



**DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY**

Board of Directors

Audit Committee

Thursday, January 25, 2018

9:30 a.m.

- 1. **Call to Order**.....Nicholas A. Majett, Chairperson
- 2. **FY 2017 Financial Statements**.....Matthew Brown, CFO
- 3. **External Audit Exit Conference**.....KPMG
- 4. **Internal Audit Update**..... Dan Whelan, RSM, Auditor General
 - A. **Internal Audit Plan Status Update**
 - B. **Status Update on Prior Audit Findings**
 - C. **Construction Plan Review and Permitting**
 - D. **Fleet – Accident and Incident Reporting**
 - E. **Hotline Update and Analysis**
- 5. **Executive Session*** Nicholas A. Majett, Chairperson
- 6. **Adjournment**..... Nicholas A. Majett, Chairperson

* The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10); proprietary matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.



PRESENTATION TO AUDIT COMMITTEE FY 2017 FINANCIAL STATEMENTS

January 25, 2018





FY 2017 Financial Overview

- The Authority's balance sheet remains strong and is growing
 - Total net position of \$1.9 billion (increase of \$194.6 million or 11.4%)

- The Authority posted financial results from operations generally in line with expectations and consistent with historical performance
 - Operating revenues increased by \$47.4 million (8.0%) to \$643.2 million
 - Operating expenses increased by \$19.7 million (5.1%) to \$408.1 million
 - Total unrestricted cash & investment of \$212.5 million (vs. \$219.3 million in FY16)
 - Total restricted cash & investment of \$299.0 million (vs. \$252.5 million in FY16)
 - Total long-term debt increased to \$3.2 billion (10.1% increase)

- *Credit Rating Upgrades*
 - Standard and Poor's Investors Service upgraded DC Water's credit rating for senior lien revenue bonds from AA+ to AAA, the highest rating available by a rating agency.
 - Moody's Investor Service upgraded DC Water's credit rating for senior lien revenue bonds from Aa2 to Aa1.



FY 2017 Financial Overview

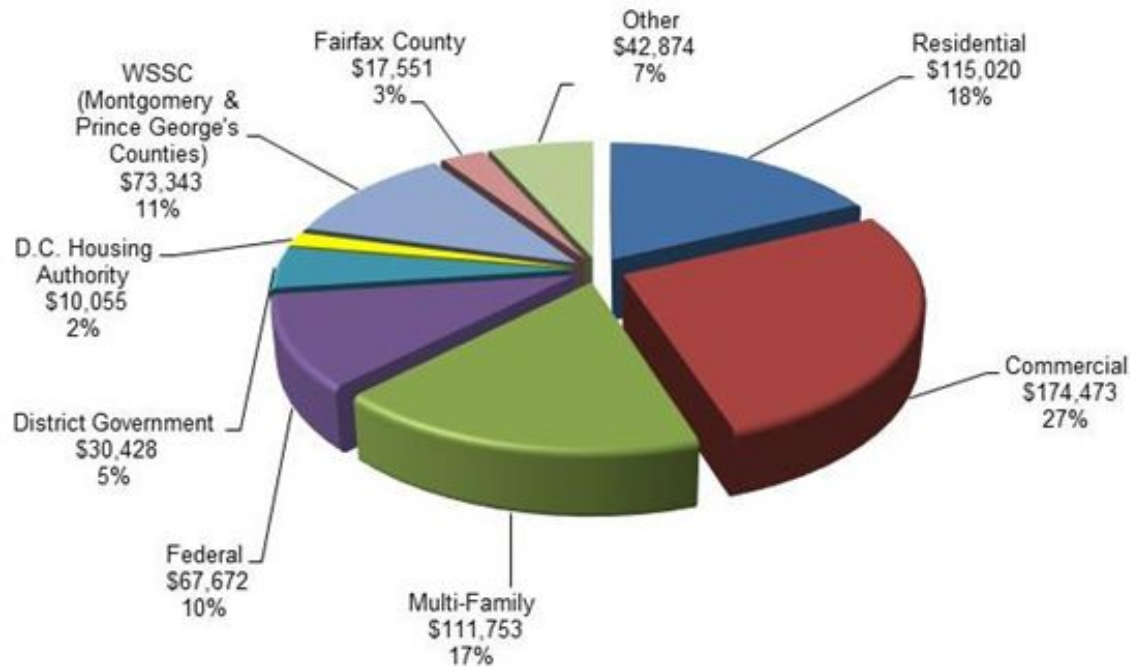
Summary of Fiscal Year 2017 Debt Financing

- Issued \$100.0 million of 2017 Series A and \$200.0 million of 2017 Series B senior lien revenue bonds with fixed interest rates ranging from 4.0% to 5.0%. The 2017 Series A green bonds mature in 2053 and are being used to fund the Clean Rivers Project. The 2017 Series B bonds mature in 2045 and are being used to fund the Authority's various capital improvements to the system.



FY 2017 Operating Revenues

- The Authority's operating revenues remain well diversified and stable.





FY 2017 Operating Revenues

- The Authority 's operating revenues increased by \$47.4 million (or 8.0%) to \$643.2 million.

	<u>FY 2017</u>	<u>FY 2016</u>
Residential, commercial and multi-family customers	\$ 401,246	\$ 382,552
Federal government	67,672	63,417
District government and D.C. Housing Authority	40,483	38,185
Charges for wholesale wastewater treatment	101,619	91,873
Other	32,149	19,762
Total operating revenues	<u>\$ 643,169</u>	<u>\$ 595,789</u>



FY 2017 Operating Expenses

- The Authority’s operating expenses increased by 5.1% (or \$19.7 million) to \$408.1 million.

	<u>FY 2017</u>	<u>FY 2016</u>
Personnel services	\$ 132,124	\$ 124,239
Contractual services	72,611	74,086
Chemicals, supplies and small equipment	33,381	29,524
Utilities and rent	24,262	23,934
Depreciation and amortization	97,900	89,512
Water purchases	26,796	26,345
Payment in lieu of taxes and right of way fee	21,057	20,744
Total operating expenses	\$ 408,131	\$ 388,384

- Personnel, depreciation expense and chemicals, supplies and small equipment were the primary drivers offset by a decrease in contractual services expense.



Net Capital Assets

- The Authority’s net capital assets, including construction in progress and less depreciation, increased by \$547.8 million (or 9.1%) to \$6.5 billion.

	As of September 30,		
	2017	2016	2015
Wastewater treatment plant	\$ 3,010,074	\$ 2,383,176	\$ 2,367,163
Wastewater collection facilities	856,859	843,095	828,130
Water distribution system	1,112,458	1,095,216	1,054,046
Purchased capacity	356,850	349,210	341,974
Capital equipment	253,437	220,584	203,573
Construction in progress	2,489,255	2,544,698	2,033,657
Less accumulated depreciation	(1,535,833)	(1,440,632)	(1,351,216)
Net capital assets	\$ 6,543,100	\$ 5,995,347	\$ 5,477,327



Change in Net Position

- The Authority's net position increased by \$194.6 million (or 11.4%) to \$1.9 billion.

	Fiscal Year		
	2017	2016	2015
Operating revenues	\$ 643,169	\$ 595,789	\$ 549,915
Operating expenses	408,131	388,384	378,660
Net non-operating revenues (expenses)	<u>(64,553)</u>	<u>(66,489)</u>	<u>(60,093)</u>
Change in net position before capital contributions	170,485	140,916	111,162
Capital contributions	<u>24,066</u>	<u>32,431</u>	<u>67,965</u>
Change in net position	194,551	173,347	179,127
Net position - beginning of year, as restated	<u>1,703,289</u>	<u>1,529,942</u>	<u>1,350,815</u>
Net position - end of year	<u><u>\$ 1,897,840</u></u>	<u><u>\$ 1,703,289</u></u>	<u><u>\$ 1,529,942</u></u>



DC Water and Sewer Authority

Audit results

Financial statement and Uniform Guidance audits for the year ended
September 30, 2017

January 25, 2018

This presentation to the Audit Committee is intended solely for the information and use of the Audit Committee and management and is not intended to be and should not be used by anyone other than these specified parties. This presentation is not intended for general use, circulation, or publication and should not be published, circulated, reproduced, or used for any purpose without our prior written permission in each specific instance.

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Agenda

1. Financial statement audit results
2. Significant accounting policies and practices
3. Audit misstatements
4. Significant deficiencies and material weaknesses in internal control
5. Independence
6. Required communications and other matters
7. Uniform Guidance Audit (Single Audit)
8. Appendix
 - Responsibilities
 - Summary of Uncorrected Misstatements

Financial statement audit results

Opinion on the Basic Financial Statements

— Unmodified or “clean” opinion

Report on Internal Control Over Financial Reporting and on Compliance with Laws, Regulations, Contracts and Grants in Accordance with *Government Auditing Standards*

— No material weaknesses or significant deficiencies reported

— No instances of non-compliance reported

Management Letter

— Control deficiencies noted

Significant accounting policies and practices

Significant accounting policies

- Described in Note 2 of the basic financial statements
- No new or changed accounting policies in FY 2017

Concerns regarding application of new accounting pronouncements

- None noted as no new accounting pronouncements had a material effect on the the financial statements in FY 2017

Alternative accounting treatments

- None noted

Unusual transactions

- Addition of Blue Drop, LLC as a blended component unit

Significant accounting estimates

- No significant accounting estimates were identified in the process used by management to prepare the financial statements

Significant accounting policies and practices (cont'd)

Recently adopted GASB standards for FY17

No.	Title	Material impact on DC Water?
73	Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68	No
74	Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans	No
77	Tax Abatement Disclosures	No
78	Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans	No
80	Blending Requirements for Certain Component Units	No
82	Pension Issues	No

Significant accounting policies and practices (cont'd)

GASB Pronouncements to be Implemented in the Future

No.	Title	Required implementation date (Period beginning after)	Authority fiscal year
75	Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions	June 15, 2017	2018
81	Irrevocable Split-Interest Agreements	December 15, 2016	2018
83	Certain Asset Retirement Obligations	June 15, 2018	2019
84	Fiduciary Activities	December 15, 2018	2020
85	Omnibus 2017	June 15, 2017	2018
86	Certain Debt Extinguishment Issues	June 15, 2017	2018
87	Leases	December 15, 2019	2021

Audit misstatements

Uncorrected Audit Misstatements	
Description of misstatement	Quantitative effect on Net Position (Debit (Credit)) (in \$ thousands)
	Dual Method
1. To reclassify the loss on disposal of capital assets for meters taken out of service in FY17 from interest expense and other non-operating expenses to depreciation expense for for the current year portion and beginning net position for the portion relating to FYs 2015 2015 and 2016; and to adjust the book values of meters not scheduled to be replaced that currently are being depreciated over a 60 year useful life down to their adjusted net net book values based on the revised estimated useful lives.	\$6,199
2. To record an adjustment to the capital accounts payable accrual based on actual invoices received from 11/1/17 to 11/30/17, which were less than the accrued amount by by \$6.9M.	(7,714)
3. To reclassify bad debt expense from non-operating expense to operating expense.	-
Total	(1,515)
Change in net position	(194,551)
Percentage	0.78%

Note 1: Appendix I includes the detailed summary of uncorrected misstatements related to accounts and disclosures, which was already presented to management.

Note 2: There were no corrected misstatements.



Significant deficiencies and material weaknesses in internal control

Material weaknesses

None noted

Significant deficiencies

None noted

All other deficiencies in ICOFR noted during our audit that are of sufficient importance to merit management's attention have been communicated to management.



Independence







Non-audit services or other relationships that may reasonably be thought to bear on independence include:







- Green bond report attestation
- 2nd Quarter agreed-upon procedures
- Allowable advisory services to assist with the requirements definition, business process analysis, and vendor selection activities for modernization of the Enterprise Resource Planning system

In our professional judgment, we are independent with respect to the Authority, as that term is defined by the professional standards.



Required communications and other matters

Type	Response
Related parties	 All significant related party transactions have been disclosed in the financial statements. No significant matters regarding related parties were noted.
Illegal acts or fraud	 No actual or suspected fraud involving involving management, employees with significant roles in internal control, or where fraud results in a material misstatement in the financial financial statements were identified during the audit.
Noncompliance with laws and regulations	 None noted.
Modifications to auditor's report	 None.
Subsequent events	 None noted.
Material written communications between KPMG and management	 Engagement letter & Management representation letter, including summary of uncorrected misstatements to be distributed under under separate covers.

Type	Response
Other information	 No material inconsistencies were identified related to other information information in the CAFR.
Significant difficulties encountered during the audit	 No matters to report.
Disagreements with management or scope limitations	 No matters to report.
Management's consultation with other accountants	 No matters to report.
Significant issues discussed, or subject to correspondence with, management	 No matters to report.
Difficult or contentious matters for which the auditors consulted	 No matters to report.

Uniform Guidance Audit Results (Single Audit)

Major program tested

- CFDA# 66.468, Safe Drinking Water Act

Opinion on Compliance For Major Program

- Unmodified opinion
- No questioned costs identified

Internal Control over Major Program

- No significant deficiencies or material weaknesses noted

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

- Unmodified opinion in relation to the DC Water financial statements as a whole

Appendices

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Appendix I – Responsibilities

Management is responsible for:

- Preparation and fair presentation of the financial statements, including disclosures, in conformity with generally accepted accounting principles (GAAP)
- For the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error
- Ensuring that the Authority operations are conducted in accordance with the provisions of laws and regulations, including compliance with the provisions of laws and regulations that determine the reported amounts and disclosures in the Authority’s financial statements, and for informing the auditor of any known material violations of such laws and regulations
- To provide access to all information of which management is aware that is relevant to the preparation and fair presentation of the financial statements, such as records, documentation, and other matters, additional information that we may request from management for the purpose of the audit, and unrestricted access to persons within the entity from whom we determine it necessary to obtain audit evidence.
- Adjusting the financial statements to correct material misstatements and affirming that the effects of any uncorrected misstatements aggregated by the auditor are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.
- Providing the auditor with a letter confirming certain representations made during the audit that includes, but is not limited to, management’s:
 - Disclosure of all significant deficiencies, including material weaknesses, in the design or operation of internal controls that could adversely affect the Company’s financial reporting
 - Acknowledgement of their responsibility for the design and implementation of programs and controls to prevent , deter, and detect fraud.

Appendix I – Responsibilities (continued)

The Audit Committee is responsible for:

- Oversight of the financial reporting process and oversight of ICOFR
- Oversight of the establishment and maintenance by management of programs and controls designed to prevent, deter, and detect fraud.

Management and the Audit Committee are responsible for:

- Setting the proper tone and creating and maintaining a culture of honesty and high ethical standards.

The audit of the financial statements does not relieve management or the Audit Committee of their responsibilities.

Appendix I – Responsibilities (continued)

KPMG is responsible for:

- Planning and performing our audit, with an attitude of professional skepticism, to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether caused by fraud or error. Accordingly, there is some risk that a material misstatement of the financial statements will remain undetected. Although not absolute assurance, reasonable assurance is a high level of assurance. Our audit is not designed to detect error or fraud that is immaterial to the financial statements.
- Conducting the audit in accordance with professional standards and complying with the rules and regulations of the Code of Professional Conduct of the American Institute of Certified Public Accountants and the ethical standards of relevant CPA societies, and relevant state boards of accountancy
- Forming and expressing an opinion about whether the financial statements that have been prepared by management with the oversight of the Audit Committee are presented fairly, in all material respects, in conformity with GAAP
- An audit of the financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control over financial reporting.
- Communicating to the Audit Committee all required information, including significant matters, that are in our professional judgment, relevant to the responsibilities of those charged with governance in overseeing the financial reporting process.
- Communicating to management and the Audit Committee in writing all significant deficiencies and material weaknesses in internal control identified during the audit and reporting to management in writing all deficiencies noted during our audit that, in our professional judgment, are of sufficient importance to merit management’s attention. The objective of our audit of the financial statements is not to report on the Company’s internal control and we are not obligated to search for material weaknesses or significant deficiencies as part of our audit of the financial statements.
- Communicating to the Audit Committee circumstances that affect the form and content of the auditors’ report, if any.

Appendix I – Responsibilities (continued)

Responsibilities for other information in documents containing audited financial statements

- The auditors’ report on the financial statements does not extend to other information in documents containing audited financial statements, excluding required supplementary information.
- The auditors’ responsibility is to make appropriate arrangements with management or the Audit Committee to obtain the other information prior to the report release date and to read the other information to identify material inconsistencies with the audited financial statements or material misstatements of fact.
- Any material inconsistencies or misstatements of facts that are not resolved prior to the report release date, and that require revision of the other information, may result in KPMG modifying or withholding the auditors’ report or withdrawing from the engagement.
- We have performed the following procedures with respect to other information in documents containing the audited financial statements (Statistical Section and Letter of Transmittal in the CAFR):
 - Read the other information to identify material inconsistencies with the audited financial statements or material misstatements of fact, and
 - Make appropriate arrangements with management or the Audit Committee to obtain the other information prior to the report release date.

Appendix I – Responsibilities (continued)

Independence Matters

- In order for us to fulfill our professional responsibility to maintain and monitor independence in relation to the the Authority, timely information is required from Company management regarding the Authority’s affiliates – This includes entities that are part of the consolidated financial statements and other entities that meet the definition of an affiliate under AICPA independence rules (e.g. sister companies under control of a common parent company where both the audit client and sister company are material to the controlling company, entities included in an investment company complex, etc.)
- Professional standards require that fees for any previously rendered professional service provided more than one one year prior to the date of the current year audit report have been paid.



Appendix II – Uncorrected audit misstatements

DC Water and Sewer Authority
 Summary of Uncorrected Audit Misstatements
 As of and for the year ended 6/30/2017

Amounts in
 Method Used to Quantify Audit Misstatements

Currency unit
 Dual

Correcting Entry Required at Current Period End				Income Statement Effect - Debit/(Credit)			Balance Sheet Effect - Debit/(Credit)				Cash Flow Effect - Increase/(Decrease)							
ID	Description of misstatement	Type of misstatement	Accounts	Debit	(Credit)	Income effect of correcting the balance sheet in prior period (carryforward from prior period)	Income effect according to Iron Curtain (Balance Sheet) method	Income effect according to Rollover (Income Statement) method	Net Position	Current Assets	Noncurrent Assets and Deferred Outflows of Resources	Current Liabilities	Noncurrent Liabilities	Operating Activities	Investing Activities	Capital and Related Financing Activities		
				A		B	C-A (Only Income Statement accounts)	C-B										
CD-03	1. To rectify the loss on disposal of capital assets for meters taken out of service in FY17 from interest expense and other nonoperating expenses to depreciation expense for the current year portion and beginning net position for the portion relating to FY 2015 and 2016. 2. To adjust the book values of meters not scheduled to be replaced that currently are being depreciated over a 90 year useful life down to their adjusted net book values based on the revised estimated useful lives.	Factual	Accumulated Depreciation		(12,613,295)						(12,613,295)							
			Depreciation and amortization expense	6,199,402			6,199,402	6,199,402	6,199,402									
			Beginning net investment in capital assets	14,128,248						14,128,248								
			Interest expense and other non-operating expenses		(7,714,325)			(7,714,325)	(7,714,325)	(7,714,325)								
AM-01	To record an adjustment to the capital accounts payable accrual based on actual invoices received from 11/1/17 to 11/30/17, which were less than the accrued amount by \$4,984.	Factual	Accounts payable and accrued expenses	4,984,602	-							4,984,602						
			Construction in progress	-	(4,984,602)							(4,984,602)						
AM-02	To reclassify bad debt expense from non-operating expense to operating expense.	Factual	Operating expense	3,462,000	-		3,462,000		3,462,000									
			Non-operating expense	-	(3,462,000)		(3,462,000)		(3,462,000)									
Aggregate effect of uncorrected audit misstatements:						-	(3,654,958)	(3,654,958)	(3,462,000)	-	(4,984,602)	4,984,602	-	-	-	-		
Financial statement amounts (per final financial statements):						(194,551,000)	(194,551,000)	(1,897,540,300)	402,928,000	4,727,800,300	(441,771,000)	(4,971,148,000)	293,304,000	(27,425,300)	(144,981,000)			
Uncorrected audit misstatements as a percentage of financial statement amounts:						0.78%	0.78%	(0.64%)	0.00%	0.23%	(1.31%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	





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DC WATER

Audit Committee Meeting



January 25, 2018

Agenda

- FY 2018 Internal Audit Plan Status Update
- Status Update on Prior Audit Findings
 - COR/COTR Training Update
- Report on Completed Audits:
 - Construction Plan Review and Permitting
 - Fleet – Accident and Incident Reporting
- Hotline Update
 - Hotline Call Analysis
- Executive Session

FY 2018 Internal Audit Status Update

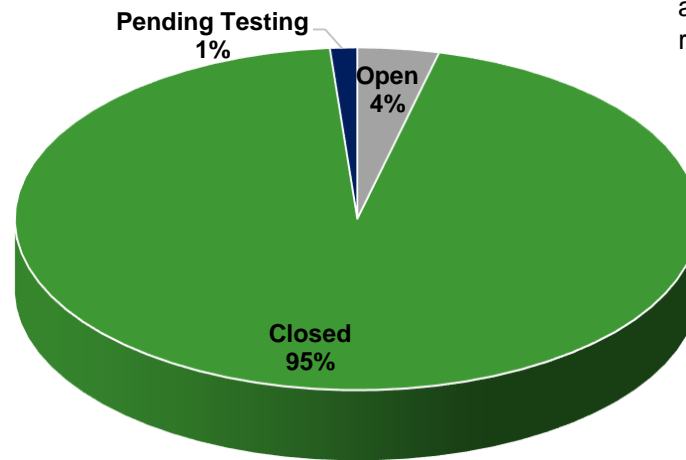
Audit	Status
FY 2017	
Construction Plan Review and Permitting	Report Complete
Fleet – Accident and Incident Reporting	Report Complete
FY 2018	
Recruiting, Selection and On-Boarding	Reporting In-Process
Affordability Programs	Planning In-Process
Vulnerability Assessment and Business Continuity	Planning In-Process
CIS Post-Implementation Review	Planning In-Process
Contract Monitoring & Compliance	Not Started
Integrated Work Order Management	Not Started
IT Risk Management & Compliance	Not Started
Crisis Management / Business Continuity	Not Started
Payroll & Timekeeping	Not Started
DB/OS Privileged User	Not Started
Risk Management	Not Started
Remediation Follow Up Procedures	On-going
Hotline Management	On-going

