



# **Report to the Township of Ramara for Inflow and Infiltration Study**

**SUBMITTED BY**

Ontario Clean Water Agency  
2085 Hurontario Street, Suite 500  
Mississauga, ON L5A 4G1

Date: April 20, 2023  
Project No: RAMARN1616-2233  
Rev: 2

## Revision History

| REV. NO. | DATE           | PREPARED BY:  | APPROVED BY:   | DESCRIPTION             |
|----------|----------------|---------------|----------------|-------------------------|
| 0        | March 21, 2023 | Jason Younker | Sonya Semanuik | Draft for client review |
| 1        | March 23, 2023 | Jason Younker | Sonya Semanuik | Final Report            |
| 2        | April 20, 2023 | Jason Younker | Sonya Semanuik | Revised Final Report    |

# OCWA Signatures

Report prepared by:



---

**Jason Younker**, E.I.T.  
Junior Project Manager

Report reviewed by:

**Sonya M Semanuik** Digitally signed by  
Sonya M Semanuik  
Date: 2023.04.20  
09:27:27 -04'00'

---

**Sonya M Semanuik**, P.Eng., PMP  
Senior Project Manager – Studies & Condition Assessments

*OCWA consents to have the Client use this document and related information (collectively the “Document”) only in connection with the agreement between OCWA and the Client subject to the following permitted use: (1) the Client may use any of the Document internal to its organization only, unless the disclosure or the external use is required by law and (2) the Client may use the Document externally provided that the external party is bound by confidentiality agreement(s) with terms and conditions at least as strict as this one, (collectively and individually the “Permitted Use”). Other than any Client data, any information in this Document and all related intellectual property and rights in the foregoing are confidential and proprietary to OCWA. The Client or any other party shall not directly or indirectly infringe the intellectual property and rights of OCWA in any of the foregoing.*

*The Document is intended to assist the Client in relation to the project in the Document as at the date in the Document based on information available and facts stated by the Client as at such date.*

*OCWA is not responsible for any conclusions drawn by the Client based on prior inconsistencies or any additional information made available after such date.*

*The Document or any opinion arising out of the Document cannot be relied on by third parties or in connection with any transaction or documents. Any use of the Document outside of its intended purpose or in relation to any other project is the responsibility of the Client*

# Table of Contents

|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>Executive Summary.....</b>                                      | <b>1</b>  |
| <b>2</b> | <b>Project Overview.....</b>                                       | <b>2</b>  |
| 2.1      | Background .....   | 2         |
| 2.2      | Project Approach .....   | 3         |
| <b>3</b> | <b>Inflow and Infiltration (I&amp;I) .....</b>                     | <b>3</b>  |
| 3.1      | Identifying I&I Sources – Treated Flow Analysis.....               | 3         |
| 3.1.1    | I&I Sources – Precipitation Analysis .....                         | 5         |
| 3.1.2    | I&I Sources – Precipitation Analysis (Civica Flow Monitoring)..... | 6         |
| 3.2      | Property Investigations.....                                       | 8         |
| 3.2.1    | Sump Pump Connections.....   | 8         |
| 3.2.2    | Roof Leaders .....   | 8         |
| 3.2.3    | Private Property Summary.....                                      | 9         |
| 3.3      | CCTV Inspections.....  | 9         |
| 3.4      | Manhole Inspections.....   | 11        |
| 3.4.1    | Grade Adjustment Deterioration.....                                | 12        |
| 3.4.2    | Joint Infiltration .....   | 12        |
| <b>4</b> | <b>I&amp;I Remediation .....</b>                                   | <b>13</b> |
| 4.1      | Remediation Methods .....  | 13        |
| 4.1.1    | Sanitary Sewer Pipe .....  | 13        |
| 4.1.2    | Maintenance Holes.....   | 14        |
| 4.2      | Remediation Recommendations .....                                  | 15        |
| <b>5</b> | <b>Next Steps.....</b>   | <b>19</b> |
| <b>6</b> | <b>Rehabilitation &amp; Reinspection Budget.....</b>               | <b>20</b> |

**Attachment A: CCTV Inspection Report, Bayshore Village, Wessuc**

**Attachment B: Ramara Flow Monitoring (Apr-Jul), Civica Infrastructure Inc.**

**Attachment C: Private Property Inspections, OCWA**

**Attachment D: Maintenance Hole Inspections, OCWA**



# 1 Executive Summary

In order to reduce excess flows into the sanitary sewer system, the Township of Ramara has made efforts to identify and eliminate inflow and infiltration (I&I) sources. This report summarizes investigations conducted in 2022 and provides recommendations for rehabilitation of infrastructure aimed at reducing I&I.

Investigations conducted include:

- Analysis of treatment plant, flow meter and precipitation data
- Visual inspection of private property storm connections (sump pumps and downspouts)
- Visual inspection of maintenance holes (MHs)
- CCTV inspection of sanitary mainline sewer pipes
- CCTV inspection of selected sanitary lateral pipes with evidence of infiltration

Analysis of the investigation data indicates that:

- Although the average water supplied to residents has remained constant at approximately 146 m<sup>3</sup>/day throughout the study period, wastewater flows have decreased 20% from 389 m<sup>3</sup>/day (Jan 2017 to June 2021) to 310 m<sup>3</sup>/day (July 2021 to Dec 2022). This decrease could be attributed to drier weather or successful excess flow reduction efforts.
- Wastewater flow rates respond more significantly during the spring melt and after long rain events than for short, intense rain events. This suggests that groundwater (i.e. infiltration) is more likely contributing to I&I than surface water (i.e. inflow).
- Of the 340 occupied properties, OCWA staff were granted indoor access to 306 and observed visible outdoor conditions for 23. There were 11 property owners who declined access and no inspection results were obtained. This visual inspection identified two properties with sump pump connections to sanitary as well as one property that had no visible downspout discharge, and is therefore assumed to be connected to sanitary.
- A CCTV inspection of the mainline sewer pipe identified 11 sections of sewer requiring remediation due to active infiltration (3 sections) or offset/separated joints (8 sections). Additionally, there were deteriorating spot repairs in 6 sections that should be monitored and addressed when necessary.
- While conducting the CCTV inspection of the mainline sewer pipe, 11 laterals exhibited evidence of infiltration and were subsequently inspected as well. Three of these laterals had active, running infiltration while an additional lateral was flooded and could not be adequately inspected (camera was under water).
- Of the 71 inspected maintenance holes (MH), 35 require remediation: 18 MHs have active infiltration or evidence of infiltration through a precast joint, 14 have grade adjustment issues that may allow infiltration and 3 have both.

To reduce excess flows into the sanitary system, OCWA recommends:

- Disconnecting the three private properties (two sump pump, one downspout) (Section 3.2).
- Repairing the three private laterals with active leaks and reinspecting a fourth property to determine the cause of flooding in the pipe (Section 3.3).
- Repairing the 11 sections of mainline sanitary sewer (Section 4.2)
- Repairing 35 maintenance holes (Section 4.2).
- Conducting a reanalysis of flow data to obtain a cost/benefit ratio for I&I remediation.
- Reinspecting the system (CCTV of mainline, CCTV of 20 lateral sewers, MH inspections) every 8 to 10 years until deterioration rates indicate a more aggressive schedule is required.

Class V estimates for the remediation and reinspection work is provided in Tables 7 and 8 (Section 6).

## **2 Project Overview**

### **2.1 Background**

The Township of Ramara (Township) recognized that there was inflow and infiltration (I&I) contributing to excess sewer flows in their Bayshore Village wastewater system and had been taking steps to reduce these excess flows by conducting:

- Smoke (Fog) testing to identify possible downspout and sump pump connections to the sanitary system
- CCTV video inspections of sewer mains and laterals (partial)
- Private property sump pump inspections (partial)

Results from this testing had identified that the laterals were a major contributor towards the excess flows and as such, a lateral rehabilitation program was implemented in 2019/2020. Other isolated issues such as sump pump connections and mainline sewer defects were also identified and possibly remediated.

In light of wastewater treatment capacity issues, the Township had contracted OCWA in 2021 to develop an excess flow reduction plan/road map to determine a path forward for addressing I&I over the long term, which resulted in the “Bayshore Excess Flow Reduction” report issued in March 2022 (2022 Report). The 2022 Report focussed on spring thaw activities and was presented to Council on March 14, 2022.

Following this report, the Township authorized OCWA to proceed with a more detailed investigation to better define the I&I in the sanitary system and recommend efforts to reduce these flows. This report summarizes the detailed investigation into the Township’s System.

## 2.2 Project Approach

In addition to reviewing the information provided and analyzed for the 2022 Report, OCWA conducted the following site investigations:

- Catchment flow monitoring April to August 2022 (by Civica Water Management Solutions)
- Main sewer line and lateral sewer pipe CCTV inspection (by Wessuc)
- Property inspections to confirm the presence of sump pump/downspout connections
- 71 Maintenance Hole (MH) Inspections

This inspection work and subsequent analysis are summarized in the following report along with recommendations for strategies and remediation work necessary to reduce I&I in the Bayshore Collection System.

## 3 Inflow and Infiltration (I&I)

### 3.1 Identifying I&I Sources – Treated Flow Analysis

Similar to the 2022 Report, a high level analysis of flow rates from the local water and wastewater treatment facilities was conducted, however this analysis included data from 2022 as shown in Figure 1 where the Township's treated water flow (blue) is plotted with raw wastewater flow (orange). In a perfect system, the amount of treated water produced would be equal to or greater than the amount of wastewater ultimately entering the wastewater system.

In Figure 1, the water flow data reflect typical usage patterns, higher in the summer months as lawn watering and other seasonal activities occur and lower in the winter. However, Figure 1 also shows that the Township's sanitary flows are significantly higher than the treated water flows until late May 2022 when the wastewater flows decrease.

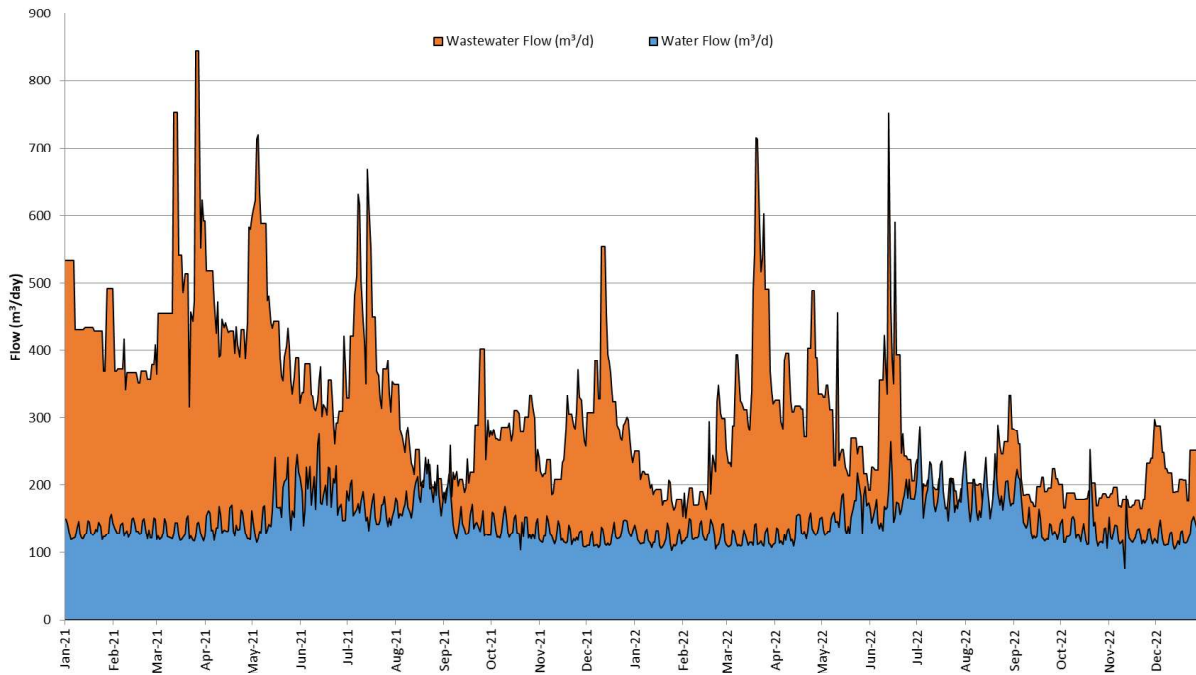


Figure 1: Comparison of Water and Wastewater Flows (January 2021 to December 2022)

Overall, the wastewater flows appear to have decreased since the same analysis was conducted for the 2022 Report. When the full data range is plotted (Figure 2), it is apparent that although the average water supplied has remained constant at approximately 146 m<sup>3</sup>/day throughout the study period, the wastewater flows have decreased 20% from 389 m<sup>3</sup>/day (Jan 2017 to June 2021) to 310 m<sup>3</sup>/day (July 2021 to Dec 2022). This decrease could be attributed to drier weather or successful excess flow reduction efforts. In order to better determine which is true, a precipitation analysis was conducted (Sections 2.1.1 and 2.1.2).

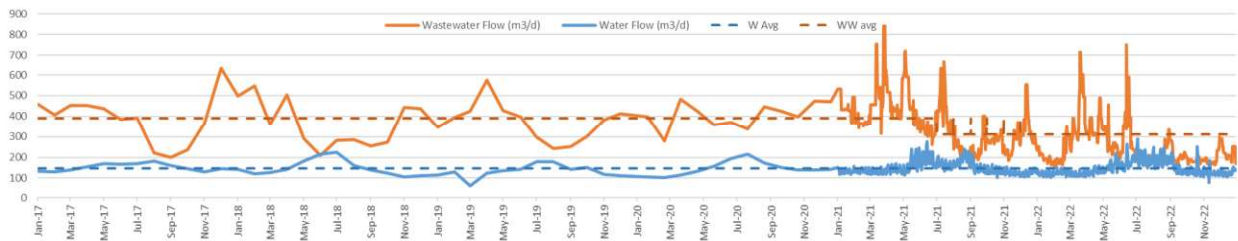


Figure 2: Comparison of Water and Wastewater Flows (January 2017 to December 2023)

### 3.1.1 I&I Sources – Precipitation Analysis

In the 2022 Report, precipitation was compared to flows entering the wastewater treatment system to determine if there was rainfall entering the system via roof leaders, cross connections with storm sewers, etc. At that time, there were peaks in the flows during the spring melt (indicating groundwater infiltration) but no obvious correlation with rainfall. This is not unusual as there were some limitations in the analysis:

- The flow meter that was measuring the raw wastewater entering the pump station did not continuously record flows. Instead, flows had been manually read and recorded by an operator. This introduces two potential issues for proper data collection:
  - **Human Error** – Data can be read or recorded incorrectly.
  - **Averaging Error** – If the data is collected over several days, the total flow between collections is divided by the number of days between collections to obtain an average daily flow. For example, if the flow was collected every three days, the average daily flow for those three days would be calculated as the total flow divided by three and consequently, the average daily flow would be the same for all three days. This would not capture any instantaneous flow changes due to storm or other rain events.
- The precipitation volumes were for Shanty Bay, which is 28km from Bayshore Village and may not have reflected local weather conditions. Additionally, only daily volumes were provided by Environment Canada, which does not capture short duration, high intensity storms.

Since that report, a weather station was installed in the Bayshore area. The data collected from May 2022 to January 2023 was then compared to incoming wastewater flows (Figure 3).

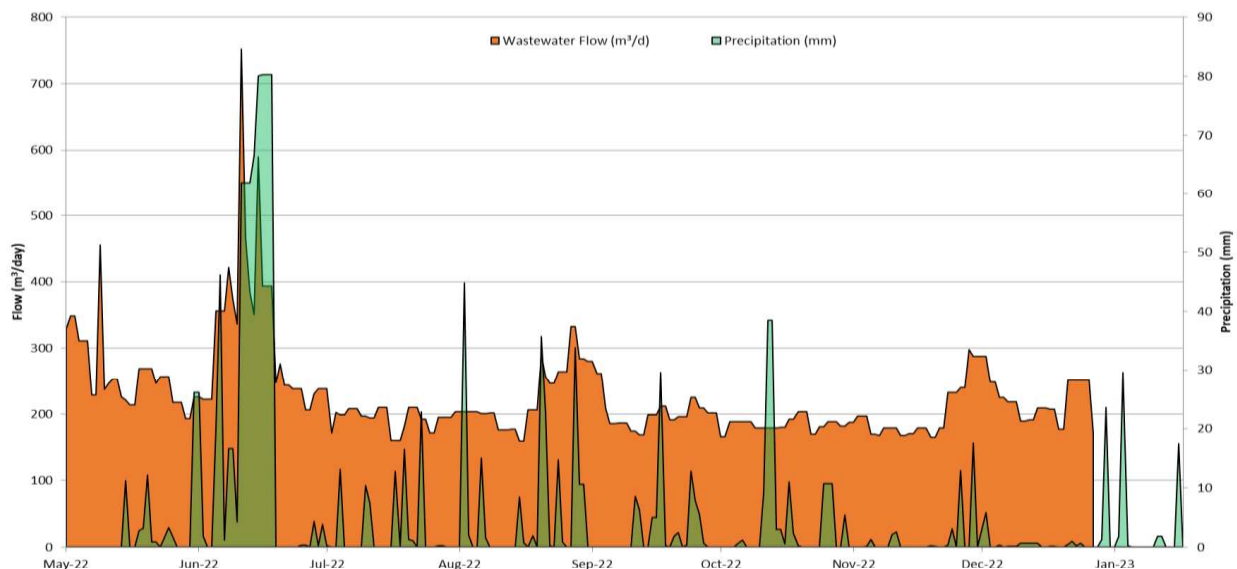


Figure 3: Comparison of Wastewater flow and Local Precipitation (May 2022 – Jan 2023)

The more detailed (and localized) data in Figure 3 show that:

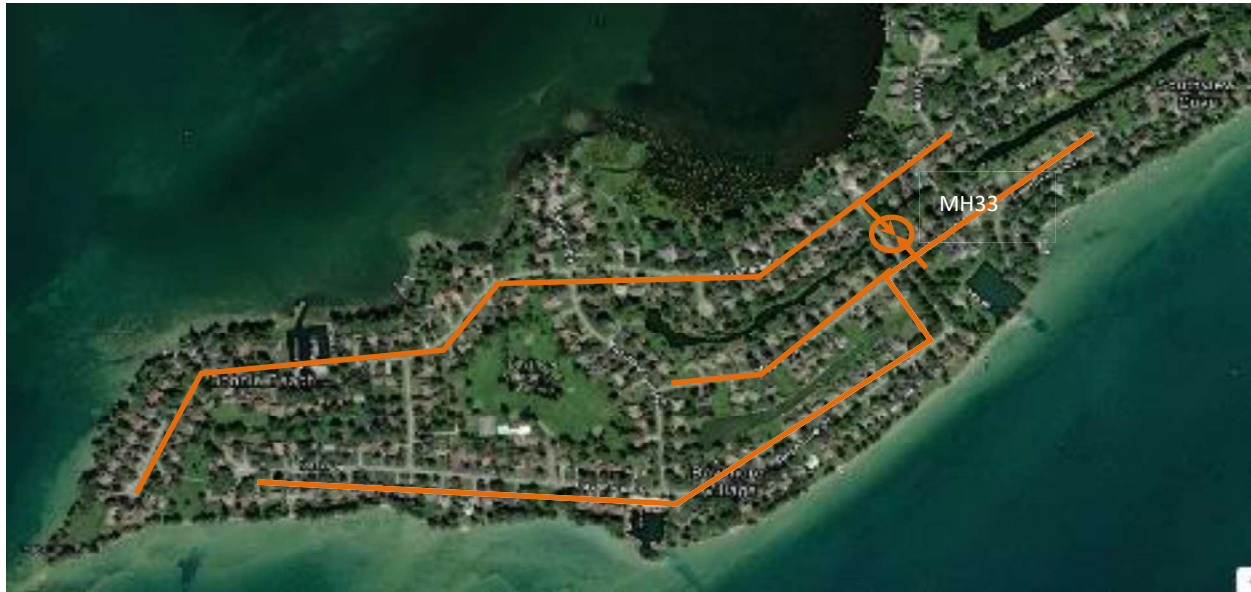
- Individual rain events seem to have little effect on wastewater flows. This can be seen in the rain events observed in July, early Aug, and October. This indicates that inflow (cross-connections, downspouts, etc.) are not a significant factor as inflow tends to be noticeable during/immediately following rain events.
- Continuous rain over several days will trigger an increase in wastewater flows, as seen in the June and late August events. A high frequency of rain events will saturate the ground and potentially lead to infiltration.

### **3.1.2 I&I Sources – Precipitation Analysis (Civica Flow Monitoring)**

As measuring the wastewater flows entering the treatment system provides data for the entire collection system on a daily basis, trends can be observed at a high-level, but it is difficult to accurately characterize and quantify rainfall derived infiltration and inflow. In order to acquire data better able to characterize I&I, flow monitors that capture flow rates at five minute intervals were installed at two locations in the collection system. This allowed OCWA to observe flow responses to rain events as they occurred. Additionally, if one of the two monitors was showing a stronger correlation between flows and rainfall, this would help localize potential inflow sources. Ideally, flow monitoring should be conducted during the spring melt period to also capture snow melt infiltration, however, due to timing constraints, the Bayshore collection system was monitored shortly after this period. This means that rainfall influence on flows, if any, would be observed, but not groundwater influences.

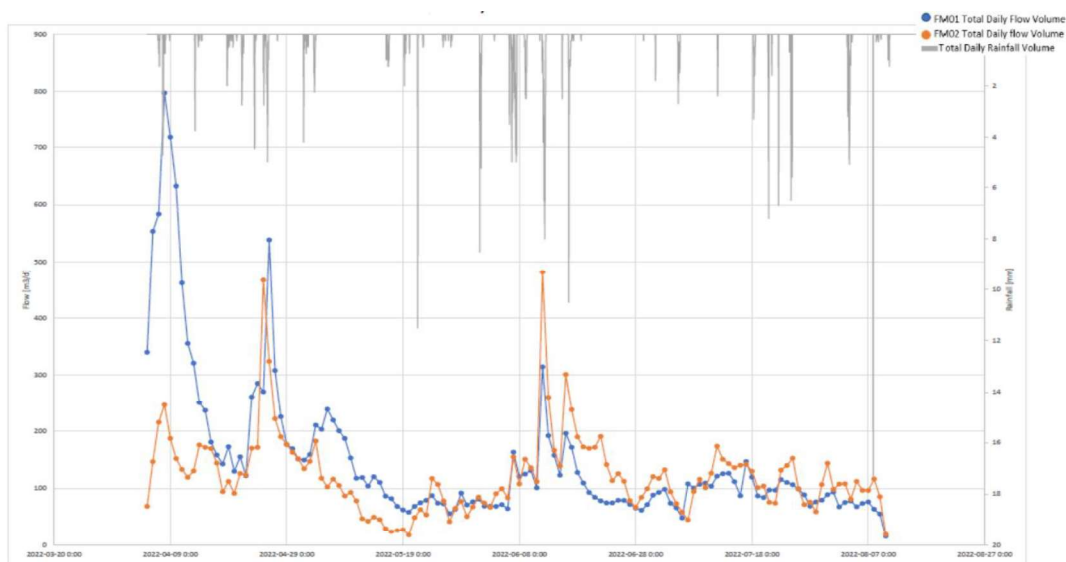
Flow monitoring was sub-contracted to Civica Infrastructure Inc. (Civica), who installed two flow meters (FM) in maintenance hole 33 (MH33), one to capture flows from the north side of the system (FM1) and one to capture flows from the south (FM2).





*Figure 4: Civica Flow Monitor Location (MH 33)*

Flow and rain data were collected between April and August of 2022. Civica’s report is presented in Appendix B while Figure 5, below, shows the effect of wastewater flows with respect to rainfall. As noted in Section 3.1.1, individual rain events have little effect on wastewater flows, but frequent rainfall over a period of time as seen on June 6-8 increases wastewater flows. This is further evidence that groundwater infiltration is the predominant source of I&I in the collection system.



*Figure 5: Summary of Flow Data from Civica Daily Monitoring (May 2022 – July 2022)*

## 3.2 Property Investigations

Inspections of residential properties were conducted to determine if any sump pumps or roof leaders were connected to the sanitary system. There are 374 lots in Bayshore Village, however 34 of them were either vacant (no house) or in development at the time of inspection. Of the remaining 340 occupied properties, OCWA staff were granted indoor access to 306 and observed visible outdoor conditions for 23. There were 11 property owners who declined access and no inspection results were obtained.

### 3.2.1 Sump Pump Connections

Of the 306 properties that were fully inspected, two homes were identified as having a sump pump connected to the sanitary sewer system (REDACTED). The owners were informed that the connections needed to be removed. Table 1 summarizes the 2022 property inspections by street.

*Table 1: Sump Pump Connection Summary*

| LOCATION     | # FULL INSP / TOTAL PROP | # WITH SUMP PUMPS | # CONNECTED TO SANITARY | # CONNECTION UNKNOWN | # NOT CONNECTED |
|--------------|--------------------------|-------------------|-------------------------|----------------------|-----------------|
| Southview    | 45 / 50                  | 29                | -                       | 4                    | 25              |
| Bayshore     | 129 / 142                | 132 <sup>1</sup>  | -                       | 6                    | 126             |
| Misty        | 8 / 9                    | 6                 | -                       | 1                    | 5               |
| Lantern      | 10 / 10                  | 8                 | -                       | -                    | 8               |
| Lavender     | 6 / 6                    | 6                 | -                       | -                    | 6               |
| Thicketwood  | 35 / 41                  | 32                | -                       | 6                    | 26              |
| Park         | 22 / 24                  | 22                | -                       | 1                    | 21              |
| Sandlewood   | 20 / 23                  | 21 <sup>1</sup>   | 1                       | -                    | 20              |
| Maplegate    | 24 / 26                  | 8                 | -                       | 1                    | 7               |
| Fernwood     | 7 / 9                    | 6                 | 1                       | -                    | 5               |
| <b>TOTAL</b> | <b>306 / 340</b>         | <b>270</b>        | <b>2</b>                | <b>19</b>            | <b>249</b>      |

<sup>1</sup> A number of Owners did not provide access but sump pump discharges were observed from outside the property

### 3.2.2 Roof Leaders

There were no roof leaders visibly connected to the sanitary sewer for the 330 inspected properties, however, the downspout at (REDACTED) drained below the foundation and did not have a visible discharge area. Additionally, there were four properties previously observed to have downspouts that drained below the foundation (and potentially connected to the sanitary system) that were now discharging properly to grade or other storm outlet.



### 3.2.3 Private Property Summary

The property investigations identified two sump pumps and potentially one roof leader currently connected to the sanitary system. There were 30 properties that could either not be inspected or had storm fixtures with unknown drainage locations. This indicates that it is unlikely that a significant percentage of the I&I contribution originates from cross-connections on private properties.

### 3.3 CCTV Inspections

In the 2022 Report, OCWA recommended re-inspecting the sewer pipes to obtain full video coverage. In May 2022, Wessuc Inc. (Wessuc) conducted a CCTV investigation of all main line sewers and 11 private laterals. Inspection of the lateral piping was based on evidence of infiltration observed entering from the lateral during the main line inspection.

#### Lateral Inspection Results

During the three years from 2018 to 2020, 82 laterals were inspected (22%), some more than once. Of these 82 laterals, 26 had defects that contribute to I&I. A summary of the defects observed that are contributing to I&I is provided in Table 2. Of the 26 laterals with observed I&I defects, 16 were repaired in 2019. Of those 16, 12 were then reinspected at a later date and during that reinspection, seven were observed to have new or similar I&I defects.

In 2022, three laterals ( [REDACTED] ) had visible running infiltration. In addition, one property ( [REDACTED] ) was not fully inspected and the camera was underwater for the bulk of the inspection.

*Table 2: Defects Observed from Lateral CCTV Inspection*

| DEFECT                       | # OF OCCURRENCES |          |
|------------------------------|------------------|----------|
|                              | 2018-2020        | 2022     |
| IW (Infiltration Weeper)     | 1                | 0        |
| ID (Infiltration Dripper)    | 4                | 0        |
| IR (Infiltration Runner)     | 24               | 3        |
| IG (Infiltration Gusher)     | 13               | 0        |
| ISR (Intruding Sealing Ring) | 2                | 0        |
| H (Hole)                     | 2                | 0        |
| JO (Joint Offset)            | 6                | 0        |
| <b>Total</b>                 | <b>52</b>        | <b>3</b> |

### Main Line CCTV Inspection

The 2018 CCTV inspection captured data for all but five sections of sewer mains. In 2022, Wessuc inspected 6.3 km of pipe but was unable to inspect between MH19 and MH32 (approximately 70m). Table 3 summarizes the data gaps for each inspection.

*Table 3: CCTV Inspection Gaps*

| 2018 CCTV GAPS   | 2022 CCTV GAPS   |
|--|--|
| <ul style="list-style-type: none"> <li>• MH 32 to MH 33</li> <li>• MH 48 to MH 49</li> <li>• MH 49 to MH 50</li> <li>• MH 51 to MH 52</li> <li>• MH 53 to MH 66</li> </ul> | <ul style="list-style-type: none"> <li>• MH 19 to MH 32</li> </ul> |

Defects observed during the 2022 CCTV inspection that are contributing or potentially contributing to excess flows are summarized in Table 4.

*Table 4: Defects Observed from Main Line CCTV Inspection<sup>1</sup>*

| DEFECT                                 | # OF OCCURRENCES<br>IN AC PIPE (4.85 KM) | # OF OCCURRENCES<br>IN PVC PIPE (1.42 KM) |
|--|--|---|
| IS (Infiltration Stain)                | 6  | -   |
| ID (Infiltration Dripper)              | -  | -   |
| IR (Infiltration Runner)               | 1  | 1   |
| IG (Infiltration Gusher)               | -  | -   |
| ISR (Intruding Sealing Ring)           | 2  | 2   |
| RPPD (Patch Repair Defective)          | 6  | -   |
| IR/IG from Lateral Piping <sup>1</sup> | 1  | -   |
| JO /JS (Offset / Separated Joint)      | 5  | 3   |
| <b>Total</b>                           | <b>21</b>                                | <b>6</b>                                  |

<sup>1</sup> This defect is infiltration from the lateral itself but from a defective tap (i.e. connection point between the main line and the lateral pipe).

<sup>1</sup> Wessuc, CCTV Inspection Report Bayshore Village (2022)

The number of I&I-related defects observed in the 2022 inspection decreased 66% from the number of defects observed in the 2018 report. This may be due to:

- Different water table levels at the time of inspection. This is not likely as both the 2018 and 2022 inspections were conducted in April and May, which is before the annual drawdown of Lake Simcoe (July).
- Repairs conducted between inspections. As a result of the 2018 inspection, a number of grouting and CIPP spot repairs were conducted. Two Sewer Technologies invoices from May 2019 and Jan 2020 were provided by the Township, which included work orders for the repairs, however, the exact locations were not provided. Additional attempts to obtain more information have not been successful.

It should also be noted that there were six instances of point repair defects observed during the inspection in the following locations. Although they were not observed to be actively leaking during the inspection, they should be examined during the next CCTV investigation to determine if the repair is continuously deteriorating.

- Between MH3 & MH4, 58m from MH4
- Between MH43 & MH44, 75m from MH44
- Between MH57 & MH58, 23m from MH57
- Between MH64 & MH65, 12m from MH64
- Between MH65 & MH66, 43m from MH65
- Between MH71 & MH72, 76m from MH72

### **3.4 Manhole Inspections**

According to the US Environmental Protection Agency (EPA), an estimated 30% of I&I may be contributed to the sewer system flows through maintenance holes. Maintenance holes, in comparison to service laterals and the sanitary main, are relatively simple to repair. Visual inspections of these maintenance holes have been proven to provide quick and effective remediation opportunities. Effective repair and maintenance of these maintenance holes can help reduce the overall I&I burden on the sewer system and minimize the risk of sewer overflow incidents.

During the System inspection, there were two predominant types of observed defects that could contribute to excess flows: grade adjustment deterioration and joint infiltration (or evidence of infiltration). Other defects (such as missing debris covers) were noted but do not contribute to I&I or the structural integrity of the chamber and, therefore, were not noted in this study.

### 3.4.1 Grade Adjustment Deterioration

Grade adjustment is used to adjust the height of the maintenance hole so that it is flush with the road surface. When the grade adjustment is compromised, it can provide an avenue for infiltration.

Of the 73 inspected maintenance holes, 33 had grade adjustment comprised of concrete rings and/or concrete bricks. Of these 33 MHs, 21 had some level of deterioration from cracking to broken and displaced pieces of concrete, however only 17 currently require remediation and are listed in Table 6 (Section 4.1.2).



Figure 6: Grade Adjustment in MH47

### 3.4.2 Joint Infiltration

The maintenance holes in the system are comprised of precast concrete sections. Shallow chambers have only one section but deeper chambers in the System have up to four sections. If the seal between sections is compromised, infiltration can occur. Active infiltration through a joint was observed in six maintenance holes while evidence of infiltration (staining or buildup) was observed in 15 maintenance holes.

Figure 7 shows infiltration between the lower joint and benching in MH26 and significant evidence of infiltration (staining and buildup) in MH28.



Figure 7: Infiltration in MH26 (left) and MH28 (right)

A full list of maintenance hole I&I deficiencies and remediation is provided in Section 4.1.2.

## **4 I&I Remediation**

Depending on the nature, location and frequency of the defect, there are a number of potential repair options. The most common options are summarized below for informational purposes. Remediation more specific to the Township’s system are provided in Section 4.2.

### **4.1 Remediation Methods**

#### **4.1.1 Sanitary Sewer Pipe**

Pipeline renewal can be done in a number of ways that can be categorized as either repair, rehabilitation or replacement. The most relevant methodologies are listed below.

##### **SPOT REPAIRS**

Spot repairs refer to repair work on a pipe for a distance that is less than the distance between the two access points and can be performed externally or internally. For sewer pipe that is easily excavated, an external clamp or sleeve can be installed. For slightly longer sections, it may be more effective to replace the section. If a significant section of pipe must be repaired, full section replacement or lining should be considered.

Internal spot repairs can be conducted by installing seals, short liners and patches. These “trenchless” repairs are done using a remotely operated vehicle and the aid of a CCTV camera. They greatly reduce the amount of construction work as the repair team is smaller and no road or landscaping restoration is needed. In many cases, the repairs can be conducted without affecting residents.

##### **GROUTING**

Grouting is generally used to repair cracks or joint gaps when there are no other structural issues. Grouting will resolve the I&I issues by forming a waterproof barrier around the sewer pipe at the crack/gap location.

Holes are drilled from within the structure to allow a conduit for grout injection into the soil/void behind the structure. After injection has occurred, the grout expands to fill the void forming a tight, impermeable elastomeric seal, preventing water flow through the pipe wall. This water-tight collar adheres to the outer surface where it will stay indefinitely unless removed by excavation or exposed to sunlight for long periods of time. If the groundwater pressure increases, the collar will be pressed even more tightly against the structure, increasing its ability to prevent leaks.

Grouting can be accomplished in a few hours and does not disturb the ground/paving surface or interrupt service. One of the drawbacks to this approach is that it can be difficult to predict the size of the void beforehand, which makes cost estimation difficult.

## **FULL PIPE LINER**

Pipe liners can be structural or non-structural. Non-structural liners are generally used when the pipeline appears to be in good structural condition but is experiencing excessive I&I. There are a variety of liners that can be installed via access chambers that create a water-tight barrier and can provide significant cost savings over full pipe replacement, particularly in deeper sewers where significant excavation is required.

Structural liners are used when there is a risk of collapse or failure and open cut is inconvenient or expensive. The existing sewer is used a form for installing the new liner, which is soft when installed and hard when it cures. Once the liner has cured, it acts as a new pipe no longer relying on the integrity of the existing pipe. Laterals that connect to the newly lined sewer are reinstated by drilling through the liner using a remotely operated cutting vehicle.

Structural liners can also be inserted into laterals without disturbing private properties. LiquiForce, an Ontario-based company, cleans existing lateral piping, measures it for a new, custom liner, and installs the lining system all from maintenance holes on the main sewer pipe.

## **REPLACEMENT**

In pipe sections that have already collapsed or in sections where there is sagging, it is difficult to install a structural liner. There are a number of options for full pipe replacement although in most rural or northern communities where there are few underground utilities and a low density of lateral connections, open cut tends to be the preferred approach.

### **4.1.2 Maintenance Holes**

#### **COVER & FRAME REPLACEMENT / ADJUSTMENT**

When the cover and/or frame deteriorate, they can be replaced. This process involves some excavation around the frame and possibly the chimney, coupled with surface restoration once the work has been done.

If the frame has moved or settled so that it is not flush with the maintenance hole cone/chimney/wall, it can create an avenue for I&I. If the components are still in good condition and the chamber itself has not shifted, the frame can be removed and then re-seated. This also requires shallow excavation and surface restoration.

#### **SPOT REPAIRS**

Depending on the nature of the issue, a number a spot repairs can be performed:

Patching/parging – In areas where concrete or mortar is beginning to deteriorate, specially designed cementitious or polymer coating materials can be applied. Larger voids in areas where no hydrostatic pressure exists can also be patched using similar compounds that are then troweled, sprayed or cast onto existing surfaces.

Crack/leak repairs – If the cracks are small and not resulting from more problematic structural issues, they can be repaired using oakum plugs or grout.

Benching repairs - Benching is the sand and cement surface that fills the space between the maintenance hole walls and the channel pipes and affects the hydraulic flow. Benching can be repaired by chipping away damaged portions and re-pouring a new surface.

## GROUTING

As described in the piping rehabilitation section, grouting is generally used to repair cracks or joint gaps when there are no other structural issues. Grouting will resolve the I&I issues by forming a waterproof barrier around the maintenance hole chamber at the crack/gap location.

If the frame is seated well but voids have formed between the frame and cone/chimney, it is also possible to grout or parge the void or install a chimney seal, which essentially functions to prevent leakage into the chamber.

## LINER INSTALLATION

There are a number of lining solutions that can be installed to rehabilitate maintenance hole structures:

Polymer Coatings (e.g. SpectraShield) – Mostly used for corrosion protection and I&I control, polymer coatings can also offer some structural benefit depending on the product and application.

Cured-In-Place (CIP) – CIP offers corrosion protection and I&I control in addition to a structural reconstruction. The process includes the installation of a fabric liner that is saturated with a resin that is heat cured under pressure to mold tightly to the existing structure. Alternately, a CIP concrete liner can be created by building an internal form to the pouring of a new concrete maintenance hole from bench to frame that is structurally independent from the original maintenance hole structure.

## 4.2 Remediation Recommendations

Based upon the analysis of the data collected in 2022, OCWA recommends the following activities:

- Disconnect sump pump connections at [REDACTED].
- Alter the downspout connection at [REDACTED] to discharge to grade unless it can be proven that the subgrade discharge does not connect to the sanitary system.
- Repair infiltration points in the private laterals at [REDACTED]  
[REDACTED]



- Reinvestigate the private lateral [REDACTED] to identify the source of excessive water. The camera was under water for the majority of the 2022 inspection and unable to determine source of flooding.
- During the next CCTV inspection, note the condition of the six deteriorating spot repairs listed in Section 2.3 and compare to their condition in the 2022 inspection. Remediate if they begin leaking or catastrophically failing.
- Procure vendor(s) to conduct sewer mainline rehabilitation as described in Table 5.

*Table 5: Sewer Mainline Remediation*

| OBSERVATION               | REMEDIATION        | SEWER SECTION / LOCATION   |
|---------------------------|--------------------|--|
| Active infiltration       | Seal entry point   | <ul style="list-style-type: none"> <li>• MH21 – MH22, 20.2m from MH21</li> <li>• MH22 – MH23, 1.5m from MH22</li> </ul>  |
| Offset / Separated Joints | Install spot liner | <ul style="list-style-type: none"> <li>• MH14 – MH15, 5.7m from MH14</li> <li>• MH10 – MH11, 2.6m from MH10</li> <li>• MH10 – MH11, 96.5m from MH11</li> <li>• MH14 – MH15, at MH15</li> <li>• MH30 – MH31, 0.5m from MH31</li> <li>• MH40 – MH41, 31.1m from MH40</li> <li>• MH43 – MH44, 1.7m from MH43</li> <li>• MH57 – MH58, 1.5m from MH57</li> <li>• MH68 – MH69, 35.8m from MH69</li> <li>• MH70 – PS1, 10.6m from MH70</li> </ul> |

- Procure vendor(s) to repair grade adjustment and precast joints in 35 maintenance holes as described in Table 6. Note that remediation of grade adjustment should be timed when roads are resurfaced, if possible, to avoid unnecessary pavement renewal, however, priority repairs may be accelerated if asphalt patches are not objectionable.

*Table 6: Maintenance Hole Remediation*

| MH# | OBSERVATION   | REMEDIATION  |
|-----|---|--|
| 1   | Both grade rings stained, cracked with displaced pieces                                 | Rebuild grade adjustment (asphalt repair or renewal will be required)                      |
| 2   | Bottom grade ring cracked, broken with holes  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required) |
| 4   | 3 rings atop 2 concrete brick layers. Bricks do not have mortar and pieces have shifted | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required) |
| 7   | Lower precast section wet with heavy staining and buildup                               | Clean concrete and seal joint  |



| MH# | OBSERVATION   | REMEDICATION   |
|-----|---|--|
| 11  | Upper grade ring stained. All 3 layers cracked and broken                               | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                               |
| 12  | Lower precast section wet with stains emanating from joint                              | Seal joint   |
| 13  | Lower precast section wet with stains emanating from joint                              | Seal joint   |
| 14  | Lower precast section wet with stains emanating from joint                              | Seal joint   |
| 15  | 2 lower precast sections wet and stains emanating from joint. Both grade rings cracked. | Seal joint. Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required) – lower priority. |
| 16  | Evidence of infiltration from precast joint. Grade rings cracked.                       | Seal joint. Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required) – lower priority. |
| 19  | Grade rings are partially parged. Parged is flaking and rings are cracked.              | Rebuild grade adjustment – lower priority. Access is in asphalt sidewalk   |
| 24  | Evidence of infiltration through precast section joint                                  | Seal joint   |
| 26  | Active running infiltration between wall and benching joint                             | Seal joint   |
| 27  | Stain on precast section emanating from joint   | Seal joint   |
| 28  | Heavy staining and buildup on lower precast section                                     | Clean precast section and seal joint   |
| 29  | Moderate staining and buildup on lower precast section                                  | Clean precast section and seal joint   |
| 30  | Staining emanating from precast joint   | Seal joint   |
| 31  | Staining from lower precast joint   | Seal joint   |
| 32  | Staining from lower precast joint   | Seal joint   |
| 35  | Concrete brick adjustment is missing mortar and pieces are displaced                    | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                               |
| 47  | Concrete brick adjustment is crumbling and displaced                                    | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                               |

| MH# | OBSERVATION  | REMEDICATION  |
|-----|--|---|
| 50  | Lower precast section stained and wet with buildup   | Clean precast section and seal joint  |
| 52  | Lower precast section stained from joint   | Clean precast section and seal joint  |
| 53  | Lower 3 sections stained with buildup from joint   | Clean precast section and seal joint  |
| 54  | Lower section lightly stained with buildup from joint  | Clean precast section and seal joint  |
| 57  | Top grade ring broken with minor displacement  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 58  | Grade rings cracked, mortar between layers is crumbling  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 59  | Concrete brick adjustment is broken with missing pieces  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 60  | Lower precast section wet with stains and buildup  | Clean precast section and seal joint  |
| 61  | Grade rings and concrete brick adjustment are cracked, broken and displaced  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 62  | 6 grade rings, all with minor cracks. Lowest ring is broken  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required) – lower priority |
| 66  | Top grade ring cracked and displaced with missing pieces   | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 68  | Staining and buildup on lower precast section emanating from joint   | Clean precast section and seal joint  |
| 72  | 2 grade rings on 4 layers of concrete brick. Concrete bricks are broken with missing pieces  | Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)                  |
| 73  | 2 grade rings on 1 layer of concrete brick. Concrete brick layer has broken and missing pieces. Dripping infiltration between wall and bench under ladder. | Seal joint. Rebuild grade adjustment when road is repaved (asphalt repair or renewal will be required)      |

## 5 Next Steps

The Excess Flow Reduction Road Map provided in the 2022 Excess Flow Report has been updated and is shown in Figure 8. The red check mark highlights completed activities. Remaining activities include:

**Rehabilitation Activities** – The investigations conducted indicated that although there was a significant decrease in wastewater flows overall, excess flows were still entering the System via groundwater (i.e. during the spring melt and after longer storm events). In order to reduce groundwater infiltration, repairs to infrastructure (sewer pipe, lateral pipe, maintenance holes) as listed in Section 4.2 should be conducted.

**Flow Re-Analysis** – Once repairs are completed, wastewater flows should be re-analyzed to ascertain how effective the repairs were and obtain an approximate cost to flow reduction ratio. This ratio can help determine if subsequent improvements can be justified from a cost/benefit perspective.

If the cost/benefit analysis indicates that the efforts are not justified, the Township may want to pursue different investigations such as the more detailed Electro Scan inspection (discussed as Provisional work in the 2022 Report) to identify any deficiencies that are not visible during a CCTV inspection, or begin a Municipal Class EA process to identify alternate methods of increasing sanitary treatment capacity.

**Reinspection** – Additionally, as the current investigation indicated that the most likely source of excess flow reduction is through ground water and the sewer infrastructure will continue to deteriorate, occasional reinspections of the system (MHs, main line and laterals) should be conducted to ensure no new infiltration points have developed. Reinspection intervals can start at every 8-10 years but should increase as the rate of deterioration increases.

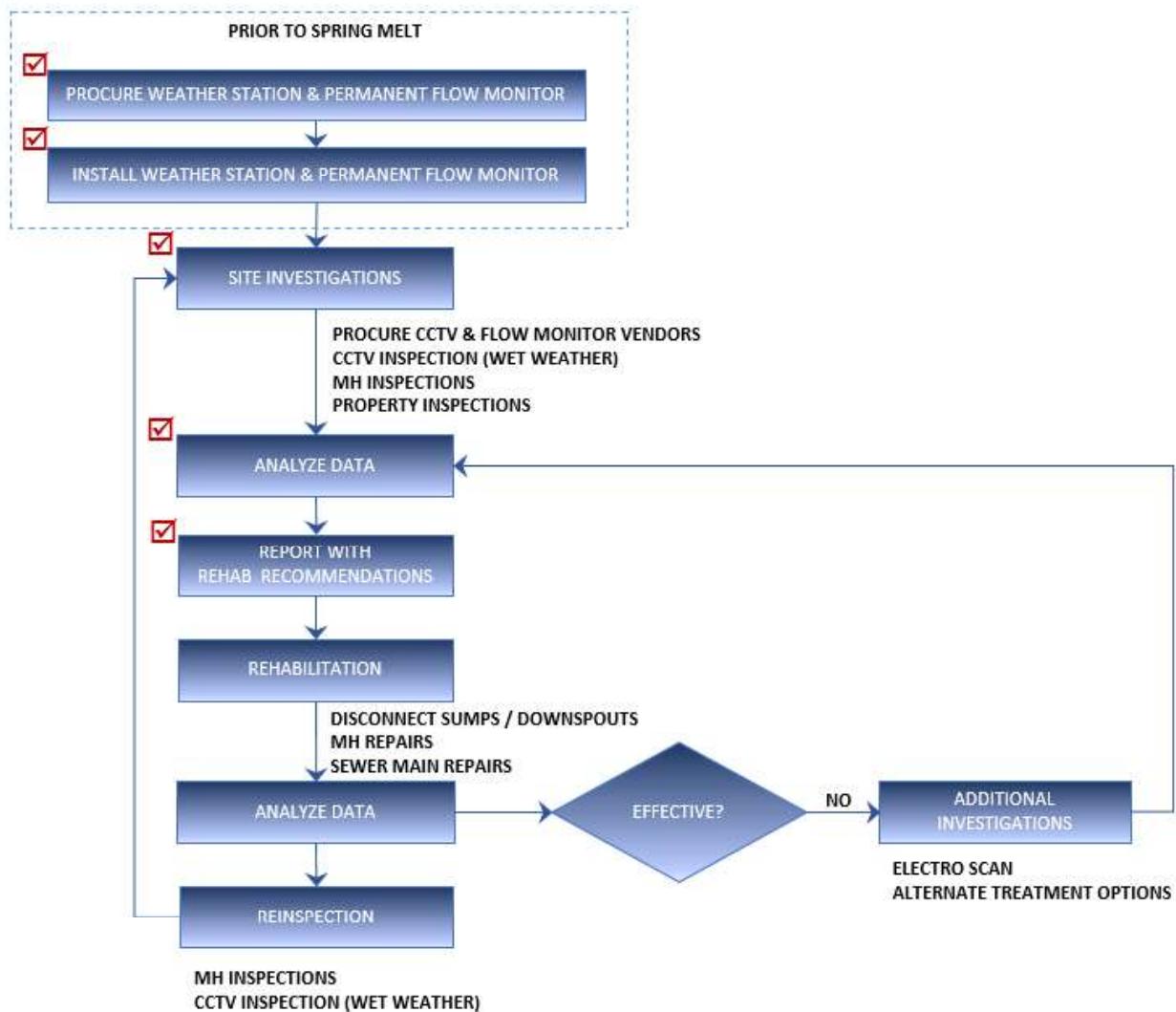


Figure 8 – Excess Flow Reduction Road Map

## 6 Rehabilitation & Reinspection Budget

The budget to implement the remediation described in Section 4.2 is shown in Table 7. Note that this is a Class V estimate to be used for budgeting purposes only and final costs will not be known until quotations are obtained from all vendors. The program management budget assumes the Township will conduct procurement and management of the rehabilitation contractors for work on public sewers and that homeowners will conduct repairs on private properties.

*Table 7: I&I Reduction Program Class V (-50% to +100%) Estimated Budget*

| #            | ITEM   | VENDOR     | CLASS V ESTIMATE |
|--------------|--|------------|------------------|
| 1            | RFB Terms of Reference and Specifications                  | Consultant | \$ 25,000        |
| 2            | MH grade adjustment repairs (17 chambers)                  | Contractor | \$ 85,000        |
| 3            | MH joint seals (15 chambers)                               | Contractor | \$ 150,000       |
| 4            | Sewer grouting at active infiltration points (3 locations) | Contractor | \$ 4,500         |
| 5            | Sewer spot lining (9 locations)                            | Contractor | \$ 22,500        |
| 6            | Private disconnections and lateral repairs                 | Homeowner  | -                |
| 7            | Re-analysis of flow data                                   | OCWA       | \$ 5,000         |
| <b>TOTAL</b> |  |            | <b>\$292,000</b> |

The budget to implement a reinspection program as described in Section 4.3 is shown in Table 8. Note that this is a Class V estimate to be used for budgeting purposes only and final costs will not be known until the rate of inflation is defined and quotations are obtained from all vendors.

*Table 8: Reinspection Program Class V (-50% to +100%) Estimated Budget*

| # | ITEM                                | \$ / UNIT        | CLASS V ESTIMATE |
|---|-------------------------------------|------------------|------------------|
| 1 | PM & Admin                          | LS               | \$5,000          |
| 2 | Maintenance hole inspection (73)    | \$ 50/ MH        | \$3,650          |
| 3 | CCTV of Mainline Sewer (6 km)       | \$ 5 / m         | \$30,000         |
| 4 | CCTV of Lateral Sewers <sup>1</sup> | \$ 150/ property | \$3,000          |

| #            | ITEM                | \$ / UNIT | CLASS V ESTIMATE |
|--------------|---------------------|-----------|------------------|
| 5            | Analysis of results | LS        | \$20,000         |
| <b>TOTAL</b> |                     |           | <b>\$61,650</b>  |

<sup>1</sup> For the initial reinspection, 20 properties were assumed. As infrastructure ages, this cost will increase proportionately.

# **ATTACHMENT A**

## **CCTV Inspection Report**

### **Bayshore Village**

#### **Wessuc**



CCTV inspection report

BAYSHORE VILLAGE

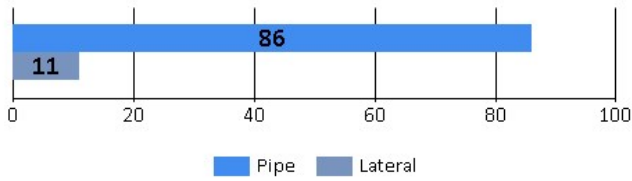
OCWA



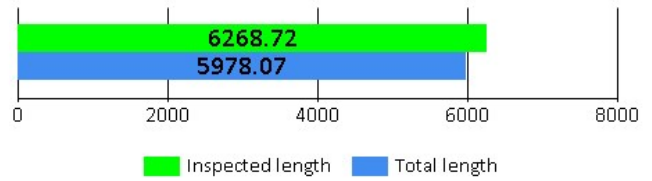
|   | Page       |
|---|------------|
| <b>Pipes</b>                                    |            |
| 1. Graphical summary of the report .....        | <b>3</b>   |
| 2. Index of pipes .....                         | <b>4</b>   |
| 3. Structural rating .....                      | <b>6</b>   |
| 4. O&M rating .....                             | <b>9</b>   |
| 5. Pipe summary and condition details .....     | <b>12</b>  |
| 6. Vision Report© Legend .....                  | <b>237</b> |
| <b>Laterals</b>                                 |            |
| 7. Index of Laterals .....                      | <b>238</b> |
| 8. Structural rating .....                      | <b>239</b> |
| 9. O&M rating .....                             | <b>240</b> |
| 10. Lateral summary and condition details ..... | <b>241</b> |
| 11. Vision Report© Legend .....                 | <b>263</b> |

# 1. Graphical summary of the report

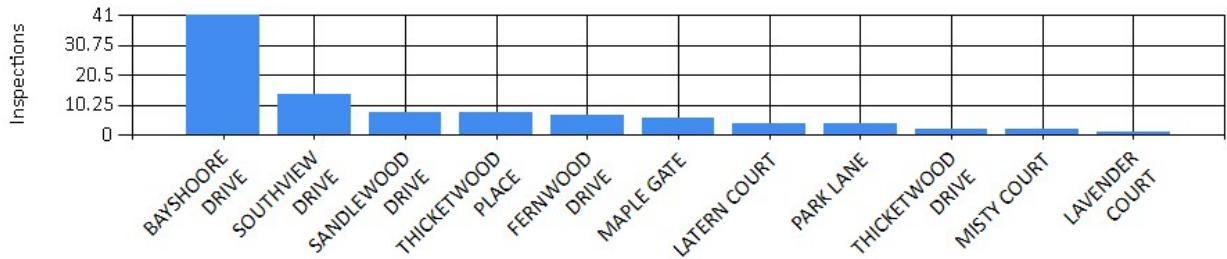
### Numbers of inspections



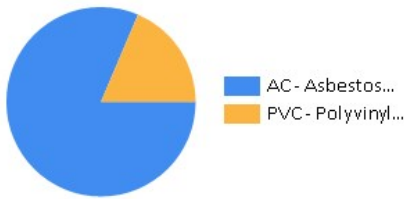
### Pipe length (inspected vs total)



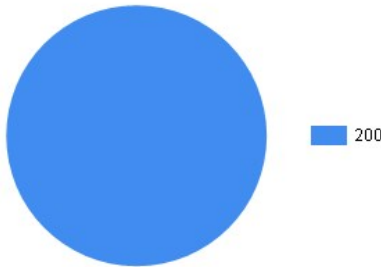
### Number of inspection by street



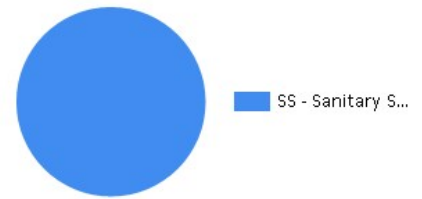
### Pipe materials



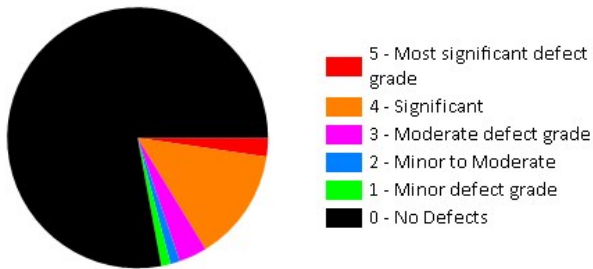
### Pipe diameters



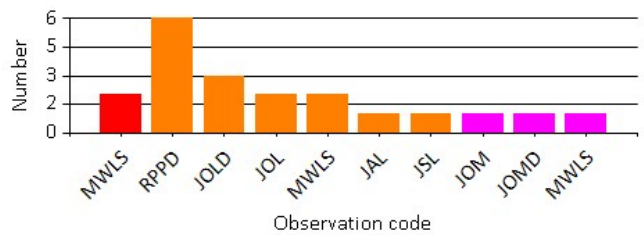
### Sewer Use



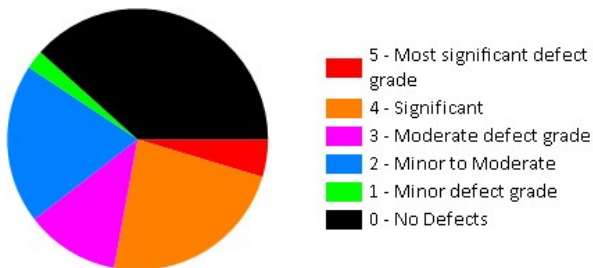
### Structural rating of the pipes



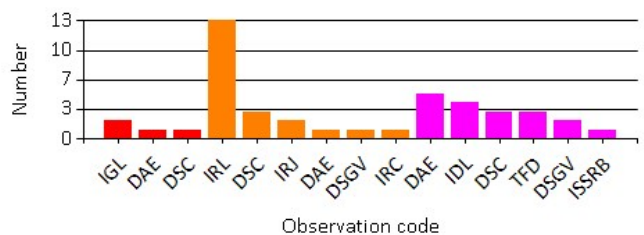
### Most important structural observations (Grades 3, 4 and 5)



### Operation and maintenance rating of the pipes

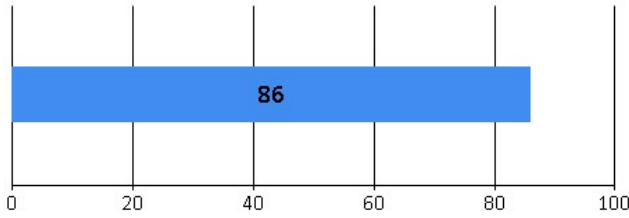


### Most important operation & maintenance observations (Grades 3, 4 and 5)

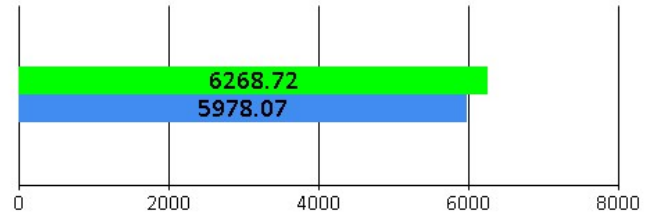


## 2. Index of pipes

Numbers of inspections



Pipe length (inspected vs total)



Pipe

Inspected length Total length

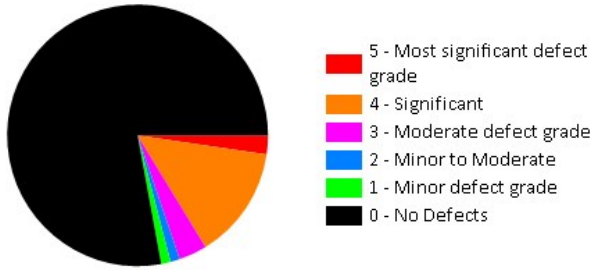
| Pipe      | Start/End     | Direction         | Road              | Date                | Inspected | Total  | Inspection Status   | Page                |
|-----------|---------------|-------------------|-------------------|---------------------|-----------|--------|---------------------|---------------------|
| MH1 MH2   | MH2 --> MH1   | Against flow      | BAYSHOORE DRIVE   | 10/05/2022 12:22 PM | 109.32    | 109.32 | Complete Inspection | <a href="#">12</a>  |
| MH2 MH3   | MH2 --> MH3   | Direction of flow | BAYSHOORE DRIVE   | 10/05/2022 11:27 AM | 110.04    | 110.04 | Complete Inspection | <a href="#">15</a>  |
| MH3 MH4   | MH3 --> MH4   | Direction of flow | BAYSHOORE DRIVE   | 10/05/2022 11:52 AM | 50.67     | 109.08 | Complete Inspection | <a href="#">18</a>  |
| MH3 MH4   | MH4 --> MH3   | Against flow      | BAYSHOORE DRIVE   | 10/05/2022 3:26 PM  | 58.41     | 109.08 | Complete Inspection | <a href="#">21</a>  |
| MH4 MH5   | MH5 --> MH4   | Against flow      | BAYSHOORE DRIVE   | 10/05/2022 9:50 AM  | 108.01    | 108.01 | Complete Inspection | <a href="#">23</a>  |
| MH5 MH8   | MH5 --> MH8   | Direction of flow | BAYSHOORE DRIVE   | 10/05/2022 9:37 AM  | 84.66     | 84.66  | Complete Inspection | <a href="#">26</a>  |
| MH6 MH7   | MH7 --> MH6   | Against flow      | MISTY COURT       | 10/05/2022 8:48 AM  | 107.77    | 107.77 | Complete Inspection | <a href="#">28</a>  |
| MH7 MH8   | MH7 --> MH8   | Direction of flow | MISTY COURT       | 10/05/2022 8:25 AM  | 86.82     | 86.82  | Complete Inspection | <a href="#">31</a>  |
| MH8 MH73  | MH8 --> MH73  | Direction of flow | BAYSHOORE DRIVE   | 10/05/2022 9:20 AM  | 60.51     | 60.51  | Complete Inspection | <a href="#">34</a>  |
| MH10 MH11 | MH10 --> MH11 | Direction of flow | SOUTHVIEW DRIVE   | 10/05/2022 4:59 PM  | 2.82      | 99.79  | Complete Inspection | <a href="#">36</a>  |
| MH10 MH11 | MH11 --> MH10 | Against flow      | SOUTHVIEW DRIVE   | 10/05/2022 3:55 PM  | 96.97     | 99.79  | Complete Inspection | <a href="#">38</a>  |
| MH11 MH12 | MH11 --> MH12 | Direction of flow | SOUTHVIEW DRIVE   | 10/05/2022 4:12 PM  | 100.22    | 100.22 | Complete Inspection | <a href="#">41</a>  |
| MH12 MH13 | MH12 --> MH13 | Direction of flow | SOUTHVIEW DRIVE   | 10/05/2022 4:39 PM  | 100.42    | 100.42 | Complete Inspection | <a href="#">44</a>  |
| MH13 MH14 | MH14 --> MH13 | Against flow      | SOUTHVIEW DRIVE   | 10/05/2022 5:43 PM  | 98.94     | 98.94  | Complete Inspection | <a href="#">47</a>  |
| MH14 MH15 | MH14 --> MH15 | Direction of flow | SOUTHVIEW DRIVE   | 10/05/2022 5:58 PM  | 101.07    | 101.07 | Complete Inspection | <a href="#">50</a>  |
| MH15 MH16 | MH15 --> MH16 | Direction of flow | SOUTHVIEW DRIVE   | 10/05/2022 6:16 PM  | 99.38     | 99.38  | Complete Inspection | <a href="#">54</a>  |
| MH16 MH17 | MH16 --> MH17 | Direction of flow | SOUTHVIEW DRIVE   | 11/05/2022 11:27 AM | 42.53     | 98.42  | Complete Inspection | <a href="#">57</a>  |
| MH16 MH17 | MH17 --> MH16 | Against flow      | SOUTHVIEW DRIVE   | 11/05/2022 8:17 AM  | 55.89     | 98.42  | Complete Inspection | <a href="#">59</a>  |
| MH17 MH19 | MH17 --> MH19 | Direction of flow | SOUTHVIEW DRIVE   | 11/05/2022 8:28 AM  | 98.8      | 98.8   | Complete Inspection | <a href="#">61</a>  |
| MH18 MH19 | MH18 --> MH19 | Direction of flow | SOUTHVIEW DRIVE   | 11/05/2022 11:00 AM | 95.3      | 95.3   | Complete Inspection | <a href="#">64</a>  |
| MH19 MH32 | MH19 --> MH32 | Direction of flow | SOUTHVIEW DRIVE   | 11/05/2022 12:05 PM | 2.57      | 2.57   | Complete Inspection | <a href="#">67</a>  |
| MH19 MH32 | MH32 --> MH19 | Against flow      | SOUTHVIEW DRIVE   | 11/05/2022 12:08 PM | 0         | 0      | Complete Inspection | <a href="#">69</a>  |
| MH21 MH22 | MH21 --> MH22 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 2:03 PM  | 48.94     | 48.94  | Complete Inspection | <a href="#">71</a>  |
| MH21 MH22 | MH22 --> MH21 | Against flow      | BAYSHOORE DRIVE   | 05/05/2022 12:43 PM | 52.8      |        | Complete Inspection | <a href="#">74</a>  |
| MH22 MH23 | MH22 --> MH23 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 12:59 PM | 108.13    | 108.13 | Complete Inspection | <a href="#">77</a>  |
| MH23 MH24 | MH23 --> MH24 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 1:23 PM  | 85.05     |        | Complete Inspection | <a href="#">81</a>  |
| MH23 MH24 | MH24 --> MH23 | Against flow      | BAYSHOORE DRIVE   | 05/05/2022 2:01 PM  | 25.87     | 25.87  | Complete Inspection | <a href="#">84</a>  |
| MH24 MH25 | MH24 --> MH25 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 2:40 PM  | 74.38     | 74.38  | Complete Inspection | <a href="#">86</a>  |
| MH25 MH30 | MH25 --> MH30 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 2:51 PM  | 70.98     | 70.98  | Complete Inspection | <a href="#">88</a>  |
| MH26 MH27 | MH27 --> MH26 | Against flow      | MAPLE GATE        | 05/05/2022 4:44 PM  | 109.99    | 109.99 | Complete Inspection | <a href="#">90</a>  |
| MH27 MH28 | MH27 --> MH28 | Direction of flow | MAPLE GATE        | 05/05/2022 4:27 PM  | 105.98    | 105.98 | Complete Inspection | <a href="#">93</a>  |
| MH28 MH29 | MH29 --> MH28 | Against flow      | MAPLE GATE        | 05/05/2022 5:12 PM  | 105.5     | 105.5  | Complete Inspection | <a href="#">97</a>  |
| MH29 MH30 | MH29 --> MH30 | Direction of flow | MAPLE GATE        | 05/05/2022 5:02 PM  | 21.78     | 110    | Complete Inspection | <a href="#">101</a> |
| MH29 MH30 | MH30 --> MH29 | Against flow      | MAPLE GATE        | 05/05/2022 3:45 PM  | 87.78     |        | Complete Inspection | <a href="#">103</a> |
| MH30 MH31 | MH30 --> MH31 | Direction of flow | FERNWOOD DRIVE    | 05/05/2022 4:07 PM  | 68.12     | 68.12  | Complete Inspection | <a href="#">106</a> |
| MH31 MH32 | MH31 --> MH32 | Direction of flow | FERNWOOD DRIVE    | 11/05/2022 12:17 PM | 67.8      | 67.8   | Complete Inspection | <a href="#">108</a> |
| MH32 MH33 | MH33 --> MH32 | Against flow      | FERNWOOD DRIVE    | 12/05/2022 10:07 AM | 80.23     | 80.23  | Complete Inspection | <a href="#">111</a> |
| MH33 PS2  | MH33 --> PS2  | Direction of flow | FERNWOOD DRIVE    | 12/05/2022 10:03 AM | 9.58      | 9.58   | Complete Inspection | <a href="#">113</a> |
| MH34 MM35 | MH34 --> MM35 | Direction of flow | BAYSHOORE DRIVE   | 09/05/2022 1:07 PM  | 55.82     | 55.82  | Complete Inspection | <a href="#">115</a> |
| MH35 MH71 | MH35 --> MH71 | Direction of flow | BAYSHOORE DRIVE   | 09/05/2022 1:26 PM  | 107.23    | 107.23 | Complete Inspection | <a href="#">118</a> |
| MH36 MH37 | MH37 --> MH36 | Against flow      | THICKETWOOD PLACE | 04/05/2022 9:48 AM  | 97.34     | 103    | Complete Inspection | <a href="#">121</a> |
| MH37 MH38 | MH37 --> MH38 | Direction of flow | THICKETWOOD PLACE | 04/05/2022 11:27 AM | 72.29     | 69     | Complete Inspection | <a href="#">124</a> |
| MH38 MH39 | MH39 --> MH38 | Against flow      | THICKETWOOD PLACE | 04/05/2022 11:51 AM | 105.34    | 99     | Complete Inspection | <a href="#">127</a> |
| MH39 MH40 | MH39 --> MH40 | Direction of flow | THICKETWOOD PLACE | 04/05/2022 12:43 PM | 5.5       | 82     | Complete Inspection | <a href="#">130</a> |
| MH39 MH40 | MH40 --> MH39 | Against flow      | THICKETWOOD PLACE | 04/05/2022 1:35 PM  | 88.14     | 82     | Complete Inspection | <a href="#">132</a> |
| MH40 MH41 | MH40 --> MH41 | Direction of flow | THICKETWOOD PLACE | 04/05/2022 1:48 PM  | 107.25    | 108    | Complete Inspection | <a href="#">135</a> |
| MH41 MH42 | MH42 --> MH41 | Against flow      | THICKETWOOD DRIVE | 04/05/2022 2:11 PM  | 75.79     | 75     | Complete Inspection | <a href="#">138</a> |
| MH42 MH50 | MH42 --> MH50 | Direction of flow | THICKETWOOD DRIVE | 04/05/2022 2:12 PM  | 82.94     | 77     | Complete Inspection | <a href="#">140</a> |
| MH43 MH44 | MH43 --> MH44 | Direction of flow | BAYSHOORE DRIVE   | 05/05/2022 8:30 AM  | 1.7       | 110    | Complete Inspection | <a href="#">143</a> |

