



SEWER CCTV GUIDEBOOK

Incorporating Guidelines for Sewer CCTV Submission
Addendum No. 5: Oct 2023

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INTRODUCTION

Sewerage systems are essential to maintain a high standard of public health. In Singapore, it is also an important part of the “Water loop” to reclaim our precious water resources. To keep the sewerage system functioning well, it is important to ensure that sewers are in good condition and pipe deterioration and damages are identified early and rectified. This is done primarily through CCTV assessment of sewer condition.

This Sewer CCTV Guidebook is intended as a guide on registration with PUB for CCTV contractors and the standard procedures of CCTV creation and submission.

This edition incorporate changes over the years to address new technical challenges and emerging issues facing the industry. It incorporates guidelines on a new online submission system developed based on feedback from the industry. The new system will manage the whole life cycle of sewer CCTV from recording to submission, processing and finally archival in a shared “cloud” database. This has done away with costly production of DVDs and hardcopy submissions by contractors and will result in much efficiency gains, improved operations and planning and cost savings to both contractors in the sewer CCTV industry and PUB.

Registered CCTV Contractors

1. Background

PUB began registration for sewer pipelines' CCTV contractors from June 2012 and from 1 Jan 2013, only registered contractors were permitted to conduct CCTV inspection works. Members of the public have been informed to use only registered CCTV contractors as reports submitted by unregistered contractors to PUB will be rejected. This effort aims to ensure the safety of CCTV inspection in sewers, improve the standard of sewer assessment/reporting and prevent malpractices.

2. Role of Registered CCTV Contractor

Registered CCTV contractors shall fulfil the following roles:

- a. To have sufficient qualified and competent site staffs to carry out sewer CCTV operation and report condition of sewers correctly and accurately;
- b. To have CCTV equipment that able to produce CCTV that meets the submission requirements; and
- c. To submit the CCTV to PUB on behalf of its client's and inform/advise its clients on the condition of the sewers.

3. Primary Responsibility

Registered CCTV contractors shall:

- a. maintain an impartial and professional responsibility to reflect the true condition of the sewer assessed. Any falsification of CCTV records and/or collusion with any party to not reflect the true condition in the sewer assessment or use fabricated CCTV records will result in action to terminate the registration of the contractor;
- b. ensure the safety of his workers at all times when working in the sewer environment by abiding with all conditions of entry into confined spaces of the sewerage system and all governing Bizsafe requirements; and
- c. safeguard the sewerage system and maintain the flow and operation of the sewers at all time while carrying out CCTV operations. It is an offence for any person to carry out works in the public sewerage system without PUB's approval.

4. Registration and Validity

Any CCTV contractor who wishes to register with PUB must meet the requirements on BizSafe Certification and have competent staff as set out in part 5 and 6 respectively. The Registration form and list of documents required are shown in in [Annex A](#). Successful applicants will be listed on PUB's website at www.pub.gov.sg. The registration is valid for three years and will lapse automatically unless renewed. Registration renewal shall be made one month before the expiry of the validity period.

5. BizSafe Certification

All applicant/contractor company must possess at least BizSafe Level 3 Certification awarded by Workplace Safety and Health Council (WSHC) or equivalent. Please note that lapse in validity of

BizSafe certification will delist the company from registration list.

6. Competency/Proficiency

The applicant shall provide details of qualified staff both for the sewer condition assessment by CCTV and site supervisors to carry out the works in the sewers. Please note that staff whose name is submitted for registration must be employed full-time and cannot be employed by another company even if the companies are related (e.g. subsidiary, holding company). All applicants/contractors must employ one or more competent staff who possess the following certifications:

- a. Certificate of Proficiency in Sewer & Manhole Cleaning; and
- b. Either one of the following:
 - Certificate of Competency in Water Research Company, plc UK (WRc) Sewer Pipeline Assessment and Certification Course;
 - Certificate of Proficiency in Sewer Pipeline Assessment Certification Programme conducted by SgSTT for both Part 1 on CCTV Inspection of sewer and Part 2 on Interpretation of CCTV videos and preparation of Reports;
 - Workforce Skills Qualifications (WSQ) on Certified Used Water Collection Technician

7. Deregistration and Suspension of Registration

PUB may de-register or suspend the registered contractor for a period of up to 12 months if the contractor fails to meet the requirements set out under the Terms of Registration, or if the contractor commit any of the following:

- a. contravenes any Safety Acts and the Sewerage & Drainage Acts and regulations while carrying out the CCTV inspection works;
- b. fails to submit Form B (Application to Work in Public Sewerage System) before entering public sewerage system;
- c. submits inaccurate/false CCTV inspection reports to PUB.

PUB may publish the names of the de-registered/suspended contractors in the PUB website. The contractor will only be allowed to re-register with PUB after the suspension is lifted.

8. Updating PUB

Registered contractors are required to advise PUB immediately of any changes in its management status, address (mailing and email addresses) or any other pertinent change of particulars in writing and accompanied by copies of supporting documents.

The following officers will help provide clarification on registration matters:

- Mr. Qin Yihuai (QIN_Yihuai@pub.gov.sg) or
- Mr. Wong Kin Wee (Wong_kin_wee@pub.gov.sg)

9. Registered CCTV Contractors List

The current list of PUB registered CCTV contractors can be seen in PUB website:
<https://www.pub.gov.sg/usedwater/registrationofcctvcontractor>

Online Sewer CCTV Submission System

From 1 Oct 2017, all PUB registered CCTV contractors will be required to submit their CCTV videos and reports using the new online sewer CCTV Management System at the website at <https://www.sewercctv.pub.gov.sg/login>.

What the new online system means to you:

1. Cost savings

With online submission, there is no need to print your Sewer Assessment Reports or create DVDs of the CCTV or mail them to PUB. All these will be created and submit online at no additional cost to your initial creation of the CCTV record in your CCTV recording system.

2. Convenience

You will be able to make online CCTV video and report submissions any time and from any remote site location with internet access, as and when the CCTV record and condition is assessed or at your own convenience in your office subsequently.

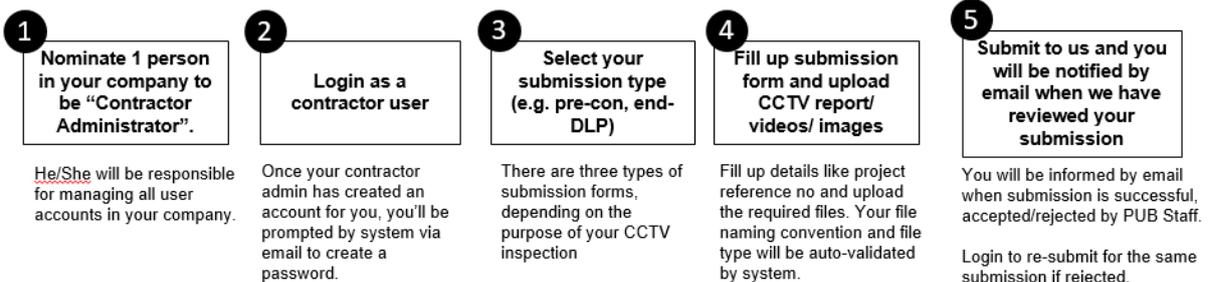
3. Faster Response

Your submitted files will be auto-validated by the system. The system will tell you what is lacking if it fails the validation test. PUB having the same online access can start to process your submission once it is validated.

4. Improved experience

With the online management system, you can view all CCTV submissions made by you and receive notifications, as soon as your submission has been reviewed by our staff. You will be able to view our comments, as well as made re-submissions for the rejected sections only.

How to start using the online CCTV submission system?



A step-by-step document has been prepared, to facilitate you in using the website. You may refer to the details of each section in the Annex G.

Sewer/Manhole CCTV Inspection Requirements

General Requirements

- 1) In the CCTV report, descriptions of defects and abnormalities in the manholes and sewers shall be described fully. Defects' classification shall be presented in accordance with the WRc/WAA "Manual of Sewer Condition Classification" 5th Edition or the latest edition. Guidance notes on WRc defect classification is provided in [Annex B](#). Please refer www.wrcplc.co.uk for the complete WRc/WAA manual.
- 2) All CCTV inspection reports shall be prepared by the competent person registered as the staff of the registered contractor. The CCTV reports shall follow the requirements listed below.
- 3) CCTV contractor shall liaise with the QP on a suitable date for CCTV survey of the drain-line connection and/or sewer so that there are no further activities may impact the sewer/drain-line after the post-CCTV survey is carried out.

Note: CCTV report/submissions that do not comply with the requirements will be rejected.

Preparation before CCTV Inspection

- 4) CCTV contractor shall submit Form B to PUB to obtain the permission before entering any public sewer to carry out any works. Failure to obtain permission from PUB is a violation of the Sewerage and Drainage Act. Offenders are liable for enforcement actions. Form B is an online form accessible at PUB Website

(<https://bpu.pub.gov.sg/Forms/EForms/Instruction?form=FormB>)

- 5) For the purpose of conducting pre/post-con CCTV, CCTV contractors to provide *details*¹ for QP/contractor to consult PUB via POWS system (<https://bpu.pub.gov.sg/pows>) before approaching third-party premise owner. PUB may assist to issue letter of request if necessary. PUB may also direct the CCTV contractor to carry out survey from an alternative manhole.

1 = Under specified activities, select "Others". To include the Date & Time to access, Manhole ID, Unit Number, Number of hours required to perform CCTV, CCTV contractor's company name, CCTV contractor's liaison officer's name and number.

- 6) Pipelines/manholes/inspection chambers shall be hydraulically cleaned before inspection. This is to enable existing defects to be clearly recorded on video. CCTV contractor shall re-clean and re-inspect the sewer or manhole if the recorded view is obstructed or not clear.
- 7) All cleaning of public sewer shall be carried out by qualified operators certified in Sewer and Manhole Cleaning for Operator and Supervisor course (by SgSTT) or Operate a High Pressure Water Jetting System to Clean Pipelines and Appurtenances (WSQ). If sewer inspection cannot

be carried out due to surcharge flow condition even after flushing/hydraulic cleaning, report the sewer to PUB WRN Ops Centre at 67313294 together with findings (Location, SID of sewes, MHID of upstream and downstream manholes, date/time of findings) and evidence on the attempts of flushing/hydraulic cleaning.

- 8) As many of the sewer and drain-lines were constructed many decades ago before infrastructure mapping was established, when CCTV contractors found any anomalies to the sewer/drain-line alignments or there is no lead to how the drain-line or sewer may be connected, they shall work with the QP to verify the correct alignment and may use supporting methods such as soap/dye test to trace the point of connection. CCTV contractor shall notify PUB if any anomalies found to the drain-line/sewer alignments.

CCTV Recording

- 9) All CCTV recording shall be carried out using full feature pan, tilt, and zoom (PTZ) camera. The camera unit should be mounted on skids, tractor or equivalent suitable sized transporter for the pipe to be televised such that the camera unit lens position is in a stable condition and above the liquid flow line near the central axis of the pipe. For sewers larger than 450mm diameter, the zoom feature shall be used to allow clear interpretation of all defects and its severity. 'Push Rod' cameras may be used only in special cases and only when approved by PUB.
- 10) CCTV recording shall be done from manhole-to-manhole. Each CCTV recording shall be on a separate video file. In the case of single landed housing development, pre-construction CCTV to the public sewer is not required, only post-construction CCTV of the public sewer is required. The CCTV footage may commence from the entering manhole and end at the project boundary. To locate the defect position correctly, the meter reading of the recording shall be set to zero when the CCTV camera is at the invert level of the starting manhole.
- 11) CCTV recording and inspection should be conducted in the direction of sewer flow. If necessary to inspect the sewer against the flow, the reason for doing so shall be reported. CCTV recording should preferably be done when water level in the sewer is less than 30% of full bore and the camera is kept above water near the central axis of the sewer.
- 12) The travel speed of the CCTV unit in the sewer/manhole shall be limited to **0.20 m/s** during recording to enable details to be clearly recorded. The CCTV recording shall be free of background noise and artifacts. Digital video recording shall be at the same speed that it was recorded.
- 13) When inspecting sewers, the sewer condition assessment shall follow the WRc Defect classification and condition codes. Photographic evidence of each defect must be taken and included in the CCTV Inspection Report with its location indicated.
- 14) When inspecting a manhole, operator shall pay attention to the following structural defects:
 - (i) Damaged manhole frames and/or covers (including rocking manholes)
 - (ii) Signs of inflow/infiltration/exfiltration from the manhole walls
 - (iii) Damaged to intermediate platform and benching

Information on CCTV Record

- 15) In the Sewerage Information Plan (SIP), each manhole and sewer are given a unique identification number (ID). These IDs must be included in all CCTV inspection reports, photographs and videos.
- 16) The main title of survey in the video summary page to indicate US or DS direction if CCTV survey is done in both directions. This is to tally with the survey direction in CCTV video screenshots.
- 17) The following information shall be captured on site and displayed at the start of the CCTV recording for a minimum of 15 seconds. All text displayed in the video shall not block the main visual and shall not be in coloured text boxes. This data should not be inserted or tempered with in post-production editing.
 - Project Reference Number/Contract Number/Works Order Number:
 - Type of Survey: Pre-Con / Post-Con / Before Defect Liability Period (DLP) / End DLP / Post Repair
 - Sewer ID
 - Upstream and downstream manhole IDs
 - Sewer pipe diameter
 - Sewer pipe material
 - Direction of unit travel
 - Road name/location
 - Date and time of survey
 - CCTV company name
 - Upstream and downstream (or “from” and “to”) manhole ID of inspected pipe segment
 - Automatic update of the unit's chainage position in the pipeline from adjusted zero
- 18) The following information shall be displayed for the CCTV footage after the header.
 - Project Reference Number/ Contract Number/Works Order Number:
 - Type of Survey: Pre-Con / Post-Con / Before DLP / End DLP / Post Repair
 - Sewer ID
 - Upstream and downstream manhole IDs
 - Sewer pipe diameter
 - Sewer pipe material
 - Direction of unit travel
 - Road name/location
 - Date and time of survey
 - Upstream and downstream (or “from” and “to”) manhole ID of inspected pipe segment
 - Running footage (distance travelled in meter)
- 19) The following information shall be displayed for the CCTV ending footage for at least 15 seconds:
 - Project Reference Number/ Contract Number/Works Order Number:
 - Type of Survey: Pre-Con / Post-Con / Before DLP / End DLP / Post Repair
 - Sewer ID

- Upstream and downstream manhole IDs
- Sewer pipe diameter
- Sewer pipe material
- Direction of unit travel
- Road name/location
- Date and time of survey
- Upstream and downstream (or “from” and “to”) manhole ID of inspected pipe segment
- Ending footage

Submission Format

- 20) All documents (PDF reports, video and image files) should be submitted via online sewer CCTV Management System <https://www.sewercctv.pub.gov.sg/login>.
- 21) Submission format of video and image should only be in MP4 with the codec listed in MPEG-4 Part 10 with minimum resolution of 640 × 480 and in JPEG/GIF/PNG or BMP formats. Maximum submission size (including all videos and reports) shall not be more than 3GB. Please noted that **MP4V and XVID codec** are not supported by PUB’s system and should not be used.
- 22) For each manhole inspected,
- a) there should be 2 image files of the manhole. One showing far view of the manhole location and the other showing the channels inside the manhole. The naming of the image files should be:
- *Manhole ID-survey date (mmddy)* for far view of the manhole image. For example: 244988-042415
 - *Manhole ID-survey date (mmddy)-Benching* for channel image inside the manhole. For example: 244988-042415-Benching
- b) CCTV recordings and report to clearly show circumferential condition of all incoming and outgoing pipes.
- 23) For each sewer inspected, there should be an image file showing the pipe face of the sewer (ie. at 0m). The naming of the image file should be *sewer ID-survey date (mmddy)-S*. For example: 123456-123117-S
- 24) The naming convention for the CCTV survey inspection report and video are shown below:
- (i) Sewer CCTV survey video and pdf report (File name: **Sewer ID-mmddy-Pre Con / Post Con / Post Repair / Before DLP / End DLP*-US***).
Example: 123456-123117-Post Con-US/DS

Naming Convention	Description
Sewer ID	Sewer ID being inspected
Mmddy	Survey date
Pre-Con/Post-Con/Post-Repair/Before DLP/End DLP*	*Select the type of survey
US/DS	Survey Direction if both US and DS direction is surveyed

- (ii) Manhole CCTV survey video and pdf report (File name: **Manhole ID-mmddy-Pre Con / Post Con / Post Repair/ Before DLP / End DLP***).

Example: 123456-123117-Post Con

Naming Convention	Description
Manhole ID	Manhole ID being inspected
Mmddy	Survey date
Pre-Con/Post-Con/Post-Repair/Before DLP/End DLP*	*Select the type of survey

- (iii) For CCTV video from the last IC to the public sewer (if Y-junction) or manhole ID, the video and the pdf report file name should be *last IC to sewer/manhole ID-mmddy-Pre con/Post Con/Post Repair**. For example: last IC to 244999-020124-pre con. If there is more than 1 Last ICs, please indicate as Last IC #1 and #2.

Naming Convention	Description
Last IC to sewer/manhole ID	Last IC being inspected
Mmddy	Survey date
Pre-Con^/Post-Con/Post-Repair	*Select the type of survey
<i>^From 1 Jan 2024, developments that proposed to reuse existing drain-line connection located in neighbouring premises and other circumstances PUB may require will be required to submit pre-construction survey. Please refer to PUB's circular dated 1 Dec 2023.</i>	

25) The naming convention for the image files in the CCTV survey inspection report as follows:

- (i) For sewer report 1st image file name: SewerID-MMDDYY-S1, 2nd file name: SewerID-MMDDYY-S1, 3rd file name: SewerID-MMDDYY-S2, ...
- (ii) For manhole report 1st image file name: ManholeID-MMDDYY-M1, 2nd file name: ManholeID-MMDDYY-M1, 3rd file name: ManholeID-MMDDYY-M2, ...
- (iii) For inspection chamber report 1st image file name: LastIC-MMDDYY-1, 2nd image file name: LastIC-MMDDYY-2, 3rd file name: LastIC-MMDDYY-3, ...
- (iv) For drainline report 1st image file name: LastIC to SewerID/ManholeID-MMDDYY-1, 2nd file name: LastIC to SewerID/ManholeID-MMDDYY-2, 3rd file name: LastIC to SewerID/ManholeID-MMDDYY-3, ...

26) Any errors in recording, CCTV imagery, unclear video footage and/or error in interpretation of the sewer(s) and/or manhole(s) defect, **will be rejected**.

Reports for Submission

27) Registered CCTV contractor shall ensure that reports to be uploaded are in colour. The minimum size of the video screenshots shall be **100mm × 75mm**.

- 28) Video screenshots shall be produced in the following circumstances:
- (i) All suspected defects and abnormalities which may include:
 - sewer pipes fractures, broken, collapse, deformation, displaced, sunken, infiltration, pipes with sever joint displacement and abnormalities,
 - sewer liners suffering from peeling, deformation, bulging, broken, collapse, obstruction etc.,
 - lateral openings where there is accumulation of debris at particular localized spots etc. that the CCTV specialist comes across during the CCTV assessment.,
 - bends/kinks/drops found in the drain-line connection or sewer.
 - (ii) Where a defect is continuous or repeated, the screenshots shall be taken at the beginning of the defect and at not less than **5m** intervals thereafter.
 - (iii) For a generally good condition sewer (i.e. no evidence of defects or abnormalities etc.), video screenshots shall be taken for every **15m** interval of the sewer.
- 29) To describe degree of mortar loss, size of a crack or fracture, size of a void or any other quantifiable defect, you may refer to [Annex B](#) as a guide.
- 30) Where a video screenshot is taken to illustrate a specific defect, it shall occupy the central part of the screen and be in focus. CCTV contractors shall ensure that all submissions of all videos and photographs are of good clarity.
- 31) Registered CCTV contractor shall ensure all pages in the reports shall be clearly identified and systematically annotated (typed) in relation to the following:
- (i) Sewer and manhole IDs
 - (ii) Date & Time of the inspection
 - (iii) Chainage defect
 - (iv) Type of defect
 - (v) Defect code
- 32) You may refer to the attached sample report in [Annex C and D](#).
- 33) Where CCTV reports are prepared for pre or post construction survey of a development work, registered CCTV contractor should include photos (with date stamp) of the sewer alignment and manholes affected the development site and the surrounding development site including project sign board (Please see [Annex E](#) for sample report.)

**Annex A - Registration Form and Terms of Registration for
CCTV Contractors**

Registration Form for CCTV Contractors

Instructions

Please complete the registration form and submit to:

WATER RECLAMATION (NETWORK) DEPARTMENT
 OPERATION AND MAINTENANCE DIVISION
 NETWORK MANAGEMENT BRANCH
 82 TOH GUAN ROAD EAST, #C3-08
 SINGAPORE 608575
 TEL: 6517 2215 / 6517 2221

Declaration

I, _____ (Company Representative)
 _____ (NRIC/Passport No.) of _____ (Company Name)

declare that the particulars stated in this registration form and the attachments are true and correct to the best of my knowledge and belief, and that I have not wilfully suppressed any material facts.

I confirm that I have read and understood PUB Terms of Registration before completing this Registration Form.

