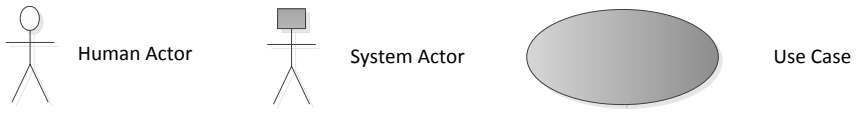
Industrial Waste Services Use Case Examples

The following is a representation of the Industrial Waste Services Branch (IWSB). This is not an exhaustive list but intended to demonstrate common business patterns or any unique business processes. It should be noted that the processes represent current state. Where appropriate, IWSB will modify business processes to address industry best practices or where deemed necessary to leverage "out-of-the-box" software functionality.

Use Case Notation

A simplified version of use case notation has been used to represent IWSB use cases in this document. The following is a representation of the symbols and their meanings:



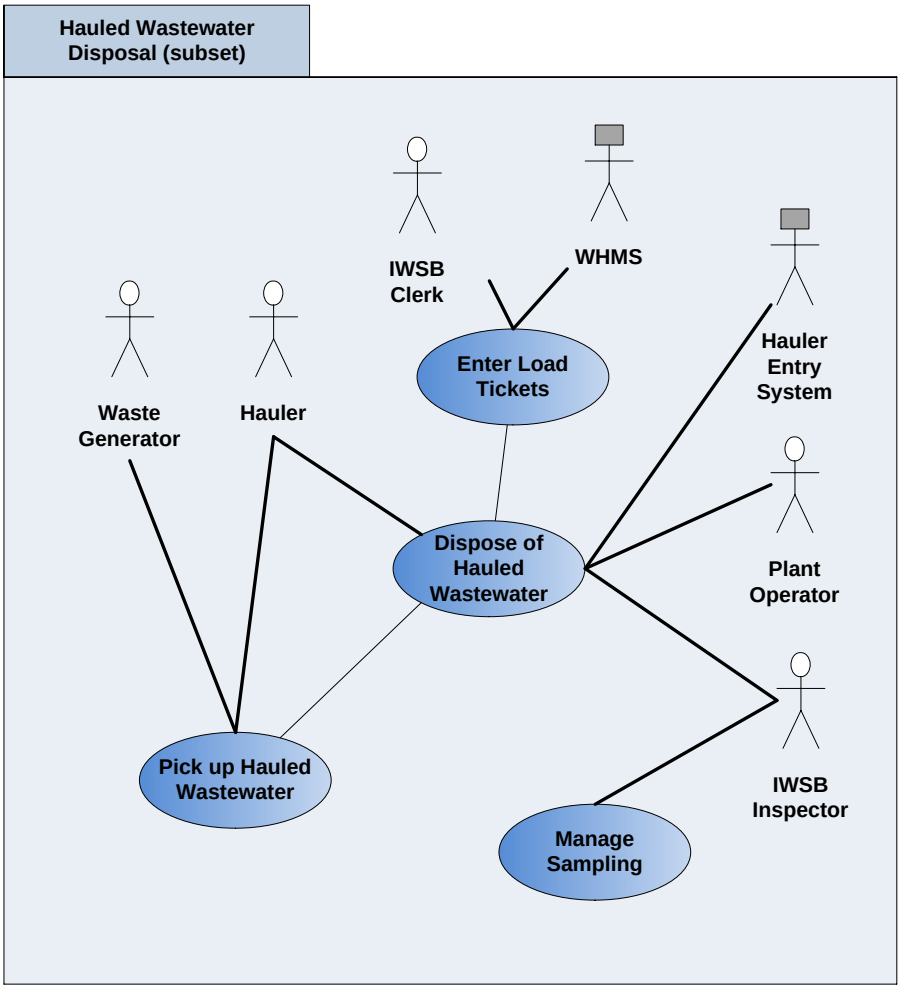
Process Diagram Notation

A simplified version of process diagram notation has been used to represent IWSB business process diagrams in this document. The following is a representation of the symbols and their meanings:

Refer to Appendix D – Diagrams and Illustrations for IWSB business and system context diagrams.

Hauled Waste Water Program

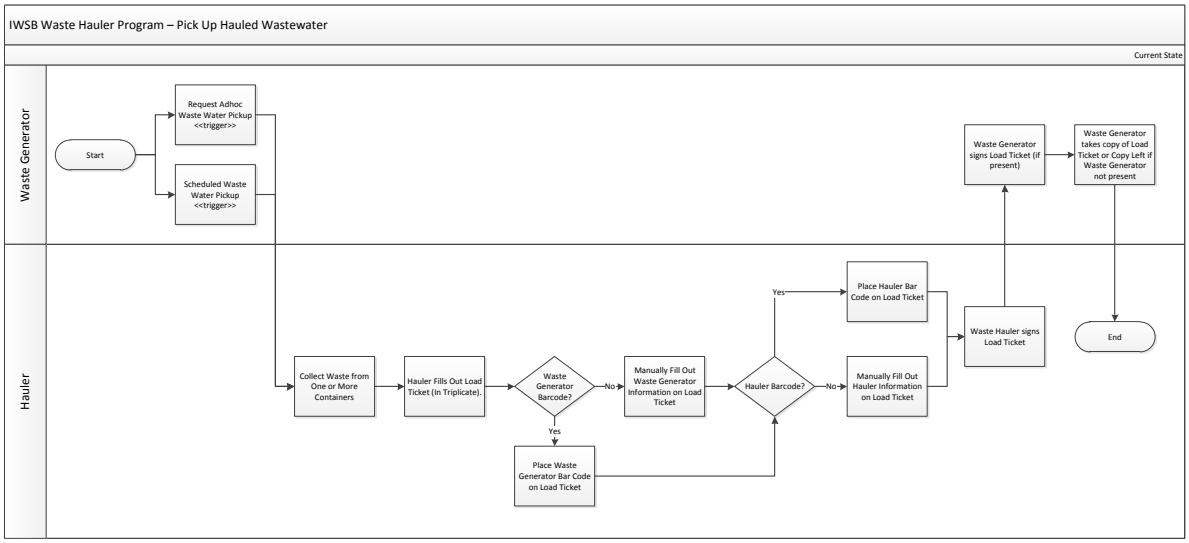
The following is a subset of the Hauled Waste Water program use cases.



Pick Up Hauled Wastewater

Title	Pick Up Hauled Wastewater
Description	This use case describes the function where wastewater is picked up by a Hauler, from a Waste Generator. Note that all actors are external for this use case.
Actor(s)	Waste Generator, Hauler
Trigger(s)	1. *Waste Generator contacts Hauler for waste pick up* 2. *Hauler schedule indicates time for regularly scheduled waste pick up*
Precondition(s)	1. *Hauler has a valid license with the Hauled Wastewater program* 2. *Hauler has procured load tickets from IWSB* 3. *Hauler has procured barcode stickers from IWSB* 4. *Waste Generator may or may not be registered with the Hauled Wastewater program* 5. *Waste Generator may or may not have procured barcode stickers from IWSB*
Steps	1. *Hauler picks up waste from Waste Generator – one or more containers* 2. *Hauler fills out Load Ticket (in triplicate), including Hauler barcode sticker, Waste Generator sticker or address information, load*

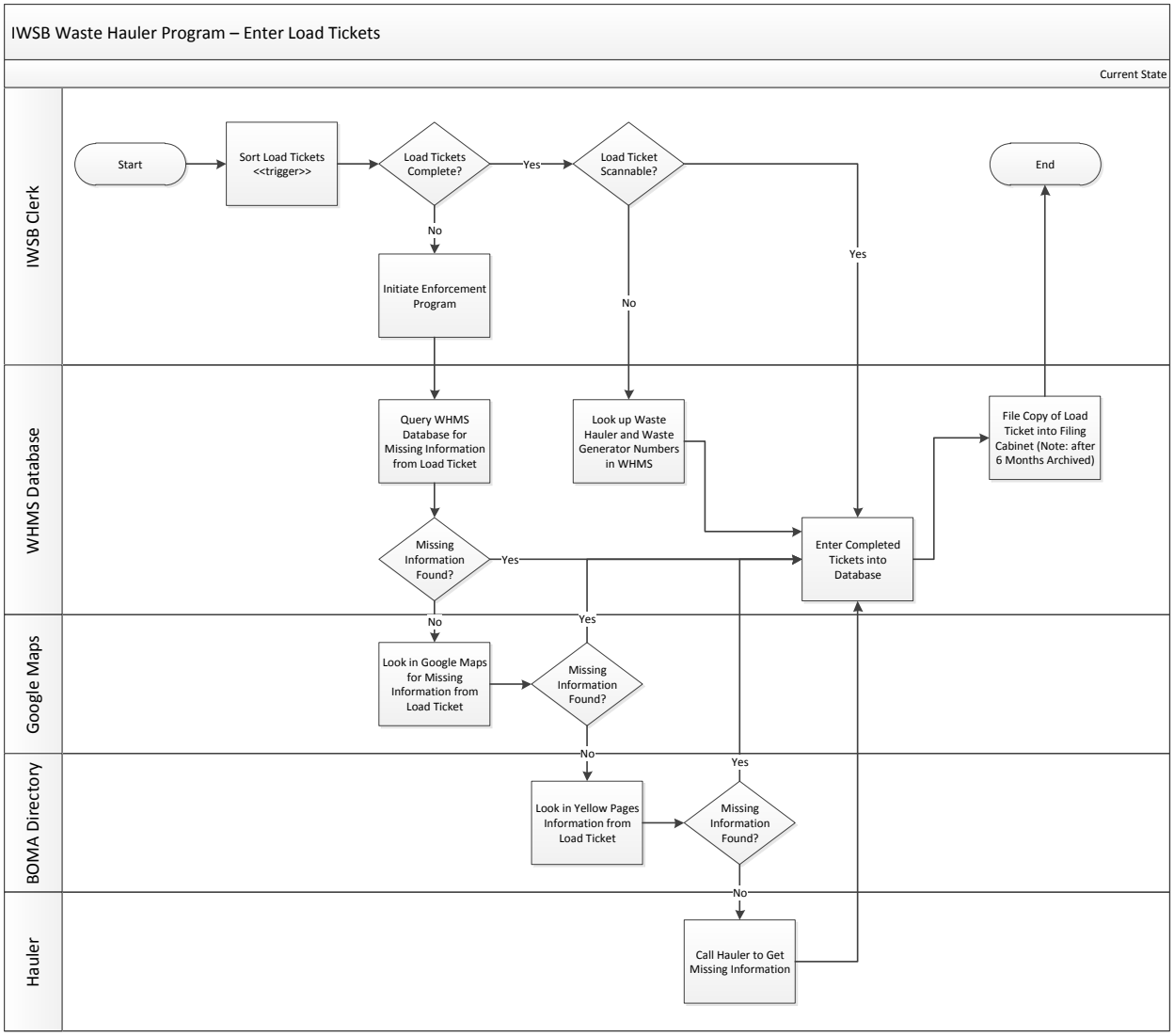
	information, date, and signatures of Hauler and Waste Generator *3. Waste Generator is given a copy of the load ticket*
Alternate Flows	If the Hauler does not have a barcode sticker, Hauler company and address information is filled out on the form
Inputs	N/A
Outputs	Completed Load Ticket
Future State Considerations	• *Eliminate/dramatically reduce use of paper Load Tickets* • *If barcode stickers are required for the Waste Hauler and Generators in the future state solution, improve methods to procure stickers*



Enter Load Tickets

Title	Enter Load Tickets
Description	This use case describes the function where Load Tickets are entered into the WHMS system.
Actor(s)	IWSB Clerk, WHMS
Trigger(s)	Load Tickets are received at a City of Winnipeg treatment plant.
Precondition(s)	*1. IWSB Clerk has access to WHMS*
Steps	*1. IWSB Clerk sorts load tickets to cull out ones with missing information* *2. IWSB Clerk enters all completed Load Tickets into the WHMS database* *3. IWSB Clerk uses WHMS Database to locate missing information for load tickets. If the information cannot be found, IWSB Clerk may also use Google maps, BOMA directory (online).* *4. IWSB Clerk may call or email Hauler and Generators to try and locate missing information*

