



# Dialogue Session with General Waste (Class C) Collectors


Discharge Quality Branch  
Water Reclamation (Network) Dept [WRN]  
26 Nov 2025

# Programme Outline

- i. Latest requirements for GWC (Class C) Tankers**
- ii. Smart lock system**
- iii. Q & A session**

# Latest requirements for GWC (Class C) Tankers

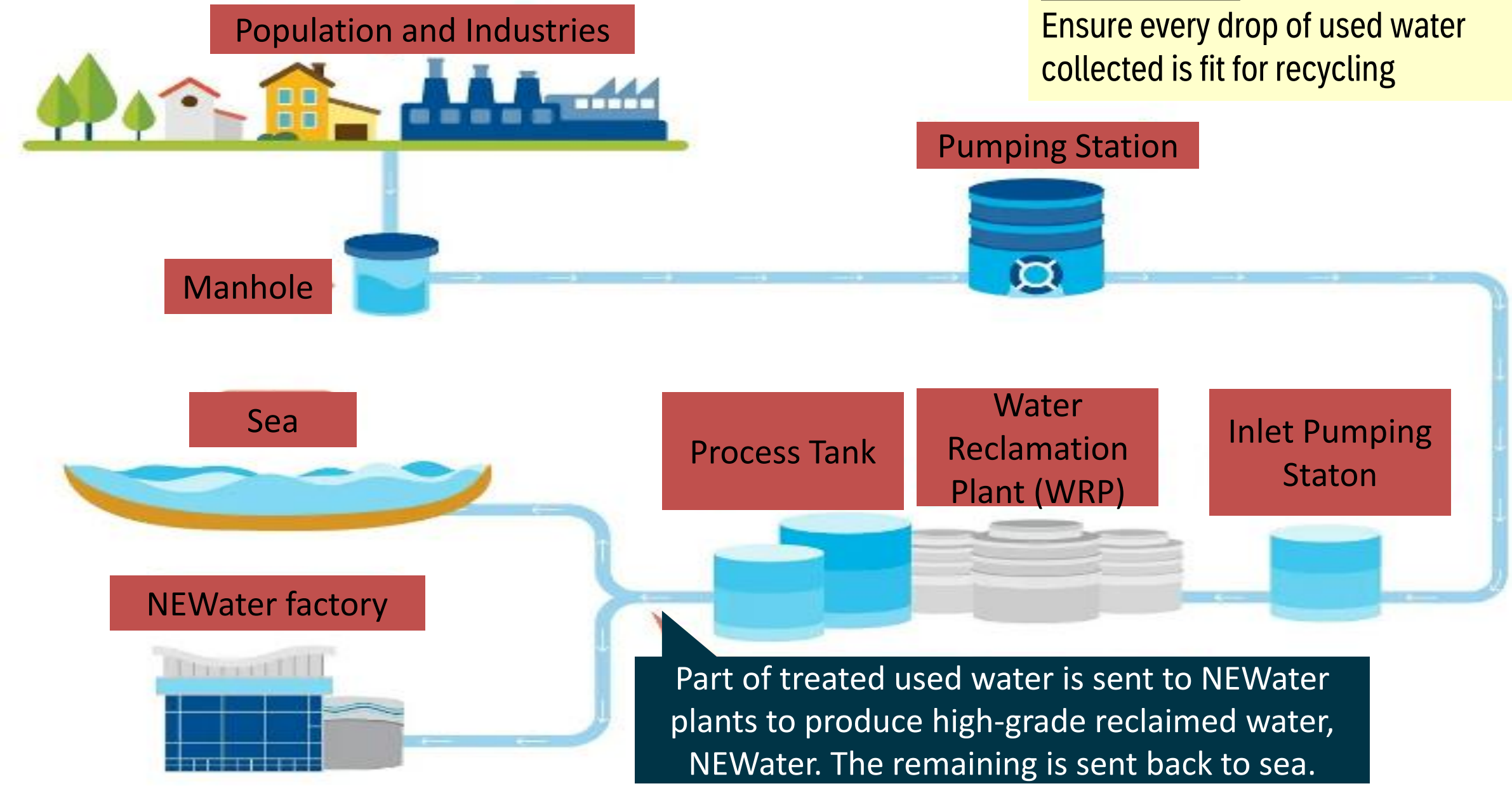
Soehendra Sonarno  
Engineer  
Discharge Quality Branch (DQB), WRN  
26 Nov 2025



MAKE  
EVERY  
DROP  
COUNT

# How Do You Fit into PUB's Water Loop

WRN's Mission  
Ensure every drop of used water collected is fit for recycling



Part of treated used water is sent to NEWater plants to produce high-grade reclaimed water, NEWater. The remaining is sent back to sea.

# The need to manage Class C waste in Singapore

## ❑ Greasy Waste

Fats, oil and grease (FOG) can accumulate and harden over time, forming encrustation along the sewerage system  
→ Affects conveyance of used water, causing sewer overflow



## ❑ Human Waste

If point source waste quality is not monitored closely, undesirable substances can:

- i. Endanger health and safety of workers maintaining sewerage system
- ii. Impact used water processes in Water Reclamation Plants (WRPs) and NEWater production



# Types of Authorized Waste to be disposed at PUB WRPs

- ❑ All Class 'C' waste collected by Class C General Waste Collector (GWC) is to be disposed of at WRPs.
- ❑ PUB permits are required for disposal at WRPs, with different permits required for each waste type - greasy waste, human waste, organic sludge (ships) and organic sludge (industries)
- ❑ Each waste type shall be disposed of at designated WRPs as directed by PUB and contents in each authorised tanker shall not be mixed with other types of waste
- ❑ WRP extended opening hours :

WRP	Monday to Friday	Saturday	Sunday	Public Holiday
Jurong	7am to 6pm	9am to 4pm	-	**9am to 4pm
Changi	10am to 6pm	9am to 1pm	-	** 9am to 1pm
Kranji	8am to 6pm	8am to 1pm	-	8am to 1pm
Ulu Pandan	8am to 6pm	-	1pm to 5pm	-

