



Re-envisioning Data Infrastructure

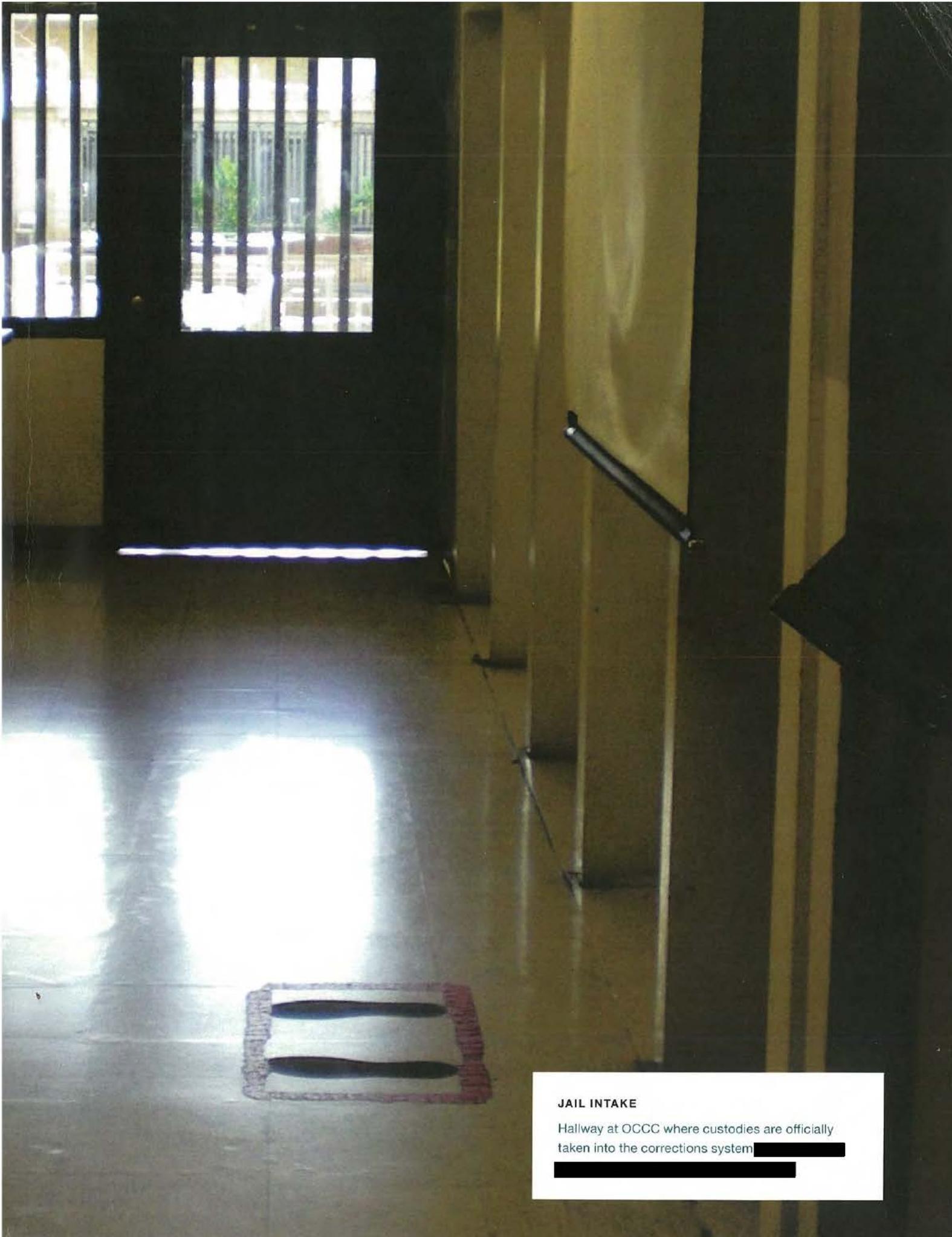
Department of Public Safety
Data Infrastructure Improvement Project
Research Findings Report

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PHOTOS AND ILLUSTRATIONS
Pas de Chocolat, LLC.

DESIGN





JAIL INTAKE

Hallway at OCCC where custodies are officially taken into the corrections system [REDACTED]

[REDACTED]

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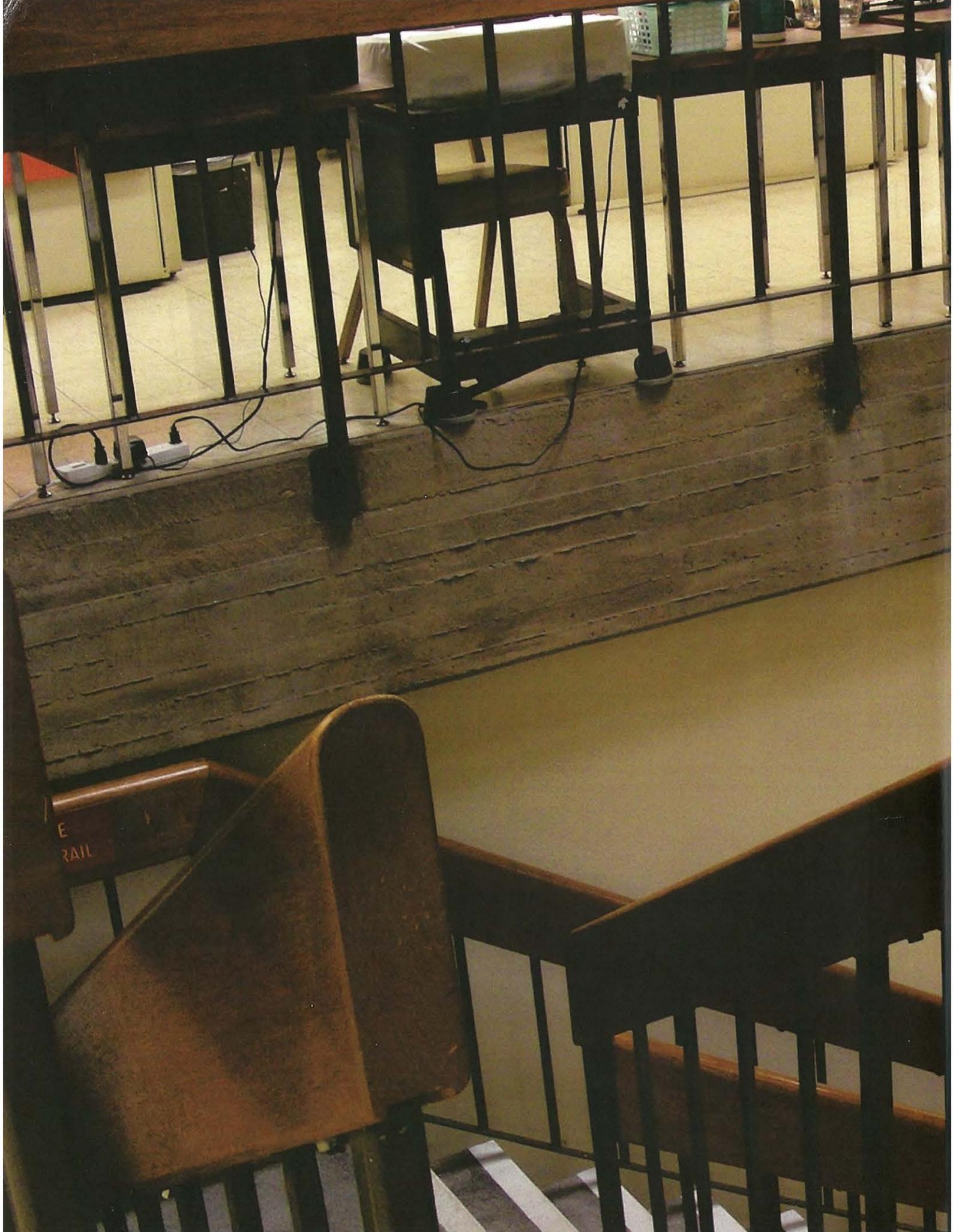
This report was prepared by the team that performed the research work, led by Cara Oba and Kyle Oba of Pas de Chocolat, LLC. Research contributors include [REDACTED]. Design assistance provided by [REDACTED]. Meeting facilitation and communication guidance provided by [REDACTED]. [REDACTED] provided administrative and archiving assistance for research photos. [REDACTED] is the editor of this report and provided administrative assistance and editorial guidance for the project.

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Abbreviations

ACO	Adult Corrections Officer
ASCA	Association of State Correctional Administrators
CI	Correctional Industries
CPS	Corrections Program Services
CRCO	Civil Rights Compliance Office
CVCC	Crime Victims Compensation Commission
DAGS	Department of Accounting and General Services
DHRD	Department of Human Resources Development
DOH	Department of Health
ECW	E-Clinical Works (medical services software application)
EMR	Electronic Medical Record
GBTOT	GreenBox to Offendertrak
HCCC	Hawai'i Community Correctional Center
HCF	Hālawā Correctional Facility
HCI	Hawai'i Correctional Industries
HIPAA	Health Insurance Portability and Accountability Act
HPA	Hawai'i Paroling Authority
HPD	Honolulu Police Department
IAD	Internal Affairs Division
ICIS	Interagency Council on Intermediate Sanctions
IDA	Institutions Division Administrator
IIO	Inspections and Investigations Office
IPP	Initial Prescriptive Plan (see also PPU)
ICSD	Information and Communication Services Division
ISC	Intake Service Center (see also OISC)
ITA	Inmate Trust Account (custody account and database of account information)
JRI	Justice Reinvestment Initiative
KCCC	Kaua'i Community Correctional Center
LCO	Litigation Coordination Office
LSI-R	Level of Service Inventory-Revised (quantitative survey instrument)
MCCC	Maui Community Correctional Center
MIS	Management Information Systems (office at PSD)
OCCC	O'ahu Community Correctional Center
OISC	O'ahu Intake Service Center (see also ISC)
ORAS	Ohio Risk Assessment System
PSD	Department of Public Safety, State of Hawai'i
PREA	Prison Rape Elimination Act
PSI	Pre-Sentence Investigation
PPU	Prescriptive Plan Update (see also IPP)

RAD	Reception, Assessment and Diagnostic
RCUH	Research Corporation of the University of Hawai'i
REPS	Research and Evaluation in Public Safety (project of RCUH)
ROR	Released on Own Recognizance
SAS	Statistical Analysis System, developed by SAS Institute
SAVIN	Hawai'i Statewide Automated Victim Information and Notification System
SMS	Student Management System
SMT	Scars, Marks & Tattoos
SOTP	Sex Offender Treatment Program
SSRI	Social Sciences Research Institute (University of Hawai'i)
STG	Security Threat Group
TABE	Test of Adult Basic Education
TSD	Training and Staff Development (branch of PSD administration)
UA	Urine Analysis
WCCC	Women's Community Correctional Center
WCF	Waiawa Correctional Facility
VINE	Victim Information and Notification Everyday





MODULES

Workers experience modular, siloed operations in both in their physical spaces and digital systems.

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Background

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- + About the Project
- + Team
- + Approach
- + Methods

About the Project

This report summarizes Phase One of the State of Hawai‘i Department of Public Safety (PSD) Data Infrastructure Improvement Project.

PROJECT GOALS

The project breaks down into three phases, with two overarching goals:

- To articulate PSD’s business and technical needs and wants
 - To establish the requirements for a new corrections management system—one that would include more custody management data and extend reporting capabilities for the department
-

PROJECT PHASES

The project’s three phases answer the following questions regarding PSD’s data infrastructure:

- Phase One: What does the department have?
 - Phase Two: What does the department want?*
 - Phase Three: How might the department get what it wants?
-

* Following completion of Phase Two, the team would make recommendations and the department would make a decision for how they would want to proceed.

PHASE ONE OBJECTIVES

Phase One was a research and needs assessment phase with four objectives:

- Develop a model for the department’s data infrastructure
- Provide situational awareness of the department’s technology, organization and operations contexts
- Identify solution alternatives by comparing products and surveying implementations of other jurisdictions
- Start a draft of the business requirements document for the corrections management system

Summary of Phase One Activities

TIMEFRAME

Phase One was a research and needs assessment phase of the data infrastructure project. Work started in February of 2015 and research concluded in June of the same year.

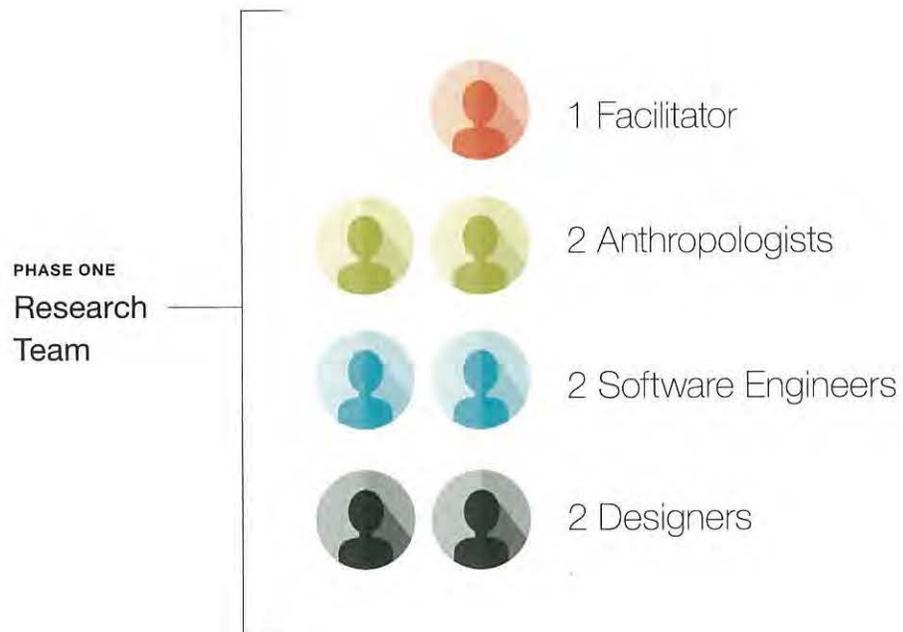
5 months



FEBRUARY – JUNE
2015

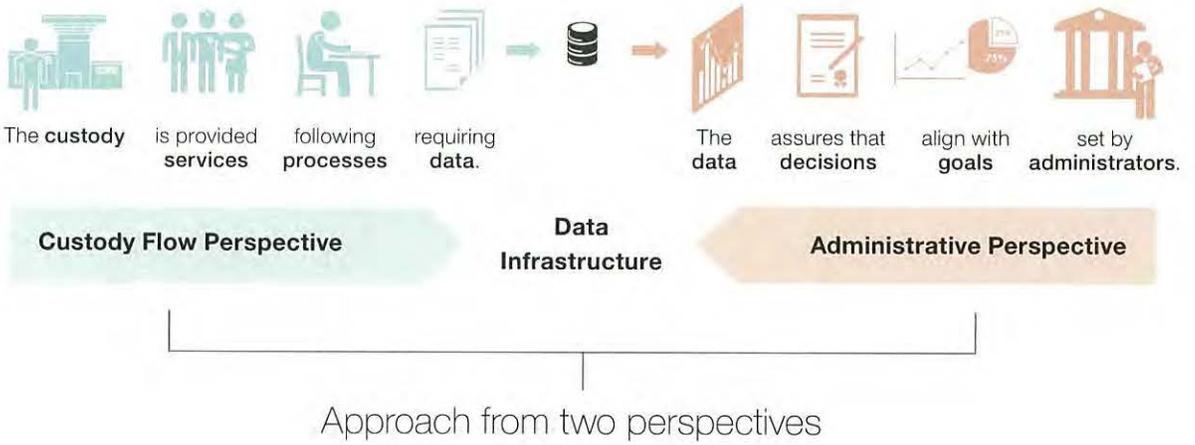
TEAM

The Phase One research team consisted of two anthropologists, two designers, two software engineers and one facilitator. The intention was to enable group discussion where necessary and for the interviews and observations to consider a range of people, processes and technical needs.



APPROACH

The data infrastructure was defined from the meeting of two perspectives—department administrative operations and custody-related operations.



11 Site Visits

PSD operates facilities on Hawai'i, Kaua'i, Maui and O'ahu. Phase I focused on O'ahu operations only.

LOCATIONS

- O'ahu Community Correctional Center
- Hālawā Correctional Facility
- Waiawa Correctional Facility
- Women's Community Correctional Center
- Training & Staff Development Correctional Industries
- Department of Public Safety Administrative Offices
- Sheriff's Division Offices & Hawai'i Paroling Authority
- Crime Victim Compensation Commission
- Mainland Branch Office
- Honolulu Police Department Headquarters
- District Court

BUILDING
MAINTENANCE
OFFICE

Methods

Our research included in-person interviews, site observations, stakeholder meetings and a survey of other jurisdictions. We also conducted research of public information on other jurisdictions via case studies, forums and product websites.



4 Stakeholder Meetings



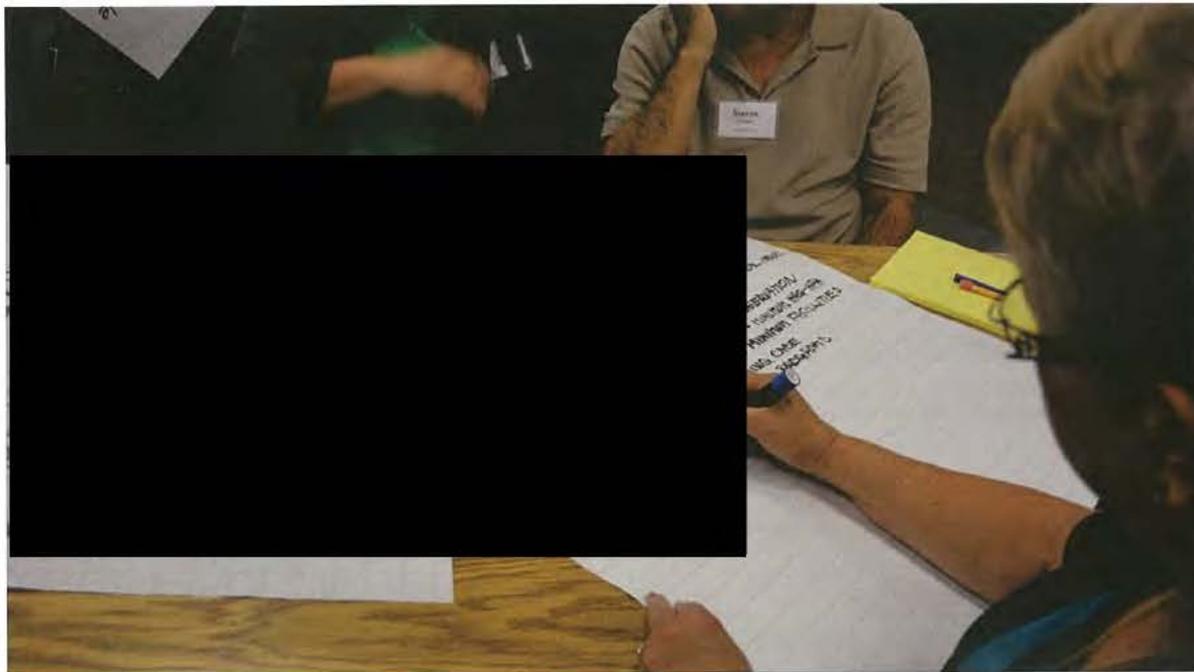
70 People Interviewed



36 Jurisdictions Surveyed

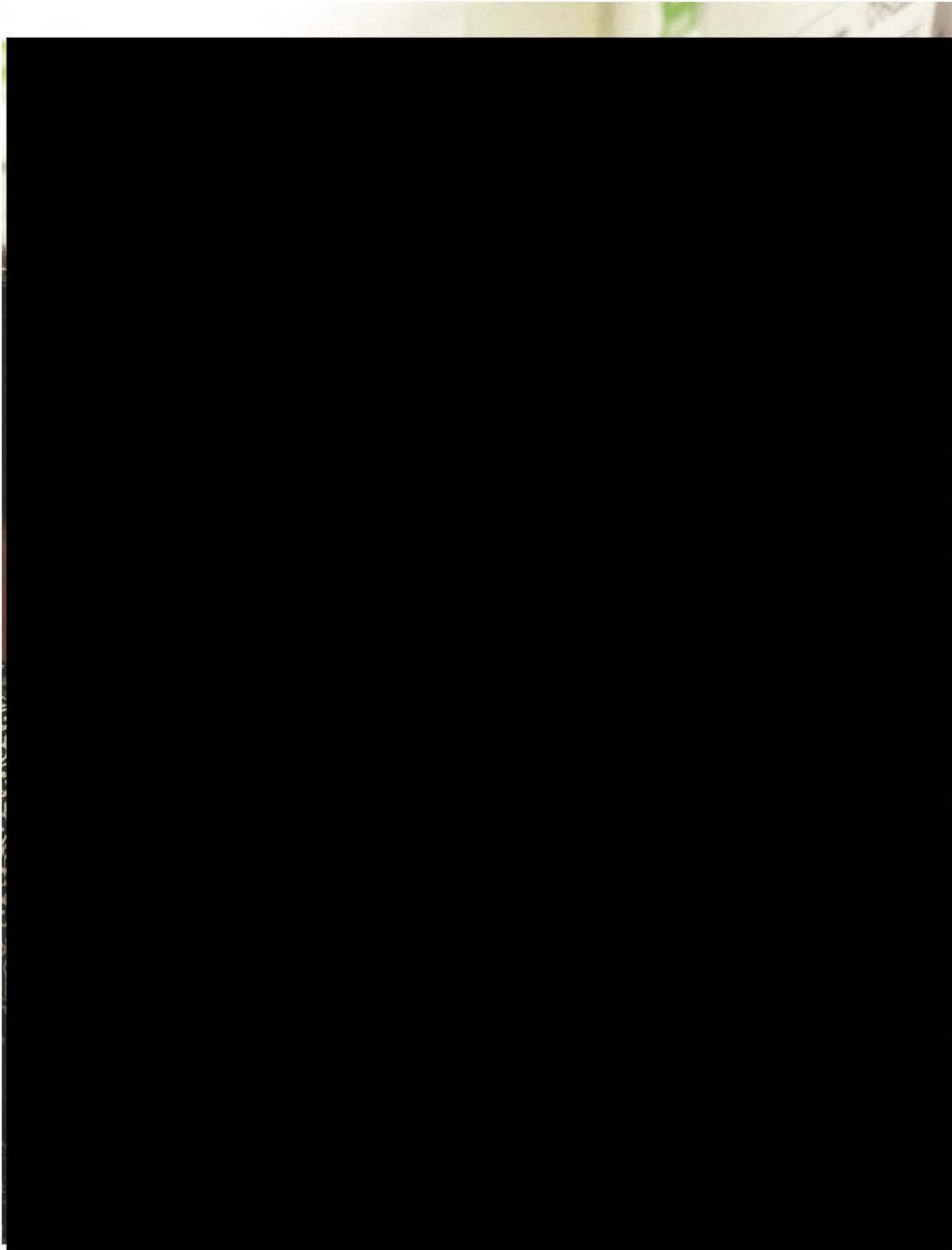


11 Software Products Investigated



KICK-OFF STAKEHOLDER MEETING

Stakeholders from across the department talked through some potential custody experiences in their group review of the corrections process.



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Introduction

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- + About this report
- + What is data infrastructure?

About this Report

This report summarizes the qualitative research findings from Phase One of the PSD Data Infrastructure Project. Its primary purpose is to provide situational awareness.

OUTLINE

The report is broken out as follows:

- + **Executive Summary** provides a quick view of the whole report.
- + **Insights** discusses the broader implications of discoveries made in our investigation of PSD's data infrastructure.
- + **Impressions from the Field** are an overview of our findings on how the department works with data, including comparisons with other jurisdictions.
- + **Next Steps** reviews the proposed next phase of the project.
- + **Conclusion** offers the main take-aways.

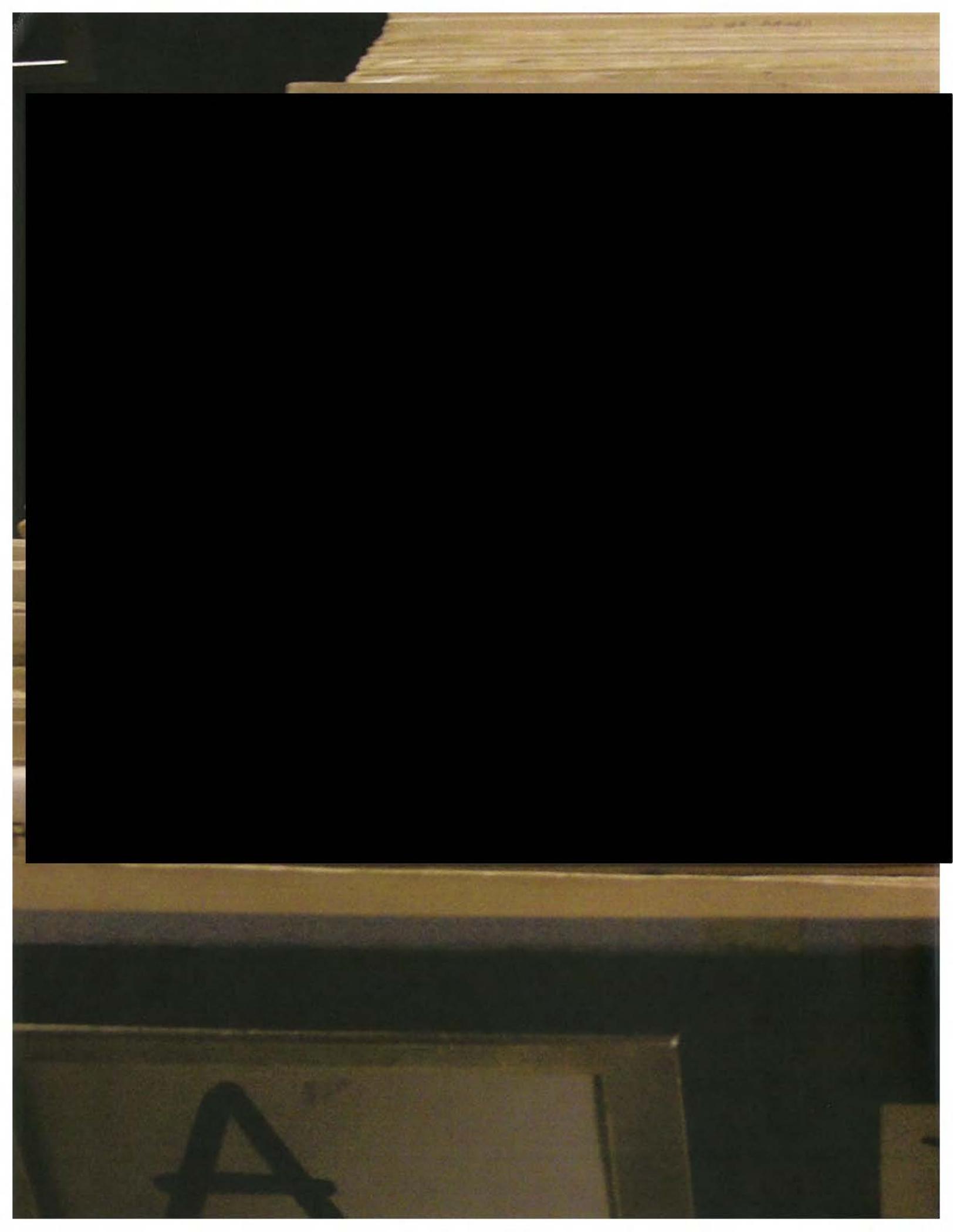
The **appendices** contains supporting details including referenced models that examine the data infrastructure, the organization and corrections operations and specific research examples.

Additional Phase One documents not included in this report:

- + **Initial Business Requirements Document** begins to outline the various types of systems that would likely be integrated in a new corrections management system.
 - + **Comparative Product Analysis** reviews some of the better known corrections management software products in addition to some solutions identified by the survey of other jurisdictions.
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What is data infrastructure?

We define **data infrastructure** as the collection of data systems—the various technologies, including paper, memos, databases and spreadsheets—that are used for routine information capture, sharing and storage. We worked to discover a wide assortment of data systems to appreciate the range of needs, identify operational department patterns and look for simple technology gains.



SECURITY OF PAPER

████████████████████ physical processes that need to coordinate with digital data systems. Paper processes have benefits of working offline and providing helpful redundancy.

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Executive Summary

When walking a balance beam, the trick is to keep your eyes focused on the far end of the beam. This mental connection—between your mind to the end goal—buffers you from the small wobbles along your path.

While creating a custody information management system, the question, “Can we get the information we want out of this system?” is the target at the end of the path. Focus on this goal will keep the department aligned with its target.



██████████ the department should focus on the proposed system's ability to retrieve desired information. It should make querying easy, simple, timely and accurate. It should be a tool that is readily provided to all users and requires little training to use. Assuming the system's other requirements are met, concentrating on the ability to retrieve information will focus the department, ensuring a desirable system.

The two main components in an information system are people and technology. We refer here to the people as the PSD users and maintainers of the information system. Also, we refer to technology as software, as a means of simplification—although technology may encompass computer hardware, networking, phones, tablets, scanners, printers and other devices.

Within an organization using an information system, people and technology interact in a self-reinforcing cycle, in which people shape technology via policy decisions and procurement.



A self-reinforcing cycle, in which people shape technology via policy decisions and procurement. In turn, technology affects operations and provides data that informs further policy decisions.

We have observed the interaction of PSD with its existing information systems. We'll discuss each of these parts, as they exist in PSD.

Technology

Generating reports and analyzing data in PSD's systems is difficult and time consuming.

██████████ Data is spread out among multiple systems, requiring duplicate data entry. Automatically linking data between different systems is difficult or impossible, but required for some types of reports. Such work becomes manual, ad hoc and not easily repeatable.

When users want to create reports from data which resides on a single system, [REDACTED] is old, perplexing and infrequently used in the department. No formal training for [REDACTED] is offered to the department's users. As a result, the department does not use self-service report writing features [REDACTED]. This is a missed opportunity to mine the department's [REDACTED] database.

When asking for a report, administrators must know what data is available, the shelf-life of its validity, its technical definition and how it was collected. This description of the data, or metadata, is called the "data dictionary." Without this understanding of the available data, making requests for reports is made difficult and time consuming.

When administrators are unable to articulate their own requests, they must rely on others to provide them with the information they need from the system.

Operations

Staff do not work with one single custody management information system. Instead [REDACTED] run on separate software applications. Each application has a separate user interface—used to capture custody and operations data—and a separate database. Data is not fully shared between these systems. Data entered into one system might conflict with another system, or be redundant.

Each system is managed by different groups of people. Connecting data between systems is time consuming and not always possible. It is also difficult to determine if data has been connected properly. This is related to the need for a data dictionary.

People

We believe that the department's divisions do not function in as coordinated a manner as would be possible with an integrated information system. A coordinated system allows for sharing of data in real time and reduced duplication of effort.

Sharing data is essential to efficiently functioning information systems. The department's systems should reflect its goals. To prioritize these goals requires an understanding of which divisions have a stake in each system and what goals divisions share. In order to make such sharing possible, the department must define the data rights allowed to each division.

Policy

There is a mismatch between some perceptions of the role of the MIS group and their actual capabilities. Currently, MIS has limited time and human power with which to handle the technical and support needs of the department. Their current capability falls short of the levels of support and guidance that are expected from many divisions.

These mismatches in perception take shape when a division purchases a software application and expects MIS to host, support and enhance it, without MIS having been consulted during the procurement of the application.

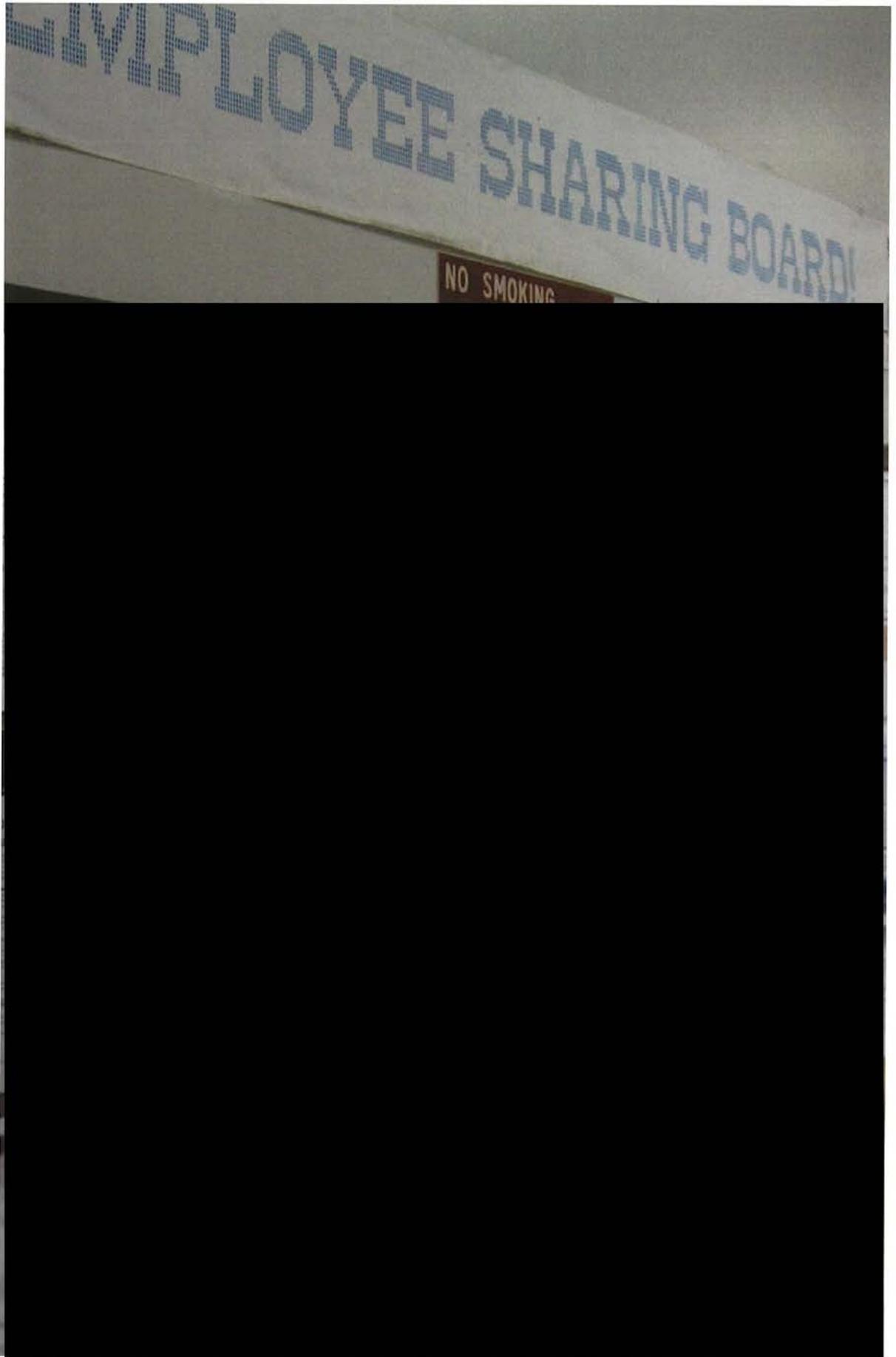
Currently, MIS has limited ability to make technical enhancements to the department's information systems. However, almost every major system requires updates and fixes from the moment they are put into use—the majority of a system's cost is realized in the maintenance phase. These software systems must continuously evolve to meet the changing needs of the department.

 **KEY POINT:**

The department must support this kind of iterative approach to systems development. Department-wide coordination is necessary to align technical decisions affecting multiple divisions. The department should design systems and the MIS organization to anticipate the need for change, easy reporting, training and in-house support. As part of this coordination effort, the department requires a process for bringing stakeholders together to plan these individual projects within the scope of longer-term shared goals.

**IN-FACILITY
COMMUNICATION**

A common means of communication is the bulletin board. Pin boards, windows and mounted clipboards are frequently used to post important and sharable information.



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Insights

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Discusses the broader implications of discoveries made in our investigation of PSD's data infrastructure.

- + PSD is a complex service system
- + Meaningful information drives thoughtful action
- + The challenge of information retrieval
- + What technology can do
- + Approach for developing policy
- + Foundation for execution
- + Characteristics of four operating models as applied to PSD operations

PSD is a complex service system

PSD is a diverse organization, employing a variety of staff, vendors, contractors and volunteers. As a department, it manages and operates programs, services and facilities across the state of Hawai'i. It serves a clientele as broad as the public itself and with a uniquely comprehensive assumption of responsibility in the care of custodies. PSD's operations require timely and appropriate service to keep everyone within their purview safe.

Yet there are many issues that are outside of PSD's direct control. One major consideration is that the department cannot control or predict the incoming flows to their corrections system, and corrections operations present only some of the variables impacting the out-flow. (See *Appendix A: Custody and Information Flows, Custody flow diagram.*)

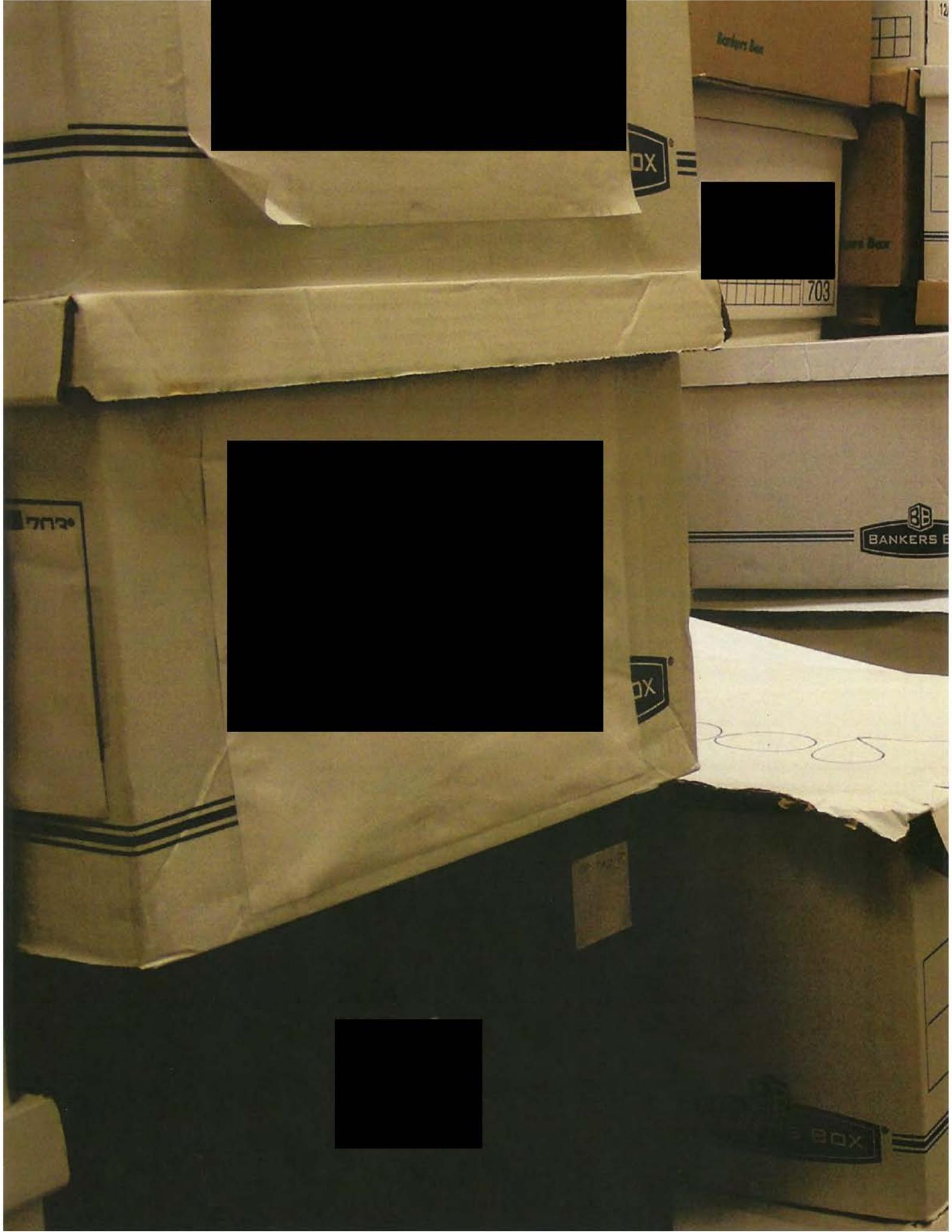
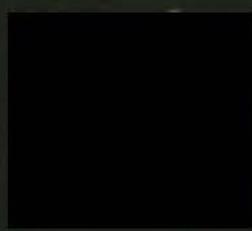
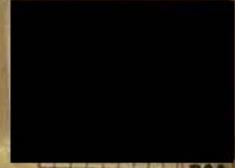
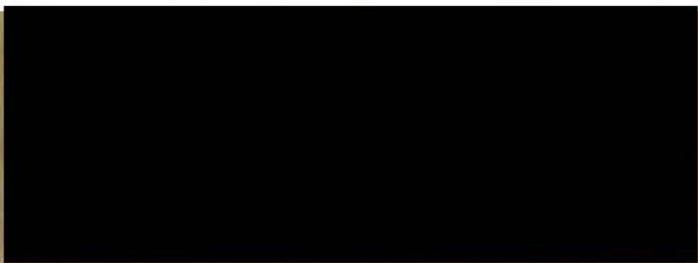
Therefore, real-time and accurate information about the current state of their system is crucial. It can enable responsive actions—making adjustments for changing needs. However, responding to change and preparing for change requires ongoing vigilance. For the information system, this equates to responsive technical support that can readily implement changes and customizations.

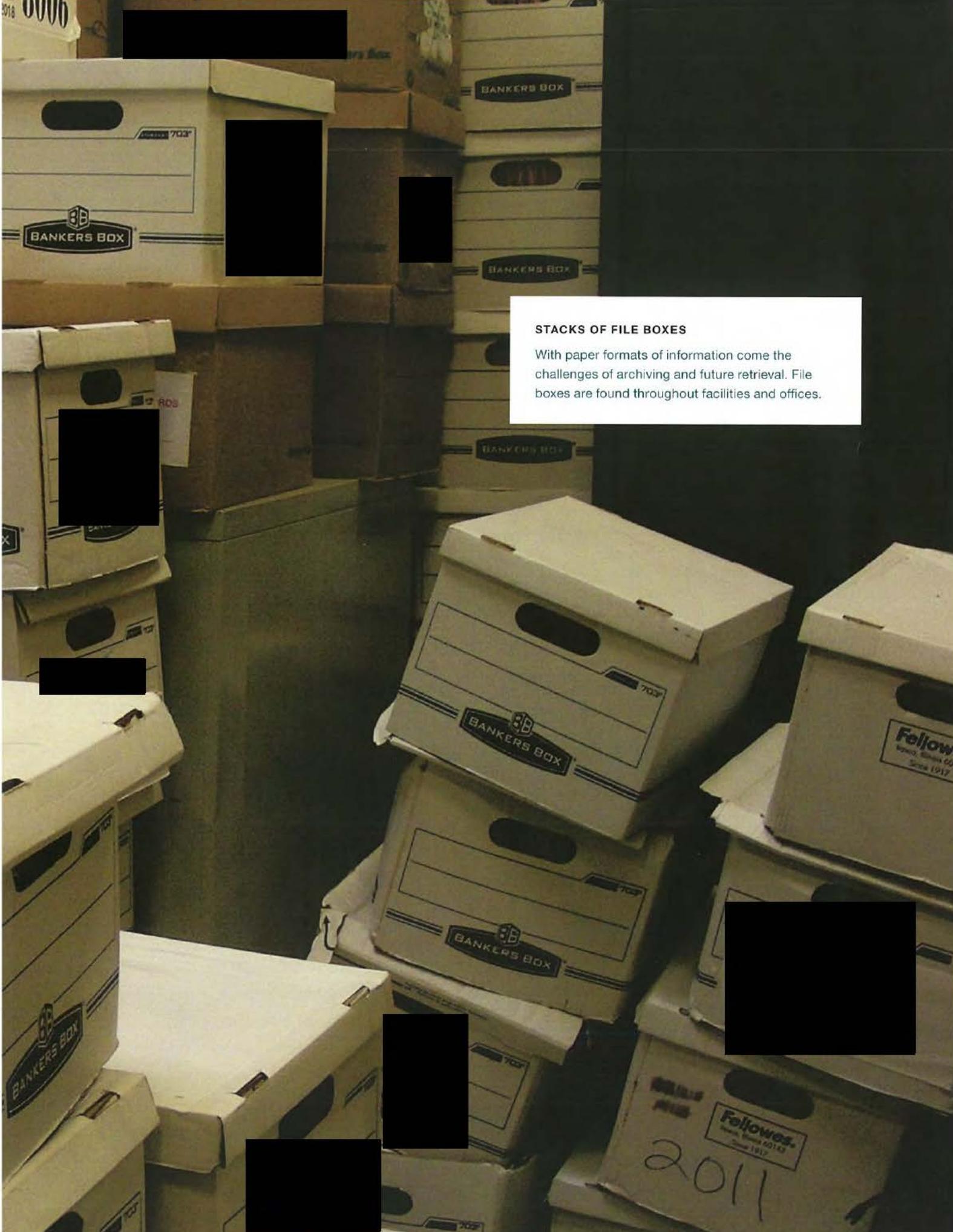
KEY POINT:

Adaptability is a key requirement for PSD's operations and information systems—both in the choice of technology and support.

CONSTANT CHANGE

Wherever we looked throughout the department, there was evidence of people dealing with significant change—unexpected or planned, temporary or permanent. The reasons were diverse: accommodating staffing changes, changes in statutes, budgetary issues, new equipment, movement to new physical locations. Many of these required sudden role changes, permanent process changes and unclear procedures with potentially significant negative consequences for the custody, operations or department if changes were not addressed in a timely manner.





STACKS OF FILE BOXES

With paper formats of information come the challenges of archiving and future retrieval. File boxes are found throughout facilities and offices.

0006

703

BANKERS BOX

BANKERS BOX

BANKERS BOX

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BANKERS BOX

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BANKERS BOX

Fellowes
Since 1917

BANKERS BOX

Fellowes
Since 1917

2011

Meaningful information drives thoughtful action

Data is the typical fuel for a responsive service system. But PSD requires more than data due to its open-ended processes and context of continuous change. People, from administration to line staff, need analysis to be well-informed to make well-founded decisions.

It's not that a singular answer is delivered through data analysis. But analysis provides situational clarity when trying to make a decision with imperfect information and unforeseeable futures. It's not about prediction, but providing a sense of direction. Analysis offers justifications that enable forward progress.

Analysis need not be complicated. At its basis, it is about combining data. It requires that people know the details of how and why data is captured so that they may understand what it represents and how to ask further questions of that data. Analysis is about telling an informative story—a snapshot of a particular incident with likely causes and impacts, or a pieced-together history that develops the foundation for a future plan. It is the step that transforms data to actionable information.

But for PSD, analysis is overly complicated and doesn't happen as often or as well as it should. The fallout? Operational goals compete with deadline-based priorities. The practical strategy is just-in-time (JIT) completion. Unfortunately, caring for the safety of workers, custodies, facilities and assets is ill-suited to such a model. So is managing budgets and accreditations. This JIT model for working increases the risk of complications compounded with decreased ability for error recovery. It is waiting for catastrophe. As an example, an issue is escalated to trigger a series of investigations and lawsuits. A delayed decision immobilizes additional funding amid already modest budgets.

IMPORTANCE OF TIMELINESS

There are various databases available for tracking data within the department. Some of these databases have duplicated data. One reason for this is that the parties maintaining these databases have different “viewing” or reporting requirements for this data. Because there is no central data repository within the department which supports the report generation desires of these parties, they rely on their own separate systems. These systems do not benefit from automated data updates and require manual data input.

Time pressures lead to work-arounds. Data system development is driven by immediate needs, rather than strategic planning. While these efforts deliver on the immediate needs, system or data maintenance that was unaccounted for becomes more time-consuming as the system grows larger and older.

To avoid the proliferation of workarounds, PSD may want to attend to the requests for building and fixing information systems quickly.

KEY POINT:

The current information system is losing the department money by failing to support reporting and analysis needs. Timeliness is the critical issue. An information system that encourages PSD to perform expedient analysis would be a worthy investment.

DATA THAT MAKES SEARCH EASIER

As PSD continues to add data-capture requirements, consider capturing a few additional types of data to help make search easier in the future. Categorizations of raw data—creating larger buckets of organization—allows for tagging stored data for ease of retrieval. Additional process tracking details such as the author, modifier, approver and timestamps, can also be of assistance.

Taking the step to make data more searchable from the outset will make the most of technology improvements, reducing the time and effort of search, reporting and analysis to get the most out of the data you capture.

The challenge of information retrieval

With current siloed data systems, analysis is a time sink from start to finish. There is little to no coordination between the components of the current information system.

The data systems in use today were designed as fractured pieces. In being divided by function, they did not incorporate a large number of operational use cases. Many parts were left on paper, others were assumed to come along in time. In addition, many of these systems have poor or no reporting and analysis features. PSD's need for responsive changes conflict with the slow turn-around for modifications. This has led to the creation of standalone databases that provide more flexibility for adding new data fields and increased search ability.

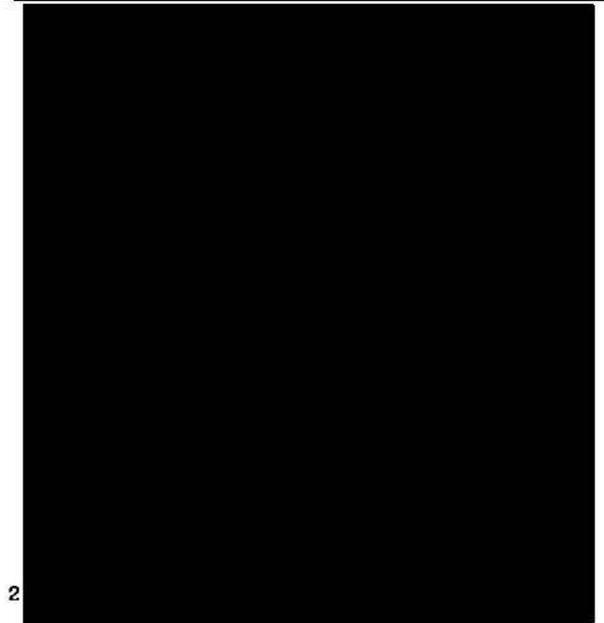
Initially an improvement, users have more information available. However, users soon find that the upkeep of the new database requires a lot of repetitive and redundant data entry. Data that could have been linked with the primary data system is now being entered manually.

While the amount of data being collected has likely increased, access to data is still limited because systems are not connected and the data are not explicitly shared. Much of the data sharing occurs as process-driven, individual requests or batch processed reports. This indirect access puts an inherent limitation on the ability to query the data and do analysis at will.

Even special requests for reports and analysis become challenging since the data and their systems were defined in relative isolation. Finding and associating data across different systems is difficult. Data which initially matches may diverge as changes and errors are not synchronized across systems. The challenge continues with scanning the data and extracting relevant details. Some of these systems include paper filing cabinets as well as PDF scans. Distributed systems are more difficult to understand than centralized systems.

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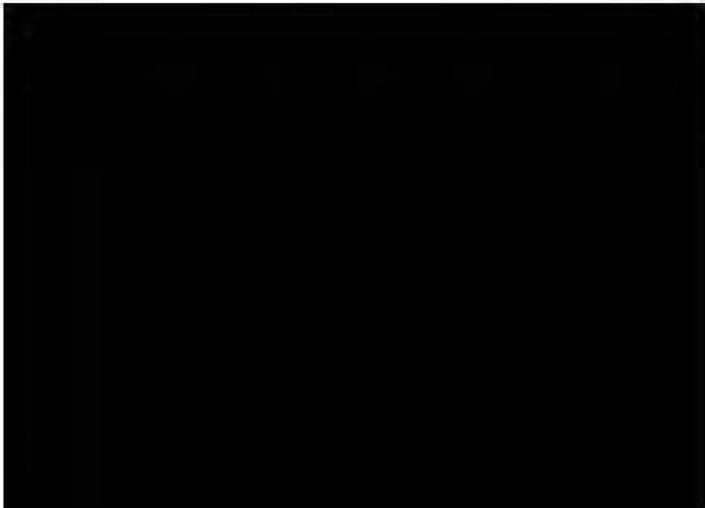
██████████ is a digital filing cabinet... getting bigger and bigger... a huge untapped resource. We don't think about report generation because it takes us away from feeding ██████████ .. building a report involved going to the filing cabinet, and nobody wants to do that.”