## 2. Index of pipes

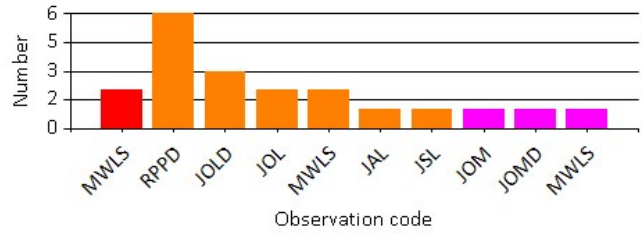
| Pipe      | Start/End     | Direction         | Road             | Date                | Inspected | Total  | Inspection Status   | Page                |
|-----------|---------------|-------------------|------------------|---------------------|-----------|--------|---------------------|---------------------|
| MH43 MH44 | MH44 --> MH43 | Against flow      | BAYSHOORE DRIVE  | 05/05/2022 7:55 AM  | 75.4      | 110    | Complete Inspection | <a href="#">145</a> |
| MH44 MH48 | MH44 --> MH48 | Direction of flow | BAYSHOORE DRIVE  | 05/05/2022 8:12 AM  | 102.55    | 102    | Complete Inspection | <a href="#">148</a> |
| MH45 MH46 | MH46 --> MH45 | Against flow      | PARK LANE        | 04/05/2022 3:28 PM  | 101.88    | 110    | Complete Inspection | <a href="#">151</a> |
| MH46 MH47 | MH46 --> MH47 | Direction of flow | PARK LANE        | 04/05/2022 4:08 PM  | 98.6      | 82     | Complete Inspection | <a href="#">154</a> |
| MH47 MH48 | MH47 --> MH48 | Direction of flow | PARK LANE        | 04/05/2022 4:28 PM  | 1.1       | 106    | Complete Inspection | <a href="#">157</a> |
| MH47 MH48 | MH48 --> MH47 | Against flow      | PARK LANE        | 04/05/2022 4:36 PM  | 98.04     | 106    | Complete Inspection | <a href="#">159</a> |
| MH48 MH49 | MH48 --> MH49 | Direction of flow | BAYSHOORE DRIVE  | 04/05/2022 5:11 PM  | 104.99    | 97     | Complete Inspection | <a href="#">162</a> |
| MH49 MH50 | MH49 --> MH50 | Direction of flow | BAYSHOORE DRIVE  | 04/05/2022 5:22 PM  | 105.3     | 98     | Complete Inspection | <a href="#">164</a> |
| MH50 MH51 | MH50 --> MH51 | Direction of flow | BAYSHOORE DRIVE  | 06/05/2022 2:03 PM  | 89.7      | 89.7   | Complete Inspection | <a href="#">166</a> |
| MH51 MH52 | MH51 --> MH52 | Direction of flow | BAYSHOORE DRIVE  | 06/05/2022 1:44 PM  | 96.36     | 96.36  | Complete Inspection | <a href="#">168</a> |
| MH52 MH53 | MH53 --> MH52 | Against flow      | BAYSHOORE DRIVE  | 06/05/2022 12:38 PM | 81.85     | 81.85  | Complete Inspection | <a href="#">171</a> |
| MH53 MH66 | MH53 --> MH66 | Direction of flow | BAYSHOORE DRIVE  | 06/05/2022 12:25 PM | 94.35     | 94.35  | Complete Inspection | <a href="#">173</a> |
| MH54 MH55 | MH55 --> MH54 | Against flow      | BAYSHOORE DRIVE  | 05/05/2022 12:15 PM | 75.02     | 75.02  | Complete Inspection | <a href="#">175</a> |
| MH55 MH56 | MH56 --> MH55 | Against flow      | BAYSHOORE DRIVE  | 05/05/2022 11:31 AM | 76.59     | 76.59  | Complete Inspection | <a href="#">178</a> |
| MH56 MH59 | MH56 --> MH59 | Direction of flow | BAYSHOORE DRIVE  | 05/05/2022 11:15 AM | 79.97     | 79.97  | Complete Inspection | <a href="#">181</a> |
| MH57 MH58 | MH57 --> MH58 | Direction of flow | BAYSHOORE DRIVE  | 05/05/2022 9:32 AM  | 23.41     |        | Complete Inspection | <a href="#">184</a> |
| MH57 MH58 | MH58 --> MH57 | Against flow      | BAYSHOORE DRIVE  | 05/05/2022 9:46 AM  | 77.28     | 109    | Complete Inspection | <a href="#">186</a> |
| MH58 MH59 | MH58 --> MH59 | Direction of flow | BAYSHOORE DRIVE  | 05/05/2022 10:00 AM | 104.87    | 104.87 | Complete Inspection | <a href="#">189</a> |
| MH59 MH60 | MH60 --> MH59 | Against flow      | SANDLEWOOD DRIVE | 06/05/2022 9:22 AM  | 94.71     | 94.71  | Complete Inspection | <a href="#">192</a> |
| MH60 MH61 | MH60 --> MH61 | Direction of flow | SANDLEWOOD DRIVE | 06/05/2022 8:45 AM  | 107.01    | 107.01 | Complete Inspection | <a href="#">194</a> |
| MH61 MH62 | MH62 --> MH61 | Against flow      | SANDLEWOOD DRIVE | 06/05/2022 9:48 AM  | 86.65     | 86.65  | Complete Inspection | <a href="#">196</a> |
| MH62 MH63 | MH62 --> MH63 | Direction of flow | SANDLEWOOD DRIVE | 06/05/2022 10:00 AM | 98        | 98     | Complete Inspection | <a href="#">199</a> |
| MH63 MH66 | MH63 --> MH66 | Direction of flow | SANDLEWOOD DRIVE | 06/05/2022 12:04 PM | 32.99     | 90     | Complete Inspection | <a href="#">202</a> |
| MH63 MH66 | MH66 --> MH63 | Against flow      | SANDLEWOOD DRIVE | 06/05/2022 11:22 AM | 57.16     | 90     | Complete Inspection | <a href="#">204</a> |
| MH64 MH65 | MH64 --> MH65 | Direction of flow | LATERN COURT     | 09/05/2022 10:00 AM | 48.53     | 48.53  | Complete Inspection | <a href="#">207</a> |
| MH64 MH65 | MH65 --> MH64 | Against flow      | LATERN COURT     | 09/05/2022 9:28 AM  | 12.49     |        | Complete Inspection | <a href="#">209</a> |
| MH65 MH66 | MH65 --> MH66 | Direction of flow | LATERN COURT     | 09/05/2022 9:35 AM  | 43.23     |        | Complete Inspection | <a href="#">211</a> |
| MH65 MH66 | MH66 --> MH65 | Against flow      | LATERN COURT     | 09/05/2022 10:25 AM | 21.57     | 21.57  | Complete Inspection | <a href="#">214</a> |
| MH66 MH70 | MH66 --> MH70 | Direction of flow | BAYSHOORE DRIVE  | 06/05/2022 11:31 AM | 67.32     | 67.32  | Complete Inspection | <a href="#">216</a> |
| MH67 MH68 | MH67 --> MH68 | Direction of flow | LAVENDER COURT   | 09/05/2022 12:44 PM | 57.1      | 57.1   | Complete Inspection | <a href="#">218</a> |
| MH68 MH69 | MH69 --> MH68 | Against flow      | BAYSHOORE DRIVE  | 09/05/2022 11:43 AM | 88.81     | 88.81  | Complete Inspection | <a href="#">220</a> |
| MH69 MH70 | MH69 --> MH70 | Direction of flow | BAYSHOORE DRIVE  | 09/05/2022 11:33 AM | 50.08     | 50.08  | Complete Inspection | <a href="#">223</a> |
| MH69 MH70 | MH70 --> MH69 | Against flow      | BAYSHOORE DRIVE  | 09/05/2022 10:46 AM | 24.72     |        | Complete Inspection | <a href="#">225</a> |
| MH70 PS1  | MH70 --> PS1  | Direction of flow | BAYSHOORE DRIVE  | 09/05/2022 10:46 AM | 15.8      | 15.8   | Complete Inspection | <a href="#">227</a> |
| MH71 MH72 | MH72 --> MH71 | Against flow      | BAYSHOORE DRIVE  | 09/05/2022 2:45 PM  | 107.96    | 107.96 | Complete Inspection | <a href="#">229</a> |
| MH72 MH73 | MH72 --> MH73 | Direction of flow | BAYSHOORE DRIVE  | 09/05/2022 2:09 PM  | 106.23    | 106.23 | Complete Inspection | <a href="#">232</a> |
| MH73 MH33 | MH73 --> MH33 | Direction of flow | FERNWOOD DRIVE   | 09/05/2022 3:27 PM  | 67.73     | 67.73  | Complete Inspection | <a href="#">235</a> |

### 3. Structural rating

Structural rating of the pipes



Most important structural observations (Grades 3, 4 and 5)



86 items

5 - Most significant defect grade (2 of 86 items)

| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road            | Page               |
|-------|-------|-------|-----------|---------------|-------------------|-----------------|--------------------|
| 5     | 5100  | 5     | MH16 MH17 | MH16 --> MH17 | Direction of flow | SOUTHVIEW DRIVE | <a href="#">57</a> |
| 5     | 5100  | 5     | MH16 MH17 | MH17 --> MH16 | Against flow      | SOUTHVIEW DRIVE | <a href="#">59</a> |

4 - Significant (12 of 86 items)

| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road              | Page                |
|-------|-------|-------|-----------|---------------|-------------------|-------------------|---------------------|
| 28    | 4700  | 4     | MH40 MH41 | MH40 --> MH41 | Direction of flow | THICKETWOOD PLACE | <a href="#">135</a> |
| 8     | 4200  | 4     | MH57 MH58 | MH57 --> MH58 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">184</a> |
| 6     | 4121  | 3     | MH43 MH44 | MH43 --> MH44 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">143</a> |
| 4     | 4100  | 4     | MH3 MH4   | MH4 --> MH3   | Against flow      | BAYSHOORE DRIVE   | <a href="#">21</a>  |
| 4     | 4100  | 4     | MH10 MH11 | MH10 --> MH11 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">36</a>  |
| 4     | 4100  | 4     | MH10 MH11 | MH11 --> MH10 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">38</a>  |
| 4     | 4100  | 4     | MH30 MH31 | MH30 --> MH31 | Direction of flow | FERNWOOD DRIVE    | <a href="#">106</a> |
| 4     | 4100  | 4     | MH43 MH44 | MH44 --> MH43 | Against flow      | BAYSHOORE DRIVE   | <a href="#">145</a> |
| 4     | 4100  | 4     | MH64 MH65 | MH65 --> MH64 | Against flow      | LATERN COURT      | <a href="#">209</a> |
| 4     | 4100  | 4     | MH65 MH66 | MH65 --> MH66 | Direction of flow | LATERN COURT      | <a href="#">211</a> |
| 4     | 4100  | 4     | MH68 MH69 | MH69 --> MH68 | Against flow      | BAYSHOORE DRIVE   | <a href="#">220</a> |
| 4     | 4100  | 4     | MH71 MH72 | MH72 --> MH71 | Against flow      | BAYSHOORE DRIVE   | <a href="#">229</a> |

3 - Moderate defect grade (3 of 86 items)

| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road            | Page                |
|-------|-------|-------|-----------|---------------|-------------------|-----------------|---------------------|
| 3     | 3100  | 3     | MH12 MH13 | MH12 --> MH13 | Direction of flow | SOUTHVIEW DRIVE | <a href="#">44</a>  |
| 3     | 3100  | 3     | MH14 MH15 | MH14 --> MH15 | Direction of flow | SOUTHVIEW DRIVE | <a href="#">50</a>  |
| 3     | 3100  | 3     | MH70 PS1  | MH70 --> PS1  | Direction of flow | BAYSHOORE DRIVE | <a href="#">227</a> |

2 - Minor to Moderate (1 of 86 items)

| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road            | Page               |
|-------|-------|-------|-----------|---------------|-------------------|-----------------|--------------------|
| 2     | 2100  | 2     | MH24 MH25 | MH24 --> MH25 | Direction of flow | BAYSHOORE DRIVE | <a href="#">86</a> |

1 - Minor defect grade (1 of 86 items)

| Score | Quick | Index | Pipe    | Start/End   | Direction         | Road            | Page               |
|-------|-------|-------|---------|-------------|-------------------|-----------------|--------------------|
| 1     | 1100  | 1     | MH2 MH3 | MH2 --> MH3 | Direction of flow | BAYSHOORE DRIVE | <a href="#">15</a> |

0 - No Defects (67 of 86 items)

| Score | Quick | Index | Pipe    | Start/End   | Direction         | Road            | Page               |
|-------|-------|-------|---------|-------------|-------------------|-----------------|--------------------|
| 0     | 0000  | 0     | MH1 MH2 | MH2 --> MH1 | Against flow      | BAYSHOORE DRIVE | <a href="#">12</a> |
| 0     | 0000  | 0     | MH3 MH4 | MH3 --> MH4 | Direction of flow | BAYSHOORE DRIVE | <a href="#">18</a> |
| 0     | 0000  | 0     | MH4 MH5 | MH5 --> MH4 | Against flow      | BAYSHOORE DRIVE | <a href="#">23</a> |



### 3. Structural rating

0 - No Defects (67 of 86 items)

| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road              | Page                |
|-------|-------|-------|-----------|---------------|-------------------|-------------------|---------------------|
| 0     | 0000  | 0     | MH5 MH8   | MH5 --> MH8   | Direction of flow | BAYSHOORE DRIVE   | <a href="#">26</a>  |
| 0     | 0000  | 0     | MH6 MH7   | MH7 --> MH6   | Against flow      | MISTY COURT       | <a href="#">28</a>  |
| 0     | 0000  | 0     | MH7 MH8   | MH7 --> MH8   | Direction of flow | MISTY COURT       | <a href="#">31</a>  |
| 0     | 0000  | 0     | MH8 MH73  | MH8 --> MH73  | Direction of flow | BAYSHOORE DRIVE   | <a href="#">34</a>  |
| 0     | 0000  | 0     | MH11 MH12 | MH11 --> MH12 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">41</a>  |
| 0     | 0000  | 0     | MH13 MH14 | MH14 --> MH13 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">47</a>  |
| 0     | 0000  | 0     | MH15 MH16 | MH15 --> MH16 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">54</a>  |
| 0     | 0000  | 0     | MH17 MH19 | MH17 --> MH19 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">61</a>  |
| 0     | 0000  | 0     | MH18 MH19 | MH18 --> MH19 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">64</a>  |
| 0     | 0000  | 0     | MH19 MH32 | MH19 --> MH32 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">67</a>  |
| 0     | 0000  | 0     | MH19 MH32 | MH32 --> MH19 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">69</a>  |
| 0     | 0000  | 0     | MH21 MH22 | MH21 --> MH22 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">71</a>  |
| 0     | 0000  | 0     | MH21 MH22 | MH22 --> MH21 | Against flow      | BAYSHOORE DRIVE   | <a href="#">74</a>  |
| 0     | 0000  | 0     | MH22 MH23 | MH22 --> MH23 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">77</a>  |
| 0     | 0000  | 0     | MH23 MH24 | MH23 --> MH24 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">81</a>  |
| 0     | 0000  | 0     | MH23 MH24 | MH24 --> MH23 | Against flow      | BAYSHOORE DRIVE   | <a href="#">84</a>  |
| 0     | 0000  | 0     | MH25 MH30 | MH25 --> MH30 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">88</a>  |
| 0     | 0000  | 0     | MH26 MH27 | MH27 --> MH26 | Against flow      | MAPLE GATE        | <a href="#">90</a>  |
| 0     | 0000  | 0     | MH27 MH28 | MH27 --> MH28 | Direction of flow | MAPLE GATE        | <a href="#">93</a>  |
| 0     | 0000  | 0     | MH28 MH29 | MH29 --> MH28 | Against flow      | MAPLE GATE        | <a href="#">97</a>  |
| 0     | 0000  | 0     | MH29 MH30 | MH29 --> MH30 | Direction of flow | MAPLE GATE        | <a href="#">101</a> |
| 0     | 0000  | 0     | MH29 MH30 | MH30 --> MH29 | Against flow      | MAPLE GATE        | <a href="#">103</a> |
| 0     | 0000  | 0     | MH31 MH32 | MH31 --> MH32 | Direction of flow | FERNWOOD DRIVE    | <a href="#">108</a> |
| 0     | 0000  | 0     | MH32 MH33 | MH33 --> MH32 | Against flow      | FERNWOOD DRIVE    | <a href="#">111</a> |
| 0     | 0000  | 0     | MH33 PS2  | MH33 --> PS2  | Direction of flow | FERNWOOD DRIVE    | <a href="#">113</a> |
| 0     | 0000  | 0     | MH34 MM35 | MH34 --> MM35 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">115</a> |
| 0     | 0000  | 0     | MH35 MH71 | MH35 --> MH71 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">118</a> |
| 0     | 0000  | 0     | MH36 MH37 | MH37 --> MH36 | Against flow      | THICKETWOOD PLACE | <a href="#">121</a> |
| 0     | 0000  | 0     | MH37 MH38 | MH37 --> MH38 | Direction of flow | THICKETWOOD PLACE | <a href="#">124</a> |
| 0     | 0000  | 0     | MH38 MH39 | MH39 --> MH38 | Against flow      | THICKETWOOD PLACE | <a href="#">127</a> |
| 0     | 0000  | 0     | MH39 MH40 | MH39 --> MH40 | Direction of flow | THICKETWOOD PLACE | <a href="#">130</a> |
| 0     | 0000  | 0     | MH39 MH40 | MH40 --> MH39 | Against flow      | THICKETWOOD PLACE | <a href="#">132</a> |
| 0     | 0000  | 0     | MH41 MH42 | MH42 --> MH41 | Against flow      | THICKETWOOD DRIVE | <a href="#">138</a> |
| 0     | 0000  | 0     | MH42 MH50 | MH42 --> MH50 | Direction of flow | THICKETWOOD DRIVE | <a href="#">140</a> |
| 0     | 0000  | 0     | MH44 MH48 | MH44 --> MH48 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">148</a> |
| 0     | 0000  | 0     | MH45 MH46 | MH46 --> MH45 | Against flow      | PARK LANE         | <a href="#">151</a> |
| 0     | 0000  | 0     | MH46 MH47 | MH46 --> MH47 | Direction of flow | PARK LANE         | <a href="#">154</a> |
| 0     | 0000  | 0     | MH47 MH48 | MH47 --> MH48 | Direction of flow | PARK LANE         | <a href="#">157</a> |
| 0     | 0000  | 0     | MH47 MH48 | MH48 --> MH47 | Against flow      | PARK LANE         | <a href="#">159</a> |
| 0     | 0000  | 0     | MH48 MH49 | MH48 --> MH49 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">162</a> |
| 0     | 0000  | 0     | MH49 MH50 | MH49 --> MH50 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">164</a> |
| 0     | 0000  | 0     | MH50 MH51 | MH50 --> MH51 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">166</a> |
| 0     | 0000  | 0     | MH51 MH52 | MH51 --> MH52 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">168</a> |
| 0     | 0000  | 0     | MH52 MH53 | MH53 --> MH52 | Against flow      | BAYSHOORE DRIVE   | <a href="#">171</a> |
| 0     | 0000  | 0     | MH53 MH66 | MH53 --> MH66 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">173</a> |
| 0     | 0000  | 0     | MH54 MH55 | MH55 --> MH54 | Against flow      | BAYSHOORE DRIVE   | <a href="#">175</a> |
| 0     | 0000  | 0     | MH55 MH56 | MH56 --> MH55 | Against flow      | BAYSHOORE DRIVE   | <a href="#">178</a> |
| 0     | 0000  | 0     | MH56 MH59 | MH56 --> MH59 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">181</a> |

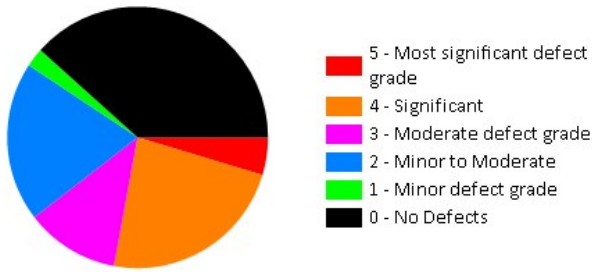
### 3. Structural rating

0 - No Defects (67 of 86 items)

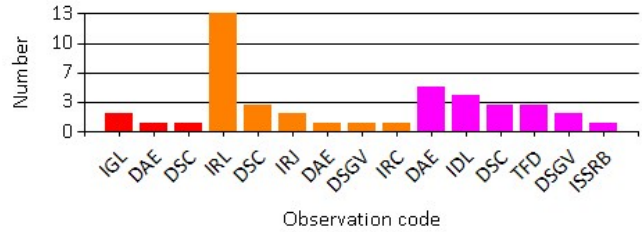
| Score | Quick | Index | Pipe      | Start/End     | Direction         | Road             | Page                |
|-------|-------|-------|-----------|---------------|-------------------|------------------|---------------------|
| 0     | 0000  | 0     | MH57 MH58 | MH58 --> MH57 | Against flow      | BAYSHOORE DRIVE  | <a href="#">186</a> |
| 0     | 0000  | 0     | MH58 MH59 | MH58 --> MH59 | Direction of flow | BAYSHOORE DRIVE  | <a href="#">189</a> |
| 0     | 0000  | 0     | MH59 MH60 | MH60 --> MH59 | Against flow      | SANDLEWOOD DRIVE | <a href="#">192</a> |
| 0     | 0000  | 0     | MH60 MH61 | MH60 --> MH61 | Direction of flow | SANDLEWOOD DRIVE | <a href="#">194</a> |
| 0     | 0000  | 0     | MH61 MH62 | MH62 --> MH61 | Against flow      | SANDLEWOOD DRIVE | <a href="#">196</a> |
| 0     | 0000  | 0     | MH62 MH63 | MH62 --> MH63 | Direction of flow | SANDLEWOOD DRIVE | <a href="#">199</a> |
| 0     | 0000  | 0     | MH63 MH66 | MH63 --> MH66 | Direction of flow | SANDLEWOOD DRIVE | <a href="#">202</a> |
| 0     | 0000  | 0     | MH63 MH66 | MH66 --> MH63 | Against flow      | SANDLEWOOD DRIVE | <a href="#">204</a> |
| 0     | 0000  | 0     | MH64 MH65 | MH64 --> MH65 | Direction of flow | LATERN COURT     | <a href="#">207</a> |
| 0     | 0000  | 0     | MH65 MH66 | MH66 --> MH65 | Against flow      | LATERN COURT     | <a href="#">214</a> |
| 0     | 0000  | 0     | MH66 MH70 | MH66 --> MH70 | Direction of flow | BAYSHOORE DRIVE  | <a href="#">216</a> |
| 0     | 0000  | 0     | MH67 MH68 | MH67 --> MH68 | Direction of flow | LAVENDER COURT   | <a href="#">218</a> |
| 0     | 0000  | 0     | MH69 MH70 | MH69 --> MH70 | Direction of flow | BAYSHOORE DRIVE  | <a href="#">223</a> |
| 0     | 0000  | 0     | MH69 MH70 | MH70 --> MH69 | Against flow      | BAYSHOORE DRIVE  | <a href="#">225</a> |
| 0     | 0000  | 0     | MH72 MH73 | MH72 --> MH73 | Direction of flow | BAYSHOORE DRIVE  | <a href="#">232</a> |
| 0     | 0000  | 0     | MH73 MH33 | MH73 --> MH33 | Direction of flow | FERNWOOD DRIVE   | <a href="#">235</a> |

# 4. O&M rating

Operation and maintenance rating of the pipes



Most important operation & maintenance observations (Grades 3, 4 and 5)



86 items

5 - Most significant defect grade (4 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road            | Page               |
|-------|-------|-------|------------|-----------|---------------|-------------------|-----------------|--------------------|
| 7     | 5121  | 3.5   | 0          | MH18 MH19 | MH18 --> MH19 | Direction of flow | SOUTHVIEW DRIVE | <a href="#">64</a> |
| 5     | 5100  | 5     | 4          | MH3 MH4   | MH4 --> MH3   | Against flow      | BAYSHOORE DRIVE | <a href="#">21</a> |
| 5     | 5100  | 5     | 0          | MH6 MH7   | MH7 --> MH6   | Against flow      | MISTY COURT     | <a href="#">28</a> |
| 5     | 5100  | 5     | 0          | MH11 MH12 | MH11 --> MH12 | Direction of flow | SOUTHVIEW DRIVE | <a href="#">41</a> |

4 - Significant (20 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road              | Page                |
|-------|-------|-------|------------|-----------|---------------|-------------------|-------------------|---------------------|
| 10    | 4221  | 3.3   | 3          | MH14 MH15 | MH14 --> MH15 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">50</a>  |
| 9     | 4131  | 3     | 0          | MH13 MH14 | MH14 --> MH13 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">47</a>  |
| 8     | 4131  | 2.7   | 0          | MH21 MH22 | MH21 --> MH22 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">71</a>  |
| 7     | 4131  | 3.5   | 0          | MH28 MH29 | MH29 --> MH28 | Against flow      | MAPLE GATE        | <a href="#">97</a>  |
| 7     | 4131  | 3.5   | 0          | MH31 MH32 | MH31 --> MH32 | Direction of flow | FERNWOOD DRIVE    | <a href="#">108</a> |
| 7     | 4131  | 3.5   | 0          | MH63 MH66 | MH63 --> MH66 | Direction of flow | SANDLEWOOD DRIVE  | <a href="#">202</a> |
| 6     | 4121  | 3     | 0          | MH7 MH8   | MH7 --> MH8   | Direction of flow | MISTY COURT       | <a href="#">31</a>  |
| 6     | 4121  | 3     | 3          | MH12 MH13 | MH12 --> MH13 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">44</a>  |
| 6     | 4121  | 3     | 0          | MH35 MH71 | MH35 --> MH71 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">118</a> |
| 6     | 4121  | 3     | 0          | MH51 MH52 | MH51 --> MH52 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">168</a> |
| 6     | 4121  | 3     | 4          | MH64 MH65 | MH65 --> MH64 | Against flow      | LATERN COURT      | <a href="#">209</a> |
| 5     | 4111  | 2.5   | 0          | MH41 MH42 | MH42 --> MH41 | Against flow      | THICKETWOOD DRIVE | <a href="#">138</a> |
| 4     | 4100  | 4     | 0          | MH3 MH4   | MH3 --> MH4   | Direction of flow | BAYSHOORE DRIVE   | <a href="#">18</a>  |
| 4     | 4100  | 4     | 4          | MH10 MH11 | MH11 --> MH10 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">38</a>  |
| 4     | 4100  | 4     | 0          | MH19 MH32 | MH19 --> MH32 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">67</a>  |
| 4     | 4100  | 4     | 0          | MH22 MH23 | MH22 --> MH23 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">77</a>  |
| 4     | 4100  | 4     | 0          | MH38 MH39 | MH39 --> MH38 | Against flow      | THICKETWOOD PLACE | <a href="#">127</a> |
| 4     | 4100  | 4     | 0          | MH48 MH49 | MH48 --> MH49 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">162</a> |
| 4     | 4100  | 4     | 0          | MH72 MH73 | MH72 --> MH73 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">232</a> |
| 4     | 4100  | 4     | 0          | MH73 MH33 | MH73 --> MH33 | Direction of flow | FERNWOOD DRIVE    | <a href="#">235</a> |



## 4. O&M rating

### 3 - Moderate defect grade (10 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road             | Page                |
|-------|-------|-------|------------|-----------|---------------|-------------------|------------------|---------------------|
| 6     | 3200  | 3     | 0          | MH27 MH28 | MH27 --> MH28 | Direction of flow | MAPLE GATE       | <a href="#">93</a>  |
| 6     | 3200  | 3     | 0          | MH29 MH30 | MH29 --> MH30 | Direction of flow | MAPLE GATE       | <a href="#">101</a> |
| 6     | 3200  | 3     | 0          | MH62 MH63 | MH62 --> MH63 | Direction of flow | SANDLEWOOD DRIVE | <a href="#">199</a> |
| 5     | 3121  | 2.5   | 0          | MH57 MH58 | MH58 --> MH57 | Against flow      | BAYSHOORE DRIVE  | <a href="#">186</a> |
| 3     | 3100  | 3     | 0          | MH15 MH16 | MH15 --> MH16 | Direction of flow | SOUTHVIEW DRIVE  | <a href="#">54</a>  |
| 3     | 3100  | 3     | 0          | MH23 MH24 | MH23 --> MH24 | Direction of flow | BAYSHOORE DRIVE  | <a href="#">81</a>  |
| 3     | 3100  | 3     | 0          | MH47 MH48 | MH47 --> MH48 | Direction of flow | PARK LANE        | <a href="#">157</a> |
| 3     | 3100  | 3     | 0          | MH47 MH48 | MH48 --> MH47 | Against flow      | PARK LANE        | <a href="#">159</a> |
| 3     | 3100  | 3     | 0          | MH60 MH61 | MH60 --> MH61 | Direction of flow | SANDLEWOOD DRIVE | <a href="#">194</a> |
| 3     | 3100  | 3     | 0          | MH69 MH70 | MH70 --> MH69 | Against flow      | BAYSHOORE DRIVE  | <a href="#">225</a> |

### 2 - Minor to Moderate (17 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road              | Page                |
|-------|-------|-------|------------|-----------|---------------|-------------------|-------------------|---------------------|
| 4     | 2200  | 2     | 0          | MH56 MH59 | MH56 --> MH59 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">181</a> |
| 4     | 2200  | 2     | 4          | MH68 MH69 | MH69 --> MH68 | Against flow      | BAYSHOORE DRIVE   | <a href="#">220</a> |
| 3     | 2111  | 1.5   | 0          | MH39 MH40 | MH39 --> MH40 | Direction of flow | THICKETWOOD PLACE | <a href="#">130</a> |
| 2     | 2100  | 2     | 1          | MH2 MH3   | MH2 --> MH3   | Direction of flow | BAYSHOORE DRIVE   | <a href="#">15</a>  |
| 2     | 2100  | 2     | 0          | MH21 MH22 | MH22 --> MH21 | Against flow      | BAYSHOORE DRIVE   | <a href="#">74</a>  |
| 2     | 2100  | 2     | 0          | MH37 MH38 | MH37 --> MH38 | Direction of flow | THICKETWOOD PLACE | <a href="#">124</a> |
| 2     | 2100  | 2     | 0          | MH39 MH40 | MH40 --> MH39 | Against flow      | THICKETWOOD PLACE | <a href="#">132</a> |
| 2     | 2100  | 2     | 4          | MH40 MH41 | MH40 --> MH41 | Direction of flow | THICKETWOOD PLACE | <a href="#">135</a> |
| 2     | 2100  | 2     | 0          | MH42 MH50 | MH42 --> MH50 | Direction of flow | THICKETWOOD DRIVE | <a href="#">140</a> |
| 2     | 2100  | 2     | 4          | MH43 MH44 | MH44 --> MH43 | Against flow      | BAYSHOORE DRIVE   | <a href="#">145</a> |
| 2     | 2100  | 2     | 0          | MH44 MH48 | MH44 --> MH48 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">148</a> |
| 2     | 2100  | 2     | 0          | MH50 MH51 | MH50 --> MH51 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">166</a> |
| 2     | 2100  | 2     | 0          | MH53 MH66 | MH53 --> MH66 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">173</a> |
| 2     | 2100  | 2     | 0          | MH55 MH56 | MH56 --> MH55 | Against flow      | BAYSHOORE DRIVE   | <a href="#">178</a> |
| 2     | 2100  | 2     | 0          | MH58 MH59 | MH58 --> MH59 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">189</a> |
| 2     | 2100  | 2     | 4          | MH65 MH66 | MH65 --> MH66 | Direction of flow | LATERN COURT      | <a href="#">211</a> |
| 2     | 2100  | 2     | 0          | MH66 MH70 | MH66 --> MH70 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">216</a> |

### 1 - Minor defect grade (2 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road            | Page                |
|-------|-------|-------|------------|-----------|---------------|-------------------|-----------------|---------------------|
| 1     | 1100  | 1     | 0          | MH1 MH2   | MH2 --> MH1   | Against flow      | BAYSHOORE DRIVE | <a href="#">12</a>  |
| 1     | 1100  | 1     | 0          | MH69 MH70 | MH69 --> MH70 | Direction of flow | BAYSHOORE DRIVE | <a href="#">223</a> |

## 4. O&M rating

0 - No Defects (33 of 86 items)

| Score | Quick | Index | Structural | Pipe      | Start/End     | Direction         | Road              | Page                |
|-------|-------|-------|------------|-----------|---------------|-------------------|-------------------|---------------------|
| 0     | 0000  | 0     | 0          | MH4 MH5   | MH5 --> MH4   | Against flow      | BAYSHOORE DRIVE   | <a href="#">23</a>  |
| 0     | 0000  | 0     | 0          | MH5 MH8   | MH5 --> MH8   | Direction of flow | BAYSHOORE DRIVE   | <a href="#">26</a>  |
| 0     | 0000  | 0     | 0          | MH8 MH73  | MH8 --> MH73  | Direction of flow | BAYSHOORE DRIVE   | <a href="#">34</a>  |
| 0     | 0000  | 0     | 4          | MH10 MH11 | MH10 --> MH11 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">36</a>  |
| 0     | 0000  | 0     | 5          | MH16 MH17 | MH16 --> MH17 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">57</a>  |
| 0     | 0000  | 0     | 5          | MH16 MH17 | MH17 --> MH16 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">59</a>  |
| 0     | 0000  | 0     | 0          | MH17 MH19 | MH17 --> MH19 | Direction of flow | SOUTHVIEW DRIVE   | <a href="#">61</a>  |
| 0     | 0000  | 0     | 0          | MH19 MH32 | MH32 --> MH19 | Against flow      | SOUTHVIEW DRIVE   | <a href="#">69</a>  |
| 0     | 0000  | 0     | 0          | MH23 MH24 | MH24 --> MH23 | Against flow      | BAYSHOORE DRIVE   | <a href="#">84</a>  |
| 0     | 0000  | 0     | 2          | MH24 MH25 | MH24 --> MH25 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">86</a>  |
| 0     | 0000  | 0     | 0          | MH25 MH30 | MH25 --> MH30 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">88</a>  |
| 0     | 0000  | 0     | 0          | MH26 MH27 | MH27 --> MH26 | Against flow      | MAPLE GATE        | <a href="#">90</a>  |
| 0     | 0000  | 0     | 0          | MH29 MH30 | MH30 --> MH29 | Against flow      | MAPLE GATE        | <a href="#">103</a> |
| 0     | 0000  | 0     | 4          | MH30 MH31 | MH30 --> MH31 | Direction of flow | FERNWOOD DRIVE    | <a href="#">106</a> |
| 0     | 0000  | 0     | 0          | MH32 MH33 | MH33 --> MH32 | Against flow      | FERNWOOD DRIVE    | <a href="#">111</a> |
| 0     | 0000  | 0     | 0          | MH33 PS2  | MH33 --> PS2  | Direction of flow | FERNWOOD DRIVE    | <a href="#">113</a> |
| 0     | 0000  | 0     | 0          | MH34 MM35 | MH34 --> MM35 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">115</a> |
| 0     | 0000  | 0     | 0          | MH36 MH37 | MH37 --> MH36 | Against flow      | THICKETWOOD PLACE | <a href="#">121</a> |
| 0     | 0000  | 0     | 4          | MH43 MH44 | MH43 --> MH44 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">143</a> |
| 0     | 0000  | 0     | 0          | MH45 MH46 | MH46 --> MH45 | Against flow      | PARK LANE         | <a href="#">151</a> |
| 0     | 0000  | 0     | 0          | MH46 MH47 | MH46 --> MH47 | Direction of flow | PARK LANE         | <a href="#">154</a> |
| 0     | 0000  | 0     | 0          | MH49 MH50 | MH49 --> MH50 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">164</a> |
| 0     | 0000  | 0     | 0          | MH52 MH53 | MH53 --> MH52 | Against flow      | BAYSHOORE DRIVE   | <a href="#">171</a> |
| 0     | 0000  | 0     | 0          | MH54 MH55 | MH55 --> MH54 | Against flow      | BAYSHOORE DRIVE   | <a href="#">175</a> |
| 0     | 0000  | 0     | 4          | MH57 MH58 | MH57 --> MH58 | Direction of flow | BAYSHOORE DRIVE   | <a href="#">184</a> |
| 0     | 0000  | 0     | 0          | MH59 MH60 | MH60 --> MH59 | Against flow      | SANDLEWOOD DRIVE  | <a href="#">192</a> |
| 0     | 0000  | 0     | 0          | MH61 MH62 | MH62 --> MH61 | Against flow      | SANDLEWOOD DRIVE  | <a href="#">196</a> |
| 0     | 0000  | 0     | 0          | MH63 MH66 | MH66 --> MH63 | Against flow      | SANDLEWOOD DRIVE  | <a href="#">204</a> |
| 0     | 0000  | 0     | 0          | MH64 MH65 | MH64 --> MH65 | Direction of flow | LATERN COURT      | <a href="#">207</a> |
| 0     | 0000  | 0     | 0          | MH65 MH66 | MH66 --> MH65 | Against flow      | LATERN COURT      | <a href="#">214</a> |
| 0     | 0000  | 0     | 0          | MH67 MH68 | MH67 --> MH68 | Direction of flow | LAVENDER COURT    | <a href="#">218</a> |
| 0     | 0000  | 0     | 3          | MH70 PS1  | MH70 --> PS1  | Direction of flow | BAYSHOORE DRIVE   | <a href="#">227</a> |
| 0     | 0000  | 0     | 4          | MH71 MH72 | MH72 --> MH71 | Against flow      | BAYSHOORE DRIVE   | <a href="#">229</a> |

## 5. Pipe summary and condition details

### Pipe identification

|                    |             |
|--------------------|-------------|
| Pipe:              | MH1 MH2     |
| Direction of flow: | MH1 --> MH2 |

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 109.32 |
| Height:           | 200                  | Total length:    | 109.32 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

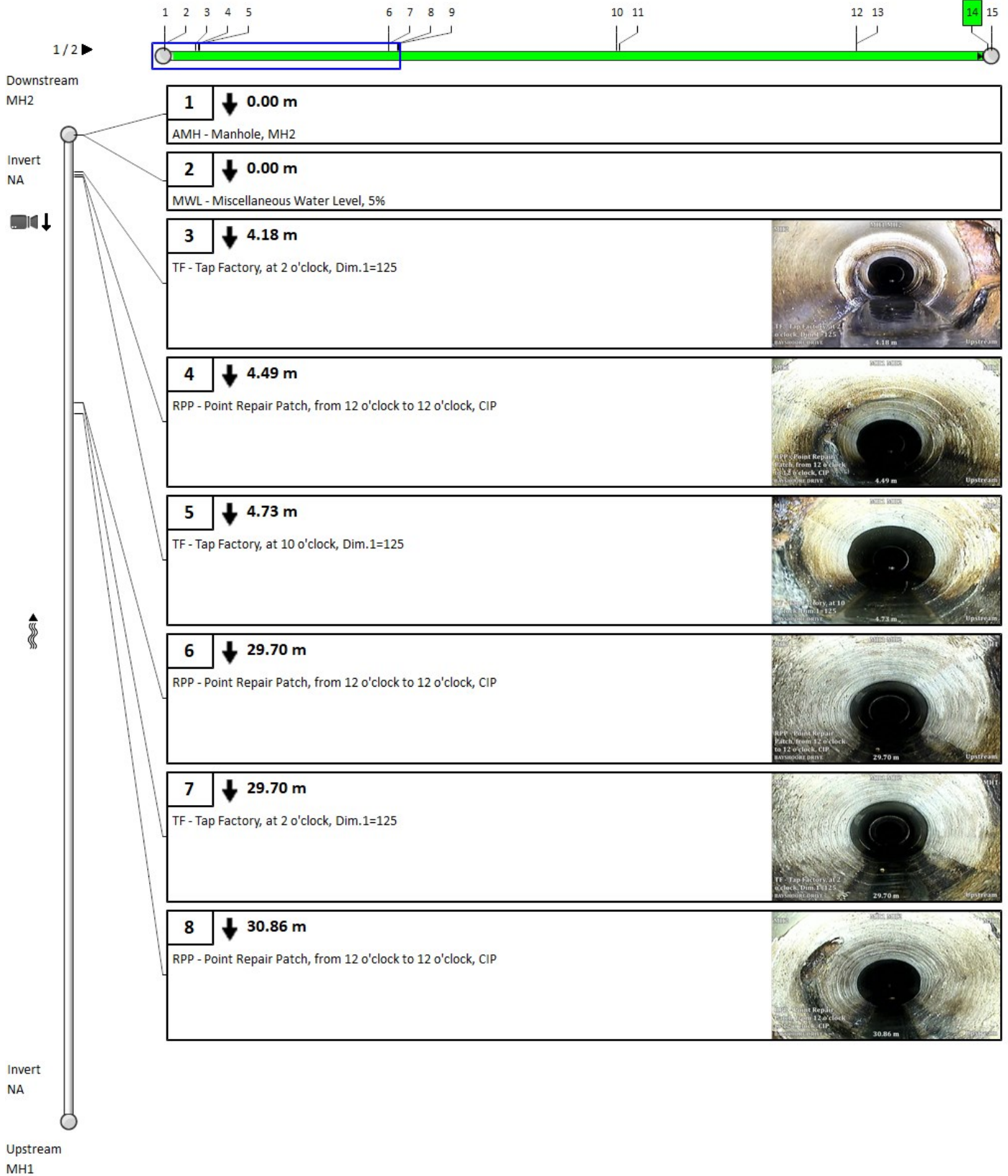
|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 12:22 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

| Structural rating  | O&M rating         | Overall rating     | Failure         |
|--------------------|--------------------|--------------------|-----------------|
| Peak: 0            | Peak: 1            | Peak: 1            | Consequence:    |
| Quick rating: 0000 | Quick rating: 1100 | Quick rating: 1100 | Likelihood: 1.1 |
| Score: 0           | Score: 1           | Score: 1           | Risk:           |
| Index: 0           | Index: 1           | Index: 1           |                 |

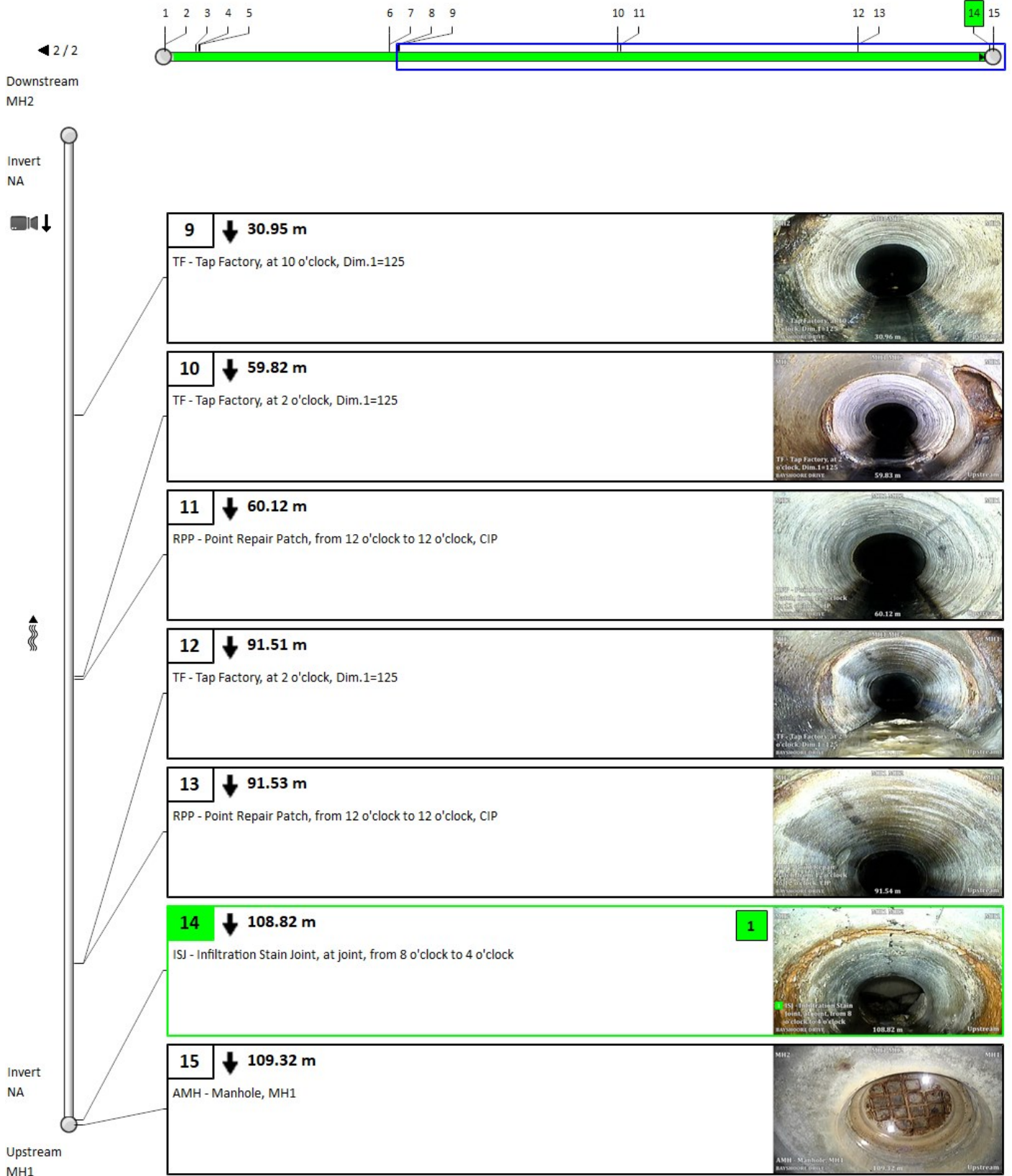
### Other information

|                           |                 |
|---------------------------|-----------------|
| Information 1: WESSUC INC | Information 6:  |
| Information 2:            | Information 7:  |
| Information 3:            | Information 8:  |
| Information 4:            | Information 9:  |
| Information 5:            | Information 10: |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH2 MH3  
 Direction of flow: MH2 --> MH3

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 110.04 |
| Height:           | 200                  | Total length:    | 110.04 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 11:27 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

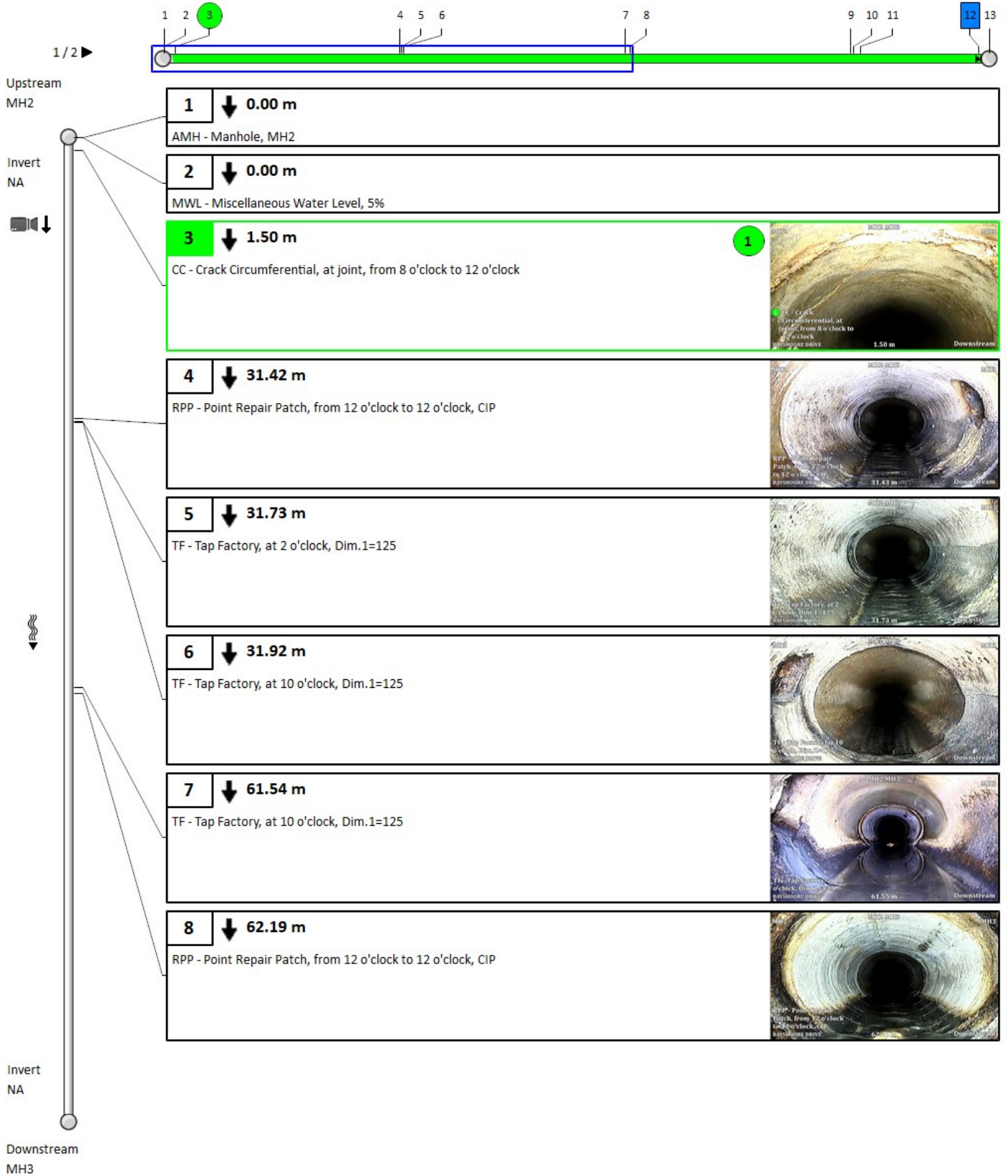
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 1    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 1100 | Quick rating: | 2100 | Quick rating: | 2111 | Likelihood:  | 2.1 |
| Score:        | 1    | Score:        | 2    | Score:        | 3    | Risk:        |     |
| Index:        | 1    | Index:        | 2    | Index:        | 1.5  |              |     |

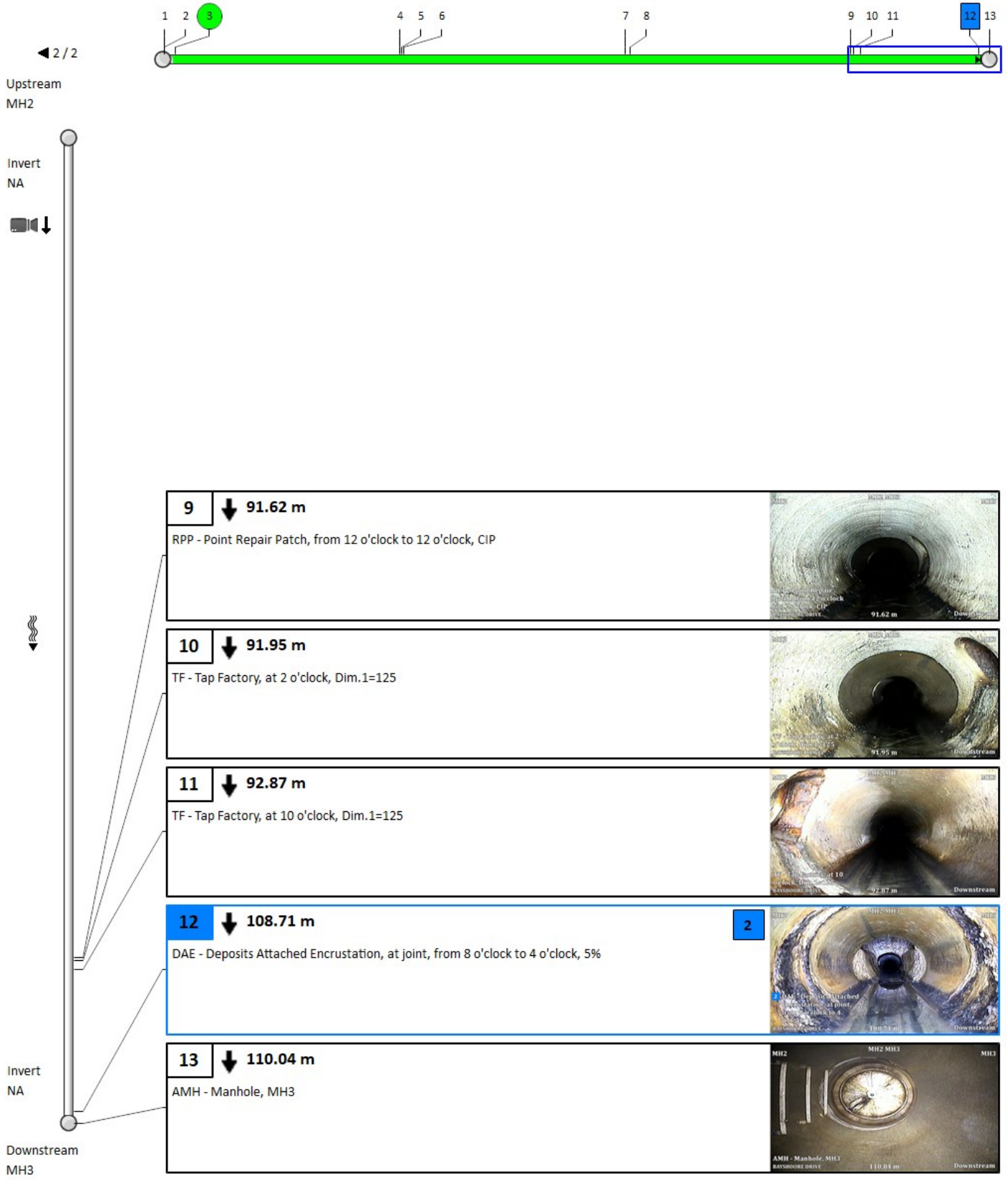
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH3 MH4  
 Direction of flow: MH3 --> MH4

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 50.67  |
| Height:           | 200                  | Total length:    | 109.08 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                             |
|----------------------|---------------------|-------------------------|-----------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296             |
| Date:                | 10/05/2022 11:52 AM | Reviewed By:            |                             |
| Project:             |                     | Reviewer Certificate:   |                             |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning              |
| PO number:           |                     | Date cleaned:           |                             |
| Work Order:          |                     | Media Label:            |                             |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                      |
| Weather:             | Dry                 | Sheet Number:           |                             |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS POINT REPAIR |
| Used Technology:     | CCTV                |                         |                             |

### Structural rating

### O&M rating

### Overall rating

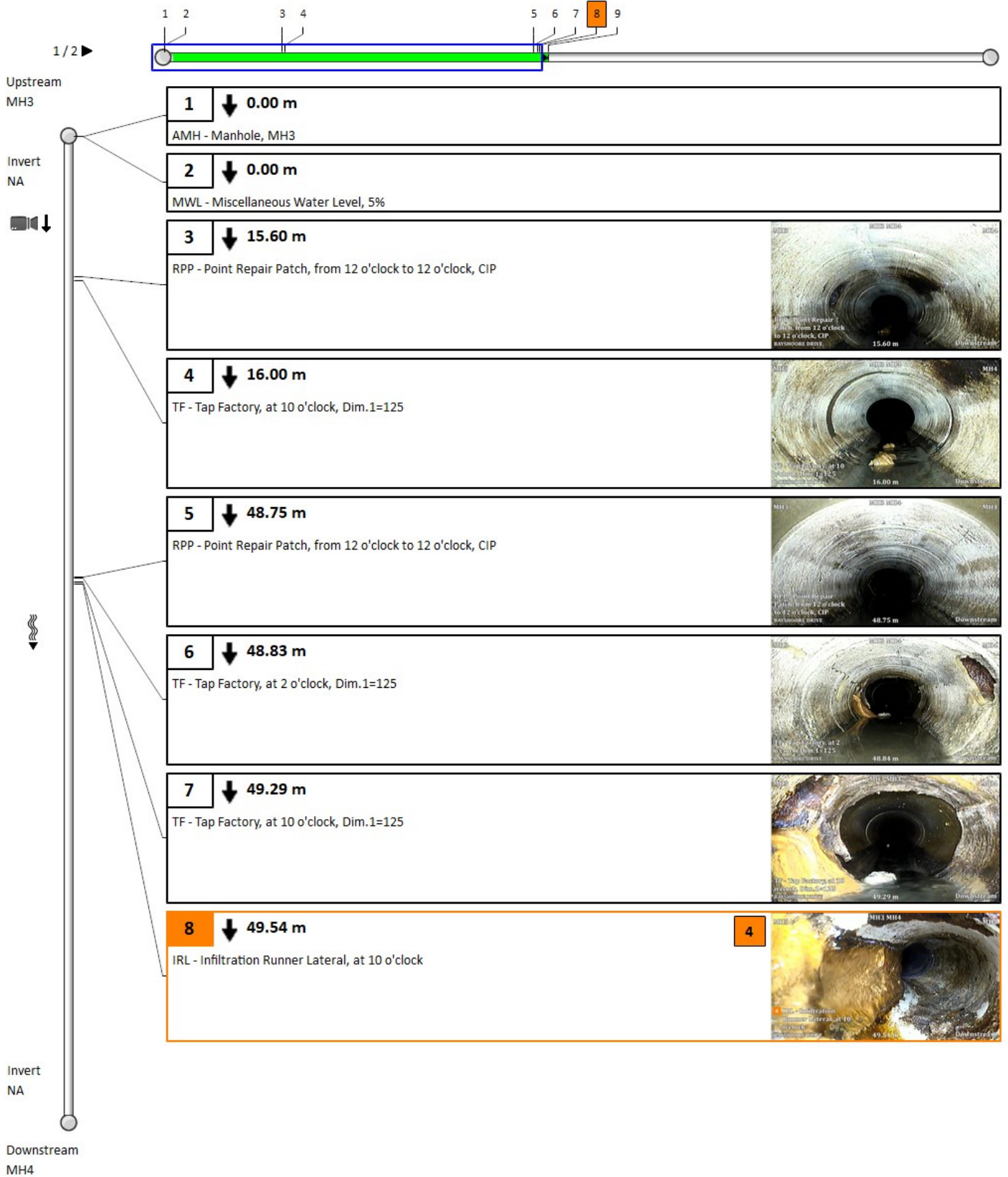
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

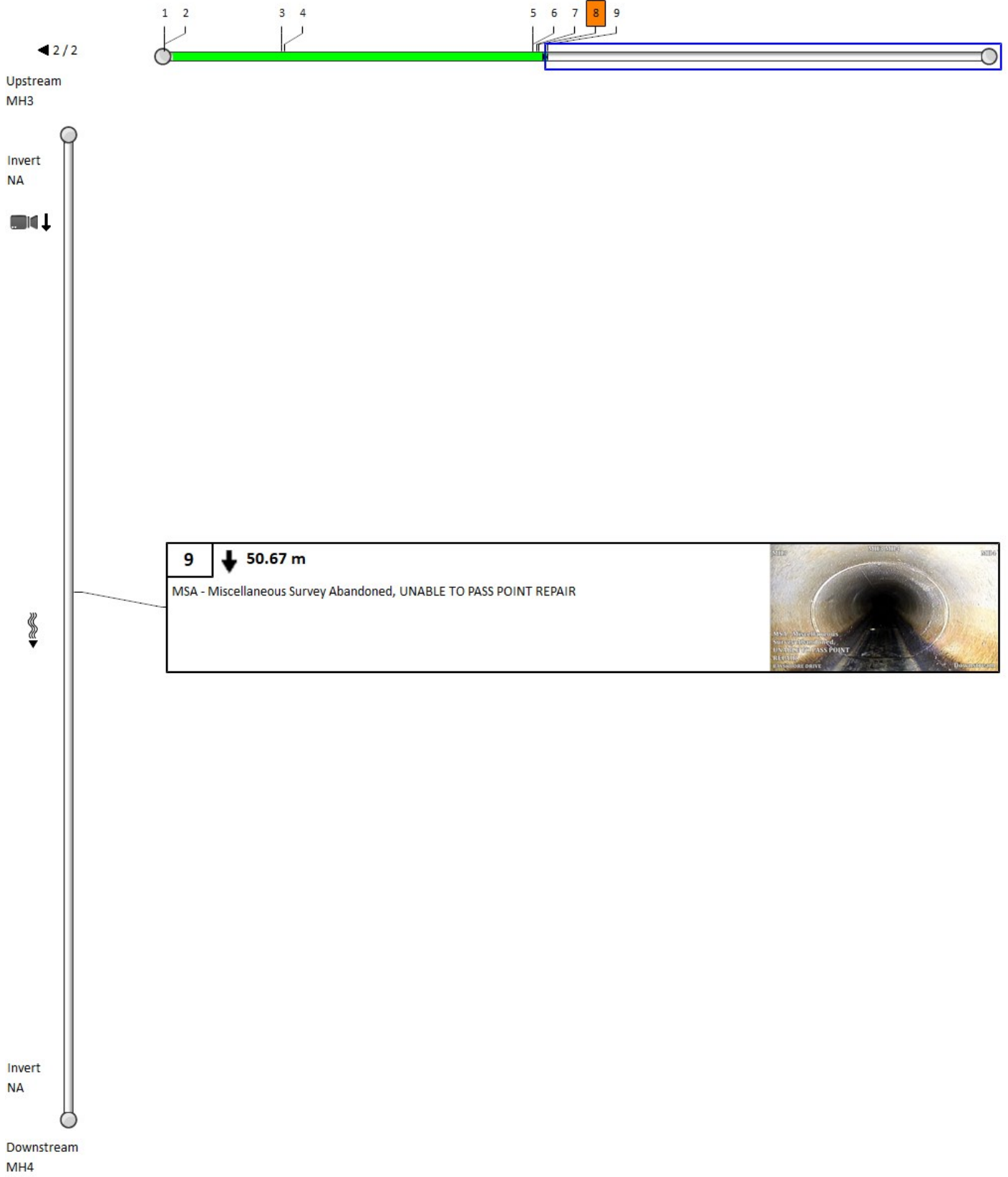
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH3 MH4  
 Direction of flow: MH3 --> MH4

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 58.41  |
| Height:           | 200                  | Total length:    | 109.08 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 10/05/2022 3:26 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

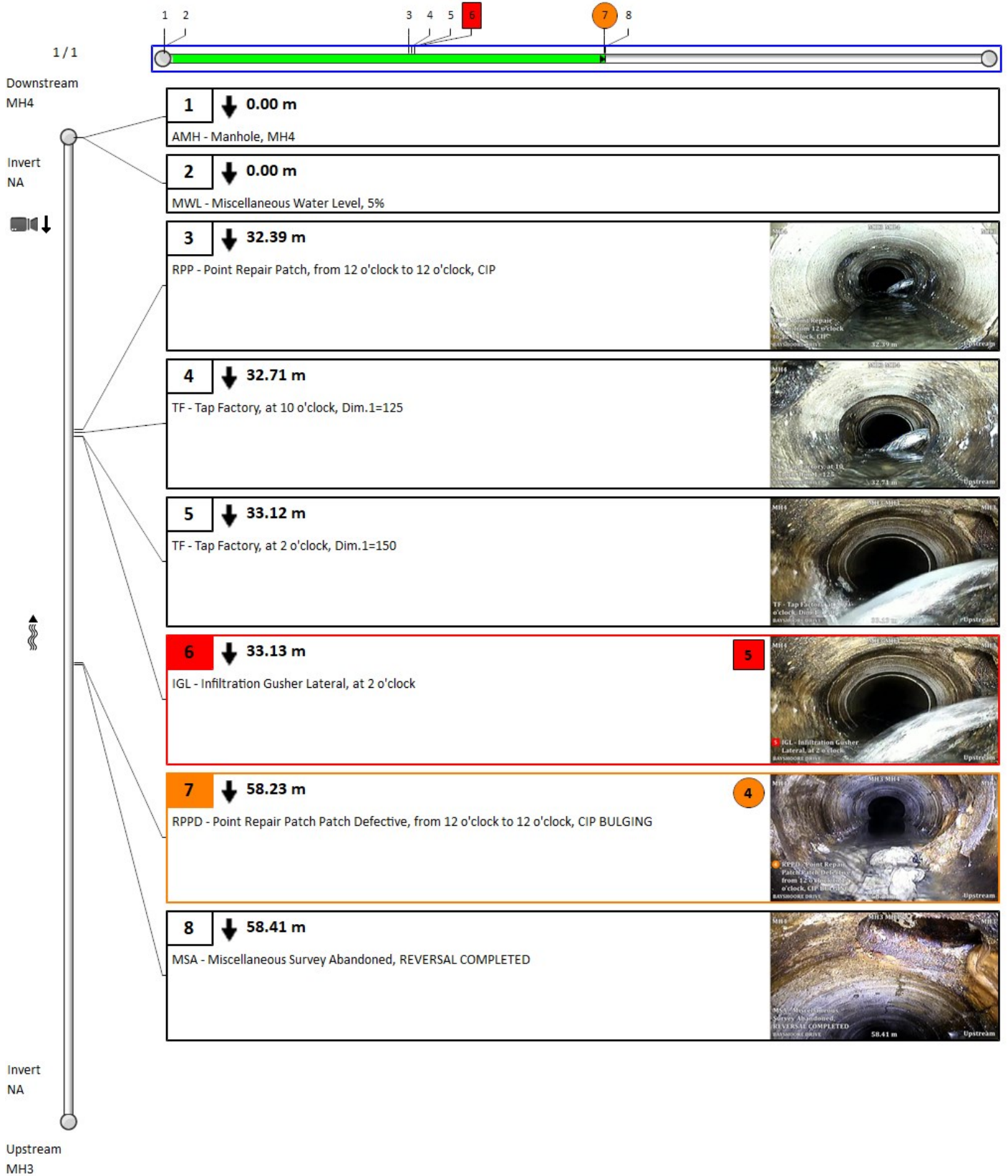
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 5    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 5100 | Quick rating: | 5141 | Likelihood:  | 5.1 |
| Score:        | 4    | Score:        | 5    | Score:        | 9    | Risk:        |     |
| Index:        | 4    | Index:        | 5    | Index:        | 4.5  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH4 MH5  
 Direction of flow: MH4 --> MH5

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 108.01 |
| Height:           | 200                  | Total length:    | 108.01 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 9:50 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

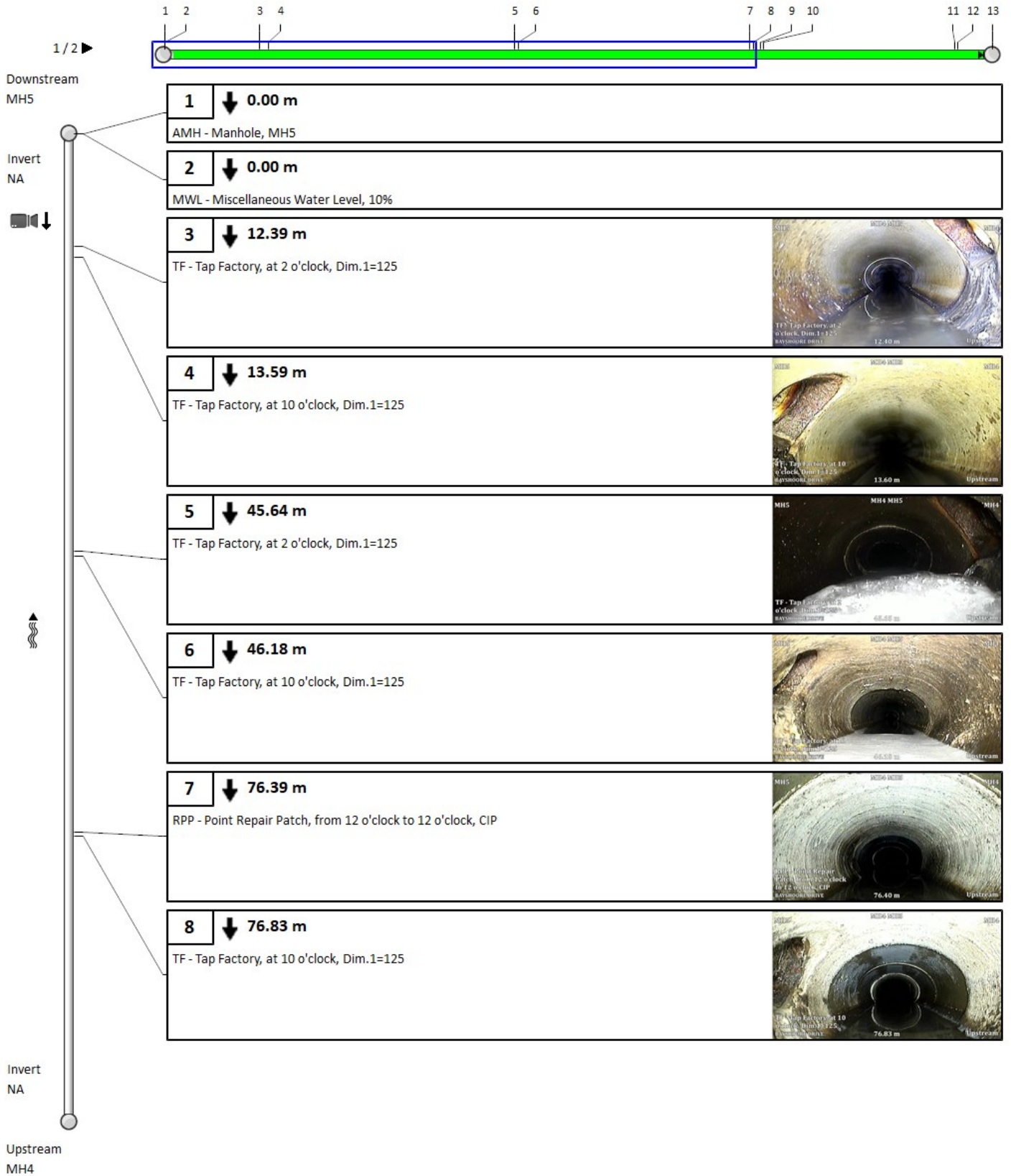
|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