Signature of Company Representative and Company Stamp	Designation	Date

Section A: Company Information (Attach bizSafe Level 3 Certificate or higher)

Name of Company			
Business Address		Postal Code	
Office No		Fax No	
ACRA Reg No		Email Address	
BizSafe Expiry Date (dd/mm/yyyy)			

*delete accordingly

Section B: Competent Personnel

(Attach photocopy of IC/Passport, Academic and Competency Certificates)

Personnel No 1

Full Name (As of NRIC/Passport)					
NRIC/Passport No.		Designation		Contact No	

Education History

S/N	Institution	Period (year)				Qualification attained
1		From		to		
2		From		to		
3		From		to		
4		From		to		
5		From		to		

CCTV Work-related Experience

S/N	Company Name	Period				Designation
1			year		month	
2			year		month	
3			year		month	
4			year		month	
5			year		month	

Certificates of Competency/Proficiency (Tick accordingly EITHER option 1 OR 2 AND option 3)

S/N	Name of Certificate	Tick
1a	CCTV Inspection of Sewer (SgSTT)	
1b	Interpretation of CCTV videos and Preparation of Reports (SgSTT)	
2	Certificate of Competency in WRc (VSEA Engineering Solutions Pte Ltd)	
3	Sewer and Manhole Cleaning (SgSTT)	

*delete accordingly

Personnel No 2

Full Name (As of NRIC/Passport)					
NRIC/Passport No.		Designation		Contact No	

Education History

S/N	Institution	Period (year)				Qualification attained
1		From		to		
2		From		to		
3		From		to		
4		From		to		
5		From		to		

CCTV Work-related Experience

S/N	Company Name	Period				Designation
1			year		month	
2			year		month	
3			year		month	
4			year		month	
5			year		month	

Certificates of Competency/Proficiency (Tick accordingly EITHER option 1 OR 2 AND option 3)

S/N	Name of Certificate	Tick
1a	CCTV Inspection of Sewer (SgSTT)	
1b	Interpretation of CCTV videos and Preparation of Reports (SgSTT)	
2	Certificate of Competency in WRc (VSEA Engineering Solutions Pte Ltd)	
3	Sewer and Manhole Cleaning (SgSTT)	

*delete accordingly

Section C: Equipment List

Provide specification of your equipment. You may submit more than one for each equipment.
(Attach catalogue of equipment)

I. CCTV Camera

CCTV Camera No: _____

a. Make / Model: _____

b. Camera manufactured date: _____ (dd/mm/yyyy)

c. Country of Origin: _____

d. Overall Dimension

Length (mm): _____ Width (mm): _____ Height (mm): _____

e. Explosion Proof / Intrinsically Safe: Yes / No* Certified by: _____

f. Optical Zoom: x _____

g. Camera resolution: NTSC (720 x 426 pixels) / PAL (720 x 576 pixels) / HD (1280 x 720 pixels)*

h. Illumination

i. No of lamps: _____

ii. Intensity: _____ lumen

i. Pan: Yes / No* Tilt: Yes / No*

Pan Range: \pm _____^o Tilt Range: \pm _____^o

j. Inclinator: Yes / No*

Accuracy: $\pm 0.01^o$ / $\pm 0.1^o$ / $\pm 1^o$ *

k. Capable to perform in pipeline of range from _____ mm to _____ mm

*delete accordingly

I. CCTV Camera

CCTV Camera No: _____

a. Make / Model: _____

b. Camera manufactured date: _____ (dd/mm/yyyy)

c. Country of Origin: _____

d. Overall Dimension

Length (mm): _____ Width (mm): _____ Height (mm): _____

e. Explosion Proof / Intrinsically Safe: Yes / No* Certified by: _____

f. Optical Zoom: x _____

g. Camera resolution: NTSC (720 x 426 pixels) / PAL (720 x 576 pixels) / HD (1280 x 720 pixels)*

h. Illumination

i. No of lamps: _____

ii. Intensity: _____ lumen

i. Pan: Yes / No* Tilt: Yes / No*

Pan Range: \pm _____^o Tilt Range: \pm _____^o

j. Inclinometer: Yes / No*

Accuracy: $\pm 0.01^{\circ}$ / $\pm 0.1^{\circ}$ / $\pm 1^{\circ}$ *

k. Capable to perform in pipeline of range from _____ mm to _____ mm

II. Sonar

Sonar No: _____

a. Make / Model: _____

b. Camera manufactured date: _____ (dd/mm/yyyy)

c. Country of Origin: _____

d. Overall Dimension

Length (mm): _____ Width (mm): _____ Height (mm): _____

e. Explosion Proof / Intrinsically Safe: _____ Certified by: _____

f. Capable to perform in pipeline of range from _____ mm to _____ mm

g. Operating frequencies (kHz): _____ to _____

h. Minimum detectable range (mm): _____

III. Crawler

Crawler No: _____

a. Make / Model: _____

b. Crawler manufactured date: _____ (dd/mm/yyyy)

c. Country of Origin: _____

d. Overall Dimension

Length (mm): _____ Width (mm): _____ Height (mm): _____

e. Explosion Proof / Intrinsically Safe: _____ Certified by: _____

IV. Accessories

a. Laser Profiler

Laser Profiler: Yes / No*

Make / Model: _____

Laser Point: 1 / 2 / 3*

b. Cable Reel

Make / Model: _____

Maximum length (m): _____

Annex B - WRc Defect Classification

WRc Defect Classification – Manual of Sewer Condition Classification (MSCC) 5th Edition

Grading of the internal condition of the pipe

Condition Grade	Description
1	<ul style="list-style-type: none"> • Structural Condition: Any cracking limited to surface cracks. Plastic pipe deformation < 5% of the diameter. • Service Condition: Unobstructed (no impedance to flow). <ul style="list-style-type: none"> ○ Structural Condition: No defects. ○ Service Condition: Clear.
2	<ul style="list-style-type: none"> • Structural Condition: Circumferential or longitudinal crack. Medium (estimated 1 to 1.5x pipe thickness) open or displaced joint. Slight wear or spalling. Plastic pipe deformation 5 to < 10% of the diameter. Evidence of previous repair. • Service Condition: Fine roots, ballast, silt or other deposits < 5% of CSA. Intruding lateral < 5% diameter. Sealing ring visible. Vermin present. Standing water < 20% CSA due to pipe deviation. <ul style="list-style-type: none"> ○ Structural Condition: Superficial defects. ○ Service Condition: Superficial deposits with no loss of capacity.
3	<ul style="list-style-type: none"> • Structural Condition: Multiple or spiral cracks. Circumferential or longitudinal fracture. Deformation < 5% (rigid) or 10 to < 20% (plastic) of the diameter. Large (estimated >1.5x pipe thickness) open or displaced joint. Medium wear or spalling (e.g. visible aggregate). Puncture on inside wall (twin wall). • Service Condition: Root mass < 20% CSA, or scale deposits < 20% CSA, or ballast, silt or other deposits 5 to < 20% CSA. Intruding lateral 5 to < 20% diameter. Sealing ring intruding. Seeping infiltration into non-porous or unperforated pipes. <ul style="list-style-type: none"> ○ Structural Condition: Minor defects. ○ Service Condition: Capacity slightly reduced.
4	<ul style="list-style-type: none"> • Structural Condition: Multiple or spiral fractures or broken. Deformation 5 to 10% (rigid) or 20 to 33% (plastic) of the diameter. Severe wear or spalling (e.g. missing aggregate). Split on inside wall (twin-wall). Defective repair < ¼ of radius. • Service Condition: Tap roots or root mass 20 to < 50% CSA. Scale deposits 20%+ CSA. Ballast, silt or other deposits 20 to < 75% diameter. Intruding lateral 20 to < 75% diameter. Sealing ring broken or hanging above centre. Dripping infiltration into non-porous or unperforated pipes. Standing water 20 to < 75% CSA due to pipe deviation. <ul style="list-style-type: none"> ○ Structural Condition: Major defects. ○ Service Condition: Capacity severely reduced.
5	<ul style="list-style-type: none"> • Structural Condition: Already collapsed or deformation > 10% (rigid) or > 33% (plastic) of the diameter. Extensive missing fabric. Split in inner and outer walls (twin-wall). Reinforcement defective. Defective connection. Open joint or hole with visible soil or void. Defective repair ¼+ of radius. • Service Condition: Root mass 50%+ CSA or other blockage/obstacle present. Ballast, silt or other deposits 75%+ CSA. Intruding lateral 75%+ diameter. Sealing ring hanging below centre. Steady infiltration into non-porous unperforated pipes. Standing water 75%+ CSA due to pipe deviation. Blocked perforations. <ul style="list-style-type: none"> ○ Structural Condition: Not fit for purpose or unsafe. ○ Service Condition: Blocked or unsafe condition.

For structural grading, the worst defect along the individual sewer length is used to give a single condition grade for that particular sewer length, i.e. the grade for the sewer length is based on the highest internal condition score along the sewer length.

For service grading, the pipe length is assigned one of five service condition grades according to either where the peak score or the mean score gives the highest grade.

Observation Codes

The MSCC observation codes are divided into four classes:

- Structural – codes that describe the physical condition of the pipe fabric.
- Service – codes that describe deficiencies in the hydraulic performance of the pipe.
- Construction – codes that illustrate the constructions assets of the sewer.
- Miscellaneous – other codes that do not fit into any of the 3 previous classes.

Only structural and service codes are scored, and not all are scored in each class.

Service codes are universal and can be used across all pipe material types. Some structural codes may only be used for brick/masonry conduits, and similarly for piped assets.

Any code containing a 'J' is deemed to be 'at a joint'. This indicates that the observation is at a joint by definition, or it is within 200mm either side of the joint. The 'J' modifier is optional on many codes.

Any code description containing the word 'other' requires a mandatory comment against the code entry.

Structural All	CC(J) Crack, circumferential CM(J) Cracks, multiple CR Cracks, radiating CS(J) Crack, spiral FL(J) Fracture, longitudinal FC(J) Fracture, circumferential FM(J) Fractures, multiple FR Fractures, radiating FS(J) Fracture, spiral CL(J) Crack, longitudinal SW Surface damage, increased roughness SS Surface damage, spalling SB Surface damage, internal blister or bulge SAV Surface damage, aggregate visible SAP Surface damage, aggregate projecting SRV Surface damage, reinforcement visible SRP Surface damage, reinforcement projecting SRC Surface damage, reinforcement corroded SCP Surface damage, corrosion products SZ Surface damage, other
Structural Pipe	B(J) Broken H(J) Hole D Deformed JD Joint displaced JDM Joint displaced, medium JDL Joint displaced, large OJ Open joint OJM Open joint, medium OJL Open joint, large XP Collapsed pipe

Structural Brick/Masonry	DB Displaced bricks MB Missing bricks MM Missing mortar MMS Missing mortar, slight MMM Missing mortar, medium MML Missing mortar, large DI Dropped invert DV Deformed, vertically DH Deformed, horizontally XB Collapsed brickwork/masonry
Service	RF(J) Roots, fine RT(J) Roots, tap RM(J) Roots, mass IS(J) Infiltration, seeping ID(J) Infiltration, dripping IR(J) Infiltration, running IG(R) Infiltration, gushing EX(J) Exfiltration DEE(J) Attached deposits, encrustation DEF(J) Attached deposits, fouling DEG(J) Attached deposits, grease DEZ(J) Attached deposits, other DES(J) Settled deposits, fine DER(J) Settled deposits, coarse DEC(J) Settled deposits, hard or compacted DEX(J) Settled deposits, other ING(J) Ingress of soil INGS(J) Ingress of sand INGP(J) Ingress of peat INGF(J) Ingress of fine material INGG(J) Ingress of gravel INGZ(J) Ingress of other material OBB Obstacles, brick or masonry in invert OBM Obstacles, pipe material in invert OBX Obstacles, other object in invert OBI Obstacles, protruding through wall OBC Obstacles, through connection or junction OBP Obstacles, external pipe or cable OBS Obstacles, built into structure OBZ Obstacles, other WL Water level WLC Water level, clear WLT Water level, turbid LL Line deviates, left LR Line deviates, right LU Line deviates, up LD Line deviates, down
Construction	JN Junction JNC Junction, closed LCxxx Lining change (add material code) MCxxx Material change (add material code)

PC	Pipe unit length change
SCxxx	Pipe shape change (add shape code)
SC	Size change
CN	Connection
CNC	Connection, closed
CX	Defective connection
CXI	Defective & intruding connection
CXP(I)	Defective connection, position incorrect
CXD(I)	Defective connection, damaged
CXB(I)	Defective connection, blocked
CXZ	Defective connection, other
JX	Defective junction
JXP	Defective junction, position incorrect
JXD	Defective junction, damaged
JXB	Defective junction, blocked
JXZ	Defective junction, other
SR	Sealing ring, intruding
SRB	Sealing ring, intruding & broken
SO	Other sealant, intruding
LXD	Lining defect, lining detached
LXC	Lining defect, discoloured
LXE	Lining defect, defective end
LXWL	Lining defect, longitudinal wrinkling
LXWC	Lining defect, circumferential wrinkling
LXWH	Lining defect, spiral wrinkling
LXWM	Lining defect, multiple wrinkling
LXB	Lining defect, blistering or bulge
LXZ	Lining defect, other
LXCX	Lining defect, at connection
LXEB	Lining defect, external bulge
LXES	Lining defect, end not sealed
LXF	Lining defect, separated film
LXH	Lining defect, hole in lining
LXR	Lining defect, resin missing
LXS	Lining defect, crack, split or weld failure
LXSC	Lining defect, circumferential crack, split or weld failure
LXSH	Lining defect, spiral crack, split or weld failure
LXSL	Lining defect, longitudinal crack, split or weld failure
LXSM	Lining defect, multiple cracks, splits or weld failures
LXSF	Lining defect, soft lining
LXSS	Lining defect, separated seam cover
RXM	Defective repair, part of wall missing
RXC	Defective repair, crack in material
RXH	Defective repair, hole in material
RXMR	Defective repair, missing mortar material
RXS	Defective repair, separation from host pipe
RXXM	Defective repair, excessive material condtruction
RXZ	Defective repair, other
WXL	Weld failure, longitudinal
WXC	Weld failure, circumferential
WXS	Weld failure, spiral
RPR	Point repair, pipe replaced
RPL	Point repair, localised lining

	RPI	Point repair, injected mortar
	RPS	Point repair, other injected sealing material
	RPH	Point repair, hole repaired
	RPC	Point repair, other repair to connection
	RPT	Point repair, localised lining of connection
	RPZ	Point repair, other
	PP	Porous pipe material
	SV	Soil visible beyond defect
	VV	Void visible beyond defect
	MH(F)	Start/finish manhole
	IC(F)	Start/finish inspection chamber
	RE(F)	Start/finish rodding eye
	LH(F)	Start/finish lamphole
	OF(F)	Start/finish outfall
	BN(F)	Start/finish buchan trap
	CP(F)	Start/finish catchpit
	GY(F)	Start/finish gully
	OS(F)	Start/finish oil separator
	SK(F)	Start/finish soakaway
	WR(F)	Start/finish winser trap
	BR(F)	Start/finish branch connection
	OC(F)	Start/finish other chamber or node
Miscellaneous	SA	Survey abandoned
	REM	General remark
	FW	Flow from incoming pipe
	FWC	Clear flow from incoming pipe
	FWCS	Wrong clear flow from incoming pipe
	FWT	Turbid flow from incoming pipe
	FWTF	Wrong turbid flow from incoming pipe
	OD	Hazardous atmosphere, oxygen deficiency
	HS	Hazardous atmosphere, hydrogen sulphide
	ME	Hazardous atmosphere, methane
	GZ	Hazardous atmosphere, other
	CUW	Loss of vision, camera under water
	CUD	Loss of vision, due to silt
	CUS	Loss of vision, due to steam
	CUZ	Loss of vision, due other reason

Annex C - Sample CCTV Sewer Inspection Report

Note: PUB has obtained agreement from Pipe Rehabilitation Pte Ltd to use their report as sample report. There is no intention of marketing or publicity purposes

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Pipe Rehabilitation Pte Ltd
Blk 3014 Ubi Road 1
#01-292
Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Sewer CCTV Inspection Report / Inspection: Sewer ID: 150255

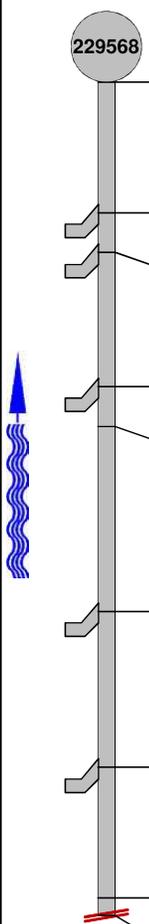
Survey Date : 05/15/15	Type of Survey: Post-construction	Year Comissioned:	Sewer GIS-ID : 150255	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 13:57:00	Weather: Dry	Camera : IBAK Orion-L	Full Segment CCTV : Yes	Cleaned : Yes	WRC Certified : FONG FATT CHEE

Road : Tembeling Road	Project Ref. No: A1595-00170-2013	US MH GIS-ID : 229575
Place : Joo Chiat		DS MH GIS-ID : 229568
Location Details: Unit 161		SIP Length : 27.03 m
Location Code: Private Property		CCTV Length : 23.00 m

Grease Found (N/M/H) : Nil	Purpose : To assess sewer condition
Direction of Survey : Upstream	Pipe Size (mm): 152 mm
Water Level (US) : 25%	Pipe Material : Vitrified Clay
Water Level (DS) : 30%	Lining : CIPP

Comment : **CCTV inspection found stone and cement debris in the sewer. Survey abandoned due to camera could not pass through cement debris.**

1:195	Position	Code	Observation	Video	Photo	Grade			
	0.00	ST	Start of survey, upstream direction	00:00:01	150255-05151-S.jpg	0			
	3.60	CN	Connection, at 2 o'clock, 150mm diameter	00:01:25	150255-05151-S1.jpg	0			
	4.70	CN	Connection, at 2 o'clock, 150mm diameter	00:01:50	150255-05151-S2.jpg	0			
	8.40	CN	Connection, at 2 o'clock, 150mm diameter	00:03:06	150255-05151-S3.jpg	0			
	9.50	DES	Debris, Stone, 20% cross-sectional area loss	00:03:31	150255-05151-S4.jpg	1			
	14.60	CN	Connection, at 2 o'clock, 150mm diameter	00:04:46	150255-05151-S5.jpg	0			
	18.90	CN	Connection, at 2 o'clock, 150mm diameter	00:06:01	150255-05151-S6.jpg	0			
	22.50	DEC	Debris, Cement, 20% cross-sectional area loss	00:08:17	150255-05151-S7.jpg	1			
	23.00	SA	Survey abandoned, camera could not pass through cement debris	00:08:47	150255-05151-S8.jpg	0			
STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	2	5	0.36	10	4



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Blk 3014 Ubi Road 1
#01-292
Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Inspection pictures / Inspection: Sewer ID: 150255

Place : Joo Chiat	Road : Tembeling Road	Date : 05/15/15	Camera : IBAK Orion-L	Operator : FONG FATT CHEE
-----------------------------	---------------------------------	---------------------------	---------------------------------	-------------------------------------



Photo: 150255-051515-S.jpg, 00:00:01 0m,
Start of survey, upstream direction



Photo: 150255-051515-S1.JPG, 00:01:25
3.6m, Connection, at 2 o'clock, 150mm diameter

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Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Inspection pictures / Inspection: Sewer ID: 150255

Place : Joo Chiat	Road : Tembeling Road	Date : 05/15/15	Camera : IBAK Orion-L	Operator : FONG FATT CHEE
-----------------------------	---------------------------------	---------------------------	---------------------------------	-------------------------------------



Photo: 150255-051515-S2.JPG, 00:01:50
4.7m, Connection, at 2 o'clock, 150mm diameter



Photo: 150255-051515-S3.JPG, 00:03:06
8.4m, Connection, at 2 o'clock, 150mm diameter

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Email: fattchee@gmail.com

Inspection pictures / Inspection: Sewer ID: 150255

Place : Joo Chiat	Road : Tembeling Road	Date : 05/15/15	Camera : IBAK Orion-L	Operator : FONG FATT CHEE
-----------------------------	---------------------------------	---------------------------	---------------------------------	-------------------------------------



Photo: 150255-051515-S4.JPG, 00:03:31
9.5m, Debris, Stone, 20% cross-sectional area loss



Photo: 150255-051515-S5.JPG, 00:04:46
14.6m, Connection, at 2 o'clock, 150mm diameter

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Inspection pictures / Inspection: Sewer ID: 150255

Place : Joo Chiat	Road : Tembeling Road	Date : 05/15/15	Camera : IBAK Orion-L	Operator : FONG FATT CHEE
-----------------------------	---------------------------------	---------------------------	---------------------------------	-------------------------------------



Photo: 150255-051515-S6.JPG, 00:06:01
18.9m, Connection, at 2 o'clock, 150mm diameter



Photo: 150255-051515-S7.JPG, 00:08:17
22.5m, Debris, Cement, 20% cross-sectional area loss

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Inspection pictures / Inspection: Sewer ID: 150255

Place : Joo Chiat	Road : Tembeling Road	Date : 05/15/15	Camera : IBAK Orion-L	Operator : FONG FATT CHEE
-----------------------------	---------------------------------	---------------------------	---------------------------------	-------------------------------------



Photo: 150255-051515-S8.JPG, 00:08:47
23m, Survey abandoned, camera could not pass through cement debris

Annex D - Sample CCTV Manhole Inspection Report

Note: PUB has obtained agreement from Pipe Rehabilitation Pte Ltd to use their report as sample report. There is no intention of marketing or publicity purposes

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Blk 3014 Ubi Road 1
#01-292
Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Manhole Report / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes

Place : MacPherson	Chamber Size : 800 x 950	Cover Size : 600 x 600
Road : Mulberry Ave	Material: Concrete	Material : Cast Iron
Location Details: Unit 58	Shape : Rectangular	Shape : Square
Location Code: Private Property	Project Ref. No.: A650-00109-2014	

Cover Good Condition : Yes	SIP Depth : 2.72
Frame Good Condition : Yes	CCTV Depth : 2.2
Water Level : 10%	
Channel Level : Yes	

Remarks : **CCTV Inspection found the entire manhole including cover in good condition**