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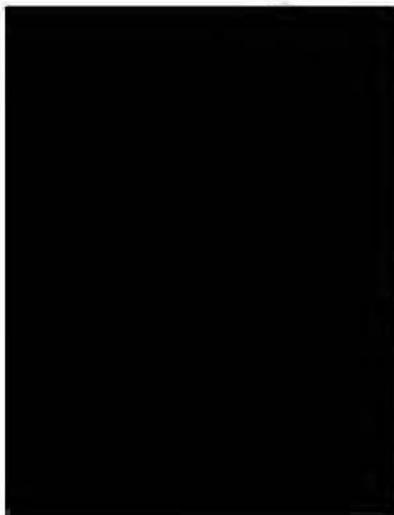


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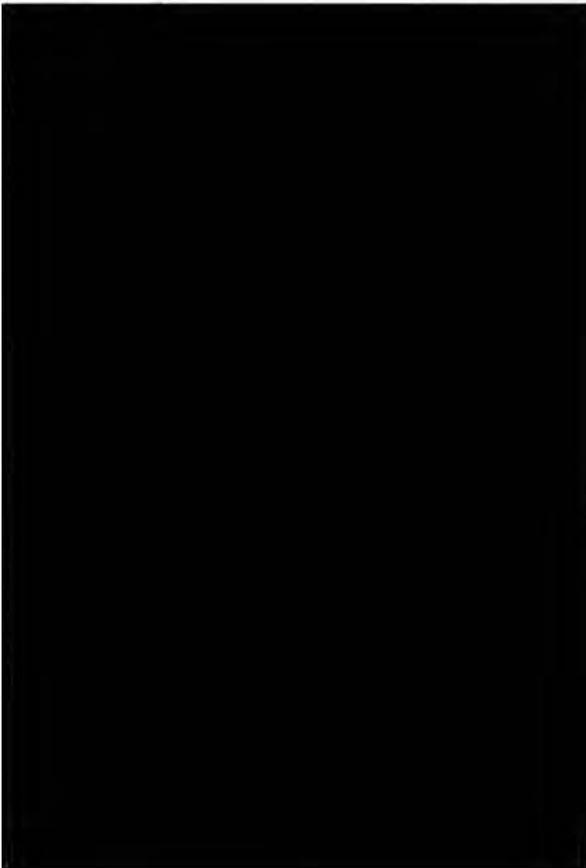


- 1. Food Service [redacted] Report
- 2. Population reports
- 3. Searching Institutional Files
- 4. Querying data [redacted]
- 5. Some files are large
- 6. [redacted]
- 7. Request for archived files
- 8. Education [redacted] report in [redacted]

7



8



What technology can do

Ideally, a well-coordinated PSD would base clearly articulated, timely decisions on reporting and analysis of real-time, accurate data.

Technology can facilitate data capture, data sharing, reporting and analysis. To ensure coordinated operations, PSD should design technology to fit its own use cases. This goes beyond a stated feature set or list of capabilities. [REDACTED] many software solutions have pieces that use the terminology of corrections, but are unlikely to match PSD's processes out-of-the-box. As previously mentioned, adaptability is a requirement, and PSD requires a customizable and modifiable solution.

Selection of hardware and software addresses a portion of PSD's requirements. This selection influences maintenance, modification and extensibility—the ability to build out new features on top of the existing platform. But this is only half of the equation. People are the other half.

Staff require access to software and training on these applications, including reporting and analysis tools. Application users also need to know to whom and how to communicate any new requirements or technical support requests. And most importantly, the department must identify the technical support persons within each facility and offer them explicitly communicated roles. Technology doesn't provide this clarity. Policy does.

Policy provides the framework for governance of people and technology and ensures that they are well-aligned. People provide the constraints from which to design the technology solutions. Operations are a reflection of how well technology meets people's needs.

KEY POINT:

Defining an IT policy is a first step toward ensuring clarity and progress toward getting what PSD wants from its technology.

INFORMATION TECHNOLOGY IN PSD



Expectations of MIS-provided support are diverse and often put application users in conflict with MIS. Lack of clarity and the resulting mismatched expectations cause problems.



“It has all the elements, but it doesn't do what we want.”

Approach for developing policy

PSD—much like other organizations, government and business entities—is beginning to acknowledge declining or inadequate returns on their technology investments of time, money and effort. This is mainly because technology has been evolving and has changed people’s expectations. However, organizations have not directly addressed this new and growing infrastructure requirement. Technology procurement processes are still expected to fit existing funding methods, despite different needs.¹

Fortunately, this technological coming-of-age struggle has been studied and shared, and there is historical precedent to help make the transition easier. There are two basic frameworks for developing an appropriate policy—operating models and engagement models.

An operating model is a framework that helps to articulate the goals for how the organization wants to run and pairs each style of operations with a different set of infrastructure needs. While typically used in a business setting, PSD can easily reframe this model for its corrections operations, as each facility is similar to a unique business. Four operating models result from combining low to high process standardization with low to high process integration.²

Each of these different operating models have different technology needs. Identifying a desired model begins to frame future infrastructure discussion and decisions.

Once you identify an operating model, an engagement model provides the details of how business needs align with the data infrastructure implementation. These models provide a map that helps plan for future changes, offering some stability and risk reduction when making decisions in an environment of continuous change.

The engagement model would also help to clarify MIS’s role within organization, with the help of MIS. People in the department have presented multiple, conflicting viewpoints of MIS’s function within the organization. MIS is expected to provide IT support (anything related to the network, computers, printers; from desktop to server), technology strategy, act as a vendor liaison and more, but they are not staffed or supported to play all these roles. The engagement model will help to relay MIS priorities and clearly state how the IT organization may need to evolve to meet the department’s growing needs.

Many of the department’s technology changes are either large, lengthy endeavors or individually considered, unsupported, quick fixes. Consider incremental improvements. With an operating model and engagement model as a guide, you reduce the risk of building out solutions that do not meet the department’s overarching goals. Assess ongoing development projects and make the necessary changes to move in the desired direction.

1. Jon Gertner, “Inside Obama’s Stealth Startup,” *Fast Company*, July/August 2015.

2. Jeanne W. Ross et al., *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, (Boston: Harvard Business School Publishing, 2006).

Foundation for execution

How to develop data infrastructure and policy around an operational foundation:

DEVELOP OPERATING MODELS

Determine the levels of process integration and standardization that are desirable for future operations

DESIGN ENTERPRISE ARCHITECTURE

Focus on building capabilities to meet the long-term view of processes, systems and technologies

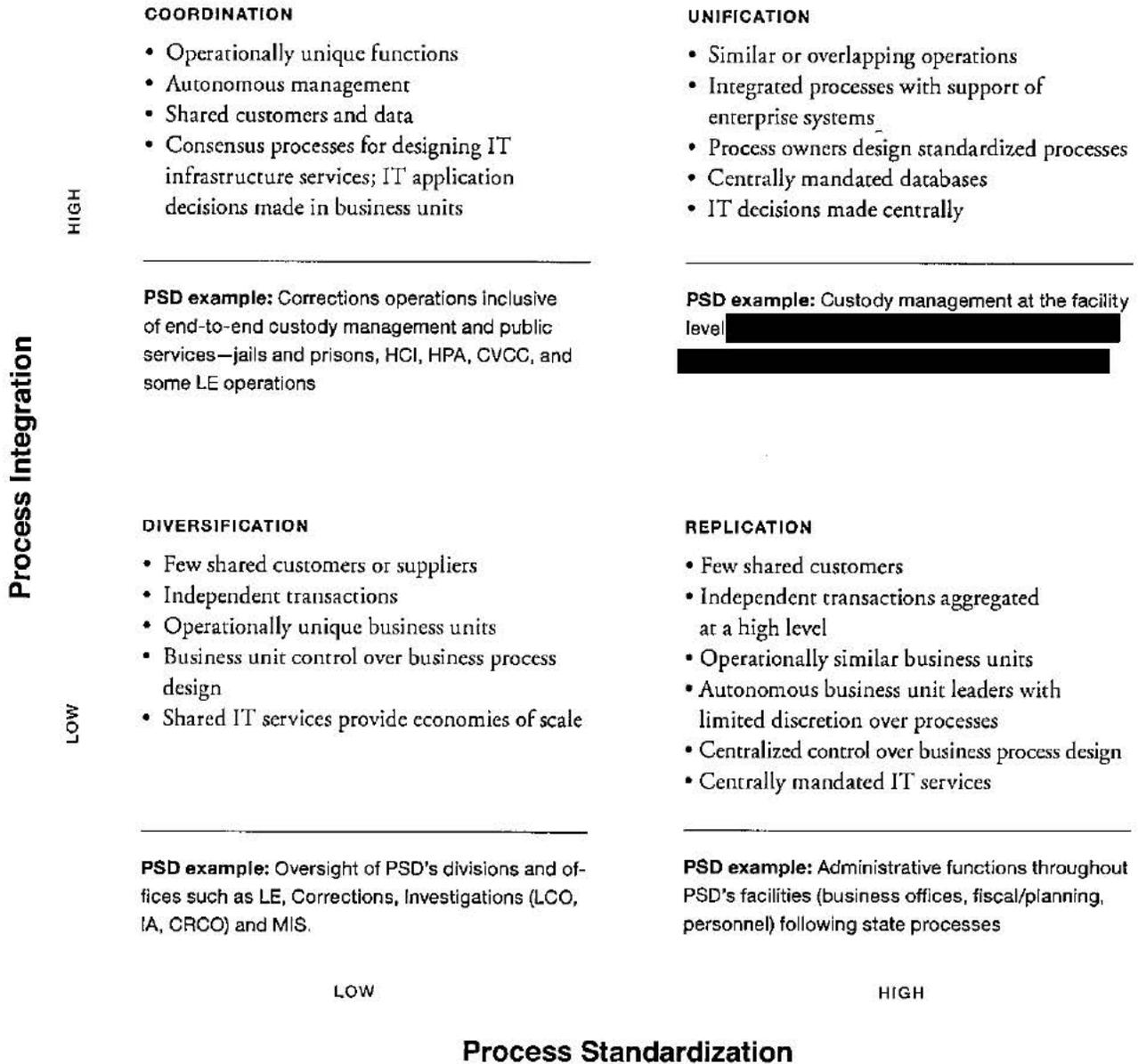
CODIFY ENGAGEMENT MODEL

Develop governance mechanisms to coordinate business objectives of projects and process decisions at multiple levels

Source: *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, J. Ross, P. Weill, D. Robertson, HBS Press, 2006.

Characteristics of four operating models as applied to PSD operations.

Different parts of PSD's operations can be placed into the framework in various ways. The framework provides a helpful means of reasoning about how to apply technology infrastructure to meet operational needs.



Source: *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution*, J. Ross, P. Weill, D. Robertson, HBS Press, 2006.

5

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Impressions from the field

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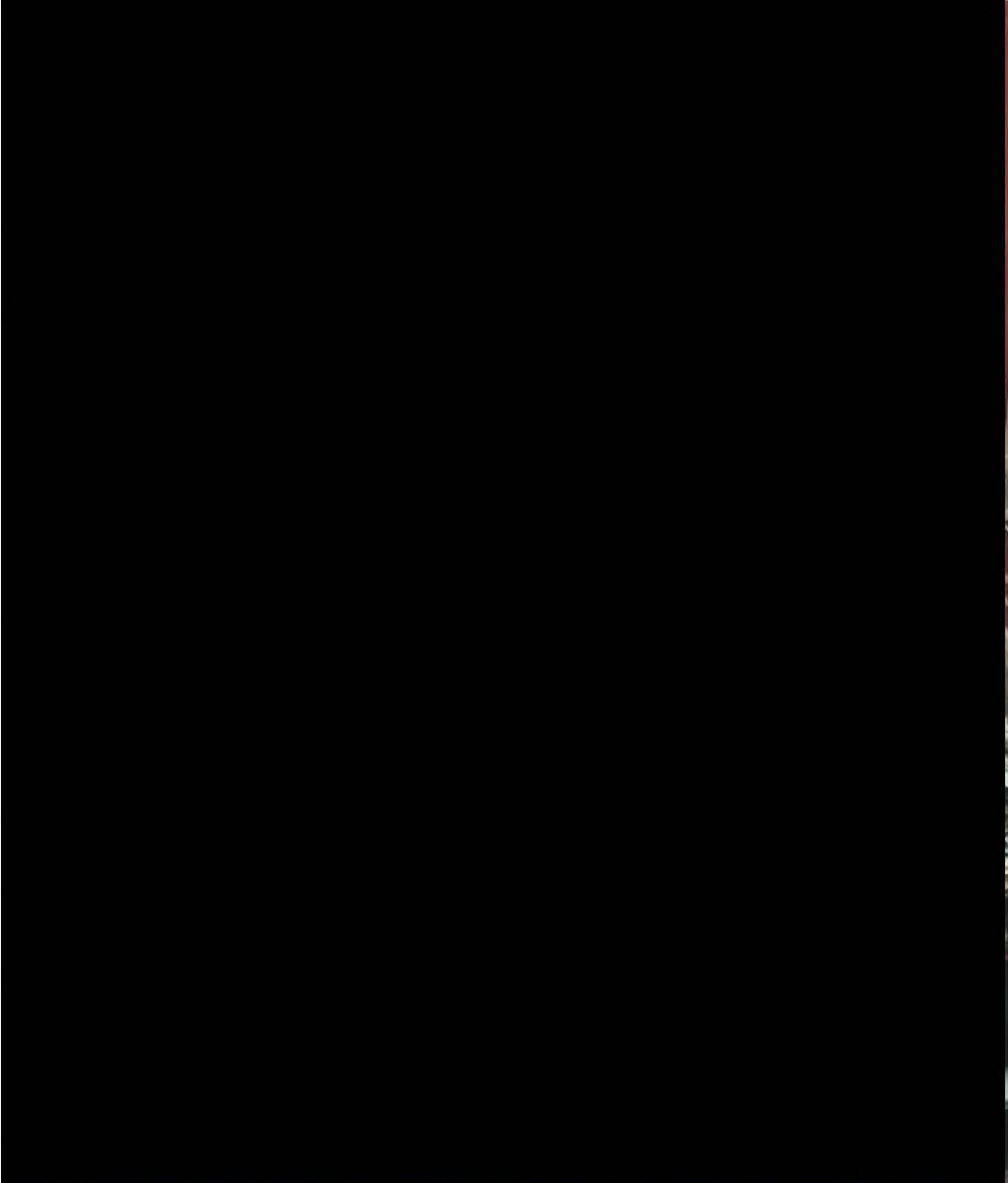
An overview of our findings on how the department works with data, including comparisons with other jurisdictions.

- + Working with data in corrections
- + Types of data interactions identified in our research
- + Case Management
- + Intake Assessment
- + Program Administration
- + Security Officers
- + Records Management
- + Investigations
- + Service Providers
- + PSD data systems and data
- + Comparing with other jurisdictions

We do not consider any single technology to be inherently better than another. Instead, we measure how well a technology fits the operational needs and the work environment today, while looking forward into the next couple of years. Although variations exist between the systems, and the number of systems is large, close study reveals patterns in how the department interacts with their data systems. These patterns of data interaction describe how the systems are working holistically as data infrastructure.

Considering this range of activity, the area that is most neglected is data retrieval, reporting and analysis. There are a number of issues that contribute to this problem. In this section, we share a more detailed look at our observations.





The image features a red wall as a background. In the upper right, there is a small, light-colored circular object. Below it, a white rectangular area contains text. The rest of the image is obscured by large black redaction boxes on the left and bottom.

PILES OF WORK

Paper offers a very visual means of communicating work processes—completed, to do, follow-up, etc. Communicating status is clear and intuitive and desirable for digital systems.

Working with data in corrections

A number of actors support the processing of custody information in corrections. The following personas are composites of many people with similar interactions with data. They demonstrate the range of data uses, needs, interaction and challenges within the department. They can also be used to imagine how new systems can address current uses and contexts.

We focus on primary actors—those who may have regular, direct contact with custodies—and secondary actors—those who operate behind the scenes but directly impact custody care or movement. Some of these actors include roles in non-corrections divisions. The persona titles are descriptive. Functional descriptions and post descriptions are often different from the day-to-day operations.

For additional details on worker environment, processes, roles and best practices, see [Appendix C: Specific Examples](#) and [Appendix D: Best Practices from Around the Department](#).

Types of data interactions identified in our research



DATA AUTHORITY

Making decisions about data including how it should be captured, calculated, used, shared, etc.



DATA CAPTURE

Initial documentation of data, formally/informally, by digital/manual processes



DATA INPUT

Entry into a form or database



DATA STORAGE

Saving data for later use; includes intentional redundancy



DATA SHARING

Granting data access, sending data or requesting data



DATA VERIFICATION

Cross-checking against other sources to ensure accuracy of data or supportability of decision/action



DATA REVISION

Editing, deleting or re-entering data



DATA EVALUATION

Identifying key criteria and make a determination about the data set or piece of information; may be part of the process of sorting, identifying necessary next steps, whether something should be kept or discarded, etc.



DATA MANIPULATION

Making calculations or revising the data type or definition to be more useful or relevant



DATA RETRIEVAL

Searching for and accessing data in order to answer a question



DATA REPORTING

Combining and presenting data, may be in the form of a single record or a summarization of multiple records



DATA ANALYSIS

Reviewing of data with the purpose of extracting new insights, building understanding of data significance; may include using data to develop and validate hypotheses

“Case manager is a weak title; we don’t really manage, a lot of it is just prescriptive.”

“I take it one day at a time and don’t take it too personal. I try to be aware of people’s history. I want to instill change, but it’s up to them—the inmate needs to want to change. I try to look at them as people.”

“It was hard to transfer rapport [at my previous facility where there is no email]... Here, the communication is open, kept up-to-date. We email throughout the day. Mental health also emails us.”

Case Management

The case manager represents the person who has multiple, in-person interactions with custodies. This includes incarcerated custodies and custodies in the community.



GOALS

To assess, classify, advise and represent assigned custodies through ongoing evaluation of their general wellness (health, finances, work, social, etc.) and suitability of current programs and services within their purview

TASKS & RESPONSIBILITIES

- Reassess security/health risks, make appropriate reclassifications
- Determine programmatic needs and make recommendations
- Facilitate transfers
- Prepare case history for custody
- Update prescriptive plans
- Review work and conduct records
- Advise custody regarding personal problems
- Post and communicate about job opportunities/inquiries
- Counseling
- Conflict resolution
- Field questions regarding custody account information
- Work furlough compliance
- Monitor transfer packets for misconducts

COMMON SOURCES OF DATA

- Institutional File
- Working file
- CJIS
- Offendertrak
- Programs (including SMS)

NEEDS

Fuller understanding of custody (security, health, education, personal) to make more informed decisions

POTENTIAL CHALLENGES/OPPORTUNITIES

- Building a professional relationship with the custody under time constraints and protocol
- Finding time to be proactive when required to be responsive
- Coordinating continuation of services across multiple facilities
- Executing on limited information access
- Opportunity to communicate feedback and changes to programs and services

DATA PROFILE

- Data Authority
- ✓ **Data Capture**
- ✓ **Data Input**
- Data Storage
- Data Sharing
- ✓ **Data Verification**
- Data Revision
- Data Evaluation
- Data Manipulation
- ✓ **Data Retrieval**
- ✓ **Data Reporting**
- Data Analysis



Intake Assessment

Responsible for an initial in-person assessment, classification, program recommendations and housing suitability on entry to jail or prison to place the custody appropriately in the corrections system. This occurs at Intake Service Center (Assessment and Classification unit) for pre-trial custodies, RAD unit (Reception Assessment and Diagnostics) for sentenced offenders.

DATA PROFILE

- ✓ **Data Authority**
- ✓ **Data Capture**
- ✓ **Data Input**
 - Data Storage
- ✓ **Data Sharing**
- ✓ **Data Verification**
 - Data Revision
 - Data Evaluation
 - Data Manipulation
- ✓ **Data Retrieval**
- ✓ **Data Reporting**
 - Data Analysis

GOALS

To assess, verify and classify the custody and their record upon initial intake into a facility, including health and security requirements

TASKS & RESPONSIBILITIES

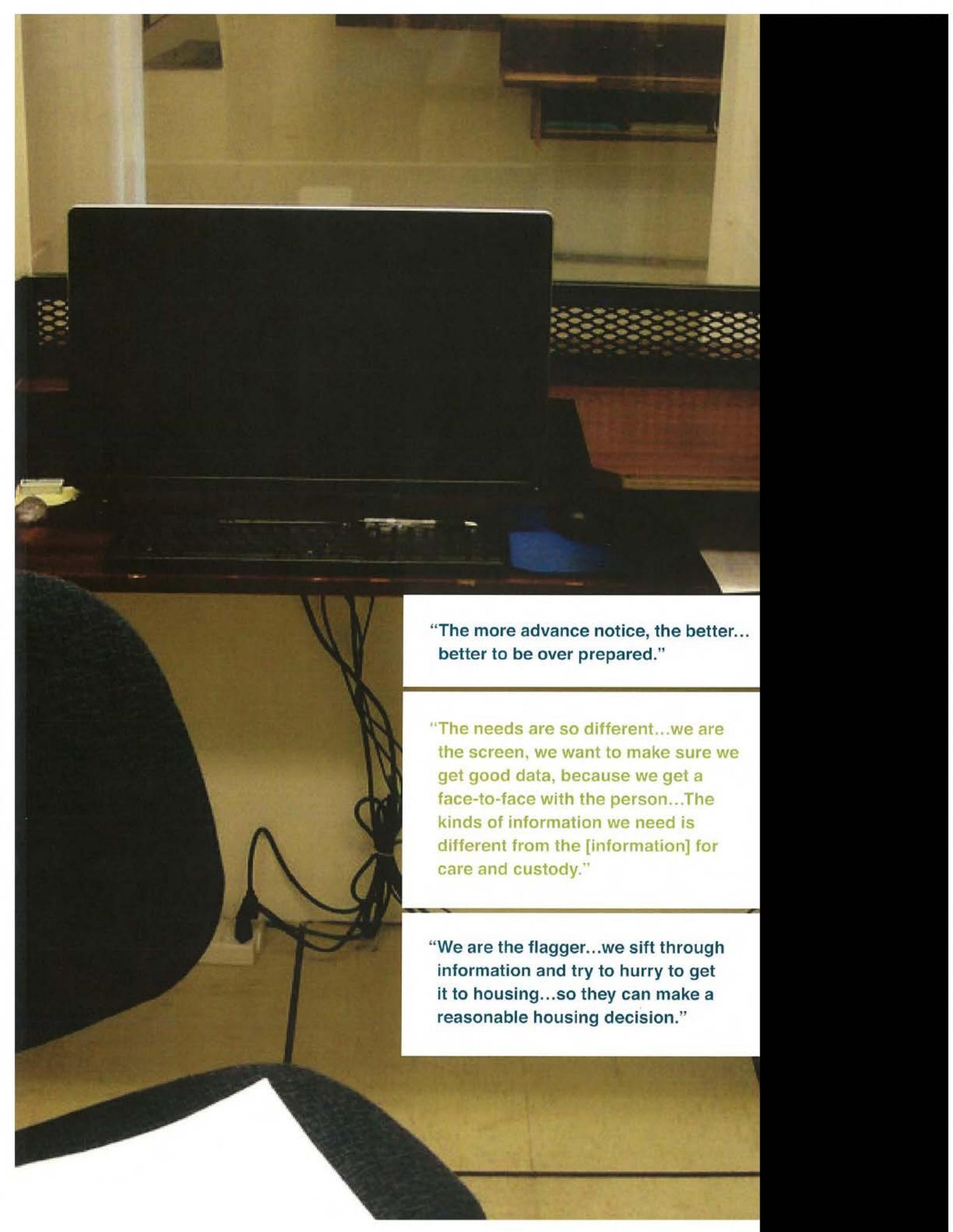
- Determine custody security level
- Determine program eligibility
- Prison Rape Elimination Act (PREA) assessment
- Medical and mental assessment
- Identification of sex offenders/vulnerable custodies
- Create bail reports
- Provide workline information

COMMON SOURCES OF DATA

- Intake Service Center database (ISC only)
- NCIC
- CJIS
- Offendertrak
- SMS education database (view only)

POTENTIAL CHALLENGES/OPPORTUNITIES

- Missing data or lack of access to data delays processes when operating under legal time pressures to complete work
- Not knowing whether information is accurate with self-reported data
- Opportunity to feedback information to HPD, Sheriff's Division and Judiciary on the process



**“The more advance notice, the better...
better to be over prepared.”**

**“The needs are so different...we are
the screen, we want to make sure we
get good data, because we get a
face-to-face with the person...The
kinds of information we need is
different from the [information] for
care and custody.”**

**“We are the flagger...we sift through
information and try to hurry to get
it to housing...so they can make a
reasonable housing decision.”**



Program Administration

Program administration refers to corrections program services as well as corrections and non-corrections office functions such as PREA coordinator, CVCC, CI, HPA and SAVIN.

DATA PROFILE

- ✓ **Data Authority**
 - Data Capture
 - Data Input
 - Data Storage
- ✓ **Data Sharing**
- ✓ **Data Verification**
 - Data Revision
 - Data Evaluation
 - Data Manipulation
- ✓ **Data Retrieval**
- ✓ **Data Reporting**
 - Data Analysis

GOALS

To develop and deliver high quality programs to clients—either custodies or the public—in support of the larger purpose of rehabilitation, such as sex offender treatment, substance abuse treatment, education services, as well as volunteer, food and library services.

TASKS & RESPONSIBILITIES

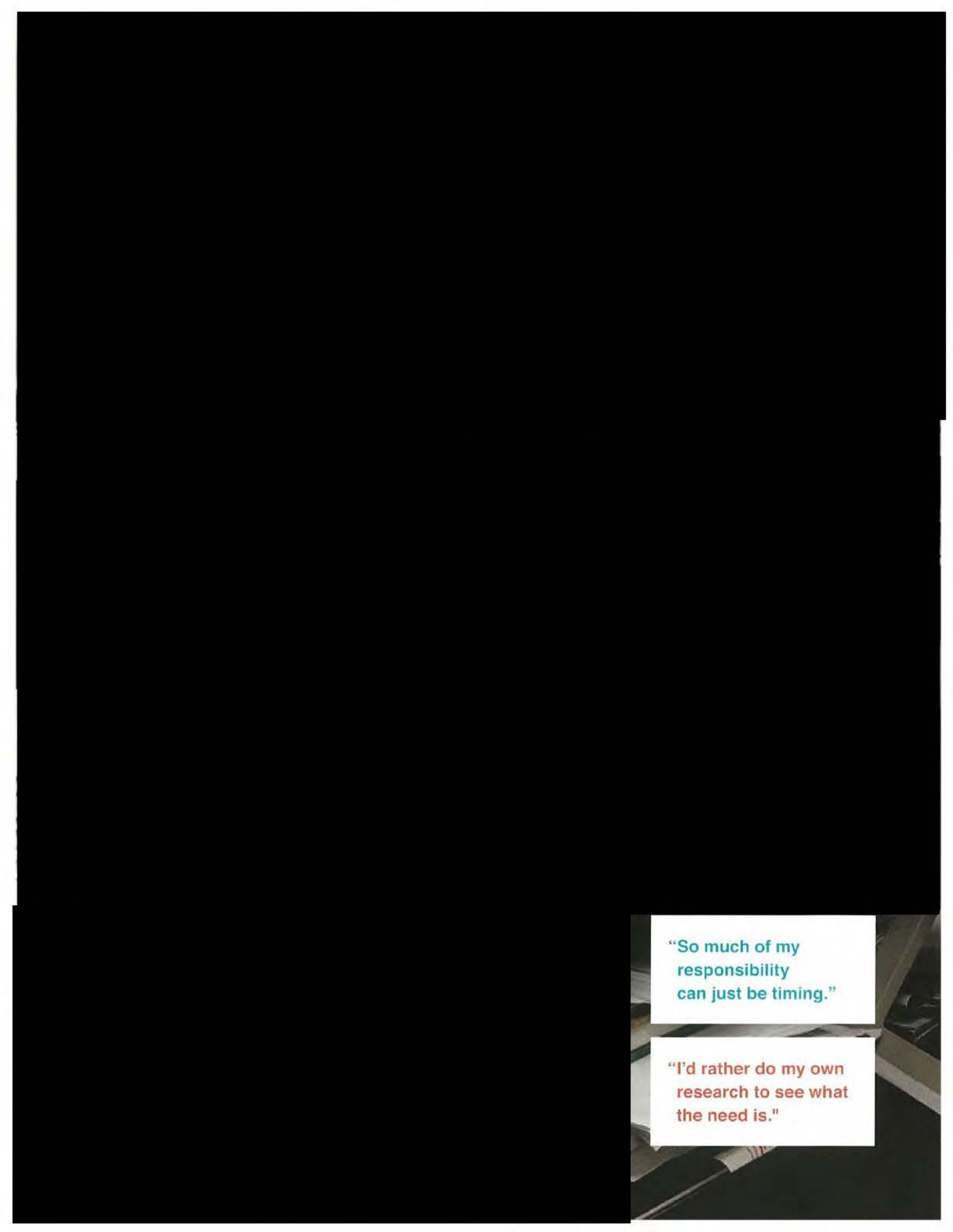
- Program operations management
- Program budget
- Program scheduling
- Creating and managing vendor contracts
- Collecting program evaluation data
- Awareness and/or involvement with legislative proposals
- Collect data for Kamakani Reports to share with Director

COMMON SOURCES OF DATA

- Offendertrak (mixed use)
- Hawai'i Parole Authority database (HPA)
- SMS (Education Services)
- SAS (Substance Abuse Treatment)
- Cost Guard (Food Services' recent purchase)
- Sex Offender Treatment database
- Personal written notes
- Microsoft Access databases
- Microsoft Excel spreadsheets

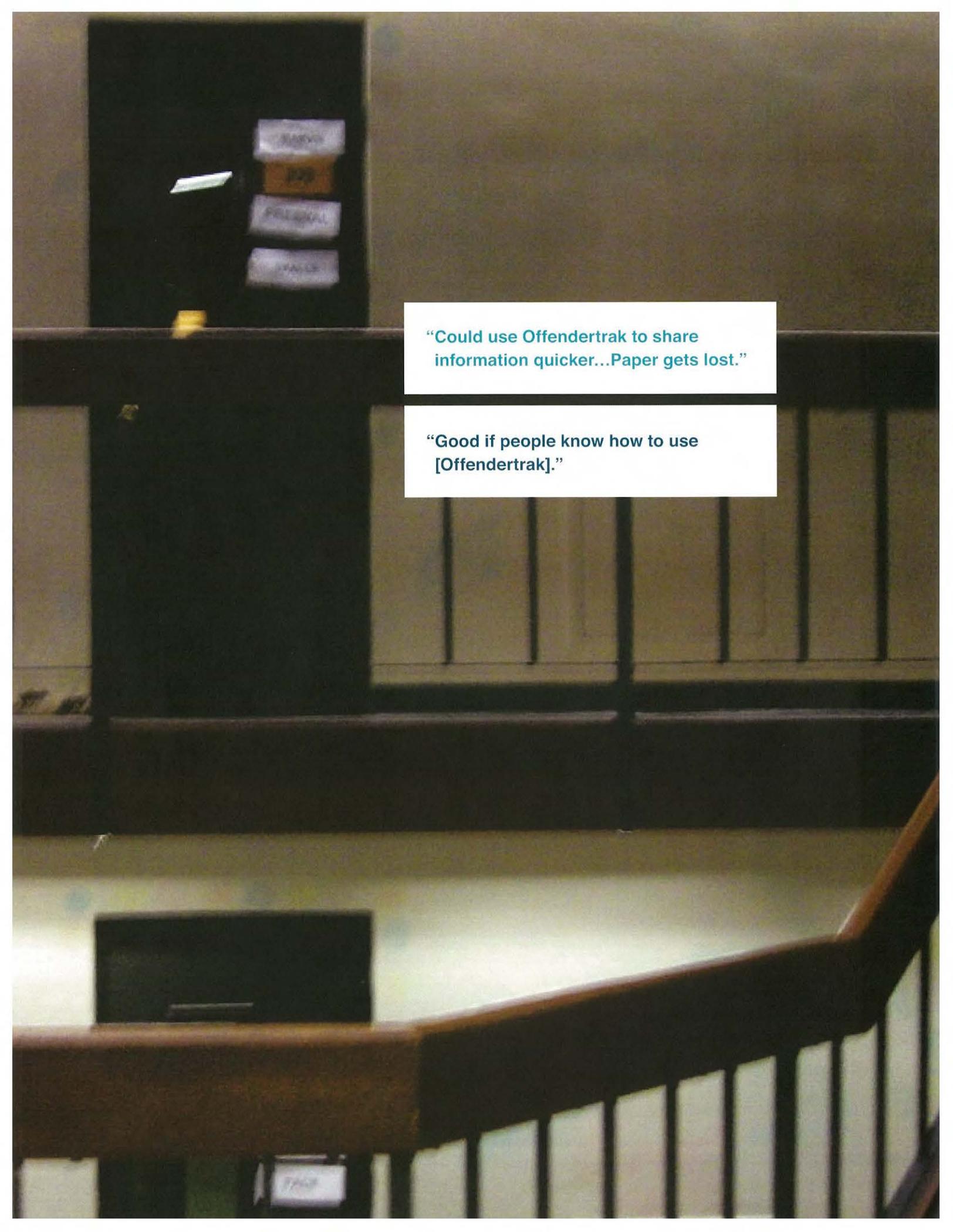
CHALLENGES/OPPORTUNITIES

- Requires a broad perspective from high-level administrative, as well as on-the-ground, viewpoints to be able to assess program and understand operations
- Separated from most of the action and reliant on others for data input
- Data needs may be perceived as secondary, since they are less persistent, but when needs present themselves, they are also under time constraints and have a large impact on operations
- Opportunity to share ongoing administrative challenges (bigger picture view)



“So much of my
responsibility
can just be timing.”

“I’d rather do my own
research to see what
the need is.”



“Could use Offendertrak to share information quicker...Paper gets lost.”

“Good if people know how to use [Offendertrak].”

Security Officers

This represents the variety of positions that are responsible for the safety and security of individuals and facilities and have direct interaction with custodies—inclusive of both corrections officers and cellblock deputies.



GOALS

To ensure the safety and security of facilities and people within their purview through monitoring, physical presence and enforcement of rules and protocol

TASKS & RESPONSIBILITIES

- Monitoring custodies during all activities and work assignments
- Facilitate custody communication and in-facility movement
- Monitor and deliver service of basic needs: food, hygiene, overall health, general purpose consumable supplies
- Escort custodies from jail to court or medical facilities and other authorized locations
- Responsible for conducting searches of cells, custodies, visitors and mail
- Keep written reports on daily conduct of custodies, including work activity, security breaches and compliance with regulations.

COMMON SOURCES OF DATA



CHALLENGES/OPPORTUNITIES

- 24 hours/day, 365 days/year
- Communicating tacit knowledge
- Vigilance/tracking/monitoring 
- Learning new tasks and technology
- ACOs become familiar with custodies as a result of daily interactions

DATA PROFILE

- ✓ **Data Authority**
- ✓ **Data Capture**
 - Data Input
 - Data Storage
 - Data Sharing
 - Data Verification
 - Data Revision
 - Data Evaluation
 - Data Manipulation
 - Data Retrieval
- ✓ **Data Reporting**
 - Data Analysis



Records Management

A broad category that represents diverse functional roles, including Records Office, Business Office, Module 5, facility civil service office staff, Program Supervisors, Classifications, CVCC, CI Office, TSD, Grievances, Security Captains, Chiefs of Security and Mainland Branch Office. While some of these roles may interface with a custody or member of the public, they are not a primary interface. However, their handling of information directly affects the custody experience and actions taken.

DATA PROFILE

- ✓ **Data Authority**
Data Capture
- ✓ **Data Input**
- ✓ **Data Storage**
- ✓ **Data Sharing**
- ✓ **Data Verification**
- ✓ **Data Revision**
Data Evaluation
- ✓ **Data Manipulation**
- ✓ **Data Retrieval**
- ✓ **Data Reporting**
Data Analysis

GOALS

To maintain and store an accurate data repository to facilitate other operations

TASKS & RESPONSIBILITIES

- Collecting information from various sources and compiling them into cohesive records
- Verifying information, auditing data and ensuring compliance with protocol
- Making calculations and updating data
- Indicating or communicating status of processing, if necessary
- Sharing information with others who are responsible for executing operations reliant on the information collected or require updates on data

COMMON SOURCES OF DATA



CHALLENGES

- Assessing data quality
- Litigation considerations and pressures of accountability
- Separation from operations

**“We all need to be on the same page...we’re cleaning up everyone else’s (work).
What are we, cleanup crew?
We’re doing double work.”**

“Who is going to reconcile all the activities?”

“Would be nice to have a database that returns information.”

“You think you’re working on one case but you’re working on five cases at one time.”

“Everything has to be gleaned manually. We have to go through every single file and read everything.”

Investigations

There are various functions that play the role of investigator in their work including security staff (Chief of Security, STG, visitation, industrial area facility operations), IIO, IAD, CRCO, LCO and PREA Coordinator. In addition, since investigations rely on gathering information from multiple sources, they require many offices and branches to do investigative work by querying their own respective data.



DATA PROFILE

Data Authority

Data Capture

✓ Data Input

Data Storage

✓ Data Sharing

✓ Data Verification

Data Revision

Data Evaluation

Data Manipulation

✓ Data Retrieval

✓ Data Reporting

✓ Data Analysis

GOALS

To protect individual rights, including maintaining confidentiality in procuring and presenting information to facilitate decisions and legal action where necessary

TASKS AND RESPONSIBILITIES

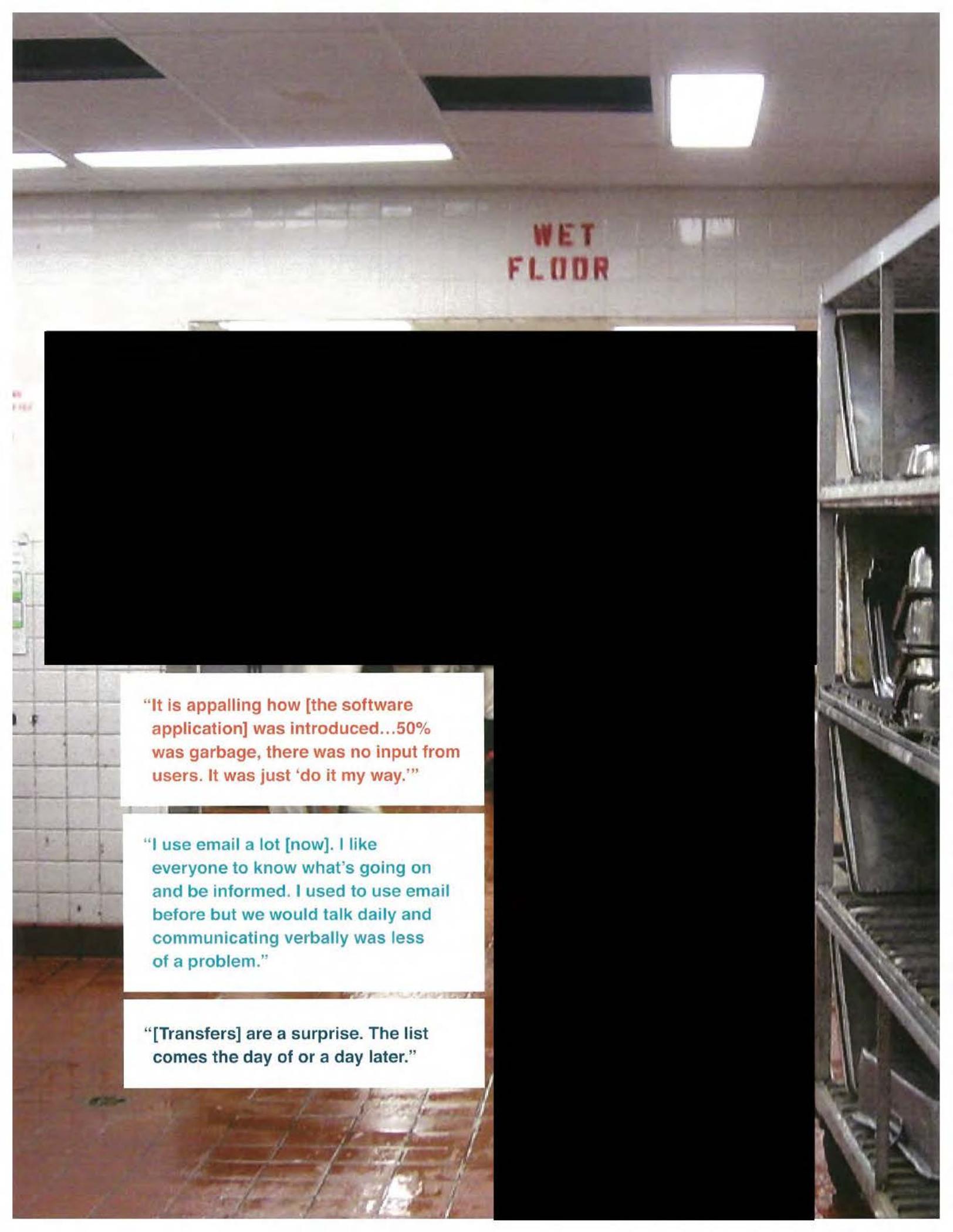
- Building and communicating search criteria
- Collecting information from various sources and developing a clear story
- Verifying information, auditing data, referencing protocols, ensuring protocols are followed
- Creating and communicating investigation reports or recommendations to obtain sign-off or trigger additional actions
- Keeping investigation activities and reports secure and confidential

SOURCES OF DATA



CHALLENGES/OPPORTUNITIES

- Not primary data collectors, so do not have direct access to desired data (especially non-digital)
- Must request and wait for data, which may be incomplete
- Long process to synthesize required information from segmented, incomplete data
- Complete and timely access to relevant data would allow enhanced investigative analysis and reporting



WET
FLOOR

“It is appalling how [the software application] was introduced...50% was garbage, there was no input from users. It was just ‘do it my way.’”

“I use email a lot [now]. I like everyone to know what’s going on and be informed. I used to use email before but we would talk daily and communicating verbally was less of a problem.”

“[Transfers] are a surprise. The list comes the day of or a day later.”

Service Providers

These individuals are direct points of contact with the custody in the provision of a variety of services, such as health care staff, program counselors, Education Specialists, librarians, workline and CI supervisors, and may include contractors and volunteers.



GOALS

To provide appropriate services based upon individual needs and/or program specifications

TASKS AND RESPONSIBILITIES

- Assessment and tracking of custody abilities, needs, behaviors, alerts
- Provision of services as needed (based on assessment)
- Keeping track of services delivered and communicate data, submit reports as necessary

SOURCES OF DATA

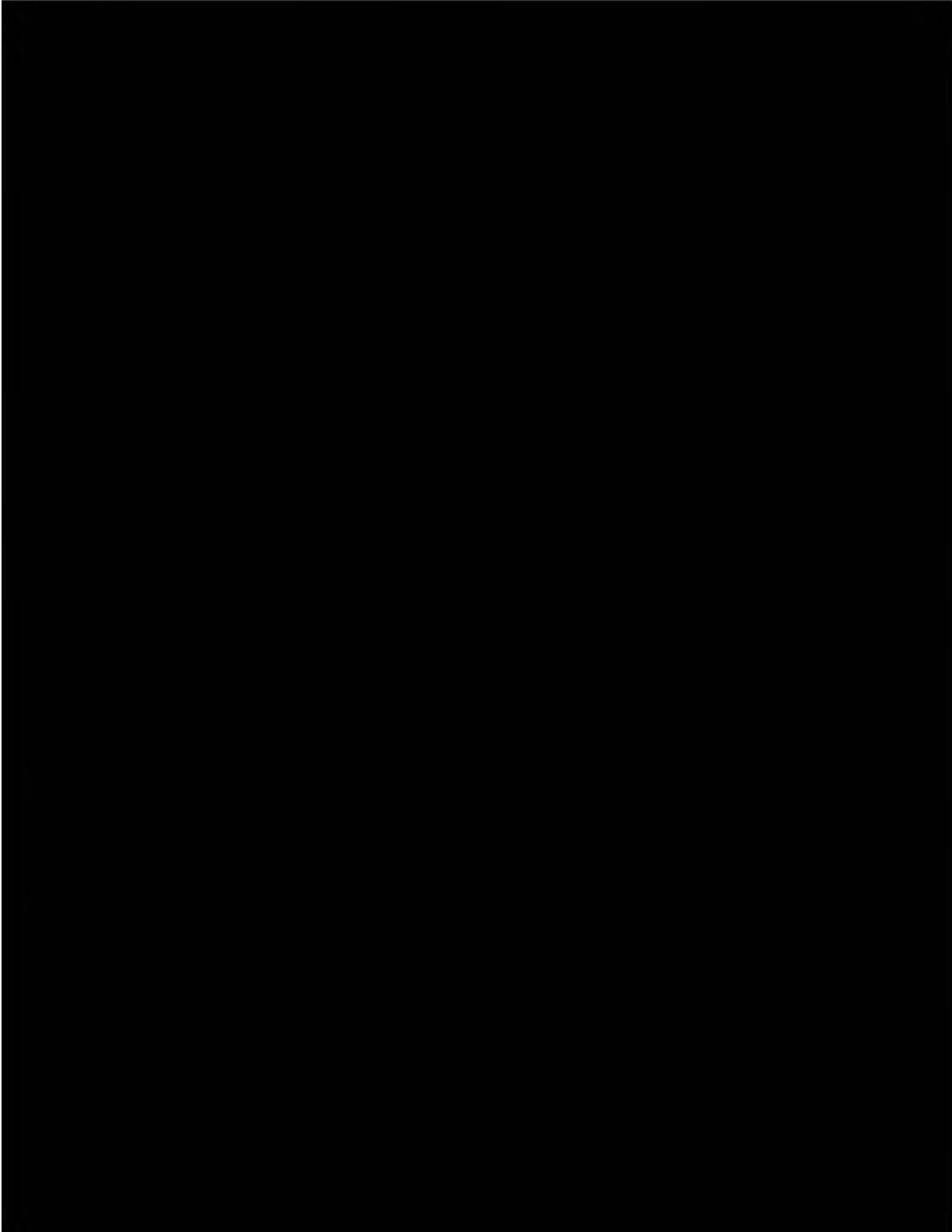
- In-person assessments and interactions
- Service program schedule, curriculum or treatment plan
- Attendance sheets, class schedules, appointment schedules
- Service-specific databases [REDACTED]

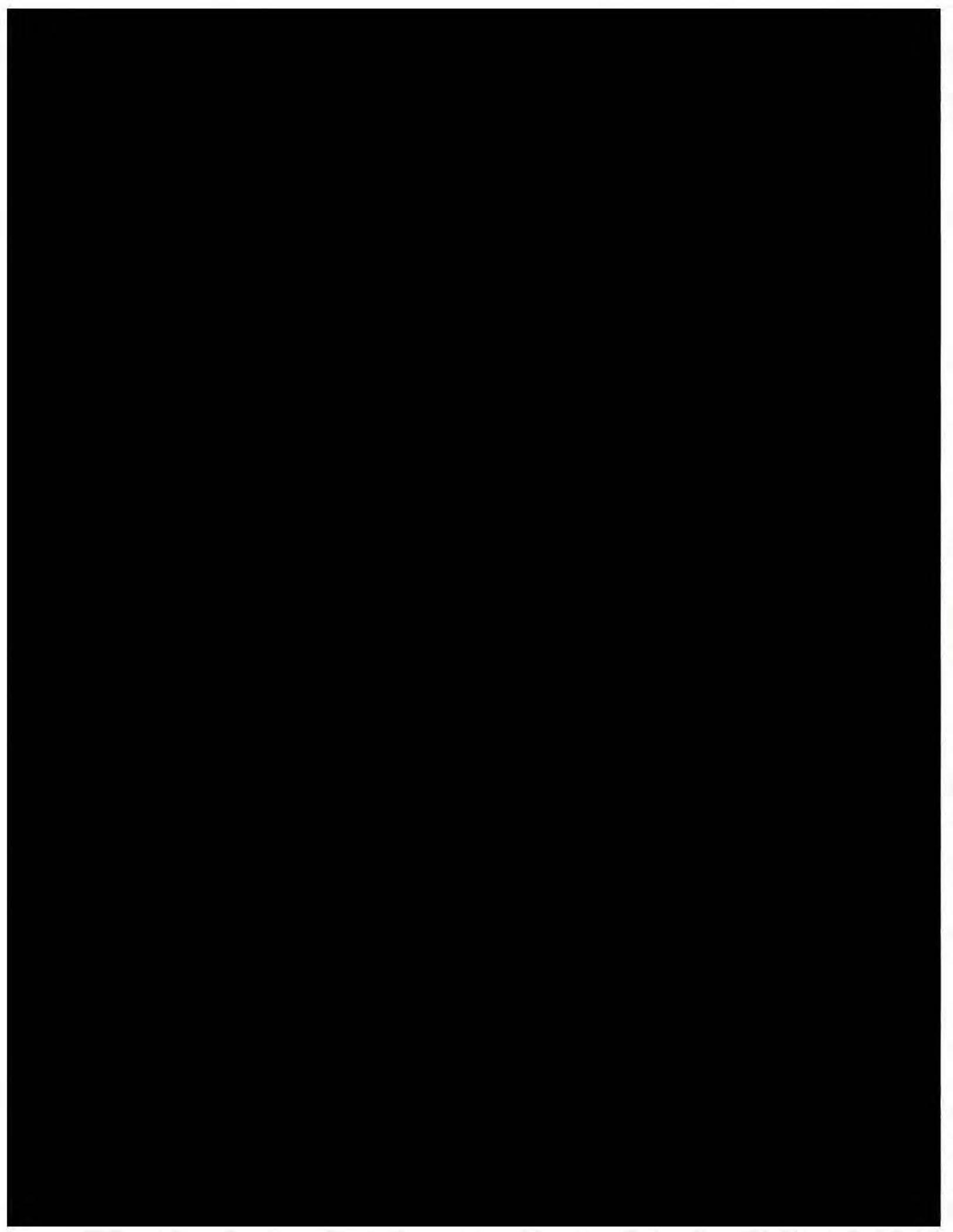
CHALLENGES/OPPORTUNITIES

- Custody information collected by service providers is considered specialized and, in some cases, not to be shared
- Data collected by mix of staff, contractors, vendors, and volunteers, then entered into separate databases
- Increase data sharing for a broader understanding of the custody experience, valuable to case workers and security
- Shared data could assist classifications and program administration
- Aggregate data could guide department decisions and operations, while protecting individual privacy

DATA PROFILE

- ✓ **Data Authority**
- ✓ **Data Capture**
- ✓ **Data Input**
- ✓ **Data Storage**
 - Data Sharing
- ✓ **Data Verification**
 - Data Revision
 - Data Evaluation
 - Data Manipulation
 - Data Retrieval
- ✓ **Data Reporting**
 - Data Analysis





PSD data systems and data

The team identified 87 different data systems with wide-ranging technologies. The largest category consisted of PSD- or MIS- owned systems [REDACTED]

For more details on these systems, see Appendix B: Systems Diagrams.

RELIABILITY OF DATA

PSD captures a lot of data, but without clear processes for validation and reconciliation across the department, the overall quality of the data is questionable.

Data, when first entered, may be inaccurate, out-of-date and require review, validation or updating. However, the act of reviewing, validating, editing or reconciliation is often not tracked in existing data systems. This requires workers to remember where they are in their own work processes, which can contribute to mental stress and fatigue due to the effort expended in keeping track of their operations. In addition, this information is not shareable, as it is not attached to the data. Therefore, the accuracy of any piece of data is not easily ascertained and is often deduced based on how current it seems to be.

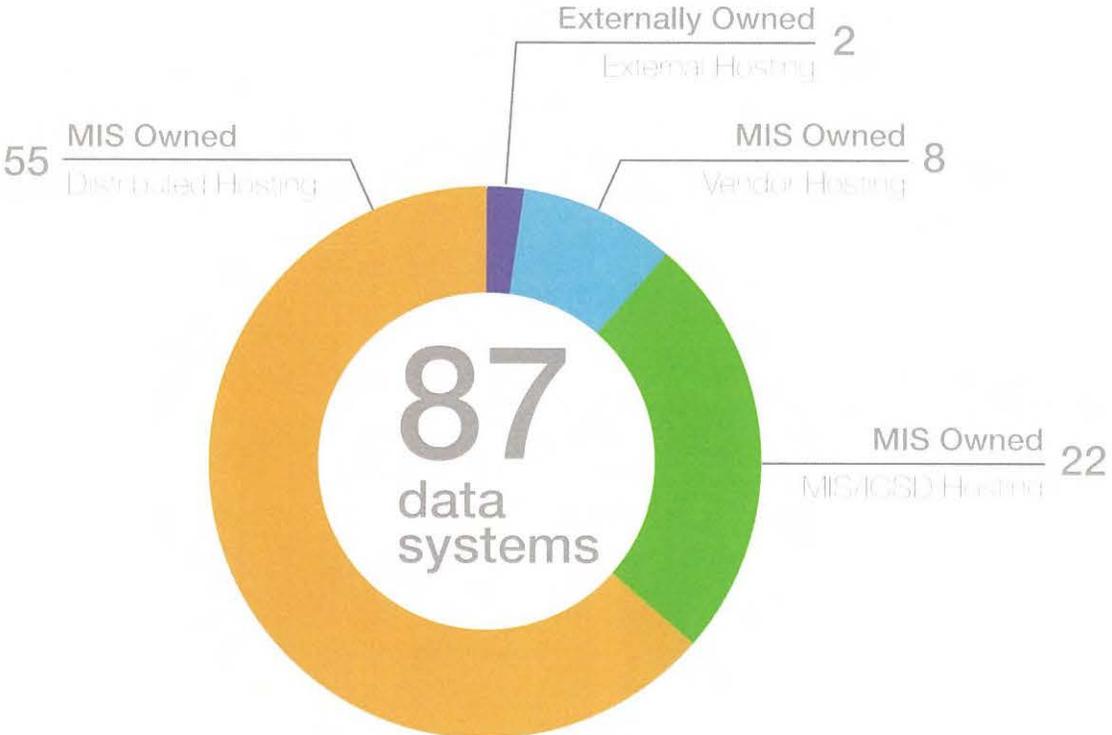
Much of the data used for operations are lists and reports created outside of the data system in which the data was captured. This means that the data is not real-time and limits how long it is likely to be valid—offline data products (such as printed lists) have a shelf-life. In addition, maintaining these products requires extra effort to accommodate last-minute changes, as they generate many more communications, verbally and on paper.

