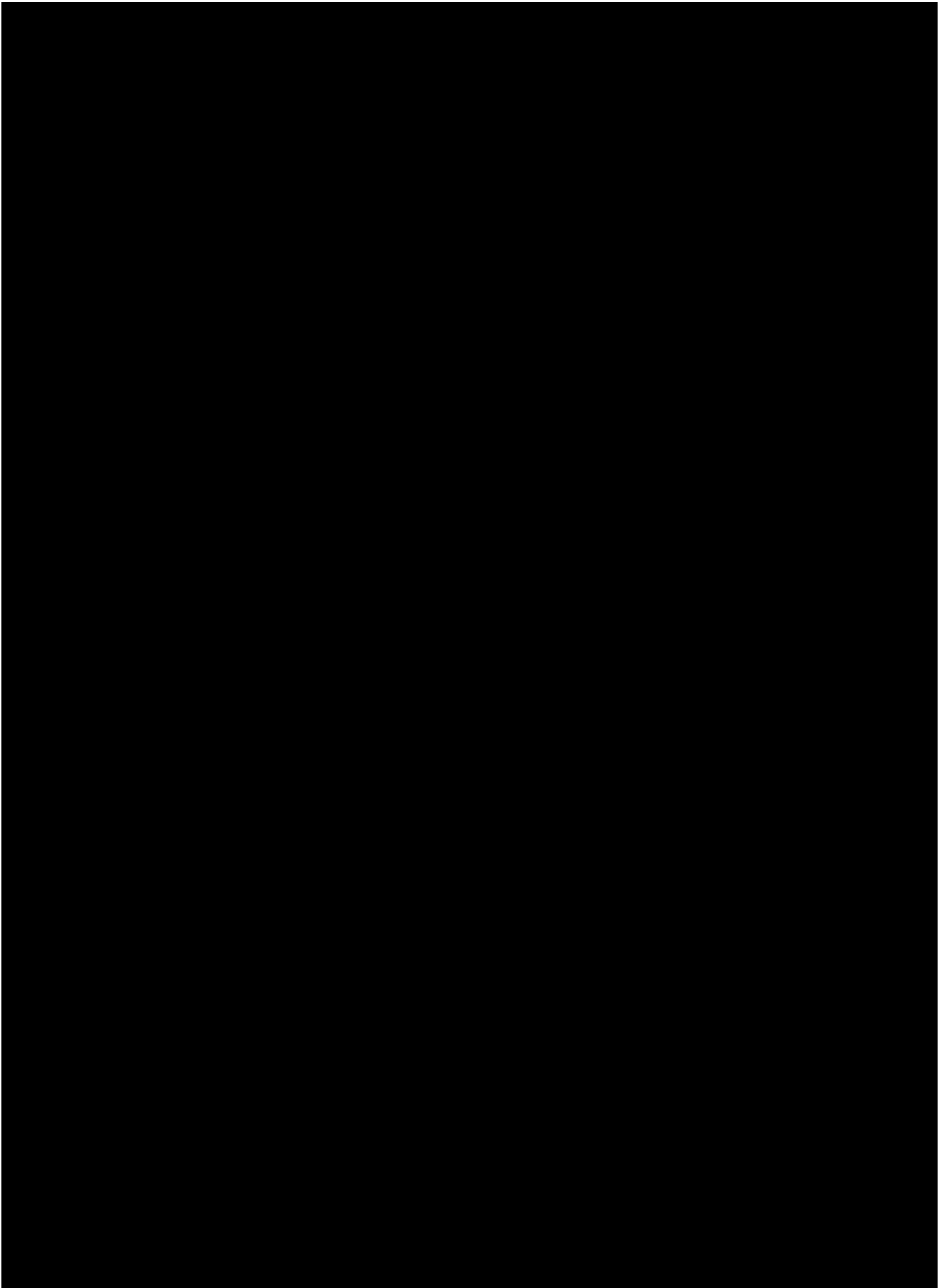














## Attachment P to Annexure C

### 1.1 0 DESIGN PHASE COMMISSONING PLANNING

#### 1.1.1 Develop Commissioning Plan

The Commissioning Plan identifies processes and procedures necessary for a successful Commissioning Process. Contractor will develop The Commissioning Plan that addresses the SRS and reflects the defined scope and budget for the Commissioning Process. Also included in the Commissioning Plan will be the Commissioning Team structure along with a description of each Team Member's roles and responsibilities. The Commissioning Plan will be updated throughout the commissioning process to reflect.

#### 1.1.2 Develop Commissioning Specifications

Contractor will develop a project specific Commissioning Specification. This Specifications outlines the administrative requirements of the Cx Process and the Cx Authority involvement with the Contractor and is included in the Notice to Main Contractor

The Commissioning specifications will also include sample Construction Checklists and Functional Performance Testing, Site Acceptance Testing and Integrated Systems Testing procedures in order to identify the level of rigor.

#### 1.1.3 Summary of Design Phase Deliverables

Documentation delivered at the conclusion of the Design Phase includes:

- Commissioning Plan
- Commissioning Specifications

### 1.2 1 BASE BUILDING CONSTRUCTION PHASE COMMISSIONING

#### 1.2.1 Commissioning Kick-Off Meeting

Contractor will conduct a Commissioning Kick-off Meeting to introduce the Inspector, Main Contractor and Building Subcontractors to the Commissioning Process requirements for the project. The Principal's Project Requirements, Basis of Design, Commissioning Plan, and unique Contract Document requirements are reviewed. In addition, the specific roles and responsibilities of the Main Contractor relative to the Commissioning Process are reviewed.

#### 1.2.2 Attend Progress Meetings

Contractor will periodically attend the Site Progress Meetings, during the construction period. The Contractor's Inspector and Main Contractor will be given advance notice prior to a meeting date, if the Cx Authority wishes to have an agenda item for that particular meeting.

In addition to the regularly scheduled Site Progress Meetings, Contractor will conduct separate Commissioning Progress Meetings with an agenda focused solely on Commissioning related issues. It is anticipated that these meetings will be held monthly over the last 12 months of construction.

### 1.2.3 **Project Schedule**

Contractor will provide to the Main Contractor a detailed schedule of Commissioning activities to be performed on the project. This schedule will be in CPM format identifying start & end dates for each activity and identify the critical path. The Commissioning Specifications will identify the requirements and sequence of events that should be incorporated into the overall schedule.

### 1.2.4 **Submittal / RFI Reviews**

Contractor will review commissioning related submittals for quality. Any deviations from the submittal requirements will be compared to the Basis of Design document for any positive or negative impacts.

Contractor's review comments will be provided to the Principal and the Design Team and will generally include items related to the "commission ability" of a system. Contractor is not an approving entity in the submittal process.

### 1.2.5 **Operation & Maintenance Data:**

Contractor will compile all Operation & Maintenance Data PRIOR to performing Functional Performance Testing or the Principal's Training Sessions. This requires the Main Contractor to submit the Operations & Maintenance Data to the Contractor and the Cx Authority immediately after receipt of the approved submittal package.

### 1.2.6 **Construction Checklists:**

Contractor will develop a Construction Checklist for each major piece of equipment included in the systems being commissioned. The Checklists are to be completed by the Main Contractor under Contractor's supervision and returned to the Cx Authority for inclusion in the Final Commissioning Report. Construction Checklists are important to ensure that the equipment and systems are hooked up and operational, and that Functional Performance Testing may proceed without unnecessary delays.

### 1.2.7 **Site Observations**

Contractor will perform Site Observation Visits periodically as necessary, during the Construction Phase. The purpose of these visits is to oversee the installation progress of the systems being commissioned, and to compare the actual job progress with the progress indicated on the Construction Checklists returned from the Main Contractor. Contractor will submit a detailed report of each visit to the Members of the Commissioning Team.

### 1.2.8 Contractor QA / QC Testing

Contractor will attend selective quality assurance/quality control tests performed by the installing trade contractor. The trade / Main Contractor will submit all testing results to us for inclusion in the final Commissioning Report.

### 1.3 Pre-Installation Conferences

Chillers (100% Sampling)	MCC (100%)
Boilers (100% Sampling)	VSD (100%)
Pumps (100% Sampling)	Fire Detection (25% Sampling)
Air Handling Units (100% Sampling)	Fire Protection (50% Sampling)
CRAC Units (100% Sampling)	Sound System + Intercom System for Emergency Purposes (25% Sampling)
VAV terminals (25% Sampling)	Hydraulics Systems (25% Sampling)
Exhaust and Ventilation Fans (25% Sampling)	Lift (100%)
Unitary Heating and Cooling Systems (25% Sampling)	Earthing & Lightning Protection (100%)
Building Automation Systems (100% Sampling)	Switch & Distribution Boards (100%)
Building Automation System Interface (100% Sampling)	UPS (100%)
Chilled Water Piping Systems (25% Sampling)	CCTV (100%)
Domestic Water Heaters (100% Sampling)	Access Control (100%)
Lighting and Lighting Control System (100% Sampling)	
Daylighting controls (100% Sampling)	
Building Envelope & Room Integrity Testing	



Contractor will attend Pre-Installation Conferences that are held by the trade / Main Contractor as necessary. Contractor will only participate in the Conferences related to the systems being commissioned. The Test And Balance (TAB) Conference is a major event in the Commissioning Process and Contractor will be actively involved in this Conference.

#### 1.3.1 **Functional Performance Test Procedures:**

Contractor will develop the Test Procedures and issue to the Commissioning Team for review and comment. Once the Test Procedures are finalized, a meeting will be held to plan the sequencing and scheduling of the Functional Performance Testing.

Prior to the start of verification testing, the trade / Main contractor will submit completed construction checklists to confirm that components and systems have been installed in accordance with the contract documents and systems are able to be operated through all defined sequences of operation.

Contractor will schedule, organize, lead and supervise the verification testing, with the involvement of the trade / Main contractor to actually operate systems, under the direction of Contractor. All tests are defined on a "pass / fail" criteria and results of the testing are documented by Contractor and distributed to all Commissioning Team members.

All failed test results are also documented, logged and forwarded to the appropriate Commissioning Team members for resolution. In some instances, Contractor may be requested by the Principal to participate in the resolution process. Re-testing will be carried out to achieve successful results for any failed tests.

The trade / Main contractor is responsible for the cost of re-testing.

The following systems are proposed to be commissioned by the CxA (Specific equipment / systems will be identified during Design Phase)

#### 1.3.2 **Corrective Issue Reports**

Contractor will generate Corrective Issue Reports when issues or problems arise during the Functional Performance Testing Procedures. The Report will describe the problem condition along with any related reference information and issued to the Main Contractor for corrective action.

#### 1.3.3 **Coordinate Training Sessions:**

Contractor will develop a Commissioning Training Form for each Training Session required by the Contract Documents. These forms will be given to the Main Contractor approximately mid way through the Construction Phase.

Contractor will review the training aspects of each session and coordinate the sessions. When the training has been completed, we will issue an Evaluation Form to each of the Attendees. The feedback will be reviewed with the Principal, Contractor and Main Contractor to insure the objectives of the training session have been met.

#### 1.3.4 Summary of Construction Phase Deliverables

Documentation delivered at the conclusion of the Construction Phase includes:

- Completed Construction Checklists
- Completed QA / QC Test Reports
- Completed Functional Test Procedures
- Completed Corrective Issue Reports
- Completed Training Records
- Updated Commissioning Plan

### 1.4 2A CLIENT FIT OUT INTEGRATION CONSTRUCTION PHASE COMMISSIONING

The scope will be as Tier 1, but with responsibility for the Contractor design items. Other items can be incorporated in the commissioning plan, but commission resources will be by others.

Refer to the diagrams in the commissioning section of the services design brief for scope split understanding.

All other services are excluded.

### 1.5 2B CLIENT FIT OUT SPECIALIST SYSTEMS CONSTRUCTION PHASE COMMISSIONING

All services excluded.

### 1.6 3 OPERATIONAL READINESS

All services excluded.

### 1.7 4 POST OCCUPANCY COMMISSIONING

#### 1.7.1 Seasonal Testing

Verification of the performance of all systems and assemblies being commissioned should be completed during the Construction Phase. However, certain weather conditions, load conditions, or occupant interactions are required to complete some verification activities. Such deferred performance verification will be conducted at an appropriate time (6, 8 & 12 months), and under appropriate conditions.

#### 1.7.2 **Final Commissioning Report**

The Final Commissioning Report compiled by the Contractor will be issued to the Principal for record of the Commissioning Process. This Report is a compilation of all the Commissioning related documents, forms, logs, and miscellaneous correspondences that was generated during the project.

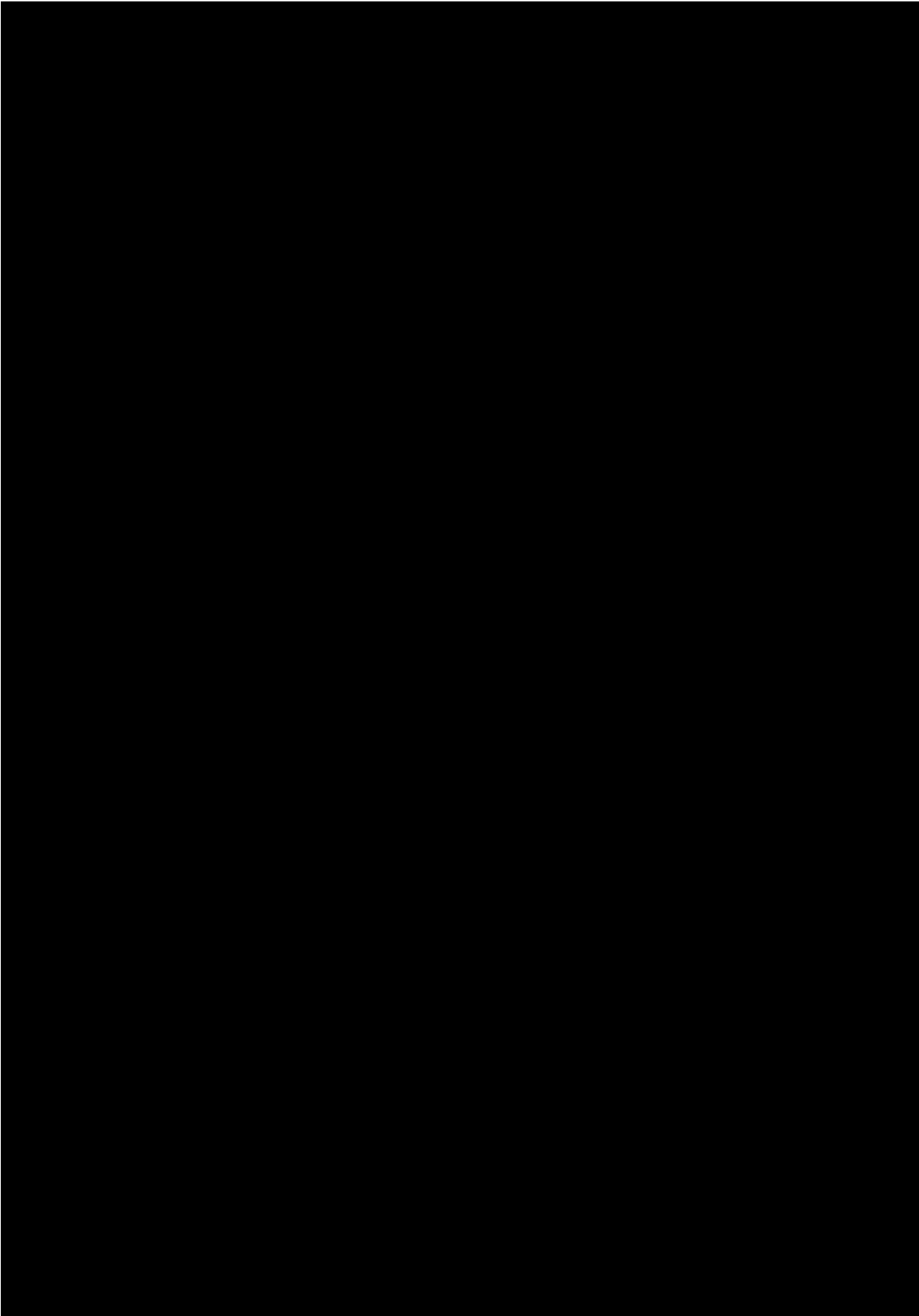
#### 1.7.3 **Defects Liability Period (DLP)**

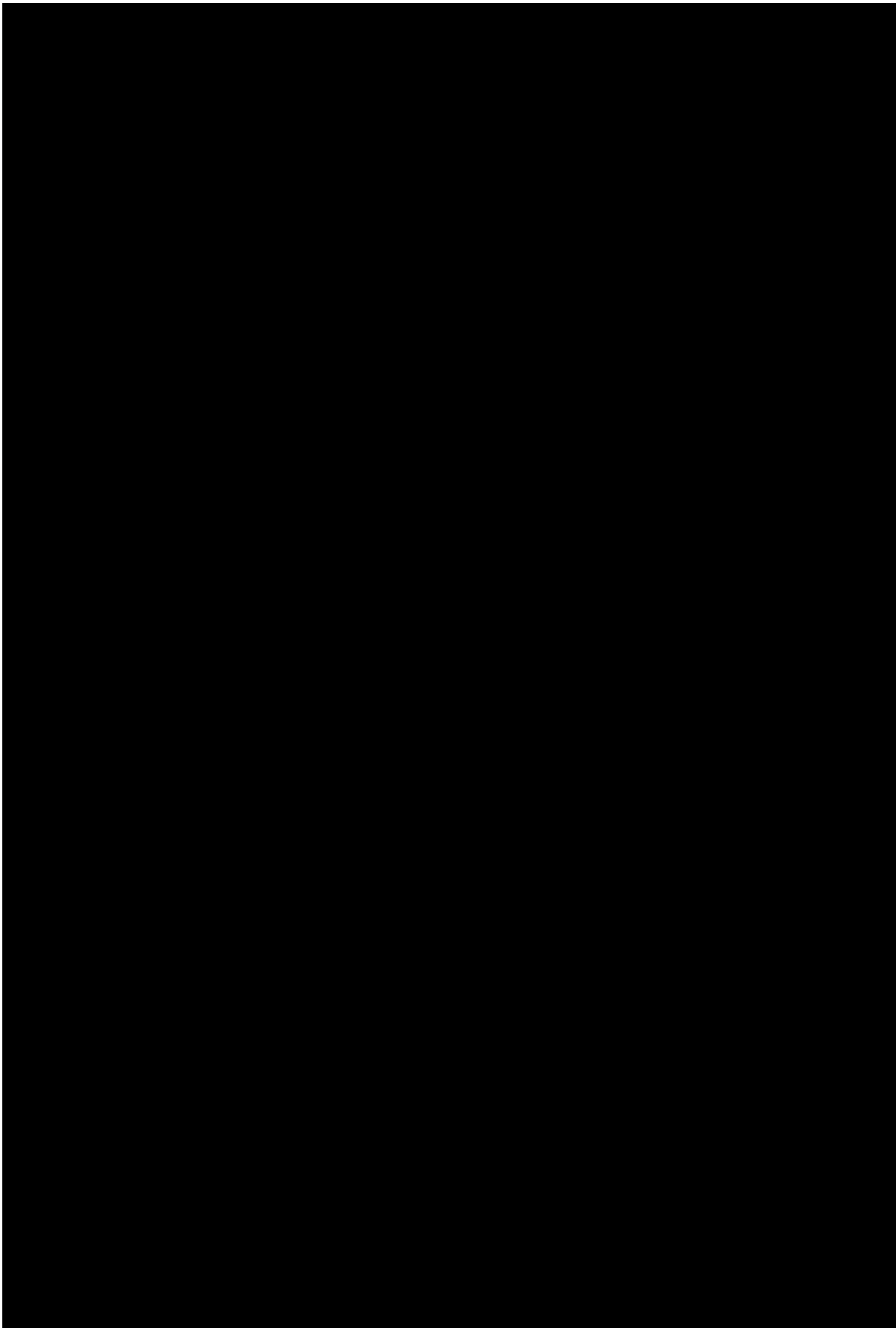
Contractor will return to the site at 6, 8 & 12 months (as necessary) in the Defects Liability Period and review with the Principal the building operation and the condition of outstanding issues related to the original and seasonal commissioning. Also, we will interview facility staff to identify problems or concerns they have with operating the building as originally intended. Contractor will be responsible for initiating suggestions for improvements and recording these changes in the O&M manuals. Contractor will identify areas that may come under warranty or under the original construction contract and assist the Principal and facility staff in developing reports, documents and requests for services to remedy outstanding problems

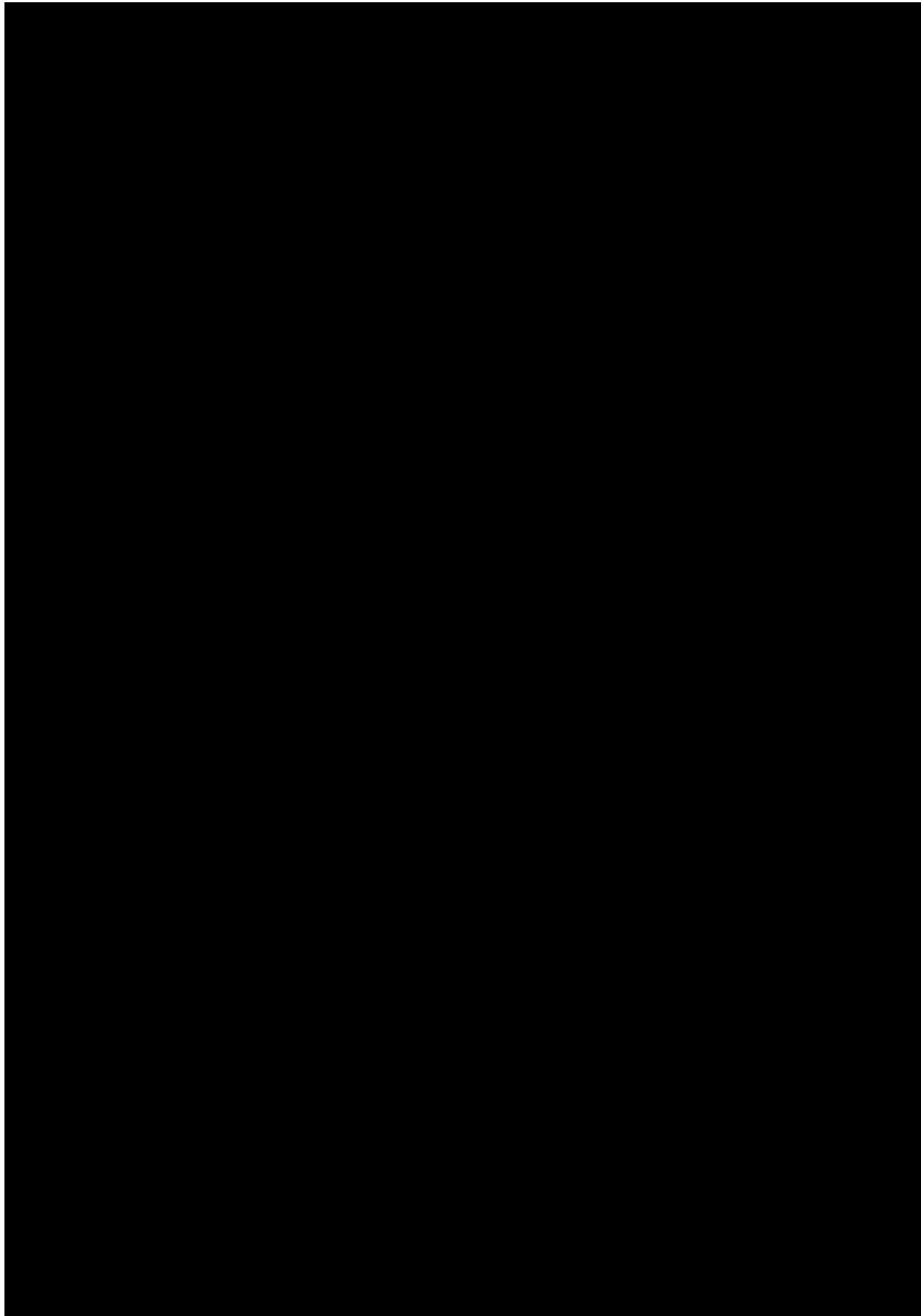
#### 1.7.4 **Summary of Occupancy/Operations Phase Deliverables**

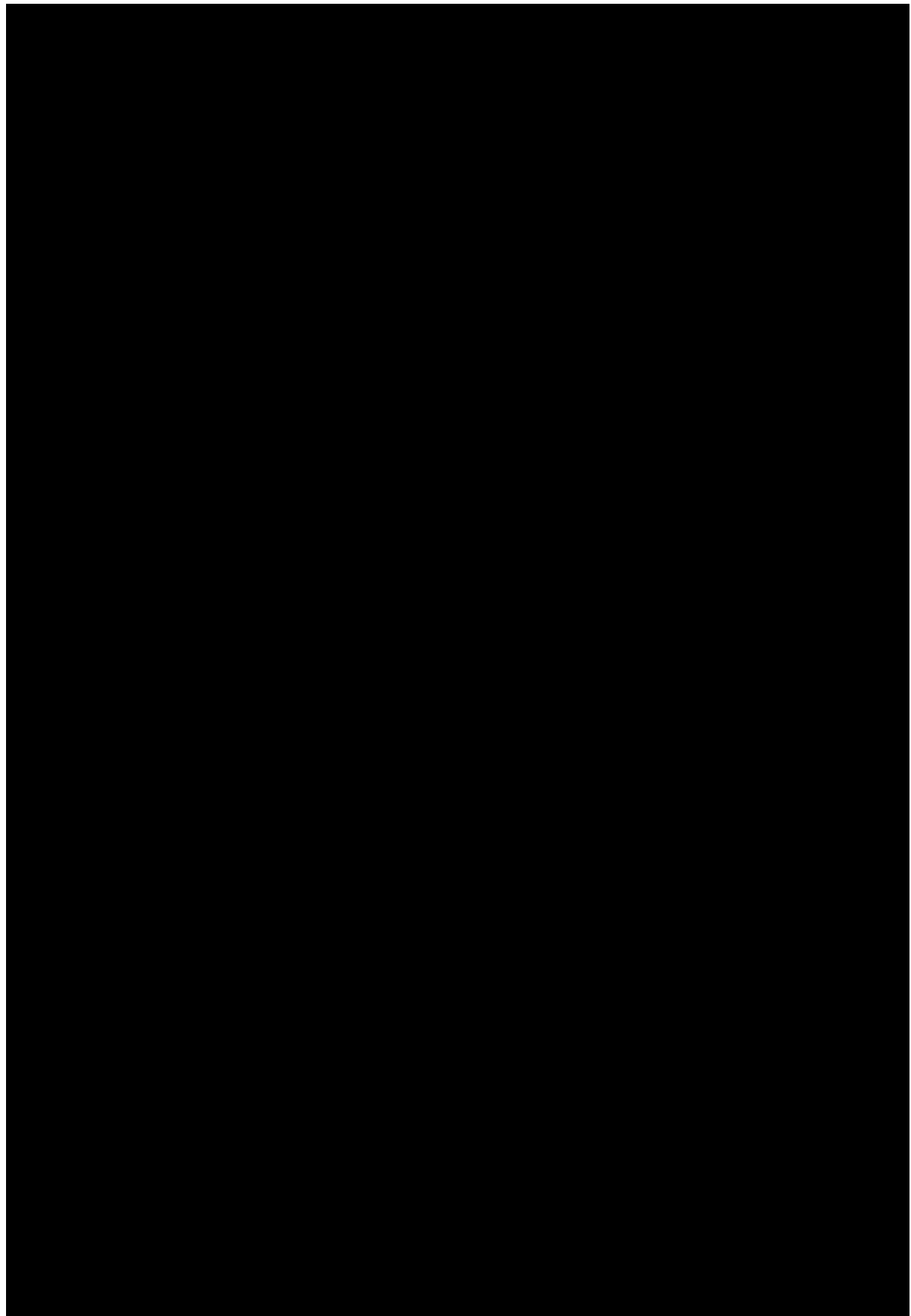
Documentation delivered by the Contractor at the conclusion of the Occupancy/Operations Phase includes:

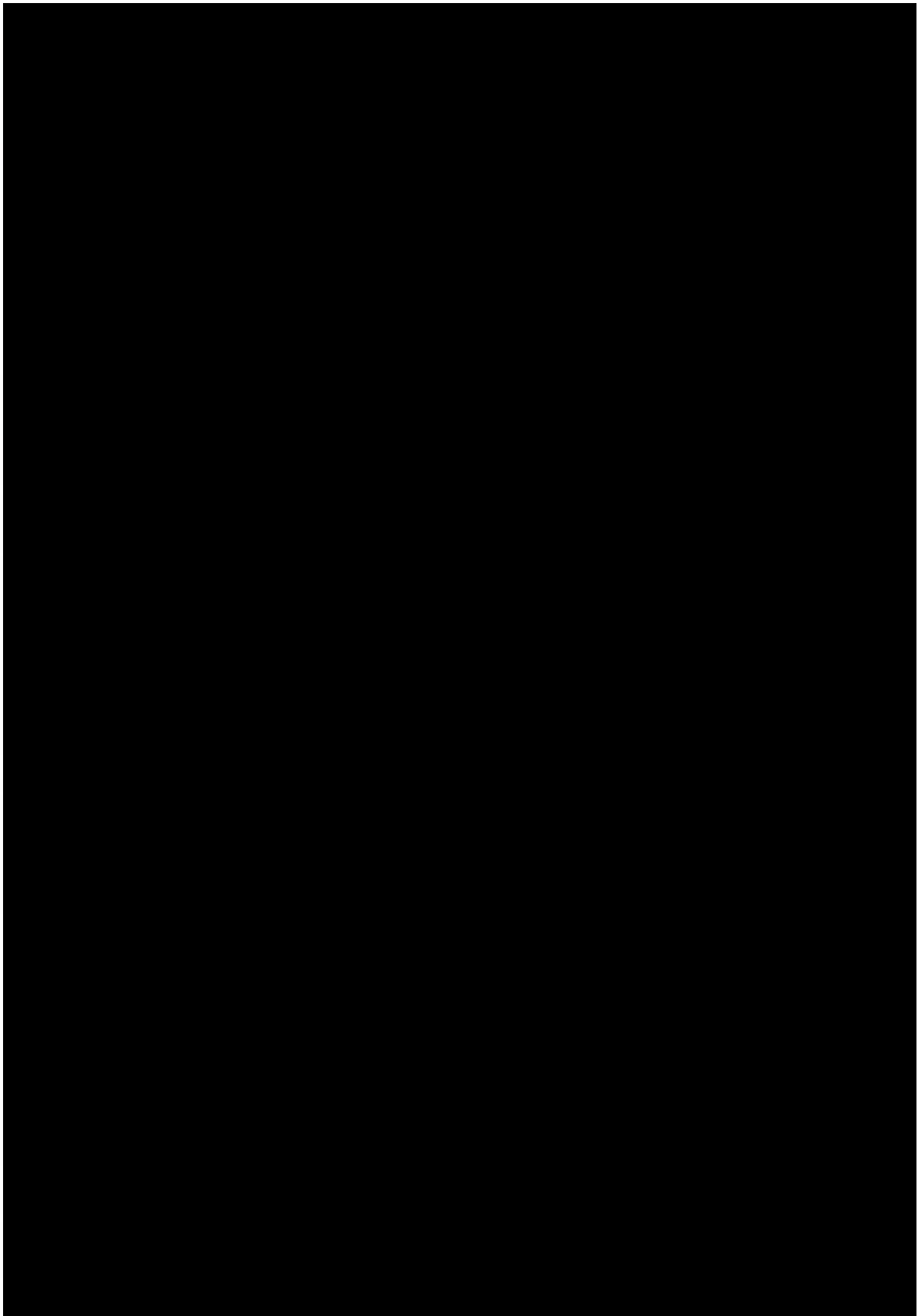
- Final Commissioning Report
- Lessons Learned Summary
- Updated Systems Manuals