No.	Code	Position	Observation	C1	C2	Q1	Grade	Remark			
1	GP	0.00	General photograph, manhole surrounding location				1	Good Condition			
2	GP	0.00	General photograph, manhole cover				1	Good Condition			
3	GP	0.00	General photograph, shaft and frame				1	Good Condition			
4	GP	0.00	General photograph, manhole frame (detail)				1	Good Condition			
5	GP	0.00	General photograph, shaft wall (detail)				1	Good Condition			
6	GP	0.30	General photograph, chamber wall				1	Good Condition			
7	GP	1.60	General photograph, backdrop				1	Good Condition			
8	GP	1.90	General photograph, manhole benching				1	Good Condition			
9	GP	2.20	General photograph, invert level				1	Good Condition			
10	GP	2.20	General photograph, outgoing pipe				1	Good Condition			
11	GP	2.20	General photograph, incoming pipe 1				1	Good Condition			
12	GP	2.20	General photograph, incoming pipe 2				1	Good Condition			
13	GP	2.20	General photograph, incoming pipe 3				1	Good Condition			

Coverplates

No.	Type	Cover Shape	Material	Breadth [mm]/Width [ft]	Ground Level	Invert Level	Class	MH-ID
1	Heavy Duty	Square	Cast iron	600/600	103.785	101.065		244988

In-/outlets

No.	Clock Position	Type	Shape	Diameter/W idth [in]	Depth to invert	Material	From MH	To MH	Water Level	Channel Observation
1	12	In	circular	150		Vitrified clay	244989		10%	No defects
2	10	In	circular	150		Vitrified clay			10%	No defects
3	3	In	circular	150		Vitrified clay	249009		10%	No defects
4	6	Out	circular	150		Vitrified clay		249006	10%	No defects

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Blk 3014 Ubi Road 1
#01-292
Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Manhole Pictures / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M.JPG
General photograph, manhole surrounding location



Photo: 244988-042415-M1.JPG
General photograph, manhole cover

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Fax: 6469 6493
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Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M2-Benching.JPG
General photograph, shaft and frame



Photo: 244988-042415-M3.JPG
General photograph, manhole frame (detail)

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Tel.: 6842 6616
Fax: 6469 6493
Email: fattchee@gmail.com

Manhole Pictures / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M4.JPG
General photograph, shaft wall (detail)



Photo: 244988-042415-M5.JPG
General photograph, chamber wall

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Fax: 6469 6493
Email: fattchee@gmail.com

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Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M6.JPG
General photograph, backdrop



Photo: 244988-042415-M7.JPG
General photograph, manhole benching

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Fax: 6469 6493
Email: fattchee@gmail.com

Manhole Pictures / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M8.JPG
General photograph, invert level



Photo: 244988-042415-M9.JPG
General photograph, outgoing pipe

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Fax: 6469 6493
Email: fattchee@gmail.com

Manhole Pictures / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M10.JPG
General photograph, incoming pipe 1



Photo: 244988-042415-M11.JPG
General photograph, incoming pipe 2

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Email: fattchee@gmail.com

Manhole Pictures / Inspection: Manhole ID: 244988

Survey Date : 04/24/15	Type of Survey: Post-construction	Weather : Dry	Manhole GIS-ID : 244988	Operator : FONG FATT CHEE	Team Supervisor : FONG FATT CHEE
Start Time : 09:37:00	Year commissioned:	Camera : IBAK Orion-L	WRC Certified : FONG FATT CHEE	Requested by :	Cleaned : Yes



Photo: 244988-042415-M12.JPG
General photograph, incoming pipe3

NEW REQUIREMENTS

Annex E – Sample Report on Surrounding Development Site

Project Signboard

Note: 1 photo of the project signboard should be compiled only to the first manhole report

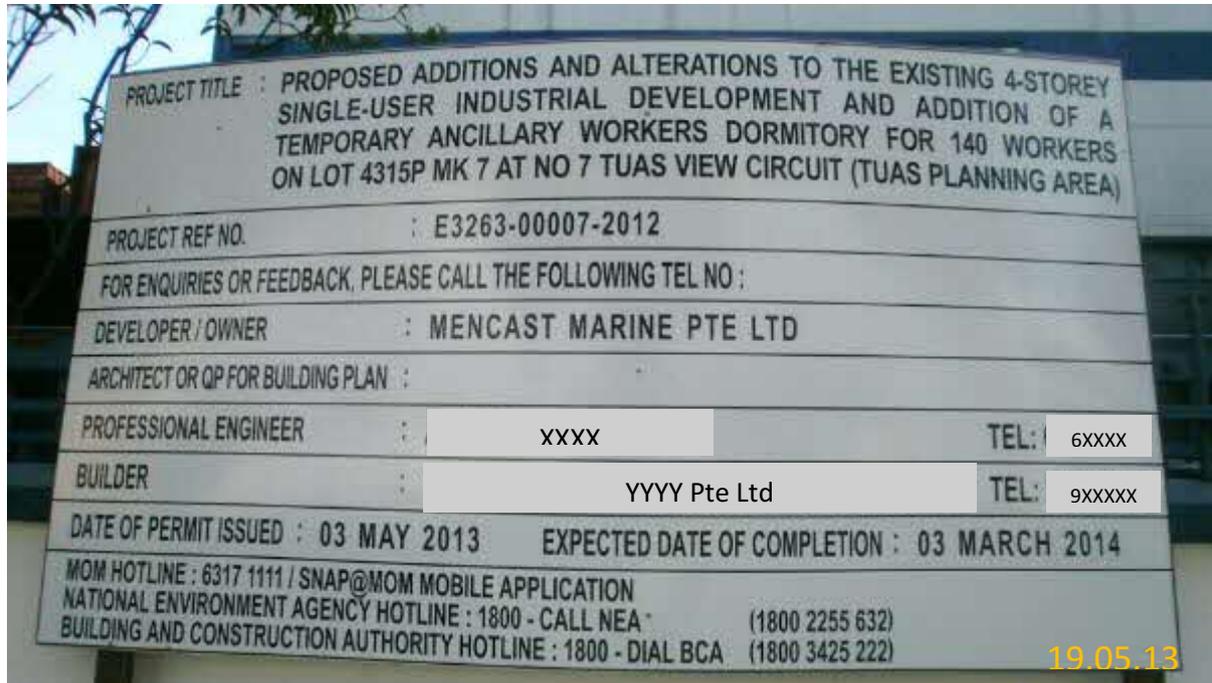
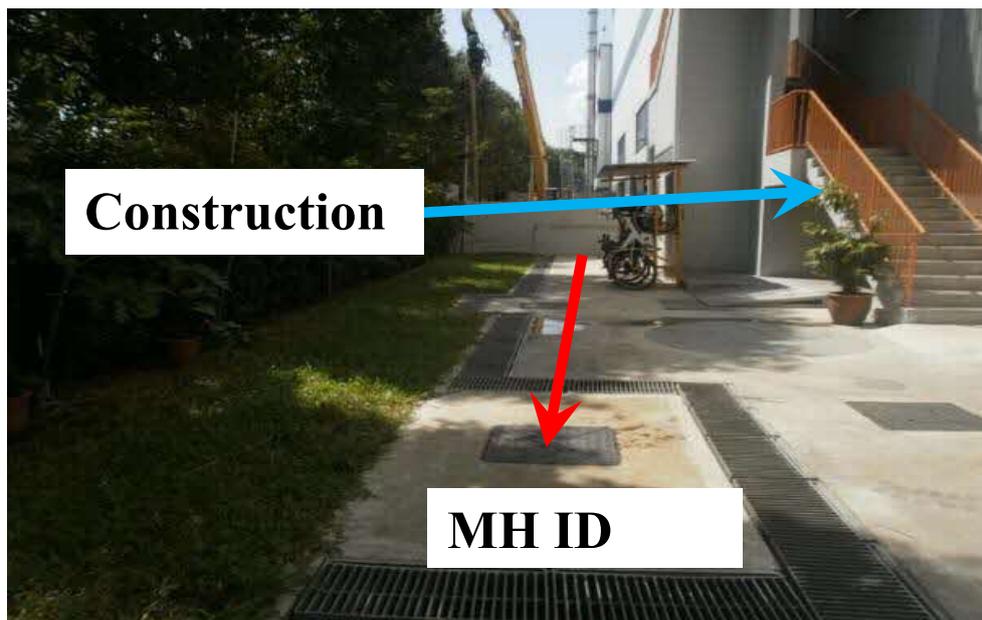


Photo of Manhole (Start) and Sewer Alignment

Note: 1 photo of sewer alignment, flow direction (marked red) and construction site (marked blue) to be marked approximately in the photo using an arrow line (width 4pt) by identifying the entering manhole. This report to be compiled together in every manhole report. Date of the photo taken to be reflected.



Annex F – Sample Images to be Uploaded

1. Far view of Manhole



2. Manhole Benching or Channel



3. Sewer Pipe Face



Annex G - CCTV Online Submission System User Guide

Note: PUB has obtained agreement from Pipe Rehabilitation Pte Ltd to use their report as sample report. There is no intention of marketing or publicity purposes

PUB CCTV Online System

User Guide (Contractors)

Andy Tan

11th September 2017

Version History

Versions	Author(s)	Description	Date Complete
1.0	Andy Tan, Roy Chew	Draft	06 Sep 2017
1.1	Andy Tan, Roy Chew	1 st Revision	13 Sep 2017
1.2	Andy Tan, Roy Chew	Final Revision	20 Sep 2017

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The information in this document is provided for informational purposes only.

Privacy Information

This document may contain information of a sensitive nature. This information should not be given to persons other than those who are involved in the project or who will become involved during the lifecycle.

Definition and Acronyms:

Term	Definition
PUB	Public Utilities Board
MP4	MPEG-4, Moving Picture Experts Group-4. A type of video format.
PDF	Portable Document Format. A type of document format.
JPG	JPEG, Joint Picture Expert Group. A type of image format.
GIF	Graphic Interchange Format. A type of image format.
BMP	Bitmap. A type of image format.
PNG	Portable Network Graphic. A type of image format.
Pre-Con	Pre-Construction
Post-Con	Post-Construction
DLP	Defect Liability Period
QP	Qualified Person / Qualified Personnel

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1. INTRODUCTION

This document contains all essential information for the “Contractor Users” to make full use of the CCTV Online System. This document includes a description of the system functions and capabilities and step-by-step procedures for system access and use. Where possible, images/graphics will be used for better illustrations.

This document may be subjected to alterations as the project/system introduces new functions or new ways to perform a task/action.

1.1 Primary Functions of the System

The primary function of the CCTV Online system is to facilitate the submission and processing of Survey reports (forms, reports, videos and images) by the Contractors to PUB officers. The system is an online system, which aims to eliminate the needs to transport Survey reports (forms, reports, videos and images) in the form of physical documents or physical harddisks/DVDs.

With an online CCTV submission system, all stakeholders (Contractors and PUB officers) can refer to their submissions online, which greatly increases the efficiency in the entire process.

2. GENERAL FUNCTIONS

Below sections contains the step-by-step guide on performing general functions in the system.

2.1 User Account

This section contains the guide for user account related functions.

Below is how the account is structured for Contractors:

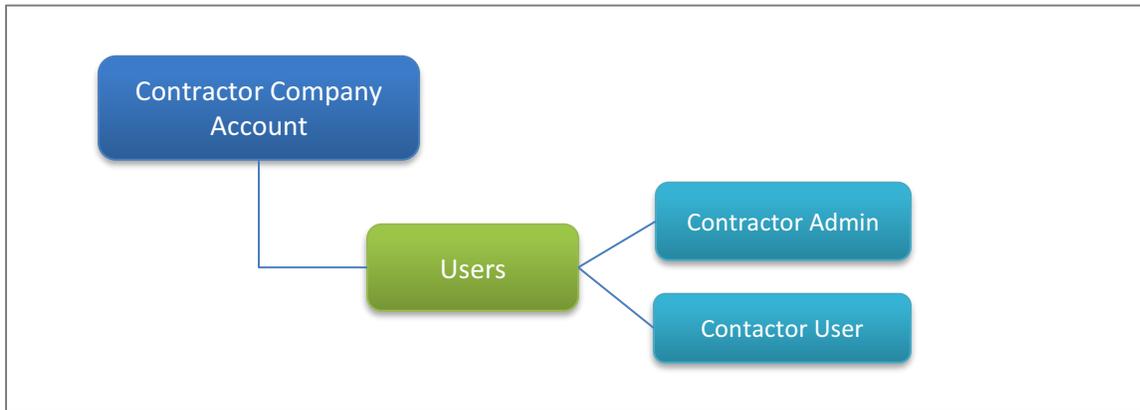


Figure 1: Contractor User Account (Hierarchy)

There are two (2) types of user accounts (roles) for contractors, namely:

- Contractor Administrator
- Contractor User

Roles	Description
Contractor Administrator	Contractor administrator has administrative function to manage the users in the Contractor Company account.
Contractor User	Contractor user has the functionalities to create, view, resubmit and withdraw submissions.

You may refer to section 3 Contractor Administrator Functions for more details on how to manage the users in the Contractor Company account.

Note:

- There is a limit of three (3) users per contractor company configured in the system. Should you require more, this may be increased with PUB's approval.

2.1.1 Login

Go to <http://www.sewvtv.sg> to access the PUB Online CCTV system. Below is the landing page.



Figure 2: Landing Page

Step 1: Click on the “LOG IN” button and you will be redirected to the login page.

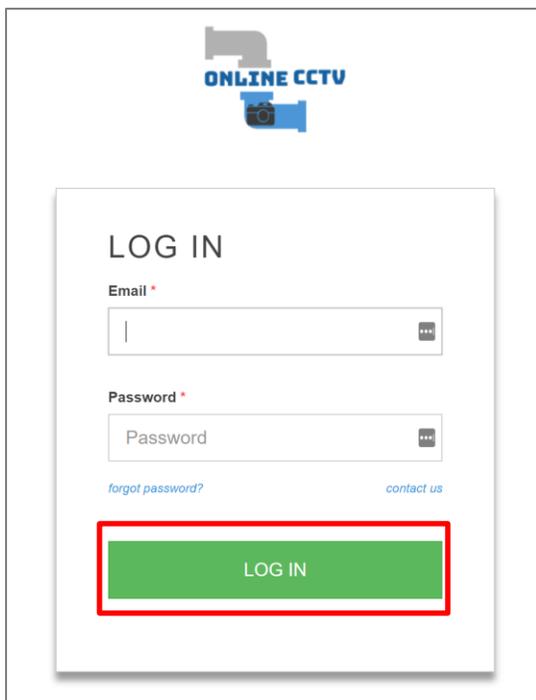


Figure 3: Login Page

Step 2: Enter the ID / Password that you have set for yourself.

Note:

- Your user account is created by your company's administrator. Please contact him/her accordingly for account creation matters. Your password will be emailed to you upon account creation by your company administrator.

Step 3: Click on the "LOG IN" button to proceed to login.

Upon successful login, you will be redirected to the dashboard for your company.



Figure 4: Contractor Company Dashboard

2.1.2 Logout

To log out of the system, you may follow the steps below.

Step 1: At the Top Menu Bar, click on the "User"  icon.



Figure 5: Top Menu Bar

Step 2: The "My Profile" page will popup. Click on the "Logout" button to proceed to logout.

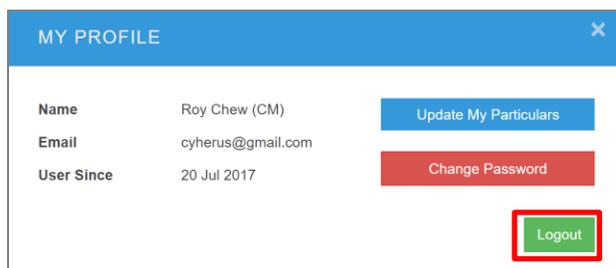


Figure 6: My Profile Page (Logout)

Upon successful logout, you will be redirected to the login page.

Note:

- The system will automatically logout the user if there is inactivity for thirty (30) mins or more.

2.1.3 Change Password

The system provides the self-service function for users to change their own password.

Step 1: Login to the system with your id/password.

Step 2: At the Top Menu Bar, click on the “User”  icon.



Figure 7: Top Menu Bar

Step 3: The “My Profile” page will popup. Click on the “Change Password” button.

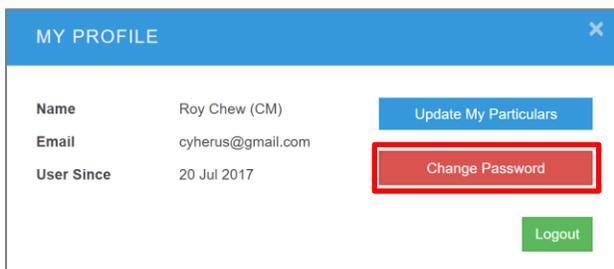


Figure 8: My Profile Page (Change Password)

Step 4: The “Set Your New Password” page will popup. Enter your new password in the “Password” field and enter the same password again in the “Confirm Password” field.

Note:

- A minimum of 5 characters is needed for password.

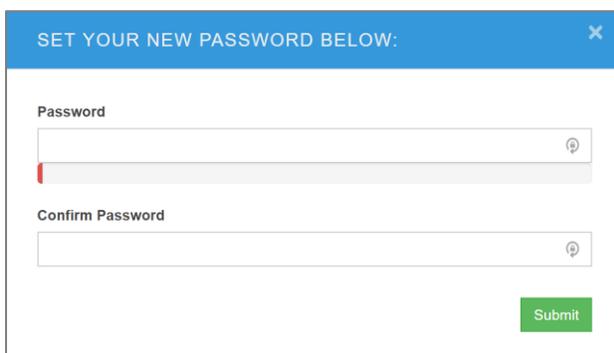


Figure 9: Change Password Page

Step 5: Click on the “Submit” button to complete the password change.

2.1.4 View/Update User Profile

Below steps describe how you can view and update your user profile in the system.

Step 1: Login to the system with your id/password.

Step 2: At the Top Menu Bar, click on the “User”  icon.

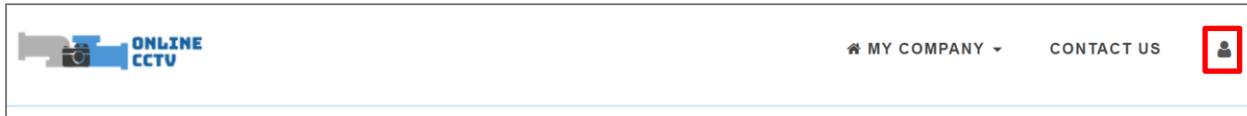


Figure 10: Top Menu Bar

Step 3: The “My Profile” page will popup. Click on the “Update My Particulars” to update your profile.

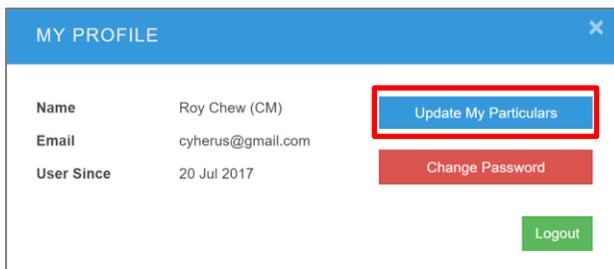


Figure 11: My Profile Page (Update My Particulars)

Step 4: The “Update My Particulars” page will popup. You may change your particulars here.



Figure 12: Update My Particulars Page

Step 5: Click on the “Submit” button to update your profile.

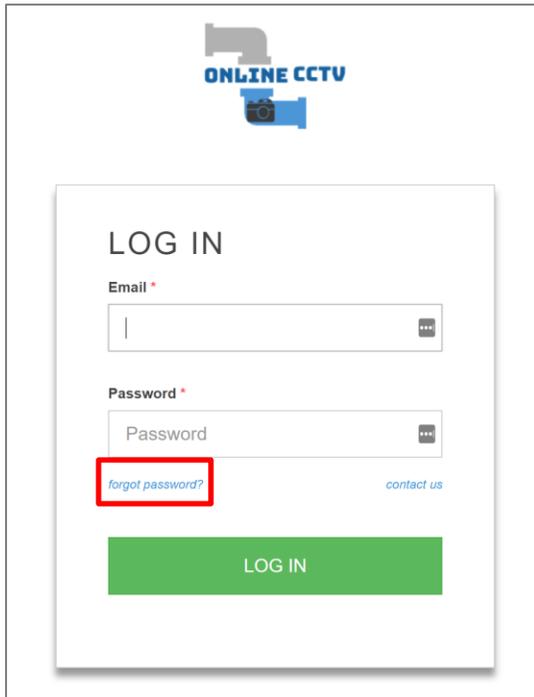
Note:

- Users are only allowed to update their names on the system.
- Information such as email, contact number, identity number, designation and roles in the company can be updated by the Contractor administrators.

2.1.5 Forgot Password

In case of users forgetting their passwords, the system provides a self-service module for users to reset their own password without requiring the administrators to reset for them.

Step 1: At the login page, click on the “forgot password?” link.



The screenshot shows a web interface for 'ONLINE CCTV'. At the top, there is a logo with a camera icon and the text 'ONLINE CCTV'. Below this is a 'LOG IN' form. The form has two input fields: 'Email *' and 'Password *'. The 'Password *' field is currently filled with the text 'Password'. Below the 'Password *' field, there is a red-bordered link that says 'forgot password?'. To the right of this link is a smaller link that says 'contact us'. At the bottom of the form is a green button with the text 'LOG IN'.

Step 2: At the “Reset Password” page, enter the email address that you used to register for an user account in the system.

Note:

- If you have forgotten your registered email address, you may use the “contact us” link to get the contact details of the PUB administrator to check.

