INTERNAL AUDIT REPORT

2021

SCDOT Commercial Encroachment Permit Approval Process

An Assessment of:

- ☑ Risks
- ☑ Control Design Adequacy
- ☑ Control Operating Effectiveness

SOUTH CAROLINA OFFICE OF THE STATE AUDITOR

INTERNAL AUDIT SERVICES

July 27, 2021

1 EXECUTIVE SUMMARY

SCDOT Commercial Encroachment Permit Approval Process

OBJECTIVE:

- To provide assurance that internal controls are adequately designed and operating effectively for preventing and/or detecting errors in the approval of commercial encroachment permits.

BACKGROUND:

- The safety of the motoring public and SCDOT is of primary concern, and the Department works with several public agencies across the state to promote the safe use of our highway system. Driveways, in particular, have long been recognized as a major source of conflict for traffic on public highways.

- In order to reduce conflicts, legislation was passed in 1956 to establish a permitting process for driveways.

- The Department's desire to satisfy the public's need for efficient and safe traffic movement has to be weighed against property owners' needs for adequate access while taking into consideration significant changes in traffic and roadside characteristics. Since the primary purpose of highways is to provide for the safe and efficient movement of traffic, control of access points on the roadside is paramount.

- The Commercial Encroachment Permits Approval process primarily occurs within each of the seven SCDOT District offices. Each District has a designated Permit Engineer (District Permit Engineer, or DPE) who serves as the main contact once permit applications are received. The DPEs receive support services from the State Permit Engineer (SPE) who serves as the primary point of contact for quality assurance reviews as requested by the DPEs.

CONCLUSION:

- In our opinion, the internal controls in place to ensure that permits are treated consistently and accurately are not designed nor operating effectively, resulting in inconsistent treatment and outdated guidance for both applicants and SCDOT employees. Risk exposure is determined to be Medium. Our observations and recommendations in combination with Management's action plans as shown in Section 5 are expected to improve those internal controls and reduce risk exposures to within the Agency's risk appetite.

Continued on the next page

EXECUTIVE SUMMARY continued

INTERNAL CONTROL OBSERVATIONS:

Note: For presentation and executive summary purposes, we are only including observations with a risk exposure of medium and above.

ARMS Manual Revision	**Risk Exposure:**	**Medium**
Observation: The most recent version of the Access and Roadside Management Standards (ARMS) Manual was issued on May 20, 2020 and does not clearly communicate the application process; this often leads to mistakes being made in the permit application process. We noted that a common practice by applicants when delays occur is to bypass the standard approval process and contact Senior Management or Commission members in an attempt to expedite a permit approval. These issues can lead to delays and the appearance of undue influence.		
(See detailed Observation 5.1 on page 9)		

Appeal Process Update	**Risk Exposure:**	**Medium**
Observation: We noted that the ARMS Manual and Engineering Directive (ED) 17 do not coincide.		
(See detailed Observation 5.5 on page 14)		

Appeal Meeting Description	**Risk Exposure:**	**Medium**
Observation: We noted that the DSE appeal meeting is not described in the ARMS Manual.		
(See detailed Observation 5.6 on page 15)		

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2 FOREWORD

AUTHORIZATION

The South Carolina Office of the State Auditor established the Internal Audit Services division (IAS) pursuant to SC Code Section 57-1-360 as revised by Act 275 of the 2016 legislative session. IAS is an independent, objective assurance and consulting function designed to add value and improve the operations of the South Carolina Department of Transportation (SCDOT). IAS helps SCDOT to achieve its objectives by bringing a systematic, disciplined approach to evaluating the effectiveness of risk management, internal control, and governance processes and by advising on best practices.

STATEMENT OF INDEPENDENCE

To ensure independence, IAS reports administratively and functionally to the State Auditor while working collaboratively with SCDOT leadership in developing an audit plan that appropriately aligns with SCDOT's mission and business objectives and reflects business risks and other priorities.

REPORT DISTRIBUTION

This report is intended for the information and use of the SCDOT Commission, SCDOT leadership, the Chairman of the Senate Transportation Committee, the Chairman of the Senate Finance Committee, the Chairman of the House of Representatives Education and Public Works Committee, and the Chairman of the House of Representatives Ways and Means Committee. However, this report is a matter of public record and its distribution is not limited.

PERFORMED BY

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ACKNOWLEDGEMENT

We wish to thank members of management and staff in the Office of Preconstruction and each District office for their cooperation in sharing their knowledge and experience and developing actions to improve internal controls.

3 INTERNAL AUDITOR'S REPORT

July 27, 2021

Ms. Christy A. Hall, Secretary of Transportation
and
Members of the Commission
South Carolina Department of Transportation
Columbia, South Carolina

We have completed a risk and control assessment of the South Carolina Department of Transportation's (SCDOT's) Approval of Commercial Encroachment Permits. The objective of this assessment was to contribute to the improvement of risk management by evaluating SCDOT's exposure to risks and the controls designed by Management to manage those risks. Our engagement included two aspects:

- Facilitation of Management's assessment of risks associated with the commercial encroachment permit approval process
- Independent assessment of the design and effectiveness of internal controls to determine whether those controls effectively manage the identified risks to an acceptable level.

We planned and performed the engagement with due professional care in order to obtain sufficient, appropriate evidence to provide a reasonable basis for our observations and conclusions. Observations are described in Section 5 beginning on page 9 of this report.

George L. Kennedy, III, CPA
State Auditor

4 ENGAGEMENT OVERVIEW

4.1 BACKGROUND

The goal of South Carolina Department of Transportation's (SCDOT) is to provide adequate, safe, and efficient transportation services for the movement of people and goods. The safety of the motoring public and SCDOT employees is of primary concern, and the Department works with several public agencies across the state to promote the safe use of our highway system. Driveways, in particular, have long been recognized as major sources of conflict for traffic on public highways. In order to reduce these conflicts and address the need for basic access, legislation was enacted in 1956 to establish a permitting process for driveways, and a handbook was developed to guide the location, design, and construction of driveways adjoining highways. This standard recognized that the efficiency and safety depend to a large extent upon roadside interference and its detrimental effect upon the movement of traffic. However, recent years have brought changes in land use and developmental impacts to our highways.

With higher traffic volumes came increased pressure to allow a variety of additional activities to occupy the roadside. The Department's desire to satisfy the public's need for efficient and safe traffic movement has to be weighed against property owners' needs for adequate access while taking into consideration significant changes in traffic and roadside characteristics. Since the primary purpose of highways is to provide for the safe and efficient movement of traffic, control of access points on the roadside is paramount. Previous standards became inadequate for regulating the location, design, construction, operation, and maintenance of points of access to the State Highway System and other activities within highway rights-of-way. This necessitated the revision to the Access and Roadside Management Standards (ARMS) Manual that contains more comprehensive standards in step with current highway and land development practices in the region and nation.