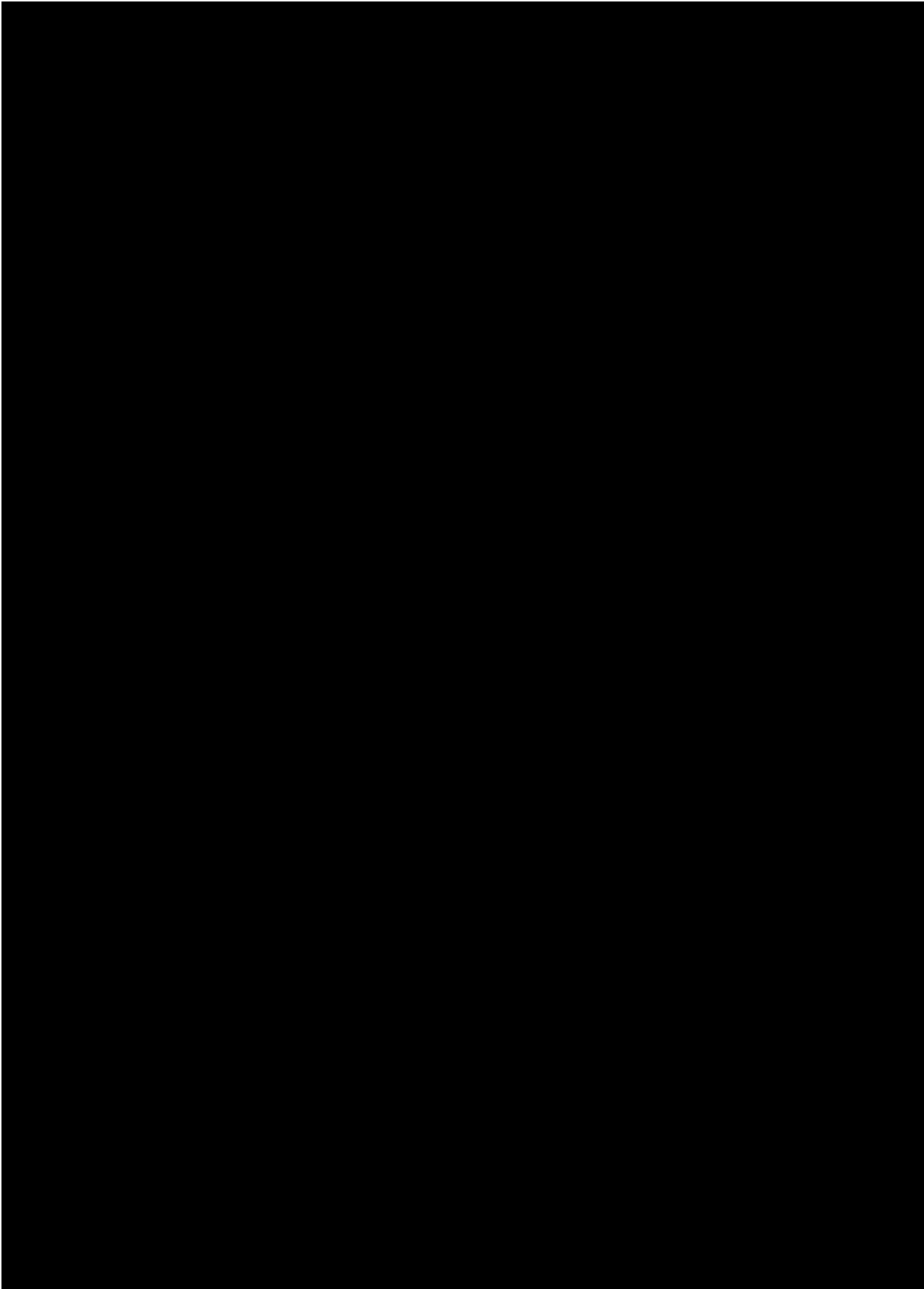


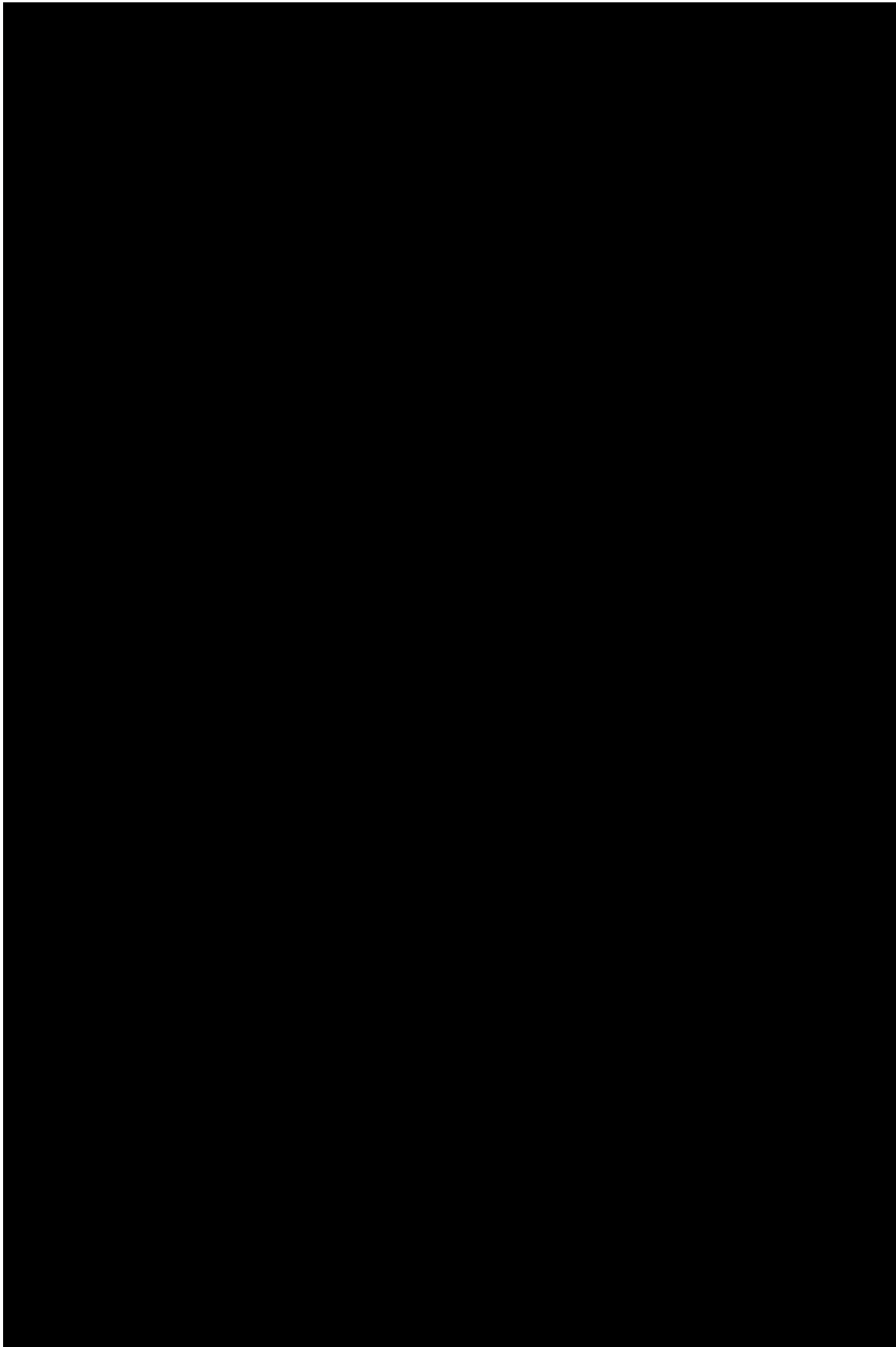


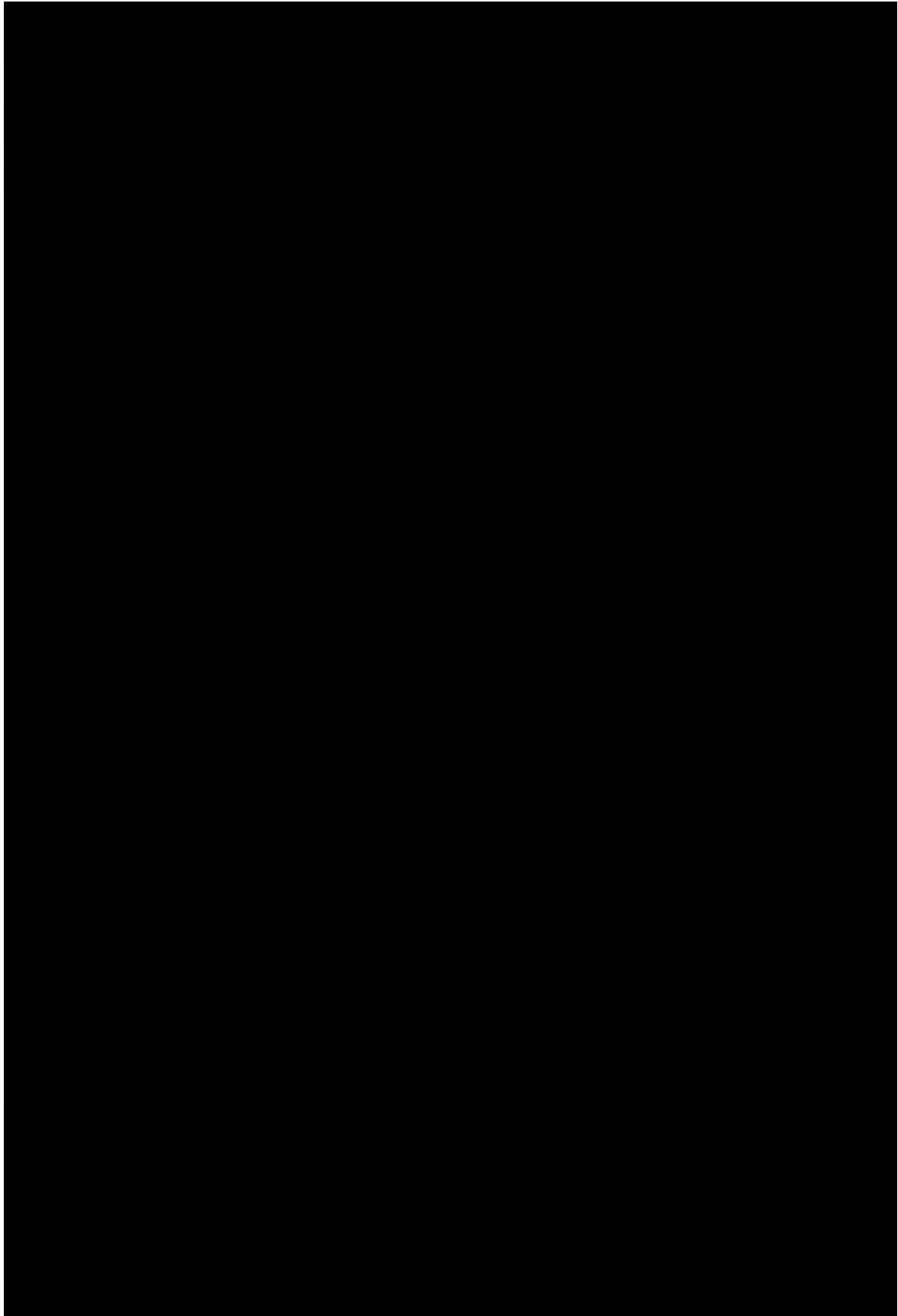


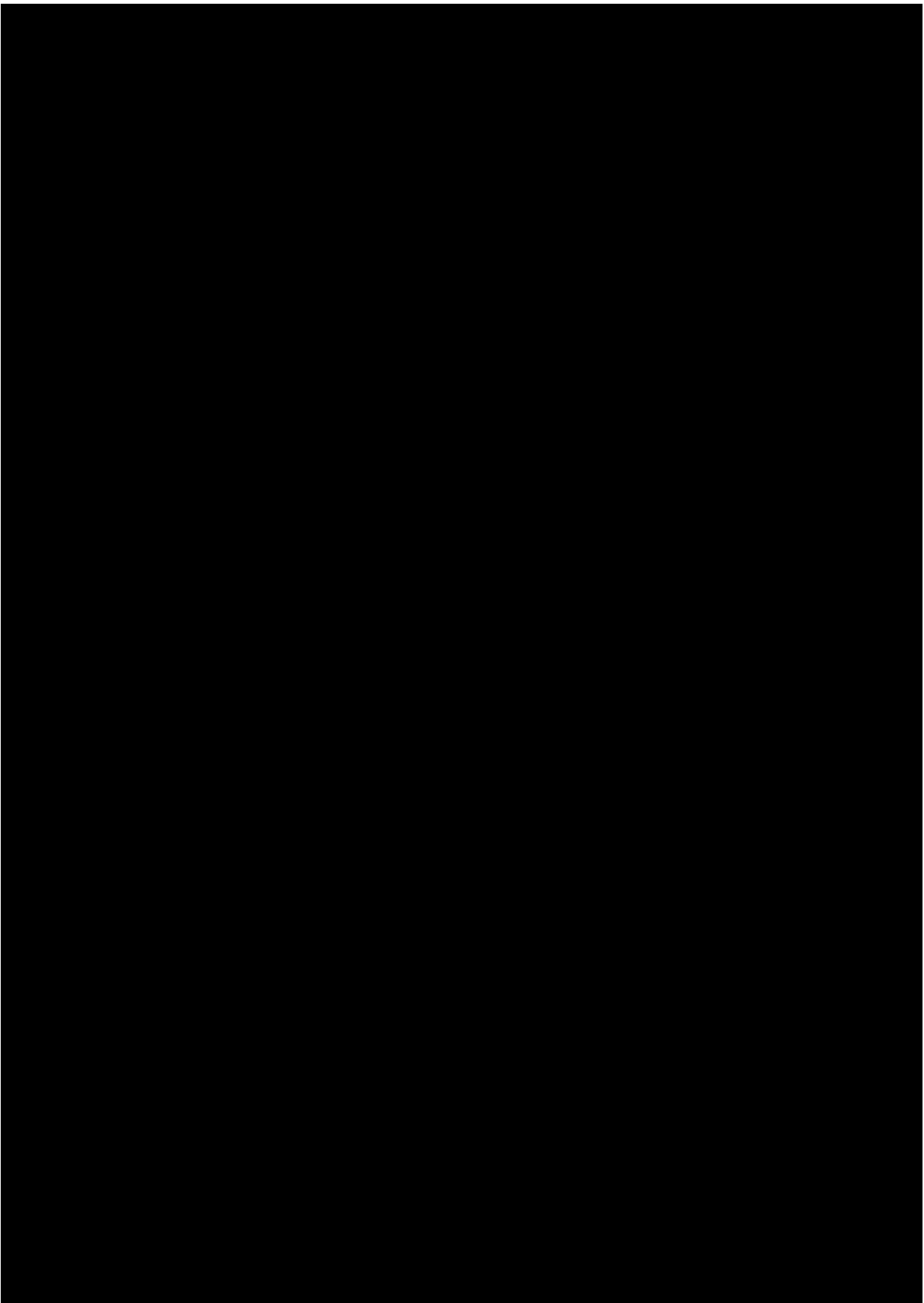


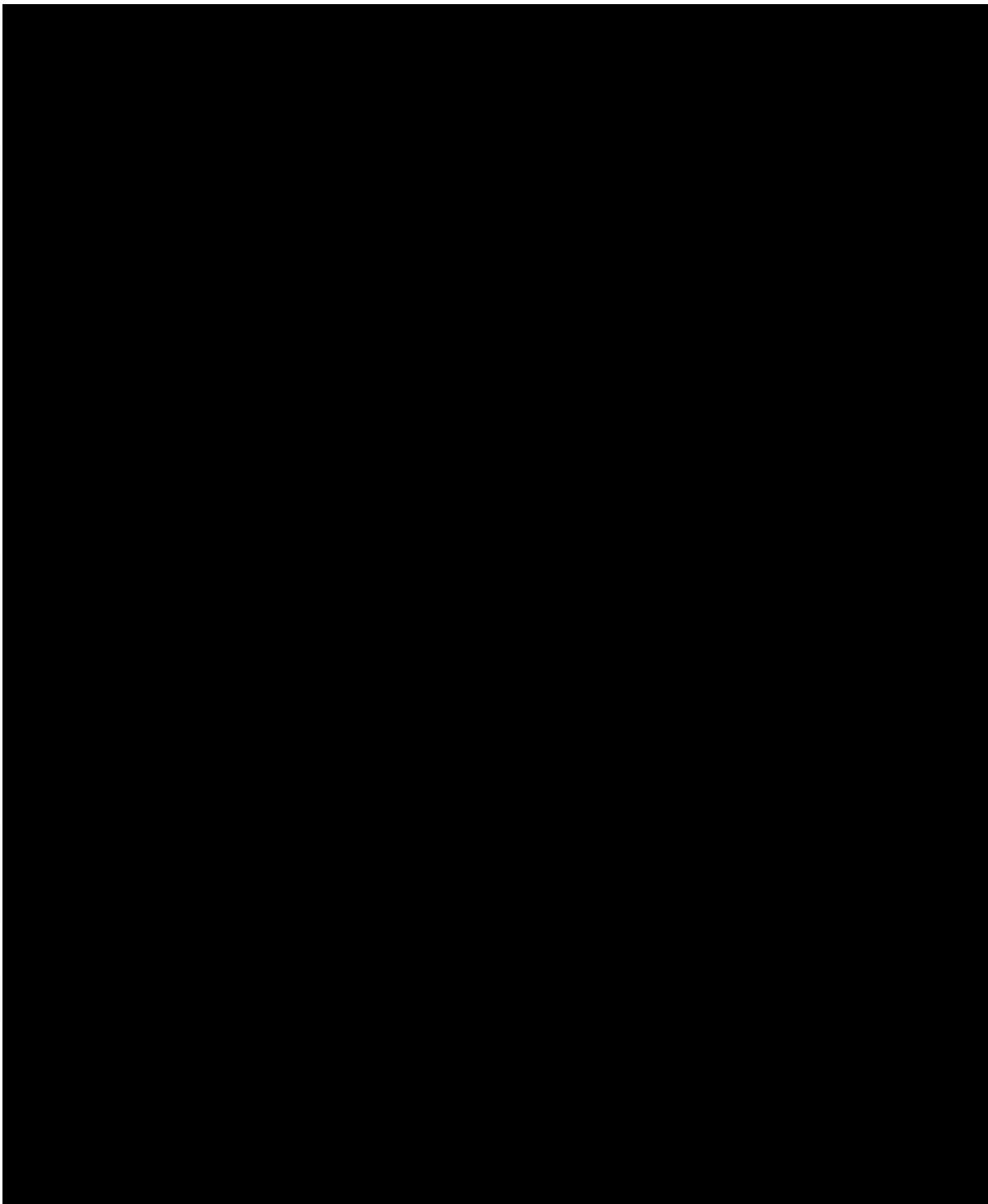




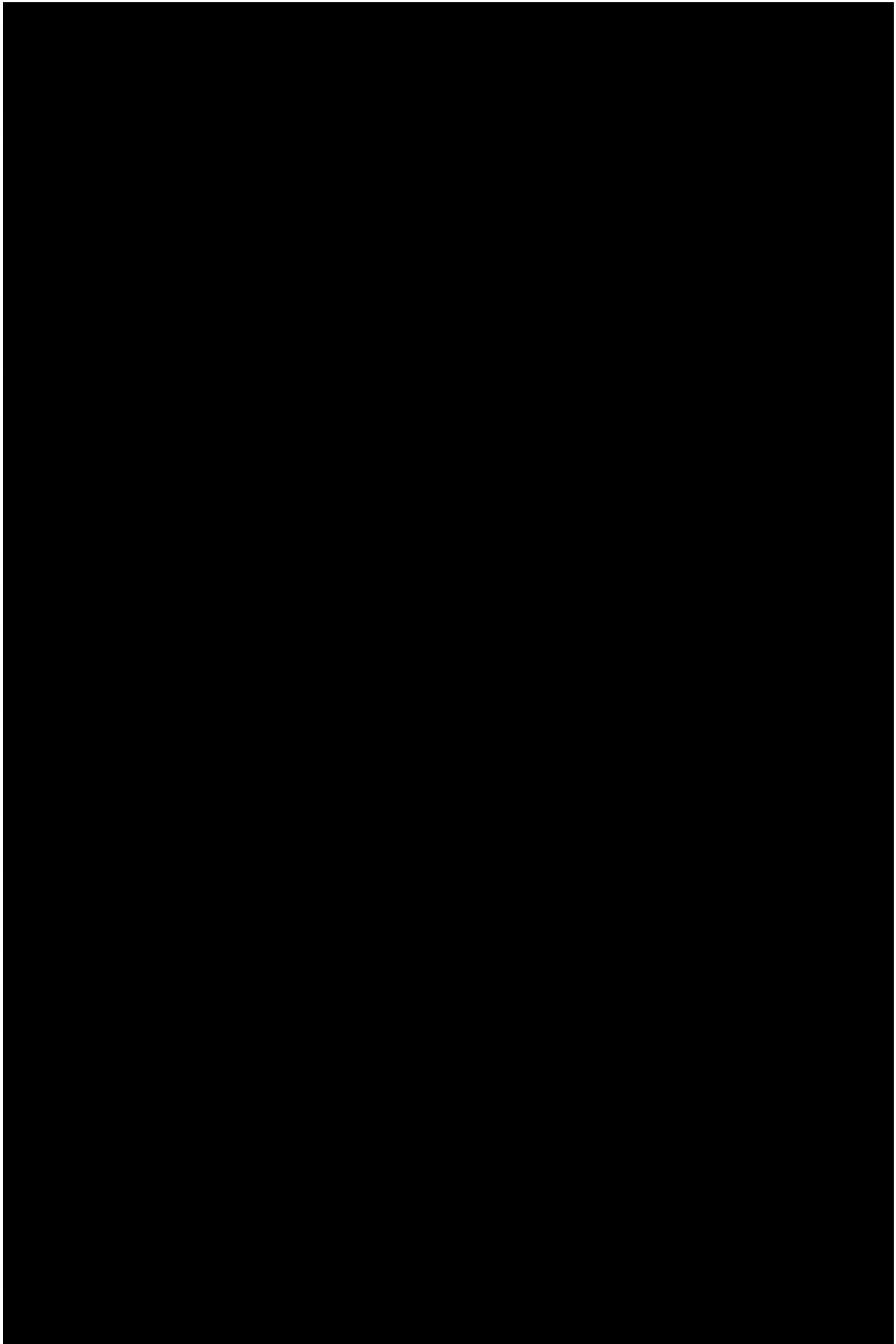


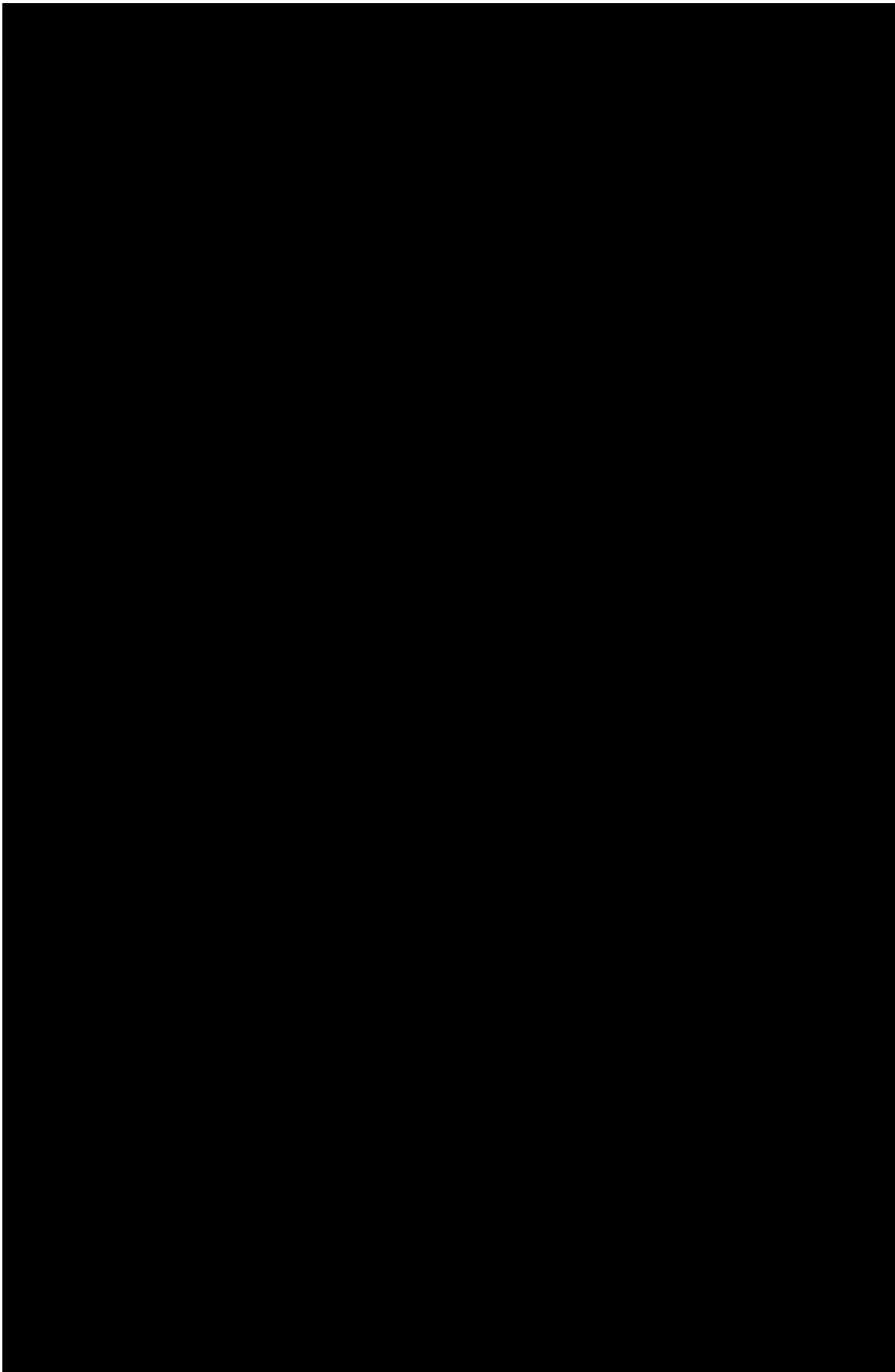




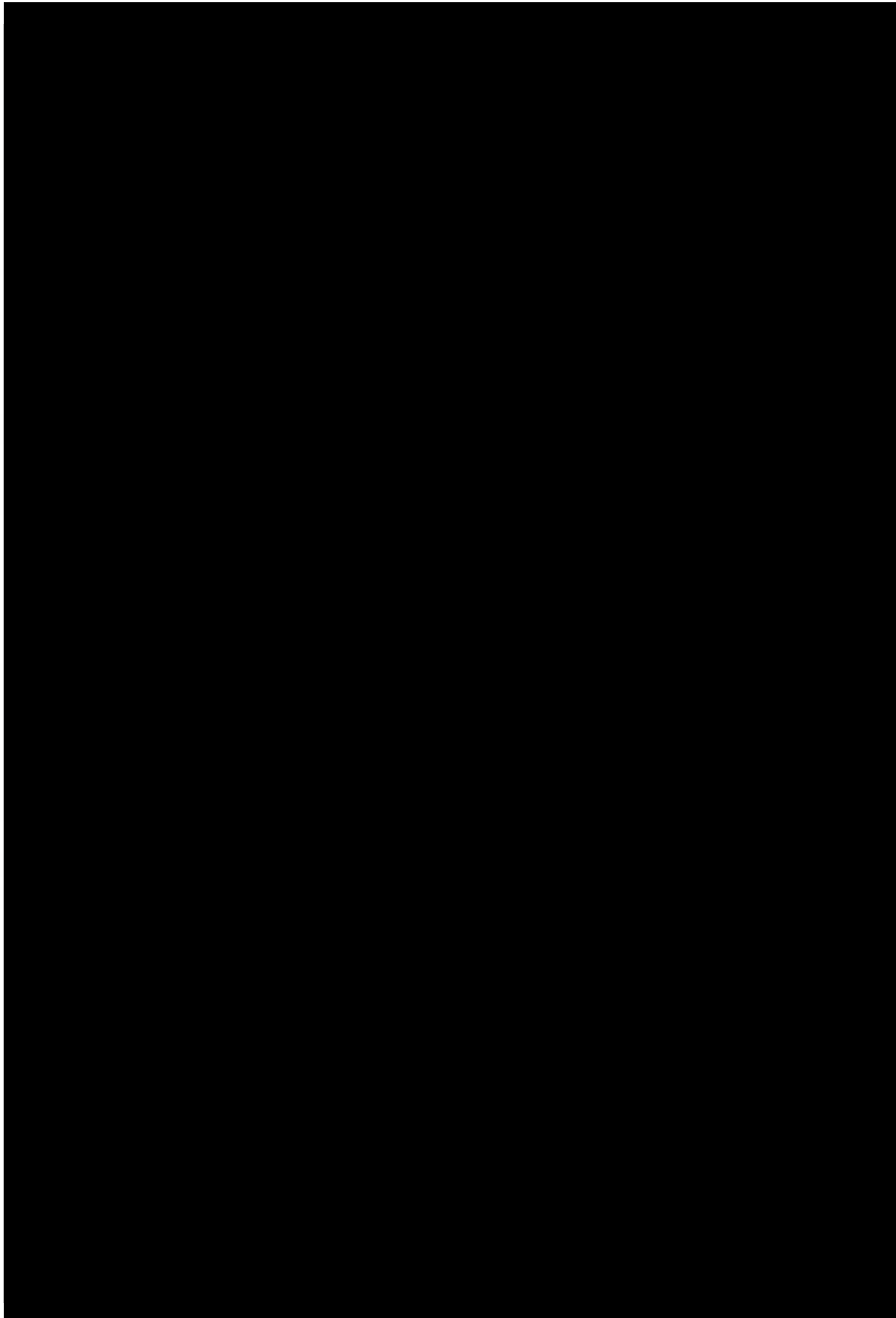


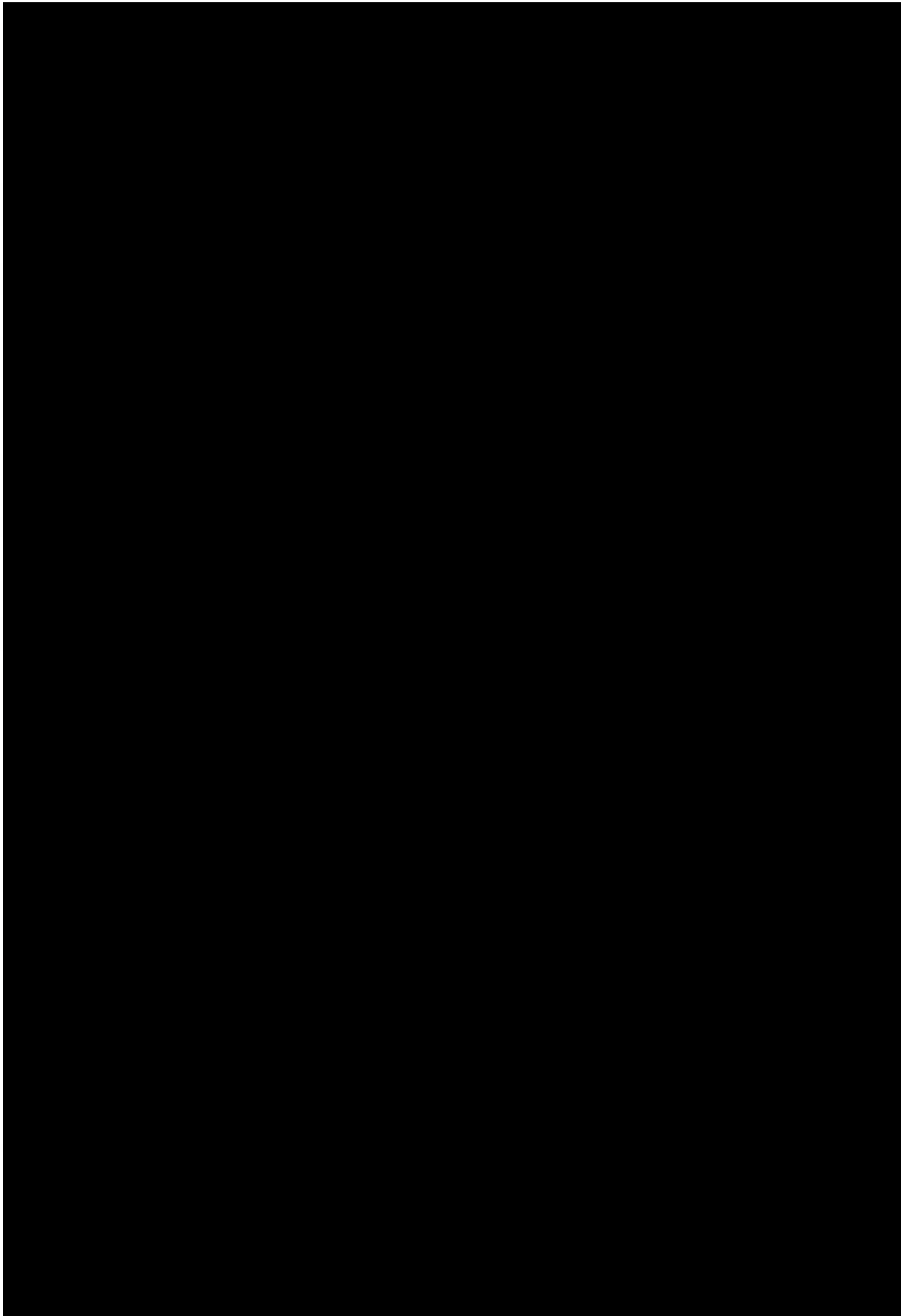


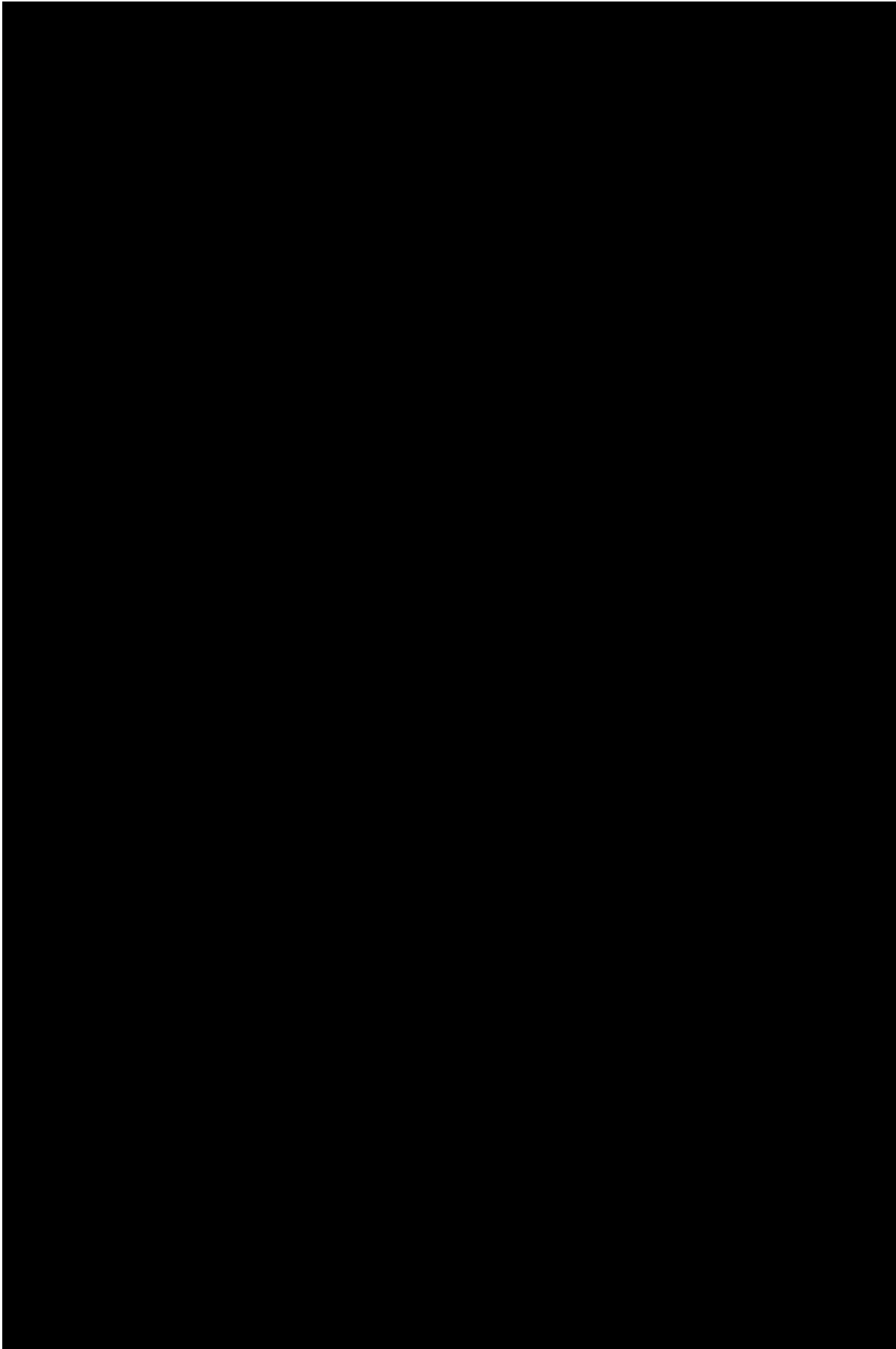


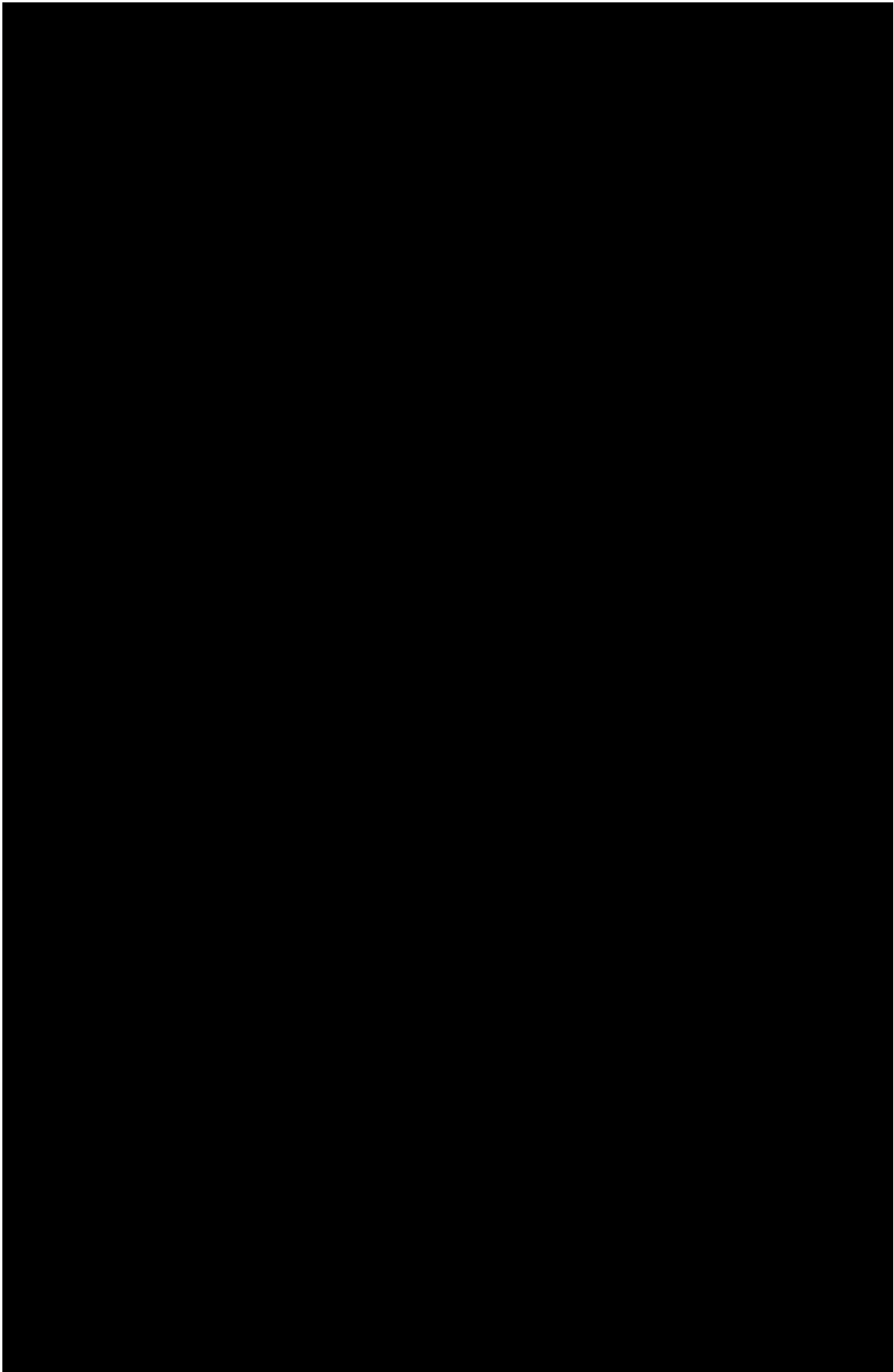


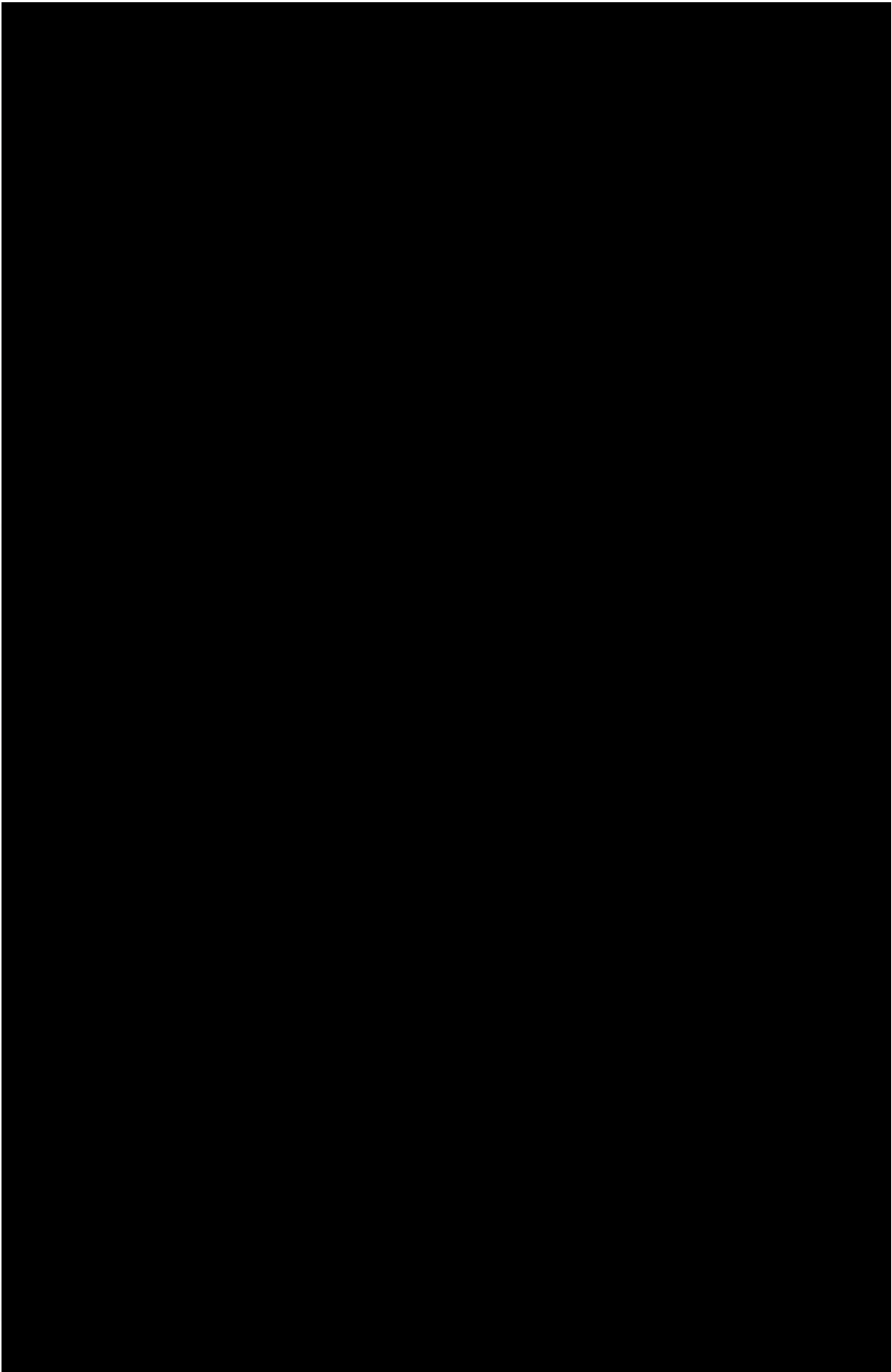


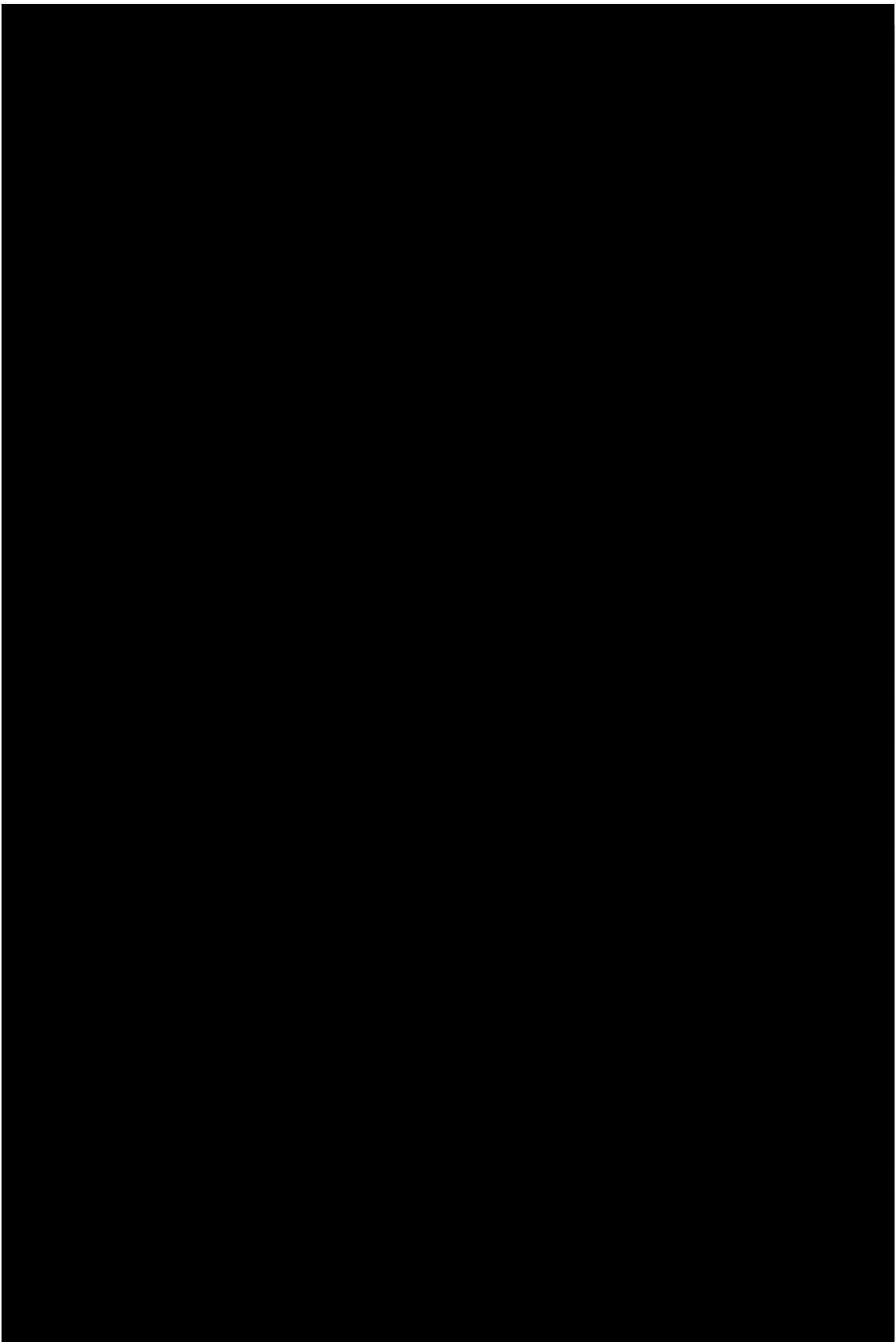


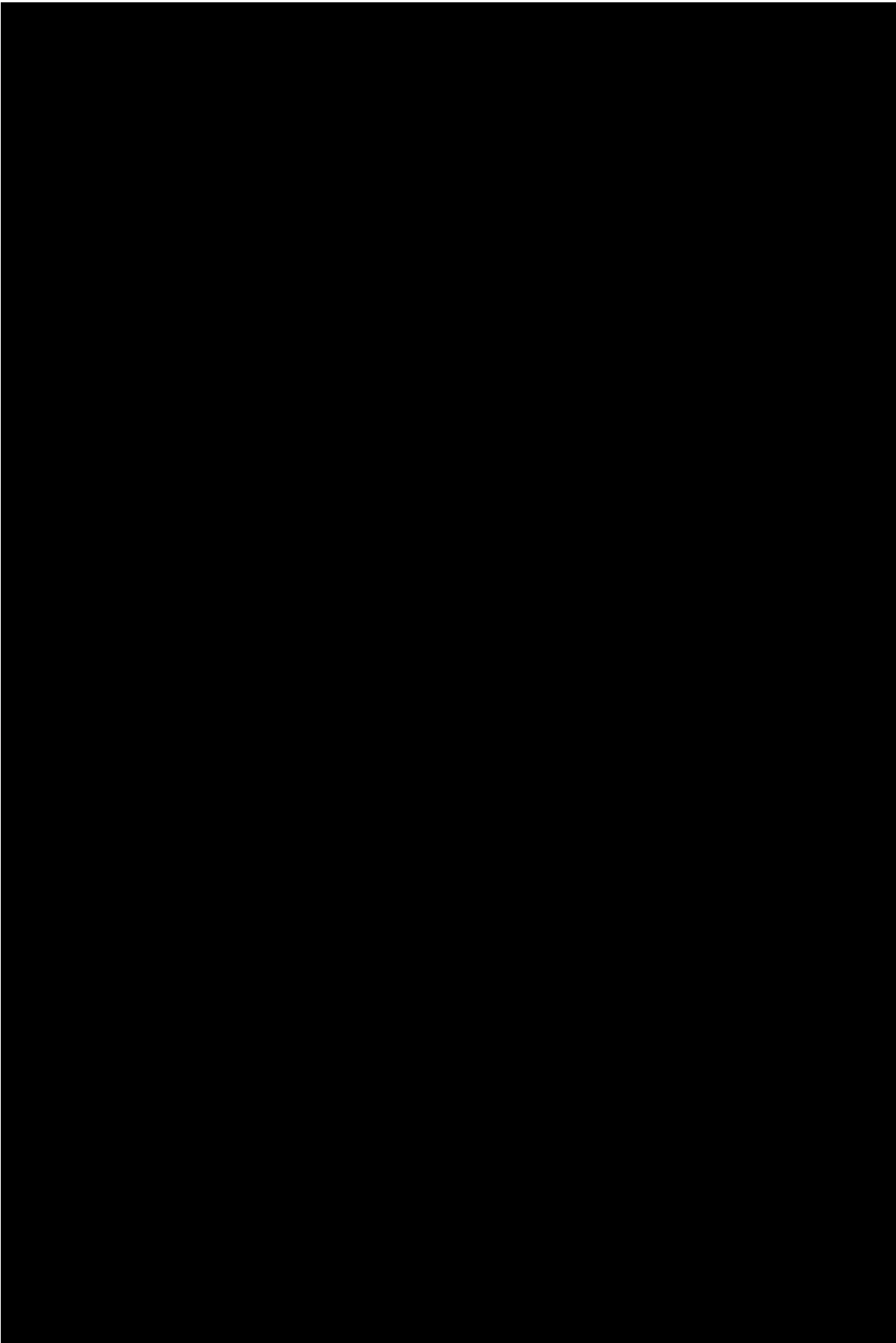


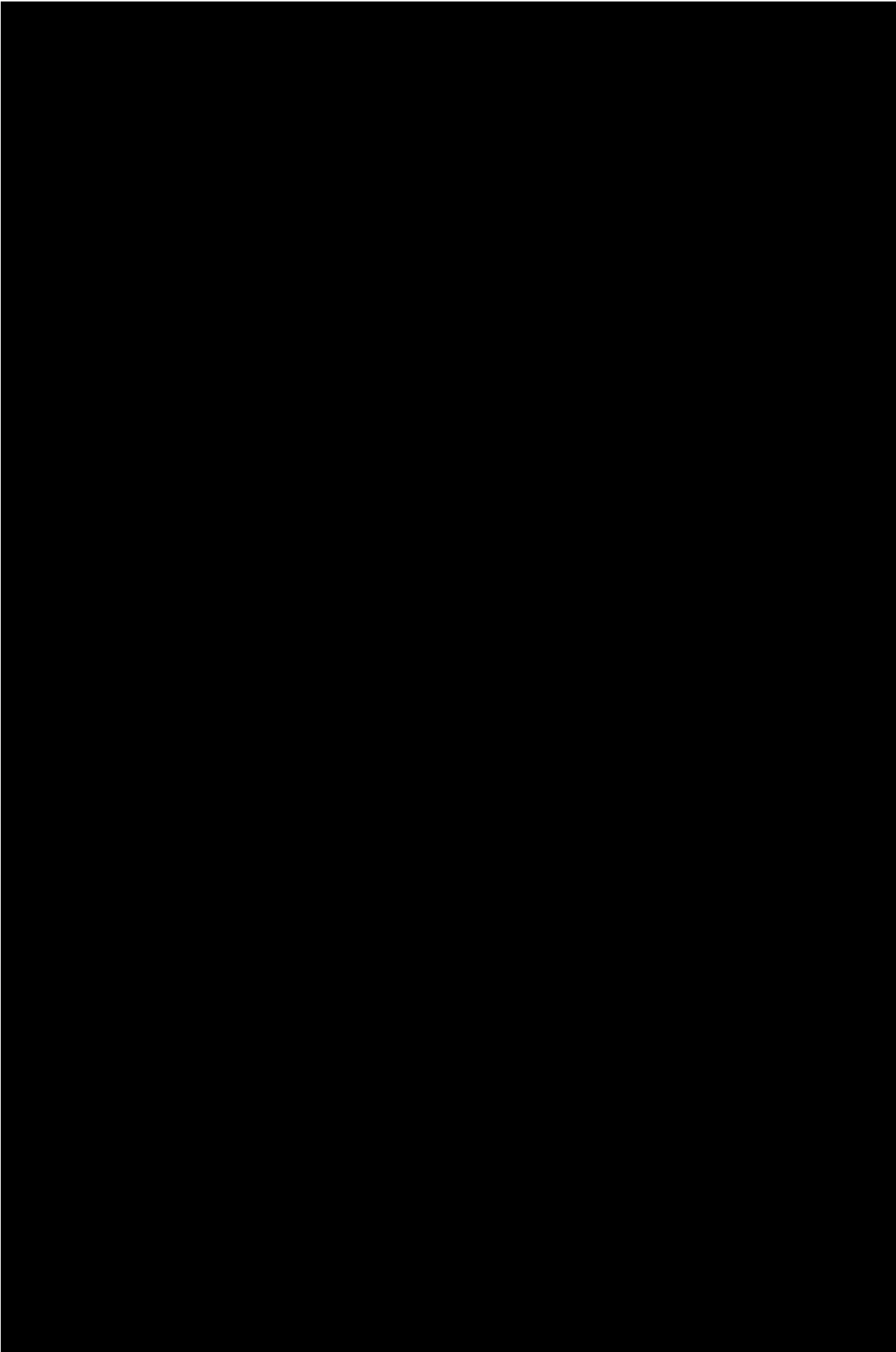




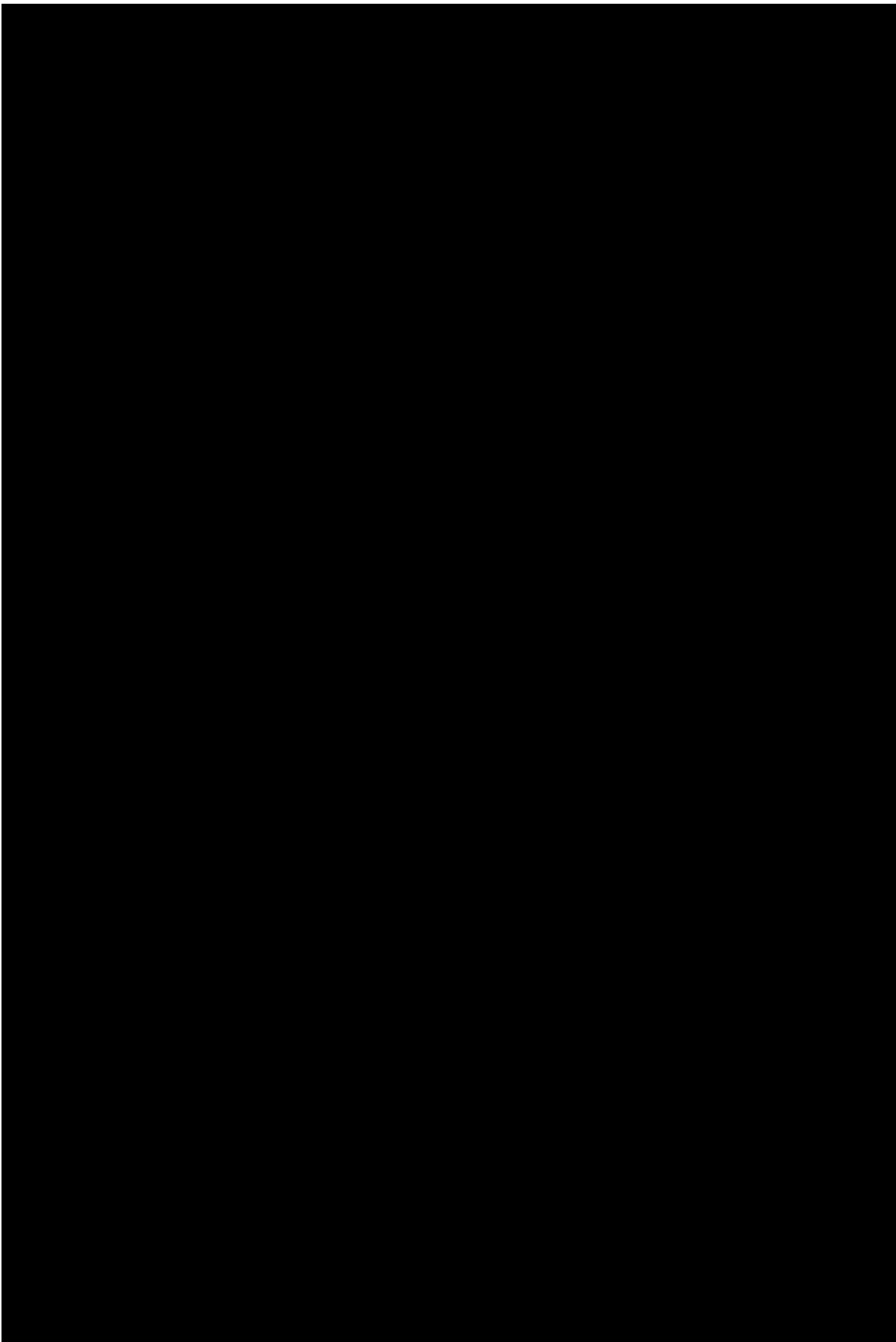


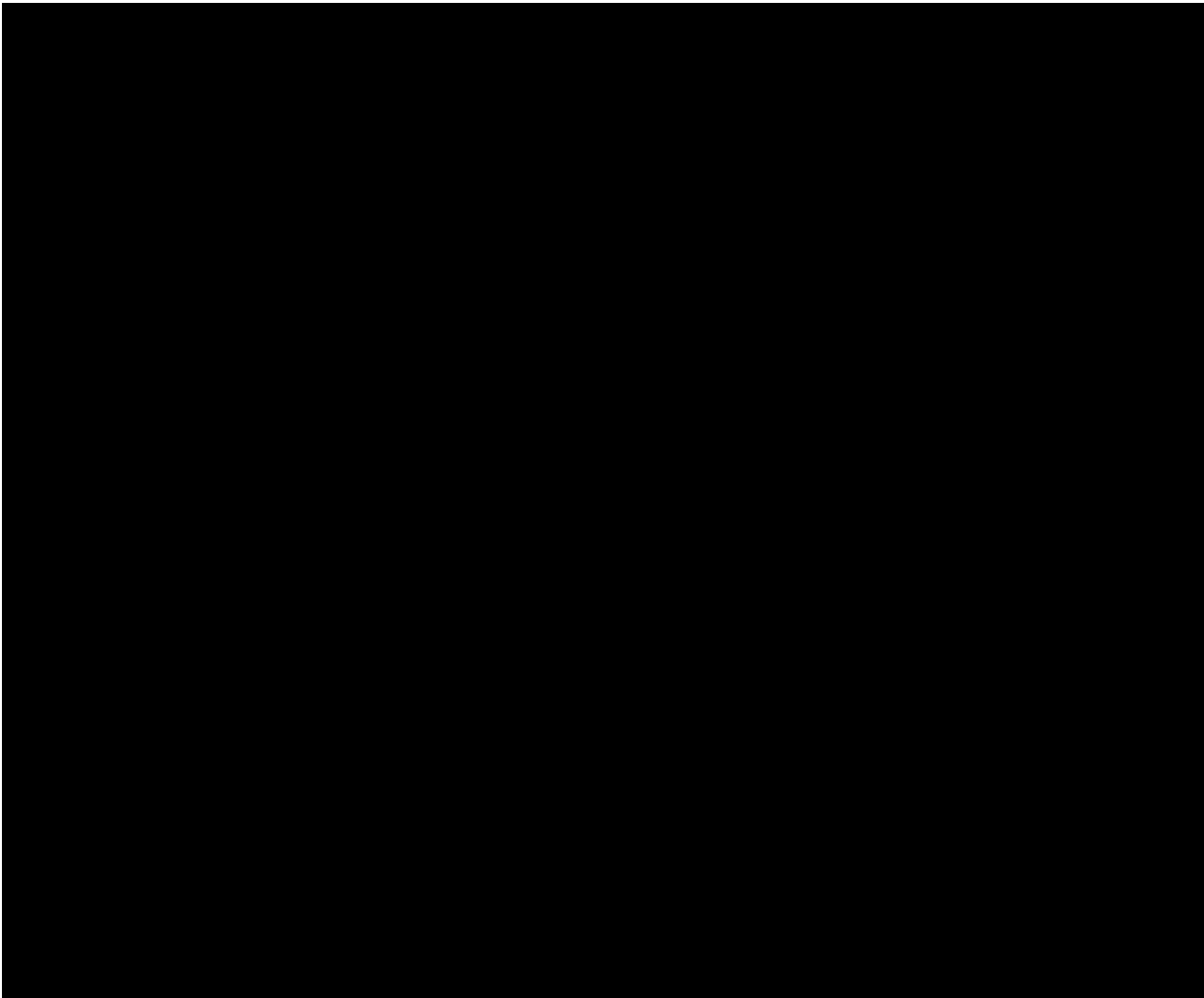












## APPENDICES

## Appendix A: Stakeholder Engagement Workshops / Meetings

Meeting Ref.	Date	Meeting Scope
1-Mechanical Services: User & Authority Consultation	24th July 2014	This meeting included presentation of the engineering concepts and the revised tier assessment document for the proposed building.
2- Electrical & ICT Engineering: User & Authority Consultation	17th July 2014	This meeting confirmed Ausgrid's method of supply for the proposed building.
3- A User presentation was conducted at Sydney Trains Offices in Sydney	24th July 2014	This meeting included presentation of the engineering concepts and the revised tier assessment document for the proposed building.
4- TIA Assessment	14th July 2014	TIA Assessment
5- Security Workshop 1	18th July 2014	This workshop/meeting established the context and identified the assets, threats and risks as part of the security risk assessment process for the ROC facility.
6- Blast review	18th July 2014	Blast review
7- Security Workshop 2	24th July 2014	This workshop/meeting identified the vulnerabilities, rated the risks and identified the proposed treatments as part of the security risk assessment process for the ROC facility.
8-Preliminary analysis for building air / water cooled chiller	19th Aug 2014.	A preliminary analysis for the capital cost, environmental noise impact and energy consumption between an air cooled chiller (nominal 550kW) and a water cooled chiller (nominal 550kW cooling) with opening cooling tower
9-Altus BRS Interviews	21st March 2014	This meeting included presentation Government Property (GPNSW) which has been engaged by Sydney Trains to facilitate the procurement development and delivery of the land and / or a building for the proposed ROC in Sydney
10-Control Room Requirements Meeting 1	15th July 2015	ROC Infrastructure Floor Plan session focusing on the ROC space layout and design
11-Control Room Requirements meeting 2	28th July 2014	The purpose of this meeting is to present the Conceptual Fit, Floor Plan to get attendees feedback and make relevant updates. Stress test the ideas worked on at the workshop with an actually floor plate Make decisions and develop action plans.
12- ROC Risk Assessment Follow up Friday's SRA workshop	22nd July 2014	This meeting's Objectives: Sydney Trains/ TfNSW to assess the ROC's Risk categorisation/ BIA Agenda: Briefing by ROC Project scope Property Constraints DR plans
13- Design Kick Off meeting ROC Jacobs and CMA	14 July 2014	Kick-Off meeting for ROC Project
14- Sydney Trains ROC Building Infrastructure SRS review meeting	20 April 2015	This review meeting was to review the ROC Building Infrastructure SRS worksheet and Identify the high level requirements for inclusion into this document.

Meeting Ref.	Date	Meeting Scope
15- Sydney Trains ROC Infrastructure Review Workshop	28 May 2015	Sydney Trains Infrastructure Team Workshop

Note: The Jacobs process of review of the source documents is fully traceable. Each requirement extracted from the source documents has been recorded and where a requirement is not included in this SRS rationale has been given a reason for this exclusion at the Infrastructure SRS worksheets.

## Appendix B: Documents relevant to this SRS

Doc. Ref.	Title	Version / Date	Author	Appendix
A	ROC Business Requirements Statement (2 <sup>nd</sup> Feb 2015)	Rev. 4.0	<Author>	<Appendix>
B	Sydney Trains ROC Concept Report (16 <sup>th</sup> Sep 2014)	Rev. 3		
C	Appendix F – CMA Architectural performance Specification	Rev. C; Project No. 3028		
D	CMA Architectural Concept Design Report	Rev. 5; Project No. 3028		
E	Altus BRS Interviews	N/A		
F	Appendix F Concept of Operations (25 Sep 2014)	N/A		
G	ROC Business Requirements Statement (3 Oct 2014)	Rev. 0.1; project number CCROC300		

## Appendix C: Acronyms used in this document

Acronym	Definition
RMS	Rail Management Centre
ROC	Rail Operation Centre
SCC	Security Control Centre
TCAC	Train Crew Assignment Centre
ICOC	Infrastructure Control Operation Centre
SMF	Security Monitoring Facility
SCC	State Crime Command
RTOC	Rail Technology Operations Centre
ATRICS	Advanced Train Running Information Control System
DTTS	Day of operations Timetabling System
IMS	Incident Management System
CIMS	Customer Information Management System
OVDs	Operational Visual Display System
ICT	Information and Communications Technology
WHS	Work Health and Safety
T&C	Transformation and Change
BRS	Business Requirement Statement
HVAC	Heat Ventilating and Air Conditioning
CRAC	Computer Room Air Conditioning unit
F&RNSW	Fire and Rescue NSW and NSW Rural Fire Services
VBIED	Vehicle Borne Improvised Explosive Device
PBIED	Person Borne Improvised Explosive Device
HMI	Human Machine Interface

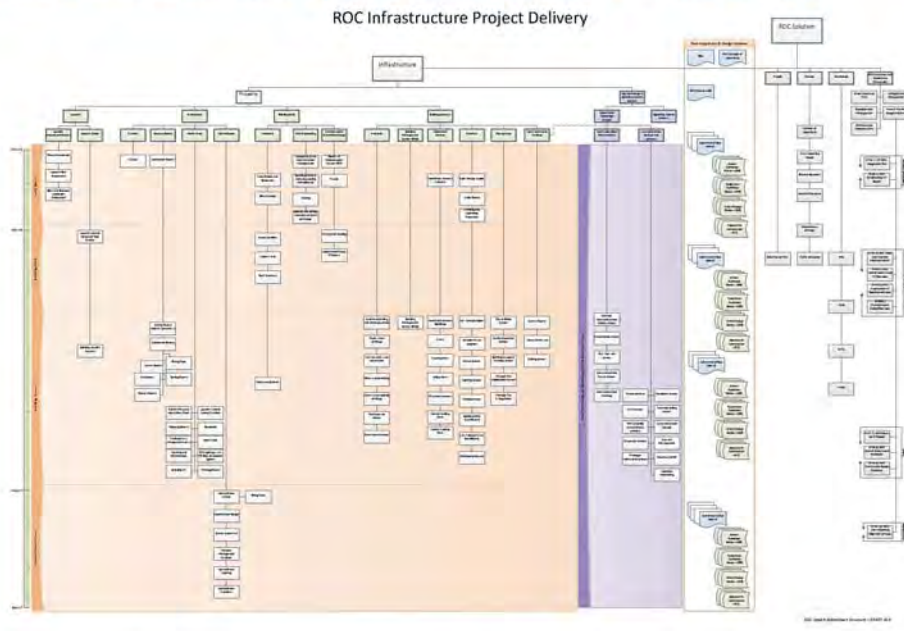
Acronym	Definition
WAP	Wireless Access Point
BCA	Building Code of Australia
REF	Review of Environmental Factors
OT	Operational Technology
SCADA	supervisory control and data acquisition
TMP	Technical Maintenance Plans
KPI	Key Performance Indicators
SLA	Service Level Agreement

**Appendix D: Terms and definitions used in this document**

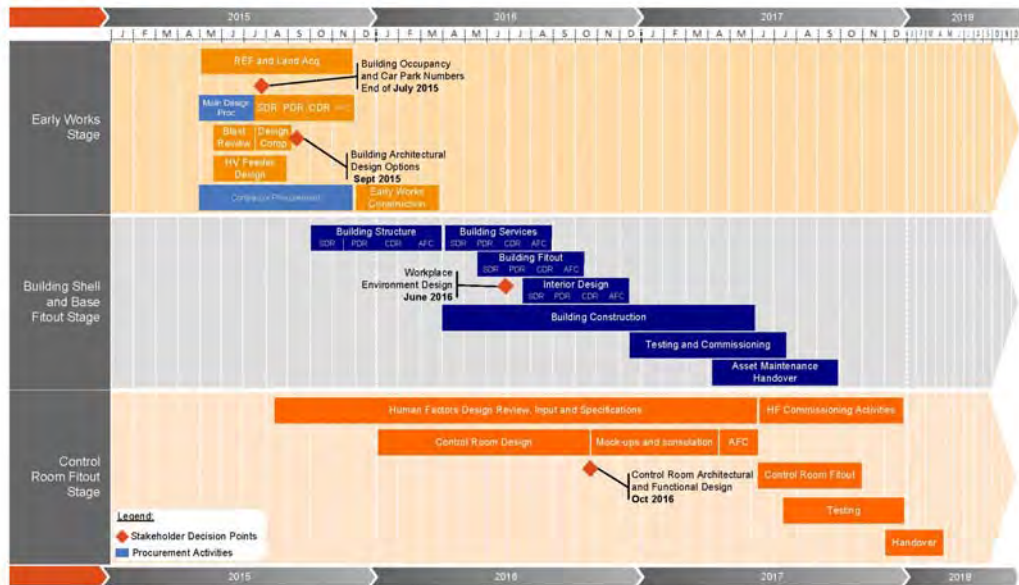
Term	Definition
Program Level BRS	This contains the business level requirements for "Project Delivery", "Customer & Operations", "Technology", "Property" and "Transformation & Change" streams for the ROC program
Stakeholder	The persons or groups that have claims on ownership, rights, or interest in a project or its activities in the past, present or future
Specification	A document that fully describes a design element or its interfaces in terms of requirements (functional, performance, constraints, and design characteristics) and the qualification (validation) conditions and procedures for each requirement.
System Requirements Specification	A description of what the system should do, in terms of the system's functions, interactions and interfaces with its operational environment. It communicates the stakeholder requirements to the technical community who will specify and build the system. Alternatively referred to as system requirements document



Appendix E: ROC Infrastructure System Breakdown Structure / Project Delivery



Appendix D: Building Delivery Timeline



## Attachment R to Annexure C



# Program Business Requirements Statement Rail Operations Centre

Project Management Plan Information	
Project or Program	ROC Program

## Document Ownership Information

TRIM # <Insert Trim # Here>

Capital Register ID	3141.02
Program ID	

Sponsor	Liz Ward, Director Customer Service	Customer Service
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Sponsor's Delegate	Neil Brown, Transformation Director	Customer Service
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Program Director	David Hamilton (interim)	PwC
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## Document Name and Version Control

(Circulated versions only)

Document Name & Location		ROC SharePoint site: program management controls/PMP/current	
Version	Date	Author	Reason for Issue / Changes Included
2.0	18th Dec 2014	E. Berghofer	Previously version produced and distributed in Excel only, Draft word version produced in advance of seeking formal sign-off.
3.0	12 <sup>th</sup> Jan 2015	E. Berghofer	Updated following comments from Jacobs on behalf of Infrastructure workstream.
4.0	5th Feb 2015	E. Berghofer	Updated to following comments from D. Berkmann, A. Constantinou, N. Facchina.

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# 1 Background

## 1.1 Document Purpose

The Rail Operations Centre (ROC) will improve the experience for customers on the Sydney Trains rail network by providing capability to manage and deliver 'day of operations' functions more effectively and efficiently. This solution will be enabled by a transformation in the people, processes, technology and infrastructure that support 'day of operations'.

This Business Requirements Statement (BRS) outlines the high level business requirements which are fundamental for the ROC Program. The requirements define high level business outcomes to be achieved and key aspects scope and delivery to be considered. The BRS can be read in conjunction with the ROC Concept of Operations.

Figure 1 Document Hierarchy



The BRS will be an important input to the top-down development of the System Requirements Specifications (SRS) and subsystem requirements specifications (SSRSs) for the respective sub-projects. At the time of production of this document, the ROC Program System Assurance and Planning Framework (SAPF) is being established. The SAPF will determine the requirements hierarchy in accordance with the Requirements Integration Management Plan.

## 1.2 Background and Origin of ROC Program Business Requirements

The ROC Program Business Requirements set was developed during March and April 2014.

A candidate set of business requirements was initially produced from existing program documentation including the preliminary business case (9<sup>th</sup> Oct 2013), decisions register and material produced for the Minister Showcase (Feb 2014). This candidate set of business requirements was reviewed by cross-functional business representatives at a day workshop (27<sup>th</sup> March 2014), where amendments, deletions and additions were performed. The revised set was circulated to attendees and incorporated into the ROC Technology Request for Proposal (RfP) as an addendum A1 to Part A (Concept of Operations). The ROC RfP was showcased to internal cross functional stakeholders (26th June 2014) and issued to potential technology vendors (8th July 2014).

### 1.3 Changes to the ROC Program Business Requirements

Following the approval of the ROC Final Business Case (26<sup>th</sup> Sept 2014) the business requirements are now incorporated into this Business Requirements Statement document for sign off. Minor changes to terminology and wording have been incorporated reflecting the better understanding and nomenclature that has developed during the design and planning phase and the preparation of the Final Business Case. A small number of new business requirements have been added as a result of extensive review within the infrastructure workstream during the preparation of the Infrastructure SRS. However the scope, sentiment and meaning of the business requirements statements themselves have not changed substantially.

The requirement ID is a unique identifier for each business requirement statement, assigned for the purpose of reference within the ROC Technology RFP. The same identifiers have been preserved for the purpose of this document. The requirement ID is annotated with (R), (New) or (Deleted) where the requirement has been reworded, newly introduced or deleted compared to the set provided with the ROC Technology RFP.

### 1.4 Program's Strategic Alignment

The business requirements in this document align with the following TfNSW strategic objectives and policies.

Table 1 ROC strategic alignment summary table

ROC Benefit		TfNSW Corporate Plan Priority			Long Term Transport Master Plan Hij		NSW 2021 Key Cost			
		Customer	Travel	Business	Quality of Service	Improve sustainability	Improve Customer Experience	Reduce Travel Times	Grow patronage	Rebuild State Finances
Faster customer journey times	Reduced initial delays resulting from the direct impact of lock-outs	✓	✓	✓	✓			✓	✓	
	Reduced subsequent delays resulting from the knock-on effects of lock-outs	✓	✓	✓	✓			✓	✓	
Better customer experience	Improve timeliness, reliability and consistency of customer information reducing the negative experience of delays to lot times	✓			✓			✓		✓
Reduced operational costs	A more efficient station operating mode enabled, in part, by the improvements delivered by the ROC.			✓		✓				✓
	Reduced start cost for these initiatives transitioning to the ROC			✓		✓				✓

Source: Figure 2 ROC Final Business Case v5.0 25/09/14

### 1.5 Primary Outcomes

The following table lists the key Program objectives and the criteria for measuring the outcome.



Table 2 Program objectives and associated SMART criteria

Program Objective	SMART Criteria
<p><b>Reduced delay times and improved confidence in rail</b> – improved processes, systems and relationships between 'day of operations' functions resulting in faster identification and allocation of incidents, allowing faster incident resolution and service restoration.</p>	<p><b>Reduced Initial Delay</b> Improvements to the management of incidents will reduce the time taken to get "back on the move", reducing the duration of the initial delay of incidents by an average 15% by 2018.</p>
<p><b>Increased operational performance and opportunity for timetable enhancements</b> – providing the capability to recover services more quickly following incidents and to sustain punctuality at higher timetable frequencies and with faster running times.</p>	<p><b>Reduced Consequential Delay</b> – improvements to the management of service disruption will reduce the contagion of perturbations and incidents and the time taken to get the service back to normal following the resolution of an incident. This will place less demands on timetable recovery margins. The Program shall reduce the consequential delays caused both during and following the initial incident by 7% by 2018.</p>
<p><b>More accurate, timely, relevant and consistent customer information during delays</b> – improving the customers' ability to make decisions about their transport options.</p>	<p><b>Reduced Customer Perceived Delay</b> Improvements to the timeliness, relevance and consistency of customer information, particularly during disruption, will reduce the customer's perceived time of their journeys by the equivalent of 11% of their delay by 2018.</p>
<p><b>Better realising the benefits of future investments in rail capacity</b> – ability to realise ongoing network efficiency strategic initiatives including North West and South West Rail Links, new rolling stock, new signalling technologies, new network configuration and increased train service levels.</p>	<p><b>Creation of a flexible, scalable network control function</b> The ROC is sized to meet all future foreseeable colocations (i.e. all signalling control) with additional overflow area for migration and stage working during changes (e.g. parallel working, proof of concept, training etc.) The ROC design uses standardised desk configurations that are moveable. Increased use of modular equipment and technology streamlining further facilitates change. This non-tangible benefit is encapsulated in the ROC infrastructure design requirements.</p>
<p><b>A new world class operating centre and culture</b> – transforming the way 'day of operations' activities are managed within Sydney Trains/NSW TrainLink, fostering a new culture of collaboration and efficient coordination.</p>	<p><b>Improved Business Environment</b> The ROC will deliver closer collaboration, improved internal communication and the creation of a shared culture in an environment designed around key cultural goals. This non-tangible benefit will be measured through a business environment scorecard and delivered as part of the Change Management Plan.</p>
<p><b>Improved customer service</b> – a new station operating model, through technology automation, centralised control and greater empowerment of station staff to directly assist and inform customers.</p>	<p><b>Reduction in OPE X</b> The implementation of customer service model producing a reduction in the like-for-like total loaded cost of employment for station staffing.</p>
<p><b>Improved efficiency and sustainability</b> – providing opportunities for 'day of operations' role re-design and consolidation</p>	<p><b>Reduction in OPE X</b> A reduction in the like-for-like total loaded cost of employment for 'day of operations' functions in the ROC enabled by new systems, process improvements and colocation.</p>
<p><b>Improved train operations</b> – providing a more efficient use of resources to mitigate service disruption during 'day of operations'. Also includes implementation of a more efficient profile for standby and contingency resources.</p>	<p><b>Reduction in OPE X</b> The implementation of a standby and contingency profile producing a reduction in the like-for-like total loaded cost of employment for train crew.</p>

Source: Table 18 ROC Final Business Case v5.0 25/09/14

## 2 Business Requirements

The following sections set out the ROC program business requirement statements. The requirements are grouped into categories reflecting similar subject matter for ease of navigation and the likely allocation to underlying work-streams or sub-projects. However, the ultimate allocation cannot be inferred from the categorisation and all BRS statements should be adhered to by all workstreams and subprojects.

### 2.1 Key Program Deliverables

Req-ID	Description	Additional Information
PD-KPD-001	The ROC Program shall provide a single control centre co-locating a number of Sydney Trains network 'day of operations' functions from Customer Services, Operations and Maintenance.	There are various models that have been adopted in other peer network control centres (e.g. grouping by geographical or functional role, varieties of seating arrangement etc.) which have been taken account of in determining the composition of the ROC.
PD-KPD-002	The ROC Program shall provide a modern automated solution for facilitating the planning of amendments to the daily working timetable on the 'day of operations'.	The envisaged technical solution has been described generally as a 'Day of Operations Timetabling System' or 'DTTS'.
PD-KPD-003	The ROC Program shall provide a modern automatic solution for all aspects of the operational incident management and distribution of information on the 'day of operations'.	The envisaged technical solution has been described generally as an 'Incident Management System' or 'IMS'.
PD-KPD-004	The ROC Program shall provide a modern automated solution for the capture, processing and distribution of information for customer information systems.	This envisaged technical solution has been described generally as a 'Customer Information Management System' or 'CIMS'.
PD-KPD-005	The ROC Program shall enable all 'day of operations' staff to perform their roles more effectively through better real-time operational information.	This capability has been described generally as an 'Operational Visual Display System', 'OYDS' or 'dashboard'.
PD-KPD-006	The ROC Program shall deliver greater operational efficiency across the 'day of operations' functions.	The current state of 'day of operations' efficiency has not been baselined, but headcount reduction targets have been set (like for like reductions).

### 2.2 Program Execution

Req-ID	Description	Additional Information
PD-KPD-007	The ROC Program shall be delivered by the 'planned ROC completion date' to be defined before the end of the program's design and planning phase.	The ROC is currently targeted to be in operation by commencement of financial year 2017/2018.
PD-KPD-008	The ROC Program shall be fully delivered within the 'ROC total program budget'.	The 'ROC total program budget' has been agreed in accordance with the Final Business Case and approved at the Finance Investment Committee (FIC) (05/11/14).
PD-KPD-009 (R)	The ROC Program shall be developed and progressed in accordance with Sydney Trains policies, procedures and stage-gate approvals.	Sydney Trains guidelines and policies include compliance with applicable procedures from TfNSW.
PD-KPD-010	The ROC Program shall have operational and customer performance targets (ROC Program KPIs) that shall be achieved from the first full year of operation.	The business case anticipates benefit being delivered from beginning of the first year (i.e. 2017/18). The opportunity to deliver early benefits will be pursued subject to meeting criteria for cost, benefits, risk and schedule.
PD-KPD-011 (R)	The ROC Program shall be accountable for identifying the requirements for infrastructure, systems, interfaces, people, operational rules and processes needed to support the achievement of the ROC business requirements.	The ROC Solution Integration work-stream is responsible for developing the overall ROC 'solution design' and assuring its overall fitness for purpose.
PD-KPD-012 (R)	Additional investments or operating expenditure, including costs imposed on other projects, that are necessary for the achievement of the ROC Program solution shall be considered as part of the 'ROC total program budget', unless otherwise confirmed as other funded commitments or BAU.	Some support is expected to be provided under BAU (e.g. certain subject matter expert (sme) support, stakeholder input, workshop participation, some training etc.).
PD-KPD-013 (R)	Investment choices, technology selection and adopted ways of working shall be based upon suitability for meeting the ROC Program business requirements and the most favourable impact on the overall business case for the ROC Program, paying due regard to other projects and long term strategies.	The ROC Solution Design Reference Group (SDRG) is responsible for assessing changes to the baseline solution in accordance with consistent evaluation principles.
PD-KPD-014 (Deleted)	N/A	N/A
PD-KPD-015 (NEW)	The ROC Program shall comply with legislation and all applicable standards.	In particular cases it may be appropriate to seek limited concessions from the applicable standard owner in accordance with the defined derogations process.
PD-KPD-016 (New)	The ROC Program shall be delivered in accordance with a Systems Assurance and Planning Framework.	A specialist advisor has been appointed to produce: Assurance and Governance Plan, Configuration Management Plan, System Safety Plan, Requirements Integration Plan and Infrastructure Assurance Plan.



## 2.3 Customer

Req-ID	Description	Additional Information
CO-CUS-001	The ROC Program shall reduce the delays to customers.	The business case assumes a reduction in the overall customer perceived delay equivalent to 33%. The actual sources of the improvement and their relative contribution to the overall target may vary from the breakdown assumed in the business case.
CO-CUS-007	The ROC Program shall reduce the time taken to resolve incidents.	As passenger numbers and traffic increase, the occurrences and impact of some types of incidents will become greater than others (i.e. the profile will change compared to today).
CO-CUS-008	The ROC Program shall enable the planning of amendments to the daily working timetable to be better focused on reducing the overall delay to customers.	The daily working timetable covers the whole of the Sydney Trains network and all services that operate over it including NSW Trains and freight services.
TEC-CI-002	The ROC Program shall provide structured, processed customer information to all channels, that is consistent with the current status of an incident, and the latest planned amendments to the timetable.	Planned amendments to timetable include changes to stopping patterns, platform changes, cancellations, diversions, train running order etc.
TEC-CI-004	The ROC Program shall provide a customer information capability that can continue to function even during most severe disruptions, and at a level that is better than today.	During severe disruption, plans are continually being changed and the integrity and quality of predictions will worsen. At a minimum the information on current status and predictions (such as train ordering and arrival times) shall be significantly better than today (where systems sometimes cease to provide any information at all).
CO-CUS-002	The ROC Program shall improve the accuracy of real time customer information particularly during service disruption.	As yet there are no metrics specifically for the accuracy of customer information.
CO-CUS-003	The ROC Program shall improve the timeliness of real time customer information particularly during service disruption.	As yet there are no metrics specifically for the timeliness of customer information.
CO-CUS-004	The ROC Program shall improve the consistency of real time customer information particularly during service disruption.	As yet there are no metrics specifically for the consistency of customer information.
CO-CUS-005	The ROC Program shall improve the relevance of real time customer information particularly during service disruption.	As yet there are no metrics specifically for relevance of customer information.
CO-CUS-006	The ROC Program shall improve the provision of advance customer information and customer education advice.	As yet there are no metrics specifically for advance customer information.

## 2.4 Day of Operations

Req-ID	Description	Additional Information
CO-DOP-001 (R)	The ROC Program shall ensure a single source of truth for the amended timetable plan exists.	In this context, single source of truth means consistent as understood across the range of 'day of operations' staff, insofar as the plan is relevant to their role.
CO-DOP-002 (R)	The ROC Program shall ensure that the planning of amendments to the timetable plan are controlled and validated against known operational constraints and takes account of the respective capabilities of downstream operational functions to implement the plan effectively.	The Signallers' ability to practically implement the changes at their panel, and the Train Crew Assignment (TCA) ability to resource the amended plan with additional train crews are important downstream functions requiring particular consideration.
CO-DOP-003	The ROC Program shall ensure that amendments to the timetable plan are communicated to all 'day of operations' staff in a format that is configurable, relevant and actionable for their respective role and span of influence.	The displays could be in the form of next train running order at a location, train graph information, details by trip, amendment history etc. as well as variances of 'actual against target' and 'amended plans' etc.
TEC-CI-003	The ROC Program shall support the ability to communicate customer information content and related data to staff.	An important principle is that staff should be no worse off than customers in terms of the availability and quality of information available.
TEC-CI-005	The ROC Program shall enable a capability to capture information provided by staff and customers in (near) real time in order to enhance customer information and other 'day of operations' decision making.	The requirement is that the ROC Program shall enable the capability through an open system design, rather than provide the actual customer or staff applications, or the "intelligent" central information processing.
CO-DOP-004	The ROC Program shall improve the management of minor perturbations, minor delays and variability.	The ability to better regulate the service especially around bottlenecks will improve the practical operating capacity of the Sydney Trains Network. This capability is usually associated with higher states of automation (optimised automatic route setting, train regulation supervised through automatic train operation or driver advisory systems etc.). However fine train regulation can also be facilitated through improved performance monitoring, (enabling greater customer focus by freeing control staff from mundane repetitive tasks) and improved customer education (e.g. consistent dwell times).
CO-DOP-005	The ROC Program shall ensure that incident management, train control and train regulation can be performance managed on an ongoing basis.	Customer focus can be maintained and continuously improved through the establishment of appropriate performance metrics and targets, cascaded to individuals and teams.
CO-DOP-007 (New)	The ROC Program shall develop a strategy such that operations can continue in the event that the ROC is unavailable.	Co-location increases exposure to loss of the ROC facility (i.e. compared to the existing RMC) as more functions are potentially lost or degraded by a single event. However, a more secure ROC facility and retention of back-up area signalling control capability could increase resilience compared to today.

## 2.5 Technology

### 2.5.1 System Scope

Req-ID	Description	Additional Information
TEC-CI-001 (Deleted)	N/A	N/A
TEC-SYS-001	The ROC Program shall simplify and streamline the user experience and processes for 'day of operations' staff.	It is envisaged that the ROC Program shall reduce the overall number of systems and processes (e.g. single interfaces that configurable to specific roles). The project will ensure compliance with relevant Human Factor Integration Standards.
TEC-SYS-002	All new technology systems introduced by the ROC Program shall integrate with one another to enable seamless operations.	Multiple systems will need to conform to a common interface control definition protocol or Enterprise Integration Application (EIA).
TEC-SYS-003	The ROC Program shall rebuild any interfaces between existing systems (or subsystems) whose capability is replicated by the ROC Program and existing systems including those out of scope of the ROC Program.	At a minimum interfaces should be rebuilt to at least the same level of functionality as the original interface (i.e. automatic, part manual, manual). The ROC Program should identify opportunities for further consolidation or retirement of systems external to the immediate scope of the Project.
TEC-SYS-004	The newly introduced ROC Systems shall be capable of supporting higher states of automation and functionality.	In this context, higher states refers to business capabilities sought as part of Sydney Trains "Our Rail Future" and in particular, capabilities typical of modern integrated traffic management systems implemented in conjunction with modern signaling (e.g. ETCS).
TEC-SYS-005	The ROC Program must provide data communication links between systems & subsystems that meet security, speed and reliability requirements to satisfy operational availability and reliability needs.	The ROC Systems shall be implemented and operated in accordance with a Cyber Security plan that takes account of the potential threats and risk of attack.

### 2.5.2 System Implementation

Req-ID	Description	Additional Information
TEC-IM-001	The ROC shall be equipped with systems that introduce a tolerable level of technical and operational implementation risk.	What is acceptable will depend upon the business criticality of the change (e.g. reporting capability and customer information provision is less critical than incident response). The implementation and migration strategy shall balance the risks of service disruption and deterioration in service performance against costs and timescales.
TEC-IM-002	The ROC Program shall ensure there is continuous access to historical data from systems (including legacy systems) within appropriate periods of validity.	Continuous availability means that there shall be no interruption to the collection of, or ability to retrieve data both during and following the migration.
TEC-IM-003	The ROC design shall facilitate an incremental implementation that safeguards the continuity of functionality, performance and the integrity of data across the switchover.	It would be undesirable if the overall system were designed such that the only way of migrating is a 'big bang'.
TEC-IM-004	The providers of new ROC technology system(s) shall be required to demonstrate, through an agreed approach, that the technology system(s) are able to meet the requirements specification when configured to the Sydney Trains environment.	The Sydney Trains network environment is complex. It will be necessary to establish a demonstration plan for a number of operational scenarios (such as normal running, a major incident, degraded mode etc.) through prototyping, simulation, reference sites or other approaches as agreed with the technology providers.
TEC-IM-005	The ROC Systems shall be thoroughly tested for function, performance and integration acceptance, in accordance with a Test and Assurance Plan.	The volume and schedule of test cases will need to be developed in accordance with the level of risk to be mitigated. The technology will be tested in accordance with a Master Test Program for overall solution testing.
TEC-IM-006	The training modules for 'day of operations' staff that are impacted by new systems and processes shall assess the performance of the users in a situational environment that represents the real-life environment of the ROC.	The design of the training and assessment modules for a particular role should consider either simulation or inclusion of multiple 'players' to capture the importance of teamwork and communications.



## 2.6 Property & Infrastructure

Req-ID	Description	Additional Information
PRO-PF-001	The ROC will provide a physical environment that will foster a collaborative, customer-focused work environment for staff.	The layout and workstation arrangement within the control room shall take account of the respective roles and their interworking. The design will consider the balance between requirements for collaboration as well as the physical space and privacy of individuals.
PRO-PF-002	The ROC will be designed and equipped in accordance with international good practice for railway control centres.	In this context the building should be a workplace which staff feel proud of. The design features and scope of facilities provided, should compare favourably with modern control centres elsewhere in the world.
PRO-PF-003 (Deleted)	N/A	N/A
PRO-PF-004 (R)	The ROC building design shall provide the capacity and flexibility to reconfigure the layout to meet future growth or changes to functional and operational needs.	Designers are to consider a balance between initial deployment and anticipated future growth including amongst other considerations provisions for ETCS. The computerising of signalling allows some consolidation of panels to fewer desks in the ROC. It is envisaged that all area control centres (signal boxes) will eventually be co-located to the ROC. Thereafter, traffic management technology may further reduce the workload enabling some reconfiguration of spans of control and further consolidation.
PRO-PF-005 (R)	The ROC Program shall select a location for a building with regard to providing good accessibility to the public and road transport networks and provision for car parking.	In this context "good accessibility" includes providing staff with a number of alternatives for route choice and mode of travel to and from the ROC, as well as considering specific needs for mobility impaired, the walking distance and environment between ROC and public transport nodes, vehicular access and parking etc.
PRO-PF-006 (R)	A "RAMS" systems approach in design shall include consideration of redundancy, availability, maintainability and safety for all building and infrastructure services that is highly resilient and reliable.	The ROC building Infrastructure critical services facilities shall be designed to be fully operational 24/7/365.
PRO-PF-007 (Deleted)	N/A	N/A
PRO-PF-008	The criteria for selecting the ROC Premises, the design and development proposal shall balance the desirability of potential options across a number of attributes, against the costs.	Costs in this context should be the whole life costs of ownership (i.e. capturing costs of building and/or renovation cost on either private or TNSW owned land, and if private, the costs of leasing or buying, and costs of maintenance). The desirability of attributes should be assessed on a multi-criteria assessment.

PRO-PF-009 (New)	The ROC site and building security shall be designed in accordance with current Government, State, TNSW, Sydney Trains, Australian and other relevant Standards. The Critical Infrastructure shall be resilient to threats and hazards.	The Security Risk Assessment (SRA) shall be carried out in consultation with the Security working group and inform the system requirement specification. This requirement extends to infrastructure design from supplier network to the site and within the proposed site property boundary.
PRO-PF-010 (New)	The property and infrastructure shall establish a defined Maintenance Strategy of operational effectiveness, efficiencies and achieve sustainability with consideration transitional arrangements and of whole of life-cycle costs.	The ROC Maintenance Strategy will need to consider the 24/7/365 operations and address minimising disruptions or downtime, regular and periodic maintenance, spares, decommissioning, testing and training.
PRO-PF-011 (New)	The building development proposal shall comply with NSW legislation and Sydney Trains Environmental management system and approvals.	Sydney Trains sets out mandatory governance and methodology for environmental management. This will require consultation in accordance with statutory and local authorities for State Significant Infrastructure and consultation with service provider requirements and approvals.
PRO-PF-012 (New)	The building development proposal shall comply with NSW legislation and Sydney Trains Quality and Risk management system and approvals.	Sydney Trains sets out mandatory governance and methodology for quality and risk management.

## 2.7 Staff & Culture

Req-ID	Description	Additional Information
TC-SC-001	The ROC Program shall enable a more inclusive and collaborative culture focused on delivering customer outcomes and the Sydney Trains values and behaviours.	In this context a positive working culture is one where Sydney's Trains aspired Values and Behaviours are exhibited and where staff feel their jobs are rewarding with high staff retention levels.
TC-SC-002	The ROC Program shall proactively engage stakeholders to ensure the "why", "how", "when" and "where" messages are communicated, and any issues, concerns or challenges that arise are managed.	The project team will follow an open and transparent approach for project communications, consulting relevant stakeholders before issuing out broader communications.
TC-SC-003	The ROC change approach shall be centrally coordinated to ensure the Sydney Trains organisation is engaged in a timely, responsible and effective manner.	Design decisions will need to be made upfront and proper sign-off needs to take place before proceeding to implementation of the change management plan. The organisation is complex and the approach should be tailored to the specific circumstances and needs of the particular part of the organisation affected and impacted in a timely manner.
TC-SC-004	The ROC shall comply with industrial relations and EBA requirements.	The project team will need to acknowledge the EBA and industrial relations environment, and where applicable seek provisions to support the strategic objectives and successful implementation of the ROC.

## 2.8 Organisational Design

Req-ID	Description	Additional Information
TC-OD-001	The organisation design shall enable a customer centric approach by embedding this focus through all roles.	One of the core strategic objectives of the ROC is around a customer focus, therefore embedding this through roles and responsibilities will help drive this outcome. This may require up-skilling through training or recruitment.
TC-OD-002	The organisation design shall consolidate roles of similar activity.	Grouping like functions / activity will help simplify processes and the number of user interfaces to systems, drive effectiveness, flexibility and efficiency, and maximise the co-location potential of the ROC.
TC-OD-003	The organisation design shall enable an environment of closer collaboration, communication and knowledge sharing and seek to eliminate functional silos.	One of the big benefits of the ROC is bringing people closer together at a single location to more efficiently and effectively manage 'day of operations' and incident response activity. Closer collaboration can also be achieved with field staff through improved communications and information sharing.
TC-OD-004	The organisation design shall enable rapid decision making through the minimisation of hierarchy and effective allocation of decision rights.	Clarity of accountability, minimising layers, appropriate governance and managing spans of control are all organisation design mechanisms that contribute to rapid decision making.
TC-OD-005	The organisation design shall be scalable and flexible to adapt roles and processes to demand as well as future technology developments.	The organisation design should not be restrictive. A focus on continuous improvement, knowledge transfer and demand-led rostering as well as the processes and systems are key components of this flexibility principle.
TC-OD-006	The ROC organisation design shall provide clarity of accountability of functions and roles; defining single point accountability for processes and driving continuous improvement.	Clarity of accountability and single point accountability for key processes will help relieve any bottlenecks that currently exist and impact efficiency. Continuous improvement will need to be built into roles to drive an improvement culture that drives the identification and development of better ways of working, leveraging the new system capability and flexibility.
TC-OD-007 (New)	The ROC Organisation Design principles shall provide staff with opportunity to enhance their careers through multi-skilling, cross-functional working and promotion.	The ROC should be seen as a desirable place to work from a personal and professional development perspective.

## 2.9 Safety & Security

Req ID	Description	Additional Information
OTH-SS-004 (New)	Safety shall be maintained or improved.	Sydney Trains places a major priority on providing a safe railway and workplace.
OTH-SS-005 (New)	Sydney Trains' safety obligations shall be satisfied.	Sydney Trains must comply with safety obligations under its National Rail Safety legislation accreditation, and work health and safety (WHS) laws.
OTH-SS-001	The ROC Program shall measure and manage the projects impact on the safety risk profile to passengers and staff working on the operational railway in accordance with the principle of SFAIRP (So far as is Reasonably Practicable).	The aspiration is to improve overall levels of safety through faster communications during incidents that have an associated safety risk.
OTH-SS-002	The ROC Program will identify and address any safety risks to employees, contractors or visitors to the ROC.	Hazards must be identified, assessed and controlled in consultation with employees.
OTH-SS-003	The ROC Program shall improve the overall security of the network through improved monitoring and collaboration between functions and agencies, whilst minimising any adverse impacts on customers.	The ROC will be the central point of control for a security event providing a more effective use of resource and response.

## 2.10 Commercial Opportunity

Req ID	Description	Additional Information
OTH-CO-001	The ROC Program shall enable improvements to the design, monitoring, managing, and reporting of commercial agreements.	Commercial arrangements can be improved through fairer service level agreements, better aligned KPIs and performance incentives, information transparency and more objective, automated processes.
OTH-CO-002	The ROC Program shall ensure that the commercial opportunity to exploit vacated premises is considered.	No cost recovery has been factored into the business case.

## 2.11 Sustainability

Req ID	Description	Additional Information
OTH-SUS-001	The ROC Program shall demonstrate Community Sustainability.	The ROC Program can demonstrate Community Sustainability through consideration of the impact the ROC has upon neighbours, local communities and public.
OTH-SUS-002	The ROC Program shall demonstrate Workplace Sustainability.	The ROC Program can demonstrate workplace sustainability through creating an environment that supports the recruitment & retention of high potential performing individuals and retention of essential technical skills.
OTH-SUS-003	The ROC Program shall demonstrate Economic Sustainability.	The ROC Program can demonstrate economic sustainability through greater operating efficiency and enabling better exploitation of existing infrastructure.
OTH-SUS-004	The ROC Program shall demonstrate Environmental Sustainability.	The ROC Program can demonstrate environmentally sustainable consumption and production through reduced waste (materials and land) reduced energy consumption and through use of sustainable materials. Traction energy consumption can be reduced through reduced delays (i.e. stops at signals) and improved train regulation.
OTH-SUS-005	The ROC Program shall promote and support an ongoing commitment to Sydney Trains network-level sustainability objectives through enabling the monitoring, calculation and reporting of new sustainability-focused KPIs.	Co-location, in conjunction with improved information and reporting systems, will enable a network-level overview to be generated, tracked and managed across a number of potential dimensions.

## 2.12 Other Projects

Req-ID	Description	Additional Information
OTH-OP-001	The ROC Program shall provide systems that can integrate with modern train crew management systems in real-time in order to improve the utilisation of train crews in reducing delays to customers.	The ability to identify and manage train crew constraints is an important aspect of planning and implementing amendments to the timetable.
OTH-OP-002	The ROC Program shall provide systems that can integrate with future modern signalling and control system upgrades.	Integration in this context means technology integration, which at a minimum, must be future proofed to be able to be integrated into a future Traffic Management solution. It is not a requirement for the ROC DTTS System Capability to integrate with any of the existing control systems (VICOS, ATRICS etc.).
OTH-OP-003	The ROC Program shall ensure alignment with the Customer Information Program (CIP) projects, and other relevant customer information projects, to exploit synergies, reduce overlap and eliminate duplication.	The CIP may deliver solutions that are subsequently partly retired as a result of the ROC Program providing an equivalent business capability. It will be important to leverage the knowledge and experience of the CIP initiatives so that the value of the CIP investments is exploited.



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### 3 Solution Assumptions and Constraints

Assumptions and constraint have been identified in the ROC Final Business Case and are now under the jurisdiction of the ROC Program Management Office (DRICASB).

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#### 4 Decisions Already Made

Decisions are taken in accordance with the ROC Program Governance frameworks set out in the ROC Program Management Plan and recorded by the ROC Program Management Office (DRICASB).

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## 5 Validation Requirements

No requirements have been identified. The satisfaction of these business requirements will be assured through the allocation and traceability to the next level(s) of requirements which will have their own means of verification.

## 6 Sign Off

### Endorsed by

Name	Group/Division	Capacity/Title	Endorsement	Signature	Date
Neil Brown	Customer Services	ROC Transformation Director	That key stakeholders have been engaged, and that this Business Requirements Statement is sufficiently complete and of an acceptable standard		
David Hamilton	ROC Program (PwC)	ROC Program manager			
Stewart Mills	Maintenance	Maintenance Director	That this Business Requirements Statement correctly reflects the high-level requirements to be achieved		
Tony Eid	Operations	Operations Director			

\* Note that signatures are scanned copies. Records of acceptance have been retained electronically

### Approved by

Name & Title	Group/Division	Capacity	Endorsement	Signature	Date
Liz Ward	Director Customer Services	Program Sponsor	The requirements in this Business Requirements Statement are accepted and approved for use		

\* Note that signatures are scanned copies. Records of acceptance have been retained electronically

## Appendix A – Supporting/Reference Documents (available as appropriate)

- ROC Final Business Case
- ROC PMP & Appendices
- ROC DRICASB
- ROC Change Management Plan
- Sydney Rail Futures Implementation Plan



## 6. Items 22: Ops Technology Design Support


### 6.1 Basis of Tender

Ops Technology design support was not included in the Jacobs RFQ response.

### 6.2 Revised Scope

Jacobs have the expertise to cover the range of requested services and would like to work with Sydney Trains to develop the approach further.

In the tender clarification time frame we have not been able to source team members for all system areas, but can confirm that we have the in-house capability and directly relevant experience.

Ref	Area of Scope	Proposed Approach
1	FMECA and RAMS analysis, study and reporting.	Utilise local resources, Tim Fehon CV attached for Sydney Trains review.  Tim Fehon.pdf
5	Wireless systems design including Wi-Fi.	Utilise local resources, within the Jacobs Electrical team, with support from specialist international resources.
2	MPLS data network design including data network security.	Utilise a blend of international and local resources. Jacobs Technology division would lead this element of work and we have recent experience including; Transportation and Mission Critical clients.
3	Telecommunications facilities covering communications room, power supply design.	
4	Telecommunications fibre design.	
6	SDH transmission design.	
7	IT Network Architecture and design.	

## Attachment S Part B to Annexure C

### Package 2: ROC Communications System

#### 1.0) BACKGROUND

The Rail Operations Centre (ROC) project is a Sydney Trains led program that seeks to improve the management of "day of operations" activities and improve the delivery of services for Sydney Trains, NSW Trains and their customers.

The ROC project is proposed to improve the experience for customers within Sydney Trains and NSW Trains by bringing in new technologies for managing day of operation activities, improved processes and a new organisational design and co-location of operational staff at one location.

The ROC infrastructure team will help facilitate this by providing the ROC Communications System.

The ROC Communications System comprises of a number of Operational Technology sub-systems currently used by Sydney Trains for managing its current operations. These systems need to be extended to the ROC, to support its new operations.

The ROC Communications System comprises of the following sub-systems:

#### 1.1 ROC communications facilities

Communications facilities sub-system will comprise of the requirements for equipment and facilities within the communications rooms and spaces of the ROC building that will house critical equipment for the ROC Communications System, Control Systems, ROC Technology Systems, IT systems and associated equipment.

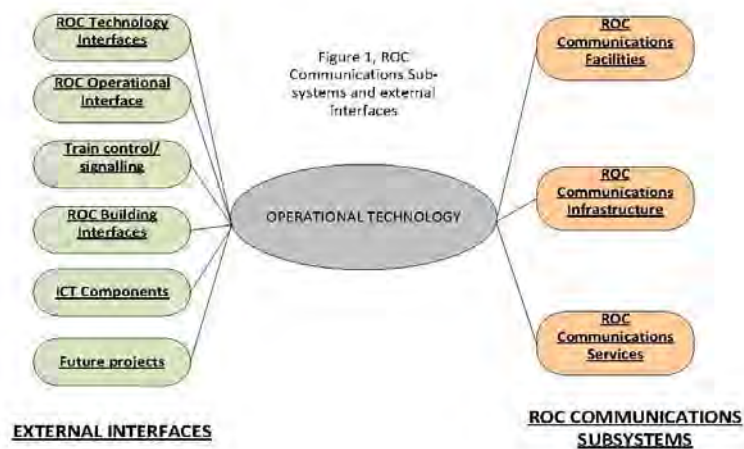
#### 1.2 ROC communications infrastructure

Communications infrastructure sub-system comprises of the critical backbone network infrastructure required to bring connectivity for the various communications services and other technologies to the ROC building. Components of this sub-system include fibre connectivity to the building, MPLS data network, SDH transmission system, back up communications power etc.

#### 1.3 ROC communications services

The Communications Services are all the Operational Technology services that will be brought to the ROC to support the ROC program. The communications services will include radio systems, telephony, voice communications systems, voice recording, electrical SCADA, Wi-Fi, network management systems, condition monitoring, CCTV etc.

Fig 1 provides a high level overview of the Operational Technology sub-systems and the associated external interfaces.



## 2.0) DESIGN TASKS

While most of the design and engineering tasks will be undertaken by the engineering and network maintenance divisions within the Maintenance directorate of Sydney Trains, some specialist engineering and design work may be outsourced on an "as needs" basis covering some of the topics as follows.

- 1) FMECA and RAMS analysis, study and reporting.
- 2) MPLS data network design including data network security.
- 3) Telecommunications facilities covering communications room, power supply design.
- 4) Telecommunications fibre design.
- 5) Wireless systems design including Wi-Fi.
- 6) SDH transmission design.
- 7) IT Network Architecture and design.

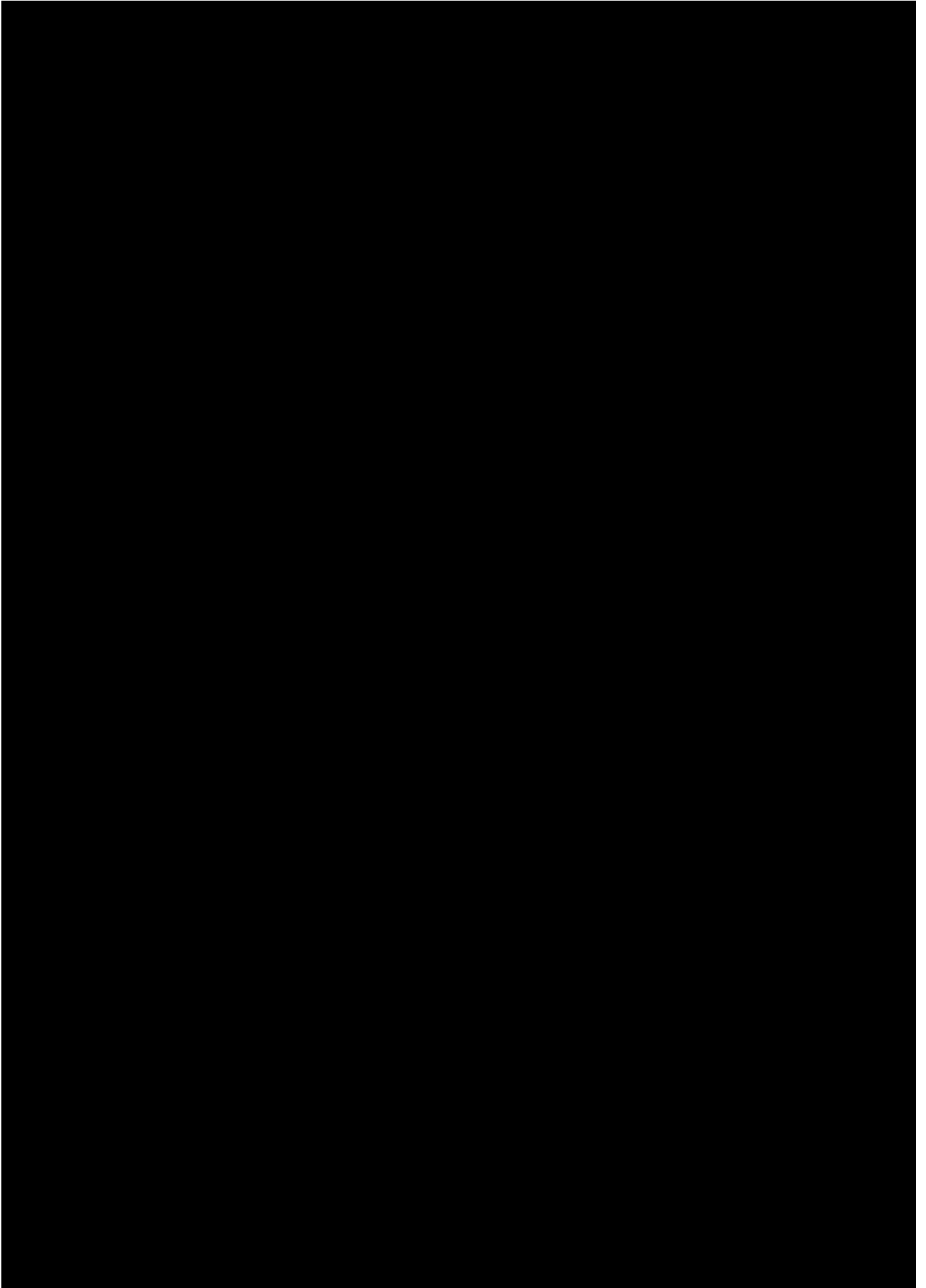
Resources will be sought for design tasks with defined scope of works covering the above topics, on an "as needs" basis during the lifetime of the project.

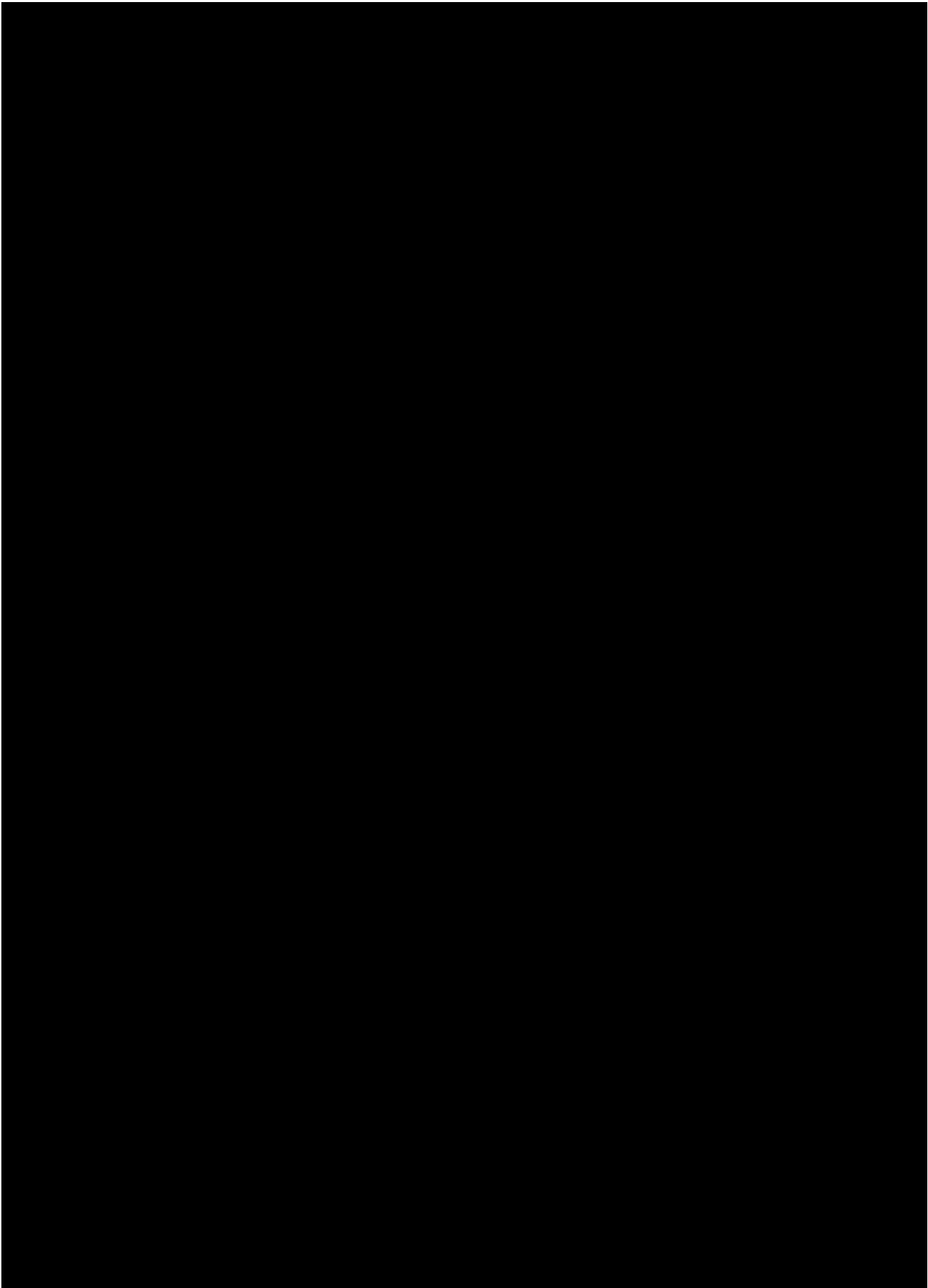
## 3.0) GENERAL REQUIREMENTS:

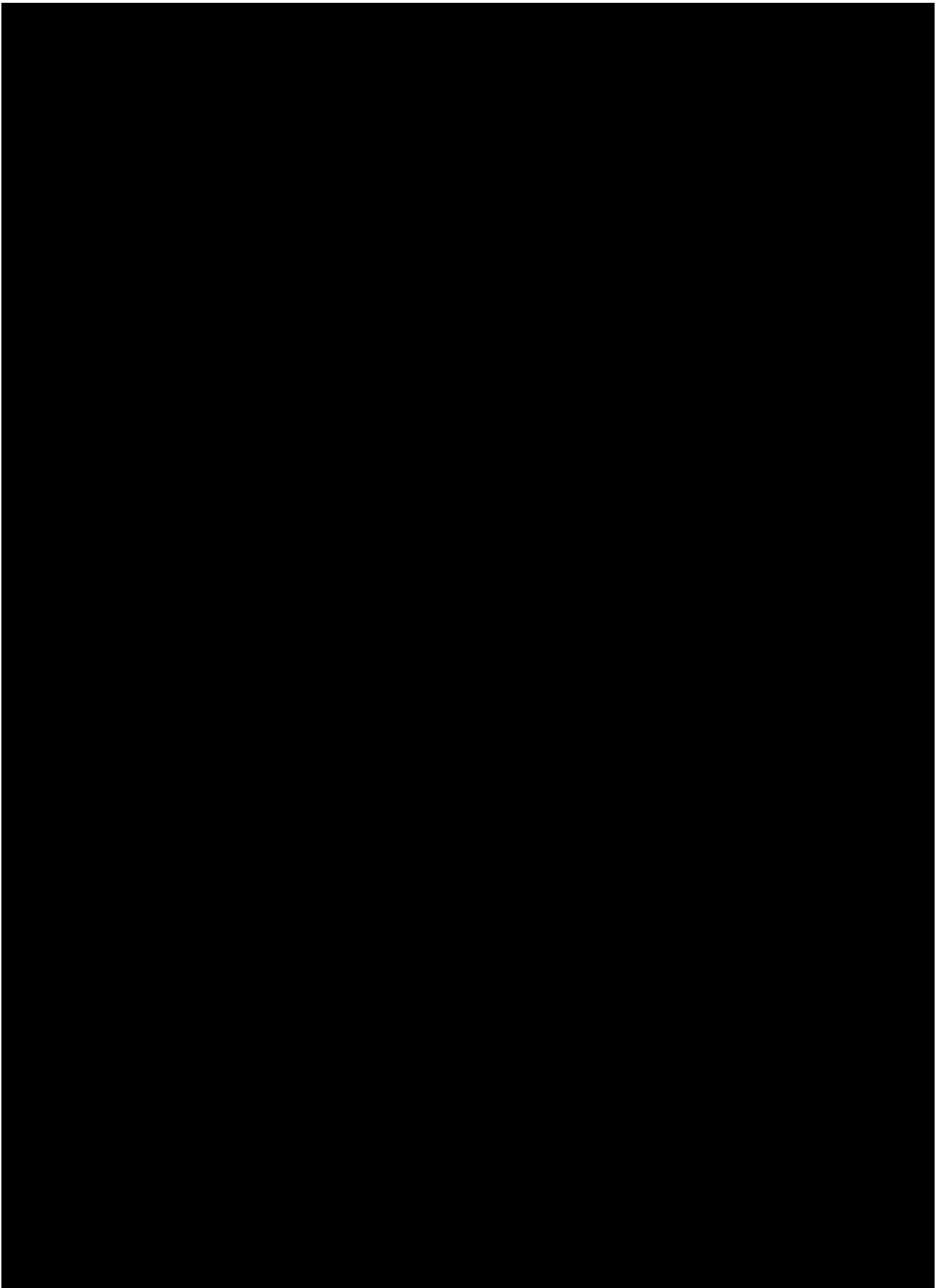
Tenderers are requested to provide details of any specialist resources that they are able to offer, covering all or any of the above topics.