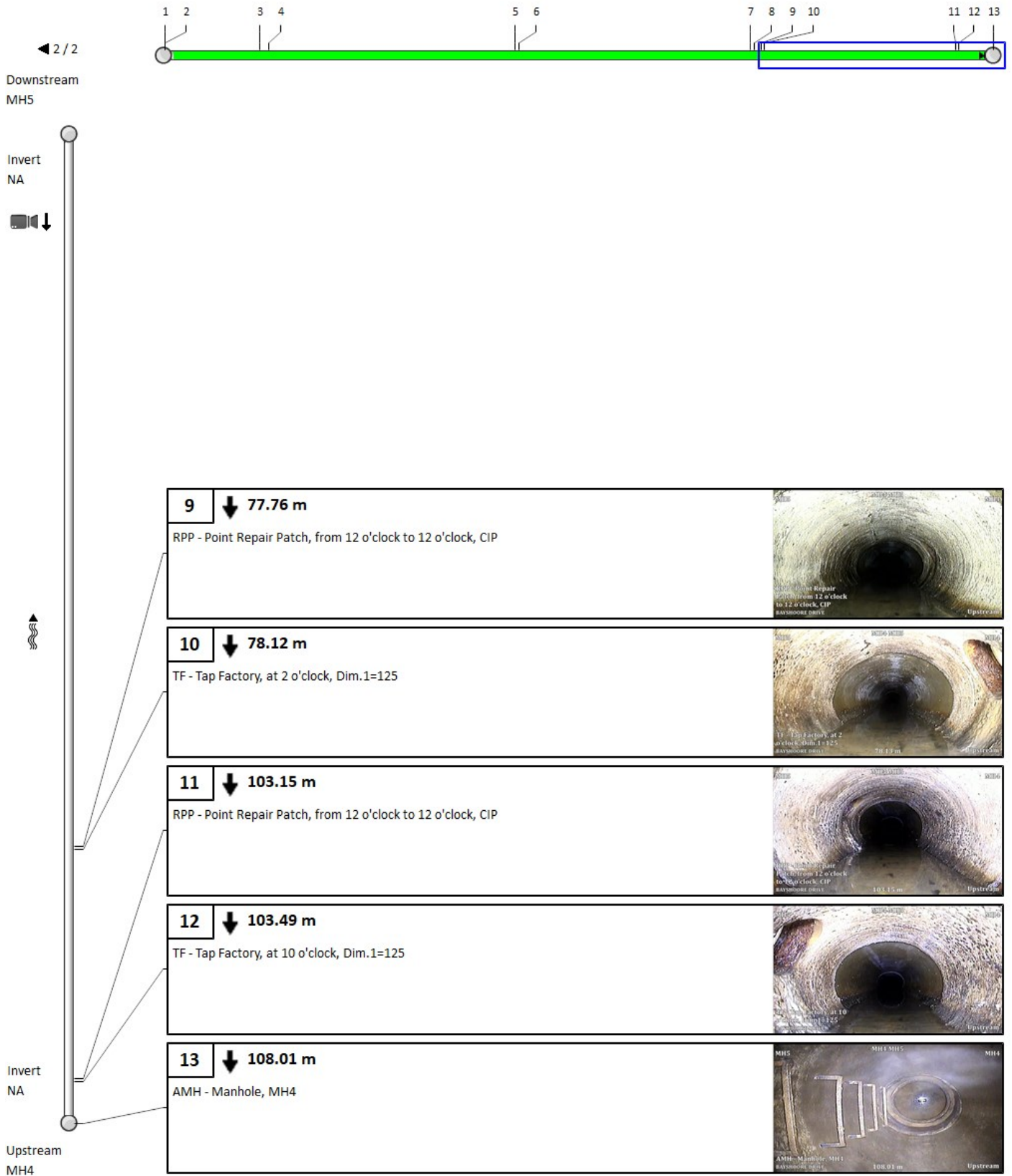


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH5 MH8  
 Direction of flow: MH5 --> MH8

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 84.66 |
| Height:           | 200                  | Total length:    | 84.66 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 9:37 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

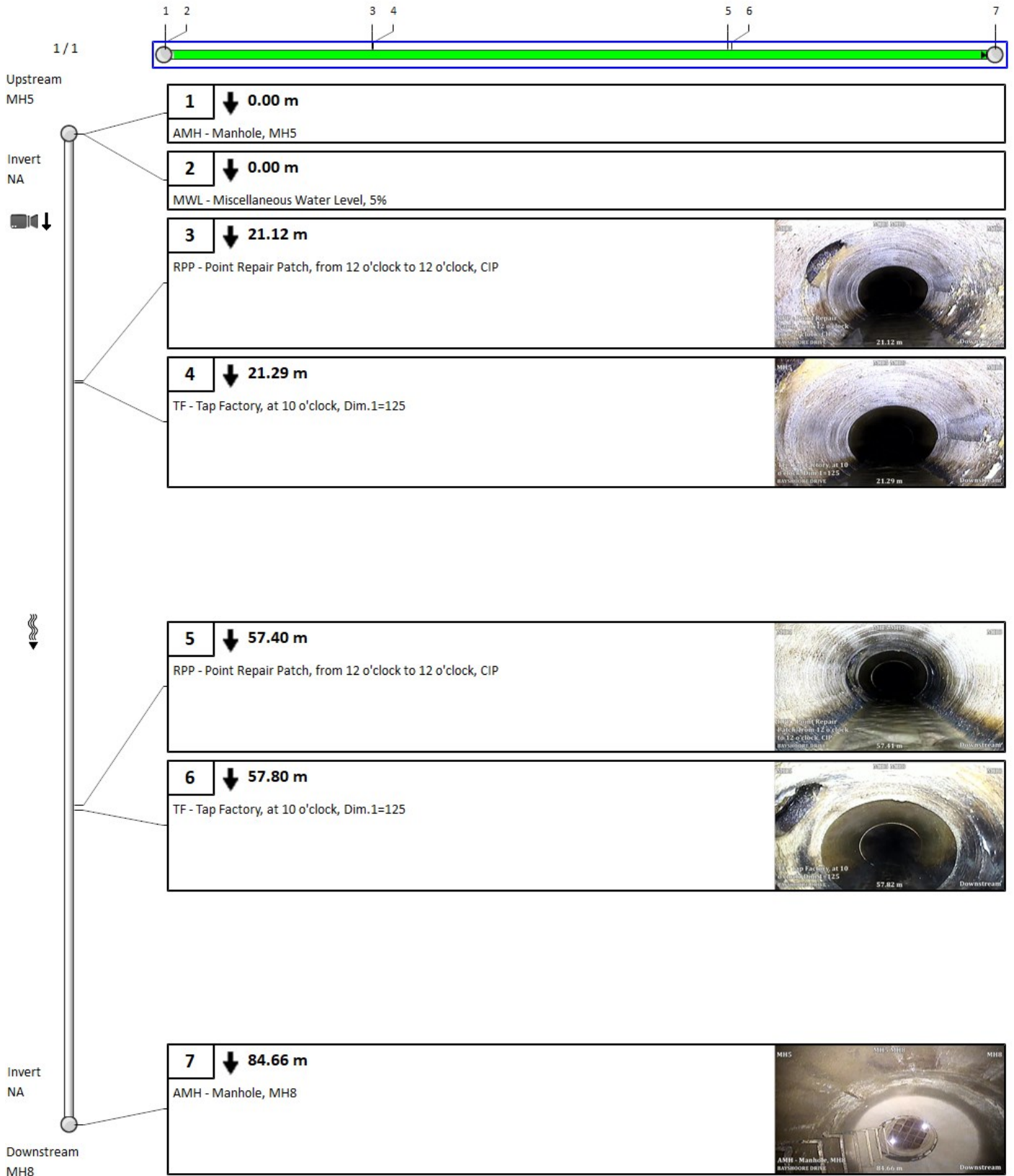
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH6 MH7  
 Direction of flow: MH6 --> MH7

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MISTY COURT      | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 107.77 |
| Height:           | 200                  | Total length:    | 107.77 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 8:48 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

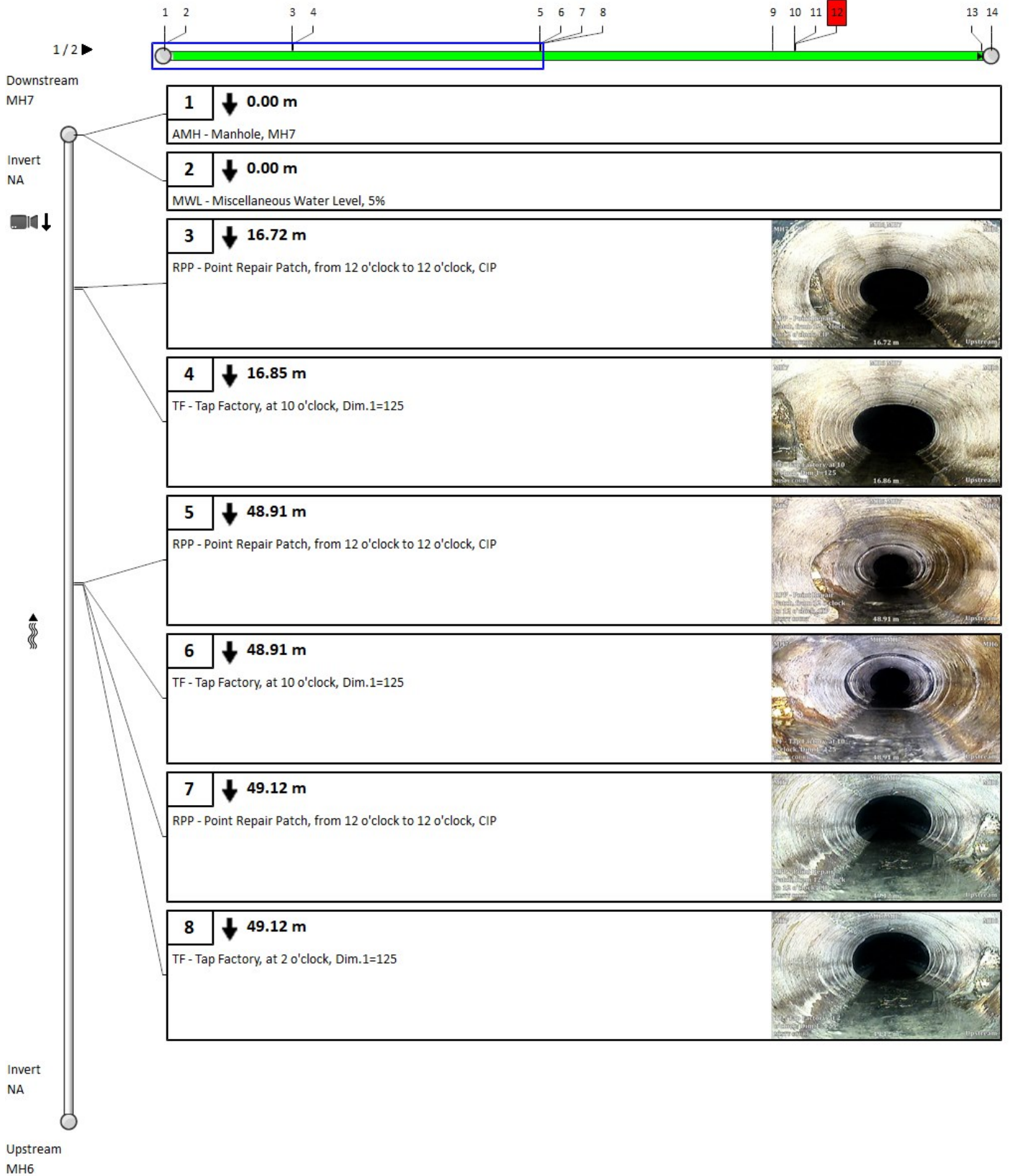
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 5    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 5100 | Quick rating: | 5100 | Likelihood:  | 5.1 |
| Score:        | 0    | Score:        | 5    | Score:        | 5    | Risk:        |     |
| Index:        | 0    | Index:        | 5    | Index:        | 5    |              |     |

### Other information

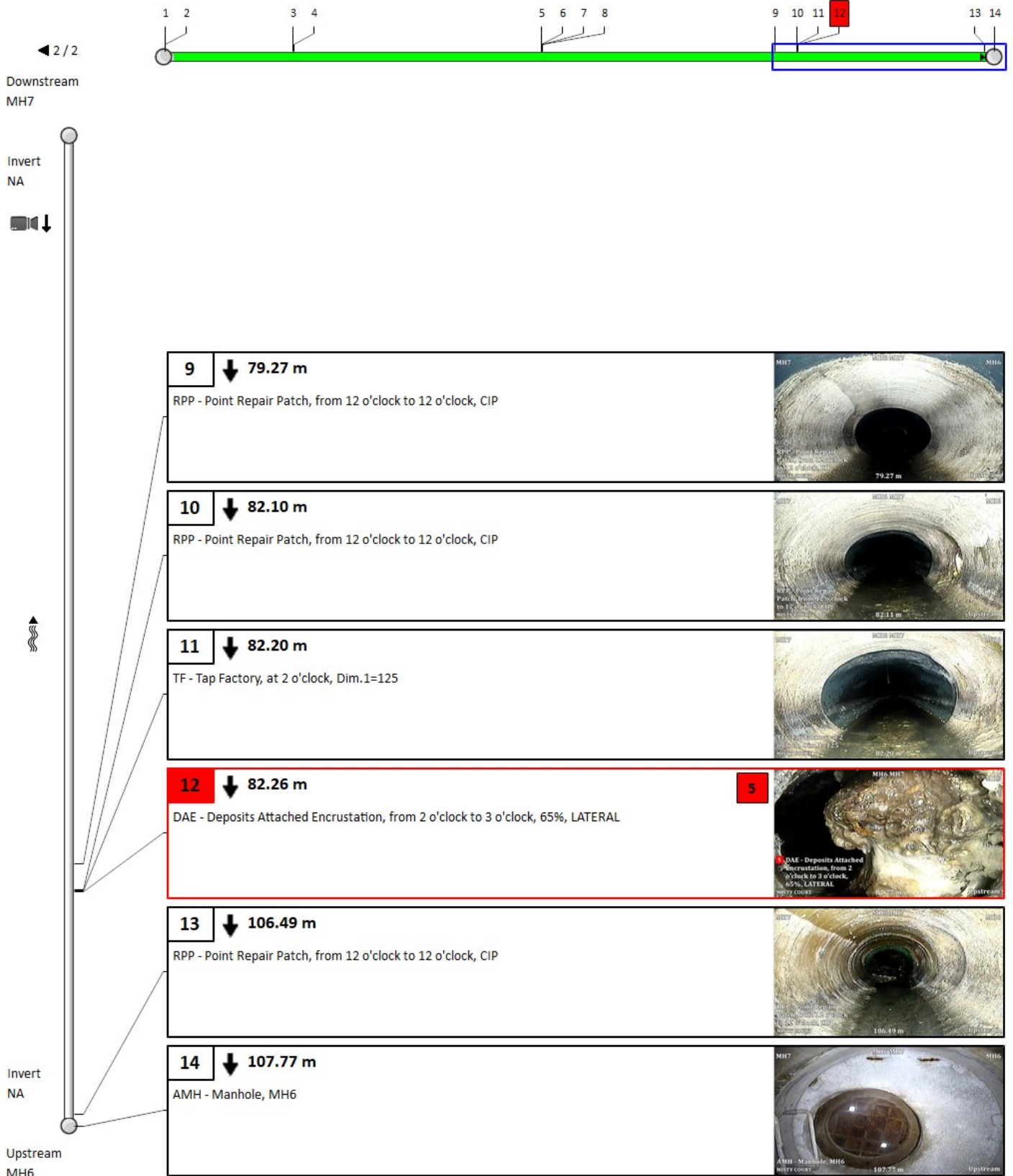
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH7 MH8  
 Direction of flow: MH7 --> MH8

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MISTY COURT      | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 86.82 |
| Height:           | 200                  | Total length:    | 86.82 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 8:25 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

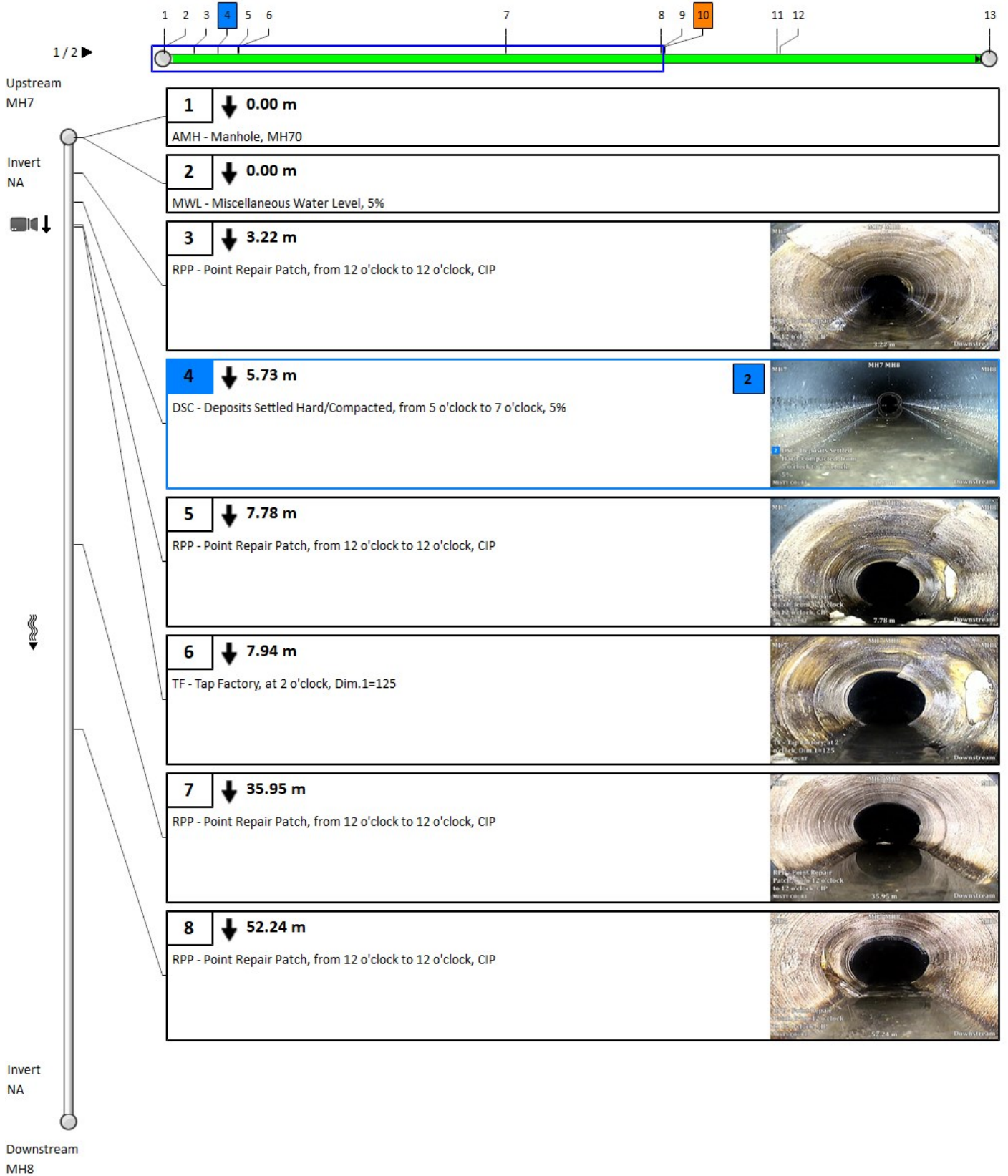
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4121 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

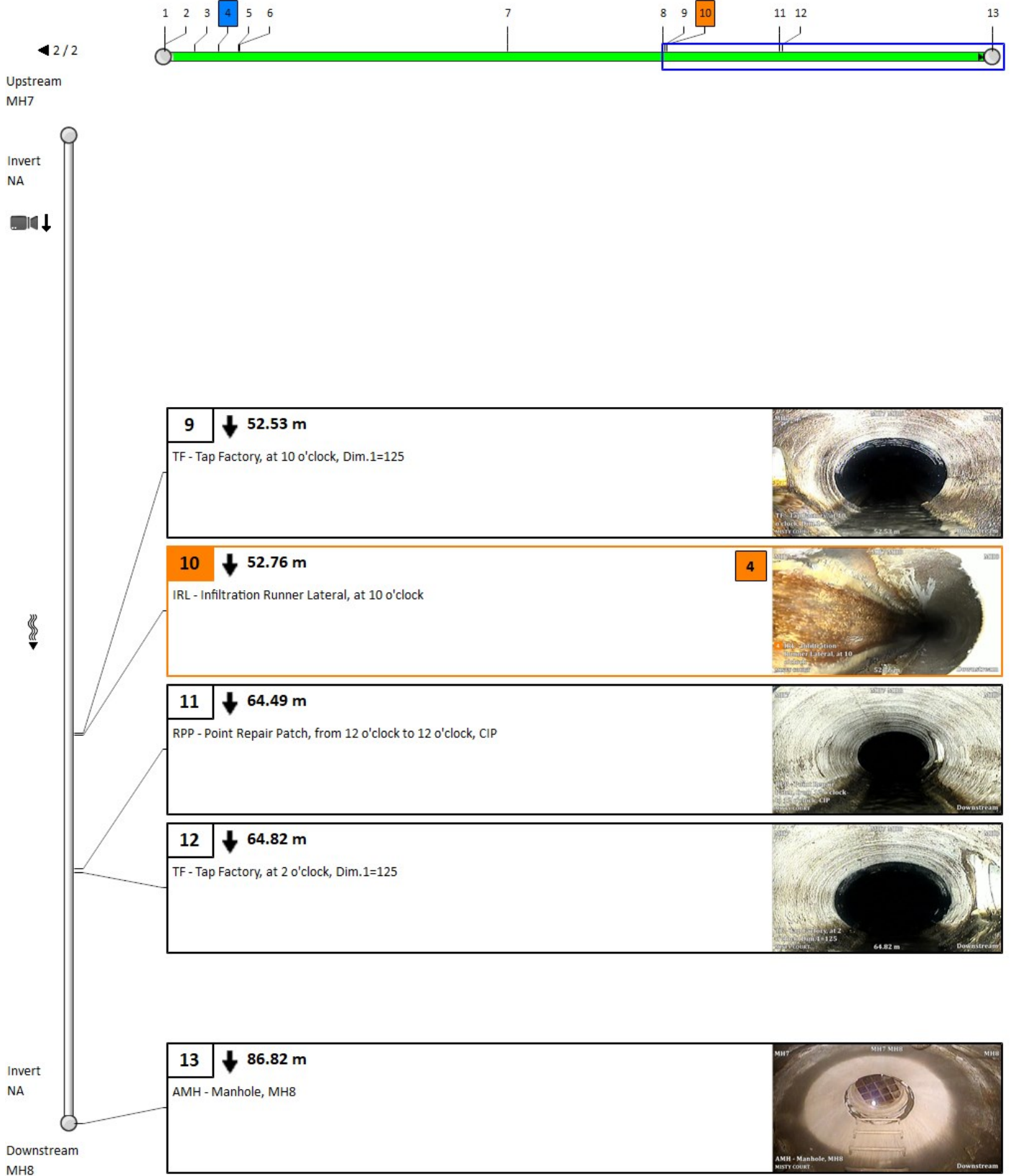
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH8 MH73  
 Direction of flow: MH8 --> MH73

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 60.51 |
| Height:           | 200                  | Total length:    | 60.51 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 9:20 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

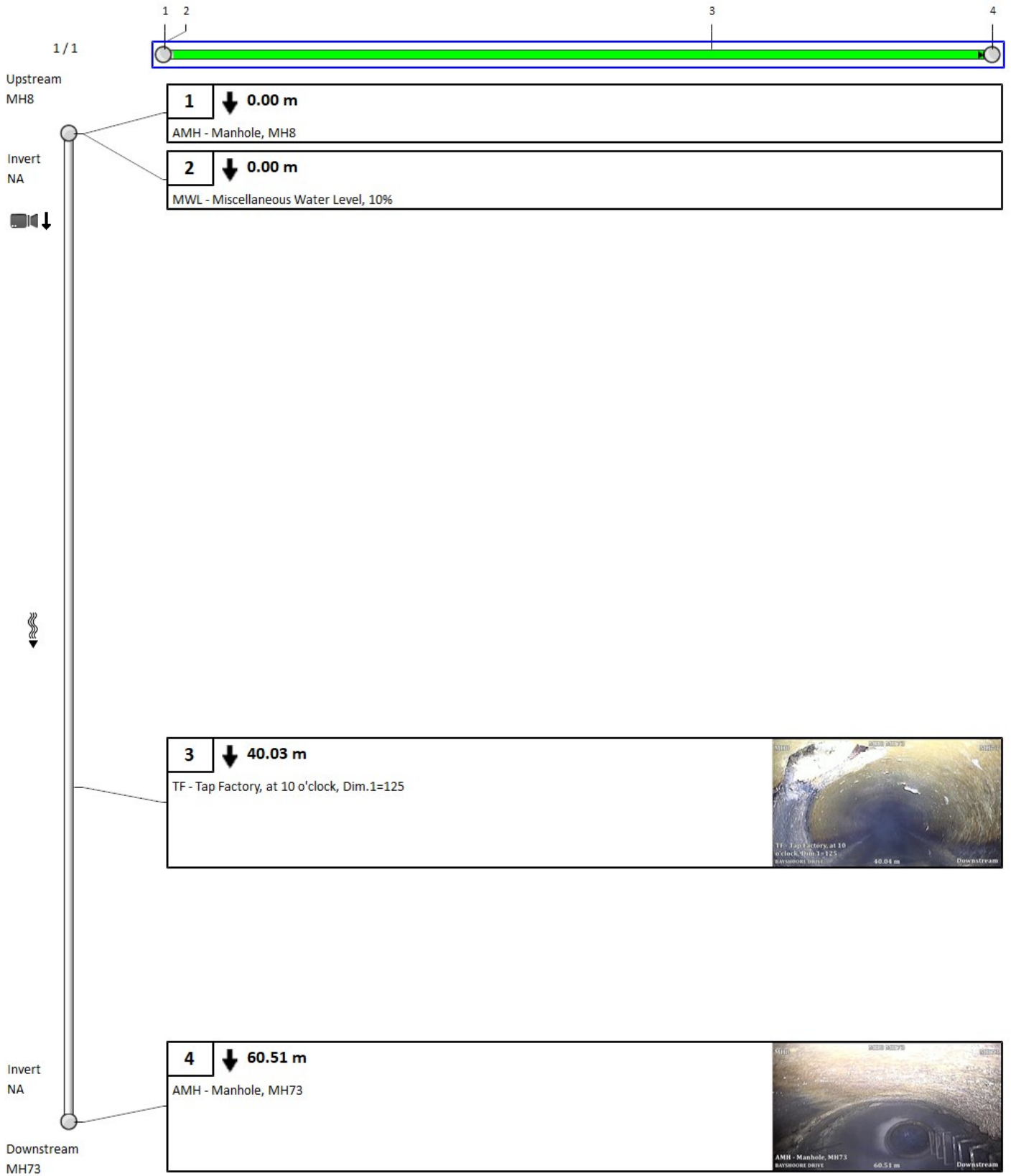
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

|                    |               |
|--------------------|---------------|
| Pipe:              | MH10 MH11     |
| Direction of flow: | MH10 --> MH11 |

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 2.82  |
| Height:           | 200                  | Total length:    | 99.79 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

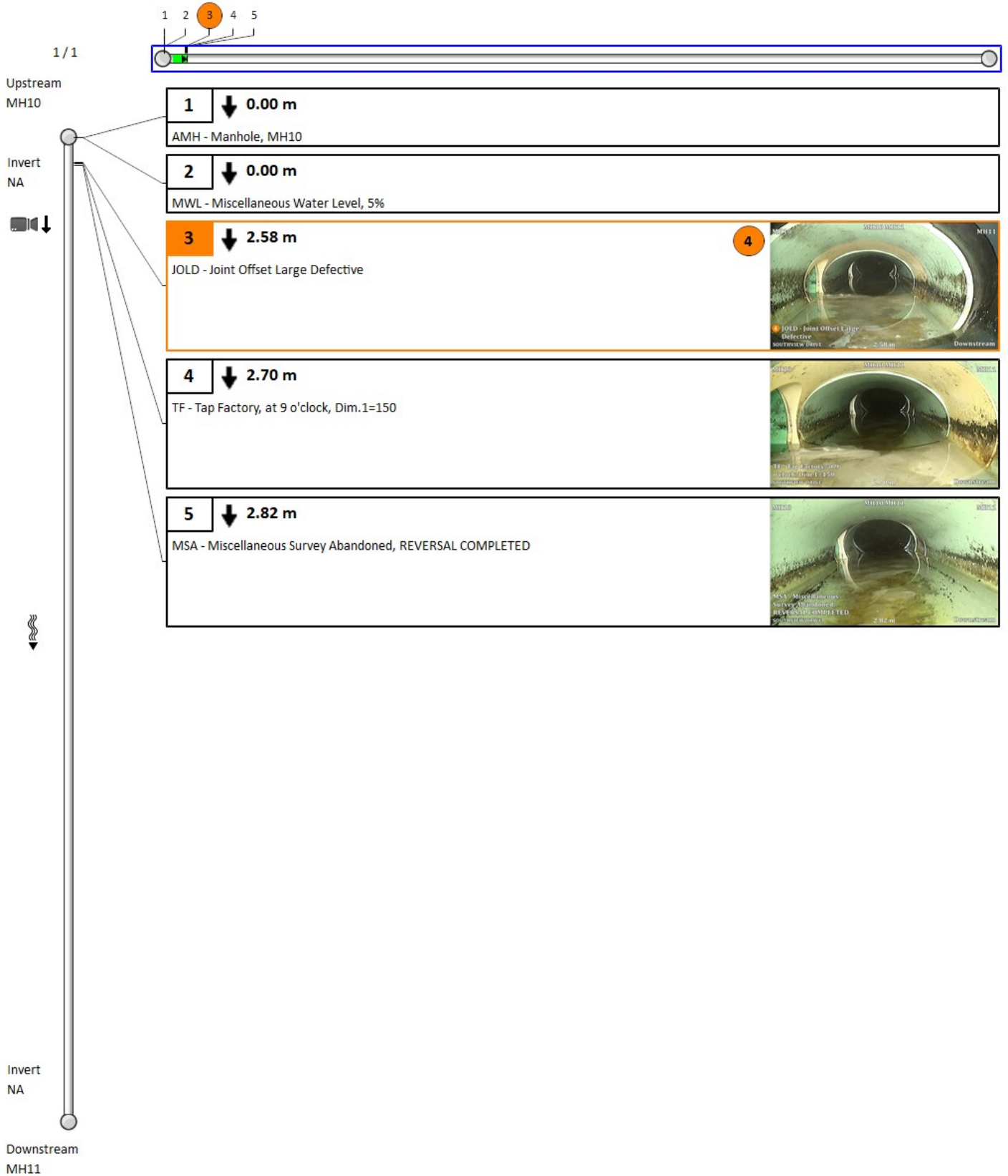
|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 10/05/2022 4:59 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

| Structural rating  | O&M rating         | Overall rating     | Failure         |
|--------------------|--------------------|--------------------|-----------------|
| Peak: 4            | Peak: 0            | Peak: 4            | Consequence:    |
| Quick rating: 4100 | Quick rating: 0000 | Quick rating: 4100 | Likelihood: 4.1 |
| Score: 4           | Score: 0           | Score: 4           | Risk:           |
| Index: 4           | Index: 0           | Index: 4           |                 |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH10 MH11  
 Direction of flow: MH10 --> MH11

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 96.97 |
| Height:           | 200                  | Total length:    | 99.79 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 3:55 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: | OFFSET JOINT    |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

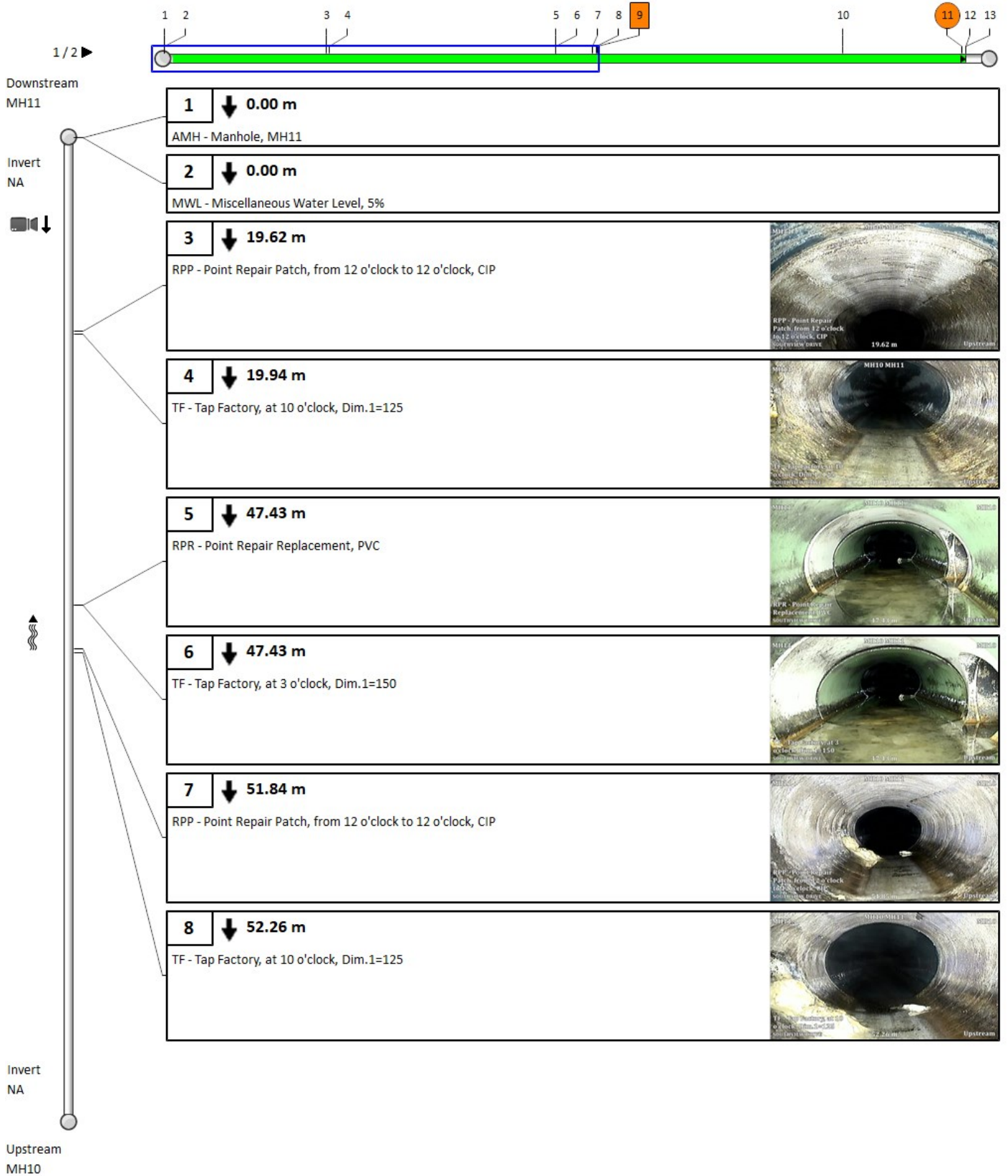
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 4100 | Quick rating: | 4200 | Likelihood:  | 4.2 |
| Score:        | 4    | Score:        | 4    | Score:        | 8    | Risk:        |     |
| Index:        | 4    | Index:        | 4    | Index:        | 4    |              |     |

### Other information

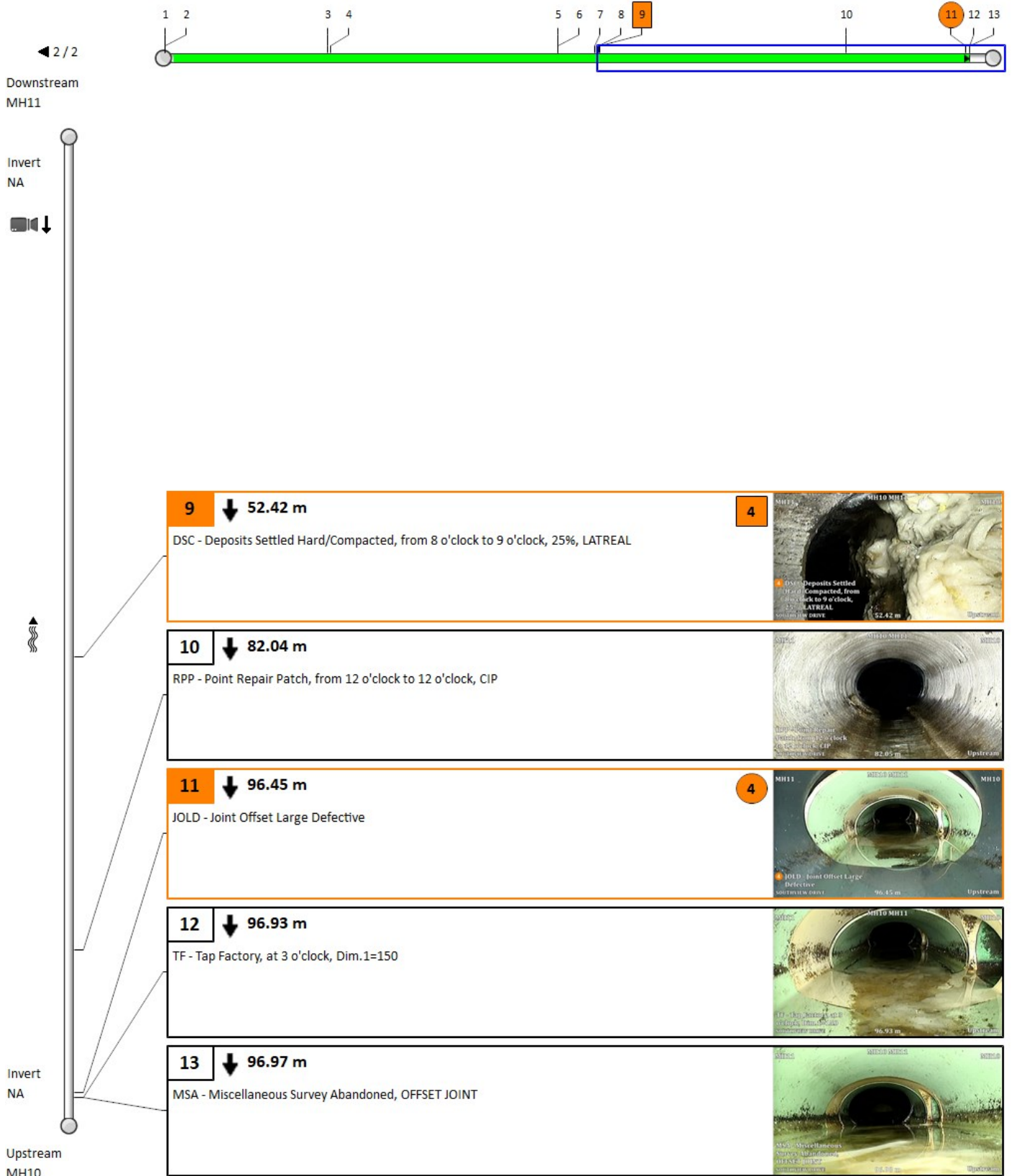
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH11 MH12  
 Direction of flow: MH11 -> MH12

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 100.22 |
| Height:           | 200                  | Total length:    | 100.22 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 4:12 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

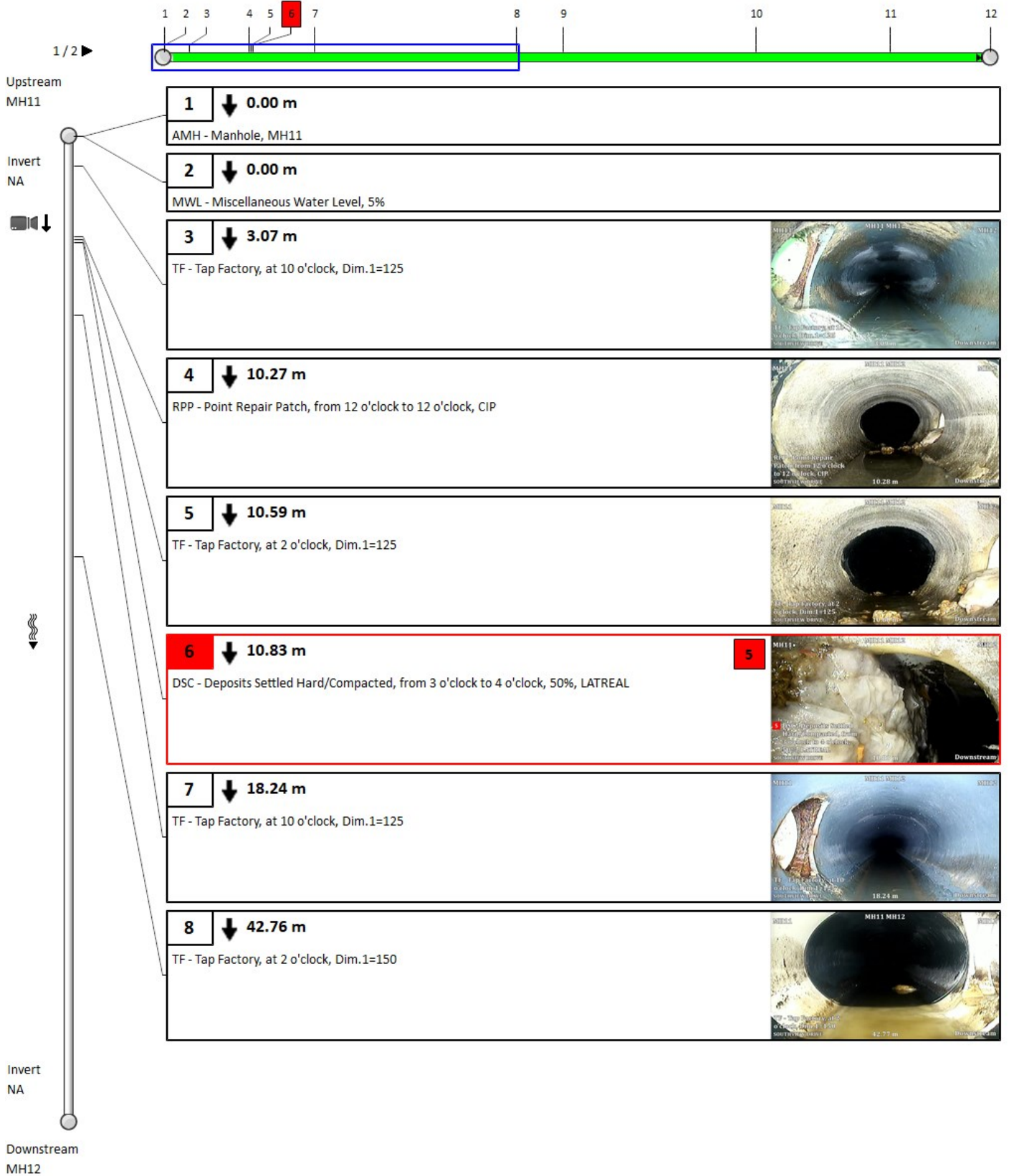
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 5    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 5100 | Quick rating: | 5100 | Likelihood:  | 5.1 |
| Score:        | 0    | Score:        | 5    | Score:        | 5    | Risk:        |     |
| Index:        | 0    | Index:        | 5    | Index:        | 5    |              |     |

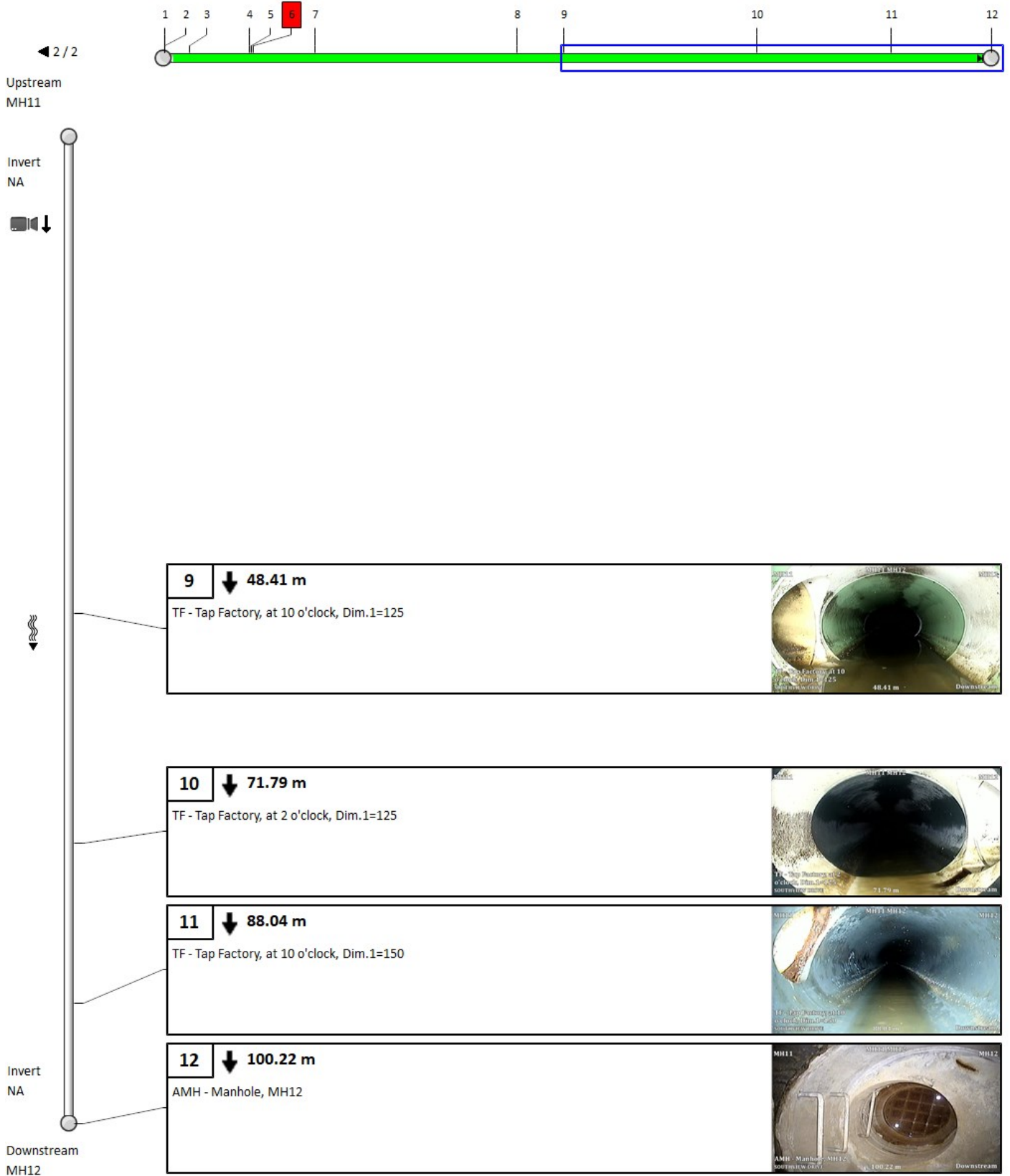
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH12 MH13  
 Direction of flow: MH12 --> MH13

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 100.42 |
| Height:           | 200                  | Total length:    | 100.42 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 4:39 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

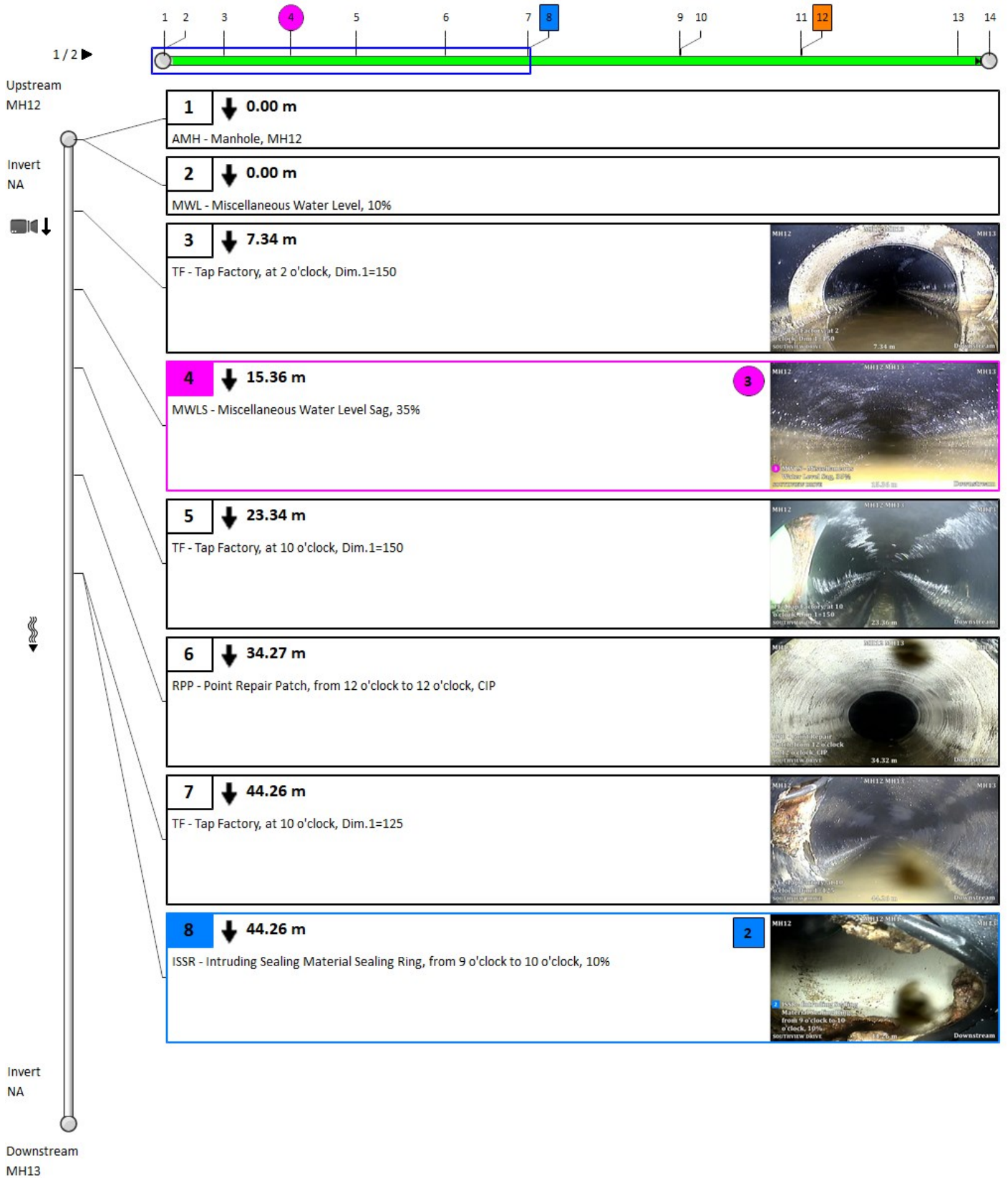
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 3    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 3100 | Quick rating: | 4121 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 3    | Score:        | 6    | Score:        | 9    | Risk:        |     |
| Index:        | 3    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

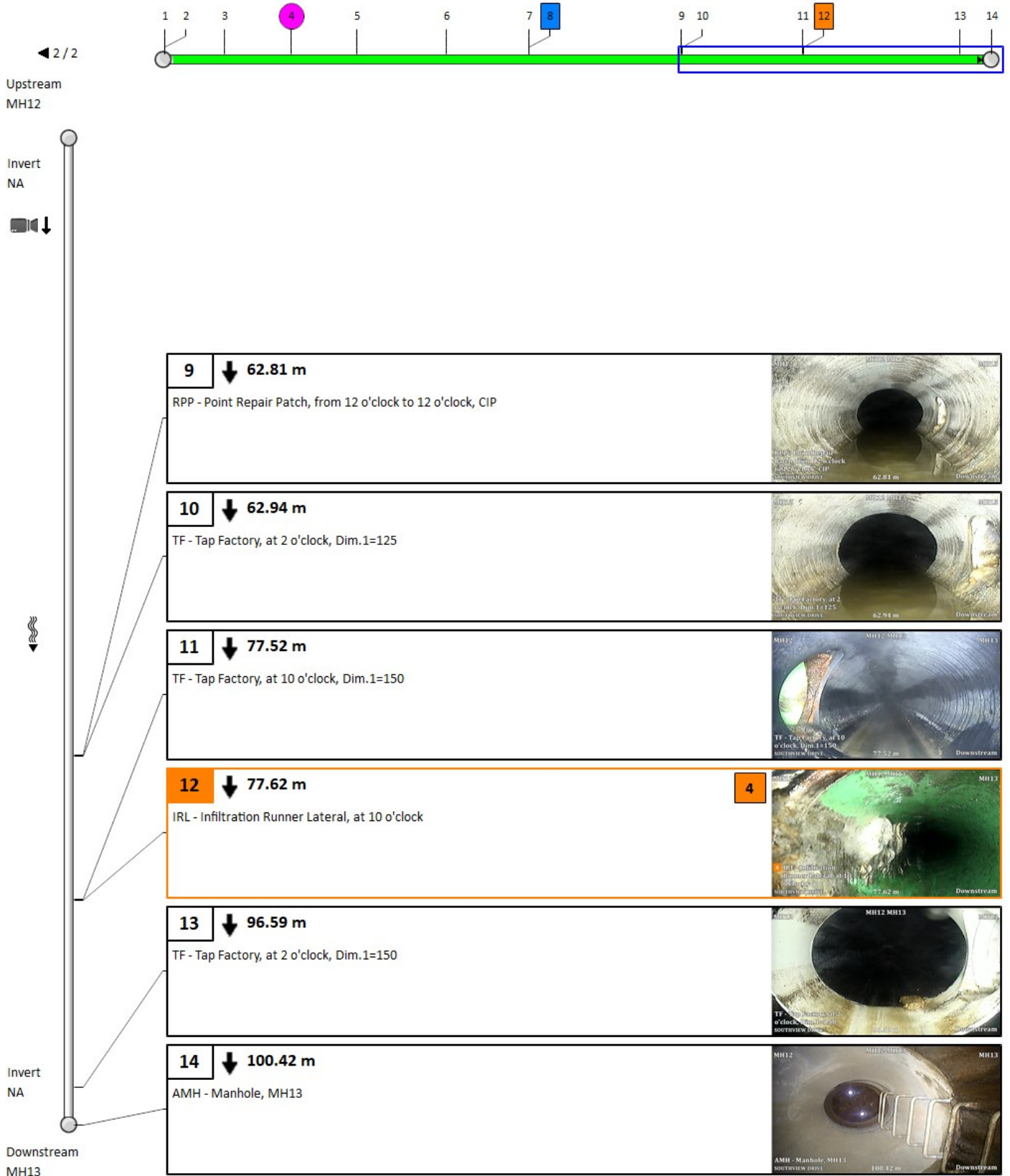
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH13 MH14  
 Direction of flow: MH13 --> MH14

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 98.94 |
| Height:           | 200                  | Total length:    | 98.94 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 5:43 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

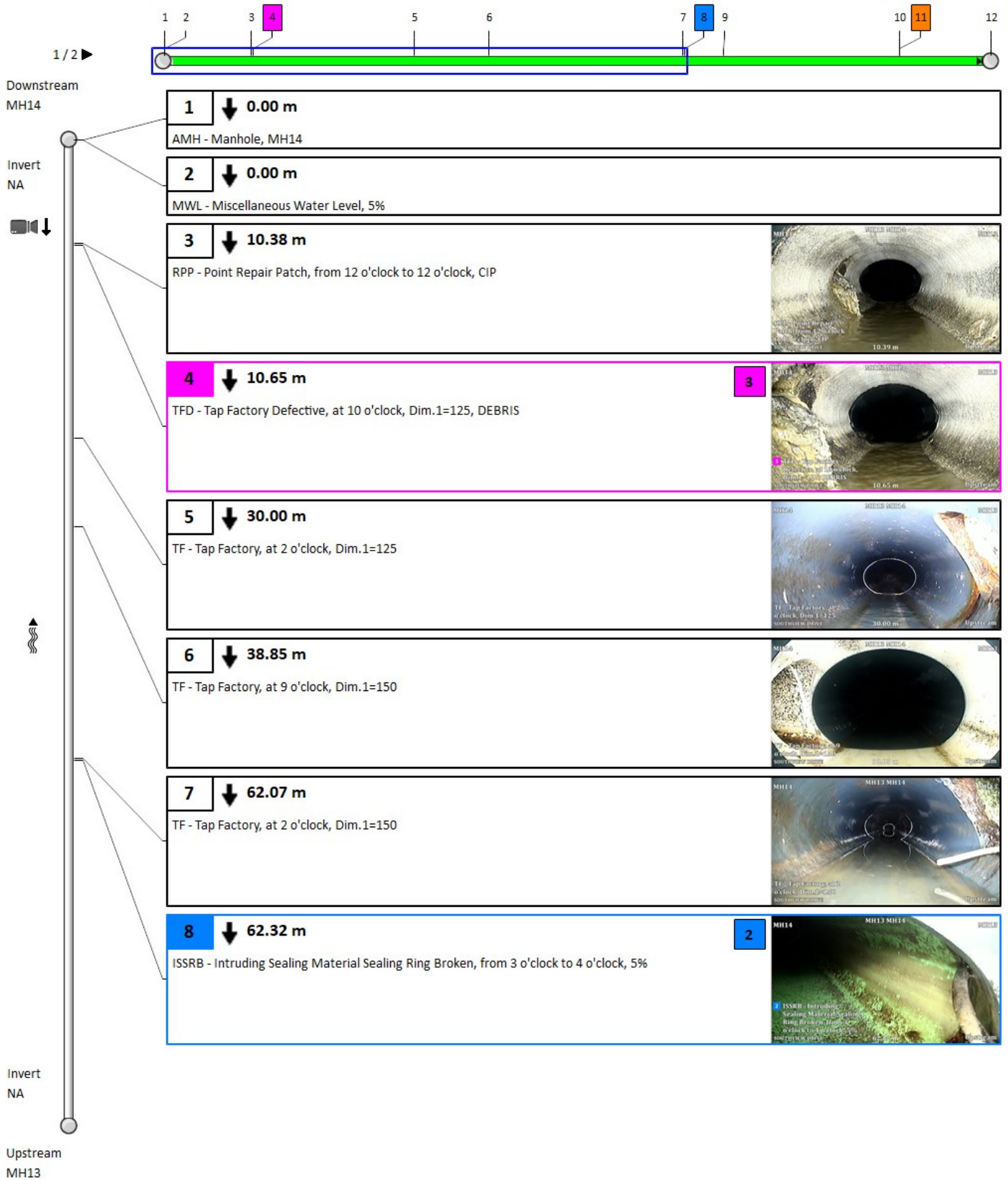
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4131 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 9    | Score:        | 9    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

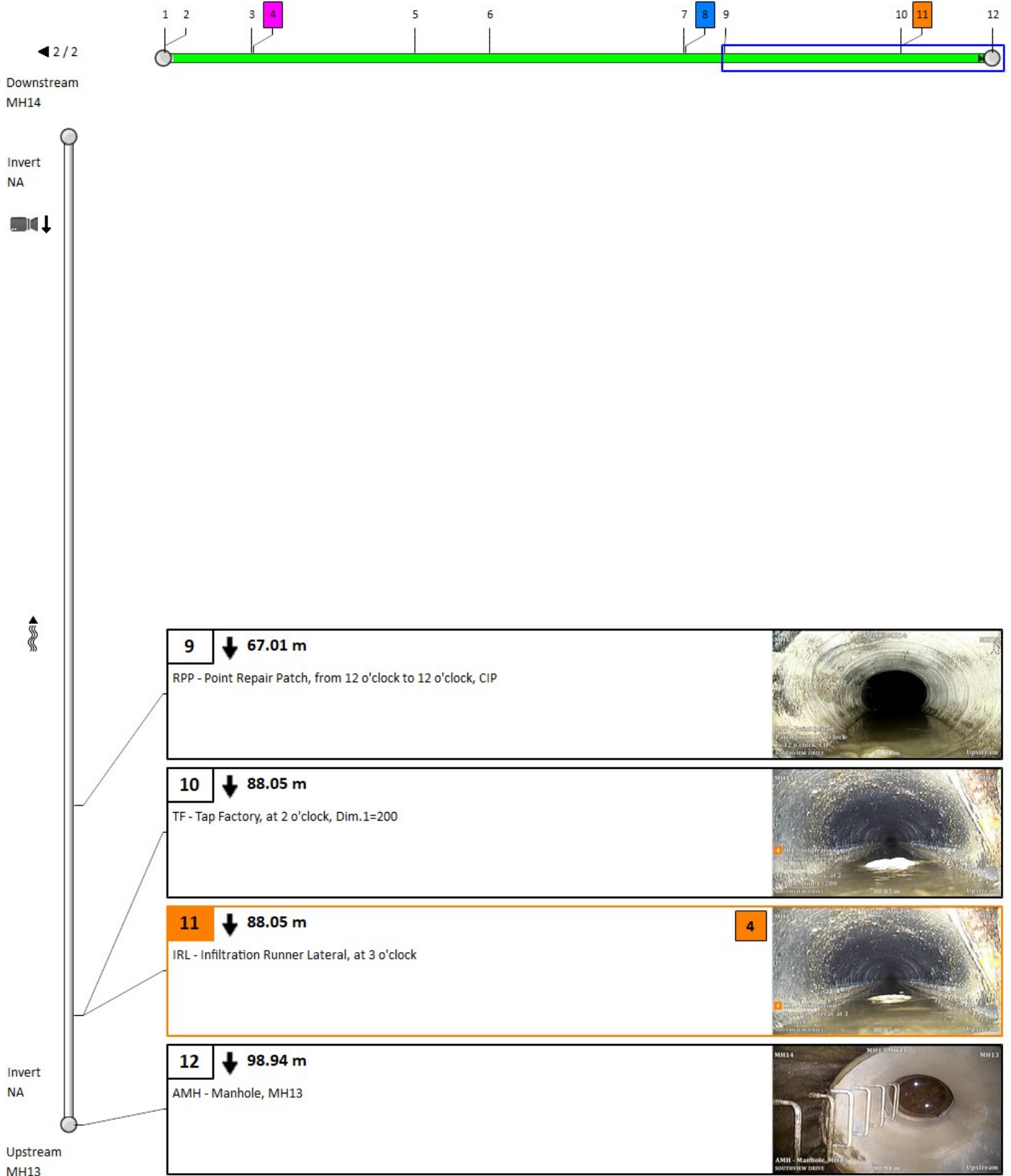
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH14 MH15  
 Direction of flow: MH14 --> MH15

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 101.07 |
| Height:           | 200                  | Total length:    | 101.07 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 5:58 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

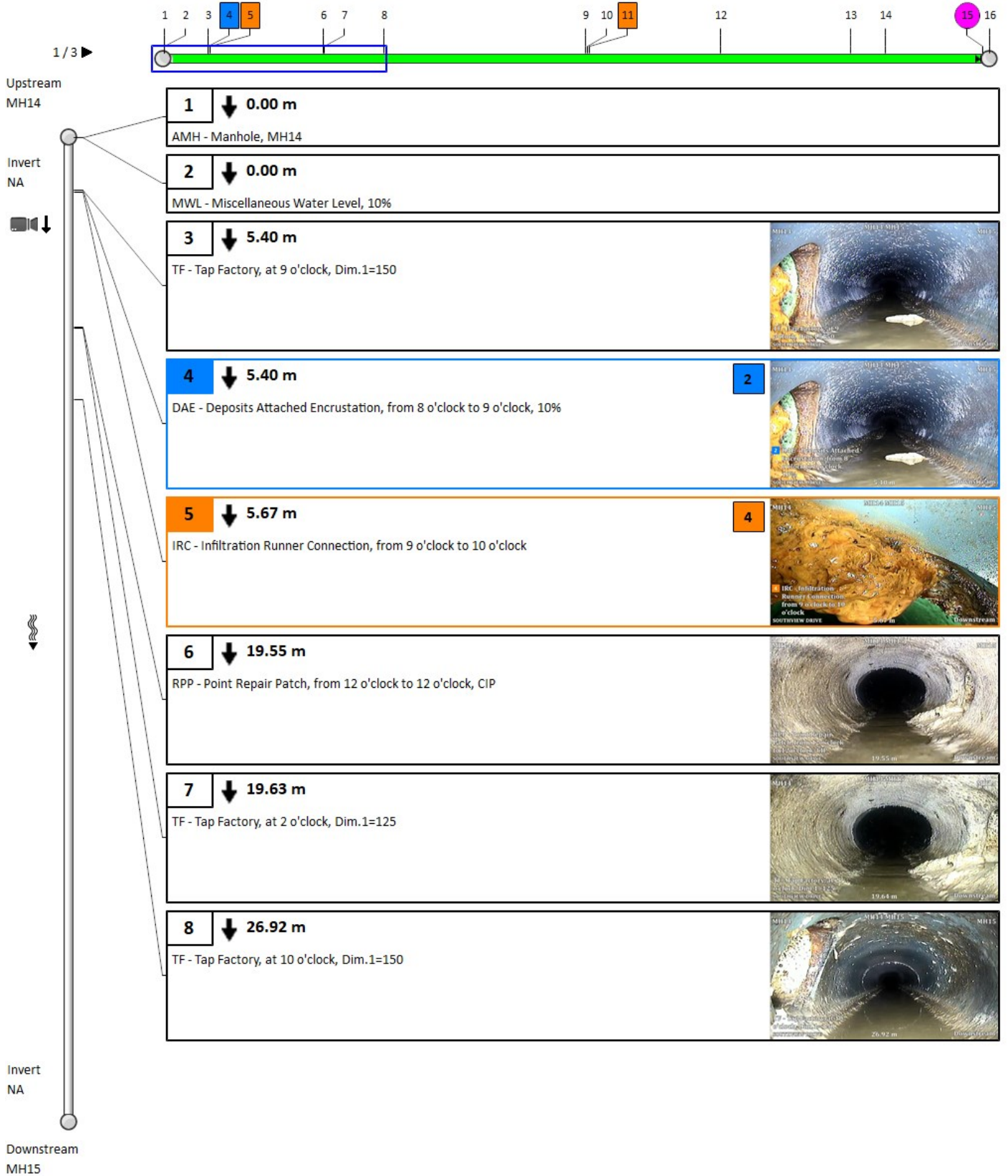
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 3    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 3100 | Quick rating: | 4221 | Quick rating: | 4231 | Likelihood:  | 4.2 |
| Score:        | 3    | Score:        | 10   | Score:        | 13   | Risk:        |     |
| Index:        | 3    | Index:        | 3.3  | Index:        | 3.2  |              |     |

### Other information

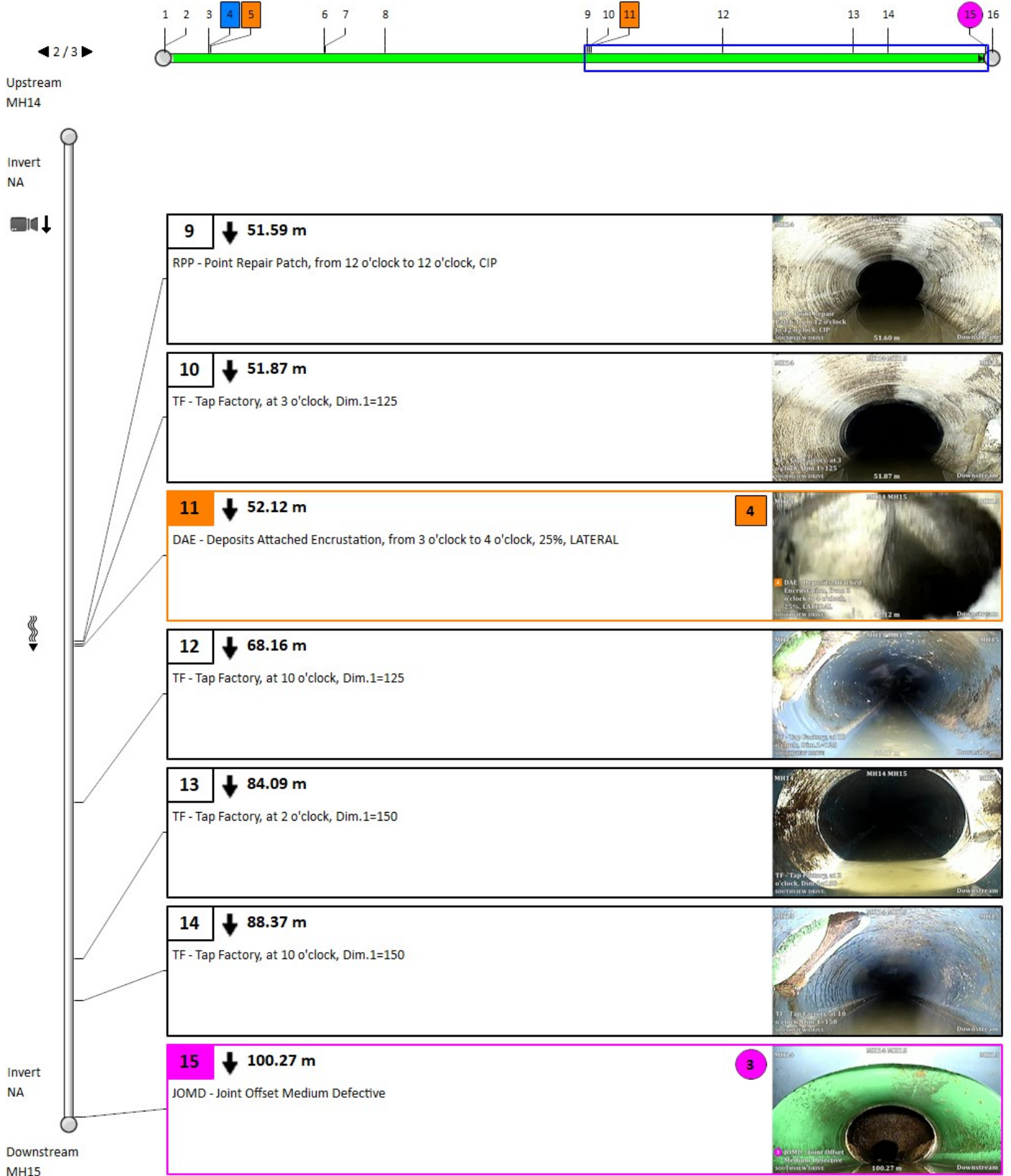
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