When a commercial property owner has a desire to alter its property, and such alteration will impact the State's road network or the flow of traffic, the property owner must apply for an encroachment permit. An application for a commercial encroachment permit is a request made to SCDOT for permission to perform work on SCDOT maintained rights-of-way. An approved permit grants the Applicant permission to encroach on the roadway within the guidelines established on the permit. These guidelines are established by SCDOT engineers to ensure the work performed and the resulting alterations will maintain the safety of the motoring public.

The Commercial Encroachment Permits Approval process primarily occurs within each of the seven SCDOT District offices. Each District has a designated permit engineer (District Permit Engineer, or DPE) who serves as the main contact once permit applications are received. Permits are submitted through the Agency's Encroachment Permit Processing System (EPPS). This system receives and routes review requests from applicants to the applicable parties (Counties, Districts, Headquarters, etc.) while also serving as a means to share review responsibilities within the Agency. The DPEs receive support services from the State Permit Engineer (SPE) who serves as the primary point of contact for quality assurance reviews as requested by the DPEs. The DPEs' main goal is to issue commercial encroachment permits in a consistent, accurate, and timely manner (Agency goal is 30 calendar days). Consistency among the Districts is critical - the SPE's main goal is to establish consistency throughout the State in order to ensure that Applicants receive the same treatment regardless of the District.

4.2 OBJECTIVES

Management's objectives are to:

- Issue process and policy guidance to DPEs, and
- Provide consistent, accurate, and timely reviews and approvals of commercial encroachment permit applications.

Our objective is to provide assurance that internal controls are adequately designed and operating effectively to manage risks that may hinder the achievement of Management's objectives.

4.3 SCOPE

The Commercial Encroachment Approval activity is comprised of seven processes as follows:

- General Approval
- Appeal
- Site Redesign
- Headquarters (HQ) Review
- Waivers
- County Permit Manager (CPM) Inspection

Based on our discussion with Executive Management about the potential risks and other concerns associated with these processes, we determined that the General Approval and Appeal processes should be included in our evaluation. Therefore, our scope included these two processes with their activities and transactions for the period February 1, 2018 through February 1, 2019.

4.4 METHODOLOGY

For the significant processes included in the engagement scope, we performed the following procedures:

1. We discussed with Management their processes and the respective individuals responsible.

2. We facilitated Management's completion of a risk and control matrix used to:
   a. Identify risks which threaten process objectives;
   b. Score the risks as to their consequence and likelihood of occurrence using the risk scoring matrix in Appendix B;
   c. Determine if controls are adequately designed to manage the risks to within the Agency's risk appetite; and
   d. Propose design improvements to controls when risks are not managed to within the Agency's risk appetite.

As shown on the Risk Scoring Matrix in Appendix B, risk significance is rated on a scale of 1 (lowest) to 25 (highest) and is the product of the risk consequence score (1 to 5) multiplied by the risk likelihood score (1 to 5). Risk appetite is the amount of risk exposure Management is willing to accept in pursuit of its objectives. Executive Management has set various risk appetites by risk type as shown in Appendix C. Risks scoring below Management's risk appetite require no further risk management. Controls determined to be inadequate in design result in risk exposure to the Agency if risk scores exceed risk appetite.

3. We observed the discussion by key process owners and other subject matter experts performing the steps in procedure two above.

4. We evaluated Management's assessment to determine if it was reasonable and comprehensive.

5. We tested key controls intended to manage risks with inherent risk scores of 9 and above [scale of 1 (low) to 25 (high)] to determine if controls are designed adequately and operating effectively. Our testing included inquiry, observation, inspection of documentation, and re-performance of process steps to determine if key controls are operating effectively. We tested controls for risks with inherent scores of 9 and above.

6. We developed observations for controls determined to be inadequate in design and/or ineffective in operation.

7. We collaborated with management to develop action plans to improve control design and/or operating effectiveness.

4.5 CONCLUSION

Districts have several internal controls to ensure that permits are consistently, accurately, and timely approved. However, these controls are outdated and need to be revised and updated accordingly. In our opinion, the internal controls in place to ensure that permits are treated consistently and accurately are not designed nor operating effectively, resulting in inconsistent treatment and outdated guidance for both applicants and SCDOT employees. Risk exposure is determined to be Medium. Our observations and recommendations in combination with Management's action plans as shown in Section 5 are expected to improve those internal controls and reduce risk exposures to within the Agency's risk appetite.

4.6 DEVELOPMENT OF MANAGEMENT ACTION PLANS

We facilitated Management's development of action plans for each observation to improve control design with practical, cost-effective solutions. These improvements, if effectively implemented, are expected to reduce the overall risk exposure to an acceptable level (i.e. within the Agency's risk appetite).

We will follow up with Management on the implementation of the proposed actions on an ongoing basis and provide SCDOT leadership with periodic reports on the status of management action plans and whether those actions are effectively and timely implemented to reduce risk exposure to an acceptable level.

5 OBSERVATIONS

Observation 5.1 **ARMS Manual Revision**	**Risk Exposure** **Medium**

Division: District Offices

Control Assessed:
Control 1 – Access and Roadside Management Standards (ARMS) Manual

Control Description:
Control 1 – The ARMS Manual was published by the SCDOT Traffic Engineering Division and provides the majority of information needed for encroachments onto the right-of-way of the SCDOT. The standards and guidelines were developed to establish uniformity for encroachments in the highway system in order to provide safe and efficient movement of traffic while allowing reasonable access to abutting property. For commercial permits specifically, the manual contains guidance on driveway classifications and their supporting design features (i.e. radial returns, turn lanes, medians, etc.). There is additional technical guidance within this section that allows applicants to see examples of driveway designs. Guidance is given for several different situations (i.e. islands, medians, driveway throat lengths, etc.) throughout the manual along with design examples - it would be pertinent for the applicant (or an agent acting on their behalf) to be very familiar with this manual when applying for a permit. Applicants are required to submit the Encroachment Permit Checklist when applying the ARMS Manual to each permit application to ensure proper completion of the application.

Process Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – General Approval Process (page 20)

Observation:
The most recent version of the ARMS Manual was issued on May 20, 2020 and does not clearly communicate the application process; this often leads to mistakes being made in the permit application process. We noted that a common practice by applicants when delays occur is to bypass the standard approval process and contact Senior Management or Commission members in an attempt to expedite a permit approval. These issues can lead to delays and the appearance of undue influence.

Recommendation:
We recommend that the Traffic Engineering division, in collaboration with the State Permit Engineer, update the ARMS Manual to reflect the current process and clearly describe the process and requirements to help prevent delays. The ARMS Manual should be reviewed annually and updates made to reflect any changes made in practice.