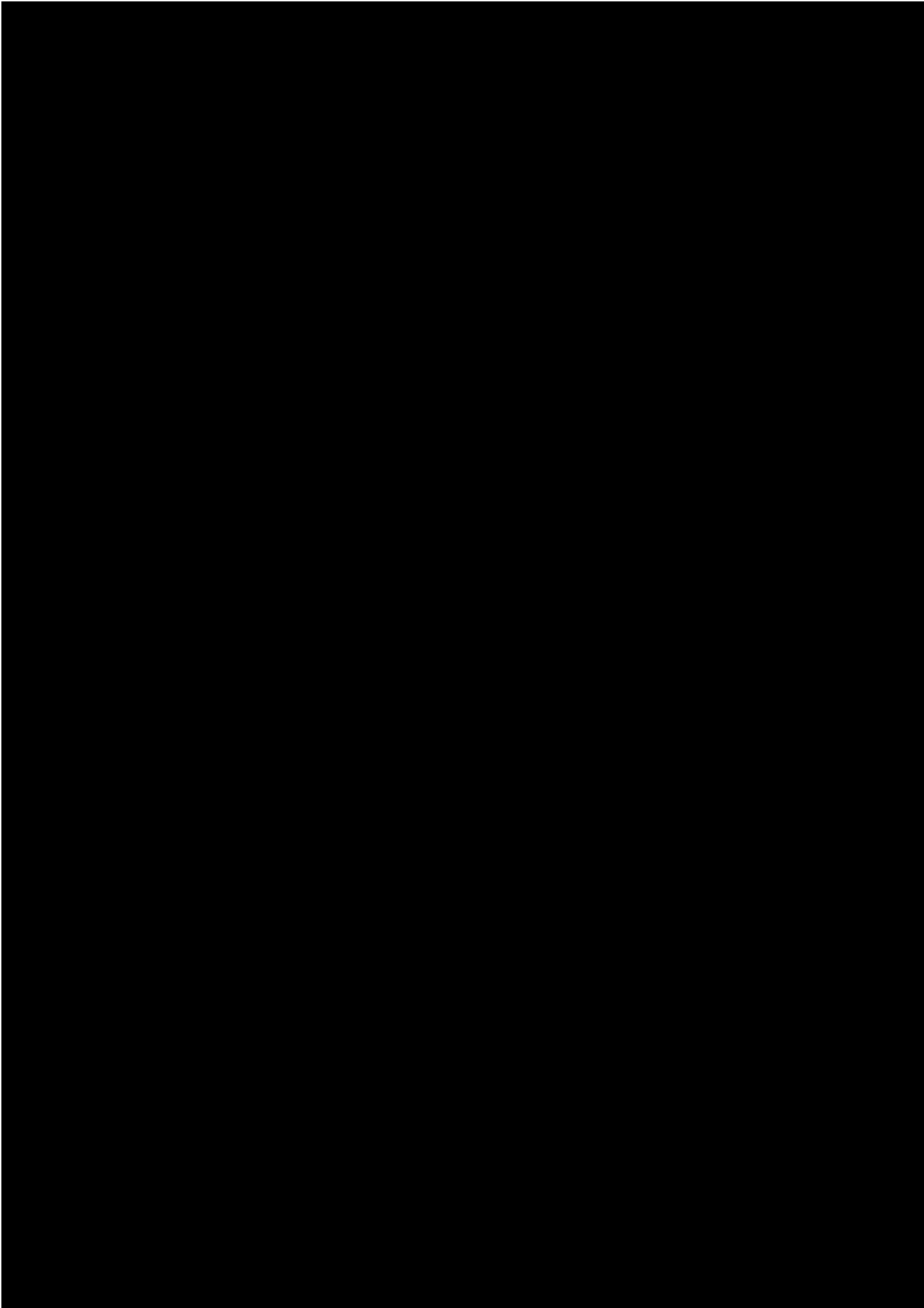
The following details are requested:

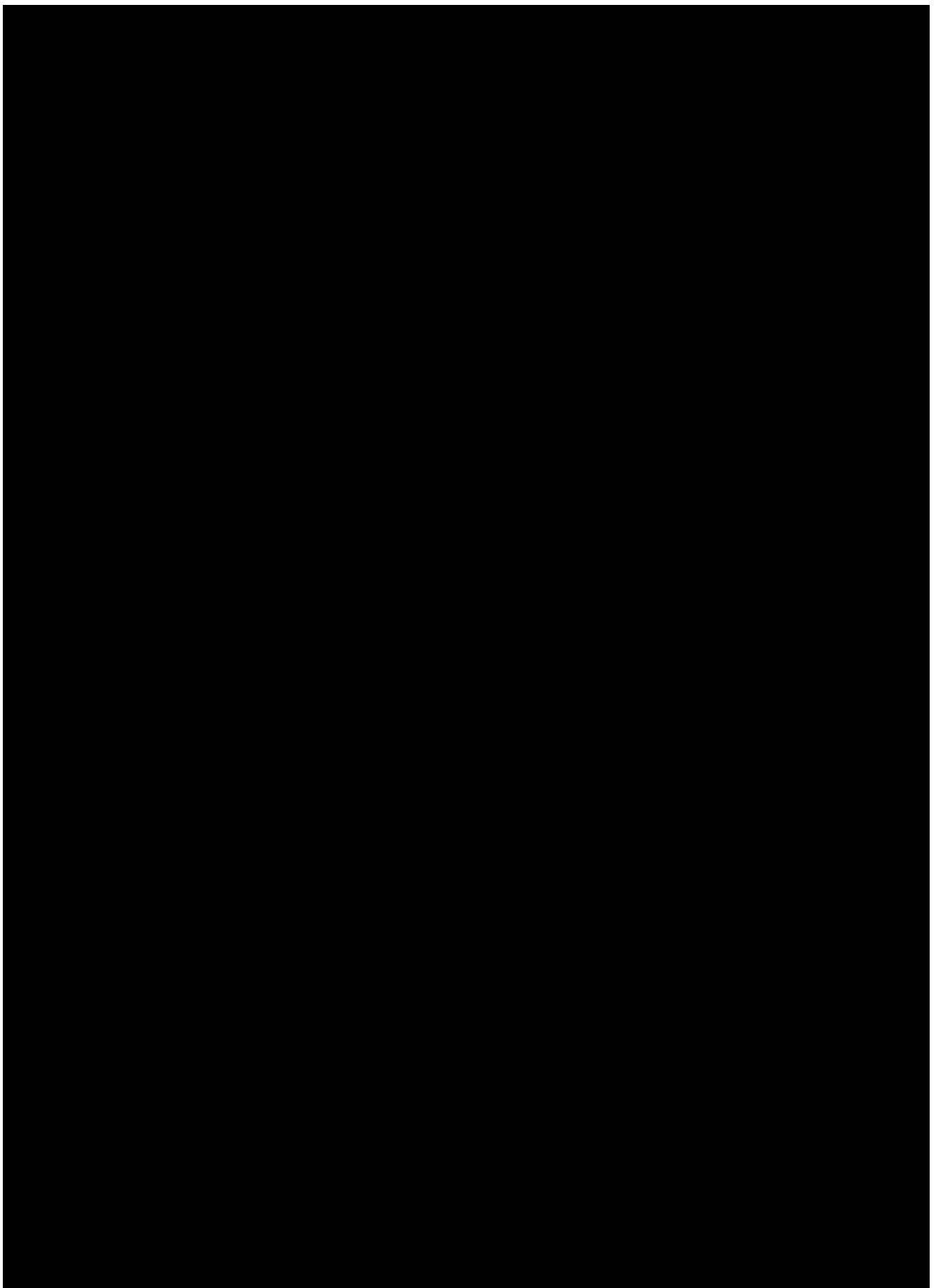
- 1) Details of candidates with resume, experience and achievements.
- 2) Any accreditations and competencies.
- 3) Hourly/weekly rates.



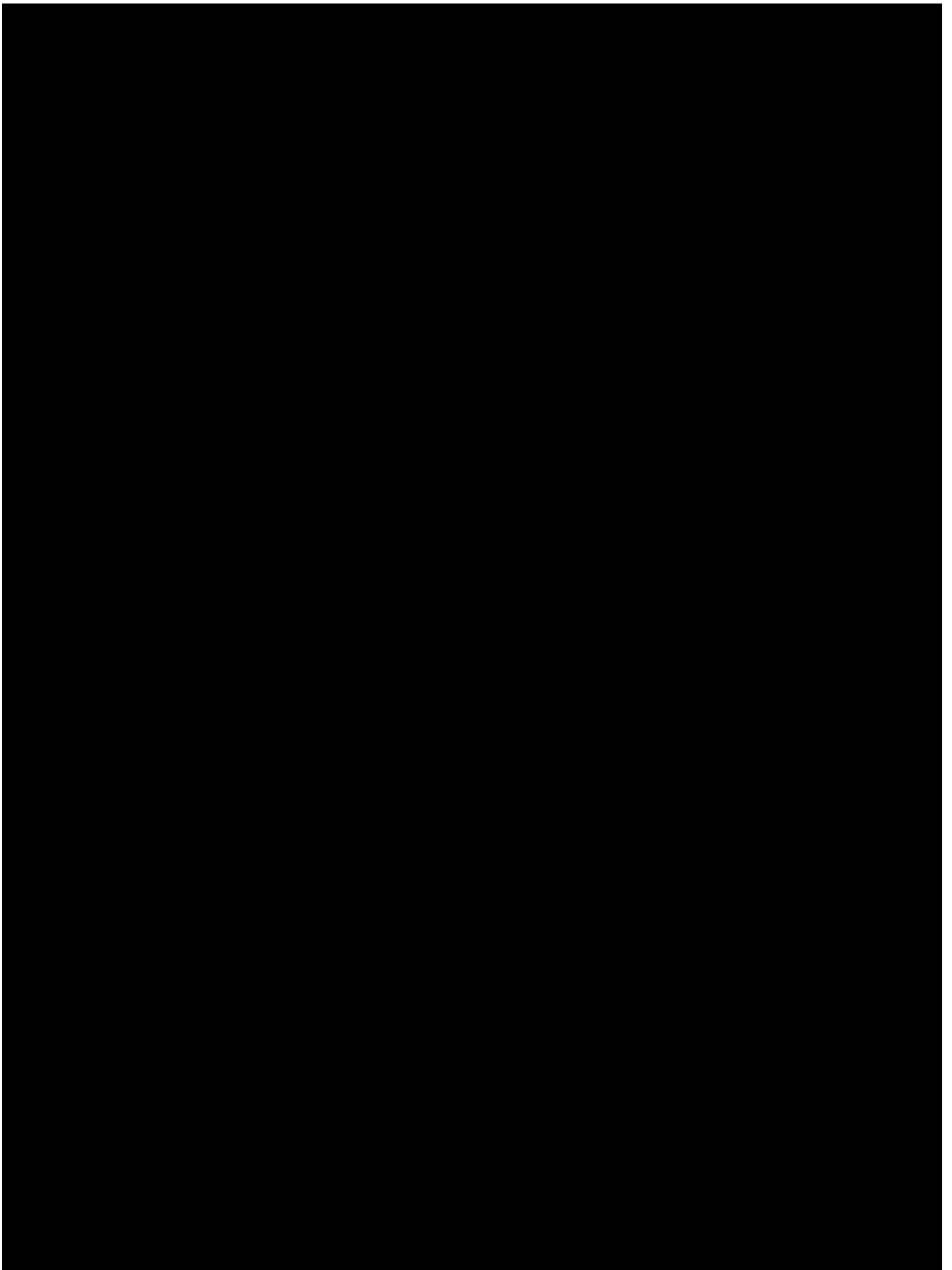


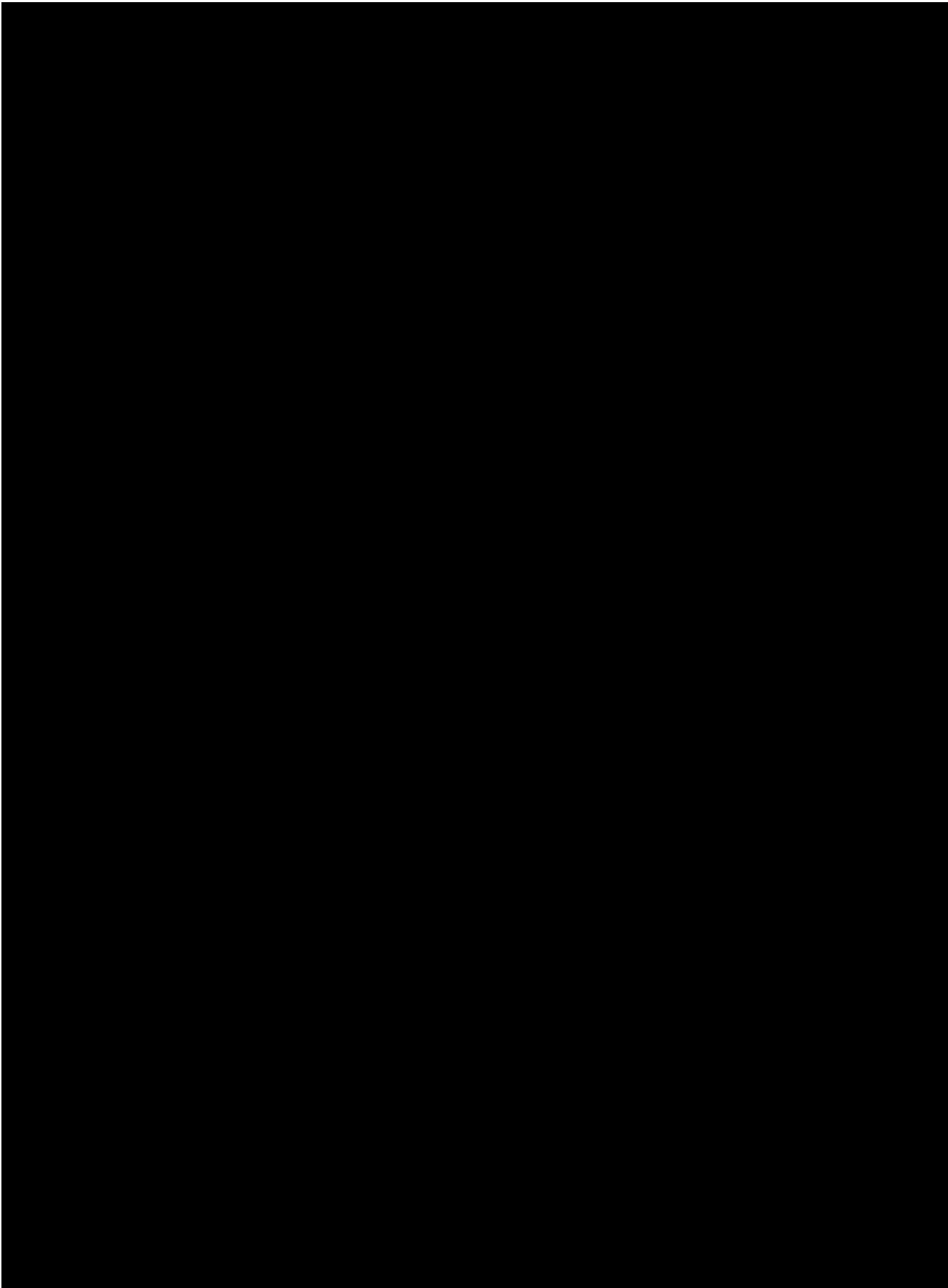


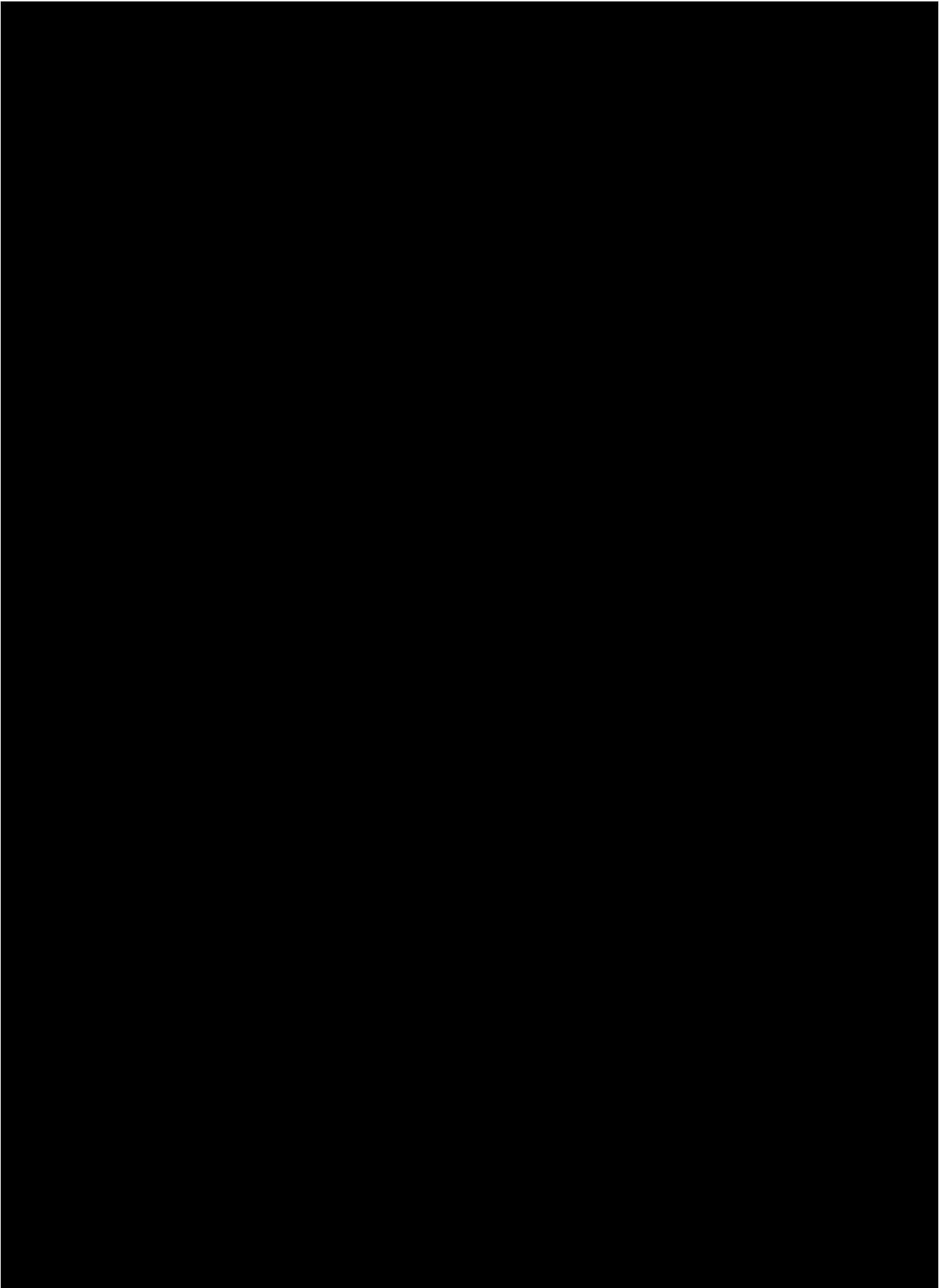


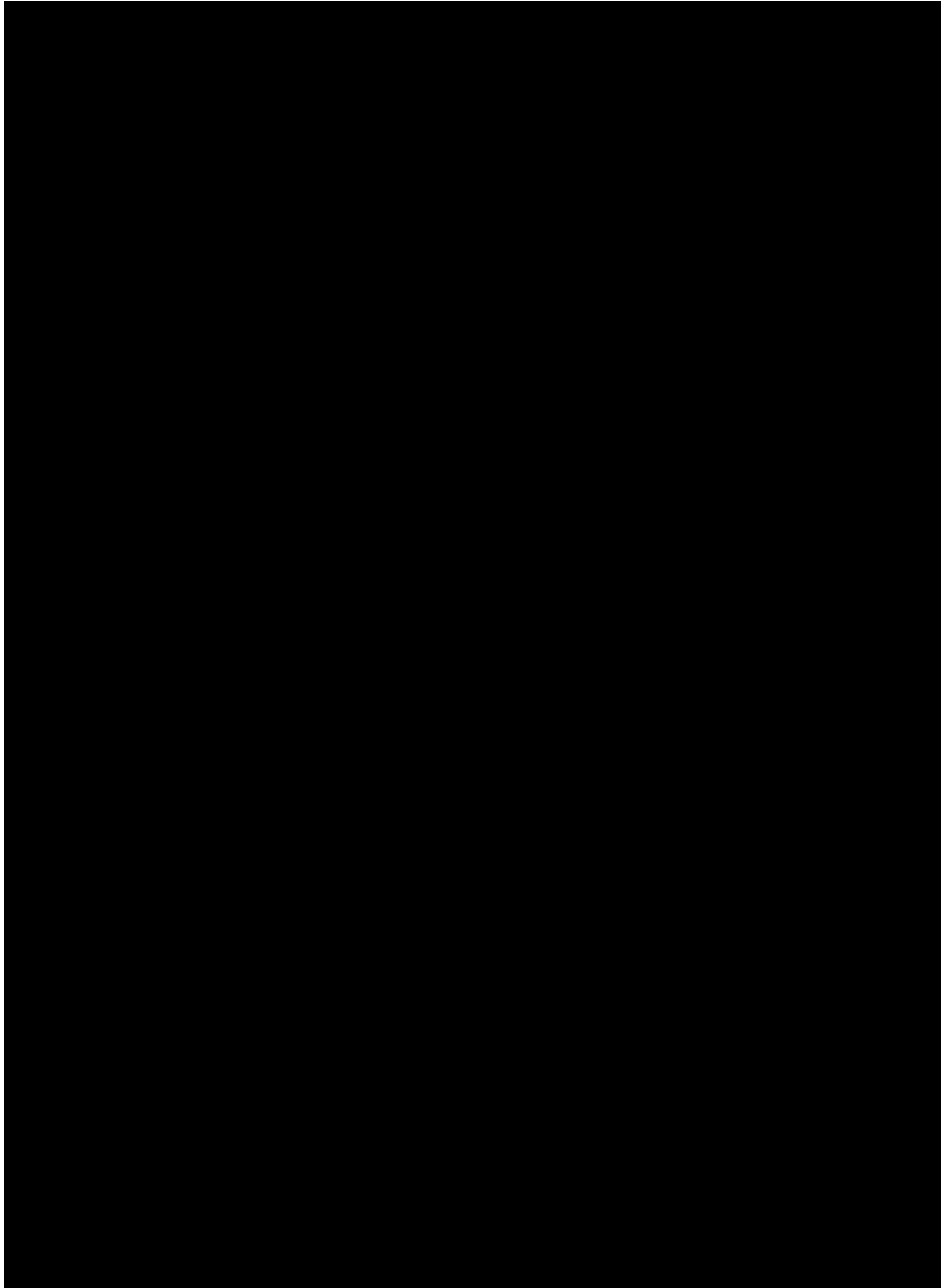


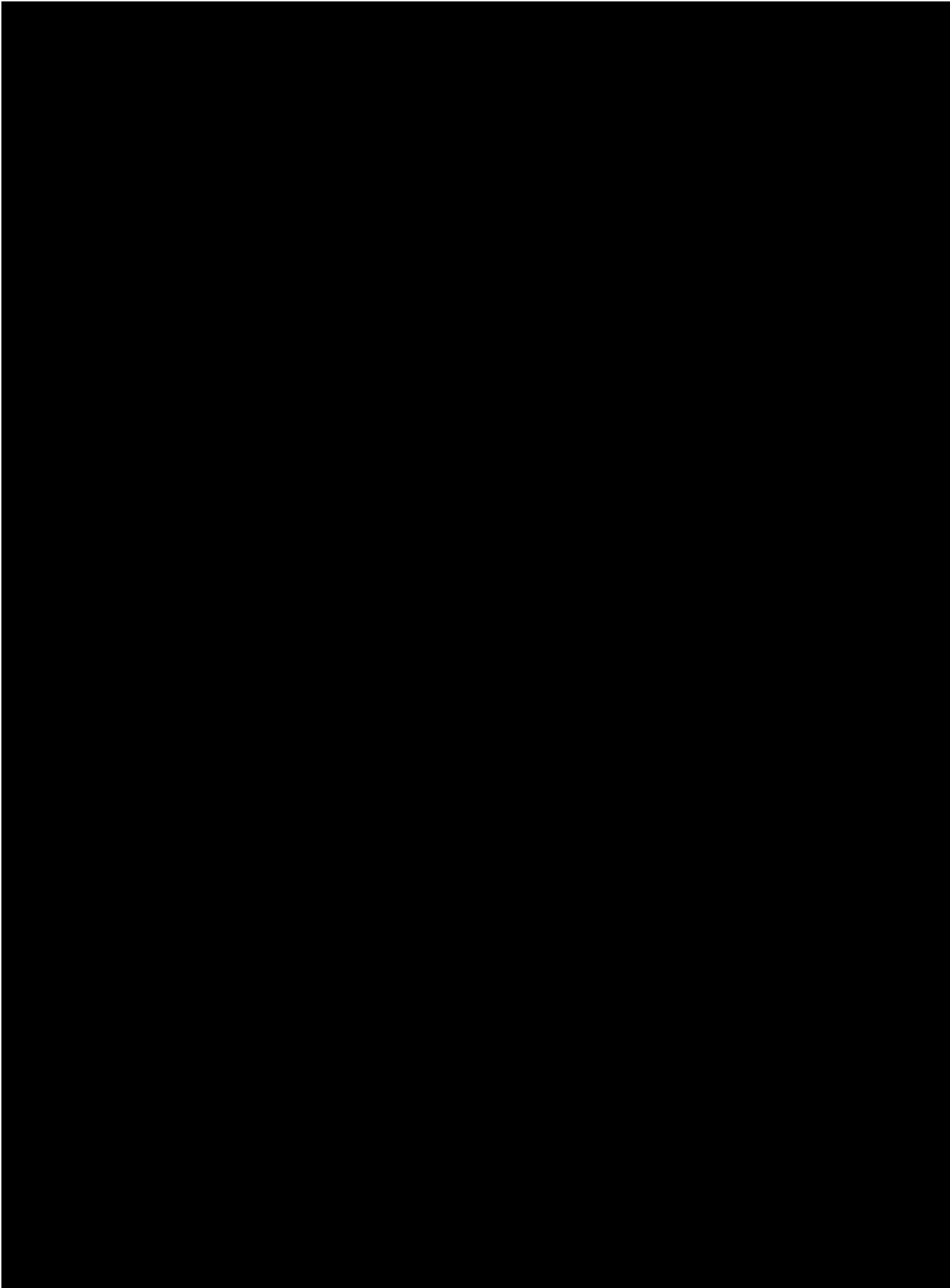


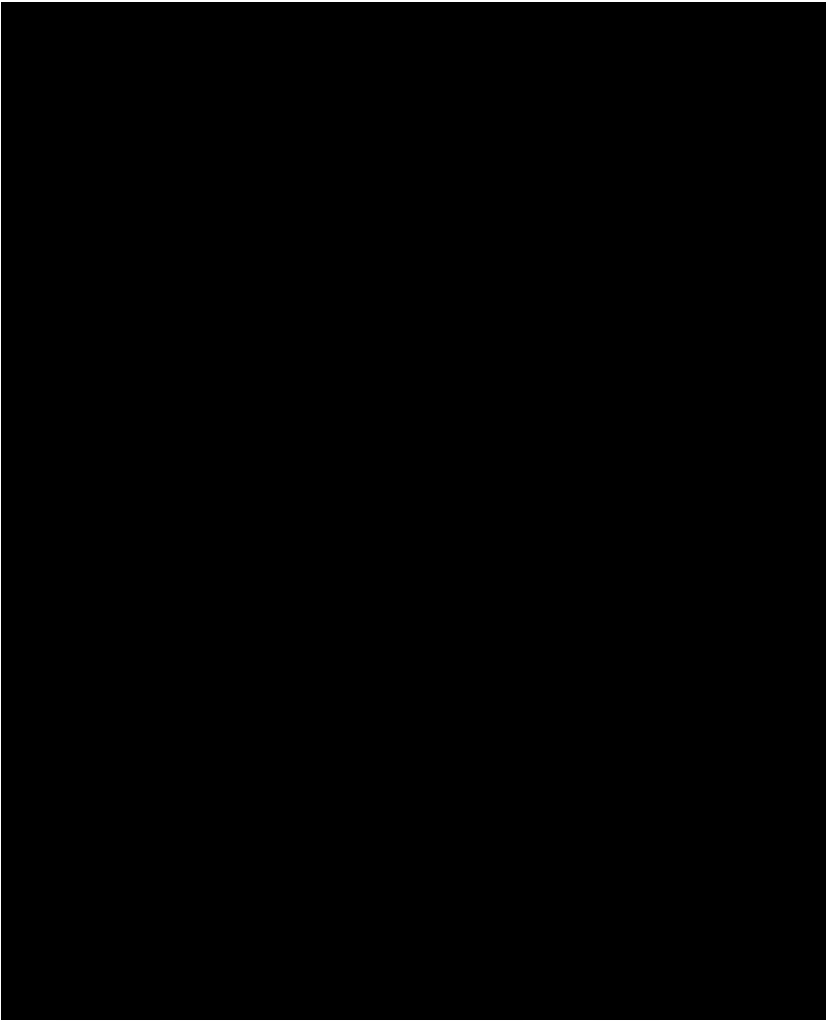












**ANNEXURE "D" – Program**

Master Program Schedule Version 3.2 - Preliminary Design Services Program

#	Activity ID	Activity Name	Remaining Duration	Start	Finish	2015												2016												
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4									
1	<b>Sydney Trains ROC - MPS - Version 3.2 - Current</b>																													
2	<b>Infrastructure</b>																													
3	<b>Procurement</b>																													
4	<b>Major Procurement</b>																													
5	<b>Building Design &amp; Design Competition</b>																													
6	INF-PRO-2350	Main Design Team Engaged	0	29-Jul-15																										
7	INF-PRO-2400	Mobilisation Period for Design Team	6	29-Jul-15	05-Aug-15																									
8	INF-PRO-2410	Commence Design	0	05-Aug-15																										
9	<b>Building &amp; Base fit-out</b>																													
10	INF-PRO-2370	Approval of Proposed Delivery Strategy (SteerCo)	0	01-Jun-15 A	15-Jun-15 A																									
11	INF-PRO-2360	Formulate Delivery Strategy / Proposed Model	4	18-May-15 A	13-Jul-15																									
12	INF-PRO-2420	Complete RFT Documentation	30	14-Jul-15	24-Aug-15																									
13	INF-PRO-2430	RFT Published in Arba	0		04-Sep-15																									
14	INF-PRO-2450	Main Contractor Tender Period	25	07-Sep-15	12-Oct-15																									
15	INF-PRO-2440	Financial Investment Committee (FIC) Approval	14	13-Oct-15	30-Oct-15																									
16	INF-PRO-2460	Tender Evaluation and Report	20	13-Oct-15	09-Nov-15																									
17	INF-PRO-2920	Award and Execute Main Works Contract	0		16-Nov-15																									
18	INF-PRO-2470	Contract Execution	5	10-Nov-15	16-Nov-15																									
19	<b>Design</b>																													
20	<b>Requirements Management</b>																													
21	<b>Building</b>																													
22	INF-DS-1110	Plan Requirements Definition	41	05-Aug-15	01-Oct-15																									
23	INF-DS-1120	Requirements Analysis	36	20-Aug-15	09-Oct-15																									
24	INF-DS-1130	Assemble Requirements Specification	55	03-Sep-15	19-Nov-15																									
25	INF-DS-1140	Requirements Validation	5	20-Nov-15	25-Nov-15																									
26	INF-DS-1150	Distribute Requirements Specification	0		25-Nov-15																									
27	INF-DS-4060	Milestone: Base Building Requirements Signed off	0		27-Nov-15																									
28	<b>Building Design</b>																													
29	<b>Design Competition</b>																													
30	INF-DS-3990	Design Competition Activities	20	20-Aug-15	16-Sep-15																									
31	INF-DS-4000	Evaluate BID	15	17-Sep-15	08-Oct-15																									
32	INF-DS-4010	Engage Architect	0		09-Oct-15																									
33	INF-DS-4020	Finalise Design	20	09-Oct-15	05-Nov-15																									
34	<b>Building &amp; Base fit-out Design</b>																													
35	INF-DS-4060	SDR - Base Building	72	20-Aug-15	30-Nov-15																									
36	INF-DS-4070	ESI Review - Base Building	10	01-Dec-15	14-Dec-15																									
37	INF-DS-4080	Configuration Control Board Approval	10	01-Dec-15	14-Dec-15																									
38	INF-DS-4090	PDR - Base Building	20	15-Dec-15	25-Jan-16																									
39	INF-DS-4100	ST Review - PDR Base Building	10	27-Jan-16	09-Feb-16																									
40	INF-DS-4110	CDR - Base Building	20	10-Feb-16	08-Mar-16																									
41	INF-DS-4120	ESI Approval - Base Building	10	09-Mar-16	22-Mar-16																									
42	INF-DS-4130	Configuration Control Board Approval	10	09-Mar-16	22-Mar-16																									
43	INF-DS-4140	AFC - Base Building	10	23-Mar-16	07-Apr-16																									
44	INF-DS-4150	Milestone: Building and Base Fitout Design Complete	0		08-Apr-16																									
45	<b>Early Works - Basement Inc. Piling / Footings</b>																													
46	INF-DS-3680	Early Works Design Complete	0		28-Jan-16																									
47	<b>Feeder Supply Design - Sydney Trains &amp; Ausgrid</b>																													
48	<b>Early Works Building Basement Design Inc. Piling / Footings</b>																													
49	INF-DS-3690	SDR - Early Works Civil (Inc Base Footprint Options)	18	09-Sep-15	02-Oct-15																									
50	INF-DS-3900	ESI Review - Early Works	10	05-Oct-15	19-Oct-15																									
51	INF-DS-3910	Configuration Control Board Approval	10	05-Oct-15	19-Oct-15																									
52	INF-DS-4420	Concept Design Complete	0		20-Oct-15																									
53	INF-DS-3920	PDR - Early Works	13	20-Oct-15	05-Nov-15																									
54	INF-DS-3630	ST Review - PDR Early Works	10	06-Nov-15	19-Nov-15																									





Master Program Schedule Version 3.2 - Preliminary Design Services Program

#	Activity ID	Activity Name	Remaining Duration	Start	Finish	2015			2016			2017			2018			
						Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
55	INF-DG-3840	CDR - Early Works	14	20-Nov-15	09-Dec-15													
56	INF-DG-3850	ESI Approval - Early Works	12	10-Dec-15	08-Jan-16													
57	INF-DG-3960	Configuration Control Board Approval	12	10-Dec-15	08-Jan-16													
58	INF-DG-3970	AFC - Early Works	12	11-Jan-16	27-Jan-16													
59	<b>Fit-out - Control Room &amp; FFE Design</b>		190	09-May-16	16-Feb-17													
60	INF-DG-4160	SDR - Control Room & FFE	40	09-May-16	04-Jul-16													
61	INF-DG-4170	ST Review - SDR Control Room & FFE	10	05-Jul-16	18-Jul-16													
62	INF-DG-4180	PDR - Control Room & FFE	40	19-Jul-16	12-Sep-16													
63	INF-DG-4190	ST Review - PDR Control Room & FFE	10	13-Sep-16	26-Sep-16													
64	INF-DG-4200	CDR - Control Room & FFE	40	27-Sep-16	22-Nov-16													
65	INF-DG-4210	User Acceptance Review - Control Room & FFE	40	23-Nov-16	01-Feb-17													
66	INF-DG-4220	AFC - Control Room & FFE	10	02-Feb-17	15-Feb-17													
67	INF-DG-4230	Fit-out - Control Room & FFE Design Complete	0	16-Feb-17														
68	<b>Main Works Contractor</b>			439	17-Nov-15	04-Sep-17												
69	<b>Procurement</b>			50	27-Nov-15	24-Feb-16												
70	INF-MW-1020	Procurement of Early Works Sub Contractors	50	27-Nov-15	24-Feb-16													
71	<b>Early Works</b>			158	17-Nov-15	08-Sep-16												
72	<b>Construct Feeder Supply - Sydney Trains &amp; Ausgrid</b>			65	28-Jan-16	26-May-16												
73	<b>Site Establishment</b>			23	17-Nov-15	11-Jan-16												
74	INF-MW-1000	Main Contractor Mobilise	6	17-Nov-15	26-Nov-15													
75	INF-MW-1010	Site Establishment (Fence, Site office, Relocate Services)	12	10-Dec-15	11-Jan-16													
76	<b>Bulk Earthworks</b>			42	14-Jan-16	01-Apr-16												
77	INF-MW-1030	Clear Site / Cap Services	6	14-Jan-16	22-Jan-16													
78	INF-MW-1050	Install Retaining Structures	12	28-Jan-16	15-Feb-16													
79	INF-MW-1090	Bulk Earthworks and Piling (Approx 9,500m3 @ 400m3/d)	24	16-Feb-16	01-Apr-16													
80	<b>In Ground Works</b>			26	04-Apr-16	20-May-16												
81	<b>Structure</b>			71	10-May-16	08-Sep-16												
82	<b>Building &amp; Base Fitout</b>			216	24-Jun-16	15-May-17												
83	<b>Structure</b>			81	24-Jun-16	10-Nov-16												
84	<b>Level 1</b>			89	24-Jun-16	20-Oct-16												
85	<b>Level 2</b>			80	14-Jul-16	25-Oct-16												
86	<b>Level 3 (Mezzanine)</b>			45	16-Aug-16	31-Oct-16												
87	<b>Level 4 (Roof)</b>			39	05-Sep-16	10-Nov-16												
88	<b>Facade</b>			81	21-Oct-16	14-Mar-17												
89	<b>Building Services</b>			109	26-Sep-16	04-Apr-17												
90	<b>Vertical Transport</b>			74	13-Oct-16	23-Feb-17												
91	<b>Ground Floor Plantrooms</b>			34	21-Oct-16	04-Apr-17												
92	<b>Level 1 Plantrooms</b>			76	27-Oct-16	10-Mar-17												
93	<b>Roof Plantrooms</b>			30	26-Sep-16	05-Mar-17												
94	<b>Base Building Fitout</b>			138	09-Sep-16	08-May-17												
95	<b>Basement</b>			72	09-Sep-16	23-Jan-17												
96	<b>Ground Floor</b>			99	21-Oct-16	10-Apr-17												
97	<b>Level 1</b>			60	22-Nov-16	09-Mar-17												
98	<b>Level 2 - Comms &amp; Service Room</b>			60	21-Dec-16	05-Apr-17												
99	<b>Level 3 - Control Room</b>			60	03-Feb-17	08-May-17												
100	<b>External Works</b>			26	15-Mar-17	27-Apr-17												
101	<b>Defects / Handover / Commissioning</b>			42	13-Mar-17	15-May-17												
102	<b>Control Room &amp; FF&amp;E Fitout</b>			54	09-May-17	04-Sep-17												
103	<b>Commissioning and Handover</b>			146	03-May-17	24-Nov-17												

Sydney Trains ROC - MPS - Version 3.2 - Current - 15-Jul-15

Page 2 of 2

█ Actual Work    
 █ Critical Remaining Work    
 ▶ Summary  
█ Remaining Work    
 ◆ Milestone

Date	Revision	Checked	Approved
15-Jul-15	Version 3.2 - Draft for Discussion	LB	DG

## ANNEXURE "E" – Schedule of Rates

Schedule of Rates				
Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate A\$ (excl. GST)
1	Design Management (inc. Document Controller)	Management / Financial / admin	Director Associate Director Project Manager Senior Engineer Engineer Admin	
2	Architecture -	Architecture	Project Leader - Architecture Project Leader - Urban Design & Integration Architecture - Verification Project Architect / Interior designer Drafter Architecture + Interiors	
3	Architecture - Interior design	Architecture	Project Leader - Interior Design Project Architect Drafter Architectural	
4	Architecture - Fitout inc. control floor	Architecture	Project Leader Project Architect Drafter Architectural	
5	Façade	Engineers	Associate Director Principal Façade Façade Engineer Senior Draftsperson Draftsperson	
6	BCA Consultant	Consultant	Associate Director Senior Building Regulations Consultant Building Regulations Consultant Assistant Building Regulations Consultant	
7	Fire Engineering	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer	
8	DDA	Consultant	Associate Director Senior Consultant Consultant Assistant Consultant	
9	Acoustics	Engineering	Team Leader Principal Acoustic Senior Acoustic Consultant	
10	Sustainability, including section J	Engineering	Team Leader Associate Director Principal Consultant Senior Consultant Consultant	
11	Public art	-	-	
12	Landscape	Architecture	Associate Director Principal Senior Landscape Architect Architectural Draftsperson	
13	Safety Assurance & Authorised Eng. Authority	Engineering	Principal Engineer Senior Engineer Engineer	



Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate A\$ (excl. GST)
14	Civil (inc geotech / contamination audit services)	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
15	Structural	Management / Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
16	Mechanical / HVAC	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
17	Electrical	Management / Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
18	Specialist lighting	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
19	Dry Fire	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
20	Security	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
21	Communications	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson	
22	Hydraulic	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	

Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate A\$ (excl. GST)
23	Wet Fire	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
24	Vertical transportation	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
25	Document Control System (Aconex)			
26	Building Information Modeling (BIM)			
27	Site Inspections		Includes travel disbursements based on a 4 hr round trip.	
28	Site Meetings		Includes travel disbursements based on a 4 hr round trip.	
29	<i>Insert as applicable</i>			
30	<i>Insert as applicable</i>			
31	<i>Insert as applicable</i>			
32	<i>Insert as applicable</i>			

## ANNEXURE "F" – Deed Poll in favour of RailCorp

**This deed poll ("Deed Poll")** made on the date the Contractor executes this Deed Poll

**By:** **Jacobs Group (Australia) Pty Limited (ABN 37 001 024 095)** of 100 Christie Street, St Leonards NSW 2065 (**Contractor**),

**in favour of:** **Rail Corporation New South Wales (ABN 59 325 778 353)** of Level 20 477 Pitt Street, Sydney NSW 2000 (**RailCorp**).

### Recitals

- A RailCorp owns the rail network and rail assets in NSW, including the site in respect of which the professional services are to be undertaken by the Contractor.
- B Sydney Trains (**Principal**) has entered into an Agreement with Jacobs Group (Australia) Pty Limited for multi-disciplinary design services dated [insert date] (**Agreement**).
- C It is a condition of the Agreement that the Contractor executes this Deed Poll.

**This deed witnesses that the Contractor hereby covenants, warrants and agrees** with and for the benefit of RailCorp as follows:

1. It will comply with its obligations under the Agreement.
2. Upon completion of the Services, the Services will satisfy the requirements of the Agreement.
3. The aggregate of the Contractor's liability to RailCorp under this Deed Poll and the Contractor's liability to the Principal under the Agreement:
  - (a) will not exceed the liability which the Contractor would have had under the Agreement if the Agreement had named, in place of the Principal, RailCorp and the Principal jointly and severally; and
  - (b) is subject to the same limitations of liability, and qualifications on such limitations of liability, as are specified in the Agreement.
4. Any provision of this Deed Poll which seeks to limit or exclude a liability of the Contractor is to be construed as doing so only to the extent permitted by law.
5. RailCorp may assign or charge the benefits and rights accrued under this Deed Poll.
6. This Deed Poll is governed by the laws of the State of New South Wales.
7. This Deed Poll may not be revoked or otherwise modified without the prior written consent of RailCorp.
8. Where terms used in this Deed Poll are defined in the Agreement, those terms have the meaning given to them in the Agreement.

**Executed** as a deed poll.

**Executed by Jacobs Group (Australia)  
Pty Limited ABN 37 001 024 095** by or in  
the presence of:

\_\_\_\_\_  
Signature of Director

\_\_\_\_\_  
Signature of Secretary/other Director

\_\_\_\_\_  
Name of Director in full

\_\_\_\_\_  
Name of Secretary/other Director in full

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

## ANNEXURE "G" – Confidentiality Deed Poll

### Confidentiality Deed Poll [please review latest version sent out last week]

**Given by:** [insert full legal name of Recipient (insert ABN)] of [insert registered address of Recipient] ("Recipient") for and on behalf of itself and the Recipient Representatives (as defined in this Deed)

**In favour of:** Sydney Trains (ABN 38 284 779 682) of Level 20, 477 Pitt Street, Sydney NSW 2000 ("Sydney Trains") and the Sydney Trains Representatives (as defined in this Deed)

**Made:** at Sydney on the date the Recipient executes this Deed ("date of this Deed").

### BACKGROUND

Sydney Trains has agreed to disclose certain Confidential Information to the Recipient for the Permitted Use on the terms and conditions of this Deed.

### AGREED COVENANTS

#### 1 Definitions and Interpretation

##### 1.1 Definitions

In this Deed (including the Background), unless the context otherwise requires:

**Claim** means any action, suit, claim, demand, cause of action or notice, of any nature whatsoever, at Law or in equity, including:

- (a) in contract, whether for breach or for an entitlement under a contract;
- (b) in tort for negligence or otherwise, including without limitation negligent misrepresentation
- (c) for contribution or indemnity at common law, equity or statute;
- (d) for restitution, unjust enrichment or quantum meruit;
- (e) under or for breach of statute; or
- (f) in any other way,

whether for a Loss or a Remedy.

**Confidential Information** means:

- (a) information, including the Information Documents and any Personal Information, disclosed by or on behalf of Sydney Trains or the Sydney Trains Representatives to the Recipient or the Recipient Representatives (or of which the Recipient or the Recipient Representatives become aware) in the course of discussions in relation to the Permitted Use;
- (b) information acquired by the Recipient or the Recipient Representatives in the course of discussions prior to the date of this Deed in relation to the Permitted Use;

- (c) any Document or other correspondence provided by Sydney Trains to the Recipient or the Recipient Representatives, that:
  - (i) is by its nature confidential;
  - (ii) is designated as confidential by Sydney Trains or the Sydney Trains Representatives from time to time; or
- (d) any other information which by its nature should reasonably be considered to be the confidential information of Sydney Trains or the Sydney Trains Representatives, or which the Recipient or the Recipient Representatives knows is confidential,

whether or not marked as "Commercial in Confidence", "Proprietary" or "Confidential", and which may be provided in writing, electronically, verbally or otherwise, but does not include any information which:

- (e) the Recipient can demonstrate to be in the public domain or was known to the Recipient at the time of disclosure other than through a breach of this Deed;
- (f) is in the lawful possession of the Recipient without restriction in relation to disclosure before the date of receipt of the information from Sydney Trains or the Sydney Trains Representatives;
- (g) was independently developed by the Recipient or the Recipient Representatives; or
- (h) is required by Law to be disclosed.

**Deed** means this Deed Poll.

**Information Documents** means any information, opinion, data or document in whatever form (including, electronic, verbal, written or visual):

- (a) issued or made available by, or on behalf of, Sydney Trains or the Sydney Trains Representatives to the Recipient or the Recipient Representatives in connection with this Deed or the Permitted Use; and
- (b) includes any information, opinion, data or document referred to, or incorporated by reference, in any such Information Documents,

whether or not such Information Documents were issued or made available to the Recipient before or after the date of this Deed.

**Information Security Requirements** means the following principles, policies, codes, Laws or directions relating to the storage, management, control and handling of information that is security classified and/or subject to a sensitive information label or other protective marking (such as dissemination limiting markers):

- (a) the most recent version of:
  - (i) the Sydney Trains ICT-SGD-70122, *Information Security Classification and Labelling Standard*;
  - (ii) the *NSW Government Information Classification and Labelling Guidelines*;
  - (iii) the *NSW Digital Information Security Policy*;



- (iv) the *Commonwealth Information Security Manual*; and
- (v) the “*Australian Government Information Security Management Guidelines*”, including:
  - (A) *Australian Government Security Classification System*; and
  - (B) *Protectively Marking and Handling Sensitive and Security Classified Information*;
- (b) Premiers Memorandum M2006-09, *Maintaining Confidentiality of Cabinet Documents and Other Cabinet Conventions*;
- (c) legislation, including the *State Records Act 1998* (NSW) and the Privacy Law; and
- (d) any other principles, policies, codes, Laws and directions that are notified to the Recipient by Sydney Trains to the Recipient from time to time,

as replaced, amended or updated from time to time.

**Loss** means any money, cost (including reasonable legal costs and expenses), expense, damage, interest, penalty, fine, delay, disruption, costs and losses associated with a Remedy or detriment of any kind whatsoever.

**Law** means the common law and any legislation of the Parliament of the Commonwealth of Australia, of any State or Territory of the Commonwealth of Australia or of any other jurisdiction in force at any time and any rule, regulation, ordinance, by-law, statutory instrument, order or notice at any time made under that legislation and, in each case, any consolidations, amendments, re-enactments and replacement.

**Permitted Use** means use for the purposes of the Recipient **[insert]**, and for no other purpose.

**Personal Information** has the same meaning as in the *Privacy and Personal Information Protection Act 1998* (NSW).

**Privacy Laws** means the *Privacy and Personal Information Protection Act 1998* (NSW), the *Privacy Act 1988* (Cth), any applicable principles, codes of conduct or directions issued under those Acts and all other applicable Laws relating to privacy or personal information.

**Related Entity** in relation to:

- (a) the Recipient, has the meaning given to 'related body corporate' in section 9 of the *Corporations Act 2001* (Cth); and .
- (b) Sydney Trains, means any “public transport agency” (as defined in the *Transport Administration Act 1988* (NSW)), the State of New South Wales, and any entity controlled by any of them.

**Remedy** means any entitlement, damages, interest, compensation, contribution, indemnity, injunction, specific performance, extension of time or other legal or equitable or statutory remedy of any kind whatsoever.

**Representatives** means:

- (a) in respect of the Recipient, any Related Entity of the Recipient and any directors, officers, employees, consultants, agents and contractors of Recipient and any Related Entity of the Recipient (the “**Recipient Representatives**”); and
- (b) in respect of Sydney Trains, any Related Entity of Sydney Trains and any directors, officers, employees, consultants, agents and contractors of Sydney Trains and any Related Entity of Sydney Trains (other than the Recipient) (the “**Sydney Trains Representatives**”).

## 1.1 Interpretation

In this deed:

- (a) headings are for convenience only and do not affect interpretation;
- (b) an obligation or liability assumed by, or a right conferred on, two or more persons binds or benefits them jointly and severally;
- (c) a reference to a “person” includes an individual, the estate of an individual, a corporation, an authority, an association or a joint venture (whether incorporated or unincorporated), a partnership and a trust;
- (d) a reference to a party includes that party's executors, administrators, successors and permitted assigns, including persons taking by way of novation and, in the case of a trustee, includes a substituted or an additional trustee;
- (e) a reference to a document (including this Deed) is to that document as varied, novated, ratified or replaced from time to time;
- (f) a reference to a statute or statutory provision includes a statutory modification or re-enactment of it or a statutory provision substituted for it, and each ordinance, by-law, regulation, rule and statutory instrument (however described) issued under it;
- (g) a word importing the singular includes the plural (and vice versa), and a word indicating a gender includes every other gender;
- (h) a reference to a party or clause is a reference to a party or clause to or of this Deed;
- (i) if a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning; and
- (j) "includes" in any form is not a word of limitation.

## 2 Representations and warranties regarding Information Documents

The Recipient acknowledges and agrees, for itself and the Recipient Representatives, that:

- (a) the Information Documents are provided by Sydney Trains for the information only of the Recipient;
- (b) neither Sydney Trains or the Sydney Trains Representatives are responsible for, or make any representation or warranty (express or implied) in respect of, the contents of the Information Documents including the accuracy, adequacy, suitability or completeness of any reports, data, test results, samples, reports or investigations,

opinions, recommendations, findings or other information contained in the Information Documents for any purpose, including the Permitted Use; and

- (c) Sydney Trains has provided, or will provide, the Information Documents to the Recipient in reliance upon the acknowledgements and agreements contained in this clause 2.

### **3 Recipient's obligations**

#### **3.1 Confidentiality**

The Recipient acknowledges and agrees, for itself and the Recipient's Representatives, that it will:

- (a) keep the Confidential Information confidential, safe, secure and protected against unauthorized use and access and, subject to clause 3.5, not disclose the Confidential Information to any person;
- (b) not use or permit the use of the Confidential Information for any purpose other than for the Permitted Use;
- (c) ensure Confidential Information is not copied or reproduced without the Sydney Trains' express written consent;
- (d) disclose Confidential Information to only those Recipient's Representatives who have a "need to know" the Confidential Information for the Permitted Use;
- (e) not introduce any Confidential Information into any computer system or other device operated, controlled or which may be accessed to any extent by a person other than the Recipient;
- (f) ensure that any Representative of the Recipient to whom the Recipient discloses Confidential Information:
  - (i) is aware of the confidentiality requirements of this Deed; and
  - (ii) is advised that he or she is strictly forbidden to disclose the Confidential Information to any other person or use the Confidential Information for any purpose other than as provided for in this Deed;
- (g) not issue any information, publication, document or article or make any statement to or advertise in any media about any matters relating to the Permitted Use or this Deed, unless otherwise approved in writing by Sydney Trains to do so; and
- (h) not attempt to access any Confidential Information other than the Confidential Information that they need to know and access for the purposes of the Permitted Use.

### **3.2 Comply with Privacy Laws**

In relation to any Personal Information provided by Sydney Trains to the Recipient under or in connection with this Deed or its subject-matter, the Recipient warrants that it will comply with all applicable Privacy Laws including, if applicable, obtaining the consent of each individual to whom the Personal Information relates for the collection use and disclosure of that Personal Information.

### **3.3 Not cause breach by Sydney Trains**

Where the Recipient is required to access, collect or disclose Personal Information on behalf of Sydney Trains, then the Recipient must comply with the *Privacy and Personal Information Protection Act 1998* (NSW) as if it were Sydney Trains accessing, collecting or disclosing the Personal Information.

### **3.4 Security measures**

The Recipient must ensure that any Confidential Information in it's or the Recipient's Representatives possession, custody or control is kept secure at all times, including by:

- (a) where the Recipient has access to Confidential Information by password or other secure means, the Recipient must not disclose that password or means of access to any other person unless it has been authorised in writing to do so by Sydney Trains; and
- (b) where applicable, complying with the Information Security Requirements.

### **3.5 When Recipient may disclose**

The Recipient may disclose Confidential Information:

- (a) with the prior written consent of Sydney Trains;
- (b) to the Recipient's Representatives, but only to the extent that each Recipient's Representative has a "need to know" the Confidential Information for the purposes of the Permitted Use; and
- (c) subject to clause 3.6, to the extent required by Law to do so.

### **3.6 Disclosure required by Law**

If the Recipient is required by Law to disclose any Confidential Information, the Recipient must before doing so immediately notify Sydney Trains and comply with any reasonable directions given by, or requirements of, Sydney Trains.

### **3.7 Inspections and audit**

The Recipient consents, and must procure the necessary consents from any Representative to which the Confidential Information is disclosed by the Recipient, to such inspections and audits as may be reasonably required by Sydney Trains for the purpose of auditing compliance by the Recipient and any relevant Representatives with the terms of this Deed.

### **3.8 Breach of confidentiality obligations**

If the Recipient becomes aware of any actual, threatened or suspected breach of this Deed, including by the Recipient or any Representative of the Recipient, the Recipient must:

- (a) immediately notify Sydney Trains in writing and take all steps necessary to remedy, prevent or stop the actual, threatened or suspected breach of this Deed and comply with any reasonable directions issued by Sydney Trains regarding any unauthorised use or disclosure of the Confidential Information; and
- (b) provide such other assistance as may be reasonably required by Sydney Trains, including in relation to any Claim or proceedings that Sydney Trains may bring against any third party for unauthorised use or disclosure of the Confidential Information.

### **3.9 Return of Confidential Information**

If requested by Sydney Trains, the Recipient must:

- (a) promptly return to Sydney Trains all documents and other physical records of Confidential Information in its or the Recipient Representatives possession, custody or control;
- (b) delete the Confidential Information from any computer system or other device operated or controlled by, or which may be accessed by, the Recipient or the Recipient Representatives to which the Confidential Information has been disclosed by the Recipient;
- (c) where applicable, comply with the requirements of the Information Security Requirements in respect of the destruction or return of any Confidential Information; and
- (d) comply with any reasonable directions issued by Sydney Trains in respect of the Confidential Information.

### **3.10 Compliance with Information Security Requirements**

The Recipient acknowledges and agrees that:

- (a) some, or all, of the Confidential Information is security classified, and/or subject to a sensitive information label or other protective marking (such as dissemination limiting markers) and must therefore be stored, managed, controlled and handled strictly in accordance with the Information Security Requirements;
- (b) prior to the date of this deed poll it is familiar with and has read, and it will ensure that all relevant Recipient's Representatives are familiar with and have read, the Information Security Requirements;

- (c) it will, and it will ensure that all relevant Recipient's Representatives:
  - (i) at all times comply with and adhere to all relevant and applicable Information Security Requirements; and
  - (ii) cooperate with and assist Sydney Trains and the Sydney Trains' Representatives in the performance of any obligations or requirements of Sydney Trains and the Sydney Trains' Representatives under or in connection with the Information Security Requirements,  
  
in respect of any Confidential Information; and
- (d) it will not, and it will ensure that the Recipient Representatives do not, do anything which would:
  - (i) constitute a contravention of the Information Security Requirements by Sydney Trains; or
  - (ii) put Sydney Trains in breach of any Information Security Requirements.

#### **4 Sydney Trains may enforce Deed**

##### **4.1 Recipient acknowledgements**

The Recipient:

- (a) agrees that:
  - (i) the obligations in this Deed are for the benefit of Sydney Trains and the Sydney Trains Representatives, and that Sydney Trains or the Sydney Trains Representatives may enforce the obligations herein;
  - (ii) the Confidential Information is the exclusive property of Sydney Trains or Sydney Trains' Representatives and this Deed does not convey any proprietary or other interest in the Confidential Information to the Recipient or the Recipient Representatives; and
- (b) acknowledges that:
  - (i) the Confidential Information is valuable to Sydney Trains and Sydney Trains' Representatives that damages may not be an adequate remedy for Sydney Trains or the Sydney Trains Representatives for any breach of this Deed by the Recipient; and
  - (ii) Sydney Trains is, and any Sydney train's Representatives are, entitled to seek injunctive relief as a remedy for any breach or threatened breach of this Deed by the Recipient, in addition to any other remedies available at Law or in equity under or independently of this Deed.

##### **4.2 Breach by Representative**

Where the Recipient discloses the Confidential Information to a Representative, a breach of a provision of this Deed by the relevant Representative will be deemed to be a breach of this Deed by the Recipient.

## **5 Release and Indemnity**

### **5.1 Release**

To the extent permitted by Law, the Recipient releases and forever discharges, and agrees to hold harmless and acquit Sydney Trains and each of Sydney Trains' Representatives from and against any and all Claims arising out of, relating to or in any way in connection with or incidental to:

- (a) the provision of, or purported reliance on, or use of, the Information Documents or any Confidential Information by the Recipient, the Recipient's Representatives or any other person associated with the Recipient to whom the Information Documents or any Confidential Information are disclosed by the Recipient;
- (b) any failure by Sydney Trains or the Sydney Trains Representative to provide any information to the Recipient; and
- (c) any fact, matter, circumstance, conduct, act, omission or thing in connection with any of those matters or things,

whether or not the parties were aware of the fact, matter, circumstance, conduct, act, omission or thing as at the date of this deed and including any Claims in respect of a Loss or a Remedy which the Recipient may suffer or incur in respect of the fact, matter, circumstance, omission or thing after the date of this Deed.

### **5.2 Indemnity**

To the extent permitted by Law, the Recipient indemnifies and will keep indemnified each of Sydney Trains and the Sydney Trains Representatives (**those indemnified**) against:

- (a) any Loss incurred or suffered by those indemnified where such Loss is incurred by reason of or in connection with any breach of this Deed by the Recipient or the Recipient Representatives; and
- (b) any and all Claims by or on behalf of the Recipient, the Recipient's Representatives or any person claiming through, under, for, on behalf of or by virtue of the Recipient or the Recipient's Representatives, which have arisen or may arise in relation to the matters the subject of the release in clause 5.1.

## **6 General**

### **6.1 No exclusion of Law or equity**

This Deed must not be construed to exclude the operation of any principle of Law or equity intended to protect and preserve the confidentiality of the Confidential Information.

### **6.2 Waiver**

The Recipient acknowledges and agrees that:

- (a) no waiver by Sydney Trains of one breach of any obligation or provision herein contained or implied shall operate as a waiver of another breach of the same or of any other obligation or provision herein contained or implied; and

- (b) none of the provisions hereof shall be taken either at Law or in equity to have been varied, waived, discharged or released by Sydney Trains unless by its express consent in writing.

### **6.3 Governing Law**

This Deed will be governed by and construed in accordance with the Law in force in the State of New South Wales. Each party submits to the exclusive jurisdiction of the Supreme Court of New South Wales and the courts competent to determine appeals from that court.

### **6.4 Continuing obligations**

The obligations of the Recipient under this Deed continue after the completion or termination of any employment, engagement or assignment in respect of the Permitted Use.

### **6.5 Revocation or amendment**

This Deed may not be revoked or otherwise modified or amended without the prior written consent of Sydney Trains.



**EXECUTED AS A DEED POLL**

**[Note: Delete the execution block that is not applicable.]**  
**[If the Recipient is an individual]**

Signed, sealed and delivered by **[insert full legal name of Recipient]** in the presence of:

\_\_\_\_\_  
Signature of witness

\_\_\_\_\_  
Signature of Recipient

\_\_\_\_\_  
Full name and position of witness (print)

\_\_\_\_\_  
Full name and position of Recipient (print)

\_\_\_\_\_  
Address of witness (print)

\_\_\_\_\_  
Address of Recipient (print)

\_\_\_\_\_  
Date

**[If the Recipient is a Company]**

Executed by **[insert company name (insert ABN)]** of **[insert registered address]** in accordance with section 127 of the *Corporations Act 2001* (Cth):

\_\_\_\_\_  
Signature of director

\_\_\_\_\_  
Signature of director/company secretary

\_\_\_\_\_  
Full name of director (print)

\_\_\_\_\_  
Full of director/company secretary (print)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**ANNEXURE "H" – Statement of Associations and Interests**



**Statement of Associations and Interests**

To : [Sydney Trains/NSW Trains/Rail Corporation New South Wales] ("the Principal")

I, ..... (Name), acknowledge and agree that:

1. I declare below any associations and / or interests.
2. I am not aware of any existing or potential conflicts of interest between my personal interests and the impartial performance of my duties as a permanent or temporary employee, consultant, advisor, agent or contractor of the Principal, other than those declared below.
3. If I become aware of any actual or potential conflict of interest, I will disclose it to the Principal's Chief Executive and / or the Probity Advisor at the first reasonable opportunity.

**List any associations and / or interests below:**

.....

Signed

.....

Name and Organisation

Date: .....

**ANNEXURE "I" – Statutory Declaration and Subcontractor's Statement**

**SUBCONTRACTOR'S STATEMENT  
REGARDING WORKERS COMPENSATION, PAY-ROLL TAX  
AND REMUNERATION (Note 1)**

For the purposes of this Statement a "subcontractor" is a person (or other legal entity) that has entered into a contract with a "principal contractor" to carry out work.

This Statement must be signed by a "subcontractor" (or by a person who is authorised, or held out as being authorised, to sign the statement by the subcontractor) referred to in any of s175B Workers Compensation Act 1987, Schedule 2 Part 5 Payroll Tax Act 2007, and s127 Industrial Relations Act 1996 where the "subcontractor" has employed or engaged workers or subcontractors during the period of the contract to which the form applies under the relevant Act(s). The signed Statement is to be submitted to the relevant principal contractor.

SUBCONTRACTOR'S STATEMENT (Refer to Notes on the next page, period of Statement retention, and Offences under various Acts.

Subcontractor: \_\_\_\_\_ ABN: \_\_\_\_\_  
(Business name)

of \_\_\_\_\_  
(Address of subcontractor)

has entered into a contract with \_\_\_\_\_ ABN: \_\_\_\_\_  
(Business name of principal contractor (Note 2)

Contract number/identifier \_\_\_\_\_ (Note 3)

This Statement applies for work between: ..... /...../..... and ...../...../..... inclusive, (Note 4)  
Date Date

subject of the payment claim dated: ...../...../..... (Note 5)

**DECLARATION**

I, \_\_\_\_\_ a Director of or a person authorised by the Subcontractor on whose

behalf this declaration is made, hereby declare that I am in a position to know the truth of the matters which are contained in this Subcontractor's Statement and declare the following to the best of my knowledge and belief:

(a) Tick if the abovementioned Subcontractor has either employed or engaged workers or subcontractors during the above period of this contract and comply with (b) to (h) below, as applicable.

Tick if it is not the case that workers or subcontractors are involved or you are an exempt employer for workers compensation purposes and only complete (f) and (h) below.

You must tick one box. (Note 6)

(b) All workers compensation insurance premiums payable by the Subcontractor in respect of the work done under the contract have been paid. The Certificate of Currency for that insurance is attached and is dated

...../...../..... (Note 7)

(c) All remuneration payable to relevant employees for work under the contract for the above period has been paid. (Note 8)

(d) Where the Subcontractor is required to be registered as an employer under the Payroll Tax Act 2007, the Subcontractor has paid all payroll tax due in respect of employees who performed work under the contract, as required at the date of this Subcontractor's Statement. (Note 9)

(e) Where the Subcontractor is also a principal contractor in connection with the work, the Subcontractor has in its capacity of principal contractor been given a written Subcontractor's Statement by its subcontractor(s) in connection with that work for the period stated above. (Note 10)

(f) The Subcontractor has not engaged any person on the Principal's Adverse Named List to do any thing in connection with the contract whether as an employee, agent, contractor or in any other capacity whatsoever. Where the Subcontractor is also a principal contractor in connection with the work, the Subcontractor has in its capacity as principal contractor received a written undertaking from its subcontractor(s) that they have not engaged any person on the Principal's Adverse Named List to do any thing in connection with the relevant subcontract whether as an employee, agent, contractor or in any other capacity whatsoever. (Note 11)

(g) Signature ..... Full Name .....

(h) Position/Title ..... Date ...../...../.....

NOTE: Where required above, this Statement must be accompanied by the relevant Certificate of Currency to comply with section 175B of the Workers Compensation Act 1987.

**Notes**

1. This form is prepared for the purpose of section 175B of the Workers Compensation Act 1987, Schedule 2 Part 5 of the Payroll Tax Act 2007 and section 127 of the Industrial Relations Act 1996. If this form is completed in accordance with these provisions, a principal contractor is relieved of liability for workers compensation premiums, pay-roll tax and remuneration payable by the subcontractor.

A principal contractor can be generally defined to include any person who has entered into a contract for the carrying out of work by another person (or other legal entity called the subcontractor) and where employees of the subcontractor are engaged in carrying out the work which is in connection with the principal contractor's business.

2. For the purpose of this Subcontractor's Statement, a principal contractor is a person (or other legal entity), who has entered into a contract with another person (or other legal entity) referred to as the subcontractor, and employees/workers of that subcontractor will perform the work under contract. The work must be connected to the business undertaking of the principal contractor.

3. Provide the unique contract number, title, or other information that identifies the contract.
4. In order to meet the requirements of s127 Industrial Relations Act 1996, a statement in relation to remuneration must state the period to which the statement relates. For sequential Statements ensure that the dates provide continuous coverage.

Section 127(6) of the Industrial Relations Act 1996 defines remuneration 'as remuneration or other amounts payable to relevant employees by legislation, or under an industrial instrument, in connection with work done by the employees.'

Section 127(11) of the Industrial Relations Act 1996 states 'to avoid doubt, this section extends to a principal contractor who is the owner or occupier of a building for the carrying out of work in connection with the building so long as the building is owned or occupied by the principal contractor in connection with a business undertaking of the principal contractor.'

5. Provide the date of the most recent payment claim.
6. For Workers Compensation purposes an exempt employer is an employer who pays less than \$7500 annually, who does not employ an apprentice or trainee and is not a member of a group.
7. In completing the Subcontractor's Statement, a subcontractor declares that workers compensation insurance premiums payable up to and including the date(s) on the Statement have been paid, and all premiums owing during the term of the contract will be paid.
8. In completing the Subcontractor's Statement, a subcontractor declares that all remuneration payable to relevant employees for work under the contract has been paid.
9. In completing the Subcontractor's Statement, a subcontractor declares that all payroll tax payable relating to work undertaken has been paid.
10. It is important to note that a business could be both a subcontractor and a principal contractor, if a business 'in turn' engages subcontractors to carry out the work. If your business engages a subcontractor you are to also obtain Subcontractor's Statements from your subcontractors.
11. the Principal's Adverse Named List means the list published at <http://www.transport.nsw.gov.au/railcorp/individuals-adversely-named-icac> as amended from time to time.

### Statement Retention

The principal contractor receiving a Subcontractor's Statement must keep a copy of the Statement for the periods stated in the respective legislation. This is currently up to seven years.

#### Offences in respect of a false Statement

In terms of s127(8) of the Industrial Relations Act 1996, a person who gives the principal contractor a written statement knowing it to be false is guilty of an offence if:

- (a) the person is the subcontractor;
- (b) the person is authorised by the subcontractor to give the statement on behalf of the subcontractor; or
- (c) the person holds out or represents that the person is authorised by the subcontractor to give the statement on behalf of the subcontractor.

In terms of s175B of the *Workers Compensation Act* and clause 18 of Schedule 2 of the *Payroll Tax Act 2007* a person who gives the principal contractor a written statement knowing it to be false is guilty of an offence.

#### Further Information

For more information, visit the WorkCover website [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au), Office of State Revenue website [www.osr.nsw.gov.au](http://www.osr.nsw.gov.au), or Office of Industrial Relations, Department of Finance and Services website [www.finance.nsw.gov.au](http://www.finance.nsw.gov.au). Copies of the *Workers Compensation Act 1987*, the *Payroll Tax Act 2007* and the *Industrial Relations Act 1996* can be found at [www.legislation.nsw.gov.au](http://www.legislation.nsw.gov.au).

**ANNEXURE "J" - Form of Supporting Statement**

**SUPPORTING STATEMENT BY HEAD CONTRACTOR REGARDING  
PAYMENT TO SUBCONTRACTORS**

This statement must accompany any payment claim served on a principal to a construction contract by a head contractor.

For the purposes of this statement, the terms "principal", "head contractor", "subcontractor", and "construction contract" have the meanings given in section 4 of the Building and Construction Industry Security of Payment Act 1999.

Head Contractor: *[business name of head contractor]* ABN:

1. Has entered into a contract with *[business name of subcontractor]* ABN:  
Contract number/identifier:

**OR**

2. Has entered into a contract with the subcontractors listed in the attachment to this statement.

*[Delete whichever of the above does not apply]*

This statement applies for work between: *[start date]* and *[end date]* Inclusive (the construction work concerned),  
subject of the payment claim dated: *[date]*

I, *[full name]*, being the head contractor, a director of the head contractor or a person authorised by the head contractor on whose behalf this declaration is made, hereby declare that I am in a position to know the truth of the matters that are contained in this supporting statement and declare that, to the best of my knowledge and belief, all amounts due and payable to subcontractors, have been paid (not including any amount identified in the attachment as an amount in dispute).

Signature: Date:  
Full name: Position/Title:

**Penalties**

The Building and Construction Security of Payment Act 1999 provides that:

Section 13(7) A head contractor must not serve a payment claim on the principal unless the claim is accompanied by a supporting statement that indicates that it relates to that payment claim.

Maximum penalty: 200 penalty units.

And:

Section 13(8) A head contractor must not serve a payment claim on the principal accompanied by a supporting statement knowing that the statement is false or misleading in a material particular in the particular circumstances.

Maximum penalty: 200 penalty units or 3 months imprisonment, or both.

**Attachment**

<b>Schedule of subcontractors paid all amounts due and payable</b>				
<b>Subcontractor</b>	<b>ABN</b>	<b>Contract number/identifier</b>	<b>Date of works (period)</b>	<b>Payment claim dated (head contractor claim)</b>

<b>Schedule of subcontractors for which an amount is in dispute and has not been paid</b>				
<b>Subcontractor</b>	<b>ABN</b>	<b>Contract number/identifier</b>	<b>Date of works (period)</b>	<b>Payment claim dated (head contractor claim)</b>



## ANNEXURE "K" - Expert Determination Rules

(Clause 20.2)

Pursuant to Rule 4(2)(b) of the Institute of Arbitrators and Mediators Australia (IAMA) Expert Determination Rules, the parties agree to modify the application of those Rules as follows:

Modifications are underlined.