## Note:

- i. All WRPs are open for disposal during lunch hours
- ii. \*\*Applicable for public holiday falling on Monday or Saturday only. Closed on other days

# Requirements under the Sewerage and Drainage (Trade Effluent) Regulations [SD(TE)R]

Reg	Clause	Compliance Requirements
11(3)	Any person may, with the prior permission of the Board, dispose of effluent or organic sludge that is transported by vehicle to any sewage treatment works specified by the Board, upon such terms and conditions as may be agreed by the Board and such person.	Obtain and maintain a valid PUB Disposal Tanker Permit
11(4) WEF 1/7/2024	The Board may, in granting any permission under paragraph (1) or (3) and in addition to the agreed conditions mentioned in paragraph (3), impose such conditions as it thinks fit, including a condition that the person must provide such deposits, performance bonds, guarantees or other forms of security, for such amounts, as the Board may from time to time require, to secure compliance by the person with any condition the Board imposes.	Provide security deposits as required by PUB for disposal of greasy waste, organic sludge from ships, and industrial organic sludge.

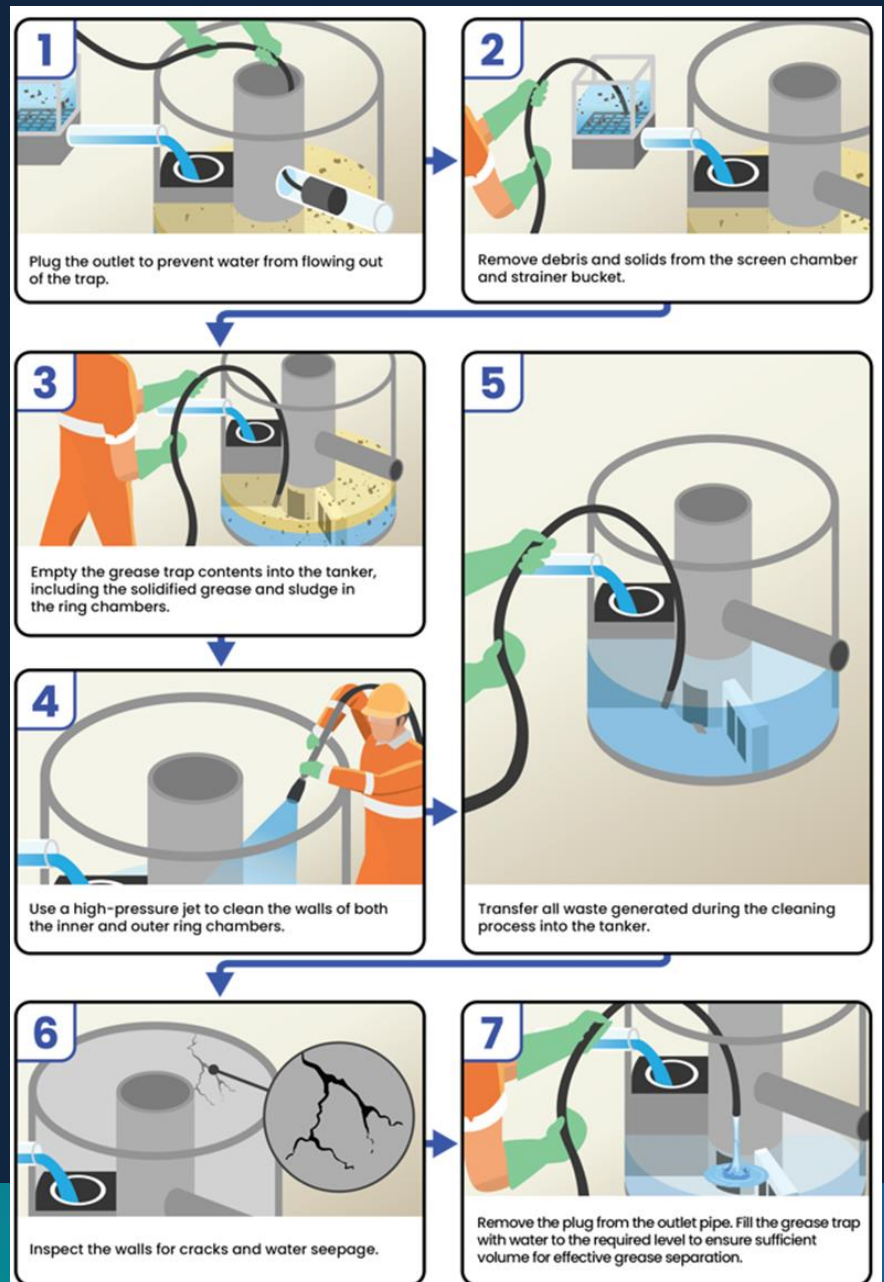
# Requirements under the Sewerage and Drainage (Trade Effluent) Regulations

Reg	Clause	Compliance Requirements
11(4A) WEF 1/7/2024	<p>A person granted permission under paragraph (3) must —</p> <p>a) ensure that any vehicle used to transport the effluent or organic sludge being disposed of is secured with any, or any combination, of the following apparatuses as the Board thinks fit:</p> <ul style="list-style-type: none"> <li>(i) a tracking device;</li> <li>(ii) a security lock;</li> <li>(iii) any other apparatus that the Board considers is able to adequately secure the effluent or organic sludge;</li> </ul> <p>b) record the data collected by the tracking device, security lock or other apparatus;</p> <p>c) keep the record for at least 12 months after the date that the permission is granted; and</p> <p>d) submit the record to the Board as and when the Board requires.</p>	<p>Install mandatory monitoring equipment (ie CCTV, GPS tracking devices, and SMARTLock systems) on authorised tankers.</p> <p><b>Maintain records collected by these monitoring equipment for a minimum of 12 months</b> from permit issuance and submit these records upon PUB's request.</p>
11(4B) WEF 1/7/2024	<p>A person must not tamper with any tracking device, security lock or other apparatus used to secure a vehicle as described in paragraph (4A).</p>	<p>Do not interfere with, damage, or tamper with any tracking devices, security locks, or other equipment installed on vehicles for security purposes.</p>