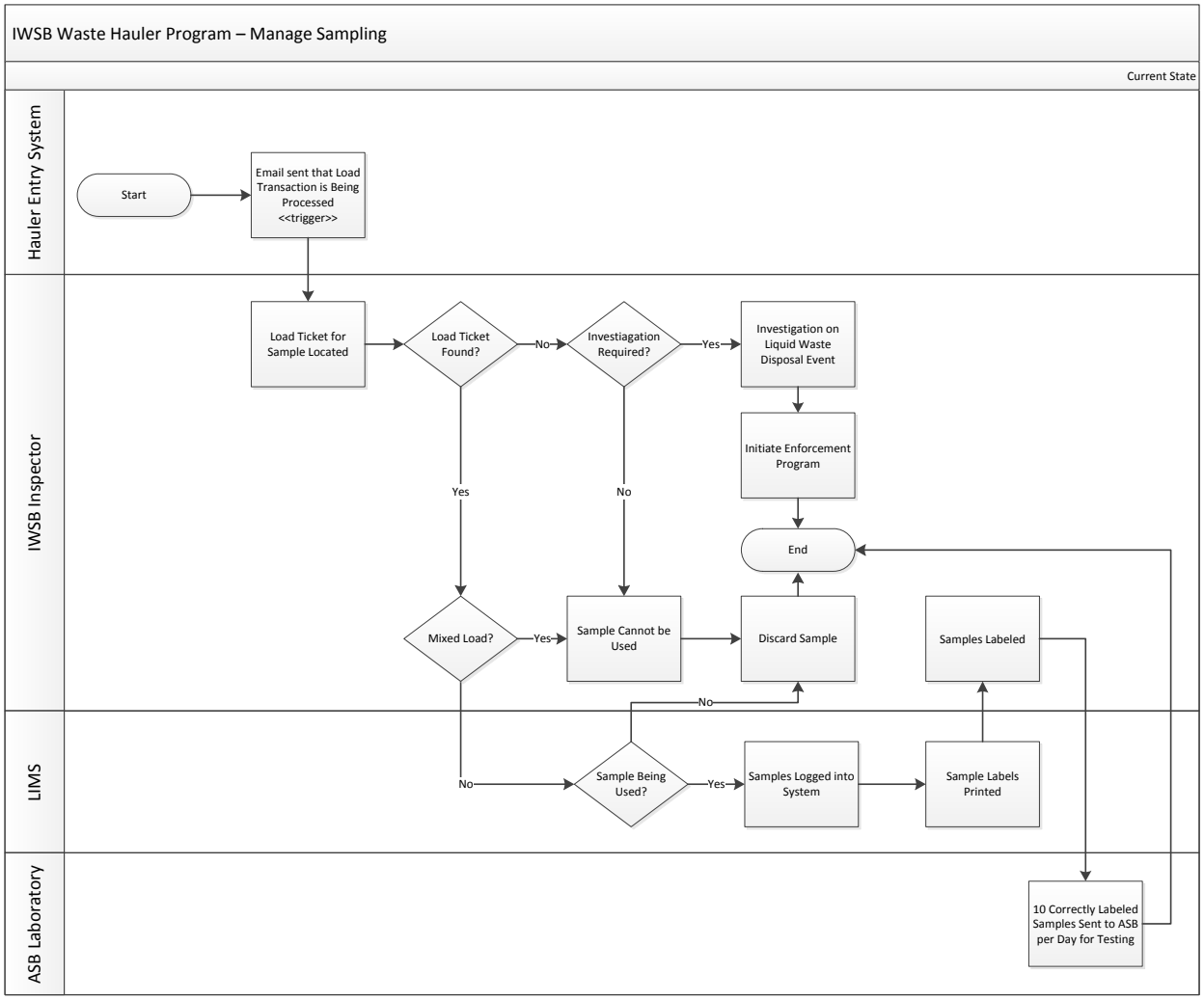
Alternate Flows	1. *IWSB Clerk cannot find the missing information and an incomplete generator profile is entered into WHMS. The Industrial Waste Inspector may perform a follow up site visit to validate information* 2. *New Waste Generator is not registered with the program, and a program registration needs to be created by the IWSB Clerk* 3. *Information for Waste Generator on Load Ticket does not match the Waste Generator profile in the WHMS Database. IWSB Clerk will call to clarify information. A new Waste Generator profile may be created, or an existing one updated.*
Inputs	Load Tickets (paper copy)
Outputs	Load Ticket records in WHMS database
Future State Considerations	• *Eliminate/dramatically reduce use of paper Load Tickets*



Manage Sampling

Title	Manage Sampling
Description	This use case describes the function where the Hauler load samples are managed.
Actor(s)	IWSB Inspector
Trigger(s)	1. *IWSB Inspector receives emails from the Hauler Entry System that a load transaction is being processed* 2. *IWSB Inspector is observing a load transaction*
Precondition(s)	1. *The auto samplers are in place and fully functional (24 sample bottles loaded per auto sampler). Auto samplers are reset in the morning.* 2. *The Hauler Entry System is configured to send emails describing load transactions*
Steps	1. *The IWSB Inspector receives an email indicating a Hauler transaction that can be sampled and sent for testing. Note that not all samples are sent for testing, as some Hauler loads consist of multiple Generator loads and the resulting data is not actionable.* 2. *The IWSB Inspector locates the Load Ticket for the sample, and uses the information on the Load Ticket to label the sample bottle for submission (when possible). Samples are logged into the LIMS in order to print the required labels*
Alternate Flows	1. *The auto sampler requires a reset (fresh sample bottles need to be put in place). This is usually done at the first thing in the morning, but depending on the number of loads incoming, may need to be done partway through the day.* 2. *The Load Ticket is missing information. The sample may or may not be used in this case. Investigation may be required to find the missing information.* 3. *The sample cannot be associated to a load ticket. These samples are unusable* 4. *Less than 10 single load samples are collected for the day. Collected samples are submitted.* 5. *The laboratory does not accept the samples. Collected samples are discarded.* 6. *A sample is collected from a Waste Generator site. Some Waste Generators are of particular interest. Samples may be collected during a site visit/inspection* 7. *The auto sampler is not functional and no samples are collected. Manual sample may be collected in this case.* 8. *A Manual sample is required, as the lane does not have an auto sampler or the auto sampler is not available. Also the auto sampler may miss a sample in error.* 9. *At the end of the day, samples from the back are collected and submitted for testing*
Inputs	Hauler Entry System emails, Load Tickets
Outputs	10 correctly labeled samples to be sent to the ASB laboratory

Future State Considerations	• *Samples submitted to the ASB Laboratory must have information associated to them that ties the sample to the Hauler/Waste Generator/Load Ticket. Currently the Hauler barcode number, Load Ticket Number and Waste Generator number are entered into LIMS* • *By the time of implementation, the new LIMS will be in place, this may bring improvement to any of the Laboratory processes* • *Currently the hauled wastewater program is constrained to 10 samples per day, as ASB does not have the capacity to process more than 10 per day. Capacity should improve with the introduction of the new LIMS*

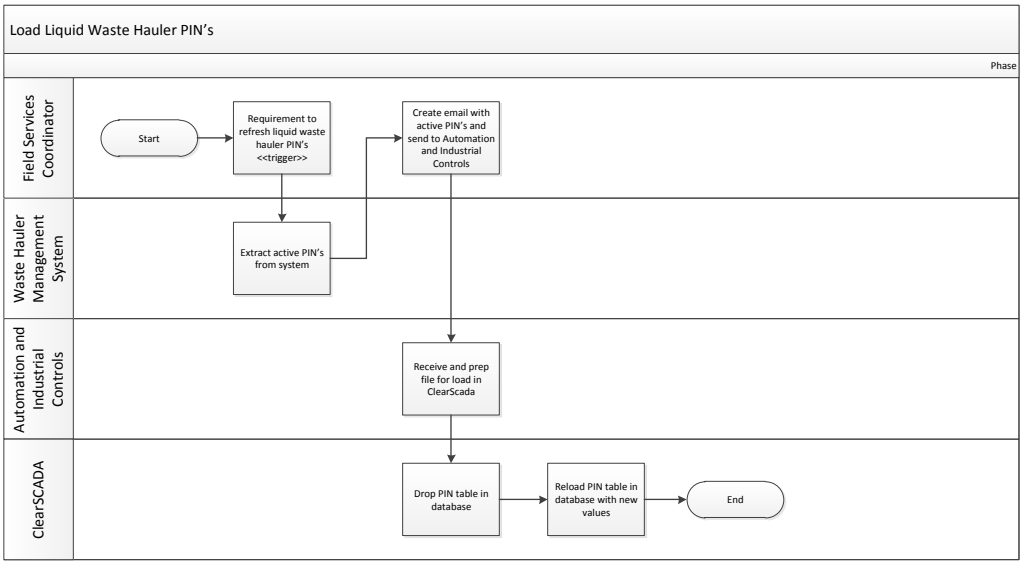


Waste Hauler PIN Load (Current State)

The following high level process diagram and system context diagram demonstrate how the Water & Waste Department currently issues unique PIN's to individual liquid waste hauler trucks. The PIN is used to control access to the waste water plant discharge lanes and identify the waste water discharge event

with an individual truck. The gates at the discharge lanes are controlled by ClearSCADA software and access can be removed in the event that a waste hauler's discharge rights have been removed. PIN's are refreshed on a weekly basis but can be updated on an adhoc basis. Note: the current hardware supports RFID technology for unique identification and lane access.

Waste Hauler PIN Load Process Diagram



Waste Hauler Disposal Event (Current State)

The following high level process diagram and system context diagram demonstrate how the Water & Waste Department currently records liquid waste hauler truck events. This process starts after the liquid waste hauler has been granted access to a discharge lane at the waste water treatment plant. The ClearSCADA software is responsible for measuring the volume and sample container number of the waste. In the event that the content exceeds pre-established thresholds, an alarm will be triggered and the hauler is responsible for loading the liquid waste back in the truck and disposing at a commercial waste site. The load will not be released into the waste water treatment plant. The disposal events are currently reported on a monthly basis but can be done on an adhoc basis if required.

The following is the current format of the comma delimited file for each disposal event:

1. *Field 1 – Lane Code*
    - *Represents which lane the load is from.*
    - *Current examples include: N (receiving lane 1); O (receiving lane 2); P (receiving lane 3); Q (receiving lane 4)*
2. *Field 2 – Manhole Code*
    - *Represents the manhole number where load is created.*
    - *Current examples include: MH-1 (manhole 1 located in lane 1); MH-2 (manhole 2 located in lane 2); MH-3 (manhole 3 located in lane 3); MH-4 (manhole 4 located in lane 4).*
3. *Field 3 – Authentication Time Stamp*