### 1. **RULE 5 Role of the Expert**

1. The Expert shall determine the Dispute as an expert in accordance with these Rules, the Contract, the requirements of procedural fairness, and according to law.

2. [no modification]

3. [no modification]

### 3A. The rules of evidence do not apply to the Process.

4. (a) The Expert shall be independent of, and act fairly and impartially as between the parties, giving each a reasonable opportunity of putting its case and dealing with that of any opposing party, and a reasonable opportunity to make submissions on the conduct of the Process.

(b) The Expert must take all reasonable steps to avoid any conflict of interest, potential conflict of interest or other circumstances that might reasonably be considered to adversely affect the Expert's independence or capacity to act fairly and impartially in relation to the Dispute.

(c) If at any time during the Process, the Expert becomes aware of any circumstances that might reasonably be considered to adversely affect the Expert's independence or capacity to act fairly or impartially in relation to the Dispute, the Expert must inform the Parties immediately.

(d) The Expert's mandate will be terminated 7 days after the notice is provided by the Expert under clause 4(c) above, unless the Parties agree otherwise.

5. [no modification]

### 2. **RULE 10 The Expert's Determination**

1. [no modification]

2. [no modification]

3. Unless otherwise agreed by the parties, the Expert's determination:

(a) may include for the payment of interest on any monetary sum determined, in such amount as the Expert considers reasonable;

(b) must allow for any amount already paid to a Party under or for the purposes of Part 3 of the *Building and Construction Industry Security of Payment Act 1999* (NSW) (and any equivalent statute in any other state or territory);

(c) \_\_\_\_\_ may make such orders as he or she considers appropriate for the restitution of any amount so paid, and such other orders as he or she considers appropriate; and

(d) \_\_\_\_\_ to the extent permitted by law, will not apply or have regard to the provisions of Part 4 of the *Civil Liability Act 2002* (NSW) (and any equivalent statutory provision in any other state, territory, or the Commonwealth).

4. [no modification]

**3. Rule 12 Waiver of Right to Object**

Rule 12 is deleted in its entirety.

**ANNEXURE "L" - Expert Agreement**

(Clause 20.3)

To:

By Contract dated ..... between .....  
and ..... of ..... (**Principal**)  
and ..... of ..... (**Consultant**),

the Principal and the Consultant agreed to refer any dispute in respect of the Services, the Works or the Contract or either party's conduct before the Contract (**Dispute**) to an expert for determination through an expert determination process to be conducted in accordance with the Institute of Arbitrators and Mediators Australia (IAMA) Expert Determination Rules, as modified by Attachment A to this Expert Agreement (**Rules**) and the Contract.

A Dispute has arisen between the parties in respect of the Contract. A short summary of the dispute is attached to this Expert Agreement, as Attachment B, together with an extract of the dispute resolution clause of the Contract.

The parties agree to appoint you, .....  
of .....  
as the sole expert to determine the dispute in accordance with the above Rules and Contract.

The parties agree to pay you \$.....

Dated: .....

.....  
For the Principal

.....  
For the Consultant

.....  
For the Expert

## Attachment A - Modification to the IAMA Expert Determination Rules

(Clause 20.2)

Pursuant to Rule 4(2)(b) of the Institute of Arbitrators and Mediators Australia (IAMA) Expert Determination Rules, the parties agree to modify the application of those Rules as follows:

Modifications are underlined.

### 1. **RULE 5 Role of the Expert**

1. The Expert shall determine the Dispute as an expert in accordance with these Rules, the Contract, the requirements of procedural fairness, and according to law.
2. [no modification]
3. [no modification]
- 3A. The rules of evidence do not apply to the Process.
4. (a) The Expert shall be independent of, and act fairly and impartially as between the parties, giving each a reasonable opportunity of putting its case and dealing with that of any opposing party, and a reasonable opportunity to make submissions on the conduct of the Process.
- (b) The Expert must take all reasonable steps to avoid any conflict of interest, potential conflict of interest or other circumstances that might reasonably be considered to adversely affect the Expert's independence or capacity to act fairly and impartially in relation to the Dispute.
- (c) If at any time during the Process, the Expert becomes aware of any circumstances that might reasonably be considered to adversely affect the Expert's independence or capacity to act fairly or impartially in relation to the Dispute, the Expert must inform the Parties immediately.
- (d) The Expert's mandate will be terminated 7 days after the notice is provided by the Expert under clause 4(c) above, unless the Parties agree otherwise.
5. [no modification]

### 2. **RULE 10 The Expert's Determination**

1. [no modification]
2. [no modification]
3. Unless otherwise agreed by the parties, the Expert's determination:
  - (a) may include for the payment of interest on any monetary sum determined, in such amount as the Expert considers reasonable;
  - (b) must allow for any amount already paid to a Party under or for the purposes of Part 3 of the Building and Construction Industry Security of Payment Act 1999 (NSW) (and any equivalent statute in any other state or territory);

(c) may make such orders as he or she considers appropriate for the restitution of any amount so paid, and such other orders as he or she considers appropriate; and

(d) to the extent permitted by law, will not apply or have regard to the provisions of Part 4 of the Civil Liability Act 2002 (NSW) (and any equivalent statutory provision in any other state, territory or the Commonwealth).

4. [no modification]

3. **Rule 12 Waiver of Right to Object**

Rule 12 is deleted in its entirety.

**Attachment B - Summary of dispute and extract of dispute resolution clause**

# Deed of Novation

Contract No. [Insert]

---

Sydney Trains  
(ABN 38 284 779 682)  
Retiring Party

[Party Insert]  
(ABN [Insert])  
Continuing Party

[Party Insert]  
(ABN [Insert])  
Substitute Party

## Contents

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## Deed of novation made at Sydney on the date that the last party executes this deed

**Parties** Sydney Trains (ABN 38 284 779 682) of Level 20, 477 Pitt Street, Sydney NSW 2000 (Retiring Party)

[Party [ABN] of [Registered Address] (Continuing Party)

[Party [ABN] of [Registered Address] (Substitute Party)

### Recitals

- A. Under the Agreement, the Continuing Party was engaged by the Retiring Party to supply the Services.
- B. The Retiring Party and the Substitute Party have asked the Continuing Party to agree to the novation of the Agreement, and the Continuing Party has agreed to the novation of the Agreement, on the terms and conditions of this deed.
- C. The Substitute Party and the Continuing Party have also agreed to amend the Agreement on the terms of this deed.

This deed witnesses as follows:

### Operative provisions

---

## 1. Definitions and interpretation

### 1.1 Definitions

Defined terms in the Agreement have the same meanings in this deed, unless otherwise specified in this deed.

In this deed (including the Recitals) the following terms have the following meaning:

**Agreement** means contract [insert] that was entered into between RailCorp and the Continuing Party on or about [insert date] as varied by the Variations and the Vesting Order and is exhibited to this deed in Schedule 1.

**Claim** includes any claim, notice, demand, action, proceeding, litigation, investigation or judgment of any kind, whether based in contract or in equity, in tort, by statute or otherwise.

**Effective Date** means the date that the last party executes this deed.

**Liability** means all liabilities, losses, Claims, damages, outgoings, costs and expenses of whatever description.

**RailCorp** means Rail Corporation New South Wales (ABN 59 325 778 353).

**Regulation** means the *Transport Administration (General) Amendment (Sydney Trains and NSW Trains) Regulation 2012* (NSW).

**Variations** means the following variations to the Agreement:

- (a) [insert].

---

## 2. Interpretation

In this deed:

- (a) headings are for convenience only and do not affect interpretation;

and unless the context indicates a contrary intention:

- (b) an obligation or a Liability assumed by, or a right conferred on, 2 or more persons binds or benefits them jointly and severally;
- (c) “person” includes an individual, the estate of an individual, a corporation, an authority, an association or a joint venture (whether incorporated or unincorporated), a partnership and a trust;
- (d) a reference to a party includes that party's executors, administrators, successors and permitted assigns, including persons taking by way of novation and, in the case of a trustee, includes a substituted or an additional trustee;
- (e) a reference to a document (including this deed) is to that document as varied, novated, ratified or replaced from time to time;
- (f) a reference to a statute includes its delegated legislation and a reference to a statute or delegated legislation or a provision of either includes consolidations, amendments, re-enactments and replacements;
- (g) a word importing the singular includes the plural (and vice versa), and a word indicating a gender includes every other gender;
- (h) a reference to a party, clause, schedule, exhibit, attachment or annexure is a reference to a party, clause, schedule, exhibit, attachment or annexure to or of this deed, and a reference to this deed includes all schedules, exhibits, attachments and annexures to it;
- (i) if a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning;
- (j) “includes” in any form is not a word of limitation; and
- (k) a reference to “\$” or “dollar” is to Australian currency.

---

## 3. Novation

### 3.1 Novation

On and from the Effective Date:

- (a) the parties novate the Agreement so that the Substitute Party and the Continuing Party are parties to a new agreement on the same or substantially the same terms as the Agreement; and

- (b) any reference in the Agreement to the Retiring Party must be read as a reference to the Substitute Party.

### **3.2 Assumptions of rights and obligations**

On and from the Effective Date:

- (a) the Substitute Party:
  - (i) will be bound by and must comply with the terms of the Agreement as amended by this deed on and from the Effective Date;
  - (ii) will enjoy the rights and benefits conferred on the Retiring Party under the terms of the Agreement; and
  - (iii) will assume the obligations and Liabilities of the Retiring Party under the terms of the Agreement,  
  
in all respects as if the Substitute Party had originally been named in the Agreement as a party instead of the Retiring Party; and
- (b) the Continuing Party will comply with the terms of the Agreement on the basis that the Substitute Party has replaced the Retiring Party under the Agreement in accordance with this deed on and from the Effective Date.

### **3.3 Release by Continuing Party**

On and from the Effective Date:

- (a) the Continuing Party releases the Retiring Party from:
  - (i) any obligation or Liability under or in respect of the Agreement; and
  - (ii) any Claim it has against the Retiring Party under or in respect of the Agreement; and
- (b) this release does not affect any rights the Continuing Party may have against the Substitute Party as a result of the assumption by the Substitute Party under the terms of this deed of the obligations and Liabilities of the Retiring Party under the terms of the Agreement pursuant to clause 3.2(a)(iii).

### **3.4 Release by Retiring Party**

The Retiring Party releases the Continuing Party from:

- (a) any obligation or Liability under or in respect of the Agreement; and
- (b) any Claim it has, or but for this clause would have had, against the Continuing Party under or in respect of the Agreement,

except that nothing in this clause 3.4 affects the obligations of the Continuing Party to the Substitute Party under the Agreement.

---

## **4. Overriding effect**

The parties agree that the execution and operation of this deed will for all purposes be regarded as due and complete compliance with the terms of the Agreement relating to any requirement for consent to assignment or novation of the Agreement so far as any such provisions would apply with respect to the novation of the Agreement from the Retiring Party to the Substitute Party.

---

## **5. Amendment to Agreement**

### **5.1 Amendment**

The Continuing Party and the Substitute Party agree that, with effect on and from the Effective Date, the terms of the Agreement are amended as set out in Schedule 2.

### **5.2 Validity and enforceability of the Agreement**

The parties agree that a variation of the Agreement does not affect the validity or enforceability of the Agreement.

### **5.3 Binding Terms**

The Substitute Party and the Continuing Party acknowledge that on and from the Effective Date they are bound by the Agreement as varied by this deed.

---

## **6. Representations and warranties**

### **6.1 Authority**

Each party represents and warrants to each other party that it has full power and authority to enter into and perform its obligations under this deed.

### **6.2 Authorisations**

Each party represents and warrants to each other party that it has taken all necessary action to authorise the execution, delivery and performance of this deed in accordance with its terms.

### **6.3 Binding obligations**

Each party represents and warrants to each other party that this deed constitutes its legal, valid and binding obligations and is enforceable in accordance with its terms.

---

## **7. Duties and expenses**

### **7.1 Stamp duties**

The Substitute Party must:

- (a) pay all stamp duties on or in respect of the execution, delivery and performance of the deed, related fines and penalties in respect of this deed

and each transaction effected by or made under this deed (except to the extent the terms of the Agreement provide otherwise); and

- (b) indemnify each other party against any Liability (including additional stamp duty, interest, penalties and fines) arising from failure to comply with this clause 7.1.

## **7.2 Costs**

Except as otherwise provided in this deed, each party must pay its own costs and expenses in connection with the negotiation, preparation, execution, delivery and performance of this deed.

---

## **8. General**

### **8.1 Governing Law**

This deed is governed by and must be construed according to the laws applying in the State of New South Wales.

### **8.2 Jurisdiction**

Each party irrevocably:

- (a) submits to the non-exclusive jurisdiction of the courts of New South Wales, and the courts competent to determine appeals from those courts, with respect to any proceedings which may be brought at any time relating to this deed; and
- (b) waives any objection it may now or in the future have to the venue of any proceedings, and any Claim it may now or in the future have that any proceedings have been brought in an inconvenient forum, if that venue falls within clause 11.1(a).

### **8.3 Amendments**

This deed may only be varied by a document signed by or on behalf of each party.

### **8.4 Waiver**

- (a) Failure to exercise or enforce, or a delay in exercising or enforcing, or the partial exercise or enforcement of, a right, power or remedy provided by law or under this deed by a party does not preclude, or operate as a waiver of, the exercise or enforcement, or further exercise or enforcement, of that or any other right, power or remedy provided by law or under this deed.
- (b) A waiver or consent given by a party under this deed is only effective and binding on that party if it is given or confirmed in writing by that party.
- (c) No waiver of a breach of a term of this deed operates as a waiver of any other breach of that term or of a breach of any other term of this deed.

### **8.5 Counterparts**

- (a) This deed may be executed in any number of counterparts and by the parties on separate counterparts. Each counterpart constitutes an original of this deed, all of which together constitute this deed.
- (b) A party who has executed a counterpart of this deed may exchange that counterpart with another party by:
  - (i) faxing; or
  - (ii) scanning and emailing,the counterpart executed by it to that other party and, upon request by that other party, will thereafter promptly deliver by hand or post to that party the executed counterpart so exchanged by fax or email, but delay or failure by that party to so deliver a counterpart of this deed executed by it will not affect the validity of this deed.

## 8.6 Severance

If at any time a provision of this deed is or becomes illegal, invalid or unenforceable in any respect under the law of any jurisdiction, that will not affect or impair:

- (a) the legality, validity or enforceability in that jurisdiction of any other provision of this deed; or
- (b) the legality, validity or enforceability under the law of any other jurisdiction of that or any other provision of this deed.

## 8.7 Further acts and documents

Each party must promptly do all further acts and execute and deliver all further documents (in form and content reasonably satisfactory to that party) required by law or reasonably requested by another party to give effect to this deed.

## 8.8 Entire agreement

To the extent permitted by Law, in relation to the subject matter of this deed, this deed together with the Agreement (and any variation made to the Agreement):

- (a) embodies the entire understanding of the parties, and constitutes the entire terms agreed by the parties; and
- (b) supersedes any prior written or other agreement of the parties.

## 8.9 Assignment

A party cannot assign, novate or otherwise transfer any of its rights or obligations under this deed without the prior written consent of each other party.

**Executed** as a deed.

**Executed** for and on behalf of **Sydney Trains**  
**(ABN 38 284 779 682)** by an authorised delegate  
in the presence of:

---

Signature of Witness

---

Full name of Witness (print)

**Executed** by **[Party [ABN]]** in accordance with  
section 127 of the *Corporations Act 2001* (Cth):

---

Signature of Director

---

Full name of Director (print)

---

Date

---

Signature of Authorised Delegate

---

Full name of Authorised Delegate (print)

---

Date

---

Signature of Secretary/other Director

---

Full name of Secretary/other Director (print)

---

Date

Executed by [Party [ABN]] in accordance with  
section 127 of the *Corporations Act 2001* (Cth):

---

Signature of Director

---

Full name of Director (print)

---

Date

---

Signature of Secretary/other Director

---

Full name of Secretary/other Director (print)

---

Date





**Schedule 1 – Agreement**

**Schedule 2 – Amendments to the Agreement**

**ANNEXURE "N" - Key Performance Indicator Regime**

**Part 1**

**1. SDR (Design documentation 30% complete)**

<b>Key Results Areas ("KRAs")</b>	<b>Incentive KPI</b>	<b>Milestone</b>	<b>Target</b>	<b>Indicative Criteria for Measurement</b>	<b>Milestone Base Number</b>	<b>Completion Base Number</b>
<b>Innovation and Customer Service</b>	Effective stakeholder and user group management	SDR (Design documentation 30% complete)	All user requirements effectively captured and considered by the design team, management of design process and external consultants and stakeholders.	1. The extent to which a collaborative environment is created by Contractor to ensure best practice and practical, innovative and timely decisions made out of alternatives offered to resolve the complex problems of the brief. 2. The extent to which the design is a response to, and not an imposition on, the Principal's objectives with respect to the new facility.	 <i>(reviewed by team at completion of process. Payment in the month following determination by team)</i>	

<b>Delivery</b>	Contractor's ability to (a) effectively consult with stakeholders throughout SDR design development process and (b) to adequately document the requirements in a timely manner.	SDR (Design documentation 30% complete)	Approval of the first submission of the Contractor's SDR design at a level of 90% approved – as determined by the Principal.	1. The Contractor's SDR submission(s) is/are submitted on time in accordance with the Program 2. The extent to which the Contractor's SDR submission(s) is/are approved by Sydney Trains stakeholders without the need for further amendment Contractor's ability to effectively consult with stakeholders throughout its design development and to adequately document the requirements.	[REDACTED]	[REDACTED]
				<b>TOTAL</b>	[REDACTED]	[REDACTED]

2. CDR (Design documentation 90% complete)

Key Results Areas (“KRAs”)	Incentive KPI	Milestone	Target	Criteria for Measurement	Milestone Base Number	Completion Base Number
<b>Delivery</b>	Contractor’s ability to (a) effectively consult with stakeholders throughout CDR design development process and	CDR (design documentation 90% complete)	Approval of the first submission of the Contractor’s CDR design at a level of 90% approved – as determined by the Principal.	1. 2. The extent to which the Contractor's CDR submission(s) is/are approved by Sydney Trains stakeholders without the need for further amendment.	<div style="background-color: black; width: 100px; height: 1em; margin-bottom: 5px;"></div> <i>(reviewed by team at completion of process. Payment in the month following determination by team)</i>	<div style="background-color: black; width: 100px; height: 1em; margin-bottom: 5px;"></div>
				<b>TOTAL</b>	<div style="background-color: black; width: 100px; height: 1em;"></div>	<div style="background-color: black; width: 100px; height: 1em;"></div>

**3. Building / service floor performance – at Practical Completion of the building**

Measuring the success of the design process carried out by the Contractor (eg: the accuracy and co-ordination of its documents – measured by reference to the number and total value / amount of construction variations and the number and extent of RFI’s issued to clarify or resolve the design. The intent is to have a defect free design. Reviewed within 60 Business Days of the construction contract achieving Practical Completion.

Key Results Areas (“KRAs”)	Incentive KPI	Milestone	Target	Criteria for Measurement	Milestone Base Number	Completion Base Number
<b>Quality</b>	Facility to be purpose built and of a functionality to meet the combined services / operations proposed in the ROC	<b>60 days after the date of practical completion under the construction contract (or the last date of practical completion if there is more than one)</b>	Achievement of 100% of required building functionality as defined in the final ‘SRS’.	The extent to which the building is (a) purpose-built (b) of a functionality to meet the combined services/operations needs as set out in the SRS	<div style="background-color: black; width: 100px; height: 15px; margin-bottom: 5px;"></div> <i>(reviewed by team within 60 Business Days of Practical Completion. Payment in the month following determination by team)</i>	<div style="background-color: black; width: 100px; height: 15px;"></div>
				<b>TOTAL</b>	<div style="background-color: black; width: 100px; height: 15px;"></div>	<div style="background-color: black; width: 100px; height: 15px;"></div>

4. Testing / commissioning and no defects at handover for occupancy of the building.

100% operational performance required in the Control Room

Key Results Areas ("KRAs")	Incentive KPI	Milestone	Target	Criteria for Measurement	Milestone Base Number	Completion Base Number
<b>Building and Control Room 100% operational</b>	Acceptance / approval by Sydney Trains stakeholders of the building performance, in particular the Control room floor.	Date of practical completion under the Construction Contract	All building services work to  (a) all requirements of the Services Brief, and  (b) to Sydney Trains' satisfaction	1. The extent to which the (a) mechanical, (b) electrical, (c) communications, and (d) all other services (particularly in relation to the Control Room Floor) meet the performance requirements specified in the Services Brief.  2. The extent to which the services specified in 1. above work to Sydney Trains' satisfaction	<p>██████████</p> <p><i>(reviewed by team at Practical Completion of the project.</i></p> <p><i>Payment in the month following determination by team)</i></p>	██████████
				<b>TOTAL</b>	██████████	██████████

5. Delivery of the design services within the times and by the dates in the Program.

Key Results Areas (“KRAs”)	Incentive KPI	Milestone	Target	Criteria for Measurement	Milestone Base Number	Completion Base Number
Design Services completed on or ahead of the Program	The Contractors deliverables were achieved by the Contractor within the times and by the dates in the Program, to the Principals satisfaction.	Date of practical completion under the Construction Contract	As per section 3.31 of the ROC Design Services – Design Brief	Stakeholder and user group engagement and consultation substantially completed within 12 weeks of the Commencement Date, to enable documentation of early works (basement including piled foundations) Commencement of Site clearing / bulk earthworks on site by 11 Jan 2016.	<p>██████████ <i>(reviewed</i></p> <p><i>by team at Practical Completion of the project.</i></p> <p><i>Payment in the month following determination by team)</i></p>	██████████
				<b>TOTAL</b>	██████████	██████████



**Part 2  
Standard KPI Regime**

<b>Performance Measure</b>	<b>Standard KPI</b>	<b>Potential Score</b>	<b>Weighting Percentage</b>
A. Service Delivery	1. The Services deliverables are of a high quality and tailored appropriately, and the Principal did not require the Contractor to resubmit the deliverable as being unsatisfactory on first submission	10	10
	2. Changes in Key People did not occur or when they did occur, such changes were managed in accordance with the Contract and without disruption to the Services or the Project	10	5
C. Schedule Management	3. Critical activities completed to Sydney Trains' satisfaction (in accordance with the Contract) by the dates in the program (ie 100% of critical activities were completed on time)	15	20
	4. At least 80% of the remaining (non-critical) activities were complete by the dates in the program. The Contractor managed its efforts in accordance with the timeframes, milestones and program to minimize any possible slippage	10	5
	5. Where changes to the timeframes, milestones and program occurred, the Contractor was responsive and proactive in minimizing impact of such changes	15	15
D. Contract Administration & Contract Compliance	6. The Contractor substantiated payment claims and all other claims in accordance with the Contract	10	5
	7. The Contractor participated in Contract management discussions and agreed action items where non-compliance issues were identified	10	5

Performance Measure	Standard KPI	Potential Score	Weighting Percentage
	8. The Contractor adhered to agreed action items resulting out of Contract non-compliance issues	10	5
E. Design to Budget and Cost Saving Initiatives	9. Design achieves at least a 5% saving on the D&C budget for the building (D&C budget/cost plan provided by the independent project Quantity Surveyor)	10	10
	10. Contractor to identify at least _____ tangible cost saving initiatives that were realised by the Principal, saving at least \$_____ in construction costs.	10	10
G. Compliance with Engineering Authority Requirements	12. 100% compliance	10	10
<b>Totals</b>		<b>100</b>	<b>100</b>

## **ANNEXURE "O" - Unconditional Undertaking**

### **Unconditional Undertaking**

**THIS DEED (Undertaking)** made the XX day of XXXXXX 2015

#### **BETWEEN:**

Sydney Trains, ABN 38 284 779 682 A New South Wales Government Agency constituted under the Transport Administration Act 1988 (NSW) of Level 20, 477 Pitt Street, Sydney, NSW 2000, Australia (**Principal**)

#### **AND:**

HSBC BANK AUSTRALIA LIMITED ABN 48 006 434 162 OF LEVEL 6, 724-728 GEORGE STREET, SYDNEY NSW 2000 AUSTRALIA (**Bank**)

#### **RECITALS:**

A. By contract dated \_\_\_\_\_ (**Agreement**) between JACOBS GROUP (AUSTRALIA) PTY LTD, ABN 37 001 024 095 OF 100 CHRISTIE STREET, ST LEONARDS NSW 2065 (**Supplier**) and the Principal, FOR (TBA – PROJECT NAME), the Supplier agreed to carry out the Supply of the Services (as defined in the Agreement).

B. Under the Agreement, the Supplier is required to procure the provision of this Undertaking by the Bank to the Principal.

#### **Operative:**

1. The Bank unconditionally undertakes and covenants to pay to the Principal on demand without reference to the Supplier and notwithstanding any notice given by the Supplier to the Bank not to pay same, any sum or sums which may from time to time be demanded in writing by the Principal to a maximum aggregate sum of (in figures and in words)\_\_\_\_\_.
2. The Bank's liability under this Undertaking will continue until payment is made under this Undertaking of the maximum aggregate sum the Principal notifies the Bank IN WRITING that this Undertaking is no longer required, OR THE DATE this original Undertaking is returned to the Bank AT ITS OFFICE AT LEVEL 6, 724-728 GEORGE STREET, SYDNEY NSW 2000 (THE OFFICE), WHICHEVER OCCURS FIRST.
3. Provided always that the Bank may at any time without being required so to do pay the Principal the maximum aggregate sum less any amount or amounts it may previously have paid under this Undertaking or such lesser sum as may be required and specified by the Principal and thereupon the liability of the Bank hereunder shall immediately cease.
4. The liability of the Bank under this Undertaking will not be discharged or impaired by reason of any variation or variations (with or without the knowledge or consent of the Bank) in any of the stipulations or provisions of the Agreement or acts or things to be executed, performed and done under the Agreement or by reason of any breach or breaches of the Agreement by the Supplier or the Principal.
5. This Undertaking will be governed by and construed in accordance with the laws of New South Wales.

6. THE PRINCIPAL CANNOT ASSIGN OR TRANSFER ITS RIGHTS UNDER THIS UNDERTAKING.

**Executed** as a Deed Poll **Executed** by the **Bank** by

Signature of Authorised Officer      Signature of Authorised Officer

Print name                                      Print name

## **ANNEXURE "P" - Ad Hoc Services**

### **Scope yet to be defined**

1. Quantity Surveyor
2. Electrical reticulation specialists
3. Communication reticulation specialists
4. Human factor specialists
5. Control room specialists
6. Prototype modellerws for control room
7. Audio Visual specialists
8. Drafting and desing Services
9. RAM (Reliability - Availability - Maintainability) and assurance specialists
10. SHERQ (Safety, Health, Environment, Risk and Quality) Auditors

## ANNEXURE "Q" - Pricing Schedule

WS209342 – ROC Multi-disciplinary Design Services

### Pricing Guidance

1	Information Type	Requirements
1.1	<b>Prices and Rates</b>	<p>The Prices and Rates represent <b>Lump Sum Fixed Price</b> for the duration of the contract, <b>NOT</b> subject to any Indexation, escalation, rise and fall or exchange rate variation</p> <p>Where applicable, the Prices and Rates must reflect compliance with the requirements of the relevant industrial award for each trade.</p> <p>The Prices and Rates are <b>NOT</b> to be used for determining the scope of the Product/s and Service/s under the Contract.</p> <p>The Prices and Rates will be used for variations and/or the basis for progress payments</p>
1.2	<b>Taxes, Allowances, Fees and Charges</b>	<p>All Prices and Rates are inclusive of all taxes (excluding GST), as well as any fees and charges that the Tenderer may be liable for</p> <p>All Prices and Rates include the cost of all applicable award rates of pay, all direct and indirect costs, profit and attendance, benefits and entitlements (<i>including annual, sick and long service levy</i>), tools, travelling, accommodation, meals and other allowances and out of pocket expenses, workers' compensation and other applicable insurance premiums, pay-roll tax, employer's superannuation contributions, plant, materials, consumables, overheads and profit margin, arising under or in connection with provision of the Product/s and Service/s under the Contract.</p> <p>All Prices and Rates include all costs of providing the Service/s under the Contract, including any fees, duties, levies, imposts, insurances, freight and charges arising out of, connected with or associated with the Service/s under the Contract, including any costs of loading as well as unloading at the work site, and any customs duty and primage applicable to imported materials, equipment and systems, including any that not specifically stated but the Contractor may be liable for</p>

### Schedule of Rates

Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate A\$ (excl. GST)
1	Design Management (inc. Document Controller)	Management / Financial / admin	Director Associate Director Project Manager Senior Engineer Engineer Admin	
2	Architecture -	Architecture	Project Leader - Architecture Project Leader - Urban Design & Integration Architecture - Verification Project Architect / interior designer Drafter Architecture + Interiors	
3	Architecture - Interior design	Architecture	Project Leader - Interior Design Project Architect Drafter Architectural	
4	Architecture - Fitout inc. control floor	Architecture	Project Leader Project Architect Drafter Architectural	
5	Façade	Engineers	Associate Director Principal Façade Façade Engineer Senior Draftsperson Draftsperson	
6	BCA Consultant	Consultant	Associate Director Senior Building Regulations Consultant Building Regulations Consultant Assistant Building Regulations Consultant	
7	Fire Engineering	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer	
8	DDA	Consultant	Associate Director Senior Consultant Consultant Assistant Consultant	
9	Acoustics	Engineering	Team Leader Principal Acoustic Senior Acoustic Consultant	
10	Sustainability, including section J	Engineering	Team Leader Associate Director Principal Consultant Senior Consultant Consultant	
11	Public art	-	-	
12	Landscape	Architecture	Associate Director Principal Senior Landscape Architect Architectural Draftsperson	
13	Safety Assurance & Authorised Eng. Authority	Engineering	Principal Engineer Senior Engineer Engineer	

Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate AS (excl. GST)
14	Civil (inc. geotech / contamination audit services)	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
15	Structural	Management / Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
16	Mechanical / HVAC	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
17	Electrical	Management / Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
18	Specialist lighting	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
19	Dry Fire	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
20	Security	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
21	Communications	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson	
22	Hydraulic	Engineering	Technical Director Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	



Item	Design Discipline	Resource Type	Resource Description and Function/s	Hourly Rate AS (excl. GST)
23	Wet Fire	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	[REDACTED]
24	Vertical transportation	Engineering	Associate Director Principal Engineer Senior Engineer Engineer Senior Draftsperson Draftsperson	
25	Document Control System (Aconex)			
26	Building Information Modeling (BIM)			
27	Site Inspections		Includes travel disbursements based on a 4 hr round trip.	
28	Site Meetings		Includes travel disbursements based on a 4 hr round trip.	
29	<i>Insert as applicable</i>			
30	<i>Insert as applicable</i>			
31	<i>Insert as applicable</i>			
32	<i>Insert as applicable</i>			

Project Design Services - Price Breakdown						
Discipline	Stage 1 - Basement, early works & utilities	Stage 2 - Shell & Core	Stage 3 - Control room & FFE	Commissioning	Defects Liability	\$ Total
	\$ Amount	\$ Amount	\$ Amount	\$ Amount	\$ Amount	
Design Management (inc. Doc. Control)						
Architecture						
Architecture - Interior design						
Architecture - Fitout inc. control floor						
Façade						
BCA Consultant						
Fire Engineering						
DDA						
Acoustics						
Sustainability, including section J						
Public art						
Landscape						
Safety Assurance & Authorised Eng. Authority						
Civil (incl. geotech / contamination earth services)						
Structural						
Mechanical / HVAC						
Electrical						
Communications						
Specialist lighting						
Vertical transportation						
Wet Fire						
Dry Fire						
Security						
Hydraulic						
Document Control System (Aconex)						
Others (Please specify):						
Design Competition (façade & amenity)						
Building Information Modeling (BIM)						
Insert as applicable						
Insert as applicable						
Additional Scope Items (Tender Clarifications) 1. Various additional works \$5K + \$90K; 2. Additional testing and commissioning works as described on page 26 of the design services brief. Totalling \$251,079.	\$5,000.00	\$90,000.00	0*	\$140,079.00	\$16,000.00	\$251,079.00
<b>Scope yet to be defined</b>						
1. Quantity Surveyor						
2. Electrical reticulation specialists						
3. Communication reticulation specialists						
4. Human factor specialists						
5. Control room specialists						
6. Prototype modellers for control room						
7. Audio Visual specialists						
8. Drafting and design Services						
9. RAM (Reliability - Availability - Maintainability) and assurance specialists						
10. SHERQ (Safety, Health, Environment, Risk and Quality) auditors.						
<b>BAFO Sub-Total</b>						

Project Design Services - Fee Breakdown STAGE 1							
Discipline	SDR	PDR	CDR - Tender	CDR - AFC	SVR - Construction Services	PCA - T&C	\$ Total
	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	
Design Management (see Item 1.00)							
Architecture							
Architecture - Interior design							
Architecture - Fitout inc. control floor							
Facade							
BCA Consultant							
Fire Engineering							
DBA							
Acoustics							
Sustainability, including sections 1							
Public art							
Landscape							
Safety Assessment & Audited Eng. Reviews							
Civil (see section 1.00 for details)							
Structural							
Mechanical / HVAC							
Electrical							
Communications							
Specialist lighting							
Vertical transportation							
Wet Fire							
Dry Fire							
Security							
Hydraulic							
Document Control System (Access)							
<b>Others (Please specify):</b>							
Design Competition (Facade & amenity)							
Building Information Modeling (BIM)							
Insert as applicable							
Insert as applicable							
Additional Scope Items (Tender Clarifications)							
<b>Sub-Total</b>							

Project Design Services - Fee Breakdown STAGE 2							
Discipline	SDR	PDR	CDR - Tender	CDR - AFC	SVR - Construction Services	PCA - T&C	\$ Total
	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	\$ Amount:	
Design Management (see Item 1.00)							
Architecture							
Architecture - Interior design							
Architecture - Fitout inc. control floor							
Facade							
BCA Consultant							
Fire Engineering							
DBA							
Acoustics							
Sustainability, including sections 1							
Public art							
Landscape							
Safety Assessment & Audited Eng. Reviews							
Civil (see section 1.00 for details)							
Structural							
Mechanical / HVAC							
Electrical							
Communications							
Specialist lighting							
Vertical transportation							
Wet Fire							
Dry Fire							
Security							
Hydraulic							
Document Control System (Access)							
<b>Others (Please specify):</b>							
Design Competition (Facade & amenity)							
Building Information Modeling (BIM)							
Insert as applicable							
Insert as applicable							
Additional Scope Items (Tender Clarifications)							
<b>Sub-Total</b>							

Project Design Services - Fee Breakdown STAGE 3							
Discipline	SDR	PDR	CDR - Tender	CDR - AFC	SVR - Construction Services	PCA - T&C	\$ Total
	\$ Amount	\$ Amount	\$ Amount	\$ Amount	\$ Amount	\$ Amount	
Design Management (incl. Proc. Specialist)							
Architecture							
Architecture - Interior design							
Architecture - Fit out inc. control floor							
Facade							
BCA Consultant							
Fire Engineering							
DBA							
Acoustics							
Sustainability, including section J							
Public art							
Landscape							
Safety Assessment & Authorized Lic. Authority							
Civil (incl. parking) (containing site layout approval)							
Structural							
Mechanical / HVAC							
Electrical							
Communications							
Specialist lighting							
Vertical Transportation							
Wet fire							
Dry fire							
Security							
Hydraulic							
Document Control System (Acadsoft)							
Others (Please specify):							
Design Coordination (Facade & Amenity)							
Building Information Modeling (BIM)							
Insert as applicable:							
Insert as applicable:							
Additional Scope Items (Tender Clarifications)							
Sub-Total							

# Contract Amendment Form



Contract Title	ROC Multi-disciplinary Design Services		
Contract Number:	CW47307	Supplier Name:	JACOBS GROUP (AUST) P/L
Contract Manager:	Darren Gordon	Effective Date of the Variation	22 <sup>nd</sup> June 2016
Variation No.:	1		

(1) **This Variation to Contract confirms our agreement to make the following variations to the Contract:**

**DESCRIPTION OF VARIATION:**

1. Additional Design Services required for the Enabling Works - requested by FRNSW as part of land deal [REDACTED]
2. Aconex Fee reduction [REDACTED]
3. Design for FRNSW Fire Station - requested by FRNSW as part of land deal [REDACTED]
4. Building Services Costs SDR design [REDACTED]

**Adhoc services Note:** the not to exceed maximum amounts are shown

5. Adhoc service - Quantity Surveying and Cost planning [REDACTED] (maximum amount)
6. Adhoc service - Contract Admin Manual for administering the MC contract [REDACTED]
7. Adhoc service - Programme preparation for MC tender and award [REDACTED]
8. Adhoc service - Engagement of Competition Architect for facade design [REDACTED]
9. Adhoc service - RAMS Consultant [REDACTED] (maximum amount)

Please refer to the attached documents on the CVR. Total for this variation is [REDACTED]

(2) **Contract Status**

	Initial	Current (after all previous variations)	Final (after this variation)
Expiration Date	[REDACTED]	[REDACTED]	[REDACTED]
Awarded Value (ex-GST)	[REDACTED]	[REDACTED]	[REDACTED]

(3) **Contract Clauses, Terms or Conditions.**

All other terms and conditions of the Contract shall remain unchanged.

Please acknowledge your agreement to the above Variation by signing below and return the signed form to Sydney Trains marked for the attention of the Contract Manager:

For Supplier (authorised delegate)		For Sydney Trains (SPD delegate)	
Signature		Signature	
Name	PROJECT MANAGER	Name	Mike Bennett
Title	PROJECT MANAGER	Title	Gen Strategic Procurement
Date	27/6/16	Date	20/06/2016



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 1

**CONTRACTOR REFERENCE NO.:** SVR-001\_1 and SVR-001\_2

**SUBJECT:** Design Services for the Enabling Works

**DESCRIPTION:**

Design of the enabling works to achieve vacant possession of the site for the main ROC building.

Task 1- **new temporary training facility** to replace the functionality previously housed on the ROC site, including all services mains / infrastructure.

Task 2- **clearing the existing ROC site** of all demountable buildings & capping/diverting utilities.

**BASIS OF CLAIM:**

Design of the enabling works scope of work was not included in Jacob's contract scope of work and accordingly constitutes a Variation under the Conditions of Contract.

The additional work was required in order to meet ST obligations under the land agreement (Alexandria site.)

**QUANTUM OF CLAIM:**

Task 1

Task 2

PC Sum

**Sub Total :**

Jacobs (10%)

**Total Cost**

The claim has been calculated using the contract schedule of rates – where applicable.

**BUDGET AND OTHER COMMENTS:**

Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:

Nicolas Di Condio *Technical*

Reviewed:

..... Date: 2/6/16.

Darren Gordon *Commercial Manager*

Reviewed

..... Date: 2/6/16.

Dean Cambridge *Building Manager*

Approved by:

..... Date: 02/06/16

Andrew Parker *Program Manager*

# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

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Task 2

PC Sum

**Sub Total**

Jacobs (10%)

**Total Cost**

The claim has been calculated using the contract schedule of rates – where applicable.

**BUDGET AND OTHER COMMENTS:**

Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:

Nicolas Di Condio

*Technical*

Reviewed:

..... Date:

Darren Gordon

*Commercial Manager*

Reviewed

..... Date:

Dean Cambridge

*Building Manager*



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

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Design of the enabling works scope of work was not included in Jacob's contract scope of work and accordingly constitutes a Variation under the Conditions of Contract.

The additional work was required in order to meet ST obligations under the land agreement (Alexandria site.)

**QUANTUM OF CLAIM:**

The claim has been calculated using the contract schedule of rates – where applicable.

**BUDGET AND OTHER COMMENTS:**

Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:  
Nicolas Di Condio *Technical*

Reviewed:

..... Date:  
Darren Gordon *Commercial Manager*

Reviewed

..... Date:  
Dean Cambridge *Building Manager*

Approved by:

..... Date:  
Andrew Parker *Program Manager*





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-3</b>	Client PVR Ref No:	<b>SVR-001_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Enabling Works</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2015			

**Description of Variation**

This scope will cover design and documentation of the works required for the ROC site to be vacated by Fire+ Rescue NSW (FRNSW). This involves two key tasks:

- Task 1 - New temporary Training Facility to replace the functionality previously housed on the ROC site
- Task 2 – Clearing the existing ROC site of all demountable buildings & Capping / diverting utilities

**Basis for Variation**

Enabling works was identified as a requirement as part of the ROC Project.

**Cost Impact of Variation**

**Cost Calculation for this Variation (Rates/Hours)**

Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	
Hourly Rate									
Hours*									
PC Sum - Funktion									
PC Sum - MGAC									
Cost									

\* For a breakdown of costs, refer to Section 6 - Proposed Fee of the attached and previously submitted variation letter (IA084200-EW-SVR-001\_1).

**Project Summary**

Original Total Project Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

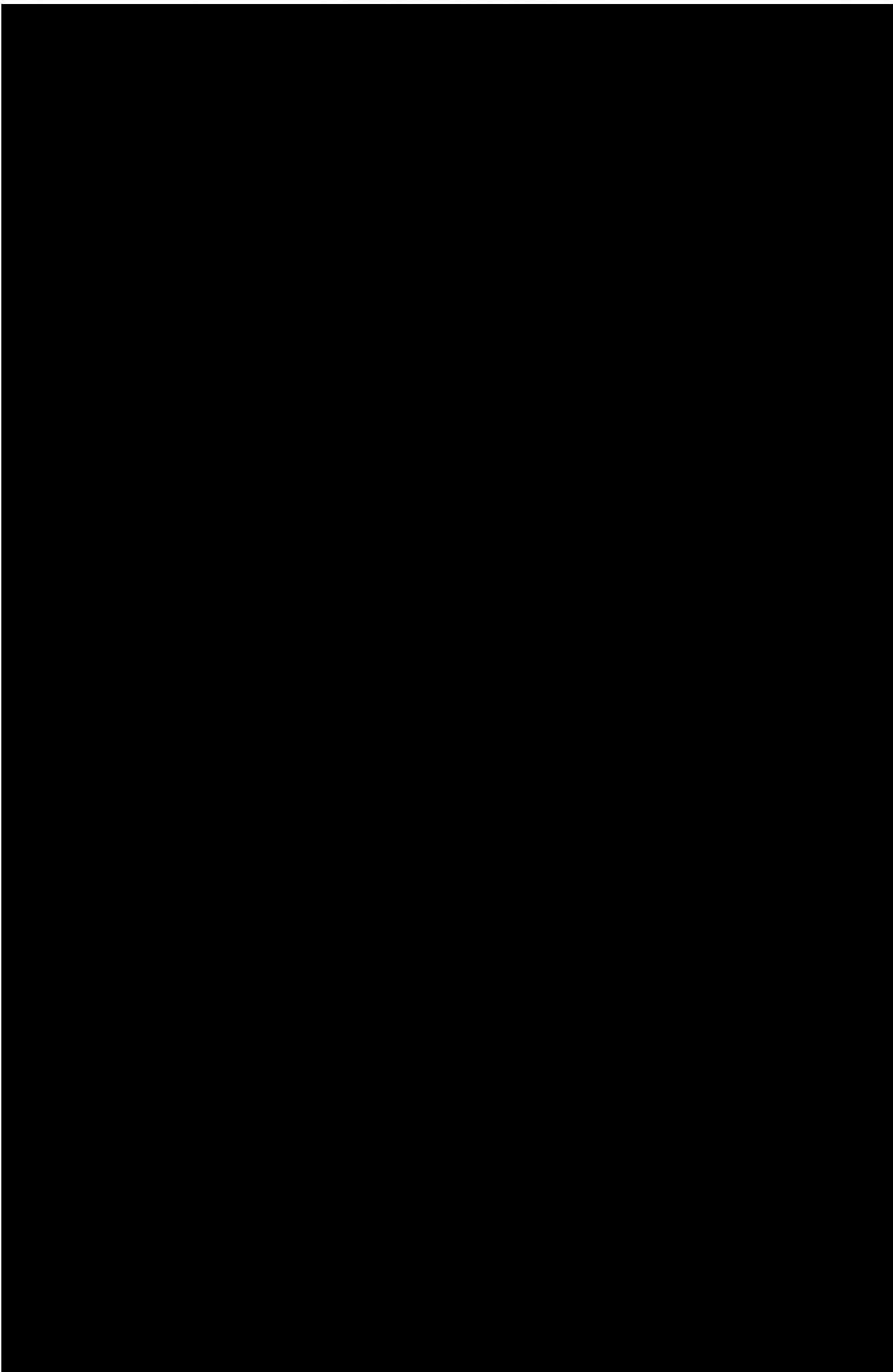
Please refer to Section 4 – Program of the attached and previously submitted variation letter (IA084200-EW-SVR-001\_1).

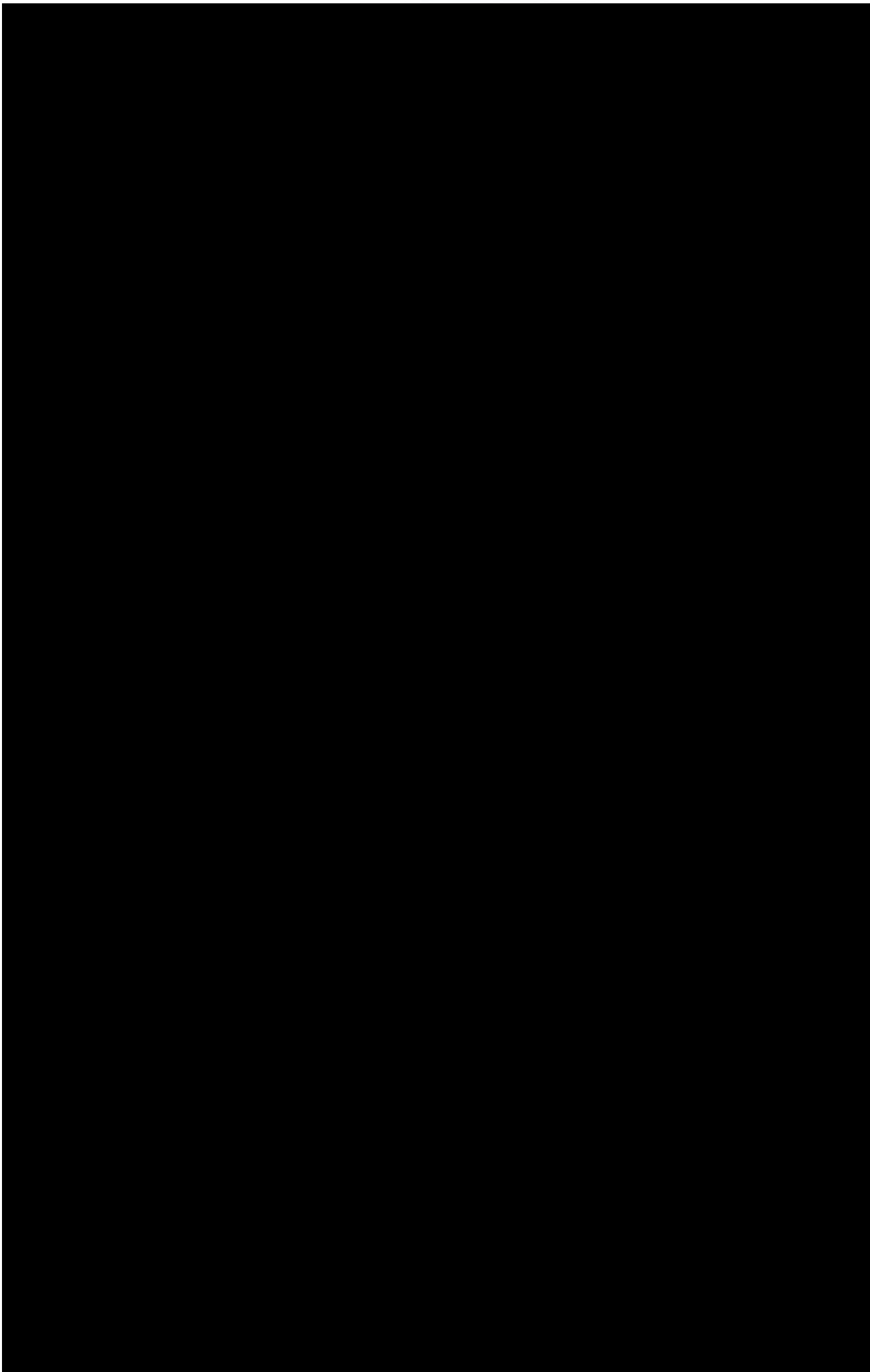
**Supporting Documentation**

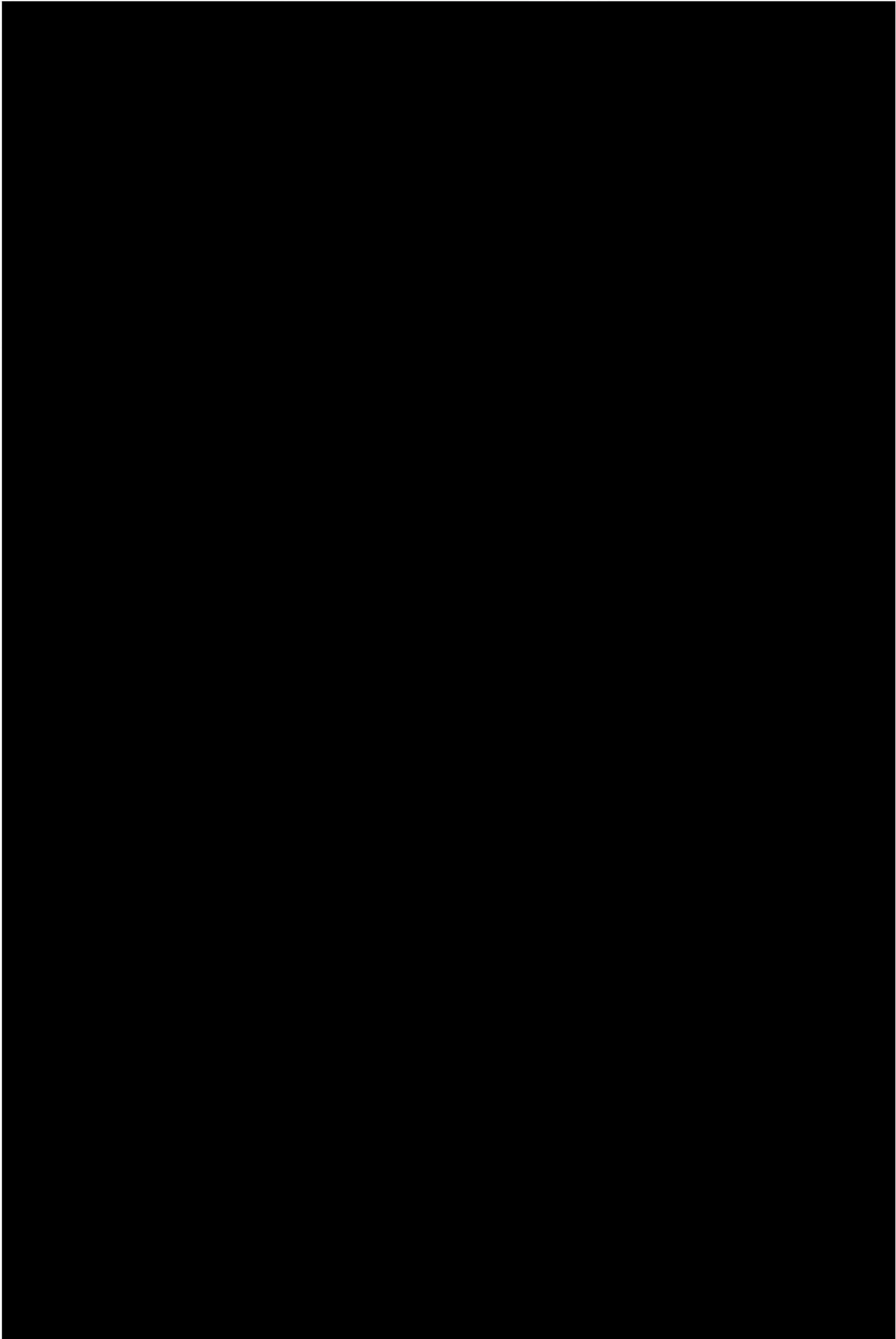
- Invoices and timesheets to date for the PC Sums have been attached to this variation claim.

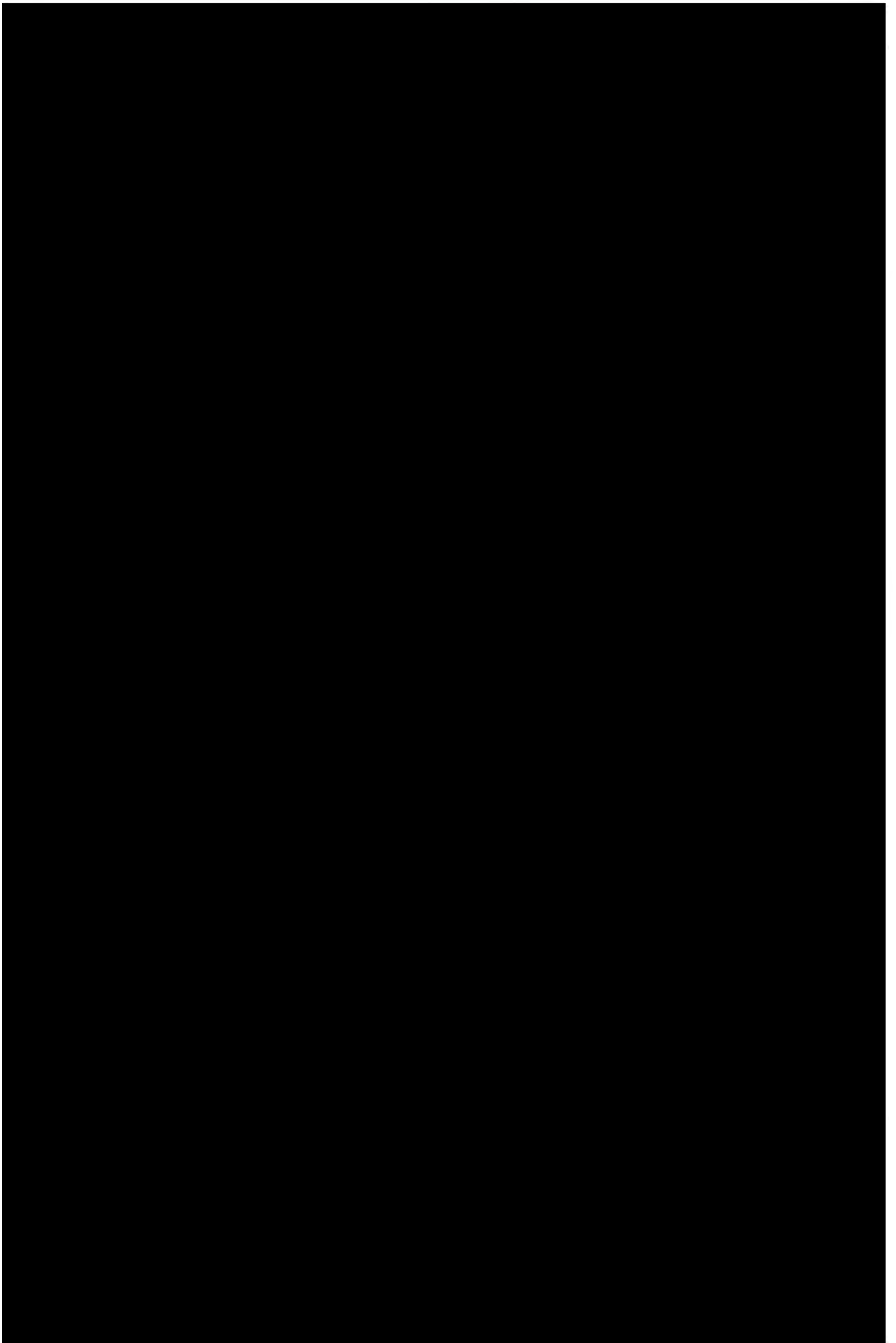
**Approvals**

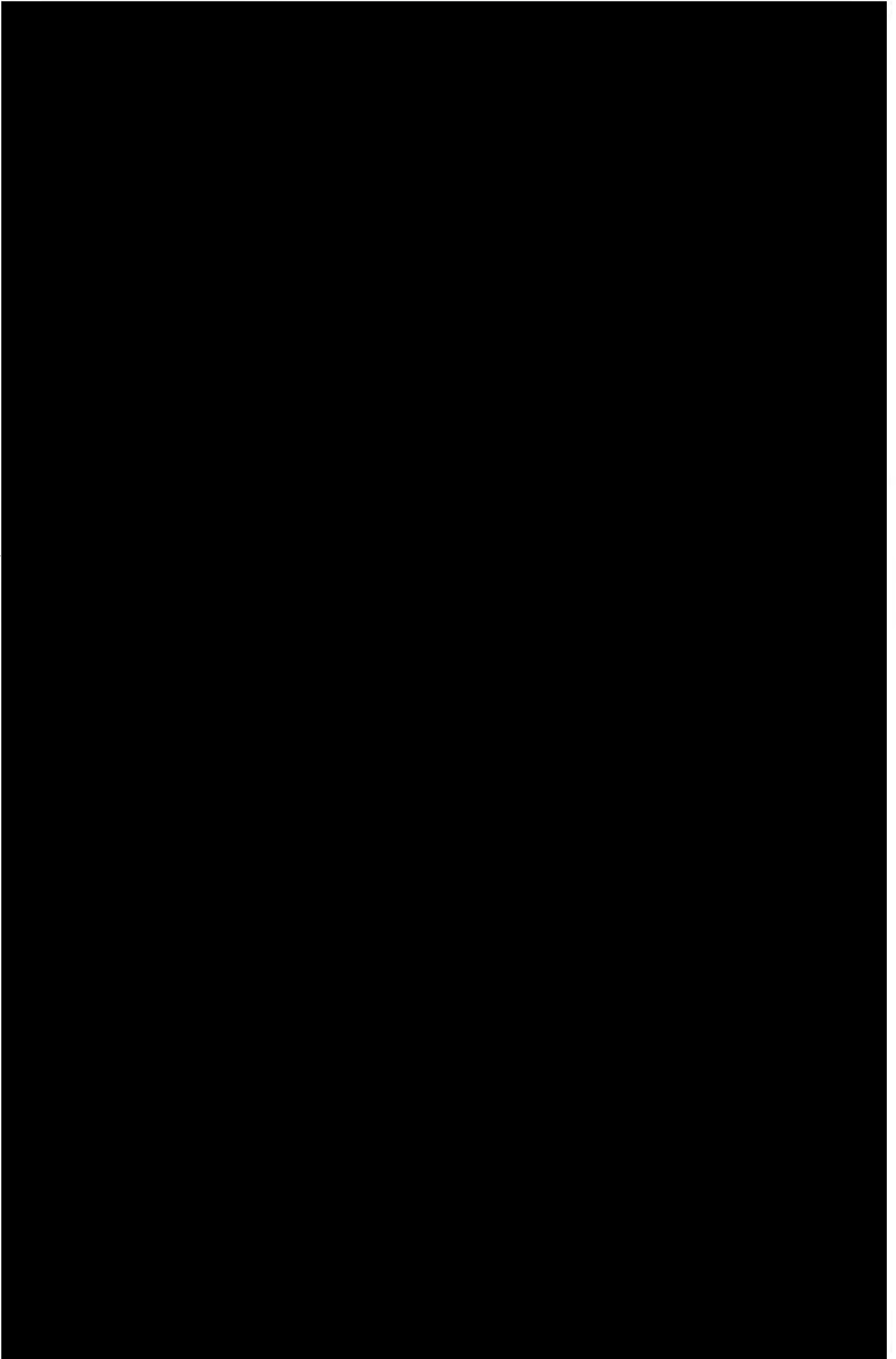
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