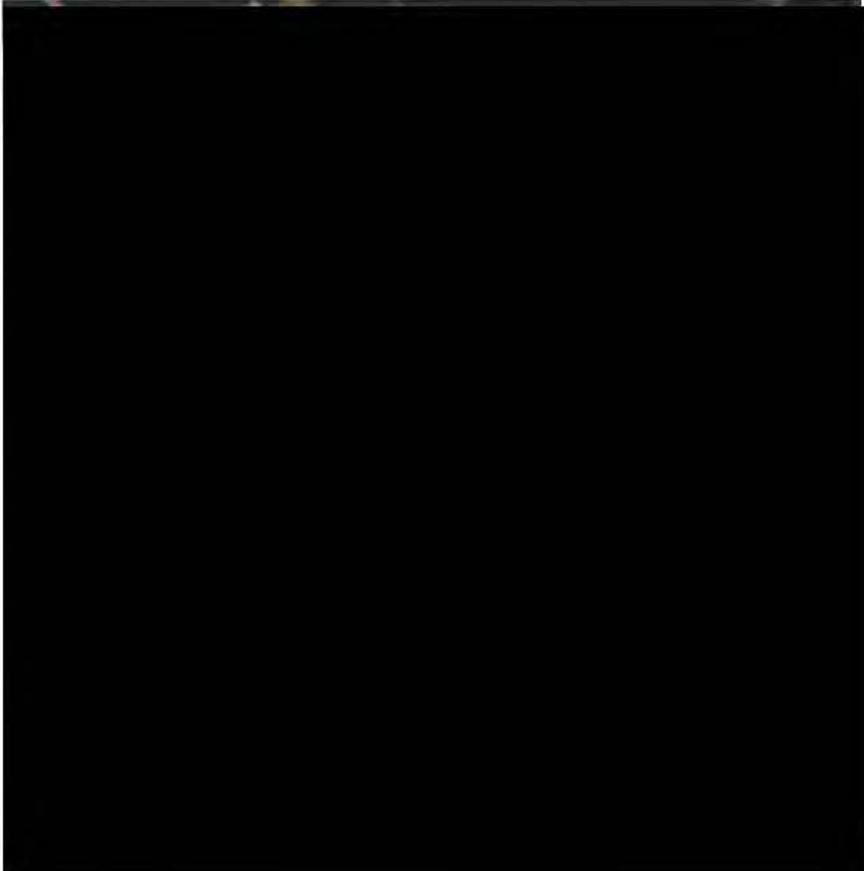
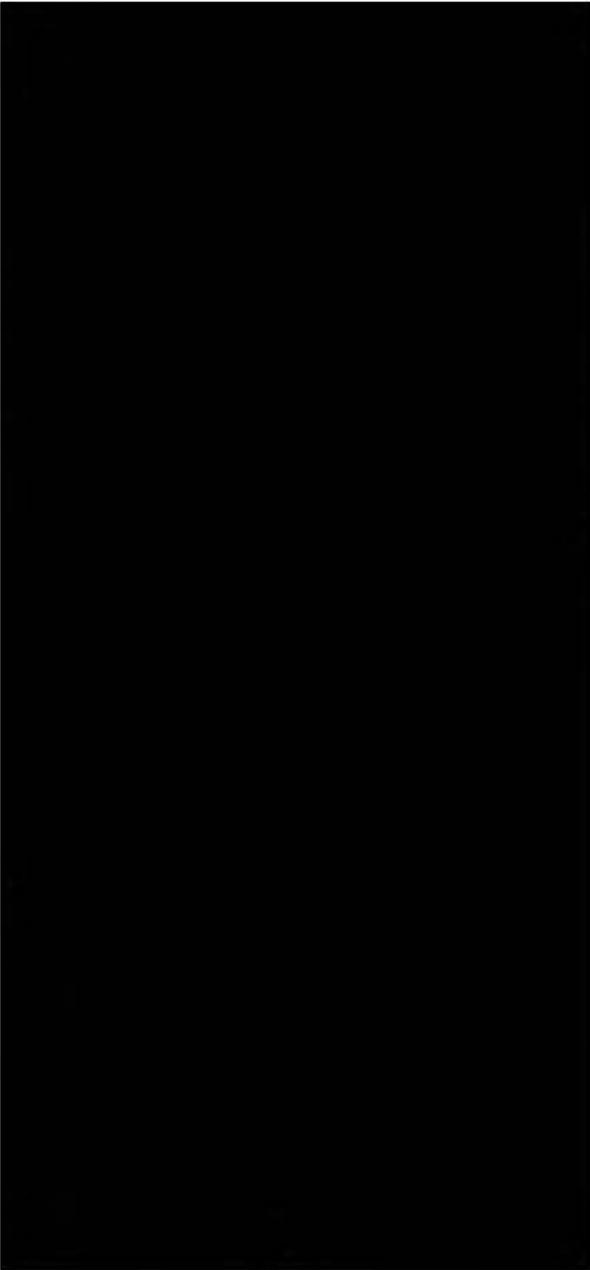
Further complicating issues, processes are inconsistent across the department. It is not always clear who is responsible for the accuracy of data. While ideally everyone would be able to take responsibility for the data, processes and technology can remove ambiguity and help to reduce errors.

The ability to catch errors is delayed when data entry or revisions are not tracked, processes for data validation and reconciliation are inconsistent, and reports or other data products are created offline. Errors are not found until workers try to perform their processes on the data provided. These errors are caught, but at a less convenient time. Meanwhile, errors of omission [REDACTED] or errors perceived as favorable [REDACTED] are unlikely to be caught.

Live views of data and tracking data entry, revisions, and validation allow for more informed data use. Implementing consistent processes that utilize this data can reduce redundant communication efforts and reduce errors.

PSD Data Systems





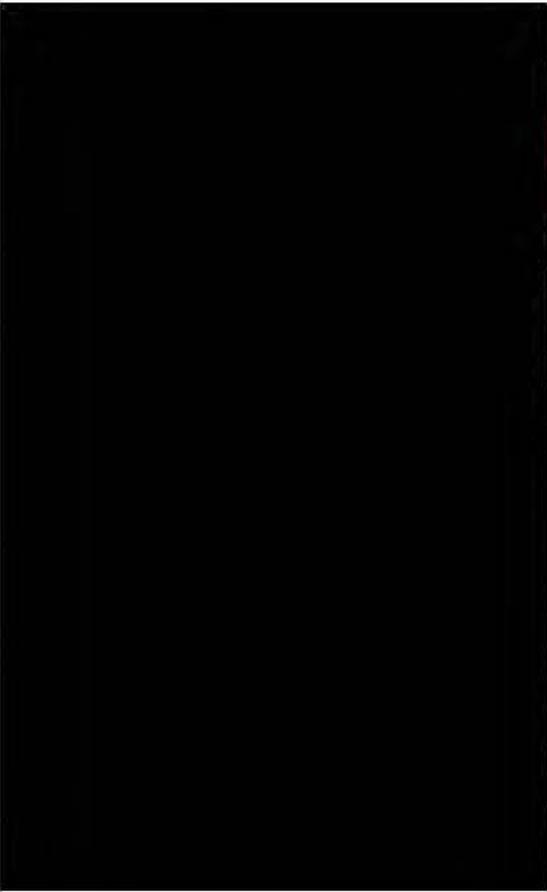
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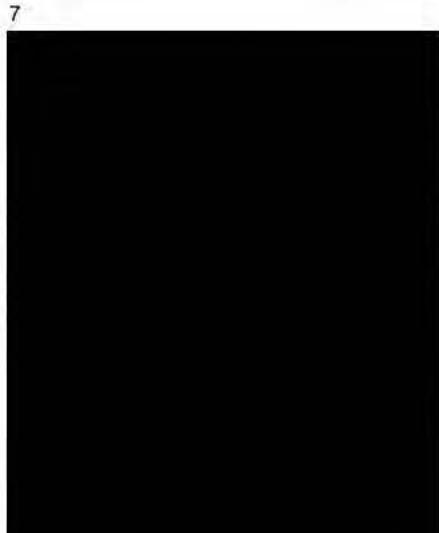
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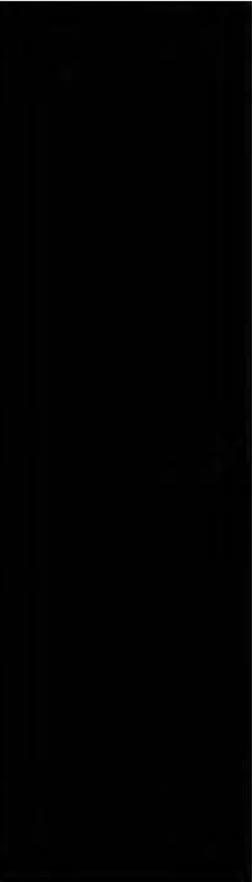
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7

Variety of data systems found at PSD

- 1. Communicating status differs by facility
- 2. Property
- 3. Court legal docs
- 4. Legislative paperwork
- 5. [redacted] files
- 6. [redacted] database
- 7. [redacted]
- 8. [redacted] file boxes
- 9. Scars, marks and tattoos



8



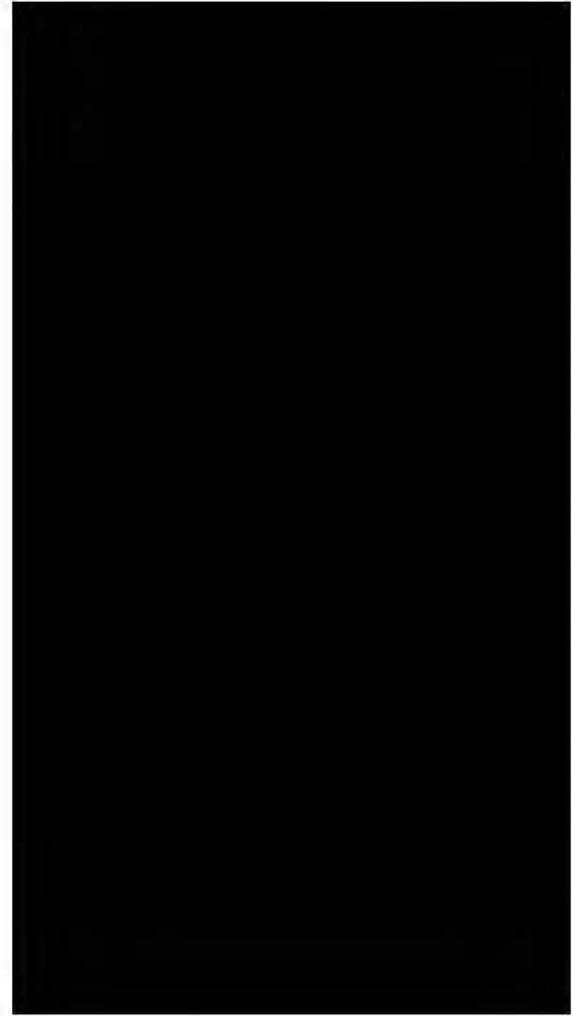
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1

2

3



DATA AUTHORITIES

Data authorities are often a step removed from the data capture/input. This places more emphasis on communication and documentation of processes, decisions and changes.

-
1. Making changes on paper
 2. Finding sources of error
 3. Routing forms for approval

1 2

EXTERNALIZED WORK

Often, the calculations and reports are taken offline/run outside or completely separately from the data systems on which the data was collected (major exception is with HCI). This takes time and training.

-
1. Calculating grievances
 2. Tracking training status
 3. Sentence calculation [REDACTED]
 4. Documenting calculations in file

3

4

COMMUNICATION AND COORDINATION

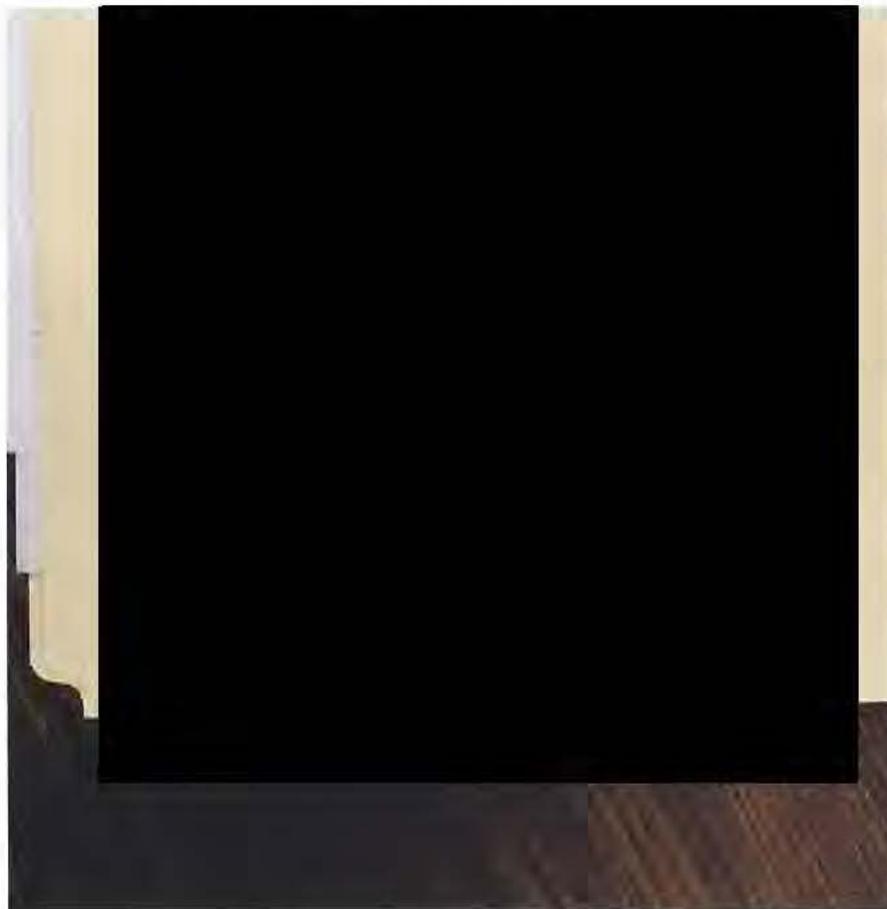
PSD provides a variety of services with different requirements. There is a lot of mental effort when it comes to coordinating operations. Less effort is required where information transactions are established. Coordinating actions becomes more unwieldy in complex situations with manual processes reliant on individual memory.

For example, Offendertrak is PSD's primary corrections information system, but it doesn't capture a large portion of important data—in-facility custody movement, case notes and property, to name a few. A custody's "person summary" may be frequently referenced—as it contains primary identifying information—but it is not integrated into other systems as often as it could. For more details on which portions of the Offendertrak application are used, see [Appendix B: Systems Diagrams, Offendertrak Diagram and Offendertrak Usage Chart](#).

AD HOC PROCESSES

Because many of the communication processes are ad hoc, signifying current/validated data or process status becomes challenging. Verification processes become individualized.

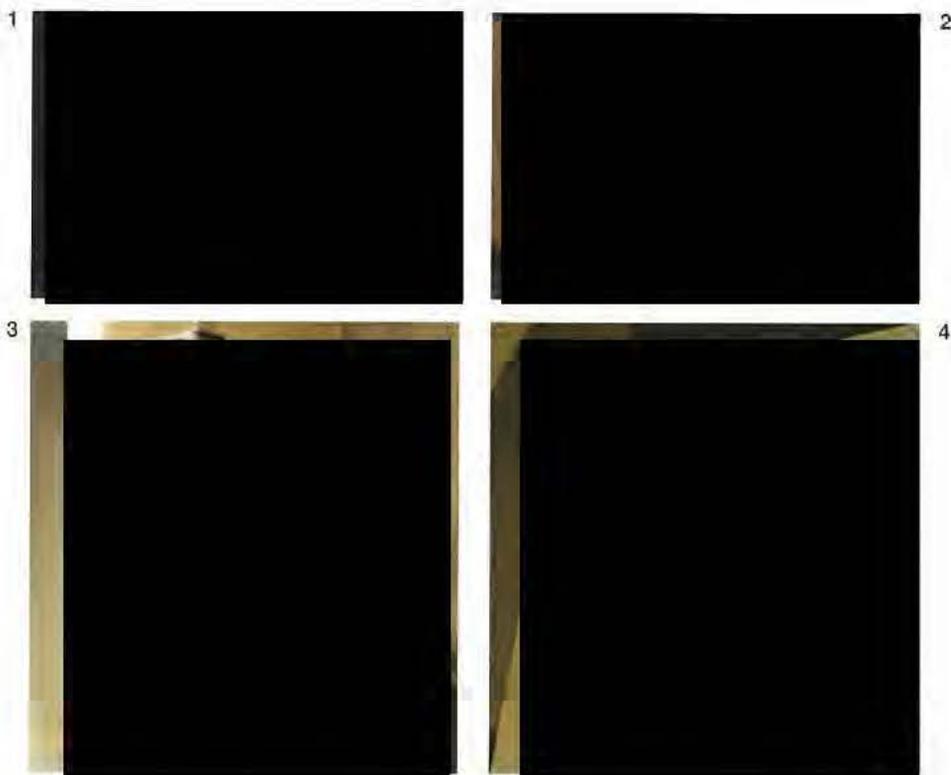
1. Personal notes to keep track of process
2. Interoffice mail adds challenges to tracking process completion
3. Revisions of offline data reports



Looking across PSD's primary custody information management systems, we see patterns of frequent, broad access of very limited data, deep data with limited access and frequent data captures with limited access. For optimal coordination of operations, we would expect to find frequent, broad access to deep data.

TECHNOLOGY ACCESS DEFINES MEANS OF INPUT

Correctional facilities have intentionally limited worker access to computers and networks to minimize security issues. This also constrains means of data capture, communication and transference to digital systems. Many processes are manual, optimized for immediacy of data capture. This shifts time and effort expenditure to subsequent data use.



Data capture is often manual and may require interpretation or translation for entry into digital format. Limitations of physical technology implementations include access to computers, using equipment [REDACTED], network access.

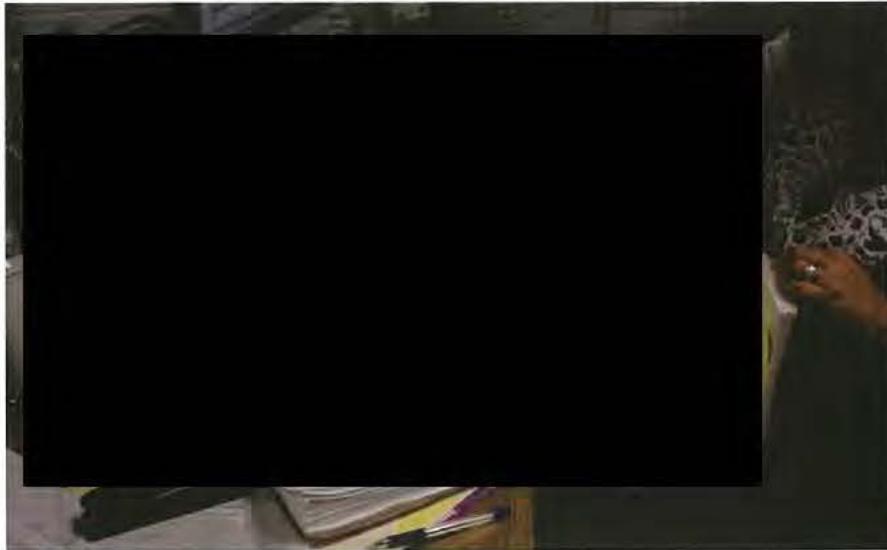
-
1. Digital case notes for mainland branch
 2. Intake processing, [REDACTED]
 3. [REDACTED] fingerprinting
 4. Tracking headcounts

EASE OF STORAGE

Retrieving or linking to information from main data systems

██████████
██████████
██████ can be so difficult, many individuals have duplicate entry into their own system that provides faster retrieval but then requires more ongoing maintenance.

-
1. Difficult to quickly find an answer in a file
 2. File boxes abound throughout PSD
 3. ██████ standalone case management database



1



2



3

EASE OF STORAGE TRUMPS EASE OF RETRIEVAL

Once information is captured, little post-processing is done to facilitate search and retrieval. Both paper and digital systems are often stored under a single level of categorization such as a person's ID or a date. This makes search and retrieval laborious. Paper, PDFs and digital records must first be sorted by their primary categorization (find the person, find the date). Report builders lack sufficient filters and options for combining datasets. Records are visually scanned. The inquirer may struggle with issues of legibility and interpretation of content. Since collecting data is already very time-consuming and difficult, there is little chance that there will be sufficient opportunity for analysis.

Comparing with other jurisdictions

In April 2015, we conducted a survey through PSD and ASCA (Association of State Correctional Administrators) to obtain information about how other agencies collect, track and access custody data within their organizations. We used a mix of quantitative and open-ended questions in order to learn about the variety of applications used and the ways in which they are utilized.

Thirty-four ASCA members completed the survey from 33 states. Respondents were employees from research and strategy positions, IT operations and data analytics. The results confirm that the current siloed state of PSD's data systems is part of a natural transition of growing up with technology; it is not specific to PSD.

Overall, the respondents shared needs similar to those of PSD:

- + updating technology
- + making system changes based on user needs
- + integrating information or centralizing systems
- + increasing reporting and analysis capabilities

And their reasons were similar as well:

- + desire for standardized and centralized systems, but with flexibility and ability to customize
- + need to increase availability and accessibility of data for authorized users

Two agencies were replacing old systems with web-based systems, one of which was over 30 years old. Many agencies expressed their desire for a web-based system over a mainframe system for increased accessibility, intuitiveness and flexibility. Presumably this is because most computer users are already familiar with browser-based interfaces.

This request arises despite the fact that the majority (29 of 34, or 85%) of agencies reported that their main custody management system for the collection and maintenance of custody data is “very effective” or “effective.” The same could be said for PSD’s operations. It is not that the current system is ineffective at collecting or maintaining data that is currently being captured by the system; **the issue is that more valuable information needs to come out of the system.** As some jurisdictions said:

“Our needs have outgrown the capabilities of the current system.”

“We collect great data, but queries and changes are cumbersome.”

“Eliminate petty data entry so staff can increase meaningful work activity.”

“The system is designed to address business workflow, not complex analytics.”

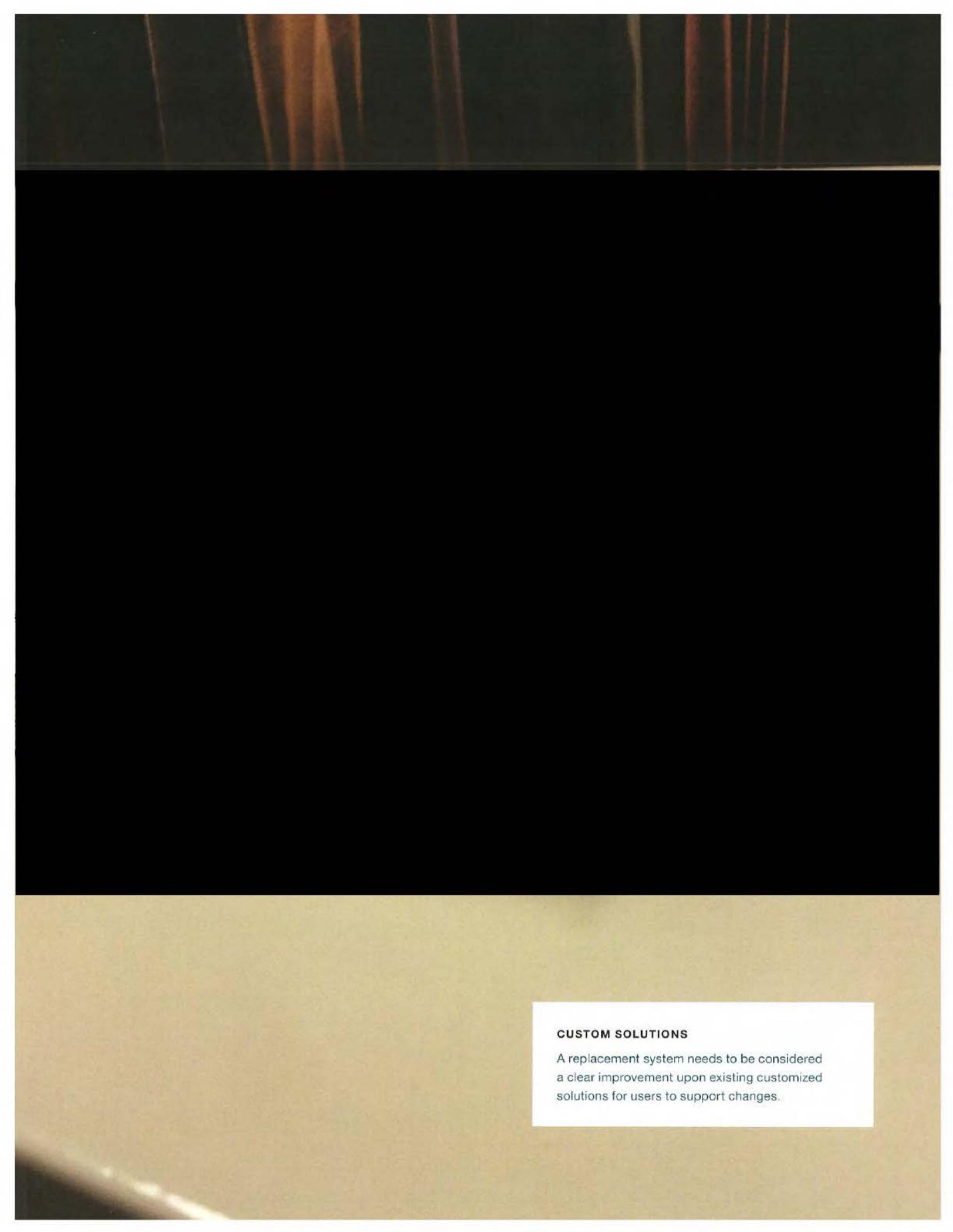
ONE-SIZE-FITS-ALL SOLUTIONS DO NOT EXIST

Respondents were split evenly between using a vendor product or building one in-house. Many are currently in the process of updating their systems. Flexibility and customization are seen as a solution to many problems, from user needs to addressing changing regulations. Twenty-nine of 36 agencies (81%) say they have made modifications to their custody management systems. Several say that they make modifications on a regular basis. One wrote, “Our system is in a nearly continual state of change, as changes are made to add new functionality and support procedural and business changes.” Another wrote that they are “constantly making changes per user request.”

In-house systems were seen as providing the flexibility and customization desired, but also requiring extensive in-house support staff for upgrading and fixes, which can be a negative. More MIS staffing and training would be necessary, but this can also mean increased availability of local user support. In-house systems were also perceived to allow more flexibility, to customize the system for the facility. Some respondents acknowledged the added expenses that can also accompany an outside vendor product, which may require additional costs later for maintenance, changes and upgrades. Vendors were also seen to offer less flexibility and customization in their products.

Technology is accompanied by another important administrative consideration besides IT support—user training. Some of the respondents mentioned that their current training is inadequate. While it is ideal for a system to be intuitive to reduce training needs, it is best to keep training needs in mind in the deployment of any new system or major system change.

For more information on the various systems used by other jurisdictions, we have included details in **Appendix E: Comparative Product Analysis.**



CUSTOM SOLUTIONS

A replacement system needs to be considered a clear improvement upon existing customized solutions for users to support changes.

6

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Recommendations

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- + Leverage what you already know
- + Define data rights

Leverage what you already know

Data can become meaningful information, but it needs to be placed in context. Data inspection requires experimentation and mental models, to draw necessary associations, to be meaningful. Every person we talked to had specific expert knowledge about their operations resulting from a familiarity with their own data. Allowing people to be more efficient at collecting and combining data will help to grow their expertise and range of knowledge.

Many of the staff we talked with used personally developed mental models when making decisions or evaluating data. However, in some cases, workers rely on objective data gathered from instruments, but often make judgments based on a person's history, such as whether a program is working or whether someone is likely to succeed in some way. Rather than ignore these judgments, PSD should develop and hone their judgments to increase expertise in reading data. If data is easily collected and combined, it allows a way for people to test their hypotheses and build knowledge for existing data sets. From process data to individuals' (custody or personnel) records, having readily accessible data to combine and study helps people learn.

As an example, we approached an individual who was already tracking a process. Upon our sharing a related data set which indicated a problem, they rapidly assessed the scenario, telling us the likely cause for the problem. We were able to verify that they were correct. Because they had a very accurate mental model for their process, they were able to make fast, informed decisions.

Existing data can be used to frame departmental goals. First, consider what is within control and what data exists for those measures. In the short term, from a data collection and analysis standpoint, it is easiest to focus on data and processes owned by PSD. If it is not possible to control what happens after PSD releases a custody, gathering data for what occurs after release will be difficult.

Perhaps a broad goal such as "reducing recidivism" should be used as a longer term goal, because despite being able to have quantifiable measures for recidivism, PSD has little control of the custody, and limited direct data collection ability, after release. These limitations limit this goal's utility in directly driving day-to-day decisions. Such longer term goals still have strategic use, as they require the cooperation of organizations beyond PSD. In addition, they may help identify the shorter term goals which will



“You can't really judge someone on institutional behavior. Some are model inmates but [they have major charges]. Some are knuckleheads but they have minor charges. I'm not sure if it's a factor in recidivism.”



“Outside behavior [pre-corrections] shouldn’t be a factor in custody level but your inside behavior and escape risk should.”

act as stepping stones toward the longer term goals. In a contrasting example, monitoring the “number of violent incidents amongst custodies” is within PSD’s purview and could be captured—reducing this number is a goal that PSD can directly evaluate.

Define data rights

When discussing the department in relation to data infrastructure needs, there were often considerable differences in the perception of what should or shouldn’t be included. While some might consider corrections to be the primary concern, acknowledging the broader use of data through administratively attached organizations was considered discretionary.

Sometimes the distinction fell upon issues of funding, such as with Correctional Industries, which is a self-sustaining entity within corrections. In some cases, the issues revolved around privacy, security and confidentiality concerns, as with the corrections program services, health services and Intake Service Center.

These constructed distinctions within the department impact its ability to leverage data broadly. Clearly defining the department’s overall mission, and delineating its boundaries with other agencies and the public, will foster a more cohesive sense of purpose. This will result in clarity in information sharing, communication and data infrastructure opportunities.

The department should dispel myths and articulate data rights. Some data is confidential, some is sensitive, some usage governed by law and other data completely unregulated. Everyone involved should understand data rights in order to more openly share data and reduce redundant data capture. If data security or misuse are of concern, isolate the precise concern and solve it more directly. If sharing pre-trial data creates a risk of unfair judgments being made on the pre-trial population, perhaps pre-trial data need not be shared initially, but could be shared after a custody is sentenced.

Limiting the sharing of data should not be the primary means of control, as it can inhibit good performance as much as it reduces fear of wrongdoing. Sharing data also reduces data redundancy. Data owners sometimes fear extending access to their databases beyond their purview, but this limits the utility of data being captured and can lead to similar data being captured elsewhere.

Medical information is protected, but is there important non-treatment related information that should be shared? How might the department provide better service and protect custodies and workers from unnecessary risk? Probe these boundaries to determine how information can be used to everyone’s service.

Simple solutions

The following are some general IT solutions that might be worthwhile for the department to consider, as they are standalone administrative tools that can reduce time and improve workplace organization across the divisions and offices.

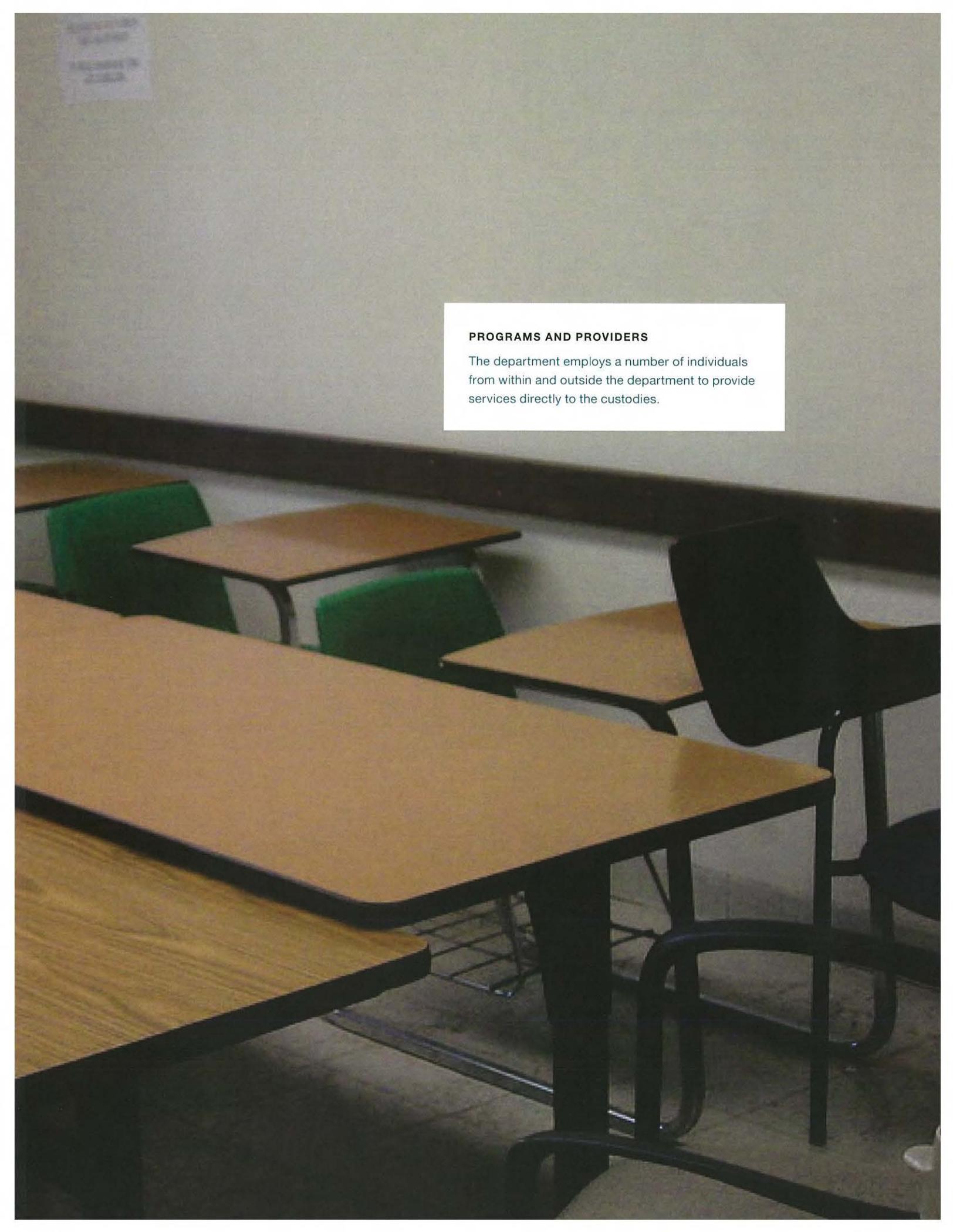
PASSWORD MANAGEMENT

One IT issue raised repeatedly, but tangentially, was the tracking of passwords. There are many password management applications available that would assist in the secure management of passwords. This is a simple department-wide software opportunity.

INVENTORY MANAGEMENT

Another opportunity for IT investment is in an inventory tracking system for asset management. Inventory tracking responsibilities are distributed—this is a prime example of where a single solution can be utilized throughout the department.





PROGRAMS AND PROVIDERS

The department employs a number of individuals from within and outside the department to provide services directly to the custodies.

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Next Steps

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Reviews the proposed next phase of the project
+ Small Projects
+ Project Roadmap

In the next phase, we will take a more detailed look at the main data systems to ascertain the following:

- + WHAT DATA IS CAPTURED AND HOW IT IS DEFINED
 - + THE QUALITY AND CONSISTENCY OF THAT DATA
 - + HOW THE DATA MAY BE COMBINED FOR REPORTING
-

Small Projects

We will break Phase Two into two small projects. In the first project, we will focus on data integration and reporting. [REDACTED]

It will allow the department to see the spectrum of data currently available, see the quality of the data and begin discussions on what data and types of reports would be useful. It will not use live data, nor will it have a direct user interface.

In the second project, we will look to develop a database focused on a subset of custodies (tentatively identified as work furlough custodies enrolled in the Bridge program). This database will incorporate a broad range of data to include paper files and smaller databases.

The purpose of these projects is to identify department needs and challenges before implementing a new custody management system, while also providing interim returns from these assessment efforts.

Project Roadmap

Following this stage of Phase Two, a follow-on stage will focus on working with the department towards clearly articulating needs and priorities for a new custody management system to develop a completed business requirements document.

From there, the team will present some recommendations on how to develop a new system, and the department will decide how to proceed.

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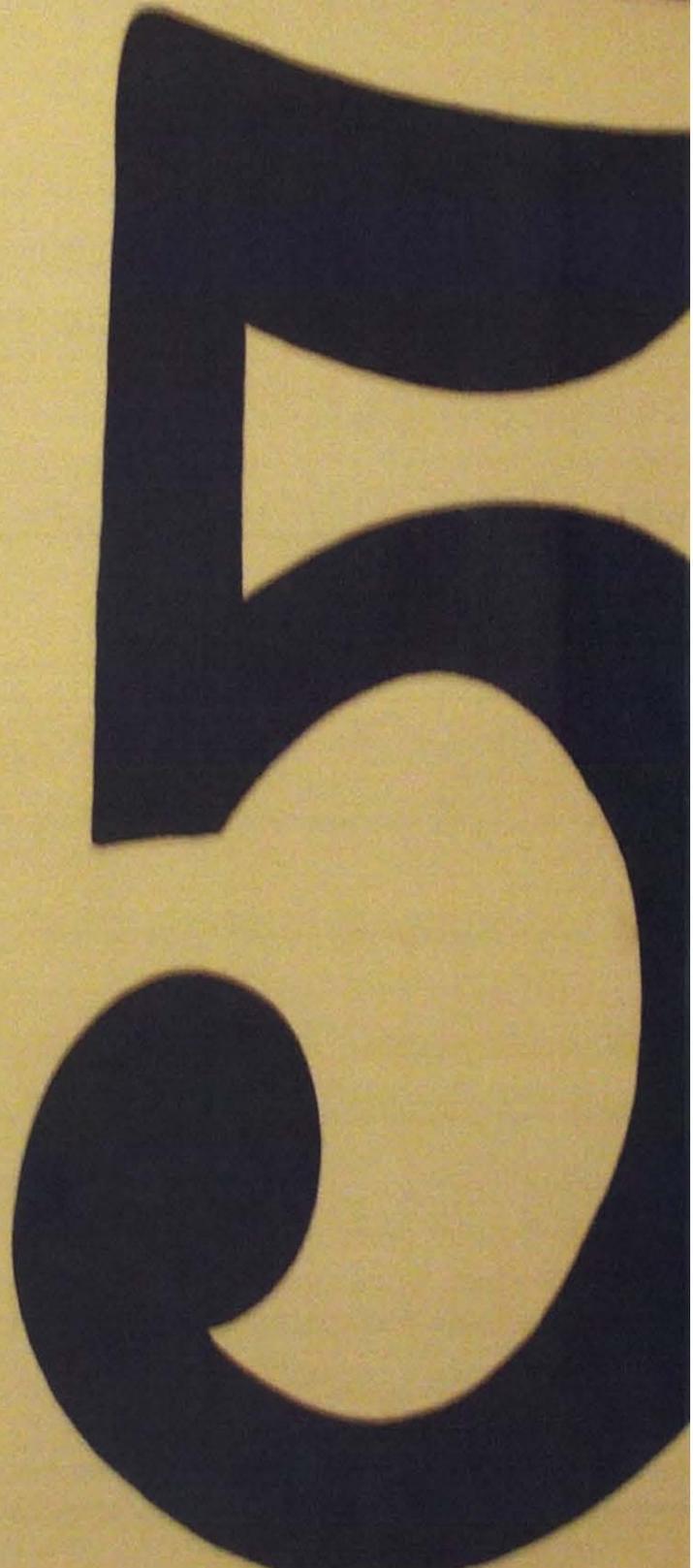
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Conclusion

Data infrastructure should be viewed as a force multiplier. Existing staff can be more effective if technology supports changing requirements and brings data together to issue useful reports. Such a system would increase productivity and encourage the development of worker expertise.

Given direct access to information, staff would be able to explore their instincts. They can then hone their insights when allowed the ability to combine data as views and reports. Provided with better tools, they have time and opportunity to grow and share their knowledge. They will gain authority over their work as they are able to communicate needs and shape outcomes, and this serves everyone at PSD. An efficient data system changes the nature of work—from those capturing data, to administrators articulating and pursuing the department's needs. Information encourages confident decisions and precise action.

MODUL



DETAILS OF THE EXPERIENCE

Small changes, details of design, can have an impact in the workplace or custody experience.

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Appendices

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Contains supporting details including referenced models that examine the data infrastructure, the organization and corrections operations and specific research examples.

- + Appendix A: Custody and Information Flows
- + Appendix B: Systems Diagrams
- + Appendix C: Specific Examples
- + Appendix D: Best Practices from Around the Department
- + Appendix E: Comparative Product Analysis
- + Appendix F: Business Requirements Document

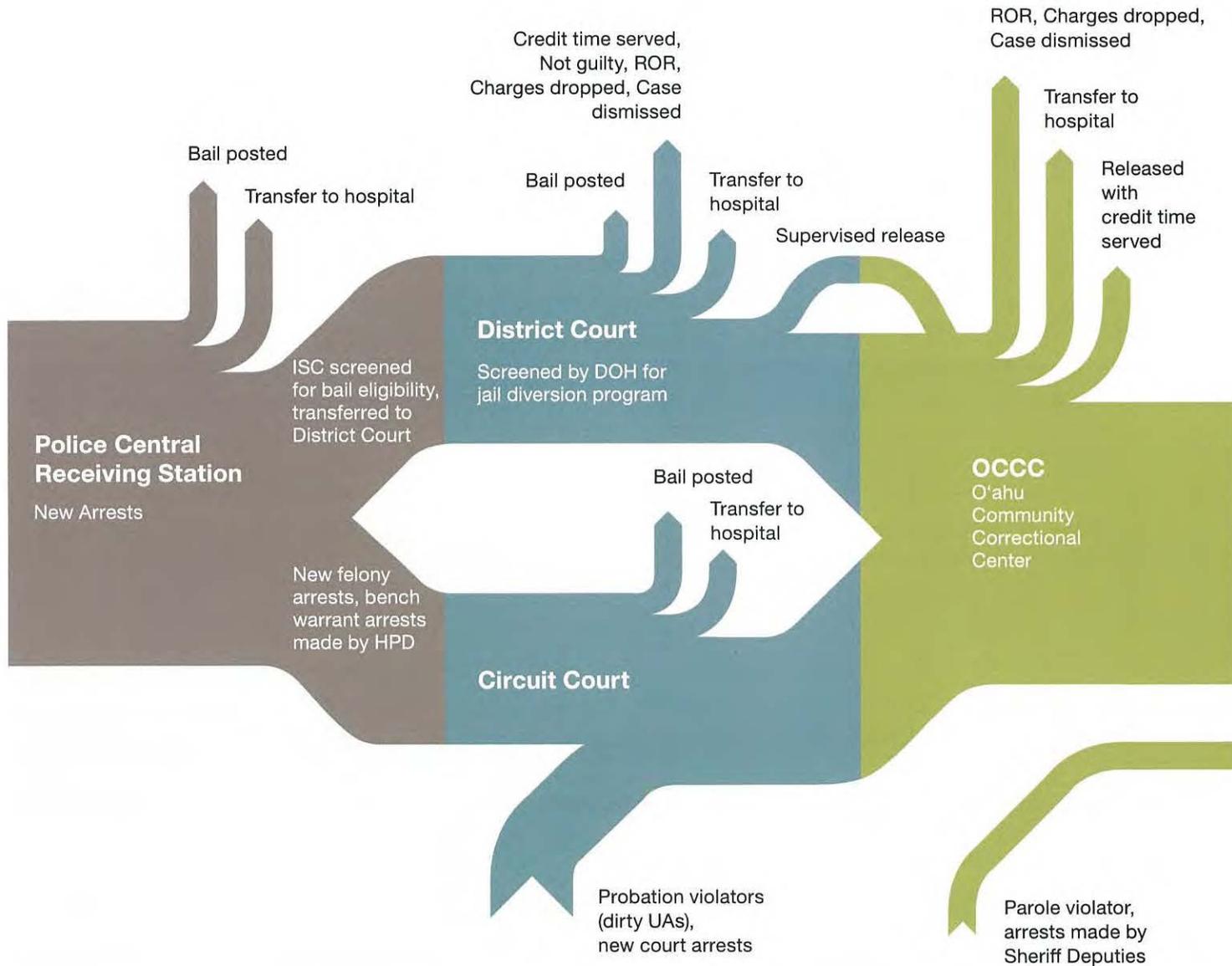
Appendix A: Custody and Information Flows

The custody and information flows that follow are based on observation and interviews. They document a high-level, end-to-end view of the general custody flow through the corrections system, focused on O'ahu processes.

- + Custody Flow Diagram
- + Information Flow in the Custody Journey

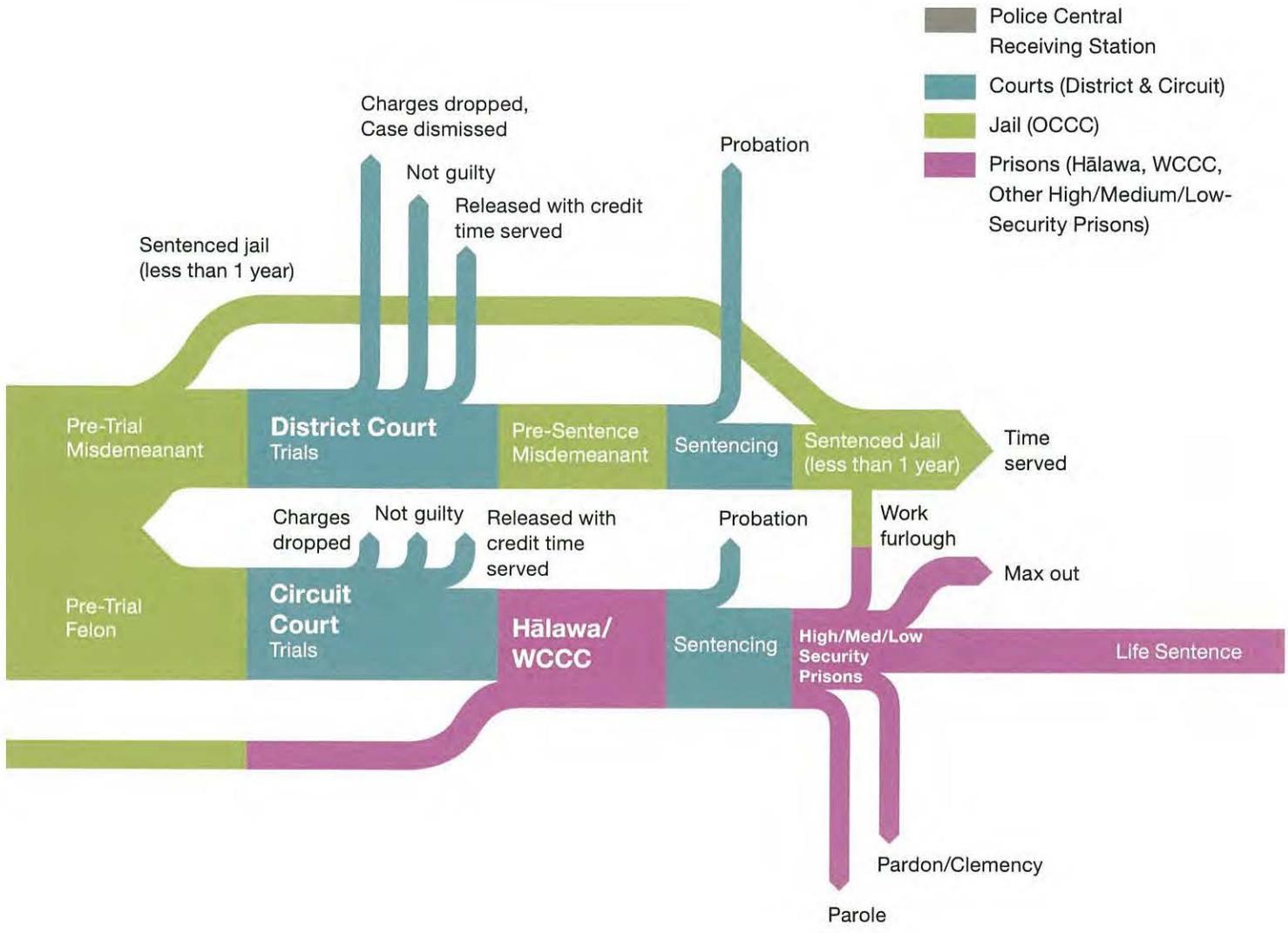
Custody Flow Diagram

DEPARTMENT OF PUBLIC SAFETY (PSD) INTERACTIONS FROM ARREST TO PAROLE



OVERVIEW

The Custody Flow Diagram depicts the progression of custodies through the corrections system from the Department of Public Safety's first contact at HPD through to its last contact. Any single case may flow through the corrections system in a multitude of ways and require significant variation in the scope and intensity of services provided. The chart is a simplification of the process and chronology to provide a general scope of corrections operations.



EXPLANATION OF CUSTODY FLOW DIAGRAM

- The arrows in the top portion of the diagram trace the path of custodies as they move through the corrections system. The thickness of the arrows is arbitrary, and is not meant to depict the proportions of custodies following a path.
- The movement of the custody starts on the left side of the diagram and progresses to the right.
- Custodies enter and exit the system via the arrows connected to the main flows. There are many other reasons for exiting the system, not all of which are captured here.
- Facilities are coded by color, as custodies may return to the same facility multiple times.
- Though this is not a strict chronology, time progresses along this path, as the custody passes through the phases indicated along the top of the diagram. (Phases include: HPD, Courts, Jail, Prison, Parole)

Information Flow in the Custody Journey

The following pages show a generalized view of PSD's custody interactions and how information flows in the corrections process from arrest to parole. The information is based on interviews and observations on O'ahu from February to June of 2015.