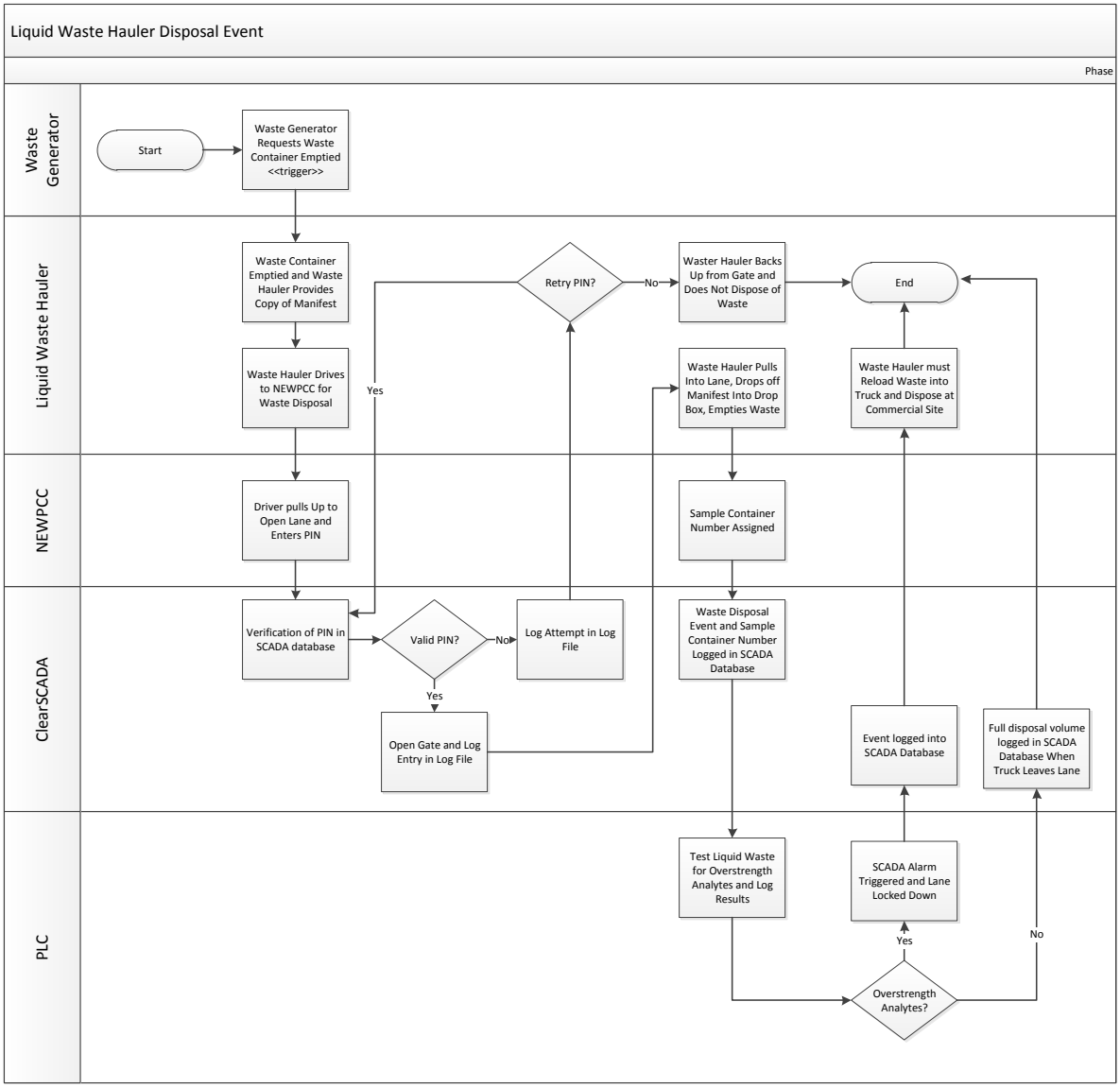
- *The date and time stamp after the PIN has been verified by the system.*
- *Format YYYY/MM/DD HH:MM:SS*

4. *Field 4 – Hauler ID*
    - *The 3 digit hauler ID.*
5. *Field 5 – Hauler PIN*
    - *The 3 digit hauler PIN.*
6. *Field 6 – Load Ticket Page Count*
    - *1 digit page/sheet count.*
7. *Field 7 – Total Load Volume*
    - *The recorded volume of the load in m3.*
8. *Field 8 – Sampler Carousel Position*
    - *The carousel position of the sampler that contains a sample of the load.*
9. *Field 9 – Load Completion Timestamp*
    - *The date and time stamp when the truck exits the lane.*
    - *Format YYYY/MM/DD HH:MM:SS*
10. *Field 10 – Load Flags*
    - *Flag(s) if a transaction or load has an exception.*
    - *Current examples include: L = LEL (load contains a hydrocarbon LEL level > 10%); U = Unauthorized load (dumping is detected on the manhole but no PIN has been entered; I = Incomplete sequence (normal sequence was aborted while dumping and lane did not create a load or LEL event); A = Orphan load (no load detected on the manhole, i.e. valid PIN entry but truck left facility without dumping); M = Sampler carousel position mismatch (position of the carousel during truck entry and after the load are not the same); F = Sampler carousel full (sampler carousel full); P = Invalid carousel position (carousel position is <1 or >24); X = Unexpected load (system generated a load or LEL without first detecting a truck at the manhole).*

Waste Hauler Disposal Process Diagram

Title	Dispose of Hauled Wastewater
Description	This use case describes the function where a Hauler disposes of wastewater at a City of Winnipeg treatment plant.
Actor(s)	Hauler, Hauler Entry System, IWSB Inspector, Plant Operator
Trigger(s)	Hauler arrives at a City of Winnipeg treatment plant with wastewater to dispose of.
Precondition(s)	1. *Hauler has a valid license with the Hauled Wastewater program* 2. *Treatment plant is operational and is accepting hauled wastewater loads for disposal*
Steps	1. *Hauler enters their PIN into the Hauler Entry System to gain access to the disposal site* 2. *Hauler places Load Tickets (one or more) in the Load Ticket receptacle* 3. *Hauler disposes of load – a sample is taken automatically (see use case "Manage Sampling")*

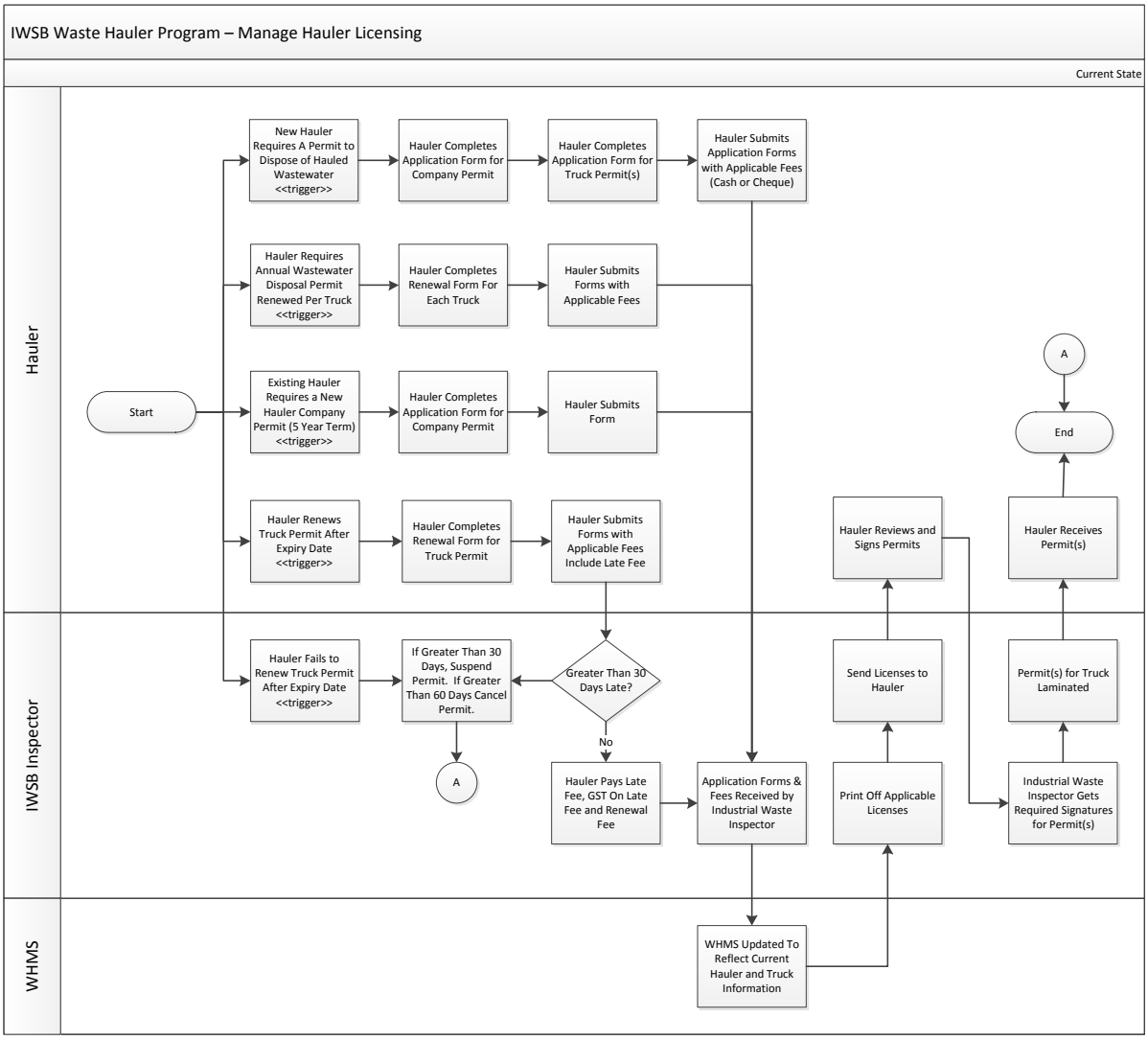
	4. *Load volume is measured as load is disposed of* 5. *Hauler leaves disposal*
Alternate Flows	1. *Hauler Entry System is not working as expected for the Hauler and the Plant Operator has to troubleshoot the system* 2. *Hauler is suspended/not licensed and cannot access the disposal site* 3. *Hauler requires facilitation for their load transaction, i.e. assistance from the IWSB Inspector or Plant Operator* 4. *SCADA alarms trigger, indicating volatile substances and the load is rejected (must be taken back by the Hauler)*
Inputs	Hauler PIN, Load Tickets
Outputs	1. *Hauler PIN and # Load Tickets recorded in the Hauler Entry System* 2. *Hauler Entry System sends emails recording the transaction to IWSB Laboratory Technician and Field Services Coordinator (FSC checks periodically to monitor the flow meter* 3. *Weekly extract from Hauler Entry System sent via email to Field Services Coordinator and Industrial Waste Inspector*
Future State Considerations	• *Eliminate/dramatically reduce use of paper Load Tickets* • *Load volume as entered on the Load Ticket(s) will likely not be required, as measured volume is a more accurate metric to base billing on* • *Truck flow meters may be leveraged in the future state solution, if the solution can read/incorporate truck load meter information. This may be mandated as a license condition* • *No loads will be sent to the back of the plant once all 4 lanes are operational at the NEWPCC plant* • *No loads will be processed at SEWPCC once all 4 lanes are operational at the NEWPCC plant* • *Haulers may come at any time 24/7/365, Hauler Entry System support must be in place at all times (ability for Hauler to contact Plant Operator for support)*



Manage Hauler Licensing

Title	Manage Hauler Licensing
Description	This use case describes the function of managing Hauler Licensing.
Actor(s)	IWSB Inspector, Hauler
Trigger(s)	1. *New Hauler requires a license to dispose of hauled wastewater* 2. *Existing Hauler requires a wastewater disposal license renewal (disposal license annual renewal)* 3. *Existing Hauler license has expired (after 5 years) and Hauler must re-apply for a wastewater disposal license* 4. *Hauler is late renewing their license (renewals due December 31st)* 5. *Hauler fails to renew truck permit after expiry date.*
Precondition(s)	Hauler is qualified to haul wastewater
Steps	1. *New Hauler completes application form for company permit* 2. *Hauler completes application form for truck permit(s)*

	3. *Hauler submits application forms with applicable fees (cash or cheque)* 4. *Application forms & fees received by Industrial Waste Inspector* 5. *WHMS updated to reflect current hauler and truck information* 6. *Applicable permits are printed off and sent to hauler* 7. *Hauler reviews and signs permits* 8. *Hauler sends signed documents back to Industrial Waste Inspector* 9. *Industrial Waste Inspector gets the permits reviewed and authorized by the Branch Head and Division Manager.* 10. *Industrial Waste Inspector laminates permits and sends to Industrial Waste Hauler.*
Alternate Flows	1. *Hauler requires annual Wastewater Disposal Permit renewed per truck* 2. *Existing hauler requires a New Hauler Company Permit (5 year term)* 3. *Hauler renews truck permit after expiry date* 4. *Hauler fails to renew truck permit after expiry date*
Inputs	1. *New License Application* 2. *License Renewal Application* 3. *License Re-application* 4. *Late renewal*
Outputs	1. *Valid Hauler license* 2. *Valid truck license* 3. *Invoice for late renewal fee*
Future State Considerations	• *Workflows should be simplified as much as possible* • *PIN management/Hauler access should be simplified as much as possible*