Internal Audit Plan – FY 2018 Draft Timeline

	Nov - 17	Dec - 17	Jan - 18	Feb - 18	Mar - 18	Apr - 18	May - 18	Jun - 18	Jul - 18	Aug - 18	Sep - 18	Oct - 18
▶ Automated Meter Reading Implementation (Integrated with IT)	[Timeline bar from Nov-17 to Jul-18]											
▶ Engineering – Contractor Mgmt Phase III	[Timeline bar from Nov-17 to Jan-18]											
▶ Fleet – Accident and Incident Reporting	[Timeline bar from Nov-17 to Jan-18]											
▶ Recruiting, Selection and On-Boarding	[Timeline bar from Nov-17 to Jan-18]											
▶ Affordability Programs		[Timeline bar from Dec-17 to Feb-18]										
▶ Vulnerability Assessment and Business Continuity			[Timeline bar from Jan-18 to Apr-18]									
▶ CIS Post-Implementation Review			[Timeline bar from Jan-18 to Apr-18]									
▶ Contract Monitoring & Compliance							[Timeline bar from May-18 to Jul-18]					
▶ Integrated Work Order Management							[Timeline bar from May-18 to Jul-18]					
▶ IT Risk Management & Compliance							[Timeline bar from May-18 to Jul-18]					
▶ Crisis Management / Business Continuity							[Timeline bar from May-18 to Jul-18]					
▶ Payroll & Timekeeping								[Timeline bar from Jun-18 to Oct-18]				
▶ DB/OS Privileged User									[Timeline bar from Jul-18 to Oct-18]			
▶ Risk Management									[Timeline bar from Jul-18 to Oct-18]			
▶ Follow-up Procedures *	[Timeline bar from Nov-17 to Oct-18]											

Status Update on Prior Audit Findings

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing
Prior to FY 2015 Audit Findings					
Safety Program Training & Compliance	10/07/2010	0	0	0	0
Human Capital Management	11/29/2011	0	0	0	0
Maintenance Services	04/18/2012	2	0	2	0
Fleet Management	04/17/2013	0	0	0	0
Water Services - Distribution Maintenance Branch	10/28/2013	1	1	0	0
Disposal of Assets	02/18/2014	0	0	0	0
Warehouse Operations	09/15/2014	1	0	0	1
GIS Mapping	06/23/2014	2	2	0	0
Total		6	3	2	1

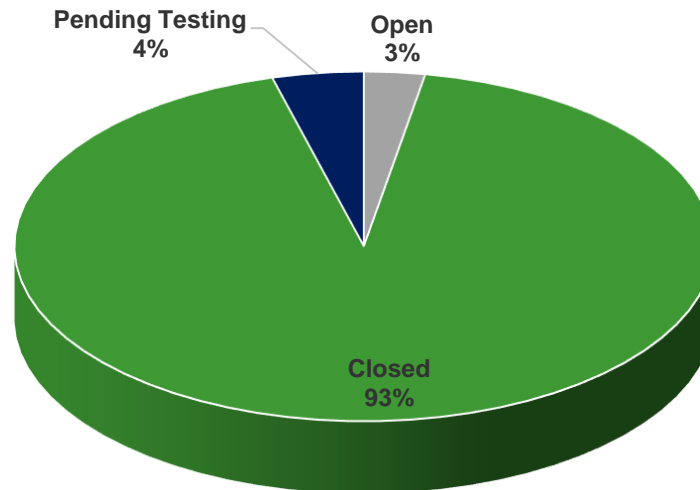


*There are 4 action deferred items which are not reflected in the table above (all are related to policies pending union approval).

This pie chart represents the status of the 82 prior audit findings that RSM US LLP inherited October 2015, excluding the four action deferred items.

Status Update on Prior Audit Findings (continued)

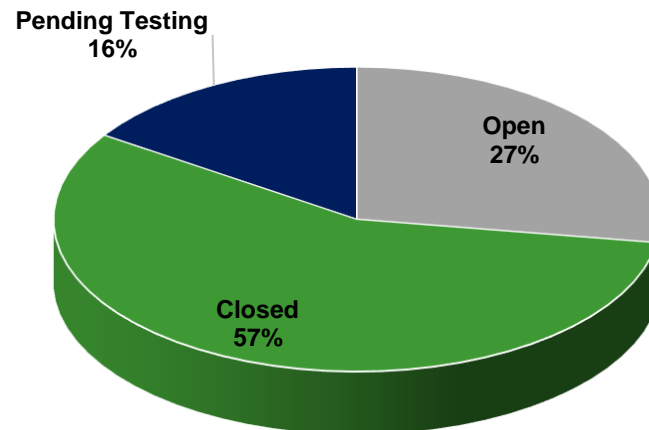
Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing
FY 2015 Audit Findings					
Intellectual Property Program Assessment	01/08/2015	4	1	3	0
IT Policy and Procedure	01/21/2015	9	0	9	0
Timekeeping Audit	04/08/2015	4	0	4	0
Network Security Assessment	04/16/2015	26	1	25	0
Procurement – Pre-Award, Selection and Award	05/18/2015	2	0	2	0
SCADA/ PCS Review	08/28/2015	20	0	19	1
IT Vendor Management	12/21/2015	6	0	4	2
	Total	71	2	66	3



*There are 3 action deferred items which are not reflected in the table above (all are related to policies pending union approval).

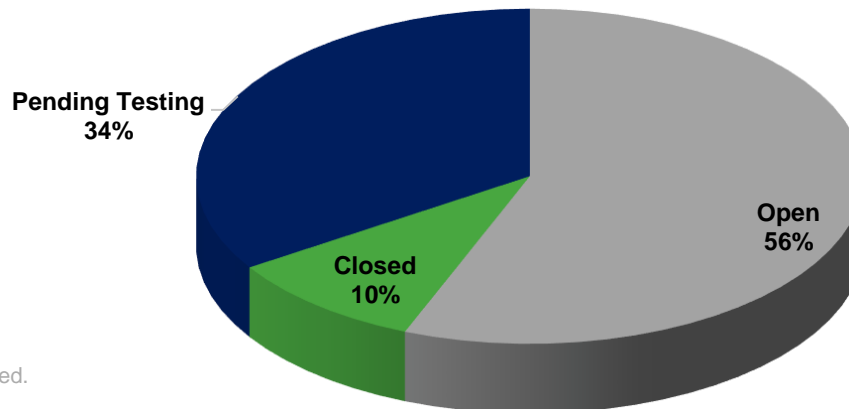
Status Update on Prior Audit Findings (continued)

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing
FY 2016 Audit Findings					
Overtime Audit and Analysis	01/21/2016	3	3	0	0
Contract Compliance and Monitoring Part I	04/28/2016	4	1	3	0
Contract Compliance and Monitoring Part II	07/28/2016	11	1	7	3
ROCIP Savings Analysis	07/28/2016	4	0	4	0
Training, Licensing & Certification	07/28/2016	7	1	4	2
Blue Horizon 2020 Strategic Plan Monitoring	11/18/2016	3	3	0	0
Incident Management and Response Review	11/18/2016	3	2	1	0
Engineering – Contractor Management Phase II	2/14/2017	4	0	3	1
Billing & Collection	2/14/2017	1	1	0	0
Business Development Plan	2/14/2017	10	1	7	2
Annual Budgeting and Planning	4/27/2017	1	1	0	0
	Total	51	14	29	8



Status Update on Prior Audit Findings (continued)

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing
FY 2017 Audit Findings					
DMS Work Order Management (Blue Plains)	4/27/2017	4	4	0	0
HR/Employee Privacy Review	4/27/2017	7	7	0	0
Purchasing Card	4/27/2017	6	0	2	4
Intermunicipal Agreement	7/27/2017	0	0	0	0
Contract Monitoring & Compliance Part 1	7/27/2017	5	0	1	4
Contract Monitoring & Compliance Part 2	7/27/2017	3	0	0	3
Entity Level Assessment	10/26/2017	7	5	1	1
Vulnerability Management and Platform Technical Audit (Windows/UNIX)	10/26/2017	2	2	0	0
Construction Plan Review and Permitting	1/25/2017	3	3	0	0
Materials Management – Operations and Inventory	10/26/2017	4	2	0	2
	Total	41	23	4	14



COTR Training Update

- Internal Audit presented to the Audit Committee on July 28, 2016 the findings from the Contract Monitoring & Compliance Audit Part II.
- One of the high risk findings was a lack of COR/COTR training. The Audit Committee requested a periodic update on the status of management’s action plan.

Authority-Wide Observations	Risk Rating
1. COR/COTR Training	High
<p>Management Action Plan: Department of Procurement will implement several steps to COR/COTR training and compliance monitoring:</p> <p><u>Phase I:</u> Procurement jointly with each COR/COTR for all active contracts will review and develop a contract compliance monitoring checklist for each of 160 active Goods and Services contracts. The items in the checklist will consist of key deliverables, milestones, key vendor performance, and key contractual obligations that should be actively monitored. Then COR/COTR will be responsible for monitoring the items in the checklist and submit a report to Procurement at the beginning of each quarter.</p> <p><u>Phase II:</u> Procurement along with the Office of Chief Operating Officer (OCCO), Learning and Development (L&D), and Information Technologies (IT) will implement Vendor Performance Management Training programs for COR/COTR.</p> <p><u>Phase III:</u> Procurement will source and implement a Vendor Performance Management application (an added module to the eSourcing application that Procurement will source and implement in early FY2017) to automate the contract compliance and vendor performance monitoring and reporting.</p>	

COTR Training Plan

<p>Phase I – Complete</p>	<p>COTR Update for all active contracts. Implement initial COTR Vendor Report.</p>	<ul style="list-style-type: none"> • Completed the updating COTR list and issued new COTR Designation Letters for all 160 active contracts. • 100% complete on 1st COTR Vendor Report. Vendor Reports will be automated with the new application (reference phase III).
<p>Phase II – In Process</p>	<p>Provide COTR Training.</p>	<ul style="list-style-type: none"> • COTR training was held on 07/11/17, 07/18/17, 08/08/17, 08/17/17 and 9/11/17. 50 out of 55 COTRs (91%) attended the training and an additional 37 non-COTRs were trained as potential future COTRs. An additional training session is to be held in February for the COTRs that did not attend.
<p>Phase III – In Process</p>	<p>Implement automated Vendor Performance Management and Reporting application.</p>	<ul style="list-style-type: none"> • Selected a vendor performance management application on 03/31/17. • Implementation is in-progress and user acceptance testing occurred December 2018. Final user acceptance testing is planned to begin 1/22/18. • Training COTRs in the use of the new application is planned for February 2018. Various methods of training are currently being evaluated.

Construction Plan Review and Permitting

The Engineering – Contractor Management Phase III Internal Audit is the third of a three-phased audit plan encompassing the Authority’s engineering and construction function. The purpose of the first phase of procedures was to obtain an understanding of existing policies and procedures, key controls in place, and to assess the design effectiveness of those controls identified. The second phase was to update our understanding of key monitoring controls, and assess the operating effectiveness of key controls identified.

The purpose of this review was the following:

- To obtain an understanding of the construction plan review and permitting processes, including relevant policies and procedures, and controls in place
- To determine the design and operational effectiveness of key controls identified

The audit scope included:

- The construction plan review process within the Department of Engineering and Technical Services (DETS) and the Department of Wastewater Engineering (DWE) for internal projects
- The Permit Operations Department for external projects

The audit period for this review was October 1, 2016 through June 30, 2017.

Construction Plan Review and Permitting (continued)

Management's Highlights:

Department of Engineering and Technical Services (DETS), Department of Wastewater Engineering (DWE), and Permit Operations each utilize an internal team to perform design reviews of construction plans for compliance with DC Water Authority design standards, criteria and specifications prior to advertising the plans for bid or approving permits:

- DETS performs the engineering planning, design, and construction management necessary to execute DC Water's Capital Improvement Program (CIP). Within DETS, the Design function reviews, creates, and maintains standards to ensure technical adequacy. The function manages pipeline and facility CIP project designs located outside of Blue Plains, and coordinates the plan review process from both a technical perspective (within the Design team) and an operational perspective via inter-departmental review process.
- DWE coordinates the contract administration, and technical and operational plan review process for construction and major repairs and modifications designs within the Blue Plains facility.
- Permit Operations manages DC Water's development and permit services for external user projects. The department reviews and approves permit applications and associated proposed construction plan documents, to connect to the public water and sewer system.

Construction Plan Review and Permitting (continued)

Observations	Risk Rating
1. Inconsistent Monitoring and Documentation of the Plan Review Process	High
<p>Management Action Plan: DC Water will prepare a new SOP on the use of the Design Review Distribution Template that will identify key reviewer(s)/stakeholder(s) to distribute and track the comment(s)/response(s) through the project life cycle, and update/consolidate the appropriate 3000 Series SOPs to capture our current and proposed design practice.</p> <p>Target Date: All new design projects as of May 1, 2018 shall comply with the two new SOPs.</p>	
2. Noncompliance with Established Policies and Procedures	High
<p>Management Action Plan: DETS and DWE are evaluating the effectiveness of the Design Lock-in (SOP 3100) to the design intent and the quality of the final design documents as part of our efforts to update our design practice and standards. The Pre Advertisement Certification (SOP 4040) is being updated to provide direction to staff for the signature approvals.</p> <p>Target Date: All design projects shall comply with the revised SOP 4040 effective February 1, 2018.</p>	
3. Segregation of Duties for Reviews	High
<p>Management Action Plan: Permit Operations staff will work with the Maximo management team to force the Maximo program to require different people, not just different positions, to change the status of a project from any status to “APPROVED”. This will alleviate any duplication.</p> <p>Target Date: Q1 FY 2018</p>	

Fleet – Accident and Incident Reporting

The purpose of this review is to obtain an understanding of how Fleet-related accidents and incidents are managed and assess whether the system of internal controls are adequate and appropriate, at the department and Authority-level. The audit scope was based on the following objectives:

- Identify the controls for the lifecycle of incident and accident management for fleet, including reporting, investigating, implementing corrective actions and closure;
- Review system(s) utilized to manage incidents and accidents, including data capture;
- Evaluate use of GeoTab technology (GPS) within Authority-wide vehicles;
- Evaluate employee and supervisor training on incident and accident reporting;
- Evaluate existing accident and incident response metrics;
- Identify process improvement opportunities and recommend internal control enhancements to improve the overall process.

Fleet – Accident and Incident Reporting (continued)

Management's Highlights:

- The Wave system acts as the central database for the majority of accident and incident related information.
- DC Water utilizes the GPS tracking system, GeoTab, in all but 70 of the Authority's 609 vehicles. The Authority is currently in the process of installing GeoTab in the outstanding 70 vehicles, however union approval must be obtained before doing so.
 - GeoTab allows DC Water to track fuel usage, identify the location of the vehicle at any time, and all trips made by the vehicle including detail on trip distance, start and stop date, and total time.
 - All GeoTab information is maintained within the Wave system and is updated in real-time as vehicles are being utilized.
- The Wave system maintains various metrics related to accidents and incidents to keep management informed of the activities of Authority vehicles.
 - Currently, the following metrics are monitored:
 - Monthly Backup Accidents
 - Accidents and Incidents by Department (10 Worst)
 - Accidents and Incidents by Driver (10 Worst)
 - Monthly Total Accidents and Incidents (Prior 3 Years)
 - Yearly Total Accidents and Incidents
 - Monthly Total Accidents versus Incidents
 - Accidents By Vehicle Type

Fleet – Accident and Incident Reporting (continued)

Observations	Risk Rating
1. Departmental Roles and Responsibilities	High
<p>Management Action Plan: DSEC has recently initiated a series of actions designed to improve the use and analysis of Fleet Services data as part of the DSEC Asset Protection program. DSEC, in coordination with other Departments, will review and revise the Blue Clue procedures document to capture roles and responsibilities.</p> <p>Target Date: March 31, 2018</p>	

Please refer to the Fleet – Accident and Incident Reporting Internal Audit Report for additional moderate and low risk observations.

Hotline Update

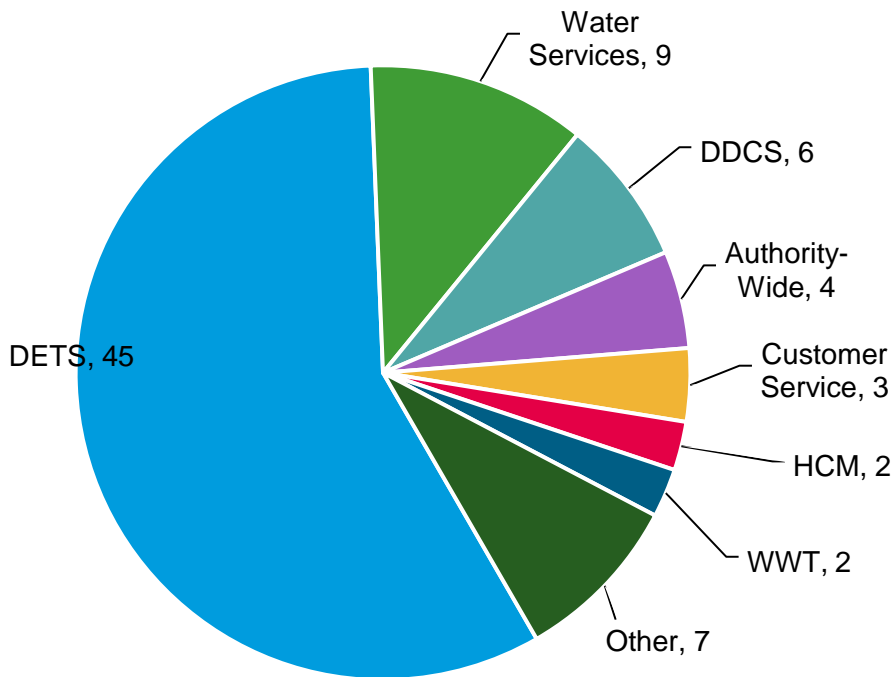
Last Audit Committee meeting we reported that 5 cases were open; below is activity since the October 2017 Audit Committee meeting:

Hotline Calls as of 1/12/2018	
Calls Received	5
Fraud Claims – 3	
Other – 2	
Cases Closed	7
Cases Currently Open	3

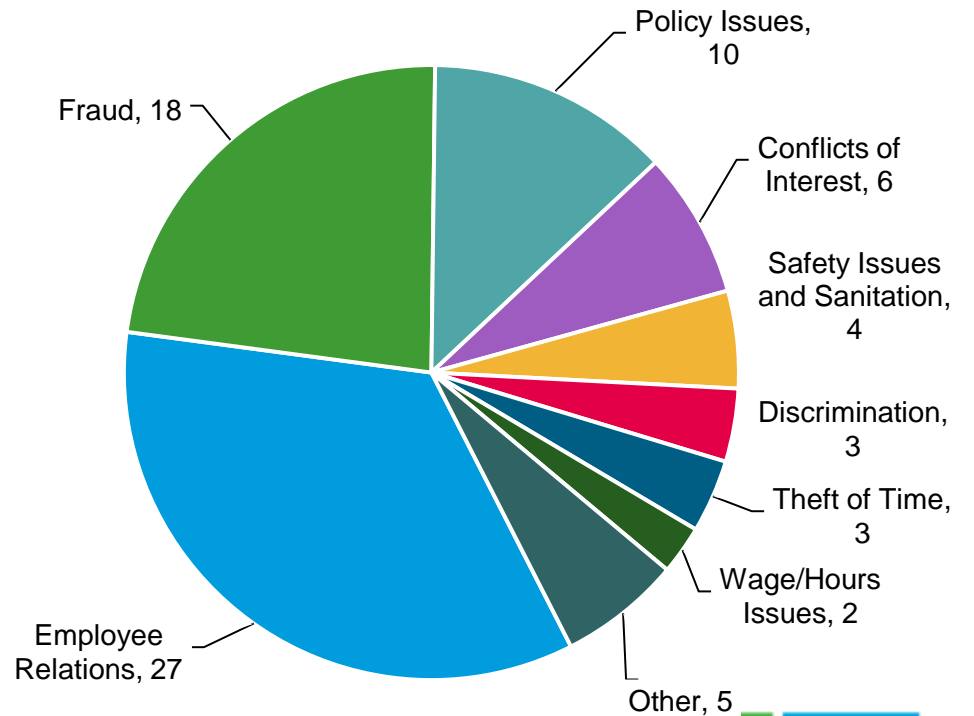
Hotline Call Analysis

We conducted an analysis of the 78 hotline calls that have been received from FY 2016 – FY 2018, year-to-date, to determine if there are any trends, evaluate the quantity of calls (allegations) that were substantiated, and other matrices. The following tables represent the breakdown of calls by Department and case type.