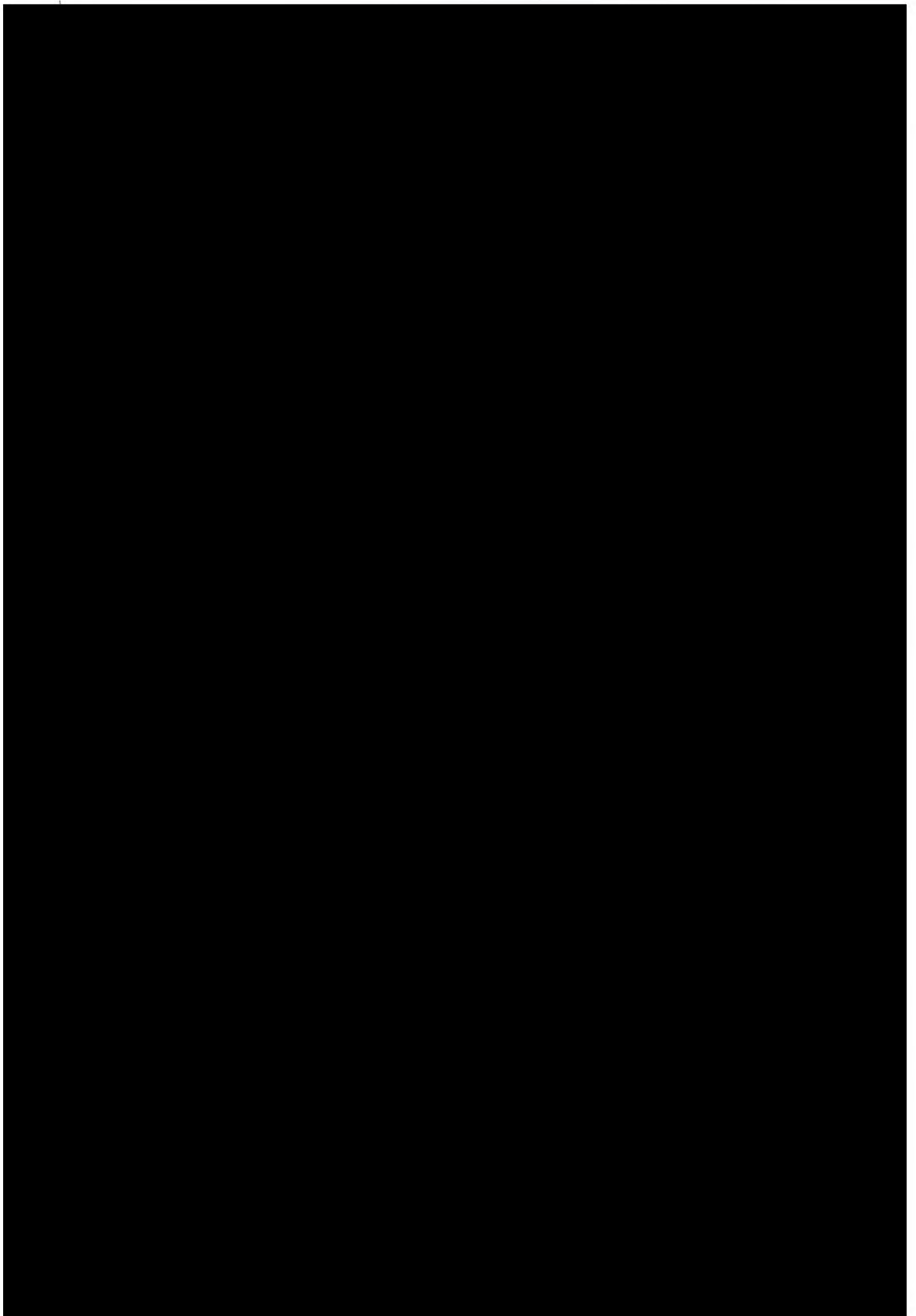




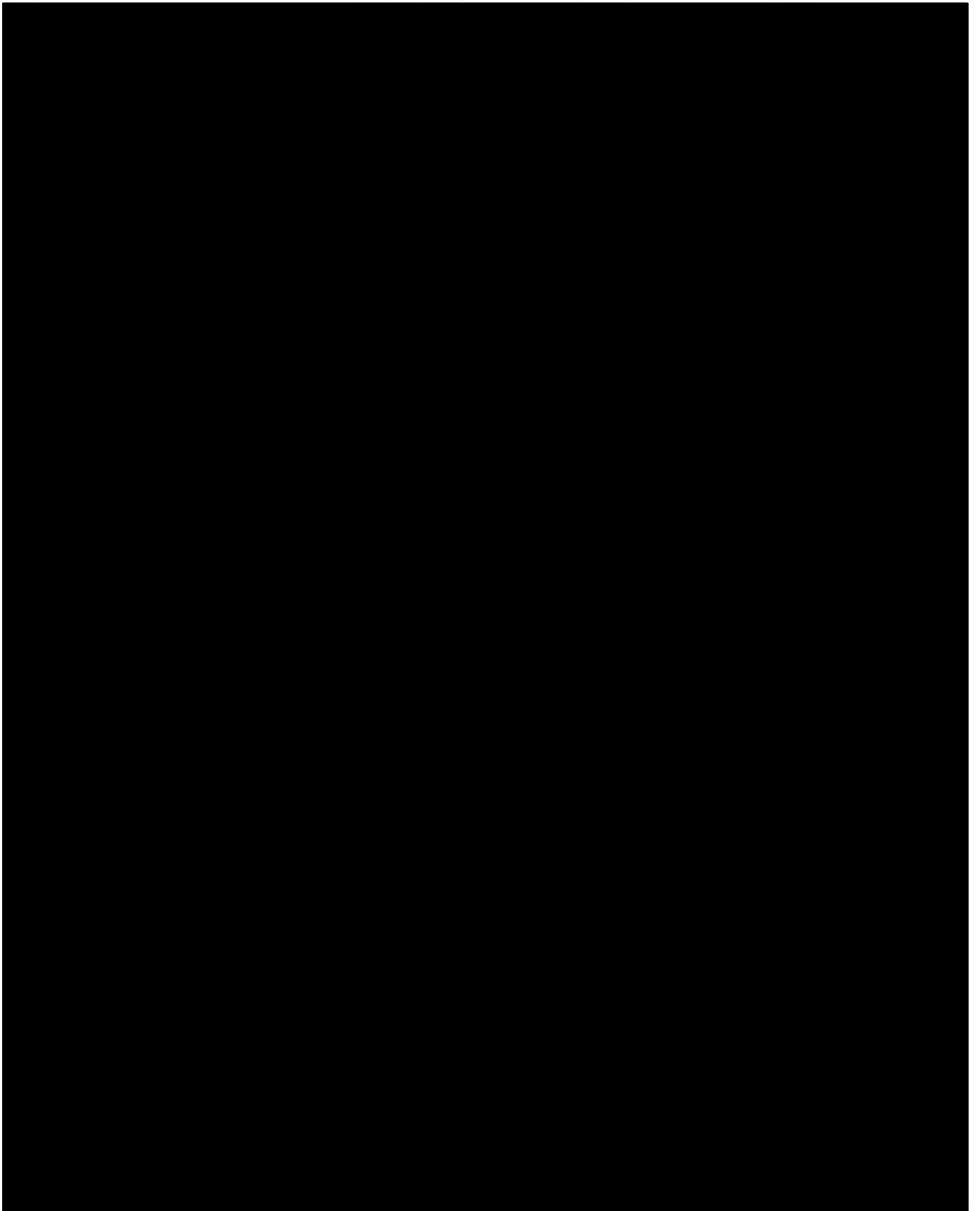


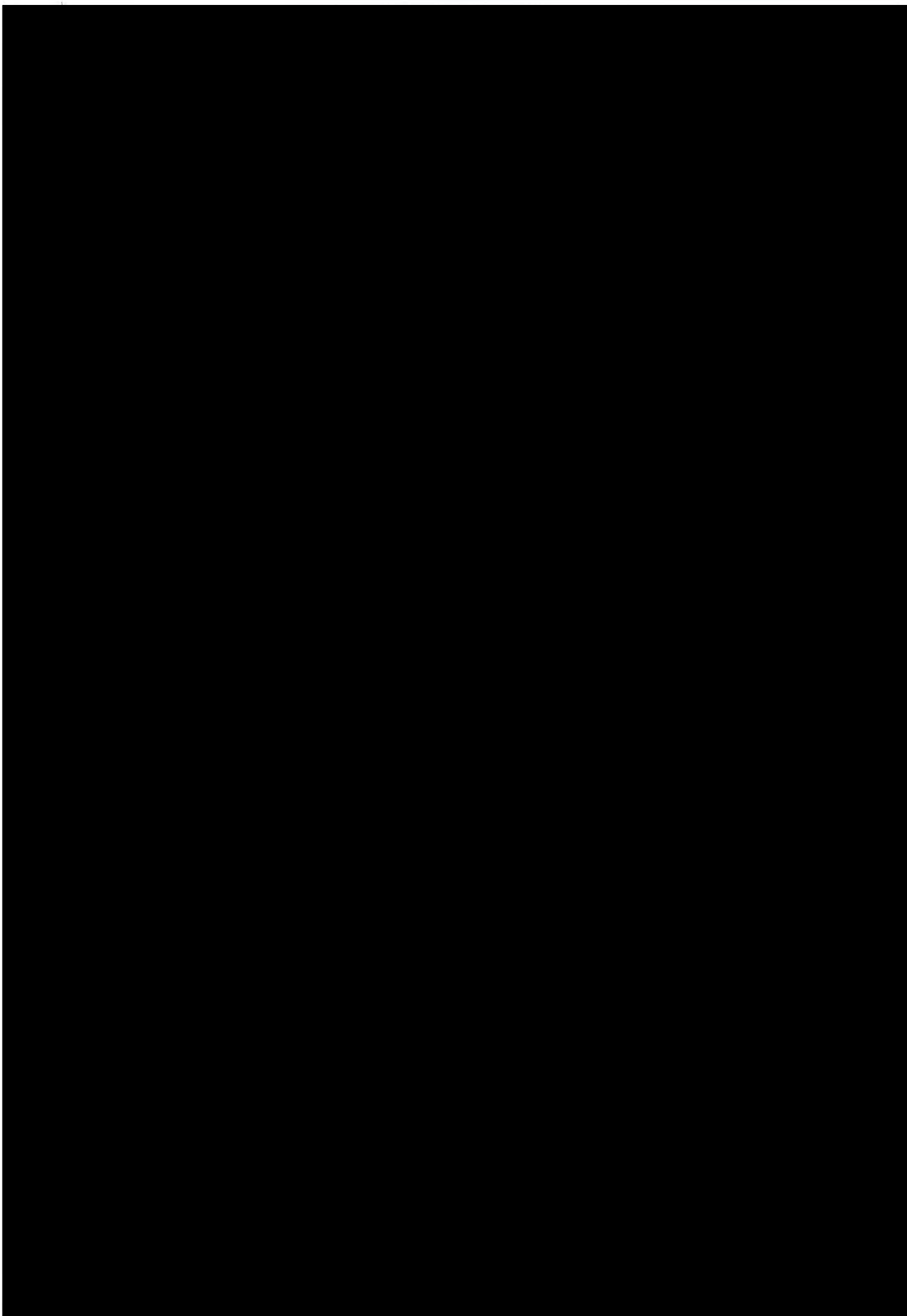


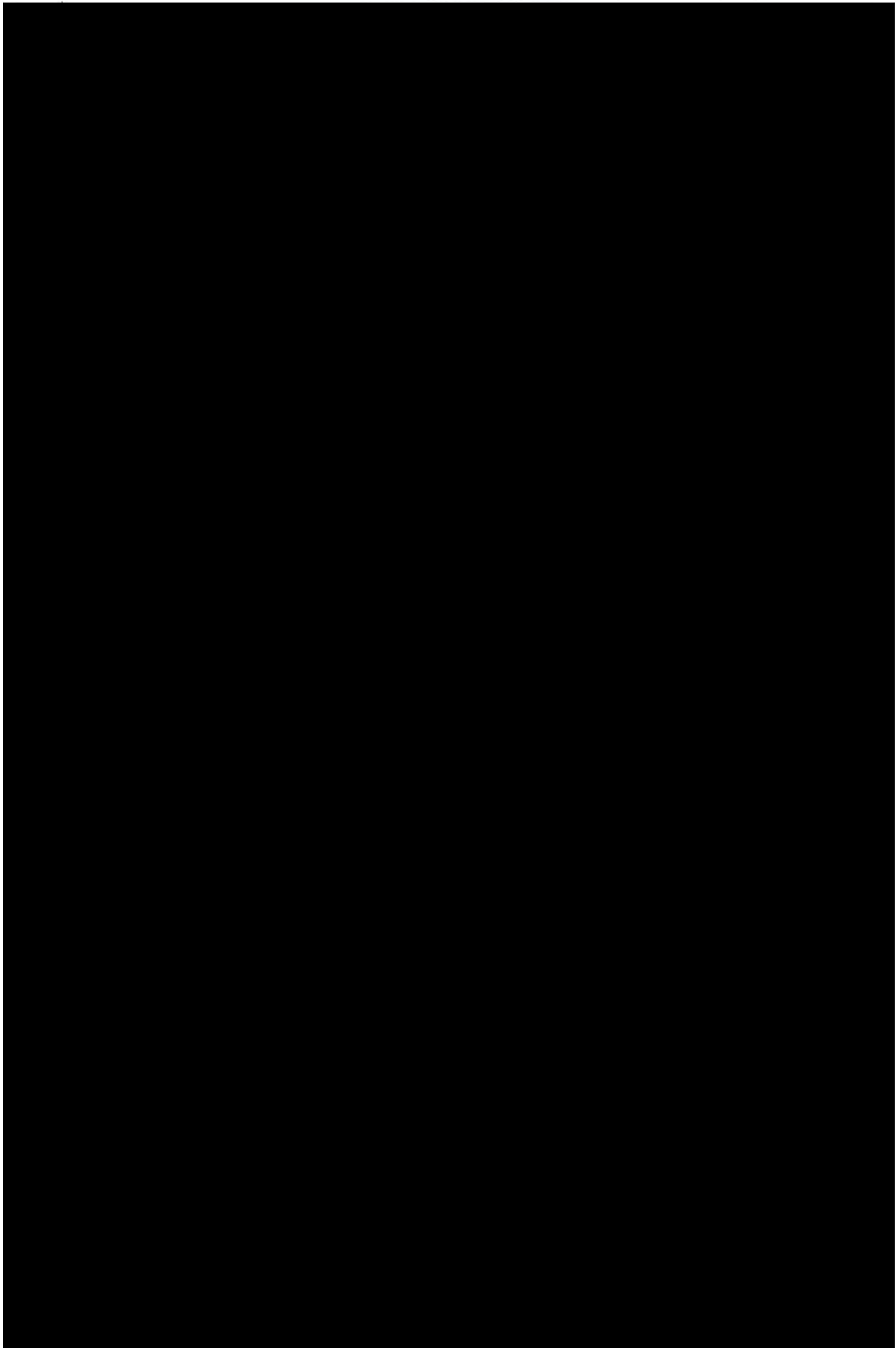


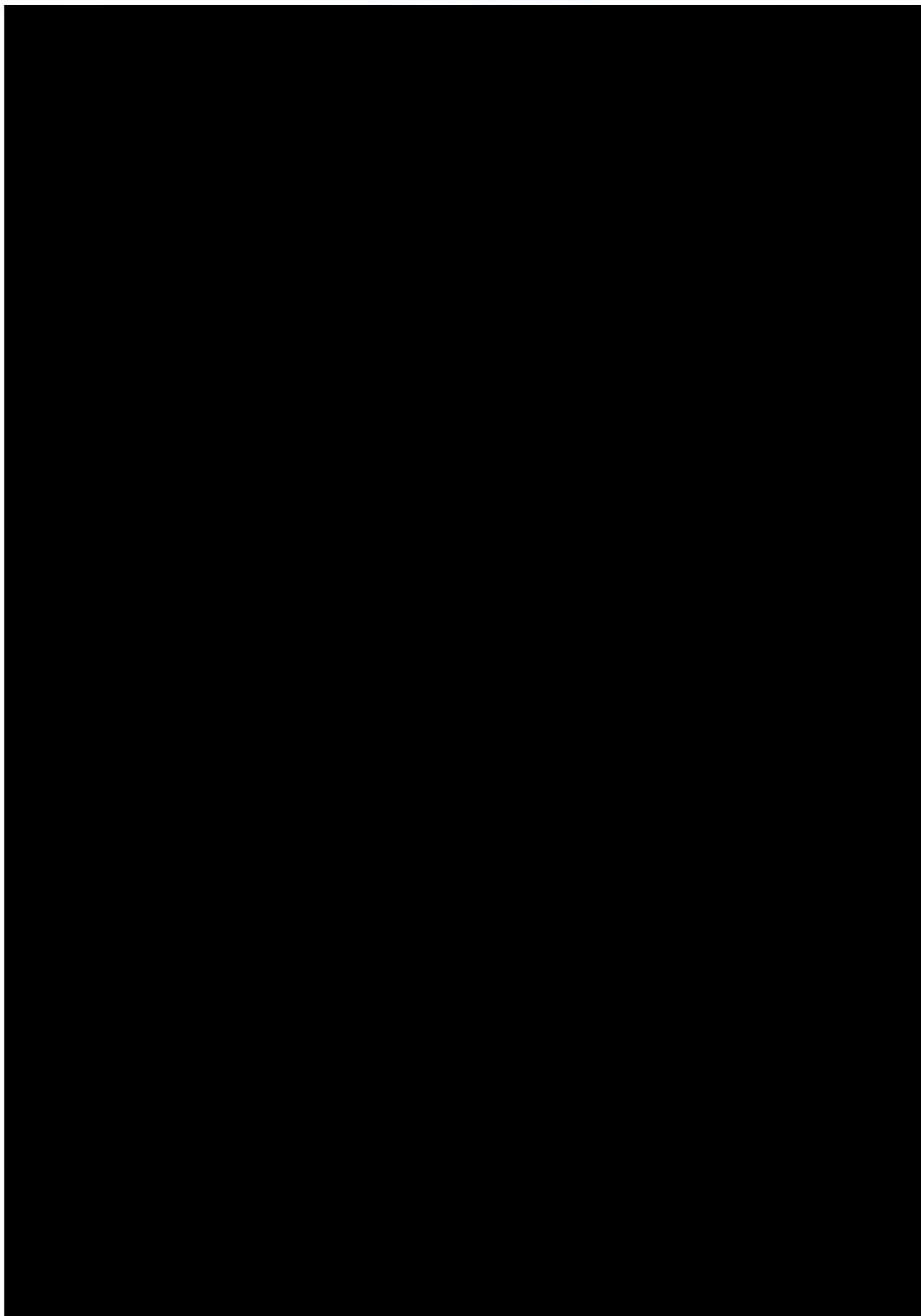


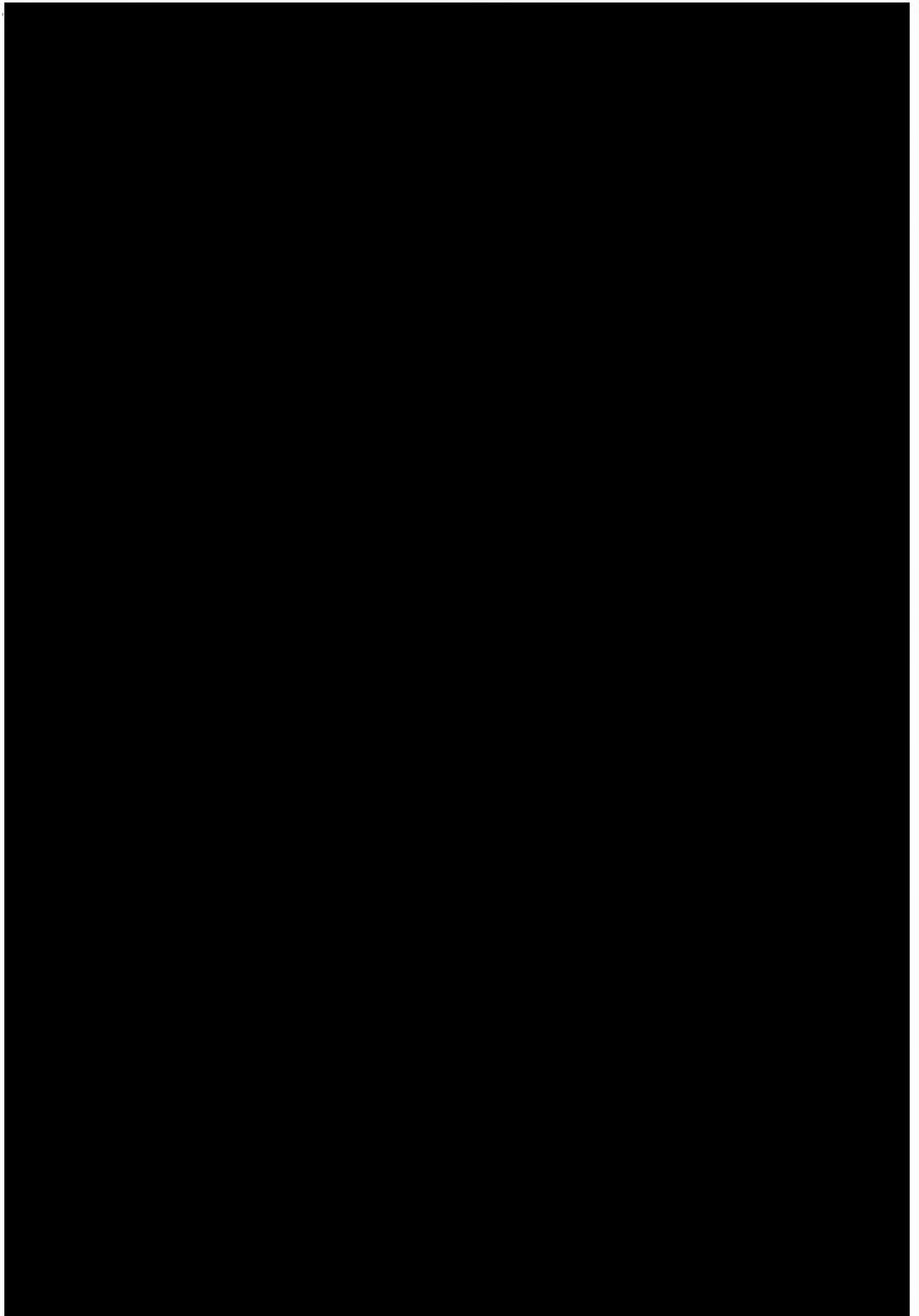


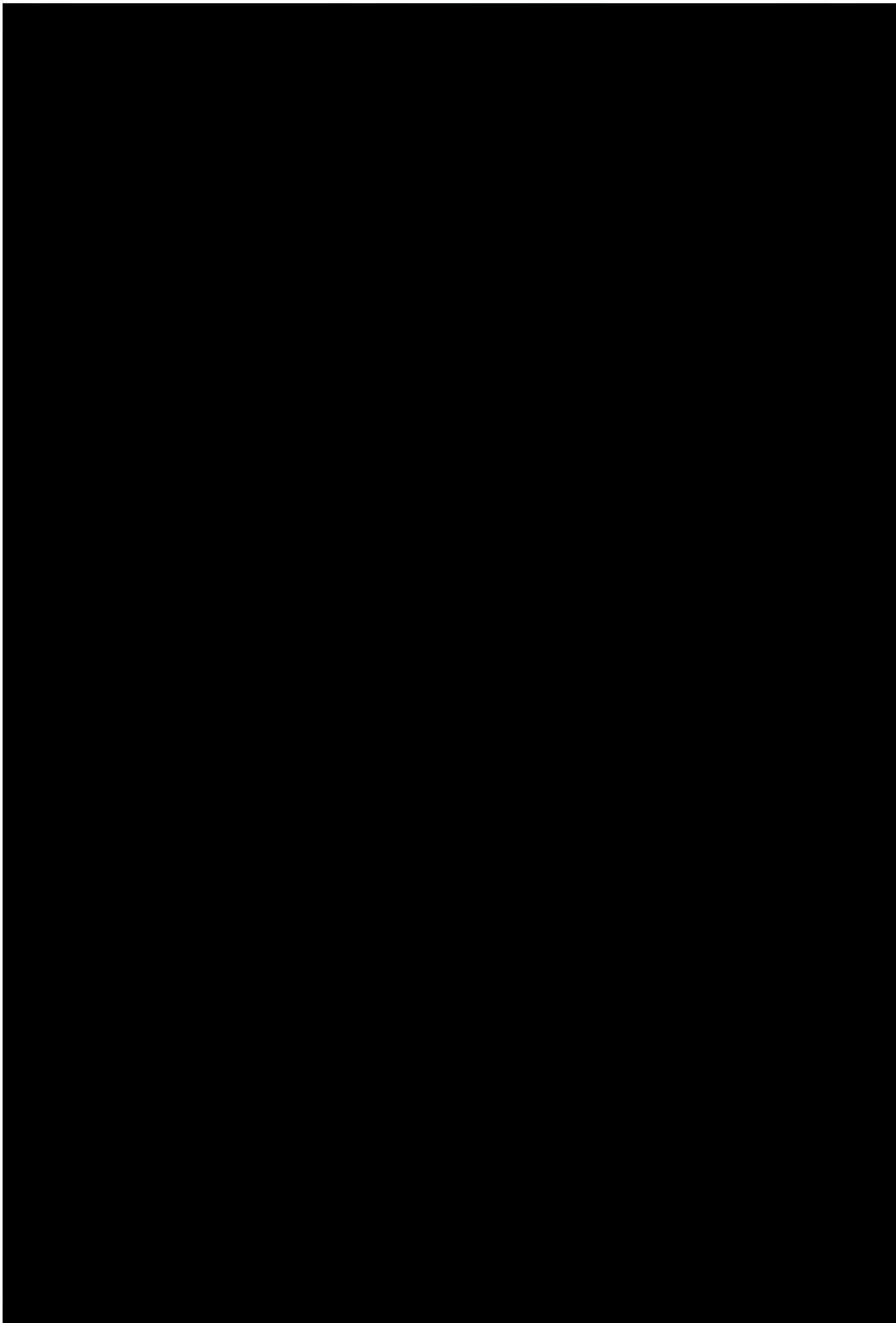


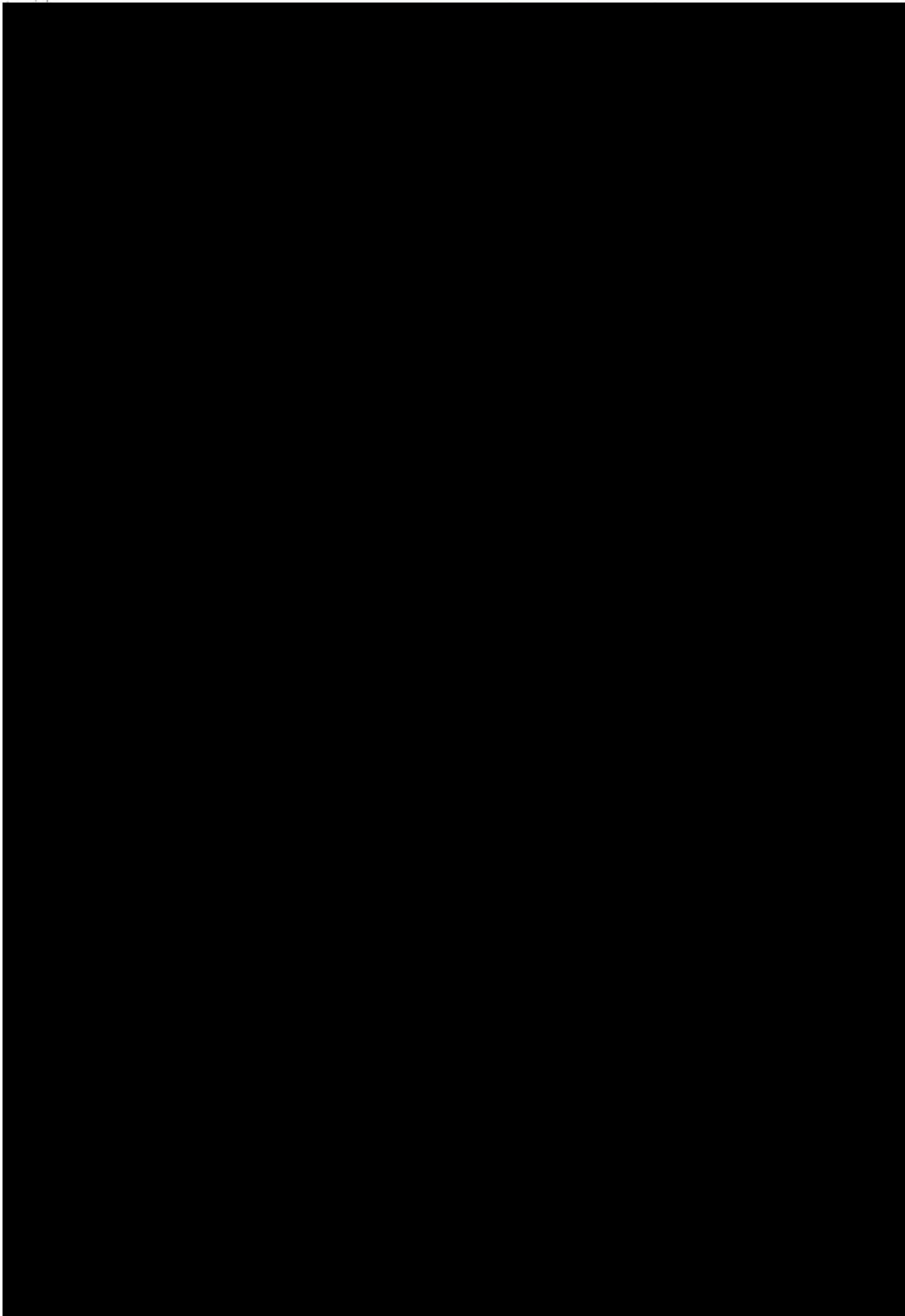


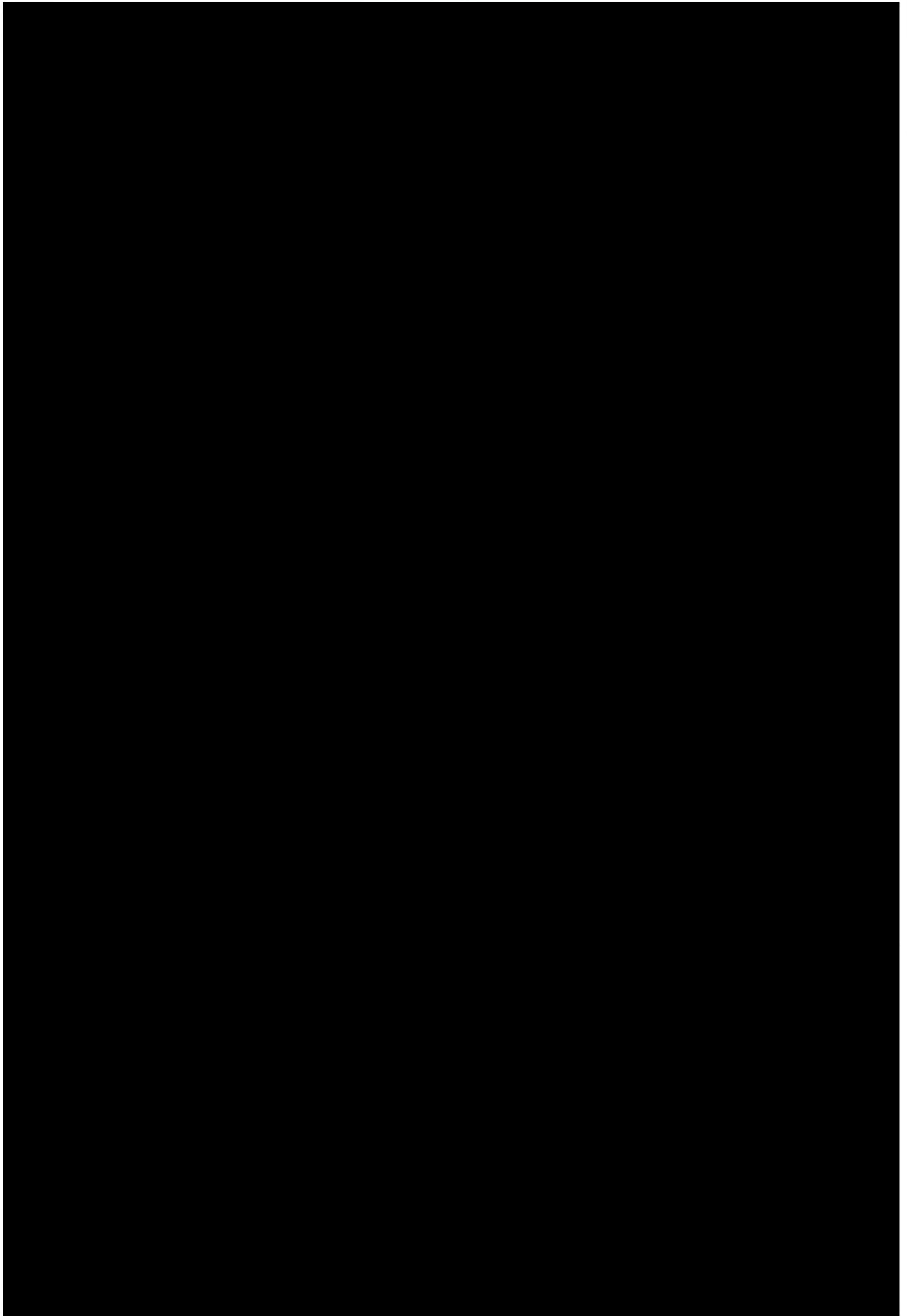




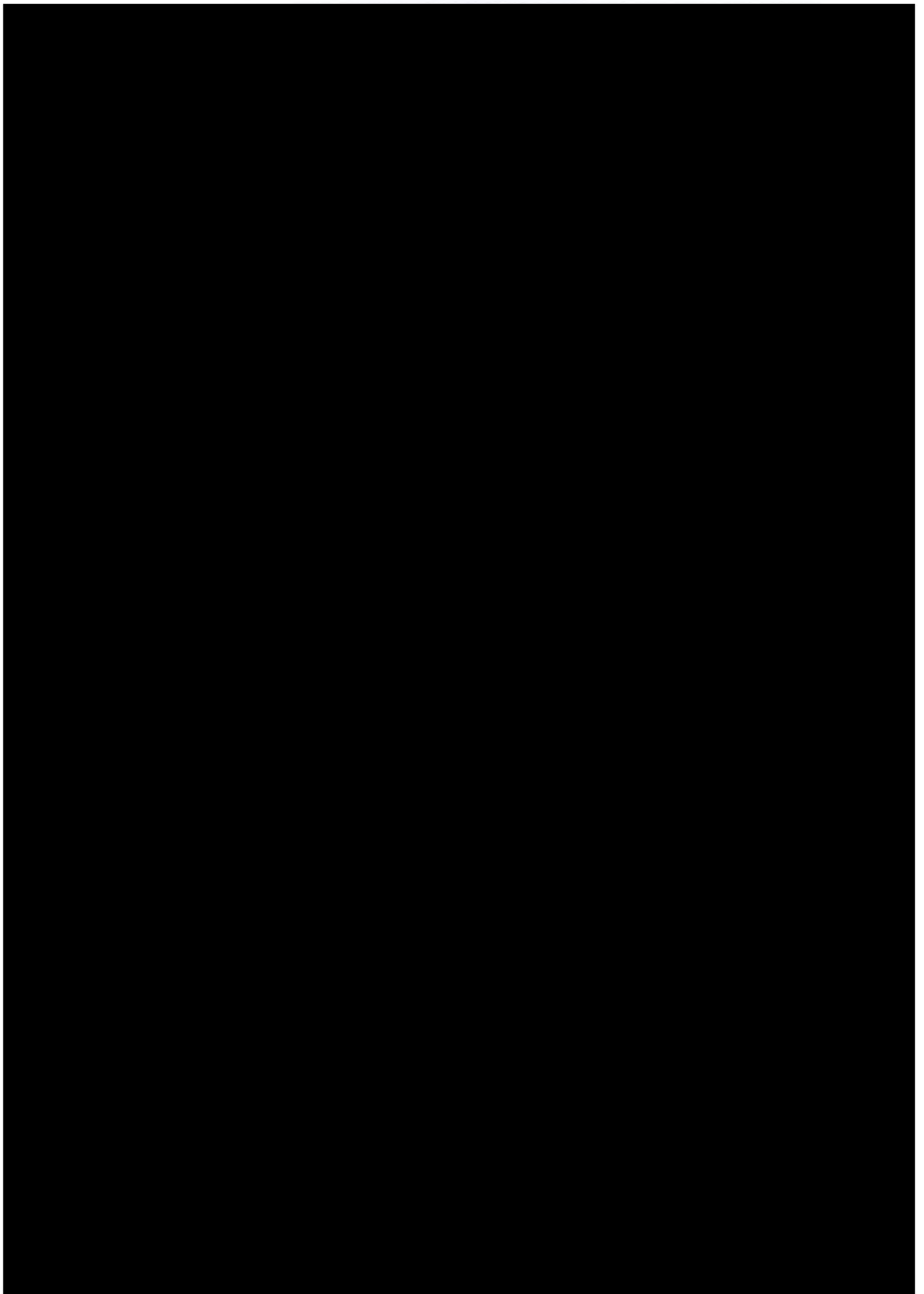












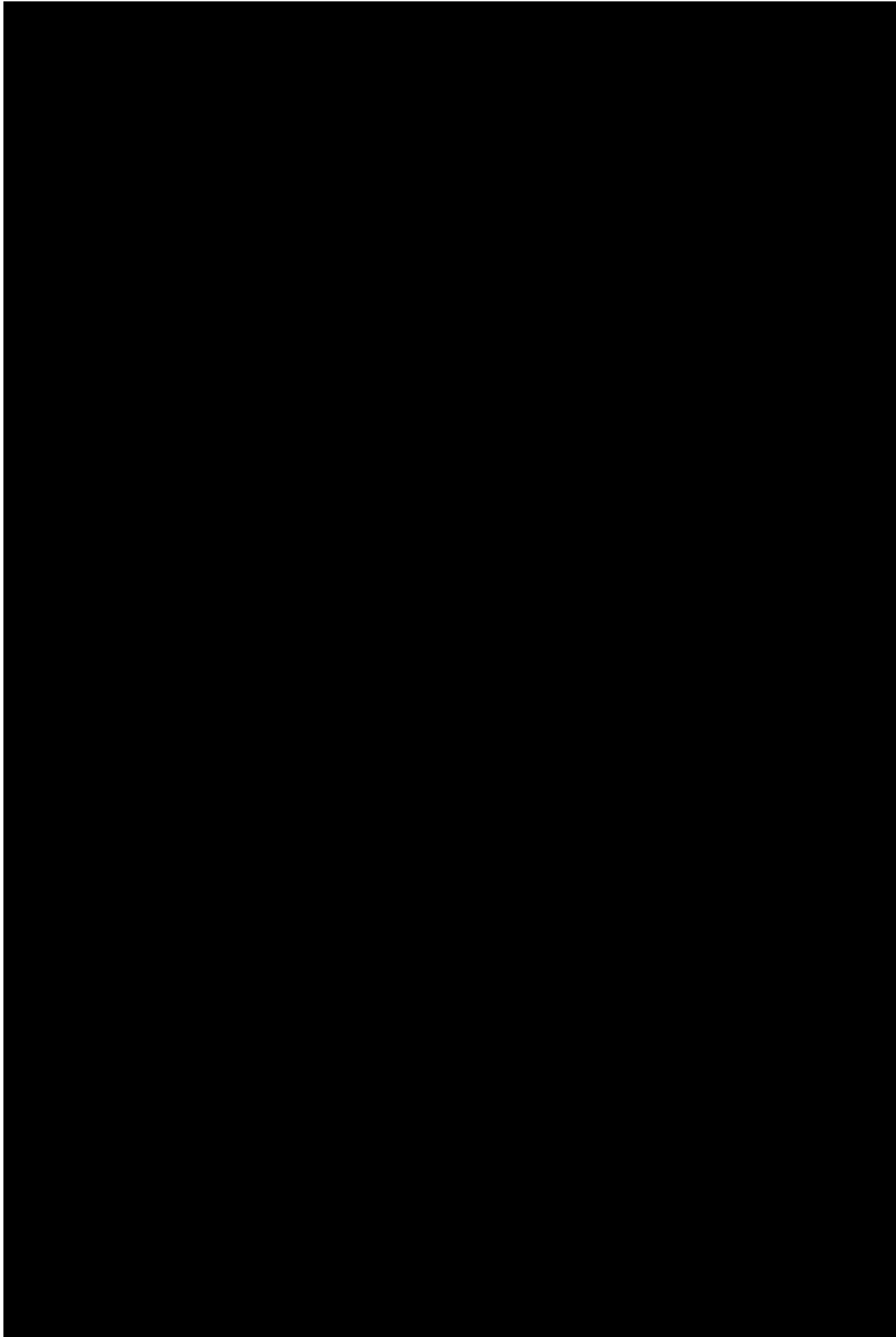
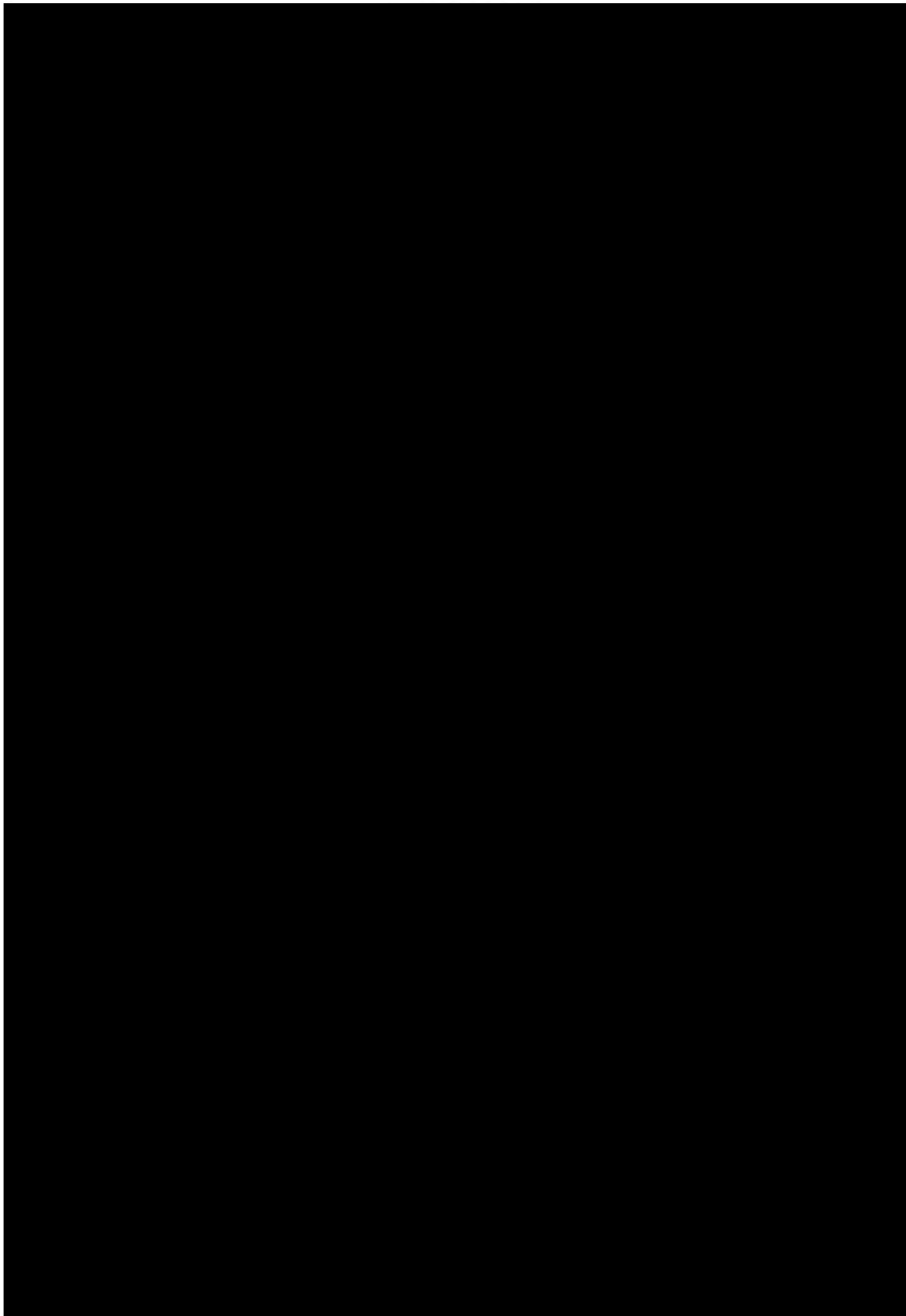
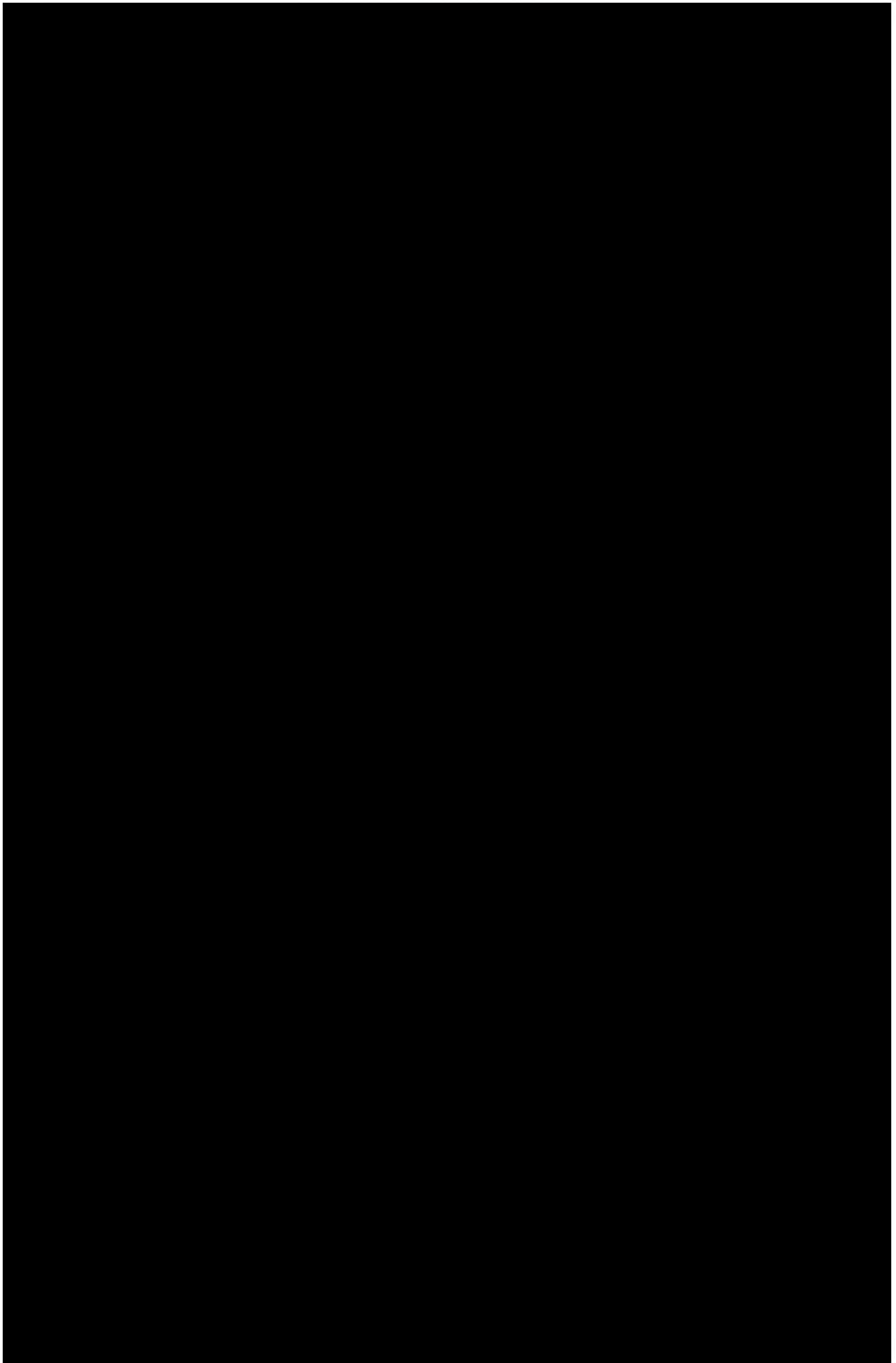
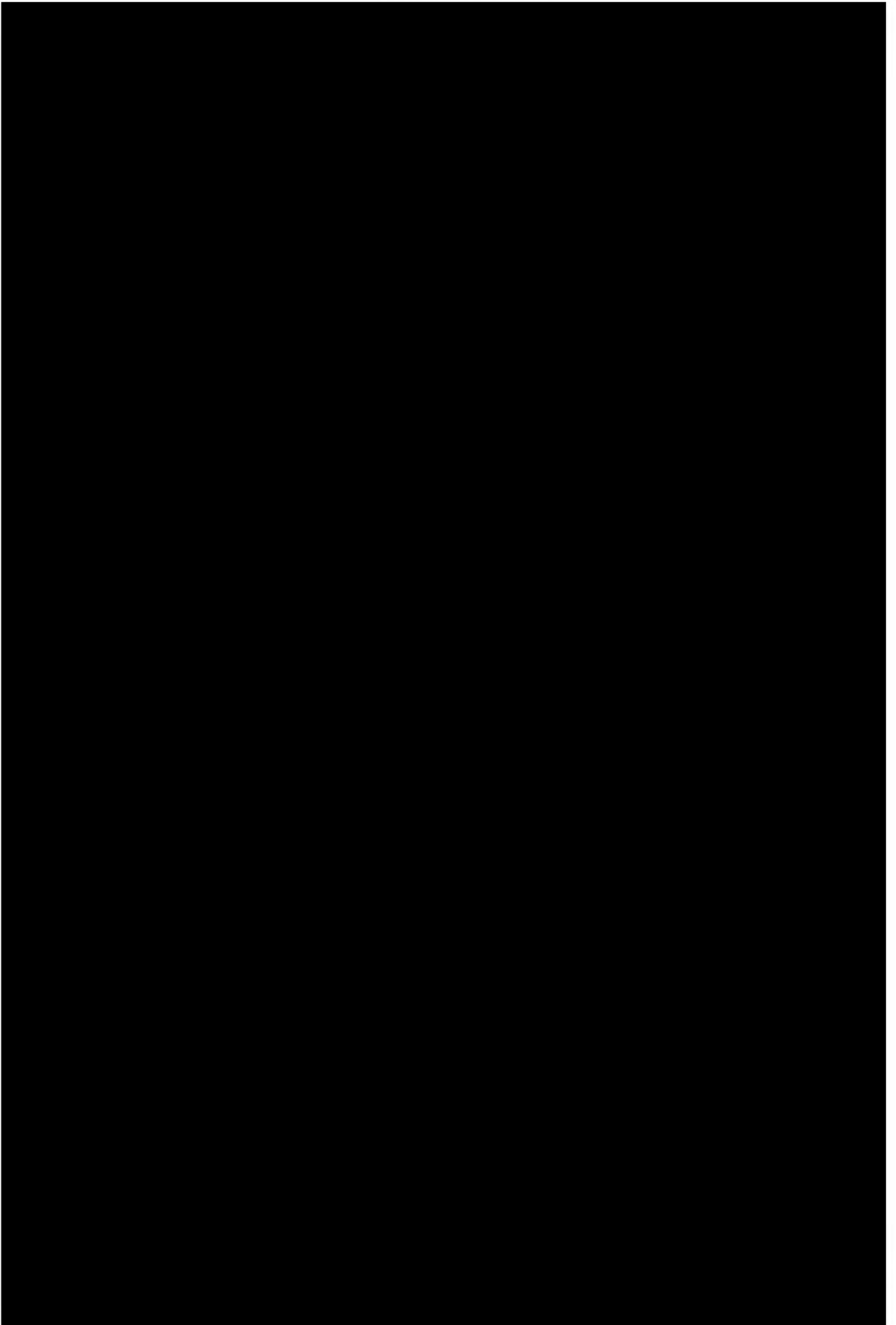


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# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 2

**CONTRACTOR REFERENCE NO.:** SVR-002\_1

**SUBJECT:** Aconex price –v- Jacobs allowance

**DESCRIPTION:**

The Aconex fee proposal was less than the provisional amount allowed in Jacobs contract value, therefore the Jacob's contract amount is to be reduced to reflect the actual cost of Aconex.

**BASIS OF CLAIM:**

The Aconex fee forms part of Jacobs contract amount. The final Aconex fee was less than Jacobs allowance in the contract, therefore Sydney Trains is entitled to a reduction for the reduced amount.

**QUANTUM OF CLAIM:**

The amount of the reduction is [REDACTED]

Which is calculated as follows:

Original allowance in contract [REDACTED]  
Final price from Aconex [REDACTED]  
Balance – reduction amt [REDACTED]  
Jacobs costs (10%) [REDACTED]  
**Variation total** [REDACTED]

**BUDGET AND OTHER COMMENTS:**

This change amounts to a saving on our budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

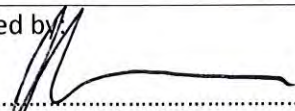
Reviewed:

 ..... Date: 2/6/16  
Darren Gordon Commercial Manager

Reviewed

 ..... Date: 2/6/16  
Dean Cambridge Building Manager

Approved by:

 ..... Date: 02/06/16  
Andrew Parker Program Manager



**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-1</b>	Client PVR Ref No:	<b>SVR-002_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Revised Aconex Fee</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	20 January 2015			

**Description of Variation**

Change in the Aconex fee on the Project.

**Basis for Variation**

The cost the ROC Project utilising Aconex was part of the original Jacobs' BAFO fee. Since the Project has commenced, the Aconex fee was revisited and resulted in a reduced cost to the Project and ultimately Sydney Trains.

**Cost Impact of Variation**

Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	
Hourly Rate									
Hours									
Aconex Fee									
Cost									

**Project Summary**

Original Total Project Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	
Revised Total Fee:	

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

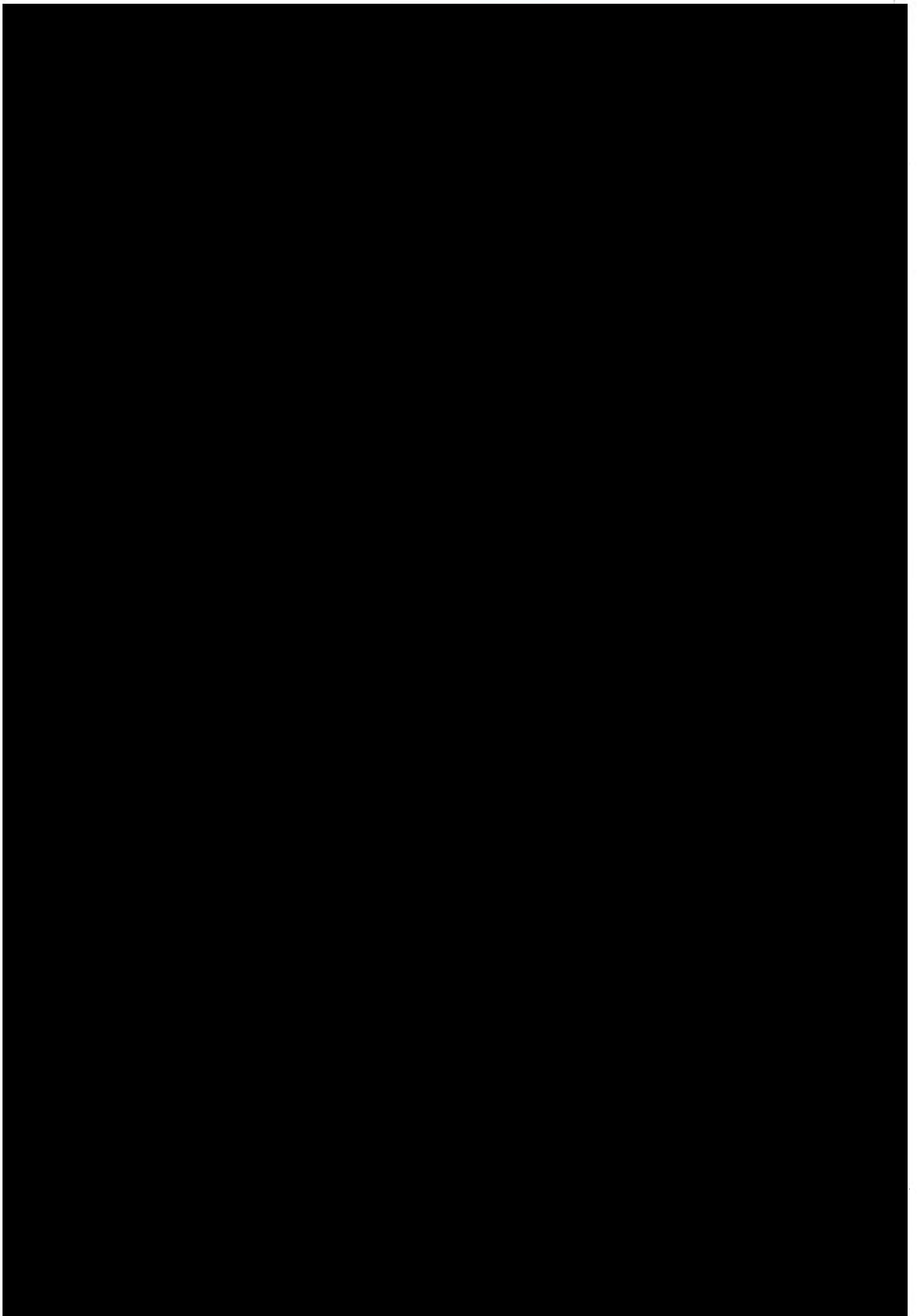
**Supporting Documentation**

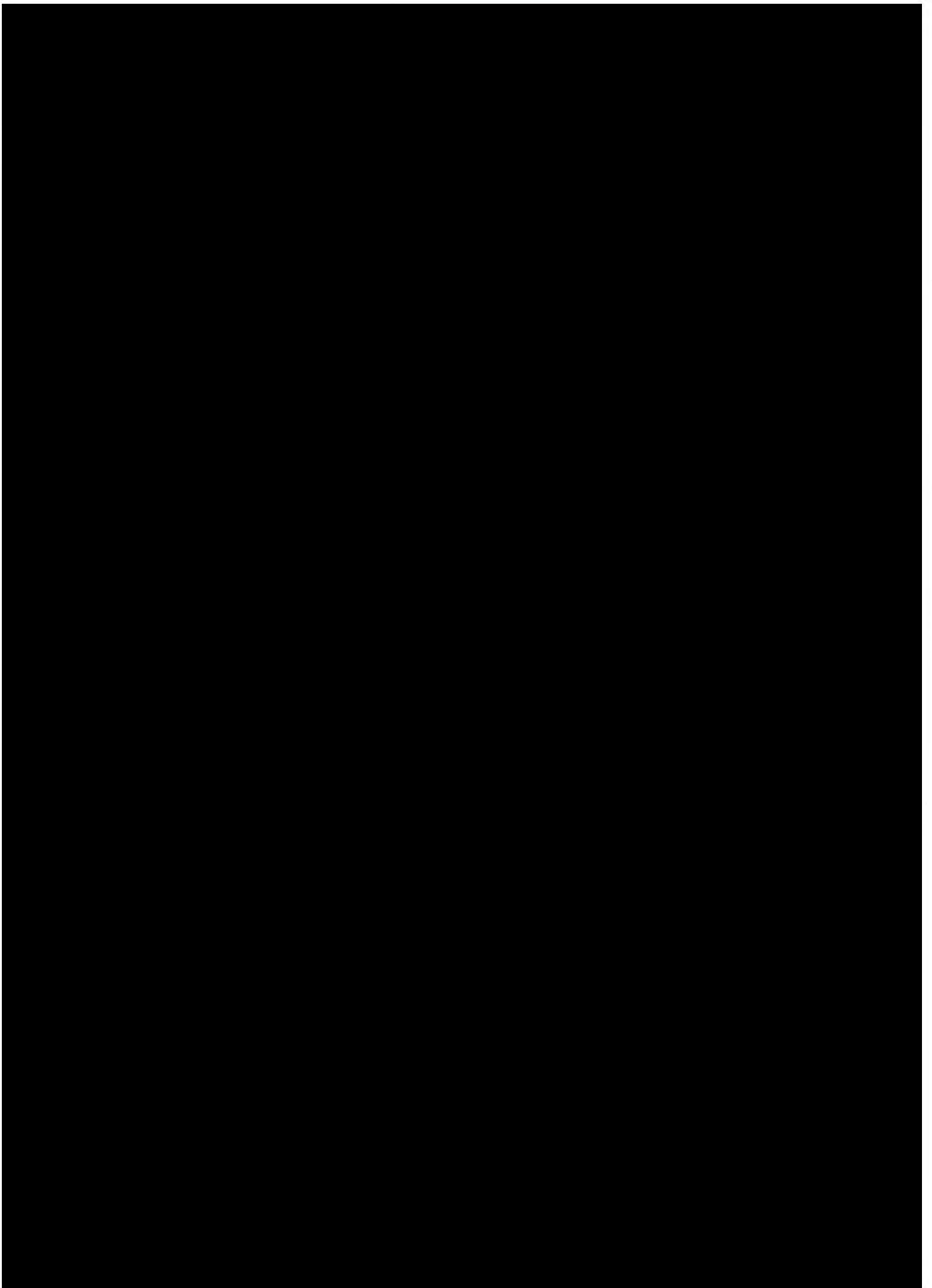
- Refer to the revised Aconex Services Order (attached to this SVR as Attachment 1) which confirms the revised cost of Aconex's services on the Project.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>P.P. S.2</i>	<b>Date:</b>	22 January 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	







# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: 4

CONTRACTOR REFERENCE NO.: SVR-004\_2

SUBJECT: Design for FRNSW Fire Station

**DESCRIPTION:**

Subsequent to the sale of land negotiations, Jacobs were instructed to incorporate a fire station into the ROC building.

**BASIS OF CLAIM:**

Design of the Fire Station was not included in the Jacobs contract scope of work.

**QUANTUM OF CLAIM:**

Jacobs claim was calculated using the contract schedule of rates and totalled [REDACTED]  
Sydney Trains have approved [REDACTED]

**BUDGET AND OTHER COMMENTS:**

These costs arose from negotiations with FRNSW around the acquisition of land and are not included in the budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:

N/A Technical

Reviewed:

..... Date: 1/6/16

Darren Gordon Commercial Manager

Reviewed

..... Date: 2/6/2016

Dean Cambridge Building Manager

Approved by:

..... Date: 02/06/2016

Andrew Parker Program Manager

Ref #	Item	Assigned to	Due Date (dd/mm/yy)	Status
12.3.4	<p>The status of the design competition was discussed as follows:</p> <ol style="list-style-type: none"> <li>1. Panel jury is on programme to give its recommendation by COB Monday 9 Nov 15. Note" selection report to follow the recommendation ASAP.</li> <li>2. ST has programmed to confirm its final selection within a week of that i.e. by COB Friday 13 Nov 15.</li> <li>3. DC noted that the minister will review the proposals and recommended option. PB raised concerns concerning the risk of delay. DC acknowledged and noted that the minister was cognizant of the project programme &amp; timing for his endorsement (or otherwise).</li> </ol>	DC / IF / VL		
	<b>Control room floor:</b>			
12.3.5	DG raised need for achieving the GFA in the design brief which may / will necessitate a reduction in the current allocated area (m2) for the control room floor. Including a reduction in the mezzanine floor area.	note		
	<b>Tender docs for Main Contractor RFP:</b>			
12.3.6	DG / DC confirmed ST's revised MCC engagement strategy surrounding the construction programme and the design, whereby ST propose to fix a construction duration in the MC contract (for administration during the contract term once the design is further developed). The intention of this is to "de-link" the MCC tender process from the design process – up and until the MC contract execution date (in Jan16) where <b>a developed design will required to form part of the MC Contract documentation.</b>	PB	Jan 16	ongoing
	<i>Post meeting note:</i> a revised area schedule and associated block & stack / axonometric diag will be required for the MC tender.	PB	10 Nov 15	
	<b>FRNSW Accommodation relocation</b>			
10.3.3	PB to re-issue Jacobs fee proposal for ST review	PB	26 Oct 15	late
12.3.7	DC confirmed recent planning advice that the accommodation relocation works will be "self determined" by ST i.e. via a REF process. NN / PB acknowledged.	All		
	<b>FRNSW – Fire Station</b>			
10.3.4	ND confirmed to Jacobs that the fire station is proceeding	Note		closed
11.3.5	ND to liaise with Aurecon. PMF level impractical	ND	6 Nov 15	
12.3.8	PB confirmed that Jacobs are producing four (4) options related to the fire station location / access / egress for ST to present to FRNSW. The initial option (3) has been forwarded to ST to present to FRNSW.	PB		



**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-4</b>	Client PVR Ref No:	<b>SVR-004_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Additional Fire Station Design Scope</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Additional design scope of work for the addition of a Fire Station tenancy not originally included in the scope. This SVR covers meeting with the FRNSW users / establishing a brief and producing Test Fit Layouts. Please note that the detailed design and fitout of the internals is specifically excluded – test fit only.

**Basis for Variation**

There has been additional design scope of work identified to be undertaken by Jacobs in relation to the Fire Station tenancy is additional scope.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total
Hourly Rate									
Hours									
Expenses									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- Refer to:
- 3 x user group consultation meetings (complete)
  - Site inspection at Yenoora Fire Station (complete)
  - Presentation to FRNSW steering committee at Chullora HQ (complete)
  - High level concept for Southern boundary lane (complete) – required for Southern access to site
  - Test fit design documentation (complete)

Approvals			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 5

**CONTRACTOR REFERENCE NO.:** SVR-005\_2

**SUBJECT:** Building Services Opinion of probable Cost **PDR**

**DESCRIPTION:**

Throughout the PDR stage - Jacobs were instructed to provide an update to their opinion of probable cost (claimed under SVR 005)

**BASIS OF CLAIM:**

The work does not form part of Jacobs original contract scope of work and is a Variation pursuant to the contract.

**QUANTUM OF CLAIM:**

Jacobs submission is based on the Contract schedule of rates.

Total claim [REDACTED]

**BUDGET AND OTHER COMMENTS:**

These cost are contained in the original budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

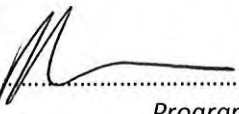
Reviewed:

 ..... Date: 2/6/16  
Darren Gordon Commercial Manager

Reviewed

 ..... Date: 2/6/16  
Dean Cambridge Building Manager

Approved by:

 ..... Date: 02/06/16  
Andrew Parker Program Manager





<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-17</b>	Client PVR Ref No:	<b>SVR-005_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Building Services Opinion of Probable Cost</b>				
PVR raised by:	Person:	Peter Boase / Steve Zervas			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Jacobs have been requested to provide an opinion of probable cost for the QS to review, evaluate and incorporate into the overall cost estimate. The costing provided will be based on the SDR schematics issued by Jacobs for the following disciplines.

- Mechanical
- Electrical
- Fire
- Hydraulics
- Security




The fee estimate included in this document covers the following deliverables:

- 1 x SDR Building Services Opinion of Probable cost
- 1 x PDR Update to the Building Services Opinion of Probable cost

The following services discipline or scope item costs will be excluded from the Jacobs Building Services Opinion of Probable cost:

1. Acoustics
2. VT
3. Fire Engineering (any design change associated with FEB)
4. RAMS design changes
5. HV Electrical
6. Fire Station
7. Enabling works
8. Consultant Design fees
9. Preliminaries and Escalation

**Please note:** Any further update extra over to the SDR and PDR Building Services opinion of probable cost, will be for extra cost (approximately .

**Basis for Variation**

There has been additional design scope of work identified to be undertaken by Jacobs in relation to the Building Services opinion of cost.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Expenses									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation (See details above)</b>	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Refer to Attachment A – Breakdown of Costs for a full breakdown of the proposed hours.**

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

Following approval of this variation, the SDR Building Services Opinion of Probable cost will be prepared and presented within five (5) working days.

**Supporting Documentation**

Jacobs March 2016 invoice to Sydney Trains has been attached to this variation which shows the total approved claim to date of 85% of the SDR Building Services Opinion of Probable cost.

**Approvals**

<b>Jacobs PM Signature:</b>	Peter Boase / Steve Zervas <i>S.Z</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>	<i>P.P.</i>	<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 6 – Quantity Surveying services

**CONTRACTOR REFERENCE NO.:** Adhoc-006-1\_2

**SUBJECT:** Quantity Surveying

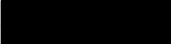
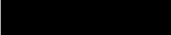
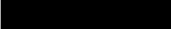
**DESCRIPTION:**

Engagement of Rider Levett Bucknall (RLB) for Quantity Surveying and cost planning services on the project as part of the Ad Hoc Service Agreement.

**BASIS OF CLAIM:**

Jacobs contract included an adhoc services item for Quantity Surveying. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.

**QUANTUM OF CLAIM:**

Fee proposal   
Jacob's costs (10%)   
**Total Variation** 

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:  
N/A Technical

Reviewed:

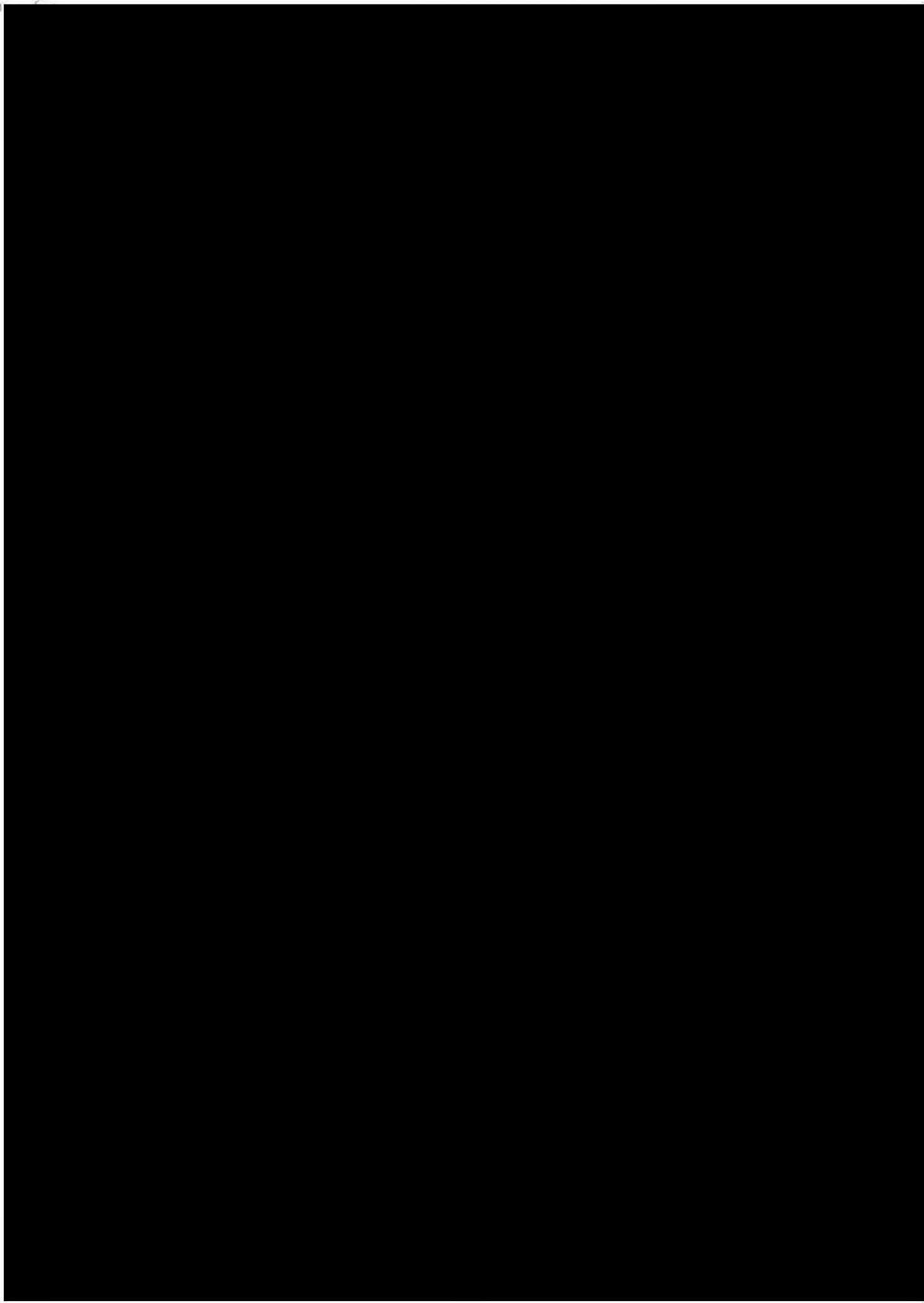
 ..... Date: 2/6/16  
Darren Gordon Commercial Manager

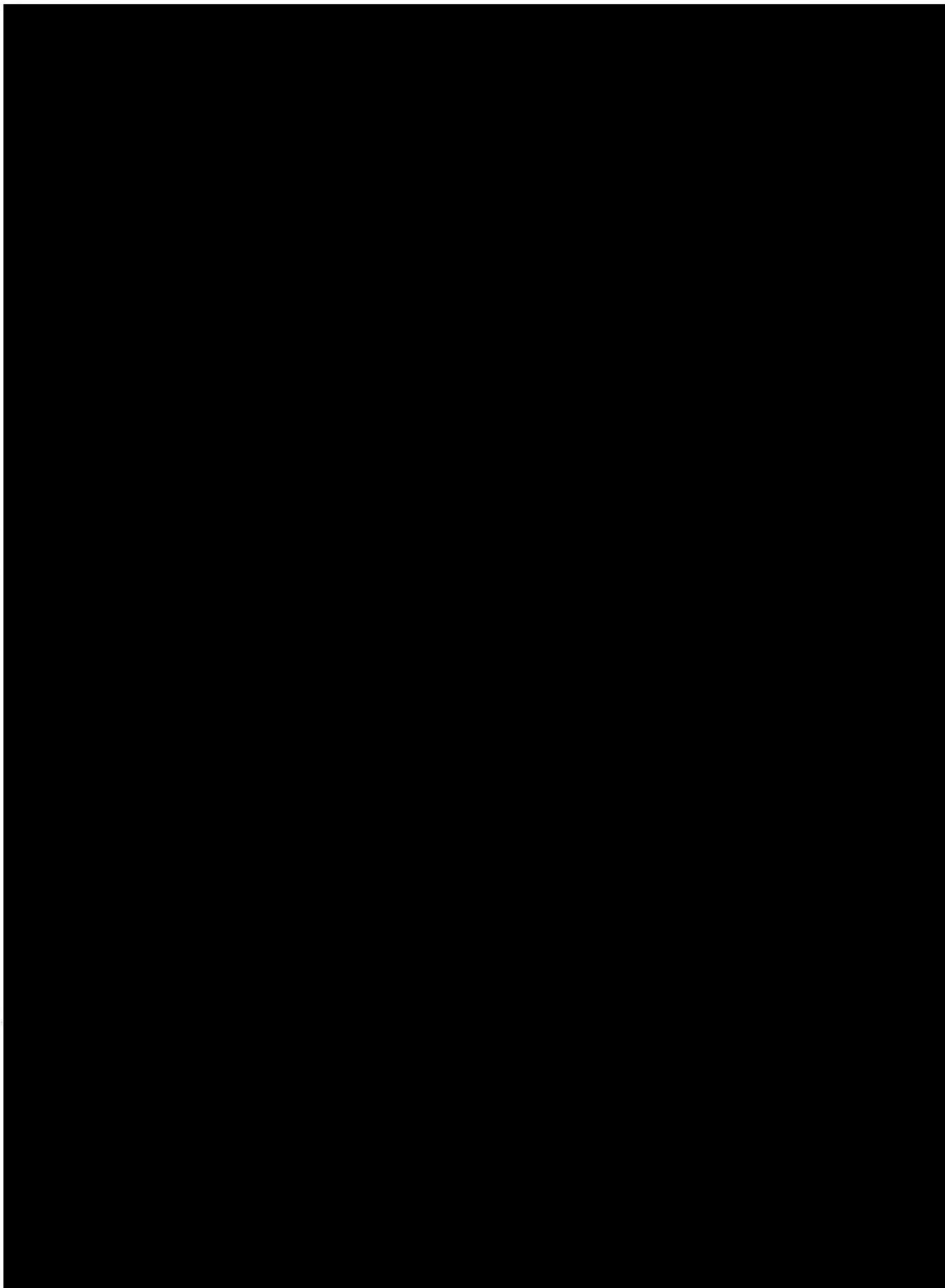
Reviewed

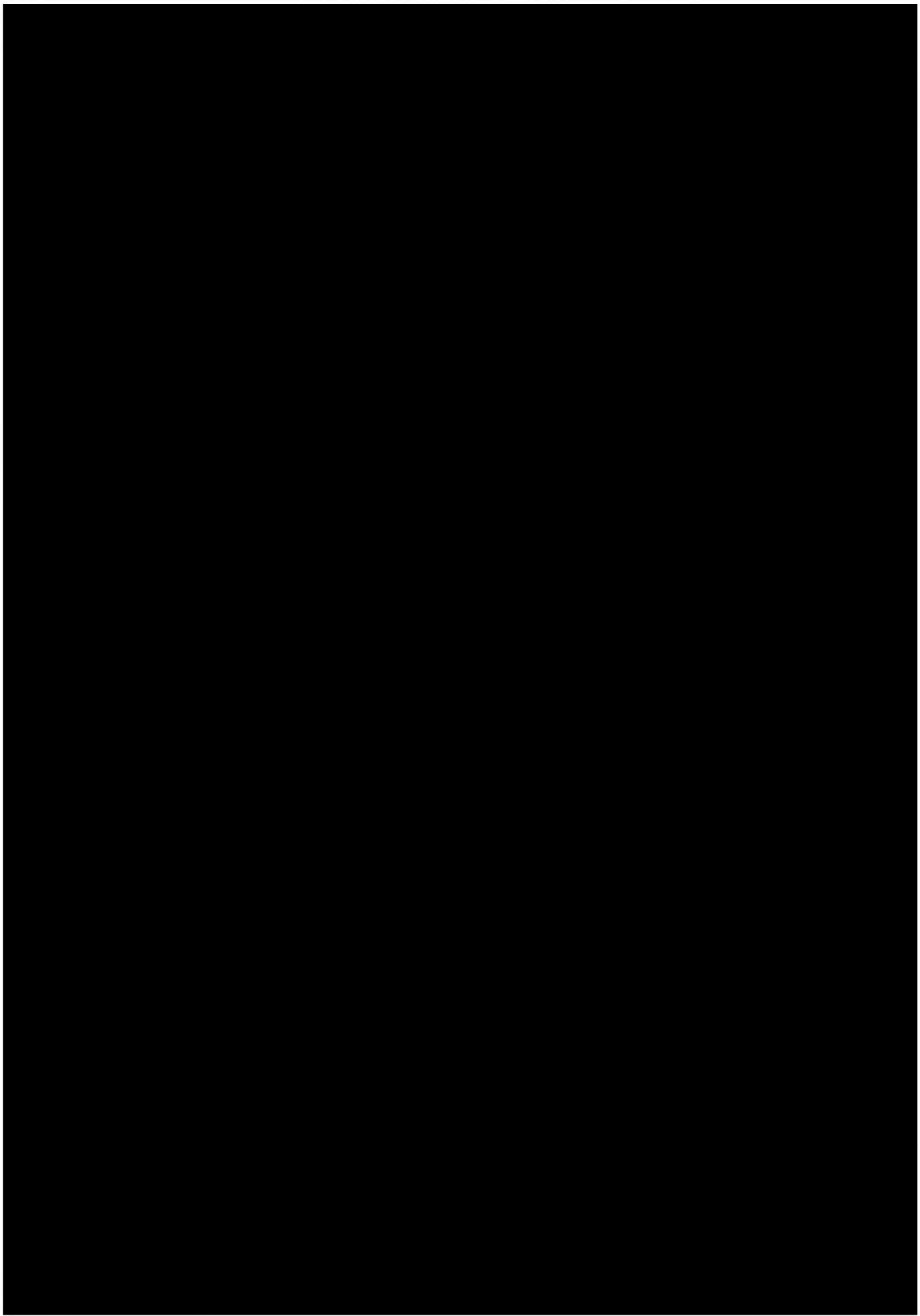
 ..... Date: 2/6/16  
Dean Cambridge Building Manager

Approved by:

 ..... Date: 02/06/2016  
Andrew Parker Program Manager







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**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

<b>Project Variation Request Details</b>			
Jacobs PVR Ref No:	<b>VCN-11</b>	Client PVR Ref No:	<b>Ad Hoc-006-1_2</b>
		Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – QS</b>		
PVR raised by:	Person:	Peter Boase	
	Organisation:	Jacobs	
	Date:	10 May 2016	

**Description of Variation**

Engagement of RLB to be the QS on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage RLB to be the QS on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
RLB									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

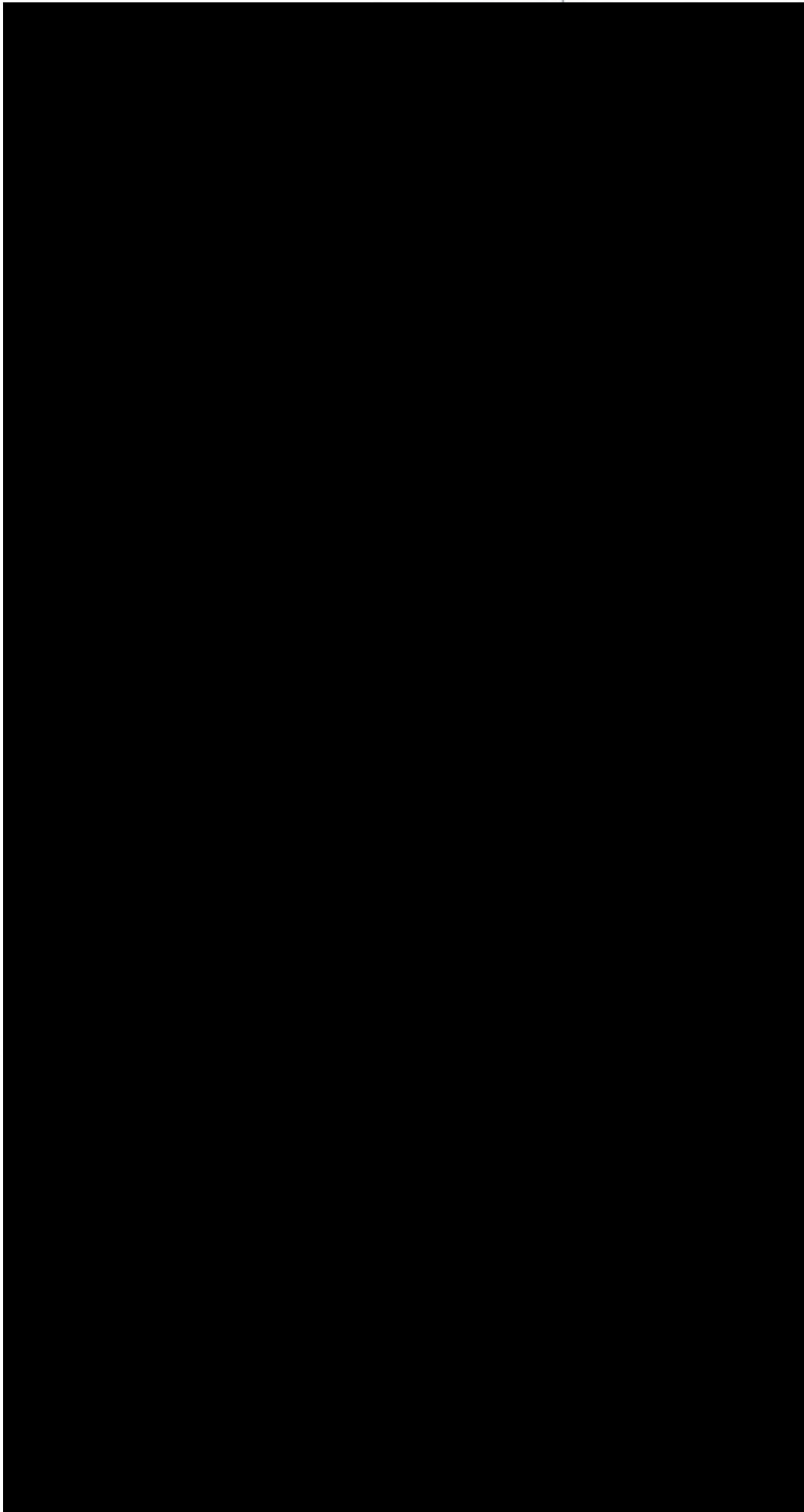
**Supporting Documentation**

- RLB's invoices and timesheets to date have been included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>pp. 5.2-3</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 8 – Contract Admin manual for MC contract

**CONTRACTOR REFERENCE NO.:** Adhoc 8

**SUBJECT:** Contract Admin Manual for MC contract

**DESCRIPTION:**

Engagement of Ian Clark to produce the MC Contract Admin manual for the project as part of the Ad Hoc Services Agreement.

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and these MC manual services were not included in Jacobs contract scope of work.