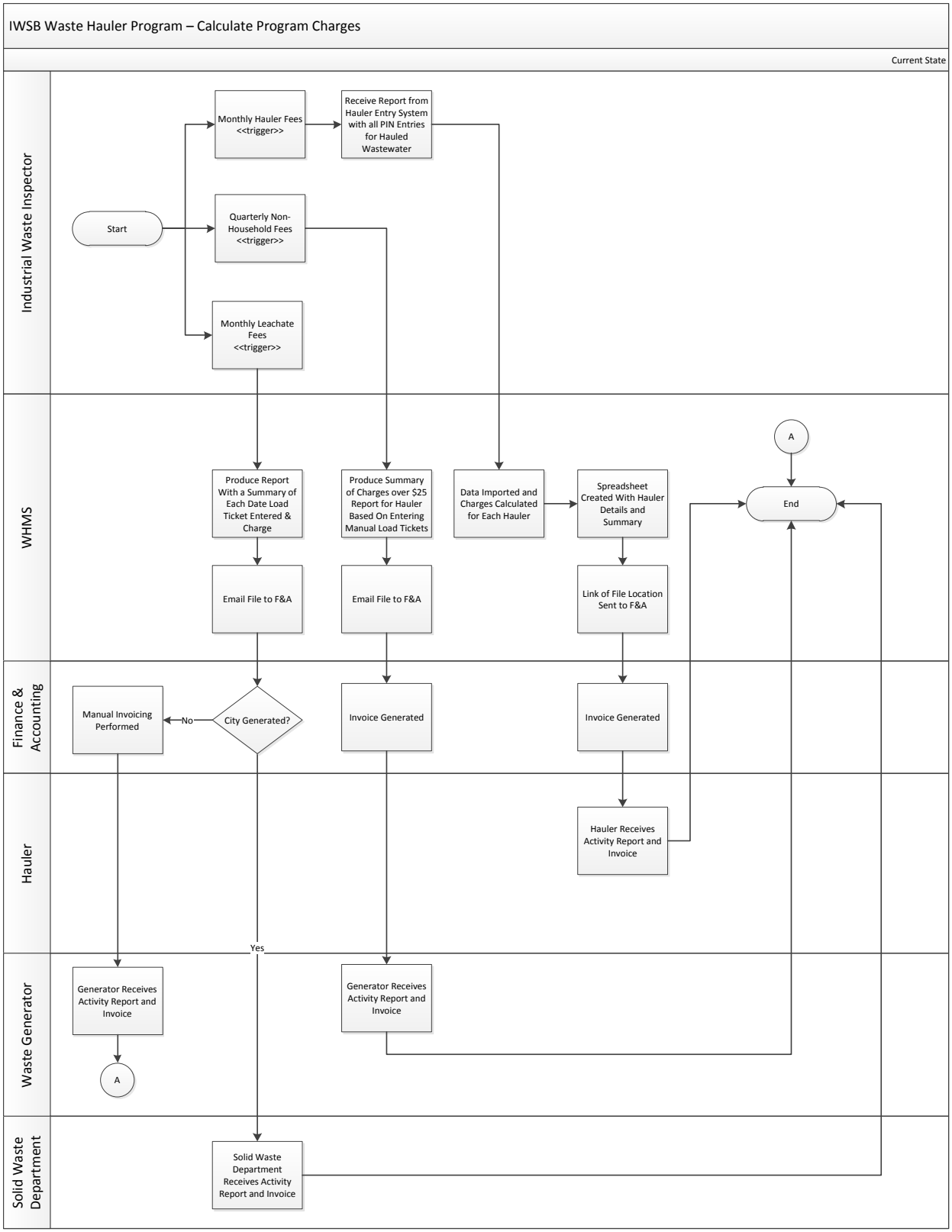


Calculate Program Charges

Title	Calculate Program Charges
Description	This use case describes the function where program charges are calculated. 1. Monthly Hauler Fees, 2. Quarterly Non-Household Fees, 3. Monthly Leachate Fees
Actor(s)	Industrial Waste Inspector
Trigger	1. *It is time to produce monthly hauler charges (charged to Hauler) – to be completed in the first 6 days of the month (based on PIN entries, not load tickets)* 2. *It is time to produce quarterly non-household waste charges (charged to Waste Generator) – to be done at the end of the quarter, once all load tickets are entered (typically 2nd or 3rd week in quarter)* 3. *It is time to produce Monthly Leachate charges (charged to Hauler) – to be completed in the first 6 days of the month (based on Load Tickets)*

Precondition(s)	Waste disposal activity has occurred
Steps	1. *Monthly Hauler charges* a. *IWI receives an email from Hauler Entry System containing a report with all PIN entries for Hauled Wastewater* b. *Data is imported into WHMS and the charges are calculated and the resulting report is exported – line by line total for each Hauler (spreadsheet) and an individual report for each Hauler containing their load activity for the month* c. *Spreadsheet and summary are sent to F&A clerk to generate invoice* d. *The City generated Leachate – the Hauler does not pay the fees, the invoice is sent to COW Solid Waste. Billing info is for Solid Waste.* e. *Non-City Leachate Haulers are not included when the summary is run (Leachate haulers don't have load tickets). They only receive the detailed report. The .pdf with load breakdown is emailed to F&A and manual invoicing is performed* f. *Sometimes the spreadsheet can't be loaded into Simply Accounting and F&A clerk will re-request the spreadsheet* g. *If a new vehicle is registered partway through the month there can be a discrepancy between the summary and detailed reports and IST has to provide support* h. *If a vehicle is deactivated partway through the month the PIN entries may not flow into the summary report, and the IWI must reactivate, run the summary, then deactivate the Hauler* 2. *Quarterly Non-Household Waste charges* a. *Industrial Waste Inspector uses WHMS to produce a summary of charges for the time period and exports charges over $25 (excel) – this is a one-time function and it can't be re-run* b. *Industrial Waste Inspector emails the file to the F&A clerk* c. *Sometimes the spreadsheet doesn't load and the F&A clerk will go to IST for support* d. *Charges must all be entered for the quarter prior to running report* 3. *Leachate Hauler charges (2-3 Haulers)* a. *Industrial Waste Inspector ensures all load tickets are entered for the month* b. *Industrial Waste Inspector runs a report from the WHMS database that has the summary of each date a load ticket was entered and contains the charges* c. *IWI sends to email and the F&A clerk manually produces invoices*
Alternate Flows	N/A
Inputs	Hauler disposal activity
Outputs	Hauler monthly charges, Hauler individual reports, Waste Generator non-

	household charges, Leachate Hauler charges
Future State Considerations	• *Charges should be calculated and persisted in the new system* • *All supporting information required for this process should be persisted in the new system*


IWSB Waste Hauler Program – Calculate Program Charges
Current State
Industrial Waste Inspector
WHMS
Finance & Accounting
Hauler
Waste Generator
Solid Waste Department
Start
Monthly Hauler Fees <<trigger>>
Receive Report from Hauler Entry System with all PIN Entries for Hauled Wastewater
Quarterly Non-Household Fees <<trigger>>
Monthly Leachate Fees <<trigger>>
Produce Report With a Summary of Each Date Load Ticket Entered & Charge
Produce Summary of Charges over $25 Report for Hauler Based On Entering Manual Load Tickets
Data Imported and Charges Calculated for Each Hauler
Spreadsheet Created With Hauler Details and Summary
A
End
Email File to F&A
Email File to F&A
Link of File Location Sent to F&A
Manual Invoicing Performed
No
City Generated?
Invoice Generated
Invoice Generated
Hauler Receives Activity Report and Invoice
Yes
Generator Receives Activity Report and Invoice
Generator Receives Activity Report and Invoice
A
Solid Waste Department Receives Activity Report and Invoice

Collect Samples

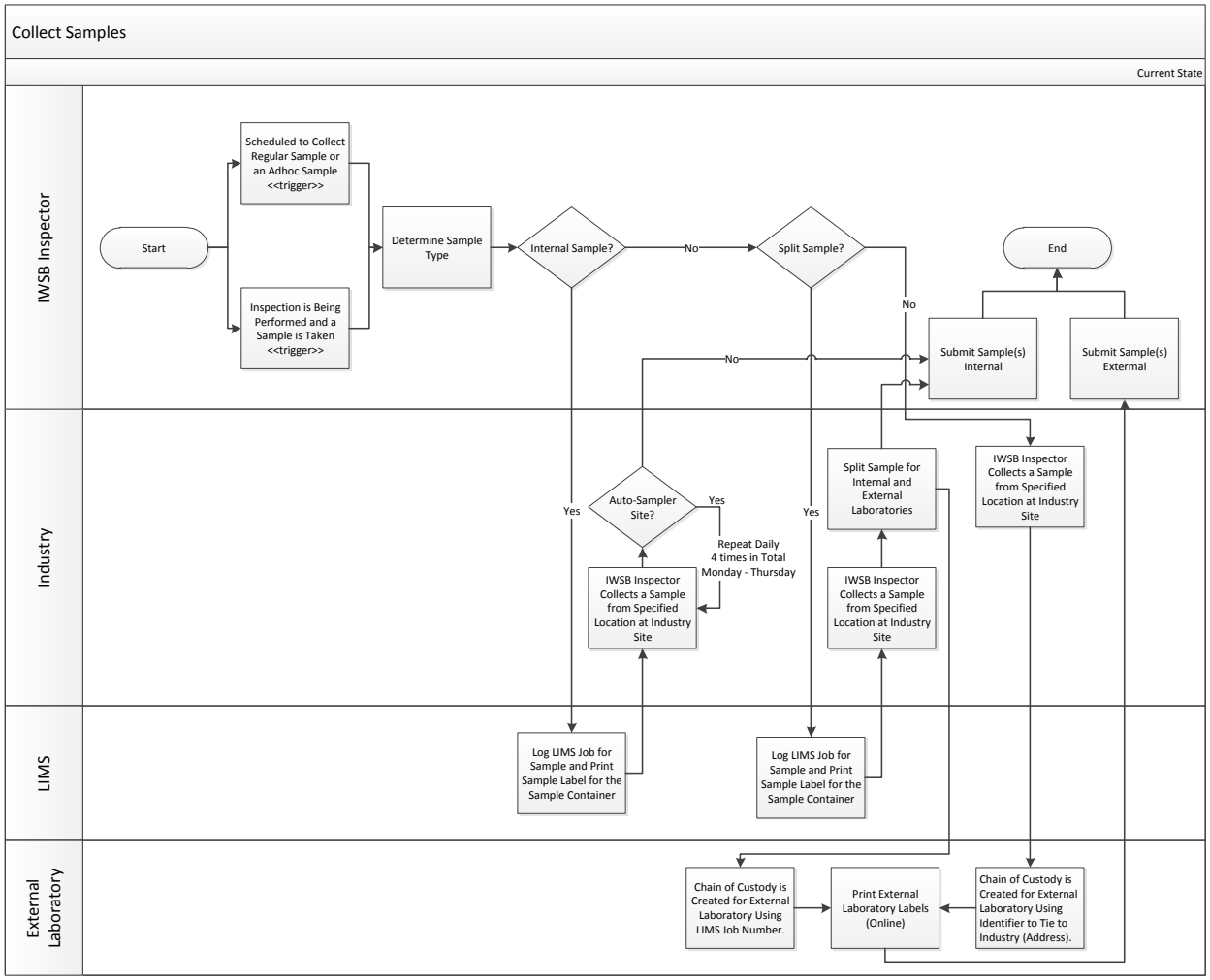
Collect Samples (Current State)

The Water & Waste Department currently manually samples waste water discharges into the City sewer or land drainage systems and records sampling events. Samples can be directed to either internal or external labs. Sample labels and chain of custody documents are manually generated either from source templates (internal lab) or an external web site (external lab). In the near future, all samples will be directed to the internal lab. Samples and results are tracked manually.