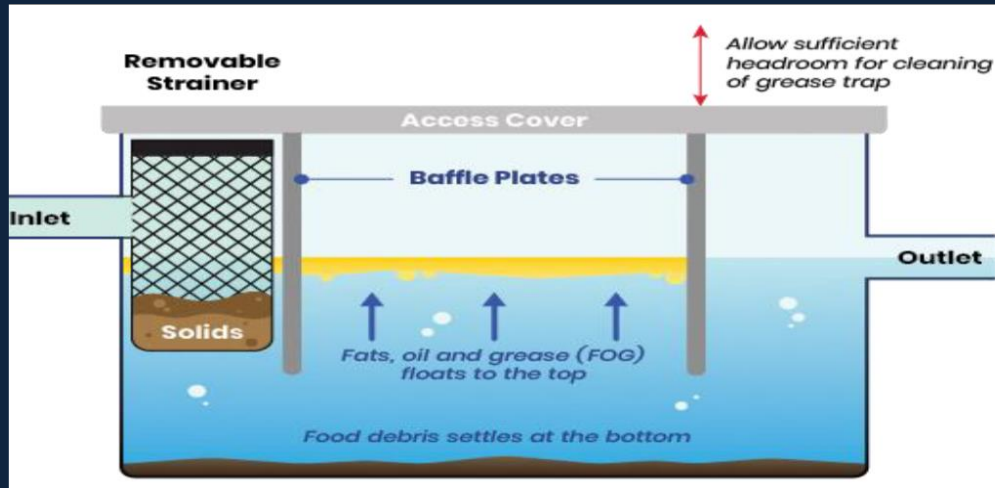
# Requirements under the Sewerage and Drainage (Trade Effluent) Regulations

Reg	Clause	Compliance Requirements
11(4C) WEF 1/7/2024	<p>The Board may, for any permission granted under paragraph (1) or (3) —</p> <ol style="list-style-type: none"> <li>a) modify the conditions in relation to the permission,</li> <li>b) suspend or revoke the permission.</li> </ol>	<p>PUB may, when necessary:</p> <ul style="list-style-type: none"> <li>• <b>Modify conditions</b> by updating, removing, or introducing new requirements</li> <li>• <b>Temporarily suspend permits</b> where circumstances require</li> <li>• <b>Cancel permits</b> in cases of significant non-compliance</li> </ul>

# Recommended maintenance procedure – Standard Grease Trap



# Recommended maintenance procedure – Portable Grease Interceptor



Badly maintained grease interceptor



Well-maintained grease interceptor with clear last compartment

- i. Stop all culinary used water discharge and running water before starting maintenance
- ii. Check and clear the strainer bucket of any debris
- iii. Remove floating grease and bottom debris using a shovel or scooper, then bag the waste
- iv. Drain all water from the interceptor using a bucket or pump
- v. Scrape and clean all surfaces including sides, baffles, lid and bottom, then rinse the strainer
- vi. Wipe down all surfaces with absorbent pads and dispose of used pads in the trash bag
- vii. Fill the portable grease interceptor with water to the required level to ensure sufficient volume for grease separation
- viii. Seal the trash bag securely and dispose of it in the designated waste receptacle

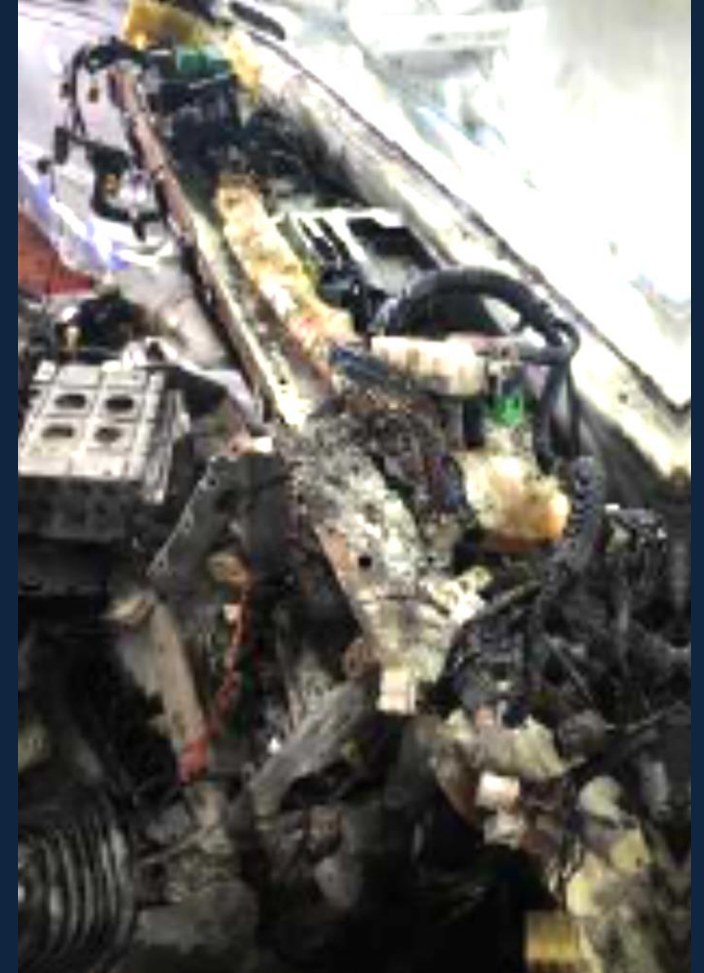
## Case #1 - Collection and disposal of non-class C waste