Calls by Department

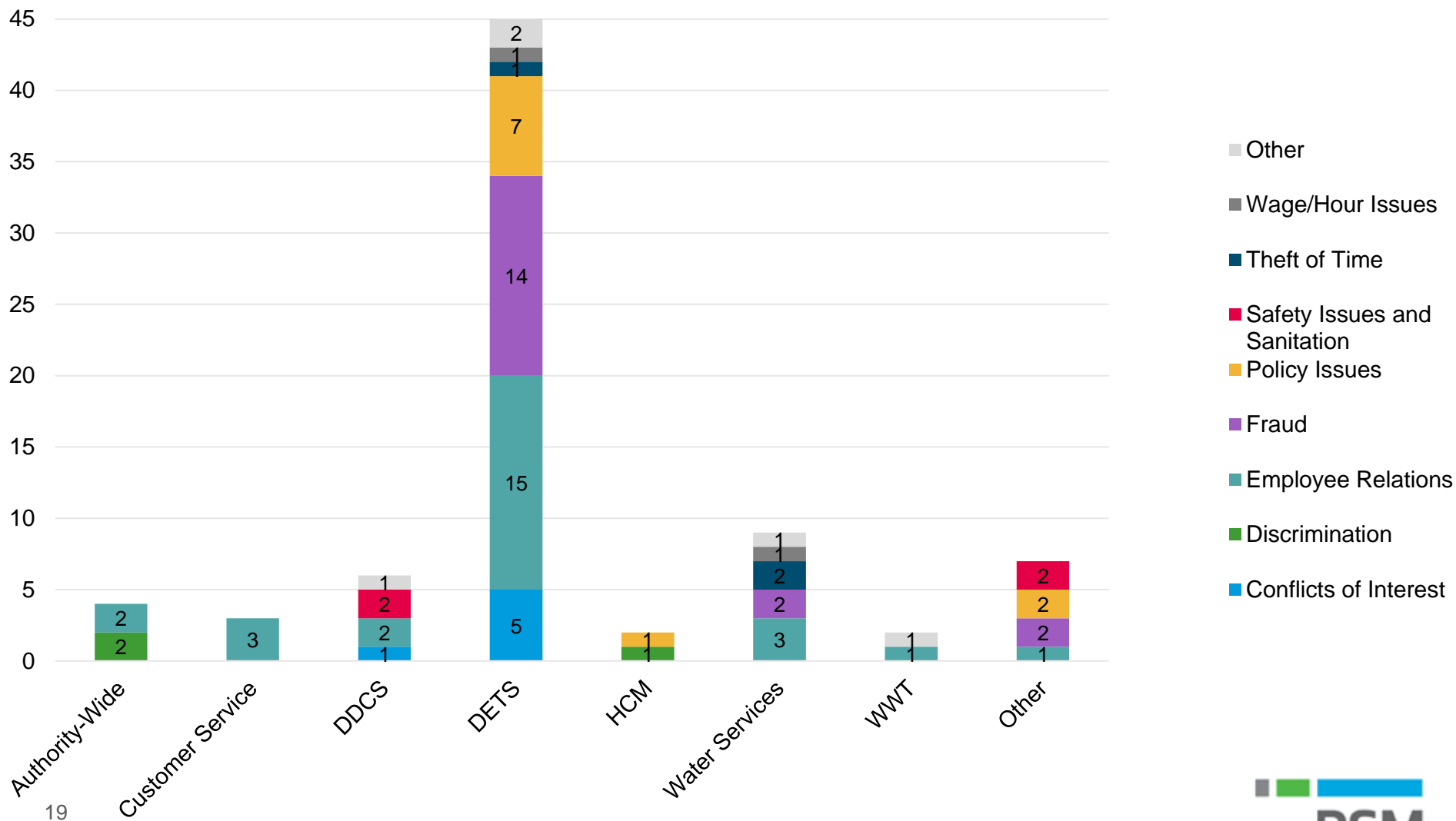


Calls by Case Type



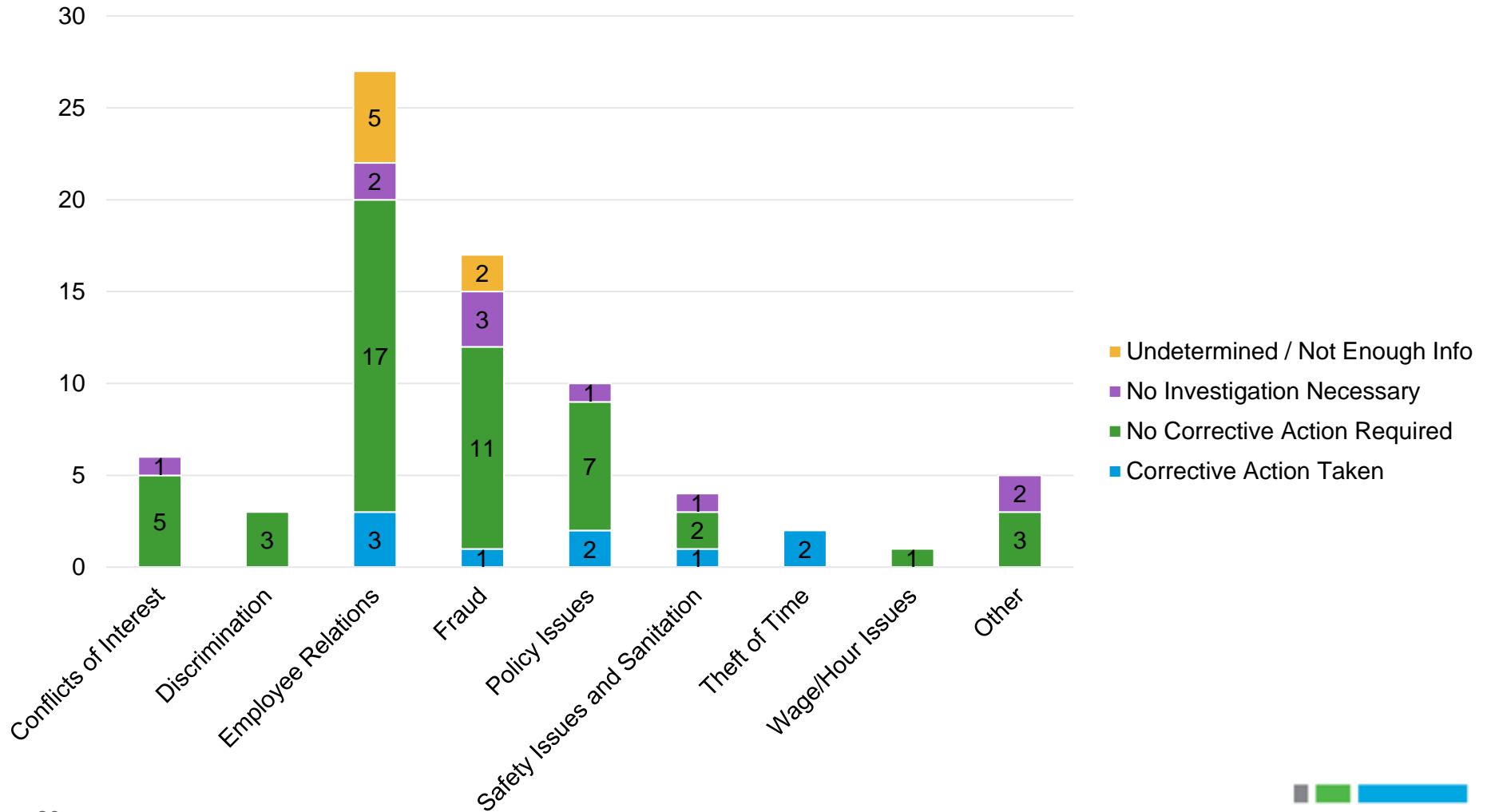
Hotline Call Analysis (continued)

Calls by Type and Department



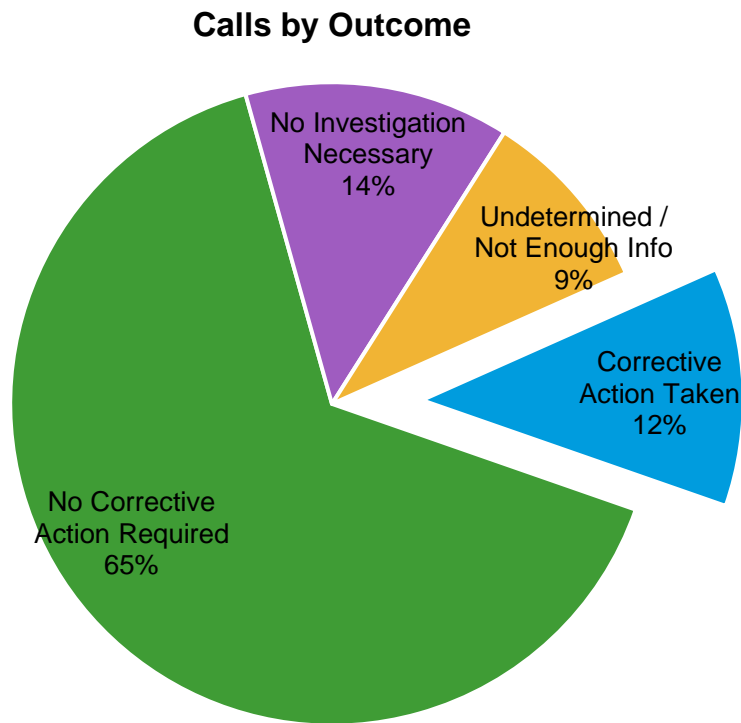
Hotline Call Analysis (continued)

Calls by Type and Outcome



Hotline Call Analysis (continued)

The following tables represent the breakdown of hotline calls that were substantiated and required corrective action. Of the 75 cases closed, 12% or 9 calls resulted in corrective action.



Case Type	# of Calls
Employee Relations	3
Fraud	1
Policy Issues	2
Safety Issues and Sanitation	1
Theft of Time	2
Total	9

Department	# of Calls
DDCS	2
DETS	4
Maintenance Services	1
OSH	1
Water Services	1
Total	9



QUESTIONS AND ANSWERS?

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 DC Water & Sewer Authority Proposed Internal Audit Plan WORKING DRAFT - as of January 2018						
Legend		2015	2016	2017	Proposed 2018	Preliminary 2019
X	Required Internal Audit Activity					
X	Proposed Future Audit					
X	Audit In Progress					
X	Audit Issued					
X	Follow Up In Progress					
X	Audit Closed					
Audit Universe		2015	2016	2017	Proposed 2018	Preliminary 2019
Overall Internal Audit Management						
	Risk Assessment for Audit Plan Development	X				
	Update Risk Assessment and Audit Plan Development		X	X	X	X
	Quality Control - Board Meetings, Status Reporting	X	X	X	X	X
Follow-up and Cycle Audits						
	Open Action Items - Remediation and Follow-up Procedures	X	X	X	X	X
	Hotline Management	X	X	X	X	X
	Blue Horizons - Strategic Plan Monitoring		X			
	Contract Monitoring & Compliance Reviews		X	X	X	X
	Payroll and Timekeeping				X	
Audits by Department and/or Division						
Office of the General Manager						
	Entity-Level Assessment			X		
	Intellectual Property	X				
	Organization Policies & Procedures					
Blue Plains (Wastewater Treatment)						
Maintenance Services						
	Maintenance Services - Operations					
	Maintenance Services - Work Order Management			X		
Wastewater Treatment - Operations						
	Chemical Purchasing					
	Process Control System (PCS)	X				
Chief Procurement Office						
Procurement						
	Materials Management - Disposal of Assets			X		
	Materials Management - Operations and Inventory					
	Procurement Operations					
	Business Development Plan		X			
	Procurement Pre-Award Selection Process	X				X
	Purchasing Cards (P-Card Program)			X		
Customer Services						
Customer Services						
	Automatic Meter Reading (AMR) Implementation (Integrated with MTU)		X		X	
	Customer Billing & Collections		X			
	Retail Rates Pre- and Post-Implementation Monitoring	X	X			
Distribution and Conveyance Systems						
	Integrated Work Order Management (Sewer Services & Water Services)				X	
Emergency Management						
	Emergency Management - Mitigation & Response					
	Emergency Management - Recovery				X	
	Vulnerability Assessment and Business Continuity					
Sewer Services						
	Integrated Work Order Management (Sewer Services & Water Services)				X	
	Sewer Services - Construction & Repair					
	Sewer Services - Emergency Maintenance					
Utility Services - Drinking Water						
	Integrated Work Order Management (Sewer Services & Water Services)				X	
	Pumping & Storage Water Leakage Review					
	Utility Services - Water Distribution					
	Utility Services - Water Maintenance					
Human Capital Management and Labor Relations						
Human Capital Management						
	Employee Benefit Plans				X	
	Employee Recruitment, Selection and On-Boarding					
	Human Capital Management - Operations					
	Training, Certification and Licensing		X			
Support Services						
Fleet						
	Fleet - Operations					
	Fleet - Accident and Incident Reporting			X		
Occupational Safety and Health						
	OSHA					
	Safety Programs, Training & Compliance					X
Department of Engineering & Technical Services						
Long-Term Control Plan						
	Clean Rivers Project Management					
	Clean Rivers - Vendor / Contractor Monitoring & Project Administration	X				
Engineering and Technical Services						
	Engineering - Vendor / Contractor Monitoring & Project Administration	X				
	Engineering - Construction Management Phase II		X			
	Engineering - Construction Management Phase III			X		
Finance						
Financial Accounting and Reporting						
	Accounts Payable, Including Reimbursable Expenses					
	Payroll - General Operations					
	Timekeeping	X				
	Overtime		X			
Budget, Planning and Analysis						
	Annual Budgeting & Planning		X			
	Intermunicipal Agreement (IMA)			X		
Treasury, Debt and Risk Management						
	Affordability Programs				X	
	Cash Receipts					
	Investments and Cash Management					
	Risk Management				X	
	Rolling Owner Controlled Insurance Program (ROC/IP)		X			
Information Technology						
Governance, Planning and Organization:						
	Information Technology - Remediation and Follow-Up	X	X	X	X	X
	Vendor Risk Management / Compliance and Monitoring (Shadow IT)	X				
	Information Security Policy Review	X				
	IT Risk Management & Compliance				X	
	Incident Management & Response Review		X			
	Human Resource/Employee Privacy Review			X		
	Enterprise SDLC Review					
	Enterprise Project Governance Maturity Assessment		X			
	Records Management					X
	Crisis Management / Business Continuity Program				X	
	Vulnerability Management Review			X		
Technical & Operations: Information Security and Application Support:						
	Operational Applications ITGC - SCADA	X				
	Network Penetration Testing (Corp/SCADA/Wifi)	X				
	DB/OS Privileged User				X	
	Software and Asset Management					
	Help Desk Operations					
	Business & Operating Applications					
	GIS System					
	Internal Network & Telecommunications					
	Platform Technical Audit (Windows/UNIX)			X		
	Wifi Security Review					X
	Mobile Platform Assessment					X
	MTU Implementation Review (Integrated with AMR)			X		
	CIS Post-Implementation Review (Includes SDLC)				X	
General Counsel						
	Legal Operations - Case Management					X
	Regulatory Compliance Monitoring					
Contingency and Requested Audits and Projects						
	Financial System Pre-Implementation Review				X	X



Internal Audit Report of Construction Plan Review and Permitting

October 2017



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Construction Plan Review and Permitting
 Internal Audit Report
 Issued: October 2017



TRANSMITTAL LETTER

October 2017

The Audit Committee of DC Water
 5000 Overlook Avenue, SW
 Washington, DC 20032

Pursuant to the approved 2017 internal audit plan for the District of Columbia Water and Sewer Authority (“DC Water” or the “Authority”), we hereby present the results of the Internal Audit of Construction Plan Review and Permitting. We will be presenting this report to the Audit Committee of DC Water at the next scheduled meeting on October 26, 2017. Our report is organized in the following sections:

Executive Summary	This provides a summary of the observations and opportunities related to our internal audit of the Construction Plan Review process.
Background	This provides an overview of the Construction Plan Review process.
Objectives and Approach	The internal audit objectives and focus are expanded upon in this section, as well as a review of the various phases of our approach.
Detailed Observations	This section provides a description of the observations noted during our work and recommended actions as well as management’s response, responsible party, and estimated completion date.

We would like to thank the staff and all those involved in assisting the Internal Auditors in connection with this review.

Respectfully Submitted,

Internal Auditors



EXECUTIVE SUMMARY

Background

Department of Engineering and Technical Services (DETS), Department of Wastewater Engineering (DWE), and Permit Operations each utilize an internal team to perform design reviews of construction plans for compliance with DC Water Authority design standards, criteria and specifications prior to advertising the plans for bid or approving permits.

DETS performs the engineering planning, design, and construction management necessary to execute DC Water's Capital Improvement Program (CIP). Within DETS, the Design function reviews, creates, and maintains standards to ensure technical adequacy. The function manages pipeline and facility CIP project designs located outside of Blue Plains, and coordinates the plan review process from both a technical perspective (within the Design team) and an operational perspective via inter-departmental review process.

Similarly, DWE coordinates the contract administration, and technical and operational plan review process for construction and major repairs and modifications designs within the Blue Plains facility.

Permit Operations manages DC Water's development and permit services for external user projects. The department reviews and approves permit applications and associated proposed construction plan documents, to connect to the public water and sewer system.

Observations

The observations identified during our assessment are summarized on the next few pages. We have assigned relative risk or value factors to each observation. Risk ratings are the evaluation of the severity of the concern and the potential impact on the operations of each item. Observations will require management action plans with estimated completion dates that will be included in the routine follow up of internal audit observations.

Objective and Scope

The objective of the Internal Audit of Construction Plan Review and Permitting was to assess the design and operating effectiveness of key controls in the construction plan review process within the Department of Engineering and Technical Services, Department of Wastewater Engineering, and Permit Operations Department. Our procedures were performed in accordance with the internal audit scope and approach set forth in our audit notification letter dated June 23, 2017, and were limited to those procedures described therein. Our in-scope period for testing purposes was from 10/01/2016 – 06/30/2017.

Phase 1 of our work consisted of inquiry in an effort to obtain an understanding of the Authority's structure and key processes within our scope.

The primary objectives of our Phase 2 procedures, which were executed during the July 2017 to September 2017 timeframe, included sample testing of plans reviewed by Department of Engineering and Technical Services, Department of Wastewater Engineering, and Permit Operations for the following:

- Timeliness of plan review and permit issuance (as applicable);
- Evidence and sufficiency of plan review procedures performed;
- Evidence and sufficiency of quality control procedures performed over plan reviews;
- Evidence of proper approval(s) in accordance with policies, procedures or other guidance; and
- Integration between Departments (as applicable).

Overall Rating (See Appendix A for definitions)			
	Number of Observations by Risk Rating		
	High	Moderate	Low
DETS/DWE	2	-	-
Permit Operations	1	-	-

We would like to thank all DC Water team members who assisted us throughout this review.



EXECUTIVE SUMMARY (CONTINUED)

Ratings and Conclusions

Following is a summary of all observations noted in the areas reviewed (see “Detailed Observations” section for additional information). Definitions of the rating scales are included in the Appendices.

Observations and Improvement Opportunities	
Department of Engineering and Technical Services and Department of Wastewater Engineering	
Observation	Rating
<p>1. INCONSISTENT MONITORING AND DOCUMENTATION OF THE PLAN REVIEW PROCESS</p> <p>Through our detailed testing of the DETS/DWE plan review process, we noted that there are inconsistencies in the level of documentation and support maintained throughout the plan review process. Specifically, we identified a limited and inconsistent audit trail related to the tracking and remediation of plan review comments.</p>	High
<p>2. NONCOMPLIANCE WITH ESTABLISHED POLICIES AND PROCEDURES</p> <p>Through our detailed testing of the DETS/DWE plan review process, we noted the following related to compliance with documented Standard Operating Procedures:</p> <ul style="list-style-type: none"> 6 of 6 projects reviewed did not utilize the Design Lock-In form as required. The Design Lock-In form serves to solidify major design elements prior to the development of detailed construction plans. Subsequent changes to the “locked-in” design elements can result in increased costs due to re-design or change orders. The Pre-Advertisement Certification was not completed for 1 of 6 projects reviewed. Further, for 1 of 6 projects reviewed, a Certification was available but did not contain all approvals. The Pre-Advertisement Certification serves as documentation that all required reviews have been conducted and that all design comments have been addressed prior to releasing drawings for bid. 	High
Permit Operations Department	
Observation	Rating
<p>3. SEGREGATION OF DUTIES FOR REVIEWS</p> <p>Through our detailed testing of plan reviews performed by Permit Operations (submitted via permit applications), we noted the following:</p> <ul style="list-style-type: none"> 14 of 60 (23%) permit applications/plan reviews tested were reviewed and approved by the same individual, with no secondary approval. These included department Supervisors and Engineer III. 3 of 60 (5%) permit applications/plan reviews tested were reviewed by an administrative staff rather than a technical reviewer staff or Supervisor 1 of 60 (2%) permit applications/plan reviews tested were processed entirely by the same individual (from intake to receipt of payment). These were performed by Supervisors. 	High





BACKGROUND, OBJECTIVES, AND APPROACH

Background

Review of proposed construction plans prior to finalization of design, from both a technical and operational perspective, is critical to ensuring the successful integration of new or replacement construction within or impacting DC Water’s infrastructure. The construction plan review and permitting processes report centrally under the Chief Engineer, but occur within multiple departments at DC Water as described below.