The following are examples of a sampling event and receiving test results from a sampling event within the Overstrength Program:

Title	Collect Samples
Description	This use case describes the function where samples are collected from Industry sites in order to monitor the levels of overstrength wastewater being discharged
Actor(s)	Industry, IWSB Inspector
Trigger	1. *It is time to collect a regularly scheduled sample or an ad hoc sample* 2. *An inspection is being performed and a sample is taken* 3. *Pollution Prevention Program requests a sample for a specific Industry*
Precondition(s)	If an auto-sampler is used, the auto-sample must be set up in advance of collecting samples
Steps	1. *Internal Sample* a. *IWSB Inspector logs a LIMS job for the sample and prints out a sample label for the sample container* b. *IWSB Inspector collects a sample at the Industry site from the specified sampling location for the Industry, using the pre-labeled sample container* c. *Some Industry sites will have an auto-sampler installed for a 4 day period, and samples will be collected daily by the IWSB Laboratory Technician. 4 samples are collected – Monday – Thursday.* 2. *Split Sample – External & Internally submitted* a. *IWSB Inspector creates a LIMS job for the sample and prints out a sample label for the sample container* b. *The sample is split and a chain of custody is created for the external laboratory. The identifier used is the LIMS job number.* 3. *External Sample – Externally submitted* a. *IWSB Inspector collects the sample, and creates a chain of custody for the external laboratory – forms are available online* b. *Labels contain Industry information to tie the results to the correct Industry. Generally, street address is the preferred*

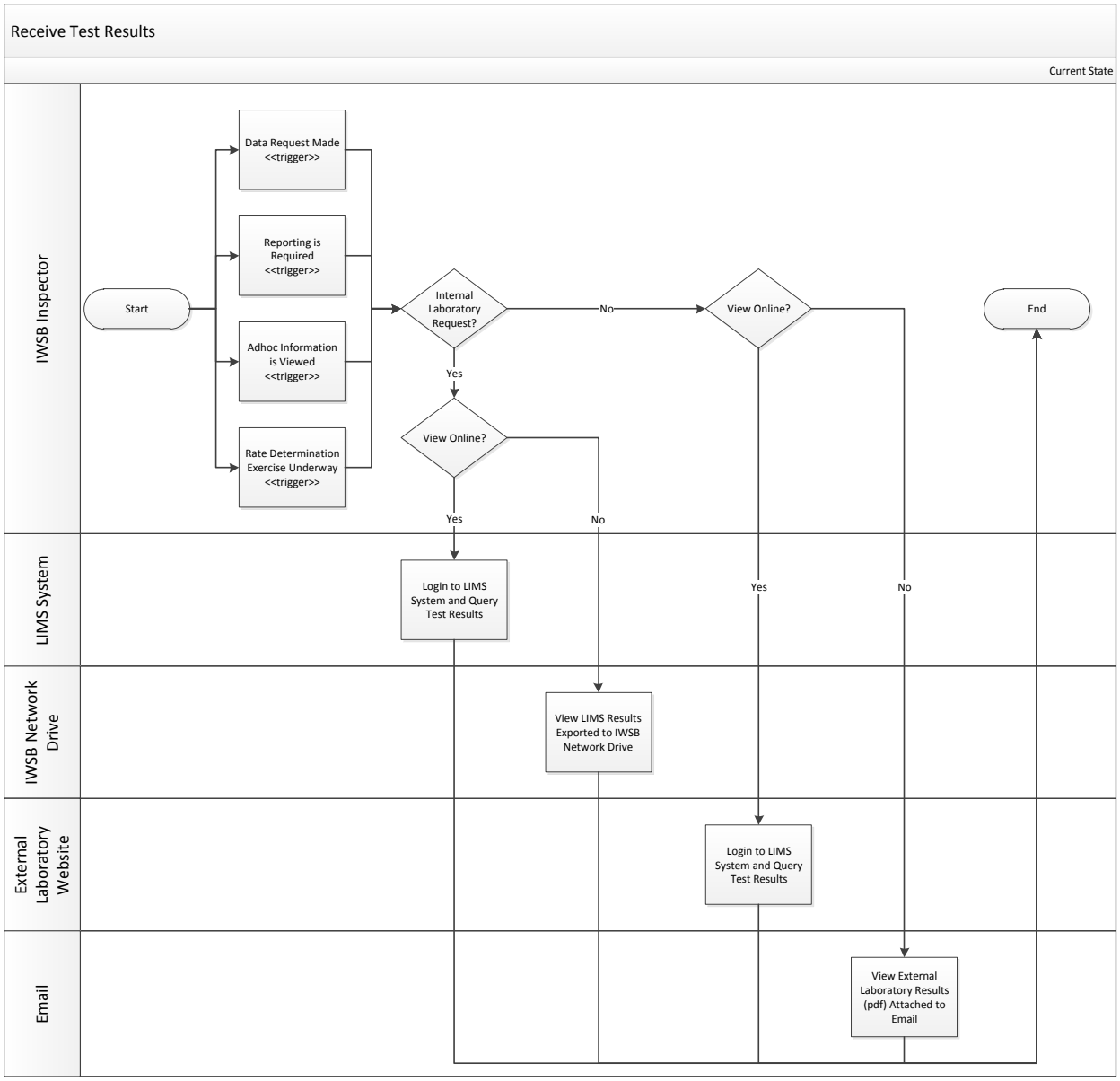
	identifier in the current state. *c. The sample is brought to the external laboratory for analysis*
Alternate Flows	• *Some Industry collect samples and send them directly to the External Laboratory, on behalf of the Industrial Waste Services Inspector* • *The auto-sampler may experience technical issues and samples may not be useable*
Inputs	Wastewater intended for discharge to the sewer
Outputs	Correctly labeled wastewater samples
Future State Considerations	• *By the time of implementation, the new LIMS will be in place, this may bring improvement to any of the Laboratory processes* • *A mobile platform could be leveraged to improve this process*



Receive Samples

Title	Receive Test Results
Description	This use case describes the function of receiving test results for Sewered Overstrength submitted samples

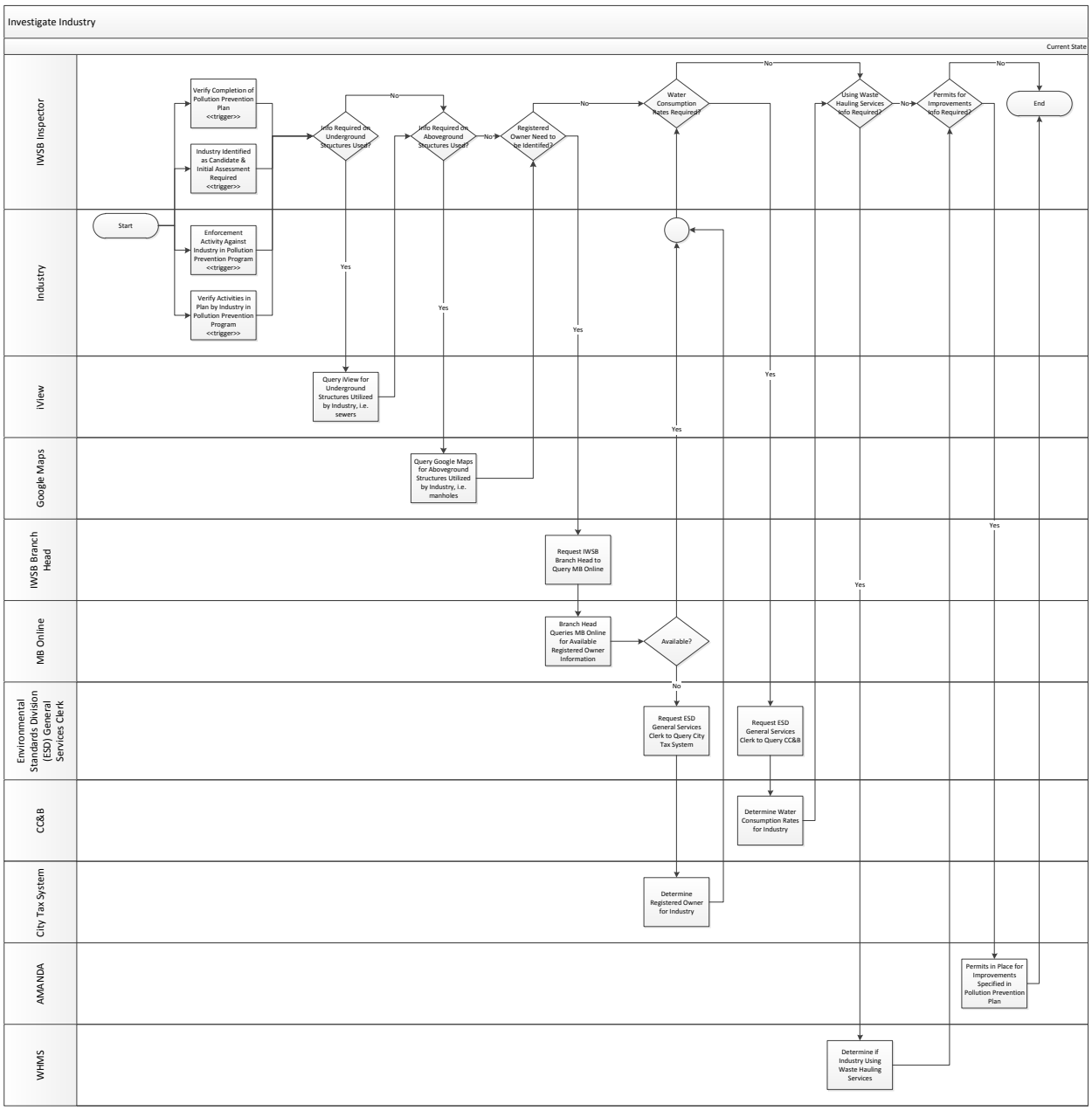
Actor(s)	IWSB Inspector, LIMS system, External Laboratory
Trigger(s)	A data request is made, reporting is required, ad hoc information is viewed, rate determination exercise is underway
Precondition(s)	Sewered Overstrength samples have been submitted
Steps	1. *The Industrial Waste Inspector accesses the LIMS system to query sample results* 2. *Sample results are exported from the LIMS into a file, and stored on the IWSB Network Drive, for inclusion in statistical reporting and monthly reporting to Industries, for the program* 3. *Samples results are available for ad hoc information queries*
Alternate Flows	The sample results are from an External Laboratory and the summary results are retrieved from their website (not the ASB LIMS) and also sent as .pdf files via email.
Inputs	LIMS system credentials or External Laboratory system credentials
Outputs	Sample test results file, Sample test results Certificate of Analysis
Future State Considerations	• *By the time of implementation, the new LIMS will be in place, this may bring improvement to any of the Laboratory processes*



Investigate Industry

Title	Investigate Industry
Description	This use case describes the function where the Industry is investigated by the Pollution Prevention Inspector. Industries are investigated in order to find out relevant information about the Industry, either for initial or ongoing assessment and plan management, or to support Enforcement activities.
Actor(s)	IWSB Inspector, Finance & Administration Clerk, Taxation Clerk, IWSB Branch Head, WHMS, AMANDA, MB Online
Trigger	1. *A new Industry is identified as being a candidate for the Pollution Prevention program and an initial assessment is required* 2. *An Industry in the Pollution Prevention program requires an Enforcement activity and the registered business owner must be*

	indicated on the forms 3. *An Industry in the Pollution Prevention program has submitted a Pollution Prevention plan and the Pollution Prevention Inspector must verify the relevant Industry activities*
Precondition(s)	An Industry is a candidate for the Pollution Prevention program, or is already part of the Pollution Prevention program
Steps	1. *The Pollution Prevention Inspector may query iView to find information about the underground structures utilized by the Industry site e.g. sewers* 2. *The Pollution Prevention Inspector may query Google maps to find out information about the aboveground structures utilized by the Industry site and to verify information found in iView e.g. location of manholes in the Google Maps satellite view* 3. *The Pollution Prevention Inspector may ask the IWSB Branch Head to query MB Online system to find the registered business owner* 4. *The Pollution Prevention Inspector may ask the ESD General Services Clerk to query CC&B in order to find out the water consumption rates for an Industry* 5. *The Pollution Prevention Inspector may ask the ESD General Services Clerk to query City Tax system in order to find the registered business owner* 6. *The Pollution Prevention Inspector may query the WHMS system in order to determine if the Industry is utilizing waste hauling services* 7. *The Pollution Prevention Inspector may query the AMANDA system in order to verify that permits are in place for improvement specified in the Pollution Prevention Plan*
Alternate Flows	N/A
Inputs	Basic Industry information
Outputs	The required information has been located and file notes and other correspondences and forms for the Industry have been created
Future State Considerations	