Management Action Plan (MAP) 5.1

SCDOT plans to revise and update the ARMS Manual as described above.

MAP Owner:	Director of Traffic Engineering
Division:	Traffic Engineering
Scheduled Date:	January 2023

Observation 5.2
Engineering Directive 17 Revision

Risk Exposure

Medium-Low

Division: Preconstruction and Traffic Engineering

Control Assessed:
Control 1 – Engineering Directive (ED) 17

Control Description:
Control 1 – ED 17 was originally issued on April 25, 2005, but has since undergone three revisions, the most recent on May 5, 2015. It was issued to provide guidelines and procedures for processing encroachment permits. The directive briefly describes the submittal and approval of applications, required application reviews, special considerations, the appeal process, and record retention.

Process Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – General Approval Process (page 20)

Observation:
As it is currently written, ED 17 contains information that conflicts with the ARMS Manual. Additionally, it is not written to provide users (applicants or agents acting on their behalf, and SCDOT personnel) with sufficient information to clearly and fully describe the encroachment permit process as it should be followed.

Recommendation:
We recommend that SCDOT update ED 17 to reflect the current and best procedures with regards to encroachment permits consistent with the ARMS Manual. Based on our understanding, engineering directives should establish policy, and should be reviewed annually. The committee should include input from those who are involved in the process (maintenance staff, District permit engineers, resident maintenance engineers, etc.).

Management Action Plan (MAP) 5.2

SCDOT will update Engineering Directive 17 in an effort to align with the ARMS Manual as stated above.

MAP Owner:	Deputy Secretary of Engineering
Division:	Engineering
Scheduled Date:	January 2023

Observation 5.3
IT Systems Interface

Risk Exposure

Medium-Low

Division: Engineering and Information Technology

Control Assessed:
Control 1 – DPE Referencing Various IT Systems

Control Description:
Control 1 – When permit applications are received within EPPS, the DPE (or Assistant DPE) must verify that there are no physical conflicts (i.e. conflicts with vehicles entering and exiting a property) with the potential encroachment. Currently, systems within the Agency are not interfaced and do not provide an automatic notification for potential conflicts, making this a manual research process. DPEs manually investigate for any conflicts by researching the encroachment point in various systems throughout the Agency. This is not a documented step within the process (i.e. the DPE does not document this within EPPS), and is completely dependent upon the DPE's actions.

Systems that the DPE references include the following:

- **Project Programming System (P2S) -** this system is designed to provide users with a quick and reliable source for gathering, maintaining, and reporting all pertinent project information from beginning to end. The system utilizes the current capabilities of SCDOT's Roadway Inventory Management System (RIMS) to provide route validation so that project managers can be automatically notified when routes overlap with projects (currently EPPS is not interfaced within this system). P2S is integrated with other agency applications such as ITMS, Primavera, CBES, Webtrnsport, and SiteManager to make finding project and contract data more organized. It's designed to be user-friendly and web-based, making it easily accessible. This system is the DPE's main source for finding potential conflicts since it is interfaced with various other programs within the Agency.

- **ProjectWise** - this system is developed explicitly for the design and construction of architecture, engineering, construction, and operations (AECO) of infrastructure projects. It's designed to house all project related documents - users can store any document type within ProjectWise and can configure ProjectWise to launch a specific application for each document type. DPEs can use this software to further research potential conflicts within the roadway. SCDOT is currently using ProjectWise to manage the submission and retrieval of proposals templates and project documents from engineering firms. In the future, the Agency would like to fully utilize ProjectWise to store and back-up project documents, share data across project teams (including primary consultants), and to provide Agency project managers with additional tools to manage their projects.

- **Plans Library -** This is a database that houses plans for various projects throughout DOT. The database is searchable based on the County, route, Project ID, and the applicable let date. Once the project is located, all documentation related to the project is available - site plans, notes, additional related plans (i.e. traffic plans), repair details, profiles, cross sections, etc. It does not interface with other systems, and is simply a database for document storage.

Process Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – General Approval Process (page 20)

Observation:
While the manual research of SCDOT systems and databases provides the DPE with pertinent information, and most often enough information to make a sound decision with regards to potential roadway conflicts, it is possible for conflicts to go undetected since the research is manually performed. While we noted no conflicts in our sampled permits, we were told that conflicts have at times been discovered after permit approval. Such conflicts could cause delays, construction issues, and safety concerns. Ideally, if the EPPS system was interfaced with P2S, an automatic notification of any conflict could be made.

Recommendation:
We recommend that SCDOT research the ability to use software to reduce potential physical roadway conflicts.

Management Action Plan (MAP) 5.3

SCDOT will research solutions that can automate this process in order to reduce roadway conflicts.

MAP Owner:	Deputy Secretary of Finance and Administration and Deputy Secretary of Engineering
Division:	Information Technology and Engineering
Scheduled Date:	July 2022

Observation 5.4
Documented Desk Procedures

Risk Exposure

Medium-Low

Division: Districts

Control Assessed:
Control 1 – Intra-District Cross Training

Control Description:
Control 1 – Each District office performs cross-training within the Permits department. The majority of training is done via on-the-job training, and not formally documented through written desk procedures.

Process Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – General Approval Process (page 20)

Observation:
There are currently no formal desk procedures to help new or inexperienced staff understand the overall procedures and purpose of the commercial permit approval process. Accurate and timely approvals of permit applications may be impeded if an employee is not knowledgeable and experienced in their role.

Recommendation:
We recommend desk procedures be developed to help staff who are new or inexperienced in their role understand the overall purpose of commercial permit application approvals and to give insight to each of the necessary steps.

Management Action Plan (MAP) 5.4

The State Permit Engineer will coordinate with Districts to develop desk procedures.

MAP Owner:	State Permit Engineer
Division:	Preconstruction
Scheduled Date:	July 2022

Observation 5.5
Appeal Process Update

Risk Exposure

Medium

Division: Engineering

Control Assessed:
Control 1 – Appeal Process (as described in the ARMS Manual & ED 17)

Control Description:
Control 1 - Per the **ARMS Manual** "An Application for Encroachment Permit **that is not approved** under Section 2B may be appealed to the Deputy Secretary for Engineering **within 60 days** from **date of denial**. A letter to the Deputy Secretary for Engineering from the applicant shall be submitted in writing **to the RME or DPE**. An Access Waiver should be included and note which standard the appeal is requesting to waive. **An Application for Encroachment Permit that is approved with conditions cannot be appealed. The letter should also include the basis for the appeal such as:**

- No other reasonable access can be provided.
- Applicant took all reasonable steps to meet ARMS standard.
- The ARMS standard is not interpreted to fit the site circumstances.
- Undue financial hardship imposed upon applicant.
- Denial is significantly inconsistent with the ARMS standard application within the locality or region.
- Appropriate SCDOT process was not followed.