GENERAL LOCATION

-  Outdoors/In the Community/In Transit
-  HPD Courts/Jail/Prison

PERSON / ACTION

-  Custody
-  Main interactions and persons involved



Police make an arrest

LOCATION

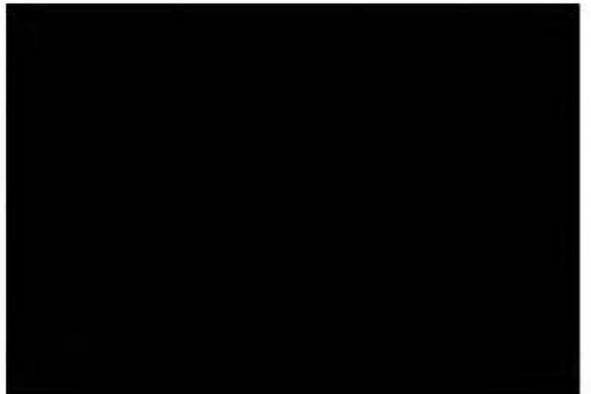
WHO



Police custody

LOCATION

WHO





Transfer to court cell block

LOCATION

[Redacted]

WHO



[Redacted]



[Redacted]



[Redacted]



[Redacted]



Initial appearance (District Court only)

LOCATION

[Redacted]

WHO



[Redacted]



[Redacted]



[Redacted]



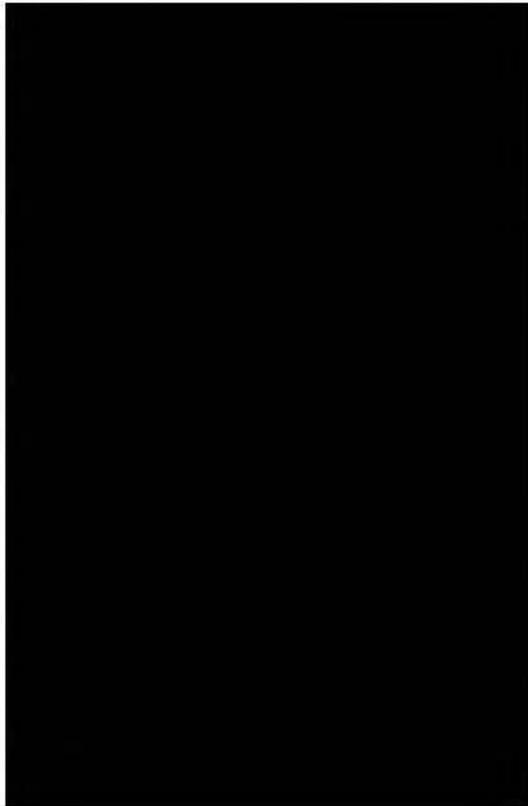
[Redacted]



Corrections custody

LOCATION

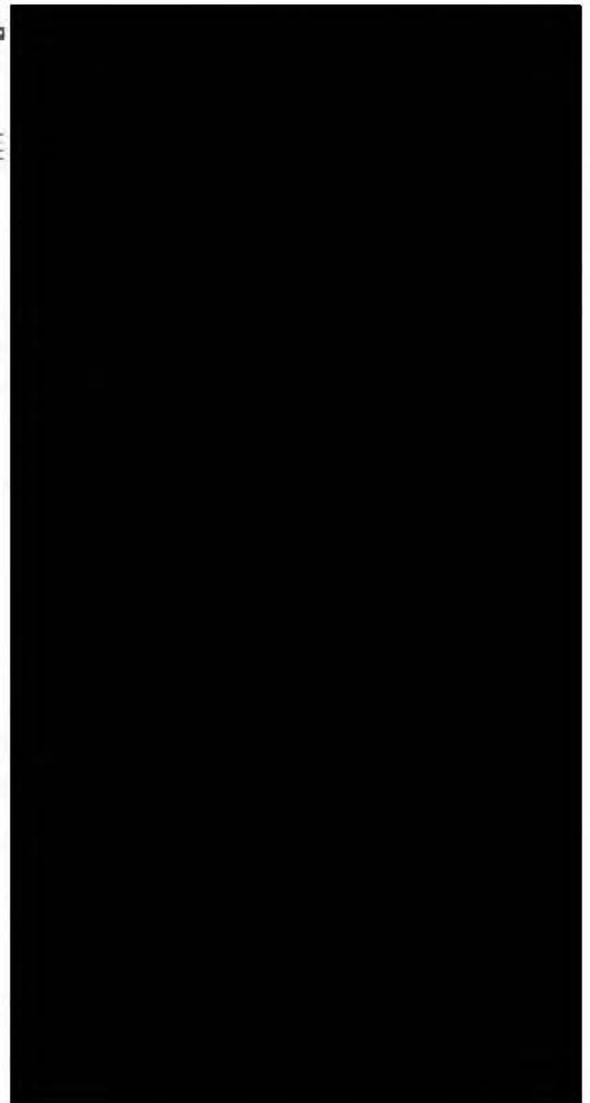
WHO



Jail intake

LOCATION

WHO

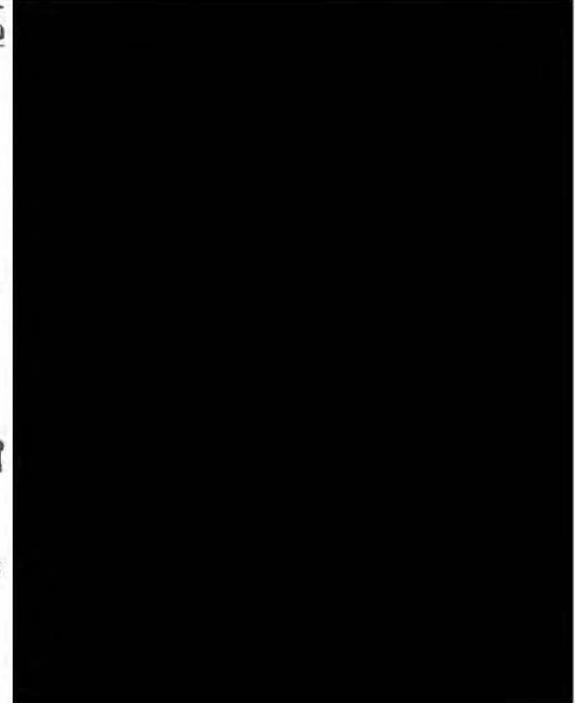
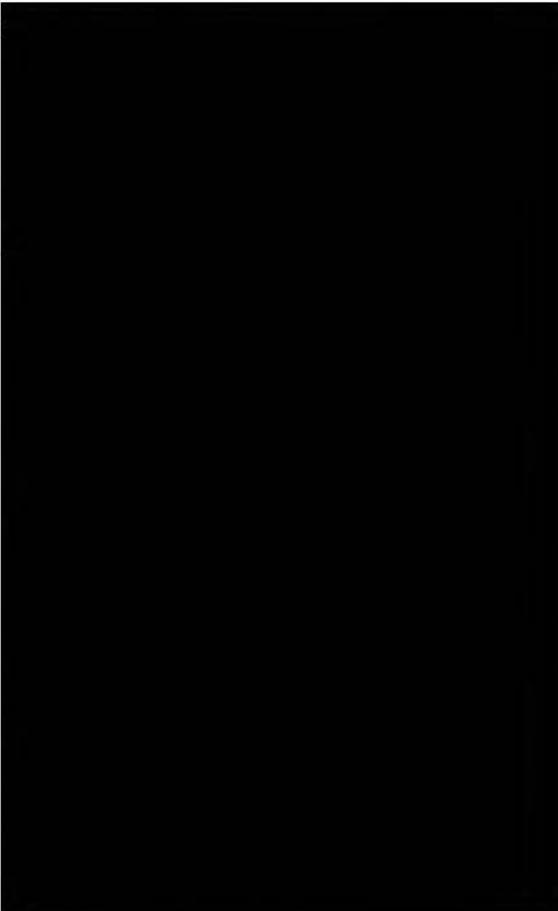




Jail residence

LOCATION

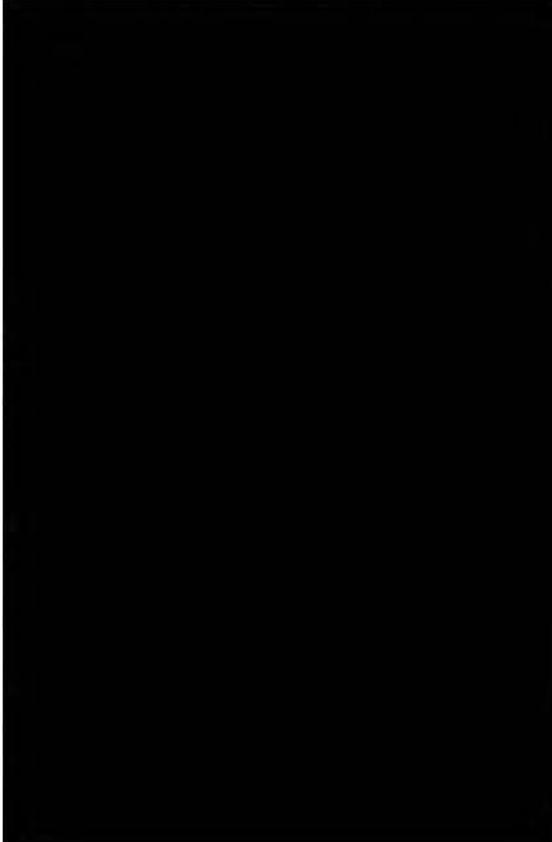
WHO





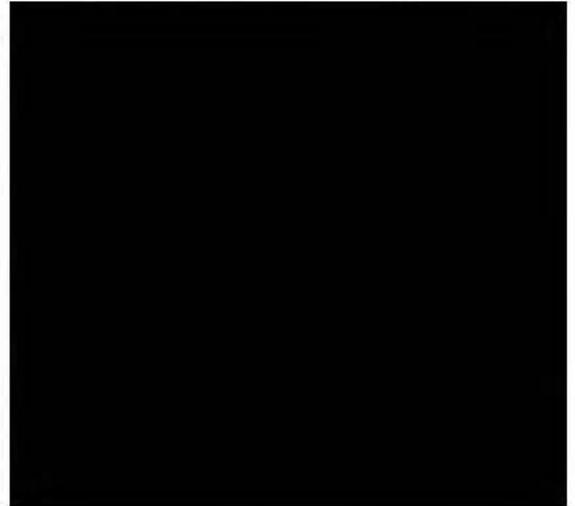
Jail residence *continued*

LOCATION
WHO



Supervised release

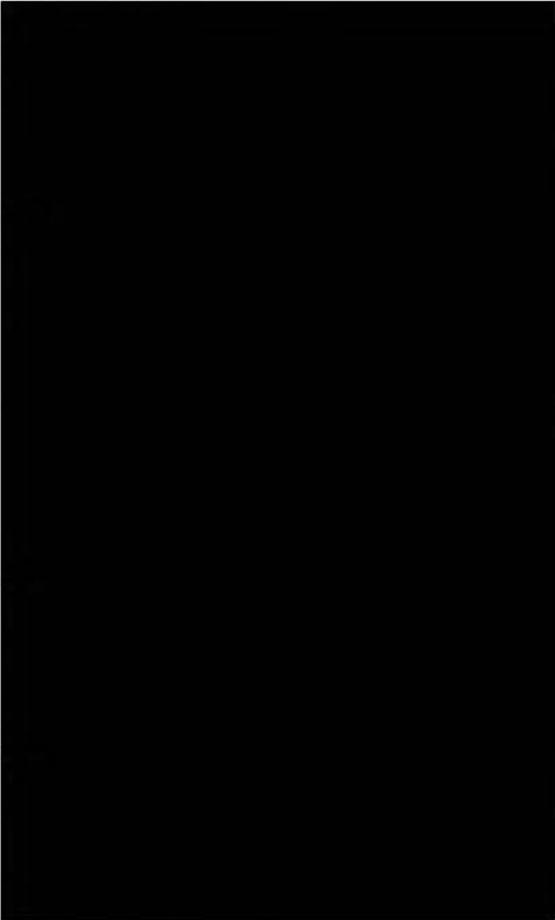
LOCATION
WHO





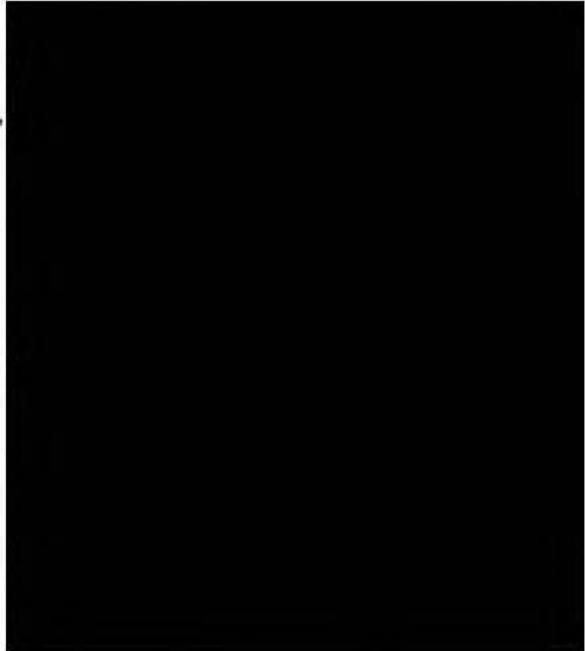
Transport to court

LOCATION
WHO



New sentencing or judgment

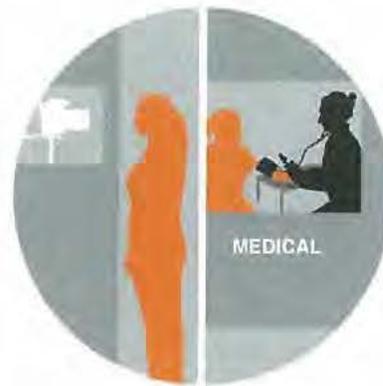
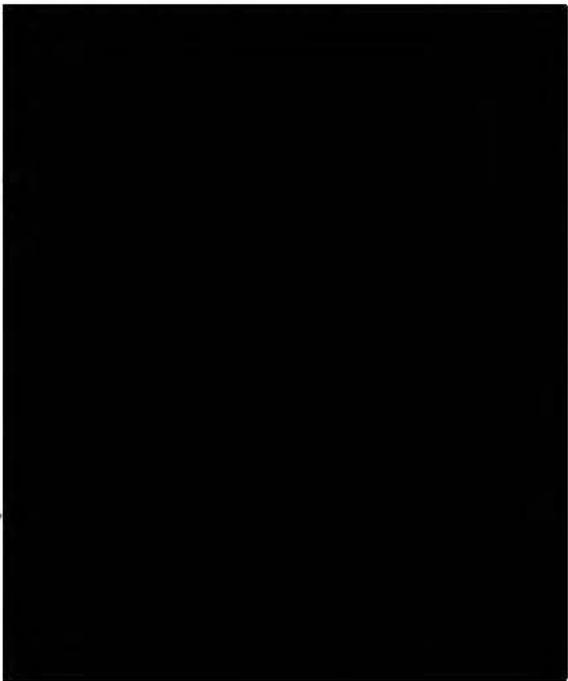
LOCATION
WHO





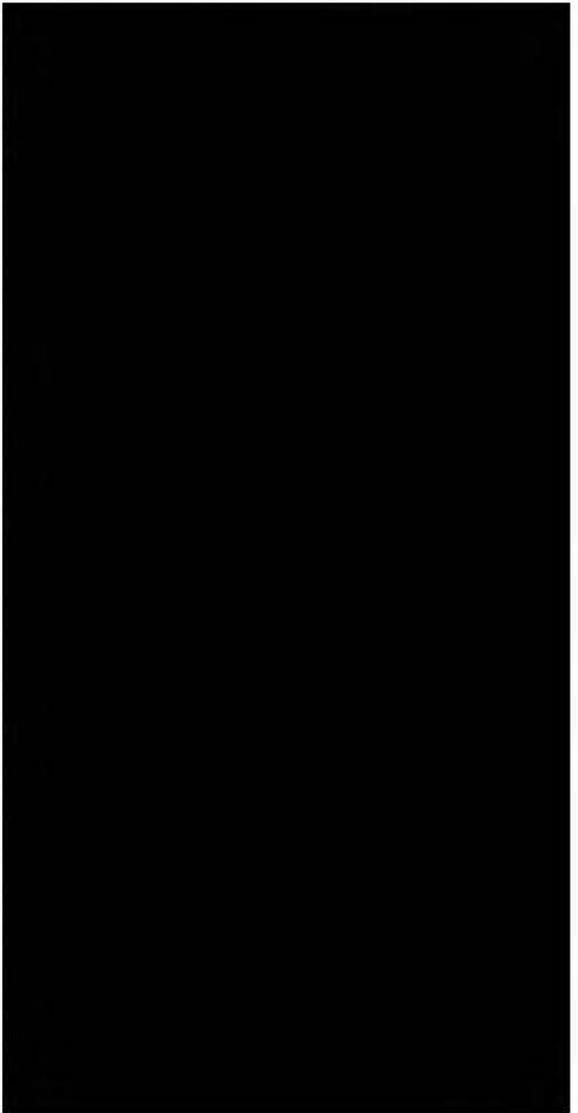
Return to OCCC/ Prepare for transfer

LOCATION
WHO



Prison intake

LOCATION
WHO

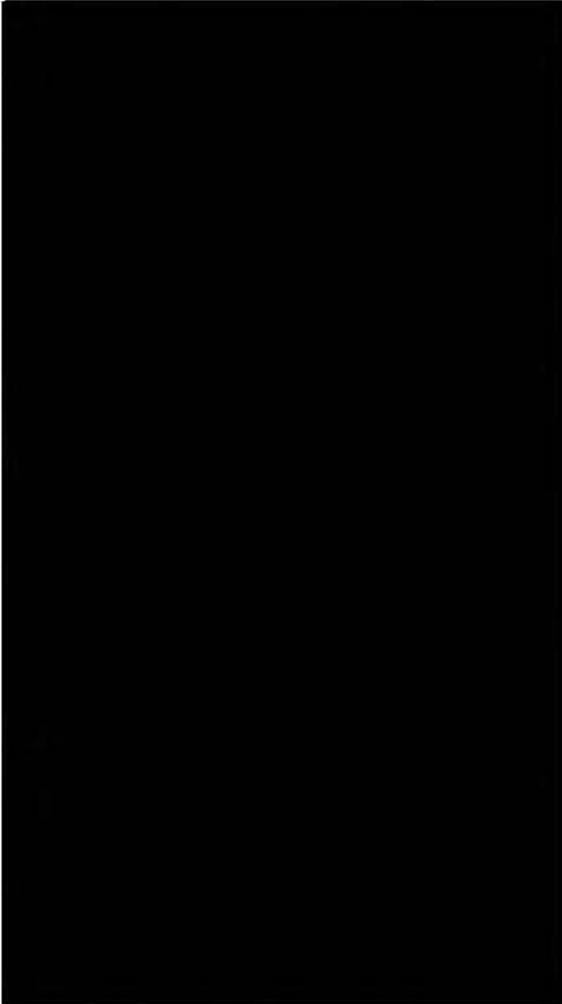
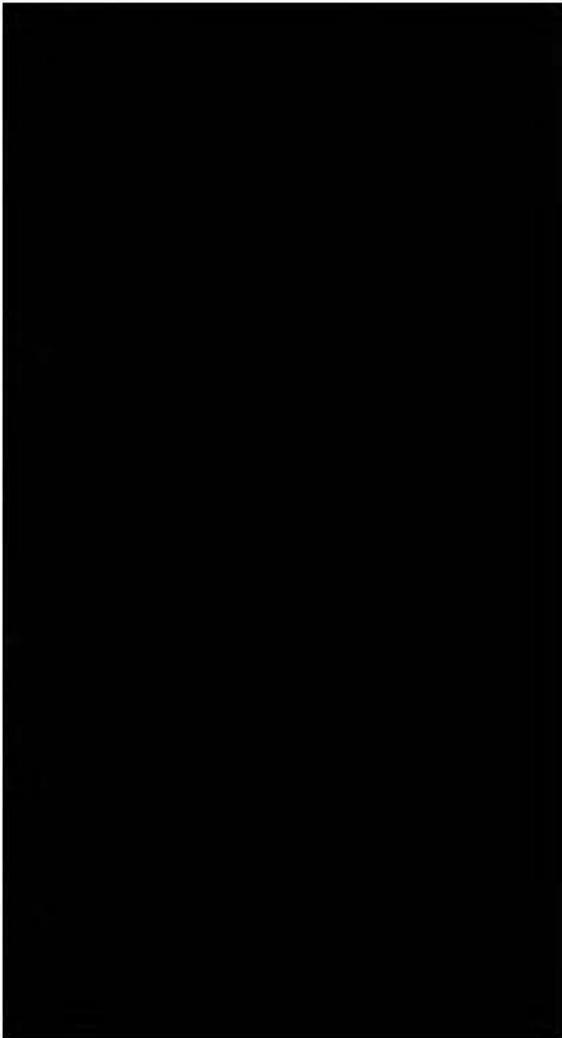




Prison incarceration

LOCATION
WHO



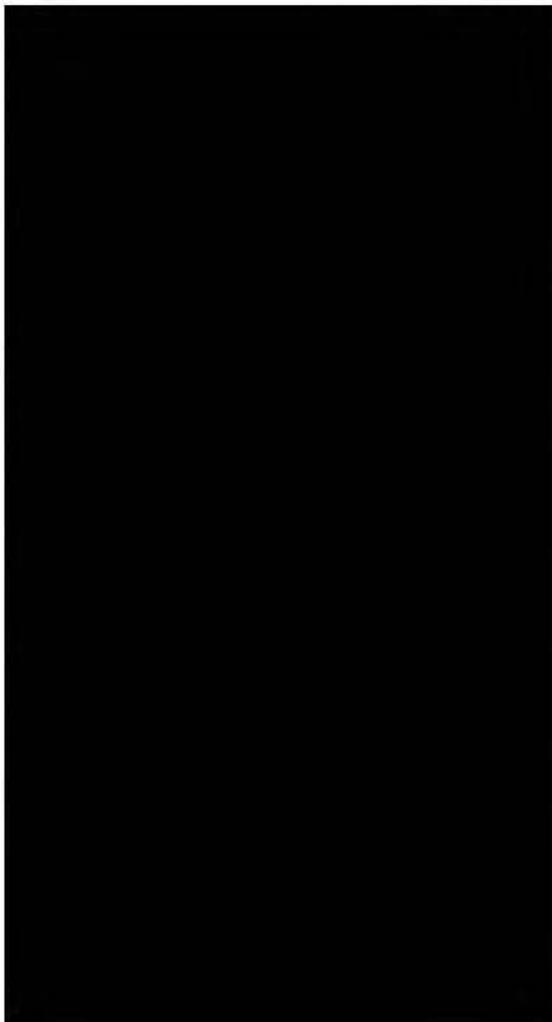
			
			
			
			
			
			



Prison incarceration *continued*

LOCATION

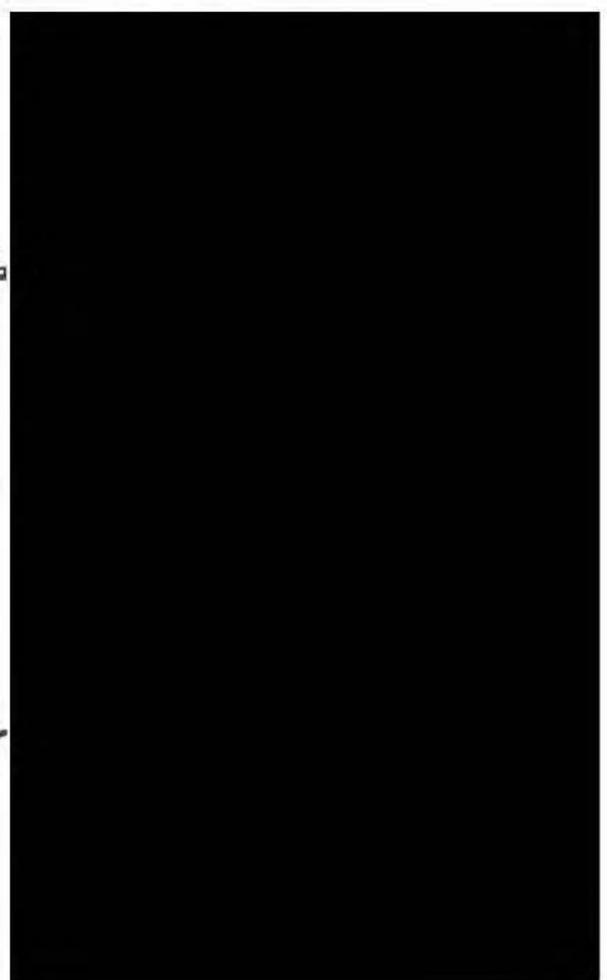
WHO



Facility transfers and probation

LOCATION

WHO

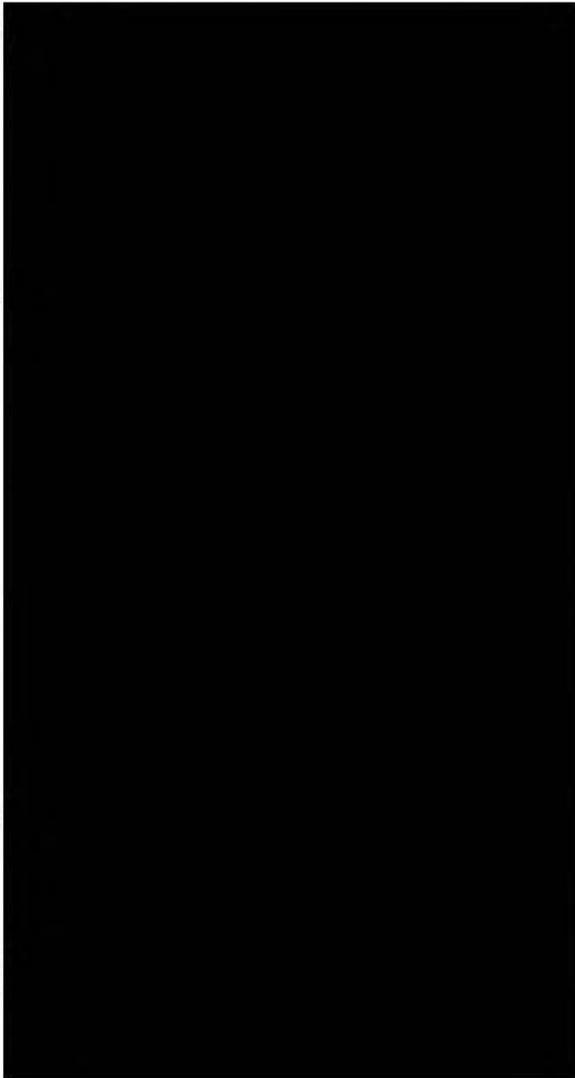




Transfer to low-security facility

LOCATION

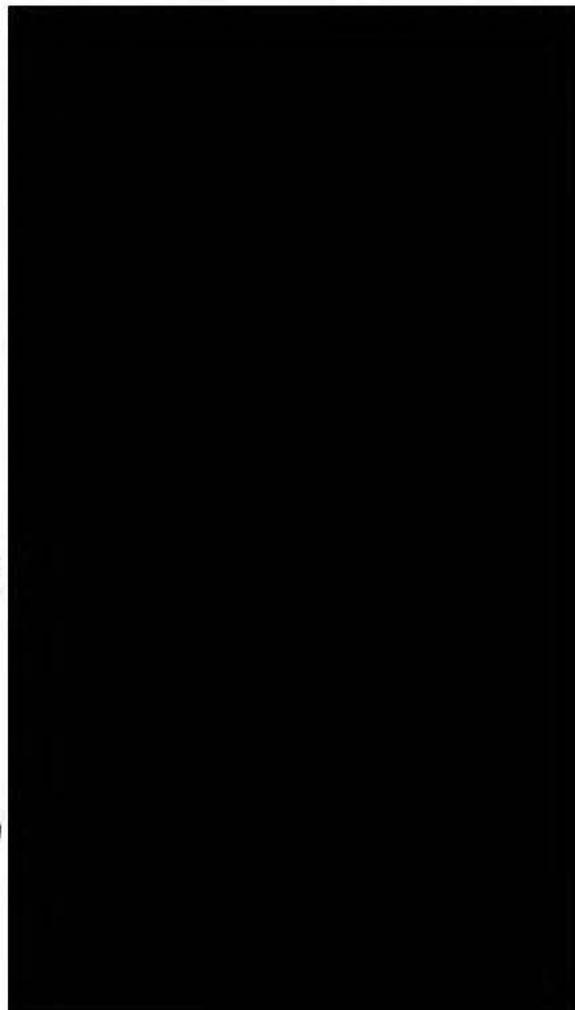
WHO



Work furlough

LOCATION

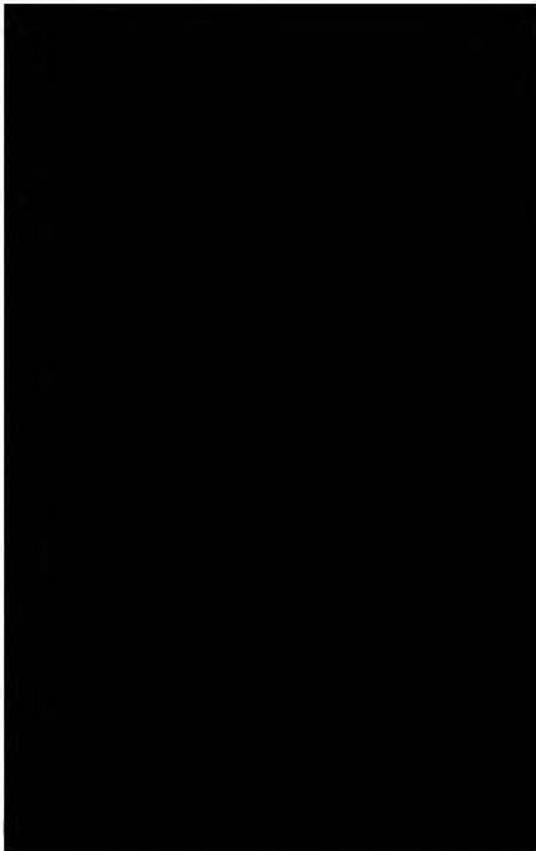
WHO





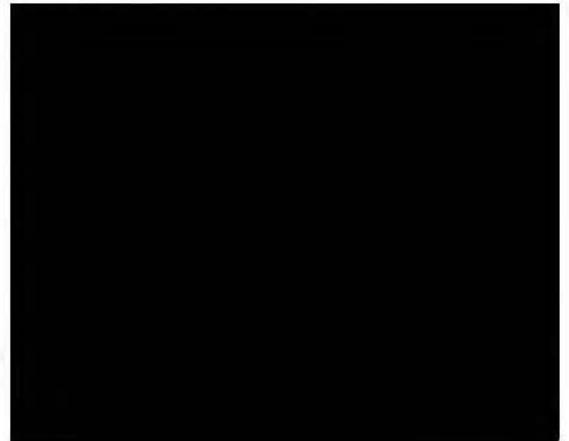
Parole or release

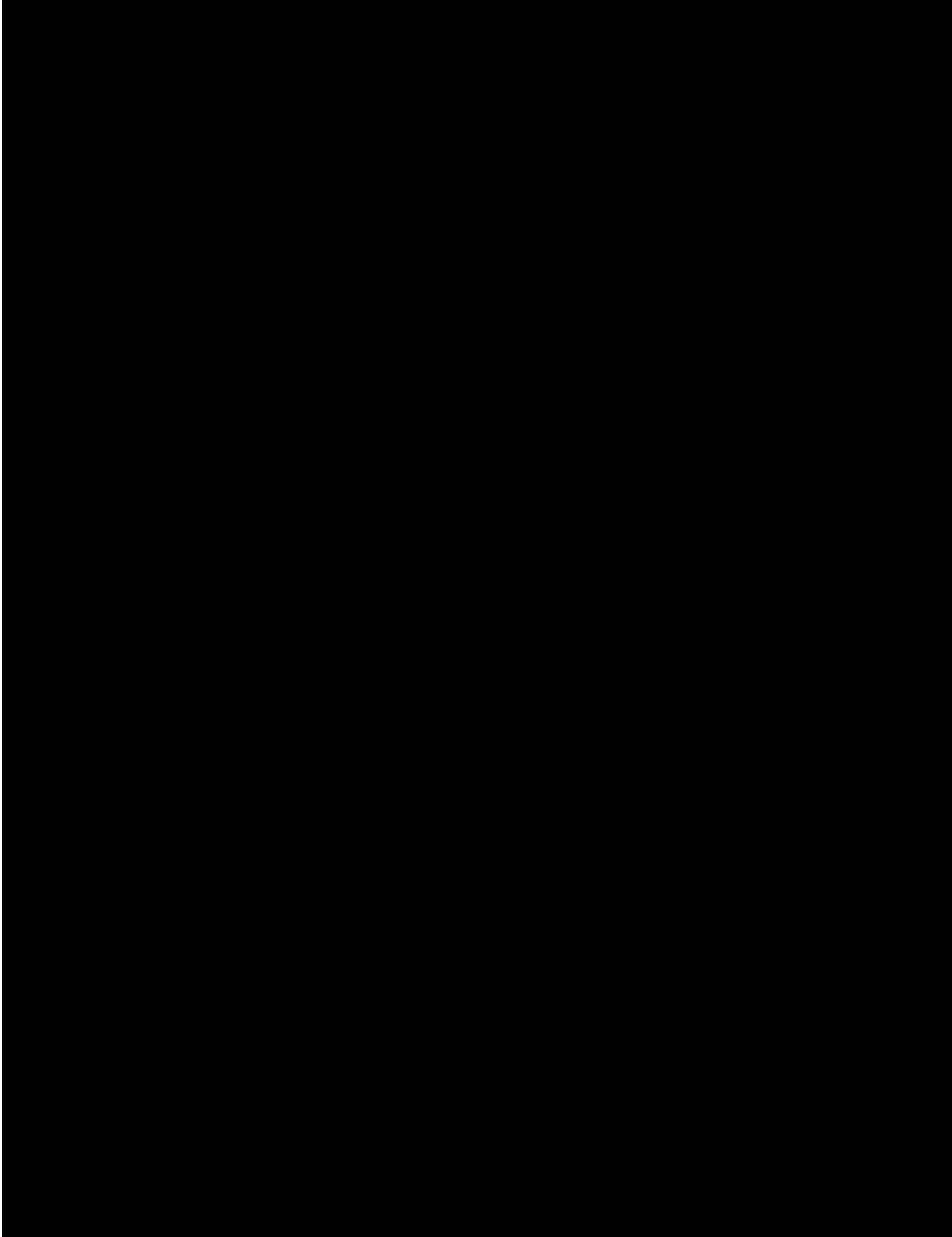
LOCATION
WHO



Parole

LOCATION
WHO





Appendix B: Systems Diagrams

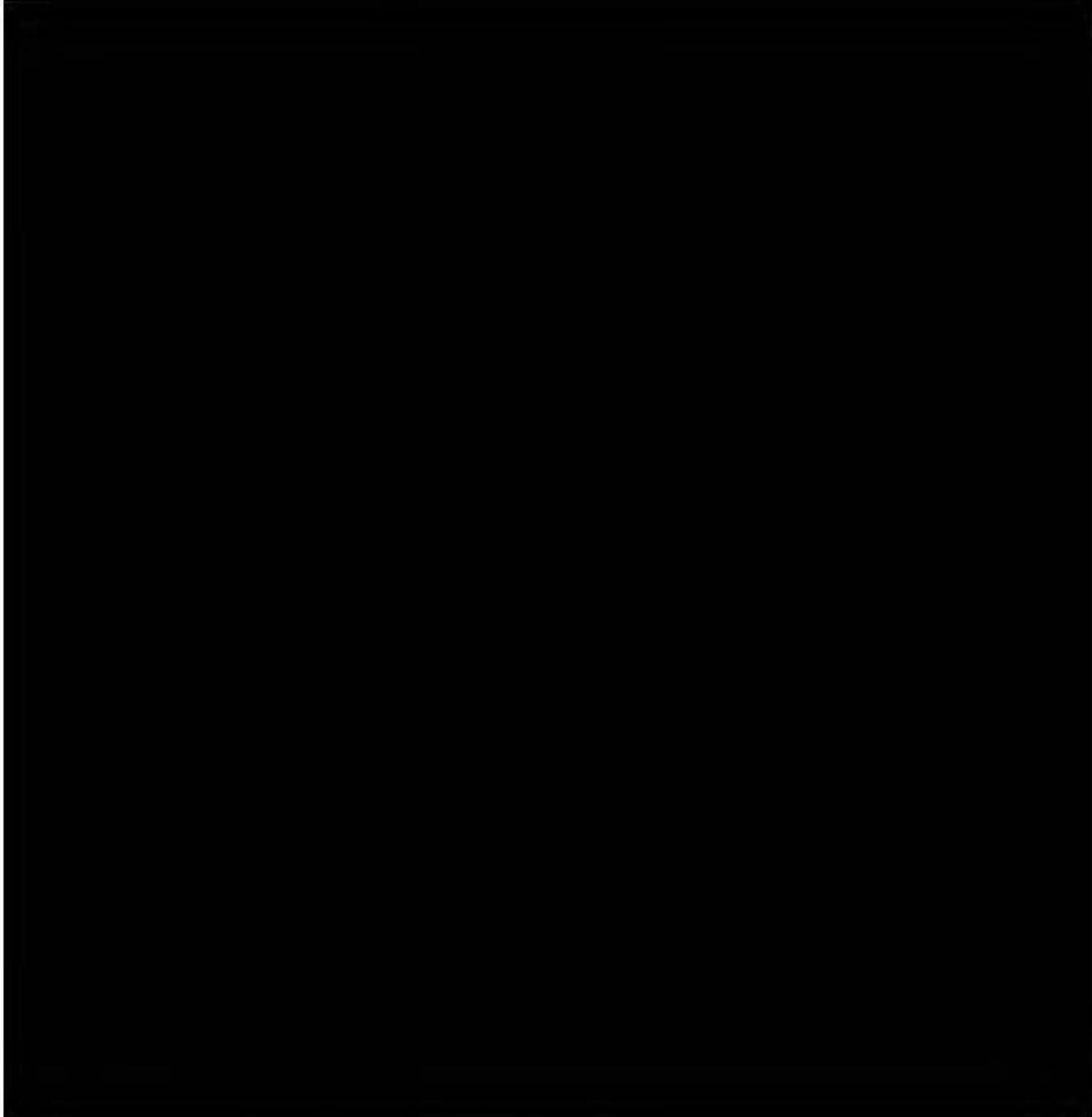
We developed the following explanatory diagrams based on the information gathered in Phase One. We expect some of these diagrams to change as we seek feedback and review in Phase Two. In addition, some systems are currently in the process of upgrades and modifications. Newer versions of the diagrams will be created as deemed necessary to the project progress.

- + PSD Systems Diagram
- + Offendertrak Diagram
- + Offendertrak Usage Chart
- + Intake Service Center (ISC Entry) Database
- + Inmate Trust Accounting (ITA) Database

PSD Systems Diagram

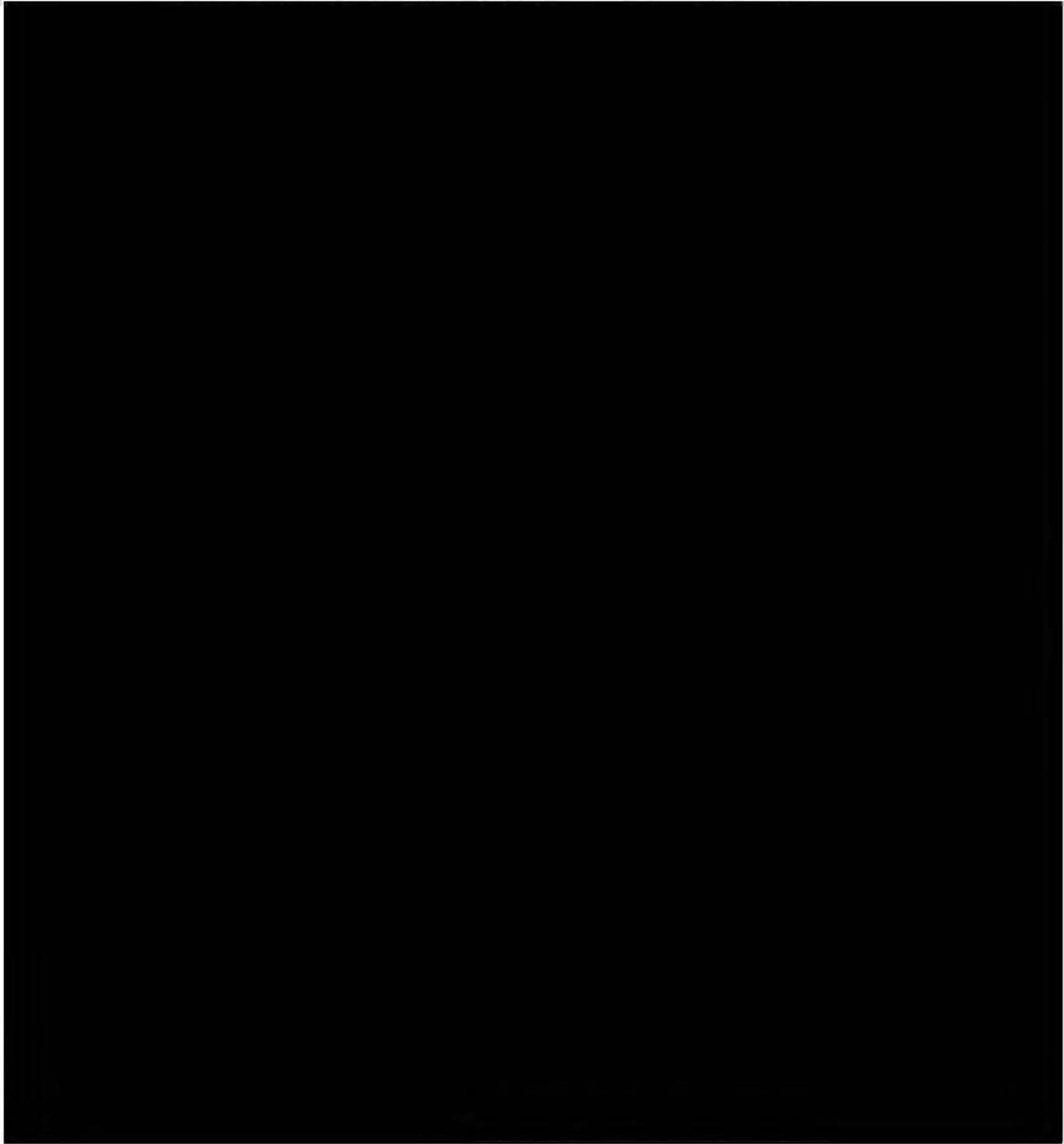
Externally Owned
External Hosting

MIS Owned
MIS/ICSD Central Hosting

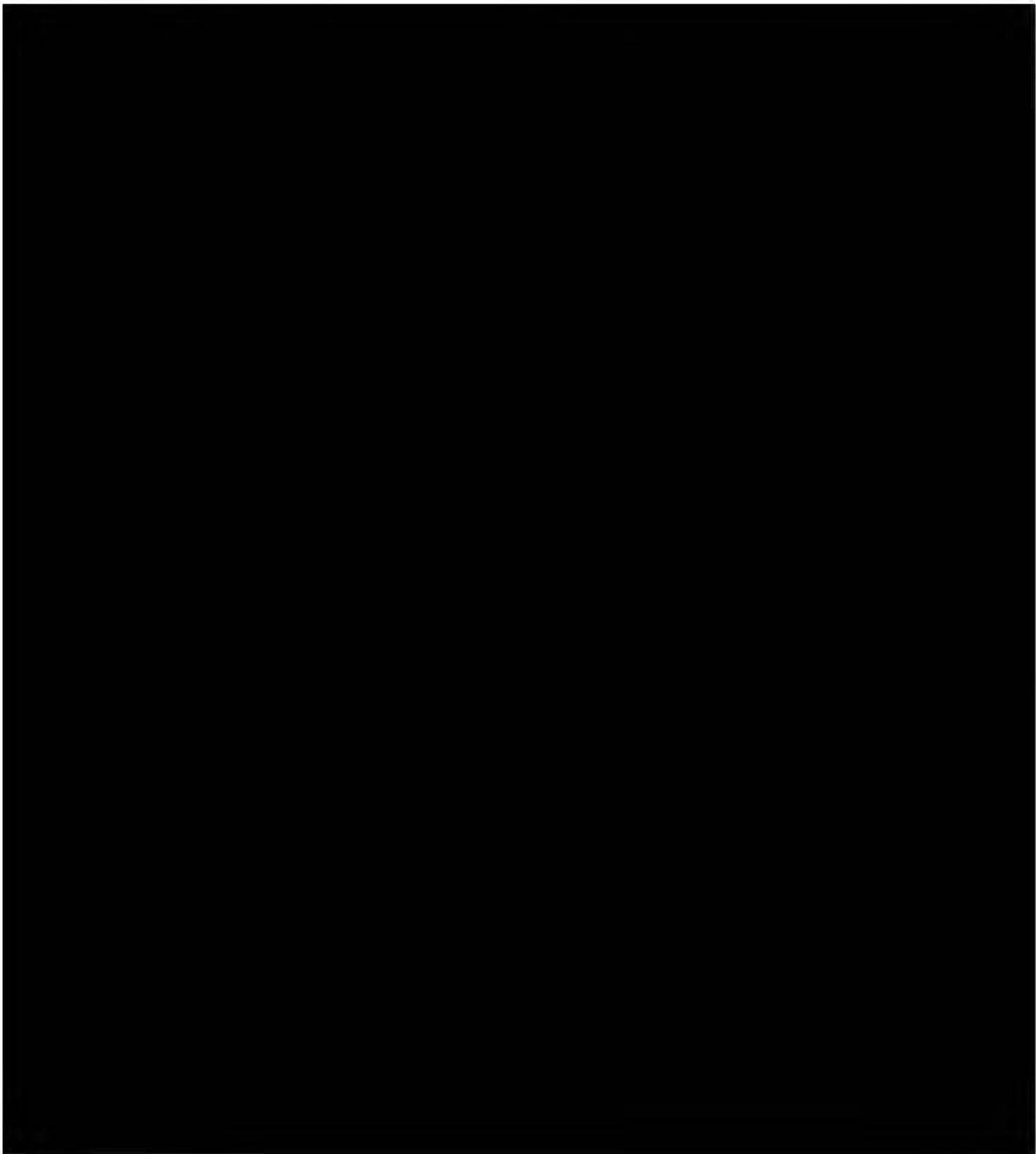


MIS Owned
Distributed Hosting (Running on desktops, etc.)