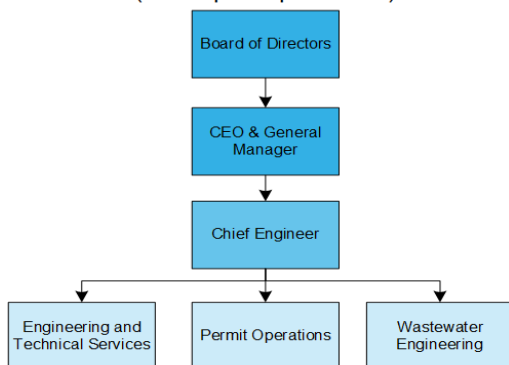
Department of Engineering and Technical Services and Department of Wastewater Engineering

Before internal DC Water projects are constructed, the construction plans undergo several levels of review. A project manager is assigned to each project to coordinate and track these reviews throughout the design process. During the progression of the design, construction plans are submitted to multiple departments independent of the design team. The reviewers evaluate the construction plans for compliance and against the project requirements. Multiple levels of reviews can reduce construction costs by considering challenges, such as constructability, materials and equipment, and cost, before construction begins. It is equally important to have different departments perform the reviews to apply their expertise (e.g.; electrical, structural, and mechanical scopes.) Once the construction plans have advanced through the various design reviews, and all approvals received via the Pre-Advertisement Certification, the project may go out to bid. This typical process flow is utilized by both the Department of Engineering and Technical Services (DETS) and Department of Wastewater Engineering (DWE). Refer to additional detail of the process on the following pages.

Permit Operations

External users (residential, commercial, or government) must obtain approval from DC Water prior to performing work which impacts the public water or sewer systems. To obtain a permit, applicants prepare a submittal to the Permit Operations Department. The reviewers and supervisors within the department examine the submittal for compliance with DC Water’s design standards, criteria and specifications, and provide the applicant with comments as needed. Upon completion and approval of the submittal, the applicant pays applicable inspection and review fees. Refer to additional detail of the process on the following pages.

DC Water Authority
 Simplified Organizational Chart
 (In-Scope Departments)



Per DC Water’s FY2018 Approved Budget	FY2015	FY2016	FY2017 Approved	FY2018 Approved
DETS Operating Expenditures	\$ 23,040,000	\$ 24,319,000	\$ 25,126,000	\$ 26,728,000
Permit Operations Operating Expenditures	2,075,000	2,049,000	2,244,000	2,295,000
DETS FTEs	149	156	166	166
Permit Operations FTEs	14	13	15	15



BACKGROUND, OBJECTIVES, AND APPROACH (CONTINUED)

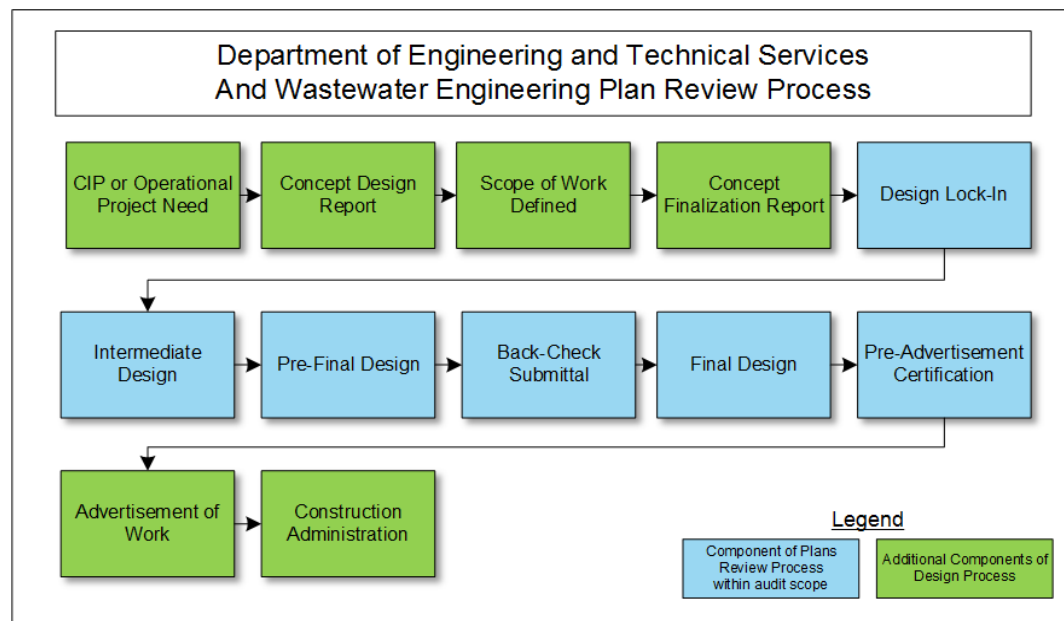
Background (Continued)

Department of Engineering and Technical Services and Department of Wastewater Engineering

DETS performs the engineering planning, design, and construction management necessary to execute DC Water's Capital Improvement Program (CIP). Within DETS, the Design team (64 positions) reviews, creates, and maintains standards to ensure technical adequacy. The function manages pipeline and facility CIP project designs located outside of Blue Plains, provides technical engineering expertise to support operating departments, provides survey support for DC Water, and maintains the Enterprise Geographical Information System (GIS).

For construction within the Blue Plains facility, DWE (8 positions) performs design reviews and coordinates construction work with other departments, and also serves as the contract administrator for related construction management, construction, and major repairs and modifications contracts.

Project managers from the DETS Design function are assigned to manage the design process of project from development to bid publication. DWE utilizes the same procedure for its projects. The projects are manually tracked in Excel documents by each project manager. A summary of this process is illustrated below:



	DETS	DWE
Total projects that completed Design Phase during in-scope period	12	1
Estimated total project cost for above (median used for contracts with an estimate range)	\$39.9M	\$18.7M
Average estimated total project cost	\$3.9M	n/a
Largest estimated total project cost	\$10M - \$15M range	n/a
Smallest estimated total project cost	\$800K - \$1M range	n/a



BACKGROUND, OBJECTIVES, AND APPROACH (CONTINUED)

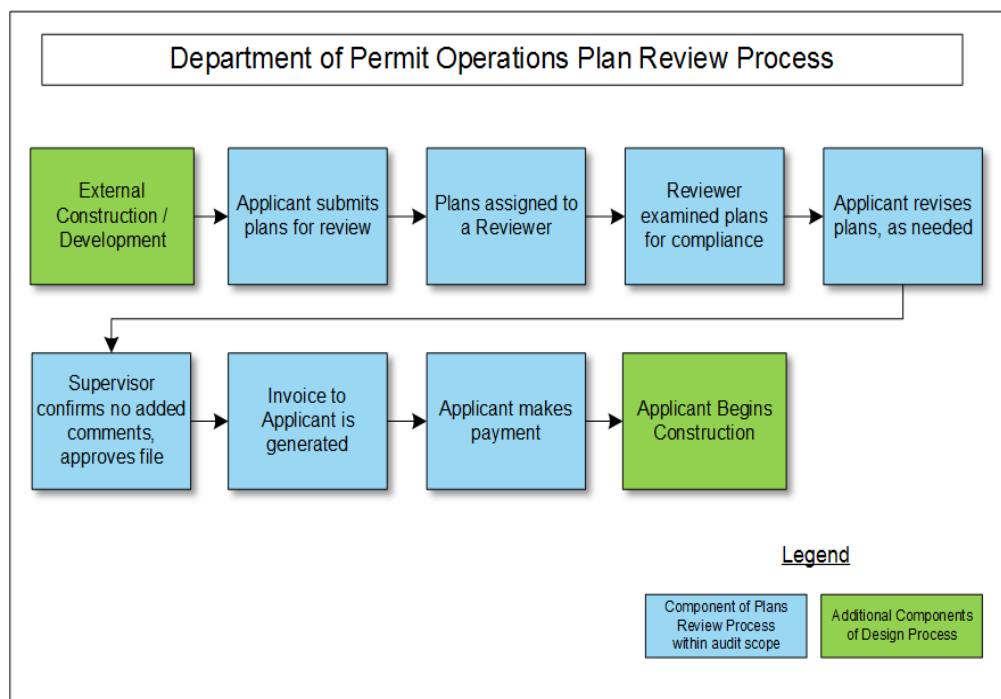
Background (Continued)

Permits Operations Department

Permit Operations manages DC Water’s development and permit services for external user projects. The Department reviews and approves proposed construction plans with related permit applications to connect to the public water and sewer system. The team evaluates impact of proposed development on water and sewer infrastructure for compliance with DC Water design standards, reviewing capacity and hydraulic grade. During the approval process, the Department also assesses and collects fees for permit review, fixed fee services, and inspection services.

Permit Operations currently uses a web-based program (Maximo) to track the progress of the review process. The permit application review process is illustrated below, beginning with the receipt of the permit application to payment collection at the conclusion of the review. The following permits were obtained from Maximo for the scope period of October 1, 2016 through June 30, 2017:

Permit Operations Application Type	Total during in-scope Period	% of Total
Water and Sewer Availability Certificate (WSAC)	312	84%
Disconnect for Demolition (RAZE)	36	10%
Water and Sewer Availability Letter (WSAL)	9	2%
Sheeting and Shoring (SHEET)	9	2%
Other (INSP, CCTVM, TEMPO)	4	1%
Total	370	





BACKGROUND, OBJECTIVES, AND APPROACH (CONTINUED)

Objectives and Approach

Objective

This internal audit of the Authority's Construction Plan Review and Permitting processes is the third of a three-phased audit plan encompassing the Authority's engineering and construction function. The purpose of the first phase of procedures was to obtain an understanding of existing policies and procedures, key controls in place, and to assess the design effectiveness of those controls identified. The second phase was to update our understanding of key monitoring controls, and assess the operating effectiveness of key controls identified.

The purpose of this review was to obtain an understanding of the Construction Plan Review and Permitting processes, including relevant policies and procedures, controls in place, and to determine the design and operational effectiveness of key controls identified. The audit scope included the construction plan review process within the Department of Engineering and Technical Services (DETS) and the Department of Wastewater Engineering (DWE) for internal projects, as well as the Permit Operations Department for external projects, during the period October 1, 2016 and June 30, 2017.

Approach

Our audit approach consisted of the following phases:

Obtain an Understanding of the Key Controls Identified

The purpose of this phase was to obtain an understanding of the Authority's structure and key processes within our scope. The following procedures were conducted as part of this phase of our review:

- Conducted kickoff meeting with key stakeholders to discuss the objectives, scope and approach for this internal audit;
- Obtained and review documented policies and procedures, organizational charts, and any other key process information available to further our understanding of the function;
- Conducted interviews with key management and operational personnel to obtain an understanding of operating functions and key performance indicators for the following areas:
 - Technology / software utilized to facilitate the plan review and permitting processes
 - Receipt / intake of construction plans for review
 - Review process of plans
 - Plan and permit approval / issuance
 - Reporting and monitoring
 - Quality control
 - Integration between Departments responsible for the review of construction plans (DETS,DWE, and Permit Operations); and
- Identified risks and controls and developed a detailed control testing script to facilitate testing



BACKGROUND, OBJECTIVES, AND APPROACH (CONTINUED)

Approach (Continued)

Detailed Testing of Plan Review Process

The purpose of this phase of our work was to test the operating effectiveness of key controls. This process was facilitated through sample basis testing of key controls for construction plans reviewed and approved, and related permits issued, during the period 10/01/2016 – 06/30/2017. Our procedures during this phase included the following:

- Selected a sample of DETS-performed plans reviewed during the in-scope period;
- Selected a sample of Permits Operations-performed plans reviewed and permits issued during the in-scope period; and
- For each sample plan review selected for testing, request and review relevant supporting documentation in an effort to assess the operating effectiveness of controls within the Authority's plan review functions. Key areas of focus included:
 - Timeliness of plan review and permit issuance (as applicable),
 - Evidence and sufficiency of plan review procedures performed,
 - Evidence and sufficiency of quality control procedures performed over plan reviews,
 - Evidence of proper approval(s) in accordance with policies, procedures or other guidance, and
 - Integration between relevant Departments.

Reporting

At the conclusion of this internal audit, we summarized our observations related to the Construction Plans Review and Permitting processes at DC Water and reviewed the results of our testing with management. Our Recommendations and Management's Actions Plans have been included within this report.



DETAILED OBSERVATIONS

Department of Engineering and Technical Services and Department of Wastewater Engineering			
1.	<u>Inconsistent monitoring and documentation of the plan review process</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>Through our detailed testing of the plan review process, we noted inconsistencies in the level of documentation maintained to support the plan review process.</p> <p><u>Submission of design documents to reviewers</u></p> <p>Multiple proposed design documents are distributed to designated reviewers within DC Water during the plan review process. Available to the Project Managers are distribution templates, including a checklist of individuals to which the proposed design documents should be submitted for review, for each phase of design. However, we noted there was not a consistent method of providing the proposed design documents to the reviewers. For example, in some cases, Project Managers tracked the distribution of proposed design documents to reviewers in a MS Word document (versus hard copy), some were tracked by retention of emails to reviewers, and in other instances documentation of submission to reviewers was not maintained. Further, we noted no tracking process was in place to verify all required reviewers had received the proposed design documents and subsequently provided comments/questions for discussion.</p> <p>Lack of a consistent mechanism (i.e. checklist, or communication template) to document the request for design review and receipt of responses / comments can lead to instances of insufficient supporting documentation and missing required reviews.</p> <p><u>Consolidated Design Review Comment Spreadsheet</u></p> <p>For comments received from reviewers during the design process, Project Managers utilize MS Excel spreadsheets stored in Contract Manager to track the status of review comments.</p> <p style="text-align: center;">(continued)</p>	<p>We recommend that DETS/DWE implement a consistent, formal tracking process (preferably through a project controls automated software platform) to transmit, receive, and track submittals and review comments. This will provide a consistent and secure method for PMs to track and manage these communications, verify that all submittals have been provided to the required reviewers, confirm all reviews have responded, record comments and responses, and track the disposition of each comment. Additionally, this will allow management to report and monitor project status / progression through the plan review process.</p>	<p>Response: DC Water agrees to the observation that the utilization and submission of the design document to reviewers and comment tracking spreadsheet are inconsistent. The existing Engineering Standard Operating Procedures (SOP) 3000 Series do not reflect our current design processes, documentation, use of standard templates, and that Contract Manager (CM14) is our primary repository of design and construction deliverables and notification. The Engineering Division, however, began an initiative to review and update the Engineering SOPs in January 2017 with the objective to prioritize the SOPs that required immediate attention such as the SOPs noted herein and the goal is to have all SOPs updated by 2019. DC Water will revise the appropriate SOP 3000 Series to capture our current and proposed design practice to standardize and provide consistency to our design reviewer(s)/stakeholder(s) identification, design submission, notification, and comment, response and close-out tracking processes.</p> <p style="text-align: center;">(continued)</p>



DETAILED OBSERVATIONS (CONTINUED)

Department of Engineering and Technical Services and Department of Wastewater Engineering			
1.	<u>Inconsistent monitoring and documentation of the plans review process (continued)</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>(continued)</p> <p>This spreadsheet is used throughout the review process, to record comments from reviewers and the actions taken to address the comments. Although the process described is within SOP compliance, we noted the process is missing essential information to verify reviews are being performed timely, and by the proper reviewers. The tracker lacks important data fields, such as the dates a comment was received and closed. Further, the reviewer is identified by initials only, making it unclear which reviewer / department was responsible for the comment. The document is also unsecured, allowing comments to be deleted or changed by anyone with access to the shared drive folder. While a majority of the projects documented comments in a cumulative tracker, 1 of 6 projects reviewed utilized separate files for tracking comments for each phase of design. Additionally, we noted the trackers were inconsistently completed among the projects reviewed. For example, comments were not regularly marked as closed (see Observation #2). In multiple instances the comment disposition (open / closed) was tracked in different fields in the spreadsheet; this practice does not allow the user to examine all open / closed comments at once, creating a risk for some comments to be overlooked. Additionally, we noted some instances where the comment was closed in one field, but was reopened in another field, leading to variations in the comment disposition. For 1 of 6 projects reviewed, the template tracker was not utilized, and a less detailed version was used.</p> <p>During the plans review process, Project Managers serve as the primary driver to verify design comments are addressed, approvals are obtained from required departments, and plans are prepared for the final bid package. As such, their supporting documentation evidencing the sufficiency of the plan review process is critical to ensure that all requirements have been met prior to publication of bid documents and construction activities.</p>		<p>(continued)</p> <p>DC Water will prepare a new SOP on the use of the Design Review Distribution Template that will identify key reviewer(s)/stakeholder(s) to distribute and track the comment(s)/response(s) through the project life cycle, and update/consolidate the appropriate 3000 Series SOPs to capture our current and proposed design practice.</p> <p>Responsible Party: Daniel Nguyen, Supervisor, Quality Assurance</p> <p>Target Date:</p> <p>New, approved SOP for using the Design Review Distribution Template by January 15, 2018.</p> <p>Consolidated, approved SOP Sections (3070, 3120, 3140, and 3160) into a new SOP by January 15, 2018.</p> <p>Training for staff on the two new SOPs by April 1, 2018.</p> <p>All new design projects as of May 1, 2018 shall comply with the two new SOPs.</p>



DETAILED OBSERVATIONS (CONTINUED)

Department of Engineering and Technical Services and Department of Wastewater Engineering			
2.	<u>Noncompliance with established policies and procedures</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>Through our detailed testing of the DETS construction plan review process, we noted certain steps were not completed as required in the DETS Standard Operating Procedures (SOPs):</p> <p><u>Use of the Design Lock-In Form</u></p> <p>6 of 6 projects reviewed did not utilize the Design Lock-In form as required.</p> <p>Per the DETS SOP Section 3100, <i>“The Design Lock-In is an important step in proceeding to Intermediate, Pre-Final, and Final Design. Once the Value Engineering Workshop is completed, and the DETS Manager and their representatives, the Program Manager, and the Project Design Engineer (PDE) have agreed upon issues raised in these reviews, the next step is to freeze or lock-in the design approach.”</i></p> <p>The purpose of the Design Lock-In Form is to solidify major design elements prior to the development of the detailed construction plans. The Design Lock-In Form requires multiple approvals to verify the design concept is appropriate, including the Project Director, DETS Project Manager, and Operating Department Director. Changing the “locked-in” design elements, such as the location or size of the project components, after this stage can result in increased costs due to a re-design or change orders.</p> <p>Through our discussions with Department personnel, we noted the Design Lock-In Form is not utilized, as all required approvals could not be regularly obtained. The process of obtaining approvals for the Design Lock-In has been informal and not consistently documented.</p> <p style="text-align: center;">(continued)</p>	<p>We recommend that Project Mangers utilize the existing standard document(s) in each stage of the project review, and further, consider integrating these key documents into an automated workflow to help ensure that documents are completed thoroughly and consistently (see reference to Maximo in recommendation to #1). In addition, we recommend the Authority review existing checklists and Standard Operating Procedures (SOPs) to determine the appropriateness and completeness of the items within those documents.</p> <p>Should a reviewer’s response be determined unnecessary, written acknowledgement by the PM and reviewer on the face of the checklist should be formally documented. This will help ensure that all approvals have been obtained and accounted for.</p>	<p>Response: DC Water agrees to the observation that the use of the Design Lock-in Form and Pre-Advertisement Certification are not in accordance the current SOPs 3100 and 4040. DETS and DWE are evaluating the effectiveness of the Design Lock-in (SOP 3100) to the design intent and the quality of the final design documents as part of our efforts to update our design practice and standards.</p> <p>The Pre Advertisement Certification (SOP 4040) is required for all projects to be advertised, which requires that all comments be appropriately addressed and adjudicated/closed. The Pre Advertisement Certification is being updated to provide direction to staff for the signature approvals.</p> <p>Responsible Party: Daniel Nguyen, Supervisor, Quality Assurance</p> <p style="text-align: center;">(continued)</p>



DETAILED OBSERVATIONS (CONTINUED)

Department of Engineering and Technical Services and Department of Wastewater Engineering			
2.	<u>Noncompliance with established policies and procedures</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>(continued)</p> <p><u>Completion and use of the Pre-Advertisement Certification</u></p> <p>The Pre-Advertisement Certification did not contain all approvals for 1 of 6 projects reviewed.</p> <p>For 5 of 6 projects reviewed, we noted that while design comments may have been addressed by the project team, the comments were not consistently marked as closed in the consolidated design review comment spreadsheet prior to execution of the Pre-Advertisement Certification. (See observation #1)</p> <p>Per the DETS SOP Section 4040, <i>“The purpose of pre-advertisement certification is to make sure that all relevant reviews have been conducted, all documents provided, and that funding is available for the upcoming project.”</i></p> <p>Prior to the completion of the Pre-Advertisement Certification, all reviews should have been conducted with all design comments addressed, the bid package documents made ready for publication, and project funding availability confirmed. The Pre-Advertisement Certification Form requires multiple approvals to verify all design and bid documents have been properly completed, including the PM Project Director, DETS Project Manager, DETS Branch Manager, DETS Construction Manager, CM Project Director, DETS Quality Manager, and Operating Department Director. Without completion of this form, bid documents may be published which may have outstanding design comments and / or have not been approved by all relevant stakeholders.</p>		<p>(continued)</p> <p>Target Date:</p> <p>Evaluate the Design Lock-in (SOP 3100) and revise/modify/rename accordingly by April 1, 2018. Deliverable will be an approved SOP.</p> <p>Train staff on the revised SOP 3100 by June 1, 2018. Deliverable will be a copy of the training sign-in sheet.</p> <p>All new design projects as of July 1, 2018 shall comply with the revised SOP 3100.</p> <p>Revise the Pre Advertisement Certification (SOP 4040) by January 15, 2018. Deliverable will be an approved SOP.</p> <p>Communicate to all staff on the revised SOP 4040 by January 15, 2018. Deliverable will be a copy of the training sign-in sheet or an email from DETS and DWE PMs that acknowledges receipt of the revised SOP.</p> <p>All design projects shall comply with the revised SOP 4040 effective February 1, 2018.</p>




DETAILED OBSERVATIONS (CONTINUED)

Permit Operations Department			
3.	<u>Segregation of duties in review</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>Through our detailed testing of plan reviews performed by Permit Operations (submitted via permit applications), we noted the following:</p> <ul style="list-style-type: none"> • 14 of 60 (23%) permit applications/plan reviews tested were reviewed and approved by the same individual, with no secondary approval. These included department Supervisors and Engineer III. • 3 of 60 (5%) permit applications/plan reviews tested were reviewed by an administrative staff rather than a technical reviewer staff or Supervisor. • 1 of 60 (2%) permit applications/plan reviews tested were processed entirely by the same individual (from intake to receipt of payment, see page 6 for an illustration of this process). These were performed by Supervisors. <p>The purpose of segregation of duties (SOD) is to maintain checks and balances, making sure no single individual is in control for the outcome of the entire process. Without proper SOD, there is an increased risk of errors in transactions and reviews, and increased risk of fraud.</p> <p>While the department's SOPs do not specifically exclude the Supervisors from approving their own reviews, the lack of segregation of duties between reviewer and approver increases the Authority's risk that reviews are not properly completed.</p>	<p>We recommend Permit Operations implement a required secondary review and approval by an individual other than the initial reviewer during the permit applications/plan review process. In cases where the initial reviewer is a Supervisor, we recommend the second review be another Supervisor or above within the department. By following this procedure, the permit file will record a review by two separate individuals prior to approval.</p> <p>Additionally, we recommend the segregation of duties between intake / payment roles and review / approval roles. The individual responsible for plans intake and / or payment receipt should not be the individual performing the review or approval.</p> <p>To help ensure the effectiveness of the segregations recommended above, we recommend Permit Operations consider automating the SOD via access controls within Maximo.</p>	<p>Response: Permit Operations agrees with the findings of the Audit that over the past year staffing situations with the retirement of a supervisor, the passing of a senior technician, and the retirement of a senior reviewer has resulted in putting certain people (Vahid and Jigar especially) in the position of having both the authority and the Maximo privileges to review and approve their plans. This was not anticipated in the SOP manual. Of note is that there are occasions where the director or a supervisor are on vacation or out of the office one of the others will need to complete the processing or that there is a very high profile project that requires immediate approval and it is by situation necessary that the reviewing supervisor be the approving authority as well. However, this should be minimal.</p> <p>Permit Operations staff (John Gorrell) will work with the Maximo management team to force the Maximo program to require different people not just different positions to change the status of a project from any status to "APPROVED". This will alleviate any duplication. It is estimated that the Maximo team can accomplish this within the first quarter of FY2018.</p> <p>Immediately Permit Operations supervisors have been directed to have another supervisor or the department director change the status of their projects to Approved.</p> <p>Responsible Party: John Gorrell, Coordinator Intake and DM PO</p> <p>Target Date: Q1, FY2018</p>



APPENDIX A – RATING DEFINITIONS

Observation Risk Rating Definitions	
Rating	Definition
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment, brand, or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals.
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment, brand, or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be in the near term.
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment, brand, or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately.