The RME or DPE will transmit the appeal letter, the permit application number and additional supporting documentation to the Deputy Secretary for Engineering for processing. **The Deputy Secretary for Engineering will advise the applicant, RME or DPE the results of his/her ruling on the appeal**."

Per **ED 17**, "Applications **that are denied** may be appealed to the DSE (Deputy Secretary for Engineering). The appeal will be made to the RME or DPE and will be escalated through Department authority by submitting a specific written request to the DSE. **The response from the DSE may be escalated to the South Carolina Department of Transportation Commission**."

Process Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – Appeal Process (page 24)

Observation:
We noted that the ARMS Manual and ED 17 do not coincide.

Recommendation:
We recommend that ED 17 be updated to coincide with the ARMS Manual and state statute to prevent any potential undue influence.

Management Action Plan (MAP) 5.5

SCDOT will hold ED 17 in abeyance to avoid any conflict of interest in the appeals process. SCDOT will update ED 17 as described in MAP 5.2.

MAP Owner:	Deputy Secretary of Engineering
Division:	Engineering
Scheduled Date:	December 2021 – Engineering Directive 17 on hold January 2023 – Update ED 17

Observation 5.6
Appeal Meeting Description

Risk Exposure

Medium

Division: Engineering

Controls Assessed:
Control 1 – Deputy Secretary of Engineering Coordinates appeal meeting with appropriate staff

Control Descriptions:
Control 1 - Per Engineering Directive 17, "applications that are denied may be appealed to the Deputy Secretary of Engineering (DSE). The appeal will be made to the RME or DPE and will be escalated through Department authority by submitting a specific written request to the DSE. The response from the DSE may be escalated to the South Carolina Department of Transportation Commission." Once the DSE receives the appeal letter, they assign the appropriate staff to review all materials in EPPS to provide additional information. These staff members serve as an unbiased third party to evaluate the application. Once their review is complete, the DSE and staff meet to discuss the information and make a decision. The DSE's final decision will be one of three options – request more information, approve, or deny. Once a decision is made, the DSE responds to the applicant.

Processes Affected: (See process descriptions in Appendix A on page referenced below)
Process 1 – Appeal Process (page 24)

Observation:
We noted that the DSE appeal meeting is not described in the ARMS Manual.

Recommendation:
We recommend that SCDOT update the ARMS Manual to include the DSE appeals process.

Management Action Plan (MAP) 5.6

SCDOT plans to revise and update the ARMS Manual to include the DSE appeal process

MAP Owner:	Deputy Secretary of Engineering
Division:	Engineering
Scheduled Date:	December 2021

6 PERFORMANCE OPPORTUNITIES

While our engagement was primarily focused on risk management, we have identified other matters that represent opportunities for cost savings, revenue enhancement, process improvement, strengthened control environment, or more effective performance.

Performance Opportunity 6.1
EPPS Enhancement

Process Affected: (See process description in Appendix A on page referenced below)
Process 1 – General Approval Process (Page 20)

Commercial encroachment permit applications are required to be submitted to the District offices and all other permit applications are typically submitted to the County offices. Occasionally, commercial encroachment permit applications are submitted to the County offices due to the applicant labeling the permit incorrectly on their application. In these cases, the County offices send the application to the appropriate District office for its review. However, the application cannot be reassigned in the EPPS system, which limits the notifications the DPE receives when other documents related to an application are submitted.

Recommendation:
We recommend that EPPS be updated to allow for the reassignment of permit applications.

Management Action Plan (MAP) 6.1

SCDOT will research the capabilities of implementing the reassignment of permit applications within EPPS.

MAP Owner:	State Permit Engineer and Project Management Office Director
Division:	Preconstruction and Information Technology
Scheduled Date:	July 2022

Performance Opportunity 6.2
Conceptual Letter of Agreement

Process Affected: (See process description in Appendix A on page referenced below)
Process 1 – General Approval Process (Page 20)

Per the ARMS Manual, the Agency may provide a document indicating concurrence with the preliminary site development plan; this document is called a Conceptual Letter of Agreement (CLA). To receive the CLA, the applicant must submit plans to the DPE, including: structural locations, access placement, internal traffic circulation, drainage requirements, and general grading. This document expires one year from the date of issuance and must be provided with the permit application. Once submitted, the encroachment permit with all final requirements is reviewed for approval.

We also determined that some Districts use CLAs while others prefer not to issue them, thus creating inconsistencies among the Districts. This becomes an issue when a single applicant receives different treatment when they apply for permits from different Districts.

Recommendation:
We recommend SCDOT review the conceptual letter of agreement to analyze the assigned timeframe as well as the application among Districts.

Management Action Plan (MAP) 6.2

SCDOT will review the conceptual letter of agreement timeframe and will also analyze the application of the letter to improve consistency throughout the Districts. DOT will research the time frame surrounding the conceptual letter of agreement and make adjustments if necessary.

MAP Owner:	Deputy Secretary of Engineering
Division:	Engineering
Scheduled Date:	July 2022

Performance Opportunity 6.3
SCDOT Website Update

Process Affected: (See process description in Appendix A on page referenced below)
Process 1 – General Approval Process (Page 20)

Appendix C of the ARMS manual states that an applicant should "provide a detailed description of the type of encroachment (driveway, landscape, subdivision street, etc.)" they're applying for. Based on discussion with the SPE, applications are often submitted for the incorrect permit type. When incorrect applications are submitted, erroneous applications can remain in the EPPS system until the applicant deletes their submission from the system, and the RME or DPE must spend time educating the applicant on the correct type of permit to submit.

Recommendation:
We recommend that the Agency update the "Encroachment Permits" portion of the SCDOT website to provide applicants with pertinent information in a more readily available format (i.e. better describe low volume or one time only customers vs. high volume customers) in an effort to receive more accurate applications.

Management Action Plan (MAP) 6.3

The State Permit Engineer will work with Information Technology to update the "Encroachment Permits" section of the Agency's website.

MAP Owner:	State Permit Engineer and Chief Information Officer
Division:	Preconstruction and Information Technology
Scheduled Date:	July 2022

Performance Opportunity 6.4
Performance Bonds

Process Affected: (See process description in Appendix A on page referenced below)
Process 1 – General Approval Process (Page 20)

To mitigate the risk of incomplete or non-compliant work, applicants are often required to obtain performance bonds or letters of credit (LOC).

- **Performance Bonds** - These are normally used in larger, more expensive projects (i.e. widening, adding turn lanes or traffic signals, etc.). Bonds can be drawn on multiple times, and applicants must successfully complete the project in order to be released by the bonding company. In essence, this is a contract that guarantees that the applicant will fulfill the obligations made with SCDOT. These are more difficult for smaller applicants to obtain due to the financial requirement a performance bond holds.