**QUANTUM OF CLAIM:**

Fee Proposal  
Jacobs costs (10%)  
**Total**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

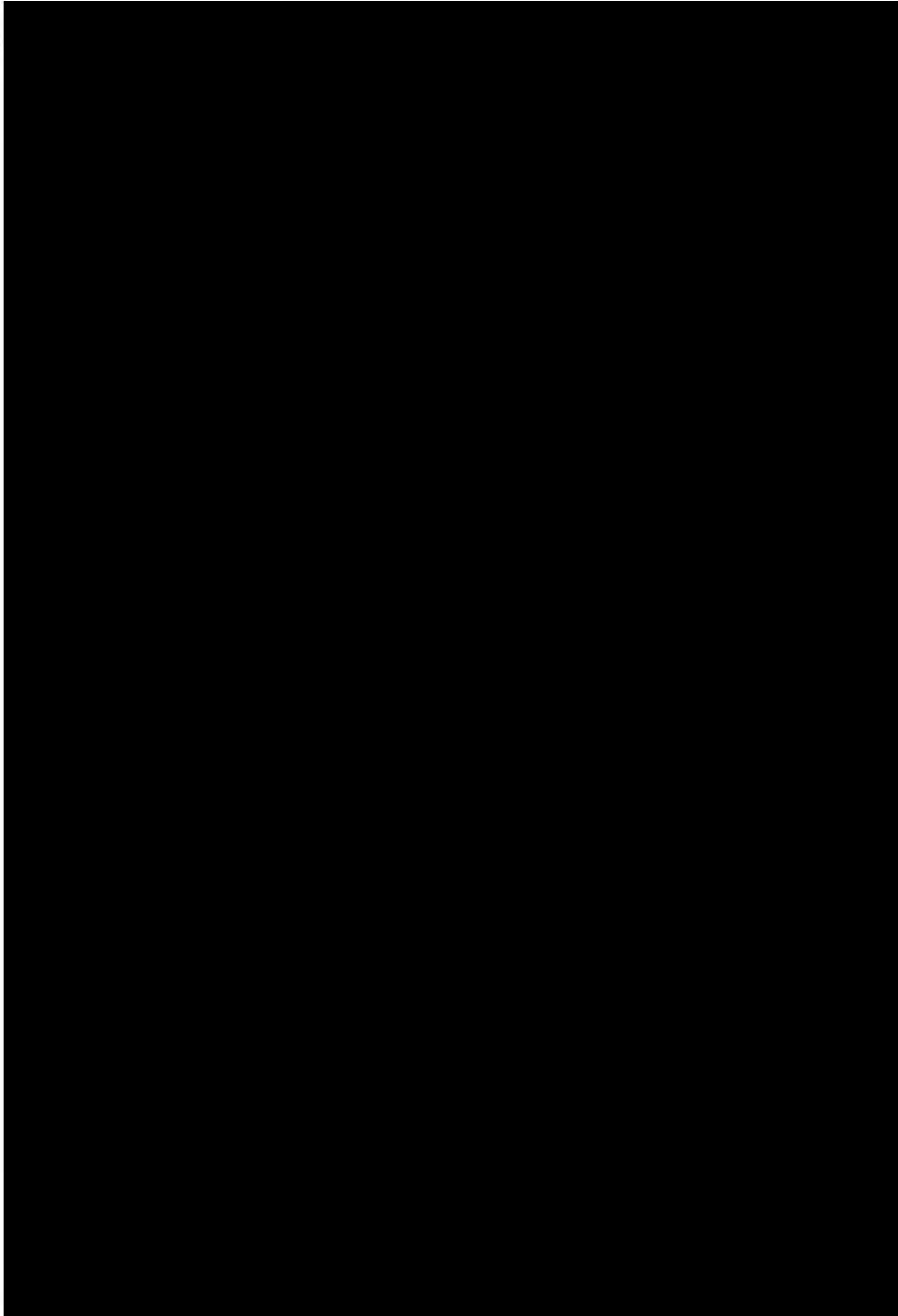
..... Date: 2/6/16  
Darren Gordon Commercial Manager

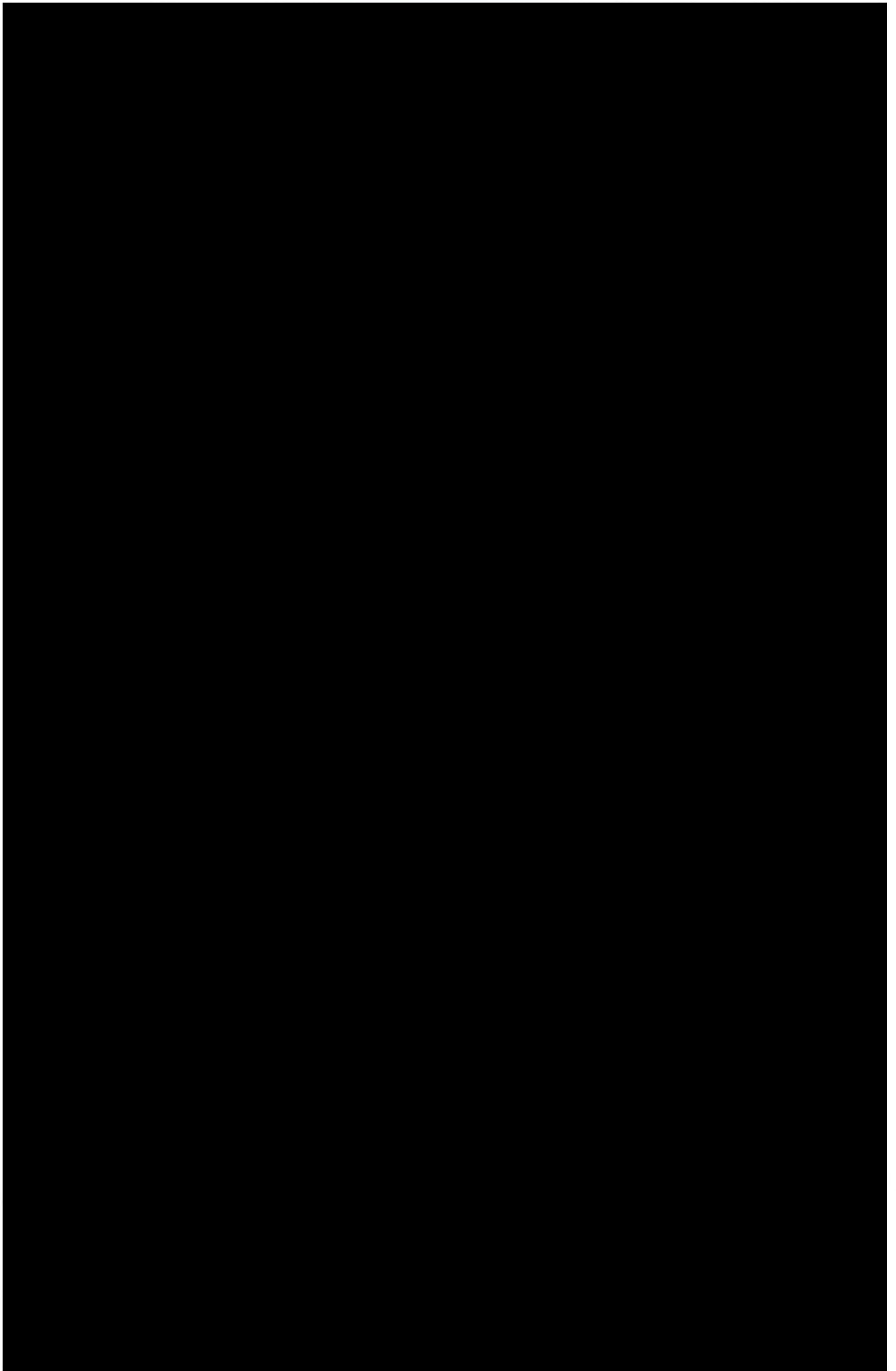
Reviewed

..... Date: 2/6/2016  
Dean Cambridge Building Manager

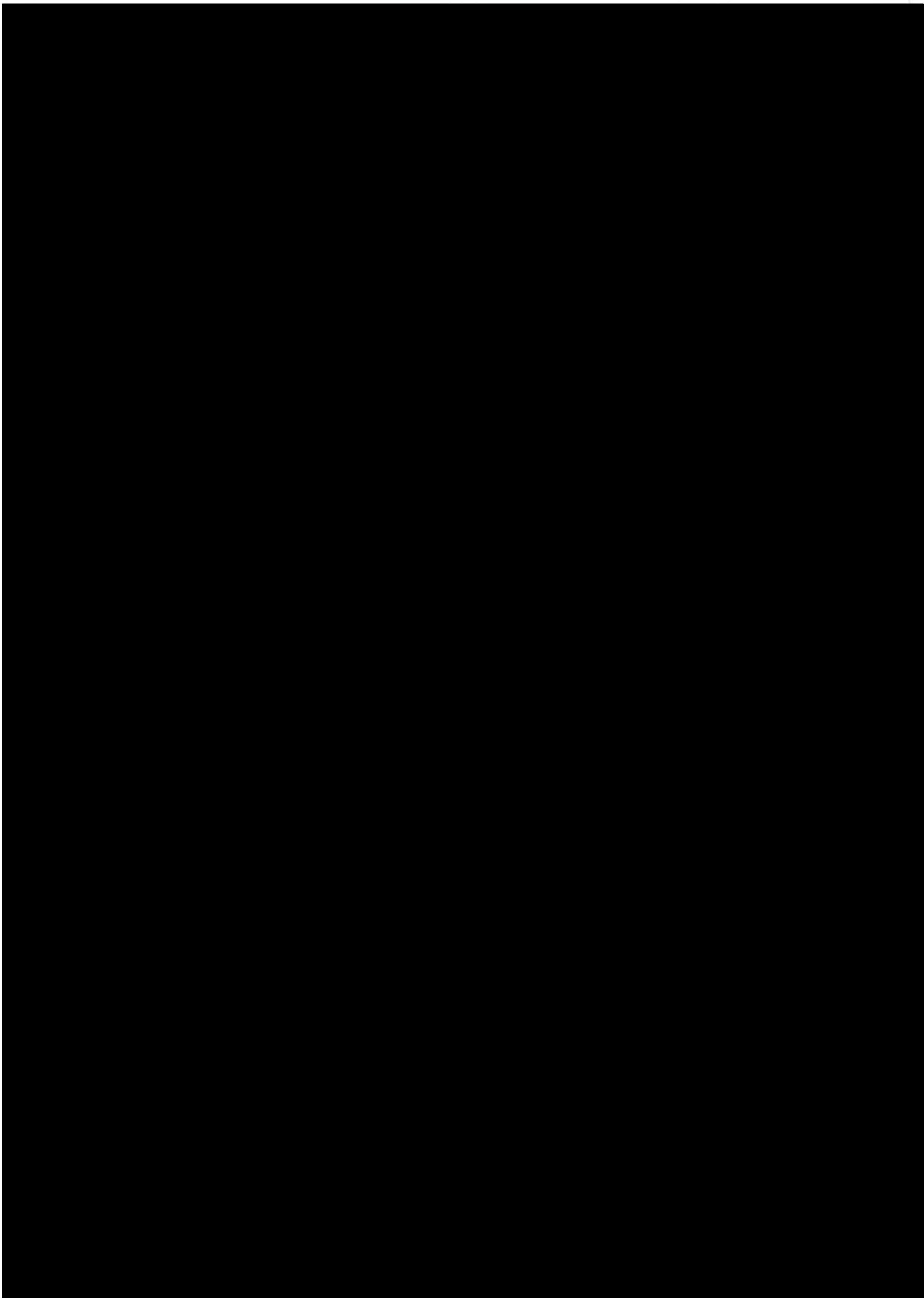
Approved by:

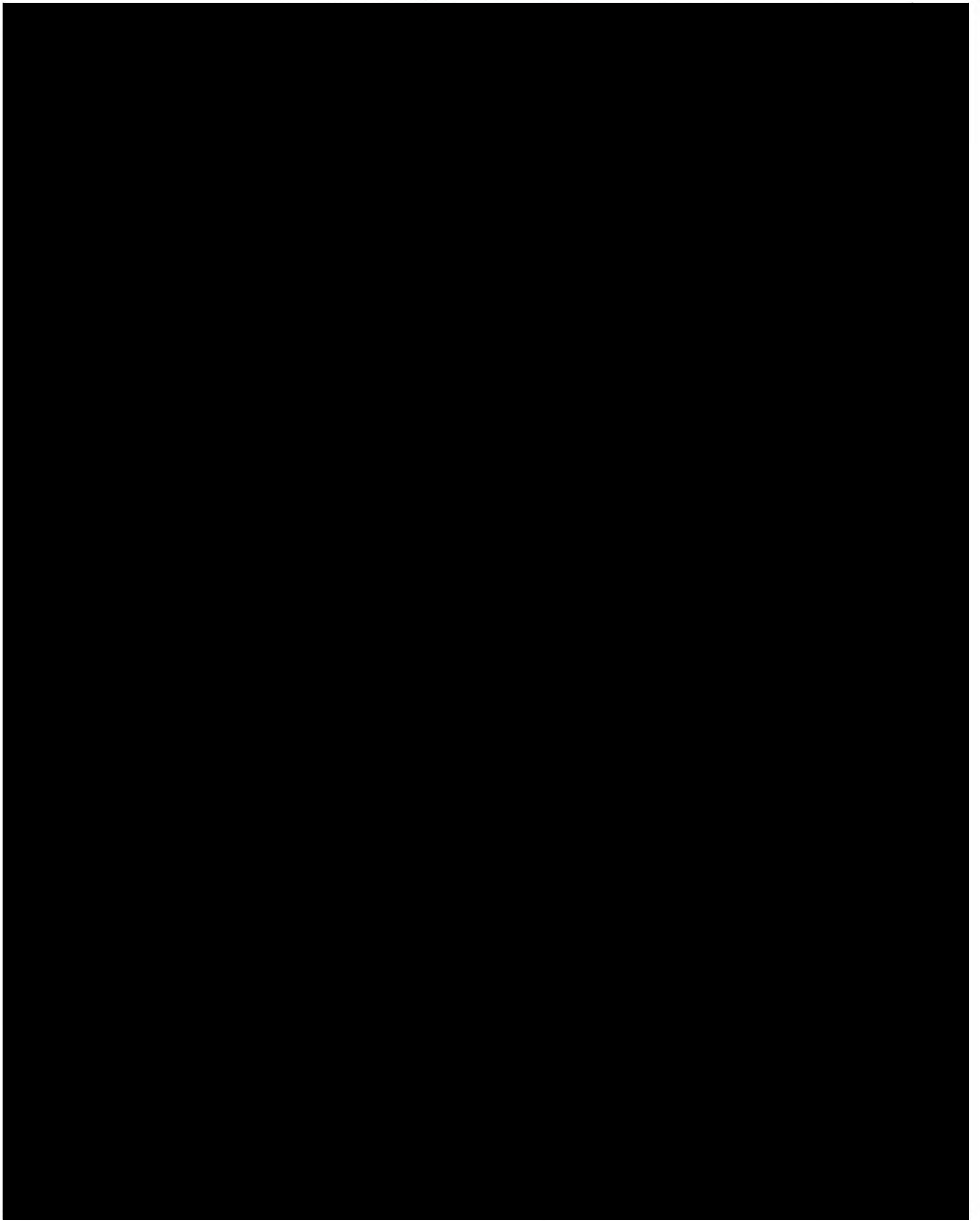
..... Date: 02/06/2016  
Andrew Parker Program Manager











# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 7 – programming services

**CONTRACTOR REFERENCE NO.:** Adhoc -007-1\_2

**SUBJECT:** Programming services

**DESCRIPTION:**

Engagement of Solid Support for Construction Programming services during pre-award negotiations with the Managing Contractor tenderers.

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and the programming services were not included

**QUANTUM OF CLAIM:**

Cost of services

Jacobs costs (10%)

**Total**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A *Technical*

Reviewed:

*[Signature]* ..... Date: *2/6/16.*  
Darren Gordon *Commercial Manager*

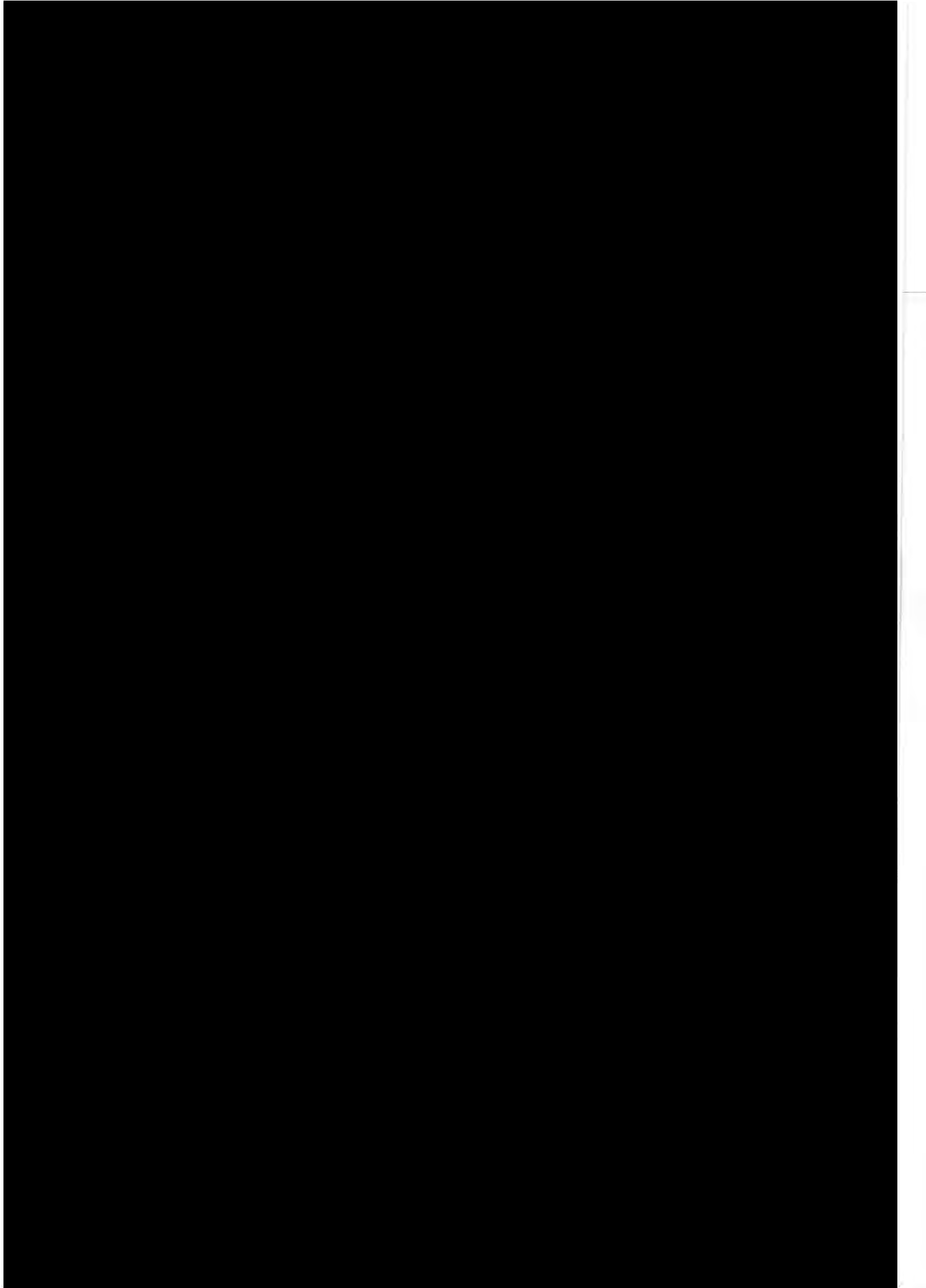
Reviewed:

*[Signature]* ..... Date: *2/6/2016*  
Dean Cambridge *Building Manager*

Approved by:

*[Signature]* ..... Date: *02/06/2016*  
Andrew Parker *Program Manager*





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-12</b>	Client PVR Ref No:	<b>Ad Hoc-007-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Programmers</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	11 May 2016			

**Description of Variation**

Engagement of Solid Support to be the Programmers on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Solid Support to be the Programmers on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Solid Support									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

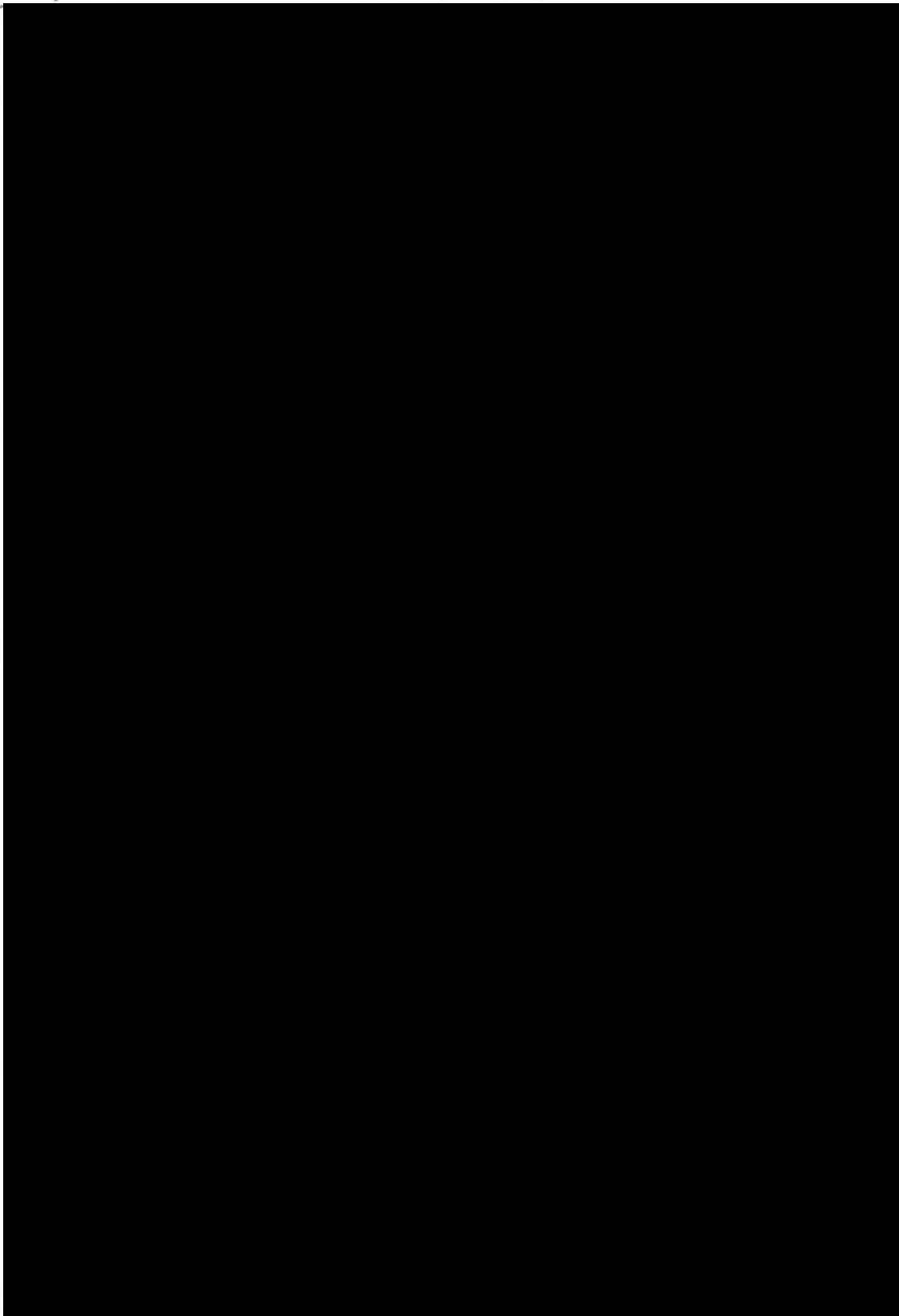
There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Solid Support's invoice and timesheet details have been included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>PP S.2 3</i>	<b>Date:</b>	11 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	















# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



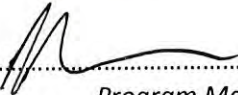
**ST REFERENCE NO.:** Adhoc 7.1 – additional programming services

**CONTRACTOR REFERENCE NO.:** Adhoc-007-2\_1

**SUBJECT:** Additional Programming Services

<b>DESCRIPTION:</b> Engagement of Solid Support for Construction Programming services in finalising AW Edwards tender program.
<b>BASIS OF CLAIM:</b> The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and the programming services were not included
<b>QUANTUM OF CLAIM:</b> Cost of services [REDACTED] Jacobs costs (10%) [REDACTED] <b>Total</b> [REDACTED]
<b>BUDGET AND OTHER COMMENTS:</b>  The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed: ..... Date: N/A Technical
Reviewed:  ..... Date: 2/6/16. Darren Gordon Commercial Manager
Reviewed:  ..... Date: 2/6/16 Dean Cambridge Building Manager
Approved by:  ..... Date: 02/06/2016 Andrew Parker Program Manager







**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-19</b>	Client PVR Ref No:	<b>Ad Hoc-007-2_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Programmers Additional Scope</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	11 May 2016			

**Description of Variation**

Extension of Solid Support's engagement to update the existing Programme as per the SDR design submission and review the Controctor's Programme.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Solid Support to be the Programmers on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Solid Support									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Confirmation of direction in an email from Darren Gordon, dated 15 March 2016 is included in this variation as Attachment A.
- Solid Support's invoice and timesheet details have been included in this variation as Attachment B.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>pp 5.2-3</i>	<b>Date:</b>	11 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 1 – Additional Competition Architect

**CONTRACTOR REFERENCE NO.:** Adhoc-001-1\_2

**SUBJECT:** Engagement of an additional competition Architect

**DESCRIPTION:**

Engagement of Daryl Jackson as an additional competition Architect to supplement the original three (3) taking part in the design completion

**BASIS OF CLAIM:**

The Jacob's contract did not include the engagement of a fourth Architect (three only) and accordingly, it represents a Variation under the Contract.

**QUANTUM OF CLAIM:**

Daryl Jackson were paid the pre-agreed amount of [REDACTED] (Ex GST) – as paid to all competition architects. Paul Berkmeir cost will be paid at an agreed rate of [REDACTED]/hr, as provided in the attached invoice.

Daryl Jackson  
Paul Berkmeir  
Sub-total  
Jacob's costs (10%)  
**Total Variation**

[REDACTED]

**BUDGET AND OTHER COMMENTS:**

These costs were not originally planned however are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A                      *Technical*

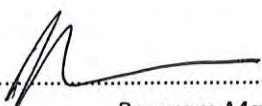
Reviewed:

 ..... Date: *2/6/16*  
Darren Gordon                      *Commercial Manager*

Reviewed

 ..... Date: *2/6/16*  
Dean Cambridge                      *Building Manager*

Approved by:

 ..... Date: *02/06/16*  
Andrew Parker                      *Program Manager*





**Project Variation Request Form  
ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details			
Jacobs PVR Ref No:	<b>VCN-2</b>	Client PVR Ref No:	<b>Ad Hoc-001-1_2</b>
		Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services - Engagement of an Additional Competition Architect and Competition Chair</b>		
PVR raised by:	Person:	Peter Boase	
	Organisation:	Jacobs	
	Date:	10 May 2016	

**Description of Variation**

Engagement of Daryl Jackson as an additional competition Architect to supplement the original three (3) taking part in the Design Competition and Paul Berkmeir as a jury chair for the Design Competition, as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage an additional Architect to take part in the Design Competition, as well as appointing a competition chair as part of the Ad Hoc services agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
4th Architect									
Jury Chair									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- Daryl Jackson Robin Dyke's invoice with value [redacted] included in this variation as Attachment A.
  - Paul Berkemeier's invoice with value [redacted] included in this variation as Attachment B.

Approvals			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	







# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



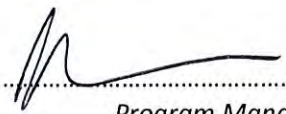
**ST REFERENCE NO.:** Adhoc-1.1 – Additional hours for competition assessment

**CONTRACTOR REFERENCE NO.:** Adhoc-001-2\_1

**SUBJECT:** Additional Hours for interviewing the competitors  
Architects

<b>DESCRIPTION:</b>  The design competition architects were instructed to attend additional meetings for Sydney Trains assessment of the design competition submissions – in excess of the work included in the competition fee.
<b>BASIS OF CLAIM:</b>  The additional meetings were not included in Jacob's Fee and represent a Variation pursuant to the Contract.
<b>QUANTUM OF CLAIM:</b> Cost of meetings Jacob's costs (10%) <b>Total Variation</b>
<b>BUDGET AND OTHER COMMENTS:</b>  These costs are contained within the approved infrastructure budget

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		
.....	Technical	Date:
Nicolas Di Condio		
Reviewed:		Date: 2/6/16.
.....	Commercial Manager	
Darren Gordon		
Reviewed:		Date: 2/6/16.
.....	Building Manager	
Dean Cambridge		
Approved by:		Date: 02/06/2016
.....	Program Manager	
Andrew Parker		

**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-6</b>	Client PVR Ref No:	<b>Ad Hoc-001-2_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Additional Hours for Interviewing the Competition Architects</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Additional hours required for interviewing the original three (3) competition architects Smart Design Studio (SDS), Neeson Mercurt (NM) and SJB Interiors (SJB) as part of the Design Competition. This further engagement will be part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to provide additional hours to the original three (3) competition architects for interviews as part of the Design Competition and this engagement to be part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
SDS									
NM									
SJB									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation (See details above)</b>	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- SDS's invoice with value [redacted] included in this variation as Attachment A.
- NM's invoice with value [redacted] included in this variation as Attachment B.
- SJB's invoice with value [redacted] included in this variation as Attachment C.





tax invoice

—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—

smart design studio

632 bourke street  
surry hills nsw 2010  
tel 02 8332 4333

Jacobs Group (Australia) Pty Ltd  
ABN: 37 001 024 095  
100 Christie Street  
St Leonards NSW 2065

Jacobs contact name: **Peter Boase**  
Jacobs Project number: **IA084200**  
Jacobs WBS code: 1

2 December 2015

---

**TAX INVOICE NO. 1523.01**

FOR COMPETITION FEE AND HOURLY RATE FEES FOR IA084200 ROC PROJECT;

- Competition fee
- Principal 8 hrs @ [REDACTED]/hr
- Total fee amount due this invoice
- Sub-total
- 10% Goods & Services Tax (GST)



**TOTAL AMOUNT DUE**

Payment is required within 30 days of receipt of this invoice.  
Please make all cheques payable to Smart Design Studio Pty Ltd. This invoice serves as a payment claim under the Building and Construction Industry Security of Payment Act 1999.

**Our bank account details:-**

**Direct Deposit** Option: BSB: 082 080 Account No: 94 914 8431

Please email [accounts@smartdesignstudio.com](mailto:accounts@smartdesignstudio.com) to confirm payment details.

NEESON MURCUTT  
ARCHITECTS PTY LTD

**Attachment B**

L2 / 9 ROSLYN ST POTTS POINT NSW 2011  
T 2 8297 3590 F 2 8297 3510 ABN 48 109 003 652  
M 0414 250 869 rachel@neesonmurcutt.com  
NOMINATED ARCHITECT: RACHEL NEESON #6692

**TAX INVOICE**

**DATE:** 6 November 2015  
**INVOICE NO:** 2  
**TO:** Peter Boase - Project Manager ROC  
Jacobs  
100 Christie Street, St Leonards NSW 2065  
**RE:** **Sydney Trains Rail Operations Centre ROC**  
**OUR REF:** **1512**  
**FOR:** Hourly Rates  
**PROJECT NO:** IA084200-WBS 100

**FEE DUE:** Rachel Neeson 8 hours @ [REDACTED]/hr  
Friday 30.10.15  
Tuesday 03.11.15

less paid (excl gst)

total fee

gst

subtotal

plus disbursements :

**Total now due**

terms 14 days

Cheques made payable to NEESON MURCUTT ARCHITECTS PTY LTD or direct deposit into  
NEESON MURCUTT ARCHITECTS PTY LTD Westpac BSB 032 016 AC 23 2013





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 5 – RAMS services

**CONTRACTOR REFERENCE NO.:** Adhoc -005-1\_2

**SUBJECT:** RAMS Consultant –RAMS Management Plan (Phase 1)

**DESCRIPTION:**

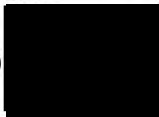
Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement to prepare the RAMS Management Plan. The scope of the engagement includes the following: Phase 1-Development of RAMS Management Plan document, a high level RAM model for the ROC and allocation of the business requirement specification (BRS) to each system or subsystem.

**BASIS OF CLAIM:**

Jacobs contract included an adhoc services item for RAMS services. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.

**QUANTUM OF CLAIM:**

Fee Proposal  
Jacobs costs (10%)  
**Total claim**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 2/6/16.  
Darren Gordon Commercial Manager

Reviewed

..... Date: 2/6/16.  
Dean Cambridge Building Manager

Approved by:

..... Date: 02/06/2016  
Andrew Parker Program Manager





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-10</b>	Client PVR Ref No:	<b>Ad Hoc-005-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – RAMS Consultant</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement. This variation covers the RAMS Plan – Phase 1 scope.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
ARMS Reliability									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- ARMS Reliability's fee proposal for the RAMS Plan – Phase 1 scope is included in this variation as Attachment A.
- ARMS Reliability's invoices and timesheets to date have been included in this variation as Attachment B.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



























# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

qCONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



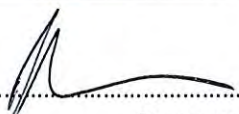
ST REFERENCE NO.: Adhoc 5.1 – RAMS services

CONTRACTOR REFERENCE NO.: Adhoc -005-2\_1

SUBJECT: RAMS Consultant –Electrical Power Modelling (Phase 2a)

<b>DESCRIPTION:</b> Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement to provide electrical power modelling. The scope of the engagement includes the following: Phase 2a to provide Electrical Power modelling
<b>BASIS OF CLAIM:</b> Jacobs contract included an adhoc services item for RAMS services. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.
<b>QUANTUM OF CLAIM:</b> Fee Proposal [REDACTED] Jacobs costs (10%) [REDACTED] <b>Total claim</b> [REDACTED]
<b>BUDGET AND OTHER COMMENTS:</b>  The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed: ..... Date: N/A Technical
Reviewed:  ..... Date: 2/6/16 Darren Gordon Commercial Manager
Reviewed:  ..... Date: 2/6/16 Dean Cambridge Building Manager
Approved by:  ..... Date: 02/08/16 Andrew Parker Program Manager





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-14</b>	Client PVR Ref No:	<b>Ad Hoc-005-2_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – RAMS Consultant - Additional</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	20 January 2016			

**Description of Variation**

Engagement of ARMS Reliability to provide additional RAMS Consulting Services – Phase 2a on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage ARMS Reliability to provide additional RAMS Consulting Services – Phase 2a on the Project as part of the Ad Hoc services agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
ARMS Reliability									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	
Revised Total Fee:	

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	22 January 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

































































**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-8</b>	Client PVR Ref No:	<b>Ad Hoc-002-1_3</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Human Factors Consultant</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	06 June 2016			

**Description of Variation**  
Engagement of Ergonomie to provide Human Factor Consulting Services as part of the Ad Hoc Services Agreement. This variation covers Ergonomie's fee for the original Human Factors scope.

**Basis for Variation**  
The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Ergonomie to provide Human Factor Consulting Services as part of the Ad Hoc services agreement.  
The above engagement will have the following Terms and Conditions (T&Cs) associated with it:  
 **Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	█	█	█	█	█	█		\$	
Hours									
Ergonomie								█	
Jacobs Fee (10%)									
Cost									█

Project Summary	
Original Fee:	█
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	█
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**  
There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- Ergonomie's fee proposal for the original Human Factors scope is included in this variation as Attachment A.
  - Ergonomie's invoices and timesheets to date have been attached to this variation as Attachment B.
  - Ergonomie's confirmation email about the hours charged against this original engagement (Attachment C).

Approvals			
Jacobs PM Signature:	<i>pp. S.2-3</i>	Date:	06 June 2016
Client Representative Signature or Client Approval Reference No.:		Date:	



































































# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 2.1 – Human Factors services additional

**CONTRACTOR REFERENCE NO.:** Adhoc -002-1\_2

**SUBJECT:** Ad Hoc Services-Human Factors Consultant

**DESCRIPTION:**

Engagement of Ergonomie to provide Human Factor Consulting Services as part of the Ad Hoc Services Agreement. The variations covers Ergonomie's fee for the Human Factors Scope of Work.

**BASIS OF CLAIM:**

The engagement of Ergonomie by Jacob's is an Adhoc Service as defined at clause 11.9 of the Conditions of Contract.

**QUANTUM OF CLAIM:**

Refer to the attached account summary, summarised as follows:

INV I000122  
INV I000129  
INV I000135  
INV I000140  
**Final Contract Value**  
Jacob's costs (10%)  
**Total this claim**



**BUDGET AND OTHER COMMENTS:**

These works were budgeted for and are included in the business case.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:		Date: 21/07/2016
Ibrahim Fazah	Technical	
Reviewed:		Date: 21/7/16.
Darren Gordon	Commercial Manager	
Reviewed:		Date: 8/9/16.
Dean Cambridge	Building Manager	
Approved by:		Date: 08/09/2016.
Andrew Parker	Program Manager	





Project: ROC – Rail Operations Centre

Project No: IA084200

Project Manager: Peter Boase

Client: Sydney Trains

## Project Variation Request Details

Jacobs PVR Ref No: **VCN-13** Client PVR Ref No: **Ad Hoc-002-2\_2** Contract Ref: CW47307PVR Title: **Ad Hoc Services – Human Factors Consultant - Additional**

PVR raised by: Person: Peter Boase

Organisation: Jacobs

Date: 06 June 2016

## Description of Variation

Engagement of Ergonomie to provide additional Human Factor Consulting Services for Dec 15 / Jan 16 as part of the Ad Hoc Services Agreement.

## Basis for Variation

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Ergonomie to provide additional Human Factor Consulting Services for Dec 15 / Jan 16 as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**  **Amended Contract T&Cs**

## Cost Impact of Variation

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
Ergonomie									
Jacobs Fee (10%)									
Cost									

## Project Summary

Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

## Time Impact of Variation

There will be no change to the agreed programme with Sydney Trains.

## Supporting Documentation

- Ergonomie's fee proposal for the additional Human Factors scope is included in this variation as Attachment A.
- Ergonomie's invoices and timesheets to date have been attached to this variation as Attachment B.
- Ergonomie's confirmation email about the hours charged against this additional engagement (Attachment C).

## Approvals

Jacobs PM Signature:

pp. S.2-3

Date:

06 June 2016

Client Representative Signature or Client Approval Reference No.:

Date:































































# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: Adhoc 3 – Early planning advice

CONTRACTOR REFERENCE NO.: Adhoc -003-1\_3

SUBJECT: Early Planning advice for the FRNSW training facility

**DESCRIPTION:**

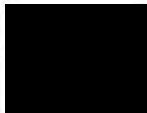
Engagement of Planning Ingenuity to provide planning advice for FRNSW training facility as part of the Ad Hoc Services Agreement

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement

**QUANTUM OF CLAIM:**

Cost of advice  
Jacob's costs (10%)  
**Total Variation**



**BUDGET AND OTHER COMMENTS:**

These costs arose from negotiations with FRNSW around the acquisition of land and are not included in the budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:

Nicolas Di Condo *Technical*

Reviewed:

..... Date: 3/6/16.

Darren Gordon *Commercial Manager*

Reviewed

..... Date: 3/6/16

Dean Cambridge *Building Manager*

Approved by:

..... Date: 03/06/16

Andrew Parker *Program Manager*









**Project Variation Request Form**

**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-7</b>	Client PVR Ref No:	<b>Ad Hoc-003-1_3</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Planning Advice on FRNSW Training Facility</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	02 June 2016			

**Description of Variation**

Engagement of Planning Ingenuity to provide planning advice for FRNSW Training Facility as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Planning Ingenuity to provide planning advice as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Planning Ingenuity									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Instruction to proceed received in an email from Nicolas Di Condio, dated 10 September 2015 is included in this variation as Attachment A.
- Planning Ingenuity's invoice with value [redacted] included in this variation as Attachment B.

**Project Variation Request Form**  
**ROC**



Approvals			
Jacobs PM Signature:	<i>pp. S.2-3</i>	Date:	02 June 2016
Client Representative Signature or Client Approval Reference No.:		Date:	















**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-7</b>	Client PVR Ref No:	<b>Ad Hoc-003-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Planning Advice on FRNSW Training Facility</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Engagement of Planning Ingenuity to provide planning advice for FRNSW Training Facility as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Planning Ingenuity to provide planning advice as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
Planning Ingenuity									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

*JACOBS will update.*

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Instruction to proceed received in an email from Nicolas Di Condio, dated 10 September 2015 is included in this variation as Attachment A.
- Planning Ingenuity's invoice with value [REDACTED] included in this variation as Attachment B.





**Project Variation Request Form  
ROC**



**Approvals**

**Jacobs PM Signature:**

*pp. S.2 3*

**Date:**

10 May 2016

**Client Representative Signature or  
Client Approval Reference No.:**

**Date:**

















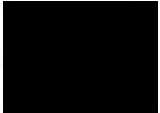
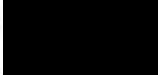
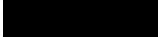
# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: Adhoc 4 – Mechanical services SME

CONTRACTOR REFERENCE NO.: Adhoc -004-1\_2

SUBJECT: Mechanical SME

<b>DESCRIPTION:</b> Engagement of Evolved Engineering to be the Mechanical SME on the project as part of the Ad Hoc Services Agreement.
<b>BASIS OF CLAIM:</b> The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and the mechanical services SME was not included in Jacobs original contract scope of work.
<b>QUANTUM OF CLAIM:</b>  Fee proposal  Jacob's costs (10%)  <b>Total Variation</b> 
<b>BUDGET AND OTHER COMMENTS:</b>  The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed: ..... Date: N/A Technical
Reviewed: ..... Date: 0/6/16 Darren Gordon Commercial Manager
Reviewed: ..... Date: 3/6/16 Dean Cambridge Building Manager
Approved by: ..... Date: 03/06/2016 Andrew Parker Program Manager



































**Project Variation Request Form  
ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

<b>Project Variation Request Details</b>					
Jacobs PVR Ref No:	<b>VCN-9</b>	Client PVR Ref No:	<b>Ad Hoc-004-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Mechanical SME</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Engagement of Evolved Engineering to be the Mechanical SME on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Evolved Engineering to be the Mechanical SME on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
Evolved Engineering									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Evolved Engineering's invoices to date included in this variation as an attachment.

<b>Approvals</b>			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 9 – Façade architect (Smart Design Studio)

**CONTRACTOR REFERENCE NO.:** Adhoc -009-1\_2

**SUBJECT:** Facade Architect – Smart Design Studio

**DESCRIPTION:**

Engagement of Smart Design Studio (winning competition architect) for the detailed design of the Façade and internal amenity - as part of the Ad Hoc Service Agreement.

**BASIS OF CLAIM:**

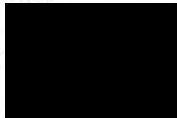
Jacobs contract included an adhoc services item for these services. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.

**QUANTUM OF CLAIM:**

Fee proposal

Jacobs costs (10%)

**Total claim**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC infrastructure review & approval - Authorising payment

Reviewed:

..... Date:

N/A

*Technical*

Reviewed:

..... Date: 9/8/16.

Darren Gordon

*Commercial Manager*

Reviewed

..... Date: 9/8/16.

Dean Cambridge

*Building Manager*

Approved by:

..... Date: 09/08/16

Andrew Parker

*Program Manager*











































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# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 2.1

**CONTRACTOR REFERENCE NO.:** SVR-002\_3

**SUBJECT:** Aconex scope of service is increased

<b>DESCRIPTION:</b> Aconex scope of work increased to include Tenders and Smart Manuals.
<b>BASIS OF CLAIM:</b> The Tender module and Smart Manuals are required on the project to facilitate construction and were not included in the original Aconex scope of work.
<b>QUANTUM OF CLAIM:</b> Contract Amount Aconex Revised Contract Amount <b>Variation claim</b> Jacobs costs (10%) <b>Variation total</b>
<b>BUDGET AND OTHER COMMENTS:</b> These costs are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:	..... Date:
N/A	Technical
Reviewed:	..... Date:
Darren Gordon	Commercial Manager 03/6/16
Reviewed	..... Date:
Dean Cambridge	Building Manager 3/6/16
Approved by:	..... Date:
Andrew Parker	Program Manager 03/06/2016

(102.152-4)

(102.152-5)

ROCK STRUCTURE - VARIATION & CLIMATE

Geology Group

1950

1. Introduction

2. Methods

3. Results

4. Discussion

5. Conclusions

6. References

7. Appendix

8. Index

9. Summary

10. Acknowledgments

11. Bibliography

12. Glossary

13. Plates

14. Figures

15. Tables

16. Maps

17. Photographs

18. Diagrams

19. Charts

20. Appendices

21. Index

22. Summary

23. Acknowledgments

102.152-4

102.152-5



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. **CW47307**)

**ST REFERENCE NO.:** 2.1

**CONTRACTOR REFERENCE NO.:** SVR-002\_2

**SUBJECT:** Aconex scope of service is increased

<b>DESCRIPTION:</b> Aconex scope of work increased to include Tenders and Smart Manuals.
<b>BASIS OF CLAIM:</b> The Tender module and Smart Manuals are required on the project to facilitate construction and were not included in the original Aconex scope of work.
<b>QUANTUM OF CLAIM:</b> Contract Amount Aconex Revised Contract Amount <b>Variation claim</b> Jacobs costs (10%) <b>Variation total</b>
<b>BUDGET AND OTHER COMMENTS:</b> These costs are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:	..... Date:
N/A	Technical
Reviewed:	..... Date:
Darren Gordon	Commercial Manager
Reviewed:	..... Date:
Dean Cambridge	Building Manager
Approved by:	..... Date:
Andrew Parker	Program Manager



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 2.1

**CONTRACTOR REFERENCE NO.:** SVR-002\_2

**SUBJECT:** Aconex scope of service is increased

<b>DESCRIPTION:</b> Aconex scope of work increased to include Tenders and Smart Manuals.	
<b>BASIS OF CLAIM:</b> The Tender module and Smart Manuals are required on the project to facilitate construction and were not included in the original Aconex scope of work.	
<p><b>QUANTUM OF CLAIM:</b> <i>Contract Amount</i></p> <p>Original Aconex Fee [REDACTED]</p> <p>Revised Aconex Fee [REDACTED]</p> <p><b>Balance / this claim</b> [REDACTED] <i>in Date</i> [REDACTED]</p> <p>Jacobs costs (10%) [REDACTED] <i>to Jan</i> [REDACTED]</p> <p><b>Variation total</b> [REDACTED] <i>+</i> [REDACTED]</p>	<p><i>Revised Contract - 15/1/2014</i></p> <p><i>total variation</i></p> <ul style="list-style-type: none"> <li>• Add INSMA scope.</li> <li>• Access to READ THESE Submission - 15/1/2014</li> </ul>
<b>BUDGET AND OTHER COMMENTS:</b> These costs are contained within the approved infrastructure budget.	

## ROC Infrastructure review & approval - Authorising payment

Reviewed:	.....	Date:
N/A	Technical	
Reviewed:	.....	Date:
Darren Gordon	Commercial Manager	
Reviewed:	.....	Date:
Dean Cambridge	Building Manager	
Approved by:	.....	Date:
Andrew Parker	Program Manager	





Project Variation Request Form

ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details

Jacobs PVR Ref No:	<b>VCN-1</b>	Client PVR Ref No:	<b>SVR-002_3</b>	Contract Ref:	CW47307
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<b>PVR Title:</b>	<b>Revised Aconex Fee</b>		
<b>PVR raised by:</b>	Person:	Peter Boase	
	Organisation:	Jacobs	
	Date:	02 June 2016	

Description of Variation

Change in the Aconex fee on the Project to include Tenders and Smart Manuals.

Basis for Variation

The cost to the ROC Project utilising Aconex was part of the original Jacobs' BAFO fee with value \$84,000. Since the Project has commenced, the Aconex fee was revisited twice and resulted in an increased cost to the Project and ultimately Sydney Trains. The following breakdown details the evolution of the Aconex fee to date.

- Original Aconex Fee (BAFO) - [REDACTED]
- Revised Aconex Fee (SVR-002\_1) - [REDACTED]
- Revised Aconex Fee to include Tenders and Smart Manuals (SVR-002\_3) - [REDACTED]

Cost Impact of Variation

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
Aconex Fee									
Cost									

Project Summary	
Original Total Project Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

Time Impact of Variation

There will be no change to the agreed programme with Sydney Trains.

Supporting Documentation

- Refe to the revised Aconex Services Order (attached to this SVR as Attachment 1) which is associated with SVR-002\_3.

Approvals

Jacobs PM Signature:	<i>pp. 5.2-3</i>	Date:	02 June 2016
Client Representative Signature or Client Approval Reference No.:		Date:	









2.1

**Project Variation Request Form  
ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-1</b>	Client PVR Ref No:	<b>SVR-002_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Revised Aconex Fee</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Change in the Aconex fee on the Project to include Tenders and Smart Manuals.

**Basis for Variation**

The cost to the ROC Project utilising Aconex was part of the original Jacobs' BAFO fee with value [REDACTED]. Since the Project has commenced, the Aconex fee was revisited twice and resulted in an increased cost to the Project and ultimately Sydney Trains. The following breakdown details the evolution of the Aconex fee to date.

- Original Aconex Fee (BAFO) - [REDACTED]
- Revised Aconex Fee (SVR-002\_1) - [REDACTED]
- Revised Aconex Fee to include Tenders and Smart Manuals (SVR-002\_2) - [REDACTED]

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	\$	
Hours									
Aconex Fee									
Cost									

Project Summary	
Original Total Project Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Refer to the revised Aconex Services Order (attached to this SVR as Attachment 1) which is associated with SVR-002\_1.
- Refer to the revised Aconex Services Order (attached to this SVR as Attachment 2) which is associated with SVR-002\_2.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>pp 5.2</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



















































**Project Variation Request Form**

**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-5</b>	Client PVR Ref No:	<b>SVR-003_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Enabling Works - Survey</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	02 June 2016			

**Description of Variation**

This variation pertains to works for the scoping, request for tender and delivery of detailed survey investigations (invasive) required as identified during the site inspection for enabling works.

**Basis for Variation**

Refer to Section 3 – Basis for Variation of the attached and previously submitted variation (IA084200-EW-SVR-002\_1).

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours*									
Expenses*									
Cost									

\* For a breakdown of costs, refer to Section 4 - Cost Impact of Variation of the attached and previously submitted variation (IA084200-EW-SVR-002\_1).

Project Summary	
Original Total Project Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

Please refer to Section 5 – Time Impact of Variation of the attached and previously submitted variation (IA084200-EW-SVR-002\_1).

**Supporting Documentation**

- Previously submitted variation - IA084200-EW-SVR-002\_1 included in this variation claim as Attachment 1.
- Australian Facilities Plumbing quotation – GC913 included in this variation claim as Attachment 2.
- Australian Facilities Plumbing invoice – 00045504 included in this variation claim as Attachment 3.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>pp. 5.2-3</i>	<b>Date:</b>	02 June 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





























# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 7      **CONTRACTOR REFERENCE NO.:** SVR-007\_4

**SUBJECT:** Notice of Delay-Delay Commencing PDR

**DESCRIPTION:**  
Sydney Trains prolonged its approval of 100% SDR design while it reviewed its building requirements against the budget. This caused a delay in design in the order of 4 weeks (from 8 Feb to 5 March 2016). Note: This is in addition to previous delays in design caused largely by Sydney Train's late requirements definition and prolonged engagement of the design competition architect – in the order of 12 weeks. The combined effect of these delays was a 16 week delay to the SDR design.  
  
Notwithstanding this, Jacobs have only claimed for the delay in February and for only 3 week delay. (however may seek to claim for the earlier delay at a later date i.e. by way of Variation / NOD no. 6)

**BASIS OF CLAIM:**  
This is a variation pursuant to clause 11.1 (ii) giving rise to entitlement for an EOT and costs under the contract pursuant to clause 11.4.

**QUANTUM OF CLAIM:**  
The claim (Variation no. 7) has been assessed by ROC with reference to the contract and the contract schedule of rates – where applicable. *See attached details of the assessment made.*  
  
The ROC valuation total is [REDACTED]. The Jacobs claim total is [REDACTED]. Therefore the claimed amount is deemed to be reasonable and as it is recommended for approval.

**BUDGET AND OTHER COMMENTS:** The costs are funded from the original infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:  
..... Date:  
N/A                      *Technical*

Reviewed:  
..... Date: 9/8/16.  
Darren Gordon                      *Commercial Manager*

Reviewed:  
..... Date: 9/8/16.  
Dean Cambridge                      *Building Manager*

Approved by:  
..... Date: 09/08/2016  
Andrew Parker                      *Program Manager*



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

## ROC ASSEMENT SUMMARY

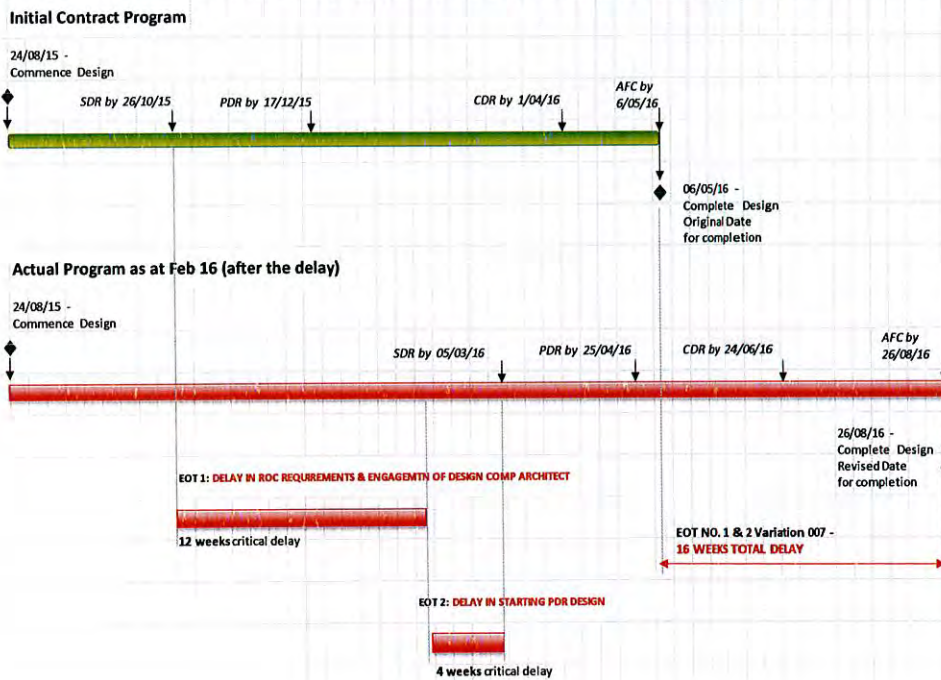
We assessed a total of 16 weeks delay since commencement of the design. We attributed four weeks of this to late approval of the SDR in February / March 2016 and as such agree with the extent of delay claimed by Jacobs – being 3 weeks delay (along with some disruption in January 2016).

Note: Jacobs mitigated the delay by carrying out a number of PDR design activities that could be carried out at the time; and as such complied with its requirements under the contract to expedite the design services.

The delays to the design as at February 2016 are summarised in the high level graphic below:

2015												2016																																																	
August			September			October			November			December			January			February			March			April			May			June			July			August			September																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

## Jacobs Var # 7 - PDR postponed in Feb 16 for design review



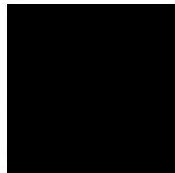
### Assessment of costs

On the basis of the above extent of delay, we valued Jacob's entitlements to costs as follows:

Office overheads

Senior Staff & Smart design

**TOTAL**



\*see details at Attachment A

Note: the rates used to calculate the above were reduced by 20% to remove profit, which in our opinion is not an entitlement under the contract i.e. for delay "costs" (only). As the total assessed costs is [redacted] and the amount claimed by Jacobs is [redacted] – we deemed their claim to be acceptable and recommend its approval.





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

## ATTACHMENT A

Details of the ROC assessment calculations are tabled below:

### Sydney Trains ROC Valuation

Description	Quant	Unit	Cost Rate	Total
<b>Overheads</b>				
Business head office overhead	3	wks		
Project Director (NN)	3	wks		
Project Manager (PB)	3	wks		
<b>Sub-total</b>				
<b>Cost of disruption / delay - staff unassigned</b>				
Allow 50% unproductive time i.e. 1.5 week				
Services Engineer (MH)	1.5	wks		
Snr Structural Engineer (TE)	1.5	wks		
Various arhitects & engineers (7 no.)	11	wks		
Support staff (2no.)	3	wks		
Smart Design Studio	1	item		
<b>Sub-total</b>				
<u>Credit for late documents for approval</u>				
2 staff at 2 weeks	2	wks		
<b>Sub-total</b>				
<b>TOTAL</b>				

















<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-18</b>	Client PVR Ref No:	<b>SVR-007_4</b>	Contract Ref:	CW47307
PVR Title:	<b>Notice of Delay – Delay in Commencing PDR</b>				
PVR raised by:	Person:	Nando Nictotra / Steve Zervas			
	Organisation:	Jacobs			
	Date:	07 April 2016			

**Description of Variation**

Sydney Trains have delayed the 100% SDR approval until 05 March 2016.

This variation is to cover the extra over costs borne by Jacobs over this period

We have actively worked with the Sydney Trains Team to minimise the impact onto program by:

1. Sequencing the design / procurement to allow piling & all inground works to proceed as an early works package
2. Selected a number of Low risk PDR items that we will continue to work on (Please note these are not costed here as they are already in scope – only the sequence of their delivery changes

*Please refer to Attachments B, C & D.*

**Basis for Variation**

Delay in commencing the PDR stage.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Expenses									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	
Revised Total Fee:	

**Refer to Attachment A for a full breakdown of costs.**

**Time Impact of Variation**

- 14/01/2016 to 05/03/16 – 7 week delay in approval of 100% SDR
  - Programme delay – approximately 3 weeks (different for different disciplines – average 3 weeks)
- Please refer to Attachment B for the updated programme*



**Supporting Documentation**

- Attachment B – Updated programme
- Attachment C – Low risk PDR works to proceed prior to SDR approval
- Attachment D – SDS variation

**Approvals**

<b>Jacobs PM Signature:</b>	Nando Nicotra / Steve Zervas	<b>Date:</b>	07 April 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	









**From:** Darren Gordon

**Title:** ROC Infrastructure Commercial Manager

**Phone:** 02 8922 0073

**Date:** 18/10/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Group (Australia) Pty Ltd

**Contract/Purchase Order:** CW47307

**Variation Number:** 3

**Variation Date:** 18/10/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** FIC Approved

**Comments:**

This Variation relates to ROC Building Multi-Disciplinary Design Services contract for an amount of [REDACTED] (excl. GST) for redesign work, bringing the total contract value up to [REDACTED] (excl. GST).

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
_____ <i>Technical</i>	
reviewed:	Date: 18/10/16
_____ Darren Gordon <i>Commercial Manager</i>	
reviewed:	Date: 20/10/16
_____ Dean Cambridge <i>Building Manager</i>	
Approved:	Date: 18/10/16
_____ Andrew Parker <i>Program Manager</i>	













# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 1 – Additional Competition Architect

**CONTRACTOR REFERENCE NO.:** Adhoc-001-1\_2

**SUBJECT:** Engagement of an additional competition Architect

**DESCRIPTION:**

Engagement of Daryl Jackson as an additional competition Architect to supplement the original three (3) taking part in the design completion

**BASIS OF CLAIM:**

The Jacob's contract did not include the engagement of a fourth Architect (three only) and accordingly, it represents a Variation under the Contract.

**QUANTUM OF CLAIM:**

Daryl Jackson were paid the pre-agreed amount of [REDACTED] (Ex GST) – as paid to all competition architects. Paul Berkmeir cost will be paid at an agreed rate of [REDACTED]/hr, as provided in the attached invoice.

Daryl Jackson  
Paul Berkmeir  
Sub-total  
Jacob's costs (10%)  
**Total Variation**

[REDACTED]

**BUDGET AND OTHER COMMENTS:**

These costs were not originally planned however are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A                      *Technical*

Reviewed:

 ..... Date: *2/6/16*  
Darren Gordon                      *Commercial Manager*

Reviewed

 ..... Date: *2/6/16*  
Dean Cambridge                      *Building Manager*

Approved by:

 ..... Date: *02/06/16*  
Andrew Parker                      *Program Manager*





**Project Variation Request Form  
ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details			
Jacobs PVR Ref No:	<b>VCN-2</b>	Client PVR Ref No:	<b>Ad Hoc-001-1_2</b>
		Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services - Engagement of an Additional Competition Architect and Competition Chair</b>		
PVR raised by:	Person:	Peter Boase	
	Organisation:	Jacobs	
	Date:	10 May 2016	

**Description of Variation**

Engagement of Daryl Jackson as an additional competition Architect to supplement the original three (3) taking part in the Design Competition and Paul Berkmeir as a jury chair for the Design Competition, as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage an additional Architect to take part in the Design Competition, as well as appointing a competition chair as part of the Ad Hoc services agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
4th Architect									
Jury Chair									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- Daryl Jackson Robin Dyke's invoice with value [redacted] included in this variation as Attachment A.
  - Paul Berkemeier's invoice with value [redacted] included in this variation as Attachment B.

Approvals			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	







# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc-1.1 – Additional hours for competition assessment

**CONTRACTOR REFERENCE NO.:** Adhoc-001-2\_1

**SUBJECT:** Additional Hours for interviewing the competitors  
Architects

**DESCRIPTION:**

The design competition architects were instructed to attend additional meetings for Sydney Trains assessment of the design competition submissions – in excess of the work included in the competition fee.

**BASIS OF CLAIM:**

The additional meetings were not included in Jacob's Fee and represent a Variation pursuant to the Contract.

**QUANTUM OF CLAIM:**

Cost of meetings  
Jacob's costs (10%)  
**Total Variation**



**BUDGET AND OTHER COMMENTS:**

These costs are contained within the approved infrastructure budget

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
Nicolas Di Condio *Technical*

Reviewed:

*[Signature]* ..... Date: *2/6/16.*  
Darren Gordon *Commercial Manager*

Reviewed

*[Signature]* ..... Date: *2/6/16.*  
Dean Cambridge *Building Manager*

Approved by:

*[Signature]* ..... Date: *02/06/2016*  
Andrew Parker *Program Manager*

**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details				
Jacobs PVR Ref No:	<b>VCN-6</b>	Client PVR Ref No:	<b>Ad Hoc-001-2_2</b>	Contract Ref: CW47307
PVR Title:	<b>Ad Hoc Services – Additional Hours for Interviewing the Competition Architects</b>			
PVR raised by:	Person:	Peter Boase		
	Organisation:	Jacobs		
	Date:	10 May 2016		

**Description of Variation**

Additional hours required for interviewing the original three (3) competition architects Smart Design Studio (SDS), Neeson Mercurt (NM) and SJB Interiors (SJB) as part of the Design Competition. This further engagement will be part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to provide additional hours to the original three (3) competition architects for interviews as part of the Design Competition and this engagement to be part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
SDS									
NM									
SJB									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation (See details above)</b>	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- SDS's invoice with value [redacted] included in this variation as Attachment A.
  - NM's invoice with value [redacted] included in this variation as Attachment B.
  - SJB's invoice with value [redacted] included in this variation as Attachment C.











# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 5 – RAMS services

**CONTRACTOR REFERENCE NO.:** Adhoc -005-1\_2

**SUBJECT:** RAMS Consultant –RAMS Management Plan (Phase 1)

**DESCRIPTION:**

Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement to prepare the RAMS Management Plan. The scope of the engagement includes the following: Phase 1-Development of RAMS Management Plan document, a high level RAM model for the ROC and allocation of the business requirement specification (BRS) to each system or subsystem.

**BASIS OF CLAIM:**

Jacobs contract included an adhoc services item for RAMS services. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.

**QUANTUM OF CLAIM:**

Fee Proposal  
Jacobs costs (10%)  
**Total claim**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 2/6/16.  
Darren Gordon Commercial Manager

Reviewed

..... Date: 2/6/16.  
Dean Cambridge Building Manager

Approved by:

..... Date: 02/06/2016  
Andrew Parker Program Manager





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-10</b>	Client PVR Ref No:	<b>Ad Hoc-005-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – RAMS Consultant</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement. This variation covers the RAMS Plan – Phase 1 scope.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
ARMS Reliability									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- ARMS Reliability's fee proposal for the RAMS Plan – Phase 1 scope is included in this variation as Attachment A.
- ARMS Reliability's invoices and timesheets to date have been included in this variation as Attachment B.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>PP 5.2</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



























# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



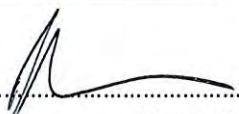
ST REFERENCE NO.: Adhoc 5.1 – RAMS services

CONTRACTOR REFERENCE NO.: Adhoc -005-2\_1

SUBJECT: RAMS Consultant –Electrical Power Modelling (Phase 2a)

<b>DESCRIPTION:</b> Engagement of ARMS Reliability to be the RAMS Consultant on the Project as part of the Ad Hoc Services Agreement to provide electrical power modelling. The scope of the engagement includes the following: Phase 2a to provide Electrical Power modelling
<b>BASIS OF CLAIM:</b> Jacobs contract included an adhoc services item for RAMS services. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.
<b>QUANTUM OF CLAIM:</b> Fee Proposal [REDACTED] Jacobs costs (10%) [REDACTED] <b>Total claim</b> [REDACTED]
<b>BUDGET AND OTHER COMMENTS:</b>  The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:	.....	Date:
N/A	Technical	
Reviewed:		Date: 2/6/16
Darren Gordon	Commercial Manager	
Reviewed:		Date: 2/6/16
Dean Cambridge	Building Manager	
Approved by:		Date: 02/08/16
Andrew Parker	Program Manager	





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-14</b>	Client PVR Ref No:	<b>Ad Hoc-005-2_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – RAMS Consultant - Additional</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	20 January 2016			

**Description of Variation**

Engagement of ARMS Reliability to provide additional RAMS Consulting Services – Phase 2a on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage ARMS Reliability to provide additional RAMS Consulting Services – Phase 2a on the Project as part of the Ad Hoc services agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
ARMS Reliability									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	[REDACTED]
Previous Variations:	[REDACTED]
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	[REDACTED]
Revised Total Fee:	[REDACTED]

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	22 January 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



























































# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



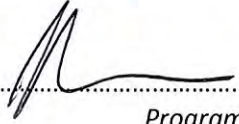
**ST REFERENCE NO.:** Adhoc 6 – Quantity Surveying services

**CONTRACTOR REFERENCE NO.:** Adhoc-006-1\_2

**SUBJECT:** Quantity Surveying

<b>DESCRIPTION:</b> Engagement of Rider Levett Bucknall (RLB) for Quantity Surveying and cost planning services on the project as part of the Ad Hoc Service Agreement.
<b>BASIS OF CLAIM:</b> Jacobs contract included an adhoc services item for Quantity Surveying. All costs are claimable by Jacobs in accordance with the Adhoc services provisions of the Contract.
<b>QUANTUM OF CLAIM:</b> Fee proposal [REDACTED] Jacob's costs (10%) [REDACTED] <b>Total Variation</b> [REDACTED]
<b>BUDGET AND OTHER COMMENTS:</b> The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed: ..... Date: N/A Technical
Reviewed:  ..... Date: 2/6/16 Darren Gordon Commercial Manager
Reviewed:  ..... Date: 2/6/16 Dean Cambridge Building Manager
Approved by:  ..... Date: 02/06/2016 Andrew Parker Program Manager







**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details			
Jacobs PVR Ref No:	<b>VCN-11</b>	Client PVR Ref No:	<b>Ad Hoc-006-1_2</b>
		Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – QS</b>		
PVR raised by:	Person:	Peter Boase	
	Organisation:	Jacobs	
	Date:	10 May 2016	

**Description of Variation**

Engagement of RLB to be the QS on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage RLB to be the QS on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
RLB									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- RLB's invoices and timesheets to date have been included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>PP 5.2-3</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. **CW47307**)

**ST REFERENCE NO.:** Adhoc 7 – programming services

**CONTRACTOR REFERENCE NO.:** Adhoc -007-1\_2

**SUBJECT:** Programming services

**DESCRIPTION:**

Engagement of Solid Support for Construction Programming services during pre-award negotiations with the Managing Contractor tenderers.

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and the programming services were not included

**QUANTUM OF CLAIM:**

Cost of services  
Jacobs costs (10%)  
**Total**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A *Technical*

Reviewed:

*[Signature]* ..... Date: *2/6/16.*  
Darren Gordon *Commercial Manager*

Reviewed:

*[Signature]* ..... Date: *2/6/2016*  
Dean Cambridge *Building Manager*

Approved by:

*[Signature]* ..... Date: *02/06/2016*  
Andrew Parker *Program Manager*



**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-12</b>	Client PVR Ref No:	<b>Ad Hoc-007-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Programmers</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	11 May 2016			

**Description of Variation**

Engagement of Solid Support to be the Programmers on the Project as part of the Ad Hoc Services Agreement.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Solid Support to be the Programmers on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Solid Support									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Solid Support's invoice and timesheet details have been included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	11 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





















**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-19</b>	Client PVR Ref No:	<b>Ad Hoc-007-2_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Programmers Additional Scope</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	11 May 2016			

**Description of Variation**

Extension of Solid Support's engagement to update the existing Programme as per the SDR design submission and review the Controctor's Programme.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. It was identified by Sydney Trains that there is a requirement to engage Solid Support to be the Programmers on the Project as part of the Ad Hoc services agreement.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Solid Support									
Jacobs Fee (10%)									
Cost									

**Project Summary**

Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Confirmation of direction in an email from Darren Gordon, dated 15 March 2016 is included in this variation as Attachment A.
- Solid Support's invoice and timesheet details have been included in this variation as Attachment B.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>pp 5.2 3</i>	<b>Date:</b>	11 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 8 – Contract Admin manual for MC contract

**CONTRACTOR REFERENCE NO.:** Adhoc 8

**SUBJECT:** Contract Admin Manual for MC contract

**DESCRIPTION:**

Engagement of Ian Clark to produce the MC Contract Admin manual for the project as part of the Ad Hoc Services Agreement.

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad HOC Services Agreement and these MC manual services were not included in Jacobs contract scope of work.

**QUANTUM OF CLAIM:**

Fee Proposal  
Jacobs costs (10%)  
**Total**



**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 2/6/16  
Darren Gordon Commercial Manager

Reviewed

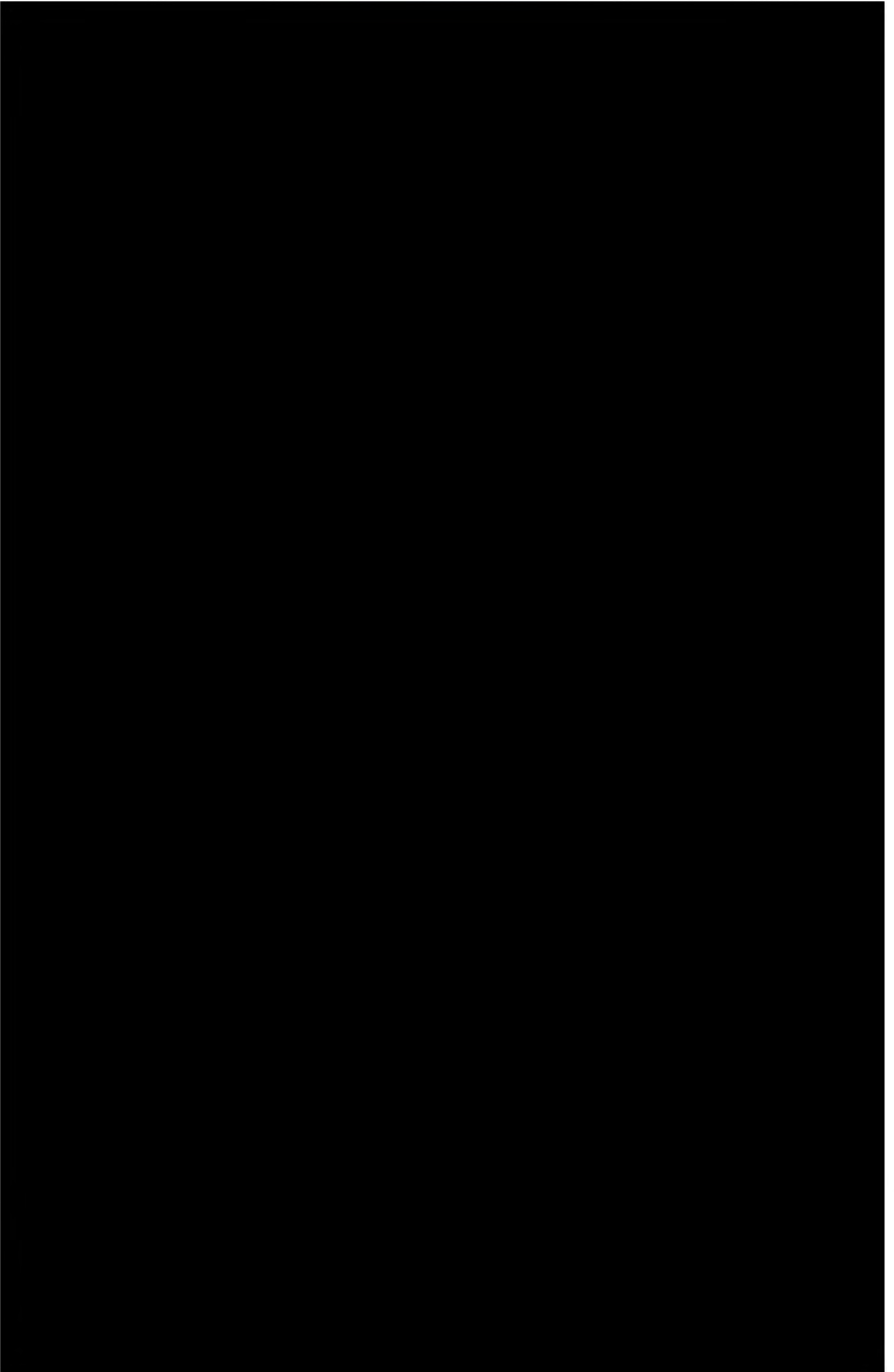
..... Date: 2/6/2016  
Dean Cambridge Building Manager

Approved by:

..... Date: 02/06/2016  
Andrew Parker Program Manager













# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



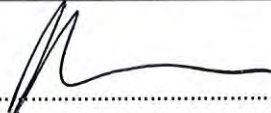
ST REFERENCE NO.: 1

CONTRACTOR REFERENCE NO.: SVR-001\_1 and SVR-001\_2

SUBJECT: Design Services for the Enabling Works

<b>DESCRIPTION:</b> Design of the enabling works to achieve vacant possession of the site for the main ROC building.  Task 1- <b>new temporary training facility</b> to replace the functionality previously housed on the ROC site, including all services mains / infrastructure. Task 2- <b>clearing the existing ROC site</b> of all demountable buildings & capping/diverting utilities.
<b>BASIS OF CLAIM:</b> Design of the enabling works scope of work was not included in Jacob's contract scope of work and accordingly constitutes a Variation under the Conditions of Contract. The additional work was required in order to meet ST obligations under the land agreement (Alexandria site.)
<b>QUANTUM OF CLAIM:</b> Task 1 [REDACTED] Task 2 [REDACTED] PC Sum [REDACTED] <b>Sub Total :</b> [REDACTED] Jacobs (10%) [REDACTED] <b>Total Cost</b> [REDACTED] The claim has been calculated using the contract schedule of rates – where applicable.
<b>BUDGET AND OTHER COMMENTS:</b> Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		
.....	Date:	
Nicolas Di Condio	Technical	
Reviewed:		
	Date:	2/6/16.
Darren Gordon	Commercial Manager	
Reviewed:		
	Date:	2/6/16.
Dean Cambridge	Building Manager	
Approved by:		
	Date:	02/06/16
Andrew Parker	Program Manager	

# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 1

**CONTRACTOR REFERENCE NO.:** SVR-001\_1 and SVR-001\_2

**SUBJECT:** Design Services for the Enabling Works

**DESCRIPTION:**

Design of the enabling works to achieve vacant possession of the site for the main ROC building.

Task 1- **new temporary training facility** to replace the functionality previously housed on the ROC site, including all services mains / infrastructure.

Task 2- **clearing the existing ROC site** of all demountable buildings & capping/diverting utilities.

**BASIS OF CLAIM:**

Design of the enabling works scope of work was not included in Jacob's contract scope of work and accordingly constitutes a Variation under the Conditions of Contract.

The additional work was required in order to meet ST obligations under the land agreement (Alexandria site.)

**QUANTUM OF CLAIM:**

Task 1

Task 2

PC Sum

**Sub Total**

Jacobs (10%)

**Total Cost**

The claim has been calculated using the contract schedule of rates – where applicable.

**BUDGET AND OTHER COMMENTS:**

Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:

Nicolas Di Condio

*Technical*

Reviewed:

..... Date:

Darren Gordon

*Commercial Manager*

Reviewed

..... Date:

Dean Cambridge

*Building Manager*



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 1

**CONTRACTOR REFERENCE NO.:** SVR-001\_1 and SVR-001\_2

**SUBJECT:** Design Services for the Enabling Works

**DESCRIPTION:**

Design of the enabling works to achieve vacant possession of the site for the main ROC building.

Task 1- **new temporary training facility** to replace the functionality previously housed on the ROC site, including all services mains / infrastructure.

Task 2- **clearing the existing ROC site** of all demountable buildings & capping/diverting utilities.

**BASIS OF CLAIM:**

Design of the enabling works scope of work was not included in Jacob's contract scope of work and accordingly constitutes a Variation under the Conditions of Contract.

The additional work was required in order to meet ST obligations under the land agreement (Alexandria site.)

**QUANTUM OF CLAIM:**

The claim has been calculated using the contract schedule of rates – where applicable.

**BUDGET AND OTHER COMMENTS:**

Enabling works costs from part of Program PCR # 26 - for the cost of land acquisition

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:  
Nicolas Di Condio *Technical*

Reviewed:

..... Date:  
Darren Gordon *Commercial Manager*

Reviewed:

..... Date:  
Dean Cambridge *Building Manager*

Approved by:

..... Date:  
Andrew Parker *Program Manager*





**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-3</b>	Client PVR Ref No:	<b>SVR-001_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Enabling Works</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2015			

**Description of Variation**

This scope will cover design and documentation of the works required for the ROC site to be vacated by Fire+ Rescue NSW (FRNSW). This involves two key tasks:

- Task 1 - New temporary Training Facility to replace the functionality previously housed on the ROC site
- Task 2 – Clearing the existing ROC site of all demountable buildings & Capping / diverting utilities

**Basis for Variation**

Enabling works was identified as a requirement as part of the ROC Project.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	
Hourly Rate									
Hours*									
PC Sum - Funktion									
PC Sum - MGAC									
Cost									

\* For a breakdown of costs, refer to Section 6 - Proposed Fee of the attached and previously submitted variation letter (IA084200-EW-SVR-001\_1).

Project Summary	
Original Total Project Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

Please refer to Section 4 – Program of the attached and previously submitted variation letter (IA084200-EW-SVR-001\_1).

**Supporting Documentation**

- Invoices and timesheets to date for the PC Sums have been attached to this variation claim.

Approvals			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	











































# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** 2

**CONTRACTOR REFERENCE NO.:** SVR-002\_1

**SUBJECT:** Aconex price –v- Jacobs allowance

**DESCRIPTION:**

The Aconex fee proposal was less than the provisional amount allowed in Jacobs contract value, therefore the Jacob's contract amount is to be reduced to reflect the actual cost of Aconex.