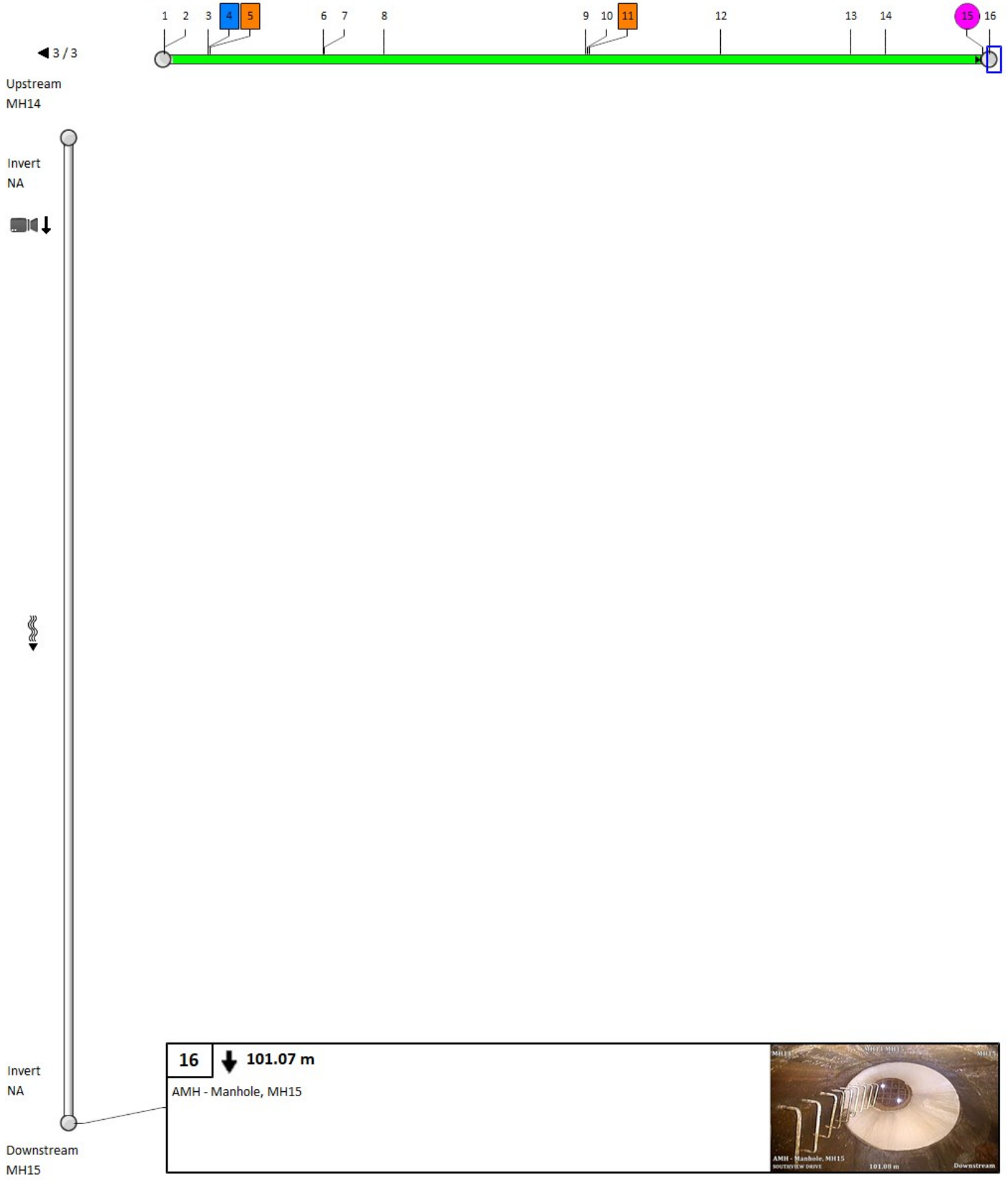
# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

|                    |               |
|--------------------|---------------|
| Pipe:              | MH15 MH16     |
| Direction of flow: | MH15 --> MH16 |

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 99.38 |
| Height:           | 200                  | Total length:    | 99.38 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

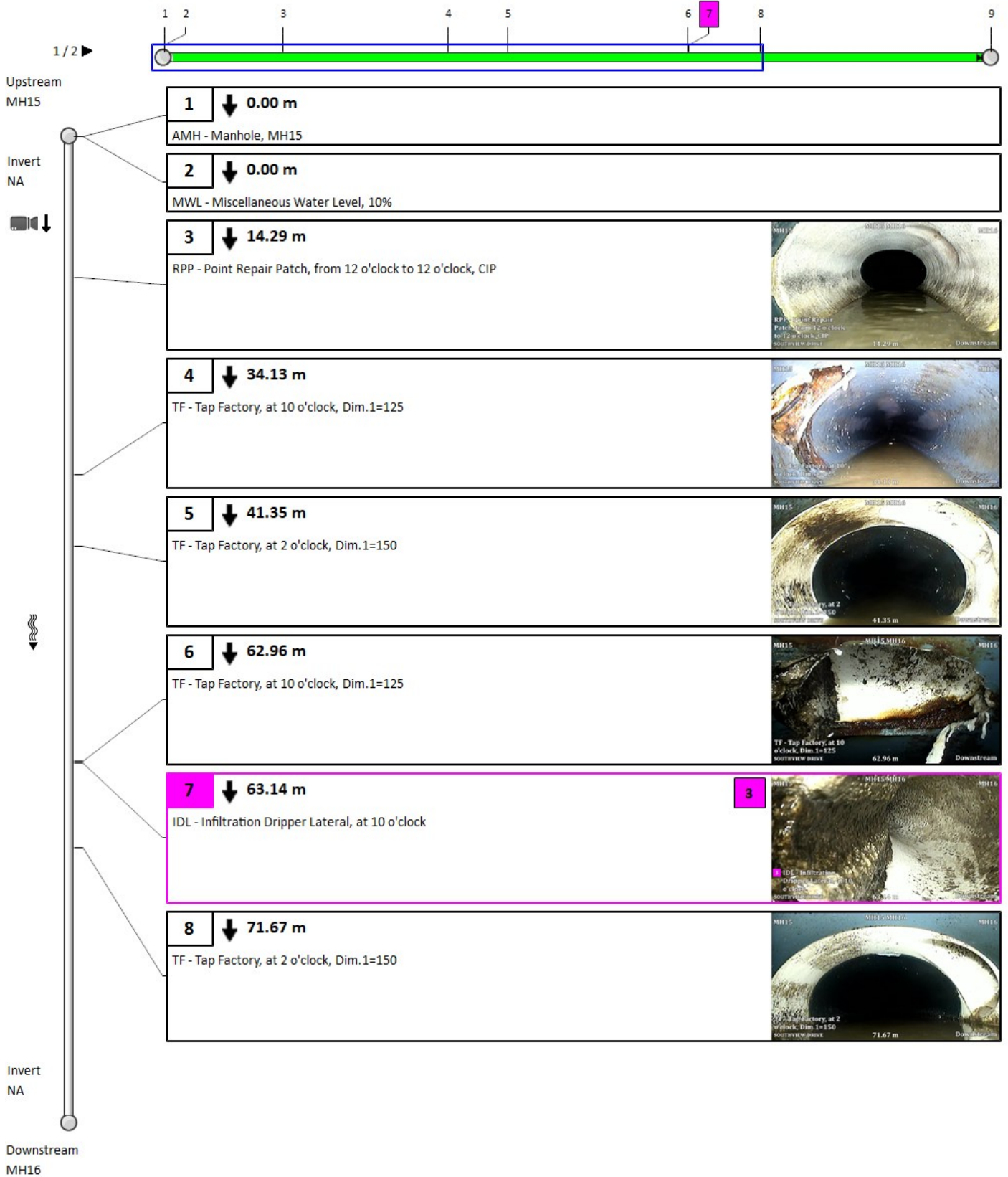
|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 10/05/2022 6:16 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

| Structural rating  | O&M rating         | Overall rating     | Failure         |
|--------------------|--------------------|--------------------|-----------------|
| Peak: 0            | Peak: 3            | Peak: 3            | Consequence:    |
| Quick rating: 0000 | Quick rating: 3100 | Quick rating: 3100 | Likelihood: 3.1 |
| Score: 0           | Score: 3           | Score: 3           | Risk:           |
| Index: 0           | Index: 3           | Index: 3           |                 |

### Other information

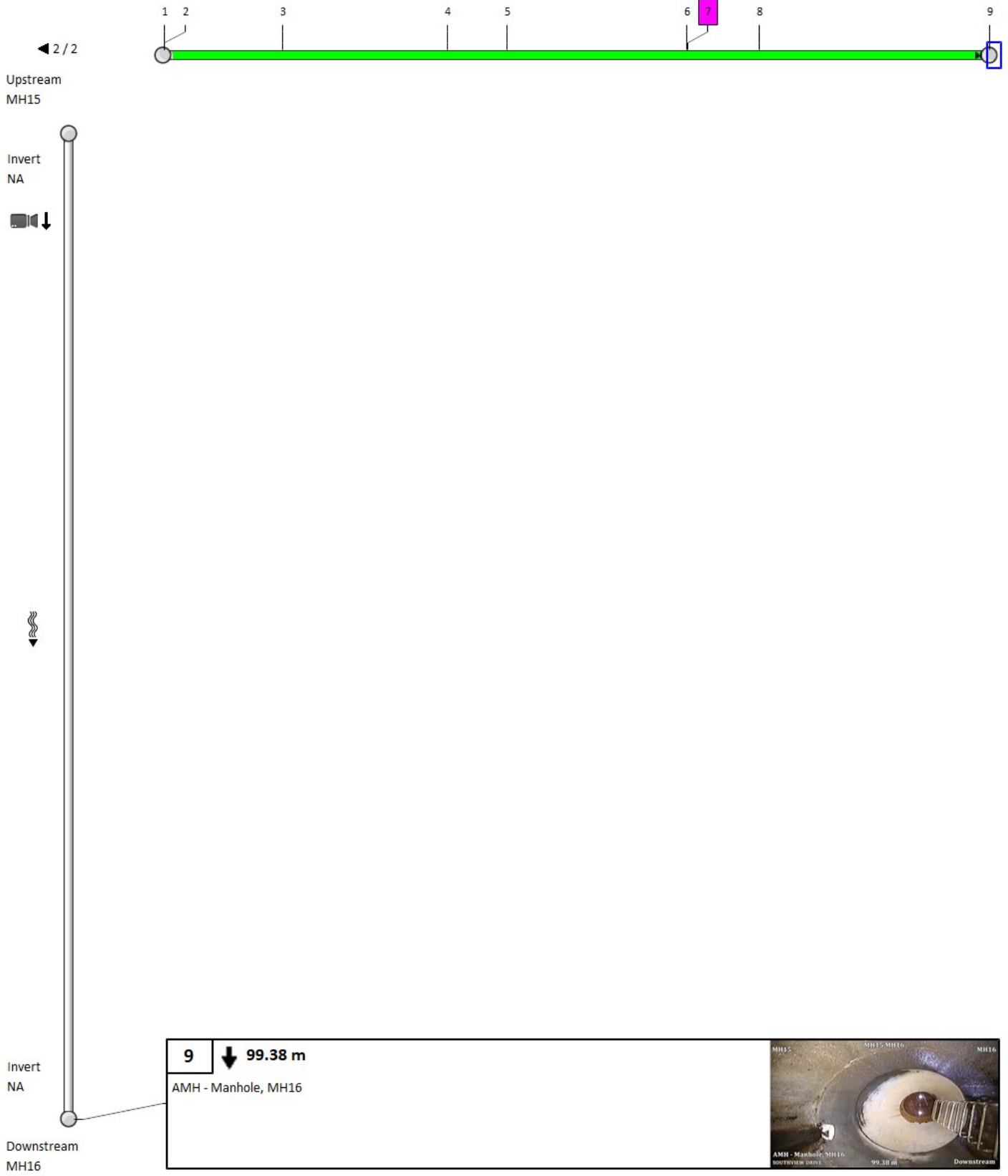
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH16 MH17  
 Direction of flow: MH16 --> MH17

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 42.53 |
| Height:           | 200                  | Total length:    | 98.42 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                              |
|----------------------|---------------------|-------------------------|------------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                 |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296              |
| Date:                | 11/05/2022 11:27 AM | Reviewed By:            |                              |
| Project:             |                     | Reviewer Certificate:   |                              |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning               |
| PO number:           |                     | Date cleaned:           |                              |
| Work Order:          |                     | Media Label:            |                              |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                       |
| Weather:             | Dry                 | Sheet Number:           |                              |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED           |
| Used Technology:     | CCTV                |                         | MSA SAG 8 METERS UNDER WATER |

### Structural rating

### O&M rating

### Overall rating

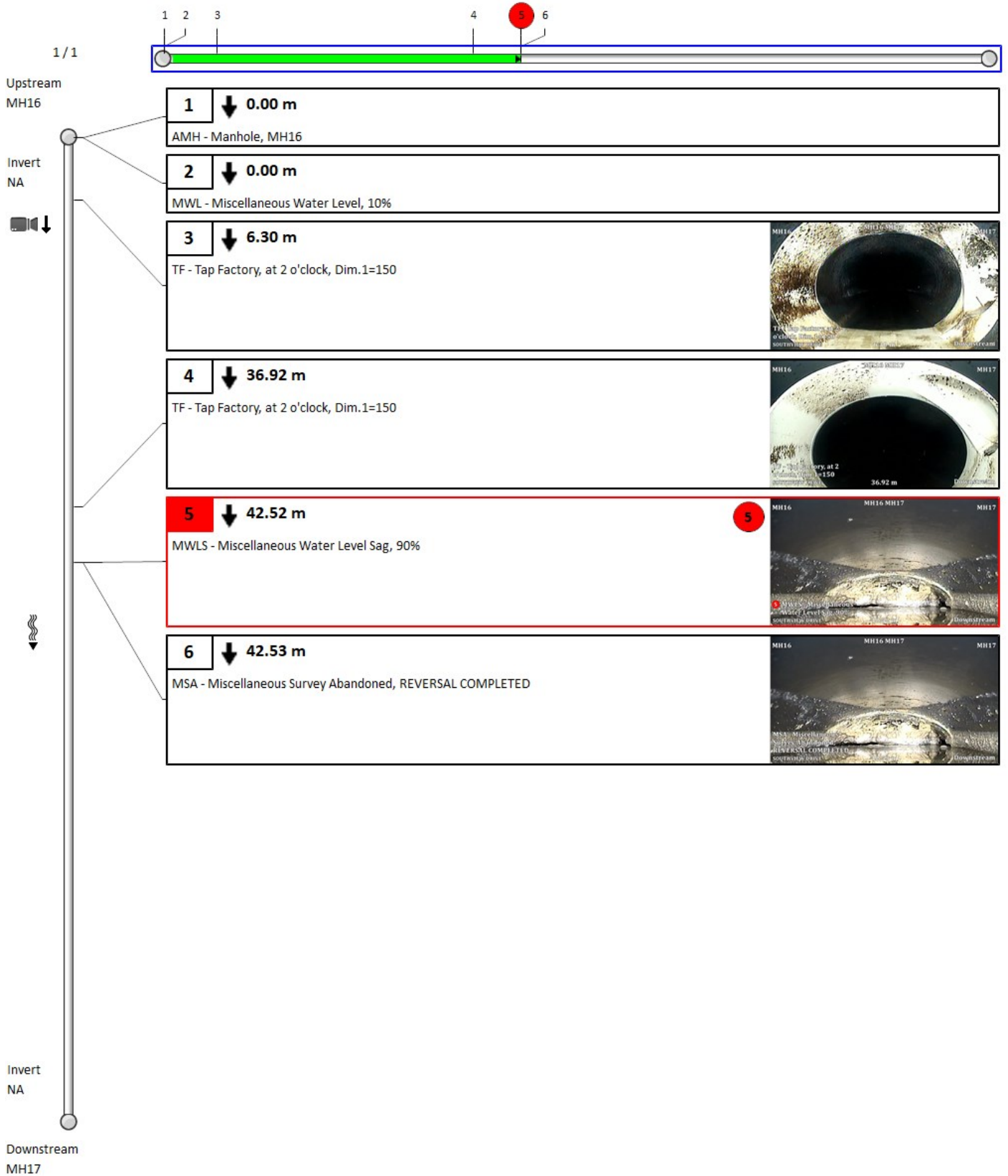
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 5    | Peak:         | 0    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 5100 | Quick rating: | 0000 | Quick rating: | 5100 | Likelihood:  | 5.1 |
| Score:        | 5    | Score:        | 0    | Score:        | 5    | Risk:        |     |
| Index:        | 5    | Index:        | 0    | Index:        | 5    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH16 MH17  
 Direction of flow: MH16 --> MH17

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 55.89 |
| Height:           | 200                  | Total length:    | 98.42 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                              |
|----------------------|---------------------|-------------------------|------------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                 |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296              |
| Date:                | 11/05/2022 8:17 AM  | Reviewed By:            |                              |
| Project:             |                     | Reviewer Certificate:   |                              |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning               |
| PO number:           |                     | Date cleaned:           |                              |
| Work Order:          |                     | Media Label:            |                              |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                       |
| Weather:             | Dry                 | Sheet Number:           |                              |
| Flow control:        | Not Controlled      | Additional information: | MSA SAG 8 METERS UNDER WATER |
| Used Technology:     | CCTV                |                         |                              |

### Structural rating

### O&M rating

### Overall rating

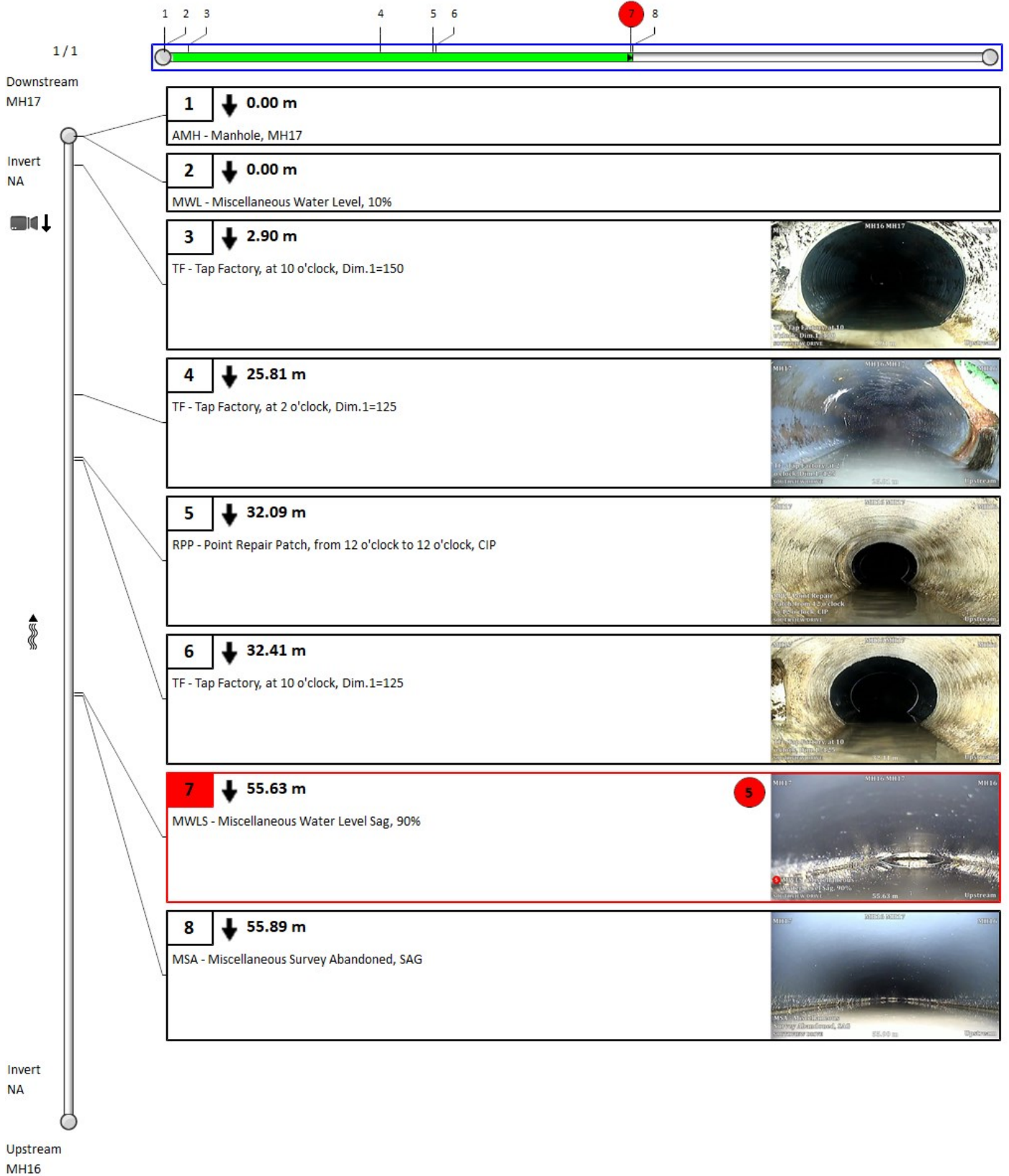
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 5    | Peak:         | 0    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 5100 | Quick rating: | 0000 | Quick rating: | 5100 | Likelihood:  | 5.1 |
| Score:        | 5    | Score:        | 0    | Score:        | 5    | Risk:        |     |
| Index:        | 5    | Index:        | 0    | Index:        | 5    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH17 MH19  
 Direction of flow: MH17 --> MH19

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 98.8 |
| Height:           | 200                  | Total length:    | 98.8 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 11/05/2022 8:28 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

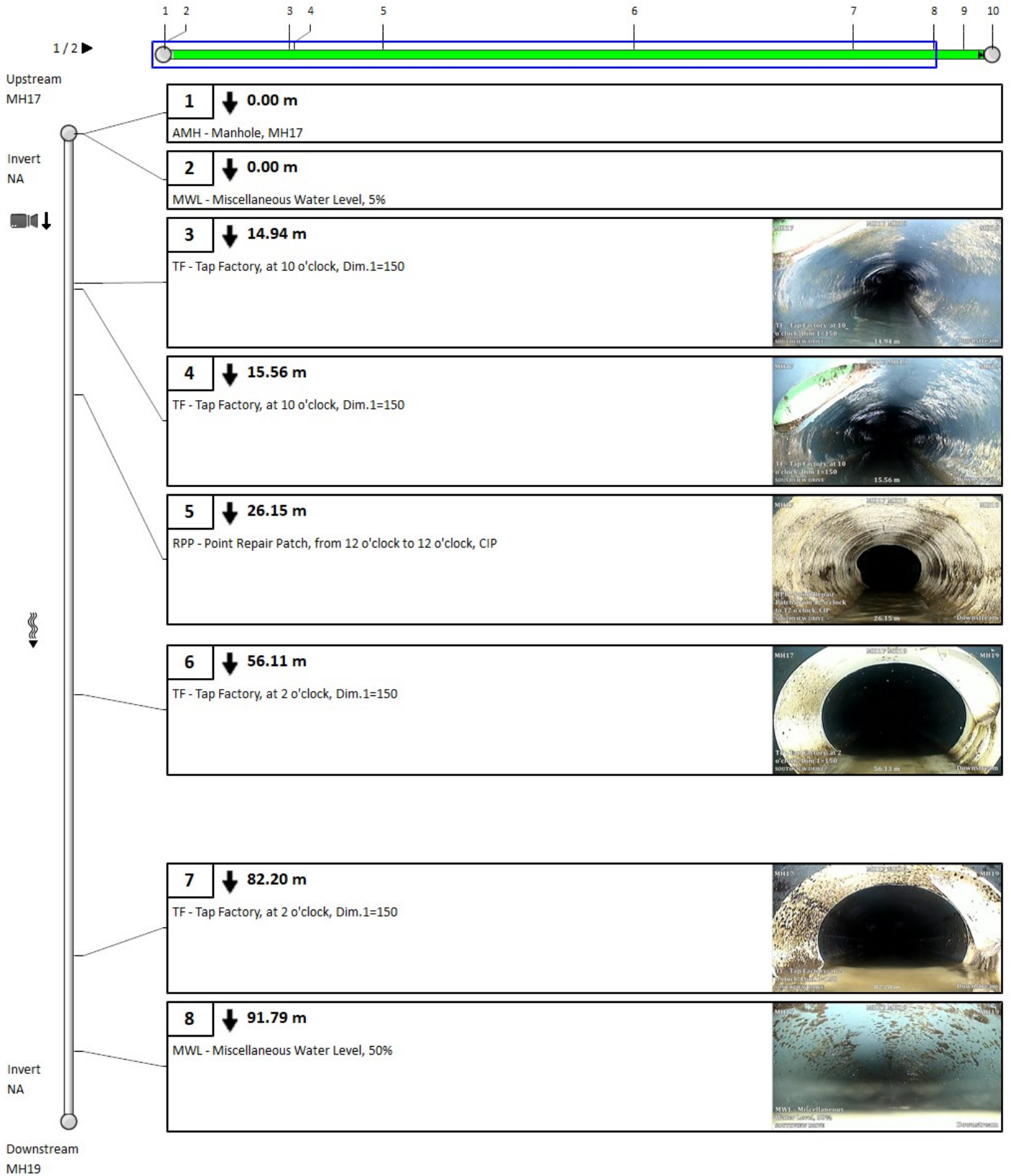
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

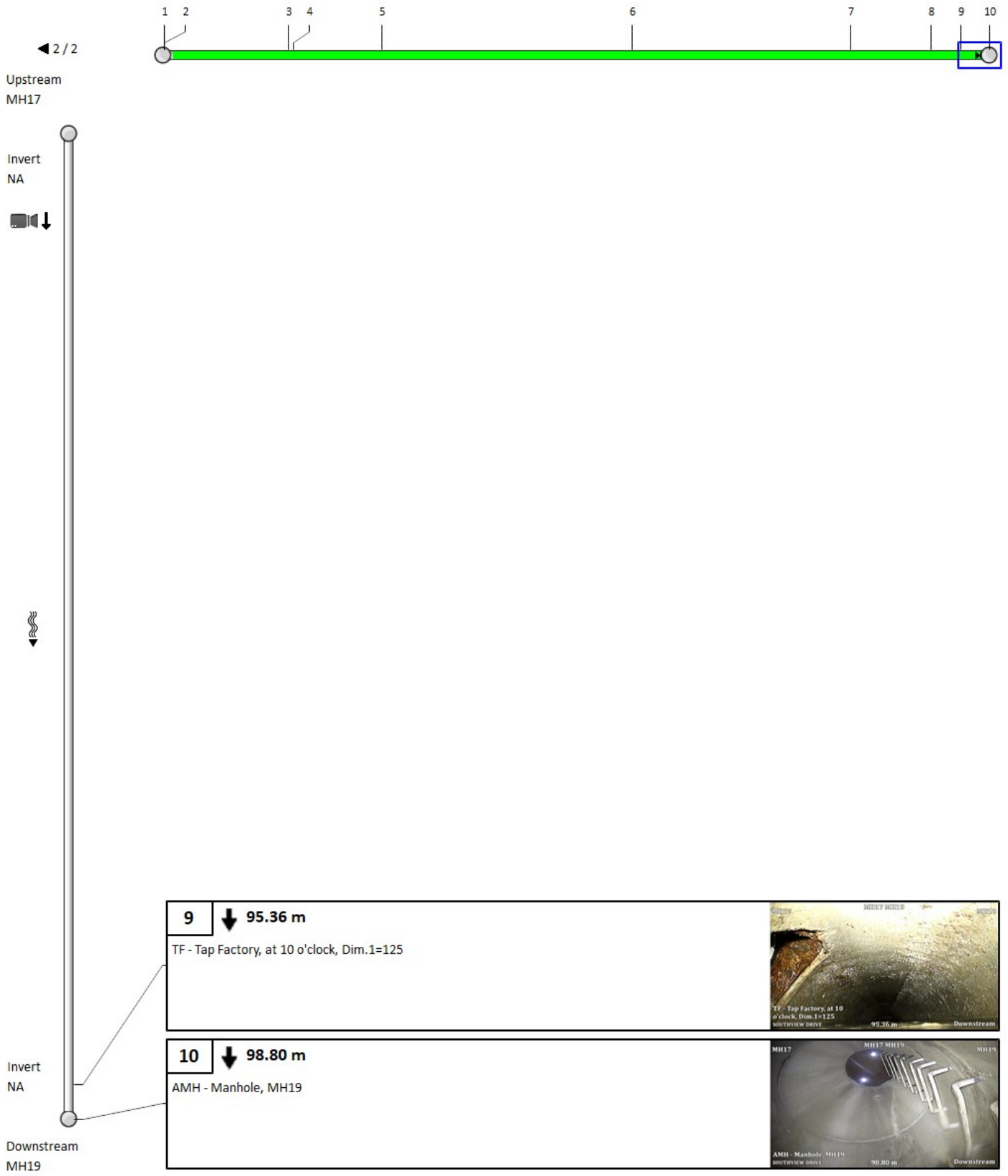
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH18 MH19  
 Direction of flow: MH18 --> MH19

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 95.3 |
| Height:           | 200                  | Total length:    | 95.3 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 11/05/2022 11:00 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

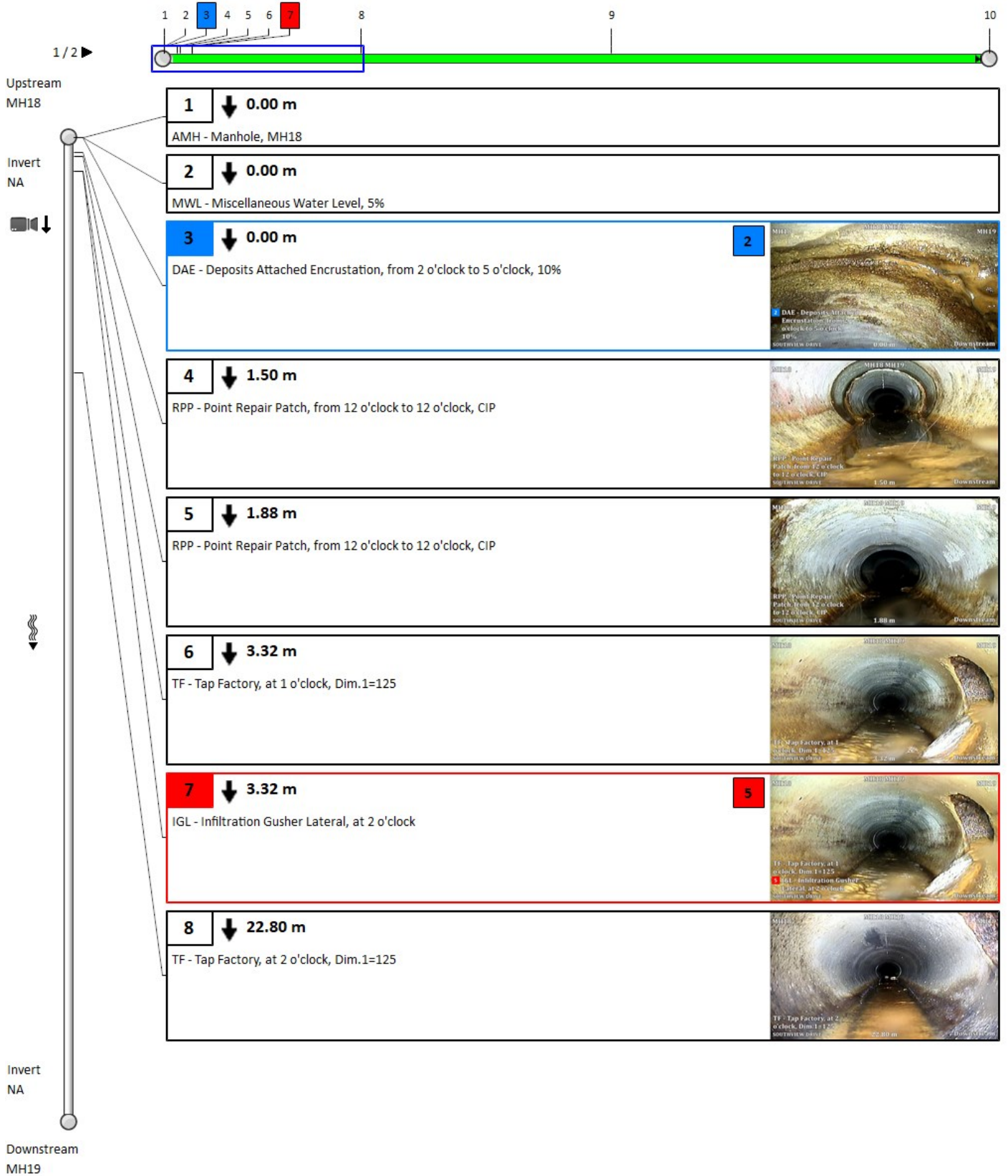
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 5    | Peak:         | 5    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 5121 | Quick rating: | 5121 | Likelihood:  | 5.1 |
| Score:        | 0    | Score:        | 7    | Score:        | 7    | Risk:        |     |
| Index:        | 0    | Index:        | 3.5  | Index:        | 3.5  |              |     |

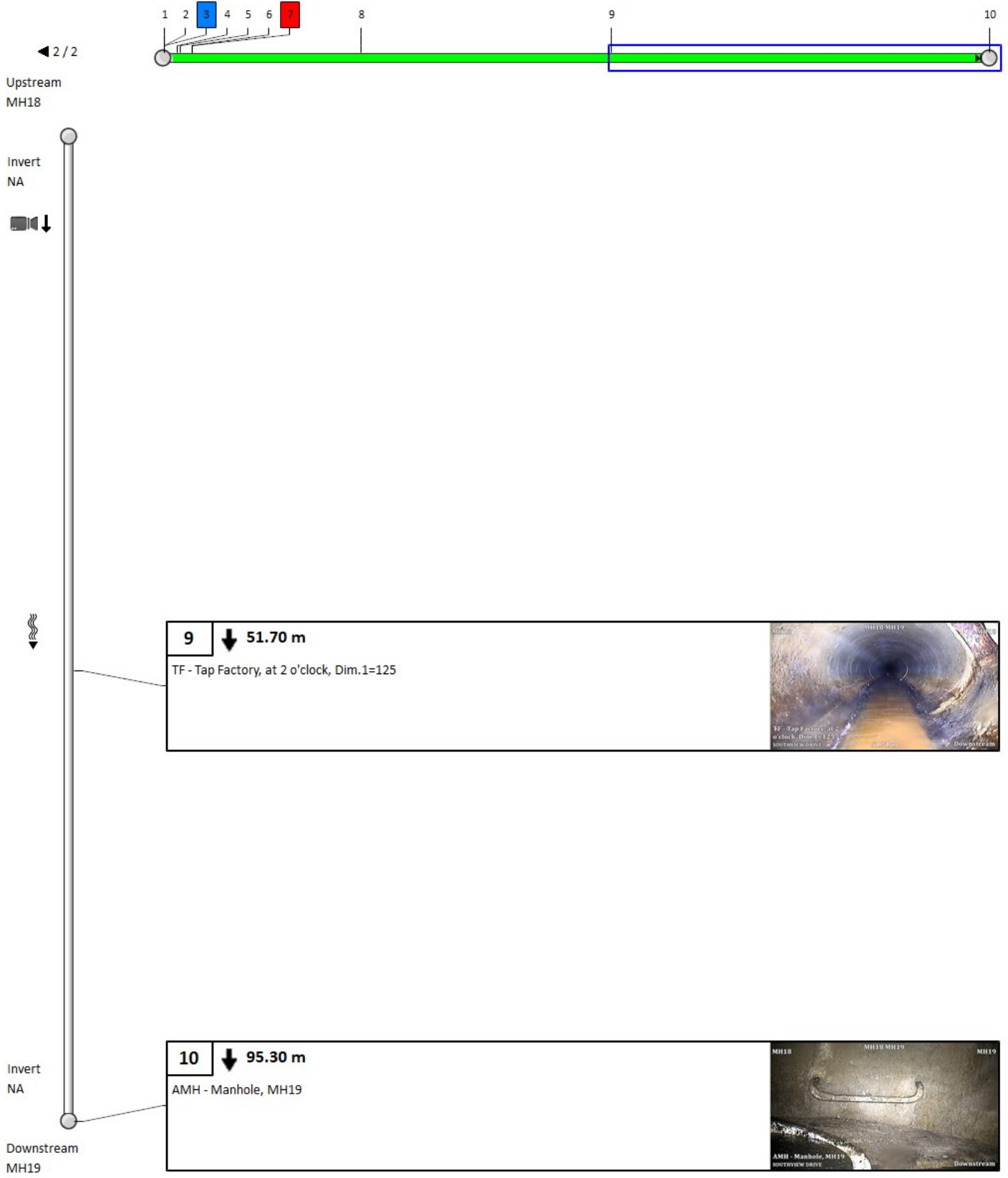
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH19 MH32  
 Direction of flow: MH19 --> MH32

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 2.57 |
| Height:           | 200                  | Total length:    | 2.57 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 11/05/2022 12:05 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: | MSA DEBRIS      |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

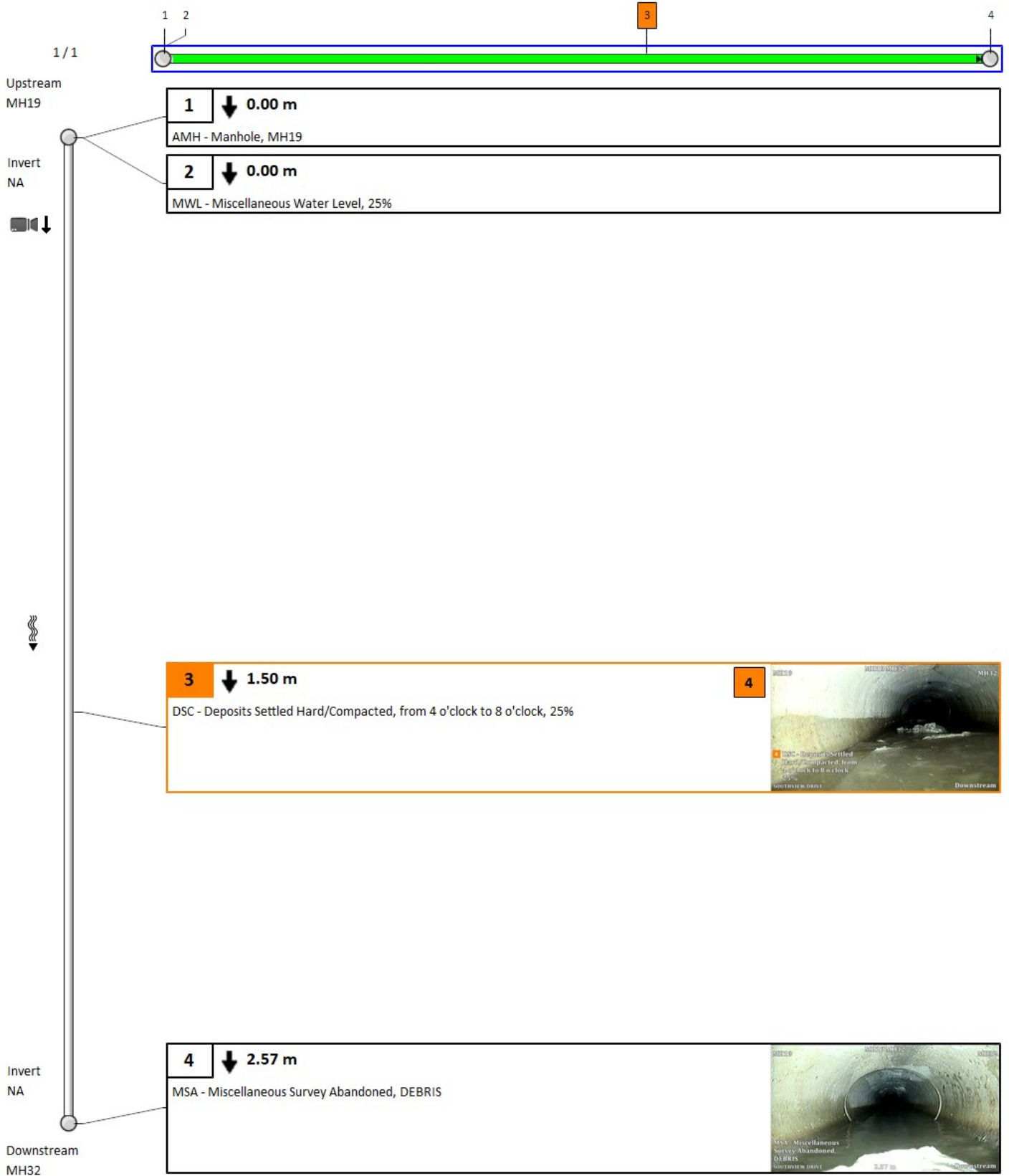
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH19 MH32  
 Direction of flow: MH19 --> MH32

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SOUTHVIEW DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |   |
|-------------------|----------------------|------------------|---|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 0 |
| Height:           | 200                  | Total length:    | 0 |
| Width:            |                      | Joint length:    |   |
| Shape:            | Circular             | Rim/Inv.:        |   |
| Material:         | Asbestos Cement      | Grade/Inv.:      |   |
| Lining:           |                      | Rim/Grade:       |   |
| Coating Method:   |                      | Rim/Inv.:        |   |
| Year Constructed: |                      | Grade/Inv.:      |   |
| Year renewed:     |                      | Rim/Grade:       |   |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 11/05/2022 12:08 PM | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO OPEN MANHOLE |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH21 MH22  
 Direction of flow: MH21 --> MH22

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 48.94 |
| Height:           | 200                  | Total length:    | 48.94 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 05/05/2022 2:03 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

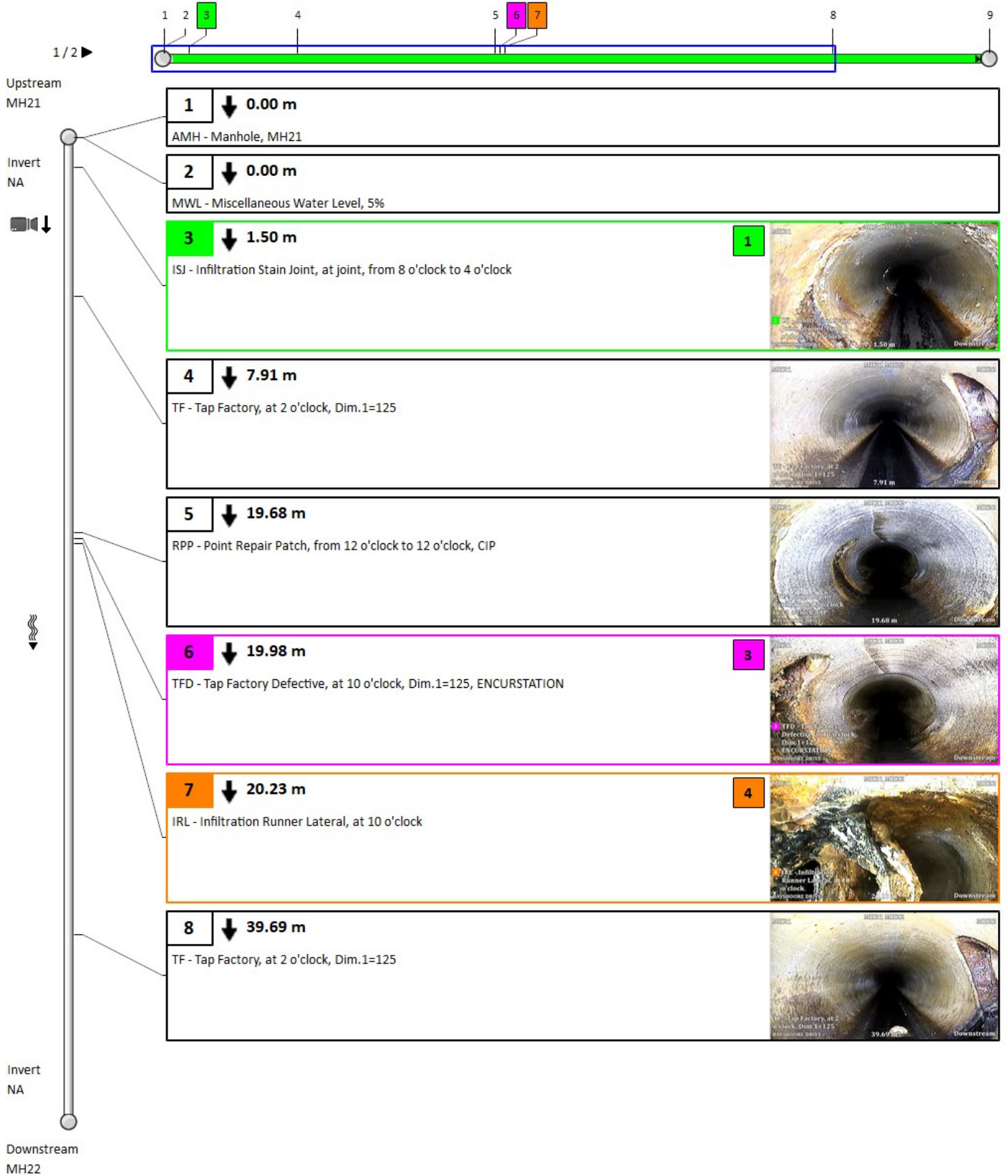
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4131 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 8    | Score:        | 8    | Risk:        |     |
| Index:        | 0    | Index:        | 2.7  | Index:        | 2.7  |              |     |

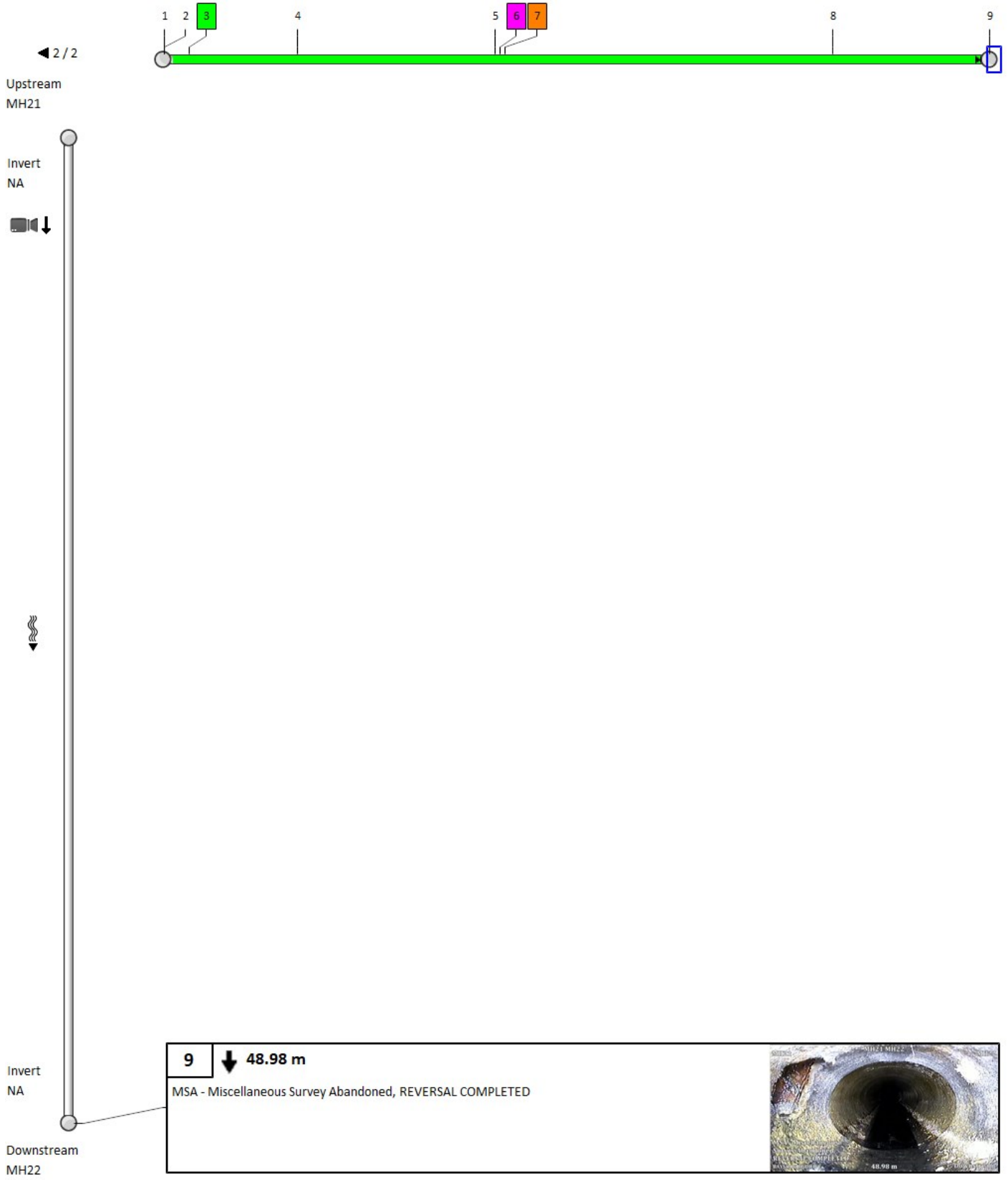
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH21 MH22  
 Direction of flow: MH21 --> MH22

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 52.8 |
| Height:           | 200                  | Total length:    |      |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 05/05/2022 12:43 PM | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

### Failure

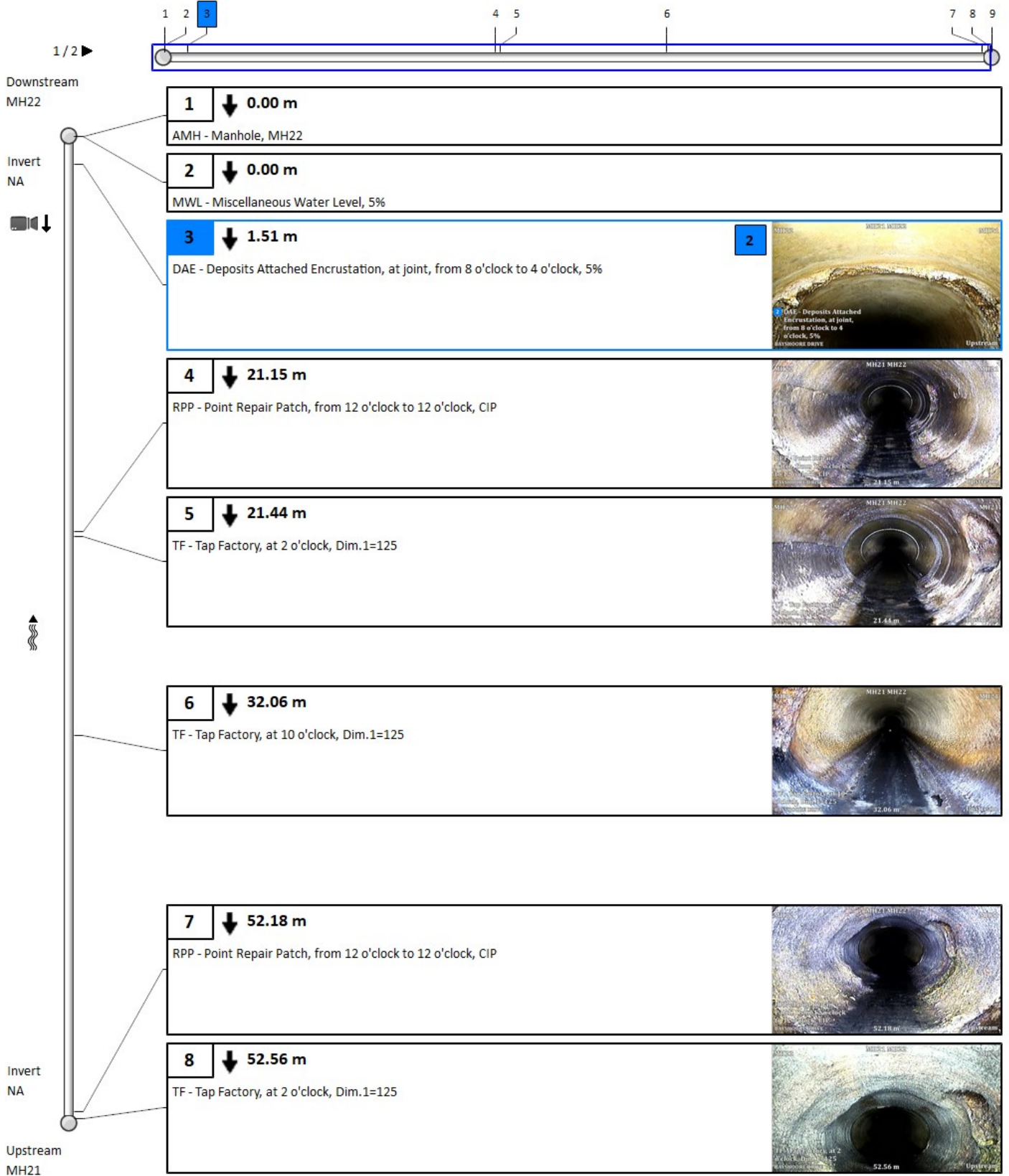
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

### Other information

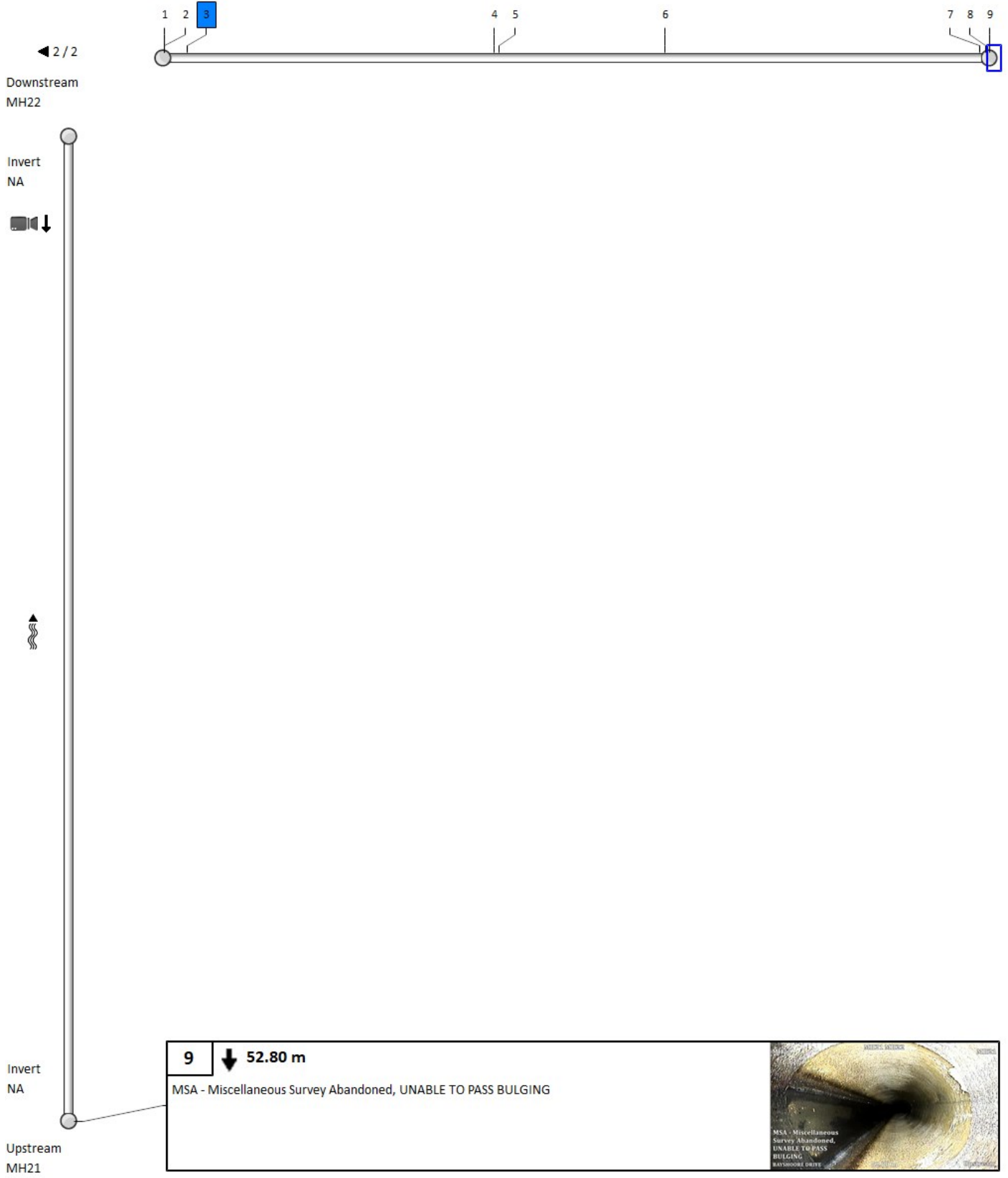
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH22 MH23  
 Direction of flow: MH22 --> MH23

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 108.13 |
| Height:           | 200                  | Total length:    | 108.13 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 12:59 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

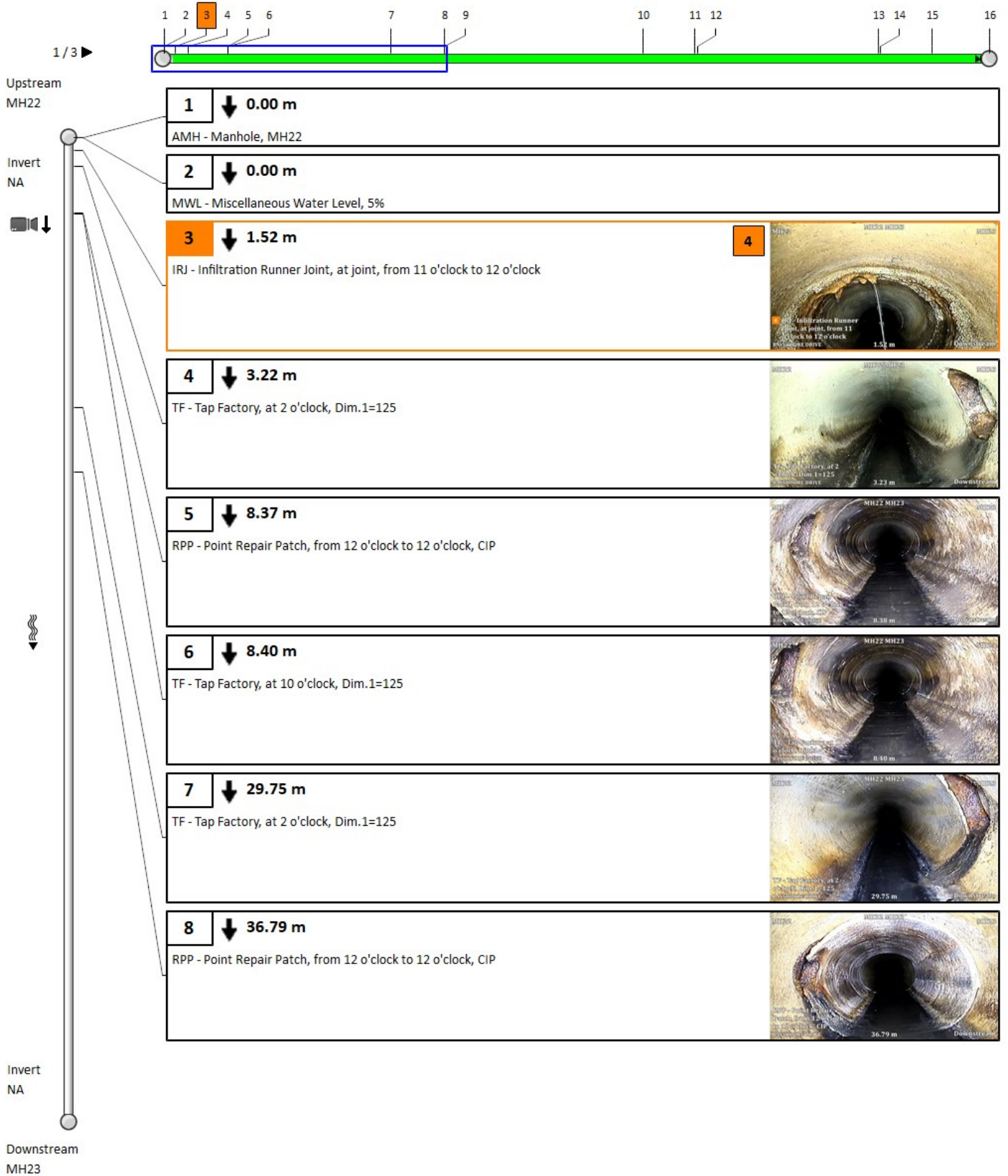
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

### Other information

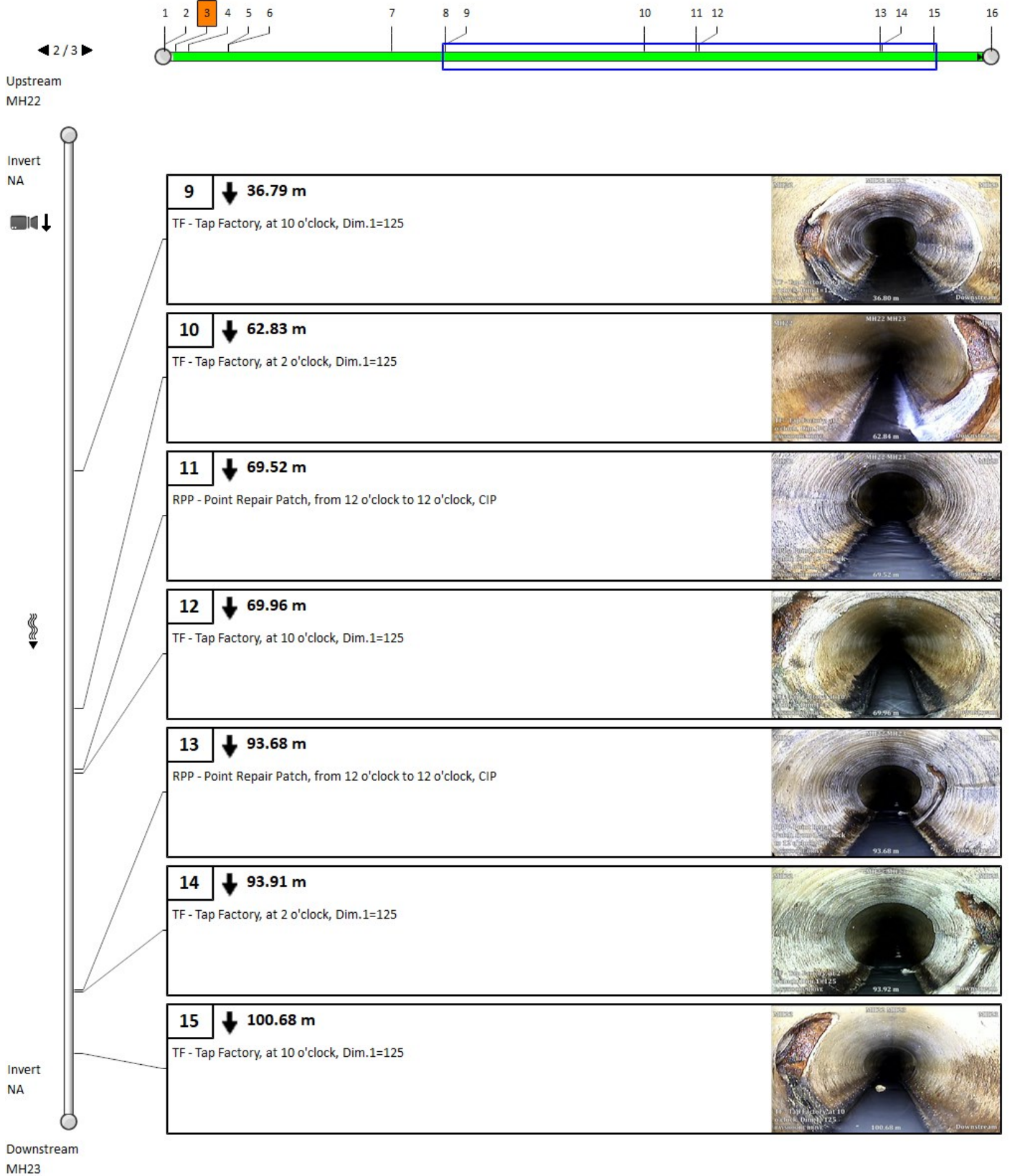
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details

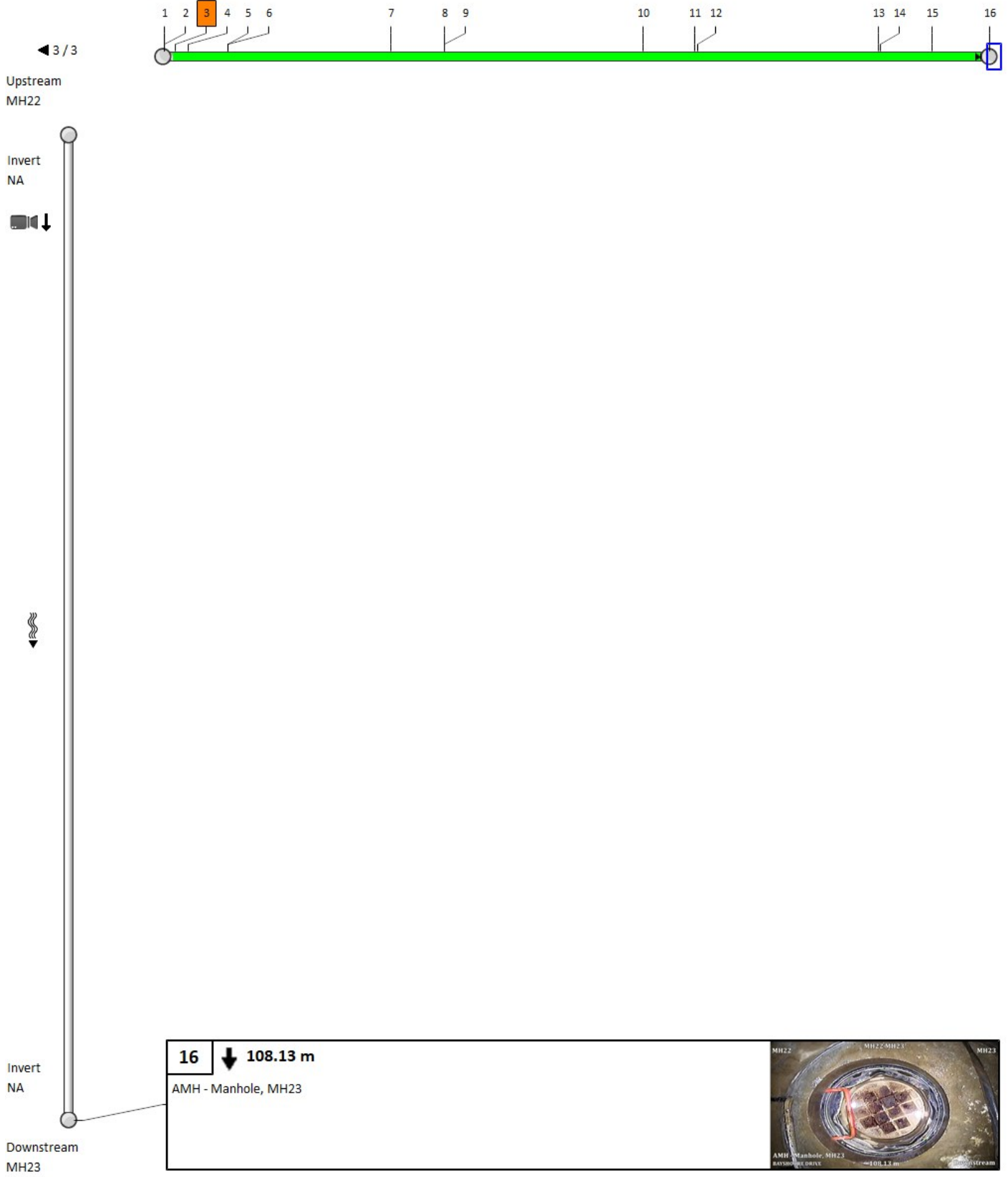




# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

|                    |               |
|--------------------|---------------|
| Pipe:              | MH23 MH24     |
| Direction of flow: | MH23 --> MH24 |

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 85.05 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