- **Letters of Credit (LOC)** - These are normally used on smaller, less expensive projects. LOCs can only be drawn on once and only last for one year from the date they are signed, but are typically easier for an applicant to obtain.

We noted inconsistent use by District offices in that some prefer one over the other or choose to forgo either, depending on how a DPE decides to handle each project. Each DPE currently relies on their engineering judgement to determine which tool (if any at all) should be used for each permit application – some DPEs require every project to have a bond or LOC, while some may not require anything if they are comfortable with the applicant/developer. Per SCDOT General Counsel, there is no legal requirement for SCDOT to choose between a bond and a LOC. Likewise, there is no formal engineering guidance that aids DPEs in the use of these mitigating strategies.

Recommendation:
With all factors taken into consideration, we recommend that the Agency establish guidance surrounding the application of either a bond or letter of credit.

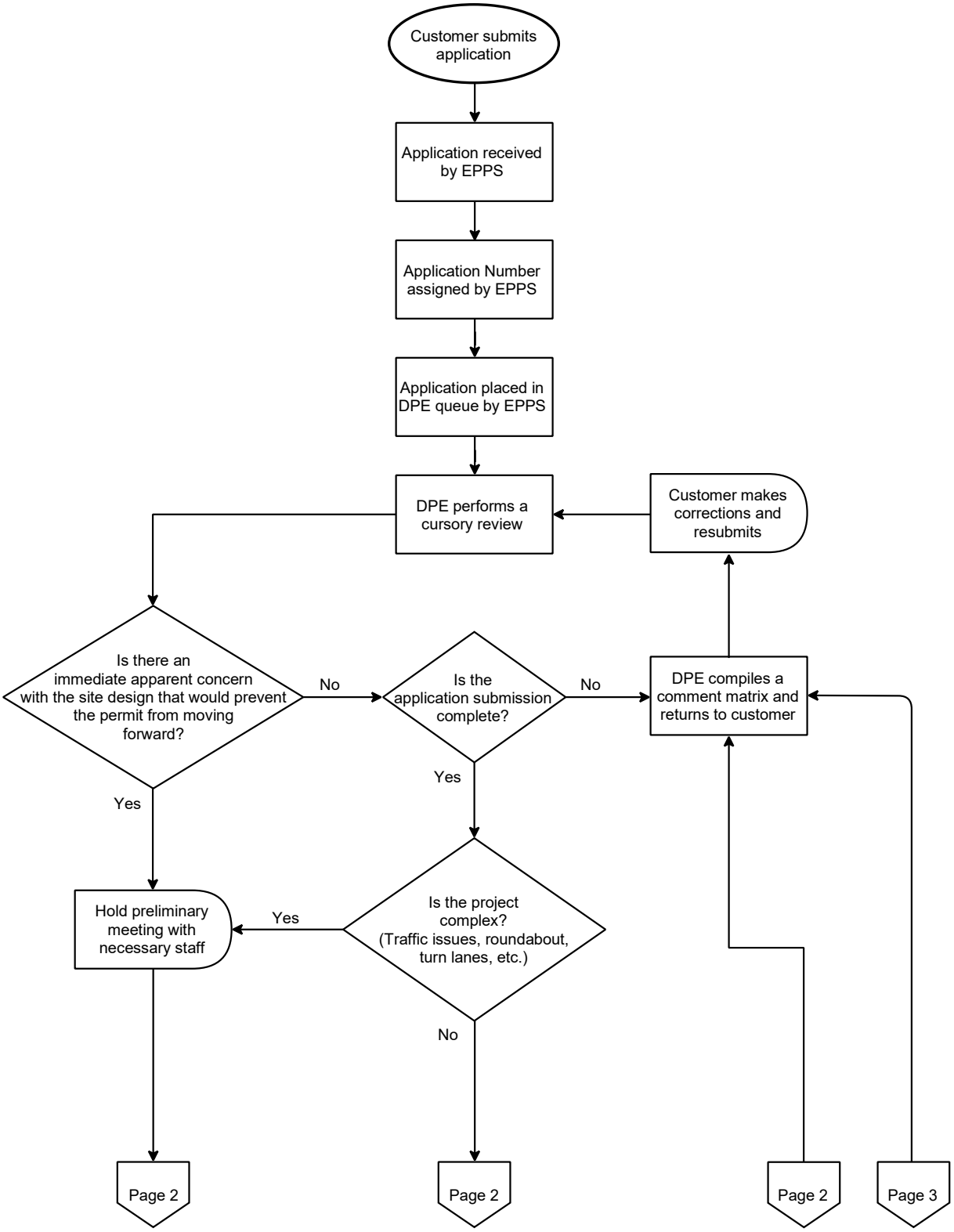
Management Action Plan (MAP) 6.4

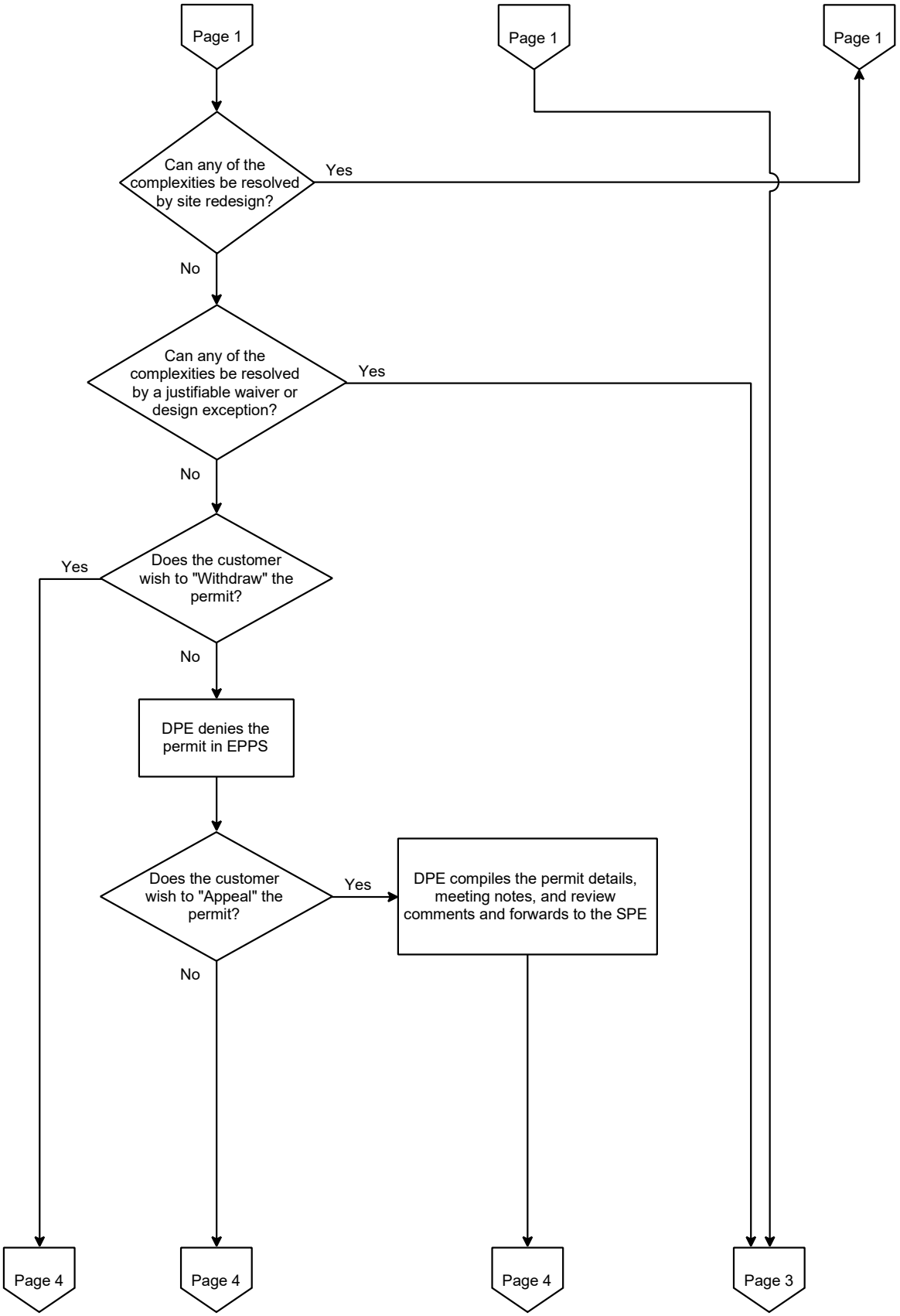
SCDOT will establish guidance surrounding the bonds and letters of credit to encourage consistency throughout the Districts.

MAP Owner:	Deputy Secretary of Engineering and General Counsel
Division:	Engineering and Legal
Scheduled Date:	January 2023