- 2 Class C GWCs collected non-Class C waste from a company's wastewater treatment plant and disposed of it at WRPs. Testing revealed inorganic compounds in the sludge.
- Client had incorrectly classified the sludge as Class C waste based on their own interpretation and requested the 2 GWCs to collect and dispose of the waste.
- Neither the client nor the GWCs verified whether Class C GWCs were authorised to collect this type of waste material.
- Despite having received training on collection and disposal of authorised waste types, the GWCs violated the regulations



### Case #2 - GWC tanker fire incident outside WRP

- A GWC tanker had caught fire outside a WRP (near to the main gate of the plant)
- The fire originated from the side mirror defogger connector
- Tanker was not equipped with a fire extinguisher
- Security guard on duty carried out timely intervention and had successfully extinguished the fire



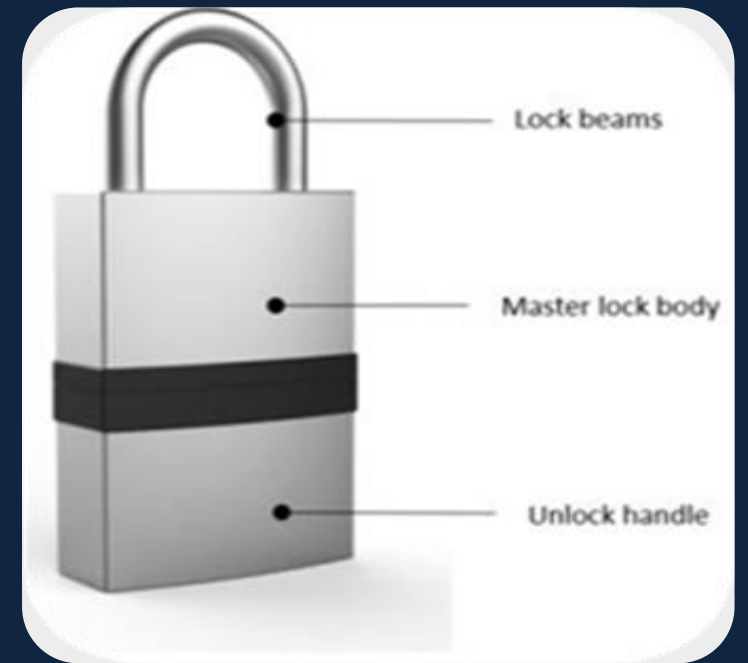
# Lessons Learnt from Past Cases


- Conduct regular inhouse training for all staff, including administrative personnel, covering authorised waste types and operational procedures such as waste verification protocols before accepting assignments or collecting waste.
  - Only collect and dispose Class C waste based on the permit issued by PUB
  - Do not mix the waste contents of the tanker
  - If unsure, do clarify with PUB or NEA
- Maintain close supervision of workers' activities to ensure compliance with permit conditions.
- Ensure proper maintenance of tanker GPS and CCTV systems to keep them in working condition.
- Carry out regular maintenance of tankers
- Good practice to keep a fire extinguisher in each tanker



# 2026 Permit Renewal Exercise

- ❑ Reminder to comply with the latest legislations under the **Sewerage and Drainage (Trade Effluent) Regulations**
  
- ❑ **Renewal exercise** will be from **Dec 2025- Mar 2026**. Changes include the following:
  - i. Extension of validity of PUB disposal permit to 5 years
  - ii. Commencement of Smart Lock system