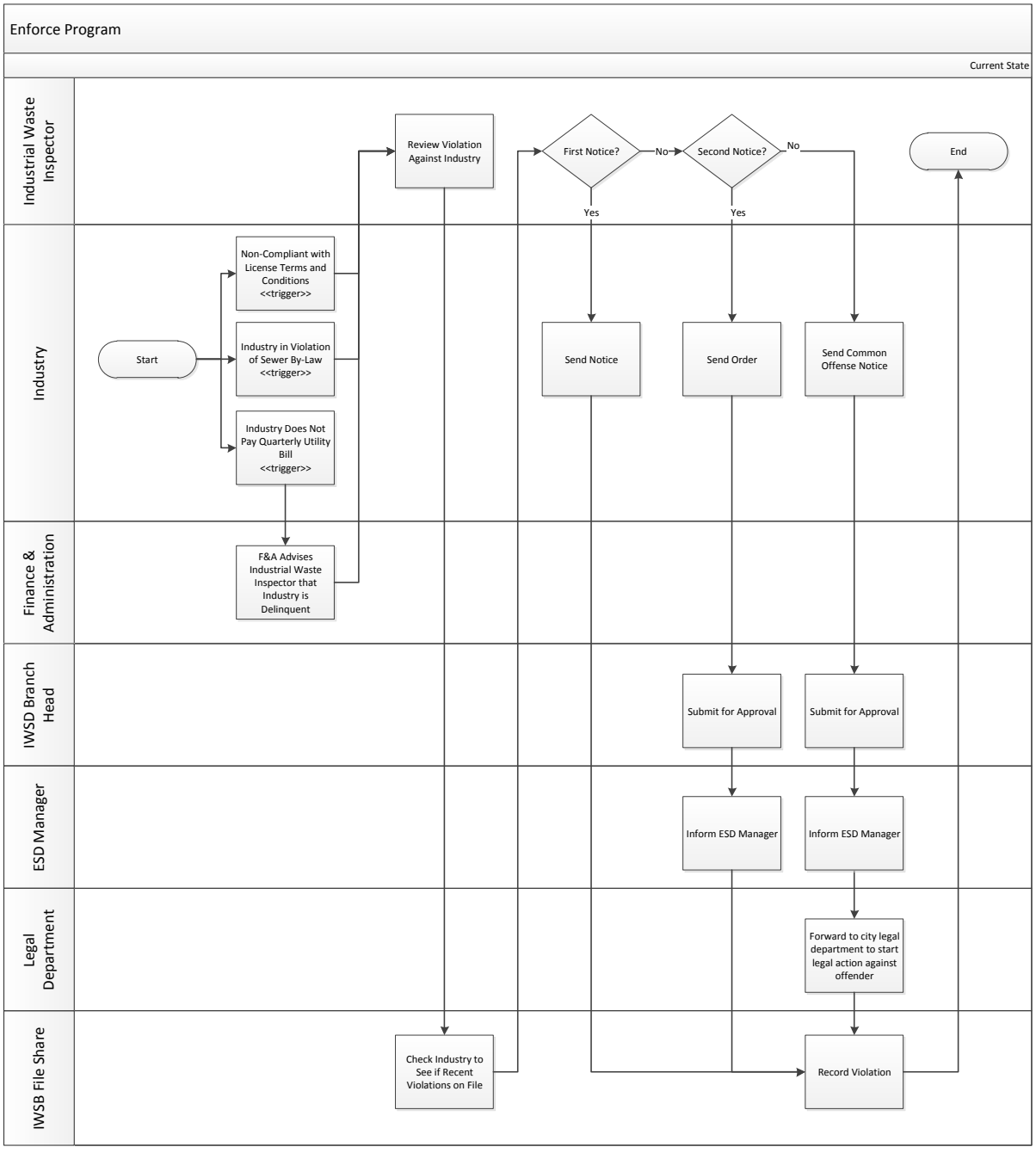


Enforcement Programs (Current State)

The steps for By-Law enforcement are: Issue Notice; Send Order; and Send Common Offence Notice.

A sample process diagram is below. Note: current enforcement activities (including necessary approvals) are manually tracked and executed. Documents are manually created and copies are saved on a network share.

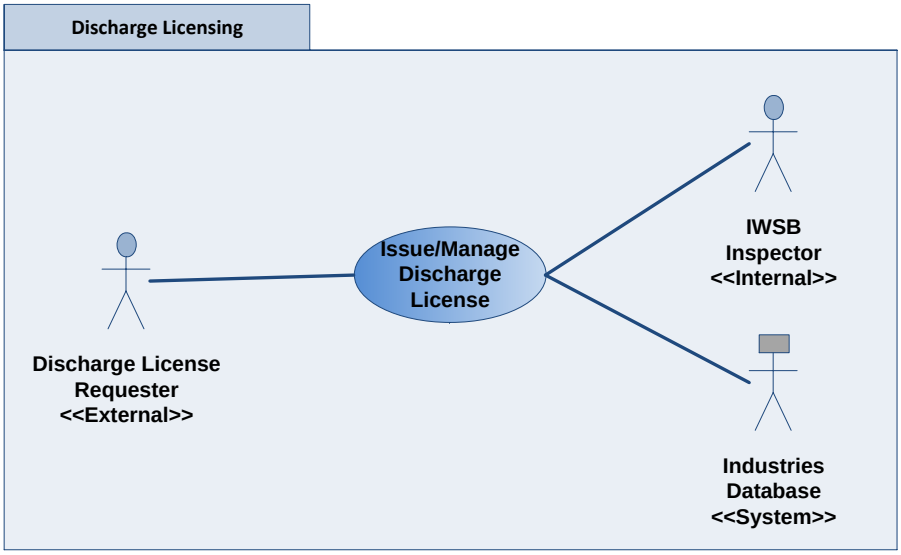
Enforcement Program



Title	Enforcement Program
Description	This use case describes the function where compliance with the terms and agreements of the Sewered Overstrength Program and Pollution Prevention is enforced
Actor(s)	Industrial Waste Inspector, Industry, other actors depending on the outcomes
Trigger	1. *An Industry in the Sewered Overstrength program is flagged for non-payment of their quarterly utility bill (future state trigger)*

	2. *An Industry is found to be non-compliant with license terms and conditions (based on sampling and inspection activities and information)* 3. *An Industry has not submitted a Pollution Prevention Plan or is found to be non-complaint with their PP Plan (based on sampling and inspection activities and information)* 4. *An Industry is found to be in violation of the Sewer By-law*
Precondition(s)	An Industry has a valid license to discharge overstrength wastewater An Industry not involved in the program and has violated the Sewer By-law
Steps	1. *A violation is identified* 2. *The Industrial Waste Inspector issues a "Notice of By-law Violation"* 3. *The Industrial Waste Inspector issues a "Order to Correct By-law Violation"* 4. *The Industrial Waste Inspector issues a "Common Offense Notice", which instigates court action.*
Alternate Flows	• *In some cases, a Notice of By-law Violation is not sent, rather the initial notification is via the Order to Correct By-law* • *In some cases, the initial notification is via the Common Offense Notice (CON) (these are cases where the violation threatens the health and safety of citizens of Winnipeg or the integrity of the City's infrastructure or the environment)*
Inputs	1. *Notice of non-payment from Finance & Administration (future state input)* 2. *Sample test results, inspection findings, third party report (e.g. 311, citizen, company employee, COW collections department)*
Outputs	Notices, Orders, and CONs
Future State Considerations	• *Some violations are unique, and require customization of the violation notice, order, or CON* • *Work on the templates is required for the future state – would like to standardize on specific violation scenarios* • *Opportunity to develop templates for court summary documents*

Discharge Licensing



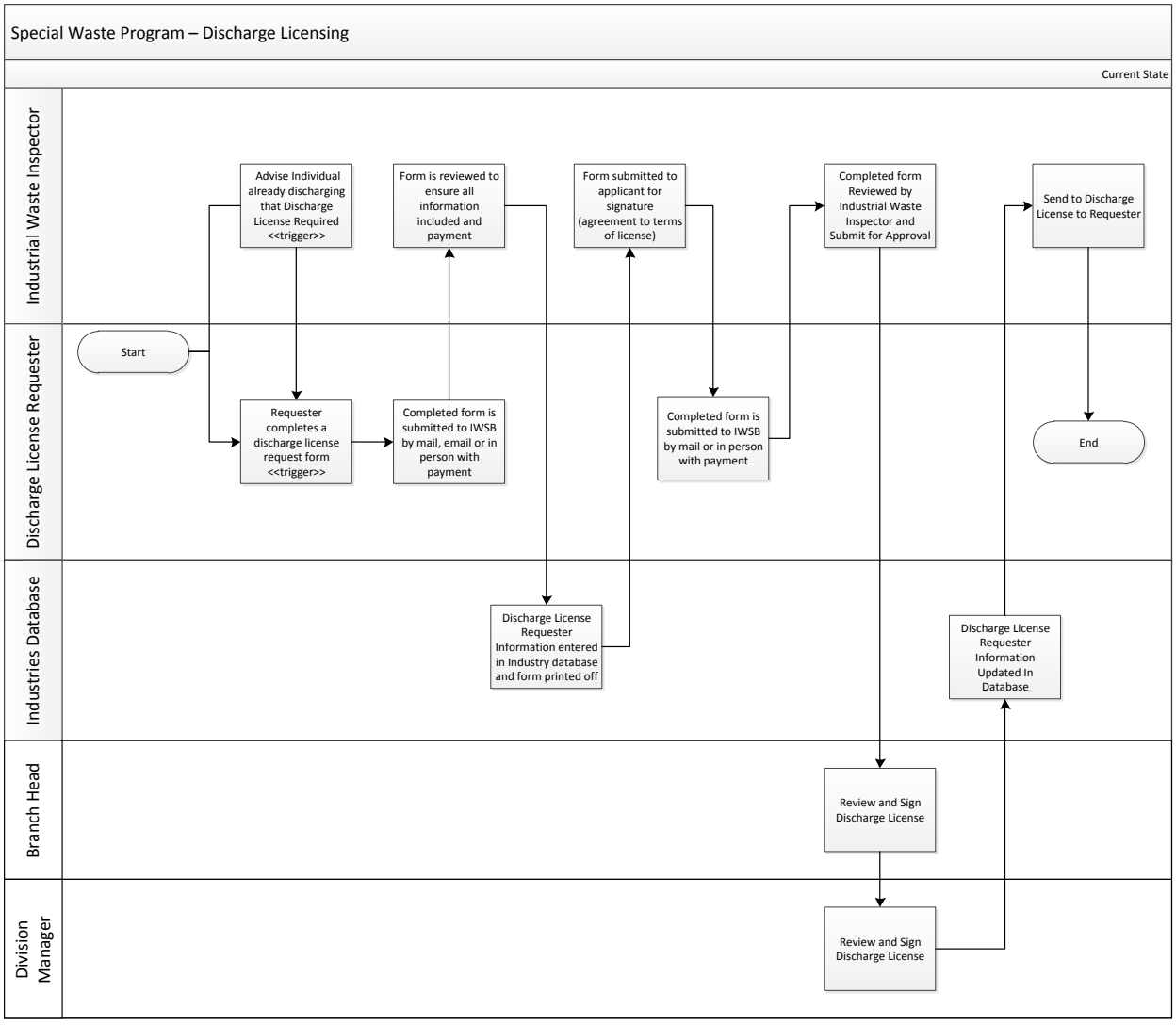
Issue/Manage Discharge License

Title	Issue/Manage Discharge License
Description	A discharge license requestor requires discharging liquid waste outside the regular operating parameters of the sewer by-law into the sewers or land drainage systems (LDS). Examples include the discharge of pool water and cooling water.
Actor(s)	Discharge License Requester, IWSB Inspector , Industries Database
Trigger	1. *Discharge License Requester applies for a discharge license.* 2. *IWSB Inspector advises spiller requires a license to continue to discharge liquid waste. i.e. Lagan 311 complaint*
Precondition(s)	Pool license holder ensures the following: • *Pool water is drained directly to the street, ditch or catch basin, or as close as possible* • *Pool water does not drain into a neighbouring property or public sidewalk* • *Backwash water is filtered and de-chlorinated before draining in to the street, ditch or catch basin* • *Pool water is free of leaves and other debris* • *Pool water drained to the street, ditch or catch basin meets the appropriate bromine, chlorine, copper, pH, Schedule C of the Sewer By-law (substances prohibited in discharges) and Schedule D of the Sewer By-law (limits for discharges).* • *Not to drain more than 45 cubic metres of pool water at a time* • *Not to drain pool water during or within six hours after a rain event (20 mm in 30 minutes).* • *Not to drain pool water in a way that causes or creates a nuisance (e.g., pooling, staining of concrete, splashing) or a dangerous condition (e.g. formation of ice, filling a pothole, slipping or tripping hazard)* • *Not drain water from a salt water pool into the street, ditch or catch*