APPENDIX A PROCESS DESCRIPTIONS

Process 1 Approval Process

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Can any of the complexities be resolved by site redesign?
Yes
No
Can any of the complexities be resolved by a justifiable waiver or design exception?
Yes
No
Does the customer wish to "Withdraw" the permit?
Yes
No
DPE denies the permit in EPPS
Does the customer wish to "Appeal" the permit?
Yes
DPE compiles the permit details, meeting notes, and review comments and forwards to the SPE
No
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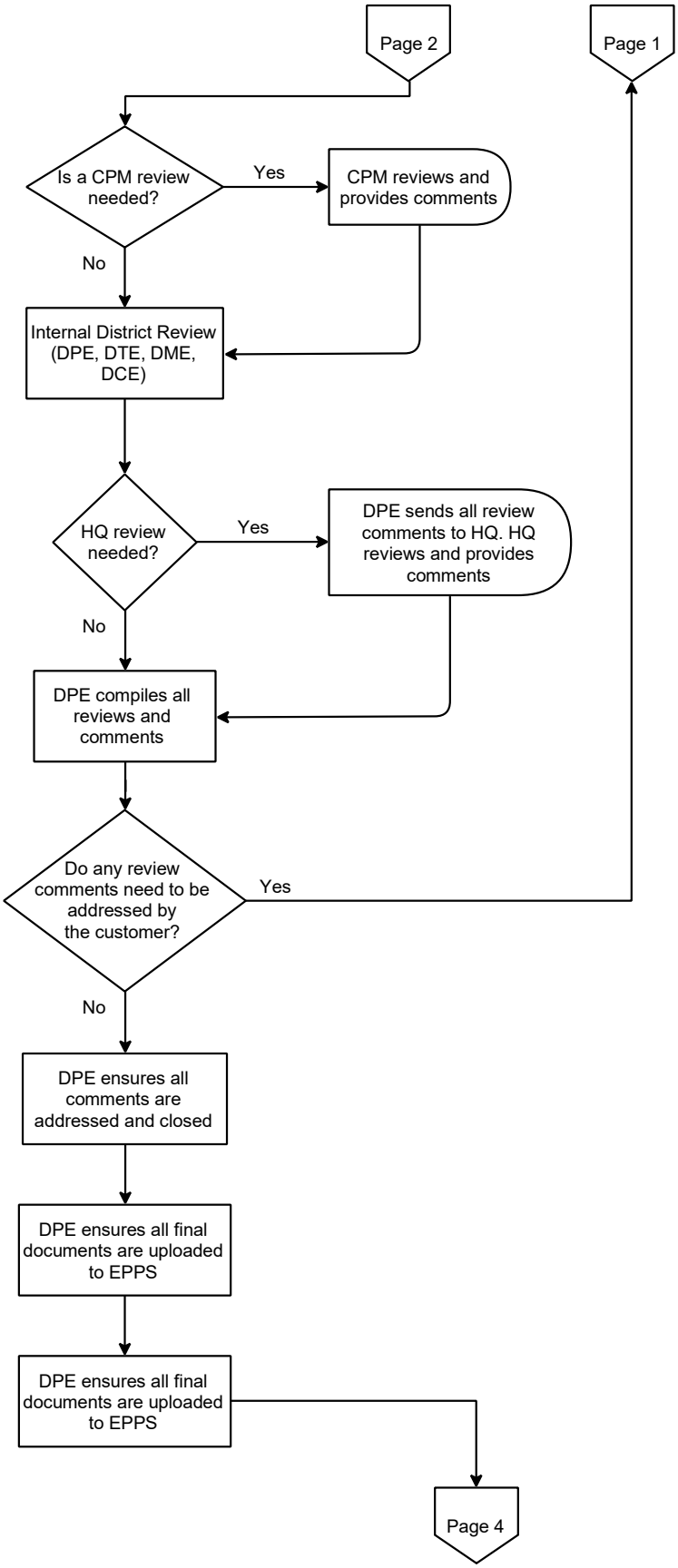