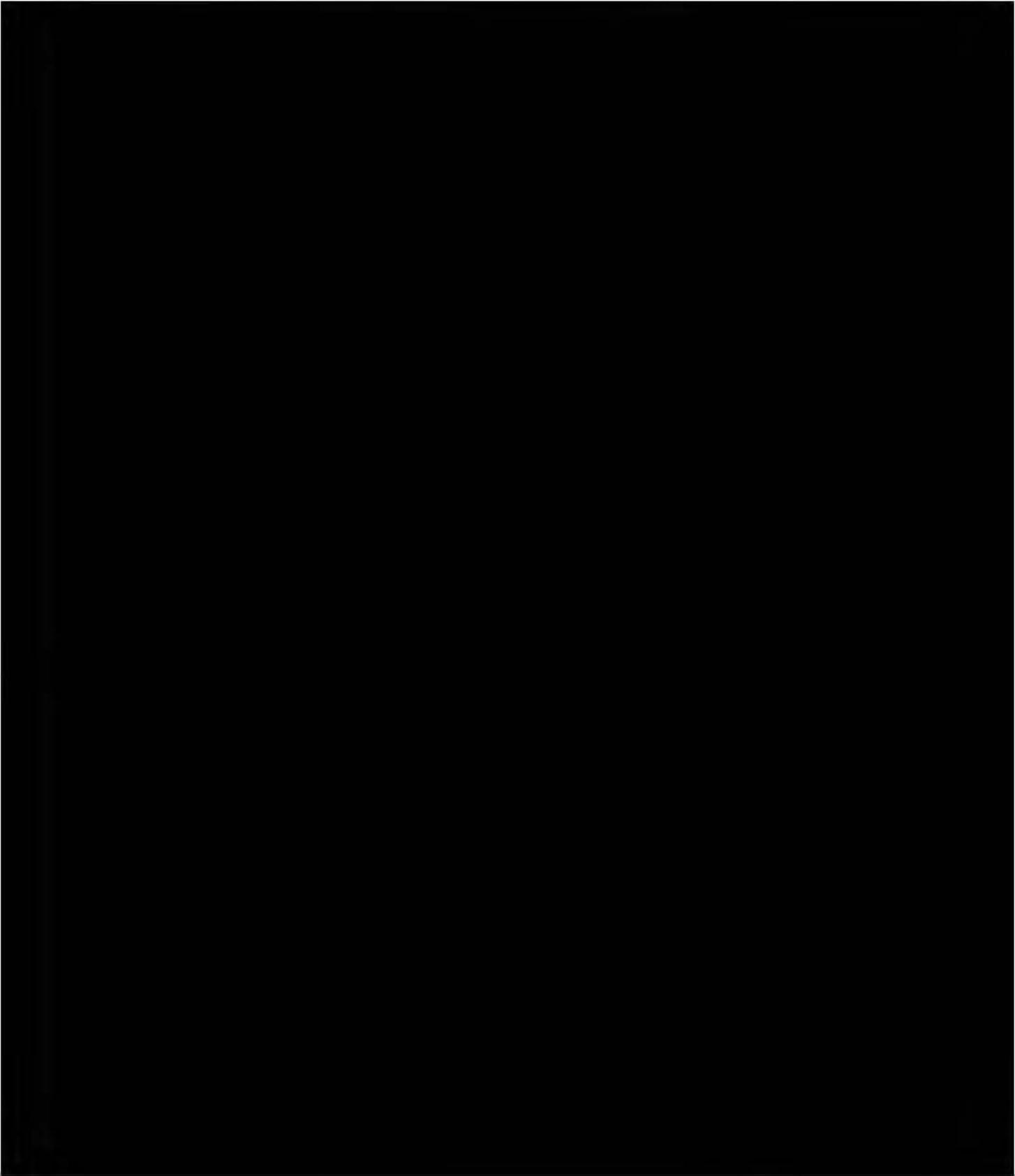
MIS Owned
Vendor Hosting



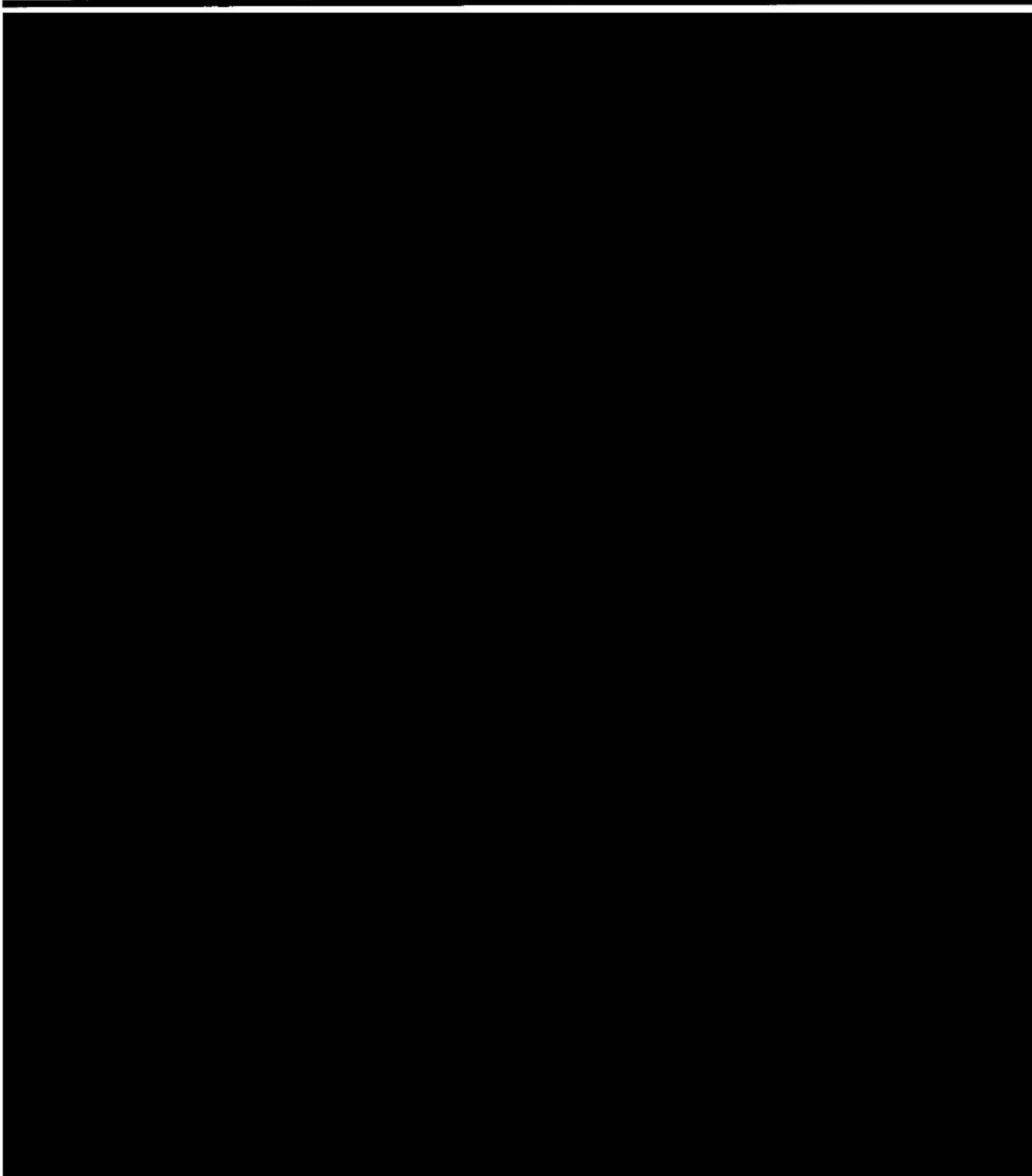
Offendertrak Diagram

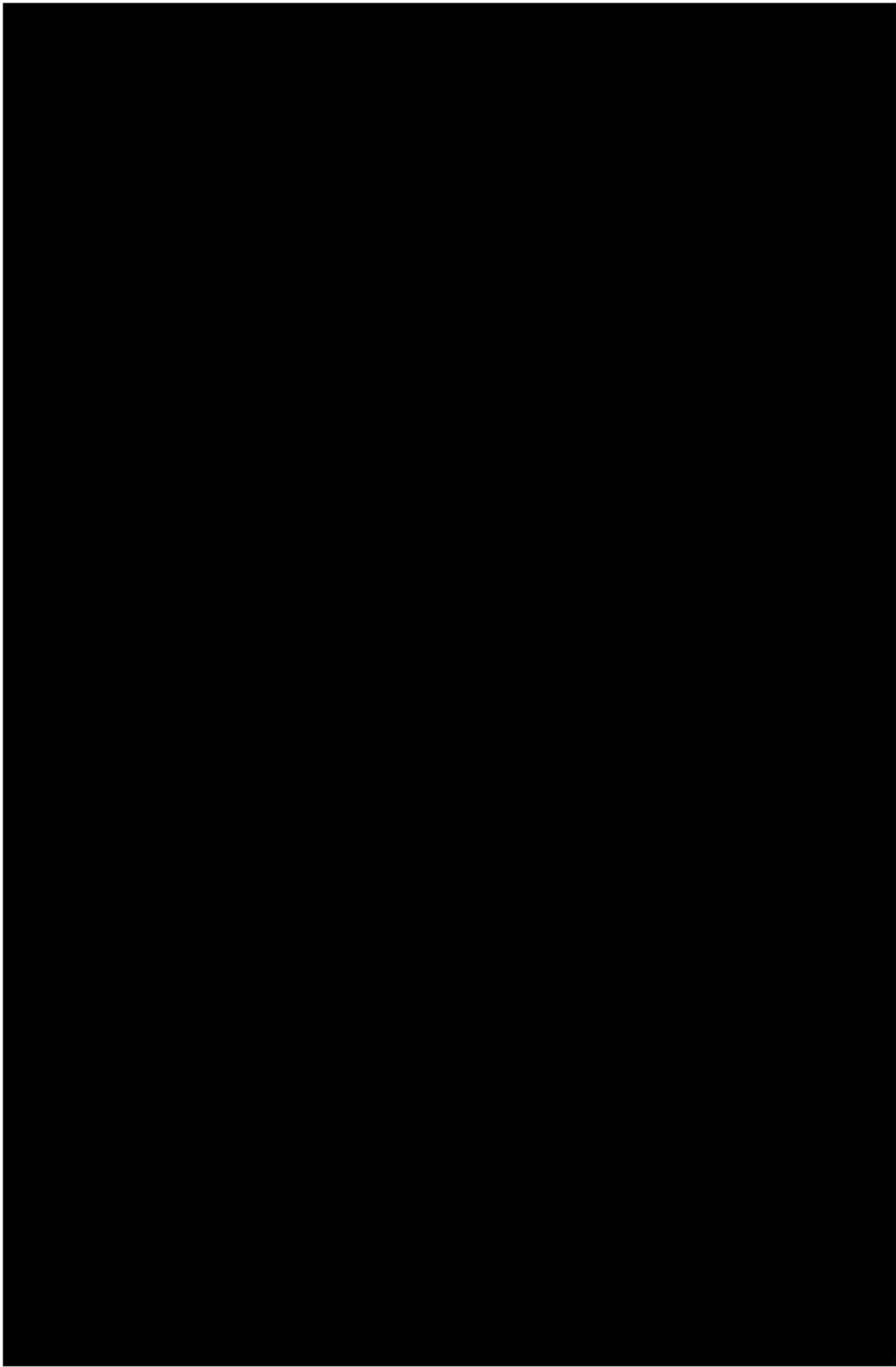


PDC Offendertrak System Diagram

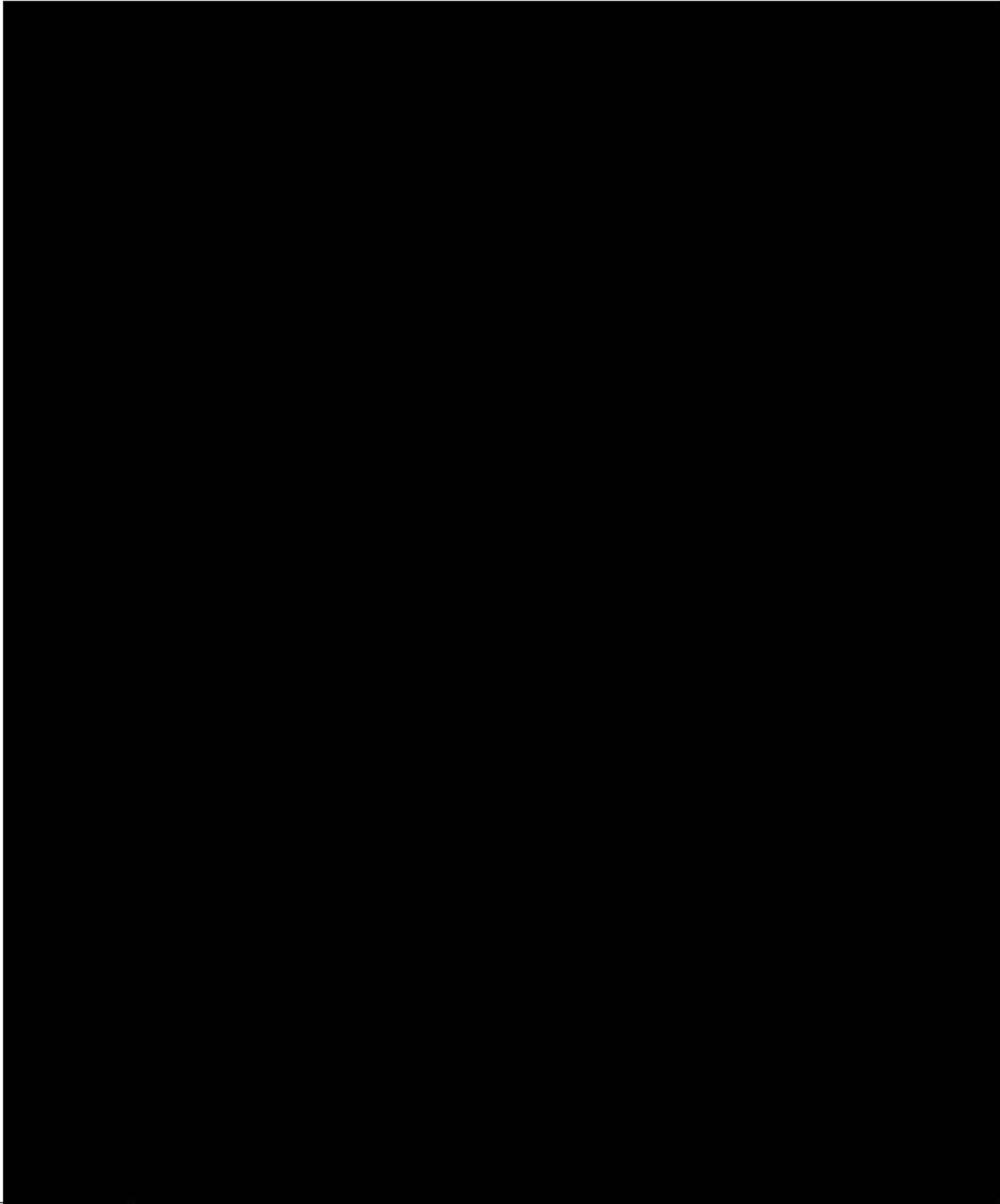


Offendertrak Usage Chart

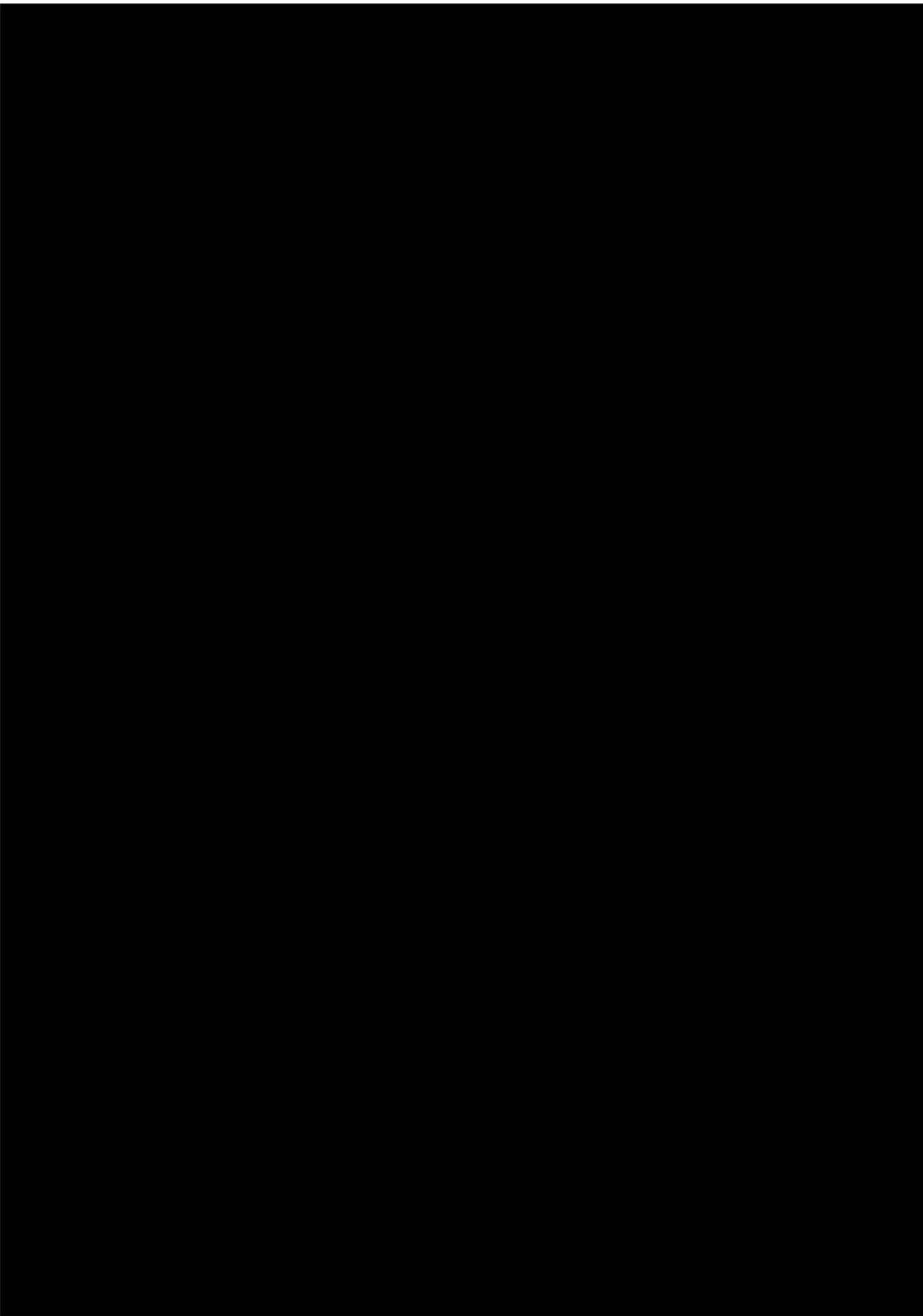


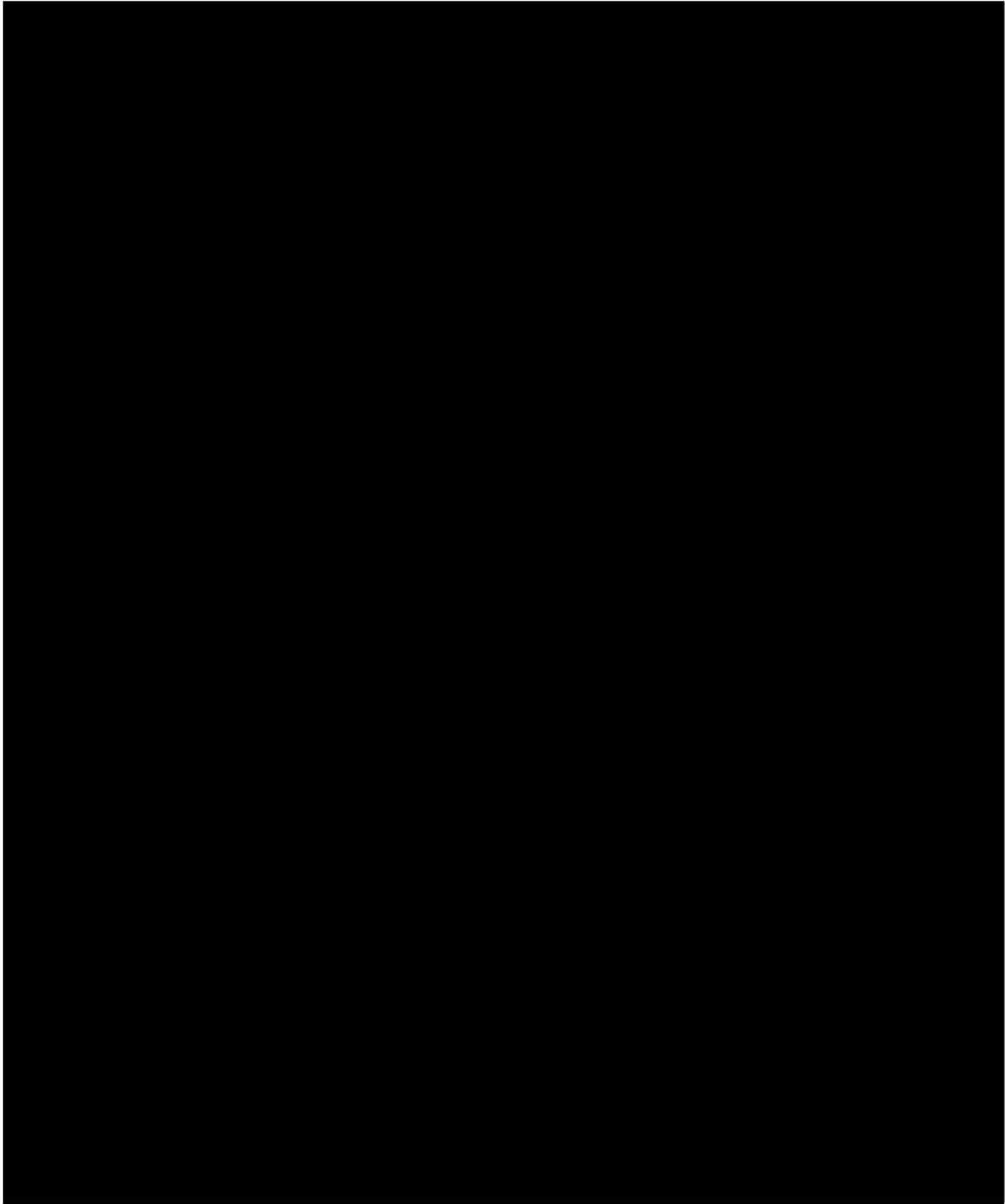


Intake Service Center (ISC Entry) Database



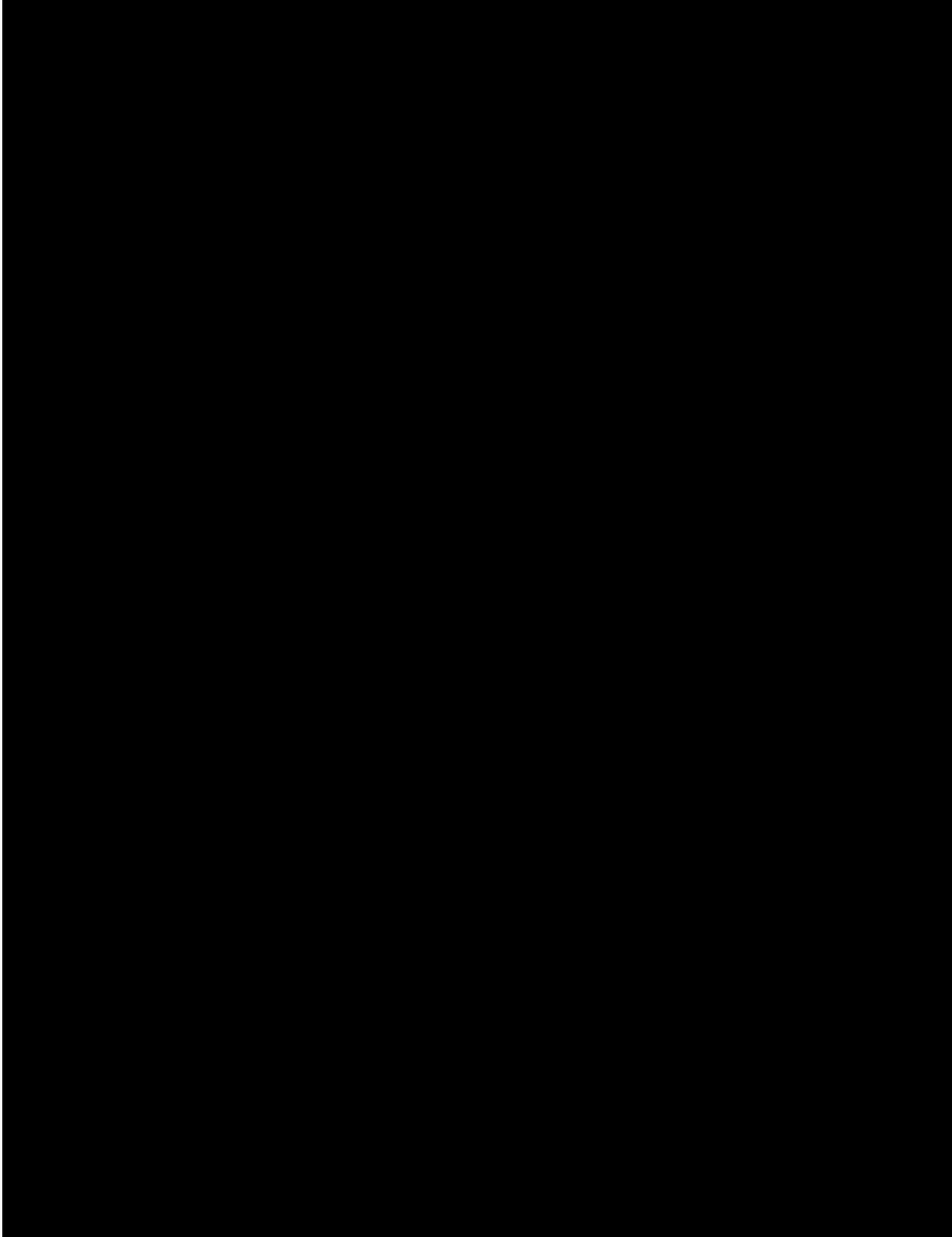
PDC ISC System Overview





PDC ITA System Overview





Appendix C: Specific Examples

The personas in Section 5: Impressions from the field were synthesized from research activities. To get a better sense of the details of the work experience, we have included more detailed descriptions in this section.

- + Case Management in Corrections Facilities
- + Intake Assessment
- + Program Administration
- + Security Officers
- + IT

Specific Examples

The following are observational details on some of the roles covered by the personas and the individual best practices we encountered.

CASE MANAGEMENT IN CORRECTIONS FACILITIES

Facility case managers are assigned a large number of custodies that is determined by the number of case managers on staff. [REDACTED]

How available a case manager should now be to each custody is unclear. Custodies are able to contact a case manager in writing, over the phone or in-person. It is presumed that the “face-to-face” time is most valued. [REDACTED]

[REDACTED] While this may be efficient for addressing custody issues, it can also be disruptive to case manager workflow.

While case managers are accessible to all custodies, the variation in custody needs and high number of clients results in a prioritization of high-needs custodies over others. [REDACTED]

[REDACTED] It is unclear whether the current triage methodology of custody issues is effective for overall population management.

Case managers develop an understanding of custody affect and behavior through in-person meetings, observation of custody responses to advice, performance in programs and interpretation of the Institutional Files.

Individual perspectives of the case management role and performing the role according to institutional policy can sometimes be at odds. Case managers rely on interpersonal skills to communicate with custodies and provide guidance toward the custody’s best interests. Inherent challenges include building trust, respect and a professional relationship, despite limited interactions and access to information. Case managers are reassigned for movements between and within facilities, and transfer of knowledge is unlikely. Many of their duties are process-driven or initiated by custody requests or needs. This provides very little time to exercise individualized expertise.

The primary functions become reactive and focused on timely execution, rather than anticipating custody needs and proactive services. Case managers may feel unsupported when cases do not go well, because they may be unable to fully rectify situations within constraints of the workplace.

In terms of data, the case manager’s role requires a great deal of time consuming, repetitive data entry. [REDACTED]

[REDACTED] Paperwork seems to dominate the case manager’s time. [REDACTED]

[REDACTED] At some facilities, case managers must retrieve the physical file each time they need to reference custody data or add to it, not having a computer from which to access electronic data.

“

We can look for patterns in their file to know if they will make it.”

Overall, many case managers feel like they have short-term impact over the trajectory of the custody experience—they simply execute the paperwork.

INTAKE ASSESSMENT

Intake Service Center (ISC) staff are responsible for collecting initial custody data upon new entry to a jail or prison facility. They rely on self-reported information, which may be affected by issues of trust, sense of privacy, knowledge of how data is to be used, mental state, desire to control outcomes in some way, language comprehension, fatigue and general well-being. While translation services are available, general communication skills and willingness to communicate are required in this exchange.

The custody may not feel like talking, yet ISC staff must be able to perform their duties regardless of the completeness of the assessment. Interviewers discuss sensitive subject matter, covering everything from mental and physical health history, employment, family, drug use and questions regarding rape, abuse and injuries. They are able to quickly reframe questions to assist with issues of comprehension. The full interview is a brief and probing assessment process that may range from 10 to 25 minutes depending on the custody's replies and responsiveness. As the first non-security interaction in the facility, custodies may be uneasy, distrustful, under the influence or simply overwhelmed by the line of questioning which can bring accuracy of responses into question. One ISC case worker was observed saying, "This is not meant to scare you..." as they began to discuss uncomfortable topics with a custody.

Intake interviews are conducted face-to-face. [REDACTED]

[REDACTED] They use both computer and paper in their process.

The data captured is used to determine initial housing and the starting point for the custody's trajectory in the facility. Case workers pay special attention to issues that require immediate attention or may seriously affect their care or behavior—threats and emergencies, whether the custody is testifying against someone, needs to be separated from other individuals, has gang affiliations, has committed a violent offense, etc.

For RAD workers, a specific challenge in completing the intake interview [REDACTED] is that the pre-trial investigation [REDACTED] and the current RAP sheet are commonly missing from the custodies' Institutional File. This delays their ability to process the custody, as that information is important to how the custody is assigned to housing and programs.

[REDACTED] It is not uncommon to refer to Ho'ohiki, the Hawai'i State Judiciary's online database of court information, for more up-to-date information regarding charges that the paper RAP sheet does not reflect.

The intake officers have a very limited amount of time to collect data. After the intake interview, and once the custody has been classified, they move out of OCCC Module 5 and the intake worker will not interact with that custody any further (unless the custody is released and re-enters the system). Inmates will be re-classified every six months, but by case managers in their new housing assignment.

We are left with the impression that the utility of this initial data could stretch further. [REDACTED]

PROGRAM ADMINISTRATION

Program administrators each manage a single custody program, such as Education or Food Service, across one or more facilities. Their position requires a delicate balance of high-level visionary foresight, such as what services could this program offer in the future? Who could benefit from this program? How do policy and new legislation affect this program? They must also work with pragmatic, on-the-ground, operational management concerns, such as what physical space in the facility will this program occupy? How many inmates are enrolled in this class? Program administrators manage the program budget, staffing, timesheets and more. Workload can increase in January due to the legislative session, with more paperwork added to their daily tasks.

The majority of program administrators work in offices which are not located in the facility where the programs operate. In most cases they must rely on staff to collect and report on relevant data. They don't always have staff to help. "I'm so short-staffed, I have no clerical or program staff."

Each program has developed their own way of managing data. "I wanted to develop the database because I knew what I wanted," one program administrator said of their program's database. It is also believed that ICSD (Information and Communication Services Division) disapproves of unifying the programs under one large system, as well as having any database tied to the larger state system, because they would not want custodies to have access to potentially sensitive data.

Programs staff make program recommendations based on custody assessments that are shared with case managers in order for them to implement. Programs data is not always shared with case managers due to its sensitive nature (such as progress in a drug treatment or sex offender program.) The programs administrators restrict digital access out of a desire to protect the custodies and themselves, but this leaves the case managers lacking important custody information.

[REDACTED]

[REDACTED] "So much of my responsibility can just be timing." Certain programs try to time enrollment at the end of the sentence so that it carries through when the custody reenters the community.

SECURITY OFFICERS

The tasks of an Adult Corrections Officer (ACO) can be dull, but high-stress at the same time. ACOs must always watch for a potential security threat. Depending on

“
I’m so short-staffed,
I have no clerical
or program staff.”

“
So much of my
responsibility can
just be timing.”

the position, they may be charged with tedious data-entry tasks or responsible for maintaining order amongst 50+ custodies in the housing units. They are responsible for maintaining safety at all times.

[REDACTED]
[REDACTED] They know who cannot be housed with whom or who might cause trouble while being transported. That information is usually tacit. ACOs might pass along an oral report that a specific incident occurred, but otherwise this helpful knowledge of custody behavior is not recorded in a database that is broadly accessible.

An ACO may potentially rotate positions every 12 weeks. From one day to the next, the ACO might go from working in a Housing Module to more clerical office work. Positions and scheduling are usually very hierarchical; seniority matters. Training usually depends on whomever else is working closely with the ACO. Work processes are sometimes passed on, sometimes not. In general, ACOs could benefit from education programs, including word processing, computer skills, communication, etc.

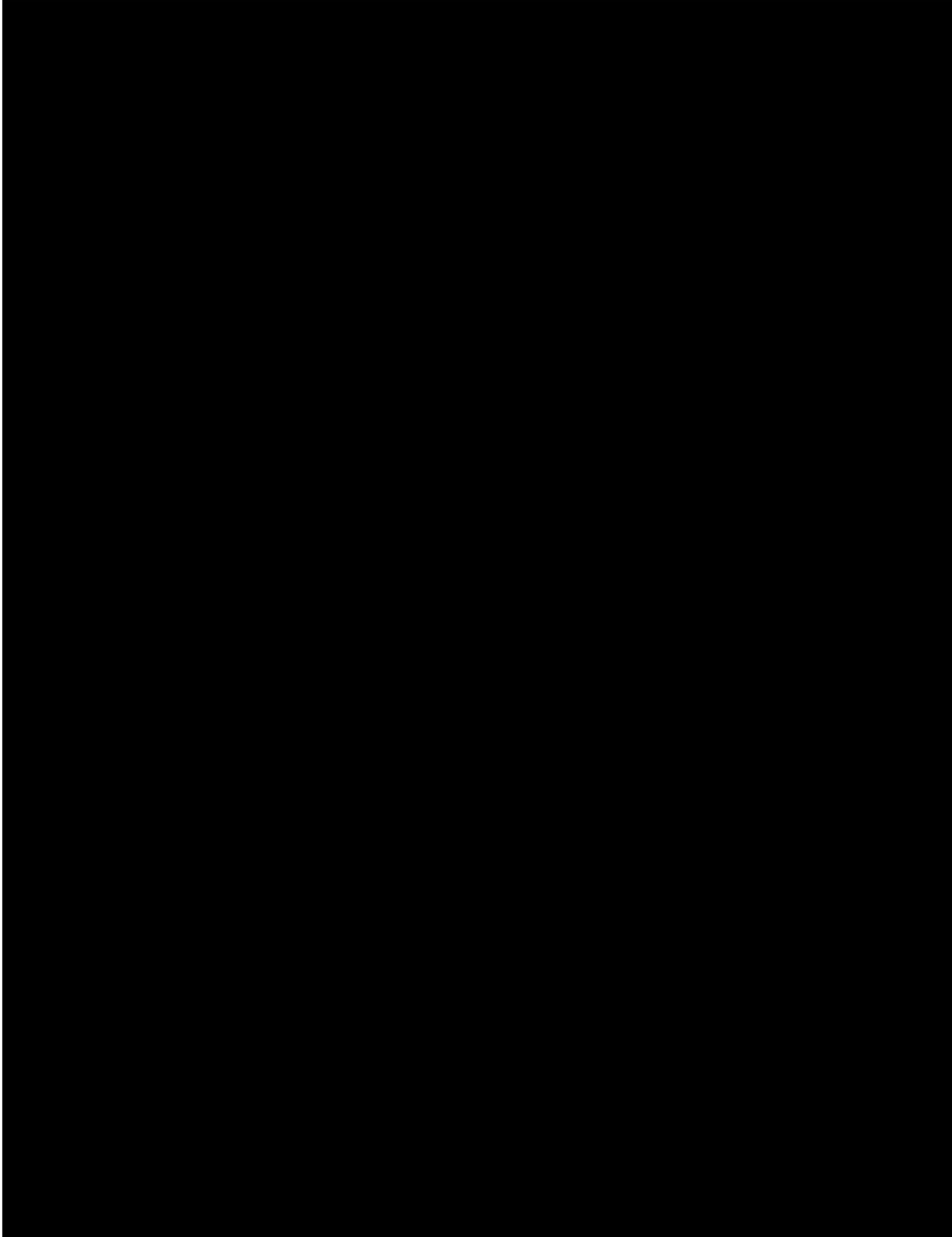
Duties vary greatly depending on position. ACOs are assigned to particular modules within the facilities. They may be on duty alone, or with one or two other ACOs. [REDACTED]

[REDACTED]
[REDACTED] Tracking may also be recorded on whiteboards. ACOs inside Housing Units are not necessarily using many databases or computers, and they do not access any outside information sources.

IT

These “resident IT volunteers” are individuals who have experience and interest in IT, and are able to offer, on their own accord, on the spot assistance for day-to-day PC issues that can occur at the facilities or other office environments. These can be impromptu, unexpected and possibly disruptive to their formal workflow and daily tasks. Regardless, they recognize the need, acknowledge their ability to remedy these issues and voluntarily do so. Tasks vary from removing dust from computers to helping with printer errors or connections, updating software, changing settings and much more. It is more convenient to ask the friendly, nearby IT resident to help rather than to contact an external, unknown, official IT support person.

There seems to be some misunderstanding from PSD staff regarding what MIS is able to offer in terms of IT assistance. Also, MIS is understaffed and cannot always anticipate the necessary assistance. This has led to the need for on-site IT help. This role seems to unfold organically at every facility or office environment, in order to have an internal source for tech solutions. The IT support process is commonly trial and error. One employee filling this role finds that “users are stuck in their PCs” and struggle with even simple tasks or changes.



Appendix D: Best Practices from Around the Department

The following are some examples we encountered in observations and interviews of how individuals were finding success in their own operations.

Best practices from around the department

The following are some examples of how individuals tailored their work processes and take responsibility for data within these categories.

DAILY OPERATIONS BEST PRACTICES

Paperwork is abundant within PSD and many times can be an overwhelming part of daily work. In an effort to identify and either redirect or eliminate superfluous forms, an employee decided to evaluate the paper reporting processes. They began by “chasing” all the paper coming into the office, meeting with the person who created the document and asking whether it was essential, its purpose, who else required the information, etc. The result was that several reports were eliminated, and others were streamlined and all were sent to the required recipients

COMMUNICATION BEST PRACTICES

The literal places in which we work can sometimes be barriers to effective communication, by siloing ourselves from interactions with fellow employees. An employee we observed spent some time each day walking through the facility, allowing many custodies and staff to stop and greet them, or ask a question. They are available, responsive and immediate, as well as approachable and open to impromptu interactions that can mean swift resolutions and increased relationship building. This regular presence within the facility proved to have many benefits for effective communication.

At one facility, staff use email to communicate effectively with one another. They prioritize communicating updates to each other. The clinical staff may notify case workers of health alerts directly via email, rather than relying on Offendertrak to provide notification of an issue.

PLANNING BEST PRACTICES

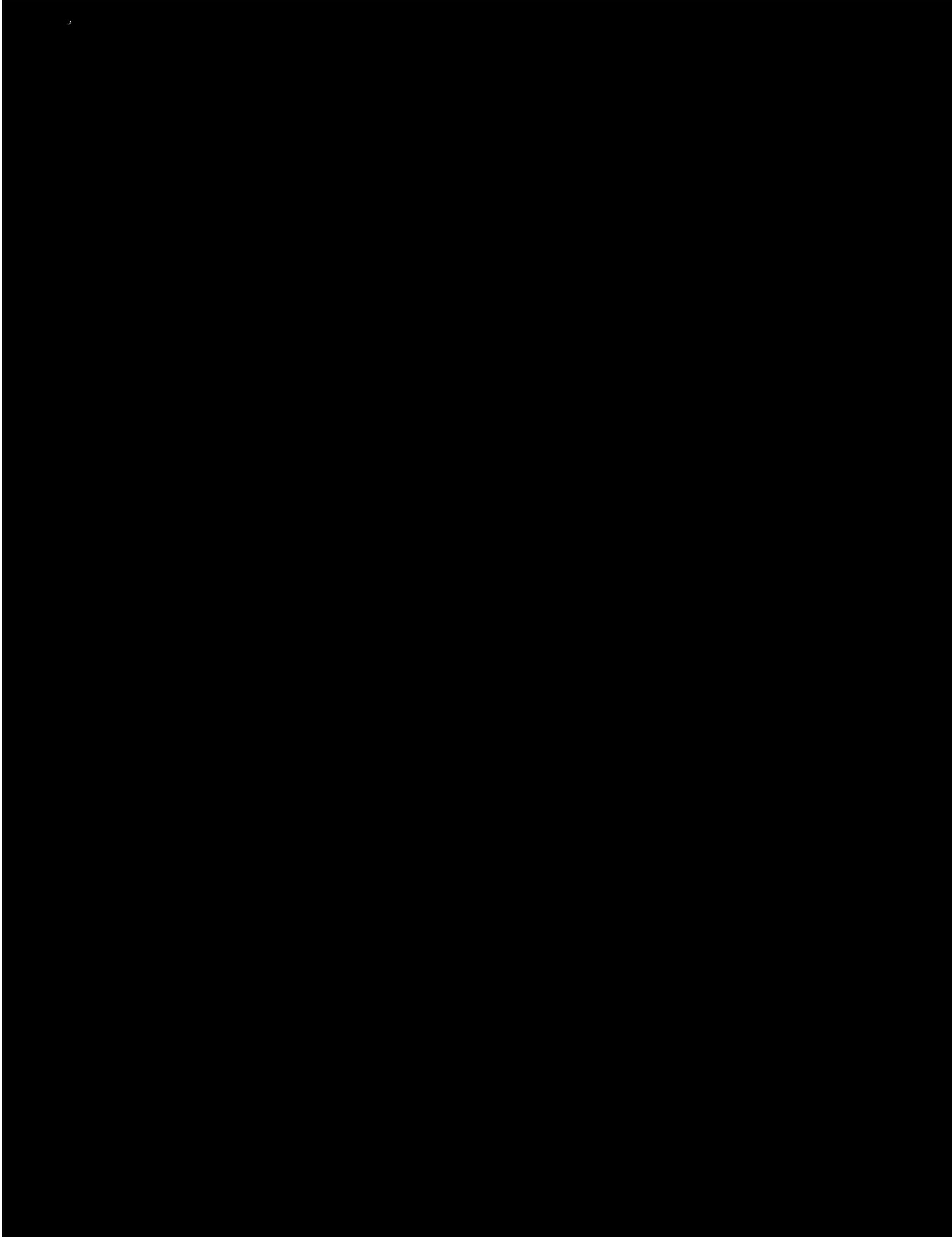
Accuracy in projecting costs and the ability to make precise requests can be critical for efficiency in the planning process. In order to ensure this, one PSD employee took the initiative to develop their own Microsoft Access database, conduct auditing and track down the information needed for better future planning for their unit.

The action of assessing existing reporting and making the most of it in order to plan for the future was also shared by an employee. She tailored her Kamakani categories—a report she is already required to complete—to match her budgeting database. This gives her knowledge of current operations and factors into evaluations, as well as future budgeting and planning. She knows exactly what was spent and what they need, without doubling the required reporting. Through this process, she turned around a struggling program.

QUERY BEST PRACTICES

Commitment to keeping tight records, an employee was able to discover critical missing inventory and used this information to take necessary action that averted potential negative exposure.

An ACO we spoke with at a local facility described the importance of accuracy in their logbook, explaining that it is one of the only ways of safeguarding against allegations. He helps ensure that other ACOs enter information completely, and with some standardization, so that their logs are accurate and useful as data.



Appendix E: Comparative Product Analysis

This document is a summary of findings on vendor technologies and implementation projects that includes vendor differences, customer satisfaction, project timelines and costs from available resources. Products were selected based on those PSD would be most likely to encounter or were mentioned by at least two jurisdictions from our survey conducted through ASCA.

Comparative Product Analysis
A look at corrections management software options

Prepared by Pivotal Cyber LLC
For the Department of Corrections, Division of Administration, Department of Public Safety
June 2015

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Comparative Product Analysis

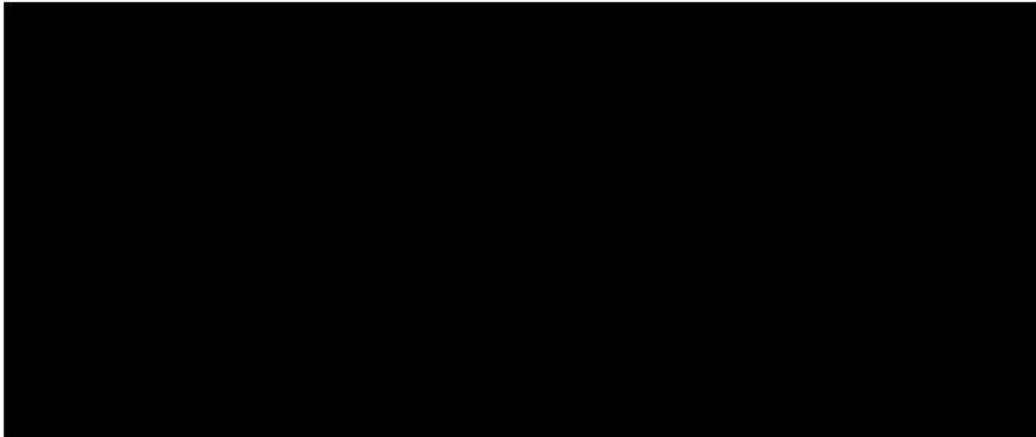
A look at corrections management software options

Prepared by Pas de Chocolat, LLC
Prepared for Cathy Ross, Deputy Director of Administration, Department of Public Safety
October 2015

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INTRODUCTION

Purpose

The purpose of this document is to give a general overview of major and appropriate packaged software products which provide correction management systems.

Audience

This document is written for PSD's Administration and Management Information Systems function along with others who are responsible for implementing the Engagement Model. However, the intention is that the document is accessible and readable by those who support corrections operations at any and all staff levels and available to others in the department.

Background

PSD currently uses Offendertrak as its primary custody management software system; however, Offendertrak is one of several data systems (including paper systems) that are used in the tracking and management of each custody and custody-related data. There is general consensus within the department that Offendertrak should be replaced with a more integrated data system for increased efficiency, accuracy and timeliness of action.

The products described in this document were included for reasons such as:

- Recommendation from department staff
- Department staff have been approached by vendors and thus may wish for additional information on particular products
- The vendor has developed a major or leading product
- Relationship with existing software deployed within the department (for example Motorola)

The information and analysis in this document are based on high-level research captured via online research of the different companies and products.

Objective and Goals

The purpose of an integrated "Custody Management System" is to provide timely, appropriate, and relevant data to perform corrections operations to meet the department goals which are as follows:

- Provision and coordination of services, facilities, security and legislation to preserve the peace
- Detection, apprehension, detainment and rehabilitation of criminals
- Compensation of victims of crime

Benefits

This information and analysis contained within this document is meant to provide a broad overview of major and appropriate corrections management systems products. Ballpark ranges of implementation timelines and costs have been included. After becoming familiar with this high-level information, it will then be possible to ask more specific questions about these and other products and how they will integrate with the department's existing systems and organization.

OVERVIEW

Criteria for Evaluation

Listed below are some of the questions one may wish to keep in mind while evaluating possible solutions for the PSD custody management system. These are general questions which are relevant to any systems implementation. Specific business requirements, unique to the department are covered in the Business Requirements Document.

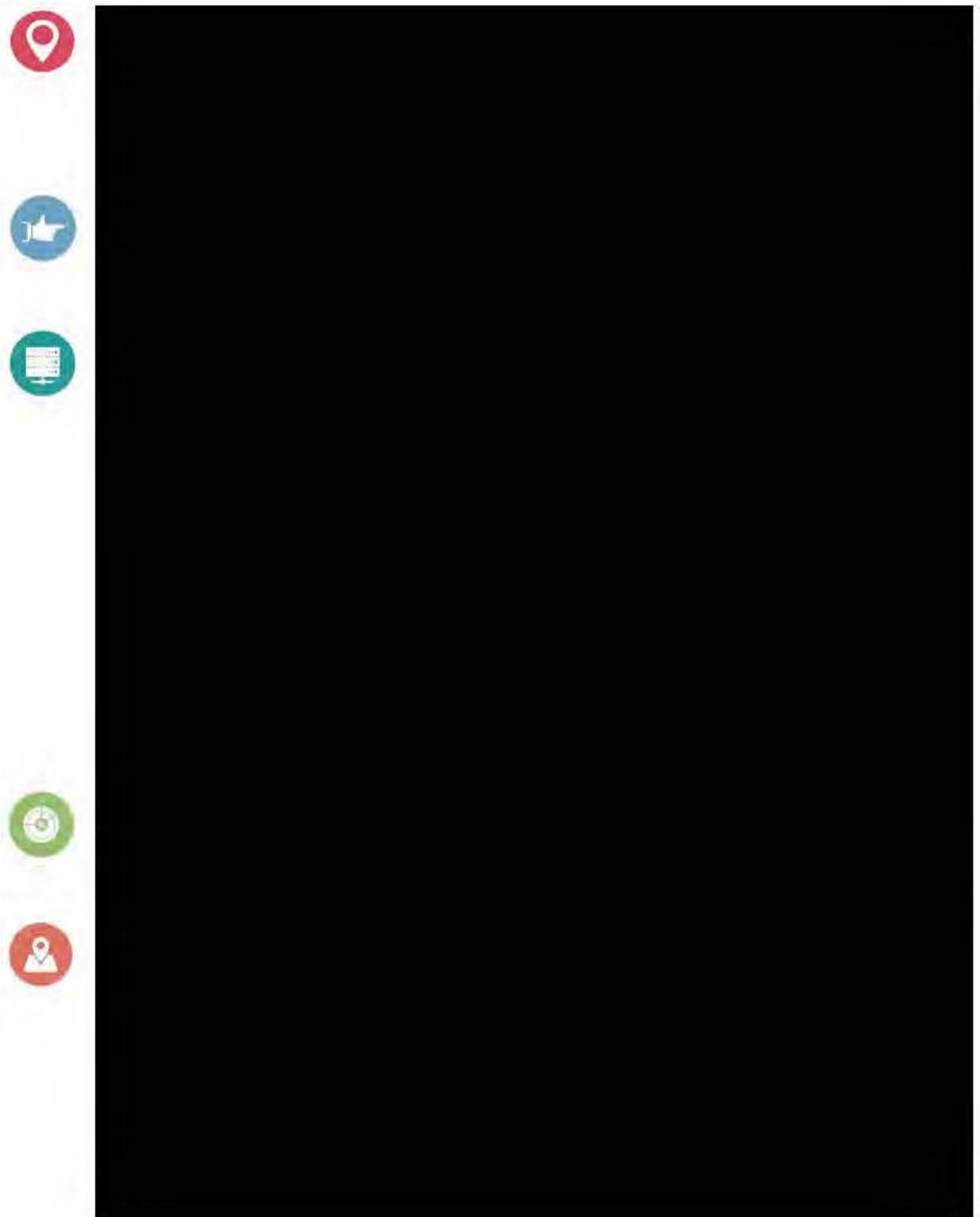
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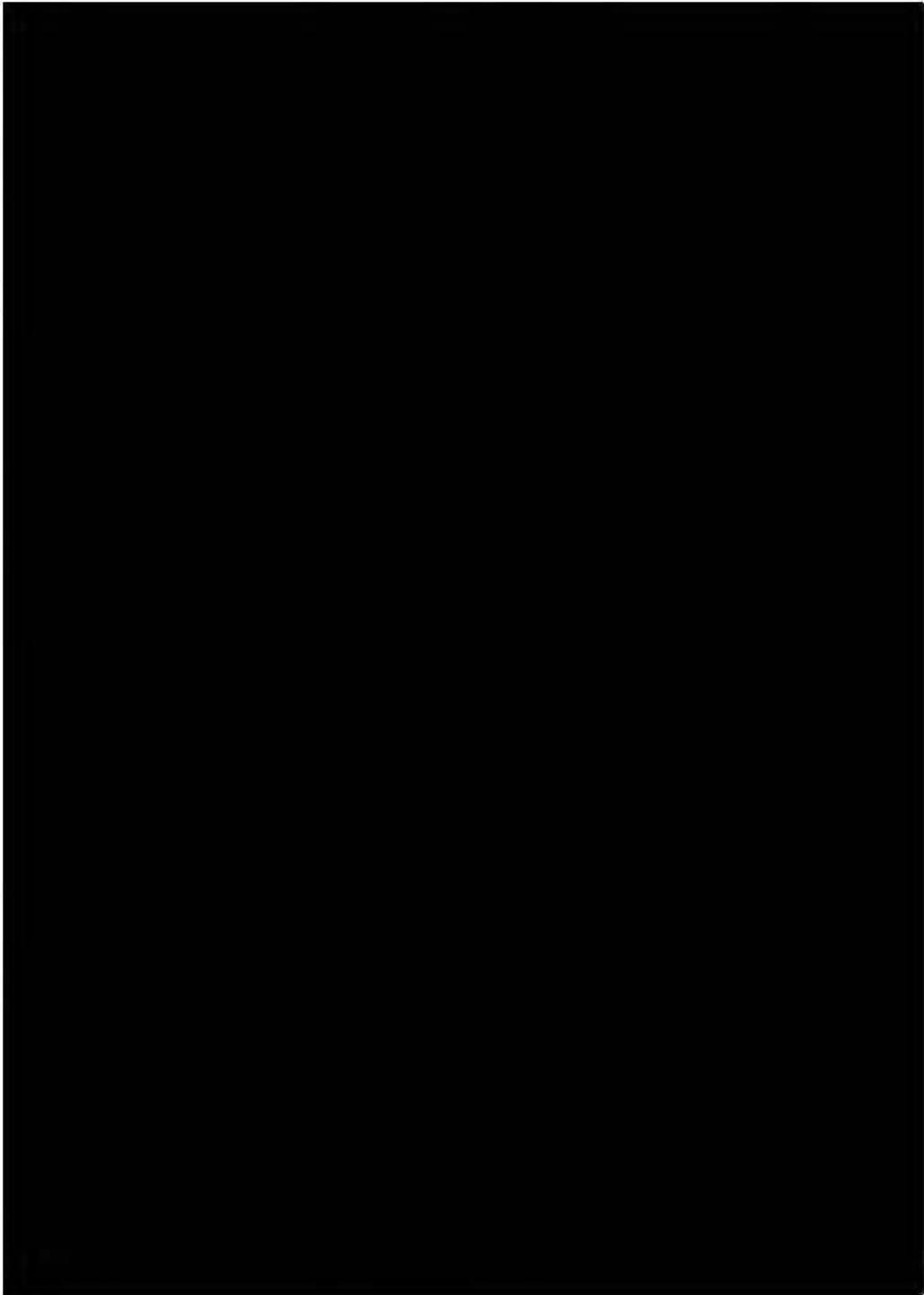


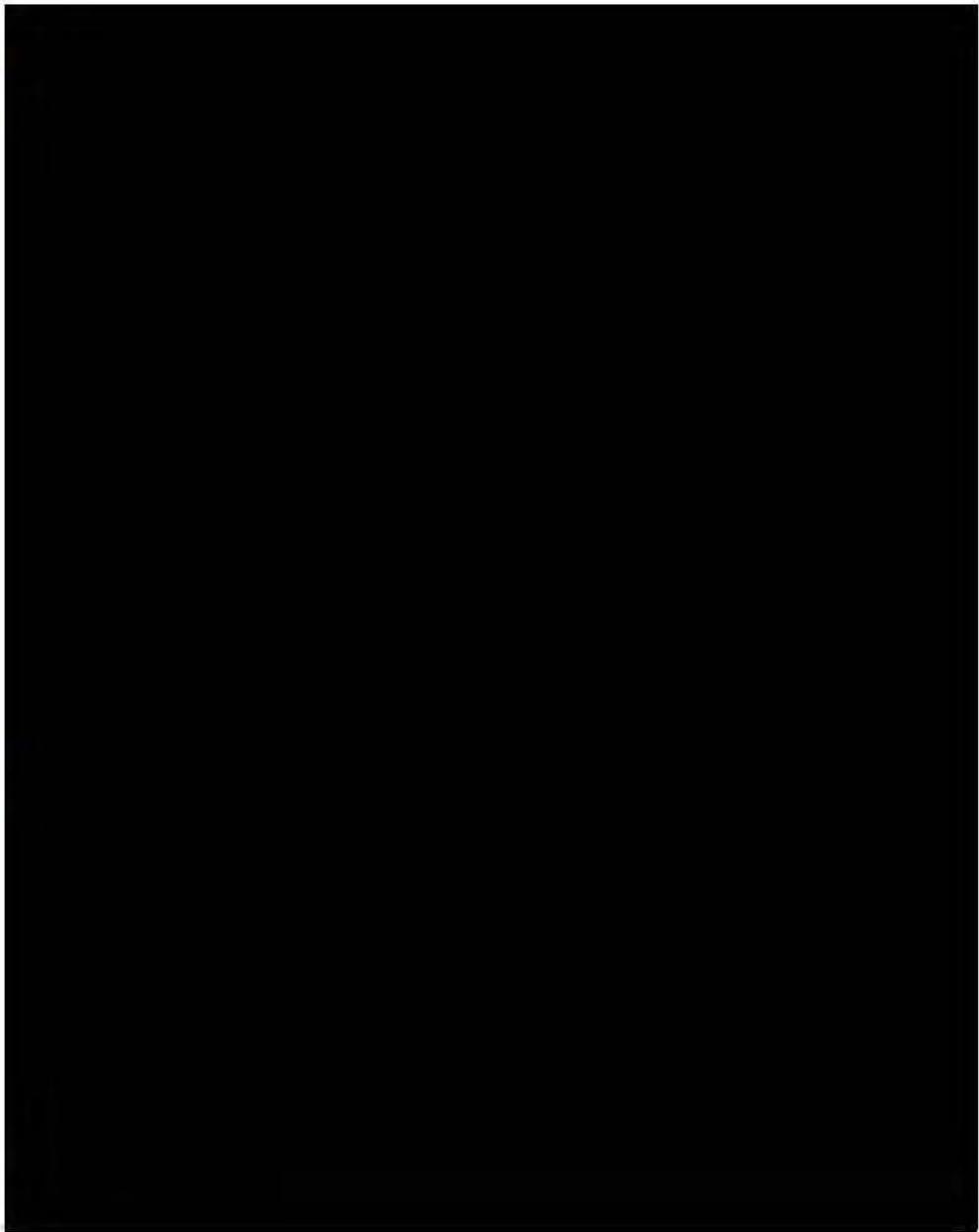
DETAILED PRODUCT ANALYSIS

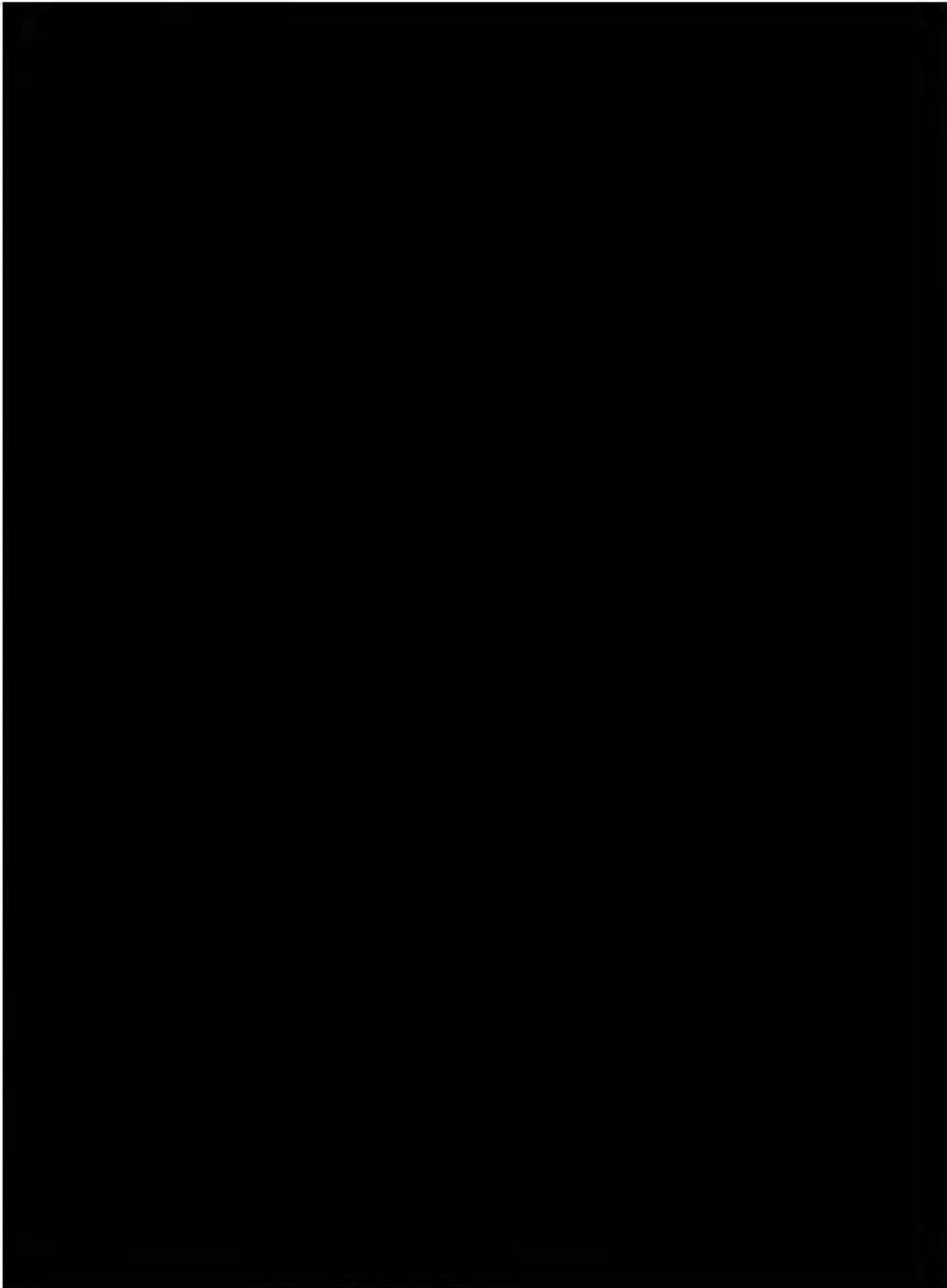
Each package was analyzed via research conducted via resources available online. A more in-depth analysis, via product demonstrations and hands-on investigation with the software, may be performed as part of a later phase.