**BASIS OF CLAIM:**

The Aconex fee forms part of Jacobs contract amount. The final Aconex fee was less than Jacobs allowance in the contract, therefore Sydney Trains is entitled to a reduction for the reduced amount.

**QUANTUM OF CLAIM:**

The amount of the reduction is

Which is calculated as follows:

Original allowance in contract

Final price from Aconex

Balance – reduction amt

Jacobs costs (10%)

**Variation total**

**BUDGET AND OTHER COMMENTS:**

This change amounts to a saving on our budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:

N/A

Technical

Reviewed:

..... Date: 2/6/16.

Darren Gordon

Commercial Manager

Reviewed

..... Date: 2/6/16

Dean Cambridge

Building Manager

Approved by:

..... Date: 02/06/16

Andrew Parker

Program Manager



**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-1</b>	Client PVR Ref No:	<b>SVR-002_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Revised Aconex Fee</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	20 January 2015			

**Description of Variation**

Change in the Aconex fee on the Project.

**Basis for Variation**

The cost the ROC Project utilising Aconex was part of the original Jacobs' BAFO fee. Since the Project has commenced, the Aconex fee was revisited and resulted in a reduced cost to the Project and ultimately Sydney Trains.

**Cost Impact of Variation**

Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	
Hourly Rate									
Hours									
Aconex Fee									
Cost									

**Project Summary**

Original Total Project Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	
Revised Total Fee:	

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Refer to the revised Aconex Services Order (attached to this SVR as Attachment 1) which confirms the revised cost of Aconex's services on the Project.

**Approvals**

<b>Jacobs PM Signature:</b>	<i>P.P. S.2</i>	<b>Date:</b>	22 January 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	







# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: 4

CONTRACTOR REFERENCE NO.: SVR-004\_2

SUBJECT: Design for FRNSW Fire Station

**DESCRIPTION:**

Subsequent to the sale of land negotiations, Jacobs were instructed to incorporate a fire station into the ROC building.

**BASIS OF CLAIM:**

Design of the Fire Station was not included in the Jacobs contract scope of work.




**QUANTUM OF CLAIM:**

Jacobs claim was calculated using the contract schedule of rates and totalled [REDACTED]  
Sydney Trains have approved [REDACTED]

**BUDGET AND OTHER COMMENTS:**

These costs arose from negotiations with FRNSW around the acquisition of land and are not included in the budget.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:		Date:
.....	Technical	
N/A		
Reviewed:		Date: 1/6/16
.....	Commercial Manager	
Darren Gordon		
Reviewed:		Date: 2/6/2016
.....	Building Manager	
Dean Cambridge		
Approved by:		Date: 02/06/2016
.....	Program Manager	
Andrew Parker		



**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-4</b>	Client PVR Ref No:	<b>SVR-004_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Additional Fire Station Design Scope</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Additional design scope of work for the addition of a Fire Station tenancy not originally included in the scope. This SVR covers meeting with the FRNSW users / establishing a brief and producing Test Fit Layouts. Please note that the detailed design and fitout of the internals is specifically excluded – test fit only.

**Basis for Variation**

There has been additional design scope of work identified to be undertaken by Jacobs in relation to the Fire Station tenancy is additional scope.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total
Hourly Rate									
Hours									
Expenses									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

- Supporting Documentation**
- Refer to:
- 3 x user group consultation meetings (complete)
  - Site inspection at Yenoora Fire Station (complete)
  - Presentation to FRNSW steering committee at Chullora HQ (complete)
  - High level concept for Southern boundary lane (complete) – required for Southern access to site
  - Test fit design documentation (complete)

Approvals			
<b>Jacobs PM Signature:</b>		<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)



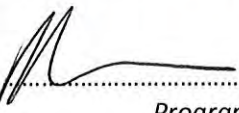
**ST REFERENCE NO.:** 5

**CONTRACTOR REFERENCE NO.:** SVR-005\_2

**SUBJECT:** Building Services Opinion of probable Cost **PDR**

<b>DESCRIPTION:</b> Throughout the PDR stage - Jacobs were instructed to provide an update to their opinion of probable cost (claimed under SVR 005)
<b>BASIS OF CLAIM:</b> The work does not form part of Jacobs original contract scope of work and is a Variation pursuant to the contract.
<b>QUANTUM OF CLAIM:</b> Jacobs submission is based on the Contract schedule of rates.  Total claim [REDACTED]
<b>BUDGET AND OTHER COMMENTS:</b> These cost are contained in the original budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed: ..... Date: N/A Technical
Reviewed:  ..... Date: 2/6/16 Darren Gordon Commercial Manager
Reviewed:  ..... Date: 2/6/16 Dean Cambridge Building Manager
Approved by:  ..... Date: 02/06/16 Andrew Parker Program Manager





<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

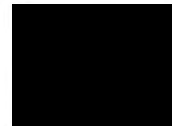
**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-17</b>	Client PVR Ref No:	<b>SVR-005_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Building Services Opinion of Probable Cost</b>				
PVR raised by:	Person:	Peter Boase / Steve Zervas			
	Organisation:	Jacobs			
	Date:	10 May 2016			

**Description of Variation**

Jacobs have been requested to provide an opinion of probable cost for the QS to review, evaluate and incorporate into the overall cost estimate. The costing provided will be based on the SDR schematics issued by Jacobs for the following disciplines.

- Mechanical
- Electrical
- Fire
- Hydraulics
- Security




The fee estimate included in this document covers the following deliverables:

- 1 x SDR Building Services Opinion of Probable cost
- 1 x PDR Update to the Building Services Opinion of Probable cost

The following services discipline or scope item costs will be excluded from the Jacobs Building Services Opinion of Probable cost:

1. Acoustics
2. VT
3. Fire Engineering (any design change associated with FEB)
4. RAMS design changes
5. HV Electrical
6. Fire Station
7. Enabling works
8. Consultant Design fees
9. Preliminaries and Escalation

**Please note:** Any further update extra over to the SDR and PDR Building Services opinion of probable cost, will be for extra cost (approximately .

**Basis for Variation**

There has been additional design scope of work identified to be undertaken by Jacobs in relation to the Building Services opinion of cost.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Expenses									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation (See details above)</b>	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Refer to Attachment A – Breakdown of Costs for a full breakdown of the proposed hours.**

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

Following approval of this variation, the SDR Building Services Opinion of Probable cost will be prepared and presented within five (5) working days.

**Supporting Documentation**

Jacobs March 2016 invoice to Sydney Trains has been attached to this variation which shows the total approved claim to date of 85% of the SDR Building Services Opinion of Probable cost.

**Approvals**

<b>Jacobs PM Signature:</b>	Peter Boase / Steve Zervas <i>S.Z</i>	<b>Date:</b>	10 May 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>	<i>P.P.</i>	<b>Date:</b>	





# **ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM**

**CONTRACTOR:** JACOBS GROUP AUST (Contract No. CW47307)

**ST REFERENCE NO.:** 4

**CONTRACTOR REFERENCE NO.:**

**SUBJECT:** Variation 4

**DESCRIPTION:**

Design Contractor- Jacobs Group has requested the following variations for ROC Infrastructure

Task 1 – Construction Program Review

Task 2 – Adhoc-012-1 Specialist Façade Consultant (Surface Design)

Task 3 – SVR-002\_4 Revised Aconex Fee

Task 4 – Adhoc-011-1-1 Specialist Lighting Consultant (Steensen Varming)

Task 5 – SVR-011\_1 JV3 Model

Task 6 – SVR-016\_2 Post Tensioning Detailed Design

Task 7 – SVR-020 and SVR-008\_1 Additional Rendering and 3D Fly through

**BASIS OF CLAIM:**

The basis of claim is based on additional works approved by Building Manager for the ROC Site.

**QUANTUM OF CLAIM:**

Task 1

Task 2

Task 3

Task 4

Task 5

Task 6

Task 7

**Total Cost**

These claims have been calculated using the contract schedule of rates – where applicable.



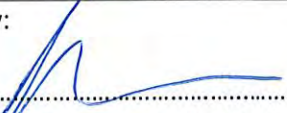
**BUDGET AND OTHER COMMENTS:**

These costs are within the ROC project budget



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

## ROC Infrastructure review & approval - *Authorising payment*

Reviewed:		Date:
.....	<i>Technical</i>	
Reviewed:		Date: <i>21/12/16.</i>
Darren Gordon	<i>Commercial Manager</i>	
Reviewed		Date: <i>21/12/16</i>
Dean Cambridge	<i>Building Manager</i>	
Approved by:		Date: <i>21/12/16</i>
Andrew Parker	<i>Program Manager</i>	



**From:** Dean Cambridge  
**Title:** ROC Building Manager  
**Phone:** 0410585880  
**Date:** 9/12/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Ad-Hoc services

**Contract/Purchase Order:** CC ROC 311



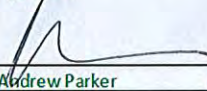
**Variation Number:** 4

**Variation Date:** 9/12/2016

**Work Order:** CC ROC 311

**Financial Delegation:** Andrew Parker

**Funding :** Budget ██████ Spend to date ██████  
 This variation ██████ Inclusive Jacobs 10%

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed: 	Date: 21/12/16
reviewed: 	Date: 9/12/16
Dean Cambridge      Building Manager	
Approved: 	Date: 09/12/16
Andrew Parker      Program Manager	

**Comments:** Review updated AW Edwards construction schedule (See below scope of works)

PROJECT & WORK DESCRIPTION	FEES
<p>New Programme – based on new concept design drawings &amp; Fire Station drawings. (This is to me mindful of the previous programme in detail and scope – not creating a separate further detailed programme)</p> <p>High Level Comparison Report – between the original programme competed in February of this year, and the newly developed one mentioned above. ROC for Sydney Trains</p> <p>Delivery : 16/12/16 or earlier</p>	<div style="background-color: black; width: 50px; height: 20px; margin: 0 auto;"></div>





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Handwritten text, possibly a date or another signature, located below the first block of text.

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Faint, illegible text or markings located at the bottom center of the page.





**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** 3<sup>4</sup> Cost allocated in the original Ad Hoc Services-Specialist budget for Façade Consultant (Surface Design)




**Variation Date:** 08/11/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** With in the Façade Design budget allocated in Ad Hoc Services

**Comments:** At the time of tender and lack of design information funds for façade design were allocated in Ad Hoc services budget.

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed:	Date: 18/11/16
 Darren Gordon      Commercial Manager	
reviewed:	Date: 18/11/16
 Dean Cambridge      Building Manager	
Approved:	Date: 18/11/16
 Andrew Parker      Program Manager	





**Project Variation Request Form**  
ROC



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-39</b>	Client PVR Ref No:	<b>Ad Hoc-012-1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Specialist Facade Consultant (Surface Design)</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	8 November 2016			

**Description of Variation**

Engagement of Surface Design to complete specialist facade design for the ROC and Fire Station as per their scope and proposal dated 5 Aug 16.  
The façade engineer's advice was necessary as a coordination input into the Façade Architect (Smart Design Studios) design.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Through consultation with Sydney Trains it was identified that a specialist was required to provide additional façade engineering advice and detailing for the façade design.  
Sydney Trains approved in principal (TNSW-INST-000057 dated 5 Aug 16 - attached) the engagement of Surface Design as an ad hoc consultant to complete these works.  
The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Surface Design									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
This Variation (See details above)	
Total Variations:	Refer to the monthly invoices

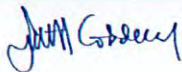
**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Surface Design's fee proposal is included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	8 November 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

















**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** <sup>4</sup> 3 Revised Aconex Fee to include project field




**Variation Date:** 15/06/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** From approved MC Budget

**Comments:** Project field will be used by Sydney Trains to manage safety inspections, non-conformance and defect reportion for the construction and defect liability period of the project.

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed: 	Date: 18/11/16.
Darren Gordon <i>Commercial Manager</i>	
reviewed: 	Date: 18/11/2016
Dean Cambridge <i>Building Manager</i>	
Approved: 	Date: 18/11/2016
Andrew Parker <i>Program Manager</i>	



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Tim Eley</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-38</b>	Client PVR Ref No:	<b>SVR-002_4</b>	Contract Ref:	CW47307
PVR Title:	<b>Revised Aconex Fee</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	8 Nov 16			

**Description of Variation**

Change in the Aconex fee on the Project to include Field Services

**Basis for Variation**

The cost to the ROC Project utilising Aconex was part of the original Jacobs' BAFO fee with value [REDACTED]. Since the Project has commenced, the Aconex fee was revisited three times and resulted in an increased cost to the Project and ultimately Sydney Trains. The following breakdown details the evolution of the Aconex fee to date.

- Original Aconex Fee (BAFO) - [REDACTED]
- Revised Aconex Fee (SVR-002\_1) - [REDACTED]
- Revised Aconex Fee to include Tenders and Smart Manuals (SVR-002\_3) - [REDACTED]
- Revised ACONEX fee to include Field Services (SVR-002\_4) - [REDACTED]

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours									
Aconex Fee									
Cost									

Project Summary	
Original Total Project Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- Refe to the revised Aconex Services Order (attached to this SVR as Attachment 1) which is associated with SVR-002\_4.

<b>Approvals</b>	
Jacobs PM Signature:	
Client Representative Signature or Client Approval Reference No.:	
Date:	
Date:	























**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** <sup>4</sup> Ad Hoc Services-Specialist Lighting Consultants (Steen Varming)

**Variation Date:** 18/10/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** Allocated in Ad Hoc services in Jacobs approved budget.

**Comments:** The control room lighting has significant Industrial Relation risk and specialized design requirements to meet the ISO control room standards. To mitigate the risk a specialised lighting consultant has been engaged to ensure the design meets the tight design requirements.

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed:	Date: 18/11/16
	
Darren Gordon <i>Commercial Manager</i>	
reviewed:	Date: 18/11/2016
	
Dean Cambridge <i>Building Manager</i>	
Approved:	Date: 18/11/16
	
Andrew Parker <i>Program Manager</i>	





**Project Variation Request Form  
ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-36</b>	Client PVR Ref No:	<b>Ad Hoc-011-1_1</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Specialist Lighting Consultant (Steensen Varming)</b>				
PVR raised by:	Person:	Peter Boase			
	Organisation:	Jacobs			
	Date:	18 Oct 16			

**Description of Variation**

Engagement of Steensen Varming to complete specialist lighting design for the Control Room only as per their scope and proposal dated 15 Jun 16.

Jacobs has already completed the Entrance Lobby (Formerly the Atrium) lighting as part of the revised 50% & 100% CDR set thus we do not intend to appoint SV for this scope (shown as an option within their proposal for [REDACTED]) - the fee for this is included in the 50% redesign variation (VC - 000001, dated 2 September) issued previously.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Through consultation with Sydney Trains it was identified that the Control Room lighting design was a specialist service beyond the standard lighting design and was decided to call tenders to appoint this AdHoc consultant. It was assessed that the Steensen Varming proposal provide the expertise and value required for the project.

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
BCA Logic									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
This Variation (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices

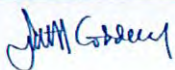
**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

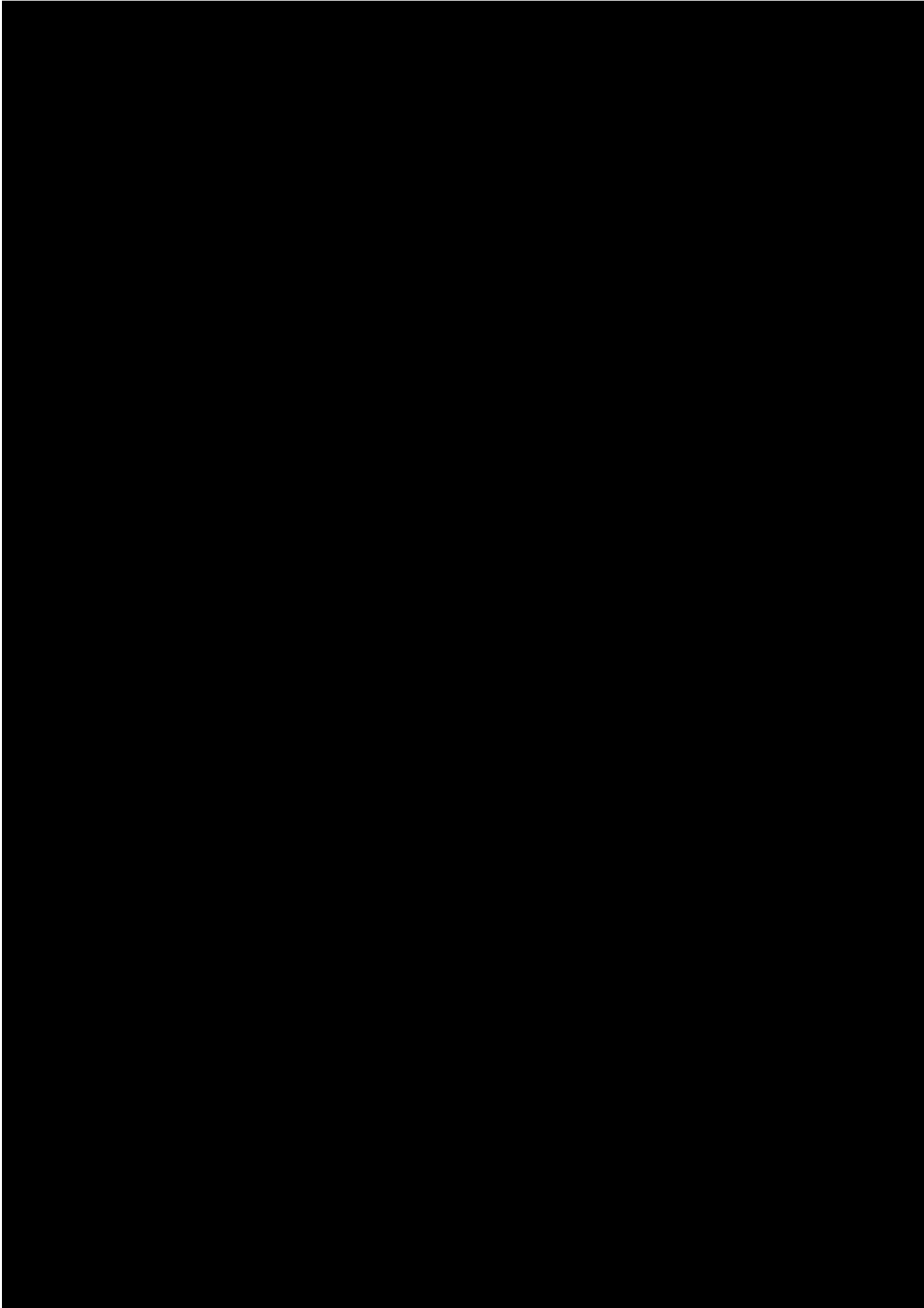
- Steensen Varming's fee proposal is included in this variation as an attachment.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	18 Oct 16
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



































































**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** 3<sup>4</sup> JV3 Model as required for the BCA certification with cost allocated in the original Ad Hoc

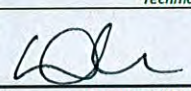


**Variation Date:** 15/06/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** Ad hoc Services budget

**Comments:** At the time of tender and lack of design information funds for façade design were allocated in Ad Hoc services budget.

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed:	Date: 18/11/16.
 Darren Gordon <i>Commercial Manager</i>	
reviewed:	Date: 18/11/2016.
 Dean Cambridge <i>Building Manager</i>	
Approved:	Date: 18/11/2016
 Andrew Parker <i>Program Manager</i>	



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No.:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains
<b>Project Variation Request Details</b>			
Jacobs PVR Ref No:	VCN-23	Client PVR Ref No:	SVR-011_1
		Contract Ref:	CW47307
<b>PVR Title:</b>	<b>JV3 Model</b>		
<b>PVR raised by:</b>	Person:	Peter Boase / Steve Zervas	
	Organisation:	Jacobs	
	Date:	15 June 2016	

**Description of Variation**

This variation is to enable Jacobs to undertake a JV3 assessment of ROC to determine compliance with BCA Section J Provisions.

Scope of services:

- Develop a Building Fabric JV3 performance model and report to inform of minimum performance requirements
- Refine the JV3 performance model and report if required as the design progresses (two iterations included)
- Review and address comments provided by the Building Surveyor in regards to JV3 if required

The following supporting documentation is required to undertake this scope of works:

- Architectural plans indicating space types and elevation drawings
- Architectural floor plans in DXF (2010 or later)
- Architectural 3D model if available
- Material specifications if available (wall, floor, ceiling, roof and glazing)
- Mechanical layout drawings and/or design report

**Basis for Variation**

The current design incorporates large window areas which limits deemed-to-satisfy glazing options. Jacobs original proposal excluded JV3 modelling.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)						
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Senior CAD	Other
Hourly Rate						
Hours						
Cost						
					Expenses	Total (ex GST)
					\$	

**Project Summary**

<b>Original Fee:</b>	
<b>Previous Variations:</b>	Refer to the monthly invoices
<b>This Variation (See details above)</b>	
<b>Total Variations:</b>	Refer to the monthly invoices
<b>Revised Total Fee:</b>	Refer to the monthly invoices

**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains.

Following approval of this variation and receipt of all required modelling inputs, the JV3 model and report will be prepared and presented within five (5) working days.

**Supporting Documentation**

<b>Approvals</b>	
Jacobs PM Signature:	Date: 15 June 2016
Client Representative Signature:	Date:





**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** <sup>4</sup> Post Tensioning Detail Design



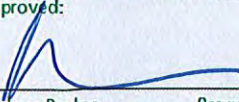
**Variation Date:** 23/08/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** Post Tensioning Budget (FIC Approved Budget)

**Comments:** To reduce cost and time for Post Tensioning trade works

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<i>Technical</i>	
reviewed: 	Date: 18/11/16
Darren Gordon <i>Commercial Manager</i>	
reviewed: 	Date: 18/11/2016
Dean Cambridge <i>Building Manager</i>	
Approved: 	Date: 18/11/16
Andrew Parker <i>Program Manager</i>	



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

Project Variation Request Details					
Jacobs PVR Ref No:	<b>VCN-29</b>	Client PVR Ref No:	<b>SVR-016_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Post Tensioning Detailed Design</b>				
PVR raised by:	Person:	Peter Boase / Steve Zervas			
	Organisation:	Jacobs			
	Date:	23 August 2016			

### Description of Variation

## 1. Post Tensioning Detailed Design

The ROC building is a post tensioned concrete frame structure and clarifications in the Jacobs BAFO noted that the detailed post tensioning design would be by a sub contractor (to Jacobs performance specification).

Assumption 14 - Should the primary building structure be a concrete frame with final post tensioned concrete, design of floor elements are to be undertaken by a PT sub-contractor.

Through workshop discussions, AW Edwards have stated that they consider that Jacobs should perform the detail post tensioning design, rather than the sub contractor. This is on the basis of design complexity, specifically around the blast design criteria.

Jacobs have been requested to submit a proposal.

### 1.1 Process to be completed for Post Tensioning Design

The following is an indicative process to achieve the Post Tensioning Scope:

The planned design process will follow the Sydney Trains gates, however we propose that SDR, PDR & CDR gates are not required and the package will go through the following gates:

- **50% CDR (06 September 2016)**
- 50% AFC (30 September 2016) – For Tender Purposes
- **100% CDR (19 October 2016)**
- 100% AFC (04 November 2016) – For Construction
- After this design is completed we have allowed fee for construction related activities in line with the existing Rail Operation Centre scope.

Text in **red** highlights the main documentation packages for the current scope. These are not subject to this variation, but are dependencies to the Post Tensioning design. Should these dates change then the Post Tensioning scope will be impacted.



## 2. Fee Structure

The costing provided by Jacobs is for the following disciplines only.

1. Structural engineering

### 2.1 Lump Sum Fee

	Task	Lump Sum Fee (excluding GST)
Post Tensioning Detailed design	50 % AFC (Incl preliminary tender package)	
	100 % AFC	
	Construction Activities	
	Total	

The following services discipline or scope item costs have been based on the following clarification or exclusions:

1. Jacobs will generate a stressing plan, a bottom reinforcement plan and a top reinforcement plan for each level. Formwork will be taken off the structural engineering general arrangements.
2. No SDR, PDR or CDR gateway documentation is required.
3. No Design Summary Reports or other written gateway documents are required.
4. During construction 16 additional site inspections have been allowed for the Post Tensioned band beams and slabs.
5. Attendance has not been allowed for to meetings during the construction phase.
6. The Fire Station is excluded

#### Basis for Variation

In the final Jacobs fee proposal submission, assumption 14 - Should the primary building structure be a concrete frame with final post tensioned concrete, design of floor elements are to be undertaken by a PT sub-contractor.

#### Cost Impact of Variation

#### Time Impact of Variation

This variation assumes that design/documentaiton shall be completed by the end of CDR stage, 04/11/16.

There will be no change to the agreed programme with Sydney Trains.

Following approval of this variation, Jacobs will commence Post Tensioning scope.

#### Supporting Documentation

#### Approvals

Jacobs PM Signature:



Date:

23 August 2016

Client Representative Signature  
or Client Approval Reference No.:

Date:























**From:** Dean Cambridge

**Title:** ROC Infrastructure Building Manager

**Phone:** 0410 585 880

**Date:** 18/11/2016

**ROC INFRASTRUCTURE  
VARIATION APPROVAL FORM**

**Supplier/Contractor:** Jacobs Pty Ltd

**Contract/Purchase Order:** CW47307 ROC Main Design Services

**Variation Number:** 3<sup>4</sup> Additional Renderings and 3D Fly Trough


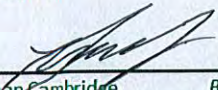

**Variation Date:** 19/10/2016

**Work Order:** CCROC311

**Financial Delegation:** Howard Collins

**Funding:** From design approved design contingency

**Comments:** Works required for the communication of the building design with both internal and external stakeholders as requested by Tony Eid.

<b>ROC Infrastructure review &amp; approval - Authorising payment</b>	
reviewed:	Date:
<hr style="width: 80%; margin: 0 auto;"/>	
<i>Technical</i>	
reviewed:	Date:
	18/11/16
Darren Gordon	Commercial Manager
reviewed:	Date:
	18/11/16
Dean Cambridge	Building Manager
Approved:	Date:
	18/11/16
Andrew Parker	Program Manager



**Project Variation Request Form**  
**ROC**



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Peter Boase	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-37</b>	Client PVR Ref No:	<b>SVR-020</b>	Contract Ref:	CW47307
PVR Title:	<b>Additional Renderings</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	19 Oct 16			

**Description of Variation**

Sydney Train's requested an update of the rendered drawings of the revised building layout post development of the CDR milestone. The renders had to be reproduced to account for the changed external arrangements .

**Basis for Variation**

Smart Design Studios completed the intial renderings and were requested to update the design outputs. Jacobs provided coordination and management services. The output deliverable was for 2 new persepectivies.

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Architect	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
SDS - Jul 16									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
This Variation (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

NII

**Supporting Documentation**

- Fee proposal and Sydeny Trains approval

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	19 Oct 16
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	









**Project:** ROC – Rail Operations Centre  
**Project Manager:** Peter Boase  
**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**  
**Jacobs PVR Ref No:** VCN-19  
**Client PVR Ref No:** SVR-008\_1  
**Contract Ref:** CWA7307

**PVR Title:** 3D Fly Through Video  
**PVR raised by:** Peter Boase  
**Person:** Peter Boase  
**Organisation:** Jacobs  
**Date:** 09 June 2016

**Description of Variation**  
Jacobs have been instructed by Sydney Trains to provide a 3D fly through video that will be presented to Sydney Trains stakeholders on 15 June 2016.

**Basis for Variation**  
This is additional scope.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours	6		2		4				
PodGroup Fee									
Jacobs 10%									
Cost									

Project Summary	
Original Fee:	Refer to the monthly invoices
Previous Variations:	Refer to the monthly invoices
This Variation (See details above)	Refer to the monthly invoices
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**  
Deliverables will be sent to Sydney Trains by COB Tuesday 14 June 2016.

- Supporting Documentation**
- Email from Renee Ridley dated 09 June 2016 accepting this variation and is included in this variation claim as Attachment A.
  - PodGroup's fee proposal is included in this variation claim as Attachment B.

**Approvals**  
**Jacobs PM Signature:** *P Boase*  
**Date:** 09 June 2016  
**Client Representative Signature or Client Approval Reference No.:**  
**Date:**







**Variation Order**

**Commercial in confidence**

21<sup>st</sup> September 2017

Mr Nando Nicotra  
Jacobs Group (Australia) Pty Limited  
(ABN 37 001 024 095)  
Level 7, 177 Pacific Highway, North Sydney, NSW, 2060

**Contract Reference:** ROC Multi-Disciplinary Design Services CW47307

Dear Nando,

• **Variation Order - clause 11.4 of the General Conditions of Contract**

We refer to the Contract between Sydney Trains and Jacobs Group (Australia) Pty Limited (**Contractor**) dated 6<sup>th</sup> August 2015 (**Contract**).

In accordance with clause 11.2, Sydney Trains instructs the Contractor to implement the following Variation:

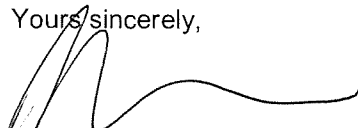
**DESCRIPTION OF VARIATION**

- SVR-006 - Cancelled – [REDACTED]
- SVR-008-2 - Additional 3D walkthrough – [REDACTED]
- SVR-014\_2 - Future Laneway Design (Southern Access Road) – (Cancelled)
- SVR-015 - Fire Station detailed fitout / increased GFA – [REDACTED]
- SVR-018 - Post Tensioned Slab (S/S by 18-1) – [REDACTED]
- SVR-032 - Acoustic logic works – [REDACTED]
- SVR-033 - Roof upstand beam - [REDACTED]
- SVR-041 - Fire station - alternate structural scheme – [REDACTED]
- Adhoc-13-1 - MCD Fire Engineering – Peer Review – [REDACTED]
- Adhoc 15-1 & 15-2 – Underbore Design – [REDACTED] (including \$5k provisional amount)
- Adhoc 14\_2 - HV Systems Redesign (PO value) – [REDACTED]

**TOTAL FOR THIS VARIATION: \$322,045 (exc. GST)**

All other terms and conditions of the Contract shall remain unchanged.

Yours sincerely,



Andrew Parker

ROC Infrastructure Program Manager  
Principal's Representative

*Capitalised terms used in this notice but not defined have the meaning given to them in the Contract*



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** 3D Fly through Video

**CONTRACTOR REFERENCE NO.:** SVR-008\_2

**SUBJECT:** 3D Fly Through Video

**Description of Variation:**

Jacobs have been requested by Sydney Trains to provide anew 3D fly through video based on the new scheme geometry.

The required works will include:

- Work to include utilising material and colour palette and finishes from the first fly through produced.
- Supply new geometry and model to the renderers for the fly through and sequence.
- Duration of flythrough to equal that of the first fly through produced.
- Sequence to be the same with the exception of the new ROC building to replace the previous scheme. The Fly through will not include the Fire Station design. This will be shown as a block building unless otherwise advised.

**BASIS OF CLAIM:**

Additional Scope

**QUANTUM OF CLAIM:**

**Variation Item Cost Impact (GST excl)**

Tech Dir – 6 hours @ [redacted] ph - [redacted]  
Principal Engineer – 2 hours @ [redacted] ph - [redacted]  
Engineer – 4 hours @ [redacted] ph - [redacted]

This Variations: **Total (ex GST)** [redacted]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

.....  ..... Date: 20/9  
Darren Gordon *Commercial Manager*

Approved by:

..... Date:  
Andrew Parker *Program Manager*





<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-61</b>	Client PVR Ref No:	<b>SVR-008_2</b>	Contract Ref:	CW47307
PVR Title:	<b>3D Fly Through Video</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	11 Apr 17			

**Description of Variation**

Jacobs have been requested by Sydney Trains to provide anew 3D fly through video based on the new scheme geometry. The required works will include:

- Work to include utilising material and colour palette and finishes from the first fly through produced.
- Supply new geometry and model to the renderers for the fly through and sequence.
- Duration of flythrough to equal that of the first fly through produced.
- Sequence to be the same with the exception of the new ROC building to replace the previous scheme. The flythrough will not include the Fire Station design. This will be shown as a block building unless otherwise advised.

**Basis for Variation**

This is additional scope.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]							\$	
Hours	6		2		4				
PodGroup Fee	[REDACTED]								
Cost	[REDACTED]								

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

- The time frame to get this completed will be 2.5 weeks from approval date.

**Supporting Documentation**

- nil

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	11 April 17
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	



**ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM**

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** Acoustic Design Variation

**CONTRACTOR REFERENCE NO.:** SVR-032

**SUBJECT:** Acoustic Design Variation

**Description of Variation:**

Acoustic Logic have been engaged by Jacobs as a sub consultant to provide acoustic advice for the project. Acoustic logic have requested a fee variation for the ongoing provision of design services associated with completion of the L3/L4 fitout design

**BASIS OF CLAIM:**

The original fee proposal was fully expended based upon the original AFC design and scheme issued on 12 Dec 16. The acoustic design report was previously issued as part of the AFC DSC packages as a draft as the L3/L4 design but did not included for the finalised Stage 3 works for L3/L4 fitout. Jacobs have requested an update to the acoustic design report & specification to include further detail of the L3/L4 control room and issue this as final. Acoustic Logic have therefore been required to provide additional advice and reporting including:

- a. allowance for a face to face workshop with the interior designers and the electrical engineer)
- b. Fine tuning of the absorptive room surfaces to respond to the Client's feedback and budget requirements.
- c. Final Acoustic Report and Specification (including RATM)
- d. Final updates and issuing of the Acoustic Design Certificate.

The proposed costs of these additional works is [REDACTED] + GST

2. There is a requirement within the SSRS (refer below summary) to consider the inclusion of an electronic speech masking system to provide consistent ambient noise in the main control room. This is a specialist design requirement and was not fully defined in the original brief, Acoustic Logic have sort a quote ([REDACTED] + GST) for this specialist service (from ASL) to provide the following services:

- a. EASE computer modelling of the space with the proposed speaker layout and wall/floor/ceiling finishes to ensure noise levels across the floor plate fall within an acceptable tolerance.
- b. Tender specification for the speakers, amplifiers, noise source, etc.

Total Amount = [REDACTED] + GST

**QUANTUM OF CLAIM:**

Additional Work - [REDACTED] + GST

Specialist Service - [REDACTED] + GST

Total [REDACTED]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

.....  
Darren Gordon *Commercial Manager* Date: 26/9

Approved by:

.....  
Andrew Parker *Program Manager* Date:









# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 013-1- MCD Fire Engineering – Peer Review

**CONTRACTOR REFERENCE NO.:** Adhoc -013-1

**SUBJECT:** Ad Hoc Services – Fire Engineering Peer Review

**Description of Variation:**

A peer review of the Fire Engineering design was initiated – and it identified over 30 issues with Jacobs design.

**BASIS OF CLAIM:**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Sydney Trains requested the Fire Engineering peer review as an AdHoc service due to its concerns regarding the quality of the solution put forward by Jacobs.

**QUANTUM OF CLAIM:**

Fee Proposal

Jacobs costs

**Total claim**

(10%)

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

Darren Gordon

Commercial Manager

Date: 20/9

Reviewed

Peter Moroz

Building Manager

Date: 28/9

Approved by:

Andrew Parker

Program Manager

Date: 28/09/17





**Project Variation Request Form**  
**ROC**



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-50** Client PVR Ref No: **Ad Hoc-013-1** Contract Ref: CW47307  
 PVR Title: **Ad Hoc Services – Fire Engineering Peer Review**  
 PVR raised by: Person: Scott Liddell  
 Organisation: Jacobs  
 Date: 11 Apr 17

**Description of Variation**

Sydney Trains request a peer review of the Fire Engineering design. MCD were requested to submit a proposal to undertake this review. The MCD proposal is included at **attachment 1**.  
 Sydney Trains approval the proposal via email dated 2 Feb 17 – **attchement 2**

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement.  
 Sydney Trains requested the Fire Engineering peer review  
 The above engagement will be a variation to the current AdHoc contract .

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
MCD Fire	Original SOW - attachment 1								
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

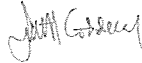
There will be no change to the agreed programme with Sydney Trains.

**Supporting Documentation**

- MCD Fire proposal is included at **Attachment 1**.
- Sydney Trains approval is included at **Attachment 2**.

**Approvals**

**Jacobs PM Signature:**



**Date:**

11 April 17

**Client Representative Signature  
or Client Approval Reference No.:**

**Date:**

# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 14-2 HV System Re-Design in association with Building Redesign

**CONTRACTOR REFERENCE NO.:** Adhoc – 014-2

**SUBJECT:** HV System Re-Design in association with Building Redesign

## **Description of Variation:**

Under Jacobs PO DP2235 - Project RO019800 a PVR (PVR Ref RO019800-VR-004) (refer to **Annex A**) was submitted 10 Aug 16 seeking variation to complete the following scope changes:

1. **Item 1** – Revision of Earthing Design (rework)
2. **Item 2** – Revision of the Operating Diagram (rework)
3. **Item 3** - Redesign of the substation layouts (rework)
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
5. **Item 5** – Project Progress and Additional Management (rework)

## **BASIS OF CLAIM:**

Sydney Trains requested on 09/08016 Jacobs to revise the design schedule of the HV Power System to align with the revised building design, requiring a significant amount of reworks of completed design work.

The scope changes are as follows:

1. This request for variation consists of the high priority design packages (earthing and general arrangement, and in ground electrical infrastructures) requiring to be updated. These packages were initially issued 100% for earthing and 50% for general arrangement and in ground electrical infrastructures. Sydney Trains required these early packages to be reviewed to take into account the building configuration changes, starting Monday 22<sup>nd</sup> August to coincide with early works being completed by the Construction Contractor.
2. The scope change result in a significant additional project management effort for the HV Power System, this included coordination meetings with other disciplines and the stakeholders.
3. The project schedule has increased from the original HV engagement due to changes detailed in the background section of this document.
4. Resources mobilisation: Jacobs managed to keep most of the design resources allocated to the HV Power System project despite the 8 weeks stand-by period. However, some resources could not be kept on the project due to this long interruption, and are not available to the project anymore. Mobilising new resources in the Jacobs pool of designer is not a constraint. However it will take time for the new resources to get knowledgeable about the projects specificities. For example, Hajar Bakar, the earthing designer, and now fully committed until mid-2017, and another earthing designer will need to review the design, taking more time than Hajar.

## **QUANTUM OF CLAIM:**

PO value (original plus redesign change)	= [REDACTED]	(this claim)
Value paid under original PO		
Remaining value to be paid under contract		
AdHoc fee 10%		
<b>Total</b>		

## **BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

Darren Gordon



Commercial Manager

Date:

20/9

Approved by:

Andrew Parker

Program Manager

Date:





<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>AdHoc 014_2</b>	Client PVR Ref No:		Contract Ref:	CW47307
PVR Title:	<b>HV System Re-Design in association with Building Redesign</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	21 Jul 17			

### Description of Variation

#### Background

Jacobs were engaged (Feb 2015) to provide HV design services under Sydney Trains Panel 80 contract (CW0349) for the ROC project

Under Jacobs PO DP2235 - Project RO019800 a PVR (PVR Ref RO019800-VR-004) (refer to **Annex A**) was submitted 10 Aug 16 seeking variation to complete the following scope changes:

1. **Item 1** – Revision of Earthing Design (rework)
2. **Item 2** – Revision of the Operating Diagram (rework)
3. **Item 3** - Redesign of the substation layouts (rework)
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
5. **Item 5** – Project Progress and Additional Management (rework)

Direction to proceed with the revised scope was provided by Sydney Trains via email dated 22 Aug 16 – refer to **annex B**

Sydney Trains issued (email string commencing 8 Feb 16 - **annex C**) direction under clause 11.9 of the contract that the balance of works associated with PO DP2235 was to be transferred to the main ROC contract (CW47307) under Jacobs project IA084200 as an adHoc consultant. This included the following scope of works:

1. **Item 1** – works associated with PVR004 totalling [REDACTED]
2. **Item 2** – Ausgrid Monopoly associated with PVR005 fees totalling [REDACTED]

**Total** - [REDACTED] + GST + AdHoc margin

Sydney trains issued email dated 8 Feb 17 (**annex D**) provided the status of submitted HV variations and summarised as follows:

1. **CW0349 - PO DP2235 - Project RO019800** totalling [REDACTED] approved including:
  - a. Original contract sum - [REDACTED]
  - b. Variation 1:
    - i. Item 1 - Project progress & additional support - [REDACTED]
    - ii. Item 2 - Additional support fo RAMS Report - [REDACTED]
    - iii. Item 3 - Revised concept design - [REDACTED]
    - iv. Item 6 - Ausgrid Application - [REDACTED]
    - v. Item 7 – Development of SSRS and PROR - [REDACTED]
2. Variations to be transferred and paid under the **CW47307 Main ROC contract (Jacobs project IA084200)** project:
  - a. Item 5 – Type Approval Process - [REDACTED] – noting this was an upper limit fee.
  - b. Redesign works associated with PVR-004 – [REDACTED] - timesheets were required to be provided.

The purpose of this project variation request is to consolidate the overall variations costs associated with works being transferred to **CW47307** - Jacobs project IA084200 associated with:

- a. PVR005 – Ausgrid Monopoly Fee - [REDACTED] – refer to **Annex E**
- b. Item 5 – Type Approval Process - [REDACTED] – refer to **Annex D**
- c. Redesign works associated with PVR-004 – [REDACTED] – **Annex A** and **Annex F**.



A complete breakdown of hours associated with RO019800-VR-004 is included at **Annex F**. A WBS has been used to capture the time and output associated with each resource and is described as:

1. **Item 1** – Revision of Earthing Design (rework) – WBS - 402
2. **Item 2** – Revision of the Operating Diagram (rework) – WBS - 403
3. **Item 3** - Redesign of the substation layouts (rework) – WBS - 404
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework) – WBS - 405
5. **Item 5** – Project Progress and Additional Management (rework) – WBS – 402

The timesheet breakdown is summarised as follows:

Variation Item	Cost Impact - Variation	Planned hrs	Actual hrs	Actual Cost
Item 1 – Revision of Earthing Design				
Item 2 – Revision of the Operating Diagram				
Item 3 – Redesign of the Substation Layouts				
Item 4 – Redesign of the in-ground service within the foot print of the building				
Item 5 - Project Progress and Additional Management				
<b>Total items 1 to 5</b>				

#### Cost Impact of Variation – Summary

Variation Item	Cost Impact (GST excl)
PVR005 – Ausgrid Monopoly Fee (10% margin incl)	
Variation 1 – item 5 Type Approval (AdHoc)	
PVR004 – Redesign Works (AdHoc)	
AdHoc 10% Margin	
<b>Total items</b>	

#### Time Impact of Variation

Works associated with this variation are already completed

#### Supporting Documentation

**Annex A** - PVR Ref RO019800-VR-004 – 10 August 2016

**Annex B** – Sydney Trains direction to proceed – 22 August 2016

**Annex C** – Sydney Trains email – AdHoc Service Direction – 10 February 2017

**Annex D** - Sydney Trains email – ROC HV Works: Variations and payments- 8 February 2017

**Annex E** – Ausgrid Monopoly Fee - Approval

**Annex F** – Timesheet breakdown for works associated with RO019800-VR-004

#### Approvals

JACOBS PM Signature:

Scott Liddell

Date:

22 July 2017

Client Representative Signature  
or Client Approval Reference No.:

Date:





Project Variation Request Form  
ROC

<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-004</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>HV System Re-Design in association with Building Redesign</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	10 <sup>th</sup> August 2016			

### Description of Variation

#### Background

Jacobs is engaged under the HV Power System purchase order for the ROC facility development to provide High Voltage (HV) design.

The works was initially performed under the terms of the purchase order DP2235 Version 3 as issued by Sydney Trains on the 18/05/2016 (Sydney Trains PR No. CW0359).

The project scope was modified in April 2016, to take into account the revision of the 11 kV system and additional revision or RAM and Ausgrid reports.

The internal approval by Sydney Trains of the HV Power System concept design took in excess of six months compared to two weeks provided in the Jacobs offer.

The HV Power System progression was put on hold by Sydney Trains on 24/06/16 for about eight weeks. The building configuration has been significantly modified during the last 8 weeks.

#### Basis for the request for scope of works variation

Sydney Trains requested on 09/08/16 Jacobs to revise the design schedule of the HV Power System to align with the revised building design, requiring a significant amount of reworks of completed design work.

The scope changes are as follows:

1. This request for variation consists of the high priority design packages (earthing and general arrangement, and in ground electrical infrastructures) requiring to be updated. These packages were initially issued 100% for earthing and 50% for general arrangement and in ground electrical infrastructures. Sydney Trains required these early packages to be reviewed to take into account the building configuration changes, starting Monday 22<sup>nd</sup> August to coincide with early works being completed by the Construction Contractor.
2. The scope change result in a significant additional project management effort for the HV Power System, this included coordination meetings with other disciplines and the stakeholders.
3. The project schedule has increased from the original HV engagement due to changes detailed in the background section of this document.
4. Resources mobilisation: Jacobs managed to keep most of the design resources allocated to the HV Power System project despite the 8 weeks stand-by period. However, some resources could not be kept on the project due to this long interruption, and are not available to the project anymore. Mobilising new resources in the Jacobs pool of designer is not a constraint. However it will take time for the new resources to get knowledgeable about the projects specificities. For example, Hajar Bakar, the earthing designer, and now fully committed until mid-2017, and another earthing designer will need to review the design, taking more time than Hajar.

The scope of work variation consist of the following seven items:

1. **Item 1** – Revision of Earthing Design (rework)
2. **Item 2** – Revision of the Operating Diagram (rework)
3. **Item 3** - Redesign of the substation layouts (rework)
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
5. **Item 5** – Project Progress and Additional Management (rework)

The following table details for each item the additional effort estimate. The fees estimates exclude GST.

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Item 1 –Revision of Earthing Design			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Detailed Earthing Design	Cost of mobilisation of a new resource compared to Hajar	Time required to familiarise with the new design and the requirements of the building	██████████ (24 hours)
	Develop new CDEGS model for the updated building and piling layouts	The model for the earthing system will have to be started from scratch due to the complexity of the design and the coordination required with the in ground assets. Note: the model is required to be started from scratch as the layout of the building and piling is too significant adjust the existing model as these are imported into the CDEGS package the data is converted to the software format.	██████████ (52 hours)
	Design and Draft revised earthing system	8 drawings to be revised and revision of design report with the changes to the design.	██████████ (32 hours design and 80 hours drafting)
	Discipline and Coordination reviews	Additional deliverables technical reviews	██████████ (24 hours)
	Design Presentation (1 off)	Designer, Project manager and Design manager to prepare and attend design presentation to Sydney Trains.	██████████ (15 hours)
	Update report with design commentary and update deliverables accordingly	Designer and drafting resources	██████████ (12 hours design, 12 hours drafting)
Total Item 1			██████████ (251 hours)

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Item 2 – Revision of the Operating Diagram			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Revision of Proposed Operating Diagram	Design and drafting of revised POD	Update POD to two 2 MVA configuration and remove LV diagrams from 11KV diagrams (LV designers to produce LV POD) 5 drawings in the package.	██████████ (29 hours)
	Attend one POD meeting and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Attend one meeting with ASA and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Respond to comments and update designs if required		██████████ (9 hours)
Total Item 2			██████████ (54 hours)

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Item 3 – Redesign of the Substation Layouts			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Redesign of the substation Layouts	Review existing layout and each room equipment lists		██████████ (10 hours)
	Revise room layout drawings	Total of 14 drawings	██████████ (84 design hours 112 drafting hours)
Total Item 3			██████████ (206 hours)

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Item 4 – Redesign of the in-ground service within the foot print of the building (rework)		
Item	Process Step	Jacobs Cost (Time Cost)
Revise design of in-ground services	Review revised architectural design and updated electrical design and cable schedules.	██████████ (12 hours)
	Revise the design of the in-ground services	Update 4 sketches for coordination and drafting ██████████ (40 hours)
	Update in-ground drawings with revisions	10 drawings ██████████ (56 design hours 96 drafting hours)
	Internal design and coordination review	██████████ (16 hours)
	Finalise design package with commentary from internal review	██████████ (10 design hours 8 drafting hours)
	Attend design presentation	██████████ (8 hours)
	Respond to comments and update designs if required	██████████ (6 hours)
	<b>Total Item 4</b>	

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Item 5 –Project Progress and Additional Management			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Project and Design Management	Extended project administration and management from beginning of June 2016 till the end October 2016	4 hours per week for the project manager and 2 hours per week for the design manager to administer and manage the delivery of the project (Approx 20 weeks)	(120 Hours)
	HV Power System design team coordination meeting	Two meetings to brief team on the changes to the building and effect on design packages as part of the re-mobilising the team on the project.	(20 Hours)
	Additional project re-scoping meetings	As discussed in the meeting held on the 18/8/2016 additional project management meeting. We expect there will be approx. 8 meetings	(40 Hours)
Total Item 5			(160 Hours)

The costing provided by Jacobs is for the following disciplines only.

1. Project and design management
2. HV Electrical

The estimate effort excludes the following disciplines:

1. Mechanical
2. LV Electrical (unless specified)
3. Communications
4. Fire
5. Hydraulics
6. Security
7. Acoustics
8. Fire Engineering
9. RAMS design changes
10. Fire Station
11. Enabling works
12. Authority fees
13. Commissioning framework, script review and site attendance
14. Opinion of probable cost

**Cost Impact of Variation – Summary**

Variation Item	Cost Impact
Item 1 – Revision of Earthing Design	██████████ (251 hours)
Item 2 – Revision of the Operating Diagram	██████████ (54 hours)
Item 3 – Redesign of the Substation Layouts	██████████ (206 hours)
Item 4 – Redesign of the in-ground service within the foot print of the building	██████████ (252 hours)
Item 5 - Project Progress and Additional Management	██████████ (160 Hours)
<b>Total items 1 to 5</b>	<b>██████████ (923 Hours)</b>

Please note: This will increase the overall project budget from ██████████ to ██████████ in total

**Time Impact of Variation**

The enclosed reviewed programme takes into account the time impact of the variations items 1 to 5.

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and we used best endeavour when reviewing the program to absorb as much as possible any program change from the current programme of the Sydney Trains ROC.

**Approvals**

**Jacobs PM Signature:**

Patrick Barnes

**Date:**

18<sup>th</sup> August 2016

**Client Representative Signature or Client Approval Reference No.:**

**Date:**

















## ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** Roof Upstand Beam – Change 25

**CONTRACTOR REFERENCE NO.:** SVR-033

**SUBJECT:** Roof Upstand Beam – Change 25

### **Description of Variation:**

The Formwork/propping proposal by the sub-contractor has been submitted to the Managing contractor. AWE have highlighted the proposals have negative impact on program, due to the following reasons: -propping is required at ground level -propping arrangement conflicts with ground level activities such as in ground services. Through a site workshop on 10 May 2017 Jacobs, AWE & the form worker (JDP) alternative options were identified which avoid the requirement for back propping at Ground Level. Options considered include:  
A-as documented solution B-Enhance temporary works (bridging to underside of the roof level)  
C-Redesign roof beam to accommodate temporary loads

AWE have advised preference for Option C, which triggers a redesign of the roof beam and strengthening of Level 3 column capital to accommodate propping loads. Refer Aconex JACOBS-GCOR-001233, 11 May 2017 for a record of the meeting and summary sketches of Option C. A design change request was submitted via Jacobs-DQ-000370 dated 18 May 17.

### **BASIS OF CLAIM:**

Jacobs documentation has been issued to AFC which includes AWE buildability advice issued under AWE-RFI-000556.  
Option C is a different design, which increases the beam depth and allows the structure to support temporary construction loads.  
Jacobs were instructed to proceed with the design change via TNSW-DI-000058 issued 19 May 17

### **QUANTUM OF CLAIM:**

Principal Engineer – [REDACTED] Assoc, Director – [REDACTED] Senior Architect – [REDACTED]  
Senior CAD - [REDACTED]  
**Total:** [REDACTED]

### **BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

.....  
Darren Gordon *DG* Commercial Manager Date: 20/9

Reviewed

.....  
Peter Moroz *PM* Building Manager Date: 20/9

Approved by:

.....  
Andrew Parker Program Manager Date:





Project Variation Request Form  
ROC



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-068** Client PVR Ref No: **SVR-033** Contract Ref: CW47307  
PVR Title: **Roof Upstand Beam – Change 25**  
PVR raised by: Person: Scott Liddell  
Organisation: Jacobs  
Date: 6 Jun 17

**Description of Variation**

The Formwork/propping proposal by the sub-contractor has been submitted to the Managing contractor. AWE have highlighted the proposals have negative impact on program, due to the following reasons:  
-propping is required at ground level  
-propping arrangement conflicts with ground level activities such as in ground services.  
Through a site workshop on 10 May 2017 Jacobs, AWE & the formworker (JDP) alternative options were identified which avoid the requirement for back propping at Ground Level. Options considered include:  
A-as documented solution  
B-Enhance temporary works (bridging to underside of the roof level)  
C-Redesign roof beam to accommodate temporary loads  
  
AWE have advised preference for Option C, which triggers a redesign of the roof beam and strengthening of Level 3 column capital to accommodate propping loads. Refer Aconex JACOBS-GCOR-001233, 11 May 2017 for a record of the meeting and summary sketches of Option C.  
A design change request was submitted via Jacobs-DQ-000370 dated 18 May 17.

**Basis for Variation**

Jacobs documentation has been issued to AFC which includes AWE buildability advice issued under AWE-RFI-000556. Option C is a different design, which increases the beam depth and allows the structure to support temporary construction loads.  
Jacobs were instructed to proceed with the design change via TNSW-DI-000058 issued 19 May 17

Back to Back Contract T&Cs       Amended Contract T&Cs

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Architect	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours		4	2	32		24			
SDS - Jul 16									
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

The works can be completed 10 working days after receiving an instruction, noting the following deliverables:

- 1. Level 3 reinforcement sketches/mark ups to allow scheduling of additional reinforcement. 5 working days after instruction
- 2. Full revised AFC drawings. 10 working days after receipt of instruction.

Note – revised design works have now been completed

**Supporting Documentation**

- Copy of TNSW-DI-000058 issued 19 May 17

**Approvals**

<b>JACOBS PM Signature:</b>		<b>Date:</b>	6 Jun 17
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	









# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** Alternative Fire Station Structural Scheme

**CONTRACTOR REFERENCE NO.:** SVR-041

**SUBJECT:** Alternative Fire Station Structural Scheme

**Description of Variation:**

Produce an alternative structural solution – to reduce the cost of the fire station building i.e. no level slab. The structural solution was issued to Sydney Trains under JACOBS-ADVICE-000910 issued 24/04/17.

**BASIS OF CLAIM:**

The works constitute a variation under the contract i.e. ST reviewing alternative design without level 1 slab.

**QUANTUM OF CLAIM:**

6 Hours @ [redacted] = \$1020  
34 Hours @ [redacted] ph = [redacted]  
Total: [redacted]


**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

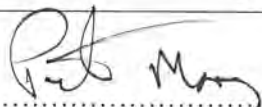
.....  
Darren Gordon

  
Commercial Manager

..... Date: 20/9.

Reviewed

.....  
Peter Moroz

  
Building Manager

..... Date: 20/9.

Approved by:

.....  
Andrew Parker

.....  
Program Manager

..... Date:





**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-75** Client PVR Ref No: **SVR-041** Contract Ref: 4200010745  
PVR Title: **Alternative Fire Station Structural Scheme**  
PVR raised by: Person: Tim Eley  
Organisation: Jacobs  
Date: 26 July 2017

**Description of Variation**

Produce an alternative structural solution for preliminary costing. The structural solution was issued to Sydney Trains under JACOBS-ADVICE-000910 issued 24/04/17.

**Basis for Variation**

Design exercise instructed by Sydney Trains under variation order TNSW-VO-000006 issued 23/03/17.

**Cost Impact of Variation**

Hourly Rate							\$	(ex GST)
Hours	6	34						
Cost								

Project Summary	
Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	
Revised Total Fee:	

Double-click on table to edit/update

**Time Impact of Variation**

None

**Supporting Documentation**

Refer Aconex JACOBS-ADVICE-000910 & TNSW-VO-000006.

**Approvals**

<b>Jacobs PM Signature:</b>	<b>Date:</b> 26/07/17
<b>Client Representative Signature:</b>	<b>Date:</b>



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 15-1 and 15-2 Ad Hoc Services – Underbore design

**CONTRACTOR REFERENCE NO.:** Adhoc -015-1 and 15-2

**SUBJECT:** Ad Hoc Services – Underbore design



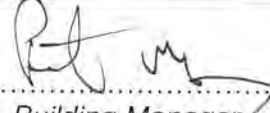
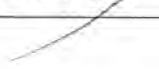
**Description of Variation:**  
Trenchless Advisors were initially engaged to complete a HDD for the proposed HV electrical supply from the Green square Station to the ROC site. The scope included the development of the HDD design, survey, and submission to RMS for approval. Sydney Trains instructed Jacobs (TNSW-INST-000096 dated 5 Dec 16) to coordinate the “trenchless” design with the HV design, including carrying out all related design activities – in direct relationship with the Trenchless Advisor (route designer) – as part of its HV design obligations. This included the certification of the trenchless design, preparation of tender specification, certification of the design documentation, tender review, AEO inputs and construction support.

**BASIS OF CLAIM:**  
The works constitute a change the SOW and were directed as an Ad Hoc Service i.e. underbore –v- trenching – and instructed as an Adhoc service in order to ensure the works were progressed on time to meet the program (otherwise Jacobs would not proceed). Refer to TNSW-INST-000096 dated 5 Dec 16 for the initial engagement of Trenchless Advisor Refer to TNSW-INST-000136 dated 23 Apr 17 for the revised design scope for the underbore

**QUANTUM OF CLAIM:**  
Fee Proposal [redacted] + [redacted]  
Expenses [redacted]  
Jacobs costs (10%) [redacted]  
**Total claim** [redacted]

**BUDGET AND OTHER COMMENTS:**  
The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		Date: 22/9
Sandeep Salunke	Technical	
Reviewed:		Date: 20/9
Darren Gordon	Commercial Manager	
Reviewed		Date: 20/9
Peter Moroz	Building Manager	
Approved by:		Date:
Andrew Parker	Program Manager	



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-52</b> <b>VCN-59</b>	Client PVR Ref No:	<b>Ad Hoc-015-1_2</b>	Contract Ref:	CW47307
PVR Title:	<b>Ad Hoc Services – Underbore design</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	11 Apr 17			

**Description of Variation**

Trenchless Advisors were initially engaged by AW Edwards to complete a HDD for the proposed HV electrical supply from the Greensquare Station to the ROC site. The Edwards scope included the development of the HDD design, survey, and submission to RMS for approval. Sydney Trains instructed Jacobs (TNSW-INST-000096 dated 5 Dec 16) to coordinate the "trenchless" design with the HV design, including carrying out all related design activities – in direct relationship with the Trenchless Advisor (route designer). This included the certification of the trenchless design, preparation of tender specification, certification of the design documentation, tender review, AEO inputs and construction support.

Trenchless Advisors scope and fee is included at **attachment 1** and was approved via email Sydney Trains email of 21 Feb 17.

TNSW-INST-000136 dated 23 Apr 17 provided direction to modify the HDD design to cater for 6 off conduits. An additional Trenchless design and RMS approval process was required. Trenchless Advisors additional fee is included at **attachement 2** and includes reassessment of bore profile, revised settlement analysis, revised minoroing plan, drawing updates, certification, RMS liaison and allowance for RMS review fee. The RMS review is subject to RMS determination.

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement.

Refer to TNSW-INST-000096 dated 5 Dec 16 for the initial engagement of Trenchless Advisor

Refer to TNSW-INST-000136 dated 23 Apr 17 for the revised design scope for the underbore

The above engagement will be a variation to the current AdHoc contract .

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**



Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
Trenchless	Original SOW - attachment 1								
Trenchless	HDD Resign - attachment 2								
Expenses	RMS review fee - actual cost TBC								
Jacobs Fee (10%)									
Cost									

Project Summary	
Original Fee:	
Previous Variations:	Refer to the monthly invoices
<b>This Variation</b> (See details above)	
Total Variations:	Refer to the monthly invoices
Revised Total Fee:	Refer to the monthly invoices

**Time Impact of Variation**

- Over all 10 weeks would be required to redesign and have RMS approve the design again
- Timing for this would see the revision and certification of documents undertaken within 2 weeks. Then the RMS will take at least a week to provide a quote of which 50% needs to be paid prior to the review beginning, this would maybe take another week as the cheque needs to be posted and received by RMS
- Then there is the 6 weeks specified for an RMS review. Depending on RMS work load this could be shorter (unlikely) or longer. Additional Time may also be required if the RMS Geotech review has any queries or questions that need to be answered.

**Supporting Documentation**

- Trenchless Advisors proposal is included at **Attachment 1**.
- Trenchless Advisors redesign proposal is included at **Attachment 2**.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	11 April 17
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

**Variation Order**

**Commercial in confidence**

7<sup>th</sup> November 2017

Mr Nando Nicotra

Jacobs Group (Australia) Pty Limited

(ABN 37 001 024 095)

Level 7, 177 Pacific Highway, North Sydney, NSW, 2060

**Contract Reference:** ROC Multi-Disciplinary Design Services CW47307

Dear Nando,

• **Variation Order - clause 11.4 of the General Conditions of Contract**

We refer to the Contract between Sydney Trains and Jacobs Group (Australia) Pty Limited (**Contractor**) dated 6<sup>th</sup> August 2015 (**Contract**).

In accordance with clause 11.2, Sydney Trains instructs the Contractor to implement the following Variation:

**DESCRIPTION OF VARIATION**

Adhoc 14-1 / PVR-008 - Ausgrid Design Scope Changes - [REDACTED]

Adhoc 18-1 Konnectus - [REDACTED]

SVR-012 Transformer type approval process - [REDACTED]

SVR – 051 Plan horse [REDACTED]

SVR – 053 additional display boards [REDACTED]

SVR-047 Lvl 4 access floor - [REDACTED]

SVR-048 Main ROC OSD tank - [REDACTED]

SVR-042 reduction in internal mez glazing - [REDACTED]

SVR-028 fire station slab redesign - [REDACTED]

SVR-021 Garbage room design changes - [REDACTED]

Adhoc 10-1 BCA consultant - [REDACTED]

Adhoc - 17-2 - Kerrect Group Pty Ltd - [REDACTED]

SVR-012 Transformer type approval process - [REDACTED]

Adhoc 5-3 RAMS additional - [REDACTED]

Adhoc 5-5 RAMS & FMECA - [REDACTED]



Variation No 6

SVR-036 Fire Station OSD Tank Re-Design - [REDACTED]

Adhoc 006-1 & 2 - QS - [REDACTED]

Adhoc 14-5 POD Design Changes - [REDACTED]

SVR – 054 – Tenancy Fit Out Level 1 & 2 Documentation - [REDACTED]

**TOTAL FOR THIS VARIATION: [REDACTED] (exc. GST)**

All other terms and conditions of the Contract shall remain unchanged.

Yours sincerely,



**Andrew Parker**

ROC Infrastructure Program Manager

Principal's Representative

Capitalised terms used in this notice but not defined have the meaning given to them in the Contract







# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** SVR-047 - Raised Access Floor

**CONTRACTOR REFERENCE NO.:** SVR-047

**SUBJECT:** Raised Access Floor

**Description of Variation:**

the architectural and electrical documents issued on the 21/04/2017.  
 Post this deliverable, correspondence was started by Sydney Trains requesting a change to this original documentation, see TNSW-GCOR-001407. Furthermore it was requested by Sydney Trains to have only the IMR room and Executive Meeting room on Level 4, with a raised access floor. See TNSW-GCOR-001418 on 03/07/2017.  
 · Architectural Sketches were issued on that same day (03/07/2017). JACOBS-GCOR-001610.  
 · Electrical Sketches incorporating a change in floor box location, and coordinated with structural and architecture where issued on the following day (04/07/2017). JACOBS-GCOR-001620  
 This change was later reverted back to the original design issued on the 21/04/2017, via a verbal instruction from Darren Gordon to Nando Nicotra.

**BASIS OF CLAIM:**

Instruction was given on 03/07/2017 to document only the IMR and executive meeting room with a raised floor. See TNSW-GCOR-001418.

**QUANTUM OF CLAIM:**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	1		3	4	4				
Cost									

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		Date: / /2017
N/A	Technical	
Reviewed:		Date: 27/10/2017
Darren Gordon	Commercial Manager	
Reviewed:		Date: 30 /10/2017
Peter Moroz	Building Manager	
Approved by:		Date: 30 /10/2017
Andrew Parker	Program Manager	



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No: **VCN-81** Client PVR Ref No: **SVR-047** Contract Ref: 4200010745  
PVR Title: **Raised Access Floor Deletion**  
PVR raised by: Person: Tim Eley  
Organisation: Jacobs  
Date: 31 August 2017

### Description of Variation

During the level 3 and level 4 design, instruction was given to have an access floor on level 4. This was documented within the architectural and electrical documents issued on the 21/04/2017.

Post this deliverable, correspondence was started by Sydney Trains requesting a change to this original documentation, see TNSW-GCOR-001407. Furthermore it was requested by Sydney Trains to have only the IMR room and Executive Meeting room on Level 4, with a raised access floor. See TNSW-GCOR-001418 on 03/07/2017.

- Architectural Sketches were issued on that same day (03/07/2017). JACOBS-GCOR-001610.
- Electrical Sketches incorporating a change in floor box location, and coordinated with structural and architecture where issued on the following day (04/07/2017). JACOBS-GCOR-001620

This change was later reverted back to the original design issued on the 21/04/2017, via a verbal instruction from Darren Gordon to Nando Nicotra.

### Basis for Variation

Instruction was given on 03/07/2017 to document only the IMR and executive meeting room with a raised floor. See TNSW-GCOR-001418.

### Cost Impact of Variation

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	1		3	4	4				
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	

### Time Impact of Variation

None

### Supporting Documentation







Refer to Sydney trains instruction on 03/07/2017, TNSW-GCOR-001418.

Approvals	
JACOBS PM Signature:	Date: 31/08/17
Client Representative Signature:	Date:











# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** Fire Station Slab Redesign

**CONTRACTOR REFERENCE NO.:** SVR-028

**SUBJECT:** Fire Station Slab Redesign

## **Description of Variation:**

Redesign of the Fire Station slab to account for the deletion of a design vehicle from the scope (Aerial). Changes to the following AFC drawings:

IA084200-0000-SU-DRG-0205 - GROUND FLOOR CONCRETE PLAN - ZONE 3

IA084200-0000-SU-DRG-0226 - GROUND FLOOR SECTIONS SHEET 6

IA084200-0000-SU-DRG-0136 - WALL ELEVATIONS SHEET 6

## **BASIS OF CLAIM:**

The following Fire Station vehicles have been included in the Jacobs design, originating from PDR. Sydney Trains has requested 20/01/17 the larger Aerial vehicle (#2) is removed from the design brief and the slab redesigned with anticipated reduction in slab depth from 450 to 400mm.

**ROC-Inf-CI-011** - The NSW Fire & Rescue building shall be designed for the two specific/nominated fire design vehicles.

1-medium rigid vehicle (MRV), L=8.80m, W=2.5m w/w=13.162 radius, body height =3.6m (Class 3 Pumper/Fire Rescue).

2- L=11.41m, W=2.5m, body height = 3.52m (Aerial)\*

Recommended clearance height = 4.5m as in Clause 2.2 [REDACTED]

Source of information from: -NSW Fire & Rescue email dated 03/03/16 (Emmanuel Varipatis).

-NSW Fire Guidelines for Emergency Vehicle Access, Policy no4, version 2.

-Fire & Rescue NSW website "Vehicle specifications and photographs"

## **QUANTUM OF CLAIM:**

Engineer Senior Engineer - [REDACTED]

Engineer - [REDACTED]

Senior CAD - [REDACTED]

Total: [REDACTED]

## **BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date: /10/2017  
N/A Technical

Reviewed:

..... Date: 27/10/2017  
Darren Gordon Commercial Manager

Reviewed

..... Date: 30/10/2017  
Peter Moroz Building Manager

Approved by:

..... Date: 30/10/2017  
Andrew Parker Program Manager





**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-47** Client PVR Ref No: **SVR-028** Contract Ref: CW47307  
PVR Title: **Fire Station Slab Redesign**  
PVR raised by: Person: Tim Eley  
Organisation: Jacobs  
Date: 24 January 2017

**Description of Variation**

Redesign of the Fire Station slab to account for the deletion of a design vehicle from the scope (Aerial). Changes to the following AFC drawings:  
IA084200-0000-SU-DRG-0205 - GROUND FLOOR CONCRETE PLAN - ZONE 3  
IA084200-0000-SU-DRG-0226 - GROUND FLOOR SECTIONS SHEET 6  
IA084200-0000-SU-DRG-0136 - WALL ELEVATIONS SHEET 6

**Basis for Variation**

The following Fire Station vehicles have been included in the Jacobs design, originating from PDR. Sydney Trains has requested 20/01/17 the larger Aerial vehicle (#2) is removed from the design brief and the slab redesigned with anticipated reduction in slab depth from 450 to 400mm.

**ROC-Inf-CI-011** - The NSW Fire & Rescue building shall be designed for the two specific/nominated fire design vehicles. 1- medium rigid vehicle (MRV), L=8.80m, W=2.5m w/w=13.162 radius, body height =3.6m (Class 3 Pumper/Fire Rescue).  
**2- L=11.41m, W=2.5m, body height = 3.52m (Aerial)\***  
Recommended clearance height = 4.5m as in Clause 2.2 [REDACTED]

- Source of information from: -NSW Fire & Rescue email dated 03/03/16 (Emmanuel Varipatis).
- NSW Fire Guidelines for Emergency Vehicle Access, Policy no4, version 2.
- Fire & Rescue NSW website "Vehicle specifications and photographs"

\*Sydney Trains requested 20/01/17 fire design vehicle #2 is deleted from scope.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total
Hourly Rate	[REDACTED]							\$	(ex GST)
Hours				4	24	20			
Cost	[REDACTED]								

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	[REDACTED]
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	[REDACTED]

Double-click on table to edit/update



**Time Impact of Variation**

Drawing reissue proposed fifteen working days after approval.

**Supporting Documentation**

JACOBS-GCOR-000725 – Fire Station Slab

**Approvals**

**Jacobs PM Signature:**

**Date:**

24/01/17

**Client Representative Signature:**

**Date:**





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** SVR-021 Garage Room Design Changes

**CONTRACTOR REFERENCE NO.:** SVR-021

**SUBJECT:** SVR-021 Garage Room Design Changes

**Description of Variation:**

Repurposing of the HV 11KV switchroom into the garbage room following the POD approval by Sydney Trains. The garbage was previously designed as a bin holding area on the lower ground floor and given the availability of space following the POD approval provided a dedicted garbage room on the upper ground level (operational improvement).

Refer to Aconex correspondence JACOBS-DQ-000324 & POD approval was aproved by ASA on the 8/12/16.

The change impacts the following numbers of drawings:

Architectural – 5    Structural – 2    Mechanical – 1    Electrical - 3

Fire – 2                    Hyd – 2                    Security -1            Total – 15.

**BASIS OF CLAIM:**

Design change following issue of AFC documents, revisions to documentation and coordination. Mechanical, Electrical LV

& Security changes will be made via an instruction to AWE (after ST approval).

**QUANTUM OF CLAIM:**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	4	2	24	32		24			
Cost									

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

Darren Gordon

*Commercial Manager*

Date: 27/10/2017

Reviewed

Peter Moroz

*Building Manager*

Date: 30 /10 /2017

Approved by:

Andrew Parker

*Program Manager*

Date: 30/10/2017



<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-63</b>	Client PVR Ref No:	<b>SVR-021</b>	Contract Ref:	CW47307
PVR Title:	<b>Garbage Room Design Changes</b>				
PVR raised by:	Person:	Tim Eley			
	Organisation:	Jacobs			
	Date:	26 July 2017			

**Description of Variation**

Repurposing of the HV 11KV switchroom into the garbage room following the POD approval by Sydney Trains. The garbage was previously designed as a bin holding area on the lower ground floor and given the availability of space following the POD approval provided a dedicated garbage room on the upper ground level (operational improvement).

Refer to Aconex correspondence JACOBS-DQ-000324 & POD approval was approved by ASA on the 8/12/16.

The change impacts the following numbers of drawings:

- Architectural - 5
- Structural - 2
- Mechanical - 1
- Electrical - 3
- Fire - 2
- Hyd – 2
- Security -1
- Total – 15.

**Basis for Variation**

Design change following issue of AFC documents, revisions to documentation and coordination. Mechanical, Electrical LV & Security changes will be made via an instruction to AWE (after ST approval).





**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	4	2	24	32		24			
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
This Variation (See details above)	
Total Variations:	

Double-click on table to edit/update

**Time Impact of Variation**

None

**Supporting Documentation**

Refer to Aconex correspondence JACOBS-DQ-000324 for detail & (Change 01).

**Approvals**

Jacobs PM Signature:  
 Client Representative Signature:

Date:  
 Date:

26/07/17





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** Reduction in Mezz Glazing Height

**CONTRACTOR REFERENCE NO.:** SVR-042

**SUBJECT:** Reduction in Mezz Glazing Height

**Description of Variation:**

Value engineering design change to document a sill height of 700mm (above F.F.L.) to all glazed walls on the internal east elevation, applying to level 4 adjacent the control room and the glazed wall in the support room on level 3.

This change impacted architectural plans, elevations, wall details and room layout drawings, 5 impacted drawings.

Structural coordination required additional steel details for the restraint of the sill.

**BASIS OF CLAIM:**

Value engineering exercise instructed by Sydney Trains under TNSW-GCOR-000947 issued 07/04/17

**QUANTUM OF CLAIM:**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours			4	24	22	24			
Cost									

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date: /10/2017  
 N/A *Technical*

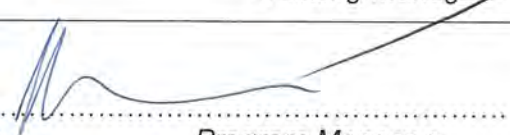
Reviewed:

..... Date: 27/10/2017  
  
 Darren Gordon *Commercial Manager*

Reviewed

..... Date: 30/10/2017  
  
 Peter Moroz *Building Manager*

Approved by:

..... Date: 30/10/2017  
  
 Andrew Parker *Program Manager*





<b>Project:</b>	ROC – Rail Operations Centre	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>VCN-76</b>	Client PVR Ref No:	<b>SVR-042</b>	Contract Ref:	4200010745
PVR Title:	<b>Reduction in Mezz Glazing Height</b>				
PVR raised by:	Person:	Tim Eley			
	Organisation:	Jacobs			
	Date:	27 July 2017			

**Description of Variation**

Value engineering design change to document a sill height of 700mm (above F.F.L.) to all glazed walls on the internal east elevation, applying to level 4 adjacent the control room and the glazed wall in the support room on level 3.  
 This change impacted architectural plans, elevations, wall details and room layout drawings, 5 impacted drawings.  
 Structural coordination required additional steel details for the restraint of the sill.