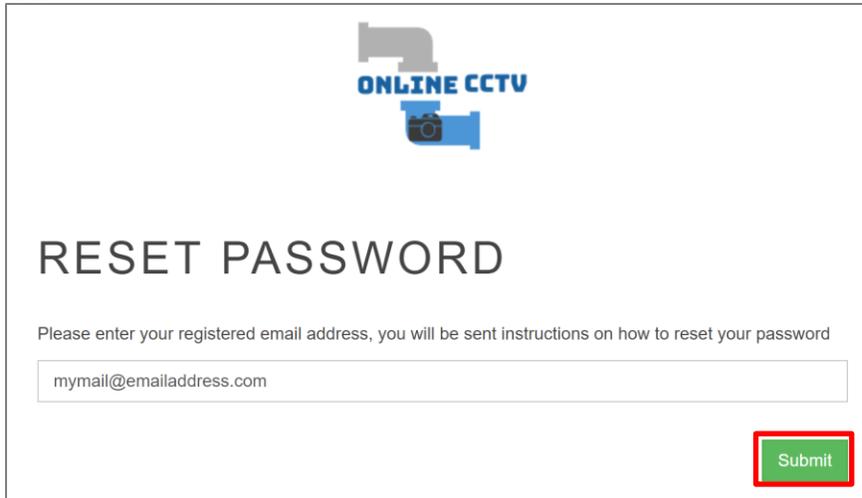


Figure 13: Request for Reset Password Page

Step 3: Click on the “Submit” button and the system will prompt you that a reset link has been sent to your email address.

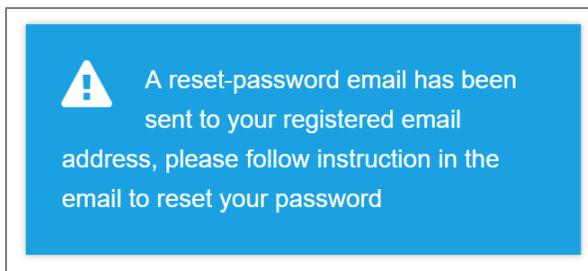
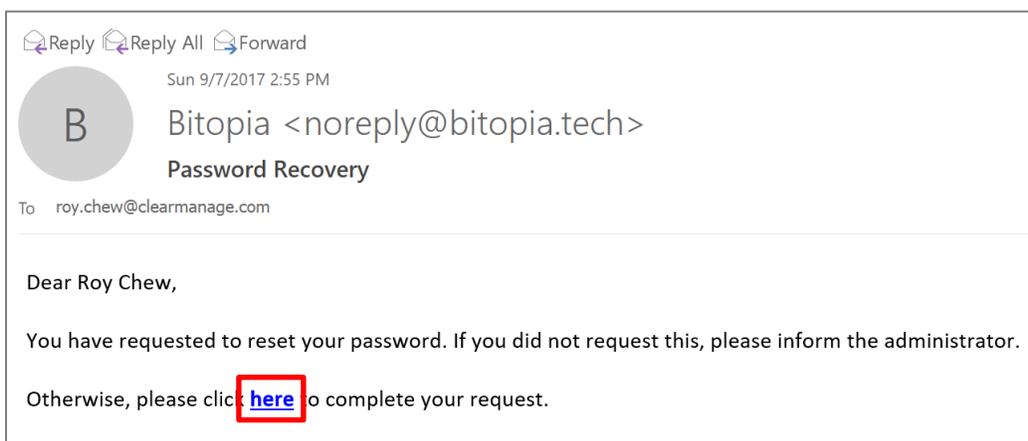


Figure 14: Reset Password Message Prompt

Step 4: Check your email inbox for the “Password Recovery” email. Click on the “here” link in the email message.

Note:

- You may have to check your spam/junk folder if you did not receive the email after 10 mins.



Step 5: At the “Reset Password” page, enter the new password in the “New Password” field. You must enter the same password again in the “Confirm New Password” field.

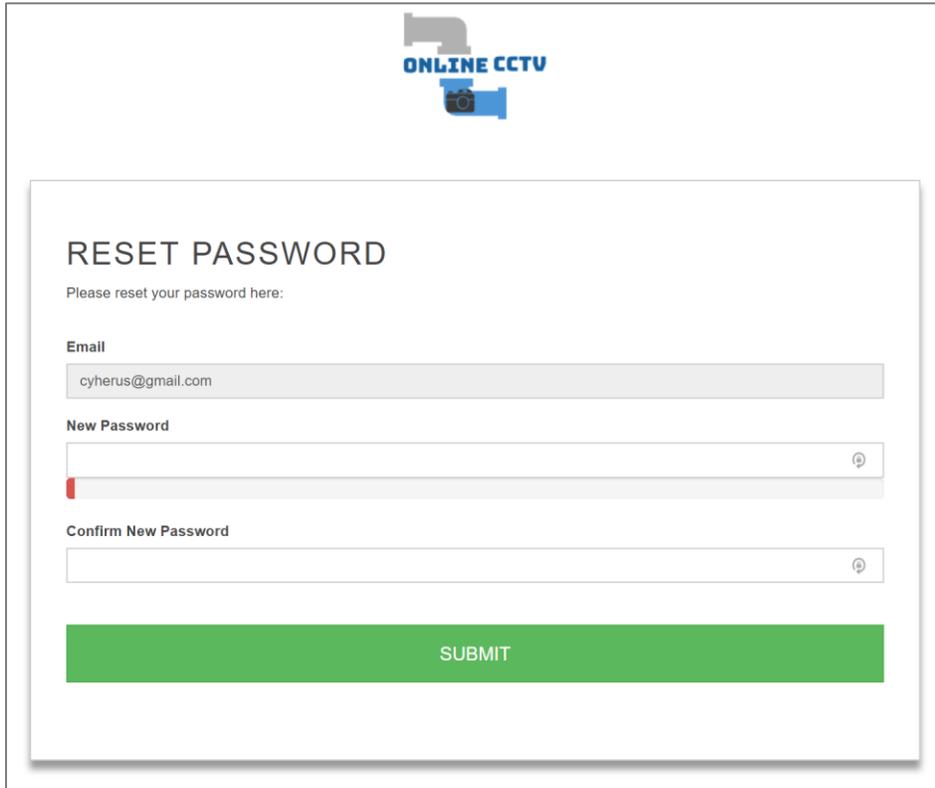


Figure 15: Reset Password Page

Note:

- The system provides an indicator on your password strength. It is recommended that you provide a strong password for security concerns.
- The system will automatically lock you out if you failed to login for three consecutive times within 30 mins.

Step 6: Click on the “SUBMIT” button to complete the password reset process.

2.1.6 Blacklisted

In the event where your Company has been blacklisted by PUB. All the users associated to the Company will not be able to login to the system.

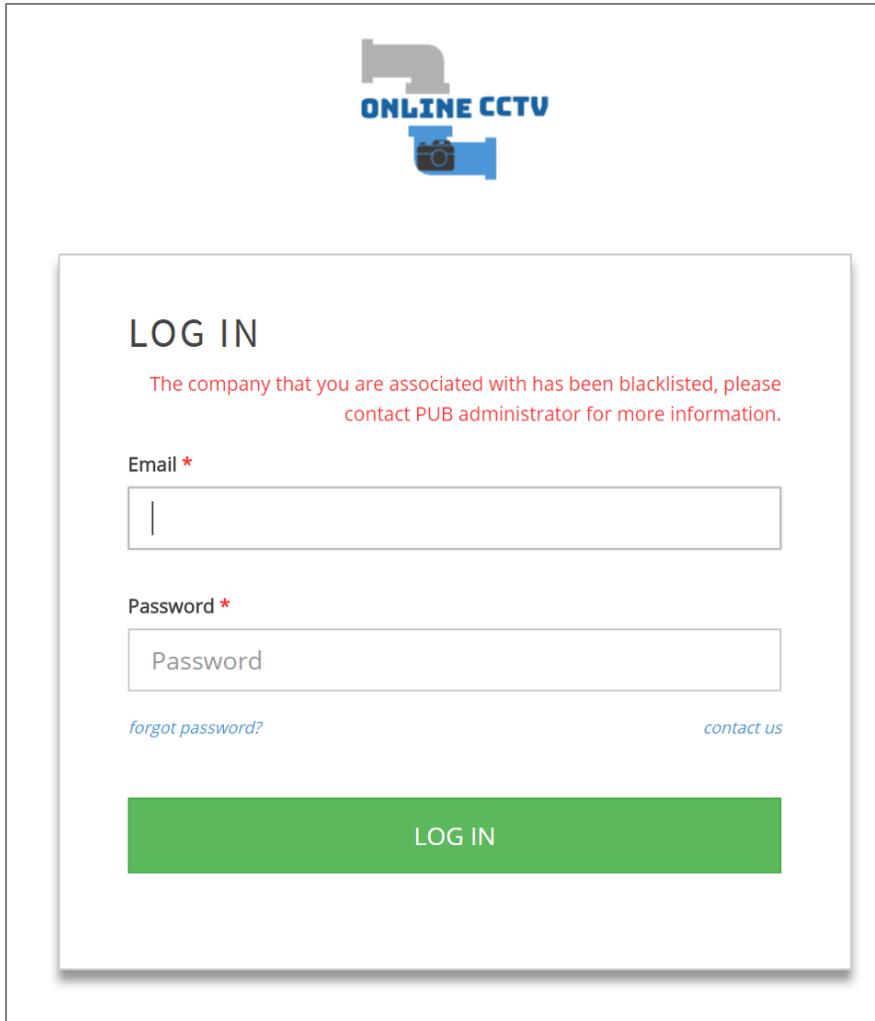


Figure 16: Login Prompt for Blacklisted Company

You will have to contact PUB officers for the reason of the blacklist and for them to remove your company from the blacklist.

2.2 Contact Us

2.2.1 Contact Us

For any clarifications or help, you may access the “Contact Us” page for a list of personnel that you can contact. There are several ways to access the “Contact Us” page from the system, before or after login.

Step 1a: Before login (at the landing page or the login page), Click on the “contact us” link.

Landing Page



Login Page

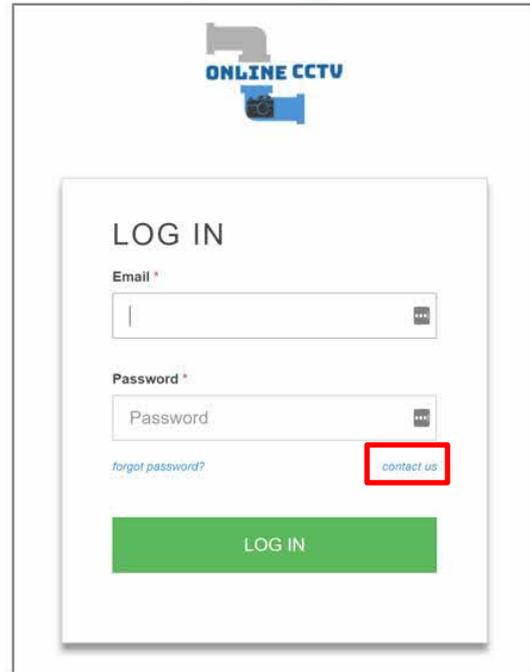
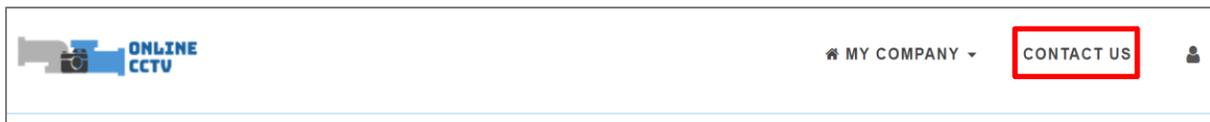


Figure 17: Contact Us Links (Before Login)

Step 1b: After login (at the Top Menu Bar), Click on the “Contact Us” menu.



Step 2: The “Contact Us” page will popup, displaying the personnel to contact.

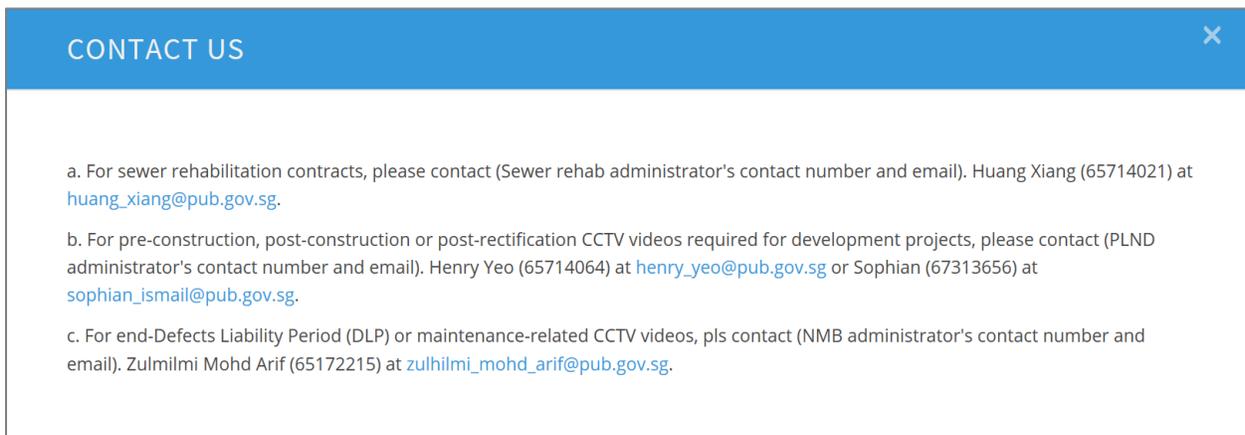


Figure 18: Contact Us Page (Popup)

Note:

- The content in the “Contact Us” page may change over time as PUB administrators updates the contact details.

2.3 Contractor Company Profile

The system provides a contractor management module where each contractor (assigned Contractor Administrator) can add/edit/delete users in their own company.

2.3.1 Create Company Profile

Only companies under PUB’s existing list of “Registered CCTV Contractors” will be allocated a company user account and company profile. Please refer to www.pub.gov.sg for more details on registration of CCTV Contractors.

2.3.2 View Company Profile

Here are steps to view your company profile, as well as the users associated to the company.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “My Company” link.

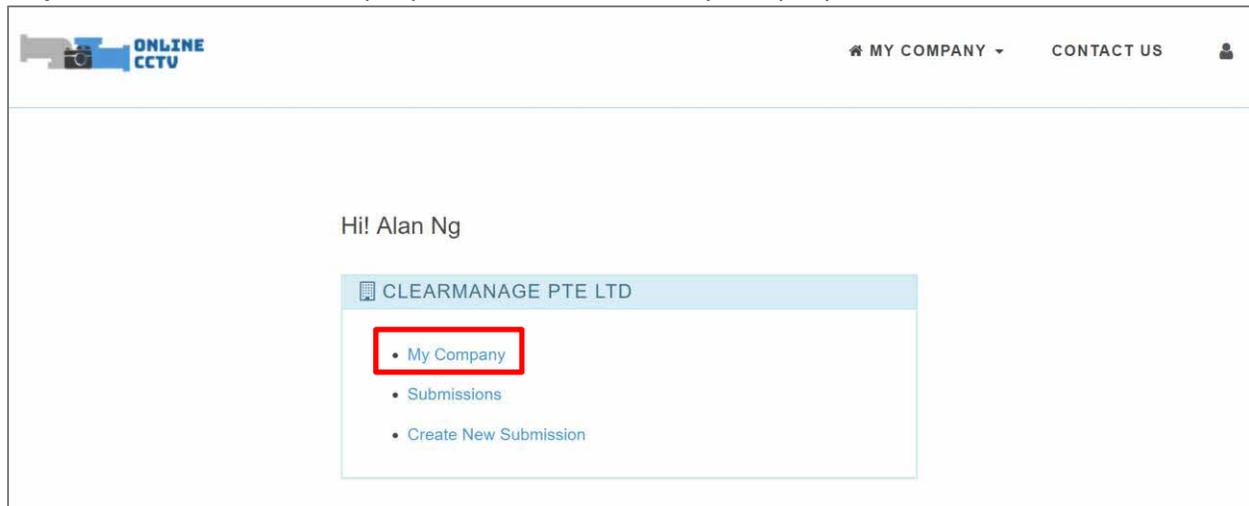


Figure 19: Contractor Company Dashboard

Step 3: At the Company Profile page, you will see the Profile details and the users associated with your company.



MY COMPANY ▾
CONTACT US


CLEARMANAGE PTE LTD

ACRA Registration Number	201705033G
Representative Name	Andy Tan
Email	andy.tan@clearmanage.com
Representative Office Number	67777777
Representative Mobile Number	96666666
Fax No	68877373
BizSafe Expiry Date	2017-12-31
Address	31 SCIENCE PARK ROAD #01-01 CRIMSON, THE Singapore 117611
Representative Identity Card	View
Blacklisted	No

👤 USERS

Email	Username	Designation	Role	User Since
yalin@bitopia.tech	Yalin LIU		Contractor Administrator, Contractor User	
cyherus@gmail.com	Roy Chew (CM)	Engineer	Contractor User	20 Jul 2017
alan.ng@clearmanage.com	Alan Ng		Contractor Administrator, Contractor User	20 Jul 2017

Figure 20: Company Profile Page

2.4 List / Grid View

There is a common tool used across the system to list information in a grid. This section describes the functions and capabilities provided with this grid which can be used in the system whenever there is list/grid required.

Figure 21: Grid View (All Functions)

2.4.1 Number of Entries in Grid

You can change the number of entries (results) to be listed per page. The default is 10 per page and the options are:

- 10
- 25
- 50
- 100



Figure 22: Show # of Entries in Grid

2.4.2 Pagination

Depending on the number of items that are listed in the grid (# of entries per page, or filter conditions), the grid will be paginated according to the maximum number of items per page accordingly.

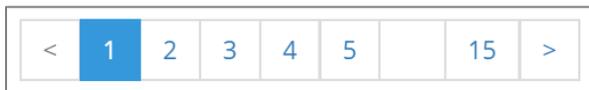


Figure 23: Pagination (Navigation)

You may use the following options/buttons to navigate through the pages in the grid:

- **Left Arrow:** To navigate to previous page.
- **Right Arrow:** To navigate to next page.
- **Page Number (First Page):** The first number is always the first page. Click on it to jump to the first page.

- **Page Number (Last Page):** The last number on the right is always the last page. Click on it to jump to the last page.
- **Page Number (In Between):** Click on any of the page numbers in between to jump to those pages.

2.4.3 Filter Results

This section describes the functions to apply filters to the grid.

2.4.3.1 Universal Filter

Enter any text here to filter the results across all columns.

showing 1 to 10 of 144 entries

Search:

Figure 24: Universal Filter

The grid (result) will react accordingly when you enter your filter text in the universal filter.

2.4.3.2 Column Filter

For more granular filtering, you may apply filters under each column. You can use the column filters in combination (different columns).

Submission ID	Status	Date of Submission	Date of Draft Reply	Date of Reply to Contractors	Project/Contract Ref No.	Project Title/Contract Title/Work Order No.

Figure 25: Column Filters

The grid (result) will react accordingly when you enter your filter in the column filters.

2.4.3.3 Clear Filters

You can reset the listing by clearing all the filters.



Figure 26: Clear Filters

2.4.4 Sort Results

All results in the grid can be sorted by clicking on each column header. Change the sort order by clicking on the column header again.

Submission ID	Status	Date of Submission	Date of Draft Reply	Date of Reply to Contractors	Project/Contract Ref No.	Project Title/Contract Title/Work Order No.

Below are the icons to differentiate between ascending or descending sort order.



Sorted in ascending order



Sorted in descending order

2.4.5 Export Grid to Excel

All the information in the grid can be exported to excel. The export will be based on all information listed in the grid (according to the filter conditions).



Figure 27: Export to Excel

After filtering the information according to your needs, you may export the information to excel by clicking on the “Excel” button.

3. CONTRACTOR ADMINISTRATOR FUNCTIONS

The system provides a contractor’s administrator module, for contractors to manage their respective contractor users in the company. During the registration of a new contractor company, a contractor administrator will also be created and assigned.

3.1 Manage Contractor Users

3.1.1 Add New User

Below are the steps to add a new user in a Contractor Company.

Step 1: Login to the system with your id/password (this user must have “Contractor Admin” role assigned).

Step 2: At the Contractor Company Dashboard, click on “My Company” link.

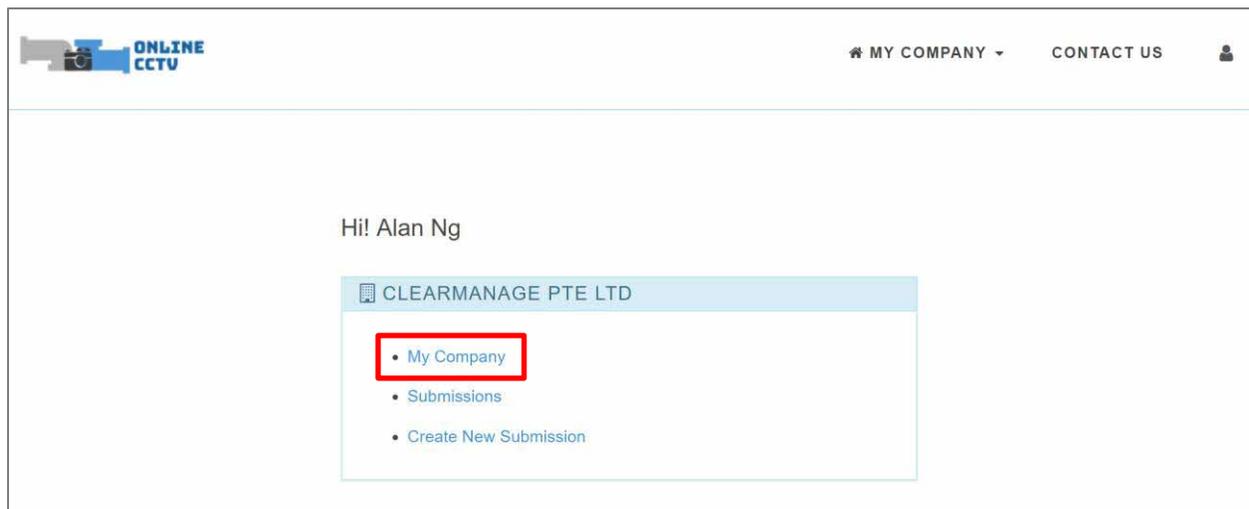


Figure 28: Contractor Company Dashboard

Step 3: At the Company Profile page, click on the “Add User” button.