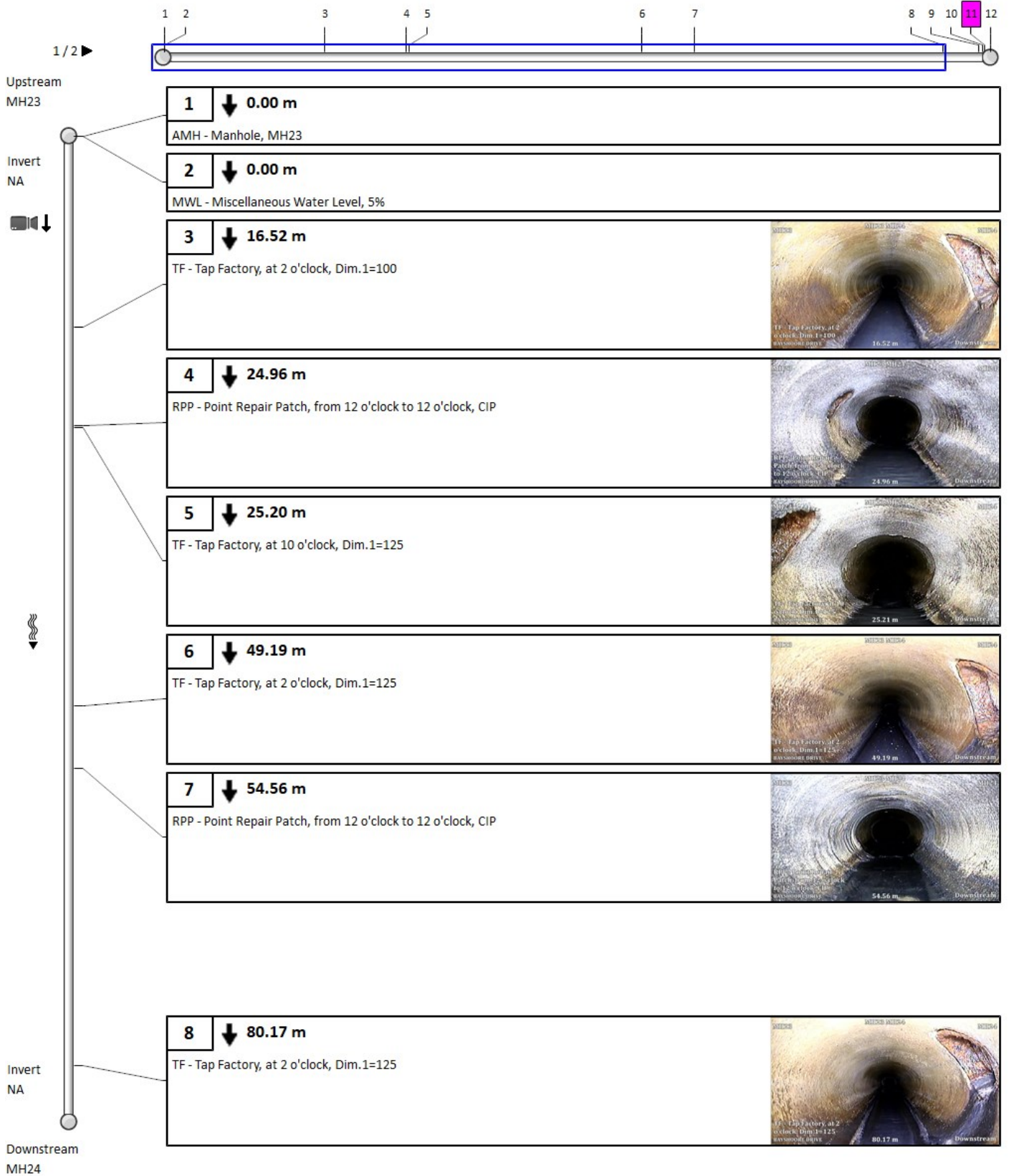
|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 05/05/2022 1:23 PM  | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

| Structural rating  | O&M rating         | Overall rating     | Failure         |
|--------------------|--------------------|--------------------|-----------------|
| Peak: 0            | Peak: 3            | Peak: 3            | Consequence:    |
| Quick rating: 0000 | Quick rating: 3100 | Quick rating: 3100 | Likelihood: 3.1 |
| Score: 0           | Score: 3           | Score: 3           | Risk:           |
| Index: 0           | Index: 3           | Index: 3           |                 |

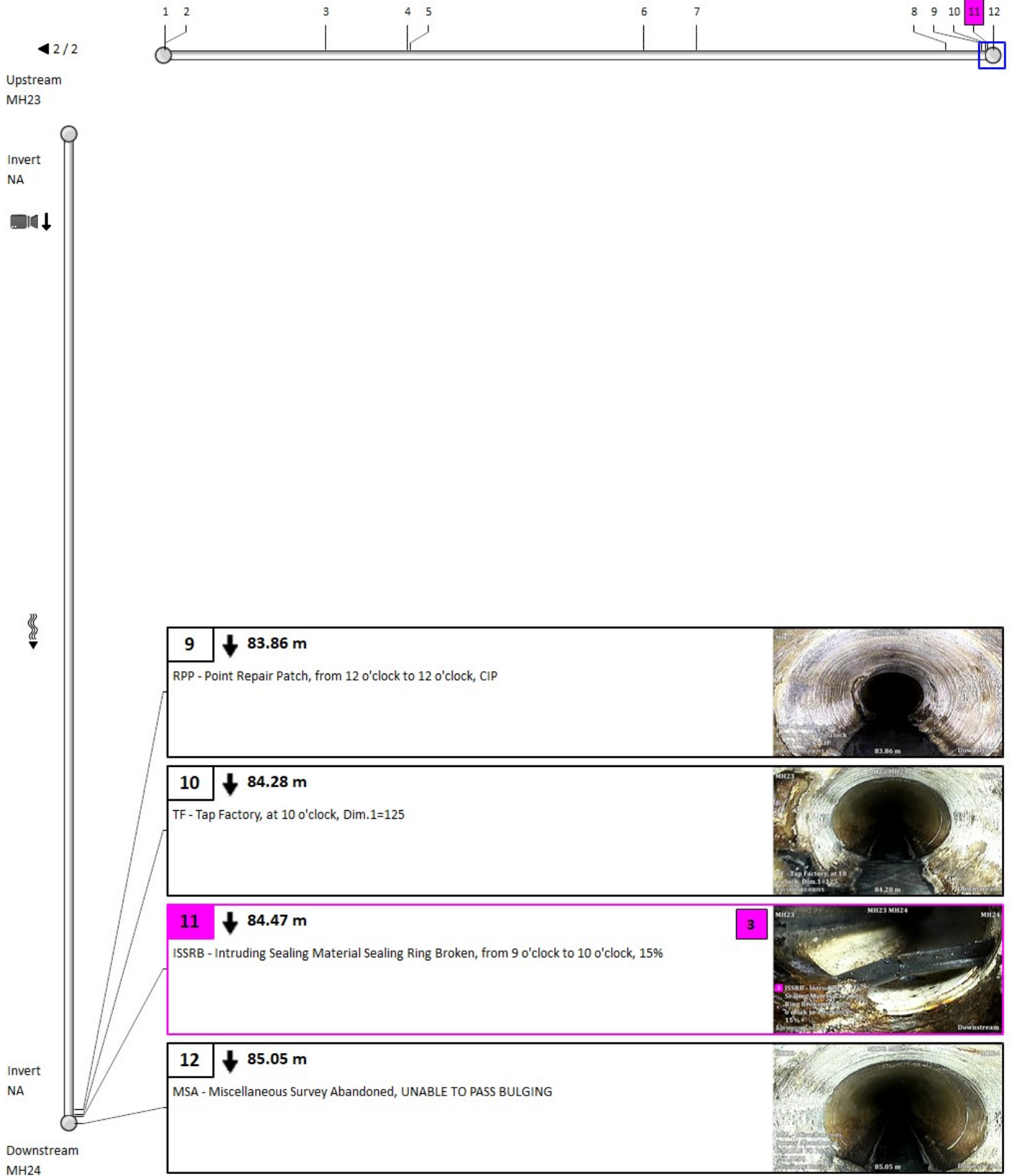
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH23 MH24  
 Direction of flow: MH23 --> MH24

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 25.87 |
| Height:           | 200                  | Total length:    | 25.87 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 05/05/2022 2:01 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | BAYSHORE VILLAGE    | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

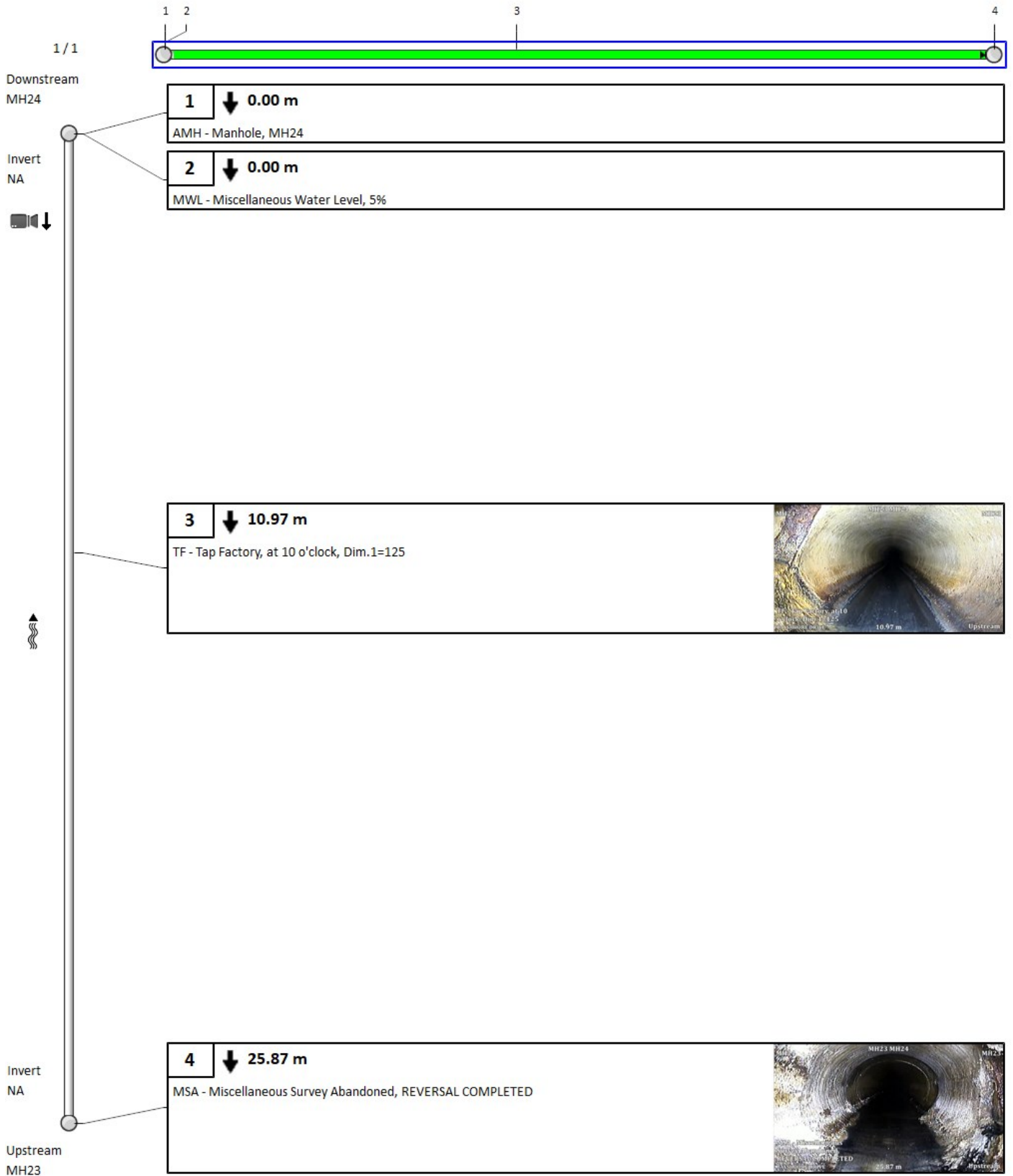
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH24 MH25  
 Direction of flow: MH24 --> MH25

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 74.38 |
| Height:           | 200                  | Total length:    | 74.38 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 2:40 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

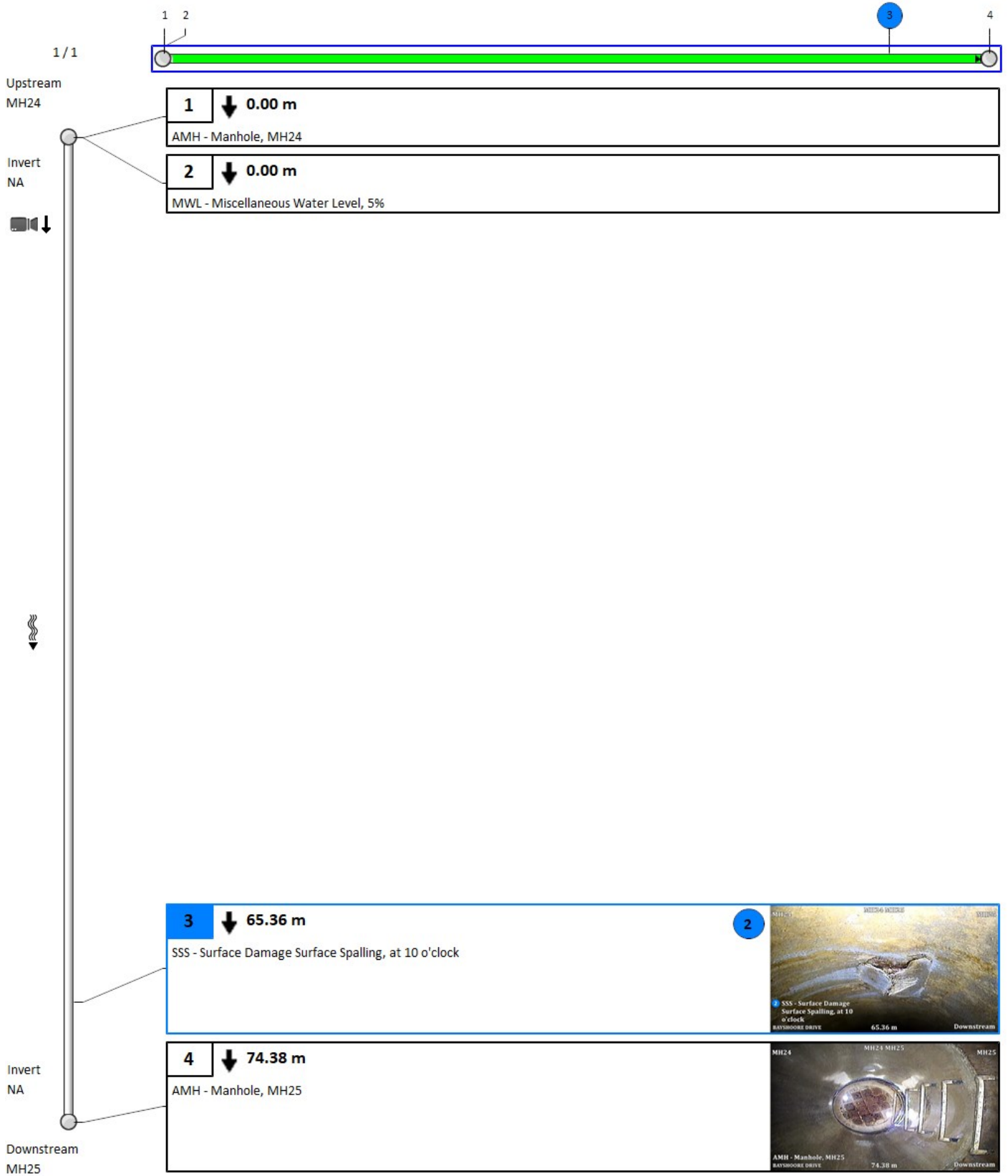
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 2    | Peak:         | 0    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 2100 | Quick rating: | 0000 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 2    | Score:        | 0    | Score:        | 2    | Risk:        |     |
| Index:        | 2    | Index:        | 0    | Index:        | 2    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH25 MH30  
 Direction of flow: MH25 --> MH30

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 70.98 |
| Height:           | 200                  | Total length:    | 70.98 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 2:51 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

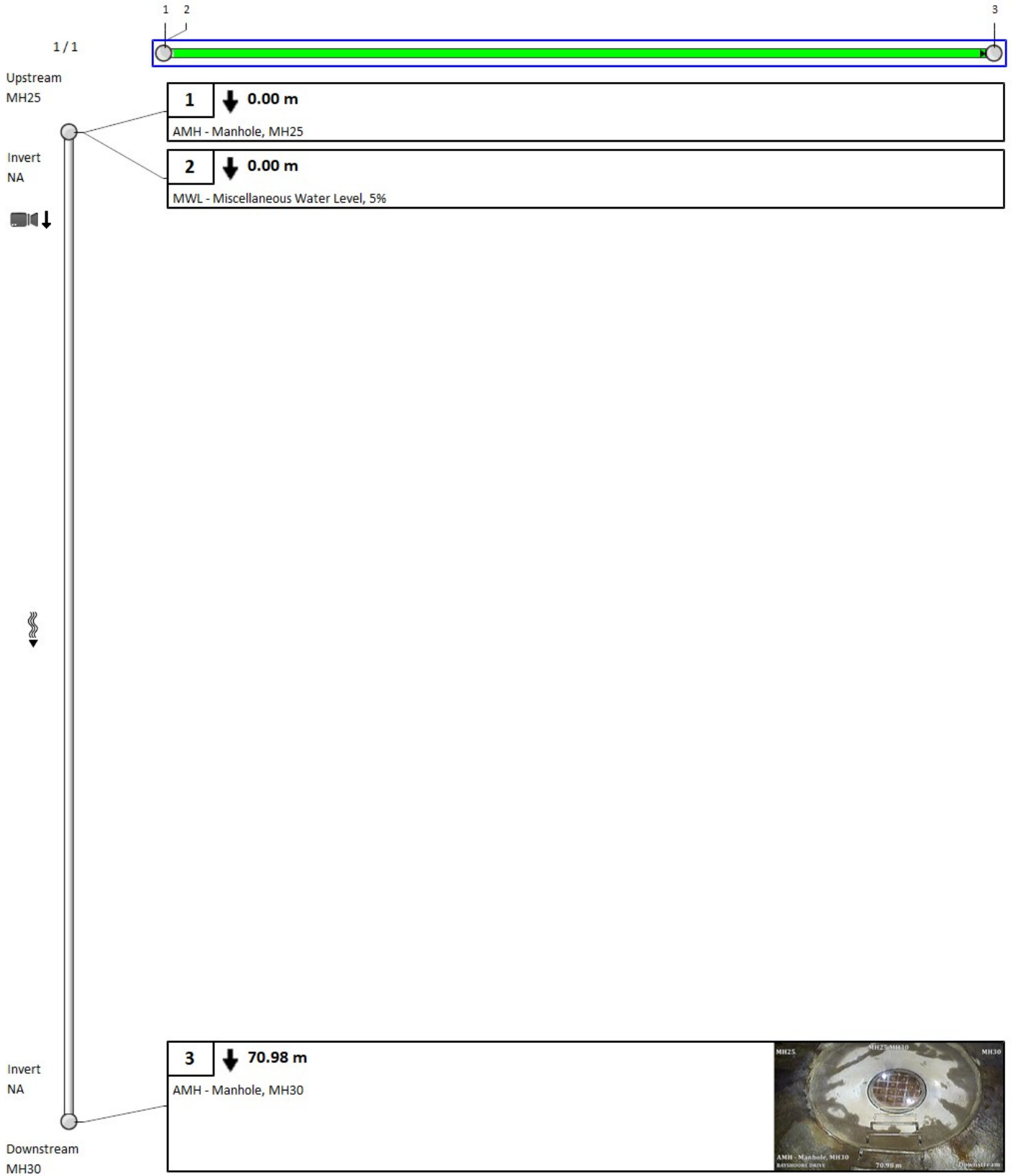
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH26 MH27  
 Direction of flow: MH26 --> MH27

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MAPLE GATE       | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 109.99 |
| Height:           | 200                  | Total length:    | 109.99 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 4:44 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

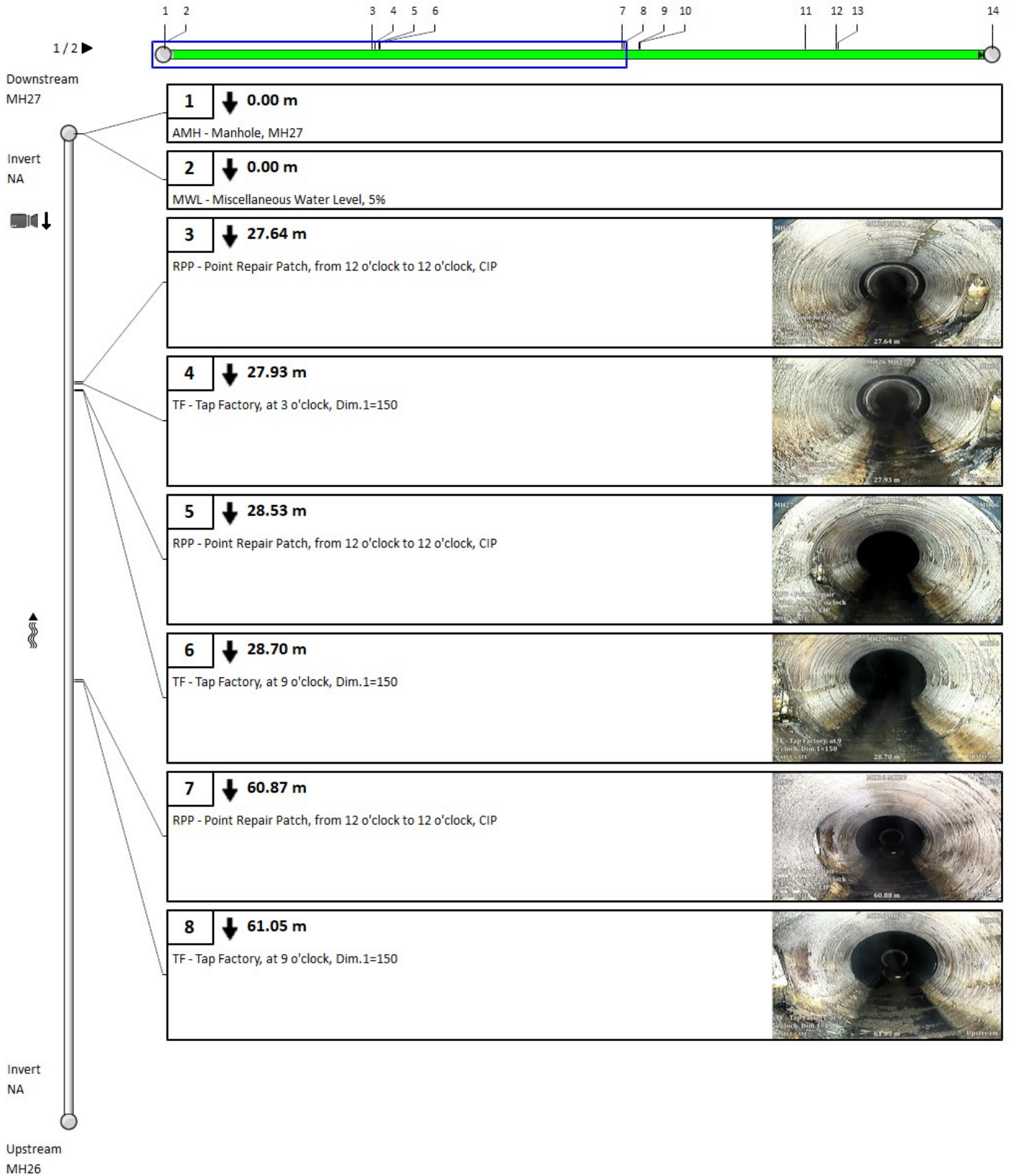
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

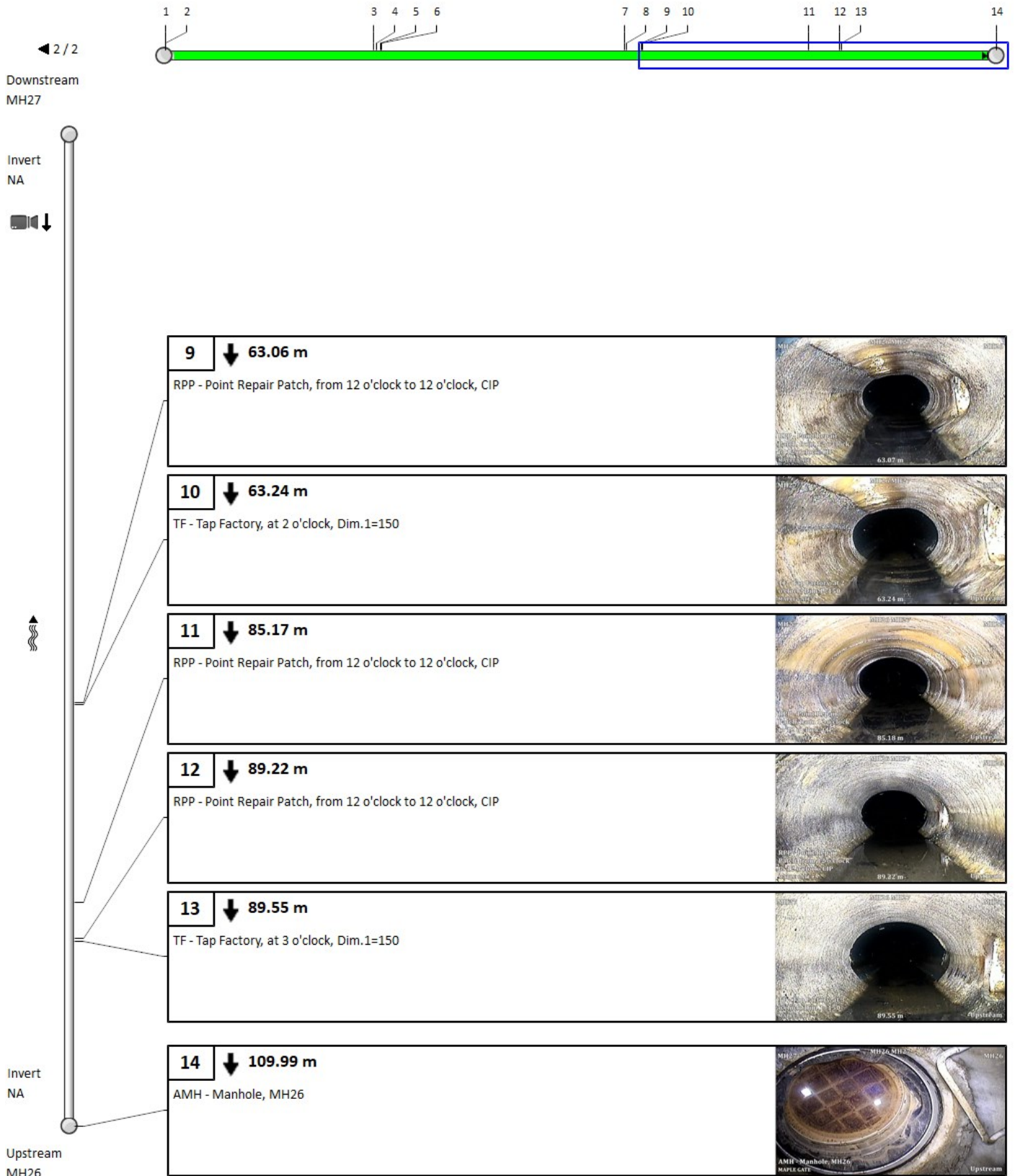
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH27 MH28  
 Direction of flow: MH27 --> MH28

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MAPLE GATE       | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 105.98 |
| Height:           | 200                  | Total length:    | 105.98 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 4:27 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

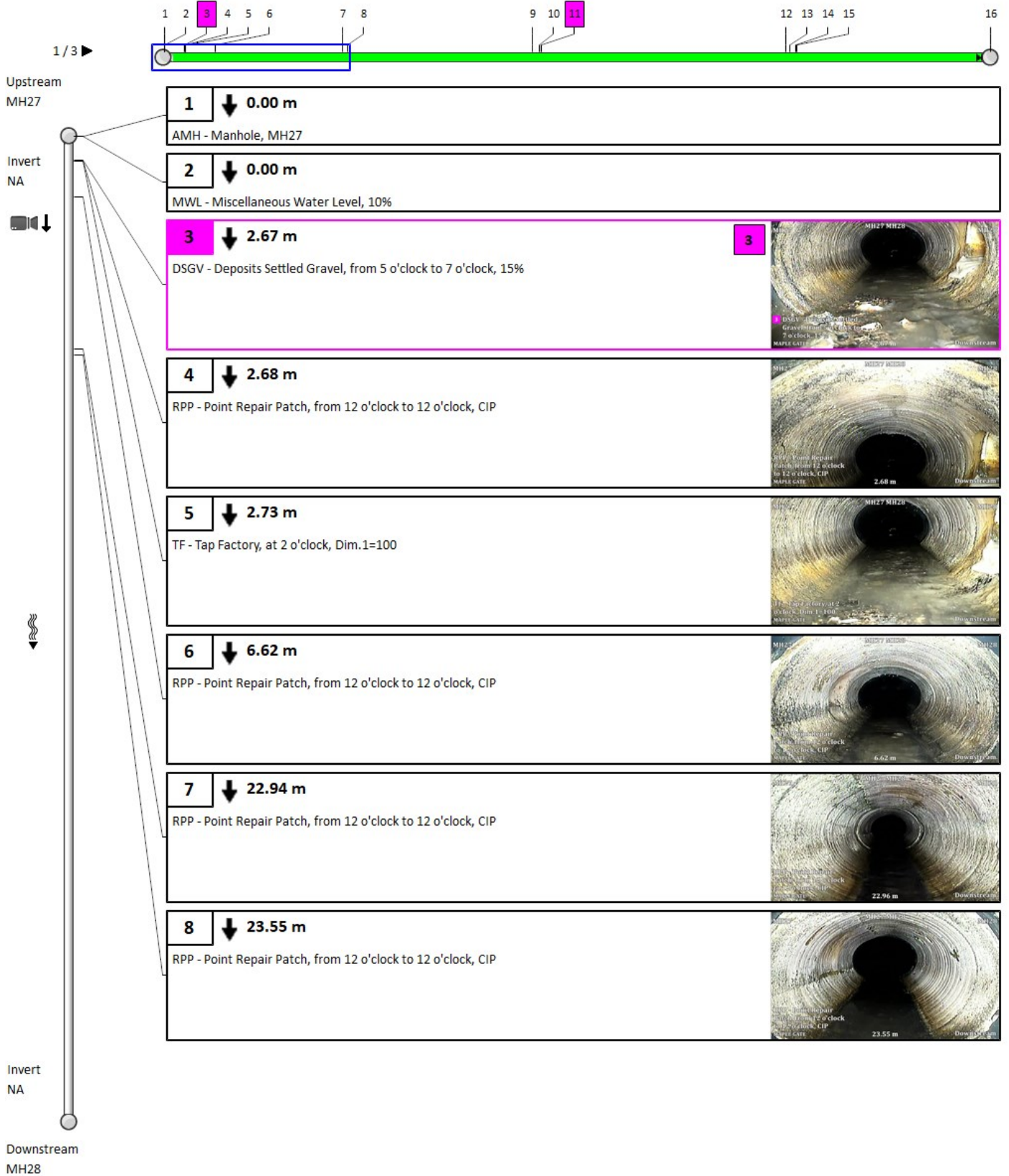
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3200 | Quick rating: | 3200 | Likelihood:  | 3.2 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

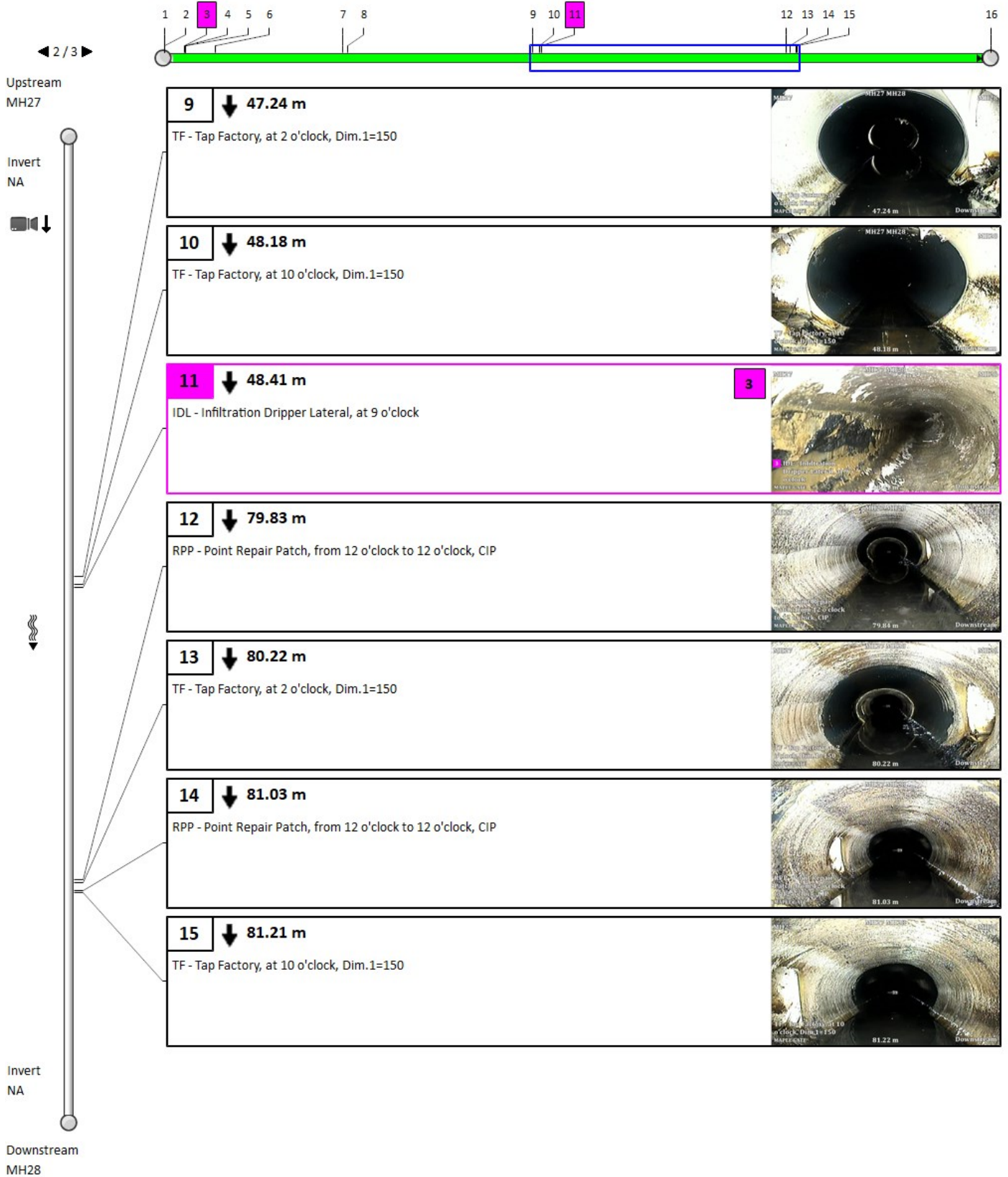
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

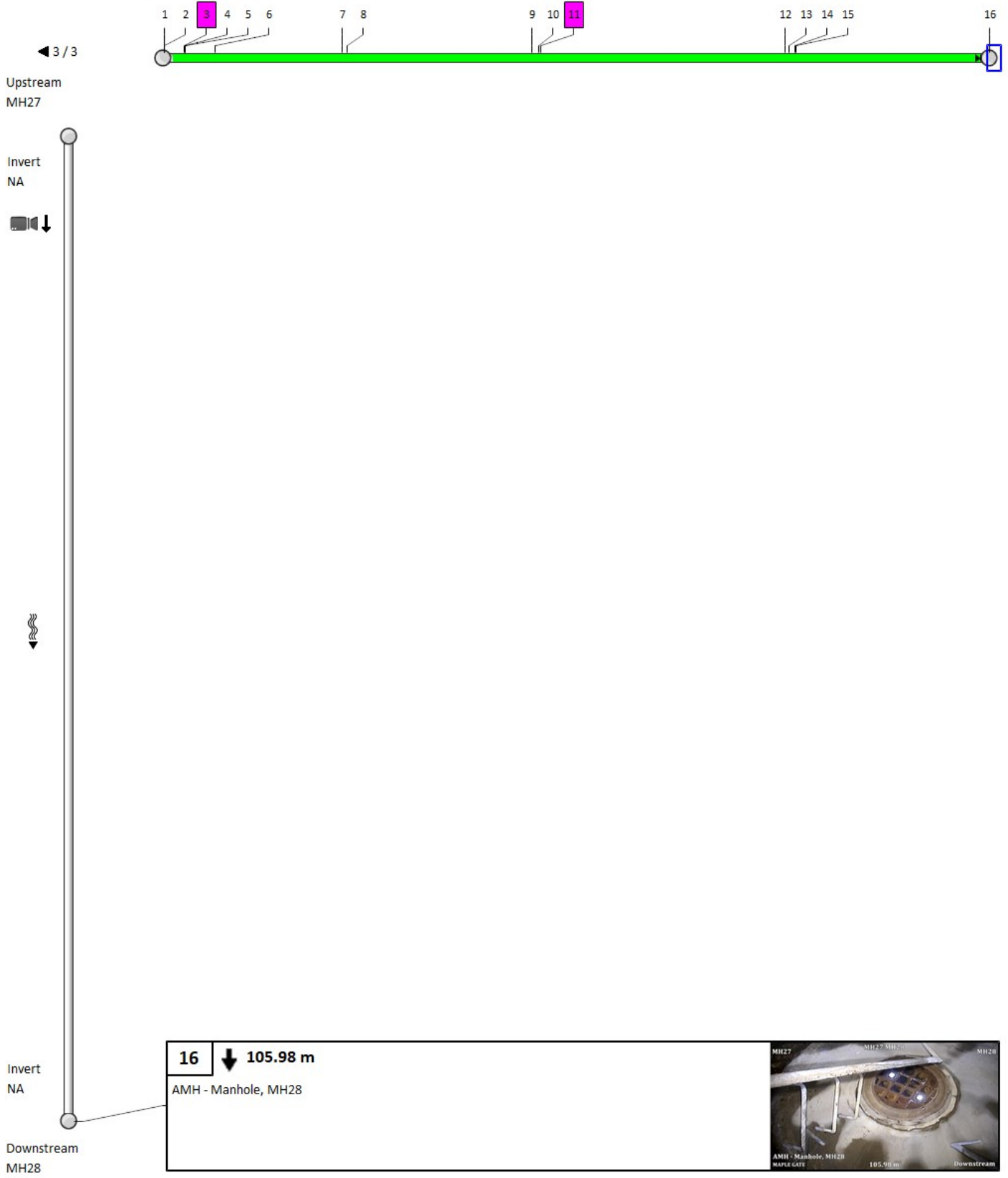
# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH28 MH29  
 Direction of flow: MH28 --> MH29

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MAPLE GATE       | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 105.5 |
| Height:           | 200                  | Total length:    | 105.5 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 5:12 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | BAYSHORE VILLAGE    | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: | MSA DEBRIS      |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

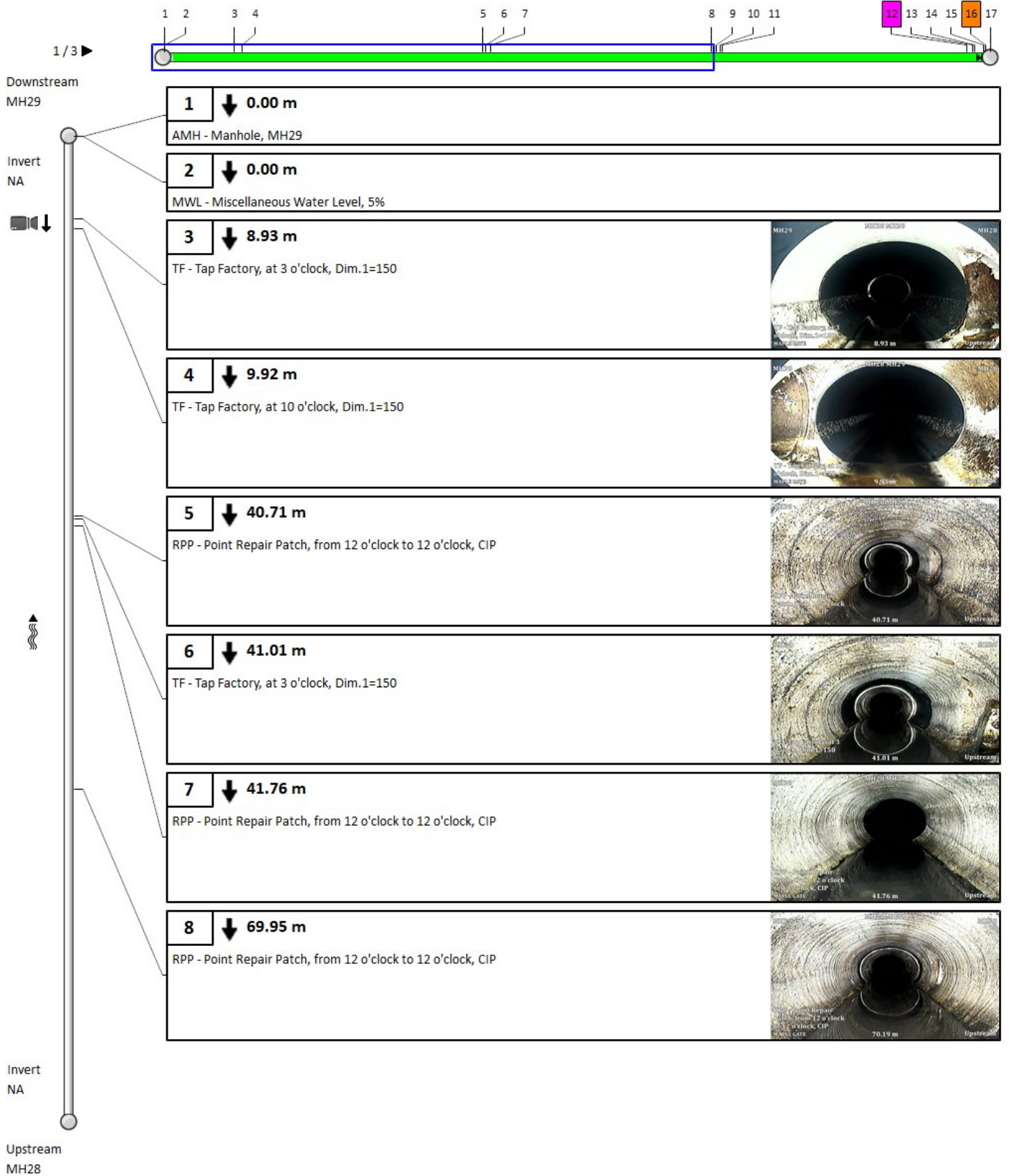
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4131 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 7    | Score:        | 7    | Risk:        |     |
| Index:        | 0    | Index:        | 3.5  | Index:        | 3.5  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

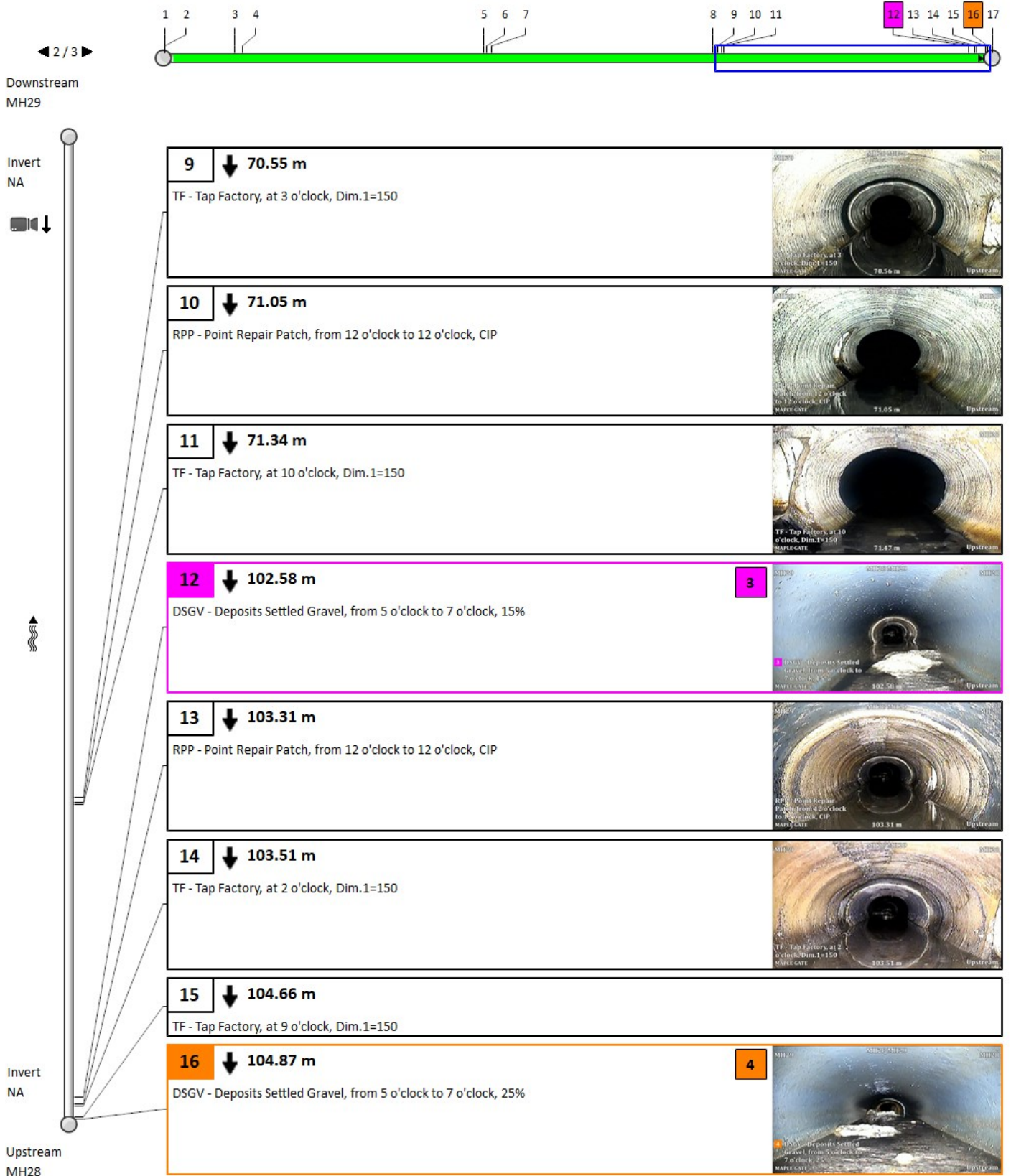


# 5. Pipe summary and condition details

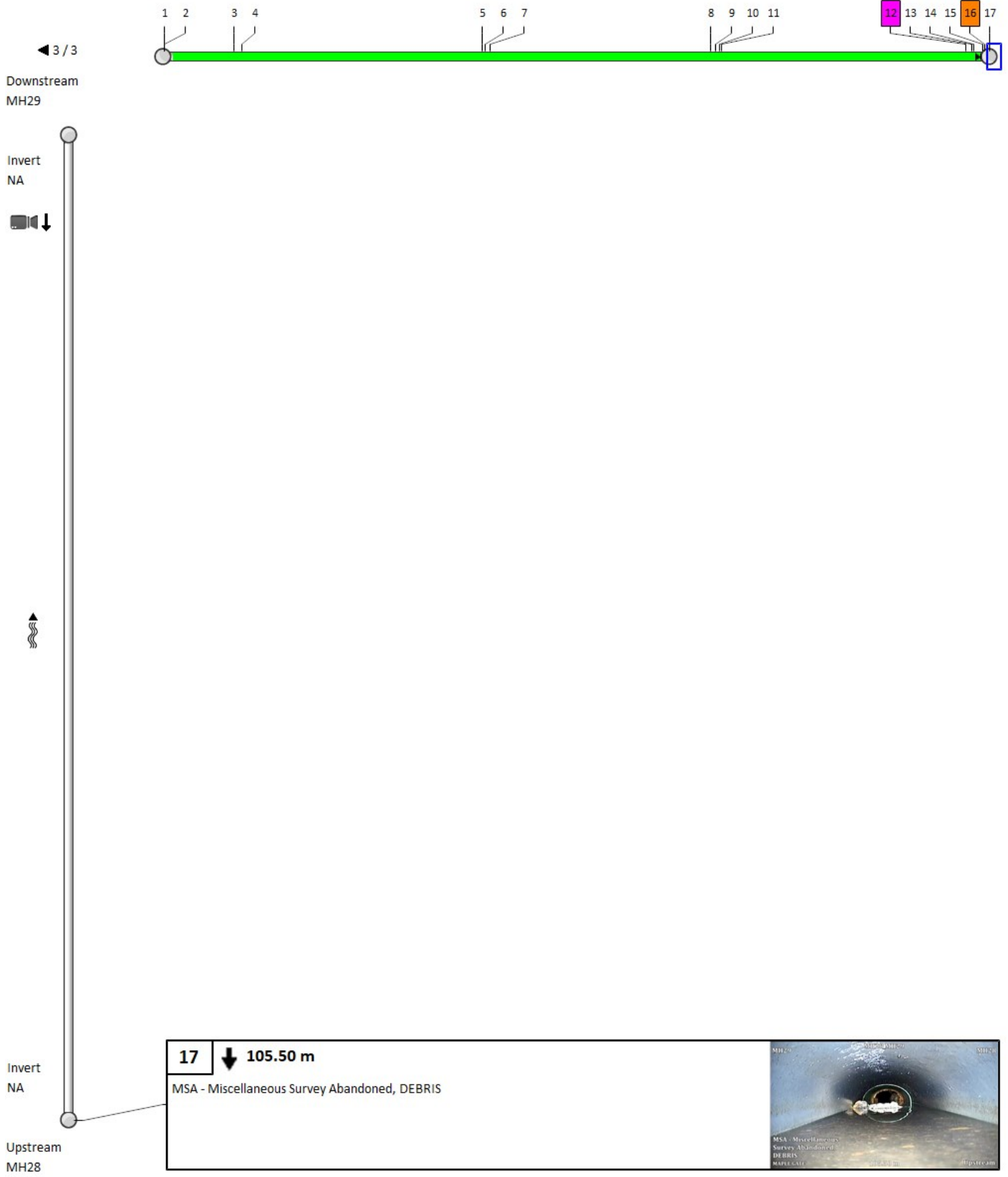




# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH29 MH30  
 Direction of flow: MH29 --> MH30

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MAPLE GATE       | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 21.78 |
| Height:           | 200                  | Total length:    | 110   |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Polyvinyl Chloride   | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 05/05/2022 5:02 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

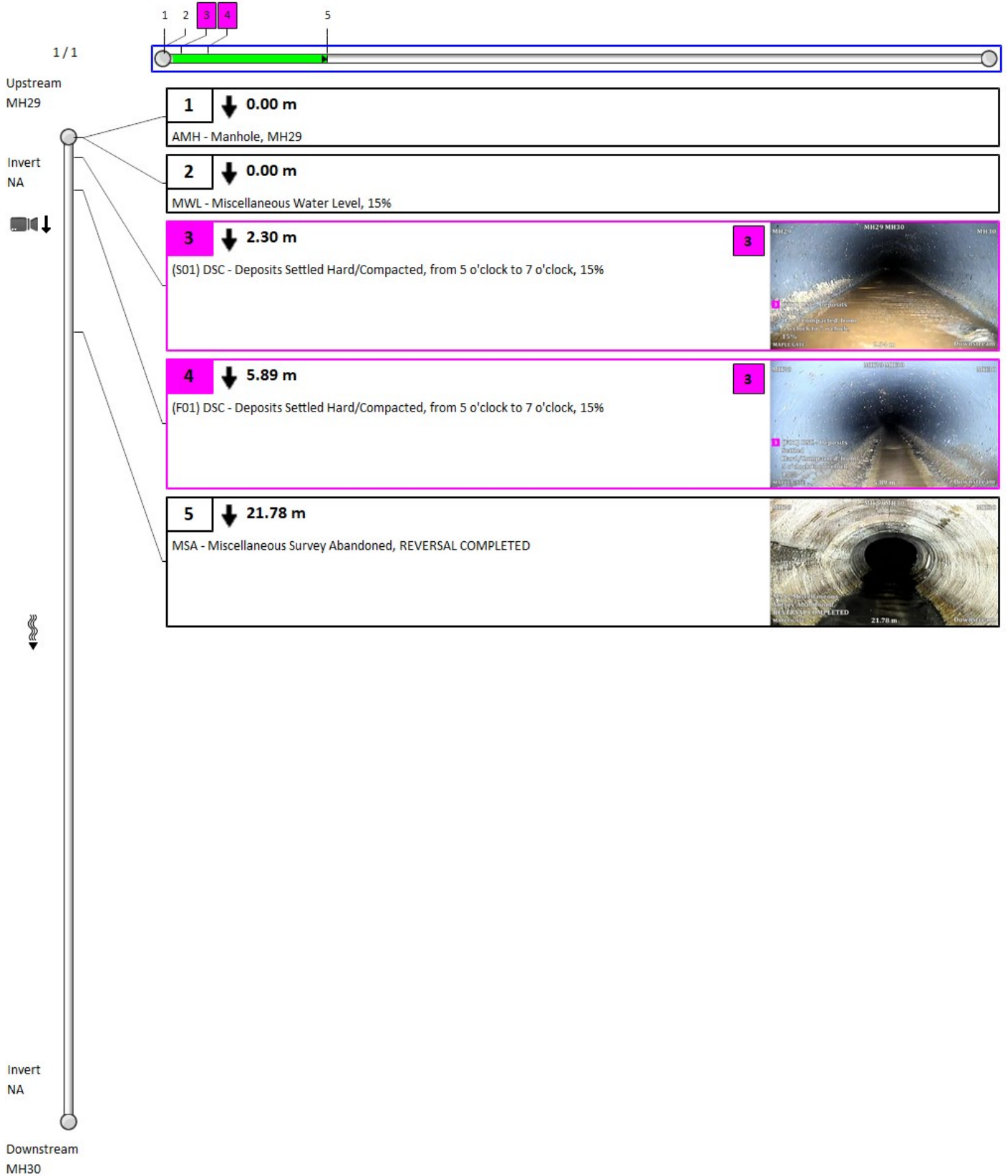
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3200 | Quick rating: | 3200 | Likelihood:  | 3.2 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH29 MH30  
 Direction of flow: MH29 --> MH30

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | MAPLE GATE       | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 87.78 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                             |
|----------------------|---------------------|-------------------------|-----------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296             |
| Date:                | 05/05/2022 3:45 PM  | Reviewed By:            |                             |
| Project:             |                     | Reviewer Certificate:   |                             |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning              |
| PO number:           |                     | Date cleaned:           |                             |
| Work Order:          |                     | Media Label:            |                             |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                      |
| Weather:             | Dry                 | Sheet Number:           |                             |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS POINT REPAIR |
| Used Technology:     | CCTV                |                         |                             |

### Structural rating

### O&M rating

### Overall rating

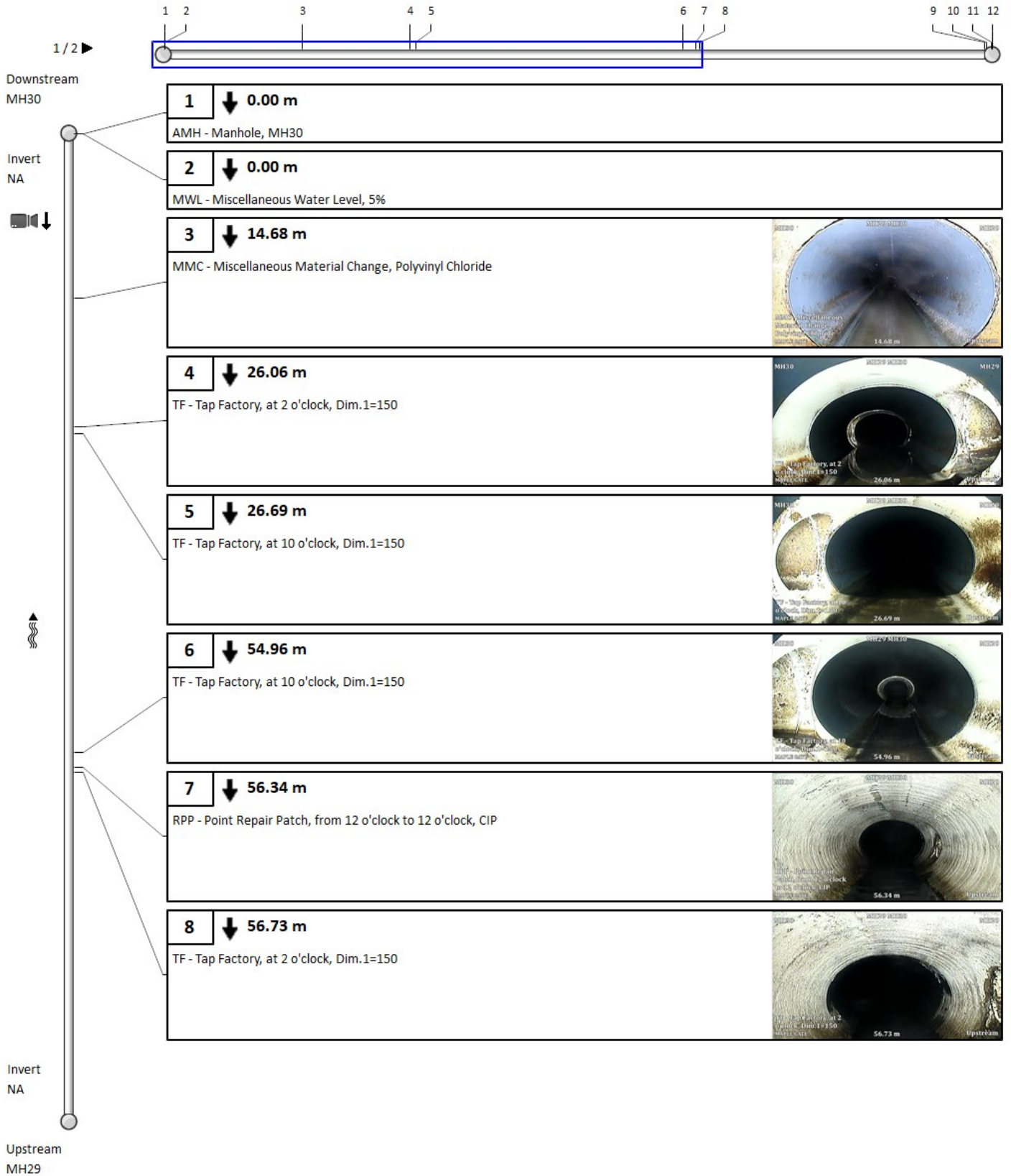
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

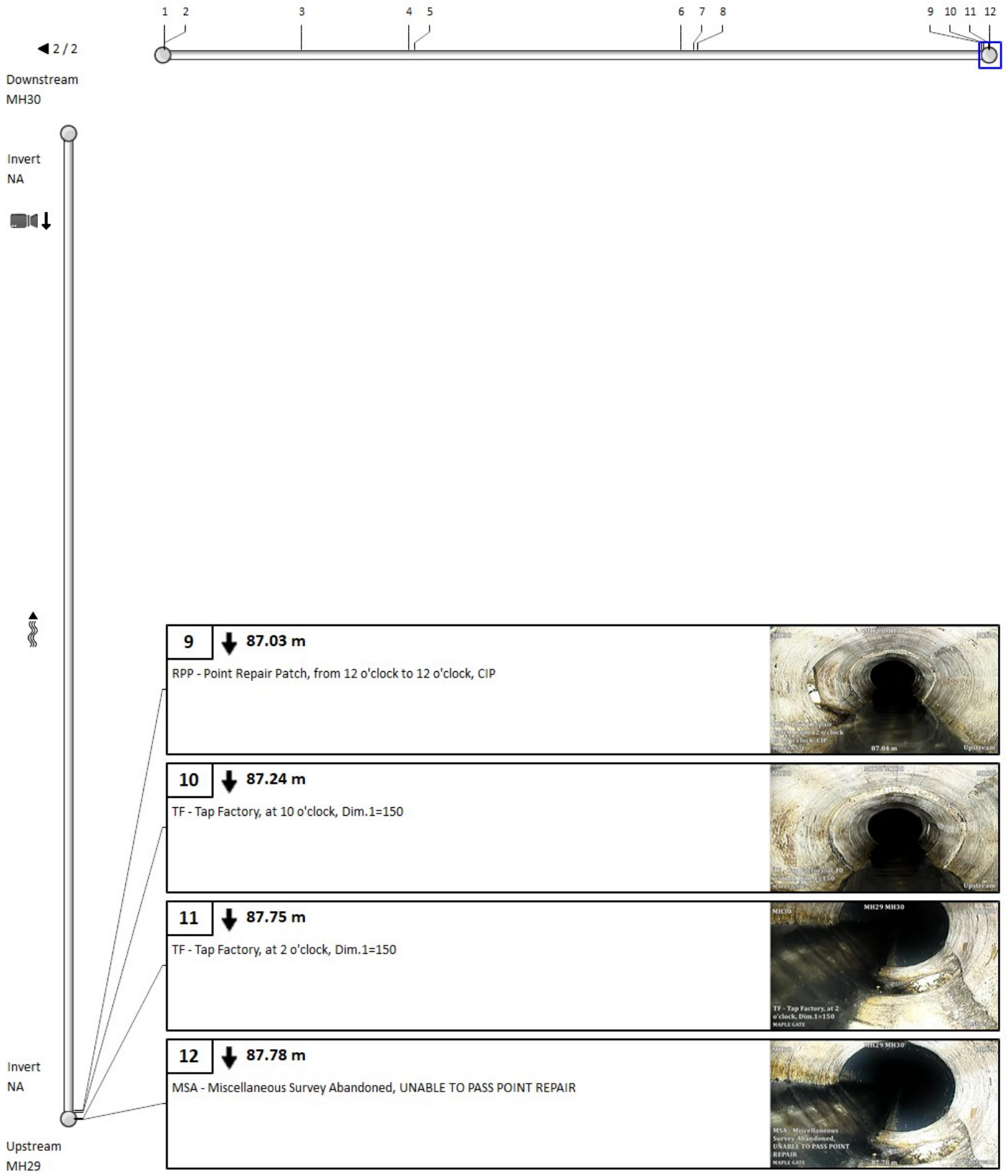
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH30 MH31  
 Direction of flow: MH30 --> MH31

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | FERNWOOD DRIVE   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 68.12 |
| Height:           | 200                  | Total length:    | 68.12 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 4:07 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 0    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 0000 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 4    | Score:        | 0    | Score:        | 4    | Risk:        |     |
| Index:        | 4    | Index:        | 0    | Index:        | 4    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH31 MH32  
 Direction of flow: MH31 --> MH32

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | FERNWOOD DRIVE   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 67.8 |
| Height:           | 200                  | Total length:    | 67.8 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 11/05/2022 12:17 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

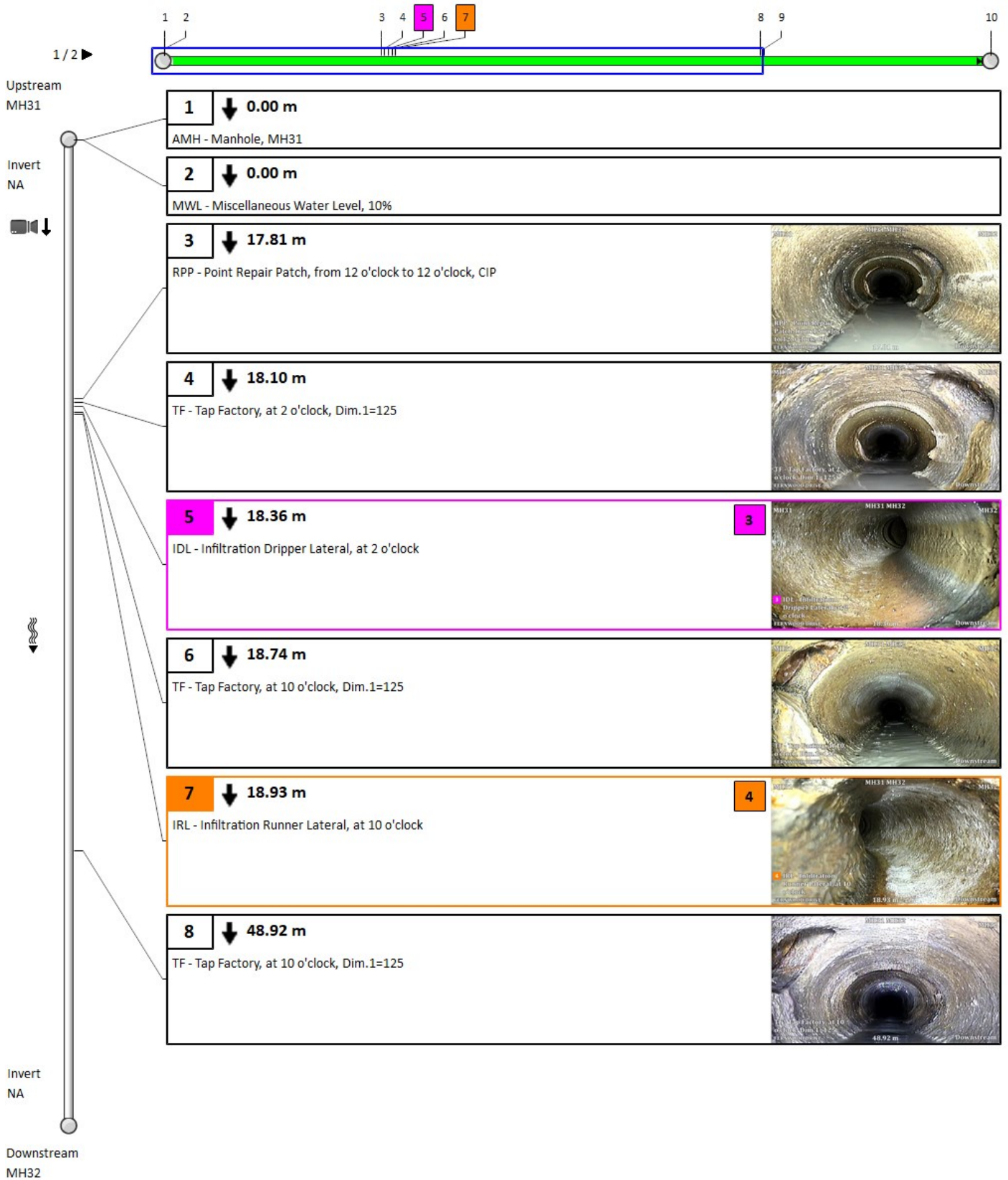
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4131 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 7    | Score:        | 7    | Risk:        |     |
| Index:        | 0    | Index:        | 3.5  | Index:        | 3.5  |              |     |

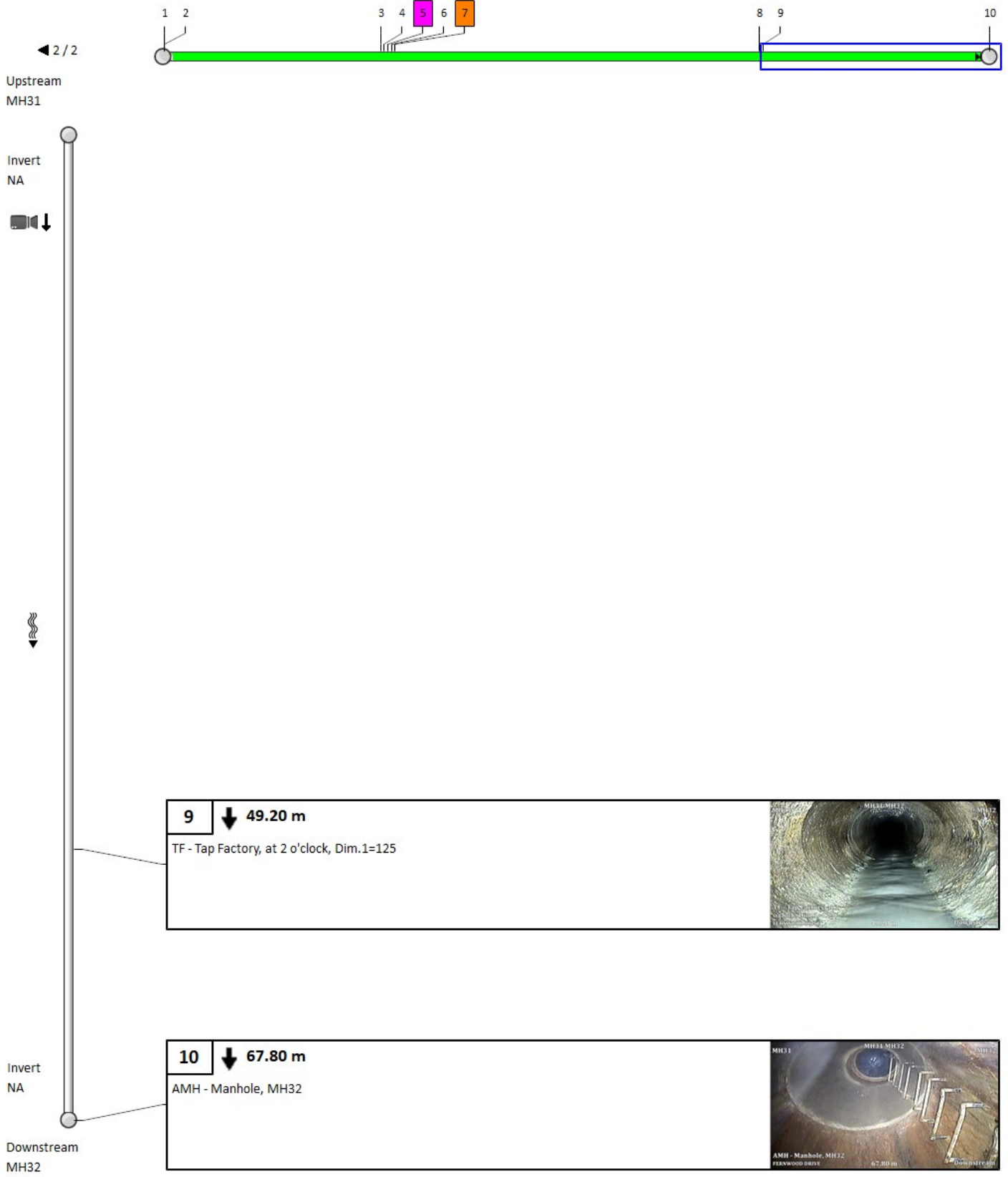
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH32 MH33  
 Direction of flow: MH32 --> MH33

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | FERNWOOD DRIVE   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 80.23 |
| Height:           | 200                  | Total length:    | 80.23 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 12/05/2022 10:07 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH33 PS2  
 Direction of flow: MH33 --> PS2

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | FERNWOOD DRIVE   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 9.58 |
| Height:           | 200                  | Total length:    | 9.58 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 12/05/2022 10:03 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