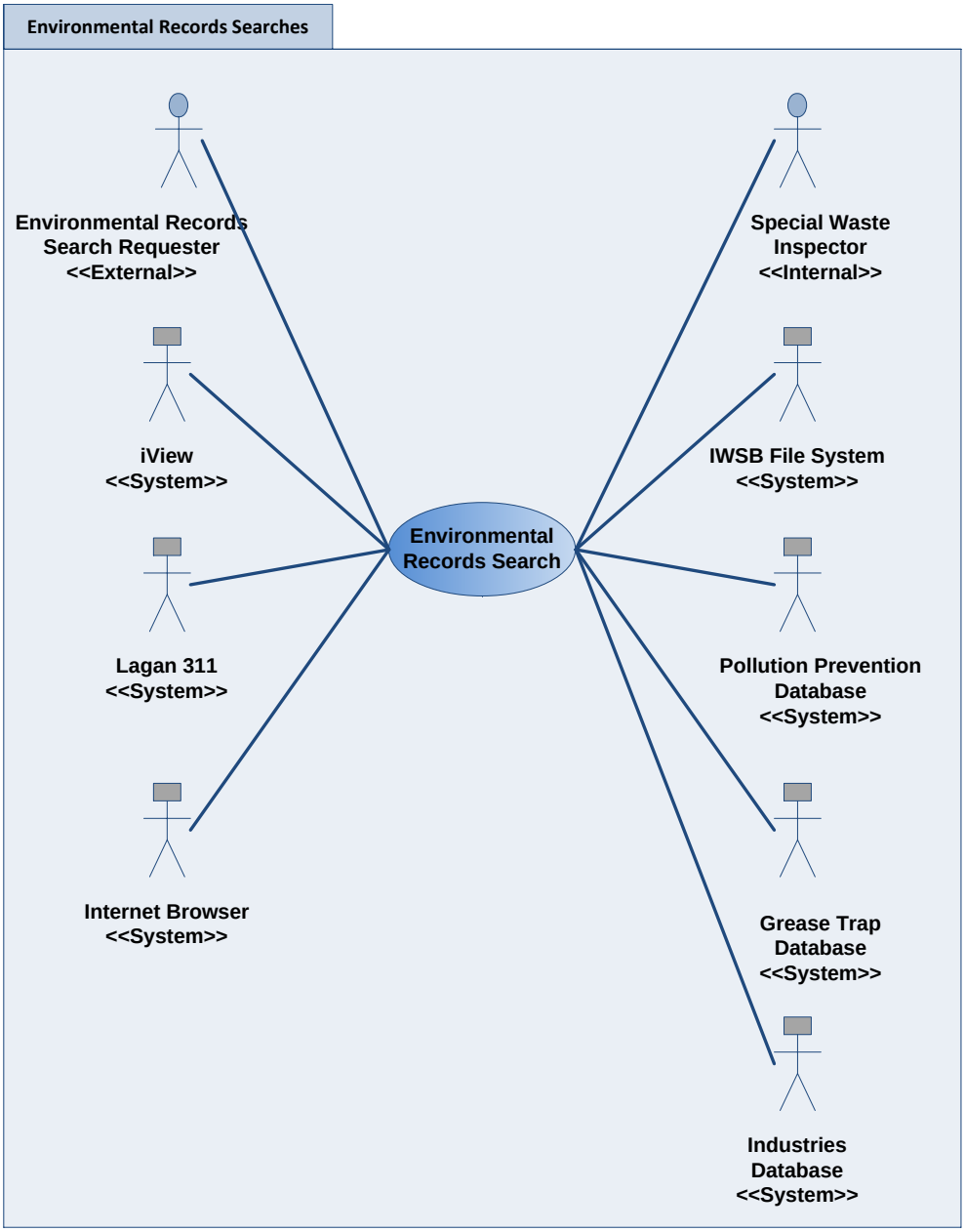
	basin Land drainage license holder ensures the following: • *Land drainage must not contain any substances set out in Schedule C or substance with concentrations that exceed the limits set out in Schedule D of the Sewer By-law.* • *Meet all conditions/clauses of the Sewer By-law.* • *Cannot be discharged if the action can cause or result in the creation of a nuisance or dangerous condition e.g. formation of ice, filling a pothole* • *No observable or known contaminants* • *Solids in the manholes must be collected and deposited at an appropriate disposal site* • *Discharge not to exceed 2000 L/min.* • *Where separate sewers are present, land drainage must be discharged into a land drainage sewer*
Steps	• *Pool owner, pool servicing company and company discharging cooling water request a permit to Special Waste Services Branch by completing a form and submitting by mail, email or pick up in person (NEWPCC only with exact cash or cheque for payment).* • *The IWSB Inspector receives the request and confirms the request form has been completed properly.* • *The IWSB Inspector records the request in the Industries Database* • *The IWSB Inspector creates the Discharge License.* • *The IWSB Inspector sends the discharge license to the requestor (by mail or in person?). Need applicant signature and then permit signed off internally and sent back to the requester. Note: the permit may be monitored by other departments impacted.*

Alternate Flows	• *Discharge license has expired. Customer will be charged a late fee. Note: renewal and late fees change annually.*
	• *Discharge license is cancelled or suspended if:*
	  ○ *License holder does not meet the requirements of the Wastewater Discharge License or the Sewer By-law*
	  ○ *The wastewater cannot be accommodated within the wastewater or land drainage systems*
	• *Discharge license is void if license holder fails to notify designated employees of any changes within 10 business days of the changes*

Inputs	Request for a new/update existing waste discharge license.
Outputs	IWSB Inspector issues/updates waste discharge license.
Future State Considerations	• *Online request* • *Consideration for PeopleSoft Accounts Receivable module implementation* • *Consideration for different payment methods, etc.* • *Currently tracking licenses manually by spreadsheet – nice to automate process.* • *No proration of fee, every 5 years.* • *Look into staggering license renewal processes. Might consider have scheduled renewal periods.*


Special Waste Program – Discharge Licensing
Current State
Industrial Waste Inspector
Discharge License Requester
Industries Database
Branch Head
Division Manager
Start
Advise Individual already discharging that Discharge License Required <<trigger>>
Requester completes a discharge license request form <<trigger>>
Completed form is submitted to IWSB by mail, email or in person with payment
Form is reviewed to ensure all information included and payment
Discharge License Requester Information entered in Industry database and form printed off
Form submitted to applicant for signature (agreement to terms of license)
Completed form is submitted to IWSB by mail or in person with payment
Completed form Reviewed by Industrial Waste Inspector and Submit for Approval
Review and Sign Discharge License
Review and Sign Discharge License
Discharge License Requester Information Updated In Database
Send to Discharge License to Requester
End

Environmental Records Searches



Environmental Records Search

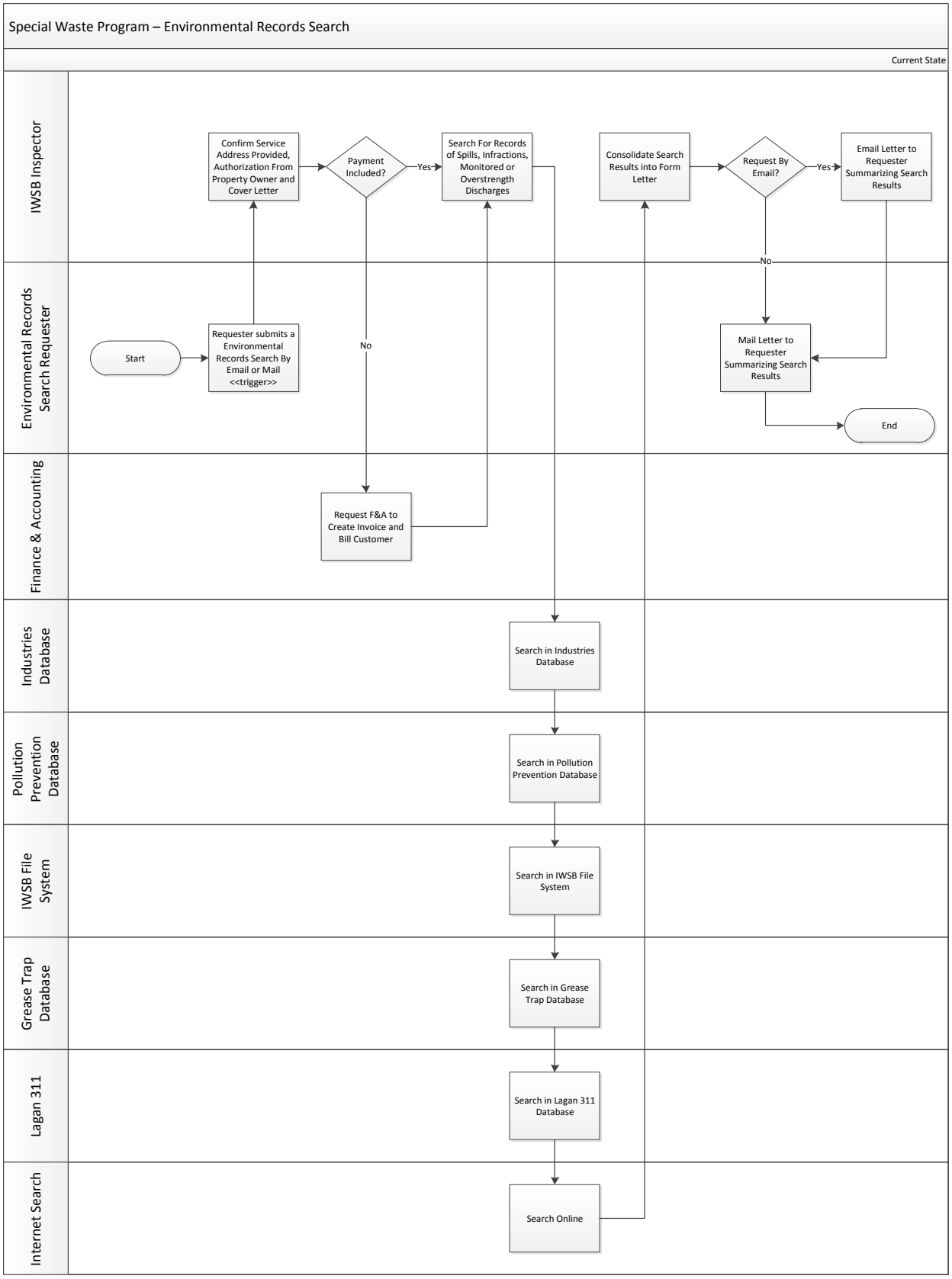
Title	Environmental Records Search
Description	External organization requests environmental records search for a specific property address (with the consent of the property owner). This is to determine if there is any record of any spills, infractions of the sewer by-law, monitoring of wastewater discharge or wastewater discharges with overstrength characteristics on file.
Actor(s)	Environmental Records Search Requester, IWSB Inspector, iView, Lagan 311, Internet Browser, IWSB File System, Pollution Prevention Database, Grease Trap Database, Industries Database

Trigger	• *Environmental Records Search Requester requests an Environmental Record Report for a specific address from Industrial Waste Services Branch by mail or email (will generate invoice in this case).*
Precondition(s)	Requestor provides the following: • *Fee provided (where applicable – internal requests not charged)* • *Service address* • *Written authorization/release form from property owner or an agent authorized by a property owner* • *Cover letter requesting information*