## SmartLock for General Waste Collection (GWC) tankers

Loh Chloe

Engineer

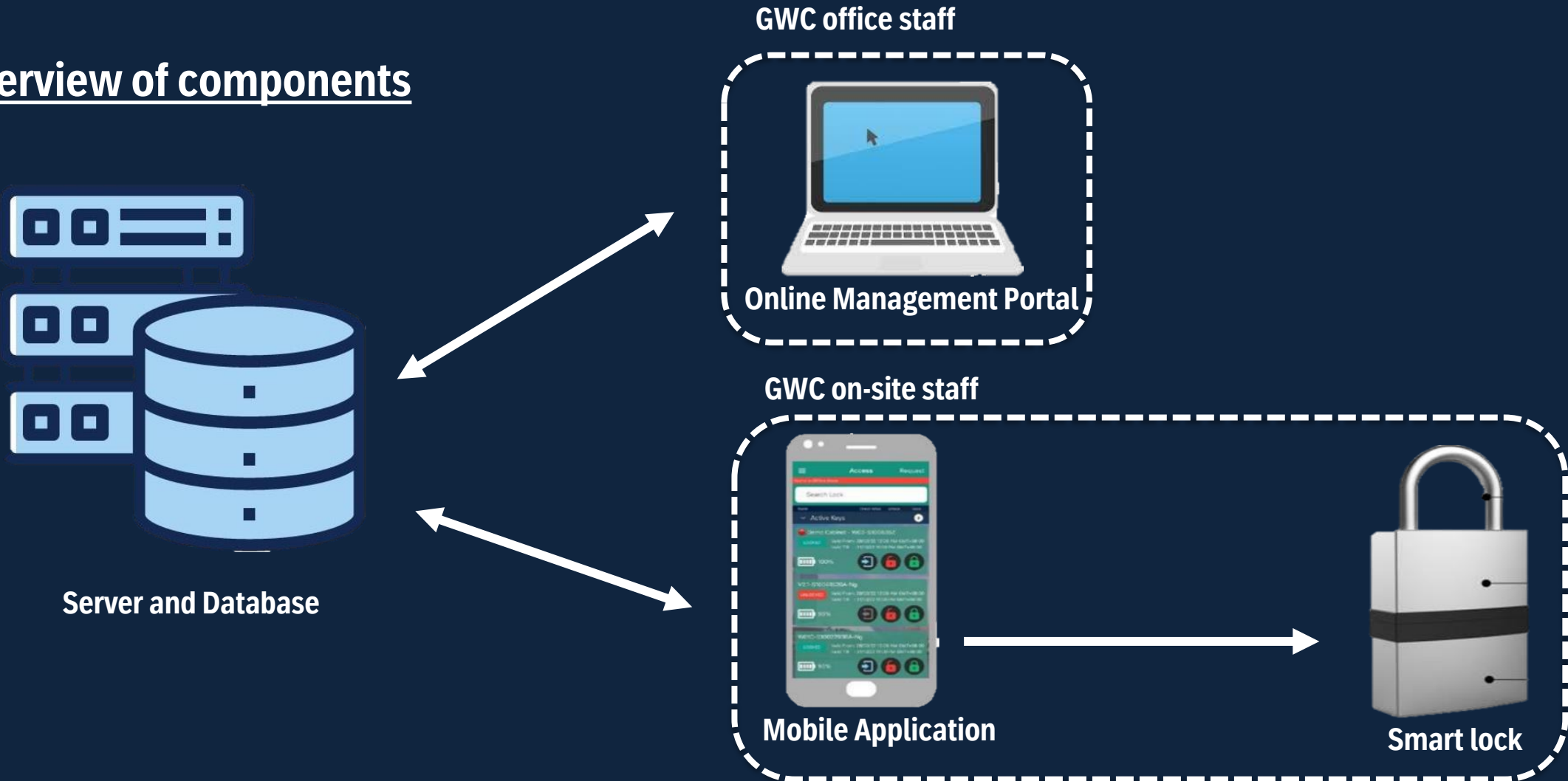
Discharge Quality Branch (DQB), WRN

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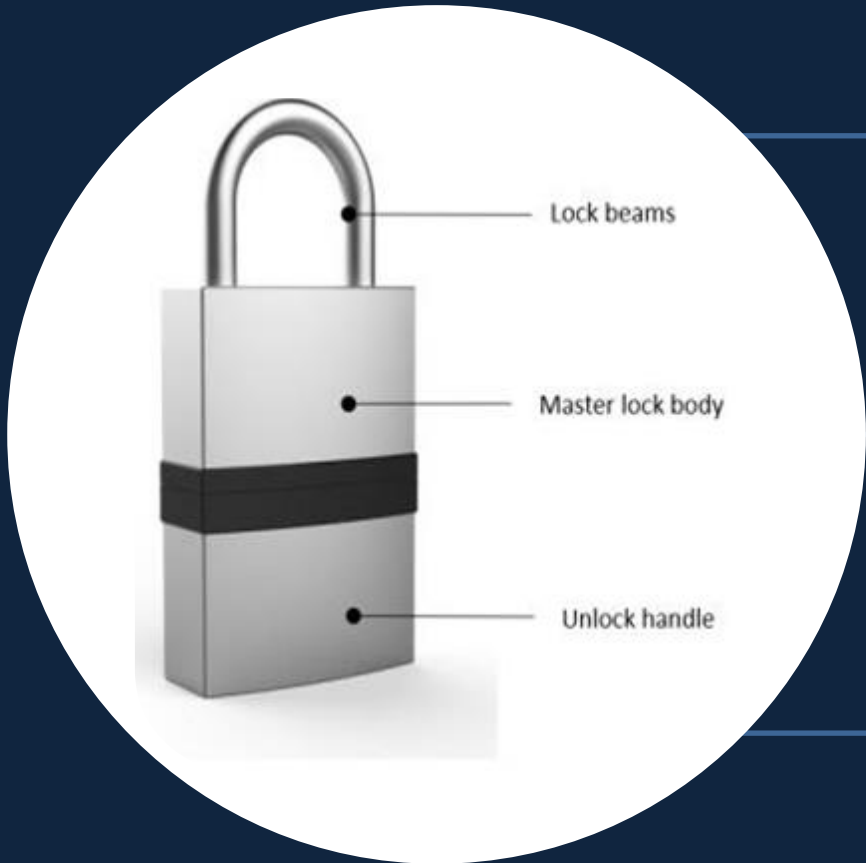
# What is Smart lock system?

An integrated system comprising physical locks and software eco-system which facilitates data collection and data analytics

## Overview of components



# Objectives/Features of Smart lock system



## Reduce Manual Tasks

- Digitalisation = Less Paper Work
- Automated generation of reports and email to customers



## Enhanced Security and Access Control

- Biometrics + App Control = No Illegal Tampering
- Lock activities / collections are tracked



## Records of Maintenance Details

- Complete and accurate oversight

# How does the system work?

## BEFORE

Manual re-sealing using plastic seals at discharge valve  
Hardcopy disposal forms and manual tracking



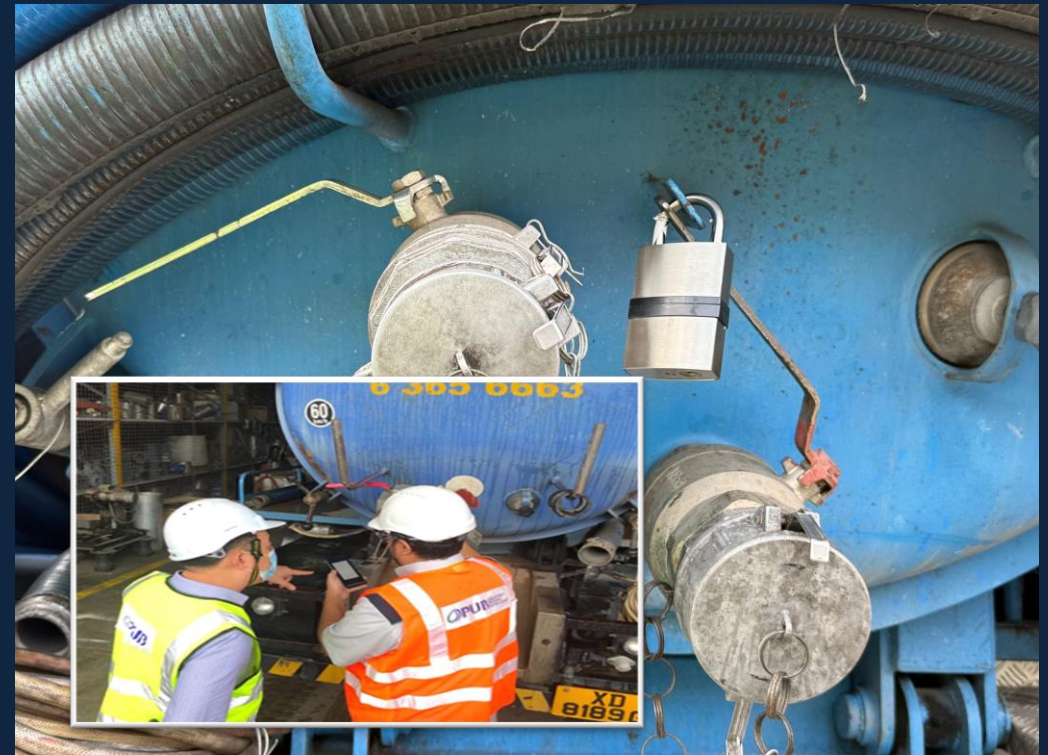
# How does the system work?