ONLINE
CCTV

[MY COMPANY](#) - [CONTACT US](#)

CLEARMANAGE PTE LTD

ACRA Registration Number	201705033G
Representative Name	Andy Tan
Email	andy.tan@clearmanage.com
Representative Office Number	67777777
Representative Mobile Number	96666666
Fax No	68877373
BizSafe Expiry Date	Sun Dec 31 00:00:00 SGT 2017
Address	31 SCIENCE PARK ROAD #01-01 CRIMSON, THE Singapore 117611
Representative Identity Card	View
Blacklisted	No

+ USERS

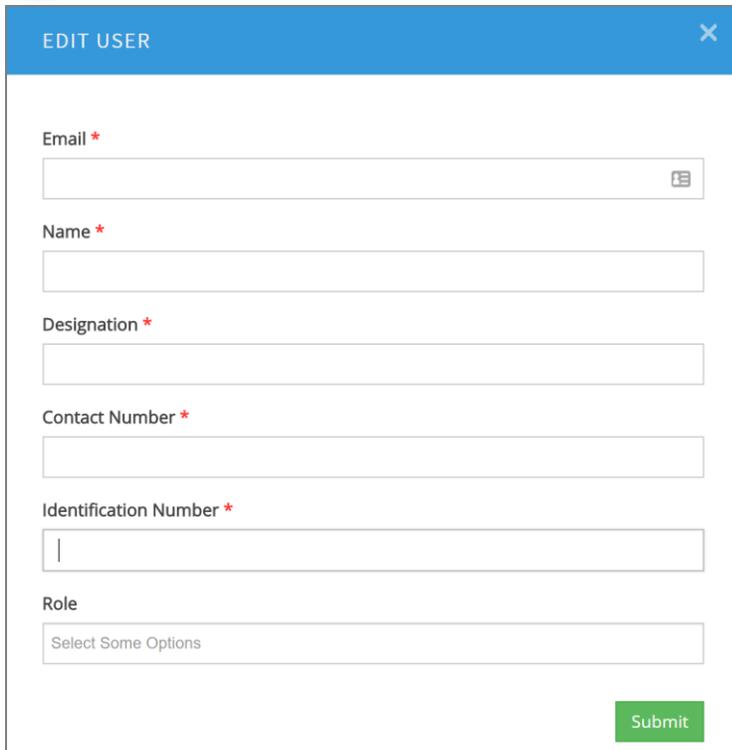
Email	Username	Designation	Role	User Since	
yalin@bitopia.tech	Yalin LIU		Contractor Administrator, Contractor User		✎ 🗑
cyherus@gmail.com	Roy Chew (CM)	Engineer	Contractor User	20 Jul 2017	✎ 🗑
alan.ng@clearmanage.com	Alan Ng		Contractor Administrator, Contractor User	20 Jul 2017	✎ 🗑

Add User

Figure 29: Company Profile Page (Admin View)

Step 4: A new user profile form will popup. Enter the information in the fields.

- **Email:** The email address that this new user will be using. This will also be the users' id for logging into the system.
 - **Name:** The full name of the new user. This name will be auto-populated in the submission form when this user creates a new submission.
 - **Designation:** The designation (or title) this user has in your company.
 - **Contact Number:** The contact number of the new user. This contact number will be auto-populated in the submission form when this user creates a new submission.
 - **Identification Number:** The identity number of the new user. This identity number will be auto-populated in the submission form when this user creates a new submission.
- Role:** The role(s) the new user will be assigned in the system (You may assign multiple roles for a user). Possible selections are:
- **Contractor Admin** – With contractor administrator functions to manage users in the company.
 - **Contractor User** – With contractor user functions to view and create submissions made by the company.



EDIT USER

Email *

Name *

Designation *

Contact Number *

Identification Number *

Role
Select Some Options

Submit

Figure 30: New User Profile Form

Step 5: Click on the “Submit” button to create the new user in the system for your company.

Note:

- There is currently a limit of three (3) contractor users per contractor company. This limit can be increased by the PUB administrators upon their review and approval.
- A user, regardless of the role assigned, will be counted as one user. For example, a user with only “Contractor Admin” role assigned is still counted as one (1) user in the system.

3.1.2 Edit User

Below are the steps to edit an existing user in a Contractor Company.

Step 1: Login to the system with your id/password (this user must have “Contractor Admin” role assigned).

Step 2: At the Contractor Company Dashboard, click on “My Company” link.

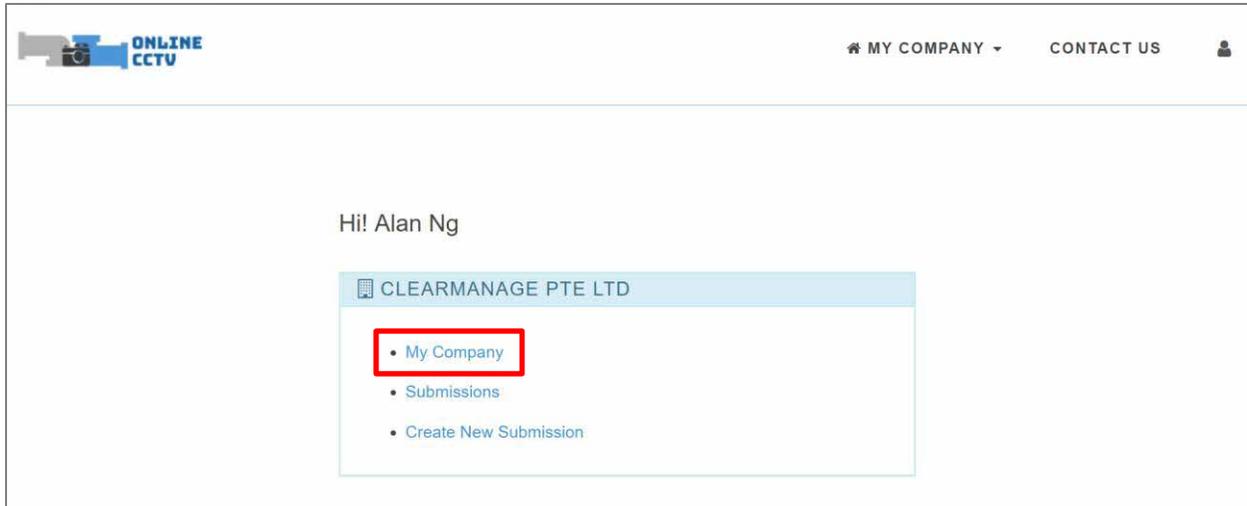


Figure 31: Contractor Company Dashboard

Step 3: At the Company Profile page, click on the “Edit”  icon of the desired/selected user to edit.

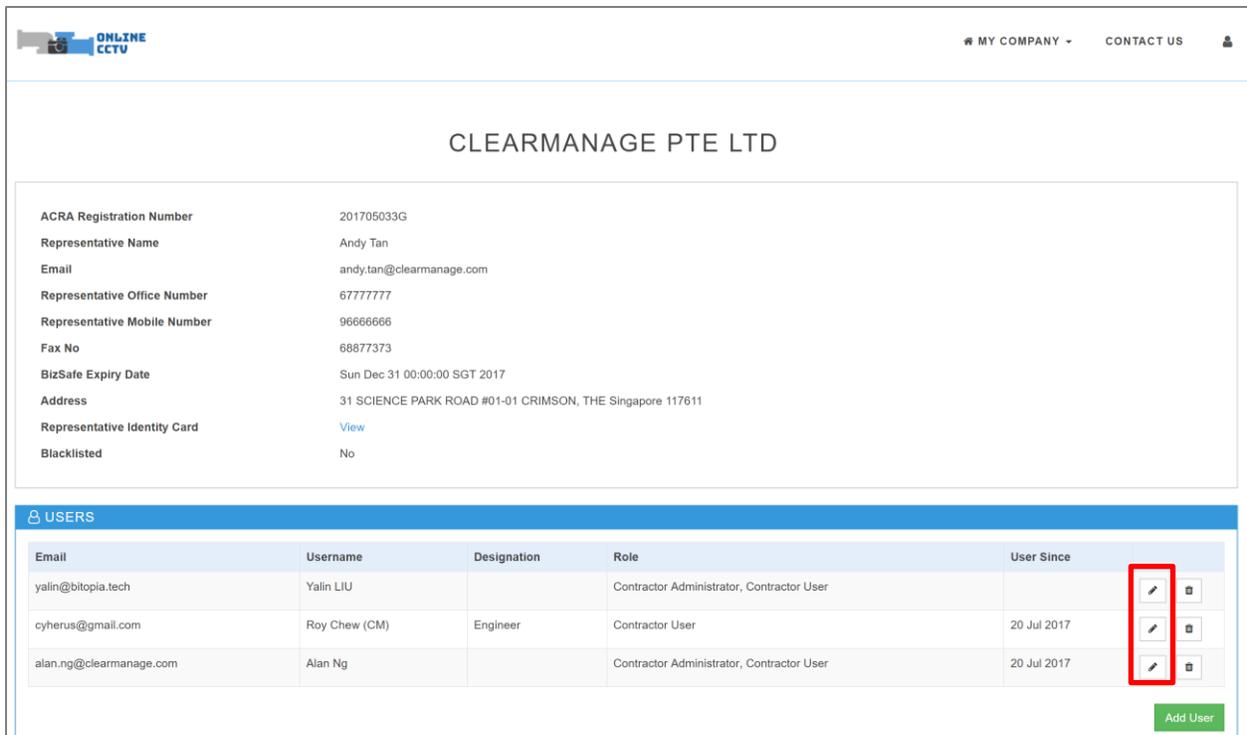


Figure 32: Company Profile Page (Admin View)

Step 4: The edit user profile form will popup. Amend the information in the fields

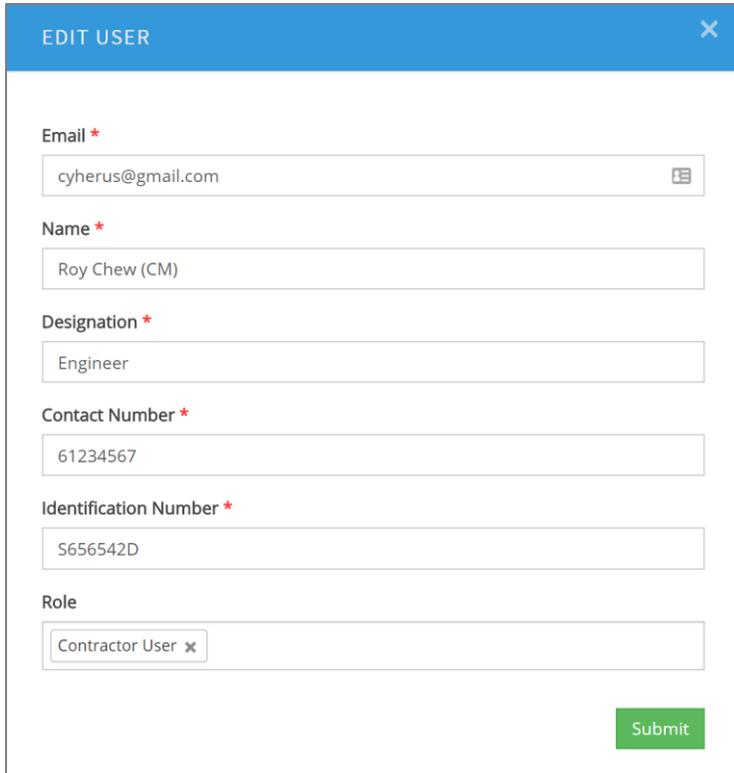


Figure 33: Edit User Profile Form

Step 5: Click on the “Submit” button to complete the save the changes.

Note:

- To remove a role, click on the “x” icon beside the role icon in the textbox.
- If you remove all roles from the user, the user will still be able to login to the system, but will not have access to view any submissions.

3.1.3 Delete User

Below are the steps to delete an existing user in a Contractor Company. Please note that this action is irreversible, you cannot undo this action.

Step 1: Login to the system with your id/password (this user must have “Contractor Admin” role assigned).

Step 2: At the Contractor Company Dashboard, click on “My Company” link.

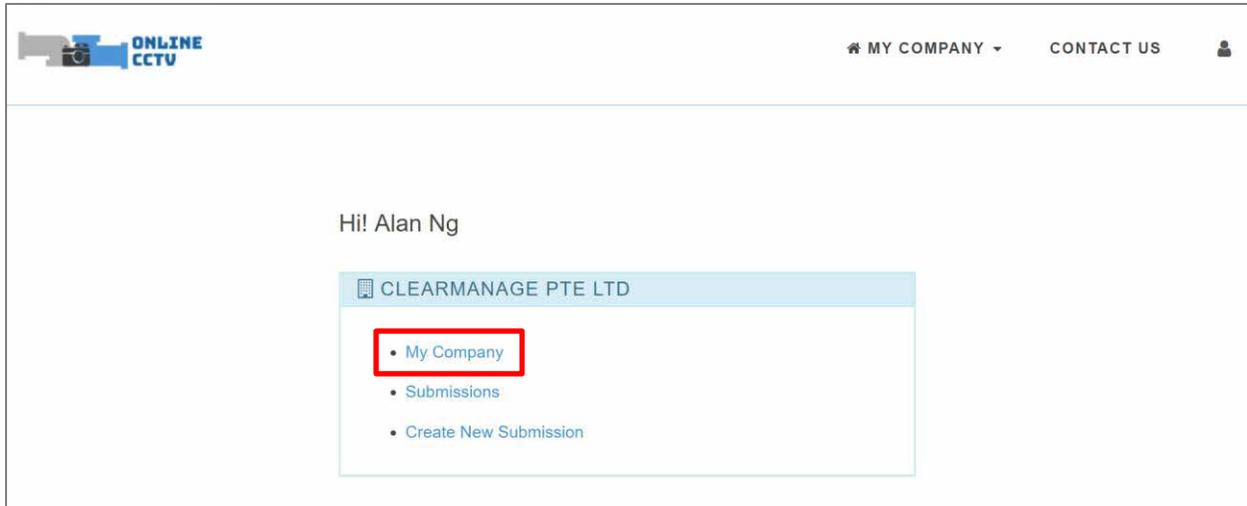


Figure 34: Contractor Company Dashboard

Step 3: At the Company Profile page, click on the “Delete”  icon of the desired/selected user to delete.

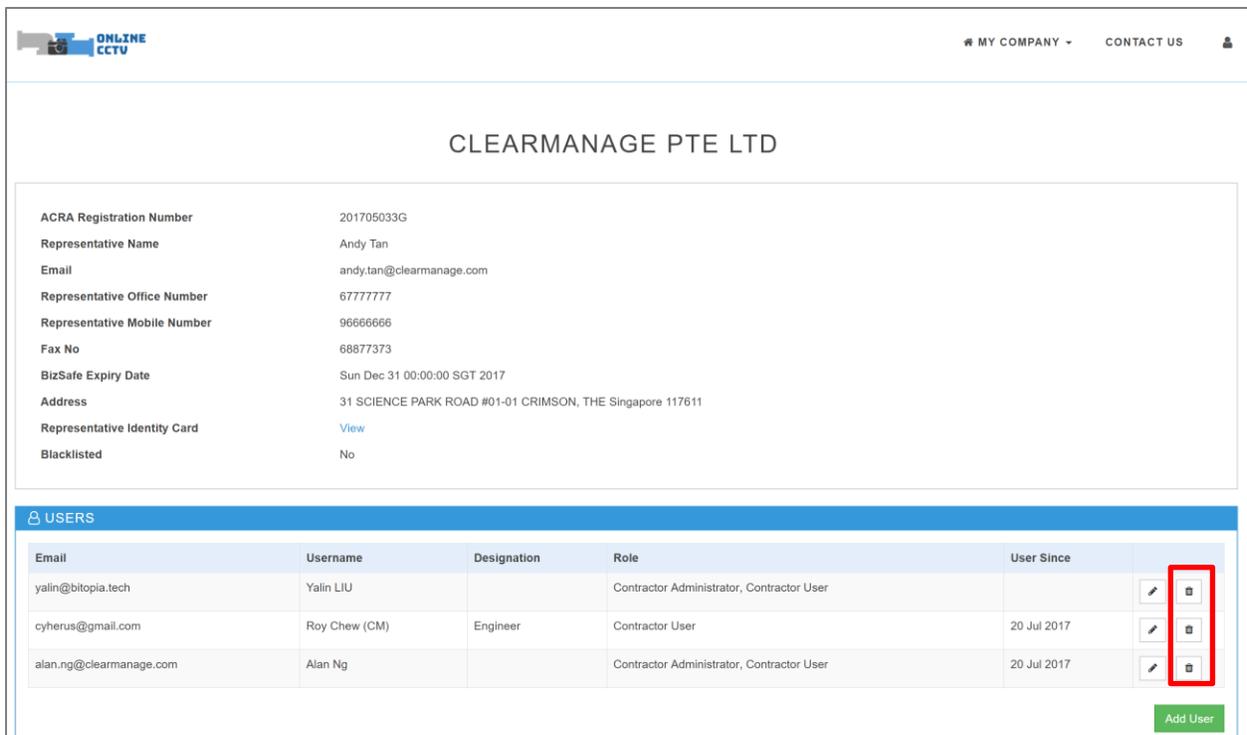


Figure 35: Company Profile Page (Admin View)

Step 4: You will be prompted to confirm if you want to delete the user.

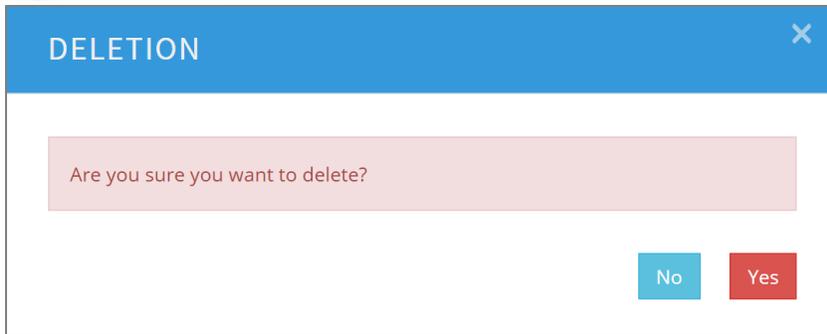


Figure 36: Delete User Confirmation

Step 5: Click on “Yes” to confirm the delete. Click on “No” to discontinue the delete request.

Note:

- ✓ By deleting the user, it will **NOT** delete the submissions that were previously submitted by this (deleted) user.

4. CONTRACTOR USER FUNCTIONS

4.1 New Submissions

4.1.1 Create New Submissions

Below are the steps to create a new submission.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Create New Submission” link.

Step 3: Select the desired “Submission Type”.

Submission Type	Description
Pre-Con/Post-Con/Before DLP/End DLP	For CCTV video submissions associated with: pre-construction, post-construction, post-repair, before DLP and end-DLP videos. You will be required to fill up the corenet submission number by the QP, when you select "Pre-Con" "Post-Con" or "Post-Repair" as the survey type.
Sewer Rehabilitation	For CCTV video submissions associated with sewer rehabilitation contracts.
NMB Term Contract	For CCTV video submissions associated with maintenance-related (NMB Term contract) videos. For before DLP and end-DLP videos, select "Pre-Con/Post-Con/Before DLP/End DLP " instead.

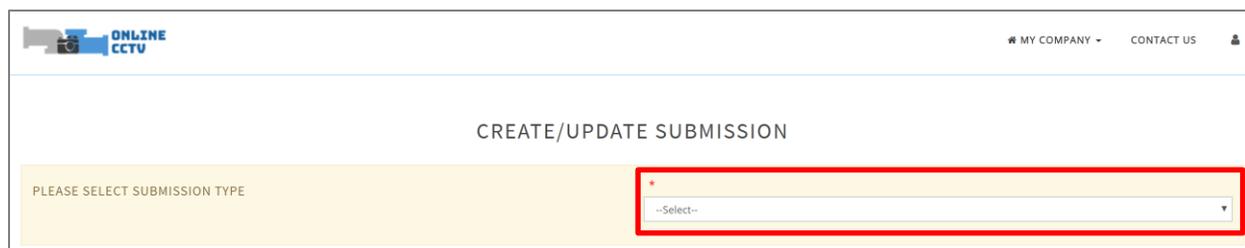


Figure 37: Select Submission Type

Note:

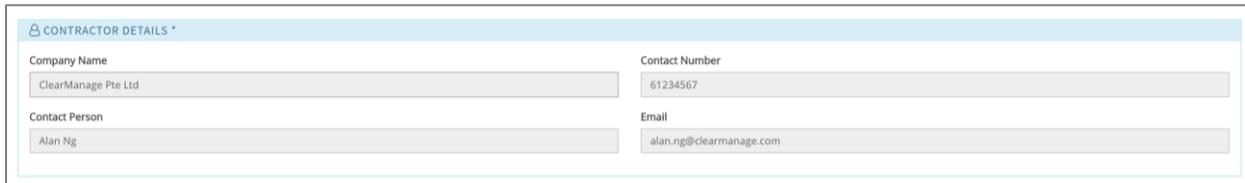
- ✓ The fields will be displayed in accordance to the submission type to capture the relevant information required for the respective submissions.

Step 4: Contractor Details (Auto-Populated)

Under the Contractors Details section, the “Company Name”, “Contact Person”, “Contact Number” and “Email” will be auto-populated based on the login user’s profile.

Note:

- ✓ This information is not editable during new submission. You need to inform the Contractor Administrator to make this change. The updated information will be reflected in the submission.