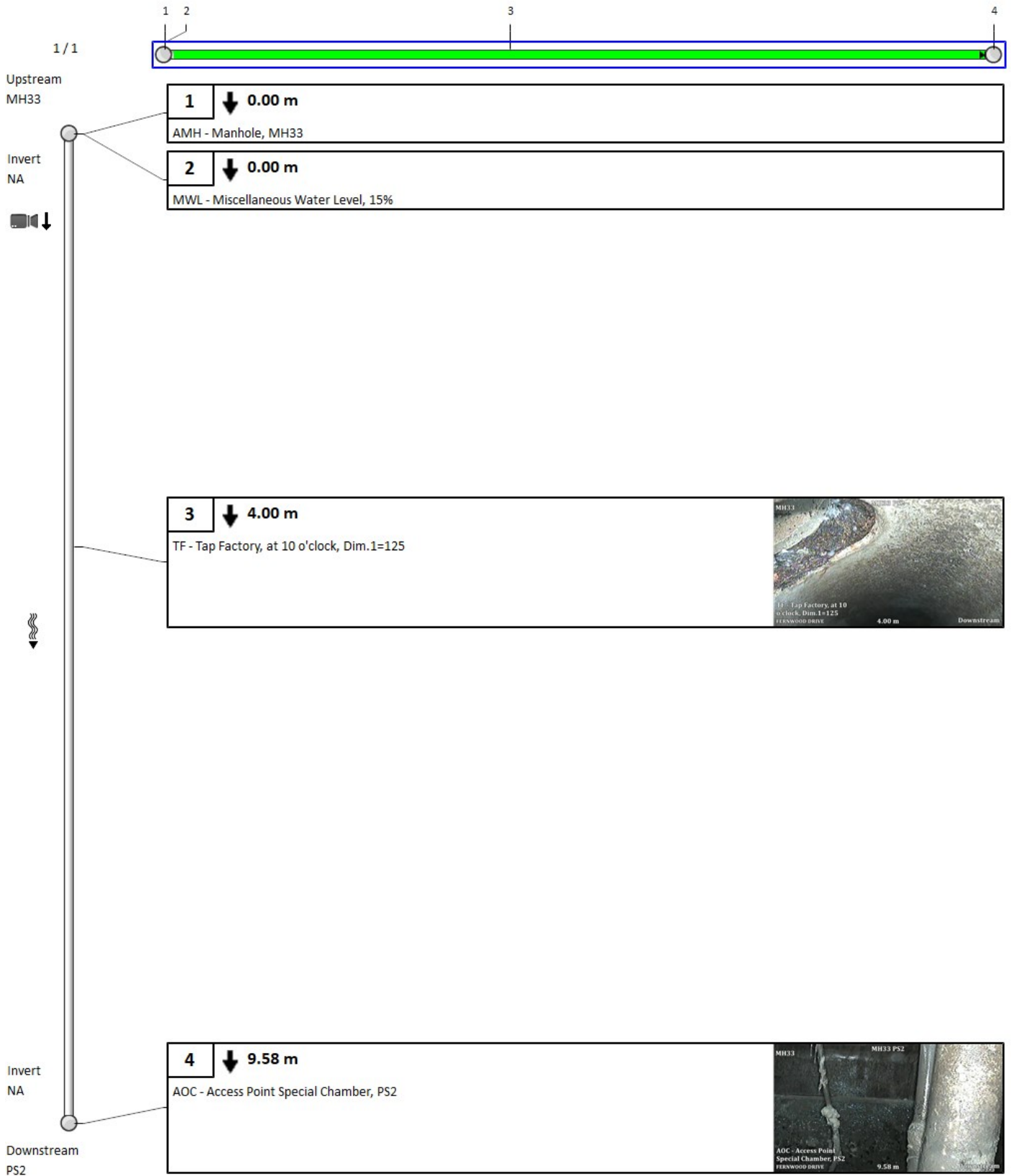
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

|                    |               |
|--------------------|---------------|
| Pipe:              | MH34 MM35     |
| Direction of flow: | MH34 --> MM35 |

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 55.82 |
| Height:           | 200                  | Total length:    | 55.82 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

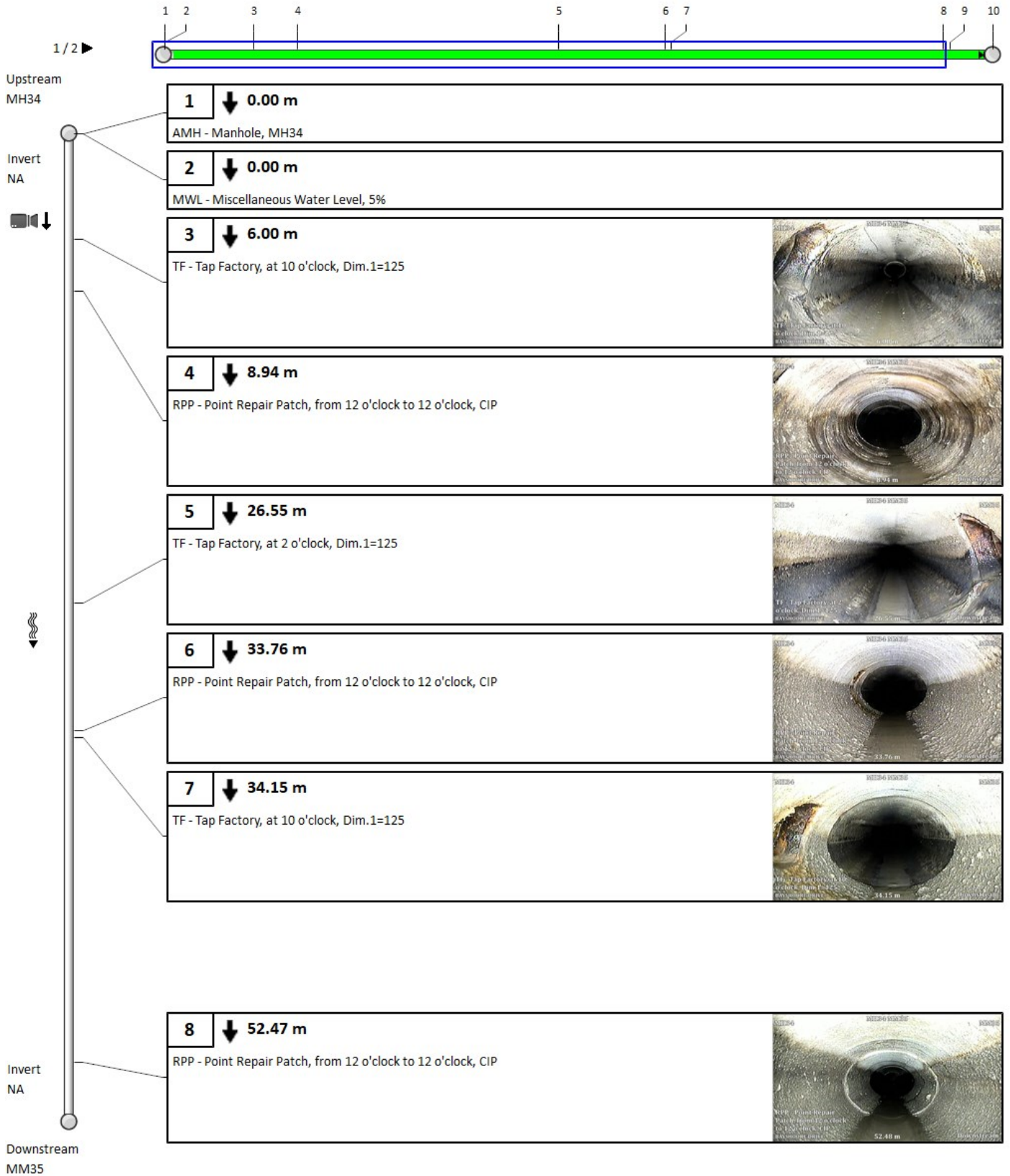
|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 1:07 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

| Structural rating  | O&M rating         | Overall rating     | Failure       |
|--------------------|--------------------|--------------------|---------------|
| Peak: 0            | Peak: 0            | Peak: 0            | Consequence:  |
| Quick rating: 0000 | Quick rating: 0000 | Quick rating: 0000 | Likelihood: 1 |
| Score: 0           | Score: 0           | Score: 0           | Risk:         |
| Index: 0           | Index: 0           | Index: 0           |               |

### Other information

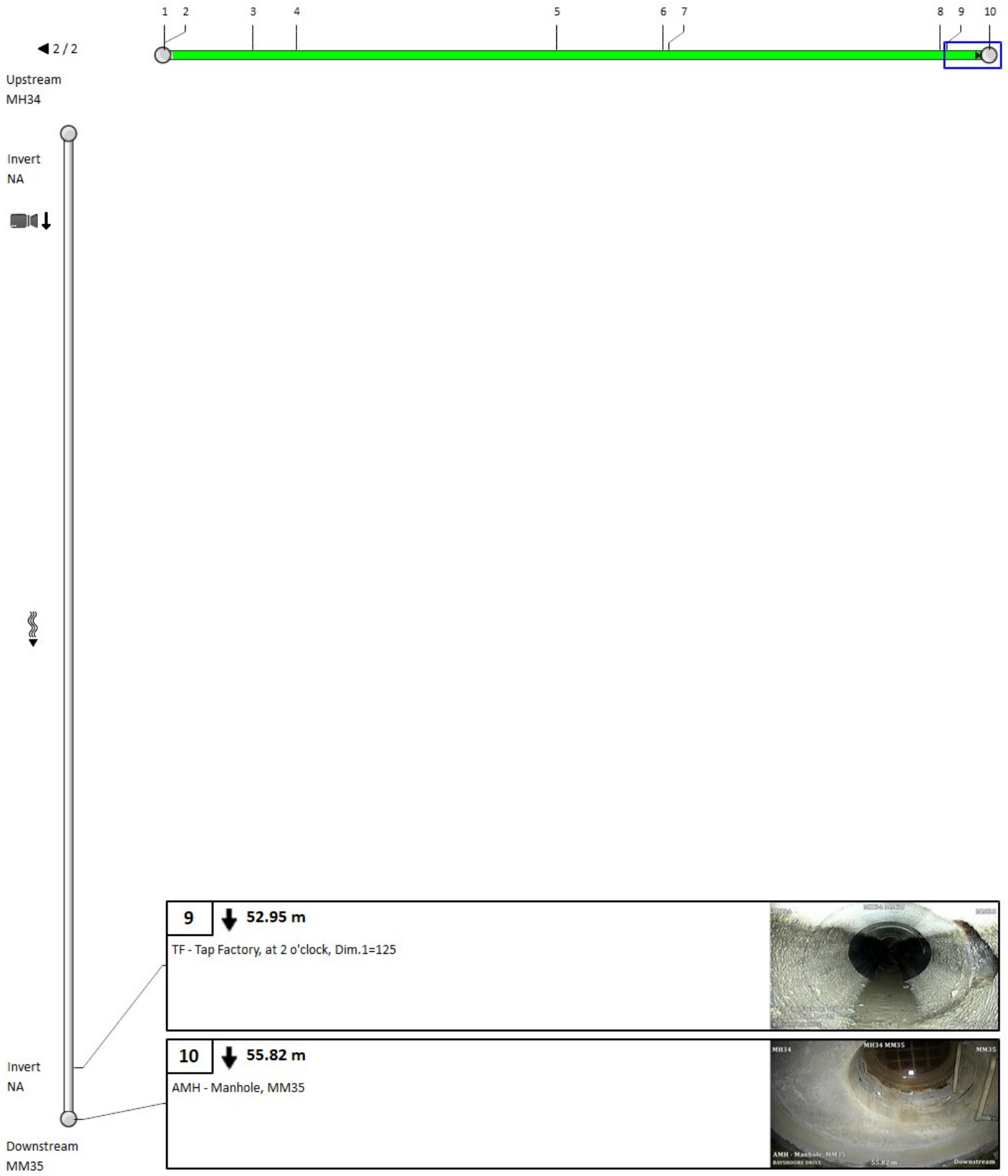
|                           |                 |
|---------------------------|-----------------|
| Information 1: WESSUC INC | Information 6:  |
| Information 2:            | Information 7:  |
| Information 3:            | Information 8:  |
| Information 4:            | Information 9:  |
| Information 5:            | Information 10: |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH35 MH71  
 Direction of flow: MH35 --> MH71

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 107.23 |
| Height:           | 200                  | Total length:    | 107.23 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 1:26 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

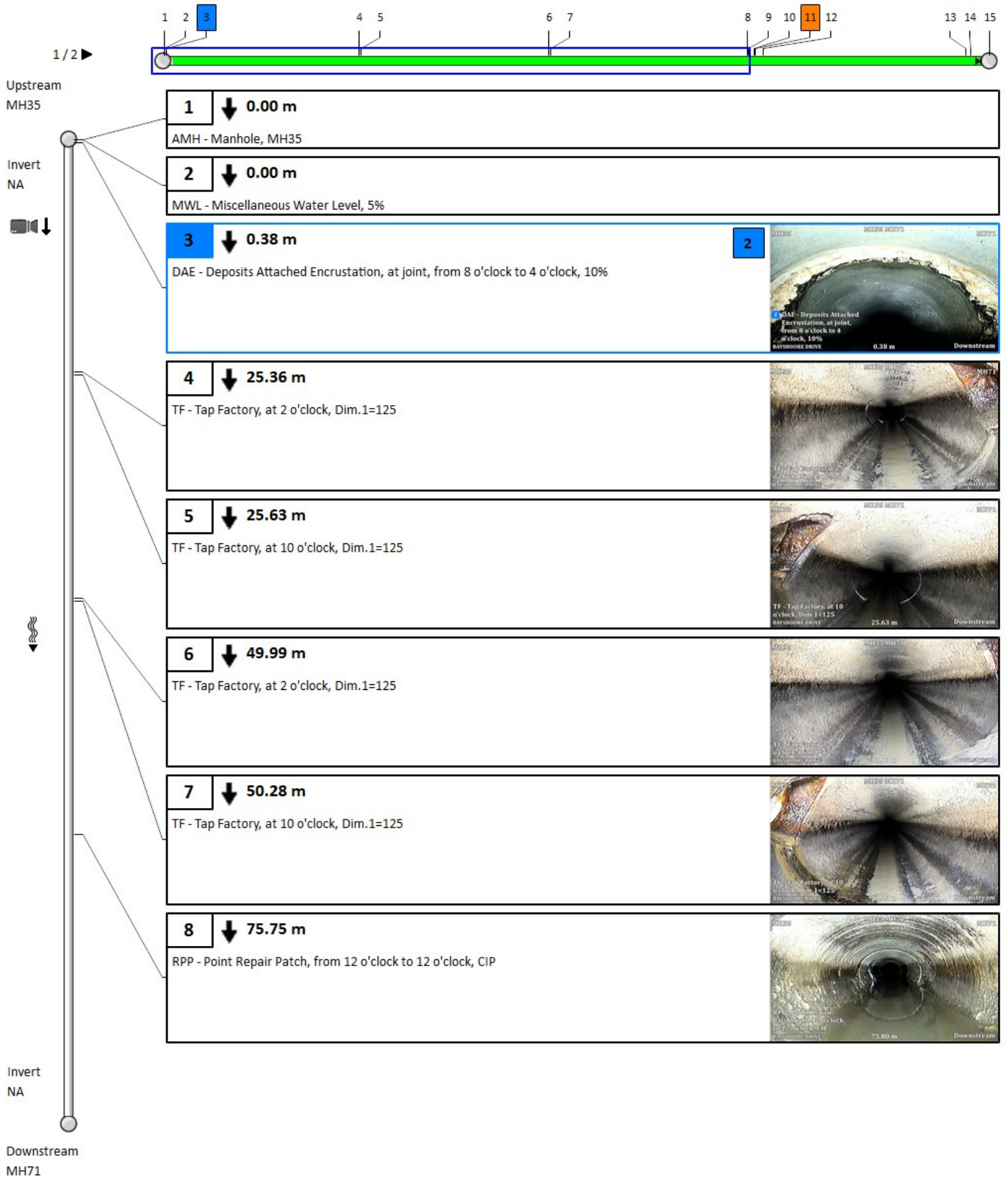
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4121 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

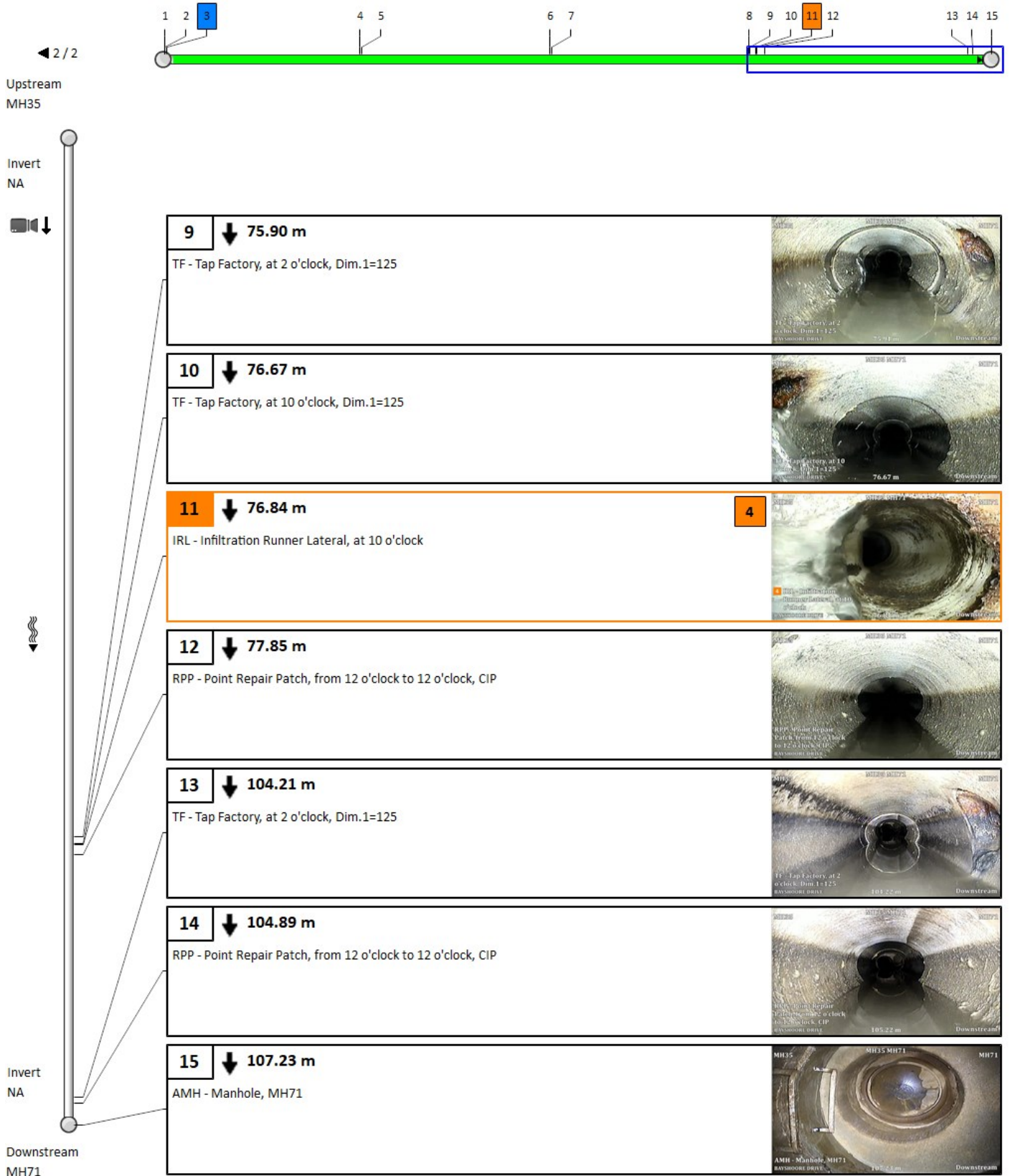
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH36 MH37  
 Direction of flow: MH36 --> MH37

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD PLACE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 97.34 |
| Height:           | 200                  | Total length:    | 103   |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 9:48 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

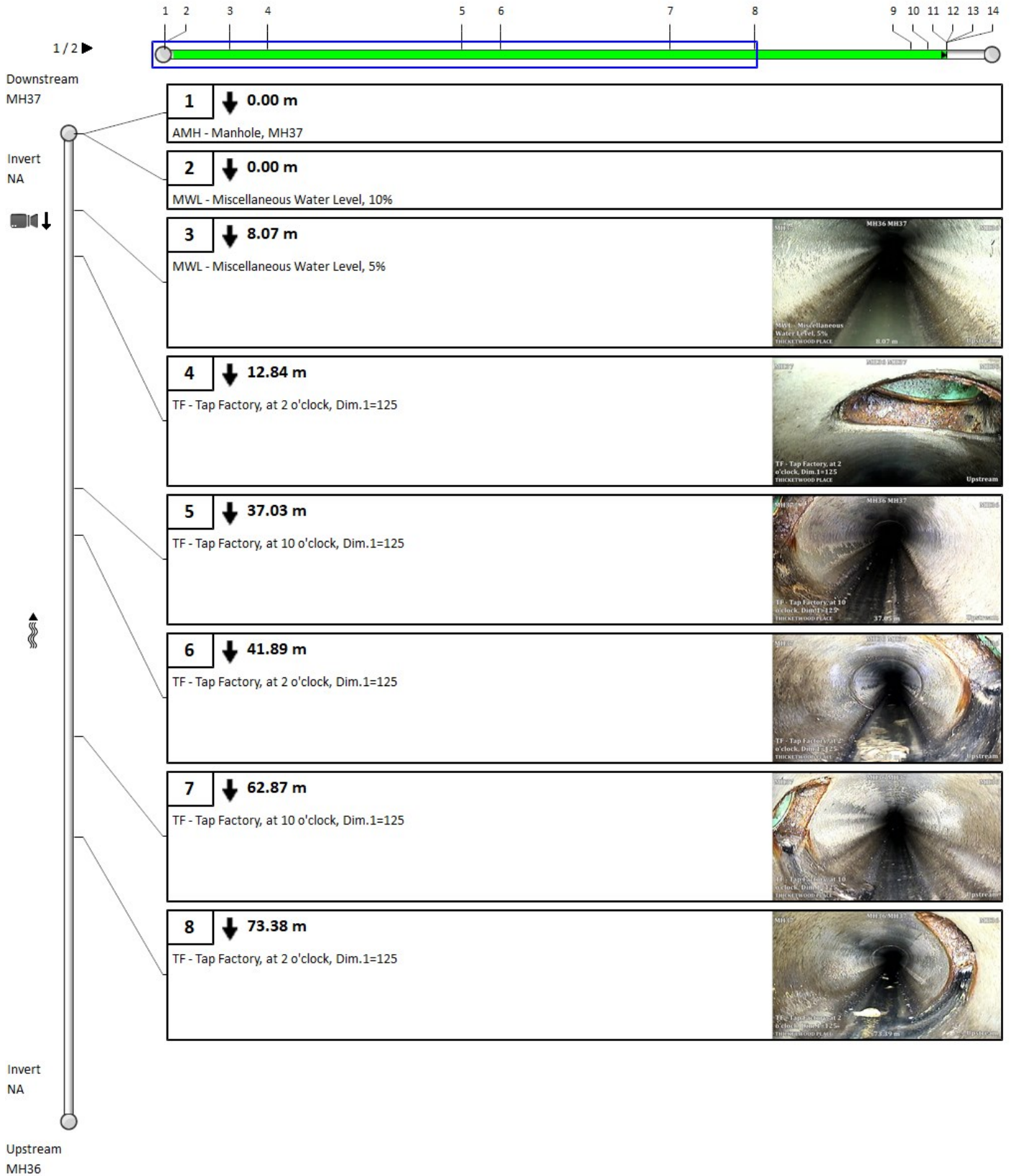
|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

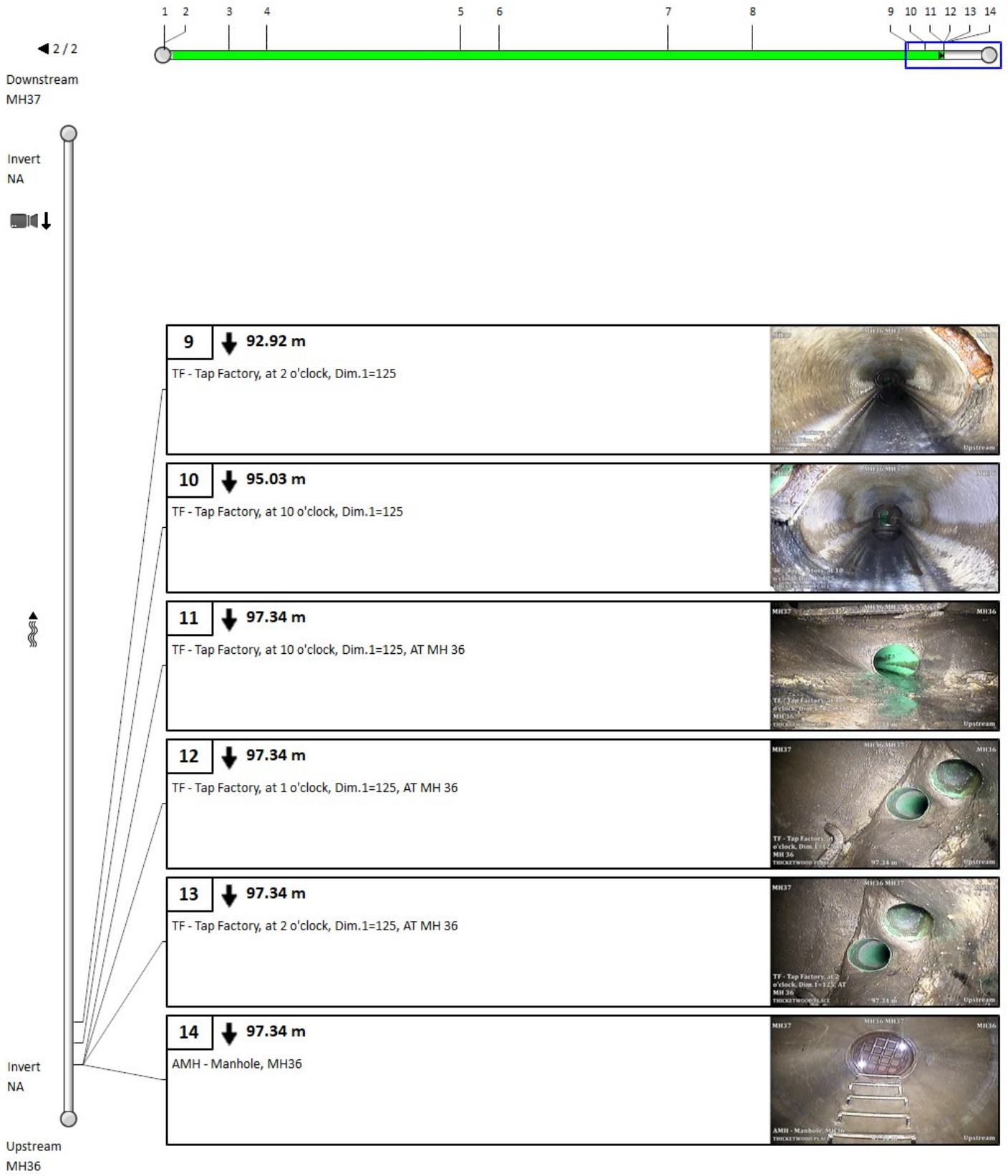


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH37 MH38  
 Direction of flow: MH37 --> MH38

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD PLACE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 72.29 |
| Height:           | 200                  | Total length:    | 69    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 11:27 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

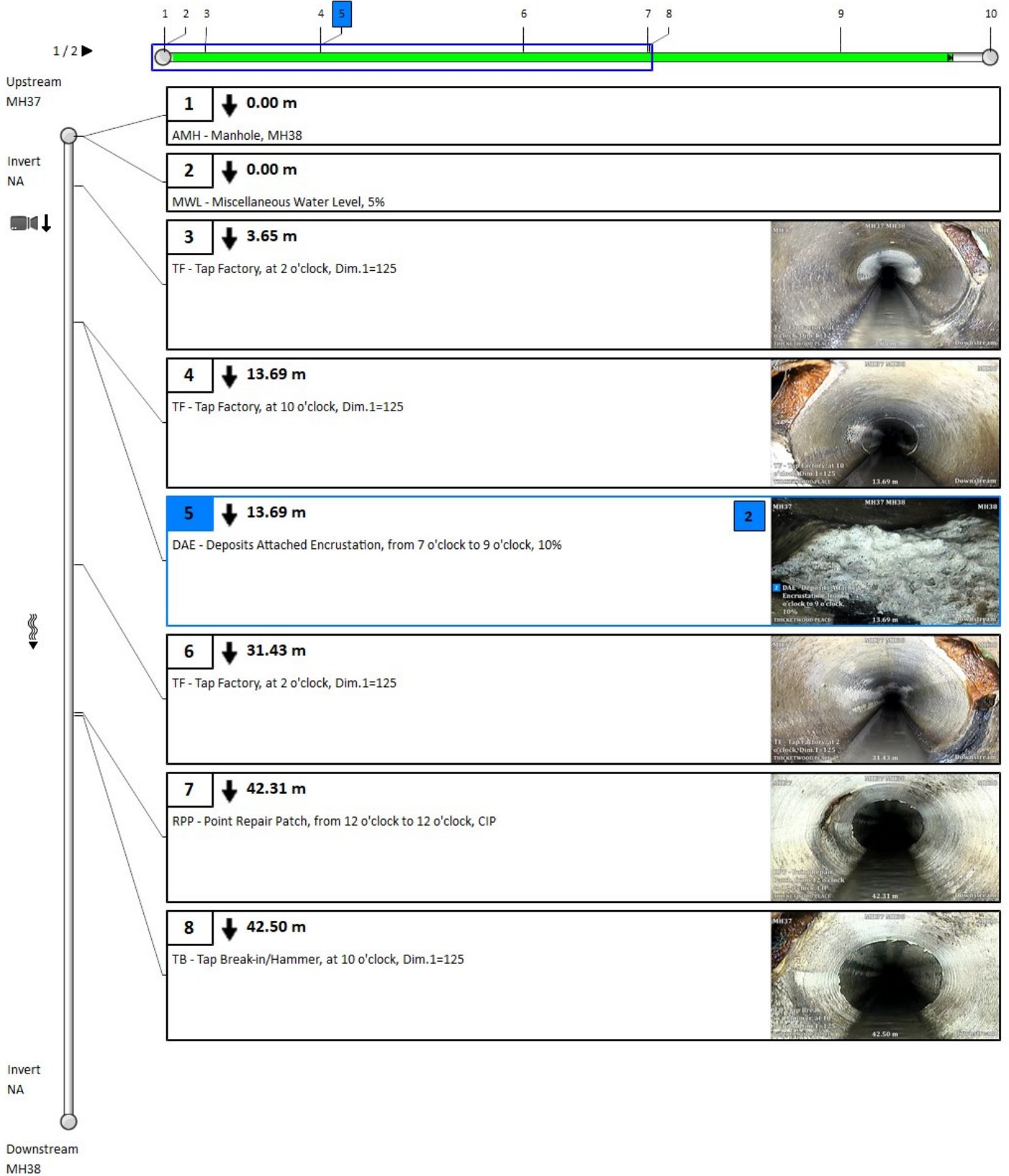
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

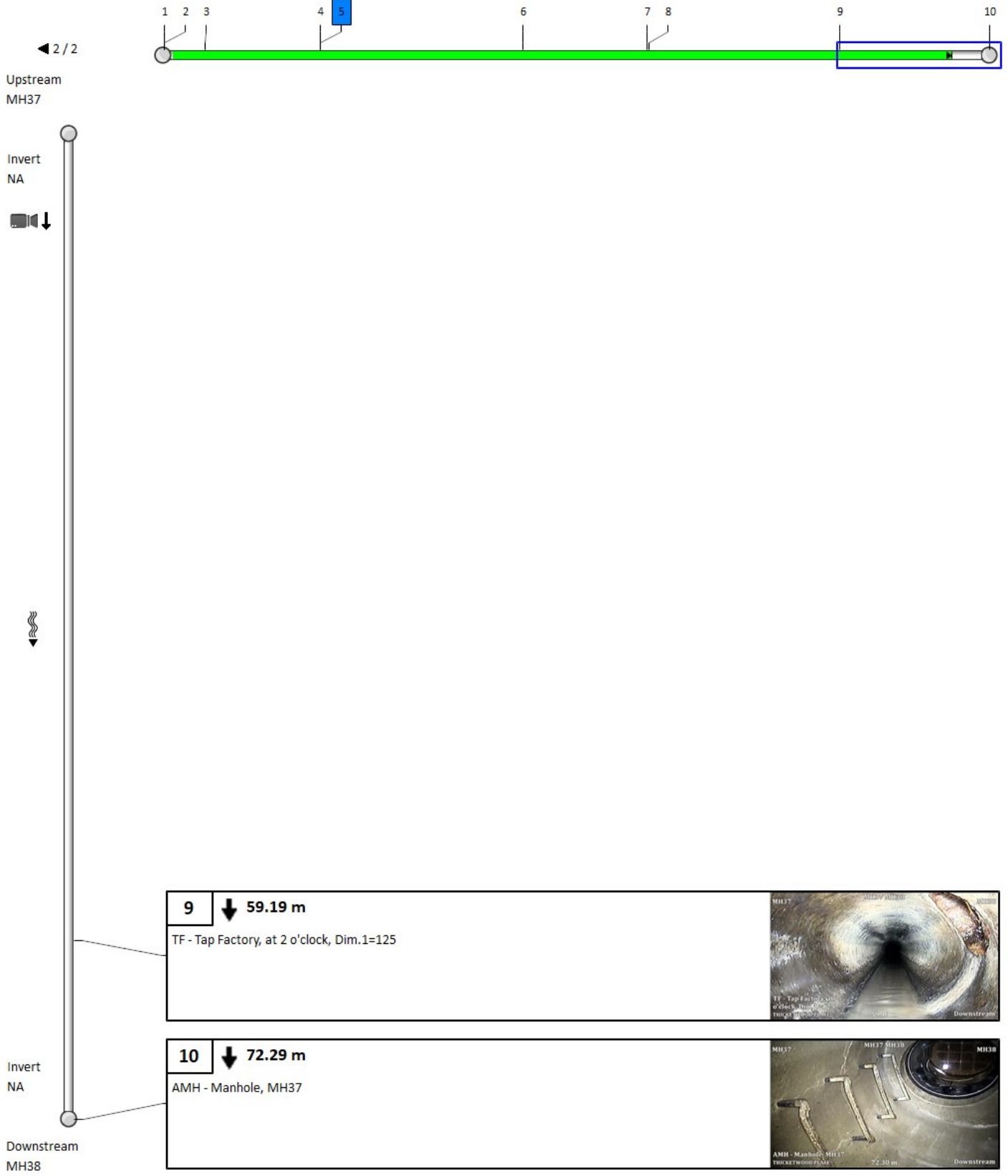
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

|                           |               |
|---------------------------|---------------|
| <b>Pipe:</b>              | MH38 MH39     |
| <b>Direction of flow:</b> | MH38 --> MH39 |

### Pipe location

|                          |                   |                           |                       |
|--------------------------|-------------------|---------------------------|-----------------------|
| <b>Road:</b>             | THICKETWOOD PLACE | <u>UPSTREAM</u>           | <u>DOWNSTREAM</u>     |
| <b>Crossroad:</b>        |                   | <b>Easting (X):</b>       | <b>Easting (X):</b>   |
| <b>Drainage Area:</b>    |                   | <b>Northing (Y):</b>      | <b>Northing (Y):</b>  |
| <b>City:</b>             | BAYSHORE VILLAGE  | <b>Elevation (Z):</b>     | <b>Elevation (Z):</b> |
| <b>Location:</b>         |                   | <b>GPS Accuracy:</b>      |                       |
| <b>Location details:</b> |                   | <b>Corrdinate System:</b> |                       |
| <b>Owner:</b>            | BAYSHORE VILLAGE  | <b>Vertical Datum:</b>    |                       |
| <b>Road segment:</b>     |                   |                           |                       |

### Pipe characteristics

|                          |                      |                         |        |
|--------------------------|----------------------|-------------------------|--------|
| <b>Pipe Use:</b>         | Sanitary Sewage Pipe | <b>Surveyed Length:</b> | 105.34 |
| <b>Height:</b>           | 200                  | <b>Total length:</b>    | 99     |
| <b>Width:</b>            |                      | <b>Joint length:</b>    |        |
| <b>Shape:</b>            | Circular             | <b>Rim/Inv.:</b>        |        |
| <b>Material:</b>         | Asbestos Cement      | <b>Grade/Inv.:</b>      |        |
| <b>Lining:</b>           |                      | <b>Rim/Grade:</b>       |        |
| <b>Coating Method:</b>   |                      | <b>Rim/Inv.:</b>        |        |
| <b>Year Constructed:</b> |                      | <b>Grade/Inv.:</b>      |        |
| <b>Year renewed:</b>     |                      | <b>Rim/Grade:</b>       |        |

### Additional details

|                             |                     |                                |                 |
|-----------------------------|---------------------|--------------------------------|-----------------|
| <b>Inspection standard:</b> | PACP 7.0            | <b>Surveyed by:</b>            | AHMAD YASEEN    |
| <b>Inspection Status:</b>   | Complete Inspection | <b>Certificate Number:</b>     | U-0317-07006296 |
| <b>Date:</b>                | 04/05/2022 11:51 AM | <b>Reviewed By:</b>            |                 |
| <b>Project:</b>             |                     | <b>Reviewer Certificate:</b>   |                 |
| <b>Customer:</b>            | OCWA                | <b>Pre-Cleaning:</b>           | Light Cleaning  |
| <b>PO number:</b>           |                     | <b>Date cleaned:</b>           |                 |
| <b>Work Order:</b>          |                     | <b>Media Label:</b>            |                 |
| <b>Purpose:</b>             | Maintenance Related | <b>Unit of measurement:</b>    | Metric          |
| <b>Weather:</b>             | Dry                 | <b>Sheet Number:</b>           |                 |
| <b>Flow control:</b>        | Not Controlled      | <b>Additional information:</b> |                 |
| <b>Used Technology:</b>     | CCTV                |                                |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

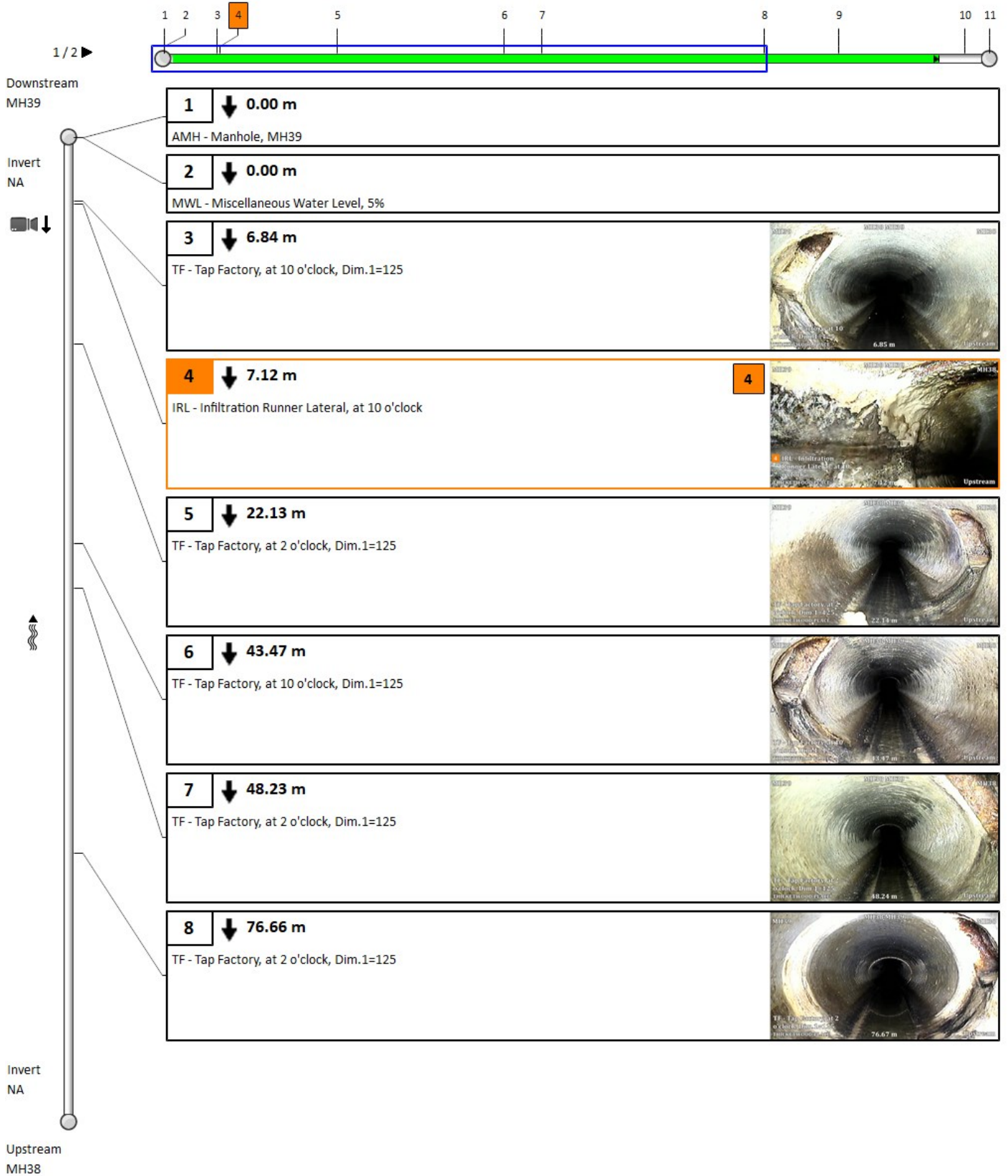
|                      |      |                      |      |                      |      |                     |     |
|----------------------|------|----------------------|------|----------------------|------|---------------------|-----|
| <b>Peak:</b>         | 0    | <b>Peak:</b>         | 4    | <b>Peak:</b>         | 4    | <b>Consequence:</b> |     |
| <b>Quick rating:</b> | 0000 | <b>Quick rating:</b> | 4100 | <b>Quick rating:</b> | 4100 | <b>Likelihood:</b>  | 4.1 |
| <b>Score:</b>        | 0    | <b>Score:</b>        | 4    | <b>Score:</b>        | 4    | <b>Risk:</b>        |     |
| <b>Index:</b>        | 0    | <b>Index:</b>        | 4    | <b>Index:</b>        | 4    |                     |     |

### Other information

|                       |            |                        |  |
|-----------------------|------------|------------------------|--|
| <b>Information 1:</b> | WESSUC INC | <b>Information 6:</b>  |  |
| <b>Information 2:</b> |            | <b>Information 7:</b>  |  |
| <b>Information 3:</b> |            | <b>Information 8:</b>  |  |
| <b>Information 4:</b> |            | <b>Information 9:</b>  |  |
| <b>Information 5:</b> |            | <b>Information 10:</b> |  |

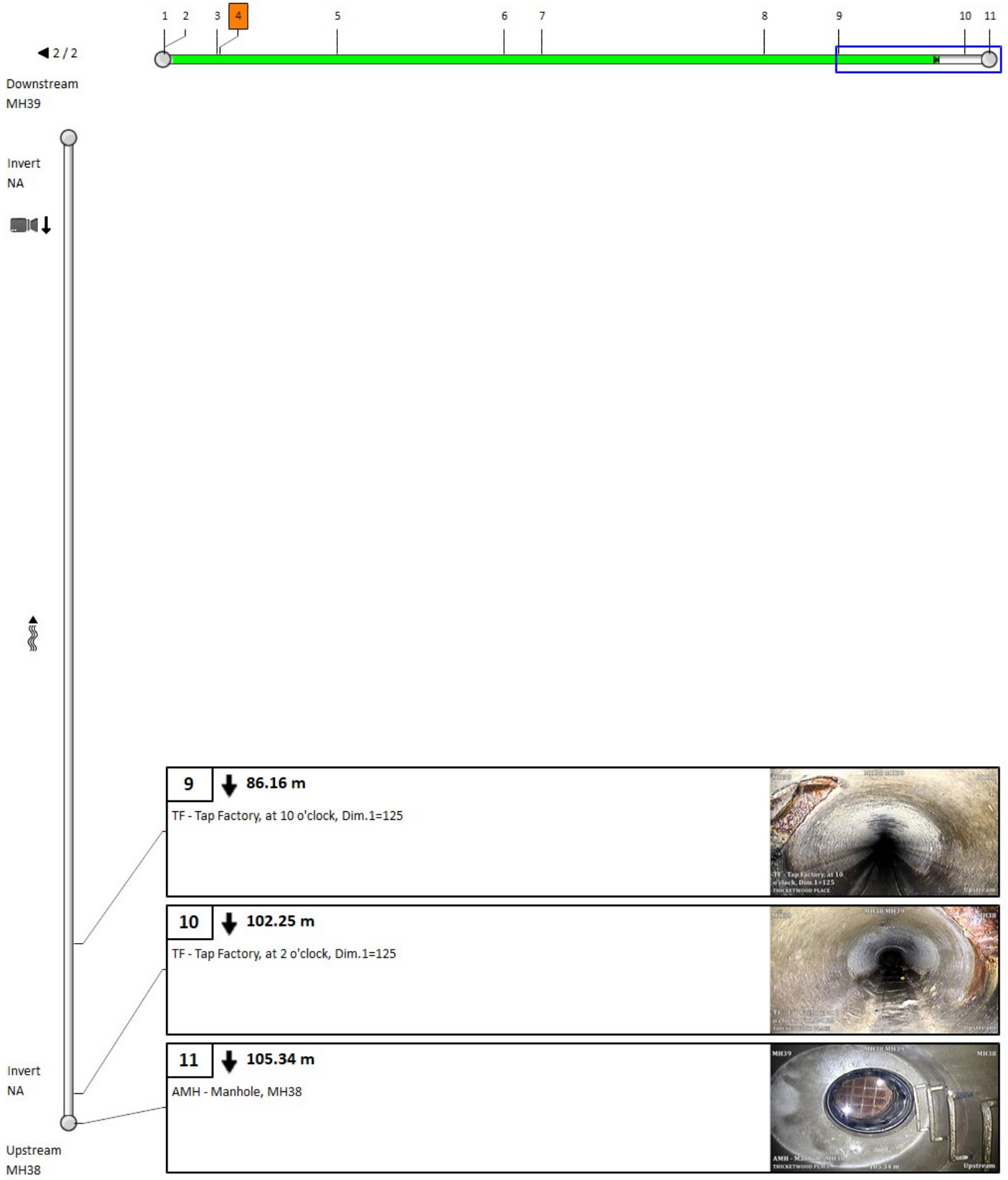


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH39 MH40  
 Direction of flow: MH39 --> MH40

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD PLACE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |     |
|-------------------|----------------------|------------------|-----|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 5.5 |
| Height:           | 200                  | Total length:    | 82  |
| Width:            |                      | Joint length:    |     |
| Shape:            | Circular             | Rim/Inv.:        |     |
| Material:         | Asbestos Cement      | Grade/Inv.:      |     |
| Lining:           |                      | Rim/Grade:       |     |
| Coating Method:   |                      | Rim/Inv.:        |     |
| Year Constructed: |                      | Grade/Inv.:      |     |
| Year renewed:     |                      | Rim/Grade:       |     |

### Additional details

|                      |                     |                         |                                 |
|----------------------|---------------------|-------------------------|---------------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296                 |
| Date:                | 04/05/2022 12:43 PM | Reviewed By:            |                                 |
| Project:             |                     | Reviewer Certificate:   |                                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning                  |
| PO number:           |                     | Date cleaned:           |                                 |
| Work Order:          |                     | Media Label:            |                                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                          |
| Weather:             | Dry                 | Sheet Number:           |                                 |
| Flow control:        | Not Controlled      | Additional information: | MSA UNABLE TO PASS ENCURSTATION |
| Used Technology:     | CCTV                |                         |                                 |

### Structural rating

### O&M rating

### Overall rating

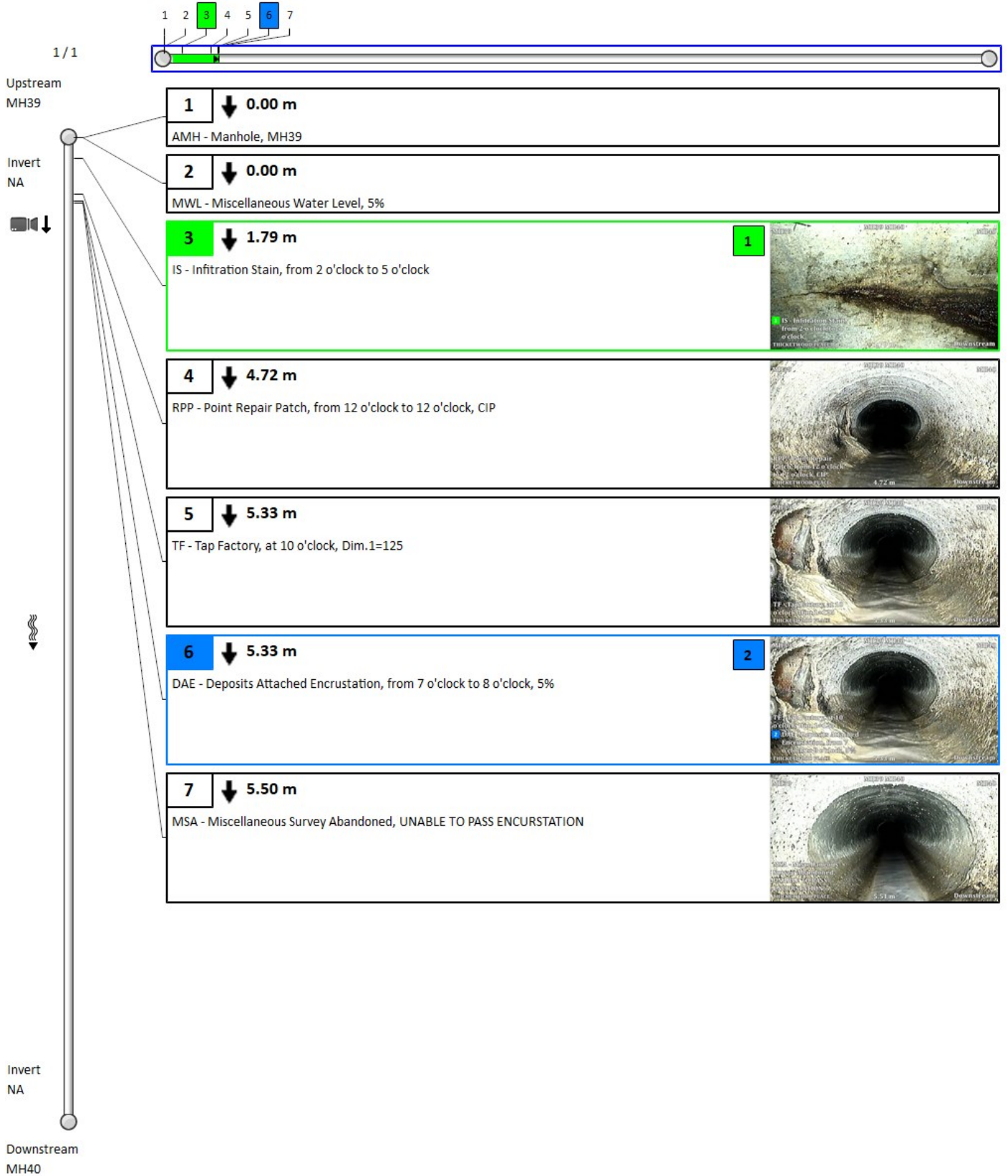
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2111 | Quick rating: | 2111 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 3    | Score:        | 3    | Risk:        |     |
| Index:        | 0    | Index:        | 1.5  | Index:        | 1.5  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH39 MH40  
 Direction of flow: MH39 --> MH40

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD PLACE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 88.14 |
| Height:           | 200                  | Total length:    | 82    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 04/05/2022 1:35 PM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

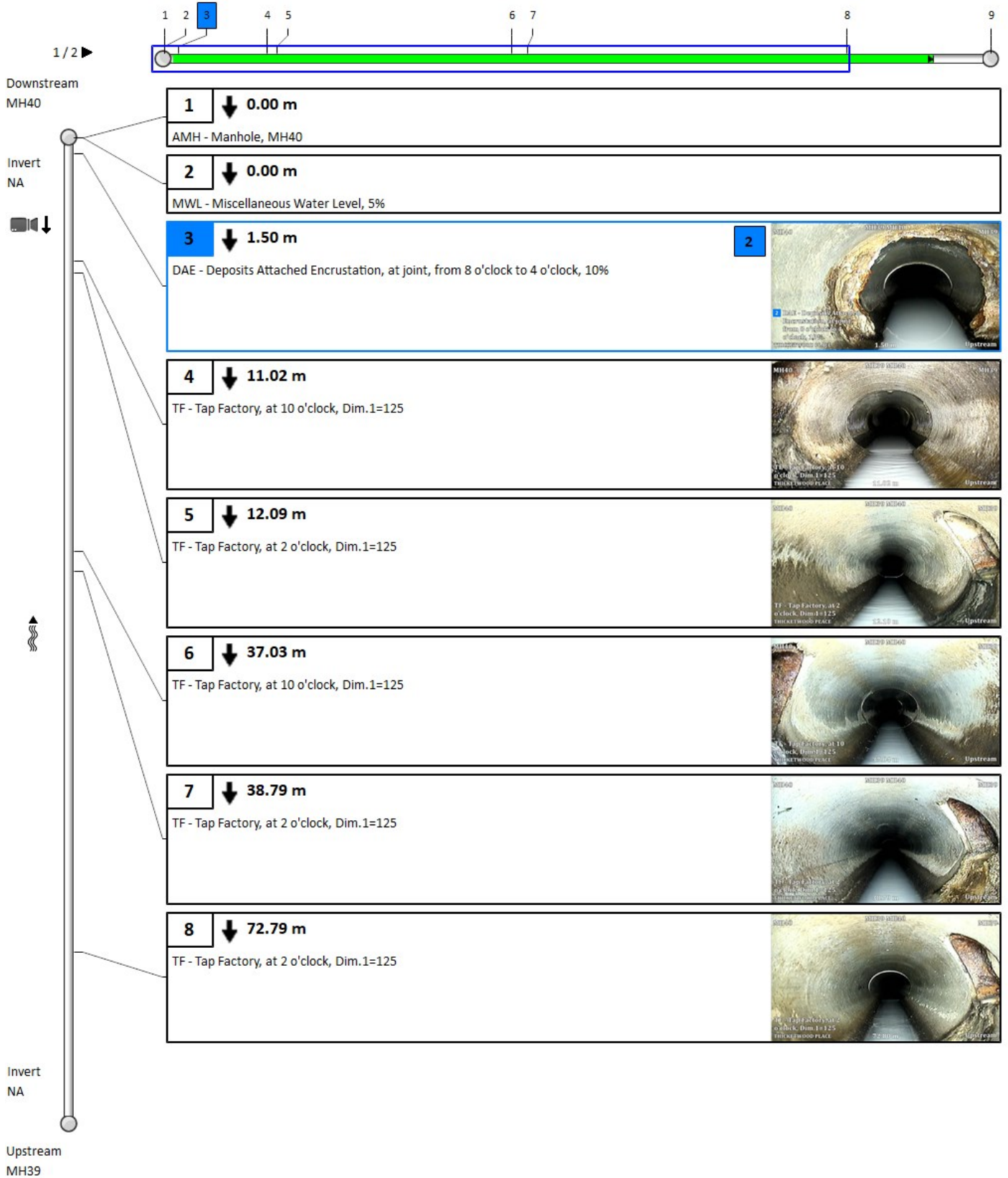
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

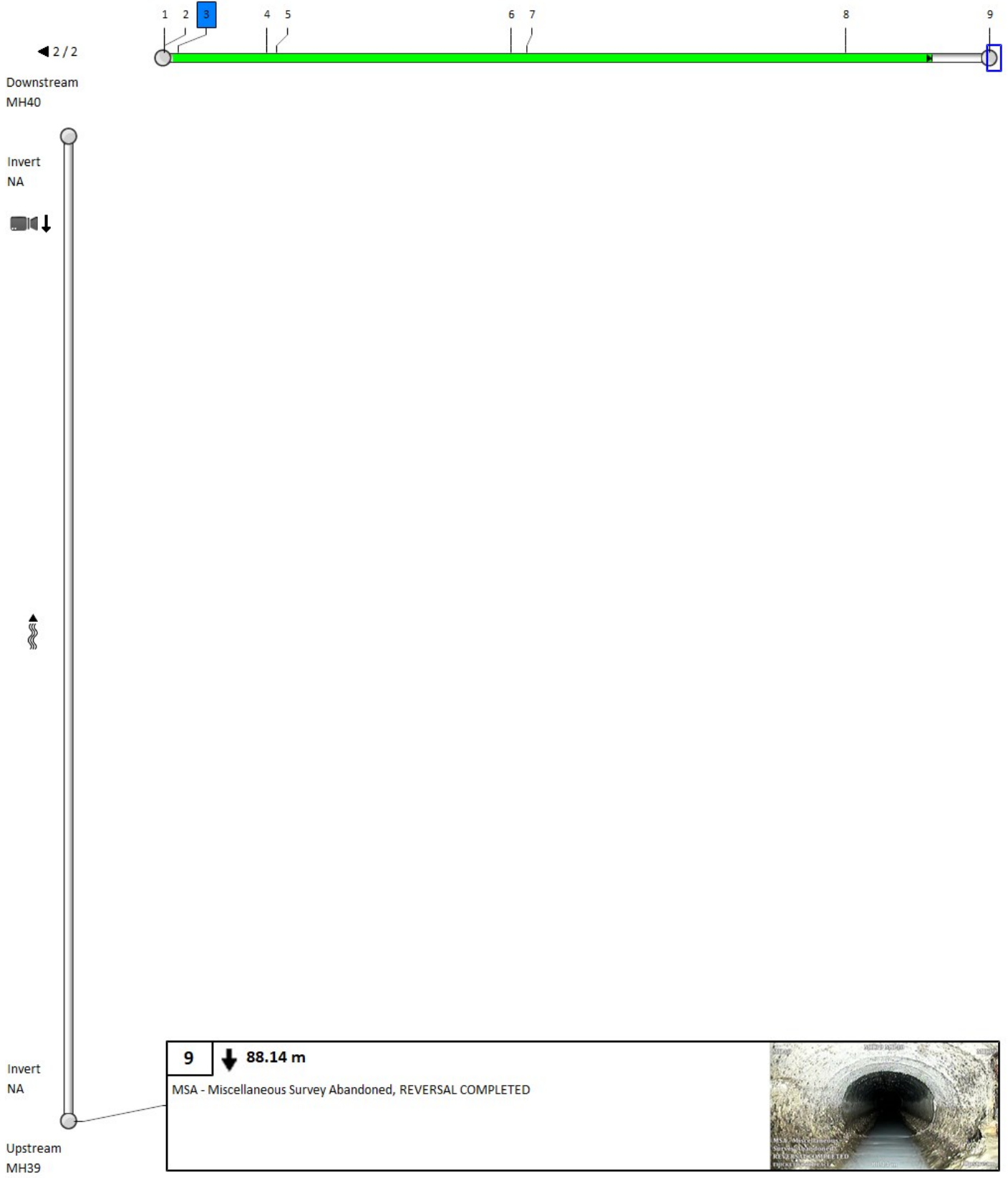
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

|                           |               |
|---------------------------|---------------|
| <b>Pipe:</b>              | MH40 MH41     |
| <b>Direction of flow:</b> | MH40 --> MH41 |

### Pipe location

|                          |                   |                           |                       |
|--------------------------|-------------------|---------------------------|-----------------------|
| <b>Road:</b>             | THICKETWOOD PLACE | <u>UPSTREAM</u>           | <u>DOWNSTREAM</u>     |
| <b>Crossroad:</b>        |                   | <b>Easting (X):</b>       | <b>Easting (X):</b>   |
| <b>Drainage Area:</b>    |                   | <b>Northing (Y):</b>      | <b>Northing (Y):</b>  |
| <b>City:</b>             | BAYSHORE VILLAGE  | <b>Elevation (Z):</b>     | <b>Elevation (Z):</b> |
| <b>Location:</b>         |                   | <b>GPS Accuracy:</b>      |                       |
| <b>Location details:</b> |                   | <b>Corrdinate System:</b> |                       |
| <b>Owner:</b>            | BAYSHORE VILLAGE  | <b>Vertical Datum:</b>    |                       |
| <b>Road segment:</b>     |                   |                           |                       |

### Pipe characteristics

|                          |                      |                         |        |
|--------------------------|----------------------|-------------------------|--------|
| <b>Pipe Use:</b>         | Sanitary Sewage Pipe | <b>Surveyed Length:</b> | 107.25 |
| <b>Height:</b>           | 200                  | <b>Total length:</b>    | 108    |
| <b>Width:</b>            |                      | <b>Joint length:</b>    |        |
| <b>Shape:</b>            | Circular             | <b>Rim/Inv.:</b>        |        |
| <b>Material:</b>         | Asbestos Cement      | <b>Grade/Inv.:</b>      |        |
| <b>Lining:</b>           |                      | <b>Rim/Grade:</b>       |        |
| <b>Coating Method:</b>   |                      | <b>Rim/Inv.:</b>        |        |
| <b>Year Constructed:</b> |                      | <b>Grade/Inv.:</b>      |        |
| <b>Year renewed:</b>     |                      | <b>Rim/Grade:</b>       |        |

### Additional details

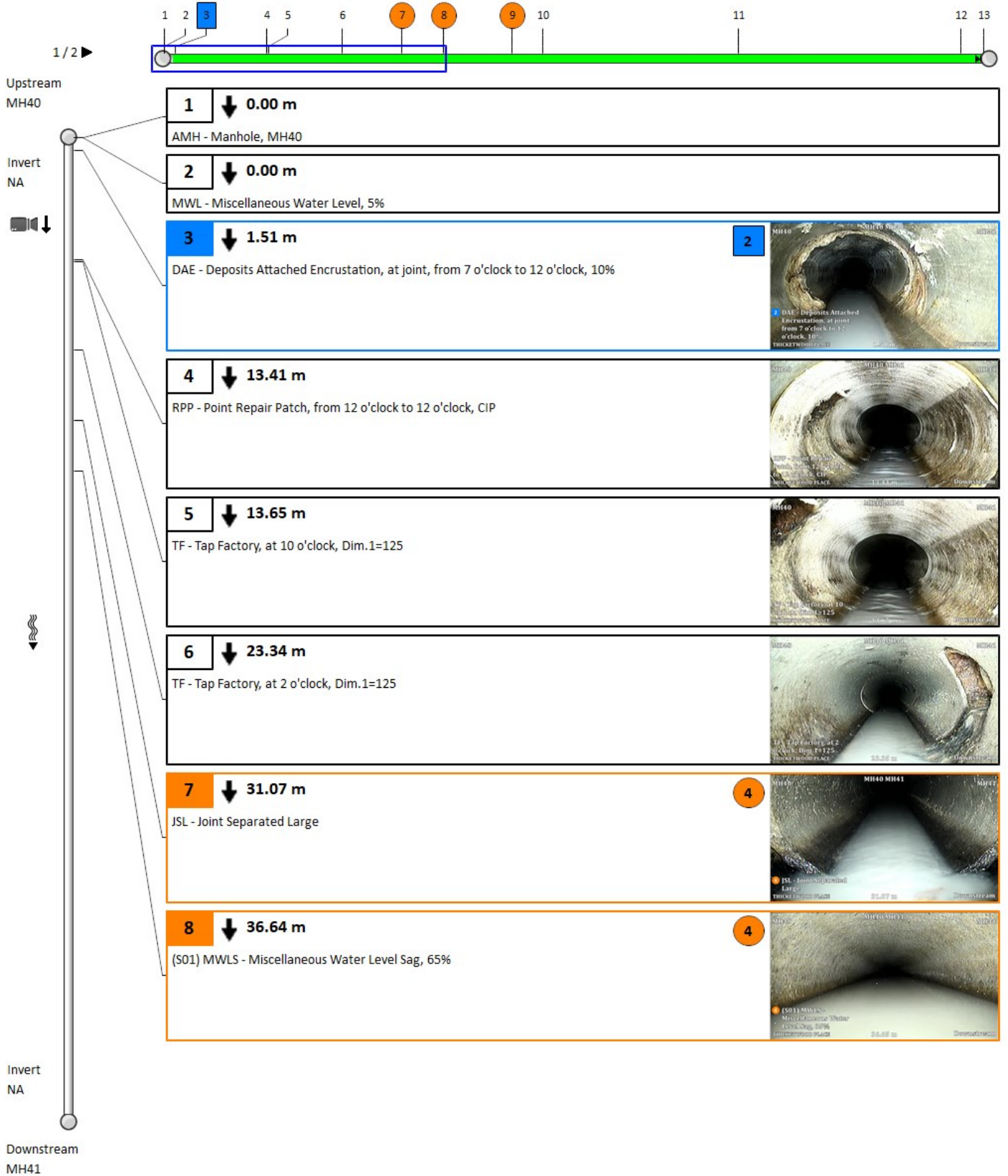
|                             |                     |                                |                 |
|-----------------------------|---------------------|--------------------------------|-----------------|
| <b>Inspection standard:</b> | PACP 7.0            | <b>Surveyed by:</b>            | AHMAD YASEEN    |
| <b>Inspection Status:</b>   | Complete Inspection | <b>Certificate Number:</b>     | U-0317-07006296 |
| <b>Date:</b>                | 04/05/2022 1:48 PM  | <b>Reviewed By:</b>            |                 |
| <b>Project:</b>             |                     | <b>Reviewer Certificate:</b>   |                 |
| <b>Customer:</b>            | OCWA                | <b>Pre-Cleaning:</b>           | Light Cleaning  |
| <b>PO number:</b>           |                     | <b>Date cleaned:</b>           |                 |
| <b>Work Order:</b>          |                     | <b>Media Label:</b>            |                 |
| <b>Purpose:</b>             | Maintenance Related | <b>Unit of measurement:</b>    | Metric          |
| <b>Weather:</b>             | Dry                 | <b>Sheet Number:</b>           |                 |
| <b>Flow control:</b>        | Not Controlled      | <b>Additional information:</b> |                 |
| <b>Used Technology:</b>     | CCTV                |                                |                 |

| Structural rating    |      | O&M rating           |      | Overall rating       |      | Failure             |     |
|----------------------|------|----------------------|------|----------------------|------|---------------------|-----|
| <b>Peak:</b>         | 4    | <b>Peak:</b>         | 2    | <b>Peak:</b>         | 4    | <b>Consequence:</b> |     |
| <b>Quick rating:</b> | 4700 | <b>Quick rating:</b> | 2100 | <b>Quick rating:</b> | 4721 | <b>Likelihood:</b>  | 4.7 |
| <b>Score:</b>        | 28   | <b>Score:</b>        | 2    | <b>Score:</b>        | 30   | <b>Risk:</b>        |     |
| <b>Index:</b>        | 4    | <b>Index:</b>        | 2    | <b>Index:</b>        | 3.8  |                     |     |

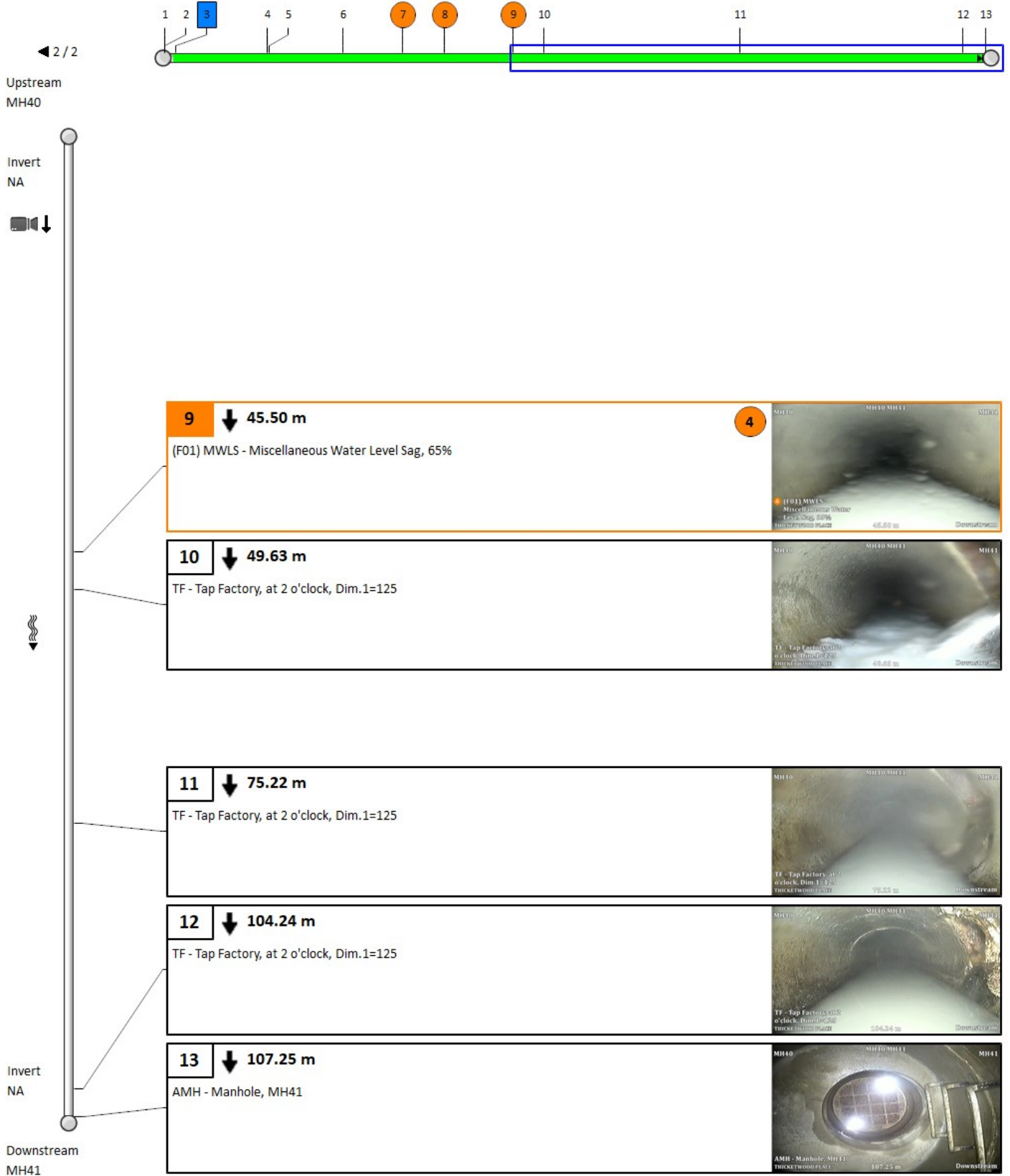
### Other information

|                       |            |                        |  |
|-----------------------|------------|------------------------|--|
| <b>Information 1:</b> | WESSUC INC | <b>Information 6:</b>  |  |
| <b>Information 2:</b> |            | <b>Information 7:</b>  |  |
| <b>Information 3:</b> |            | <b>Information 8:</b>  |  |
| <b>Information 4:</b> |            | <b>Information 9:</b>  |  |
| <b>Information 5:</b> |            | <b>Information 10:</b> |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH41 MH42  
 Direction of flow: MH41 --> MH42