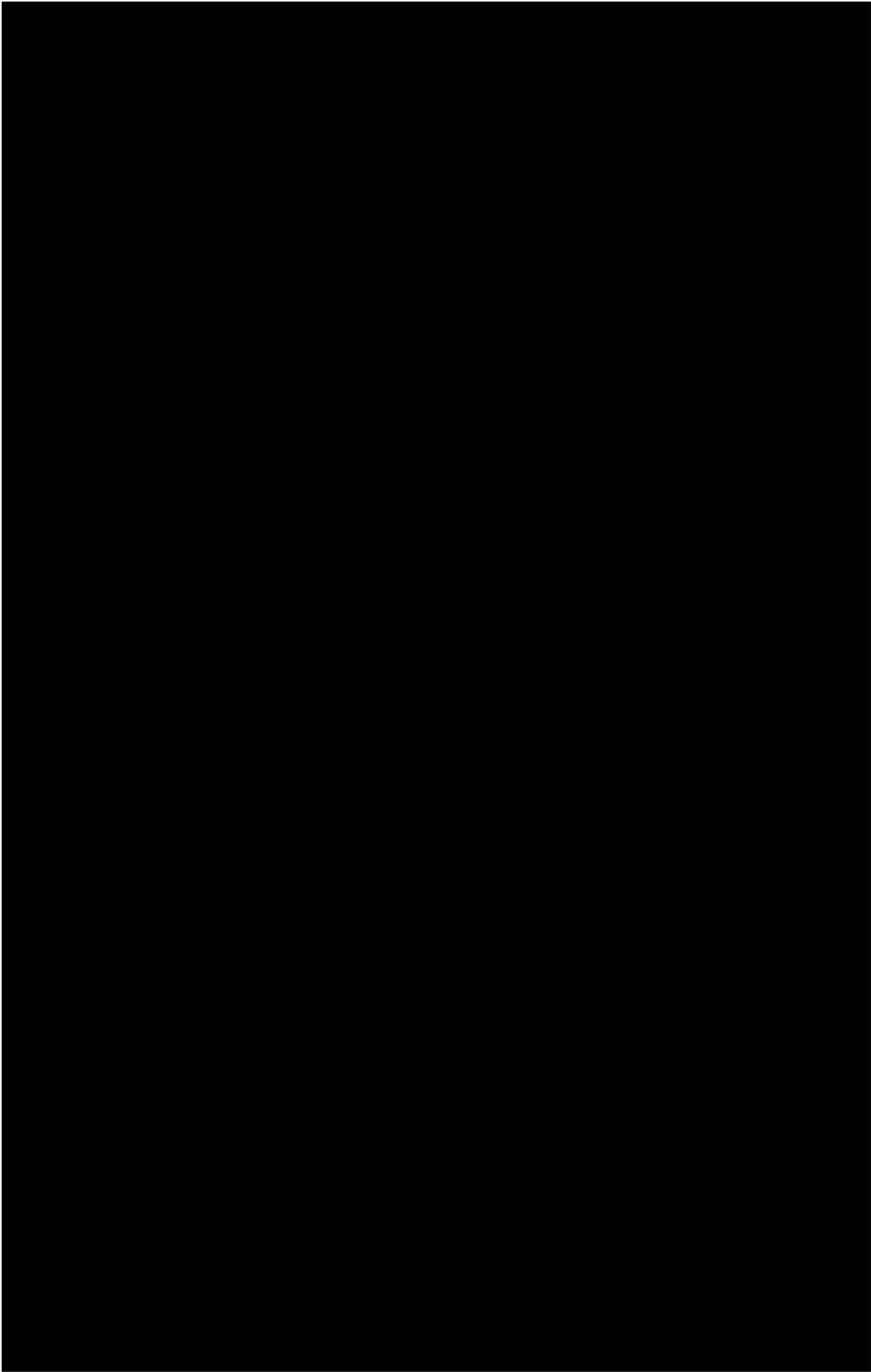
This section serves as a general survey of currently available corrections management software, placing each into the broad context of commonly used software packages from larger vendors.