The screenshot shows a form titled "CONTRACTOR DETAILS *". It contains four input fields arranged in a 2x2 grid:

- Company Name:** ClearManage Pte Ltd
- Contact Number:** 61234567
- Contact Person:** Alan Ng
- Email:** alan.ng@clearmanage.com

Figure 38: Contractor Details

Step 5: Add QP Details (for “Pre-Con/Post-Con/Before DLP/End DLP” submission)

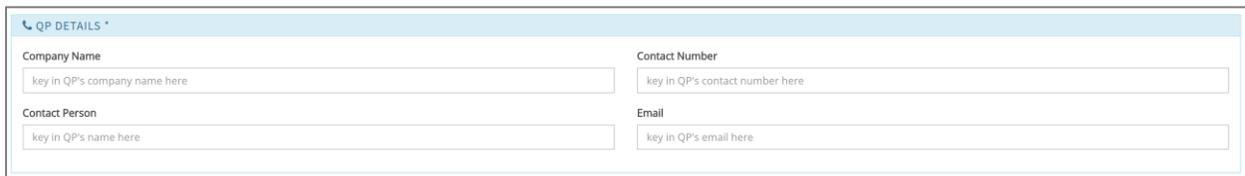
Skip to Step 7 if you are not doing “Pre-Con/Post-Con/Before DLP/End DLP” submission.

Step 5.1: Company Name – The name of the QP company.

Step 5.2: Contact Person – The contact person’s (QP) name from the QP company.

Step 5.3: Contact Number – The contact number (of the QP) from the QP company.

Step 5.4: Email – The email (of the QP) from the QP company.



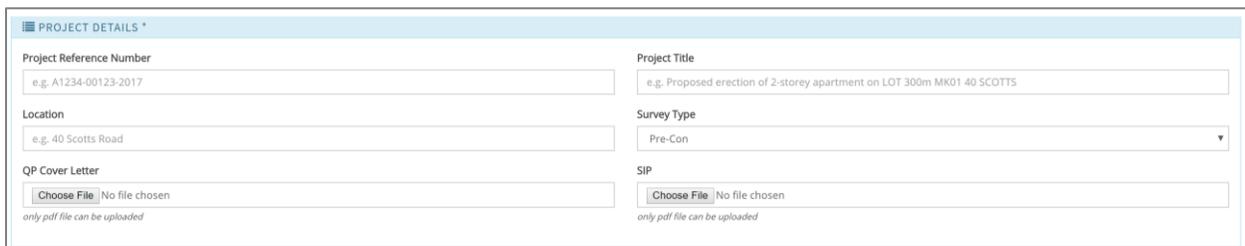
The screenshot shows a form titled "QP DETAILS *". It contains four input fields arranged in a 2x2 grid:

- Company Name:** key in QP's company name here
- Contact Number:** key in QP's contact number here
- Contact Person:** key in QP's name here
- Email:** key in QP's email here

Figure 39: QP Details (Only for “Pre-Con/Post-Con/Before DLP/End DLP” submission type)

Step 6: Add Project Details (for “Pre-Con/Post-Con/Before DLP/End DLP” submission)

Skip to Step 7 if you are not doing “Pre-Con/Post-Con/Before DLP/End DLP” submission.



The screenshot shows a form titled "PROJECT DETAILS *". It contains six input fields arranged in a 3x2 grid:

- Project Reference Number:** e.g. A1234-00123-2017
- Project Title:** e.g. Proposed erection of 2-storey apartment on LOT 300m MK01 40 SCOTTS
- Location:** e.g. 40 Scotts Road
- Survey Type:** Pre-Con (dropdown menu)
- QP Cover Letter:** Choose File | No file chosen (with note: only pdf file can be uploaded)
- SIP:** Choose File | No file chosen (with note: only pdf file can be uploaded)

Figure 40: Project Details (Only for “Pre-Con/Post-Con/Before DLP/End DLP” submission type)

Step 6.1: Project Reference Number – The reference number given to the project (*i.e. A1234-00123-2017*).

Step 6.2: Project Title – The title of the project (*i.e. Proposed erection of 2-storey apartment on LOT 300m MK01 40 Scotts*)

Step 6.3: Location – The location of where the survey is conducted (*i.e. 40 Scotts Road*)

Step 6.4: Survey Type – The type of survey conducted (*Options: Pre-Con, Post-Con, Post Repair, Before DLP, End DLP*)

Step 6.5: QP Cover Letter – The cover letter provided by the QP for this submission. File format must be in pdf.

Note:

- ✓ There is a slight difference in how the File Upload box is displayed on different browsers.



Figure 41: File Upload Boxes

Step 6.5.1 Click on the “Browse”/”Choose File” button to select the file to upload.

Step 6.5.2: A Windows Dialog box will popup. Navigate to the file and click on the “Open” button to upload the file.

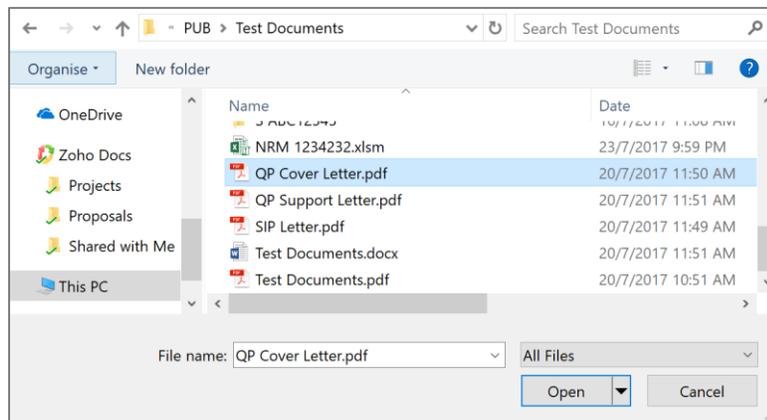


Figure 42: File Select Dialog Box

Step 6.6: SIP – The SIP document for this submission.

Step 6.6.1 Click on the “Browse”/”Choose File” button to select the file to upload.

Step 6.6.2: A Windows Dialog box will popup. Navigate to the file and click on the “Open” button to upload the file. File format must be pdf.

Refer to **Figure 42: File Select Dialog Box** for image reference.

Step 7: Add Contract Details (for “Sewer Rehabilitation” submission)

Skip to **Step 8** if you are not doing “Sewer Rehabilitation” submission.

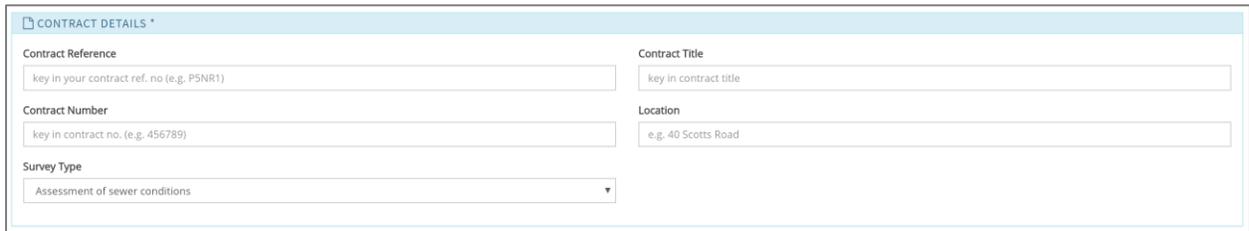


Figure 43: Contract Details (Only for “Sewer Rehabilitation” submission type)

Step 7.1: Contract Reference – The reference number given to the contract (*i.e. P5NR1*).

Step 7.2: Contract Title – The title given for the contract.

Step 7.3: Contract Number – The contract number given (*i.e. 45678*)

Step 7.4: Location – The location of where the survey is conducted (*i.e. 40 Scotts Road*)

Step 7.5: Survey Type – The type of survey conducted (*Options: Assessment of Sewer Conditions, Post-Rehabilitation Survey, Others*)

Step 7.5.1: If you have selected “Others”, a textbox will appear for you to enter the type of survey (in free text).



Figure 44: Survey Type (Others)

Step 8: Add Work Details (for “NMB Term Contract” submission)

Skip to **Step 9** if you are not doing “NMB Term Contract” submission.

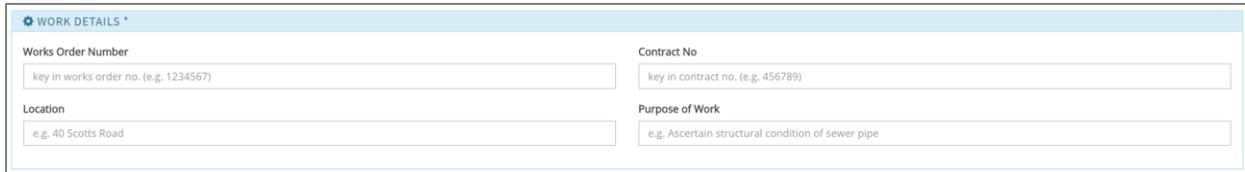


Figure 45: Work Details (Only for "NMB Term Contract" submission type)

Step 8.1: Work Order Number – The reference number given to the work order (*i.e. 1234567*).

Step 8.2: Contract Number – The contract number given for this work order (*i.e. 456789*).

Step 8.3: Location – The location of where the survey is conducted (*i.e. 40 Scotts Road*)

Step 8.4: Purpose of Work – The purpose of the work conducted (*i.e. Ascertain structural condition of sewer pipe*)

Step 9: Other Information (for “Pre-Con/Post-Con/Before DLP/End DLP” submission)

Skip to **Step 10** if you are not doing “Pre-Con/Post-Con/Before DLP/End DLP” submission.

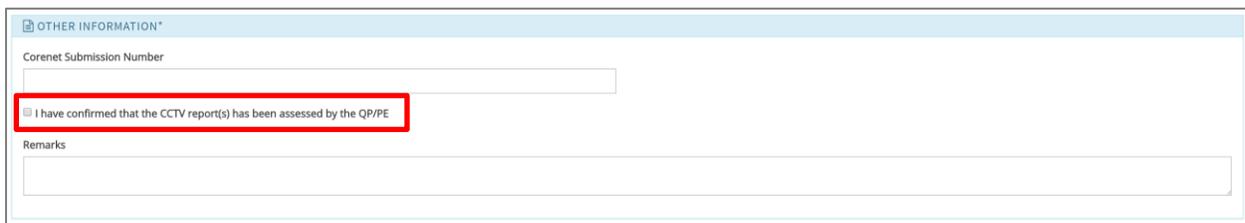


Figure 46: Other Information (“Pre-Con/Post-Con/Before DLP/End DLP”)

Step 9.1: Corenet Submission Number – The corenet submission number submitted by the QP. This is only applicable if you have selected the following survey types:

- Pre-Con
- Post-Con
- Post-Repair

Step 9.2: Confirmation on QP/PE Assessment – Checkbox to confirm that the CCTV reports attached in the submission are assessed by the QP/PE.

- Click on the checkbox (tick) to confirm.
- Note: QP/PE will be informed about this submission via email.

Step 9.3: Remarks – Optional field to capture any additional remark for this submission. This remark will be viewable by PUB officers during their review/approval.

Step 10: Other Information (for "Sewer Rehabilitation" or “NMB Term Contract” submission)

OTHER INFORMATION

Remarks

Figure 47: Other Information ("Sewer Rehabilitation" or "NMB Term Contract")

Step 10.1: Remarks – Optional field to capture any additional remark for this submission. This remark will be viewable by PUB officers during their review/approval.

Step 11: Click on the "Next" Next button to proceed to the next step (page) of the submission (Add Sewer/Drainline Details)

ONLINE CCTV
MY COMPANY CONTACT US

Submission Sewer/Drainline Manhole Preview Submission

Showing 0 to 0 of 0 entries

Search:

Sewer/Drainline G3FID	Diameter (mm)	Date of Survey	CCTV Operator Name	CCTV Report	CCTV Video	Sewer/Drainline Condition Image
No data available in table						

+ Add Sewer/Drainline
← Previous
Next →

Figure 48: Sewer/Drainline Details

Step 12: Click on the "+Add Sewer/Drainline" + Add Sewer/Drainline button to add a new sewer/drainline detail (Sewer/Drainline Detail Form will popup).

Skip to **Step 13** if you are doing "Sewer Rehabilitation" submission.

EDIT SEWER/DRAINLINE

Sewer/Drainline G3FID *
For connection from last IC to public sewer, key in "last IC to -sewer ID/manhole ID>". Example: "last IC to 671345"

Date of Survey *

Diameter (mm) *

CCTV Operator Name *

CCTV Certification ID *
SgTT Cert ID/ WRc Cert ID/ WSQ (Use Water CCTV Course) Cert ID

CCTV Report * Upload

CCTV Video * Upload

Sewer/Drainline Condition Image * Upload

Save

"Pre-Con/Post-Con/Before DLP/End DLP" or "NMB Term Contract"

EDIT SEWER/DRAINLINE

Sewer/Drainline G3FID *
For connection from last IC to public sewer, key in "last IC to -sewer ID/manhole ID>". Example: "last IC to 671345"

Date of Survey *

Diameter (mm) *

Rehabbed Diameter (mm) *

Entering Manhole ID #1 *

Entering Manhole ID #2 *

CCTV Operator Name *

CCTV Certification ID *
SgTT Cert ID/ WRc Cert ID/ WSQ (Use Water CCTV Course) Cert ID

CCTV Report * Upload

CCTV Video * Upload

Sewer/Drainline Condition Image * Upload

Save

"Sewer Rehabilitation"

Figure 49: Add Sewer/Drainline Details

Step 12.1: Sewer/Drainline G3FID – The id number of the sewer/drainline. This information will be used to validate the file names of the attached report, video and images.

Step 12.2: Date of Survey – The date of when the survey was conducted. This information will be used to validate the file names of the attached report, video and images.

- Click on the “Calendar”  button to select the date.

Step 12.3: Diameter (mm) – The diameter (in mm) of the sewer/drainline being surveyed.

Step 12.4: Rehabbed Diameter (mm) – The diameter (in mm) of the sewer/drainline after rehabilitation.

- This is only applicable if the submission type is “Sewer Rehabilitation”.

Step 12.5: Entering Manhole ID #1 – The is number of the manhole that is used to enter the Sewer/Drainline being surveyed.

- This is only applicable if the submission type is “Sewer Rehabilitation”.

Step 12.6: Entering Manhole ID #2 – The is number of the other (2nd) manhole that is used to enter the Sewer/Drainline being surveyed.

- This is only applicable if the submission type is “Sewer Rehabilitation”.

Step 12.7: CCTV Operator Name – The name of the operator that recorded the CCTV.

Step 12.8: CCTV Certification ID – The certification ID of the operator that recorded the CCTV.

Step 12.9: CCTV Report – The CCTV Report (in pdf format). Click on the “Upload”  button to select and upload the report.

This will be validated based on the sewer/drainline G3FID and Survey Date. Below are the allowed file names:

Sewer/Drainline G3FID	Date of Survey	Valid File Names [G3FID-MMDDYY-X], where X is Pre-Con, Post-Con, Post Repair, Before DLP or End DLP	Invalid File Names
123ABC	12 th July 2017	<ul style="list-style-type: none"> ✓ 123abc-071217.pdf ✓ 123abc-071217-precon.pdf 	<ul style="list-style-type: none"> ✗ 456abc-071217.pdf ✗ 123abc-062017.pdf ✗ 123abc-071217.docx

Step 12.10: CCTV Video – The CCTV video (in mp4 format). Click on the “Upload”  button to select and upload the video file.

This will be validated based on the sewer/drainline G3FID and Survey Date. Below are the allowed file names:

Sewer/Drainline G3FID	Date of Survey	Valid File Names [G3FID-MMDDYY-X], where X is Pre-Con, Post-Con, Post Repair, Before DLP or End DLP	Invalid File Names
123ABC	12 th July 2017	<ul style="list-style-type: none"> ✓ 123abc-071217.mp4 ✓ 123abc-071217-beforeDLP.mp4 	<ul style="list-style-type: none"> ✗ 456abc-071217.mp4 ✗ 123abc -062017.mp4 ✗ 123abc-071217.avi ✗ 123abc-071217-semawang.mpg

Step 12.11: Sewer/Drainline Condition Image – The image of the sewer condition (in jpg, png, gif, bmp format). Click on the “Upload” button to select and upload the image file.

This will be validated based on the sewer/drainline G3FID and Survey Date. Below are the allowed file names:

Sewer/Drainline G3FID	Date of Survey	Valid File Names [G3FID-MMDDYY-S],	Invalid File Names
123ABC	12 th July 2017	<ul style="list-style-type: none"> ✓ 123abc-071217-S.jpg ✓ 123abc-071217-S.gif ✓ 123abc-071217-S.bmp ✓ 123abc-071217-S.png 	<ul style="list-style-type: none"> ✗ 456abc-071217-S.jpg ✗ 123abc -062017-S.jpg ✗ 123abc-071217-S-anywords.jpg ✗ 123abc-071217-S.tiff

Step 12.12: Click on the “Save” button to save the sewer/drainline record.

Upon successful saving, the new sewer/drainline record will be listed in the grid.

The screenshot shows the 'ONLINE CCTV' interface. At the top right, a green notification box says 'Saved successfully'. Below it is a breadcrumb trail: Submission > Sewer/Drainline > Manhole > Preview Submission. A search bar and a 'Show 10 entries' dropdown are visible. The main grid has columns: Sewer/Drainline G3FID, Diameter (mm), Date of Survey, CCTV Operator Name, CCTV Report, CCTV Video, and Sewer/Drainline Condition Image. The first row in the grid is highlighted with a red border, containing the following data: 1234567, 123, 16/06/2017, Helen Tay, 1234567-061617-hell.pdf, 1234567-061617-semawang.mp4, and 1234567-061617-S.jpg. An 'Excel' button is at the bottom left, and a pagination control shows '1' of 1 entries.

Figure 50: Sewer/Drainline Details (newly added)

Note:

- Click on the “Edit” button on the sewer/drainline grid to amend an added record.
- Click on the “Delete” button on the sewer/drainline grid to remove an added record.
- Repeat Step 12 (and sub-steps) to add another sewer/drainline detail.

Step 13: Click on the “Next”  button to proceed to the next step (page) of the submission (Add Manhole Details)

Note:

- Manhole detail is optional in all submission type.

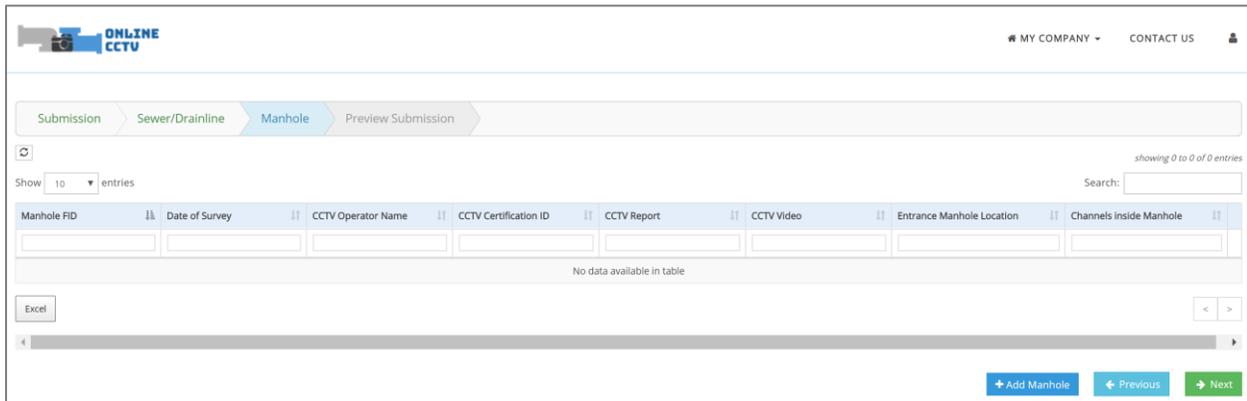


Figure 51: Manhole Details

Step 14: Click on the “+Add Manhole”  button to add a new manhole detail (Manhole Detail Form will popup).

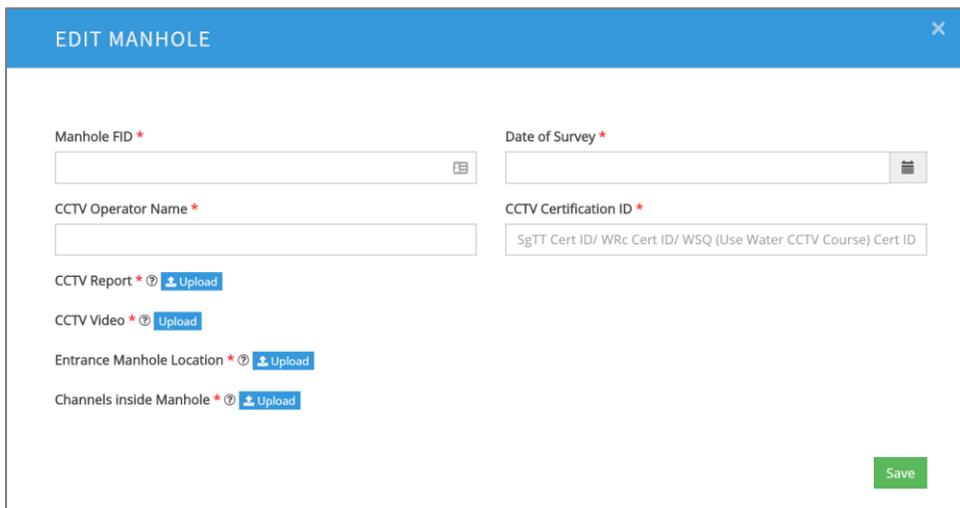


Figure 52: Add Manhole Details

Step 14.1: Manhole ID – The id number of the manhole. This information will be used to validate the file names of the attached report, video and images.

Step 14.2: Date of Survey – The date of when the survey was conducted. This information will be used to validate the file names of the attached report, video and images.

- Click on the “Calendar”  button to select the date.

Step 14.3: CCTV Operator Name – The name of the operator that recorded the CCTV.

Step 14.4: CCTV Certification ID – The certification ID of the operator that recorded the CCTV.