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Internal Audit Report Fleet - Accident and Incident Reporting

January 2018



Accident and Incident Reporting
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TRANSMITTAL LETTER

January 2018

The Audit Committee of DC Water
5000 Overlook Avenue, SW
Washington, DC 20032

Pursuant to the approved 2017 internal audit plan for the District of Columbia Water and Sewer Authority (“DC Water” or the “Authority”), we hereby present our assessment of DC Water’s Fleet Accident and Incident Reporting process. We will be presenting this report to the Audit Committee of DC Water at the next scheduled meeting on January 25, 2018. Our report is organized in the following sections:

Executive Summary	This section provides a summary of the observations and ratings related to our internal audit of the Accident and Incident Reporting process.
Background	This section provides an overview of the Accident and Incident Reporting processes and metrics that are tracked in the Wave system.
Objectives and Approach	The internal audit objectives and focus are expanded upon in this section, as well as a review of the various phases of our approach.
Detailed Observations	This section gives a description of the observations noted during our work and recommended actions as well as management’s response, responsible party, and estimated completion date.

We would like to thank the staff and all those involved in assisting the Internal Auditors in connection with this review.

Respectfully Submitted,

Internal Auditors



EXECUTIVE SUMMARY

Background

The Fleet Accident and Incident Reporting process is initiated during any situation in which an accident or incident occurs with a DC Water vehicle. Accidents are defined as unintentional collisions causing personal injury or vehicle damage, while incidents are defined as unintentional events in which only vehicle damage is sustained.

The process from initial event to closure multiple departments, including Security, Occupational Safety and Health, Fleet, Risk Management, and in some cases Labor Relations. Additionally, a Supervisor of the employee involved must report to the scene of the accident or incident. Each department is essential in gathering required information for investigate purposes, as well as preventative or corrective action, data capture into the Wave and SRS systems, and any necessary follow up.

A total of 667 accidents and incidents have occurred with Authority vehicles since 2014 and the number of reported accidents and incidents has risen substantially since 2011 with the introduction of the Wave system. Prior to the introduction of Wave, which acts as the central database for the majority of accident and incident related information, DC Water had a difficult time gathering appropriate information when a Fleet related accident or incident would occur. As knowledge of the system as well as reporting requirements has increased, the Authority has been able to gather valuable information pertaining to these events in a more robust manner.

Overall Summary / Highlights

The observations identified during our assessment are summarized on the next few pages. We have assigned relative risk or value factors to each observation. Risk ratings are the evaluation of the severity of the concern and the potential impact on the operations of each item. Observations will require management action plans with estimated completion dates that will be included in the routine follow-up of internal audit observations.

Objective and Scope

Our procedures were performed in accordance with the internal audit scope and approach set forth in our audit notification letter, dated June 9, 2017, and were limited to those procedures described therein. Our scope is based on the following objectives:

- Identify the controls for the lifecycle of incident and accident management for fleet, including reporting, investigating, implementing corrective actions and closure;
- Review system(s) utilized to manage incidents and accidents, including data capture;
- Evaluate use of GeoTab technology (GPS) within Authority-wide vehicles;
- Evaluate employee and supervisor training on incident and accident reporting;
- Evaluate existing accident and incident response metrics;
- Identify process improvement opportunities and recommend internal control enhancements to improve the overall process.

Fieldwork was performed July 2017 through September 2017.

Summary of Observation Ratings *(See Appendix A for definitions)*

	Number of Observations by Risk Rating		
	High	Moderate	Low
Accident and Incident Reporting	1	1	2

We would like to thank all DC Water team members who assisted us throughout this review.





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EXECUTIVE SUMMARY (CONTINUED)

Ratings and Conclusions

The following is a summary of all observations noted in the areas reviewed (see “Detailed Observations” section for additional information). Definitions of the rating scales are included in the Appendices.

Summary of Observations	
Observations	Rating
<p>1. Departmental Roles and Responsibilities Not Formally Defined</p> <p>During fieldwork we noted that there is not a specific owner of the accident and incident reporting process. Though various Departments are needed to be involved in the process, the roles and responsibilities of each have not been clearly defined. This has resulted in various situations including potential segregation of duties issues, inaccurate or inconsistent data capture and unqualified employees performing responsibilities.</p>	High
<p>2. Inconsistent GeoTab Use</p> <p>Per our review of GeoTab use within the Wave system, 70 of the 609 vehicles in the DC Water fleet do not have the GeoTab tracking system installed. These 70 vehicles without GeoTab are all vehicles utilized by the Department of Engineering and Technical Services. DC Water did not require union employees represented by AFGE 631 or NAGE R3-06 to have vehicles equipped with the RFID or GPS capabilities. DC Water did note that the vehicles are to be equipped with this technology, they would be required to provide sixty days’ notice.</p>	Moderate
<p>3. Insurance Costs Not Captured in the Wave System</p> <p>Per our review of the claims process and our walkthroughs with the Department of Risk Management, insurance related costs are not imported into the Wave system. As a result, total costs related to accidents and incidents are not captured.</p>	Low
<p>4. Lack of Corrective Action Validation and Preventative Measures Follow-up</p> <p>Per our walkthrough with the Department of Occupational Safety and Health, there is currently no follow-up performed to verify that the Supervisor’s recommended corrective action plan has been implemented. A corrective action plan could include vehicle repairs or specific tasks to prevent reoccurrence of an accident or incident. A corrective action could also impact personnel in accordance with the Driver Qualification Policy.</p>	Low

Process Improvement Opportunities have been provided to Management for consideration.



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BACKGROUND, OBJECTIVES AND APPROACH

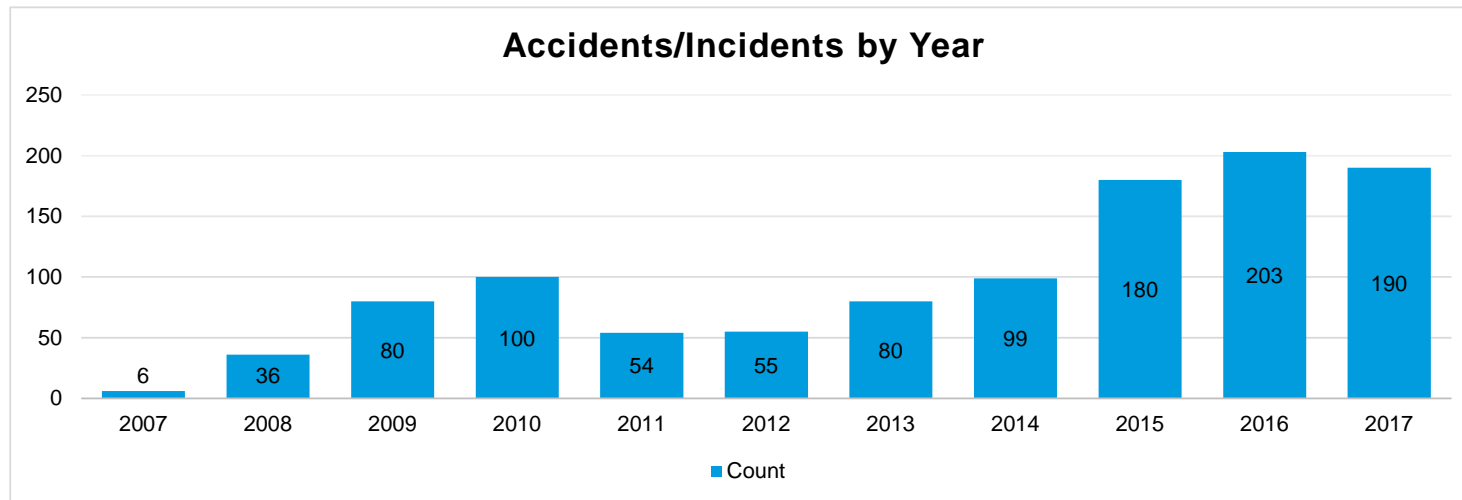
Background

Accident & Incident Reporting Overview

The Fleet Accident and Incident Reporting process is initiated during any situation in which an accident or incident occurs with a DC Water vehicle. Accidents are defined as unintentional collisions causing personal injury or vehicle damage, while incidents are defined as unintentional events in which only vehicle damage is sustained.

The process from initial event to closure spans multiple departments, including Security, Occupational Safety and Health, Fleet, Risk Management, and in some cases Labor Relations. Additionally, a Supervisor of the employee involved must report to the scene of the accident or incident. Each department is essential in gathering required information for investigative purposes, as well as preventative or corrective action, data capture into the Wave and SRS systems, and any necessary follow up.

A total of 667 accidents and incidents have occurred with Authority vehicles since 2014 and the number of reported accidents and incidents has risen substantially since 2011 with the introduction of the Wave system. Prior to the introduction of Wave, which acts as the central database for the majority of accident and incident related information, DC Water had a difficult time gathering appropriate information when a Fleet related accident or incident would occur. As knowledge of the system as well as reporting requirements has increased, the Authority has been able to gather valuable information pertaining to these events in a more robust manner. See below for the number of accidents/incidents by year, as tracked within Wave:





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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Wave Reporting System

The Fleetwave system, also known as “Wave”, is the primary system utilized for Accident and Incident Reporting. The Wave system is utilized by essentially all departments involved in the reporting process, maintaining all information regarding the event itself through the Vehicle/Equipment Damage forms, all safety information regarding investigation by Safety specialists, as well as repair information through Fleet work orders. A real-time list of all accidents and incidents is also maintained, including all relevant information such as type of event, accident status, risk status, safety status, workers compensation status, etc. Please see below for an example screenshot from Wave.

DATE OF LOSS	ACCIDENT CODE	TYPE OF EVENT	UNIT #	DEPT	DRIVER	ACCIDENT STATUS	RISK STATUS	SAFETY STATUS	WORKERS COMP STATUS	CHANGED BY	DATE
8/7/17	AC000144		45-1442	5610		FLEET COMPLETE	CLOSED	CLOSED	CLOSED	ADAMO	8/29/2017
8/7/17	AC000176		46-20583	4452		FLEET COMPLETE	CLOSED	CLOSED	CLOSED	ADAMO	8/29/2017
10/23/2017	AC000944	ACCIDENT	42-20543	3410		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
10/23/2017	AC000945	ACCIDENT	42-20540	3410		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
10/18/2017	AC000951	ACCIDENT	43-20485	3340		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/15/2017	AC000905	ACCIDENT	46-20170	4430		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/15/2017	AC000906	ACCIDENT	45-20381	3440		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/15/2017	AC000908	ACCIDENT	42-20441	4210		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/14/2017	AC000909	ACCIDENT	46-20135	4420		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/10/2017	AC000902	ACCIDENT	46-20114	4420		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/10/2017	AC000903	ACCIDENT	47C-20491	4710		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/8/2017	AC000882	ACCIDENT	46-20212	4420		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/8/2017	AC000883	ACCIDENT	43-20382	3340		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/3/2017	AC000844	ACCIDENT	43-20480	3340		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/2/2017	AC000827	ACCIDENT	41-20116	3820		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/2/2017	AC000822	ACCIDENT	46-20210	4420		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/1/2017	AC000807	ACCIDENT	44-20447	4130		ACCIDENT OPEN	OPEN	OPEN	OPEN		11/1/2017
8/28/2014	AC000777	ACCIDENT	8-29	4620		REPORTED DRV	CLOSED	CLOSED	CLOSED	ANTHONYL	11/2/2014
8/8/2014	AC000192		41-20924	4620		REPORTED DRV	CLOSED	CLOSED	CLOSED	TONYAD	12/2/2014
5/1/2014	AC000179		45-1817	4620		REPORTED DRV	CLOSED	CLOSED	CLOSED	ANTHONYL	9/30/2014
4/22/2014	AC000109		41-20960	4610		FLEET COMPLETE	CLOSED	CLOSED	CLOSED	POVC	10/12/2017
3/21/2014	AC000159		45-1436	4620		REPORTED DRV	CLOSED	CLOSED	CLOSED	TONYAD	6/16/2015
2/19/2014	AC000146		43-20098	3340		REPORTED DRV	CLOSED	CLOSED	CLOSED	TONYAD	12/11/2014
2/6/2014	AC000145		47C-20488	4710		REPORTED DRV	CLOSED	CLOSED	CLOSED	ANTHONYL	8/25/2014
2/6/2014	AC000141		46-20225	4420		FLEET COMPLETE	CLOSED	CLOSED	CLOSED	ANTHONYL	10/22/2014
12/5/2013	AC000131		46-20229	4420		REPORTED DRV	CLOSED	CLOSED	CLOSED	ANTHONYL	8/23/2014



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Wave Reporting System – GeoTab Tracking

Additionally, the Authority utilizes the GPS tracking system, GeoTab, in all but 70 of the Authority’s 609 vehicles. This system allows DC Water to track fuel usage, identify the location of the vehicle at any time, and all trips made by the vehicle including detail on trip distance, start and stop date, and total time. All GeoTab information is maintained within the Wave system and is updated in real-time as vehicles are being utilized. A full listing of all tagged vehicles can be found within Wave, with each individual unit having all pertinent information stored within this list.

UNIT #	VIN	MILE	MAXIMUM SPEED	START DATE	START TIME	DRIVING DURATION	STOP TIME	STOP DURATION TIME	LOCATION
43-20662	7613 8299 214702191	11/0/2017	08:29	08:54	08:25	08:01	2:58:11:54Z	3033-3068 14th St NW, Washington, DC 20006, USA	
43-20662	7613 8299 849919881	11/0/2017	08:56	08:02	08:10	08:08	8:13:22:60Z	176-200 Bryant St NW, Washington, DC 20005, USA	
43-20662	7613 8299 111848818	11/0/2017	08:08	08:12	08:10	08:01	8:12:59:60Z	Bryant Street 302 College St NW, Washington, DC 20018, USA	
43-20662	7613 8299 843119121	11/0/2017	15:55	08:00	15:59	08:38	8	Bryant Street 301 College St NW, Washington, DC 20018, USA	
43-20662	7613 8299 842121212	11/0/2017	16:27	08:00	16:28	08:05	8:00:25:30Z	Bryant Street 301 College St NW, Washington, DC 20018, USA	
43-20662	7613 8299 354181954	11/0/2017	14:07	01:17	13:24	01:02	13:26:19:30Z	Bryant Street 301 College St NW, Washington, DC 20018, USA	
43-20662	7613 8299 323111021	11/0/2017	15:49	00:14	14:03	01:00	1:56:05:00Z	1336-1108 Jay St NW, Washington, DC 20018, USA	
43-20662	7613 8299 391468831	11/0/2017	13:25	08:21	13:48	01:03	2:08:09:00Z	987 4401 St NW, Washington, DC 20018, USA	
43-20662	7613 8299 391468831	11/0/2017	12:49	08:39	13:22	01:02	4:13:08:02Z	3806 Kenning Rd NW, Washington, DC 20018, USA	
43-20662	7613 8299 315689986	11/0/2017	15:48	08:13	13:01	01:01	1:8:44:80Z	423-436 14th St NW, Washington, DC 20002, USA	
43-20662	7613 8299 283979894	11/0/2017	12:51	08:21	12:48	01:00	2:28:15:70Z	3283 E St NW, Washington, DC 20002, USA	
43-20662	7613 8299 283524890	11/0/2017	11:56	09:08	11:20	01:00	8:20:12:70Z	2138 Apple Rd NW, Washington, DC 20018, USA	
43-20662	7613 8299 361481881	11/0/2017	11:56	08:14	11:11	01:00	3:17:01:10Z	686House (Land 183 838) 1911-1989 West Virginia Ave NE, Wash...	

All prior accident and incident information (reports, pictures, etc.) can be uploaded directly to the individual unit page and saved for future use. The GeoTab tracking system as well as the accident and incident data supplement each other to provide a full and up to date history of each all Authority vehicles that utilize GeoTab.



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

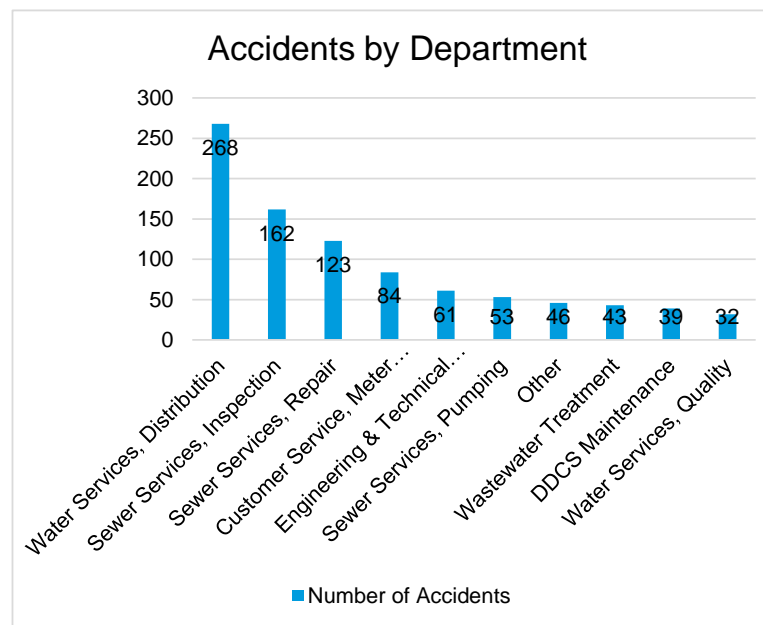
Background, continued

Wave Reporting System – Metrics

The Wave system also has the capability to maintain various metrics related to accidents and incidents to keep management informed of the activities of Authority vehicles. Currently, the following metrics are tracked within Wave:

- Monthly Backup Accidents
- Accidents and Incidents by Department (10 Worst)
- Accidents and Incidents by Driver (10 Worst)
- Monthly Total Accidents and Incidents (Prior 3 Years)
- Yearly Total Accidents and Incidents
- Monthly Total Accidents versus Incidents
- Accidents By Vehicle Type

The below screenshots and reproduced tables are included in the “management reporting” screen within Wave.