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 75.79 |
| Height:           | 200                  | Total length:    | 75    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 2:11 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4111 | Quick rating: | 4111 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 5    | Score:        | 5    | Risk:        |     |
| Index:        | 0    | Index:        | 2.5  | Index:        | 2.5  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH42 MH50  
 Direction of flow: MH42 --> MH50

### Pipe location

|                   |                   |                    |                   |
|-------------------|-------------------|--------------------|-------------------|
| Road:             | THICKETWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                   | Easting (X):       | Easting (X):      |
| Drainage Area:    |                   | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE  | Elevation (Z):     | Elevation (Z):    |
| Location:         |                   | GPS Accuracy:      |                   |
| Location details: |                   | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE  | Vertical Datum:    |                   |
| Road segment:     |                   |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 82.94 |
| Height:           | 200                  | Total length:    | 77    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 2:12 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

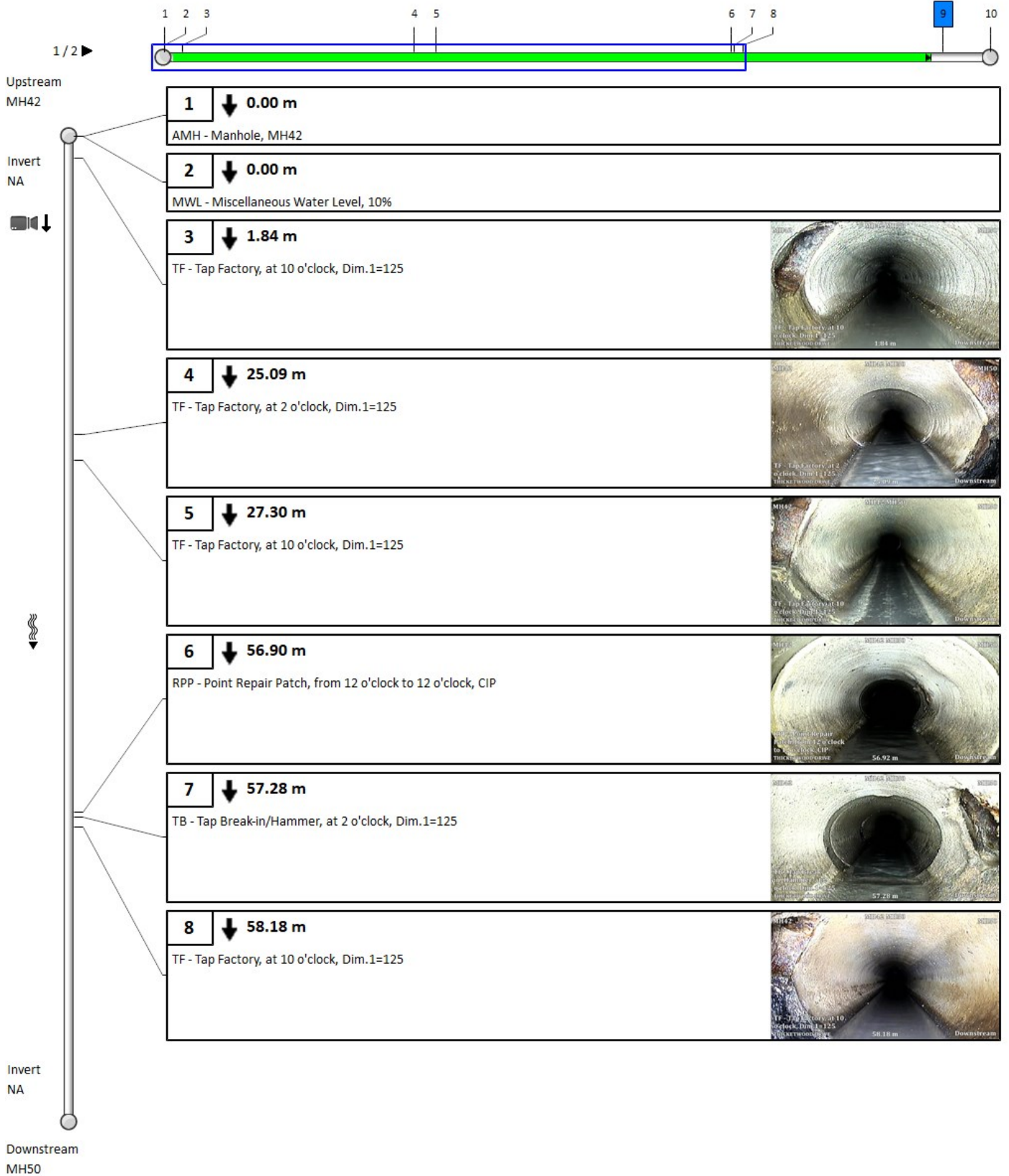
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

### Other information

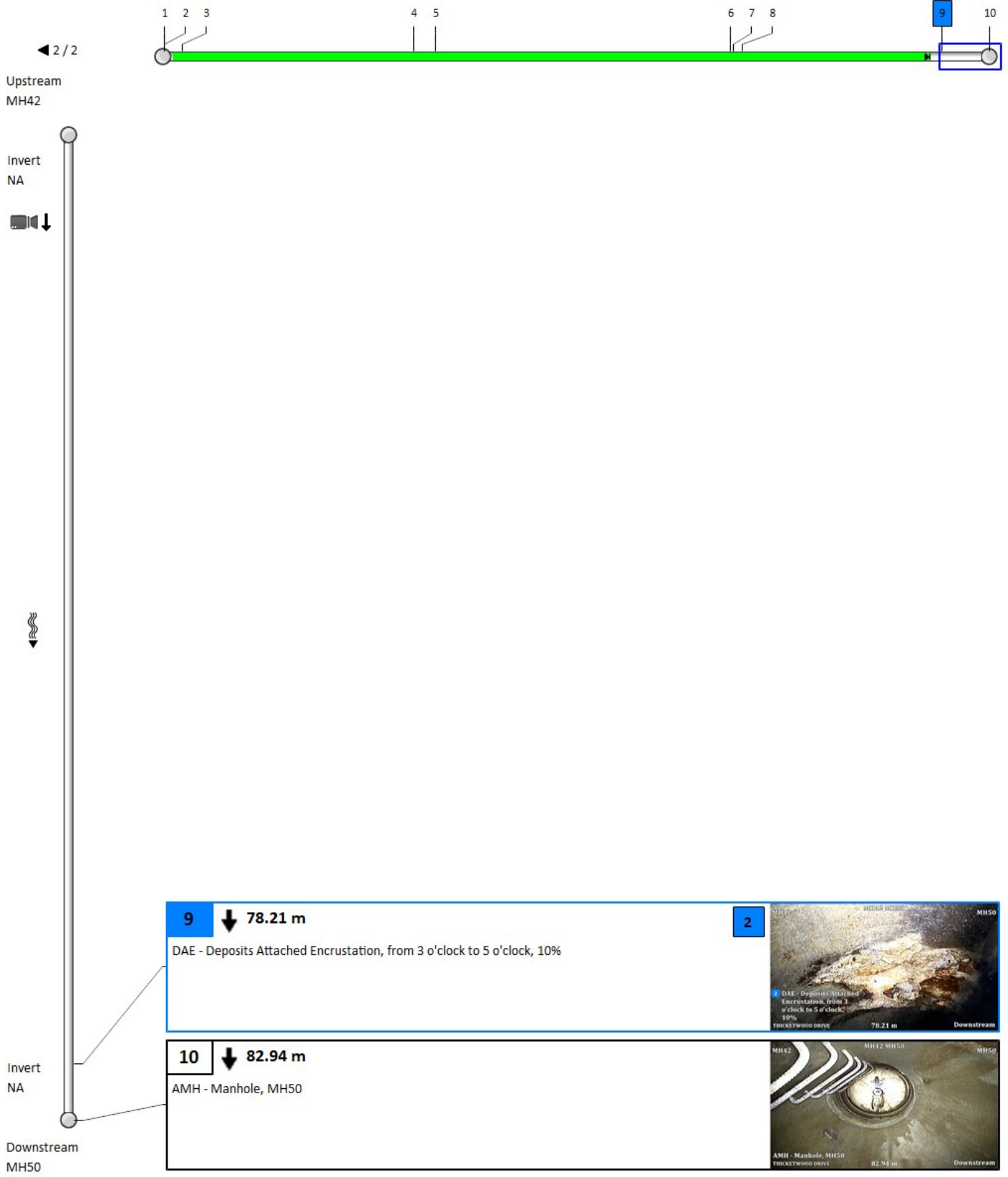
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH43 MH44  
 Direction of flow: MH43 --> MH44

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |     |
|-------------------|----------------------|------------------|-----|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 1.7 |
| Height:           | 200                  | Total length:    | 110 |
| Width:            |                      | Joint length:    |     |
| Shape:            | Circular             | Rim/Inv.:        |     |
| Material:         | Asbestos Cement      | Grade/Inv.:      |     |
| Lining:           |                      | Rim/Grade:       |     |
| Coating Method:   |                      | Rim/Inv.:        |     |
| Year Constructed: |                      | Grade/Inv.:      |     |
| Year renewed:     |                      | Rim/Grade:       |     |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 8:30 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: | ANGULAR LARGE   |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

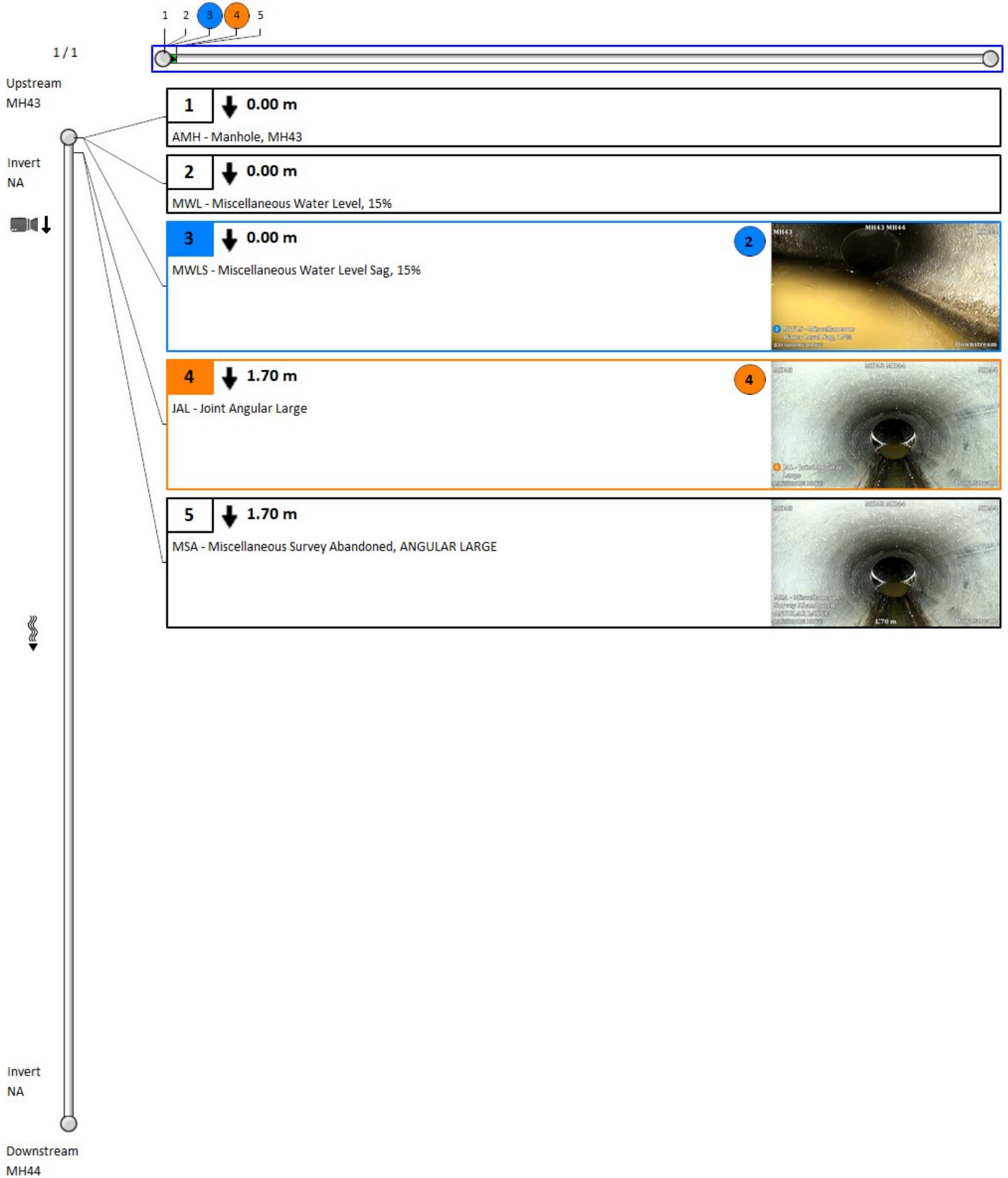
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 0    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4121 | Quick rating: | 0000 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 6    | Score:        | 0    | Score:        | 6    | Risk:        |     |
| Index:        | 3    | Index:        | 0    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH43 MH44  
 Direction of flow: MH43 --> MH44

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 75.4 |
| Height:           | 200                  | Total length:    | 110  |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 05/05/2022 7:55 AM  | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

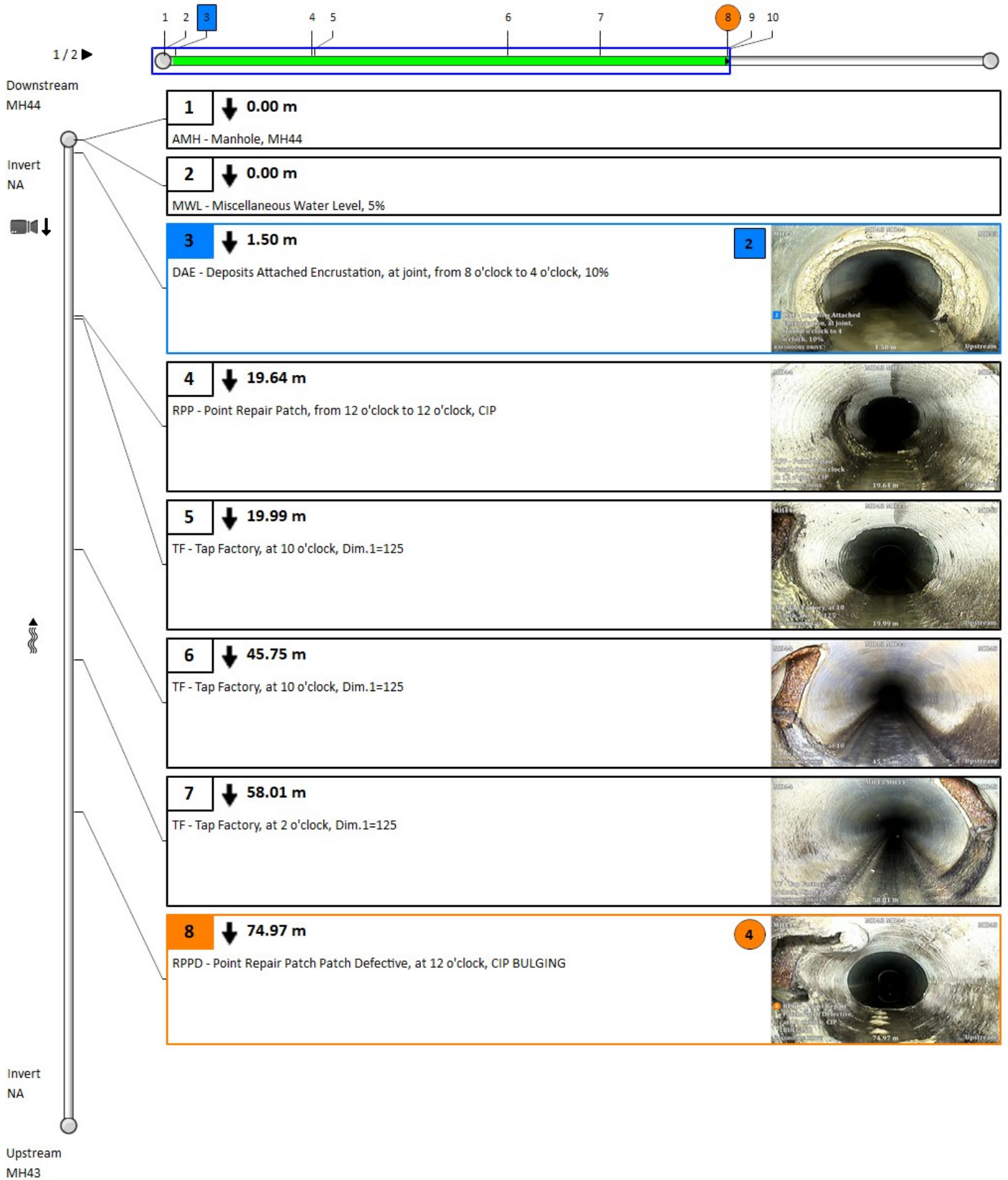
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 2    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 2100 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 4    | Score:        | 2    | Score:        | 6    | Risk:        |     |
| Index:        | 4    | Index:        | 2    | Index:        | 3    |              |     |

### Other information

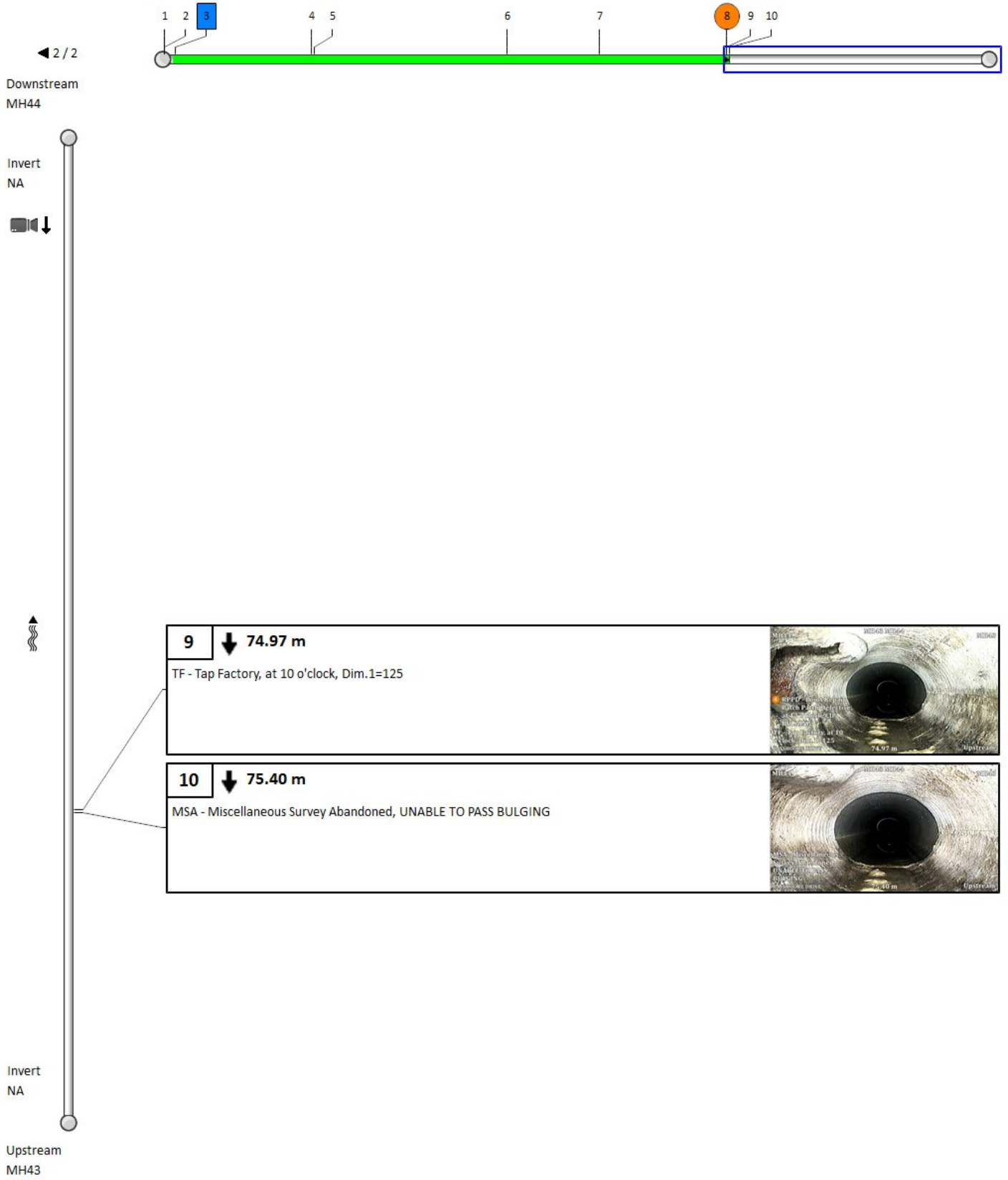
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH44 MH48  
 Direction of flow: MH44 --> MH48

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 102.55 |
| Height:           | 200                  | Total length:    | 102    |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 8:12 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

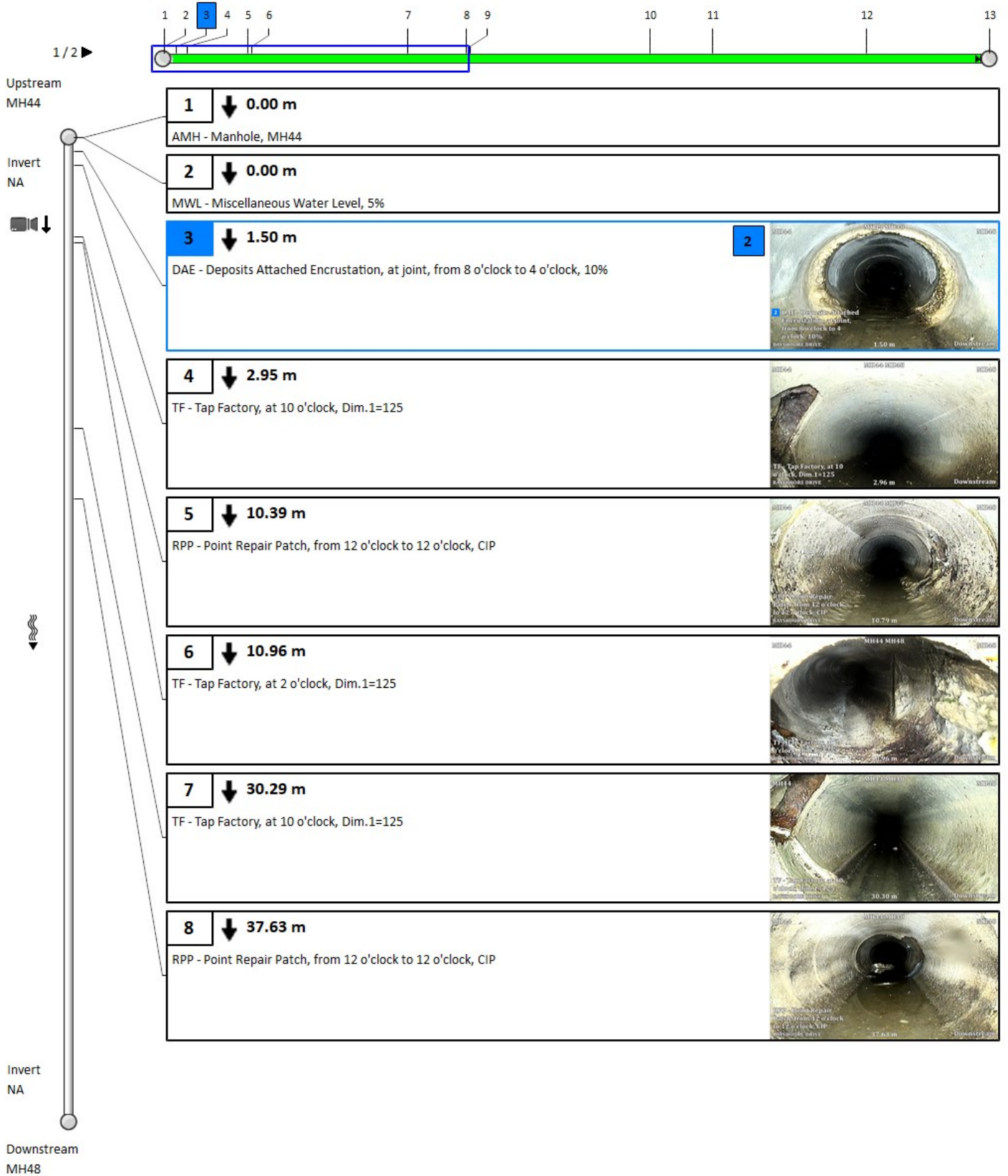
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

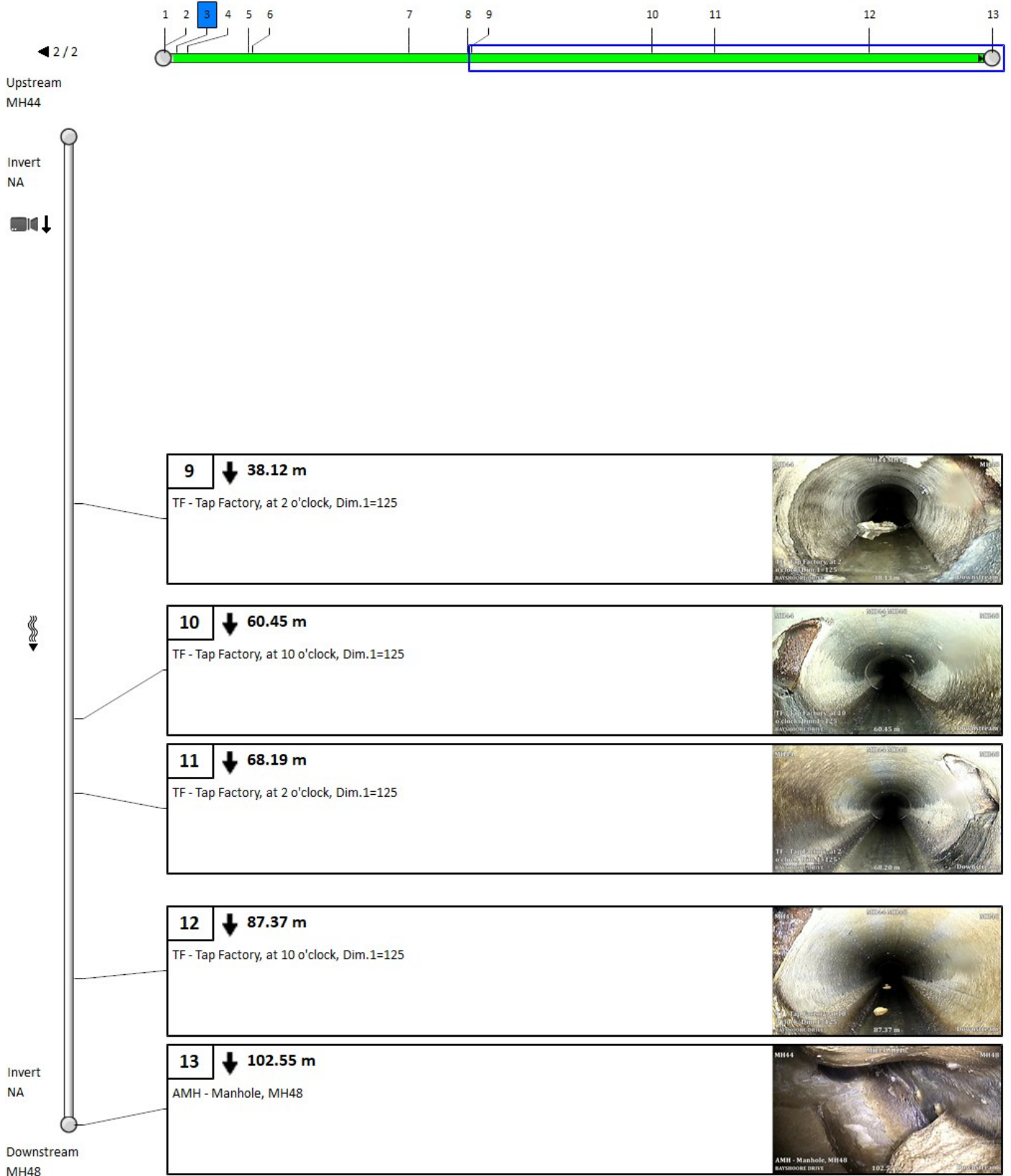
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH45 MH46  
 Direction of flow: MH45 --> MH46

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | PARK LANE        | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 101.88 |
| Height:           | 200                  | Total length:    | 110    |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 3:28 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

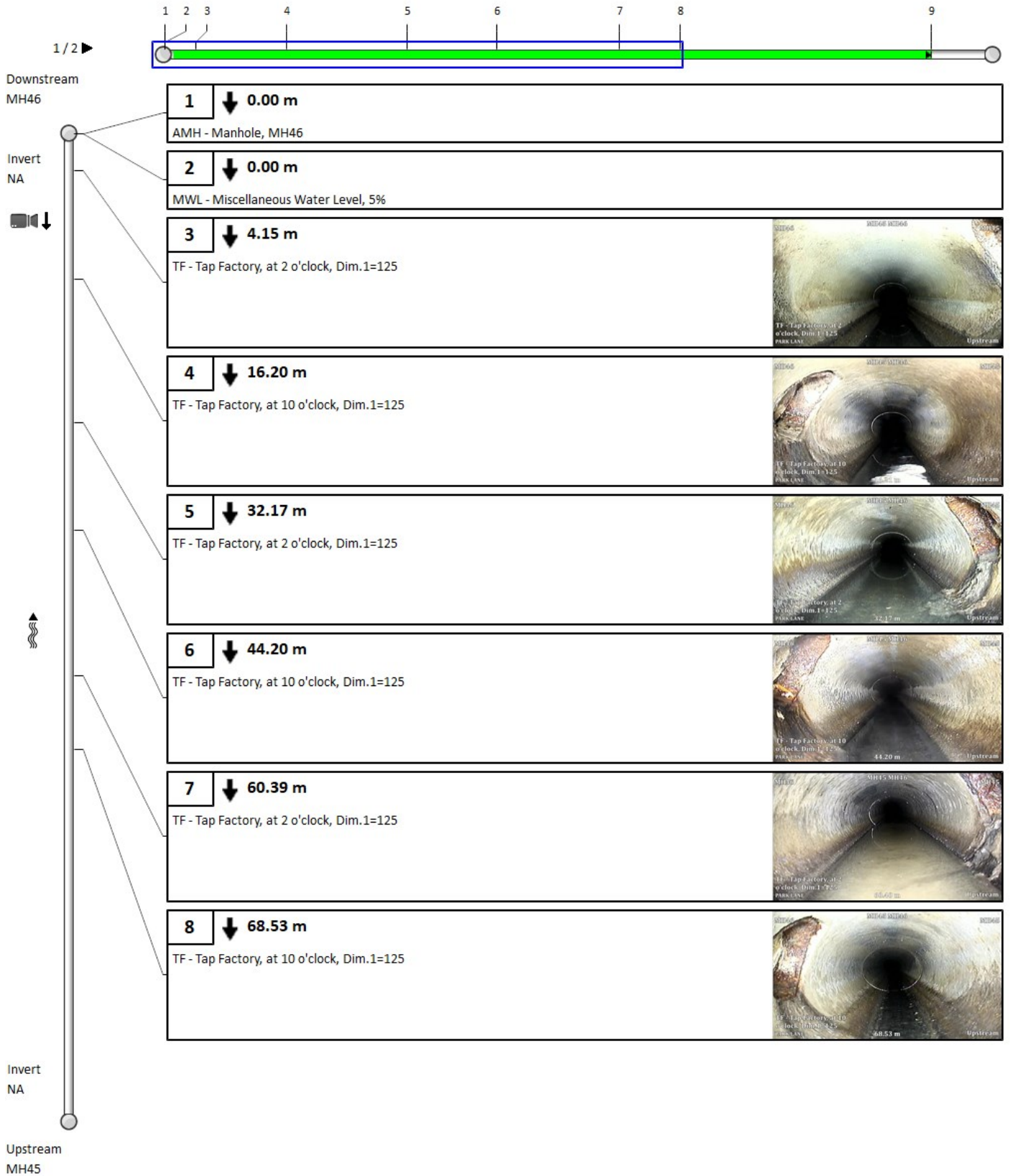
|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

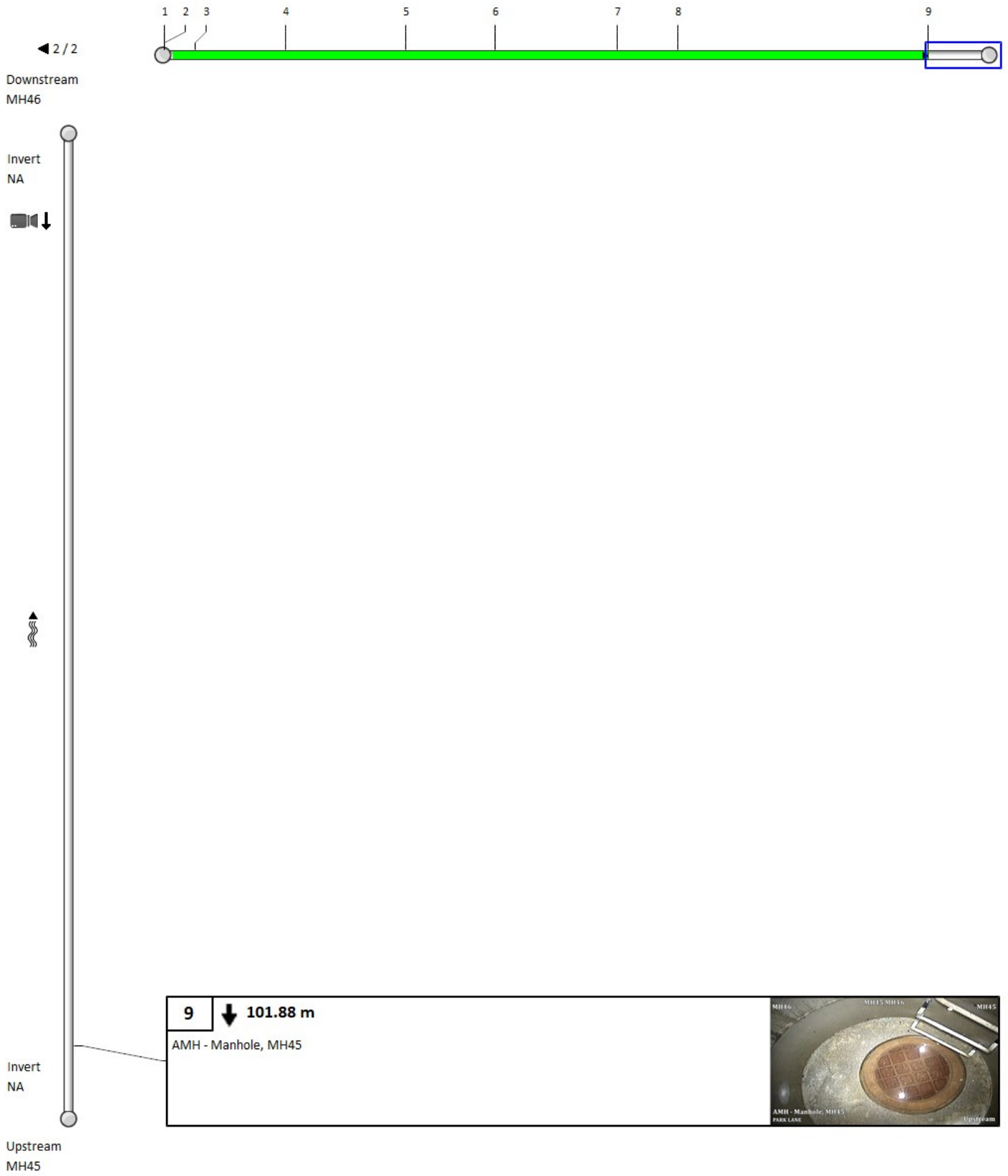


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH46 MH47  
 Direction of flow: MH46 --> MH47

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | PARK LANE        | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 98.6 |
| Height:           | 200                  | Total length:    | 82   |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 4:08 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

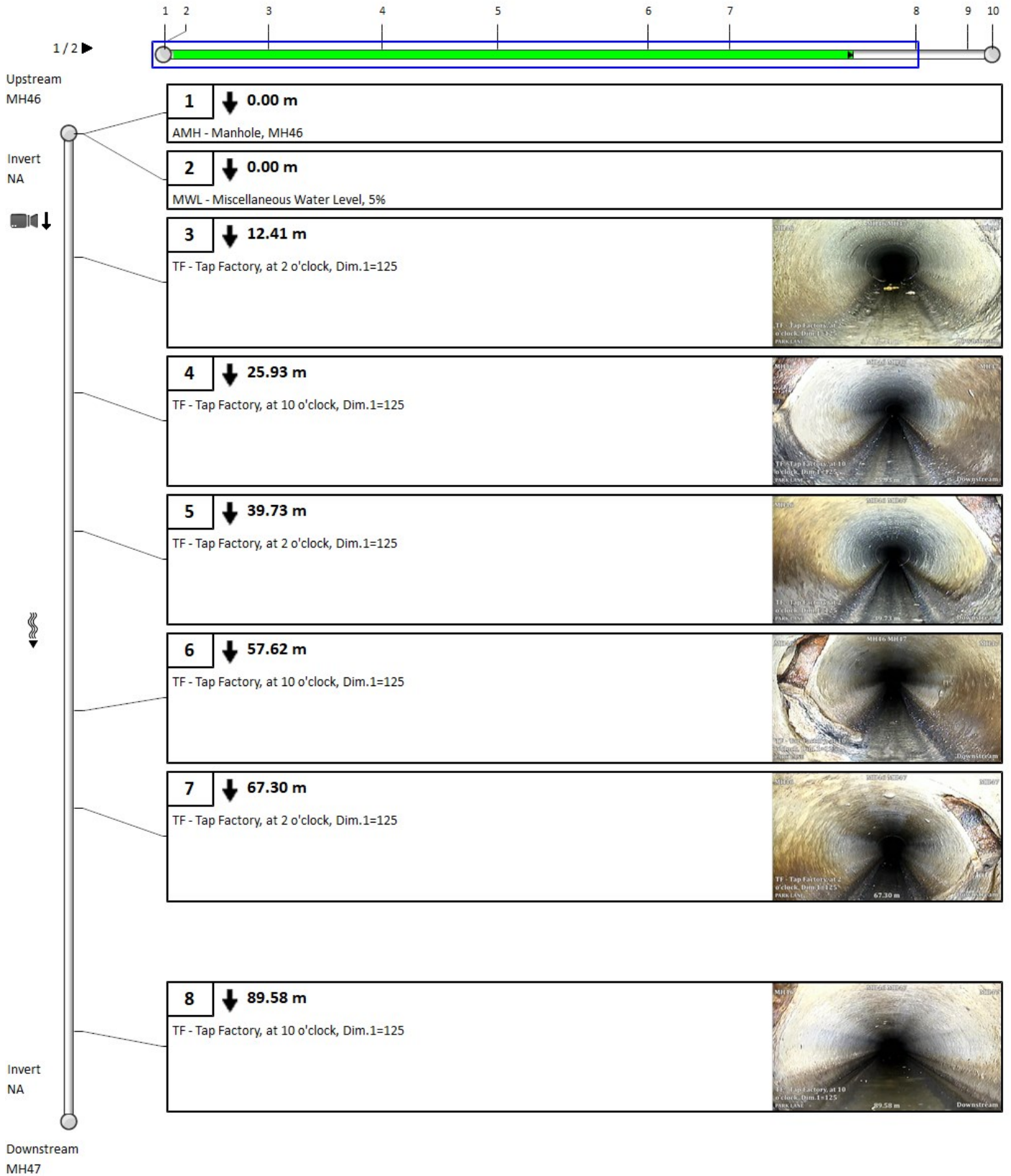
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

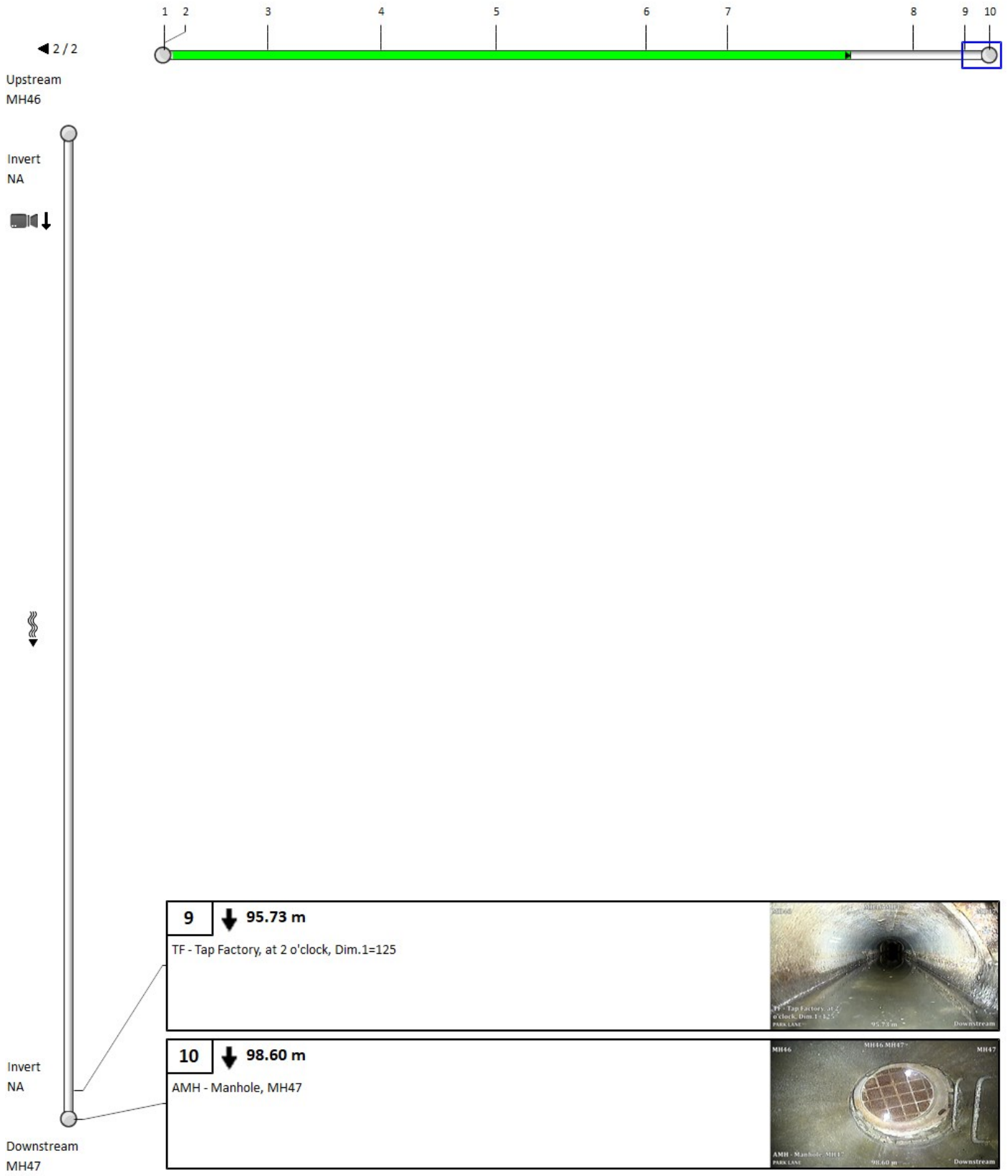
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH47 MH48  
 Direction of flow: MH47 --> MH48

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | PARK LANE        | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |     |
|-------------------|----------------------|------------------|-----|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 1.1 |
| Height:           | 200                  | Total length:    | 106 |
| Width:            |                      | Joint length:    |     |
| Shape:            | Circular             | Rim/Inv.:        |     |
| Material:         | Asbestos Cement      | Grade/Inv.:      |     |
| Lining:           |                      | Rim/Grade:       |     |
| Coating Method:   |                      | Rim/Inv.:        |     |
| Year Constructed: |                      | Grade/Inv.:      |     |
| Year renewed:     |                      | Rim/Grade:       |     |

### Additional details

|                      |                     |                         |                                 |
|----------------------|---------------------|-------------------------|---------------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296                 |
| Date:                | 04/05/2022 4:28 PM  | Reviewed By:            |                                 |
| Project:             |                     | Reviewer Certificate:   |                                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning                  |
| PO number:           |                     | Date cleaned:           |                                 |
| Work Order:          |                     | Media Label:            |                                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                          |
| Weather:             | Dry                 | Sheet Number:           |                                 |
| Flow control:        | Not Controlled      | Additional information: | MSA UNABLE TO PASS ENCURSTATION |
| Used Technology:     | CCTV                |                         |                                 |

### Structural rating

### O&M rating

### Overall rating

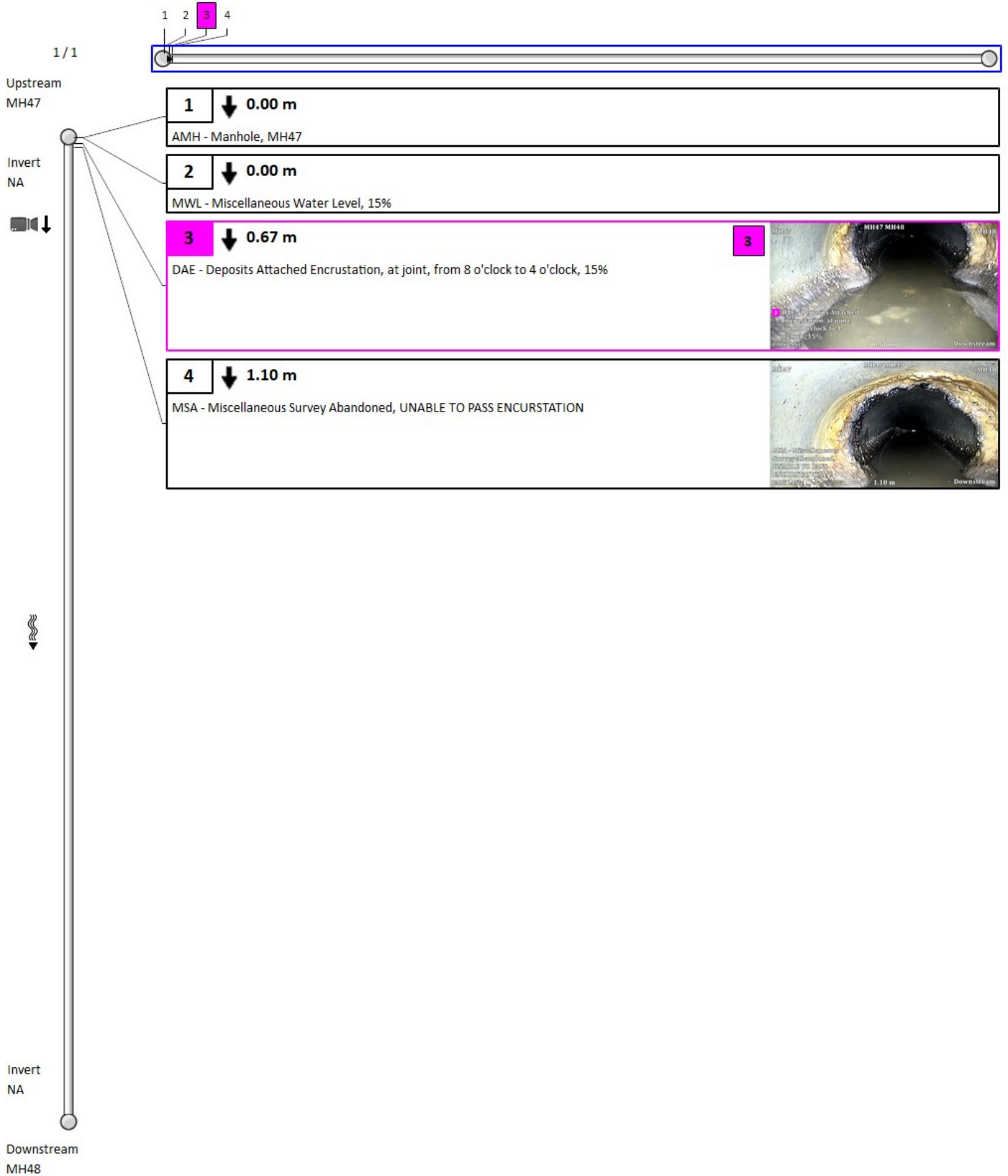
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3100 | Quick rating: | 3100 | Likelihood:  | 3.1 |
| Score:        | 0    | Score:        | 3    | Score:        | 3    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH47 MH48  
 Direction of flow: MH47 --> MH48

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | PARK LANE        | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 98.04 |
| Height:           | 200                  | Total length:    | 106   |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 04/05/2022 4:36 PM  | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | MSA REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

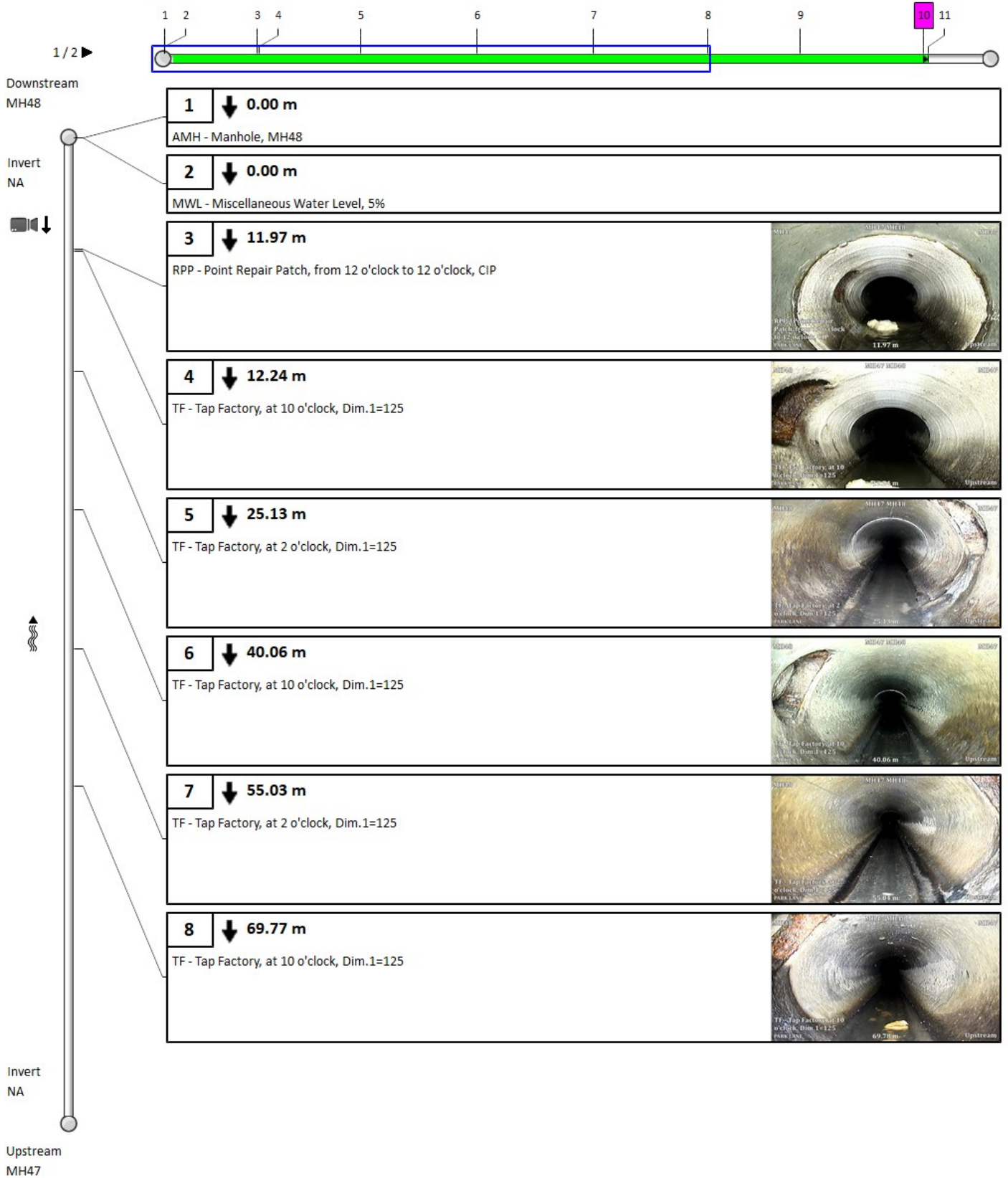
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3100 | Quick rating: | 3100 | Likelihood:  | 3.1 |
| Score:        | 0    | Score:        | 3    | Score:        | 3    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

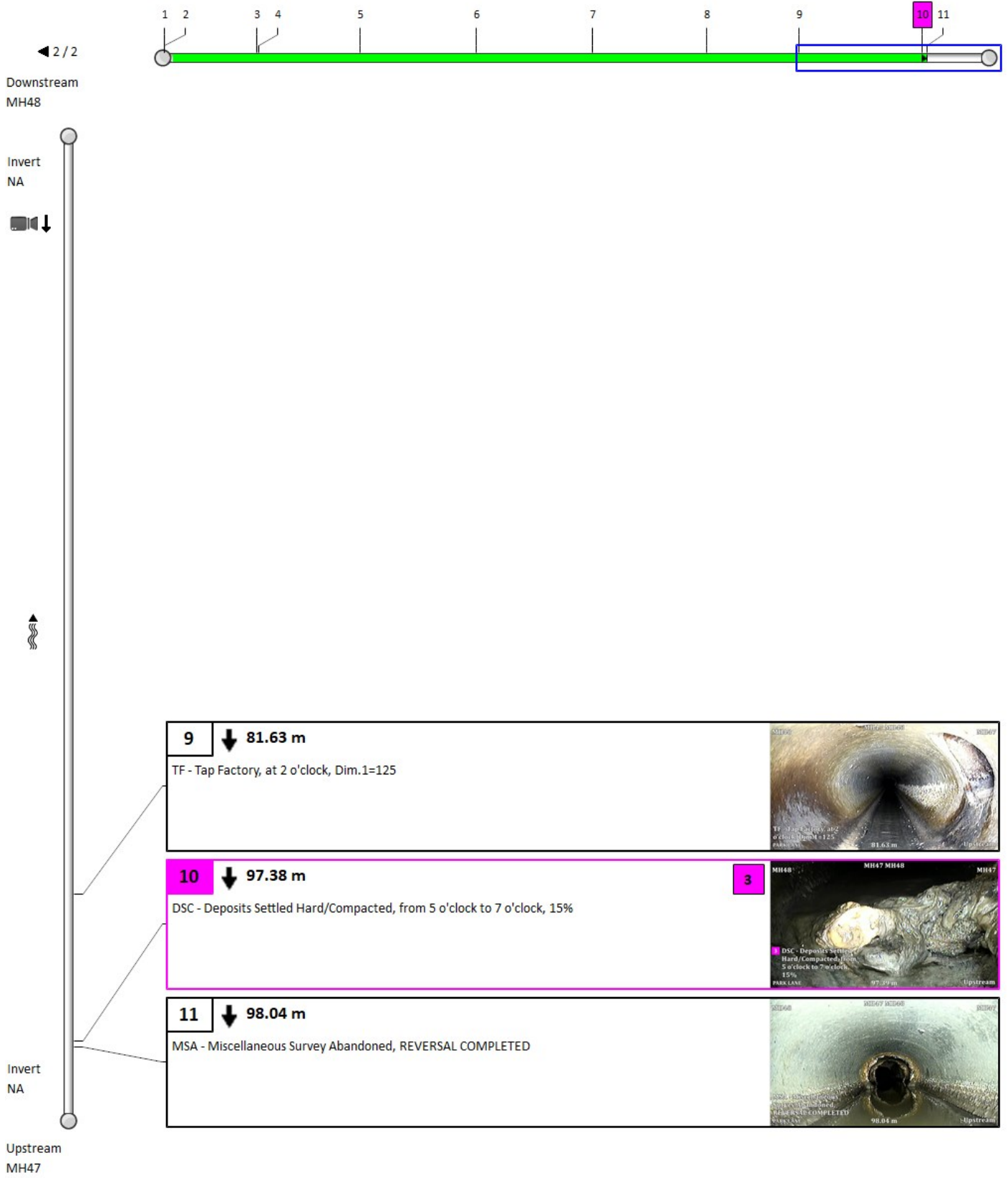
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH48 MH49  
 Direction of flow: MH48 --> MH49

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 104.99 |
| Height:           | 200                  | Total length:    | 97     |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 5:11 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

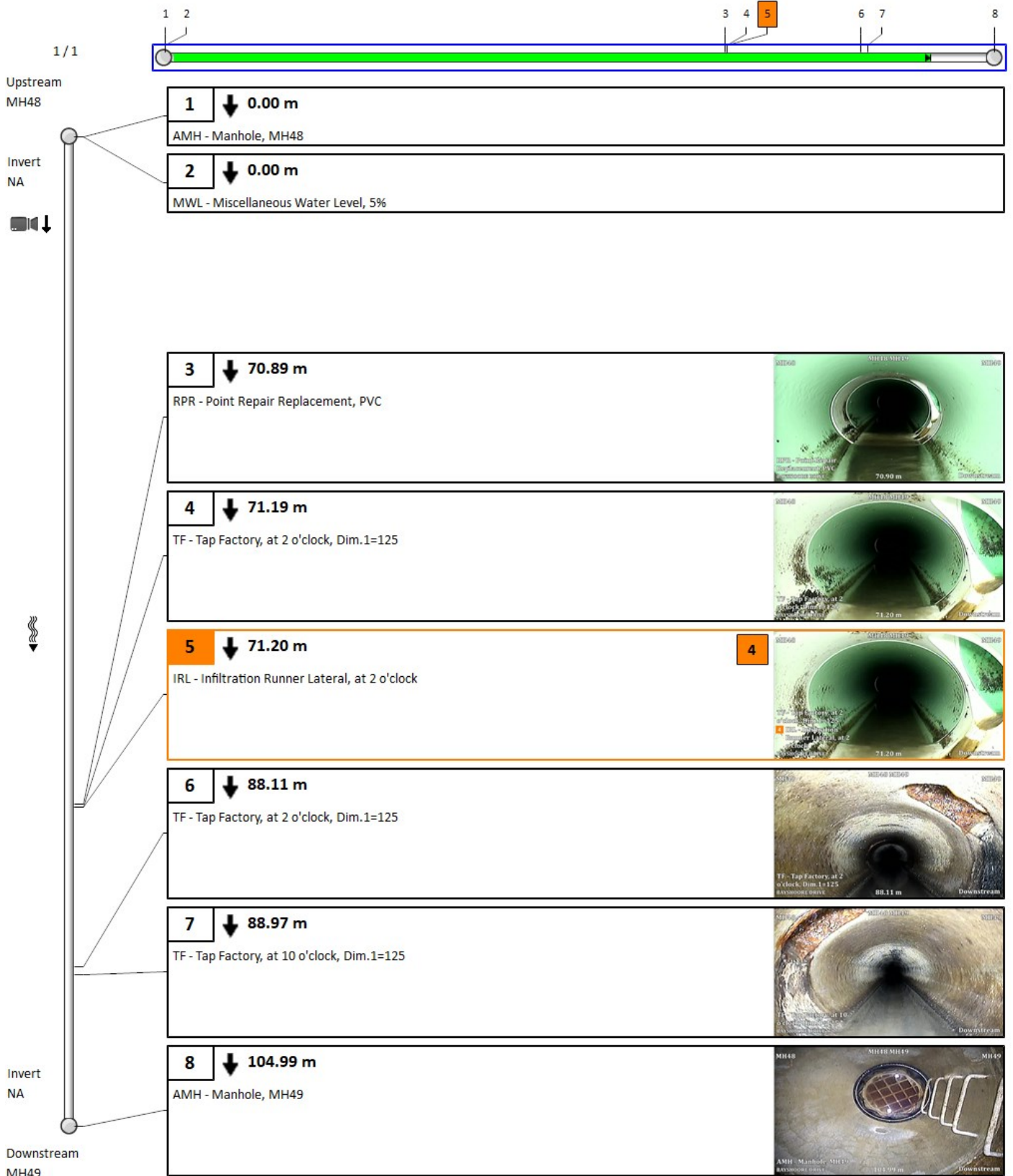
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH49 MH50  
 Direction of flow: MH49 --> MH50

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 105.3 |
| Height:           | 200                  | Total length:    | 98    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 04/05/2022 5:22 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

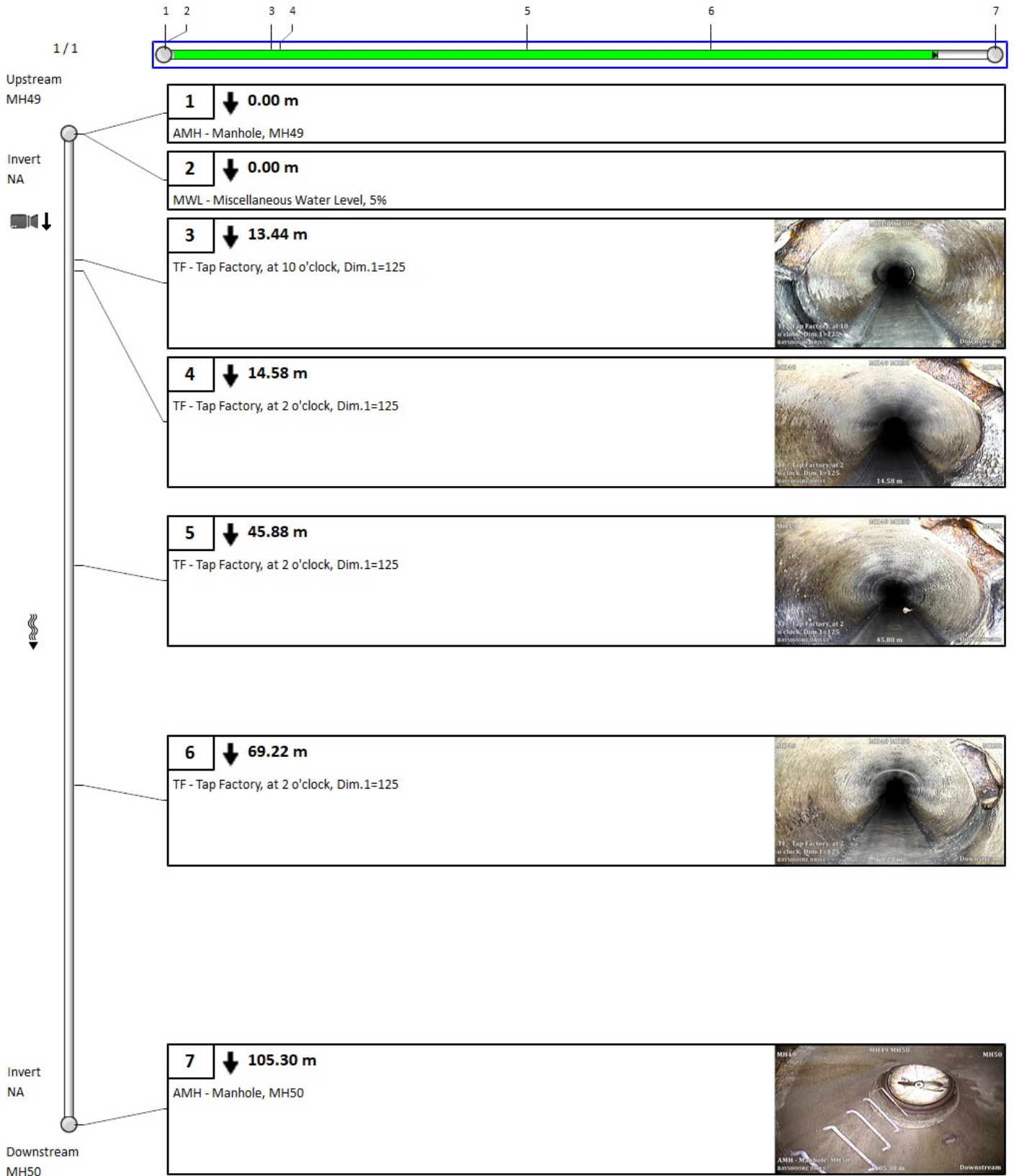
|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH50 MH51  
 Direction of flow: MH50 --> MH51

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 89.7 |
| Height:           | 200                  | Total length:    | 89.7 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 2:03 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

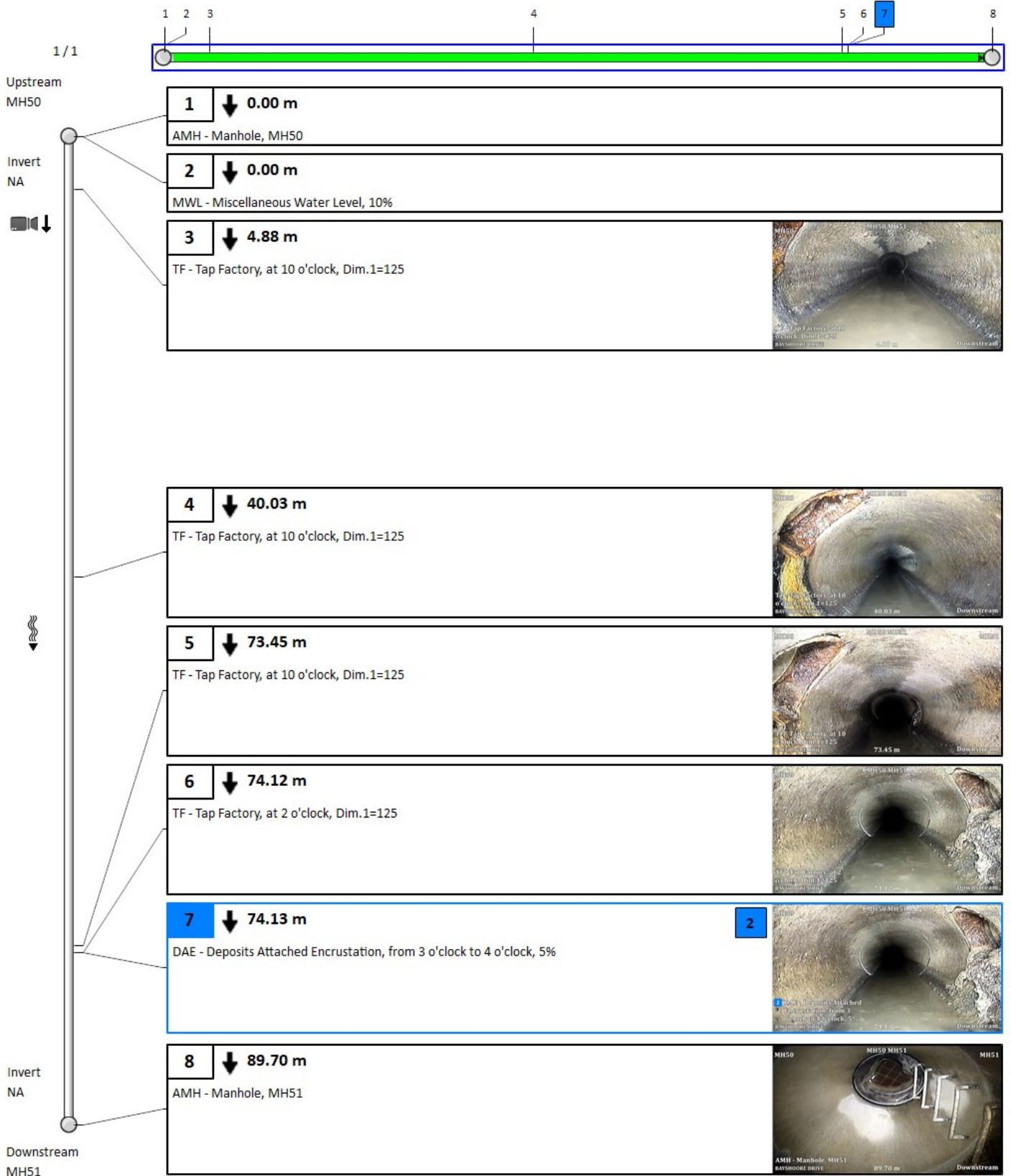
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH51 MH52  
 Direction of flow: MH51 --> MH52

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 96.36 |
| Height:           | 200                  | Total length:    | 96.36 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 1:44 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