Step 14.5: CCTV Report – The CCTV Report (in pdf format). Click on the “Upload”  button to select and upload the report.

This will be validated based on the Manhole ID and Survey Date. Below are the allowed file names:

Manhole ID	Date of Survey	Valid File Names [G3FID-MMDDYY-X], where X is Pre-Con, Post-Con, Post Repair, Before DLP or End DLP	Invalid File Names
ID22334	20 th June 2017	<ul style="list-style-type: none"> ✓ Id22334-062017.pdf ✓ ID22334-062017-postrepair.pdf 	<ul style="list-style-type: none"> ✗ 456abc-062017.pdf ✗ ID22334-071217.pdf ✗ 123abc-071217.docx

Step 14.6: CCTV Video – The CCTV video (in mp4 format). Click on the “Upload”  button to select and upload the video file.

This will be validated based on the Manhole ID and Survey Date. Below are the allowed file names:

Manhole ID	Date of Survey	Valid File Names [G3FID-MMDDYY-X], where X is Pre-Con, Post-Con, Post Repair, Before DLP or End DLP	Invalid File Names
ID22334	20 th June 2017	<ul style="list-style-type: none"> ✓ Id22334-062017.mp4 ✓ ID22334-062017-post-con.mp4 	<ul style="list-style-type: none"> ✗ 456abc-062017.mp4 ✗ Id22334-071217.mp4 ✗ Id22334-062017.avi ✗ Id22334-062017-semawang.mpg

Step 14.7: Entrance Manhole Location – The image of the entrance of the manhole (in jpg, png, gif, bmp format). Click on the “Upload”  button to select and upload the image file.

This will be validated based on the manhole G3FID and Survey Date. Below are the allowed file names:

Manhole ID	Date of Survey	Valid File Names [G3FID-MMDDYY]	Invalid File Names
ID22334	20 th June 2017	<ul style="list-style-type: none"> ✓ Id22334-062017.jpg ✓ Id22334-062017.gif 	<ul style="list-style-type: none"> ✗ 123abc-062017.jpg ✗ Id22334-071217.jpg

		<ul style="list-style-type: none"> ✓ Id22334-062017.bmp ✓ Id22334-062017.png 	<ul style="list-style-type: none"> ✗ Id22334-062017-anywords.jpg ✗ Id22334-062017.tiff
--	--	--	--

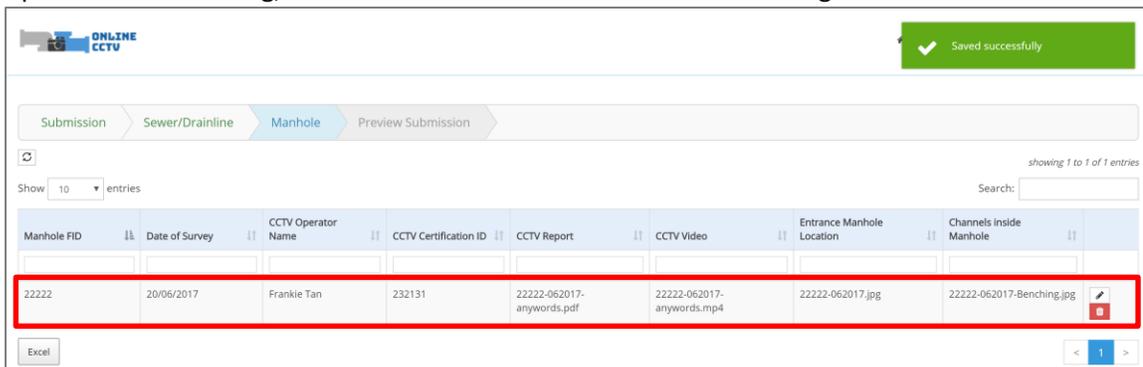
Step 14.8: Channel Inside Manhole – The image of the channel inside the manhole (in jpg, png, gif, bmp format). Click on the “Upload”  button to select and upload the image file.

This will be validated based on the Manhole ID and Survey Date. Below are the allowed file names:

Manhole ID	Date of Survey	Valid File Names [G3FID-MMDDYY-Benching],	Invalid File Names
ID22334	20 th June 2017	<ul style="list-style-type: none"> ✓ Id22334-062017-benching.jpg ✓ Id22334-062017-Benching.gif ✓ Id22334-062017-benching.bmp ✓ Id22334-062017-BENCHING.png 	<ul style="list-style-type: none"> ✗ 123abc-062017-benching.jpg ✗ Id22334-071217-Benching.jpg ✗ Id22334-062017-anywords.jpg ✗ Id22334-062017-Benching-anywords.jpg ✗ Id22334-062017-Benching.tiff

Step 14.19: Click on the “Save”  button to save the manhole record.

Upon successful saving, the new manhole record will be listed in the grid.



The screenshot shows the 'ONLINE CCTV' interface. A green notification box at the top right says 'Saved successfully'. Below it is a breadcrumb trail: Submission > Sewer/Drainline > Manhole > Preview Submission. A search bar is on the right. Below the search bar is a table with columns: Manhole FID, Date of Survey, CCTV Operator Name, CCTV Certification ID, CCTV Report, CCTV Video, Entrance Manhole Location, Channels inside Manhole, and an 'Edit' button. The first row of the table is highlighted with a red box and contains the following data: Manhole FID: 22222, Date of Survey: 20/06/2017, CCTV Operator Name: Frankie Tan, CCTV Certification ID: 232131, CCTV Report: 22222-062017-anywords.pdf, CCTV Video: 22222-062017-anywords.mp4, Entrance Manhole Location: 22222-062017.jpg, Channels inside Manhole: 22222-062017-Benching.jpg. An 'Excel' button is at the bottom left, and pagination controls are at the bottom right.

Figure 53: Manhole Details (newly added)

Note:

- Click on the “Edit”  button on the manhole grid to amend an added record.
- Click on the “Delete”  button on the manhole grid to remove an added record.
- Repeat Step 14 (and sub-steps) to add another manhole detail.

Step 16: Click on the “Next”  button to proceed to the next step (page) of the submission (Submission Summary)

The Submission Summary page provides the summary of all the information entered for the submission in one (1) single page.

ONLINE CCTV MY COMPANY CONTACT US

Please select submission type: Pre-Con/Post-Con/Before DLP/ End DLP

CONTRACTOR DETAILS *

Company Name * ClearManage Pte Ltd Contact Number * 61234567

Contact Person * Alan Ng Email * alan.ng@clearmanage.com

QP DETAILS *

Company Name * Chew Enterprise Contract Number * 96611524

Contact Person * QP Expert Email * cyherus@gmail.com

PROJECT DETAILS *

Project Reference Number * 2312312312 Project Title * Gutter Clearance

Location * Orchard Road Survey Type * Pre-Con

Figure 54: Submission Summary Page (Part 1)

SEWER/DRAINLINE DETAILS*

Sewer/Drainline G3FID	Diameter (mm)	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Sewer/Drainline Condition Image
1234567	123	16/06/2017	Helen Tay	2213123	1234567-061617-hell.pdf	1234567-061617-semawang.mp4	1234567-061617-5.jpg

MANHOLE DETAILS

Manhole FID	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Entrance Manhole Location	Channels inside Manhole
22222	20/06/2017	Frankie Tan	232131	22222-062017-anywords.pdf	22222-062017-anywords.mp4	22222-062017.jpg	22222-062017-Benching.jpg

OTHER INFORMATION

Corenet Submission Number * 1221212

I have confirmed that the CCTV report(s) has been assessed by the QP/PE *

Remarks

Figure 55: Submission Summary Page (Part 2)

Step 17: Optionally, you may click on the “Previous”  button to go back to the previous steps to amend your information before submission.

Step 18: Click on the “Submit”  button to submit the information to PUB for processing.

Step 19: You should be able to find the new submission created and is now pending review. (Refer to section 4.2 Search & View Submissions for steps to search and view submissions)

4.1.2 Draft Submissions

The system provides the function to automatically save newly created submissions as draft. If you have created new submission and has yet to submit, the submission can be found in the draft folder/list for future retrieval and submission.

4.1.3 Delete Draft Submissions

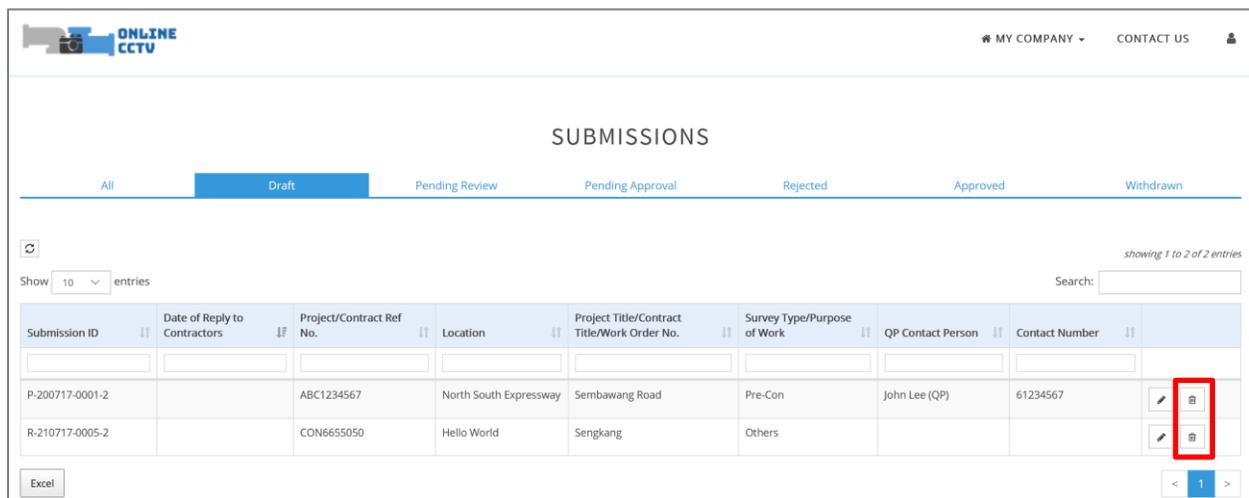
Draft submissions are not sent to PUB and they are only viewable by users in your company (PUB officers can’t see your draft submissions). You can remove the draft submissions with the following steps.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: Click on the “Draft” tab to view the list of draft submissions.

Step 4: Click on the “Delete”  button to delete the desired draft submission.



The screenshot shows the 'SUBMISSIONS' page with the 'Draft' tab selected. A table lists two draft submissions. The first submission, 'P-200717-0001-2', has a red box around its delete icon. The table columns include Submission ID, Date of Reply to Contractors, Project/Contract Ref No., Location, Project Title/Contract Title/Work Order No., Survey Type/Purpose of Work, QP Contact Person, and Contact Number.

Submission ID	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order No.	Survey Type/Purpose of Work	QP Contact Person	Contact Number	
P-200717-0001-2		ABC1234567	North South Expressway	Sembawang Road	Pre-Con	John Lee (QP)	61234567	
R-210717-0005-2		CON6655050	Hello World	Sengkang	Others			

Figure 56: Draft Submissions

Step 5: You will be prompted to confirm if you want to delete this draft submission.

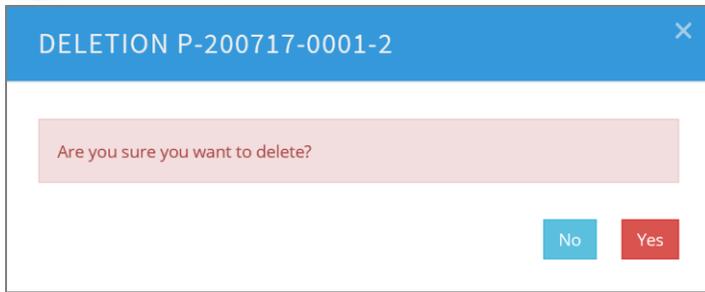


Figure 57: Delete Draft Confirmation

Step 6: Click on “Yes” to confirm the deletion, click on “No” to cancel the delete action.

4.2 Search & View Submissions

The system applies filtering design for search functions. All the submissions are listed in a grid and can be filtered by statuses or any text (using the grid capabilities).

4.2.1 Search Submissions

To view submissions, you can either use the pre-defined tabs that filters submissions by statuses, or you may use the filtering functions at each tab/grid to search for the desired submission. Below are the steps.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: There are several tabs that were pre-defined for users to view submissions according to their status.

- ✓ **All** – View submissions regardless of the submissions’ status.
- ✓ **Draft** – View submissions that are in draft mode and yet to be submitted.
- ✓ **Pending Review** – View submissions that were submitted and currently pending review by PUB officers.
- ✓ **Pending Approval** – View submissions that were submitted and currently pending final review/approval by PUB officers.
- ✓ **Rejected** – View submissions that were rejected by PUB officers.
- ✓ **Approved** – View submissions that were approved/accepted by PUB officers.
- ✓ **Withdrawn** – View submissions that were withdrawn by the Contractor.

ONLINE CCTU MY COMPANY CONTACT US

SUBMISSIONS

All Draft Pending Review Pending Approval Rejected Approved Withdrawn

Showing 1 to 3 of 3 entries (filtered from 5 total entries)

Show 10 entries Search:

Submission ID	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order	Survey Type/Purpose of Work	QP Contact Person	Contact Number
R							
R-200717-0002-1	25/07/2017	CON-1234567	Sembawang Water Park	Sembawang	Assessment of sewer conditions		
R-210717-0005-1	03/08/2017	CON6655050	Hello World	Sengkang	Others		
R-240717-0002-1	17/08/2017	12121	Hello World	123213	Assessment of sewer conditions		

Excel < 1 >

Figure 58: View Submissions (Tabs)

Step 4: To further filter the list, you can use the Universal Filter or the Column Filters to find the desired submissions.

ONLINE CCTU MY COMPANY CONTACT US

SUBMISSIONS

All Draft Pending Review Pending Approval Rejected Approved Withdrawn

Showing 1 to 3 of 3 entries (filtered from 5 total entries)

Show 10 entries Search:

Submission ID	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order	Survey Type/Purpose of Work	QP Contact Person	Contact Number
R							
R-200717-0002-1	25/07/2017	CON-1234567	Sembawang Water Park	Sembawang	Assessment of sewer conditions		
R-210717-0005-1	03/08/2017	CON6655050	Hello World	Sengkang	Others		
R-240717-0002-1	17/08/2017	12121	Hello World	123213	Assessment of sewer conditions		

Excel < 1 >

Figure 59: View Submissions (Filters)

4.2.2 View Submissions

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: Optionally, you may apply filters in the desired Submission tabs to locate the desired submission.

Step 4: Click on the “View”  button to view the submission.

ONLINE CCTV MY COMPANY CONTACT US

SUBMISSIONS

All Draft Pending Review Pending Approval Rejected Approved Withdrawn

Showing 1 to 3 of 3 entries (filtered from 5 total entries)

Show 10 entries Search:

Submission ID	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order No.	Survey Type/Purpose of Work	QP Contact Person	Contact Number
R-200717-0002-1	25/07/2017	CON-1234567	Sembawang Water Park	Sembawang	Assessment of sewer conditions		
R-210717-0005-1	03/08/2017	CON6655050	Hello World	Sengkang	Others		
R-240717-0002-1	17/08/2017	12121	Hello World	123213	Assessment of sewer conditions		

Excel < 1 >

Figure 60: View Submissions

Step 5: The submission will be displayed in view mode.

R-200717-0002-1 ✔ Approved

Project Type: Sewer Rehabilitation

CONTRACTOR DETAILS *

Company Name: ClearManage Pte Ltd Contact Number: 61234567

Contact Person: Roy Chew (CM) Email: cyherus@gmail.com

CONTRACT DETAILS *

Contract Reference *: CON-1234567 Contract Title *: Sembawang Water Park

Contract Number *: SWP-20170101 Location *: Sembawang

Survey Type: Assessment of sewer conditions

SEWER/DRAINLINE DETAILS*

Sewer/Drainline GSFID	Diameter (mm)	Rehabbed Diameter (mm)	Entering Manhole ID #1	Entering Manhole ID #2	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Sewer/Drainline Condition Image
1122334	122	133	345678	345644	16/05/2017	Frankie Tan	WRC23432	1122334-051617.pdf	1122334-051617.mp4	1122334-051617-S.jpg

Figure 61: Submission Details (View Mode)

4.2.3 View Rejected Submission

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: Click on the “Rejected” tab to view the list of rejected submissions.

Step 4: Optionally, you may apply filters in the desired Submission tabs to locate the desired submission.

Step 5: Click on the “View”  button to view the rejected submission.

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SUBMISSIONS

All Draft Pending Review Pending Approval **Rejected** Approved Withdrawn

Show 10 entries Showing 1 to 2 of 2 entries

Submission ID	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order No.	Survey Type/Purpose of Work	QP Contact Person	Contact Number	
P-200717-0001-1		ABC1234567	North South Expressway	Sembawang Road	Pre-Con	John Lee (QP)	61234567	  
R-210717-0005-1	03/08/2017	CON6655050	Hello World	Sengkang	Others			  

Excel 1

Figure 62: View Submissions (Rejected)

Step 6: PUB officers make comments in each section/record when they reject the submission. You may view the comments by clicking on the “View Comments”  button.

SEWER/DRAINLINE DETAILS*

Sewer/Drainline G3FID	Diameter (mm)	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Sewer/Drainline Condition Image
1234567	123	16/06/2017	James Poh	123WRC321	1234567-061617.pdf	1234567-061617-sembawang.mp4	1234567-061617-5.jpg 

MANHOLE DETAILS

Manhole FID	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Entrance Manhole Location	Channels Inside Manhole
54321	16/06/2017	James Poh	123WRC321	54321-061617.pdf	54321-061617-new world.mp4	54321-061617.jpg	54321-061617-Benching.jpg

Figure 63: Sample of Rejected Submission with Comments

Step 7: The comments form will popup to display the reasons why the record is rejected.

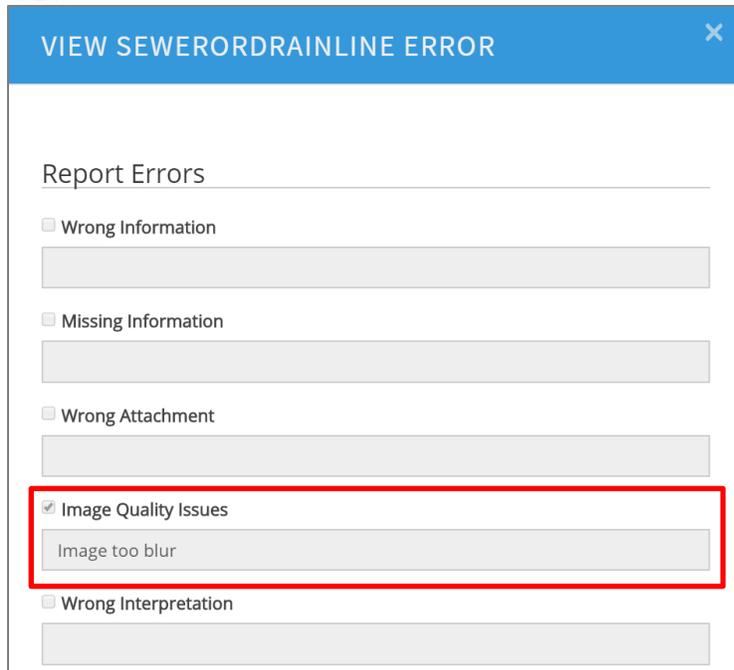


Figure 64: Sample of Rejection Reason

4.3 Post Submission Actions

This section describes the activities / actions that can be performed after a submission is made (post submission). Post submission actions includes resubmitting a rejected submission (by PUB) and withdrawing a submission.

4.3.1 Resubmit Rejected Submissions

When a submission is rejected by PUB officers, you will be notified (via email) of the new status and you can view the reasons for the rejection in the submission online. To avoid having to re-entry all the information in the submission, the system provides a resubmission function, to allow Contractors to resubmit a CCTV submission with information that requires changes instead of the whole submission.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: Click on the “Rejected” tab to view the list of rejected submissions.

Step 4: Click on the “Resubmit”  button of the desired submission to resubmit.

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SUBMISSIONS

Pending Review Pending Approval **Rejected** Approved Withdrawn

showing 1 to 2 of 2 entries

Search:

Fact Ref	Project Title/Contract Title/Work Order No.	Contact Number	Location	Survey Type/Purpose of Work	Contractor Company Name	Contact Person	QP Company Name	QP Contact Person	
	North South Expressway	61234567	Sembawang Road	Pre-Con	ClearManage Pte Ltd	Roy Chew (CM)	QP Company	John Lee (QP)	<input type="text"/> <input type="text"/> <input type="text"/>
	Hello World	61234567	Sengkang	Others	ClearManage Pte Ltd	Roy Chew (CM)			<input type="text"/> <input type="text"/> <input type="text"/>

Figure 65: Resubmit Rejected Submission

Step 5: You will be prompted to confirm if you want to create a resubmission.

Note:

- ✓ The system only allows for one (1) resubmission for each submission version, once you have clicked on the “Resubmit” button, a draft (of the resubmission) will be created. In this case, you will no longer see the “Resubmit” button for this rejected submission in the rejected submission list.

RE-SUBMIT P-200717-0001-1 ✕

Are you sure you want to re-submit?

No
Yes

Figure 66: Resubmit Confirmation

Step 6: The rejection messages will be displayed in a red label at the submission forms’ main page. Click on the “Next” button to proceed to the subsequent sections for amendment.

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CREATE/UPDATE SUBMISSION

Video Report Error
(Sewer ID: 1234567)
Image Quality Issues: "not clear please resubmit"

Submission Sewer/Drainline Manhole Preview Submission

PLEASE SELECT SUBMISSION TYPE

Pre-Con/Post-Con/Before DLP/ End DLP

Select "Pre- and Post- Construction" for CCTV video submissions associated with: pre-construction, post-construction, post-repair, before DLP and end-DLP videos. You will be required to fill up the corenet submission number by the QP, when you select "Pre-Con" "Post-Con" or "Post-Repair" as the survey type.