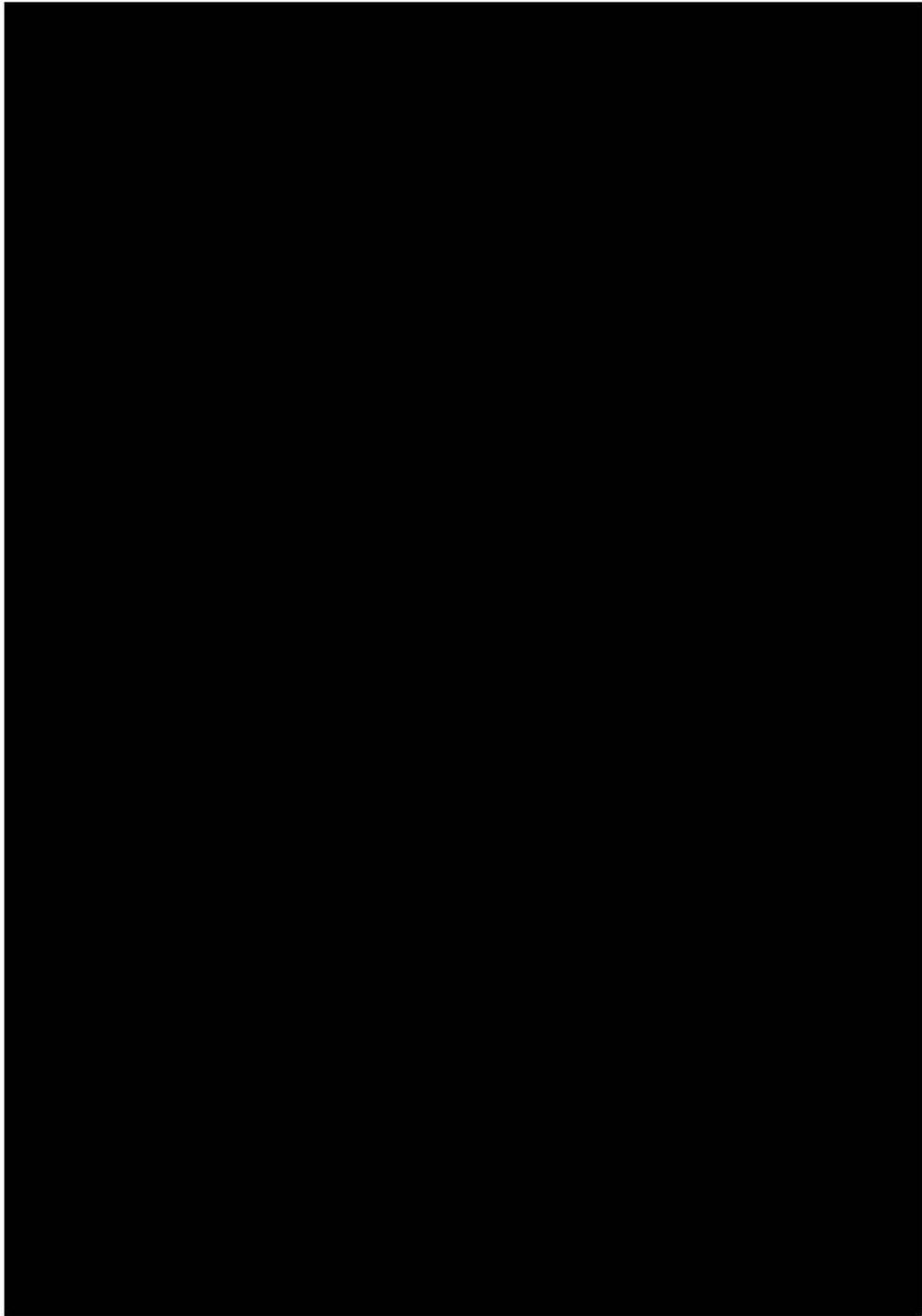


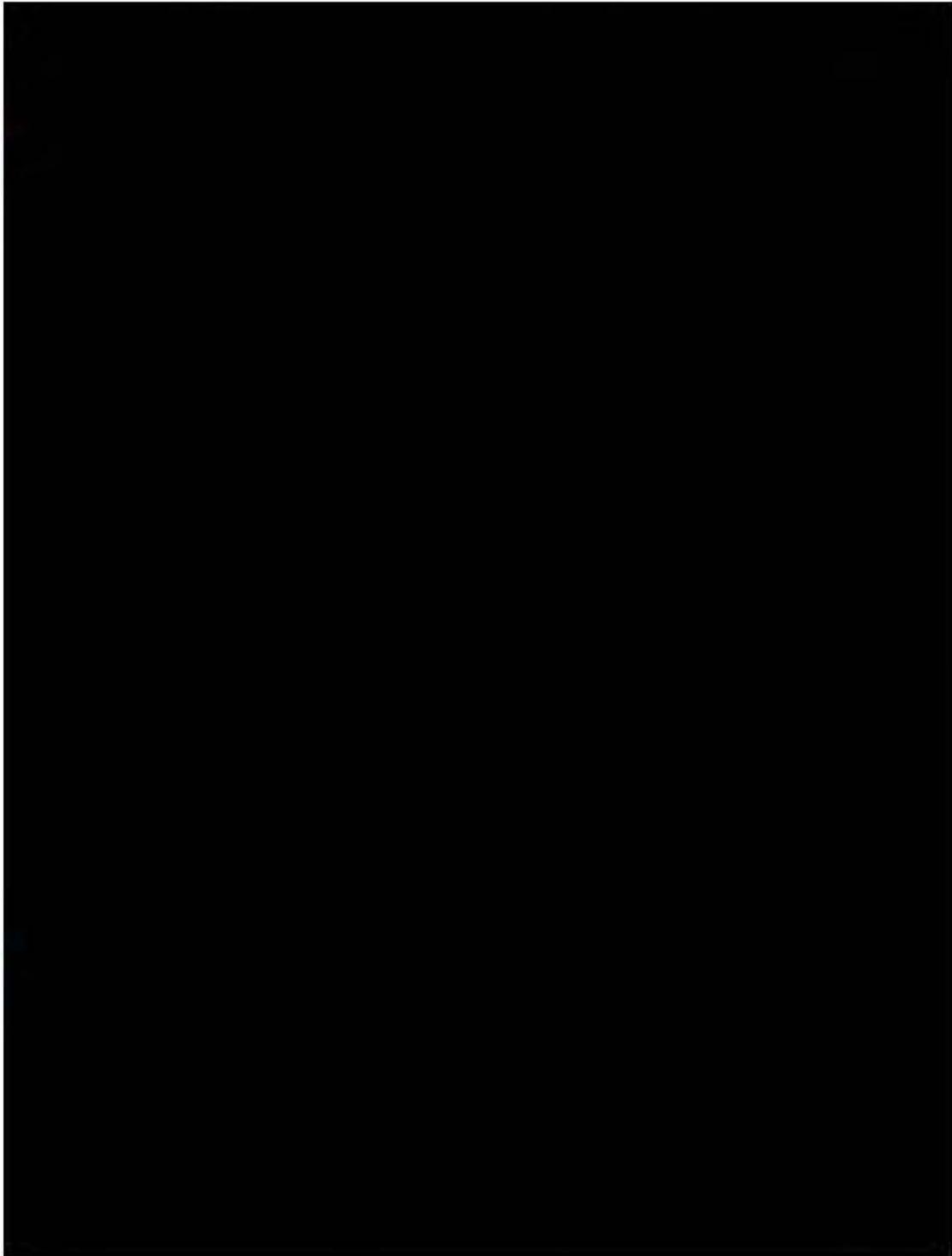


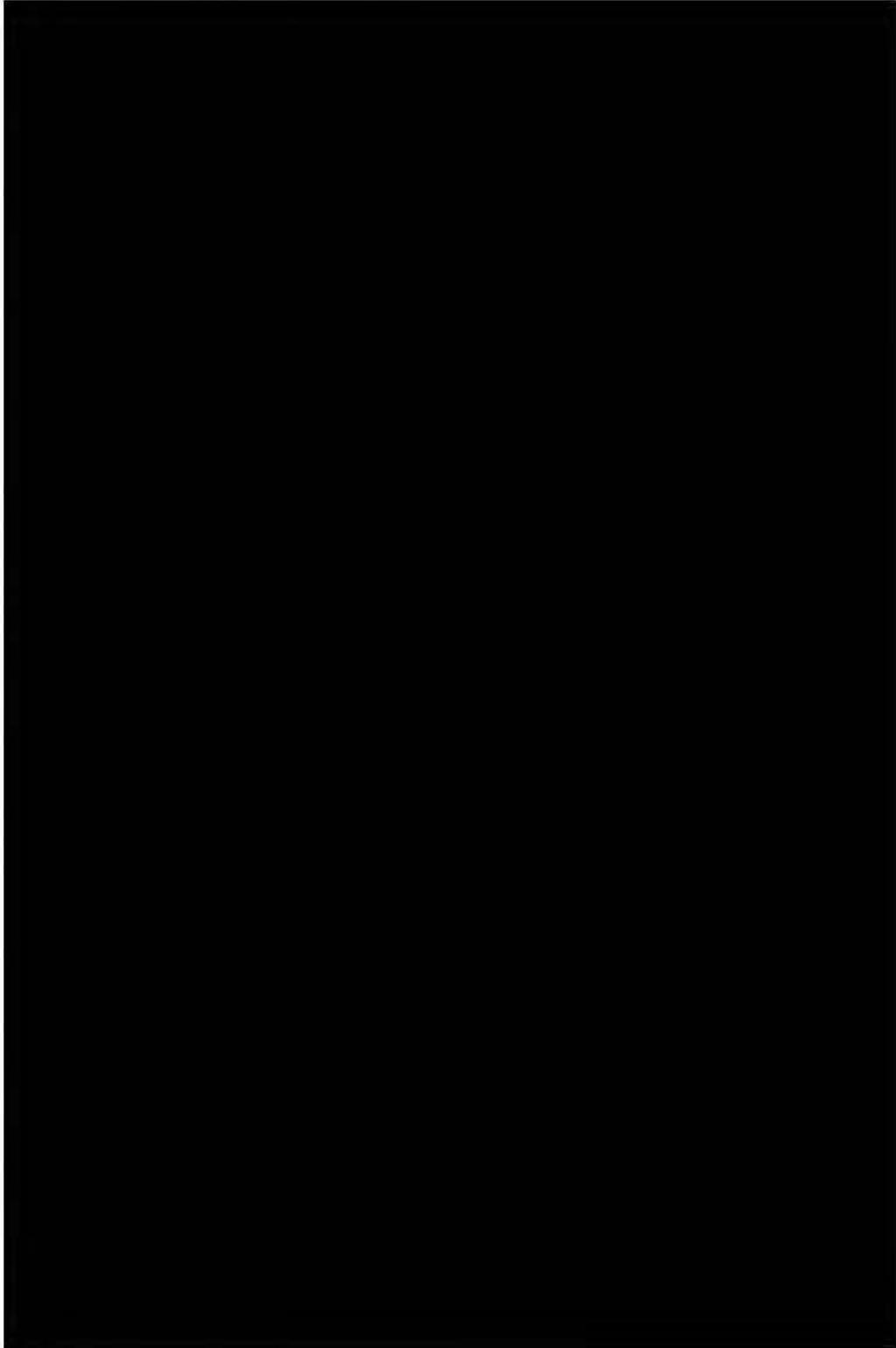


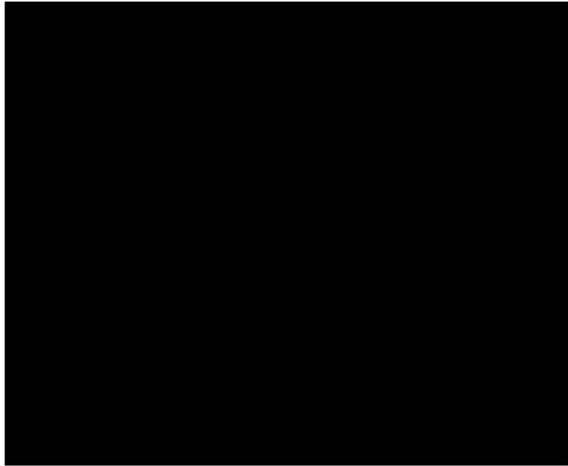


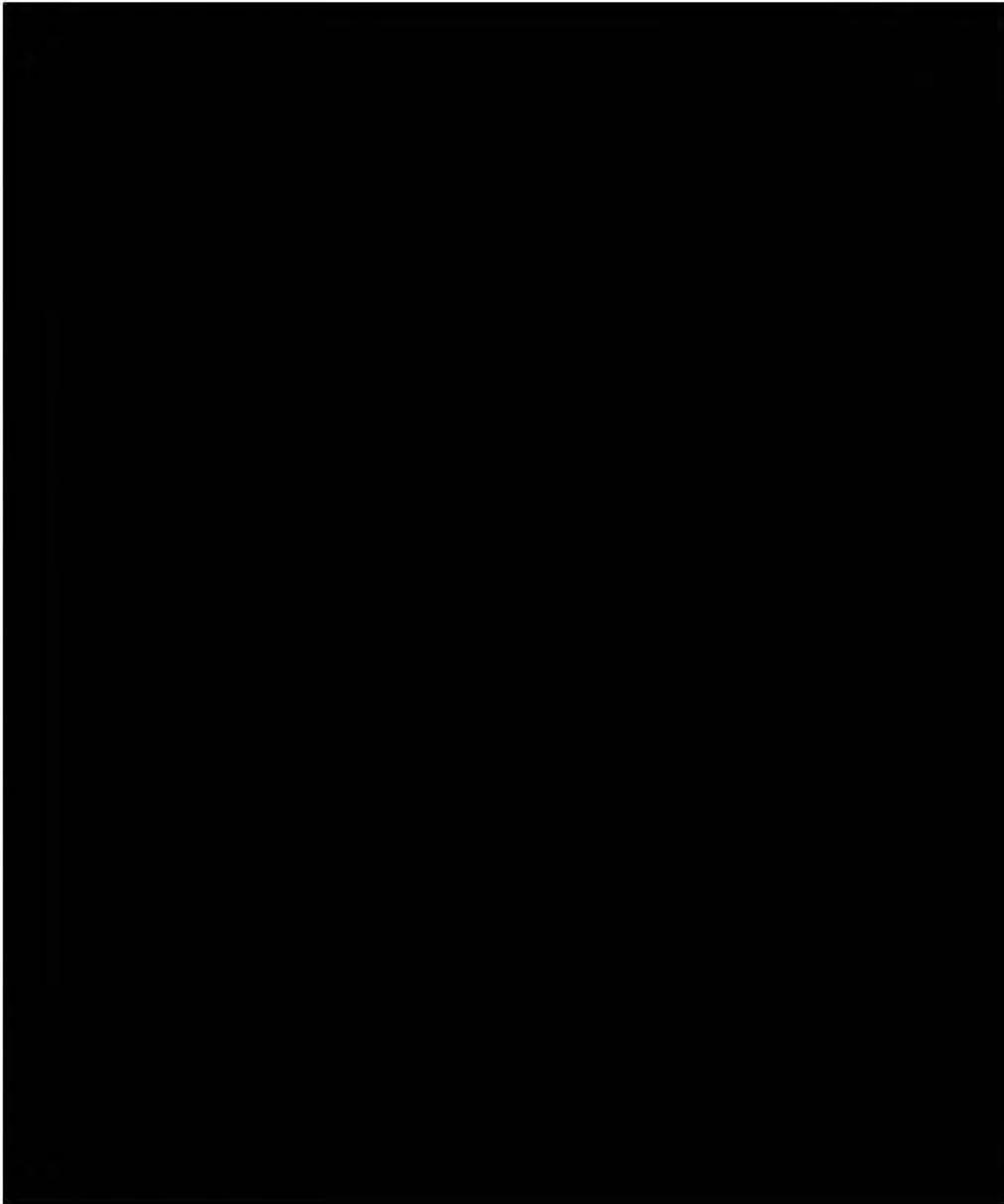


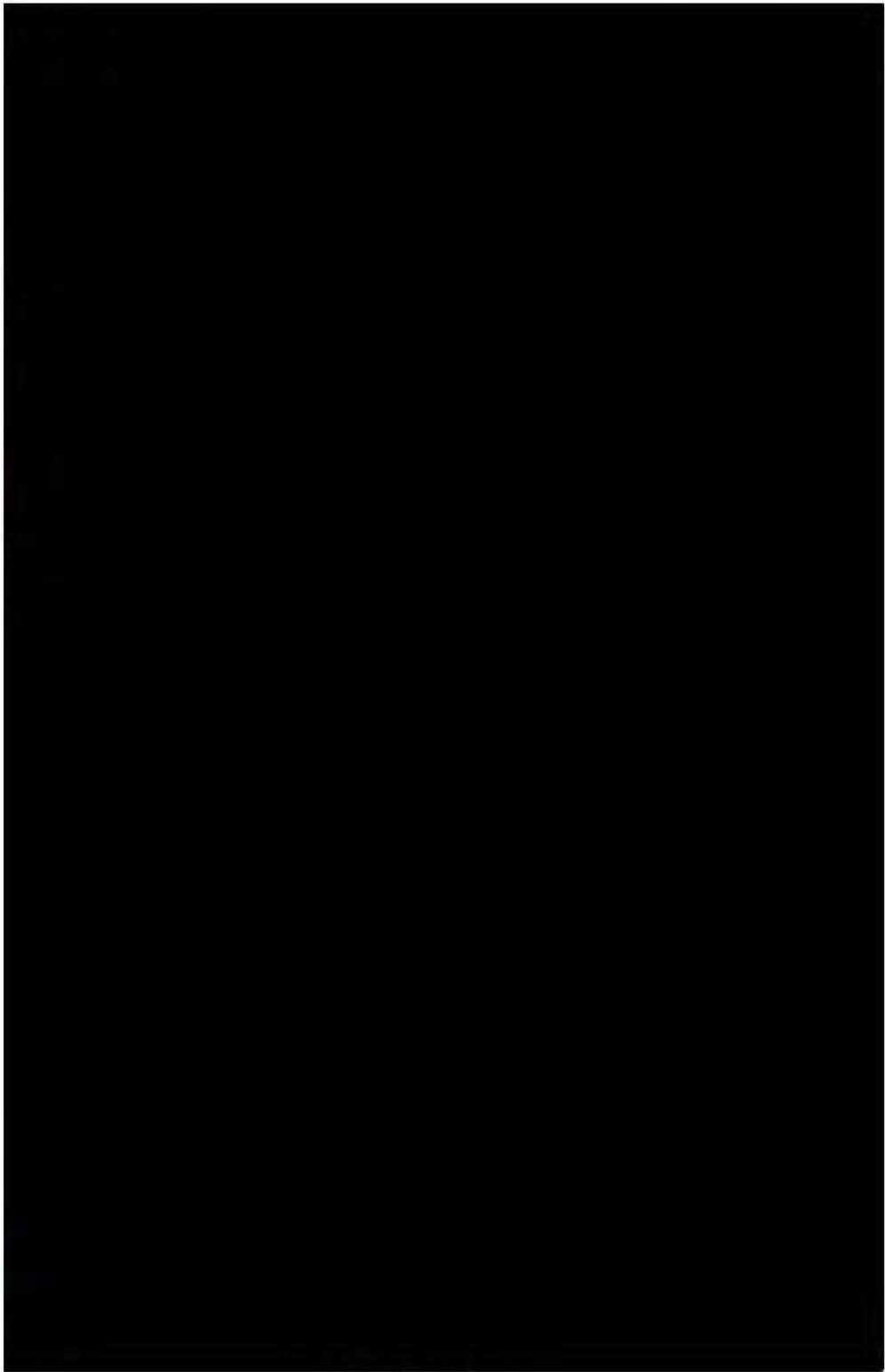


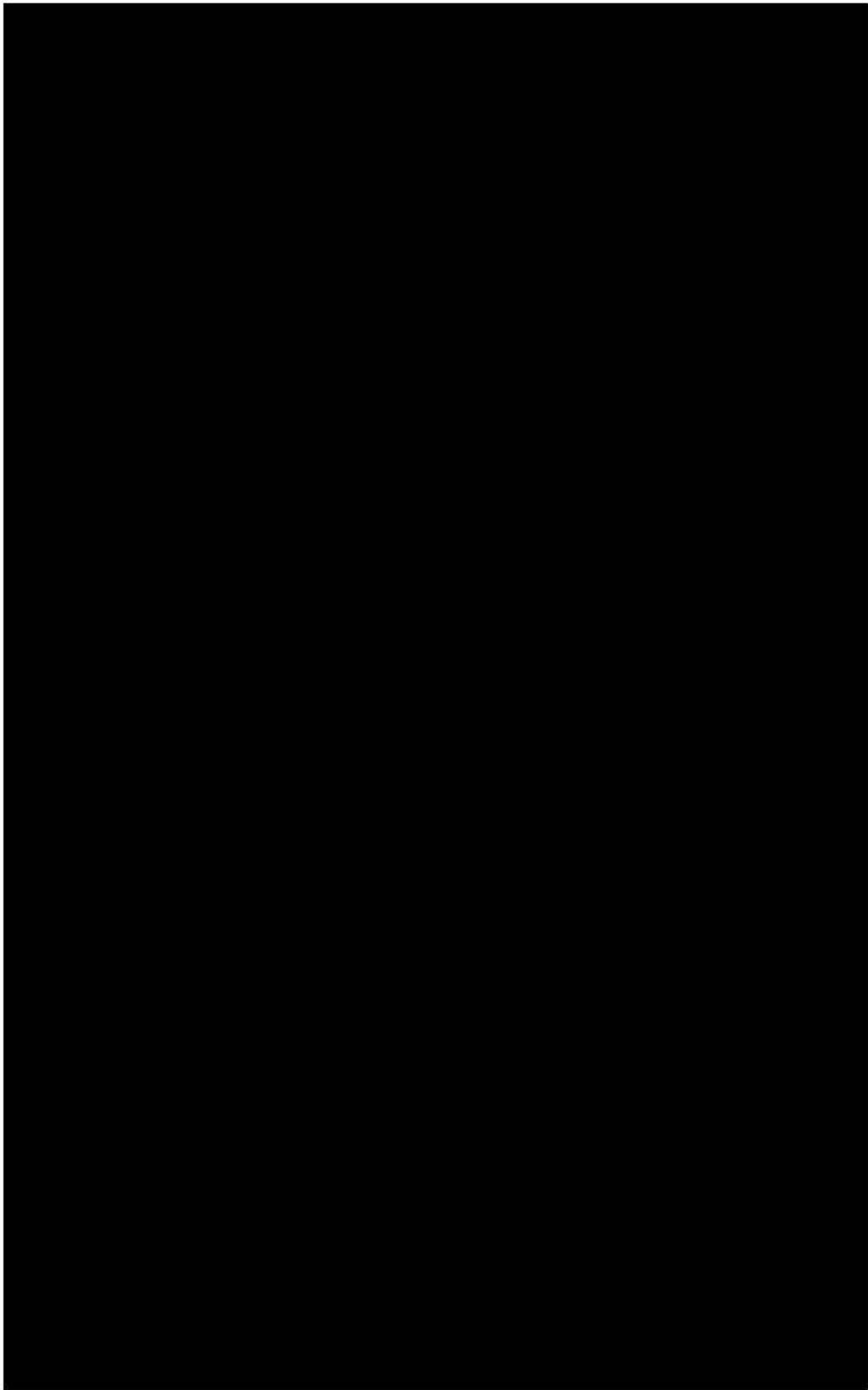


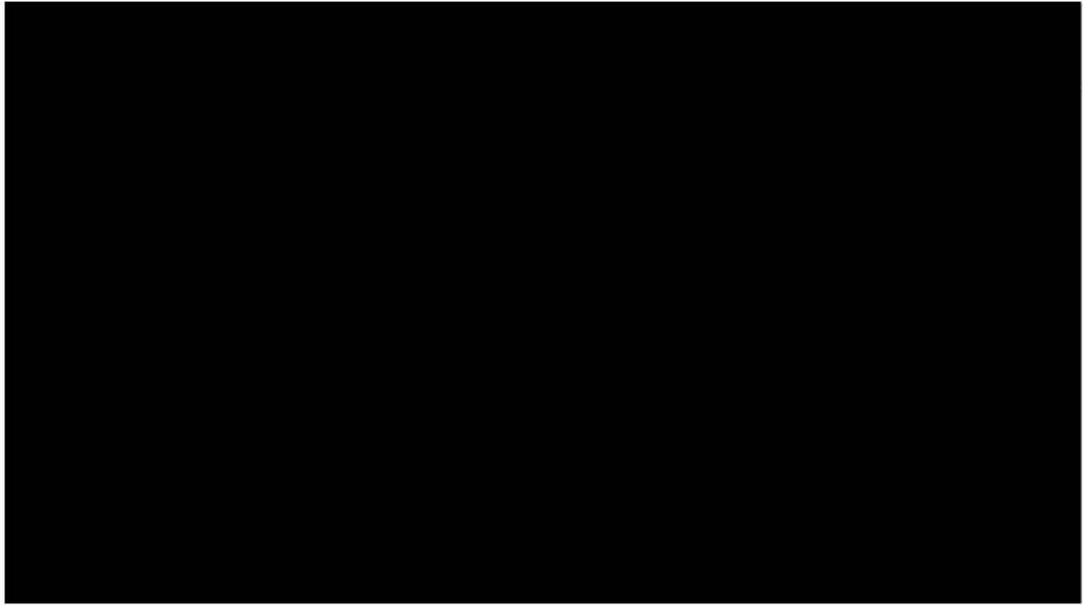


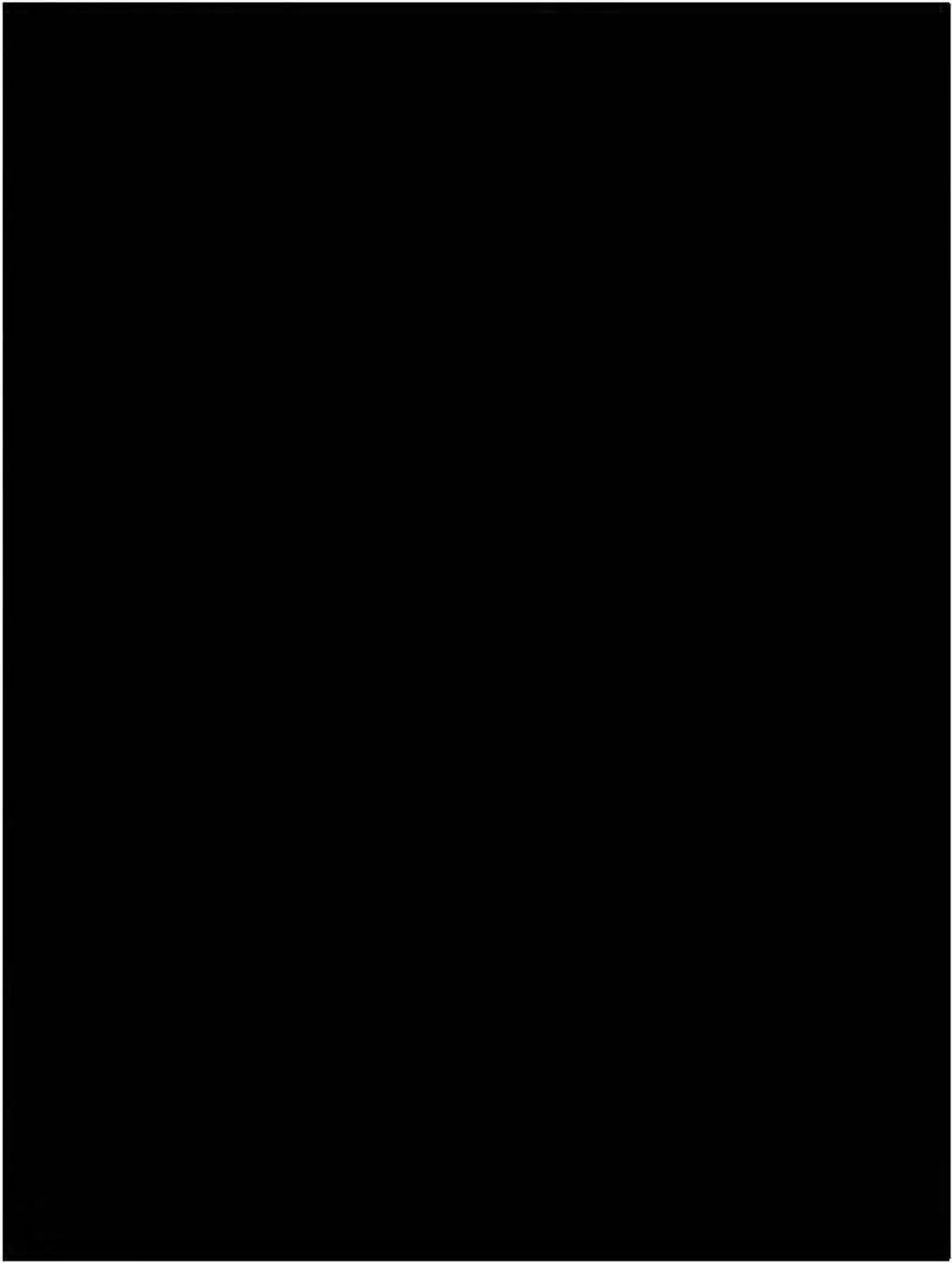


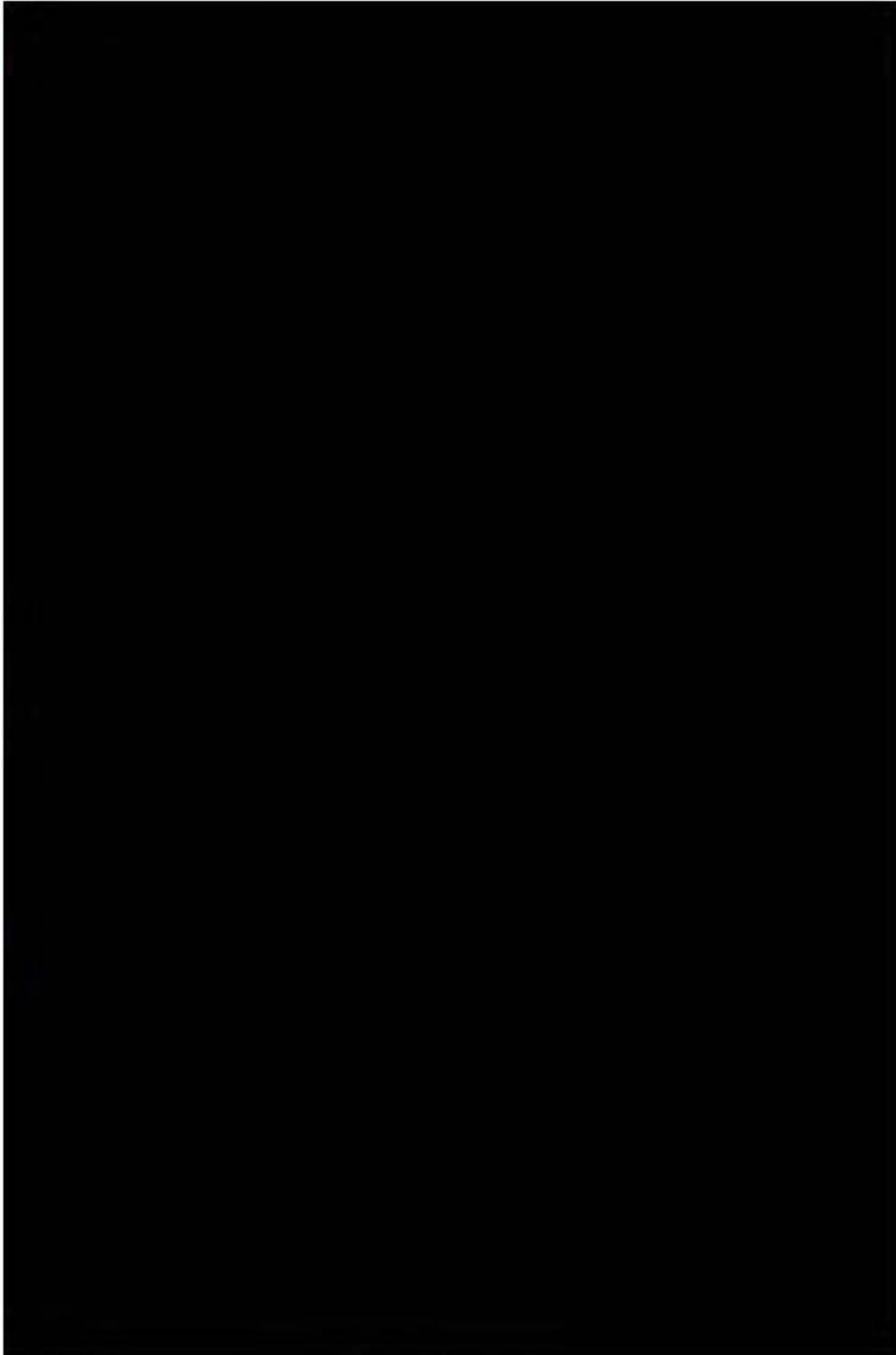


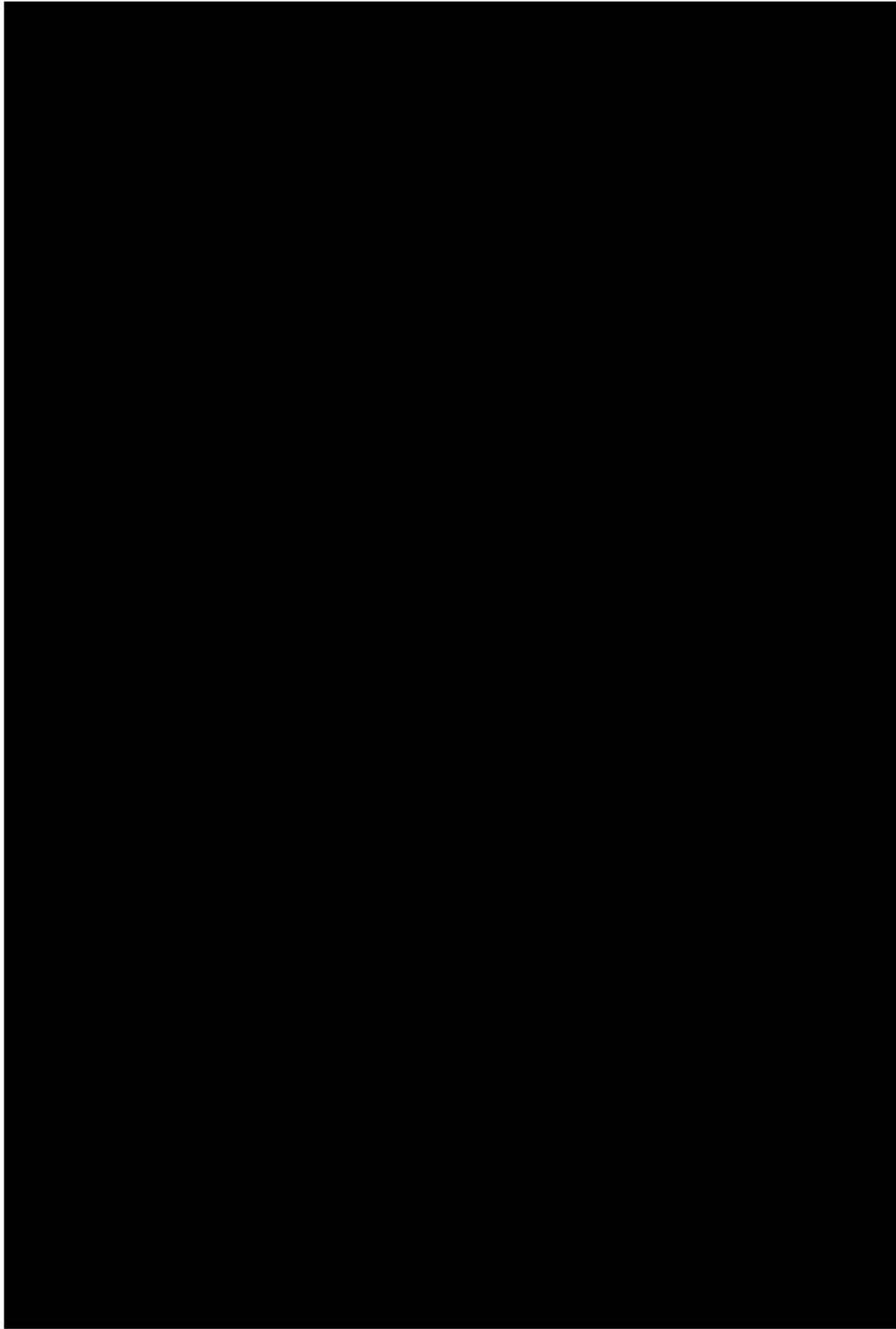


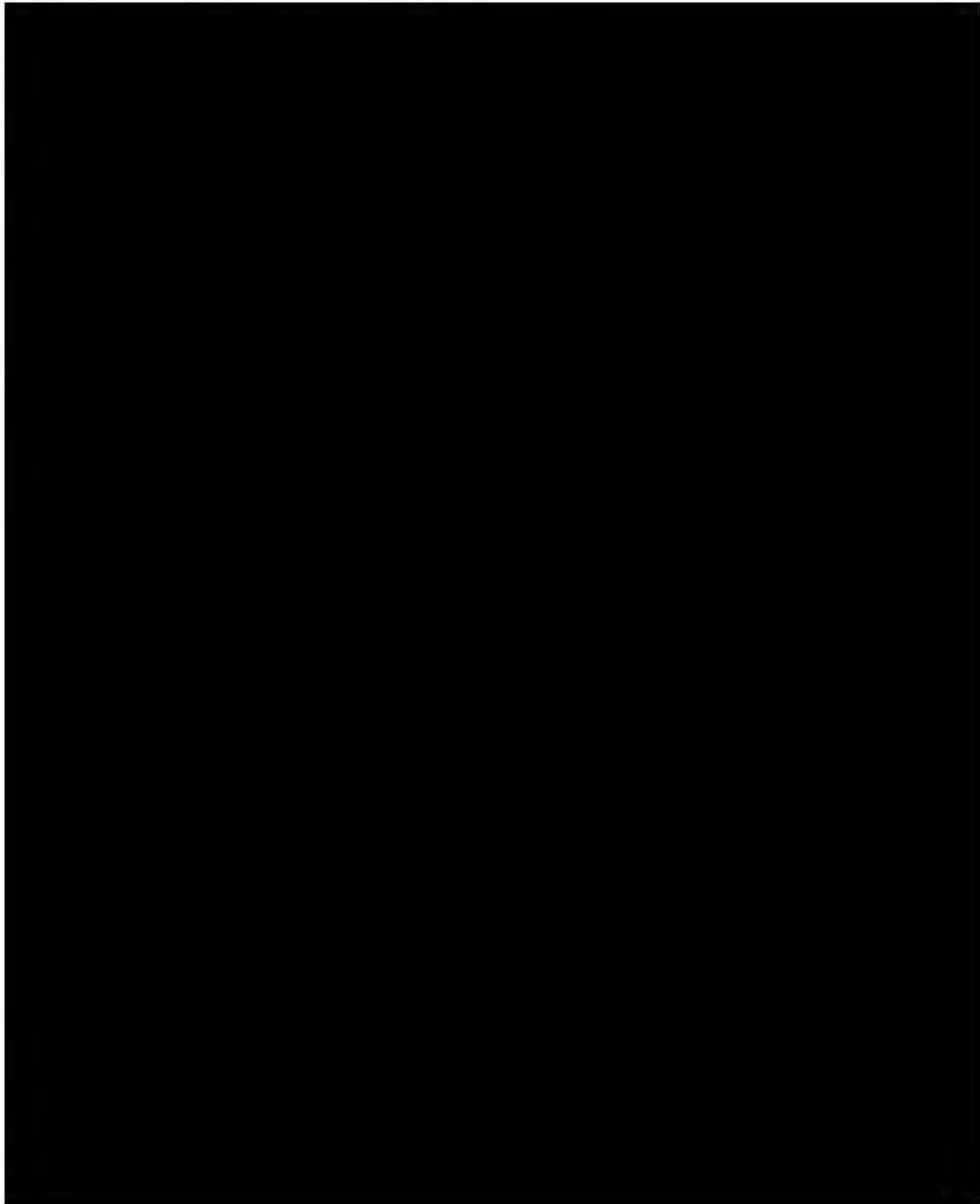


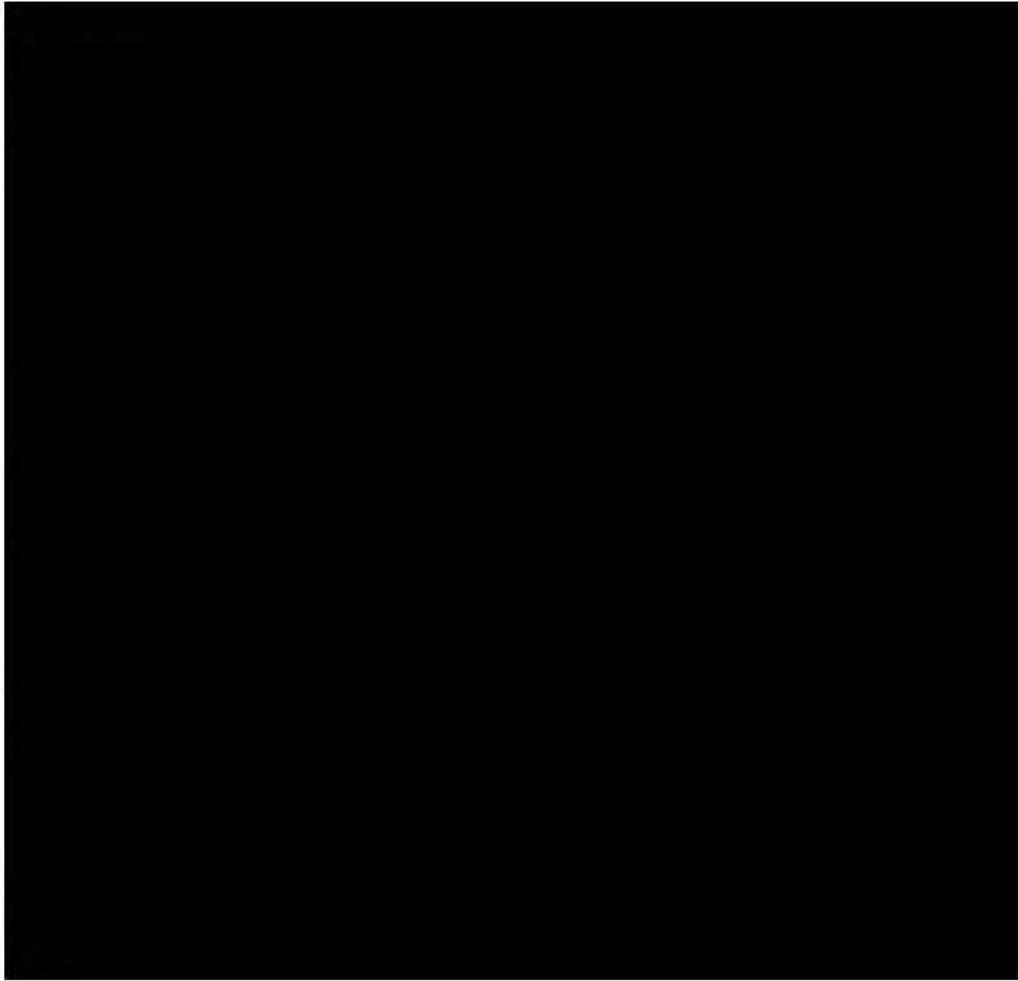


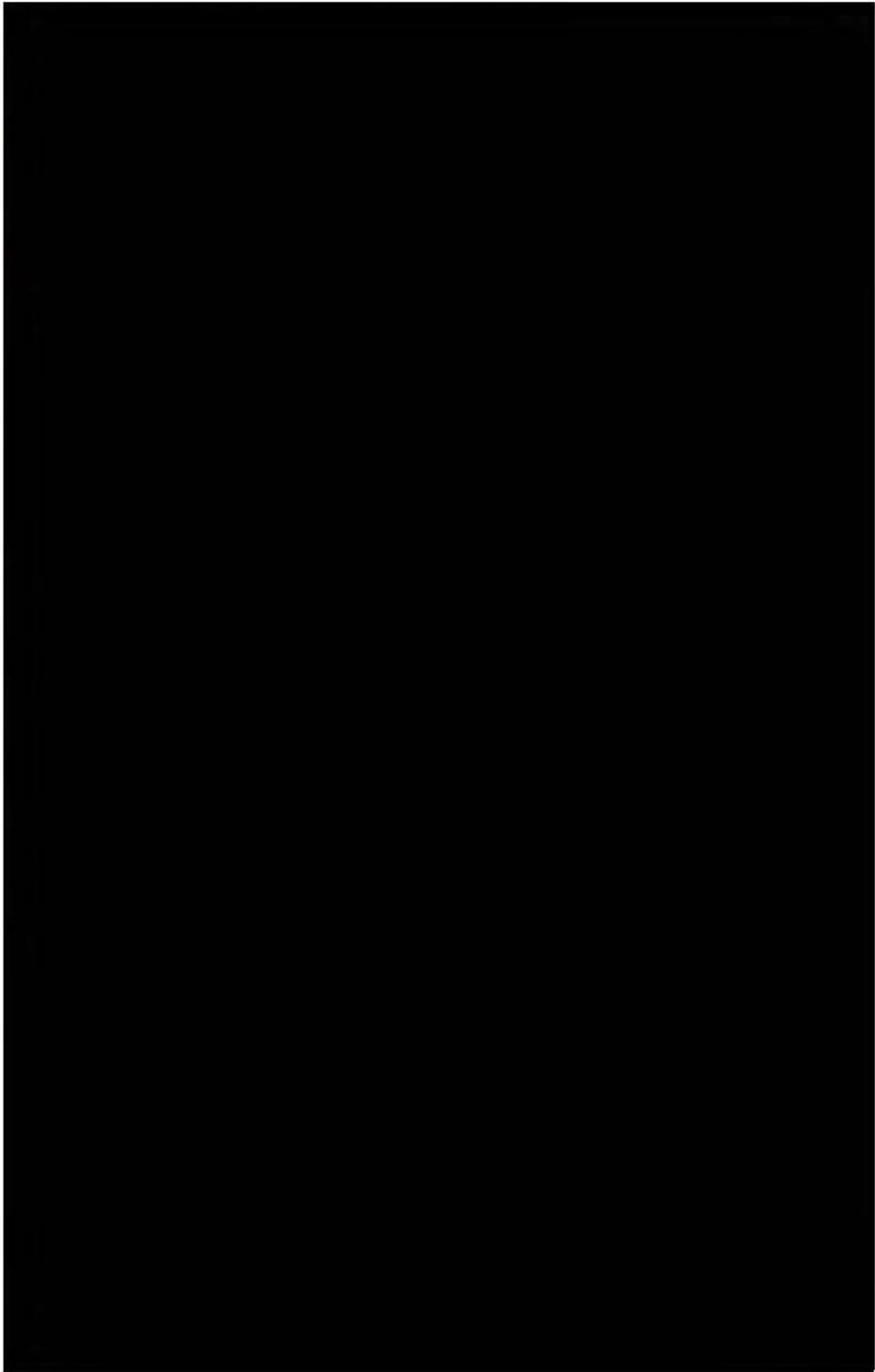


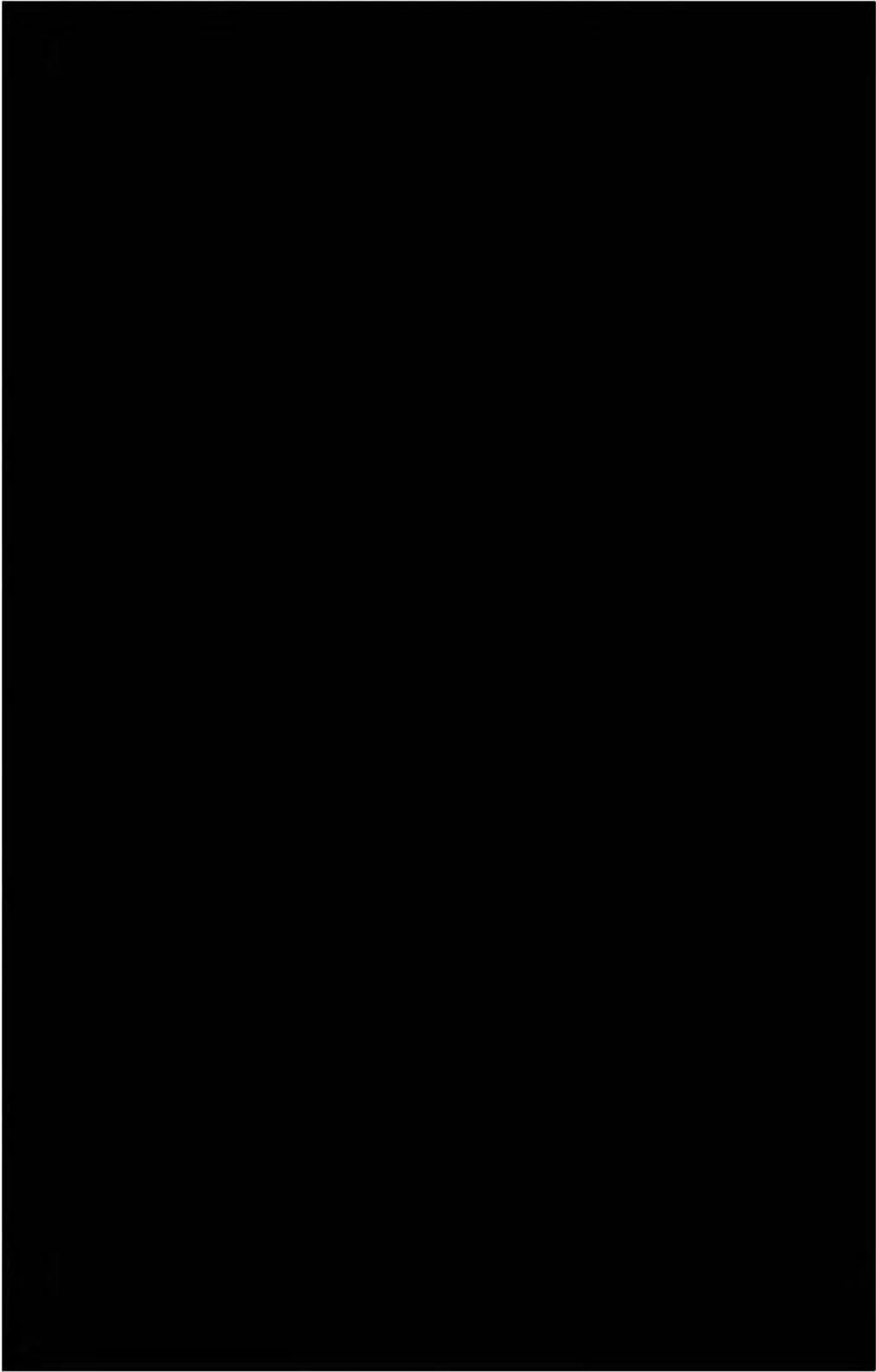


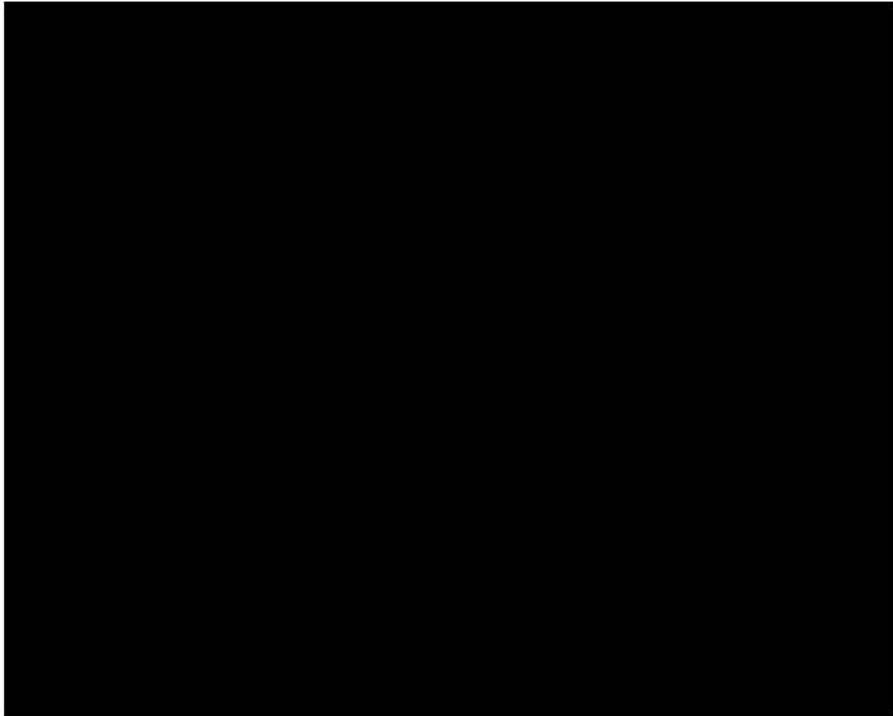


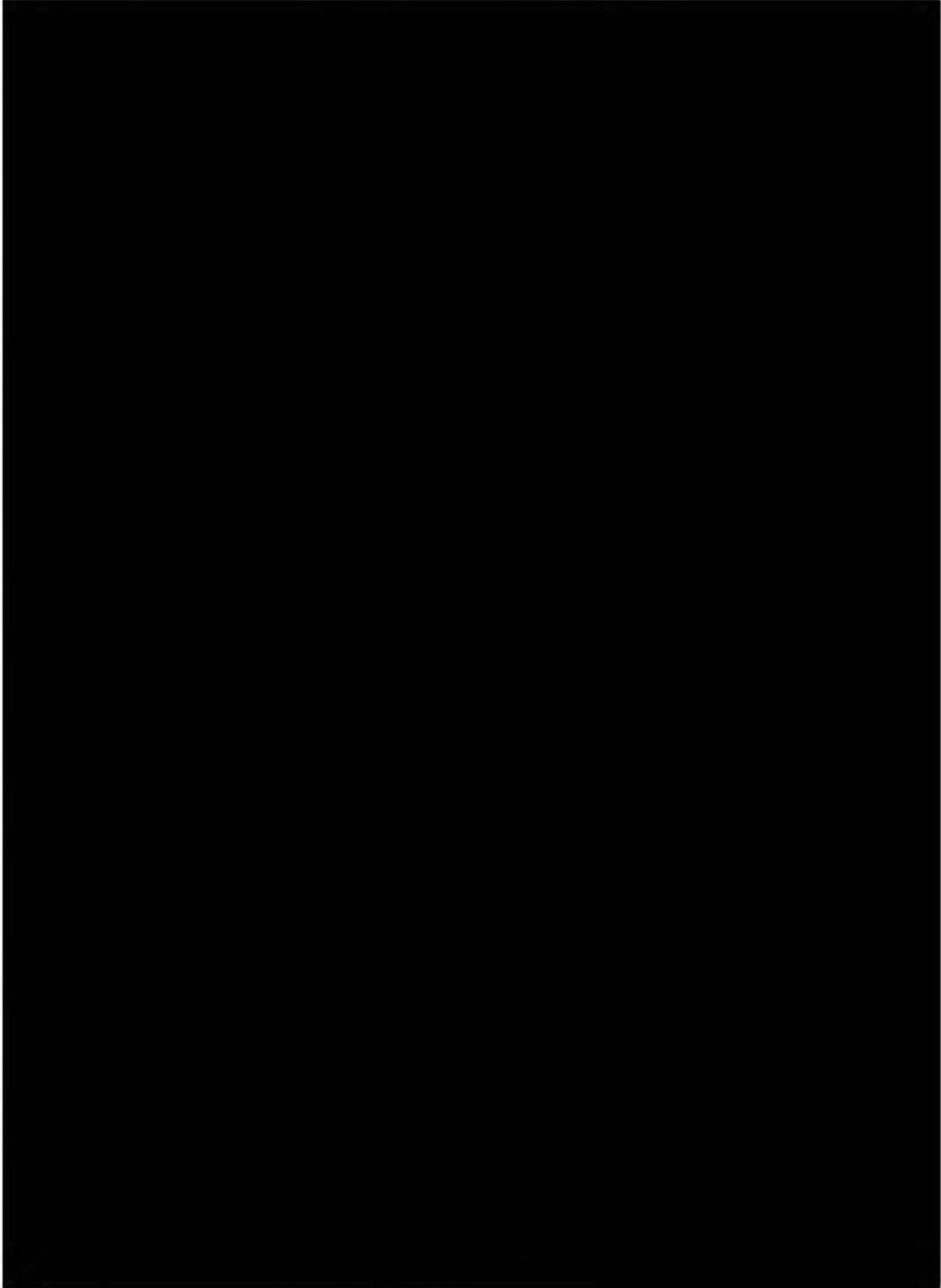


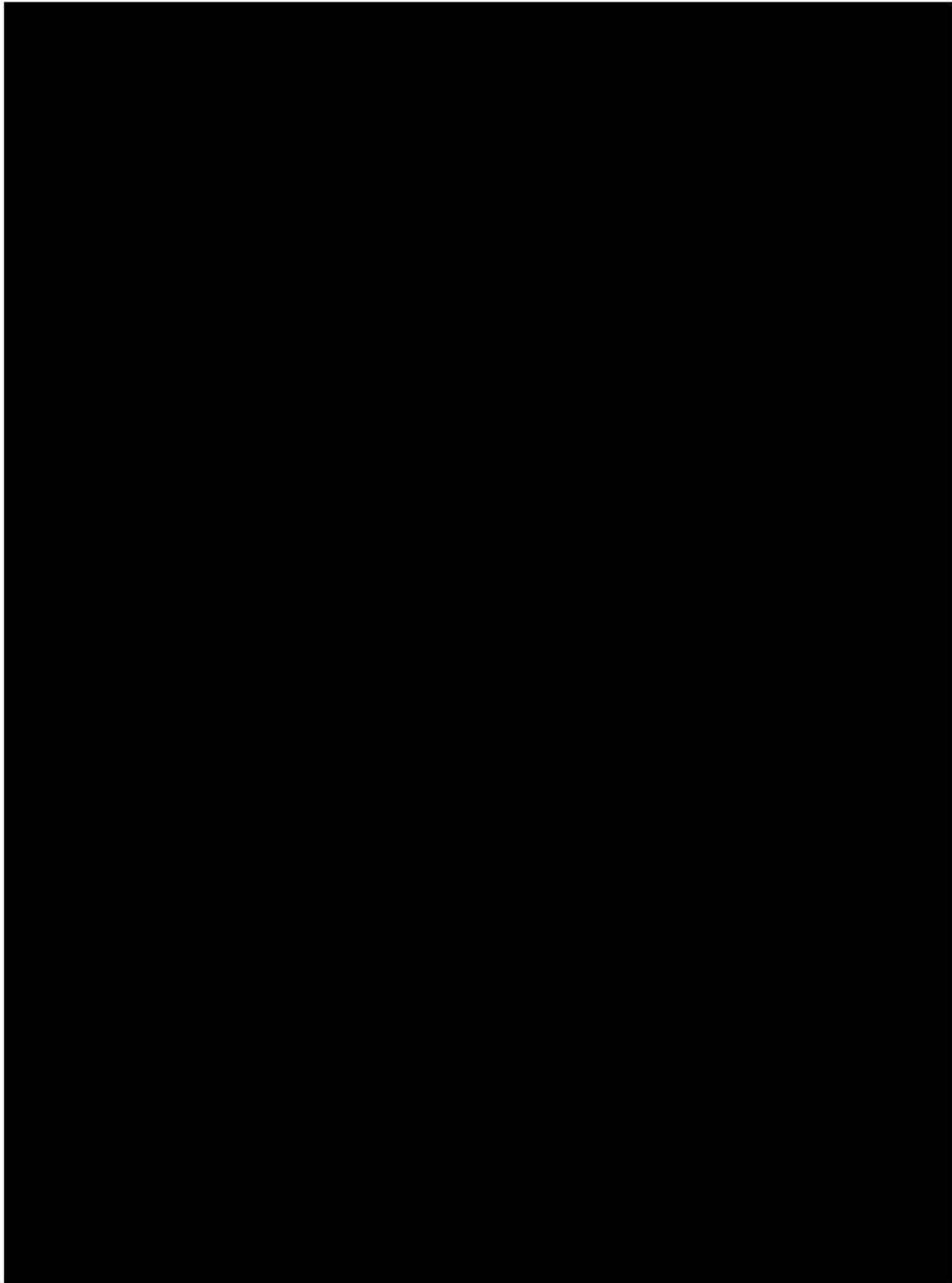


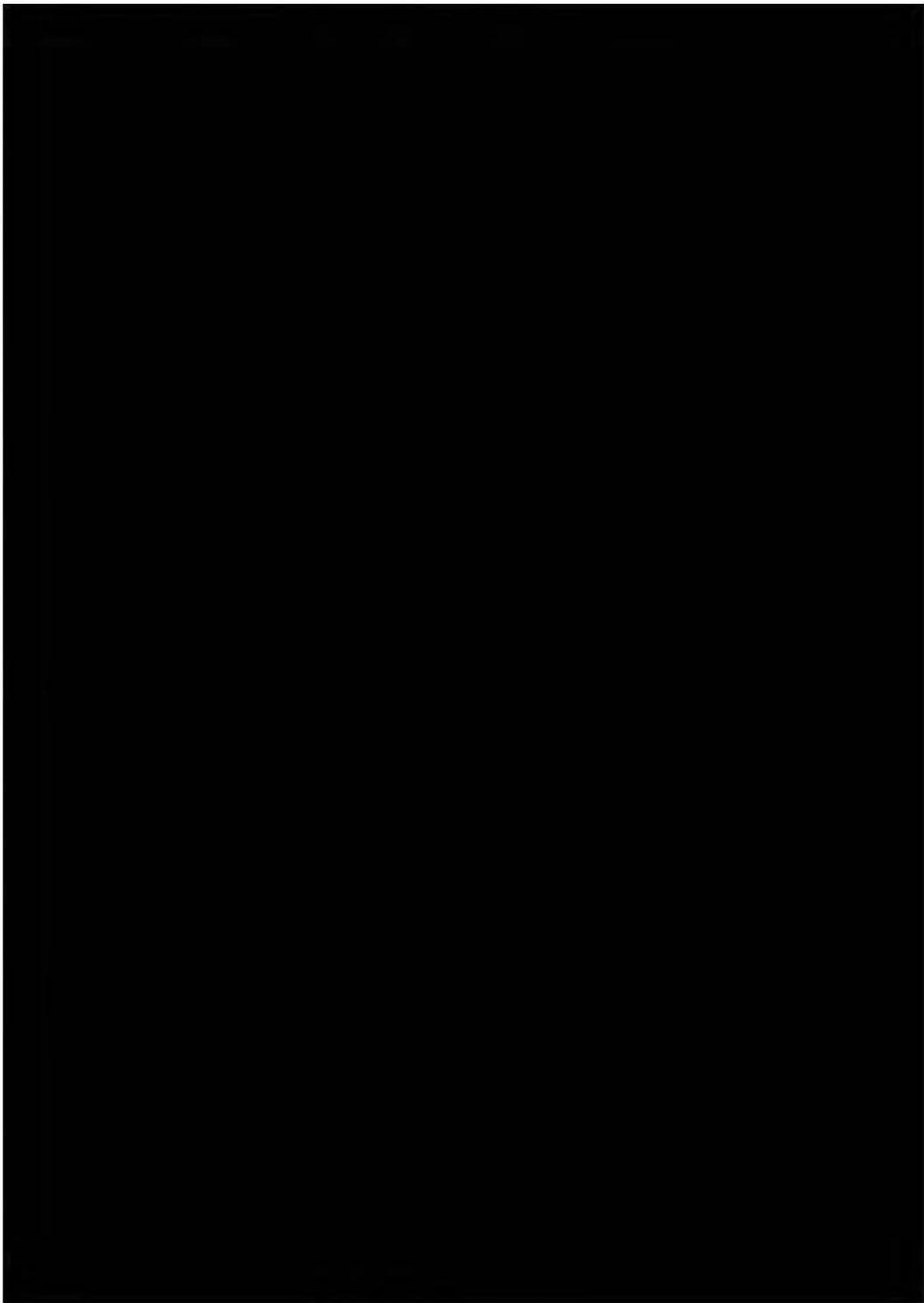




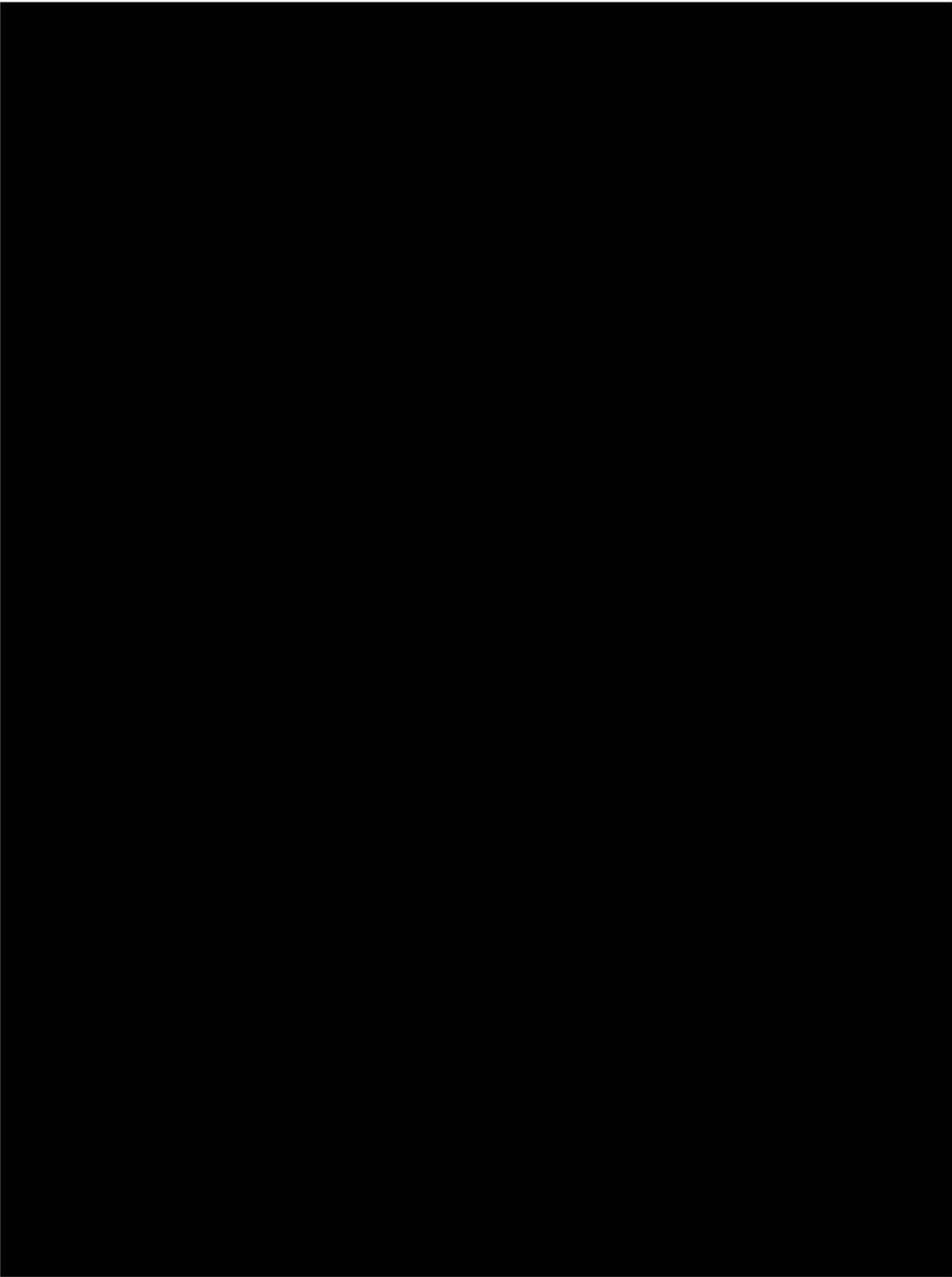


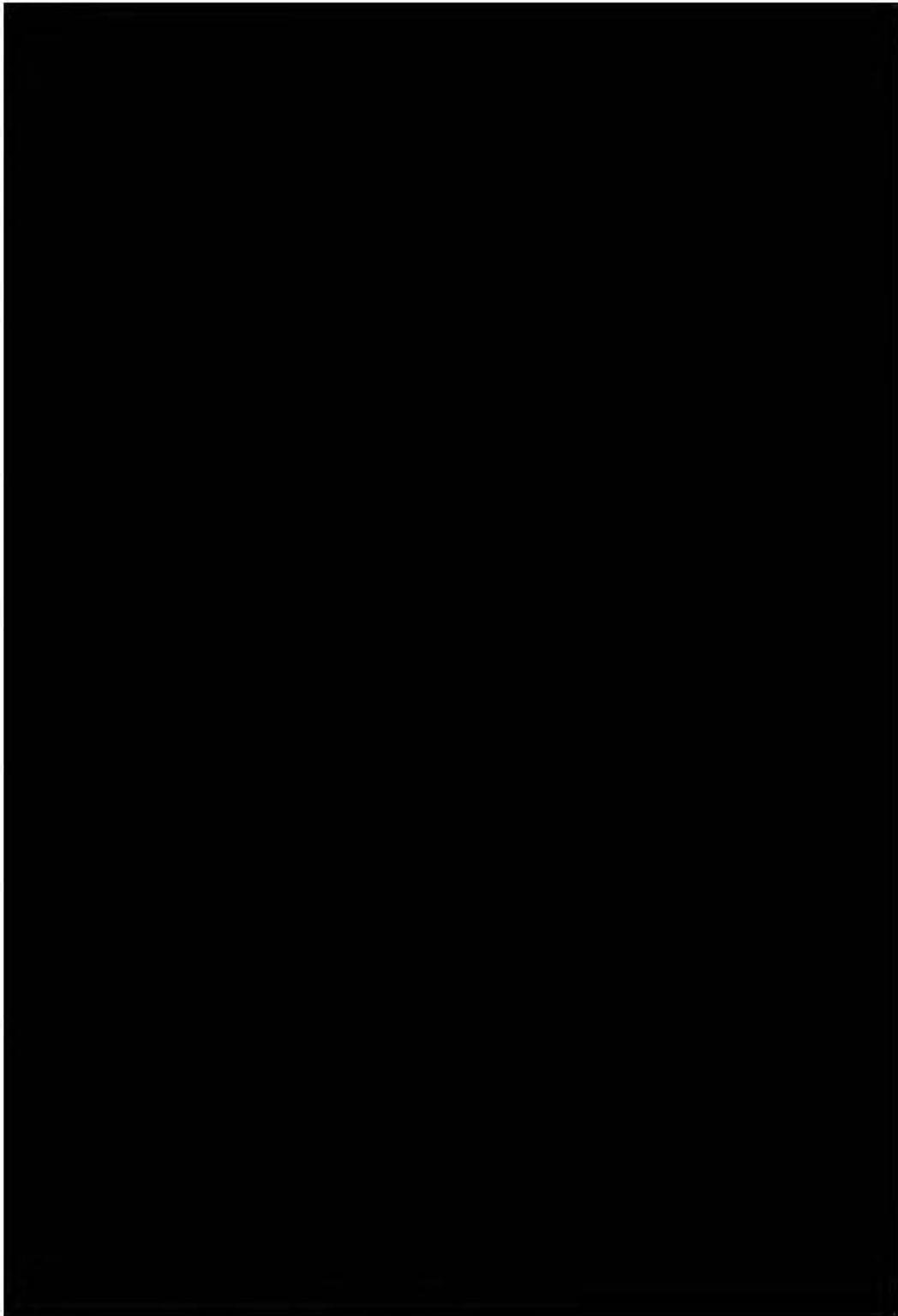


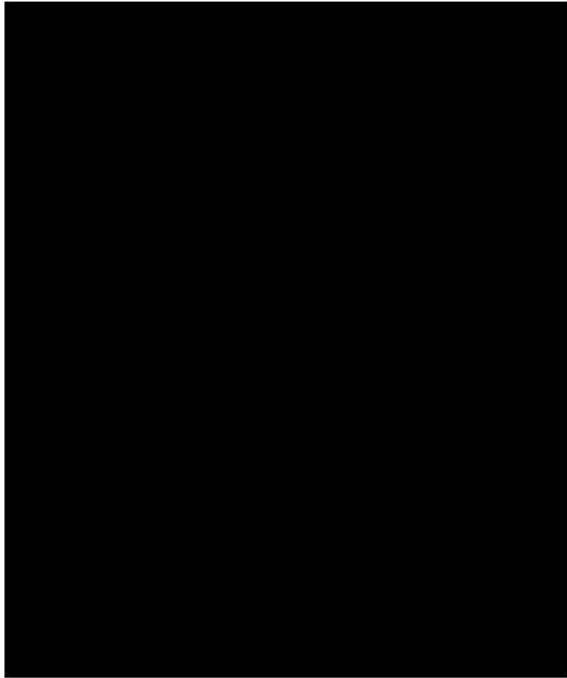


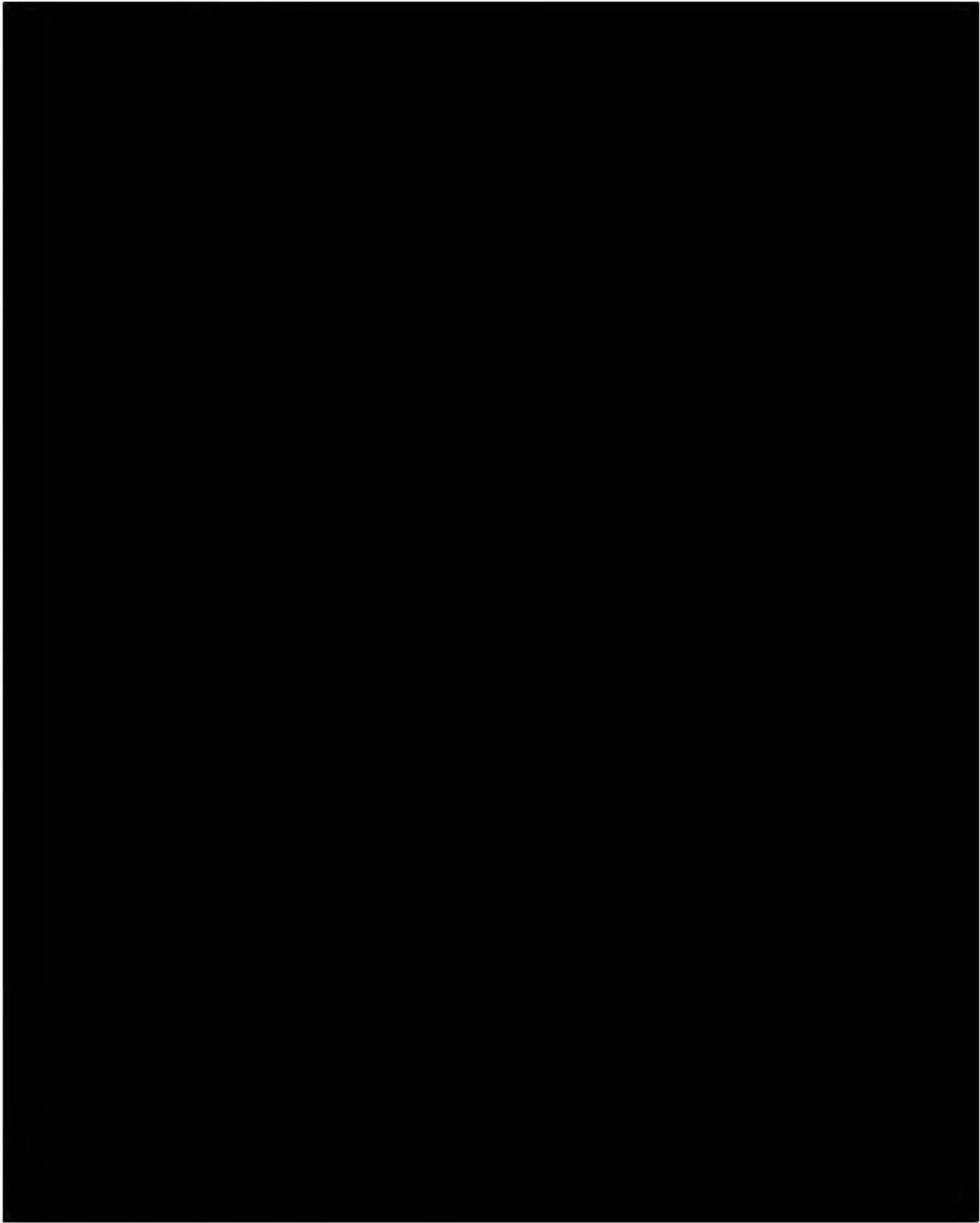


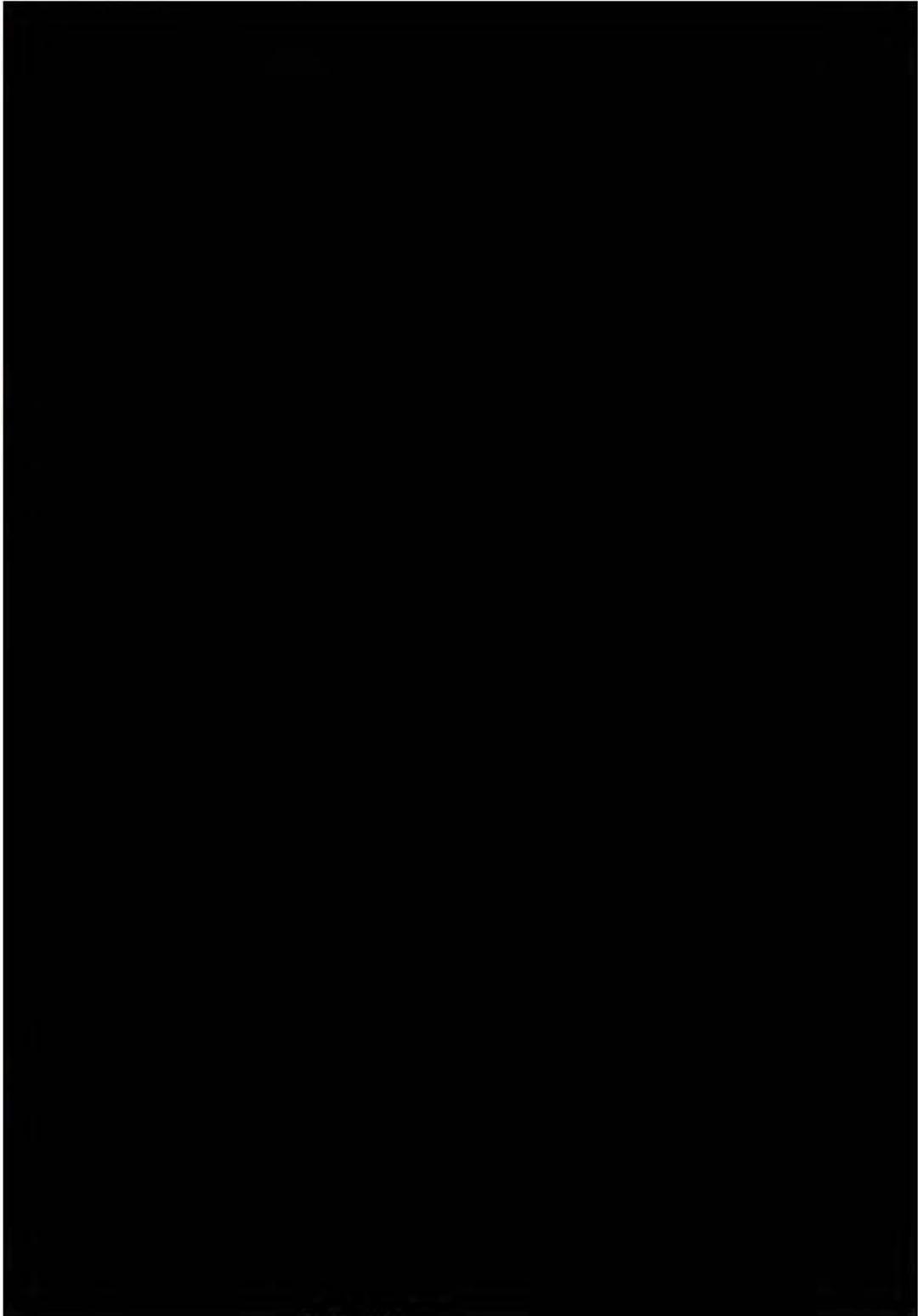
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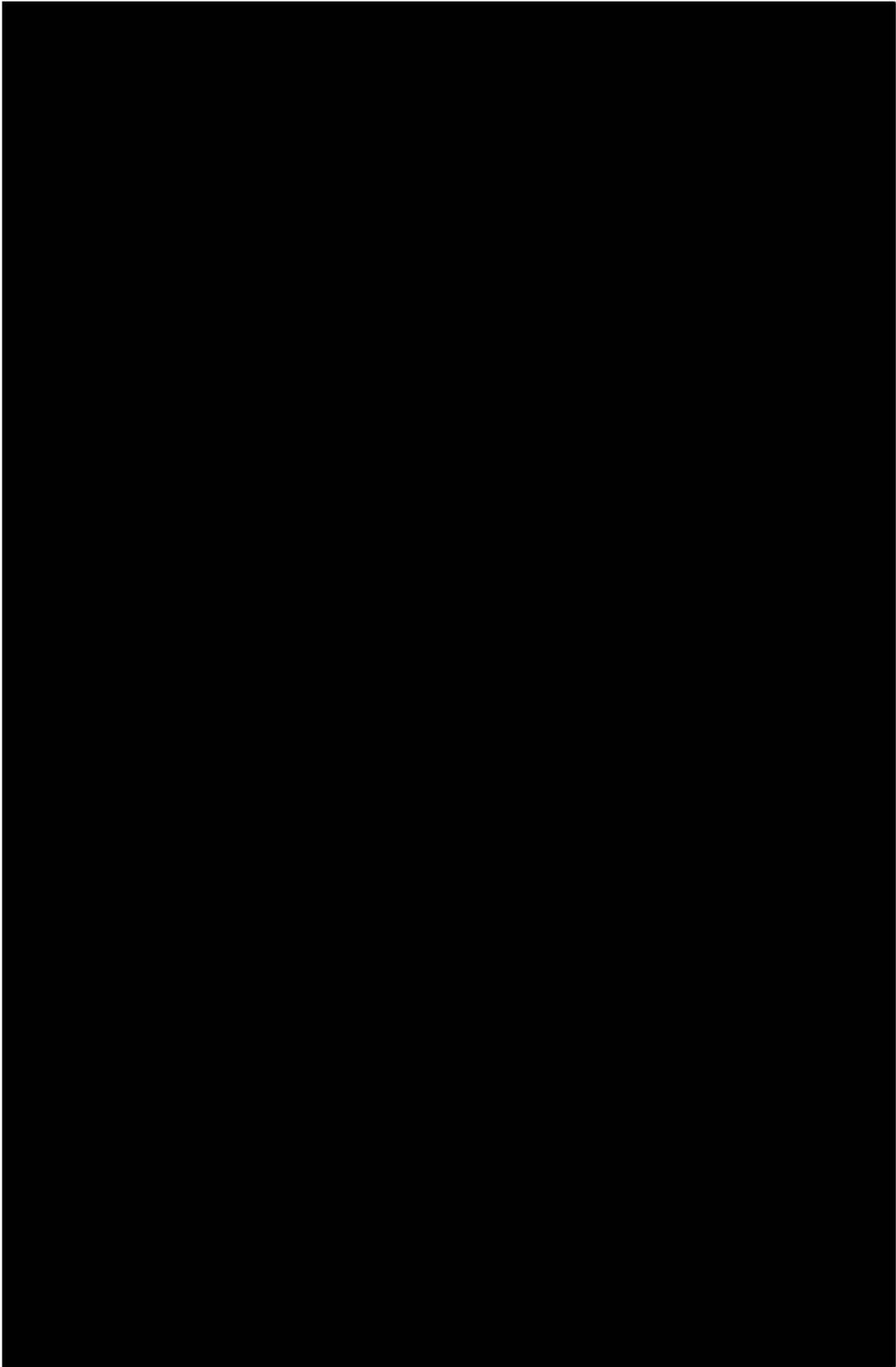


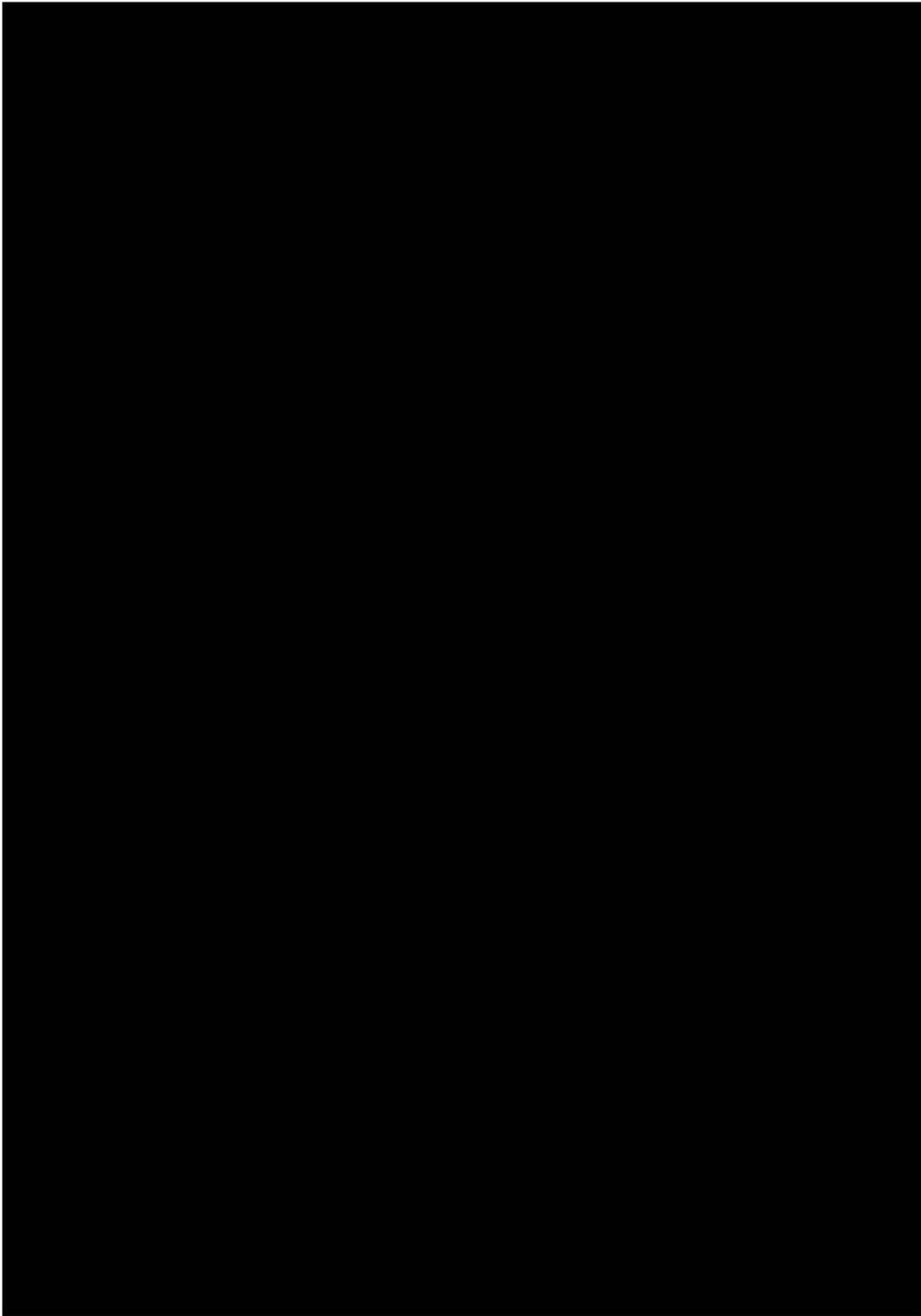


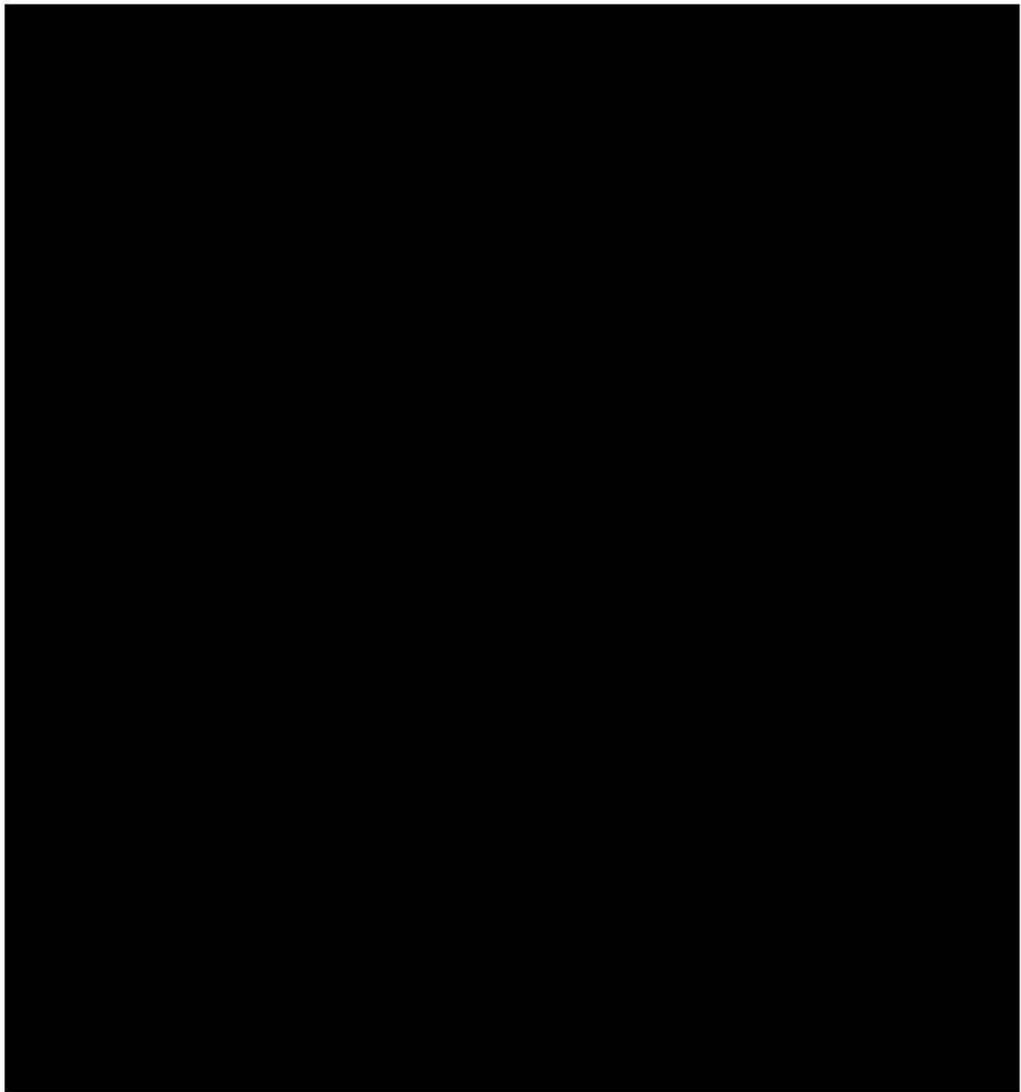


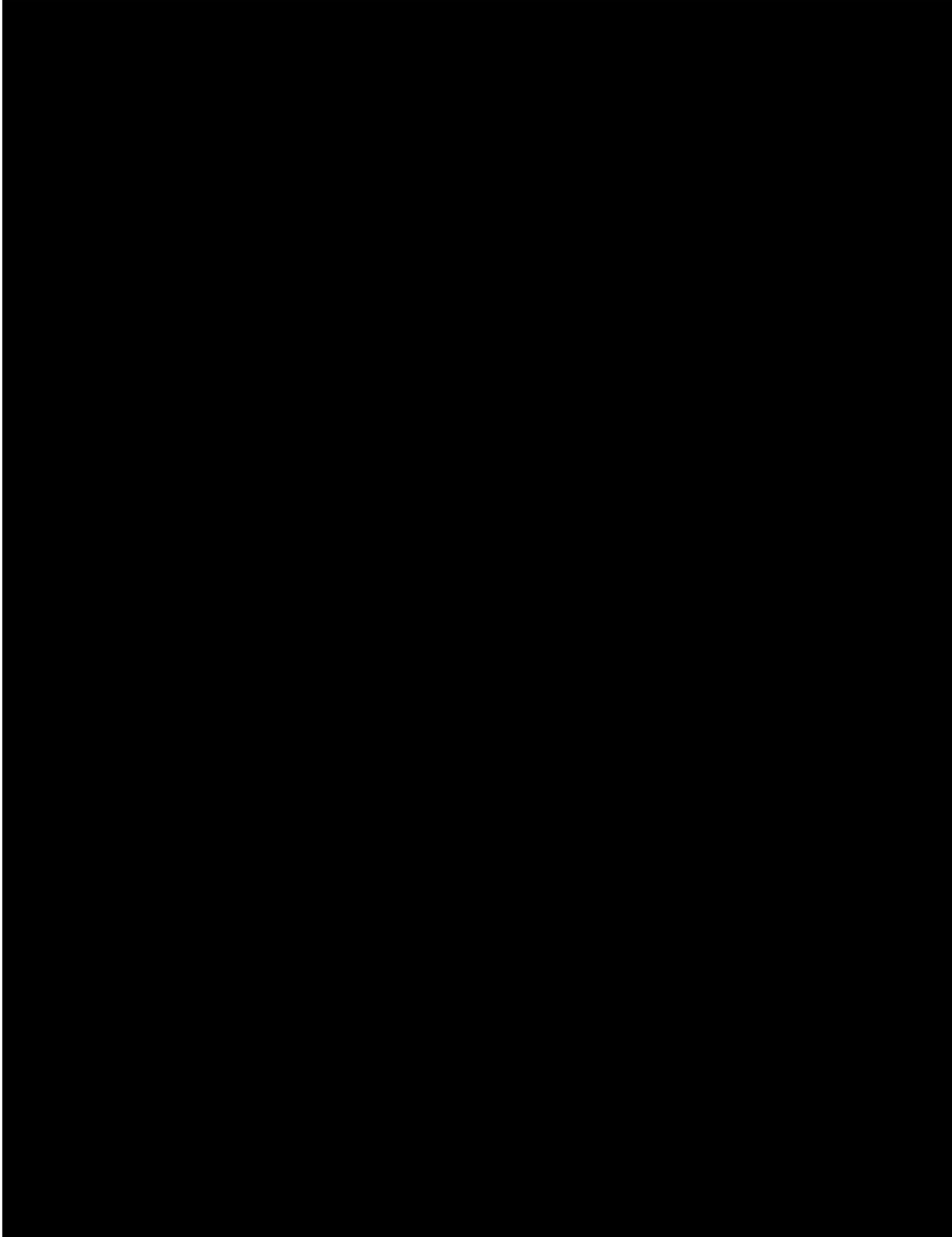












Appendix F: Business Requirements Document

The document is a work in progress that will be completed with the continuation of the project. It includes the background information gathered to date and outlines the requirements to be captured for future development of a corrections information management system.

Custody Information Management System
Initial Business Requirements Document



Version 1.0
Prepared by F&B (P) PRIVATE, LLC
Prepared for Cathy Hines, Deputy Director of Administration, Department of Public Safety
July 2015

Custody Information Management System

Initial Business Requirements Document

This is a living document.

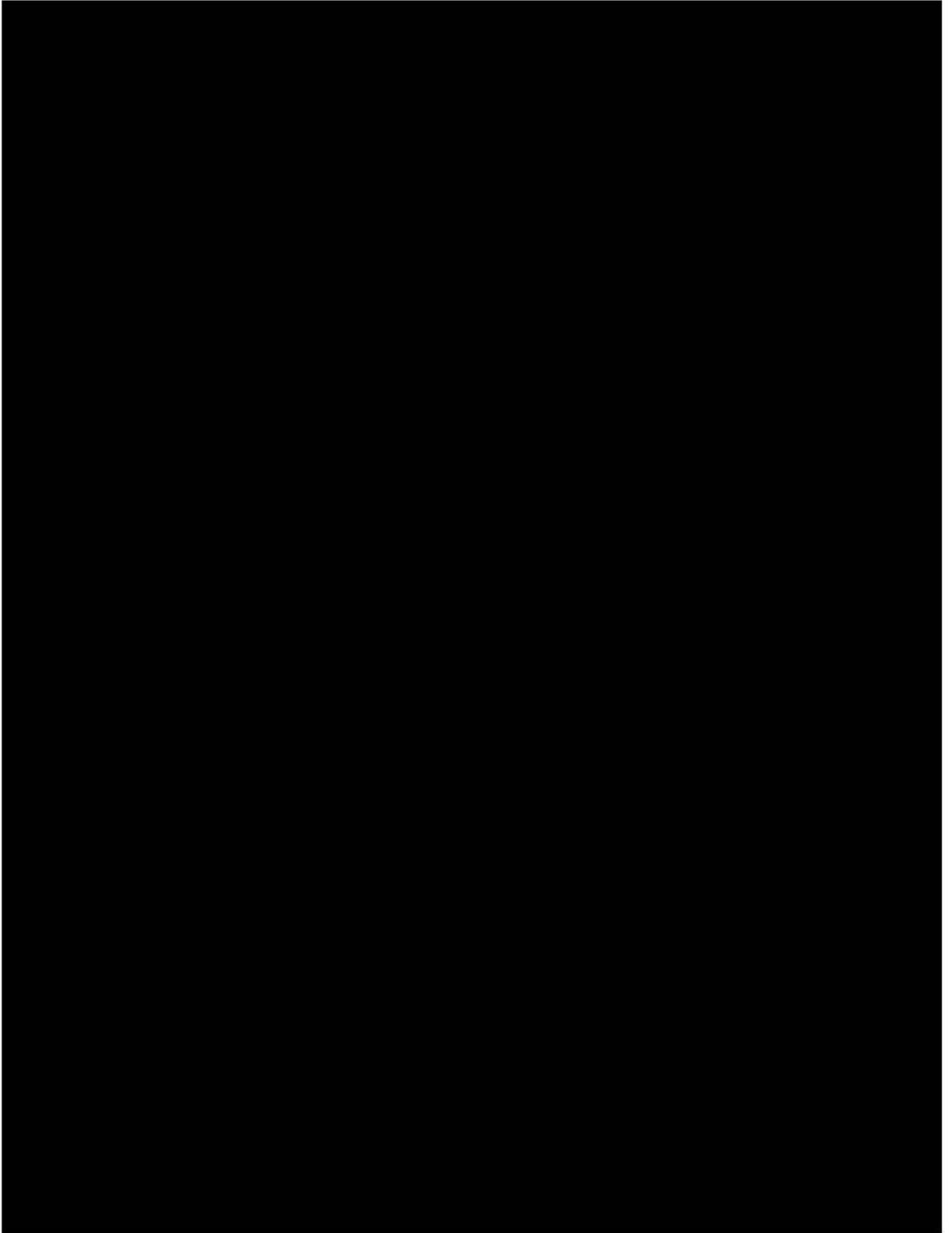
The following is a starting framework for further discussion. Future phases of the Data Infrastructure Project will add to sections identified with "TBD". Definition of a department operating model, enterprise architecture, and engagement model will add clarity and assist with review and approval processes for this document.