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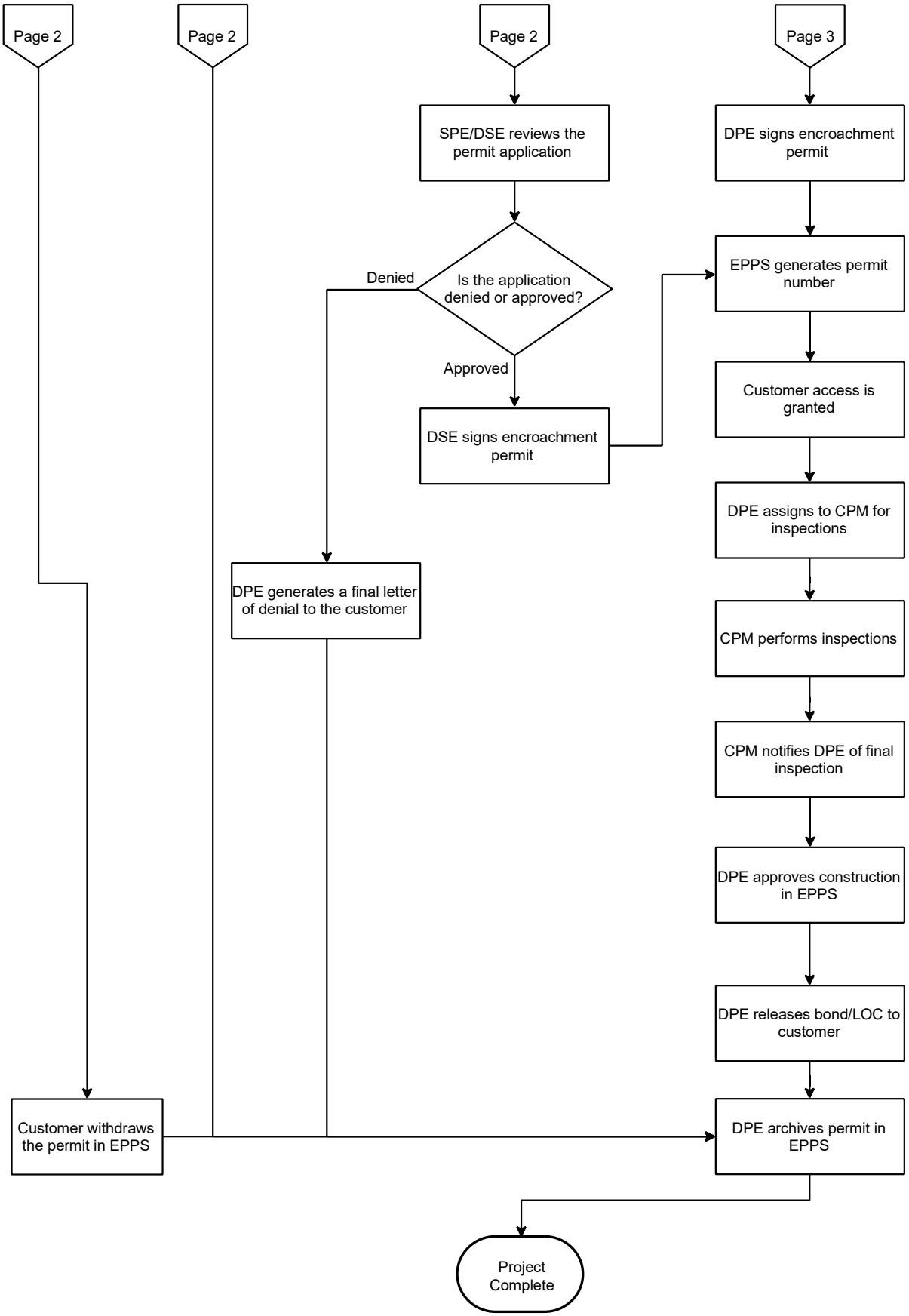
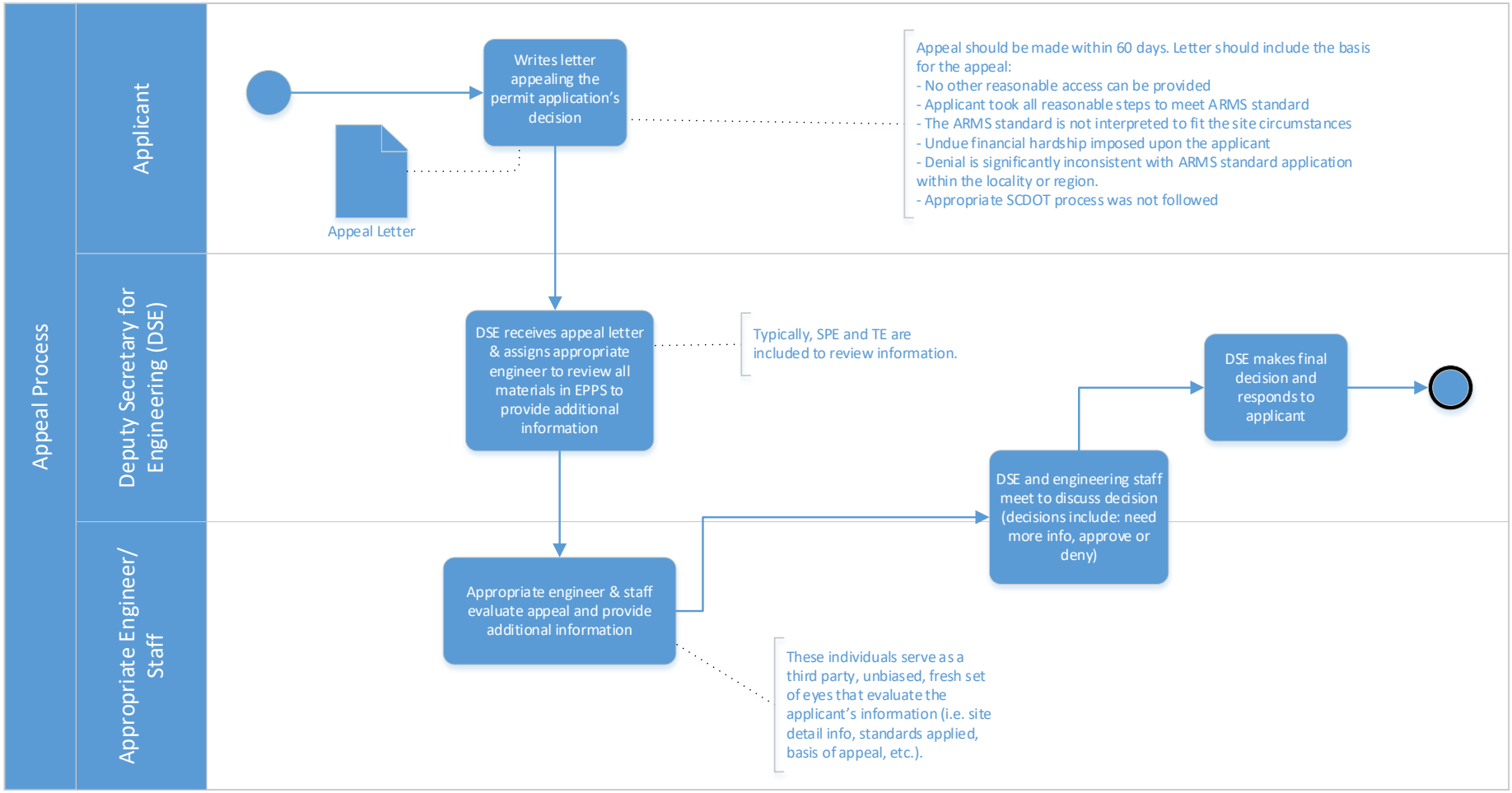
Is a CPM review needed?
Yes
CPM reviews and provides comments
No
Internal District Review (DPE, DTE, DME, DCE)
HQ review needed?
Yes
DPE sends all review comments to HQ. HQ reviews and provides comments
No
DPE compiles all reviews and comments
Do any review comments need to be addressed by the customer?
Yes
No
DPE ensures all comments are addressed and closed
DPE ensures all final documents are uploaded to EPPS
DPE ensures all final documents are uploaded to EPPS
Page 4