Figure 67: Resubmission - Rejection Messages

Step 7: Sections or Records that were marked as rejected by PUB officers, will be displayed with red fonts. You can edit/delete the fields/records to change the information accordingly to PUB officer's rejection message.

Note:

- ✓ Only sections or records marked as rejected (by PUB officers) are allowed for amendments by Contractor users. Sections or records marked as accepted (PUB officers) will be displayed in green and are no longer editable.

Step 8: Click on the "Edit"  button to amend the record, or click on the "Delete"  button to delete the record and add a new sewer/manhole record.

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Submission Sewer/Drainline Manhole Preview Submission

Show 10 entries Showing 1 to 1 of 1 entries

Sewer/Drainline G3FID	Diameter (mm)	Date of Survey	CCTV Operator Name	CCTV Report	CCTV Video	Sewer/Drainline Condition Image	
1234567	123	16/06/2017	James Poh	1234567-061617.pdf	1234567-061617-sembawang.mp4	1234567-061617-S.jpg	 

Excel 1

+ Add Sewer/Drainline
← Previous
Next →

Figure 68: Example of Rejected Record (Sewer/Drainline)

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Submission Sewer/Drainline **Manhole** Preview Submission

Show 10 entries Showing 1 to 1 of 1 entries Search:

Manhole FID	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Entrance Manhole Location	Channels inside Manhole
54321	16/06/2017	James Poh	123WRC321	54321-061617.pdf	54321-061617-new world.mp4	54321-061617.jpg	54321-061617-Benching.jpg

Excel < 1 >

[+ Add Manhole](#)
[← Previous](#)
[Next →](#)

Figure 69: Example of Accepted Record (Manhole)

Step 9: Optionally, you may add a new Sewer/Drainline or Manhole record in the re-submission.

Step 10: At the Summary page, do a final review on the information updated.

Note:

- ✓ The information you have updated for the rejected record will still be displayed in red.



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SubmissionSewer/DrainlineManholePreview Submission

Please select submission type Pre-Con/Post-Con/Before DLP/ End DLP

CONTRACTOR DETAILS *

Company Name * <input type="text" value="ClearManage Pte Ltd"/>	Contact Number * <input type="text" value="61234567"/>
Contact Person * <input type="text" value="Alan Ng"/>	Email * <input type="text" value="alan.ng@clearmanage.com"/>

QP DETAILS *

Company Name * <input type="text" value="QP Company"/>	Contract Number * <input type="text" value="61234567"/>
Contact Person * <input type="text" value="John Lee (QP)"/>	Email * <input type="text" value="cyherus@gmail.com"/>

PROJECT DETAILS *

Project Reference Number * <input type="text" value="ABC1234567"/>	Project Title * <input type="text" value="North South Expressway"/>
Location * <input type="text" value="Sembawang Road"/>	Survey Type <input type="text" value="Pre-Con"/>

Figure 70: Summary Page (Part 1)

☰ SEWER/DRAINLINE DETAILS*

Sewer/Drainline G3FID	Diameter (mm)	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Sewer/Drainline Condition Image
1234567	123	16/06/2017	James Poh	123WRC321	1234567-061617.pdf	1234567-061617-sembawang.mp4	1234567-061617-S.jpg

☰ MANHOLE DETAILS

Manhole FID	Date of Survey	CCTV Operator Name	CCTV Certification ID	CCTV Report	CCTV Video	Entrance Manhole Location	Channels inside Manhole
54321	16/06/2017	James Poh	123WRC321	54321-061617.pdf	54321-061617-new world.mp4	54321-061617.jpg	54321-061617-Benching.jpg

☰ OTHER INFORMATION

Corenet Submission Number *

I have confirmed that the CCTV report(s) has been assessed by the QP/PE *

Remarks

← Previous
→ Submit

Figure 71: Summary Page (Part 2)

Step 11: Click on the “Submit” button to complete with the re-submission.

4.3.2 Withdraw Submitted Submissions

To cater for wrong submission scenarios, the system provides a withdrawal function, for contractor users to withdraw a submission from the system. Withdrawal can be performed regardless of the status of the submission, even after the submission has been approved/accepted.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

Step 3: Click on the “All” tab to view the list of rejected submissions. You may use other tabs as well.

Step 4: Click on the “Withdraw”  button.

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SUBMISSIONS

[All](#) [Draft](#) [Pending Review](#) [Pending Approval](#) [Rejected](#) **[Approved](#)** [Withdrawn](#)

Show 10 entries Showing 1 to 3 of 3 entries

Submission ID	Date of Submission	Date of Draft Reply	Date of Reply to Contractors	Project/Contract Ref No.	Project Title/Contract Title/Work Order	Contact Number	Location	Survey Type/Purpose of Work	Contractor Company Name	Contact Person	QP Company Name	QP Contact Person	
M-200717-0003-1	20/07/2017	21/07/2017	25/07/2017	CON-4433221	WO-123451234	61234567	Kallang	NMB term contract	ClearManage Pte Ltd	Roy Chew (CM)			Q <input type="checkbox"/>
R-200717-0002-1	20/07/2017	25/07/2017	25/07/2017	CON-1234567	Sembawang Water Park	61234567	Sembawang	Assessment of sewer conditions	ClearManage Pte Ltd	Roy Chew (CM)			Q <input type="checkbox"/>
R-240717-0002-1	24/07/2017	25/07/2017	17/08/2017	12121	Hello World	61234567	123213	Assessment of sewer conditions	ClearManage Pte Ltd	Alan Ng			Q <input type="checkbox"/>

Excel < 1 >

Figure 72: Withdraw a Submission

Step 5: You will be prompted to confirm if you want to withdraw the submission.

Note:

- ✓ Withdrawal is NOT reversible, you cannot undo a withdrawal after the confirmation.
- ✓ You cannot perform re-submission from a withdrawn submission. You have to create a new submission.

WITHDRAW R-240717-0002-1
✕

Are you sure you want to withdraw?

No
Yes

Step 6: Click on “Yes” button to confirm the withdrawal. Click on “No” to cancel the withdrawal action.

Step 7: All withdrawn submissions can be viewed in the “Withdrawn” tab.

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SUBMISSIONS

All Draft Pending Review Pending Approval Rejected Approved Withdrawn

showing 1 to 5 of 5 entries

Show entries

Search:

Submission ID	Date of Submission	Date of Reply to Contractors	Project/Contract Ref No.	Location	Project Title/Contract Title/Work Order No.	Survey Type/Purpose of Work	QP Contact Person	Contact Number	
M-150817-0854-1	15/08/2017		3432423	WO232322	Sembawang	Ascertain Sewer			🔍
M-150817-0857-1	15/08/2017		435345435	WO232322	Sembawang	Ascertain Sewer			🔍
M-150817-0858-1	15/08/2017		435345435	WO232322	Sembawang	Ascertain Sewer			🔍
P-150817-0855-1	15/08/2017		12345676PR	North South Expressway	Loyang	Pre-Con	John Lee (QP)	61234567	🔍
R-150817-0856-1	15/08/2017		CON-1212	Hello World	Sengkang	Assessment of sewer conditions			🔍

< 1 >

Figure 73: Withdrawn Submission List

4.4 Export Submission List

4.4.1 Export to Excel

The system provides the function for users to export the results in the grid/list to excel for their own reporting or archival purpose.

Step 1: Login to the system with your id/password.

Step 2: At the Contractor Company Dashboard, click on “Submissions” link.

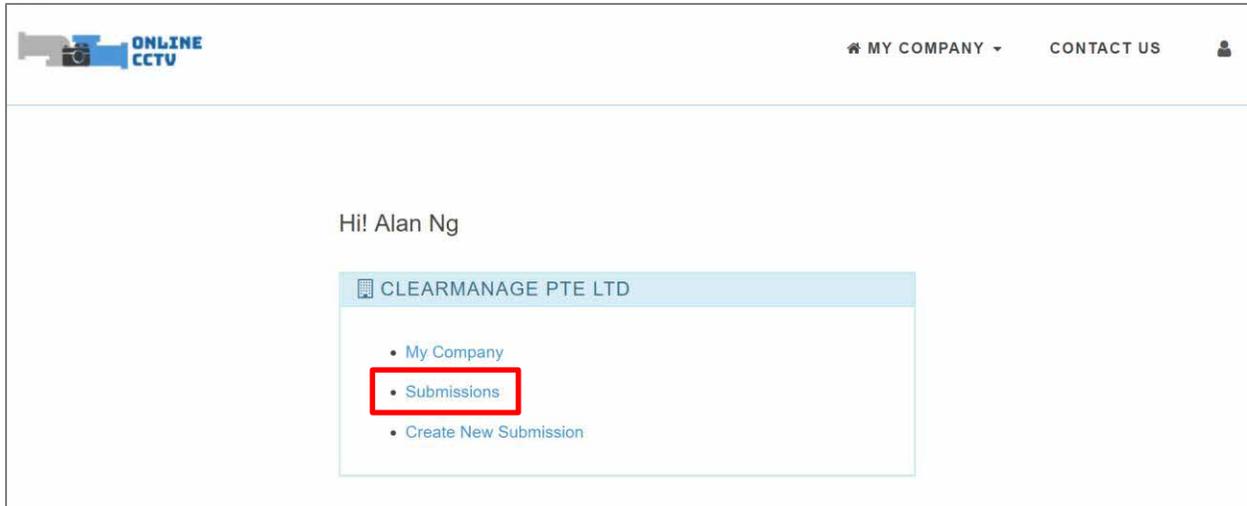


Figure 74: Contractor Company Dashboard

Step 3: Click on any of the tabs to filter the submission listing based on the submissions' statuses.

- ✓ All
- ✓ Draft
- ✓ Pending Review
- ✓ Pending Approval
- ✓ Rejected
- ✓ Approved
- ✓ Withdrawn

Submission ID	Status	Date of Submission	Date of Draft Reply	Date of Reply to Contractors	Project/Contract Ref No.	Project Title/Contract Title/Work Order No.	Contact Number	Location	Survey Type/Purpose of Work	Contractor Company Name	Contact Person	QP Company Name	QP Contact Person
M-200717-0003-1	Approved	20/07/2017	21/07/2017	25/07/2017	CON-4433221	WO-123451234	61234567	Kallang	NMB term contract	ClearManage Pte Ltd	Roy Chew (CM)		
P-200717-0001-1	Partially Rejected	20/07/2017			ABC1234567	North South Expressway	61234567	Sembawang Road	Pre-Con	ClearManage Pte Ltd	Roy Chew (CM)	QP Company	John Lee (QP)

Figure 75: Submission List

Step 4: Optionally, you may apply more filters in the grid to filter the grid to list the information according to your needs.

Step 5: Click on the “Excel” button to export the result (on the grid) to excel.

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SUBMISSIONS

All Draft Pending Review Pending Approval Rejected Approved Withdrawn

Show 10 entries Showing 1 to 1 of 1 entries (filtered from 6 total entries)

Search:

Submission ID	Status	Date of Submission	Date of Draft Reply	Date of Reply to Contractors	Project/Contract Ref No.	Project Title/Contract Title/Work Order No.	Contact Number	Location	Survey Type/Purpose of Work	Contractor Company Name	Contact Person	QP Company Name	QP Contact Person
M-200717-0003-1	Approved	20/07/2017	21/07/2017	25/07/2017	CON-4433221	WO-123451234	61234567	Kallang	NMB term contract	ClearManage Pte Ltd	Roy Chew (CM)		

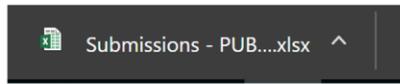
Excel

Figure 76: Submission List (Filtered, Export)

Step 6: Depending on the browser that you used, the download experience might differ slightly.

- Chrome: File is downloaded automatically (i.e. download folder) and you can click on the link at the bottom of the browser to view the file.
- Internet Explorer: Prompts you to open or save the downloaded file.

Chrome Browser



Internet Explorer Browser

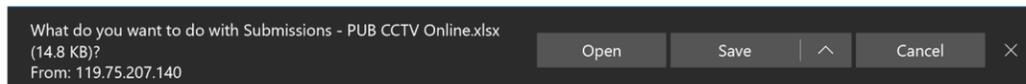


Figure 77: Downloaded Files (Different Browsers)

5. EMAIL NOTIFICATIONS

This section will list the various email notifications that you may receive from the system.

5.1 Password (User Account) Notification

5.1.1 Password Issuance Notification

When a new contractor user is created by the Contractor Administrator, this password issuance notification will be sent to the newly created contractor user. This email will contain a link to set a new password to access the system.

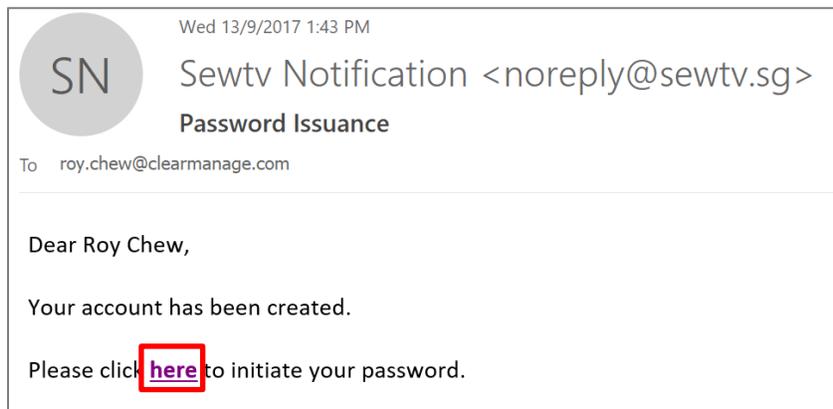


Figure 78: Email Notification - Account Creation

5.1.2 Password Recovery Email

When a user forgets his/her password to the system, they may initiate a password reset (refer to 2.1.5 Forgot Password). This password recovery will be sent to the requestor's registered email, it will contain a link to reset the password for this user account in the system.

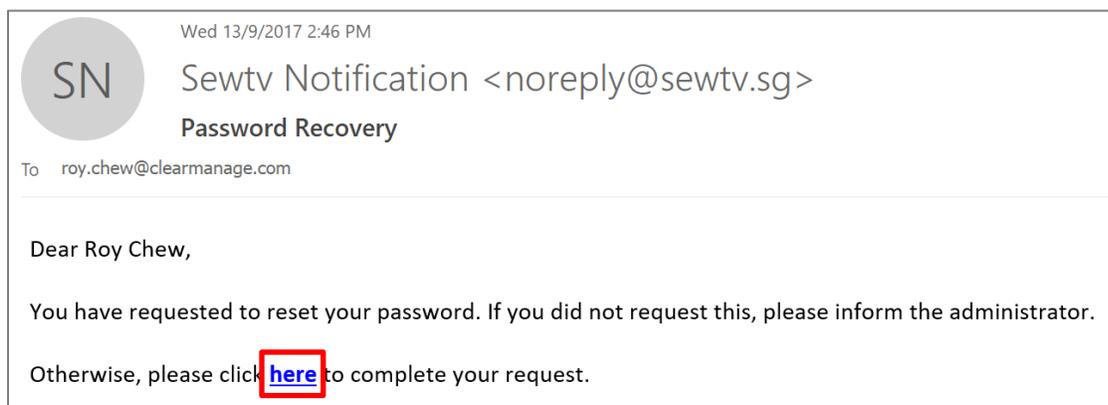


Figure 79: Email Notification - Password Recovery

5.2 Submission Notifications

5.2.1 Submission Confirmation

Upon successful submission to the system, a confirmation email will be sent to the contractor user. The confirmation email will contain the main details of the submission

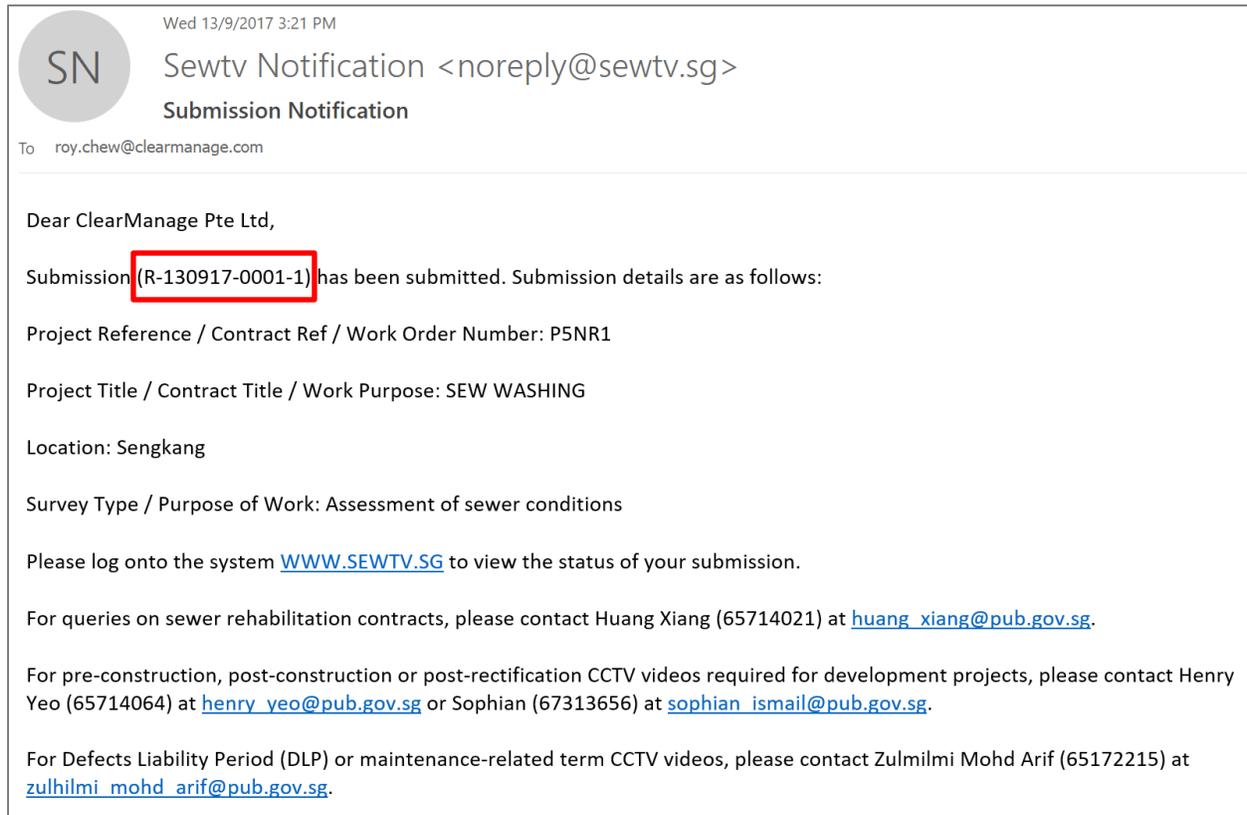


Figure 80: Email Notification - Submission Confirmation

Note:

- This email will be sent for new submissions and resubmissions are received in the system.

5.2.2 Submission Acceptance

When a submission is reviewed and accepted by PUB officers, this submission acceptance notification will be sent to the contractor users. In this notification, the submitted reports (pdf) and images will be attached for reference.

Note:

- If this is a “Pre-Con/Post-Con/Before DLP/End DLP” where QP details were provided, the QP will also receive this notification via email.

Mon 11/9/2017 5:20 PM

NR No Reply <noreply@mevo.com>
Submission Acceptance Notification

To: rj_sk_sz@hotmail.com

Cc: abc@pub.gov.sg; yeefah418@hotmail.com; jonathan_lim@pub.gov.sg; sophian_ismail@pub.gov.sg; roy.chew@clearmanage.com; sharon_zheng@pub.gov.sg; henry_yeo@pub.gov.sg; roy@thecornerstore.shop

 S123-072417 - Pre-construction.pdf 488 KB	 S123-072417-S.JPG 130 KB	 MH123-070517.pdf 488 KB
 MH123-070517-benching.jpg 44 KB	 MH123-070517.JPG 157 KB	 MH456-070517.pdf 488 KB
 MH456-070517-Benching.JPG	 MH456-070517.JPG	

Dear lian shing-admin / Lian Shing Construction Co. Pte Ltd ,

Submission (P-100817-0846-1) has been **approved** by PUB WRN. Submission details are as follows:

Submission ID: P-100817-0846-1

Project Title / Contract Title / Work Order Number: New project for PLND

Approved Date: 11/09/2017

Location: 40 scotts road

Survey Type / Purpose of Work: Post Repair

Please find attached the CCTV report(s) submitted. You may view your updated submission status on the system:
WWW.WRNCCTV.SG

System Administrator

Figure 81: Email Notification - Submission Acceptance

5.2.3 Submission Rejection

When a submission is reviewed and rejected by PUB officers, this submission rejection notification will be sent to the contractor users.

Note:

- If this is a “Pre-Con/Post-Con/Before DLP/End DLP” where QP details were provided, the QP will also receive this notification via email.
- PUB officers may choose to accept a portion of the submission and reject the remaining portion. In this case, the notification will mention that this is a partial rejection.



Wed 13/9/2017 3:31 PM

Sewtv Notification <noreply@sewtv.sg>

Submission Partially Rejection Notification

To roy.chew@clearmanage.com

Cc abc@pub.gov.sg; admin@pub.gov.sg

Dear Roy Chew / ClearManage Pte Ltd ,

Submission (R-130917-0001-1) has been **partially rejected** by PUB WRN. Submission details are as follows:

Project Reference / Contract Ref / Work Order Number: P5NR1

Project Title / Contract Title / Work Order Number: SEW WASHING

Date of Reply: 13/09/2017

Location: Sengkang

Survey Type / Purpose of Work: Assessment of sewer conditions

Please log onto the system WWW.WRNCCTV.SG to view the issues identified and file a re-submission for the rejected sections.

Figure 82: Email Notification - Submission Rejection