AFTER

Manual re-sealing using plastic seals  
Hardcopy disposal forms and manual tracking



Smart lock installed at both suction and discharge valves.  
Workflow to update on maintenance / collection work.  
System integrated with Visual Analytics (VA) for Grease Trap cleaning



# Timeline for Smart lock implementation Deployment

## Before Nov 2025

Modification of existing disposal valve and installation of suction valve fixture for SmartLock

## Nov 2025

Dialogue Session with General Waste (Class C) Collectors

## Mid Dec 2025

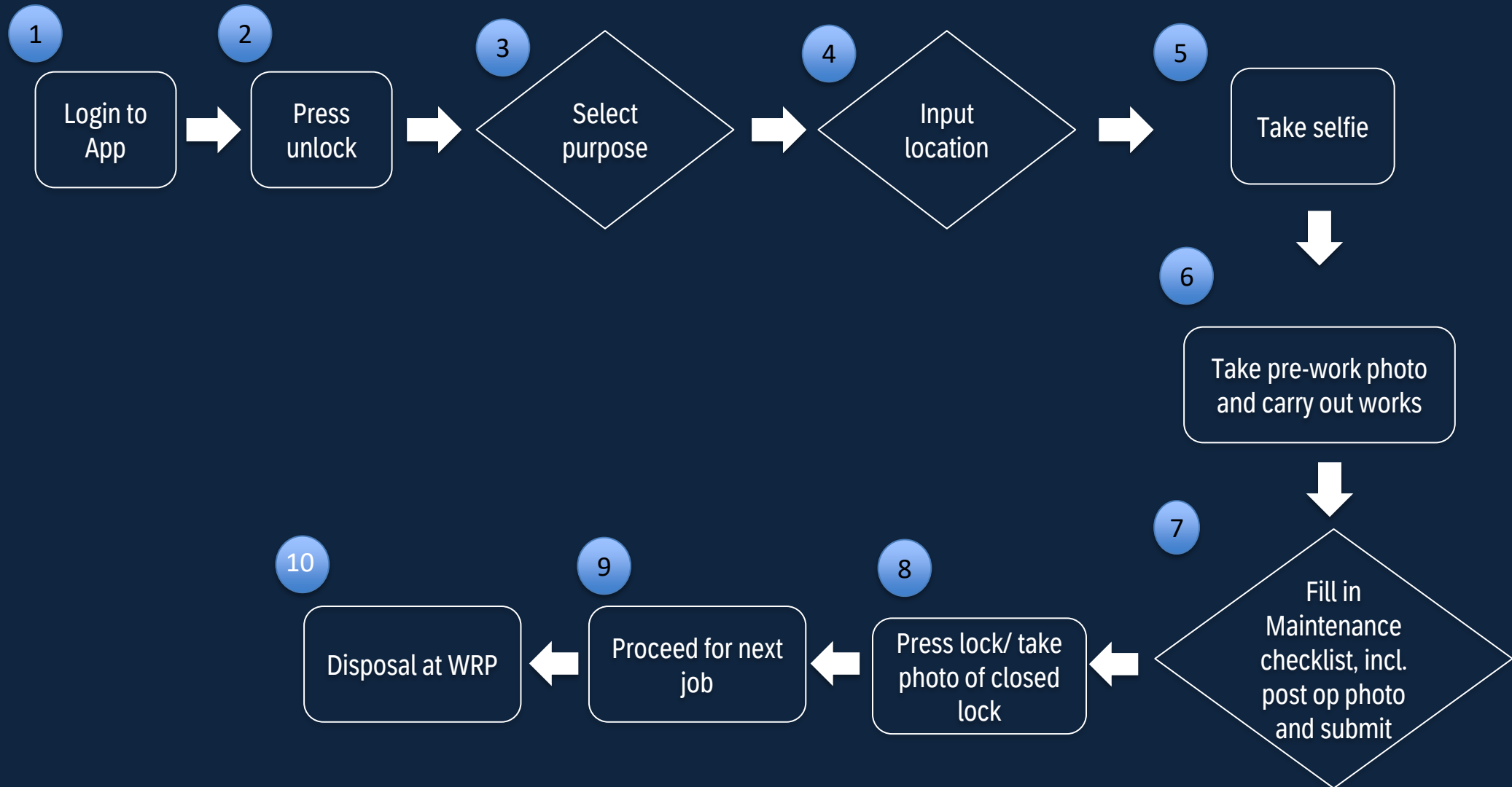
Training and Installation of Smart locks for Greasy Waste Tankers  
Commencement of Smart lock system for Greasy Waste tankers