**Basis for Variation**

Value engineering exercise instructed by Sydney Trains under TNSW-GCOR-000947 issued 07/04/17.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours			4	24	22	24			
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	

Double-click on table to edit/update

**Time Impact of Variation**

None

**Supporting Documentation**

Refer Aconex TNSW-GCOR-000947.

**Approvals**

<b>Jacobs PM Signature:</b>		<b>Date:</b>	27/07/17
<b>Client Representative Signature:</b>		<b>Date:</b>	









# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** SVR-048 - ROC OSD Tank Re-Design

**CONTRACTOR REFERENCE NO.:** SVR-048

**SUBJECT:** ROC OSD Tank Re-Design

## **Description of Variation:**

### **Task 1 – Tank relocation**

As-built piling drawing for the ROC got issued to Jacobs via correspondence on 25/07/2017, AWE-GCOR-005508. As noted in JACOBSGCOR-00177, the sheet piles were not installed in the correct position, resulting in further design by Jacobs to coordinate this change in location.

### **Task 2 – Substitution of Precast**

On the 15th June 2017, RFI-876 submitted and alternative material pipework for the 1500 mm pipe connected to the OSD tank within the ROC. As noted within JACOBS-DQ-000398, on 15/06/2017 this is a design change. Refer to further correspondence JACOBS-GCOR-001521 & JACOBS-GCOR-001696.

### **Tasks 1 & 2**

The resulting tasks of the above two design changes were:

- Stress calculations to evaluate the design life of the new pipework material to meet the system requirement specification;
- Structural calculations and revised reinforcement associated with the new pipework material, change in OSD tank pits and sheet piling locations;
- New pit locations coordinated, designed and drafted;
- Further amendments to pit junction detailing, including design and drafting;
- And, Architectural pit set-out coordination with services, architecture and structural.

## **BASIS OF CLAIM:**

The as-built sheet piling did not match the Jacobs Approved for Construction design documentation, AWE-GCOR-005508.

A.W.Edwards requested a change in the material of the pipework resulting in a design change, refer to JACOBS-DQ-000398 on 15/06/2017. Jacobs understand this was a value engineering change to reduce the crange and lifting costs of precast on the site below the Level 1 floor plate. Cost savings within the civil trade package achieved by using a lightweight material with less handling Costs.

## **QUANTUM OF CLAIM:**

<b>Cost Calculation for this Variation (Rates/Hours)</b>									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	6		36	16		28			
Cost									

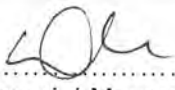
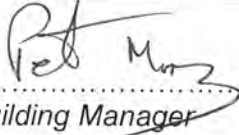
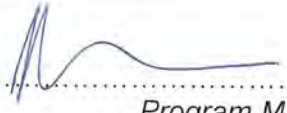
## **BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		Date: /10/2017
N/A	<i>Technical</i>	
Reviewed:		Date: <del>27</del> 40/2017
Darren Gordon	<i>Commercial Manager</i>	
Reviewed		Date: <sup>30</sup> /10/2017
Peter Moroz	<i>Building Manager</i>	
Approved by:		Date: 30/10/2017
Andrew Parker	<i>Program Manager</i>	



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

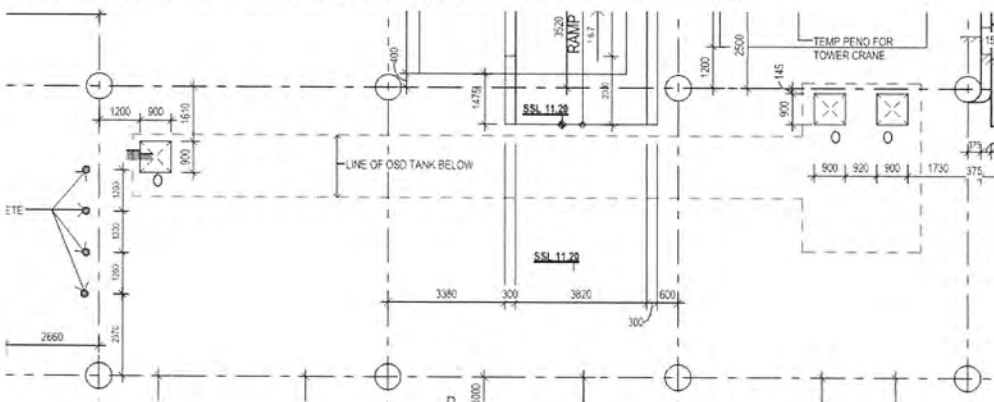
JACOBS PVR Ref No: **VCN-82** Client PVR Ref No: **SVR-048** Contract Ref: 4200010745  
 PVR Title: **ROC OSD Tank Re-Design**  
 PVR raised by: Person: Tim Eley  
 Organisation: Jacobs  
 Date: 11/09/2017

**Description of Variation**

**Task 1 – Tank relocation**

As-built piling drawing for the ROC got issued to Jacobs via correspondence on 25/07/2017, AWE-GCOR-005508. As noted in JACOBS-GCOR-00177, the sheet piles were not installed in the correct position, resulting in further design by Jacobs to coordinate this change in location.

Below is a snapshot of the original Jacobs Approved for Construction drawing:



Below is a snapshot of the as-built sheet piling provided to Jacobs by AWE.

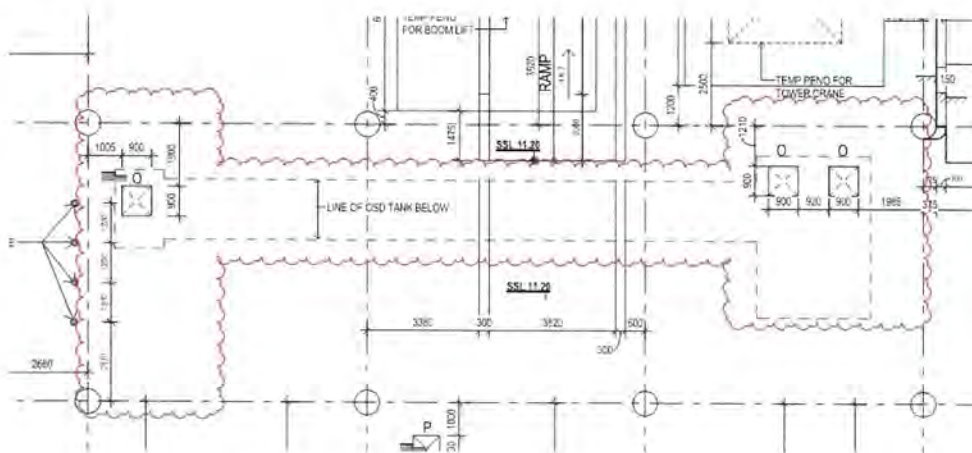


Task 1: Clash requiring tank to be relocated

Below is a snapshot of the new coordinated Jacobs as built documentation:







Task 1 – Tank relocated

Task 2 - New pit required due to the substitution of precast with HDPE pipe

**Task 2 – Substitution of Precast**

On the 15<sup>th</sup> June 2017, RFI-876 submitted and alternative material pipework for the 1500 mm pipe connected to the OSD tank within the ROC. As noted within JACOBS-DQ-000398, on 15/06/2017 this is a design change.

Refer to further correspondence JACOBS-GCOR-001521 & JACOBS-GCOR-001696.

**Tasks 1 & 2**

The resulting tasks of the above two design changes were:

- Stress calculations to evaluate the design life of the new pipework material to meet the system requirement specification;
- Structural calculations and revised reinforcement associated with the new pipework material, change in OSD tank pits and sheet piling locations;
- New pit locations coordinated, designed and drafted;
- Further amendments to pit junction detailing, including design and drafting;
- And, Architectural pit set-out coordination with services, architecture and structural.

The civil drawings that got re-issued are detailed below:

IA084200-MAIN-CI-DRG-0112 Rev 07 issued 2 Jun 2017 - which shows the Concrete pipe material.

IA084200-MAIN-CI-DRG-0112 Rev 08 issued 4 July 2017 - which shows the HDPE pipe material.

IA084200-MAIN-CI-DRG-0112 Rev 09 issued 24 July 2017 - which shows the HDPE pipe material & revised Joint Details.

The structural drawing that got re-issued are detailed below:

IA084200-0000-SU-DRG-0201 Rev 20 issued 014 July 2017 - which shows the concrete pipe material.

IA084200-0000-SU-DRG-0201 Rev 21 issued 07 August 2017 - which shows the revised pit arrangement.

The final architectural drawing that got re-issued are detailed below:

IA084200-MAIN-RB-DRG-1421, final issue on 09/08/2017

IA084200-MAIN-RB-DRG-1501, final issue on 09/08/2017

IA084200-MAIN-RB-DRG-1502, final issue on 09/08/2017

IA084200-MAIN-RB-DRG-7000, final issue on 09/08/2017

**Basis for Variation**

The as-built sheet piling did not match the Jacobs Approved for Construction design documentation, AWE-GCOR-005508.

A.W.Edwards requested a change in the material of the pipework resulting in a design change, refer to JACOBS-DQ-000398 on 15/06/2017. Jacobs understand this was a value engineering change to reduce the cranaage and lfiting costs of precast on the site below the Level 1 floor plate. Cost savings within the civil trade package achieved by using a lightweight material with less handling costs..





Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate	[REDACTED]							\$	(ex GST)
Hours	6		36	16		28			
Cost	[REDACTED]								

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	[REDACTED]
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	[REDACTED]

**Time Impact of Variation**

None

**Approvals**

Jacobs PM Signature:

Date:

11/09/17

Client Representative Signature:

Date:

























# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Adhoc 5-3 – ARMS – RAMS additional services

**CONTRACTOR REFERENCE NO.:** Adhoc -005-3

**SUBJECT:** RAMS Consultant –RAMS Management Plan (Phase 1)

ARMS Reliability were engaged as an AdHoc consultant to provide RAMS assessments for the ROC project.

ARMS reliability were engaged through a time and expense fee as follows:

AdHoc-005-1 – Phase 1, 2, 3 - [REDACTED] - **Appendix A**

AdHoc-005-2 –Phase 2a - [REDACTED] - **Appendix B**

This fee was a time and expense fee. The scope of these works was invoiced at time and expense exceeded the initial estimate by [REDACTED]

**BASIS OF CLAIM:**

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project for the value of [REDACTED] + GST.

**QUANTUM OF CLAIM:**

Fee Proposal [REDACTED]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date: /10/2017

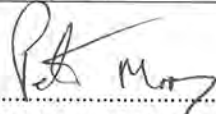
N/A *Technical*

Reviewed:

 ..... Date: 27/10/2017

Darren Gordon *Commercial Manager*

Reviewed

 ..... Date: 30/10/2017

Peter Moroz *Building Manager*

Approved by:

 ..... Date: 30/10/2017

Andrew Parker *Program Manager*



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-32** Client PVR Ref No: **Ad Hoc-005-3\_1** Contract Ref: CW47307  
PVR Title: **Ad Hoc Services – RAMS Consultant - Additional**  
PVR raised by: Person: Scott Liddell  
Organisation: Jacobs  
Date: 29 August 2017

**Description of Variation**

ARMS Reliability were engaged as an AdHoc consultant to provide RAMS assessments for the ROC project. ARMS reliability were engaged through a time and expense fee as follows:  
AdHoc-005-1 – Phase 1, 2, 3 - [REDACTED] - **Appendix A**  
AdHoc-005-2 –Phase 2a - [REDACTED] - **Appendix B**  
This fee was a time and expense fee. The scope of these works was invoiced at time and expense (table below) and exceeded the initial estimate by [REDACTED]. These invoice claims were subsequently approved and paid by Sydney Trains.

Invoice Period	Invoice Number	Invoice Date	Date Received	Forecast Payment Date	Exl GST
<b>ARMS Reliability</b>					
21/11/15 - 20/12/15	INV-0155	22-Dec-15	23-Dec-15	22-Jan-16	[REDACTED]
	INV-0161	23-Dec-15	23-Dec-15	22-Jan-16	[REDACTED]
	INV-0181	27-Jan-16	27-Jan-16	26-Feb-16	[REDACTED]
	INV-0192	28-Jan-16	28-Jan-16	27-Feb-16	[REDACTED]
	INV-0240	24-Feb-16	24-Feb-16	25-Mar-16	[REDACTED]
	INV-0241	24-Feb-16	24-Feb-16	25-Mar-16	[REDACTED]
	INV-0314	31-Mar-16	31-Mar-16	30-Apr-16	[REDACTED]
	INV-0351	22-Apr-16	22-Apr-16	22-May-16	[REDACTED]
	INV-0389	27-May-16	27-May-16	26-Jun-16	[REDACTED]
	INV-0445	21-Jun-16	21-Jun-16	21-Jul-16	[REDACTED]

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project to capture the final ARMS reliability fees.

**Basis for Variation**

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project for the value of [REDACTED] + GST.  
The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

**Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)										
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)	
Hourly Rate	[REDACTED]							\$		
Hours										
ARMS Reliability	Phase 1, 2, 3									
ARMS Reliability	Phase 2a									
ARMS Reliability	Less invoiced									
Jacobs Fee (10%)										
Cost										





**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains as works are complete and fully invoiced

**Supporting Documentation**

**Appendix A** – AdHoc-005-1

**Appendix B** – AdHoc-006-2

**Approvals**

**JACOBS PM Signature:**

**Date:**

21 Aug 17

**Client Representative Signature  
or Client Approval Reference  
No.:**

**Date:**



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: Adhoc 5-5 – RAMS Consultant – Additional RAM and FMECA

CONTRACTOR REFERENCE NO.: Adhoc -005-5

SUBJECT: Ad Hoc Services – RAMS Consultant – Additional RAM and FMECA

## DESCRIPTION:

Engagement of ARMS Reliability to provide additional RAMS and FMECA Consulting Services. The ARMS reliability proposal is at **appendix A**.

The Jacobs variation proposal for support to this additional RAMs and FMECA has been submitted via JACOBS-VARPS- 000052 dated 15 Aug 17

## BASIS OF CLAIM:

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Sydney Trains completed a review of the Electrical Sub System RAMS Report (DSYD2017 Rev 0.4) and identified a corrective action to update the RAMS assessment to align with the final HV/LV design configuration. ARMS reliability were requested by Sydney Trains to provide a fee proposal to complete the updated RAMS and FMECA assessment works.

## QUANTUM OF CLAIM:

Fee Proposal

Jacobs costs (10%)

Total claim

## BUDGET AND OTHER COMMENTS:

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 27/10/17  
Darren Gordon Commercial Manager

Reviewed

..... Date: 30/10/17  
Peter Moroz Building Manager

Approved by:

..... Date: 30/10/2017  
Andrew Parker Program Manager





**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-87** Client PVR Ref No: **Ad Hoc-005-5\_1** Contract Ref: CW47307  
 PVR Title: **Ad Hoc Services – RAMS Consultant – Additional RAM and FMECA**  
 PVR raised by: Person: Scott Liddell  
 Organisation: Jacobs  
 Date: 19 Aug 17

**Description of Variation**

Engagement of ARMS Reliability to provide additional RAMS and FMECA Consulting Services. The ARMS reliability proposal is at **appendix A**.  
 The Jacobs variation proposal for support to this additional RAMs and FMECA has been submitted via JACOBS-VARPS-000052 dated 15 Aug 17

**Basis for Variation**

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Sydney Trains completed a review of the Electrical Sub System RAMS Report (DSYD2017/XXXXXX Rev 0.4) and identified a corrective action to update the RAMS assessment to align with the final HV/LV design configuration. ARMS reliability were requested by Sydney Trains to provide a fee proposal to complete the updated RAMS and FMECA assessment works .

The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	Total (ex GST)
Hourly Rate								\$	
Hours									
ARMS Reliability									
Jacobs Fee (10%)									
Cost									

**Time Impact of Variation**

Initial RMAS report is planned for 25 Aug 17 with FMECA due mid Sep 17

**Supporting Documentation**

**Appendix A – ARMS reliability proposal dated 18 Aug 17**

**Approvals**

**Jacobs PM Signature:**

**Date:**

19 Aug 17

**Client Representative Signature or Client Approval Reference No.:**

**Date:**



**Sydney Trains**  
**Bala Subramaniam**

**ROC Electrical System RAM & FMECA Study**

ARMS Proposal # - ARMSREF7809

Revision 3

18 August 2017

EMPOWER | EDUCATE | EQUIP













## Acceptance

If this proposal is to your satisfaction, please sign, date and return by email to [purchasing@armsreliability.com](mailto:purchasing@armsreliability.com)

A purchase order must be received prior to work commencing – this can be emailed to [purchasing@armsreliability.com](mailto:purchasing@armsreliability.com)

If any matter requires discussion please contact the key contact listed below.

Although every effort will be made by ARMS Reliability, to ensure the accuracy and completeness of reported results, no warranty, express or implied is made by ARMS Reliability, as to the accuracy or completeness of the documentation or reported results. Any decisions made as a result of the information reported are at the sole discretion of the reader.

### Accepted by

---

**Sydney Trains**

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### Key Contacts

**All Enquiries regarding this Proposal:**

Craig Brydges  
ARMS Reliability  
P.O. Box 501  
Ocean Grove, Victoria  
Australia, 3226  
Ph: +61 3 5255 5357  
Fax: +61 3 5255 5778  
[cbrydges@armsreliability.com](mailto:cbrydges@armsreliability.com)

**All Purchase Orders and Payments Enquiries:**

Finance Department  
ARMS Reliability  
P.O. Box 501  
Ocean Grove, Victoria  
Australia, 3226  
Ph: +61 3 5255 5357  
Fax: + 61 3 5255 5778  
[purchasing@armsreliability.com](mailto:purchasing@armsreliability.com)















# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

CONTRACTOR: Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

ST REFERENCE NO.: Ad Hoc Services – QS

CONTRACTOR REFERENCE NO.: Ad Hoc-006-1\_2

SUBJECT: Ad Hoc-006-1\_2

### Description of Variation:

RLB have been engaged as an AdHoc consultant to provide QS services for the Project as part of the Ad Hoc Services Agreement. Their initial engagement is included at **annex A**. It is understood this fee was an upper limit fee with direct tasking and reporting from Sydney Trains.  
With works completed to date by RLB, the upper limit fee of [REDACTED] has now been exceeded through invoices for services. Discussions with RLB (**annex B**) have indicated a cost to complete (dependent upon Sydney Trains Tasking) in the order of [REDACTED] to complete services associated with the trade contractor procurement and construction administration works.  
Sydney Trains provided instruction via email (**annex C**) dated 19 Jun 17 to instruct RLB to prepare a Whole of life cost report. The RLB proposal is included at **annex D** for the value of [REDACTED].  
This AdHoc variation is seeking an increase in approved RLB fees and Jacobs margin of [REDACTED] + GST.

### BASIS OF CLAIM:

The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. Sydney Trains completed a review of the Electrical Sub System RAMS Report (DSYD2017 Rev 0.4) and identified a corrective action to update the RAMS assessment to align with the final HV/LV design configuration. ARMS reliability were requested by Sydney Trains to provide a fee proposal to complete the updated RAMS and FMECA assessment works.

### QUANTUM OF CLAIM:

RLB Increase to ULF - [REDACTED]  
RLB Whole of life report - [REDACTED]  
Jacobs Fee (10%) - [REDACTED]  
Total [REDACTED] (Exclusive of GST)

### BUDGET AND OTHER COMMENTS:

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:

N/A Technical

Reviewed:

..... Date: 27/10/17

Darren Gordon Commercial Manager

Reviewed

..... Date: 30/10/17

Peter Moroz Building Manager

Approved by:

..... Date: 30/10/2017

Andrew Parker Program Manager





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** AD HOC - Kerrect Group Pty Ltd

**CONTRACTOR REFERENCE NO.:** Adhoc – 017-2

**SUBJECT:** AD HOC - Kerrect Group Pty Ltd

**Description of Variation:**

to appoint Kerrect as an AD HOC consultant.  
The Kerrect quotation is for [REDACTED] excluding GST, however Jacobs recommend that Kerrect are appointed on an upper limit budget of [REDACTED] excluding GST so that this allows for any additional advice including a review of the tender documentation.

**BASIS OF CLAIM:**

Quote from Kerrect - Quote No. 1859.1 dated 5<sup>th</sup> June 2017

**QUANTUM OF CLAIM:**

[REDACTED] excluding GST (this allows for any additional advice including a review of the tender documentation)  
Plus Jacobs 10% - [REDACTED]  
Total - [REDACTED] + [REDACTED] = [REDACTED]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 27/10/17  
Darren Gordon Commercial Manager

Reviewed

..... Date: 30/10/17  
Peter Moroz Building Manager

Approved by:

..... Date: 30/10/17  
Andrew Parker Program Manager











# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)  
**ST REFERENCE NO.:** HV System Re-Design in association with Building Redesign  
**CONTRACTOR REFERENCE NO.:** SVR-012-2 & Adhoc 014-2  
**SUBJECT:** HV System Re-Design in association with Building Redesign

**Description of Variation:**

The purpose of this project variation request is to consolidate the overall variations costs associated with works being transferred to **CW47307** - Jacobs project IA084200 associated with:  
a. PVR005 – Ausgrid Monopoly Fee - [REDACTED] – refer to **Annex E**  
b. Item 5 – Type Approval Process - [REDACTED] – refer to **Annex D**  
c. Redesign works associated with PVR-004 – [REDACTED] – **Annex A** and **Annex F**.

**BASIS OF CLAIM:**

Item 5 – Type Approval Process - [REDACTED] – noting this was an upper limit fee.

**QUANTUM OF CLAIM:**

item 5 Type Approval (AdHoc)  
[REDACTED]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

**ROC Infrastructure review & approval - Authorising payment**

Reviewed:

..... Date: /10/2017  
N/A *Technical*

Reviewed:

..... Date: 27/10/2017  
Darren Gordon *[Signature]*  
*Commercial Manager*

Reviewed

..... Date: 30/10/2017  
Peter Moroz *[Signature]*  
*Building Manager*

Approved by:

..... Date: 30/10/2017  
Andrew Parker *[Signature]*  
*Program Manager*

**Project:** ROC – Rail Operations Centre \_HV Power Systems  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **AdHoc 014\_2** Client PVR Ref No: Contract Ref: CW47307  
PVR Title: **HV System Re-Design in association with Building Redesign**  
PVR raised by: Person: Scott Liddell  
Organisation: Jacobs  
Date: 21 Jul 17

**Description of Variation**

**Background**  
Jacobs were engaged (Feb 2015) to provide HV design services under Sydney Trains Panel 80 contract (CW0349) for the ROC project

Under Jacobs PO DP2235 - Project RO019800 a PVR (PVR Ref RO019800-VR-004) (refer to **Annex A**) was submitted 10 Aug 16 seeking variation to complete the following scope changes:

- 1. **Item 1** – Revision of Earthing Design (rework)
- 2. **Item 2** – Revision of the Operating Diagram (rework)
- 3. **Item 3** - Redesign of the substation layouts (rework)
- 4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
- 5. **Item 5** – Project Progress and Additional Management (rework)

Direction to proceed with the revised scope was provided by Sydney Trains via email dated 22 Aug 16 – refer to **annex B**

Sydney Trains issued (email string commencing 8 Feb 16 - **annex C**) direction under clause 11.9 of the contract that the balance of works associated with PO DP2235 was to be transferred to the main ROC contract (CW47307) under Jacobs project IA084200 as an adHoc consultant. This included the following scope of works:

- 1. **Item 1** – works associated with PVR004 totalling [REDACTED]
  - 2. **Item 2** – Ausgrid Monopoly associated with PVR005 fees totalling [REDACTED]
- Total** - [REDACTED] + GST + AdHoc margin

Sydney trains issued email dated 8 Feb 17 (**annex D**) provided the status of submitted HV variations and summarised as follows:

- 1. **CW0349 - PO DP2235 - Project RO019800** totalling [REDACTED] approved including:
  - a. Original contract sum - [REDACTED]
  - b. Variation 1:
    - i. Item 1 - Project progress & additional support - [REDACTED]
    - ii. Item 2 - Additional support fo RAMS Report - [REDACTED]
    - iii. Item 3 - Revised concept design - [REDACTED]
    - iv. Item 6 - Ausgrid Application - [REDACTED]
    - v. Item 7 – Development of SSRS and PROR - [REDACTED]
- 2. Variations to be transferred and paid under the **CW47307 Main ROC contract (Jacobs project IA084200)** project:
  - a. Item 5 – Type Approval Process - [REDACTED] – noting this was an upper limit fee.
  - b. Redsign works associated with PVR-004 – [REDACTED] - timesheets were required to be provided.

The purpose of this project variation request is to consolidate the overall variations costs associated with works being transferred to **CW47307** - Jacobs project IA084200 associated with:

- a. PVR005 – Ausgrid Monopoly Fee - [REDACTED] – refer to **Annex E**
- b. Item 5 – Type Approval Process - [REDACTED] – refer to **Annex D**
- c. Redsign works associated with PVR-004 – [REDACTED] – **Annex A** and **Annex F**.



<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-004</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>HV System Re-Design in association with Building Redesign</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	10 <sup>th</sup> August 2016			

### Description of Variation

#### Background

Jacobs is engaged under the HV Power System purchase order for the ROC facility development to provide High Voltage (HV) design.

The works was initially performed under the terms of the purchase order DP2235 Version 3 as issued by Sydney Trains on the 18/05/2016 (Sydney Trains PR No. CW0359).

The project scope was modified in April 2016, to take into account the revision of the 11 kV system and additional revision or RAM and Ausgrid reports.

The internal approval by Sydney Trains of the HV Power System concept design took in excess of six months compared to two weeks provided in the Jacobs offer.

The HV Power System progression was put on hold by Sydney Trains on 24/06/16 for about eight weeks. The building configuration has been significantly modified during the last 8 weeks.

#### Basis for the request for scope of works variation

Sydney Trains requested on 09/08/16 Jacobs to revise the design schedule of the HV Power System to align with the revised building design, requiring a significant amount of reworks of completed design work.

The scope changes are as follows:

1. This request for variation consists of the high priority design packages (earthing and general arrangement, and in ground electrical infrastructures) requiring to be updated. These packages were initially issued 100% for earthing and 50% for general arrangement and in ground electrical infrastructures. Sydney Trains required these early packages to be reviewed to take into account the building configuration changes, starting Monday 22<sup>nd</sup> August to coincide with early works being completed by the Construction Contractor.
2. The scope change result in a significant additional project management effort for the HV Power System, this included coordination meetings with other disciplines and the stakeholders.
3. The project schedule has increased from the original HV engagement due to changes detailed in the background section of this document.
4. Resources mobilisation: Jacobs managed to keep most of the design resources allocated to the HV Power System project despite the 8 weeks stand-by period. However, some resources could not be kept on the project due to this long interruption, and are not available to the project anymore. Mobilising new resources in the Jacobs pool of designer is not a constraint. However it will take time for the new resources to get knowledgeable about the projects specificities. For example, Hajar Bakar, the earthing designer, and now fully committed until mid-2017, and another earthing designer will need to review the design, taking more time than Hajar.

The scope of work variation consist of the following seven items:

1. **Item 1** – Revision of Earthing Design (rework)
2. **Item 2** – Revision of the Operating Diagram (rework)
3. **Item 3** - Redesign of the substation layouts (rework)
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
5. **Item 5** – Project Progress and Additional Management (rework)

The following table details for each item the additional effort estimate. The fees estimates exclude GST.

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Item 2 – Revision of the Operating Diagram			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Revision of Proposed Operating Diagram	Design and drafting of revised POD	Update POD to two 2 MVA configuration and remove LV diagrams from 11kV diagrams (LV designers to produce LV POD) 5 drawings in the package.	██████████ (29 hours)
	Attend one POD meeting and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Attend one meeting with ASA and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Respond to comments and update designs if required		██████████ (9 hours)
Total Item 2			██████████ (54 hours)

Error! No text of specified style in document.



Item 4 – Redesign of the in-ground service within the foot print of the building (rework)			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Revise design of in-ground services	Review revised architectural design and updated electrical design and cable schedules.		(12 hours)
	Revise the design of the in-ground services	Update 4 sketches for coordination and drafting	(40 hours)
	Update in-ground drawings with revisions	10 drawings	(56 design hours 96 drafting hours)
	Internal design and coordination review		(16 hours)
	Finalise design package with commentary from internal review		(10 design hours 8 drafting hours)
	Attend design presentation		(8 hours)
	Respond to comments and update designs if required		(6 hours)
	<b>Total Item 4</b>		



The costing provided by Jacobs is for the following disciplines only.

1. Project and design management
2. HV Electrical

The estimate effort excludes the following disciplines:

1. Mechanical
2. LV Electrical (unless specified)
3. Communications
4. Fire
5. Hydraulics
6. Security
7. Acoustics
8. Fire Engineering
9. RAMS design changes
10. Fire Station
11. Enabling works
12. Authority fees
13. Commissioning framework, script review and site attendance
14. Opinion of probable cost

**Cost Impact of Variation – Summary**

Variation Item	Cost Impact
Item 1 – Revision of Earthing Design	(251 hours)
Item 2 – Revision of the Operating Diagram	(54 hours)
Item 3 – Redesign of the Substation Layouts	(206 hours)
Item 4 – Redesign of the in-ground service within the foot print of the building	(252 hours)
Item 5 - Project Progress and Additional Management	(160 Hours)
<b>Total items 1 to 5</b>	<b>(923 Hours)</b>

Please note: This will increase the overall project budget from [redacted] to [redacted] in total

**Time Impact of Variation**

The enclosed reviewed programme takes into account the time impact of the variations items 1 to 5.

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and we used best endeavour when reviewing the program to absorb as much as possible any program change from the current programme of the Sydney Trains ROC.

**Approvals**

Jacobs PM Signature:

Patrick Barnes

Date:

18<sup>th</sup> August 2016

Client Representative Signature  
or Client Approval Reference No.:

Date:







## Project Variation Request Form

<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-005</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>Ausgrid certification fees in association HV System Re-Design and ROC building design</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	9 <sup>th</sup> November 2016			

### Description of Variation

#### Background

Jacobs is engaged under the HV Power System purchase order for the ROC facility development to provide High Voltage (HV) design.

Ausgrid as the certifying charge a network monopoly fees for these service as approved by *Independent Pricing and Regulatory Tribunal (iPART)* and the *Australian Energy Market Commission (AEMC)*

#### Basis for the request for scope of works variation

1. Jacobs have not included payment of any Electricity Network Monopoly fees as part of the project scope.
2. Cost of administration n of payment of the fees.

Please refer to attached Ausgrid letter of offer as reference for cost.

The following table details for each item the additional effort estimate. The fees estimates exclude GST

The costing provided in this variation by Jacobs is for the payment of monopoly fees only.

The estimate effort excludes the following disciplines:

1. Project and design management
2. HV Electrical
3. Mechanical
4. LV Electrical (unless specified)
5. Communications
6. Fire
7. Hydraulics
8. Security
9. Acoustics
10. Fire Engineering
11. RAMS design changes
12. Fire Station
13. Enabling works
14. Authority fees
15. Commissioning framework, script review and site attendance
16. Opinion of probable cost

**Cost Impact of Variation – Summary**

Variation Item	Cost Impact
Item 1 – Ausgrid Monopoly Fees	
<b>Total</b>	

Please note: This will increase the overall project budget from [redacted] to [redacted] in total

**Time Impact of Variation**

The payment of the fees is delaying correspondence with Ausgrid and ultimately the submission of the design for certification

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and will action this payment upon written approval.

**Approvals**

<b>Jacobs PM Signature:</b>	Patrick Barnes	<b>Date:</b>	9 <sup>th</sup> November 2016
<b>Client Representative Signature or Client Approval Reference No:</b>		<b>Date:</b>	





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Ausgrid Design Scope Changes

**CONTRACTOR REFERENCE NO.:** RO019800-PVR-008 – Adhoc 14-1

**SUBJECT:** Ausgrid Design Scope Changes

**Description of Variation:**

The Jacobs HV design had been completed to 100% CDR stage (11 October 2016) and was awaiting final submission to Ausgrid but was delayed by the inclusion of the ROC Building VE05 scheme and associated changed locations of HV infrastructure. This delay meant that the DIP expired and had to be resubmitted. Ausgrid revised its DIP and reissued it on 15 Dec 16. The revised DIP had the following impacts on the design:

1. Changed the entire external cable route of the design which had already been developed to 100% CDR detail and issued for final comment.
2. Changed in the project number and the drafting template requiring a full redraft of the design drawings which had previously been progressed to be ready for Certification by Ausgrid.

**BASIS OF CLAIM:**

Jacobs have amended the HV Program attached the overall effect on the delivery of the project deliverables. The order of priority of the deliverables has been reorganised to assist in meeting construction priorities. The revision to the design is planned to take:

1. Revision of design IAW DIP SC09351 – 3 weeks
2. Ausgrid review and Certification – 3 weeks
3. Issue certified design as AFC – 1 weeks

**QUANTUM OF CLAIM:**

Variation Item: Cost Impact

Total [REDACTED] (Excluding GST)

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

.....  ..... Date: 27/10/2017  
Darren Gordon Commercial Manager

Reviewed

..... Date: / /2017  
Peter Moroz Building Manager

Approved by:

.....  ..... Date: 27/10/2017  
Andrew Parker Program Manager



Adhoc 14-1

Project Variation Request Form

<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>RO019800-PVR-008</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>Ausgrid Design Scope Changes</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	10 February 2017			

**Description of Variation**

**Background**

Jacobs is engaged under the ROC Panel 80 Contract to provide High Voltage (HV) design for the ROC facility development. It is noted Jacobs is also engaged under a separate Contract Ref CW47307 for the ROC building architectural and engineering disciplines.

The HV Design requires a Level 3 designer to coordinate and complete the design with AUSGRID as the supplier of the HV services. AUSGRID requirements are defined in their issued Design Information Package (DIP). The original DIP (SC06182) was issued on 24 August 2014 and was the basis of the HV reticulation design. The DIP issued has an expiration date of 6 months and had expired at the time of contract award. A subsequent DIP was issued (SC06182) on 4 December 2015 – again having a 6 month validity period. The Jacobs HV design had been completed to 100% CDR stage (11 October 2016) and was awaiting final submission to Ausgrid but was delayed by the inclusion of the ROC Building VE05 scheme and associated changed locations of HV infrastructure. This delay meant that the DIP expired and had to be resubmitted. Ausgrid revised its DIP and reissued it on 15 Dec 16. The revised DIP had the following impacts on the design:

1. Changed the entire external cable route of the design which had already been developed to 100% CDR detail and issued for final comment.
2. Changed in the project number and the drafting template requiring a full redraft of the design drawings which had previously been progressed to be ready for Certification by Ausgrid.

The revised connection point and cable route represented a saving in regards to the reduction of the cable route by more than 150m however a significant amount of redesign was required to incorporate back into the CDR design which included:

1. Adopting the revised design template issued by Ausgrid,
2. New Project references which impacted all design deliverables,
3. Revised trench route design including the addition of the communication conduit and pit details
4. Inclusion of AEO reporting requirements

The costing provided in this offer by Jacobs is for the following disciplines only.

1. HV project and design management
2. HV Ausgrid Electrical Reticulation Design
3. Drafting
4. Technical Reviews

The lump sum variation fee included in this document covers the following deliverables:

1. Ausgrid Electrical Design Package (SC09531)

Cost Impact of Variation – Summary	
Variation Item	Cost Impact
Item 1 – Revised Ausgrid Design Package	
<b>Total (GST excl)</b>	

**Time Impact of Variation**

Jacobs have amended the HV Program attached the overall effect on the delivery of the project deliverables. The order of priority of the deliverables has been reorganised to assist in meeting construction priorities. The revision to the design is planned to take:

1. Revision of design IAW DIP SC09351 – 3 weeks
2. Ausgrid review and Certification – 3 weeks
3. Issue certified design as AFC – 1 weeks

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and will action this additional work upon written approval. It is understood that the AUSGRID design package is to be included as an annex to the Main HV CDR package for CCB information.

Approvals			
<b>Jacobs PM Signature:</b>	Patrick Barnes	<b>Date:</b>	10 Feb 17
<b>Client Representative Signature or Client Approval Reference No:</b>		<b>Date:</b>	

**ATTACHMENTS**

- A. HV Program - 170209





# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (CW47307)

**ST REFERENCE NO.:** POD Design Changes

**CONTRACTOR REFERENCE NO.:** AdHoc-014-5

**SUBJECT:** POD Design Changes

**Description of Variation:**

The original RO019800 Scope of Works did not include for the development of the Proposed Operating Diagram (POD) to be prepared by Jacobs. This scope was included following the approval of RO0198000-PVR004 (included at **annex A**) and allowed for the 2 off 2MVA configuration as well as initial consultation and approval with ASA. This was presented to ASA, comments received and design changes incorporated into the design

**BASIS OF CLAIM:**

Updating of the POD to delete the 11KV bust  
 Development of a design concession  
 Development of a design concession


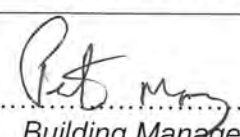
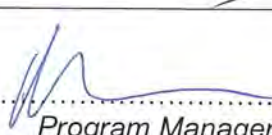
**QUANTUM OF CLAIM:**

Item 1 – POD Design Changes			
Item	Process Step	Notes and Assumptions	Jacobs Cost
POD design changes	HV Electrical Design	Patrick Barnes @ [REDACTED]	[REDACTED] (99 hrs)
	Drafting	Phil Campagna @ [REDACTED] Anthony Caruso @ [REDACTED]	[REDACTED] (24 hrs) [REDACTED] (5.5hrs)
Total Item 1			[REDACTED] (128.5 hrs)

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		Date: /10/2017
N/A	Technical	
Reviewed:		Date: 27/10/2017
Darren Gordon	Commercial Manager	
Reviewed		Date: 30/10/2017
Peter Moroz	Building Manager	
Approved by:		Date: 30/10/2017
Andrew Parker	Program Manager	

## Project Variation Request Form

<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800 / IA084200
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>AdHoc-014-5</b>	Client PVR Ref No:	<b>PVR-057</b>	Contract Ref:	CW0349
PVR Title:	<b>POD Design Changes</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	25 Sep 17			

### Description of Variation

#### Background

The original RO019800 Scope of Works did not include for the development of the Proposed Operating Diagram (POD) to be prepared by Jacobs. This scope was included following the approval of RO0198000-PVR004 (included at **annex A**) and allowed for the 2 off 2MVA configuration aswell as initial consultation and approval with ASA. This was presented to ASA, comments received and design changes incorporated into the design

The Value Engineering activity (VE05) which occurred Jun-Jul 16 identified the opportunity to remove the 11kV Bustie. This option was accepted following the RAM analysis which demonstrated the BRS reliability requirements were still able to be achieved.

The removal of the bustie then required the POD to be updated and approved by ASA. The key activities undertaken to complete this rework include:

- Updating of the POD** to delete the 11KV bustie
- Development of a design concession** - Jacobs had identified the proposed standard Sydney Trains protection arrangement (pilot wire) would not work in the proposed Sydney Trains / Ausgrid network configuration. Jacobs then had to facilitate the preparation and approval of a design concession for not implementing pilot wire protection on the 11kV outgoing feeders. This then allowed the Sydney Trains Protection Designer to finalise their works and allowed for the approval of the POD.
- Connection Agreement support** - The result of the protection arrangement constraint (pilot wire) then identified a systemic licencing issue between Ausgrid and Sydney Trains in their capacity as both being Distribution Network Service Providers (DNSP) IAW the National Electricity Rules (NER) such that a Chapter 5 Network Connection agreement was not established. Jacobs were required to provide support (meetings, research into the NER and Electrical Supply act) to the Sydney Trains project team in trying to resolve a connection agreement contract as this was required to be in place prior to the commence construction activities and allow access to the Ausgrid 11kV network.

These activities occurred during the period Nov 16 through May 17. Time associated with these activities are included at **annex B** and is summarised below:



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** RAMS Consultant - Additional- Peer Review

**CONTRACTOR REFERENCE NO.:** Ad Hoc-005-3\_1

**SUBJECT:** Ad Hoc Services – RAMS Consultant - Additional

**Description of Variation:**

ARMS Reliability were engaged as an AdHoc consultant to provide RAMS assessments for the ROC project. ARMS reliability were engaged through a time and expense fee.

**BASIS OF CLAIM:**

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project for the value of [REDACTED] + GST. The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement.

**QUANTUM OF CLAIM:**

ARMS Reliability – Phase 1,2 and 3 - [REDACTED]  
ARMS Reliability – Phase 2a - [REDACTED]  
ARMS Reliability – Less invoiced - [REDACTED]  
Jacobs Fees 10% - [REDACTED]  
Cost - [REDACTED]

**BUDGET AND OTHER COMMENTS:**

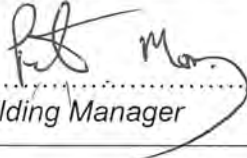
The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

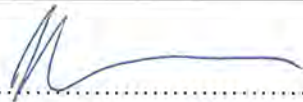
Reviewed:

  
..... Date: 27/10/2017  
Darren Gordon Commercial Manager

Reviewed

  
..... Date: 30/10/2017  
Peter Moroz Building Manager

Approved by:

  
..... Date: 30/10/2017  
Andrew Parker Program Manager

**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-32** Client PVR Ref No: **Ad Hoc-005-3\_1** Contract Ref: CW47307  
PVR Title: **Ad Hoc Services – RAMS Consultant - Additional**  
PVR raised by: Person: Scott Liddell  
Organisation: Jacobs  
Date: 29 August 2017

**Description of Variation**

ARMS Reliability were engaged as an AdHoc consultant to provide RAMS assessments for the ROC project. ARMS reliability were engaged through a time and expense fee as follows:  
AdHoc-005-1 – Phase 1, 2, 3 - [REDACTED] - **Appendix A**  
AdHoc-005-2 –Phase 2a - [REDACTED] - **Appendix B**  
This fee was a time and expense fee. The scope of these works was invoiced at time and expense (table below) and exceeded the initial estimate by [REDACTED]. These invoice claims were subsequently approved and paid by Sydney Trains.

Invoice Period	Invoice Number	Invoice Date	Date Received	Forecast Payment Date	Exl GST
<b>ARMS Reliability</b>					
21/11/15 - 20/12/15	INV-0155	22-Dec-15	23-Dec-15	22-Jan-16	
	INV-0161	23-Dec-15	23-Dec-15	22-Jan-16	
	INV-0181	27-Jan-16	27-Jan-16	26-Feb-16	
	INV-0192	28-Jan-16	28-Jan-16	27-Feb-16	
	INV-0240	24-Feb-16	24-Feb-16	25-Mar-16	
	INV-0241	24-Feb-16	24-Feb-16	25-Mar-16	
	INV-0314	31-Mar-16	31-Mar-16	30-Apr-16	
	INV-0351	22-Apr-16	22-Apr-16	22-May-16	
	INV-0389	27-May-16	27-May-16	26-Jun-16	
	INV-0445	21-Jun-16	21-Jun-16	21-Jul-16	

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project to capture the final ARMS reliability fees.

**Basis for Variation**

The purpose of this VPR is to seek variation approval to increase the CAF for the main ROC project for the value of [REDACTED] + GST.  
The contract between Jacobs and Sydney Trains on the ROC Project includes an Ad Hoc Services Agreement. The above engagement will have the following Terms and Conditions (T&Cs) associated with it:

- Back to Back Contract T&Cs**       **Amended Contract T&Cs**

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Tech Dir	Assoc Dir	Principal Engineer	Senior Engineer	Engineer	Senior CAD	Other	Expenses	
Hourly Rate	[REDACTED]							\$	Total (ex GST)
Hours									
ARMS Reliability	Phase 1, 2, 3								
ARMS Reliability	Phase 2a								
ARMS Reliability	Less invoiced								
Jacobs Fee (10%)									
Cost									



**Time Impact of Variation**

There will be no change to the agreed programme with Sydney Trains as works are complete and fully invoiced

**Supporting Documentation**

**Appendix A** – AdHoc-005-1

**Appendix B** – AdHoc-006-2

**Approvals**

**JACOBS PM Signature:**

**Date:**

21 Aug 17

**Client Representative Signature  
or Client Approval Reference  
No.:**

**Date:**



# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. **CW47307**)

**ST REFERENCE NO.:** SVR-053

**CONTRACTOR REFERENCE** Additional Finiashes Presentation Boards

**SUBJECT:** Additional Finiashes Presentation Boards

**Description of Variation:**

Provide interior finishes presentation boards to showcase ROC fit out at various Sydney Trains office locations.

- Update 'New Frontier' colour scheme presentation as per stake holder feedback
- Provision of A1 finishes sample board x 4OFF
- Provision of printed A1 x 2 presentation boards x 4OFF

**BASIS OF CLAIM:**

Additional request following meeting on 04 August 2017 where stakeholders selected a hybrid of presented options 1 & 2.  
Refer to Meeting Minutes; ROC - FFE Program Meeting 8, 09.08.217 for full details of the request.

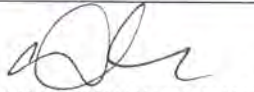
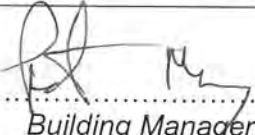
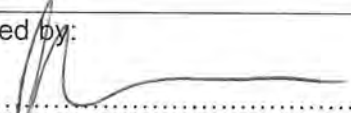
**QUANTUM OF CLAIM:**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total (ex GST)
Hourly Rate	[REDACTED]								
Hours	1		4	24					
Cost	[REDACTED]								

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		Date: 7/11/2017
Darren Gordon	Commercial Manager	
Reviewed		Date: 7/11/2017
Peter Moroz	Building Manager	
Approved by:		Date: 7/11/2017
Andrew Parker	Program Manager	



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-90** Client PVR Ref No: **SVR-053** Contract Ref: 4200010745  
PVR Title: **Additional Finiashes Presentation Boards**  
PVR raised by: Person: Tim Eley  
Organisation: Jacobs  
Date: 31 August 2017

**Description of Variation**

Provide interior finishes presentation boards to showcase ROC fit out at various Sydney Trains office locations.

- Update 'New Frontier' colour scheme presentation as per stake holder feedback
- Provision of A1 finishes sample board x 4OFF
- Provision of printed A1 x 2 presentation boards x 4OFF

**Basis for Variation**

Additional request following meeting on 04 August 2017 where stakeholders selected a hybrid of presented options 1 & 2. Refer to Meeting Minutes; ROC - FFE Program Meeting 8, 09.08.217 for full details of the request.

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate									(ex GST)
Hours	1		4	24					
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
<b>This Variation</b> (See details above)	
Total Variations:	

Double-click on table to edit/updat

**Time Impact of Variation**

None

**Supporting Documentation**

Quote for finishes boards

**Approvals**

**Jacobs PM Signature:** \_\_\_\_\_ **Date:** 31/08/17  
**Client Representative Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_









# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** AD HOC - Kerrect Group Pty Ltd

**CONTRACTOR REFERENCE NO.:** Adhoc – 017-2

**SUBJECT:** AD HOC - Kerrect Group Pty Ltd

**Description of Variation:**

to appoint Kerrect as an AD HOC consultant.  
The Kerrect quotation is for [REDACTED] excluding GST, however Jacobs recommend that Kerrect are appointed on an upper limit budget of [REDACTED] excluding GST so that this allows for any additional advice including a review of the tender documentation.

**BASIS OF CLAIM:**

Quote from Kerrect - Quote No. 1859.1 dated 5<sup>th</sup> June 2017

**QUANTUM OF CLAIM:**

\$3,150 excluding GST (this allows for any additional advice including a review of the tender documentation)  
Plus Jacobs 10% - [REDACTED]  
Total - [REDACTED] + [REDACTED] = [REDACTED]

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:

..... Date:  
N/A Technical

Reviewed:

..... Date: 7/11/17  
Darren Gordon Commercial Manager

Reviewed:

..... Date: 7/11/17  
Peter Moroz Building Manager

Approved by:

..... Date: 7/11/17  
Andrew Parker Program Manager























# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** SVR-012

**CONTRACTOR REFERENCE HV / LV Scope Integration**

**SUBJECT:** HV / LV Scope Integration

**Description of Variation:**

Item 5 - 11/0.415 kV and 11/11 kV power transformers type approvals. The work consists of technical specifications issuance for each of these transformers. The additional scope includes engineering support during the tendering process for these transformers procurement..

**BASIS OF CLAIM:**

Jacobs have amended the HV Program attached the overall effect on the delivery of the project deliverables. The order of priority of the deliverables has been reorganised to assist in meeting construction priorities. The revision to the design is planned to take:

1. Revision of design IAW DIP SC09351 – 3 weeks
2. Ausgrid review and Certification – 3 weeks
3. Issue certified design as AFC – 1 weeks

**QUANTUM OF CLAIM:**

Variation Item: Cost Impact  
Total [REDACTED] (Excluding GST)

**BUDGET AND OTHER COMMENTS:**

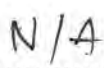
The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

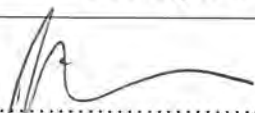
Reviewed:

.....  
Darren Gordon  Commercial Manager Date: 7/11/2017

Reviewed

.....  
Peter Moroz  Building Manager Date: /11/2017

Approved by:

.....  
Andrew Parker  Program Manager Date: 7/11/2017



<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	IA084200
<b>Project Manager:</b>	Tim Eley	<b>Client:</b>	Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No:	<b>AdHoc 014_2</b>	Client PVR Ref No:		Contract Ref:	CW47307
PVR Title:	<b>HV System Re-Design in association with Building Redesign</b>				
PVR raised by:	Person:	Scott Liddell			
	Organisation:	Jacobs			
	Date:	21 Jul 17			

**Description of Variation**

**Background**

Jacobs were engaged (Feb 2015) to provide HV design services under Sydney Trains Panel 80 contract (CW0349) for the ROC project

Under Jacobs PO DP2235 - Project RO019800 a PVR (PVR Ref RO019800-VR-004) (refer to **Annex A**) was submitted 10 Aug 16 seeking variation to complete the following scope changes:

- 1. **Item 1** – Revision of Earthing Design (rework)
- 2. **Item 2** – Revision of the Operating Diagram (rework)
- 3. **Item 3** - Redesign of the substation layouts (rework)
- 4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
- 5. **Item 5** – Project Progress and Additional Management (rework)

Direction to proceed with the revised scope was provided by Sydney Trains via email dated 22 Aug 16 – refer to **annex B**

Sydney Trains issued (email string commencing 8 Feb 16 - **annex C**) direction under clause 11.9 of the contract that the balance of works associated with PO DP2235 was to be transferred to the main ROC contract (CW47307) under Jacobs project IA084200 as an adHoc consultant. This included the following scope of works:

- 1. **Item 1** – works associated with PVR004 totalling [REDACTED]
  - 2. **Item 2** – Ausgrid Monopoly associated with PVR005 fees totalling [REDACTED]
- Total - [REDACTED] + GST + AdHoc margin**

Sydney trains issued email dated 8 Feb 17 (**annex D**) provided the status of submitted HV variations and summarised as follows:

- 1. **CW0349 - PO DP2235 - Project RO019800** totalling [REDACTED] approved including:
  - a. Original contract sum - [REDACTED]
  - b. Variation 1:
    - i. Item 1 - Project progress & additional support - [REDACTED]
    - ii. Item 2 - Additional support fo RAMS Report - [REDACTED]
    - iii. Item 3 - Revised concept design - [REDACTED]
    - iv. Item 6 - Ausgrid Application - [REDACTED]
    - v. Item 7 – Development of SSRS and PROR - [REDACTED]
- 2. Variations to be transferred and paid under the **CW47307 Main ROC contract (Jacobs project IA084200)** project:
  - a. Item 5 – Type Approval Process - [REDACTED] – noting this was an upper limit fee.
  - b. Redsign works associated with PVR-004 – [REDACTED] - timesheets were required to be provided.

The purpose of this project variation request is to consolidate the overall variations costs associated with works being transferred to **CW47307** - Jacobs project IA084200 associated with:

- a. PVR005 – Ausgrid Monopoly Fee - [REDACTED] – refer to **Annex E**
- b. **Item 5 – Type Approval Process - [REDACTED] – refer to Annex D**
- c. Redsign works associated with PVR-004 – [REDACTED] – **Annex A and Annex F.**



A complete breakdown of hours associated with RO019800-VR-004 is included at **Annex F**. A WBS has been used to capture the time and output associated with each resource and is described as:

1. **Item 1** – Revision of Earthing Design (rework) – WBS - 402
2. **Item 2** – Revision of the Operating Diagram (rework) – WBS - 403
3. **Item 3** - Redesign of the substation layouts (rework) – WBS - 404
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework) – WBS - 405
5. **Item 5** – Project Progress and Additional Management (rework) – WBS – 402

The timesheet breakdown is summarised as follows:

Variation Item	Cost Impact - Variation	Planned hrs	Actual hrs	Actual Cost
Item 1 – Revision of Earthing Design		251	187.25	
Item 2 – Revision of the Operating Diagram		54	45.5	
Item 3 – Redesign of the Substation Layouts		206	214.25	
Item 4 – Redesign of the in-ground service within the foot print of the building		252	346	
Item 5 - Project Progress and Additional Management		160	295.75	
<b>Total items 1 to 5</b>		<b>923</b>	<b>1088.75</b>	

#### Cost Impact of Variation – Summary

Variation Item	Cost Impact - Variation
PVR005 – Ausgrid Monopoly Fee (10% margin incl)	
Variation 1 – item 5 Type Approval (AdHoc)	
PVR004 – Redesign Works (AdHoc)	
AdHoc 10% Margin	
<b>Total items</b>	

#### Time Impact of Variation

Works associated with this variation are already completed

#### Supporting Documentation

**Annex A** - PVR Ref RO019800-VR-004 – 10 August 2016

**Annex B** – Sydney Trains direction to proceed – 22 August 2016

**Annex C** – Sydney Trains email – AdHoc Service Direction – 10 February 2017

**Annex D** - Sydney Trains email – ROC HV Works: Variations and payments- 8 February 2017

**Annex E** – Ausgrid Monopoly Fee - Approval

**Annex F** – Timesheet breakdown for works associated with RO019800-VR-004

#### Approvals

<b>JACOBS PM Signature:</b>	Scott Liddell	<b>Date:</b>	22 July 2017
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

**Project:** ROC – Rail Operations Centre \_HV Power Systems

**Project Manager:** Patrick Barnes

**Project No:** RO019800

**Client:** Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-004</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>HV System Re-Design in association with Building Redesign</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	10 <sup>th</sup> August 2016			

### Description of Variation

#### Background

Jacobs is engaged under the HV Power System purchase order for the ROC facility development to provide High Voltage (HV) design.

The works was initially performed under the terms of the purchase order DP2235 Version 3 as issued by Sydney Trains on the 18/05/2016 (Sydney Trains PR No. CW0359).

The project scope was modified in April 2016, to take into account the revision of the 11 kV system and additional revision or RAM and Ausgrid reports.

The internal approval by Sydney Trains of the HV Power System concept design took in excess of six months compared to two weeks provided in the Jacobs offer.

The HV Power System progression was put on hold by Sydney Trains on 24/06/16 for about eight weeks. The building configuration has been significantly modified during the last 8 weeks.

#### Basis for the request for scope of works variation

Sydney Trains requested on 09/08/16 Jacobs to revise the design schedule of the HV Power System to align with the revised building design, requiring a significant amount of reworks of completed design work.

The scope changes are as follows:

1. This request for variation consists of the high priority design packages (earthing and general arrangement, and in ground electrical infrastructures) requiring to be updated. These packages were initially issued 100% for earthing and 50% for general arrangement and in ground electrical infrastructures. Sydney Trains required these early packages to be reviewed to take into account the building configuration changes, starting Monday 22<sup>nd</sup> August to coincide with early works being completed by the Construction Contractor.
2. The scope change result in a significant additional project management effort for the HV Power System, this included coordination meetings with other disciplines and the stakeholders.
3. The project schedule has increased from the original HV engagement due to changes detailed in the background section of this document.
4. Resources mobilisation: Jacobs managed to keep most of the design resources allocated to the HV Power System project despite the 8 weeks stand-by period. However, some resources could not be kept on the project due to this long interruption, and are not available to the project anymore. Mobilising new resources in the Jacobs pool of designer is not a constraint. However it will take time for the new resources to get knowledgeable about the projects specificities. For example, Hajar Bakar, the earthing designer, and now fully committed until mid-2017, and another earthing designer will need to review the design, taking more time than Hajar.

The scope of work variation consist of the following seven items:

1. **Item 1** – Revision of Earthing Design (rework)
2. **Item 2** – Revision of the Operating Diagram (rework)
3. **Item 3** - Redesign of the substation layouts (rework)
4. **Item 4** – Redesign of the in-ground service within the foot print of the building (rework)
5. **Item 5** – Project Progress and Additional Management (rework)

The following table details for each item the additional effort estimate. The fees estimates exclude GST.



Item 1 –Revision of Earthing Design			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Detailed Earthing Design	Cost of mobilisation of a new resource compared to Hajar	Time required to familiarise with the new design and the requirements of the building	██████ (24 hours)
	Develop new CDEGs model for the updated building and piling layouts	<p>The model for the earthing system will have to be started from scratch due to the complexity of the design and the coordination required with the in ground assets.</p> <p>Note: the model is required to be started from scratch as the layout of the building and piling is too significant adjust the existing model as these are imported into the CDEGS package the data is converted to the software format.</p>	██████ (52 hours)
	Design and Draft revised earthing system	8 drawings to be revised and revision of design report with the changes to the design.	██████ 32 hours design and 80 hours drafting)
	Discipline and Coordination reviews	Additional deliverables technical reviews	██████ (24 hours)
	Design Presentation (1 off)	Designer, Project manager and Design manager to prepare and attend design presentation to Sydney Trains.	██████ (15 hours)
	Update report with design commentary and update deliverables accordingly	Designer and drafting resources	██████ (12 hours design, 12 hours drafting)
	<b>Total Item 1</b>		

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Item 2 – Revision of the Operating Diagram			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Revision of Proposed Operating Diagram	Design and drafting of revised POD	Update POD to two 2 MVA configuration and remove LV diagrams from 11kV diagrams (LV designers to produce LV POD) 5 drawings in the package.	██████████ (29 hours)
	Attend one POD meeting and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Attend one meeting with ASA and present updated diagrams	4 hours for 2 designers	██████████ (8 hours)
	Respond to comments and update designs if required		██████████ (9 hours)
Total Item 2			██████████ (54 hours)

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Item 3 – Redesign of the Substation Layouts			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Redesign of the substation Layouts	Review existing layout and each room equipment lists		(10 hours)
	Revise room layout drawings	Total of 14 drawings	(84 design hours 112 drafting hours)
Total Item 3			(206 hours)



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Item 4 – Redesign of the in-ground service within the foot print of the building (rework)			Jacobs Cost (Time Cost)
Item	Process Step	Notes and Assumptions	
Revise design of in-ground services	Review revised architectural design and updated electrical design and cable schedules.		██████████ (12 hours)
	Revise the design of the in-ground services	Update 4 sketches for coordination and drafting	██████████ (40 hours)
	Update in-ground drawings with revisions	10 drawings	██████████ (56 design hours 96 drafting hours)
	Internal design and coordination review		██████████ (16 hours)
	Finalise design package with commentary from internal review		██████████ (10 design hours 8 drafting hours)
	Attend design presentation		██████████ (8 hours)
	Respond to comments and update designs if required		██████████ (6 hours)
<b>Total Item 4</b>			<b>██████████ 252 hours)</b>

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Item 5 --Project Progress and Additional Management			
Item	Process Step	Notes and Assumptions	Jacobs Cost (Time Cost)
Project and Design Management	Extended project administration and management from beginning of June 2016 till the end October 2016	4 hours per week for the project manager and 2 hours per week for the design manager to administer and manage the delivery of the project (Approx 20 weeks)	(120 Hours)
	HV Power System design team coordination meeting	Two meetings to brief team on the changes to the building and effect on design packages as part of the re-mobilising the team on the project.	(20 Hours)
	Additional project re-scoping meetings	As discussed in the meeting held on the 18/8/2016 additional project management meeting. We expect there will be approx. 8 meetings	(40 Hours)
Total Item 5			(160 Hours)

The costing provided by Jacobs is for the following disciplines only.

1. Project and design management
2. HV Electrical

The estimate effort excludes the following disciplines:

1. Mechanical
2. LV Electrical (unless specified)
3. Communications
4. Fire
5. Hydraulics
6. Security
7. Acoustics
8. Fire Engineering
9. RAMS design changes
10. Fire Station
11. Enabling works
12. Authority fees
13. Commissioning framework, script review and site attendance
14. Opinion of probable cost

**Cost Impact of Variation – Summary**

Variation Item	Cost Impact
Item 1 – Revision of Earthing Design	██████████ (251 hours)
Item 2 – Revision of the Operating Diagram	██████████ (54 hours)
Item 3 – Redesign of the Substation Layouts	██████████ (206 hours)
Item 4 – Redesign of the in-ground service within the foot print of the building	██████████ (252 hours)
Item 5 - Project Progress and Additional Management	██████████ (160 Hours)
<b>Total items 1 to 5</b>	<b>██████████ (923 Hours)</b>

Please note: This will increase the overall project budget from ██████████ to ██████████ in total

**Time Impact of Variation**

The enclosed reviewed programme takes into account the time impact of the variations items 1 to 5.

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and we used best endeavour when reviewing the program to absorb as much as possible any program change from the current programme of the Sydney Trains ROC.

**Approvals**

<b>Jacobs PM Signature:</b>	Patrick Barnes	<b>Date:</b>	18 <sup>th</sup> August 2016
<b>Client Representative Signature or Client Approval Reference No.:</b>		<b>Date:</b>	

















## Project Variation Request Form

**Project:** ROC – Rail Operations Centre \_HV  
Power Systems

**Project Manager:** Patrick Barnes

**Project No:** RO019800

**Client:** Sydney Trains

### Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-005</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>Ausgrid certification fees in association HV System Re-Design and ROC building design</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	9 <sup>th</sup> November 2016			

### Description of Variation

#### Background

Jacobs is engaged under the HV Power System purchase order for the ROC facility development to provide High Voltage (HV) design.

Ausgrid as the certifying charge a network monopoly fees for these service as approved by *Independent Pricing and Regulatory Tribunal (iPART)* and the *Australian Energy Market Commission (AEMC)*

#### Basis for the request for scope of works variation

1. Jacobs have not included payment of any Electricity Network Monopoly fees as part of the project scope.
2. Cost of administration n of payment of the fees.

Please refer to attached Ausgrid letter of offer as reference for cost.

The following table details for each item the additional effort estimate. The fees estimates exclude GST

**Project Variation Request Form**

<b>Item 1 – Ausgrid Monopoly Fees</b>			
<b>Item</b>	<b>Process Step</b>	<b>Notes and Assumptions</b>	<b>Jacobs Cost (Time Cost)</b>
Ausgrid Monopoly Fees	Design Information		
	Design Certification		
	Administration		
	Facilitation		
	Administration Fee	10 % of Ausgrid Monopoly Fees	
Jacobs Fees			
<b>Total Item 1</b>			

The costing provided in this variation by Jacobs is for the payment of monopoly fees only.

The estimate effort excludes the following disciplines:

1. Project and design management
2. HV Electrical
3. Mechanical
4. LV Electrical (unless specified)
5. Communications
6. Fire
7. Hydraulics
8. Security
9. Acoustics
10. Fire Engineering
11. RAMS design changes
12. Fire Station
13. Enabling works
14. Authority fees
15. Commissioning framework, script review and site attendance
16. Opinion of probable cost

Cost Impact of Variation – Summary	
Variation Item	Cost Impact
Item 1 – Ausgrid Monopoly Fees	
<b>Total</b>	

Please note: This will increase the overall project budget from [redacted] to [redacted] in total

**Time Impact of Variation**

The payment of the fees is delaying correspondence with Ausgrid and ultimately the submission of the design for certification

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and will action this payment upon written approval.

Approvals			
<b>Jacobs PM Signature:</b>	Patrick Barnes	<b>Date:</b>	9 <sup>th</sup> November 2016
<b>Client Representative Signature or Client Approval Reference No:</b>		<b>Date:</b>	









# ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. **CW47307**)

**ST REFERENCE NO.:** **SVR-036**

**CONTRACTOR REFERENCE** Fire Station OSD Tank Re-Design

**SUBJECT:** Fire Station OSD Tank Re-Design

**Description of Variation:**

Sydney Trains required that Jacobs re-design the OSD tank as a value engineering design change (refer change 28). The value engineering proposal by AW Edwards enabled the deletion of sheet piles. The previous design was precast concrete which was coordinated with AW Edwards during the Early Contractor Involvement (ECI) phase of the project. The redesign consisted of 3 main activities:

1. Reconfirmation of tank size, location and office plate details (dependency for fire station services).
2. Re coordination with inground and Fire Station Shell documentation.
3. Revised civil documentation.
4. Revised structural documentation.

**BASIS OF CLAIM:**

Jacobs have been asked to re-design the OSD tank based on Aconex correspondence TNSW-GCOR-001300 (09/06/17).

**QUANTUM OF CLAIM:**

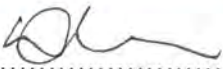


Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate								\$	(ex GST)
Hours	5	4	43	49		44			
Cost									

Project Summary	
Original Fee:	
Previous Variations:	
This Variation (See details above)	
Total Variations:	

**BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## ROC Infrastructure review & approval - Authorising payment

Reviewed:		
.....	Commercial Manager	Date: 7/11/2017
Darren Gordon		
Reviewed		
.....	Building Manager	Date: 7/11/2017
Peter Moroz		
Approved by:		
.....	Program Manager	Date: 7/11/2017
Andrew Parker		



**Project:** ROC – Rail Operations Centre  
**Project Manager:** Tim Eley

**Project No:** IA084200  
**Client:** Sydney Trains

**Project Variation Request Details**

Jacobs PVR Ref No: **VCN-80** Client PVR Ref No: **SVR-036** Contract Ref: 4200010745  
PVR Title: **Fire Station OSD Tank Re-Design**  
PVR raised by: Person: Tim Eley  
Organisation: Jacobs  
Date: 25 August 2017

**Description of Variation**

Sydney Trains required that Jacobs re-design the OSD tank as a value engineering design change (refer change 28). The value engineering proposal by AW Edwards enabled the deletion of sheet piles. The previous design was precast concrete which was coordinated with AW Edwards during the Early Contractor Involvement (ECI) phase of the project. The redesign consisted of 3 main activities:

1. Reconfirmation of tank size, location and office plate details (dependency for fire station services).
2. Re coordination with inground and Fire Station Shell documentation.
3. Revised civil documentation.
4. Revised structural documentation.

Civil drawings issued:  
01/07/2017, JACOBS-TRANSMIT-000560  
31/07/2017, JACOBS-TRANSMIT-000604  
04/08/2017, JACOBS-TRANSMIT-000616

Structural drawings issued:  
16/06/2017, JACOBS-TRANSMIT-000535  
14/07/2017, JACOBS-TRANSMIT-000586

- Hydraulic and Civil redesign of original OSD tank, including meetings, correspondence & drafting
- Hydraulic and Civil Re-design to include sewer, and raising of sewer including drafting
- Structural re-design of original tank location including meetings, correspondence and drafting
- Structural re-design to incorporate comments including meetings and drafting

**Record of Tasks**

Following the instruction Jacobs commenced work on the activity on 12 June 2017 and the drawings were issued for construction on 07/08/2017 & 14/07/2017. The work was conducted over five week period. The time associated with changes to the water quality devices(issued 07/08/2017) and changes to the hydraulic design (issued 07/08/2017) are not included in the hours breakdown below.

Discipline	Professional Hours	Drafting Hours
PM	5	0
Architecture	0	5
Hydraulics	10	
Structural	41	8
Civil	42	30
<b>Total</b>	<b>98</b>	<b>44</b>



**Basis for Variation**

Jacobs have been asked to re-design the OSD tank based on Aconex correspondence TNSW-GCOR-001300 (09/06/17).

**Cost Impact of Variation**

Cost Calculation for this Variation (Rates/Hours)									
Resource	Proj Man	Prof 1	Prof 2	Prof 3	Prof 4	Draft	Other	Expenses	Total
Hourly Rate	[REDACTED]							\$	(ex GST)
Hours	5	4	43	49		44			
Cost	[REDACTED]								

Project Summary	
Original Fee:	[REDACTED]
Previous Variations:	[REDACTED]
<b>This Variation</b> (See details above)	[REDACTED]
Total Variations:	[REDACTED]

**Time Impact of Variation**

None

**Supporting Documentation**

Refer to Sydney Trains instruction TNSW-GCOR-001300, on 09/06/2017.

**Approvals**

Jacobs PM Signature:	Date:	25/08/17
Client Representative Signature:	Date:	

*Approved  
15/08/2017*

## ROC INFRASTRUCTURE - VARIATION & CLAIM APPROVAL FORM

**CONTRACTOR:** Jacobs Group (Australia) Pty Ltd (Contract No. CW47307)

**ST REFERENCE NO.:** Ausgrid Design Scope Changes

**CONTRACTOR REFERENCE NO.:** RO019800-PVR-008 – Adhoc 14-1

**SUBJECT:** Ausgrid Design Scope Changes

### **Description of Variation:**

The Jacobs HV design had been completed to 100% CDR stage (11 October 2016) and was awaiting final submission to Ausgrid but was delayed by the inclusion of the ROC Building VE05 scheme and associated changed locations of HV infrastructure. This delay meant that the DIP expired and had to be resubmitted. Ausgrid revised its DIP and reissued it on 15 Dec 16. The revised DIP had the following impacts on the design:

1. Changed the entire external cable route of the design which had already been developed to 100% CDR detail and issued for final comment.
2. Changed in the project number and the drafting template requiring a full redraft of the design drawings which had previously been progressed to be ready for Certification by Ausgrid.

### **BASIS OF CLAIM:**

Jacobs have amended the HV Program attached the overall effect on the delivery of the project deliverables. The order of priority of the deliverables has been reorganised to assist in meeting construction priorities. The revision to the design is planned to take:

1. Revision of design IAW DIP SC09351 – 3 weeks
2. Ausgrid review and Certification – 3 weeks
3. Issue certified design as AFC – 1 weeks

### **QUANTUM OF CLAIM:**

Variation Item: Cost Impact  
Total [REDACTED] (Excluding GST)

### **BUDGET AND OTHER COMMENTS:**

The costs for this work are contained within the approved infrastructure budget.

## **ROC Infrastructure review & approval - Authorising payment**

Reviewed:

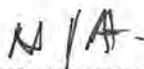
.....  
Darren Gordon

  
.....  
Commercial Manager

..... Date: 7/10/2017

Reviewed

.....  
Peter Moroz

  
.....  
Building Manager

..... Date: : /10/2017

Approved by:

.....  
Andrew Parker

  
.....  
Program Manager

..... Date: : 7/10/2017





## Project Variation Request Form

<b>Project:</b>	ROC – Rail Operations Centre _HV Power Systems	<b>Project No:</b>	RO019800
<b>Project Manager:</b>	Patrick Barnes	<b>Client:</b>	Sydney Trains

## Project Variation Request Details

Jacobs PVR Ref No:	<b>RO019800-PVR-008</b>	Client PVR Ref No:		Contract Ref:	CW0349
PVR Title:	<b>Ausgrid Design Scope Changes</b>				
PVR raised by:	Person:	Patrick Barnes			
	Organisation:	Jacobs			
	Date:	10 February 2017			

## Description of Variation

## Background

Jacobs is engaged under the ROC Panel 80 Contract to provide High Voltage (HV) design for the ROC facility development. It is noted Jacobs is also engaged under a separate Contract Ref CW47307 for the ROC building architectural and engineering disciplines.

The HV Design requires a Level 3 designer to coordinate and complete the design with AUSGRID as the supplier of the HV services. AUSGRID requirements are defined in their issued Design Information Package (DIP). The original DIP (SC06182) was issued on 24 August 2014 and was the basis of the HV reticulation design. The DIP issued has an expiration date of 6 months and had expired at the time of contract award. A subsequent DIP was issued (SC06182) on 4 December 2015 – again having a 6 month validity period. The Jacobs HV design had been completed to 100% CDR stage (11 October 2016) and was awaiting final submission to Ausgrid but was delayed by the inclusion of the ROC Building VE05 scheme and associated changed locations of HV infrastructure. This delay meant that the DIP expired and had to be resubmitted. Ausgrid revised its DIP and reissued it on 15 Dec 16. The revised DIP had the following impacts on the design:

1. Changed the entire external cable route of the design which had already been developed to 100% CDR detail and issued for final comment.
2. Changed in the project number and the drafting template requiring a full redraft of the design drawings which had previously been progressed to be ready for Certification by Ausgrid.

The revised connection point and cable route represented a saving in regards to the reduction of the cable route by more than 150m however a significant amount of redesign was required to incorporate back into the CDR design which included:

1. Adopting the revised design template issued by Ausgrid,
2. New Project references which impacted all design deliverables,
3. Revised trench route design including the addition of the communication conduit and pit details
4. Inclusion of AEO reporting requirements

The costing provided in this offer by Jacobs is for the following disciplines only.

1. HV project and design management
2. HV Ausgrid Electrical Reticulation Design
3. Drafting
4. Technical Reviews

The lump sum variation fee included in this document covers the following deliverables:

1. Ausgrid Electrical Design Package (SC09531)

Project Variation Request Form

Item 1 – Revised Ausgrid Design Package				
Item	Process Step	Notes and Assumptions	Jacobs Cost	
Redesign of Ausgrid certification package	Design Sketches and drawings	Reviewing Site information and gathering additional information for the new cable route design	(54 hours)	
	Drafting of the design		(84 hours)	
	Revision of Calculations		(8 hours)	
	Response to Ausgrid enquires		(10 hours)	
	Revision to AEO Reporting requirements		(28 hours)	
	Final Design Review		(16 hours)	
	Attend site visit to assess the new cable route	(incl prep and SWMS)	(12 hours)	
	Liaison With Ausgrid		(16 hours)	
	<b>Total Item 1</b>			<b>(228 hours)</b>

Note: Details for the additional effort above doesn't include GST

The following services discipline or scope item costs will be excluded from this variation:

1. Mechanical
2. Communications
3. Fire
4. Hydraulics
5. Security
6. Acoustics
7. VT
8. Fire Engineering
9. RAMS design changes
10. Fire Station
11. Enabling works



Cost Impact of Variation – Summary	
Variation Item	Cost Impact
Item 1 – Revised Ausgrid Design Package	
<b>Total (GST excl)</b>	

**Time Impact of Variation**

Jacobs have amended the HV Program attached the overall effect on the delivery of the project deliverables. The order of priority of the deliverables has been reorganised to assist in meeting construction priorities. The revision to the design is planned to take:

1. Revision of design IAW DIP SC09351 – 3 weeks
2. Ausgrid review and Certification – 3 weeks
3. Issue certified design as AFC – 1 weeks

Jacobs understands the criticality of the HV design for the overall ROC project delivery, and will action this additional work upon written approval. It is understood that the AUSGRID design package is to be included as an annex to the Main HV CDR package for CCB information.

Approvals			
<b>Jacobs PM Signature:</b>	Patrick Barnes	<b>Date:</b>	10 Feb 17
<b>Client Representative Signature or Client Approval Reference No:</b>		<b>Date:</b>	

**ATTACHMENTS**

- A. HV Program - 170209