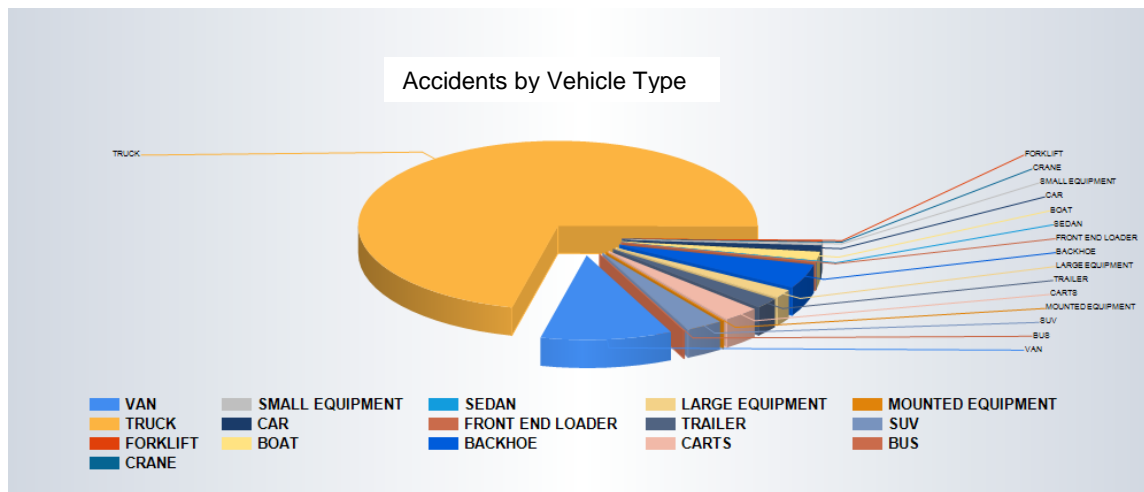


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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Wave Reporting System – Metrics (continued)





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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Accident & Incident Reporting Process

As soon as an accident or incident occurs, the vehicle operator is required to notify their Supervisor as well as 911 and other appropriate agencies. If the event was due to criminal activity (vandalism, theft, etc.) then the Department of Security is also notified. The primary responsibility of the Supervisor is to arrive on scene and obtain all information relevant to the accident or incident and submitting a Vehicle/Equipment Damage Report. This information that is initially gathered is the primary driver of all other functions of the Accident and Incident Reporting process.

VEHICLE/EQUIPMENT DAMAGE REPORT

MANDATORY FIELDS ARE A RED LINE TO THE LEFT. THE FORM WILL NOT SAVE UNLESS THESE FIELDS ARE COMPLETED. COMPLETE THE REPORT FORM AND SUBMIT THE ABOVE SECTION BEFORE SAVING.

INCIDENT

DATE OF LOSS	04/20/14	TIME OF LOSS	12:00
DRIVER	2966		
DRIVER LICENSE			
PHONE NUMBERS	332/1234		
LOCATION	123456789		
LOCATION OF TRAILER/ISSUES (ZIP)			
TOTAL VEHICLES INVOLVED IN THIS CASE	1		

VEHICLE/EQUIPMENT INFORMATION

UNIT #	462022	TAG #	SC000	294
MAKE / MODEL / YEAR	CHEVROLET	EQUIPMENT	3010	
DEPT	4670			

SUPERVISOR INFORMATION

SUPERVISOR	2475
PHONE NUMBER	202/1234
EMAIL	
ADDITIONAL COMMENTS	
SUPERVISOR REPORTED TO THE SCENE	NO
PHOTOS TAKEN AT THE SCENE	NO
SUPERVISOR'S CORRECTIVE ACTIONS TO PREVENT REOCCURRENCE (FILL IN BELOW)	NA

DAMAGE TYPE (SELECT YES OR NO)

PERSONAL INJURY	NO	VEHICLE DAMAGE	NO
PROPERTY DAMAGE	NO	EQUIPMENT DAMAGE/FAILURE	NO
HAZARDOUS MATERIAL SPILL	NO	NEAR MISS	NO
OTHER	NO		

DETAILS

LOCATION: EXPLAIN WHAT HAPPENED BEFORE, DURING, AND AFTER (FILL IN BELOW)

DESCRIPTION		VEHICLE DAMAGE	YES
ROAD CONDITION	NA	OTHER TYPE	
WEATHER CONDITION	NA	OTHER WEATHER CONDITION	
PASSENGERS	NO		

CANCEL

VEHICLE/EQUIPMENT DAMAGE REPORT

HAZARDOUS MATERIAL SPILL	NO	NEAR MISS	NO
OTHER	NO		

DETAILS

EXPLAIN WHAT HAPPENED BEFORE, DURING, AND AFTER (FILL IN BELOW)

DESCRIPTION		VEHICLE DAMAGE	YES
ROAD CONDITION	NA	OTHER TYPE	
WEATHER CONDITION	NA	OTHER WEATHER CONDITION	
PASSENGERS	NO		

PLEASE INDICATE ALL OF THE FOLLOWING WHICH MAY HAVE CAUSED THE ACCIDENT/INCIDENT

SELECT NO ONLY DOES NOT APPLY

IMPROPER SUNDING	NO	IMPROPER INSTRUCTION	NO
IMPROPER EQUIPMENT	NO	IMPROPER DATA	NO
IMPROPER PROTECTIVE EQUIP	NO	INCOMPLETE SAFETY DEVICE	NO
IMPROPER TECHNIQUE	NO	FAILURE LOCKOUT	NO
FAILURE TO SECURE	NO	LACK OF TRAINING/FAIL	NO
OPERATING AND AUTHORITY	NO	PHYSICAL/MENTAL IMPAIRMENT	NO
OPERATING EQUIPMENT IMPROPERLY	NO	WORK INTERFERENCE	NO
POOR EVALUATION	NO	UNSAFE WORKPRACTICES	NO
UNSAFE EQUIPMENT	NO	UNSAFE POSITION	NO
HORSEPLAY	NO	FAILURE TO FOLLOW RULES	NO
SAFETY DEVICES NOT PROVIDED	NO	FAILURE TO USE SPOTTER/DRIVING	NO
FAILURE TO STOP (DRIVING)	NO	FAILURE TO YIELD (DRIVING)	NO
IMPROPER DRIVING	NO	NOT DRIVING RESPONSIBLY	NO
OTHER	NO		

OTHER VEHICLE INFORMATION

OTHER VEHICLE INVOLVED	NO
------------------------	----

POLICE INVOLVEMENT

POLICE OFFICERS	NO
-----------------	----

WITNESSES

WITNESSES	NO
-----------	----

REQUIRE LOCAL TESTING (OPTIONAL FORM)

TRAINING DEVICE	NO
-----------------	----

IF ANSWERED 'YES' TO TESTING DON'T PLEASE TICKLE TO THE TOP OF THE PAGE TO COMPLETE THE SUBSTANTIVE TESTING (OPTIONAL FORM). IF ANSWERED 'NO' PLEASE SAVE THE RECORD.

ACCIDENT CODE: ACC0014

CANCEL



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Accident & Incident Reporting Process, continued

As previously identified, the reporting process spans many departments across the Authority, all with various responsibilities. The Department of Occupational Safety and Health (“Safety”) is responsible for making an assessment of relevant safety risks or violations present, following up with applicable parties if additional information is required, and assessing if the preventative or corrective action plan (as recommended by the vehicle operator’s Supervisor) is adequate to address any identified safety risks. If not, Safety will provide a recommendation for an adequate action.

The screenshot displays a web-based accident reporting system. At the top, there is a navigation menu with tabs for 'MANAGEMENT REPORTING', 'UNITS - DCW', 'VEHICLE/EQUIP DAMAGE REPORT', and 'ACCIDENTS'. Below this is a sub-menu for 'ACCIDENTS' with various filters like 'SUMMARY', 'REPORT', 'QUESTIONNAIRE', etc. The main form area contains the following fields and sections:

- TYPE OF EVENT:** INCIDENT
- ACCIDENT CODE:** AC000328
- FLEET ACCIDENT STATUS:** ESTIMATE
- UNIT #:** 41-20429
- METER:** 0
- DEPT:** 4810
- NEXT ACTION:** 10/09/2014
- UNION:** 2091
- REVIEW NEEDED?:** NO
- DOSH ONLY SECTION:** Includes 'PREVENTABLE?' and 'ADDITIONAL ACCIDENT CAUSE(S)'.
- ACCIDENT FACTORS:** A text input field.
- SUPERVISOR'S CAP IMPLEMENTED:** A dropdown menu.
- IMPLEMENTED DATE:** A date picker.
- INVESTIGATION CLOSED?:** A dropdown menu.
- IF NO, WHAT NEEDS TO BE INVESTIGATED?:** A text input field.
- SAFETY MGMT DOSH ONLY SECTION:** Includes 'INVESTIGATION ACCEPTED?' and 'INVESTIGATION ACCEPTED DATE'.
- COMMENTS:** A large text area.
- SAFETY STATUS:** OPEN
- Buttons:** SAFETY SUBMIT and SAFETY CLOSED.



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Accident & Incident Reporting Process, continued

The Department of Fleet Management is responsible for any repairs required due to accidents and incidents, both reported and non-reported. Any damage caused from reported accidents and incidents will be appropriately repaired by Fleet technicians and dispatched back into operation following appropriate inspection to validate all damage was repaired. The repair process is captured within the Wave system to include repair costs, repair date, return to service date, as well as the full work order history. In cases in which vehicle damage was not appropriately reported, a Fleet service writer is required to reach out to the vehicle operator's Supervisor to complete a Vehicle/Equipment Damage Report and conduct an informational investigation.

The screenshot displays the 'ACCIDENTS' section of the Wave system. The top navigation bar includes 'MANAGEMENT REPORTING', 'VEHICLE/EQUIP DAMAGE REPORT', 'ACCIDENTS', and 'UNITS - ALL'. Below this, a secondary navigation bar lists various report types: 'SUMMARY', 'REPORT', 'CIVILIANS', 'POLICE', '3RD PARTY', 'SUPERVISOR', 'FLEET', 'INVESTIGATION', 'SAFETY', 'RISK', 'WORK COMP'. The main content area shows details for an accident with ID 'AC000144'. Key information includes: UNIT # 45-1442, DEPT 3610, DRIVER UNION, DATE OF LOSS //, TIME OF LOSS 00:00, REPORTED DATE 3/29/2014, and REPORTED TIME 08:43. The accident status is 'COMPLETE'. A 'NEXT ACTION' section lists steps from 'AWAITING ESTIMATE' to 'COMPLETE'. A 'WORK ORDER HISTORY' table is also visible, listing various work orders with their priorities, reasons, and costs.

WORK ORDER #	PRIORITY	REASON	DEPT	DEPOT	WO DATE	UNIT #	WO STATUS	CHANGED BY	DATE	PARTS COST
WO00013293	3	DECOMMISSION/OLD	4640	DISTRICT	5/13/2015	45-1442	PICKED UP	TRIGG	5/18/2015	115.08
WO00011899	3	NOHD CALL	4640	DISTRICT	11/4/2015	45-1442	PICKED UP	TDNYAD	5/18/2015	26.74
WO00004279	3	WASH / POLISH	4640	DISTRICT	4/15/2014	45-1442	PICKED UP	TDNYAD	4/18/2014	14.73
WO00004884	3	DIRECTED WORK	4640	DISTRICT	3/25/2014	45-1442	PICKED UP	TDNYAD	3/26/2014	88.47
WO00007971	3	B SERVICE	4640	DISTRICT	3/18/2014	45-1442	PICKED UP	TDNYAD	3/25/2014	37.02
WO00007726	3	ADDITIONAL SERVICE	4640	DISTRICT	3/27/2014	45-1442	PICKED UP	TDNYAD	3/18/2014	27.58
WO00007529	3	ADDITIONAL SERVICE	4640	DISTRICT	3/13/2014	45-1442	PICKED UP	TDNYAD	2/14/2014	22.47
WO00005993	3	C SERVICE	4640	DISTRICT	12/30/2013	45-1442	PICKED UP	MEZC	1/12/2014	763.2



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Background, continued

Accident & Incident Reporting Process, continued

The Department of Risk Management as well as Labor Relations are responsible for fielding all insurance and workers compensation related implications due to accidents and incidents. These two departments utilize the SRS system, rather than the Wave system, for claims processing, investigation, and to house all claim related information.

If there is personal injury to the vehicle operator involved in an accident or incident, they may have the right to workers compensation. To begin this process, the operator must complete an Employee Injury/Incident Report and provide this to their Supervisor. This information is provided to PMA, which is the third-party claims service utilized by DC Water, to start the claims process. Additional investigation is performed by the Supervisor as well as the Department of Safety to identify corrective action, while the third-party claim service determines if workers compensation is appropriate. If the employee is deemed to be disabled and unable to work following medical treatment, the worker's compensation claim will be approved and bi-weekly payroll will be adjusted as needed.

All claims regarding vehicle damage are handled by the Department of Risk Management, whether they are a first party, third party, or subrogation claim. Similar to worker's compensation, the third-party claims service, PMA, conducts an assessment of all information gathered regarding the accident or incident to identify responsible parties as well as a recovery payment will be made, and of what amount.



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Objectives and Approach

Objectives

The purpose of this review is to obtain an understanding of how Fleet-related accidents and incidents are managed and assess whether the system of internal controls are adequate and appropriate, at the department and Authority level. Any risks not appropriately addressed by controls were identified and recommendations were made to introduce new controls or modify those already in place in order to address the risk.

The audit scope is based on the following objectives:

- Identify the controls for the lifecycle of incident and accident management for fleet, including reporting, investigating, implementing corrective actions and closure;
- Review system(s) utilized to manage incidents and accidents, including data capture;
- Evaluate use of GeoTab technology (GPS) within Authority-wide vehicles;
- Evaluate employee and supervisor training on incident and accident reporting;
- Evaluate existing accident and incident response metrics; and
- Identify process improvement opportunities and recommend internal control enhancements to improve the overall process.

Approach

Our audit approach consisted of the following phases:

Understanding of the Process

The purpose of this phase was to gain an understanding of DC Water's Accident & Incident Reporting process as it is currently documented. This phase included review of existing training materials, review of the "Blue Clue" procedural documentation and obtaining access to the Wave system in order to review accident and incident reporting forms.

Documented Walkthroughs

The purpose of this phase was to gain an understanding of each department's roles and responsibilities within the Fleet Accident and Incident Reporting process and determine where processes overlap.

Specific procedures performed include:

- Identifying all parties involved in the accident and incident reporting process from identification of an issue to corrective action
- Held individual walkthroughs with the Department of Security, Department of Occupational Safety and Health, Risk Management, Fleet Management and Labor Relations
- Interviewed various Supervisors within the Water Services and Sewer Services Departments
- Reviewed metrics tracked within the Wave system, including analysis of vehicle that utilize GeoTab



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BACKGROUND, OBJECTIVES AND APPROACH (CONTINUED)

Objectives and Approach (continued)

Approach (continued)

Reporting

At the conclusion of this audit, we summarized our observations related to the Accident and Incident Reporting Internal Audit. We have reviewed the results of our testing with management and included their responses in the detailed observations section.



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DETAILED OBSERVATIONS

Accident & Incident Reporting Internal Audit			
1.	<u>Departmental Roles and Responsibilities Not Formally Defined</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>During fieldwork we noted that there is not a specific owner of the accident and incident reporting process. Though various Departments are needed to be included in the process, the roles and responsibilities of each have not been clearly defined. This has resulted in a few issues listed below.</p> <p>1. Per our review of Accident and Incident Reporting procedural documents (Blue Clue) as well as interviews with process owners, there are segregation of duties issues regarding the reporting process. The current process requires that the Supervisor of the vehicle operator involved reports to the scene, gathers information, conducts an investigation, completes the Accident & Incident report within the Wave system, receives and submits the Police Report, and recommends and implements a corrective action plan. With the current process, the Authority runs the risk of gathering incomplete or incorrect information due to the Supervisor having a direct relationship with the vehicle operator. Incomplete or incorrect information can limit the Authority's ability to appropriately assess the accident/incident, determine corrective action from both a safety and disciplinary aspect, as well as possibly jeopardize insurance claim settlements to be received.</p>	<p>DC Water should determine a process owner for the overall accident and incident reporting process. The roles and responsibilities should be documented in the Blue Clue and formalized in a standard operating procedure.</p> <p>1. A third party from DC Water, separate from the Supervisor or the Vehicle Operator, with the expertise to conduct investigations should be involved with the information gathering and reporting steps within the accident and incident reporting process. These individual(s) should be the main point of contact for all accidents and incidents and should be involved with the investigation, the classification of accident/incident, and the input of all relevant reportable information into the Wave system. This will shift the responsibility from the Supervisors that may not be able to or be willing to conduct an unbiased and complete investigation.</p>	<p>Response: DSEC has recently initiated a series of actions designed to improve the use and analysis of Fleet Services data as part of the DSEC Asset Protection program. DSEC will coordinate with the other Departments to update the procedures for roles and responsibilities. Additionally, the following task have been or will be completed:</p> <p>1. As of September 2017 DSEC has assumed lead investigative responsibility for all significant DC Water GOV accidents (any GOV accident resulting in injuries, any accident with estimated GOV damage in excess of \$1000, any POV accident involving DC Water GOV, any GOV accident involving real property damage in excess of \$1000) in coordination with other departments and/or outside agencies as appropriate.</p>



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DETAILED OBSERVATIONS (CONTINUED)

Accident & Incident Reporting Internal Audit			
1.	<u>Departmental Roles and Responsibilities Not Formally Defined (continued)</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>2. All damage to DC Water vehicles are classified as either an accident or an incident. Supervisors are required to make a selection of whether the event is considered an accident or an incident; however, these definitions may not be well understood and may be improperly assigned. These descriptors are not adequate to describe the highly variable events that fall into the categories of accident and incident.</p> <p>The Authority runs the risk of accidents being inappropriately defined as incidents and inadequate corrective action being implemented, from both a safety and disciplinary aspect. Additionally, the metrics housed within the Wave system may not be accurate as they are directly influenced by the current classifications of accident and incident.</p> <p>3. The current reporting process requires the Supervisors to conduct the investigation of the accident or incident and Departments to review the results. However, Supervisors and some of the Departments currently involved in the process are not properly trained on how to conduct a proper investigation. This may lead to information not being properly captured (reference #5 below), inability to put in an insurance claim and other various impacts to the closure and corrective action.</p>	<p>2. As noted above, an individual with the appropriate skillset should make the determination if an event is classified as an accident or incident. A more specific criteria should be implemented for accidents and incidents based on its preventability, the severity of vehicle damage, etc. that is agreed upon by Security, Risk Management, and Safety. Further, all vehicle damage should be classified as an accident to begin with and a review should take place to determine the accident rating or if the event is better characterized as an incident. This information should be communicated to all vehicle operators, Supervisors, Managers and Directors.</p> <p>3. If the individual conducting the investigation does not have expertise to carry out the requirements of the accident and incident reporting process, investigation training should be provided. For example, if it is determined that a third party with investigation expertise does not exist at the Authority and the Supervisor will continue to conduct the investigation, they should be required to attend a training to ensure all proper information is gathered.</p>	<p>2. As of October 2017 DSEC has direct access to all FleetWave data and has initiated an analysis of said data to determine accident/incident ratios, descriptions, rational for decision making process, etc. This includes an analysis of accident/incident rates by department on an equitable scale of # of accidents/incidents per 10 drivers. Further analysis will be developed from there to determine the type, nature, costs, preventive measures and resolutions. First anticipated deliverable is January 2018.</p> <p>3. As stated in item 1 above, DSEC has assumed lead investigative status for all significant accidents/incidents. As resources become available, DSEC expects this to evolve towards reviewing/investigating (as needed) all accidents/incidents in conjunction with subject matter experts from other departments and always including Safety. Multiple DSEC staff members are fully qualified to conduct/lead investigations as needed.</p>



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DETAILED OBSERVATIONS (CONTINUED)

Accident & Incident Reporting Internal Audit			
1.	<u>Departmental Roles and Responsibilities Not Formally Defined (continued)</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: High		
	<p>4. Per our review of the Wave system and walkthroughs with departments involved in the Accident and Incident Reporting process, the forms utilized to report accidents and incidents do not entirely capture all the information needed or is not currently worded in a manner that would be clear to the Supervisor who is currently responsible for completing the form. DC Water runs the risk of incomplete reporting of accidents and incidents as well as the inability to maintain informative and relevant metrics without sufficient supporting data.</p> <p>5. Based on review of the Accident and Incident reporting form, the existing fields are not always completed. Due to the limited information provided, the Departments involved in the next steps of the process, such as Safety or Risk Management, the corrective action and next steps are delayed. This impacts the ability to perform an adequate investigation and ensure that insurance information is properly collected.</p>	<p>4. A thorough review of the all Wave forms utilized in Accident and Incident Reporting should be performed by Safety, Security, and Risk Management to identify the information that is required to be captured. This will help all departments involved understand the information needed by other departments, as well as enhance the utilization of Wave and its reporting capabilities. This review will also limit the need for departments to perform follow up due to incomplete information.</p> <p>5. The Supervisor should not be the only party responsible for completing the form and ensuring its accuracy. A third party with the expertise to conduct investigations should be responsible for gathering information and conducting investigations for accidents and incidents, rather than the Supervisor of the vehicle operator involved. This will provide more complete and consistent information to the departments that critically need it to perform their responsibilities.</p>	<p>4. As of October 2017 DSEC has initiated an internal review of all data capture elements to include automated forms. Initial reviews indicate forms are often incomplete or incorrectly completed. Further analysis will be needed to determine the best means to correct/improve reporting documentation. First expected deliverable (preliminary analysis report) is expected in February 2018.</p> <p>5. DSEC is aware that OSH is already directly involved in accident/incident form review. OSH/DSEC will continue to conduct such reviews and provide oversight monitoring to include ensuring all forms are thoroughly and accurately completed, to include reporting documents to departmental management levels indicating where improvements are needed.</p> <p>Responsible Party: Director, Department of Security</p> <p>Target Date: March 31, 2018</p>



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DETAILED OBSERVATIONS (CONTINUED)