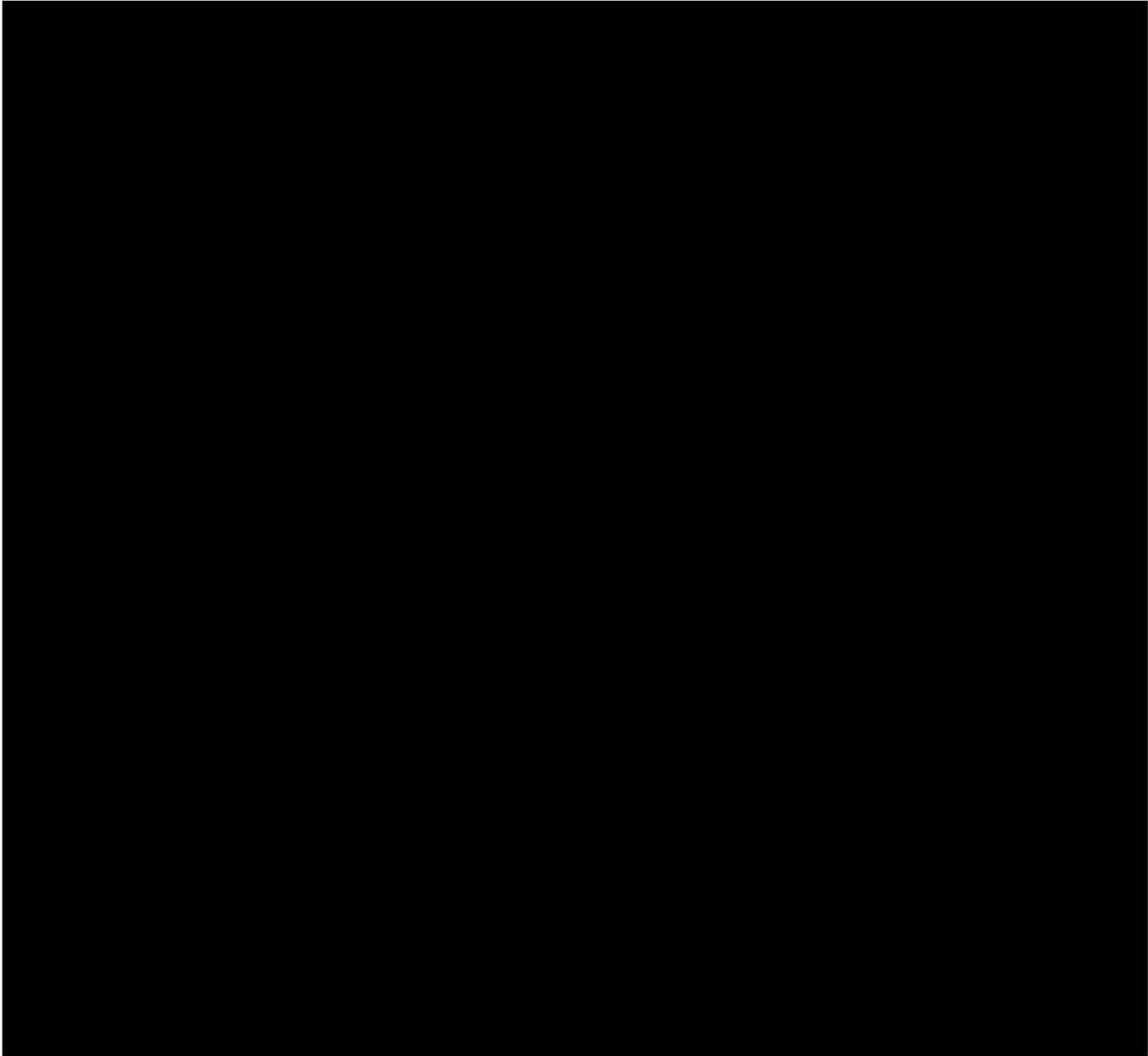
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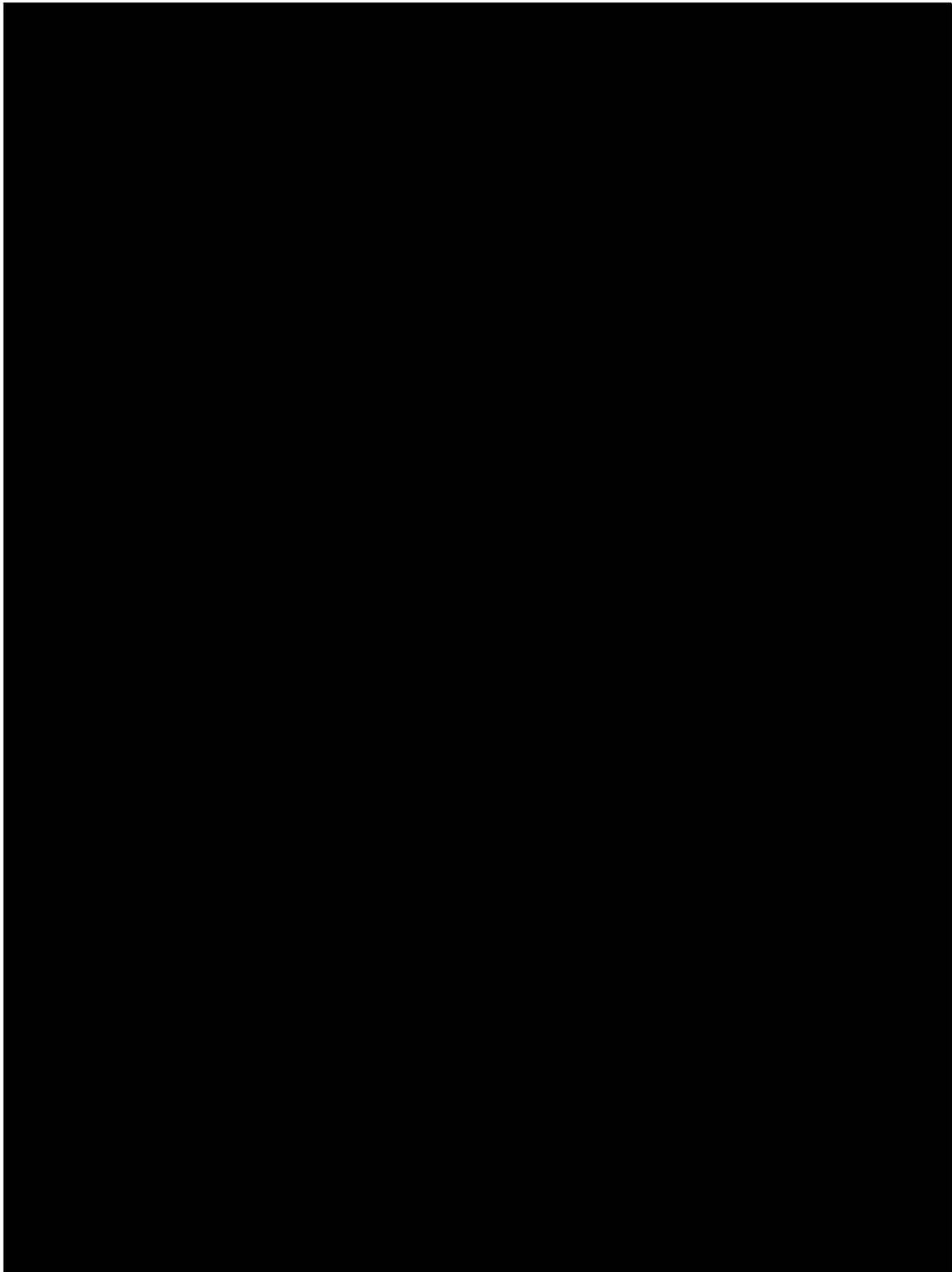
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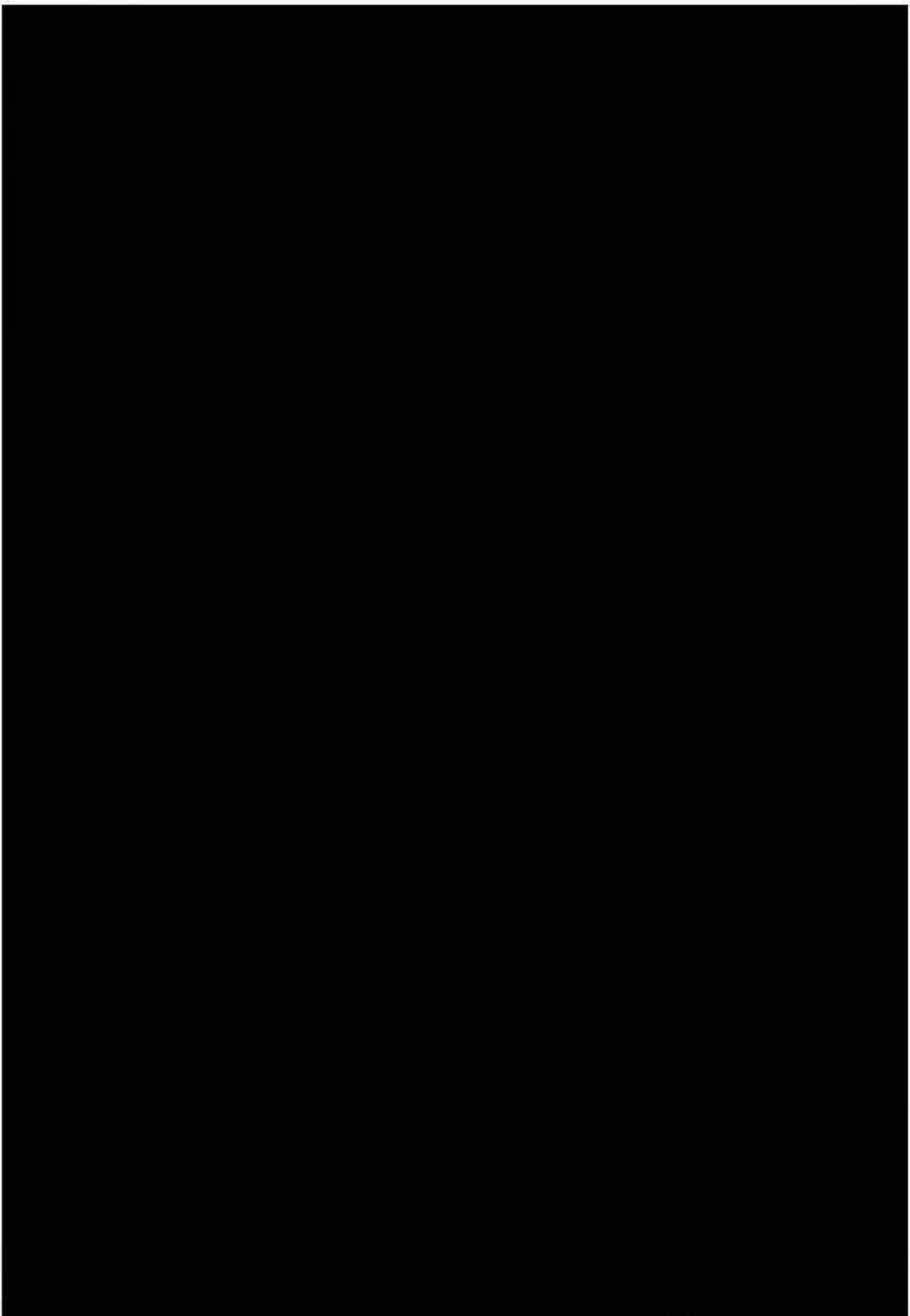
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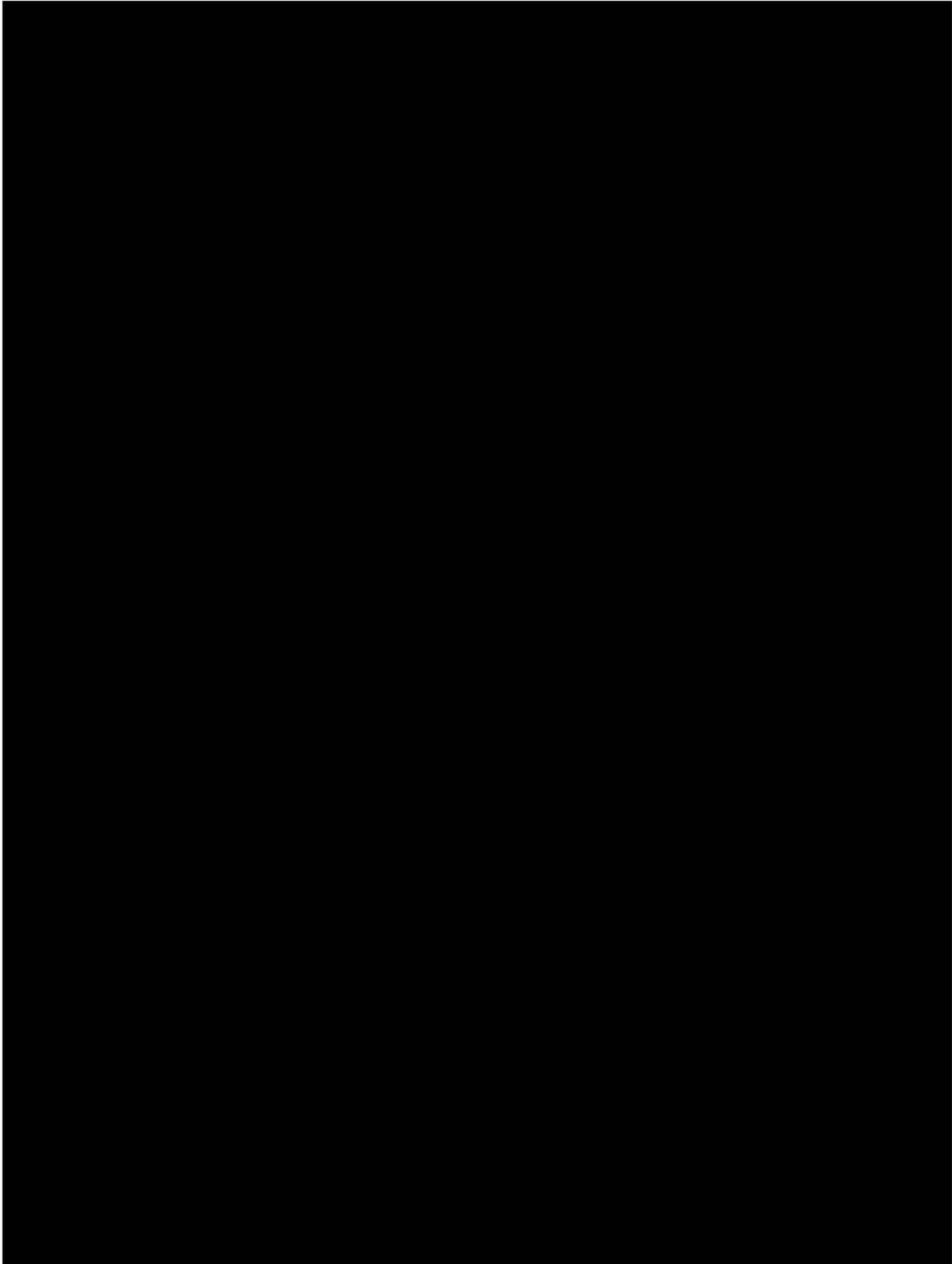
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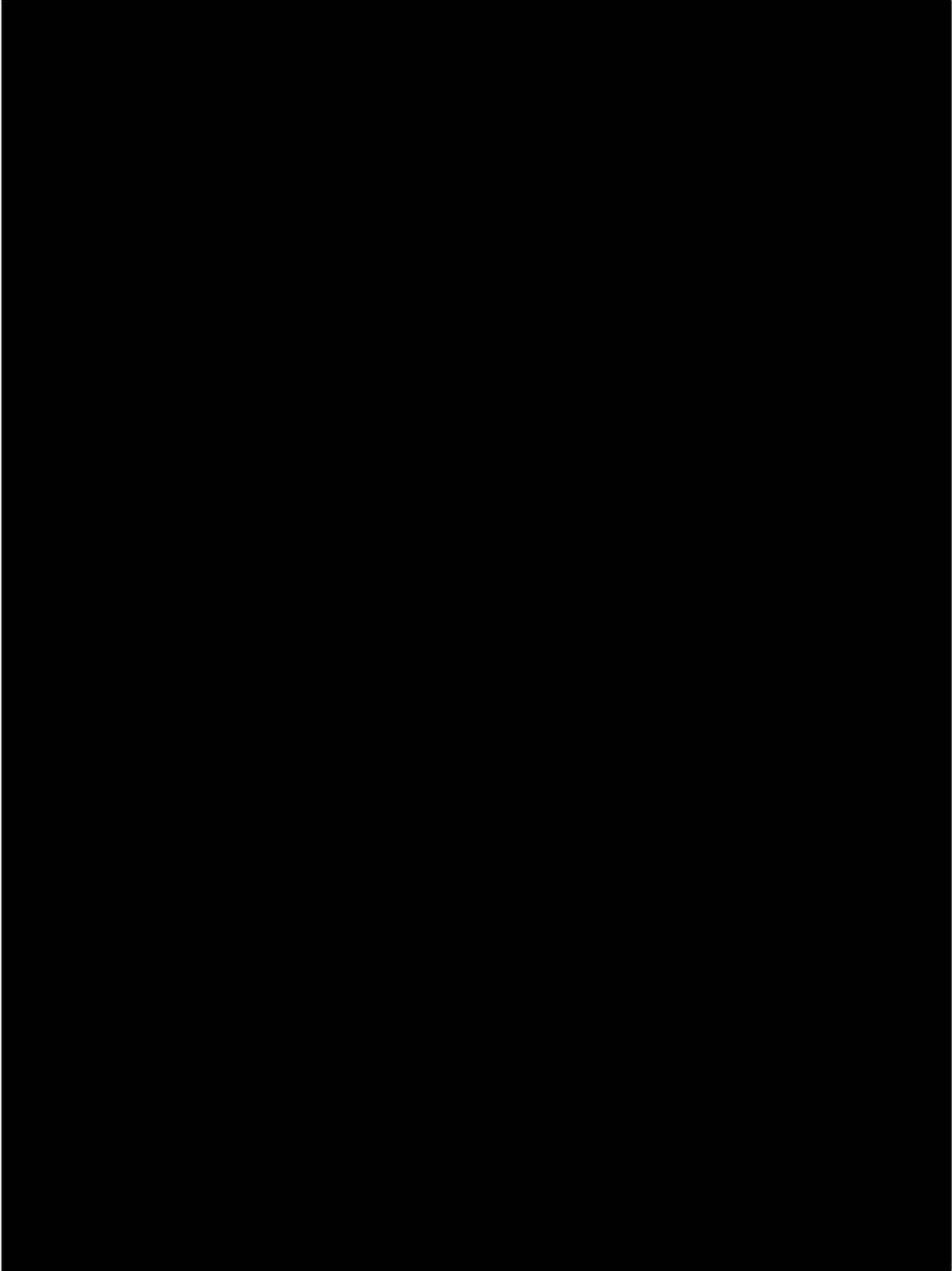


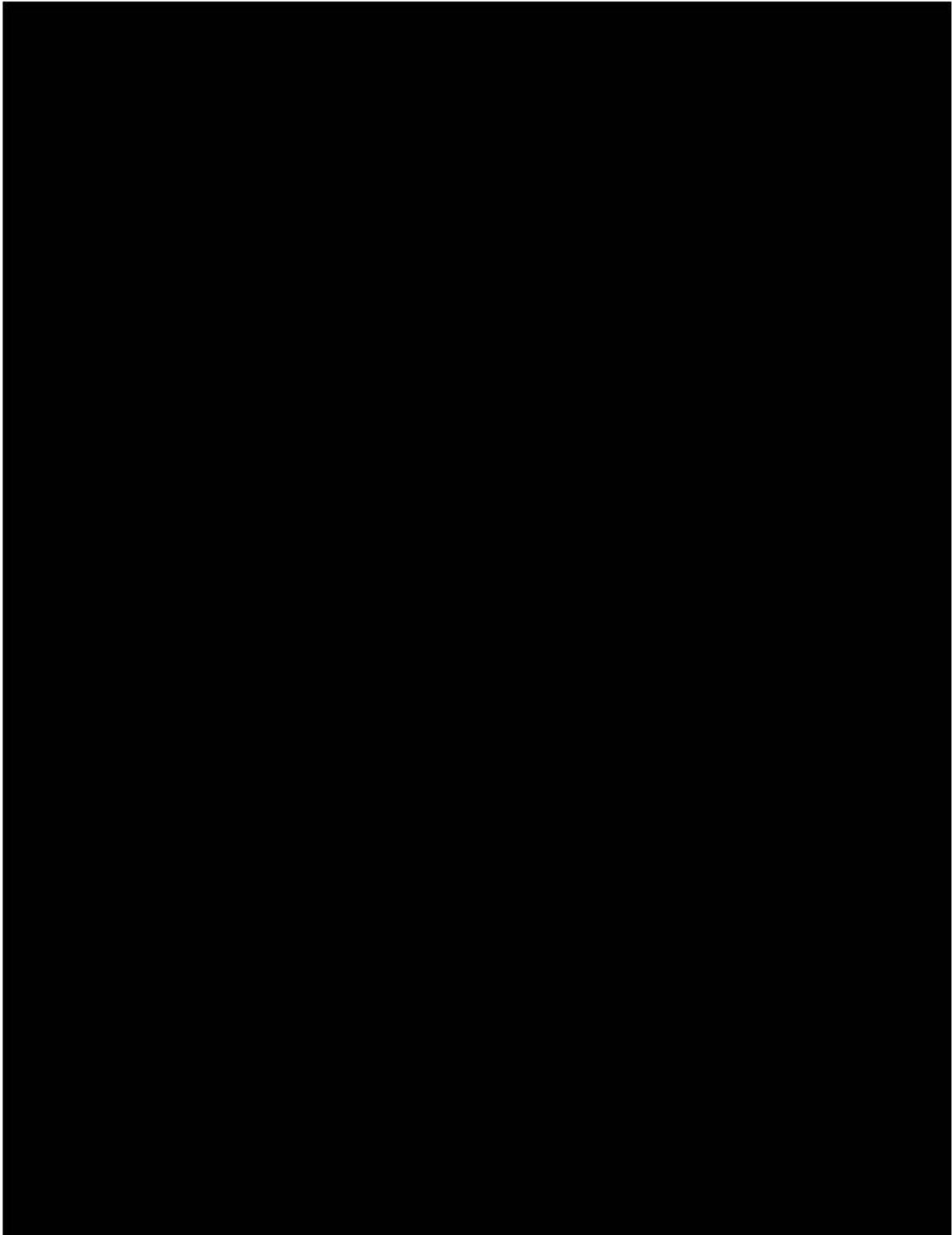


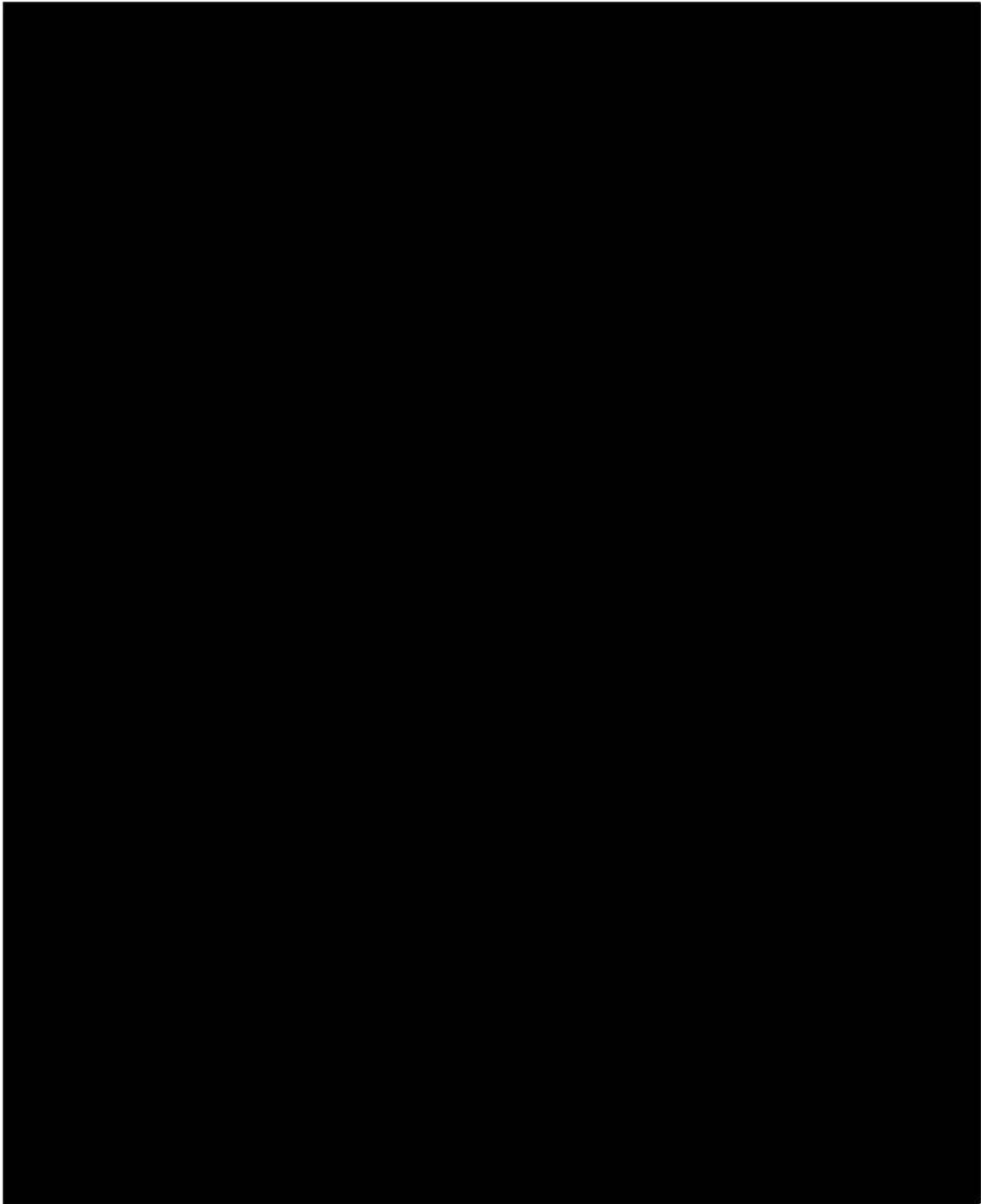


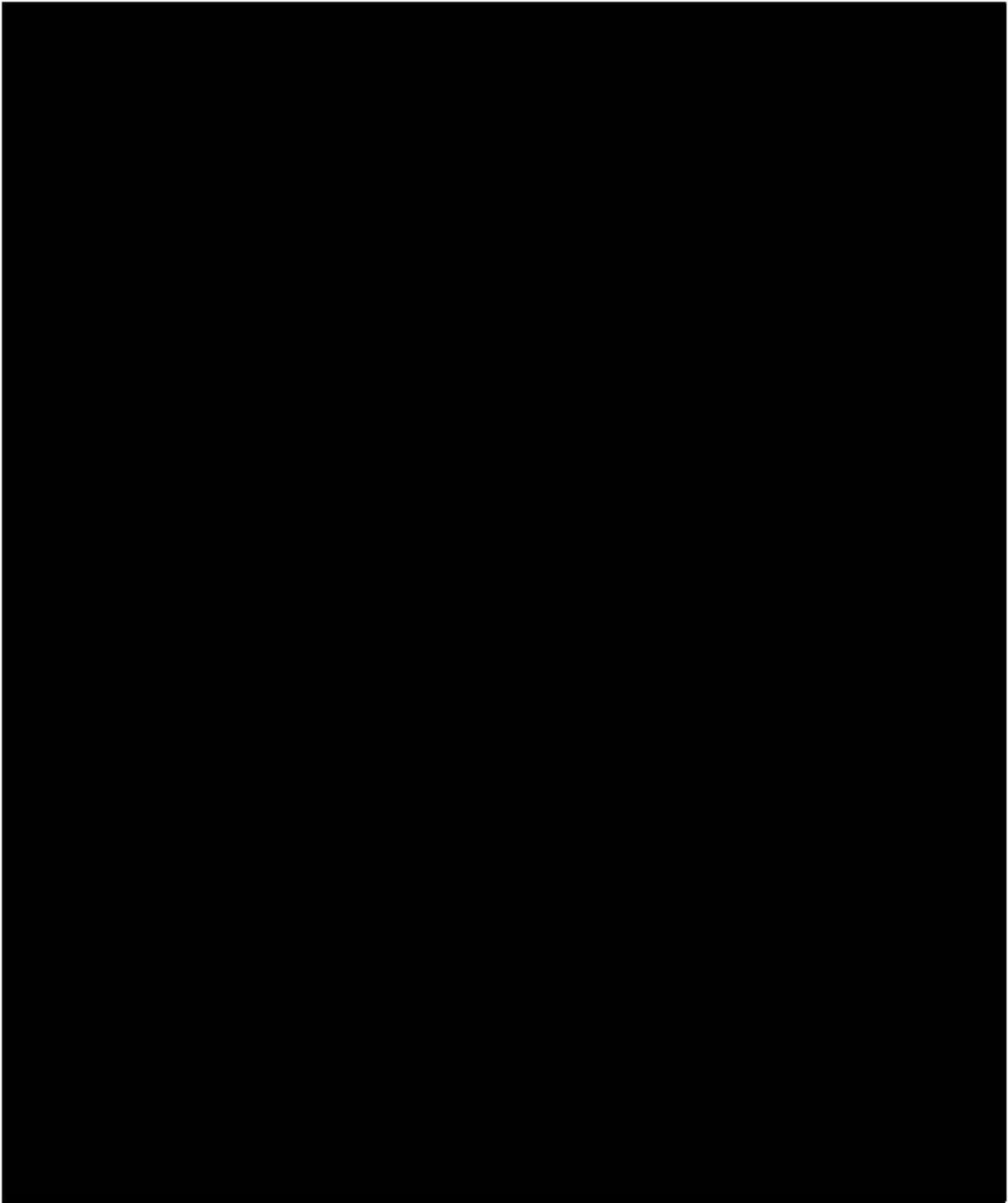




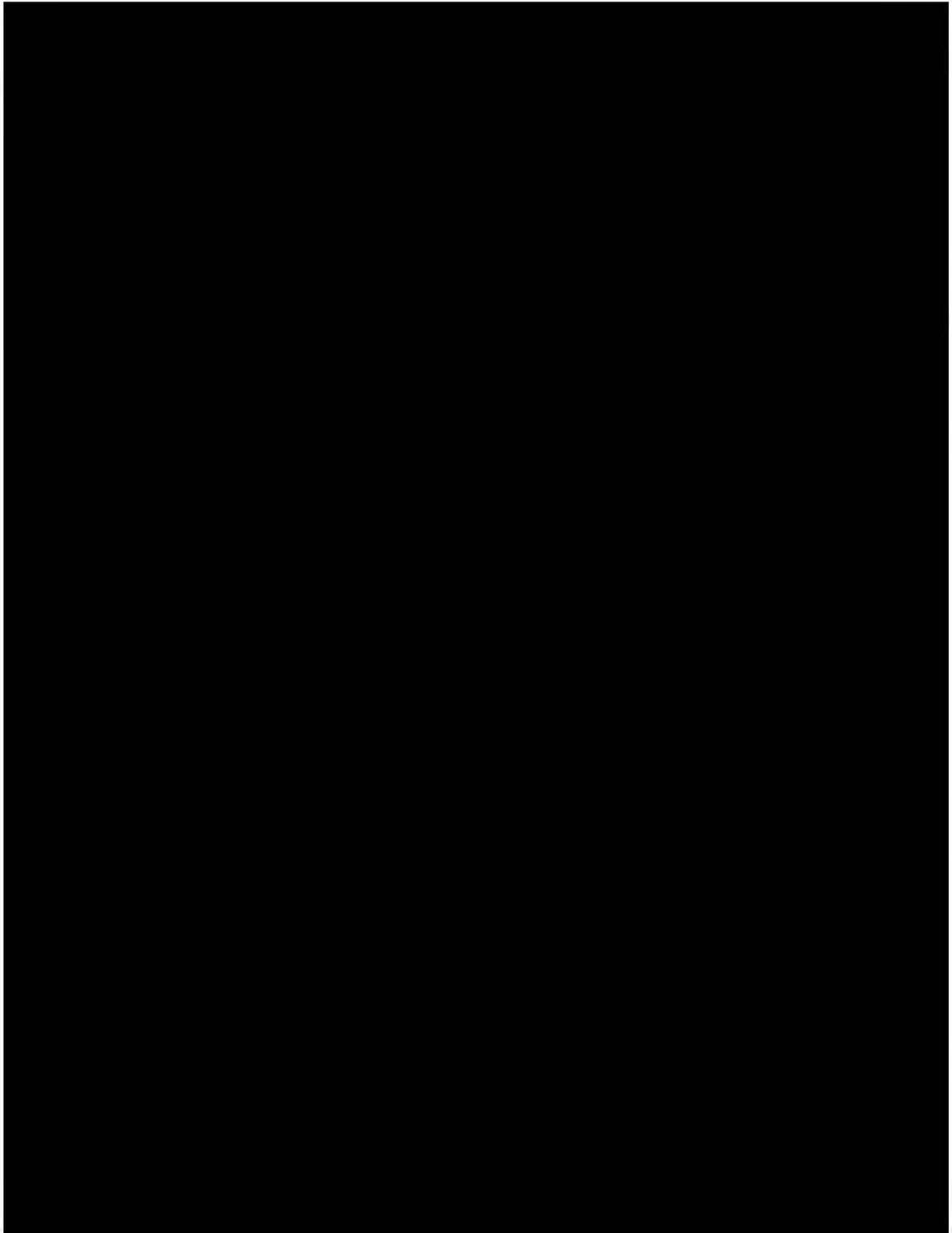


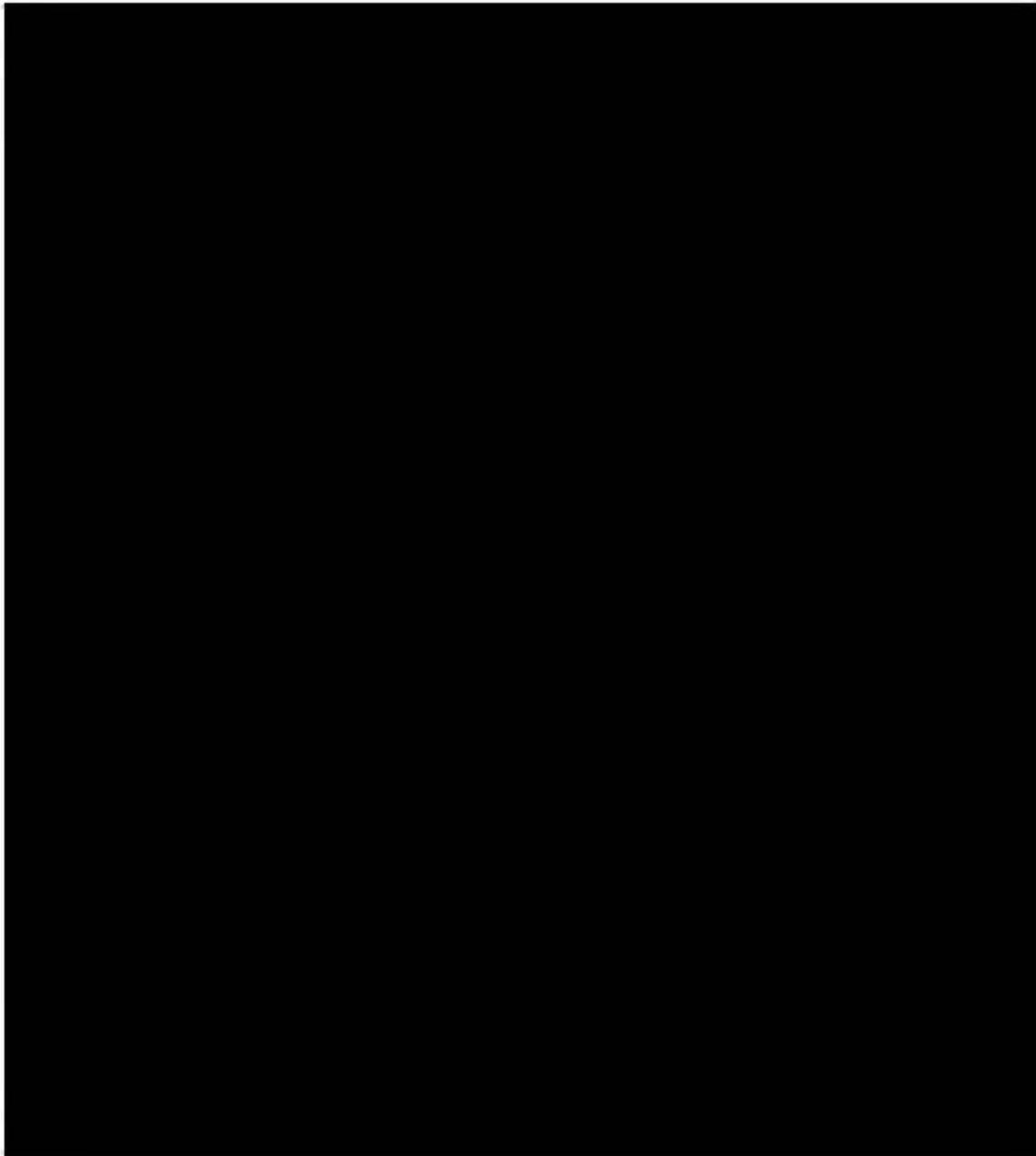


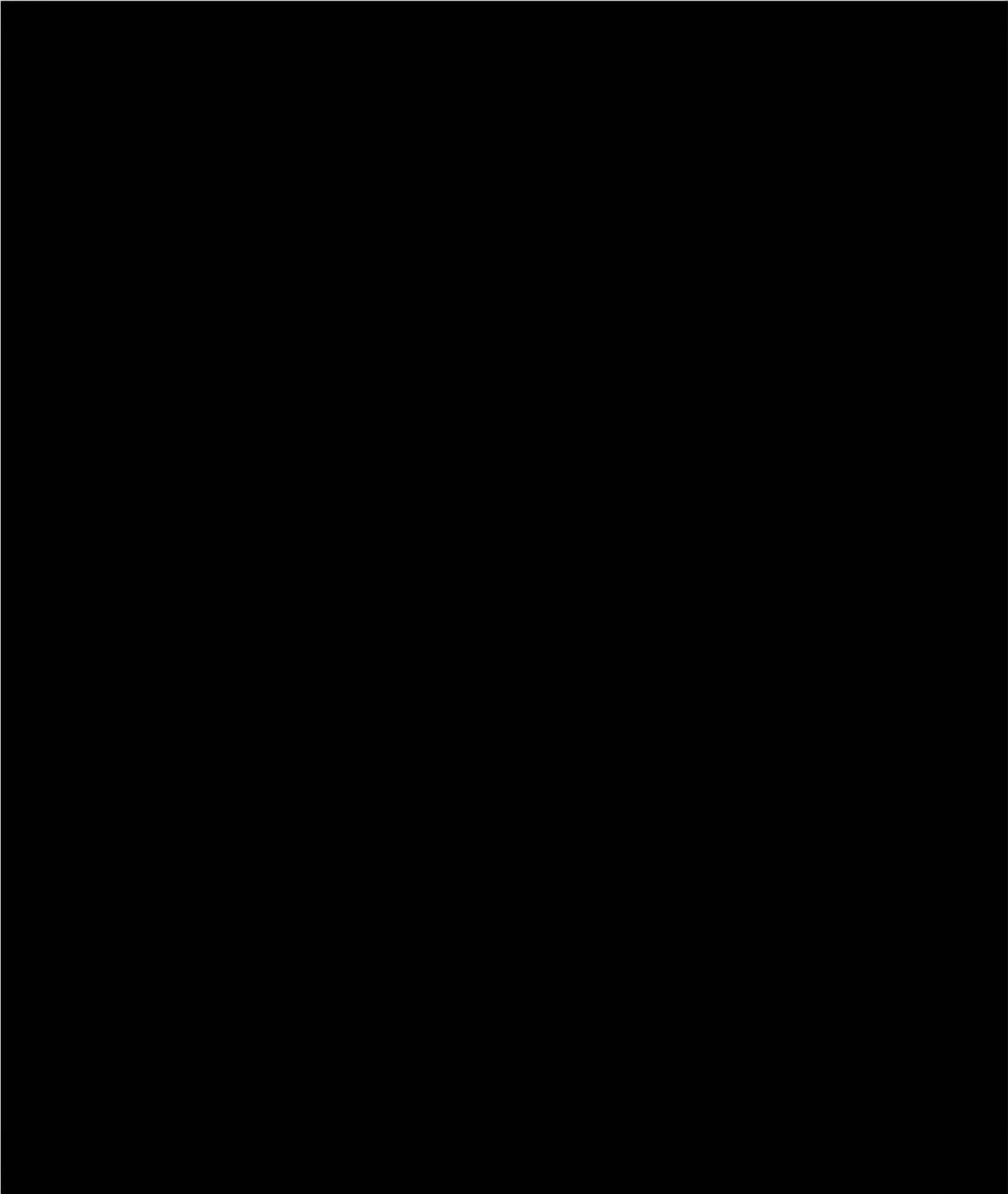


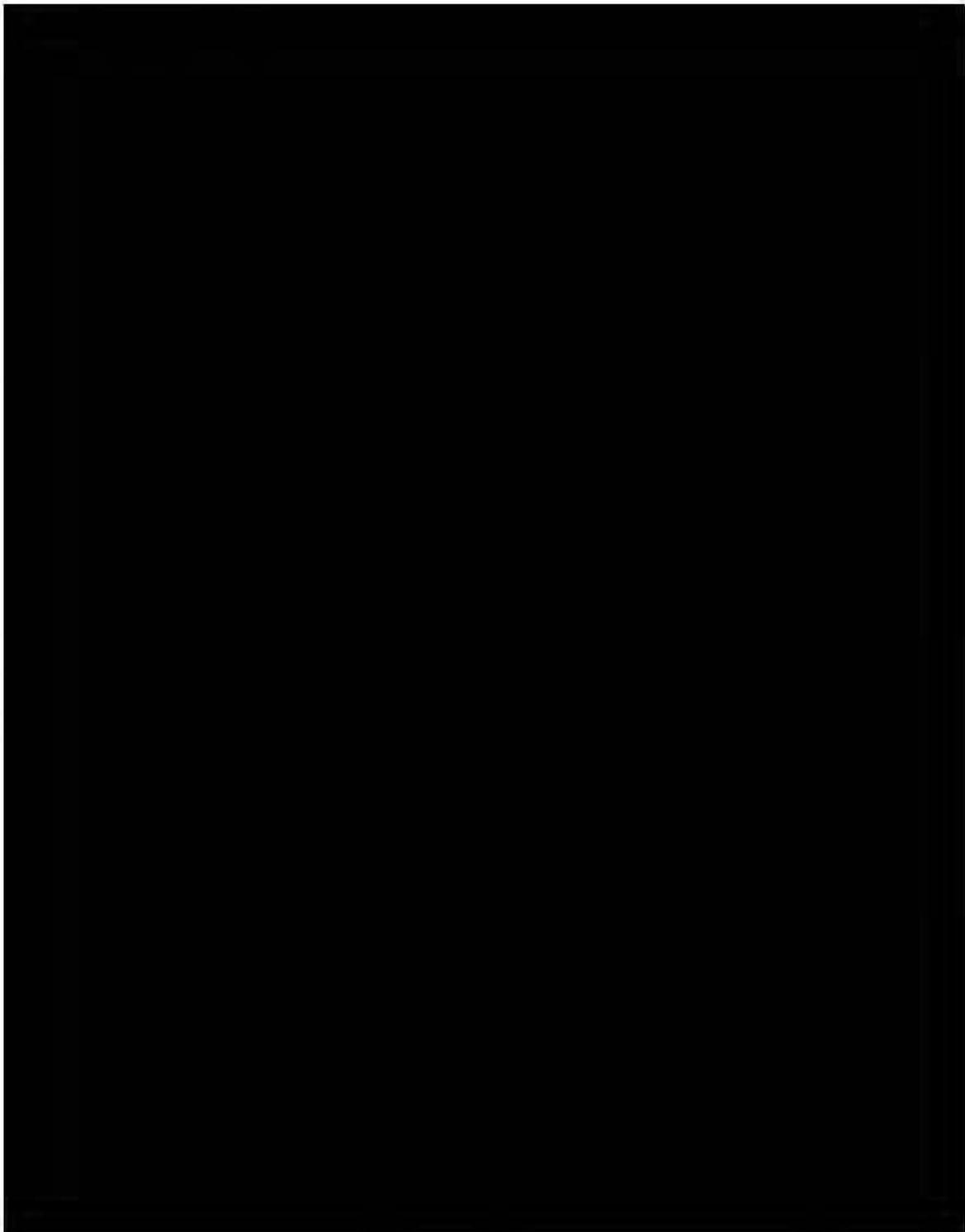


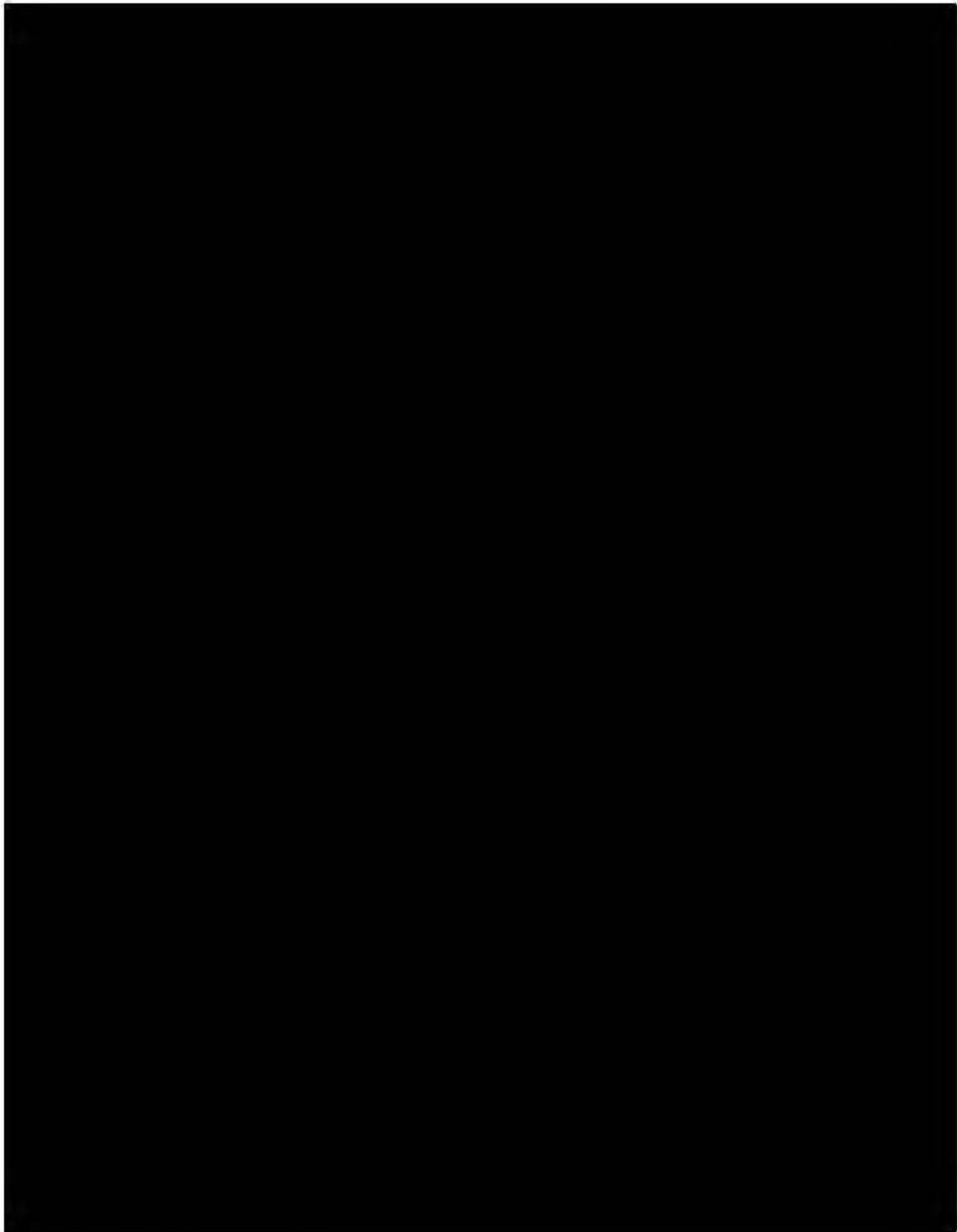




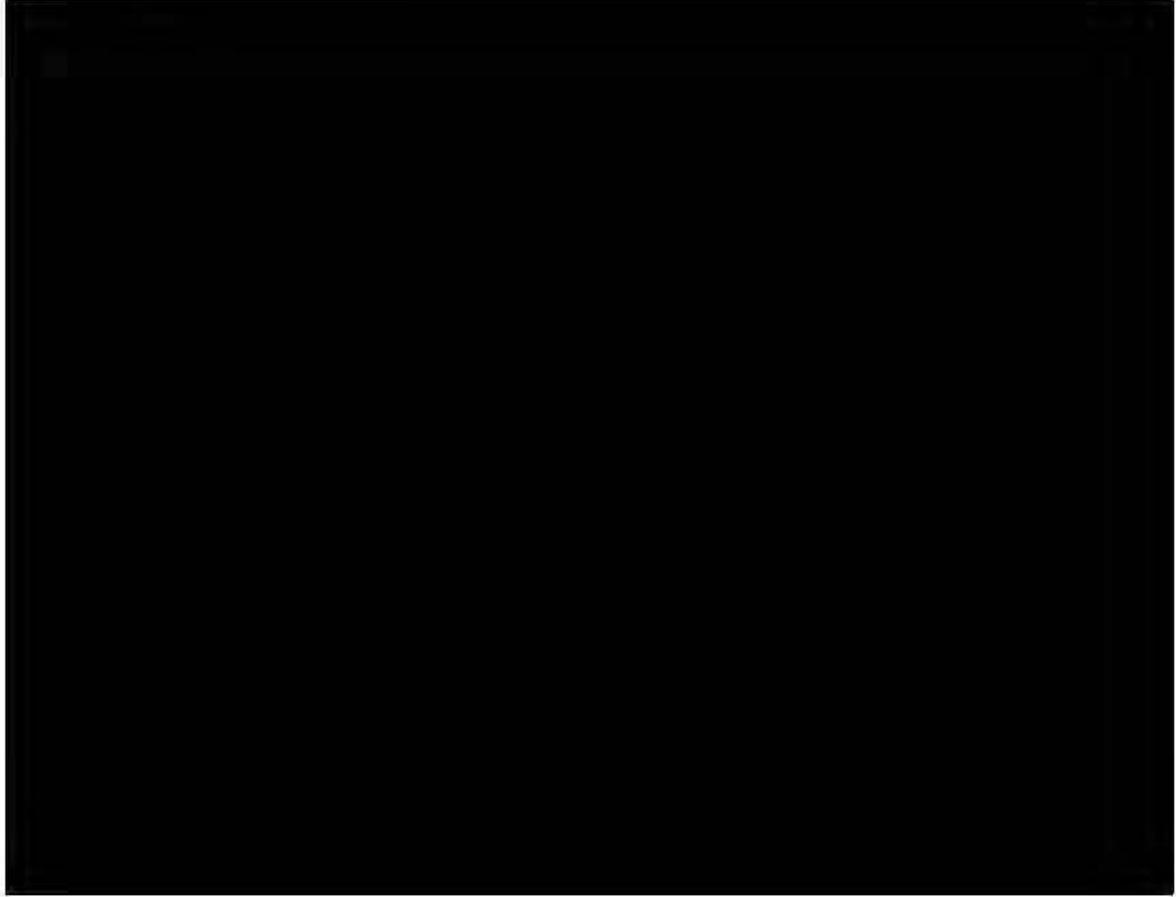












A good decision is based on knowledge and not on numbers.

—PLATO

EXIT