Page 2
Page 2
Page 2
Page 3
SPE/DSE reviews the permit application
Is the application denied or approved?
Denied
Approved
DSE signs encroachment permit
DPE generates a final letter of denial to the customer
DPE signs encroachment permit
EPPS generates permit number
Customer access is granted
DPE assigns to CPM for inspections
CPM performs inspections
CPM notifies DPE of final inspection
DPE approves construction in EPPS
DPE releases bond/LOC to customer
Customer withdraws the permit in EPPS
DPE archives permit in EPPS
Project Complete

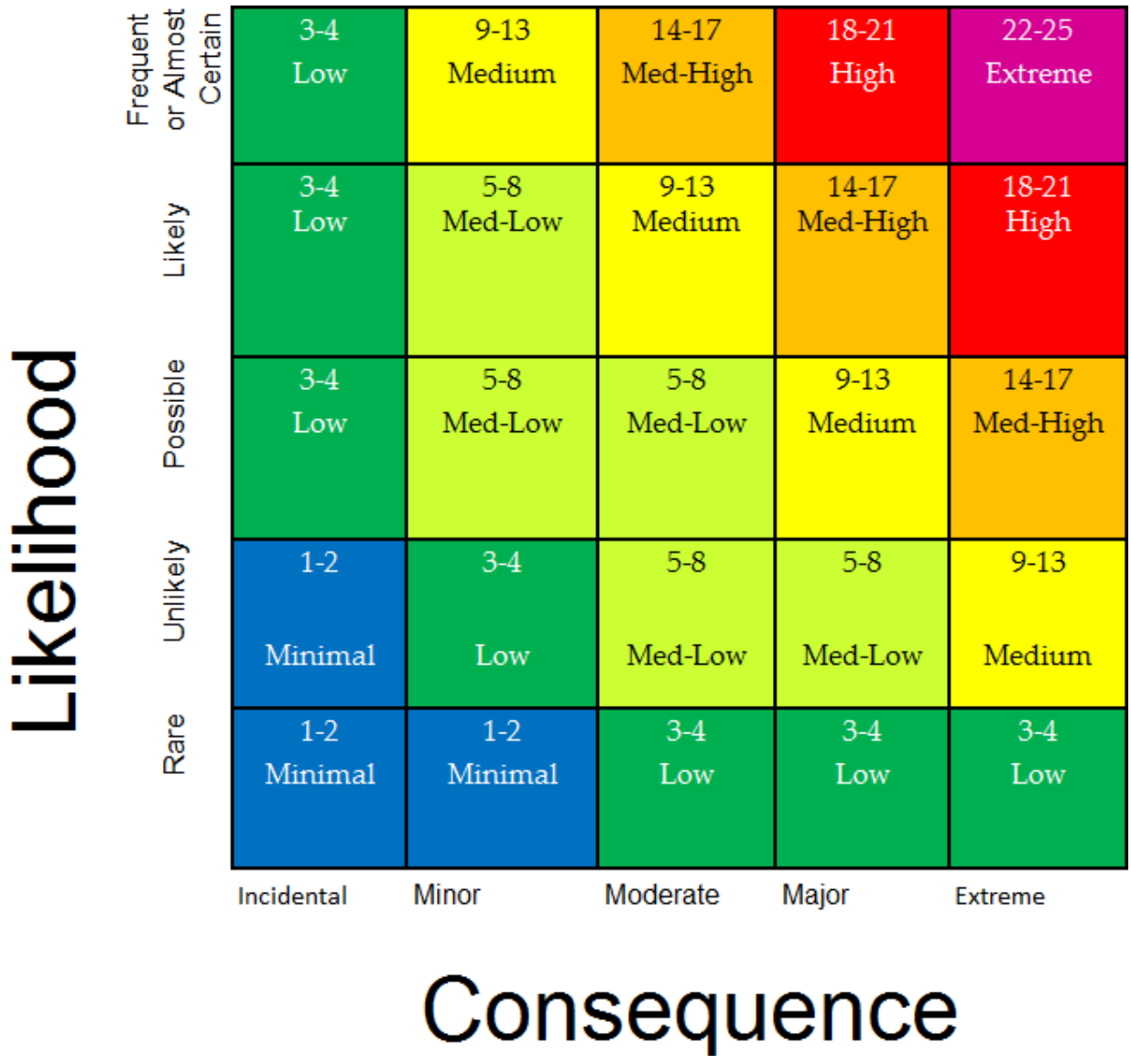
Process 2 Appeal Process



APPENDIX B

RISK SCORING MATRIX

Risk significance is rated on a scale of 1 (lowest) to 25 (highest) and is the product of the risk consequence score (1 to 5) multiplied by the risk likelihood score (1 to 5). The following matrix provides a color scale corresponding to risk significance scores.



APPENDIX C

RISK APPETITE

Risk appetite is defined as the amount of risk the Agency is willing to accept in the pursuit of its objectives. Management's goal is to manage risks to within the appetite where mitigation is cost-beneficial and practical. Management has set the Agency's risk appetite by risk type using scoring methodology consistent with the Risk Scoring Matrix shown in Appendix B. Risk appetites by risk type are as follows:

RISK TYPE	EXAMPLES	RISK APPETITE SCORE 1 = Minimal Risk 25 = Extreme Risk (See Scoring Matrix in Appendix B)
Safety	Employee and Public Well-Being	2
Ethical	Fraud, Abuse, Mismanagement, Conflict of Interest	2
Financial	Funding, Liquidity, Credit, Reporting	4
Strategic	Resources not Aligned, Unclear Objectives	4
Reputational	Unintentional Unwanted Headlines	4
Operational	Delays, Cost Overruns, Waste, Inefficiency	6
Regulatory	Non-Compliance	6
Legal	Lawsuits	10