Accident & Incident Reporting Internal Audit			
2.	<u>Inconsistent GeoTab Use</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: Moderate		
	<p>Per our review of GeoTab use within the Wave system, 70 of the 609 vehicles in the DC Water fleet do not have the GeoTab tracking system installed. These 70 vehicles without GeoTab are all vehicles utilized by the Department of Engineering and Technical Services, identifying this as the only department that is not utilizing the system.</p> <p>Per our discussions with the executive leadership team it was determined that DC Water did not require union employees represented by AFGE 631 or NAGE R3-06 to have vehicles equipped with the RFID or GPS capabilities. DC Water did note that the vehicles are to be equipped with this technology, they would be required to provide sixty days' notice.</p> <p>The Authority is at risk of these vehicles being utilized for non-work needs, as well as limiting the ability of a Supervisor to gather information related to an accident of incident.</p>	<p>GeoTab should be installed in all vehicles in the DC Water fleet in order to have accurate metrics and evaluate productivity and obtain accident notifications. This will assist investigative requirements of the accident and incident reporting process. The more information that is able to be gathered, the more quickly an investigation can be conducted, and appropriate corrective action can be determined. It should be noted that there may be union impacts based on this recommendation.</p>	<p>Response:</p> <p>The Department of Fleet Management in collaboration with Executive Management has worked a solution to have the GEOTAB installed in all Rolling Stock Assets. The Department of Fleet Management plans to have this accomplished immediately after notification and requirements to all respective Unions have been met.</p> <p>Responsible Party:</p> <p>Director, Fleet Management and AGM, Support Services</p> <p>Target Date:</p> <p>May 31, 2018</p>



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DETAILED OBSERVATIONS (CONTINUED)

Accident & Incident Reporting Internal Audit			
3.	<u>Insurance Costs Not Captured in the Wave System</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: Low		
	<p>Per our review of the claims process and our walkthroughs with the Department of Risk Management, insurance related costs are not captured in the Wave system. Risk Management utilizes the SRS system for insurance claim information and the transfer of data from the SRS to Wave system is manual, as the systems do not have the ability to communicate with each other. It should be noted that we did not conduct transactional testing to evaluate the costs captured within SRS. Risk Management will be reviewed in more detail as part of the FY 2018 Internal Audit plan. The scope of this internal audit is to be determined.</p> <p>All repair and other accident or incident related costs are maintained within the Wave system, so the absence of insurance related costs does not fully capture total costs and therefore DC Water is unable to evaluate the total cost of an accident or incident within one comprehensive system.</p>	<p>All insurance related costs should be uploaded into the Wave system by Risk Management on an as-needed basis when files are closed out in SRS. This will help the Authority capture total costs for accidents/incidents, including vehicle repair and insurance settlement costs.</p>	<p>Response: We agree with the finding. Currently, all financial information is transmitted from PMA to SRS on a bi-monthly basis. This data can also be transmitted to Wave to ensure costs are captured.</p> <p>Responsible Party: Manager, Risk</p> <p>Target Date: May 31, 2018</p>



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DETAILED OBSERVATIONS (CONTINUED)

Accident & Incident Reporting Internal Audit			
4.	<u>Lack of Corrective Action Validation and Preventative Measures Follow-up</u>	<u>Recommendation</u>	<u>Management's Action Plan</u>
	Observation Rating: Low		
	<p>Per our walkthrough with the Department of Safety, there is currently no follow-up performed to verify that the Supervisor's recommended corrective action plan to prevent recurrence has been implemented. The corrective action plan is set forth to ensure that all safety risks due to an accident or incident are identified and have been remediated.</p> <p>For example, a corrective action can be vehicle repair or timely maintenance depending on the cause and/or result of the accident/incident. The corrective action could also result in personnel action in accordance with the Driver's Qualifications Policy. As noted in the Entity Level Internal Audit Report, the impacts and effects of this policy is still being negotiated with the various unions. The current version of the Driver's Qualification policy posted to DC Water's pipeline was approved in 2007.</p> <p>Additionally, there is currently not a formal process in place to analyze accident or incident trends, discuss root causes and establish corrective measures. Without appropriate follow up procedures in place, the Authority is at risk that the safety concern remains and the same accident or incident occurs again.</p>	<p>DC Water should ensure there are proper fields within Wave to capture the corrective action, track progress and a field to note if the corrective action has been completed. The verification that the corrective action has occurred should be validated by a third party in order to ensure accountability.</p> <p>The Driver's Qualification Policy should be considered in identifying roles and responsibilities for implementing corrective actions and verifying completion.</p> <p>DC Water should consider establishing a cross-departmental committee responsible for evaluating the results of an investigation, determine correction actions and establish a follow-up process to implement preventative measures. Corrective actions and responsible should be documented in the Wave system.</p>	<p>Response: We agree with the finding. Validation of corrective action and preventative measures is a very important part of program quality assurance. As we work through the higher risk observations we will address quality and effectiveness of corrective actions and preventative measures.</p> <p>DOSH will work cross-functionally with Fleet, HCM, DWI, DETS, WWT, DWS and others as needed. The goal is to define roles and responsibilities. Emphasis will be placed on review of accidents and follow up on corrective actions. In this process, the group will review the Driver Qualifications Policy and make recommendations to HCM.</p> <p>Responsible Party: Manager, Safety Operations</p> <p>Target Date: September 30, 2018</p>



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PROCESS IMPROVEMENT RECOMMENDATIONS

Accident & Incident Reporting Internal Audit	
<u>Opportunity</u>	<u>Recommendation</u>
<p>Per our review of the Wave system and walkthroughs with departments involved in the Accident and Incident Reporting process, there is no distribution of the metrics that are tracked within Wave. Currently, a dashboard of metrics is available to all Wave users; however, this information is not consistently utilized by all Wave users or distributed to non-Wave users. Additionally, a thorough review of these metrics has not been conducted to identify information that is truly relevant to the Accident and Incident Reporting process. A lack of a process and review for the utilization of these metrics limits the Authority's ability to gain valuable knowledge regarding accidents and incidents.</p> <p>Currently the Wave system tracks the following metrics:</p> <ul style="list-style-type: none"> • Accidents by Department • Top Ten Total Accidents by Driver • Monthly Total Accidents/Incidents (last 3 years) • Yearly Total Accidents/Incidents (last 10 years) • Monthly Comparison of Accidents/Incidents (last 12 months) • Accidents by Vehicle Type • Tagged Units by Department • Top Ten Tagged Units by Total Trips • Last 20 Trips for Tagged Units • Full Listing of All Report Accidents/Incidents • Device Status of All Tracked Vehicles 	<p>A review of the capabilities of the Wave system regarding metrics as well as a determination of relevant information regarding accidents and incidents should be conducted by Security, Safety, Risk Management, Fleet, and any other departments involved in the Accident and Incident Reporting process, as well as DC Water management. Once a determination of which metrics should be tracked within the Wave system has been made, a monthly distribution of this information should be made to all departments previously listed, as well as DC Water management. This will provide all departments an ability to understand the full scope of the reporting process, rather than simply their own requirements as well as providing management a more in-depth snapshot of the status of accident and incident occurrences with DC Water vehicles.</p>



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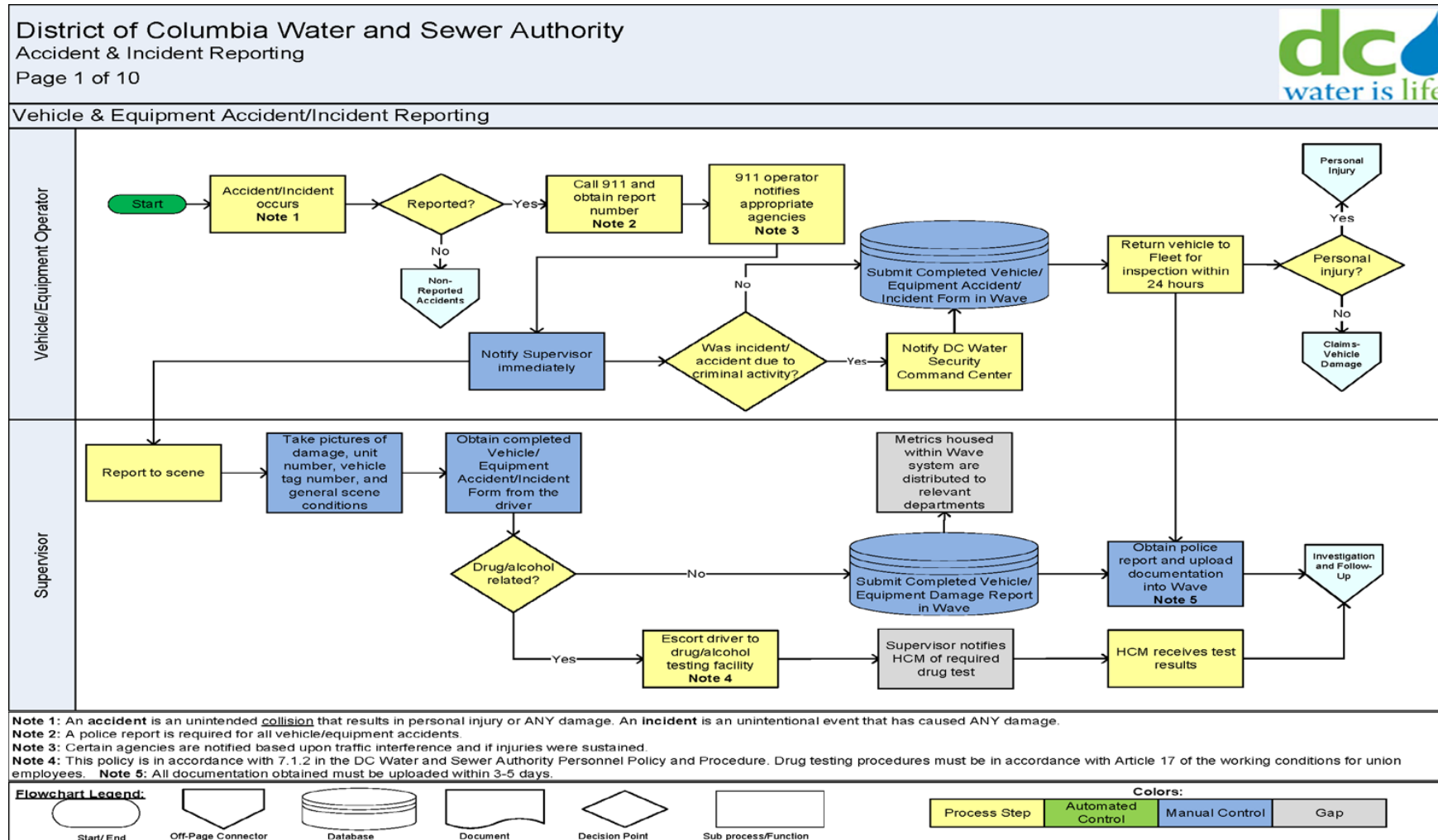
APPENDIX A – RATING DEFINITIONS

Observation Risk Rating Definitions	
Rating	Definition
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals. Action should be taken within 12 months (if related to external financial reporting, must mitigate financial risk within two months unless otherwise agreed upon).
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be taken within nine months (if related to external financial reporting, must mitigate financial risk within two months).
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately, but in no case should implementation exceed six months (if related to external financial reporting, must mitigate financial risk within two months).



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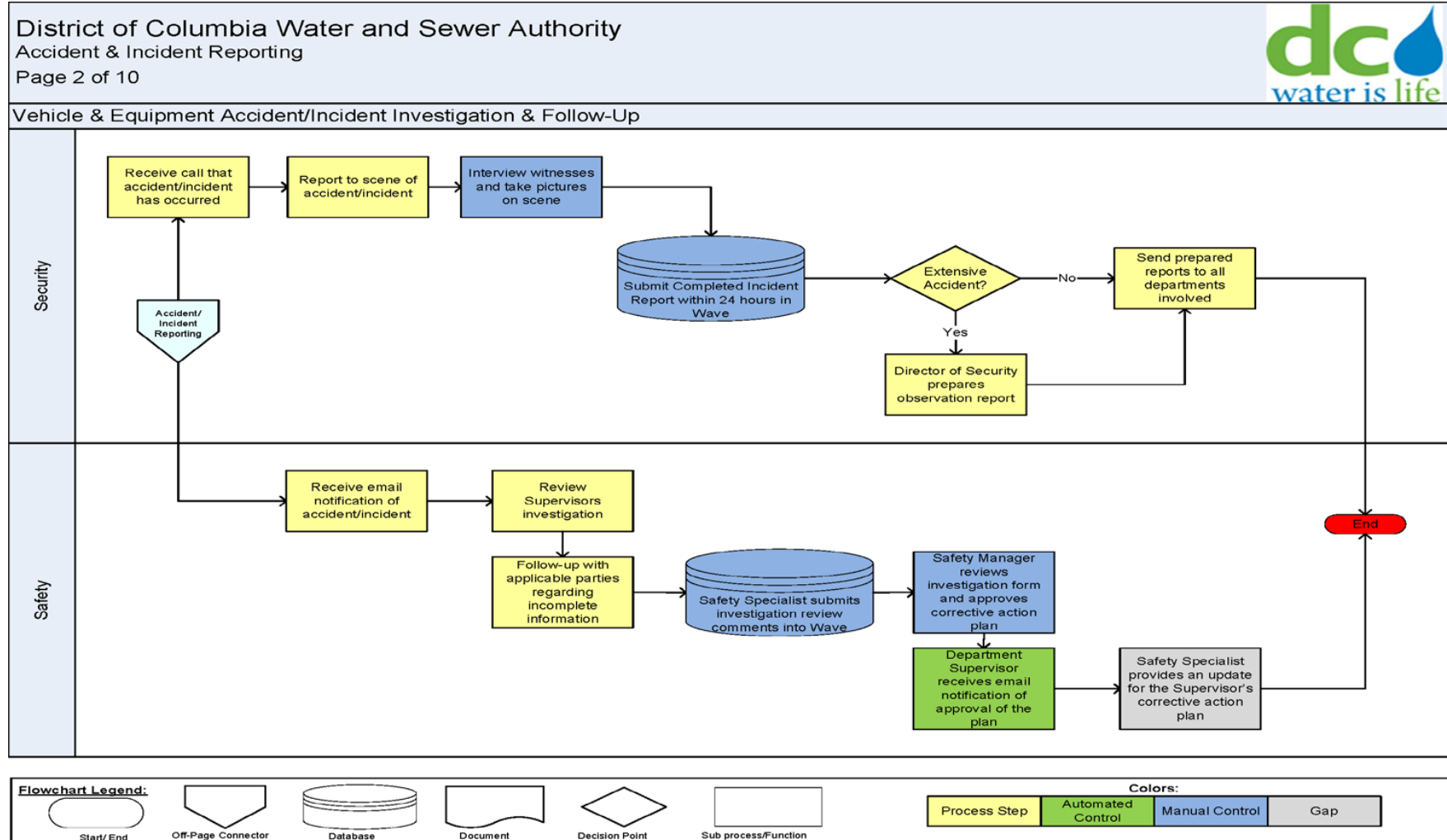
APPENDIX B – FLOWCHARTS





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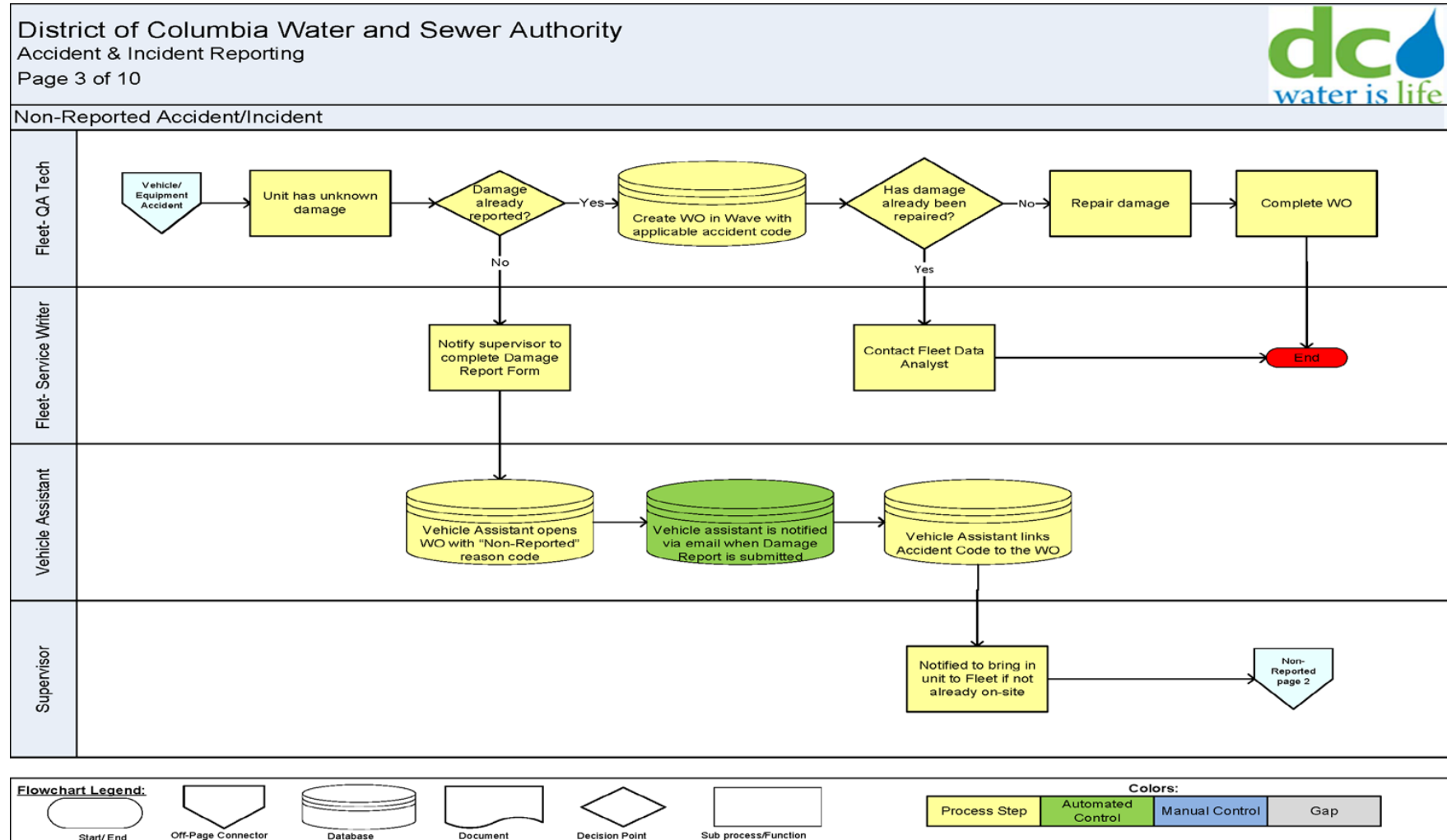
APPENDIX B – FLOWCHARTS (CONTINUED)





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APPENDIX B – FLOWCHARTS (CONTINUED)





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APPENDIX B – FLOWCHARTS (CONTINUED)

District of Columbia Water and Sewer Authority Accident & Incident Reporting Page 4 of 10		
Non-Reported Accident/Incident		
Fleet- CA Tech	<pre> graph LR Start([Non-Reported page 1]) --> Complete[Complete repairs] Complete --> Decision{WO reason code changed to "Accident Reported"? Note 6} Decision -- No --> Open[WO remains open] Decision -- Yes --> Close[Close WO] Open --> Decision Close --> Claims{Claims-Vehicle Damage} </pre>	
Fleet- Service Writer		
Vehicle Assistant		
Supervisor		

Note 6: Updated to "Accident Reported" once the Supervisor submits the form.