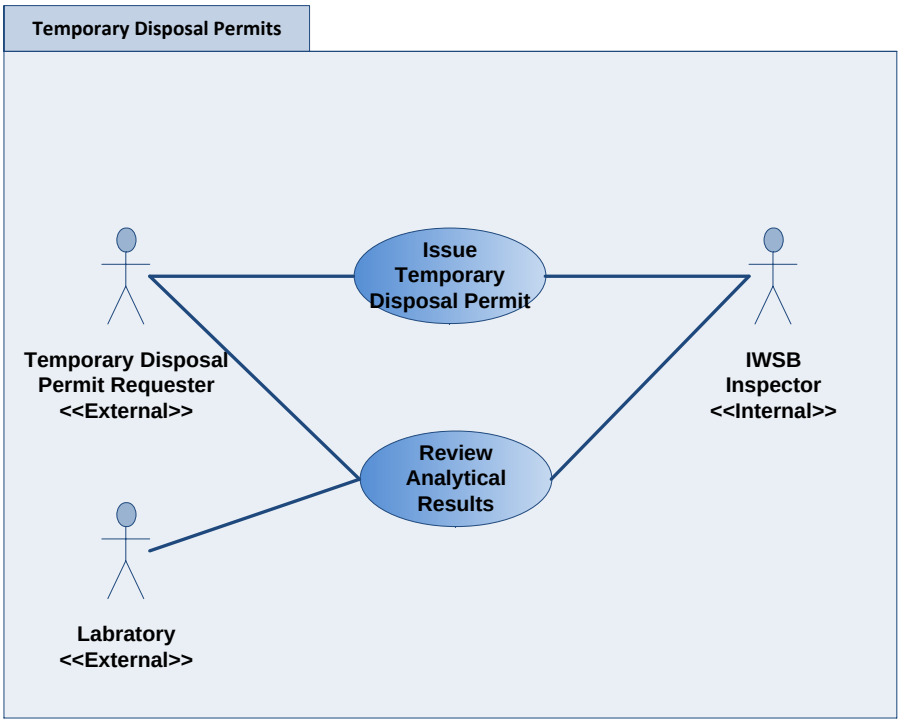
Steps	• *The IWSB Inspector receives the request and confirms the property owner has provided permission to disclose the information to the requestor. Confirm property owner by iView. Note: iView can be up to year behind so may need to consult requester about current property owner.*
	• *If request made by email, invoice created for requester.*
	• *The IWSB Inspector searches the following (address and business name):*
	  ○ *Industries Database*
	  ○ *Pollution Prevention Database*
	  ○ *IWSB File System*
	  ○ *Grease Trap Database*
	  ○ *Lagan 311*
	  ○ *Internet Search*
	• *The IWSB Inspector summarizes the information*
	• *The IWSB Inspector puts the applicable information in a form letter and provides to the requestor. If request by mail, letter sent by mail. If request made by email, copy sent by email followed up by the letter being sent by mail.*

Alternate Flows	Requestor does not provide one of the following: • *Fee provided where applicable* • *Fee has changed and the incorrect amount sent (difference will be invoiced to customer)* • *Service address* • *Written authorization/release form from property owner or an agent authorized by a property owner* • *Cover letter requesting information*
Inputs	• *Fee provided where applicable* • *Service address* • *Written authorization/release form from property owner or an agent authorized by a property owner* • *Cover letter requesting information* • *Email request (alternate)*
Outputs	A letter to the requestor from the IWSB summarizing the following available information requested: • *Records of spill* • *Records of any infractions of Sewer By-law 7070/97 or 92/2010* • *Records of monitored wastewater discharges* • *Records of wastewater discharges with overstrength characteristics*

	• *Email copy of the letter to the requester.*
Future State Considerations	• *Online request* • *Consideration for PeopleSoft Accounts Receivable module implementation* • *Consideration for different payment methods, etc.*


Special Waste Program – Environmental Records Search
Current State
IWSB Inspector
Environmental Records Search Requester
Finance & Accounting
Industries Database
Pollution Prevention Database
IWSB File System
Grease Trap Database
Lagan 311
Internet Search
Start
Requester submits a Environmental Records Search By Email or Mail <<trigger>>
Confirm Service Address Provided, Authorization From Property Owner and Cover Letter
Payment Included?
Yes
No
Search For Records of Spills, Infractions, Monitored or Overstrength Discharges
Request F&A to Create Invoice and Bill Customer
Search in Industries Database
Search in Pollution Prevention Database
Search in IWSB File System
Search in Grease Trap Database
Search in Lagan 311 Database
Search Online
Consolidate Search Results into Form Letter
Request By Email?
Yes
No
Email Letter to Requester Summarizing Search Results
Mail Letter to Requester Summarizing Search Results
End

Temporary Disposal Permits

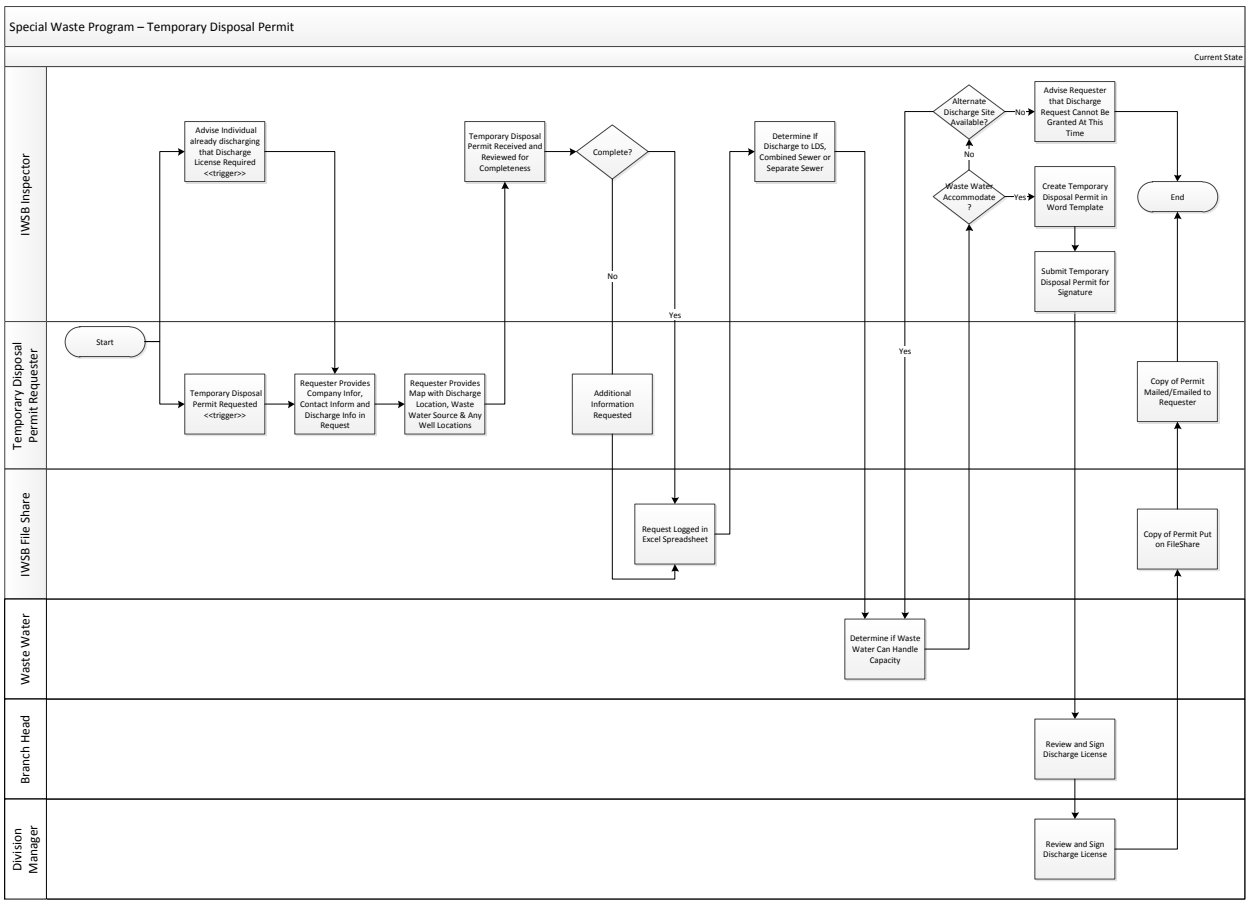


Issue Temporary Disposal Permits

Title	Issue Temporary Disposal Permits
Description	A Temporary Disposal Permit Requestor requires a temporary permit to dispose waste outside the regular operating parameters of the sewer by-law.
Actor(s)	Temporary Disposal Permit Requester, Special Waste Inspector
Trigger	1. *Temporary Disposal Permit Requester requests a temporary disposal permit* 2. IWSB Inspector advised that somebody is dumping without permit

Precondition(s)	Requestor provides the following information by mail or email (note: most requests come by email):
	• *Company Information*
	  ○ *Name*
	  ○ *Address*
	  ○ *Facility location*
	  ○ *Contact name & information*
	• *Discharge Information*
	  ○ *Discharge rate*
	  ○ *Date and frequency of discharge*
	  ○ *Location of discharge (i.e. wastewater or land drainage sewer)*
	  ○ *Alternate discharge location*
	  ○ *Location on property where wastewater is coming from*
	  ○ *How wastewater is generated*

	○ *Water source* ○ *Anything added to the wastewater* • *Map indicating the following relevant locations*:* ○ *Discharge location* ○ *Wastewater source* ○ *Any well locations* *Will send requester an electronic copy of iView which the requester can mark up if required
Steps	• *The IWSB Inspector records the request in the spreadsheet.* • *IWSB Inspector determines if liquid waste is being discharged to a land drainage system, combined sewer system or a separate sewer system (used to determine discharge fee).* • *IWSB Inspector contacts Waste Water to ensure the system can address the volume.* • *If the request is granted, the IWSB Inspector creates the temporary permit (word template).* • *The IWSB Inspector sends the temporary permit to the requestor. If requested by email, will send requester the permit by email followed up by mail with paper copy. If sent by mail, will send permit to requester by mail.*
Alternate Flows	• *IWSB Inspector will deny the permit request if the contents of disposal contains contaminants or levels of contaminants outside of the sewer by-law parameters.* • *IWSB Inspector will deny the permit if Waste Water advises that the system cannot handle the volume for the requested time period.*
Inputs	• *Completed form* • *Map*
Outputs	• *Temporary Permit* • *Suggested alternative disposal site* • *Invoice if just flat fee. If fee needs to be calculated based on volume or contents, will calculate and send to F&A after discharge.*
Future State Considerations	• *Online request* • *Consideration for PeopleSoft Accounts Receivable module implementation* • *Consideration for different payment methods, etc.*



Review Analytical Results

Title	Review Analytical Results (compare to sewer by-law)
Description	If a Temporary Disposal Permit Requester requires disposing of a liquid waste of unknown composition, the liquid waste needs to be tested to ensure it falls within the parameters of the sewer by-law.
Actor(s)	Temporary Disposal Permit Requester, Special Waste Inspector, Industries Database, Laboratory
Trigger	• *IWSB Inspector requires sample of liquid waste to determine composition to ensure it falls within the parameters specified within the sewer by-law.*
Precondition(s)	• *Completed permit request*
Steps	• *Temporary Disposal Permit Requester takes a sample of the liquid waste.* • *Sample of liquid waste sent to accredited laboratory for testing (for volatiles and metals – not complete)* • *Temporary Disposal Permit Requester provides copy of lab report to Special Waste Inspector.* • *If the lab results fall within the expected parameters, IWSB Inspector grants temporary permit to requester (word document template, signed by requester, branch head and divisional manager).*

Alternate Flows	• *IWSB Inspector advises the requester the waste must be treated and re-tested prior to granting a temporary permit.* • *IWSB Inspector advises the requester the waste cannot be disposed of through the sewer system and alternative means must be used.* • *Recommend different discharge point than requested.*
Inputs	• *Lab report (COA – certificate of analysis)* • *Request*
Outputs	• *Decision to grant temporary disposal permit* • *Permit*
Future State Considerations	• *Managed in email and spreadsheets, ideal to be able to pull up history easily by requester.*