## February 2026 – April 2026

Deployment of Smart Locks for Human Waste Tankers

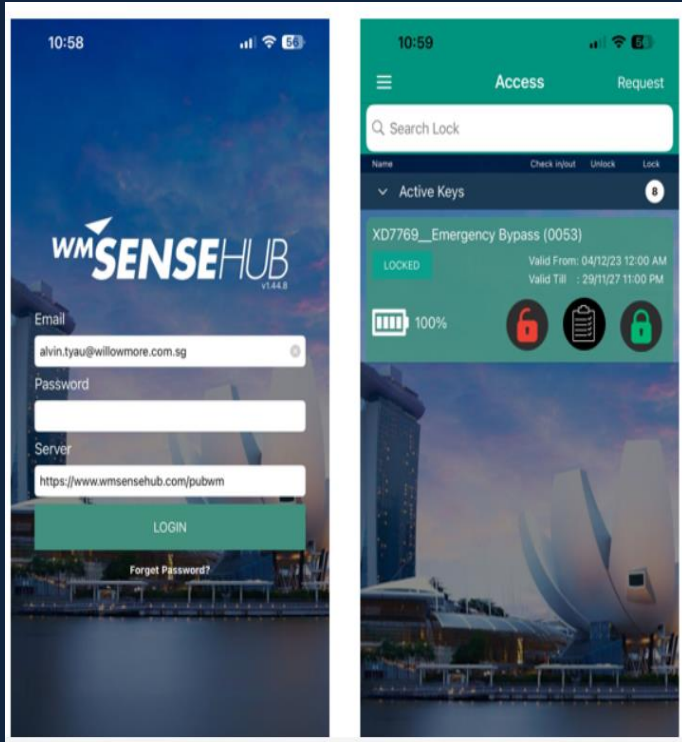
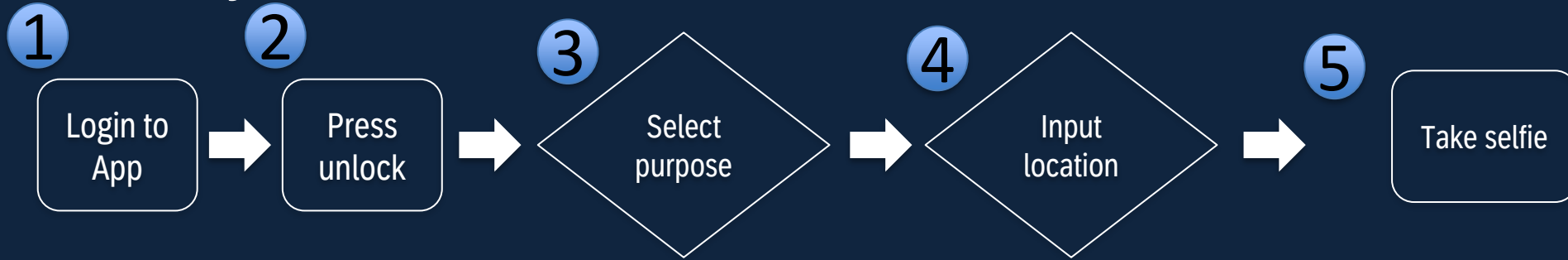
# How does the system work?

## Overview of Greasy Waste workflow



# How does the system work?

## Overview of Greasy Waste workflow for routine work

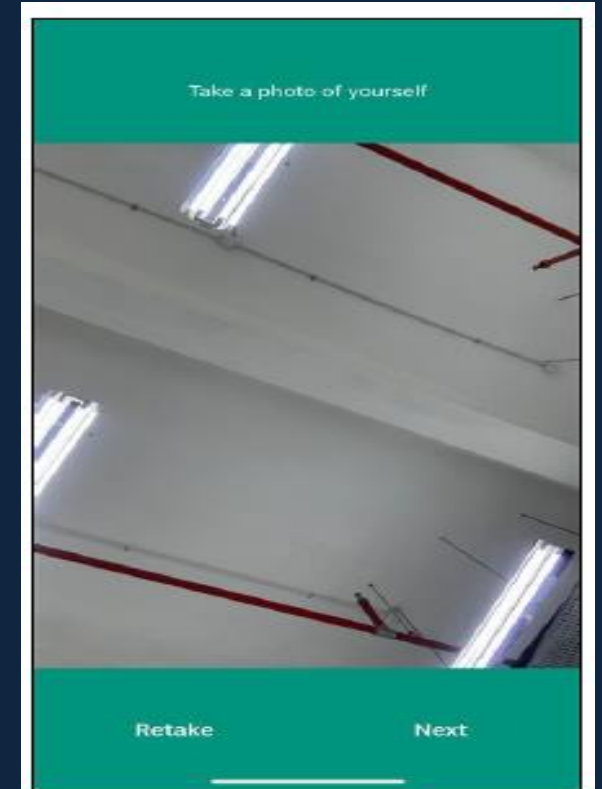
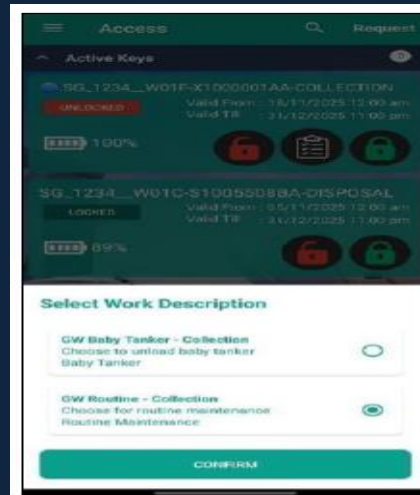


### Greasy Waste:

- Routine
- Baby Tanker Ops
- Restricted Area

### Greasy Waste:

- QR code
- Dropdown
- Manual Input



# How does the system work?

## Overview of Greasy Waste workflow for routine work



6

Take pre-work photo and carry out works



7

Fill in Maintenance checklist, incl. post op photo and submit

Questionnaire

Maintenance Type \*

- Grease Interceptor
- Grease Trap

Is Strainer Bucket in good condition? \*

Write your answer here...