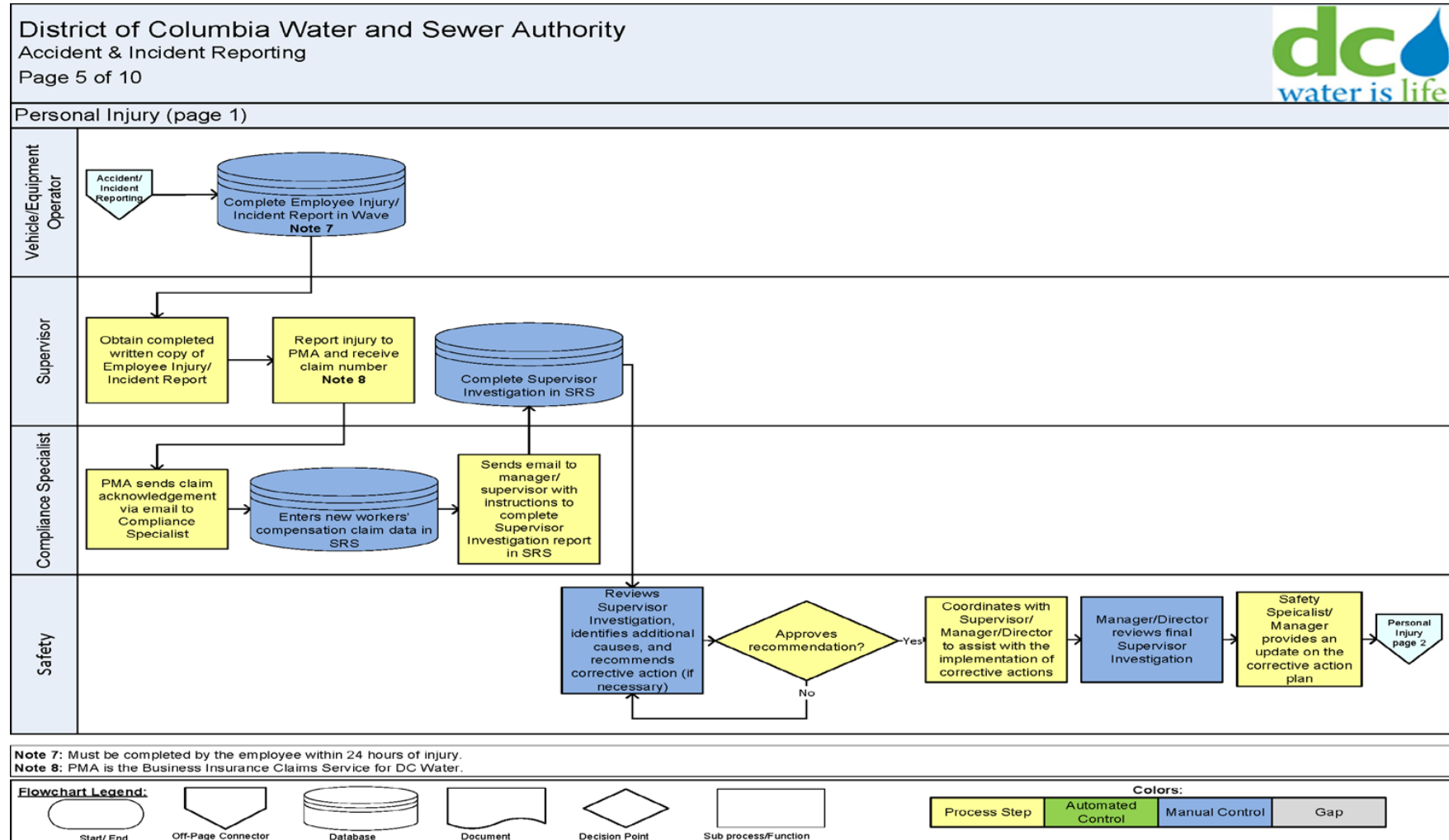
Flowchart Legend:						Colors:			
						Process Step	Automated Control	Manual Control	Gap
Start/End	Off-Page Connector	Database	Document	Decision Point	Sub process/function				





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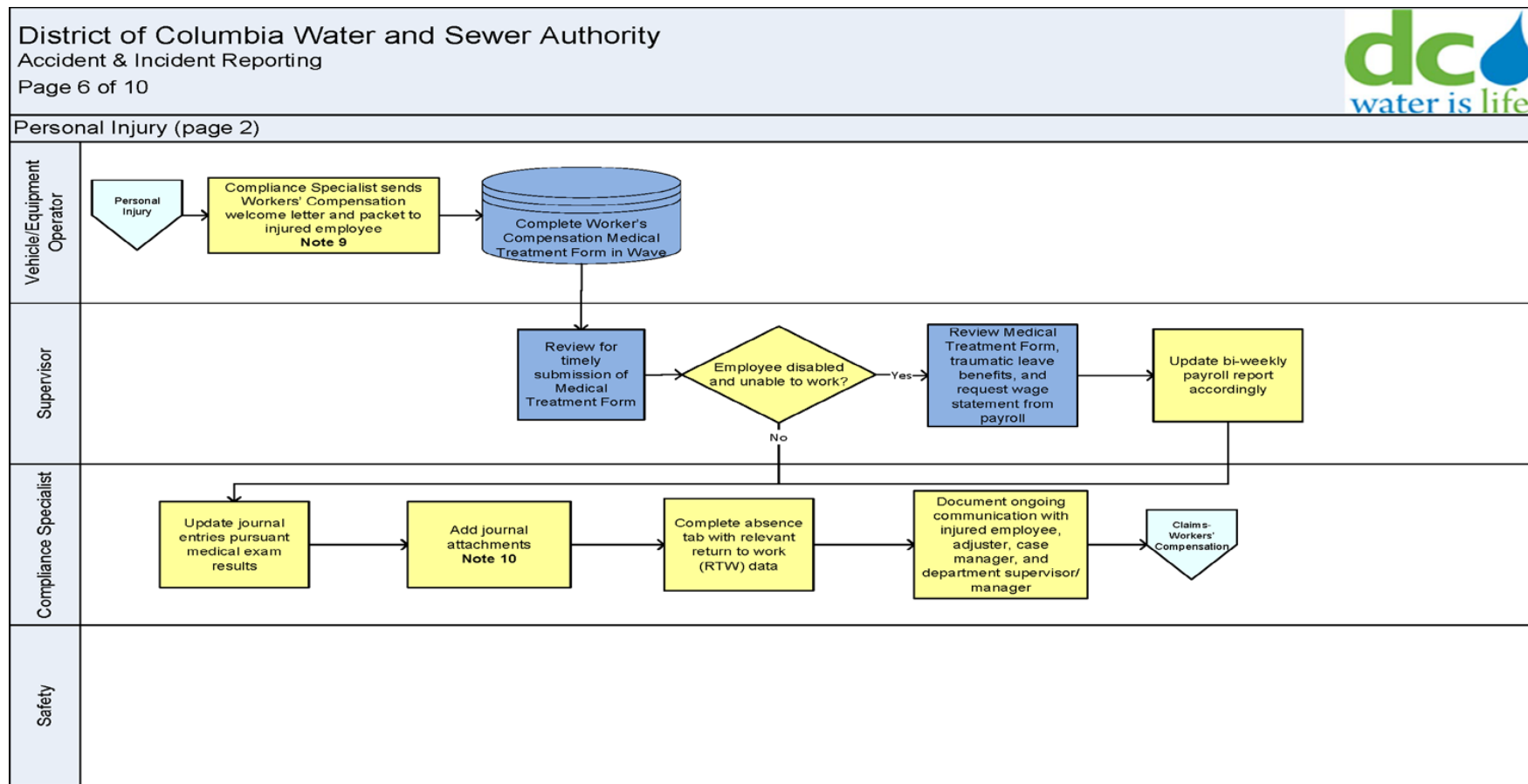
APPENDIX B – FLOWCHARTS (CONTINUED)



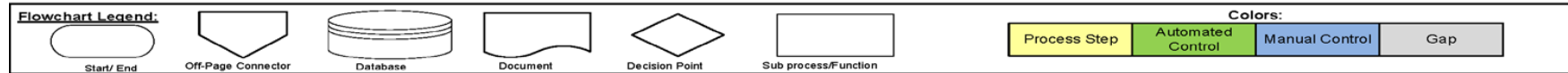


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APPENDIX B – FLOWCHARTS (CONTINUED)



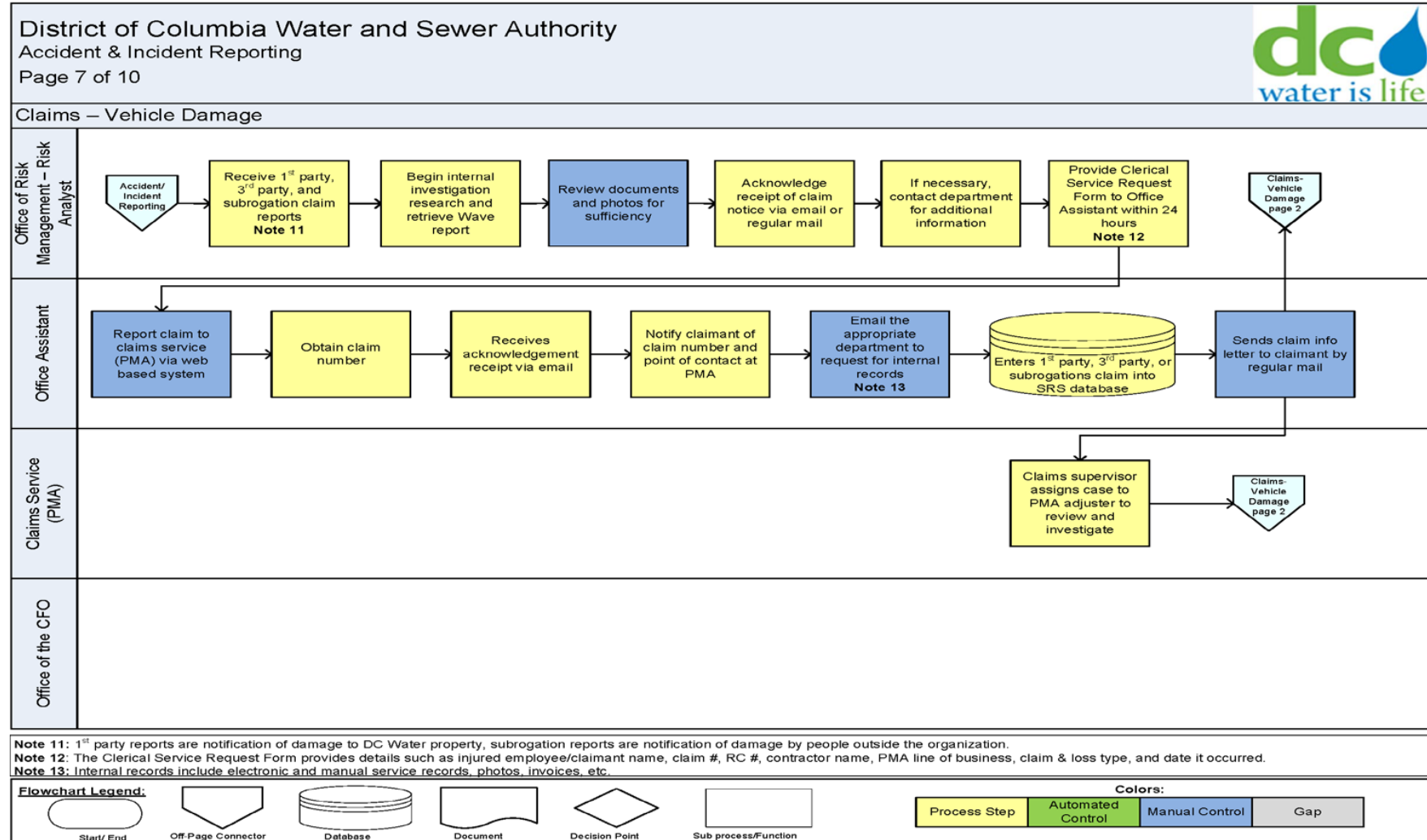
Note 9: Following enclosures include WC Benefit Reminders, Medical Treatment Form, Medical authorization release, DC Rights' & Obligations Notice
Note 10: Journal attachments include: First Report, Medical Reports, IME Reports, Case Management Reports, Litigation Reports, etc.





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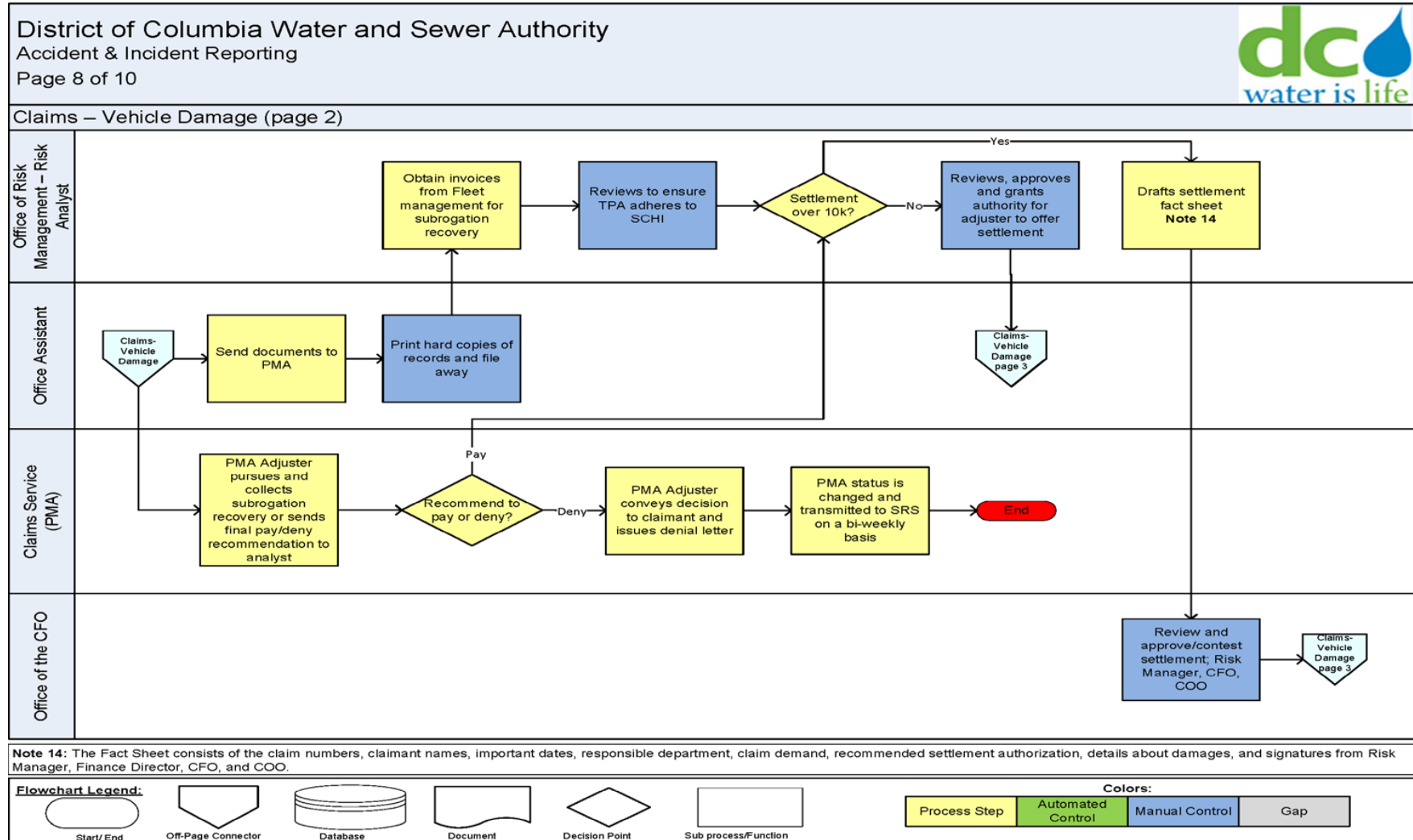
APPENDIX B – FLOWCHARTS (CONTINUED)





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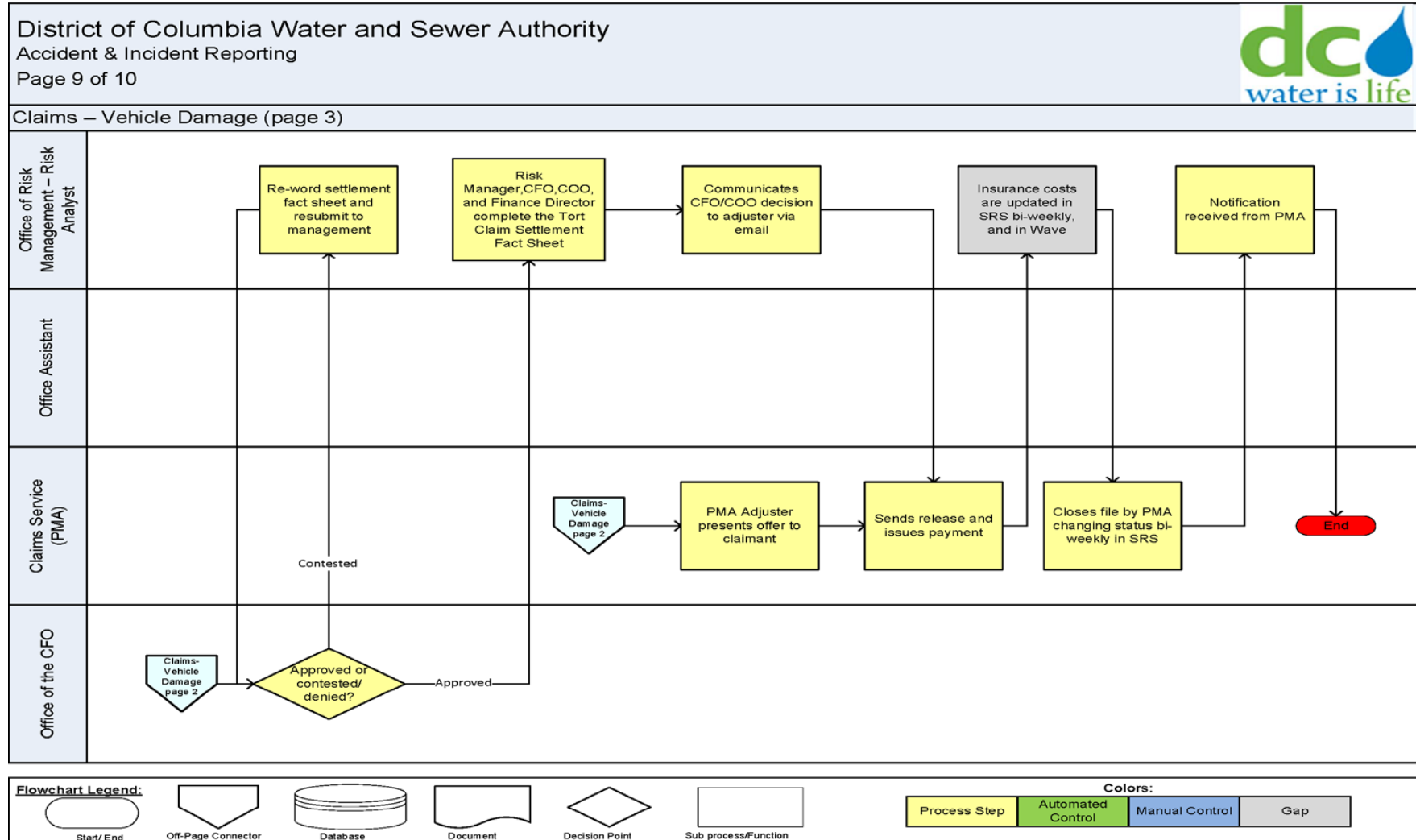
APPENDIX B – FLOWCHARTS (CONTINUED)





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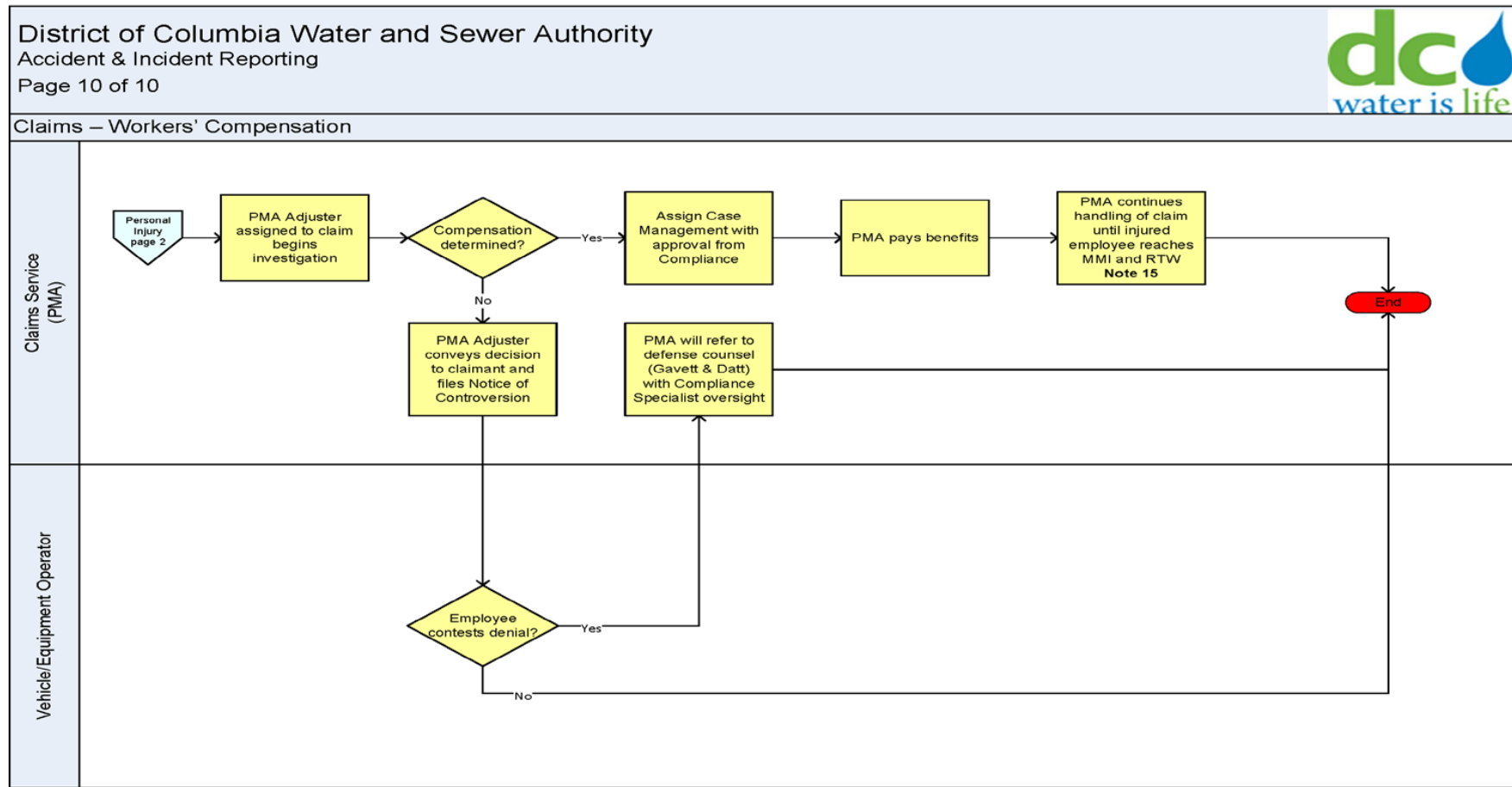
APPENDIX B – FLOWCHARTS (CONTINUED)



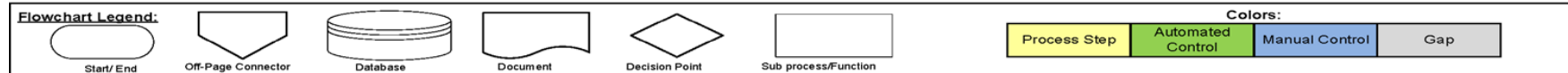



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APPENDIX B – FLOWCHARTS (CONTINUED)



Note 15: MMI (Maximum Medical Improvement), RTW (Return to Work)





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