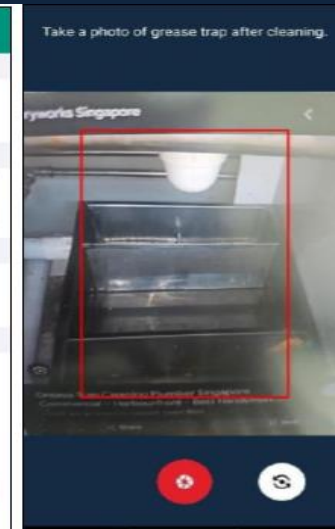
Has contents in grease trap been removed? \*

- YES
- NO

Is Grease Trap in good structural Condition? \*

- YES
- NO

Next



Signature of the GWC representative

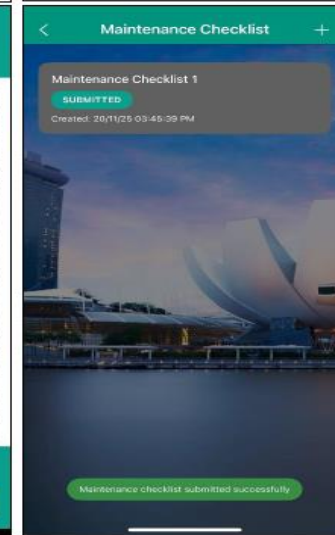
Sign in the area above

CLEAR SUBMIT

Signature of Eating Establishment representative

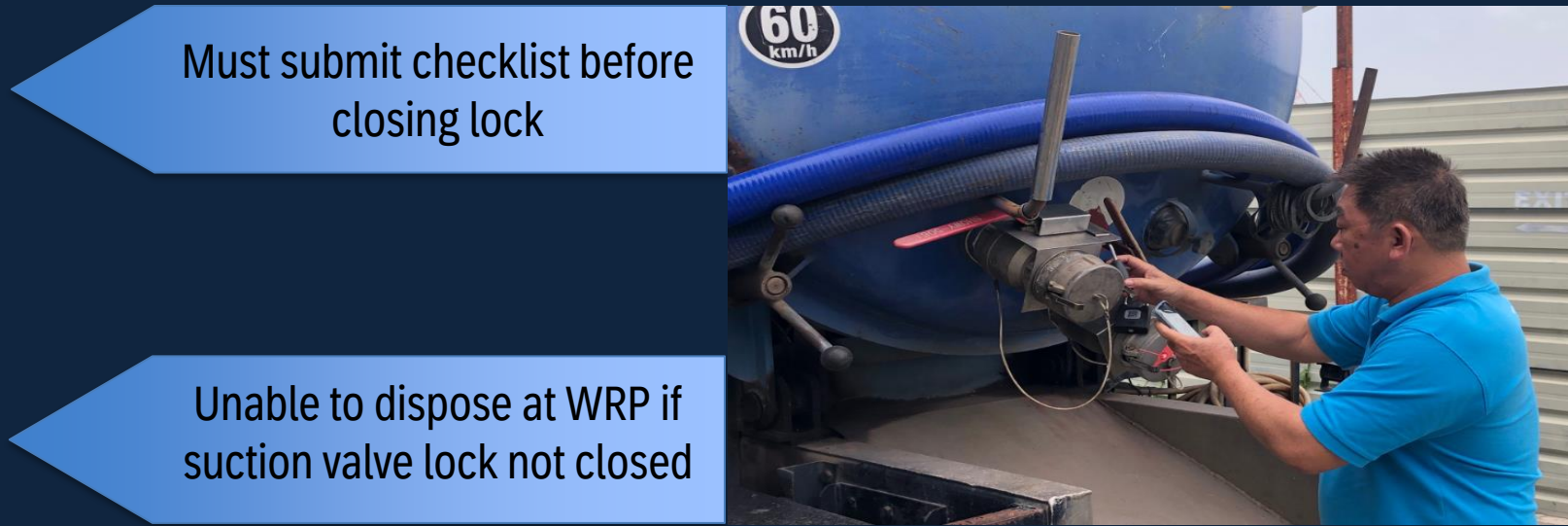
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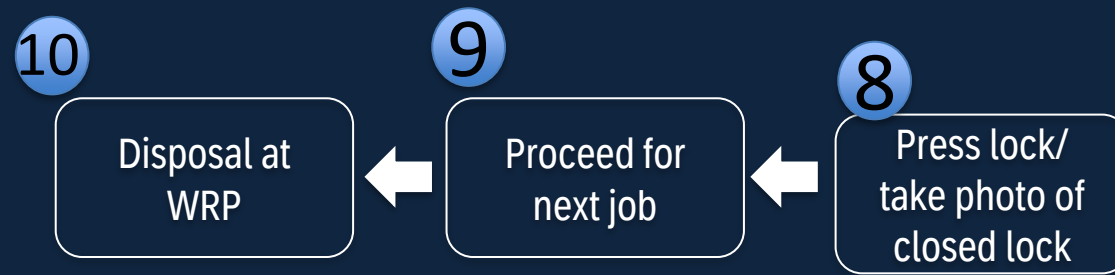
# How does the system work?

## Overview of Greasy Waste workflow for routine work



### Steps to Dispose:

- Unlock disposal valve lock (geo-fenced)
- Carry out disposal work
- Close lock before leaving




# Summary

- Mid- Dec 2025 onwards : 1<sup>st</sup> roll-out for Greasy Waste tankers
- Feb 2026- Apr 2026: Phased roll-out for Human Waste tankers  
(reminder to complete the necessary modifications and installation as soon as possible)
- Training will be provided for on-site and admin staff
- Helpline numbers to provide both remote and/or on-site assistance

***Thank you***

***Any qn pls email to:***

***[PUB\\_GWC@pub.gov.sg](mailto:PUB_GWC@pub.gov.sg)***



**MAKE  
EVERY  
DROP  
COUNT**