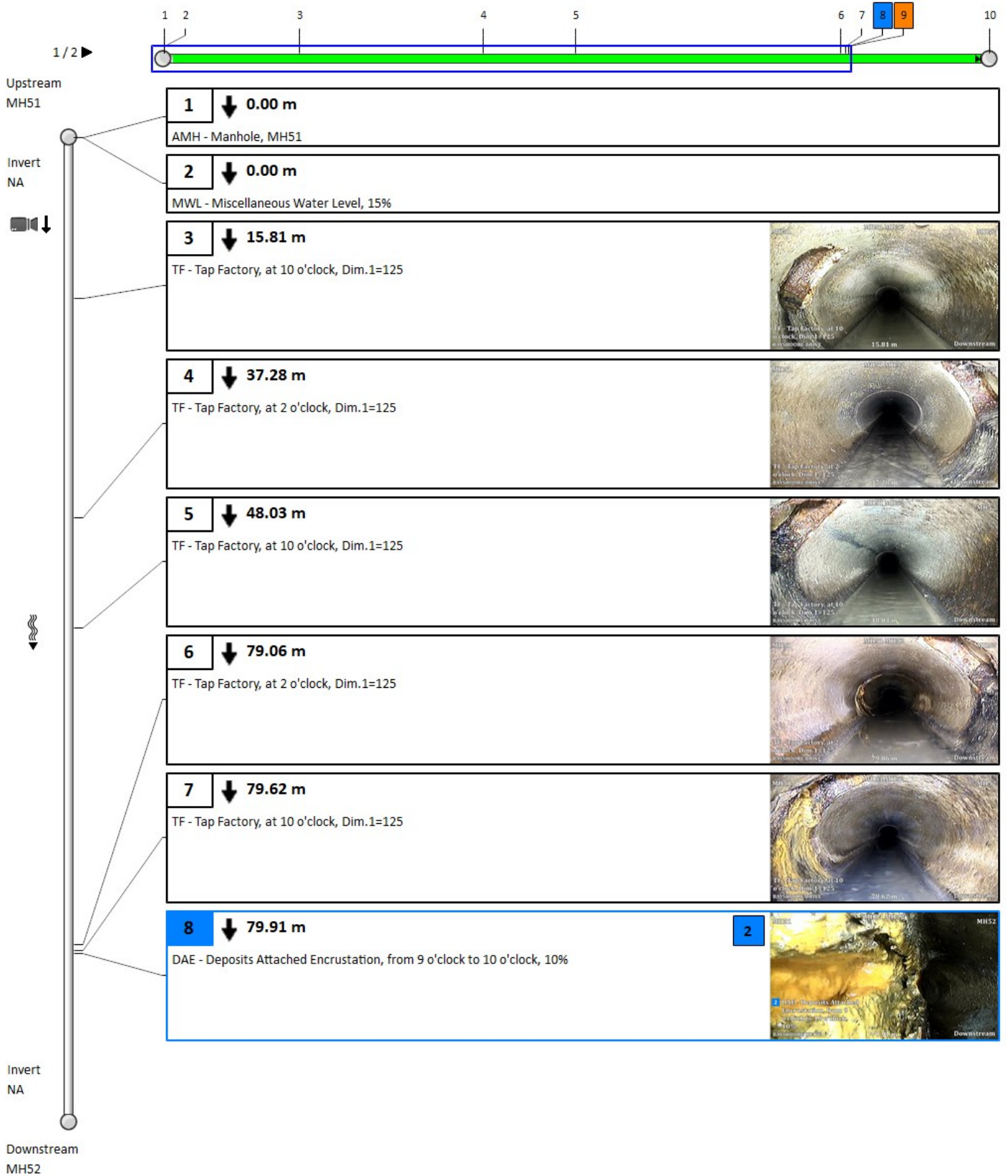
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4121 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

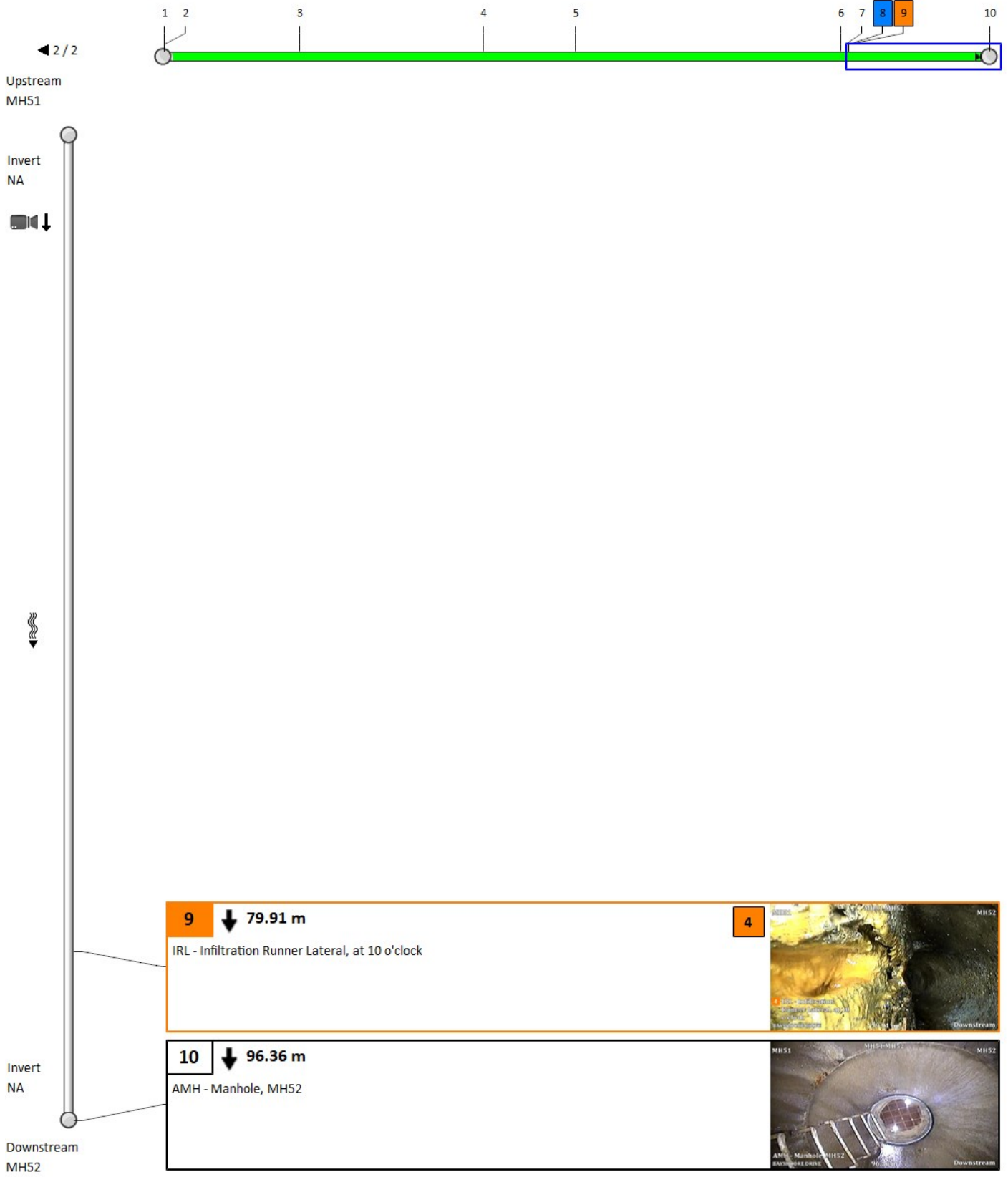
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH52 MH53  
 Direction of flow: MH52 --> MH53

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 81.85 |
| Height:           | 200                  | Total length:    | 81.85 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 12:38 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

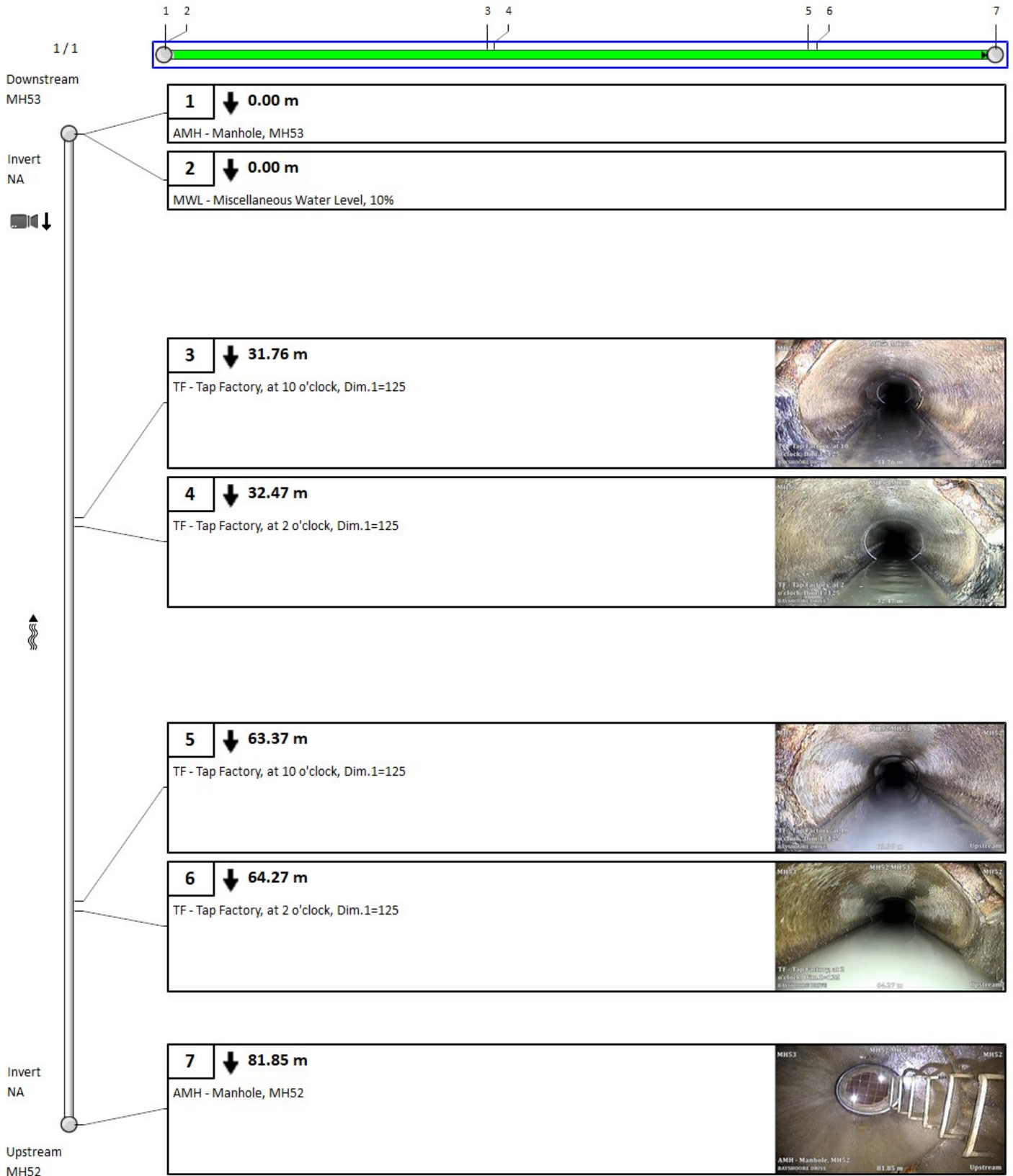
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH53 MH66  
 Direction of flow: MH53 --> MH66

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 94.35 |
| Height:           | 200                  | Total length:    | 94.35 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 12:25 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

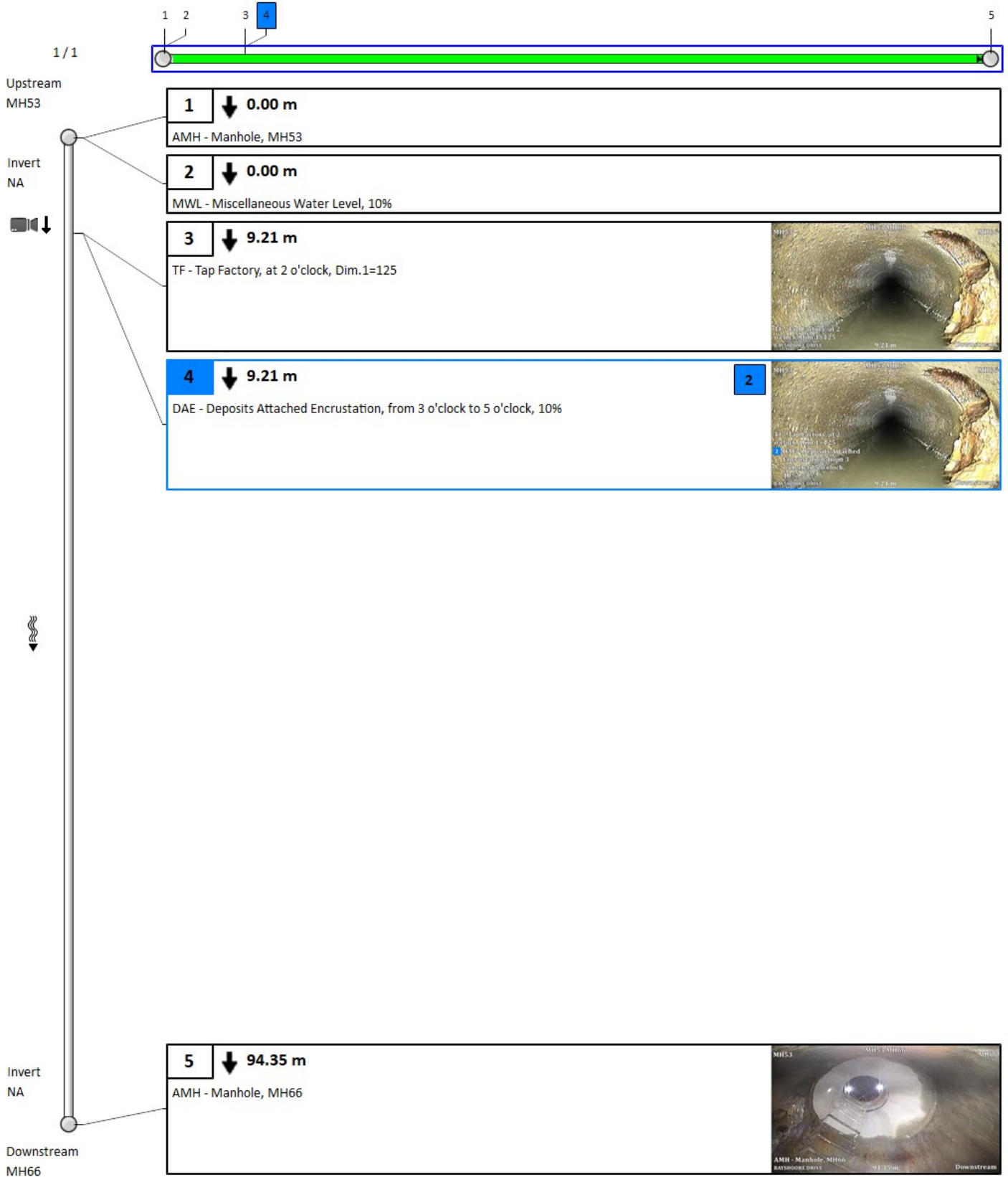
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH54 MH55  
 Direction of flow: MH54 --> MH55

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 75.02 |
| Height:           | 200                  | Total length:    | 75.02 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 12:15 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

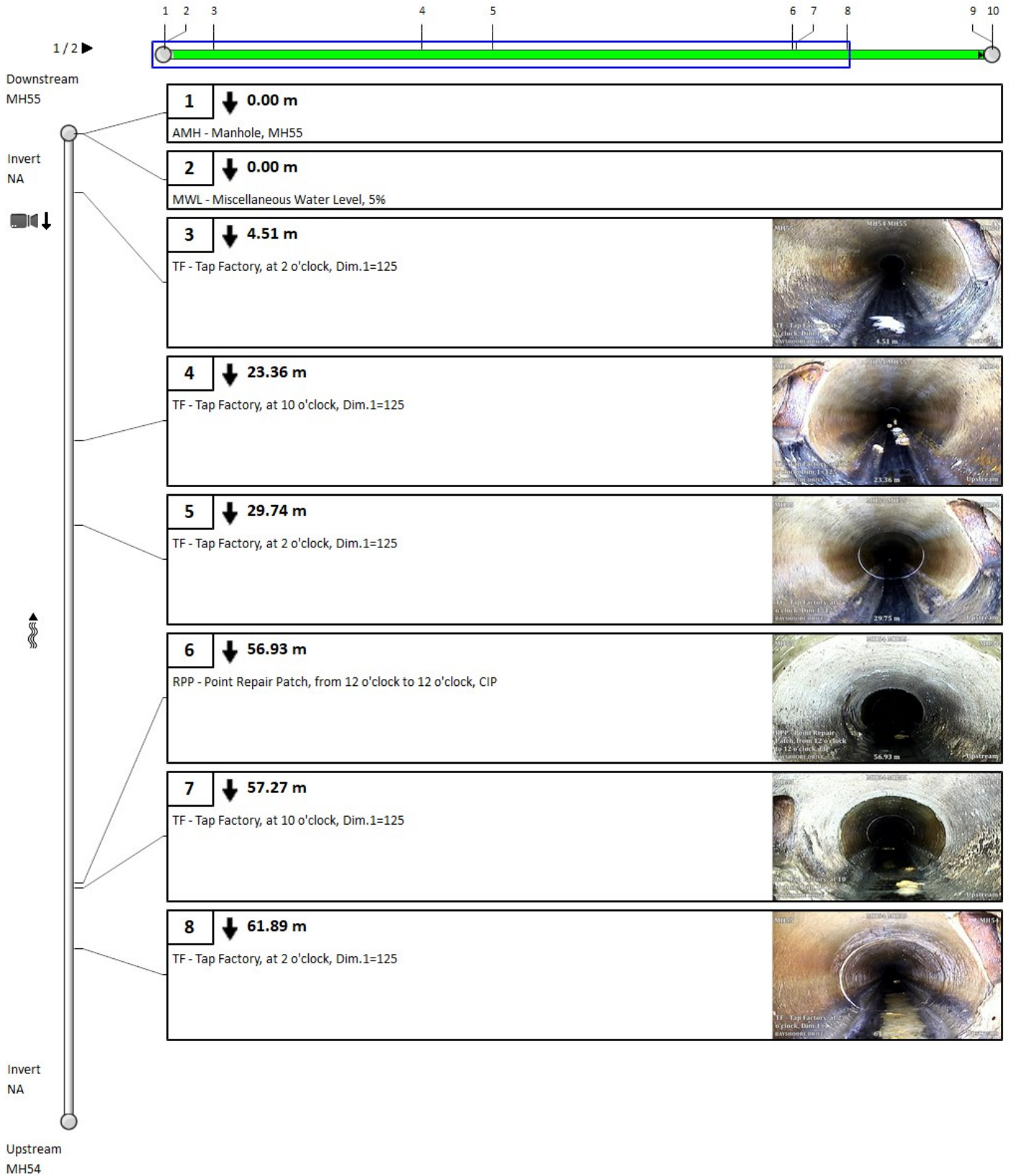
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

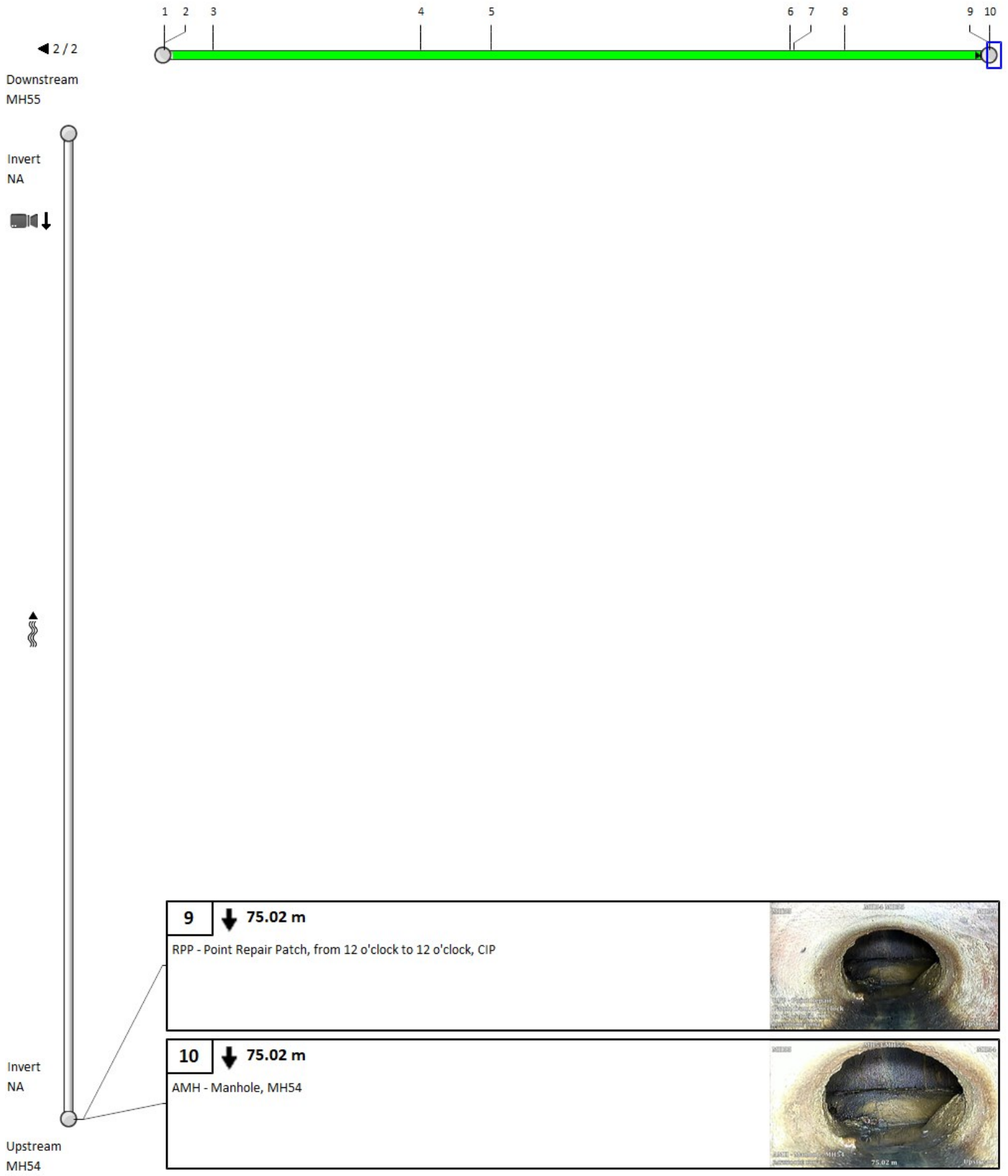
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH55 MH56  
 Direction of flow: MH55 --> MH56

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 76.59 |
| Height:           | 200                  | Total length:    | 76.59 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 11:31 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

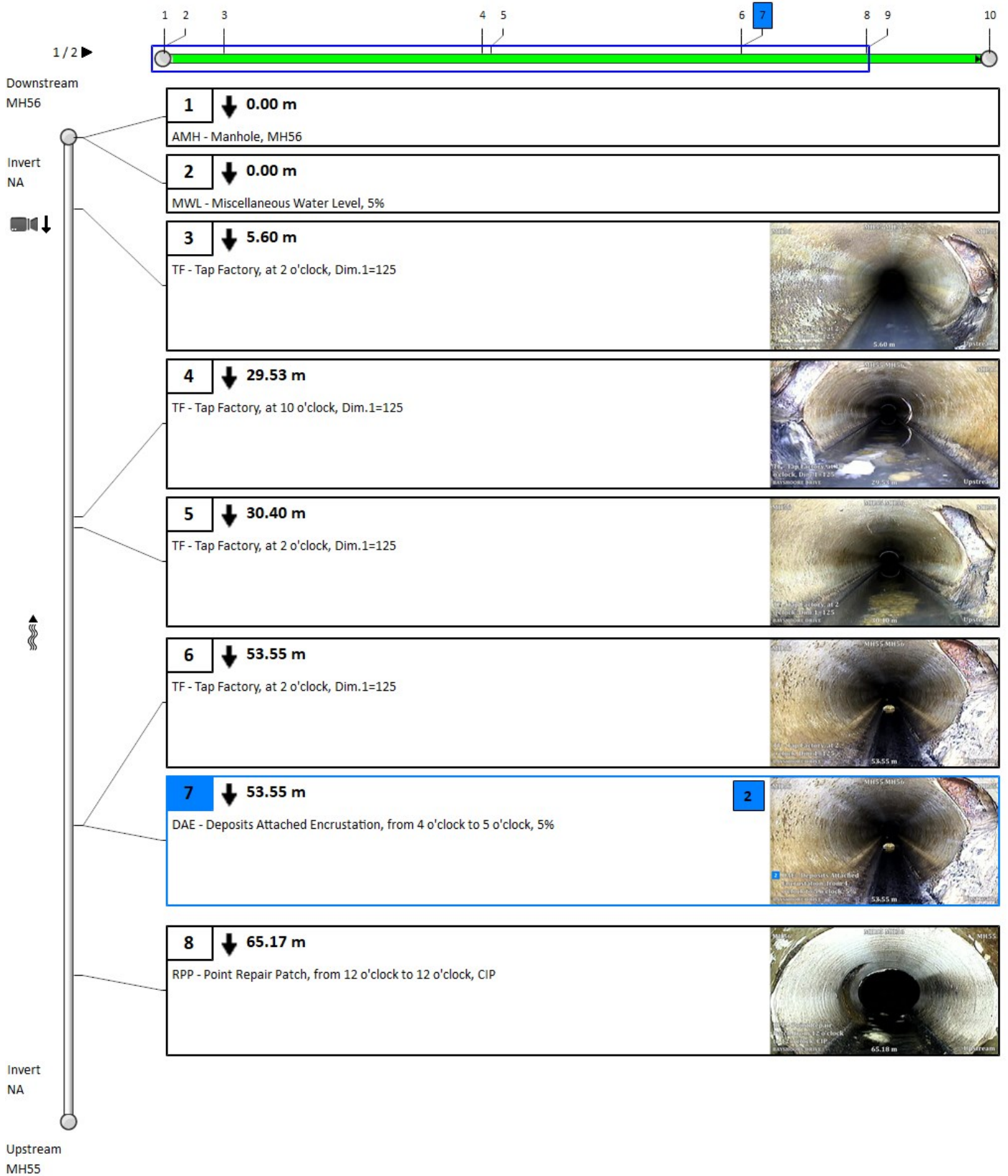
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

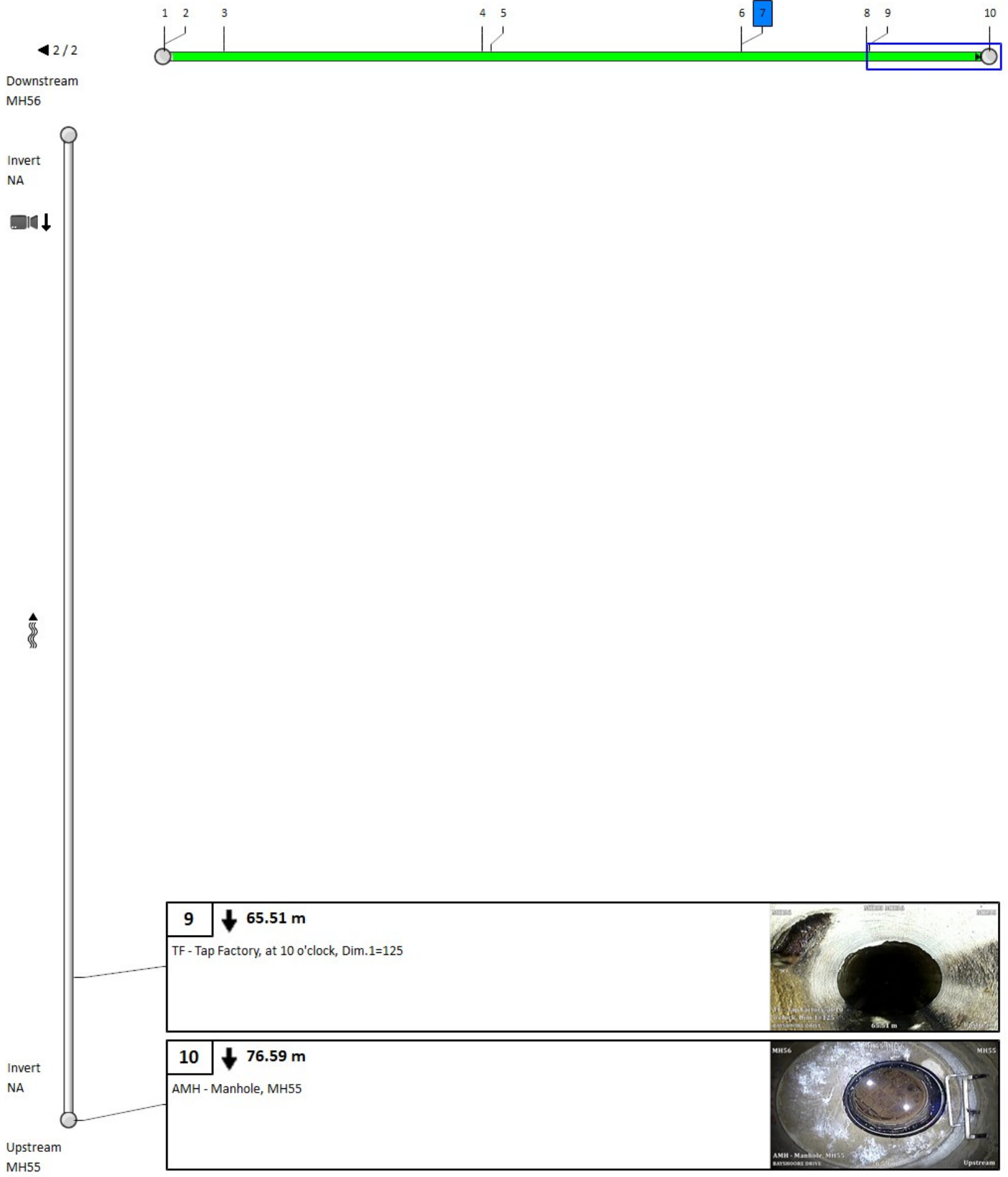
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

|                           |               |
|---------------------------|---------------|
| <b>Pipe:</b>              | MH56 MH59     |
| <b>Direction of flow:</b> | MH56 --> MH59 |

### Pipe location

|                          |                  |                           |                       |
|--------------------------|------------------|---------------------------|-----------------------|
| <b>Road:</b>             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>           | <u>DOWNSTREAM</u>     |
| <b>Crossroad:</b>        |                  | <b>Easting (X):</b>       | <b>Easting (X):</b>   |
| <b>Drainage Area:</b>    |                  | <b>Northing (Y):</b>      | <b>Northing (Y):</b>  |
| <b>City:</b>             | BAYSHORE VILLAGE | <b>Elevation (Z):</b>     | <b>Elevation (Z):</b> |
| <b>Location:</b>         |                  | <b>GPS Accuracy:</b>      |                       |
| <b>Location details:</b> |                  | <b>Corrdinate System:</b> |                       |
| <b>Owner:</b>            | BAYSHORE VILLAGE | <b>Vertical Datum:</b>    |                       |
| <b>Road segment:</b>     |                  |                           |                       |

### Pipe characteristics

|                          |                      |                         |       |
|--------------------------|----------------------|-------------------------|-------|
| <b>Pipe Use:</b>         | Sanitary Sewage Pipe | <b>Surveyed Length:</b> | 79.97 |
| <b>Height:</b>           | 200                  | <b>Total length:</b>    | 79.97 |
| <b>Width:</b>            |                      | <b>Joint length:</b>    |       |
| <b>Shape:</b>            | Circular             | <b>Rim/Inv.:</b>        |       |
| <b>Material:</b>         | Asbestos Cement      | <b>Grade/Inv.:</b>      |       |
| <b>Lining:</b>           |                      | <b>Rim/Grade:</b>       |       |
| <b>Coating Method:</b>   |                      | <b>Rim/Inv.:</b>        |       |
| <b>Year Constructed:</b> |                      | <b>Grade/Inv.:</b>      |       |
| <b>Year renewed:</b>     |                      | <b>Rim/Grade:</b>       |       |

### Additional details

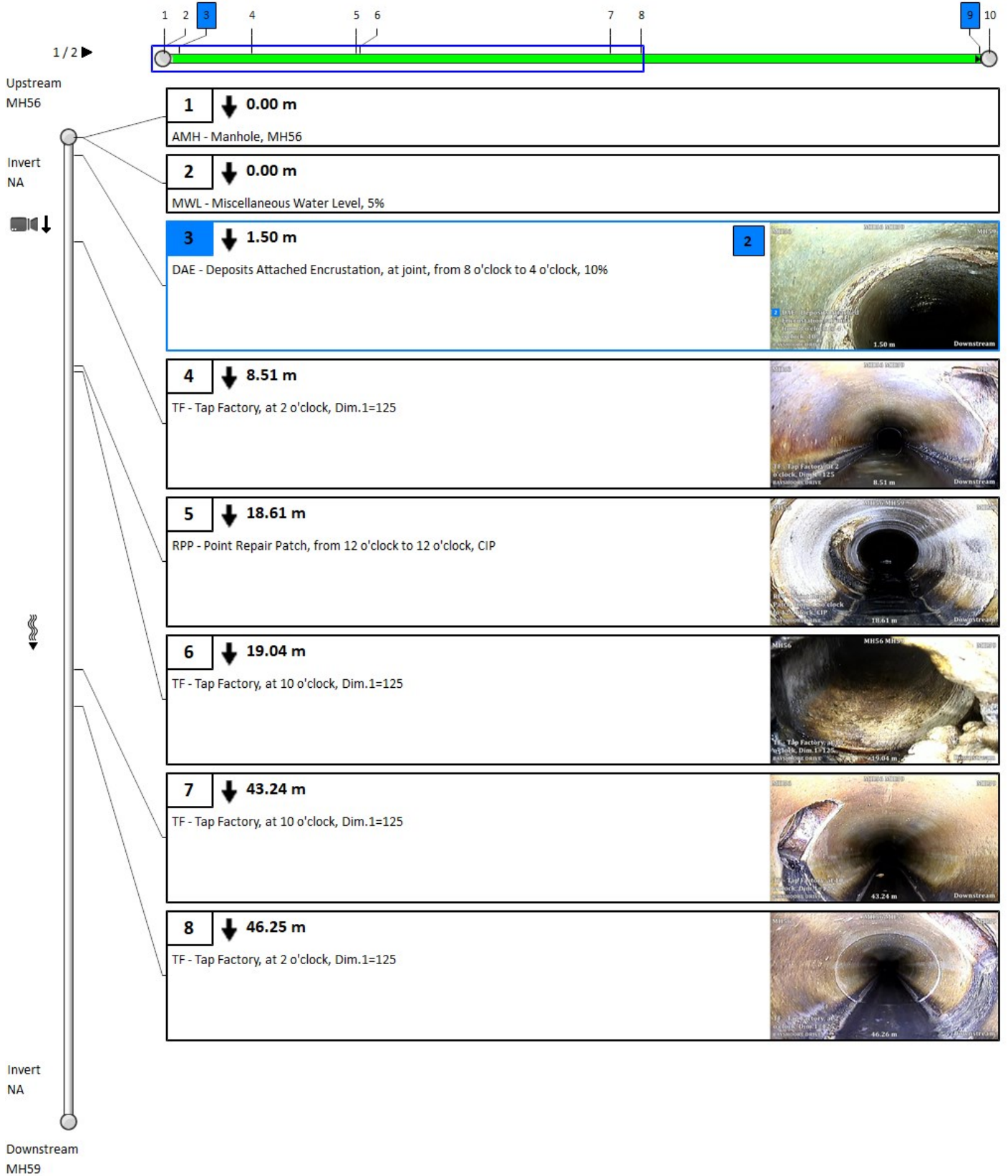
|                             |                     |                                |                 |
|-----------------------------|---------------------|--------------------------------|-----------------|
| <b>Inspection standard:</b> | PACP 7.0            | <b>Surveyed by:</b>            | AHMAD YASEEN    |
| <b>Inspection Status:</b>   | Complete Inspection | <b>Certificate Number:</b>     | U-0317-07006296 |
| <b>Date:</b>                | 05/05/2022 11:15 AM | <b>Reviewed By:</b>            |                 |
| <b>Project:</b>             |                     | <b>Reviewer Certificate:</b>   |                 |
| <b>Customer:</b>            | OCWA                | <b>Pre-Cleaning:</b>           | Light Cleaning  |
| <b>PO number:</b>           |                     | <b>Date cleaned:</b>           |                 |
| <b>Work Order:</b>          |                     | <b>Media Label:</b>            |                 |
| <b>Purpose:</b>             | Maintenance Related | <b>Unit of measurement:</b>    | Metric          |
| <b>Weather:</b>             | Dry                 | <b>Sheet Number:</b>           |                 |
| <b>Flow control:</b>        | Not Controlled      | <b>Additional information:</b> |                 |
| <b>Used Technology:</b>     | CCTV                |                                |                 |

| Structural rating    |      | O&M rating           |      | Overall rating       |      | Failure             |     |
|----------------------|------|----------------------|------|----------------------|------|---------------------|-----|
| <b>Peak:</b>         | 0    | <b>Peak:</b>         | 2    | <b>Peak:</b>         | 2    | <b>Consequence:</b> |     |
| <b>Quick rating:</b> | 0000 | <b>Quick rating:</b> | 2200 | <b>Quick rating:</b> | 2200 | <b>Likelihood:</b>  | 2.2 |
| <b>Score:</b>        | 0    | <b>Score:</b>        | 4    | <b>Score:</b>        | 4    | <b>Risk:</b>        |     |
| <b>Index:</b>        | 0    | <b>Index:</b>        | 2    | <b>Index:</b>        | 2    |                     |     |

### Other information

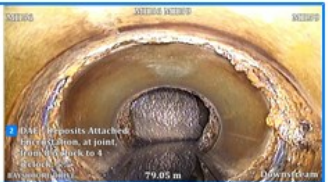
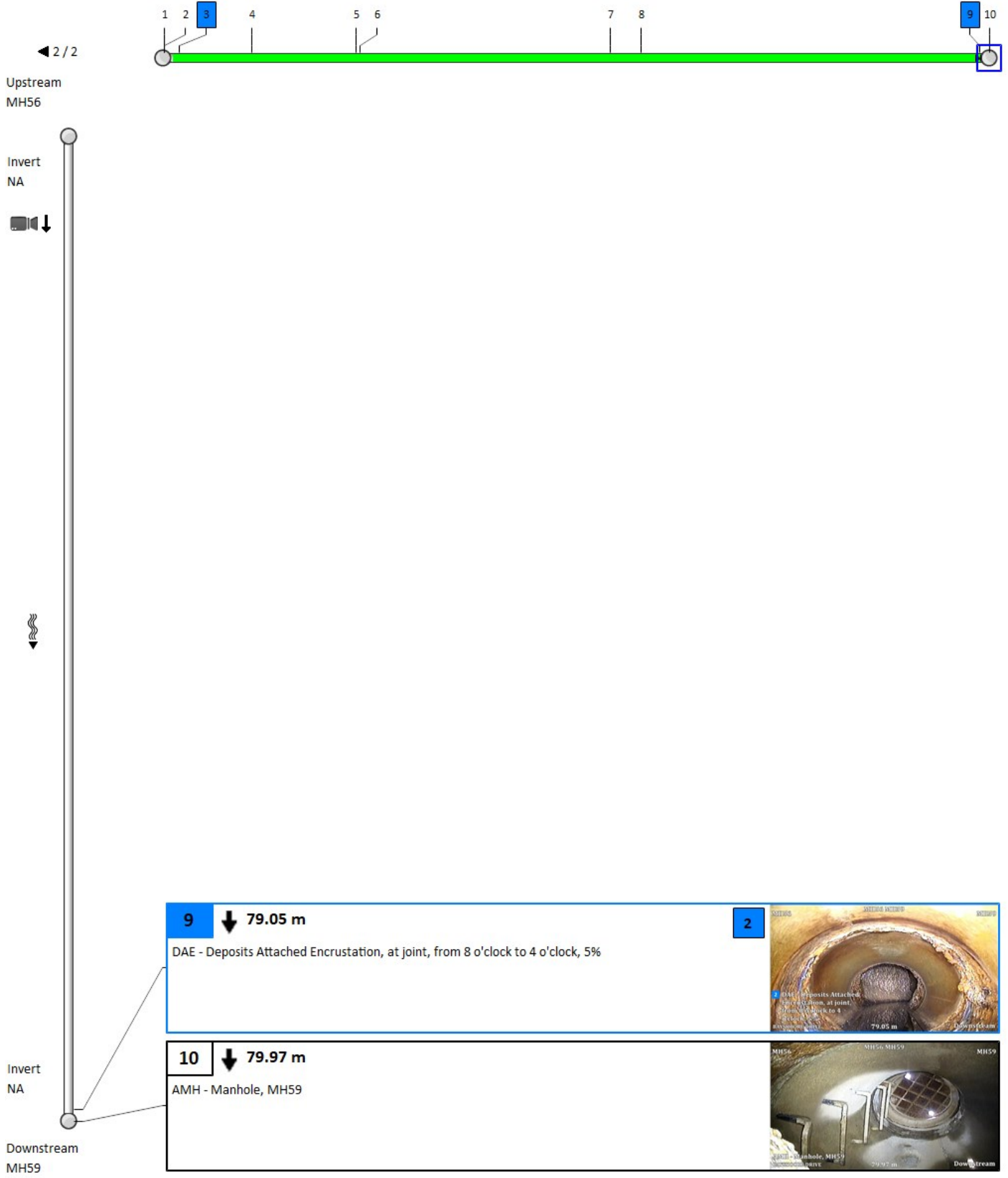
|                       |            |                        |  |
|-----------------------|------------|------------------------|--|
| <b>Information 1:</b> | WESSUC INC | <b>Information 6:</b>  |  |
| <b>Information 2:</b> |            | <b>Information 7:</b>  |  |
| <b>Information 3:</b> |            | <b>Information 8:</b>  |  |
| <b>Information 4:</b> |            | <b>Information 9:</b>  |  |
| <b>Information 5:</b> |            | <b>Information 10:</b> |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH57 MH58  
 Direction of flow: MH57 --> MH58

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 23.41 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                                       |
|----------------------|---------------------|-------------------------|---------------------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN                          |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296                       |
| Date:                | 05/05/2022 9:32 AM  | Reviewed By:            |                                       |
| Project:             |                     | Reviewer Certificate:   |                                       |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning                        |
| PO number:           |                     | Date cleaned:           |                                       |
| Work Order:          |                     | Media Label:            |                                       |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                                |
| Weather:             | Dry                 | Sheet Number:           |                                       |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS POINT REPAIR DEFECTIVE |
| Used Technology:     | CCTV                |                         |                                       |

### Structural rating

### O&M rating

### Overall rating

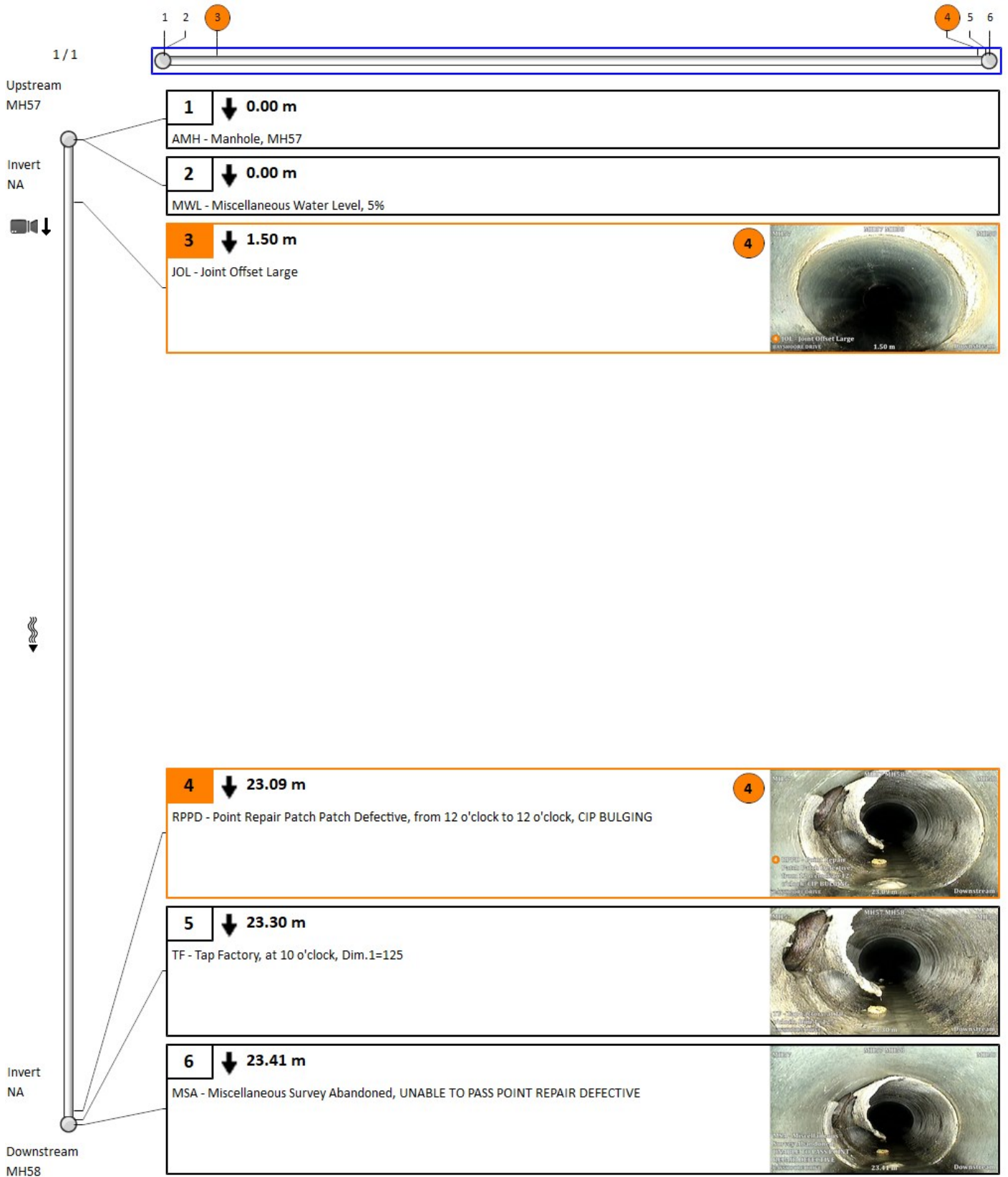
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 0    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4200 | Quick rating: | 0000 | Quick rating: | 4200 | Likelihood:  | 4.2 |
| Score:        | 8    | Score:        | 0    | Score:        | 8    | Risk:        |     |
| Index:        | 4    | Index:        | 0    | Index:        | 4    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH57 MH58  
 Direction of flow: MH57 --> MH58

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 77.28 |
| Height:           | 200                  | Total length:    | 109   |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 05/05/2022 9:46 AM  | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

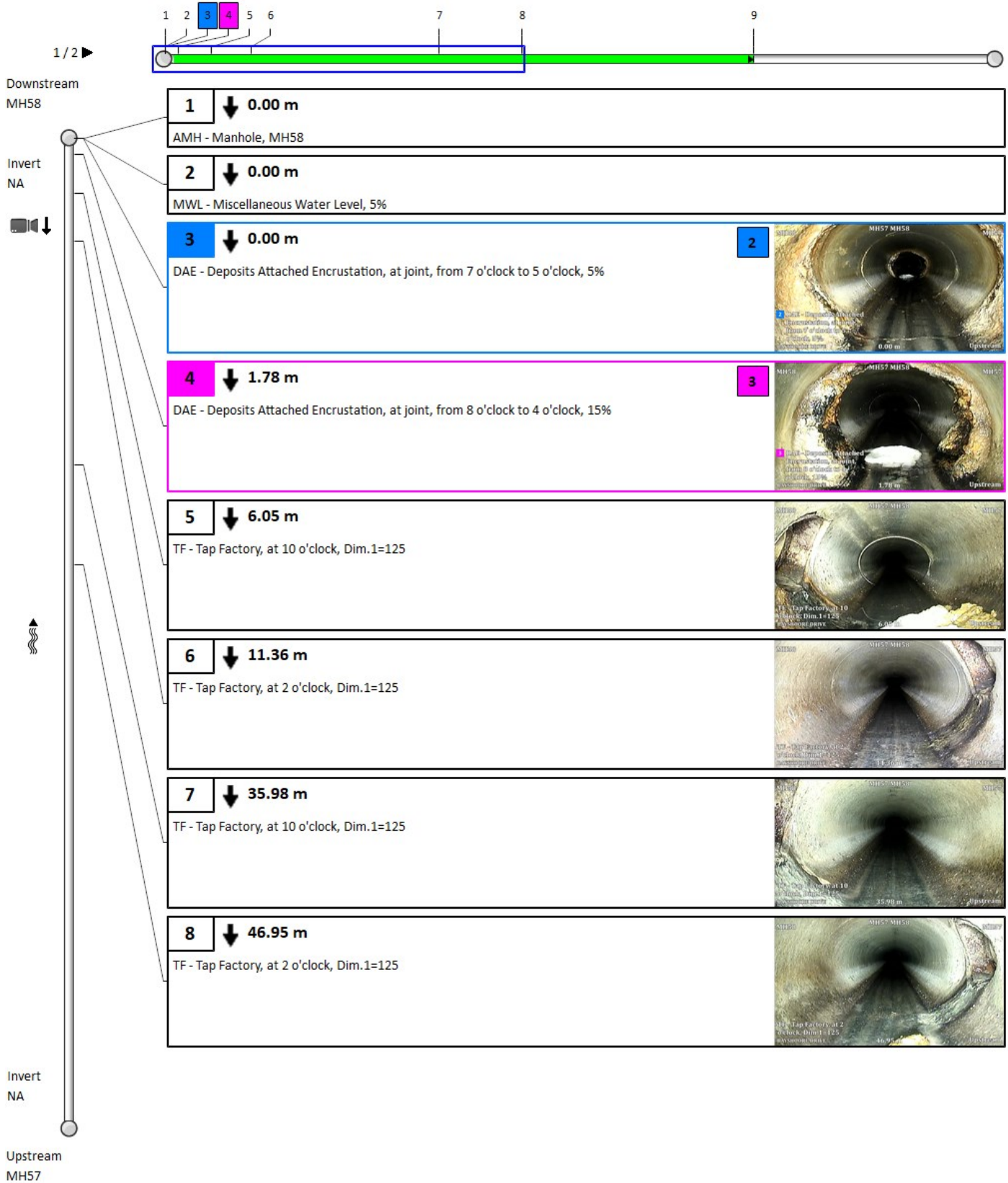
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3121 | Quick rating: | 3121 | Likelihood:  | 3.1 |
| Score:        | 0    | Score:        | 5    | Score:        | 5    | Risk:        |     |
| Index:        | 0    | Index:        | 2.5  | Index:        | 2.5  |              |     |

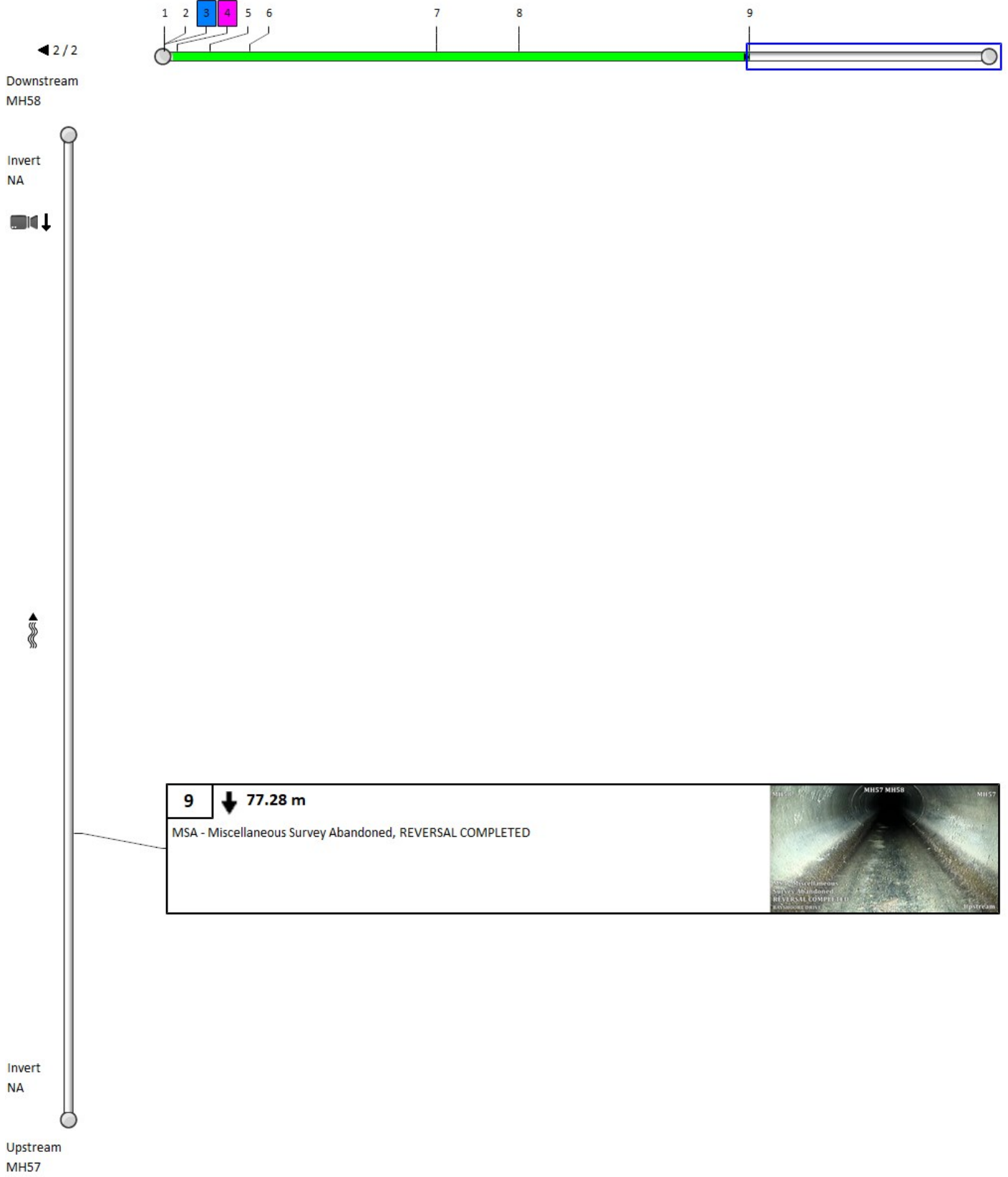
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH58 MH59  
 Direction of flow: MH58 --> MH59

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 104.87 |
| Height:           | 200                  | Total length:    | 104.87 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 05/05/2022 10:00 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

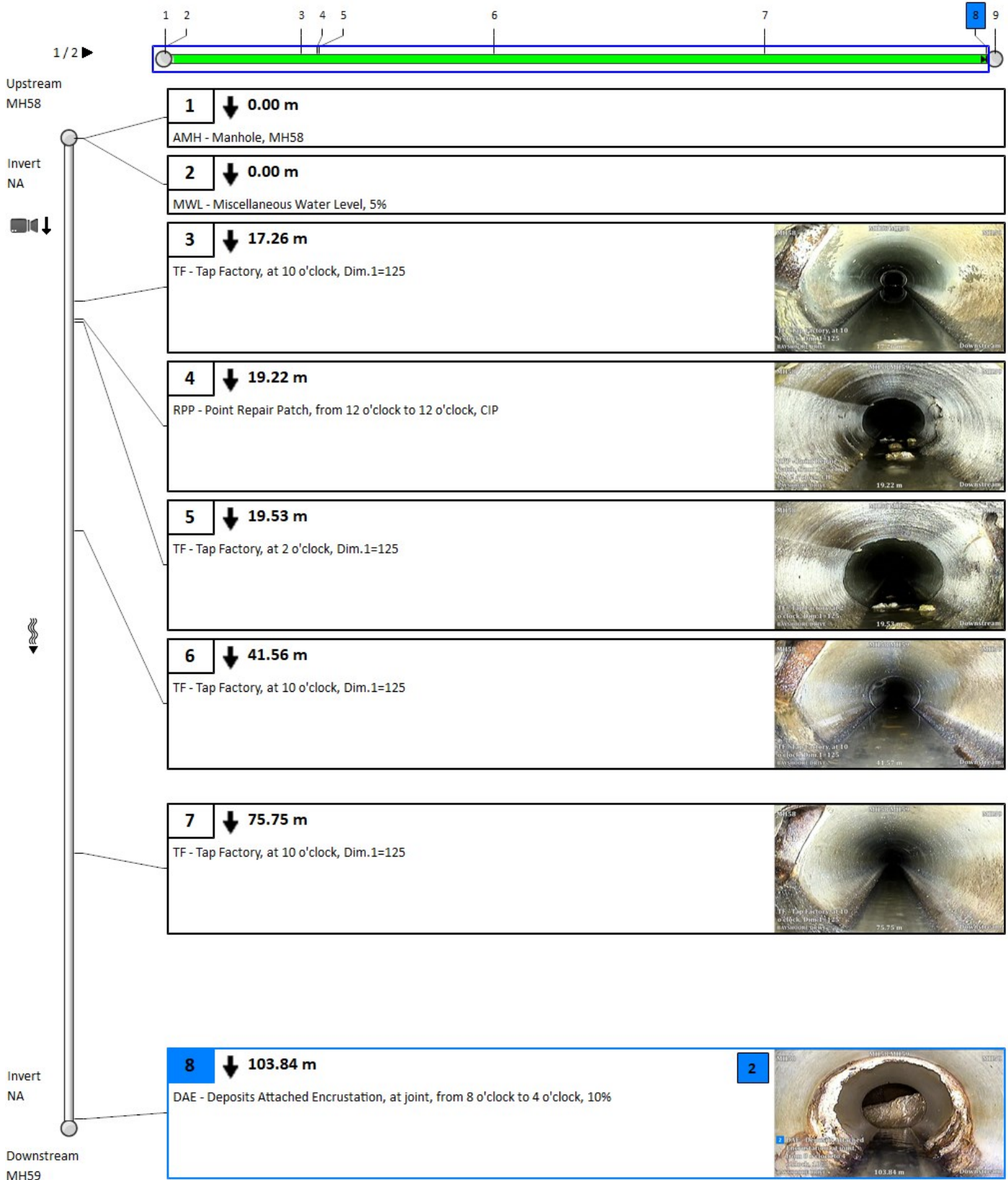
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

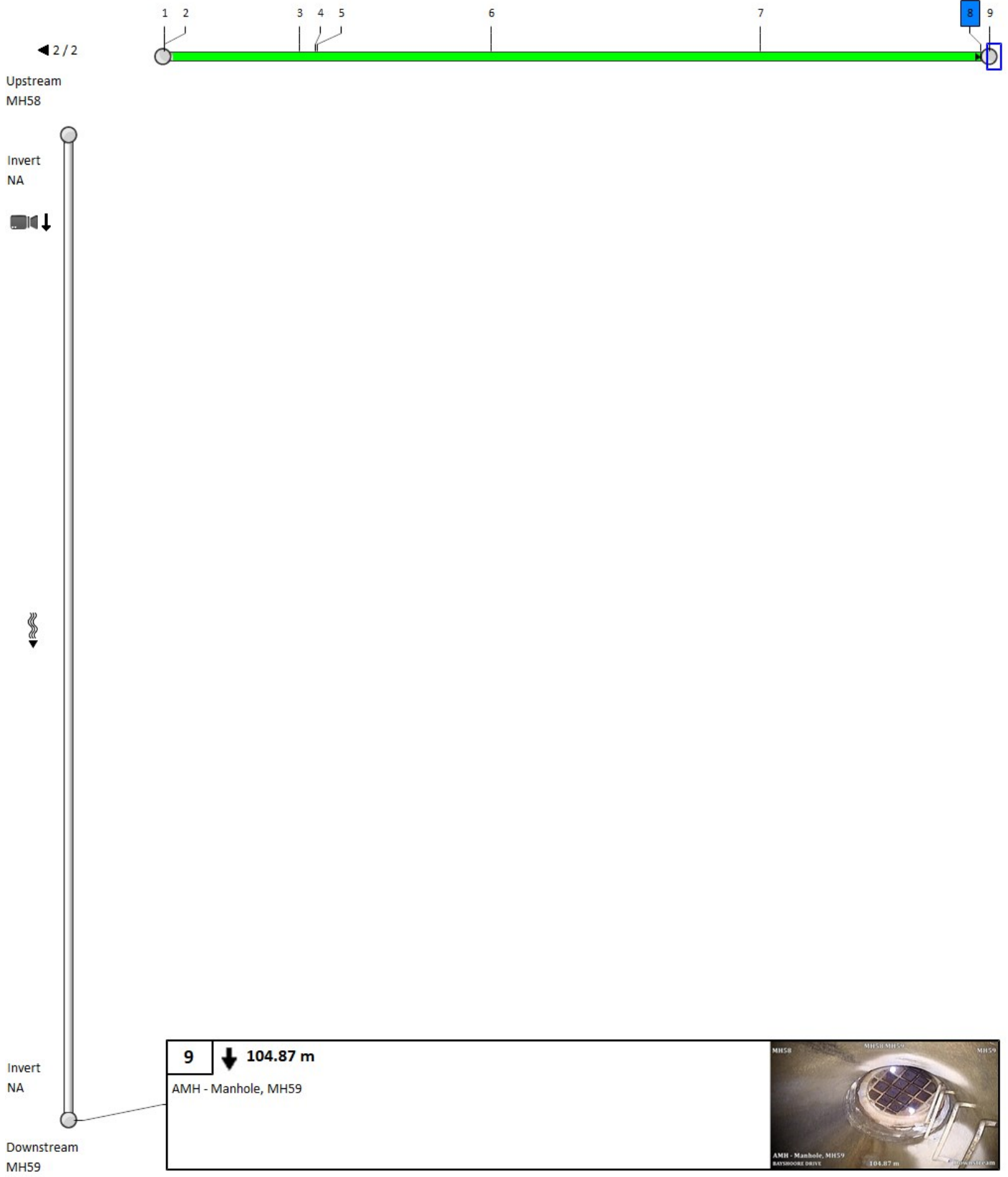
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH59 MH60  
 Direction of flow: MH59 --> MH60

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 94.71 |
| Height:           | 200                  | Total length:    | 94.71 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 9:22 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

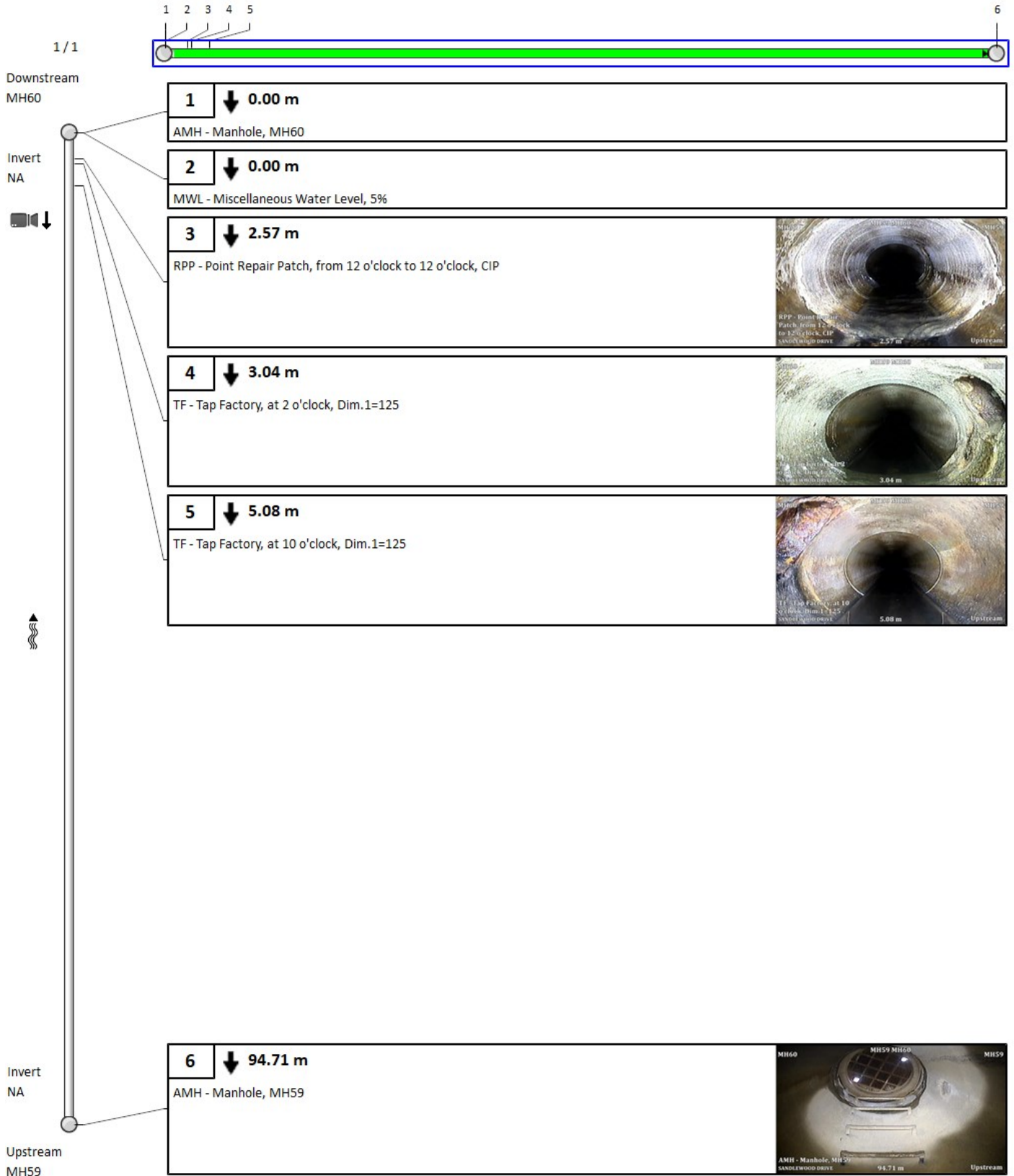
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH60 MH61  
 Direction of flow: MH60 --> MH61

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 107.01 |
| Height:           | 200                  | Total length:    | 107.01 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 8:45 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

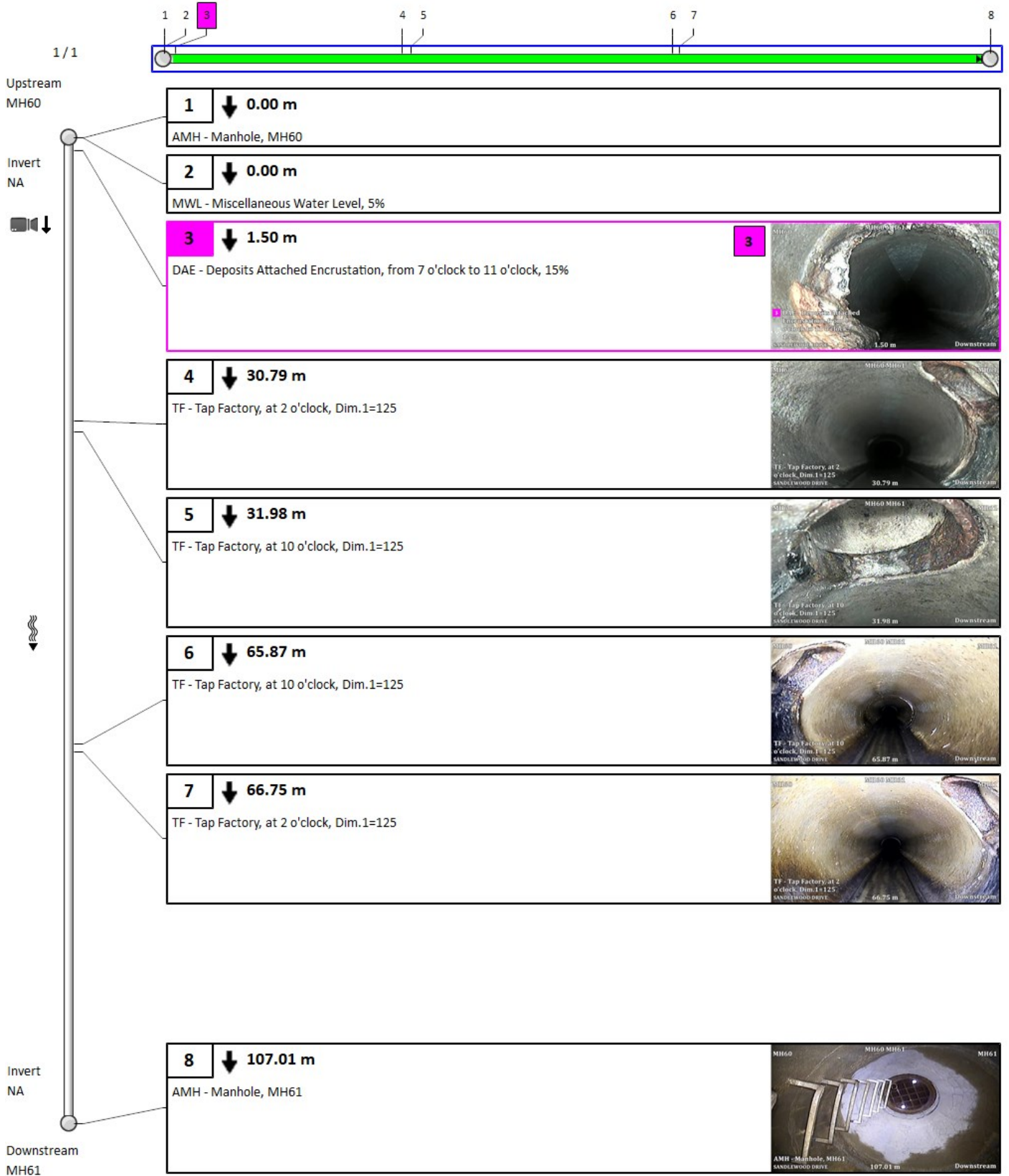
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3100 | Quick rating: | 3100 | Likelihood:  | 3.1 |
| Score:        | 0    | Score:        | 3    | Score:        | 3    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH61 MH62  
 Direction of flow: MH61 --> MH62

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 86.65 |
| Height:           | 200                  | Total length:    | 86.65 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 9:48 AM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

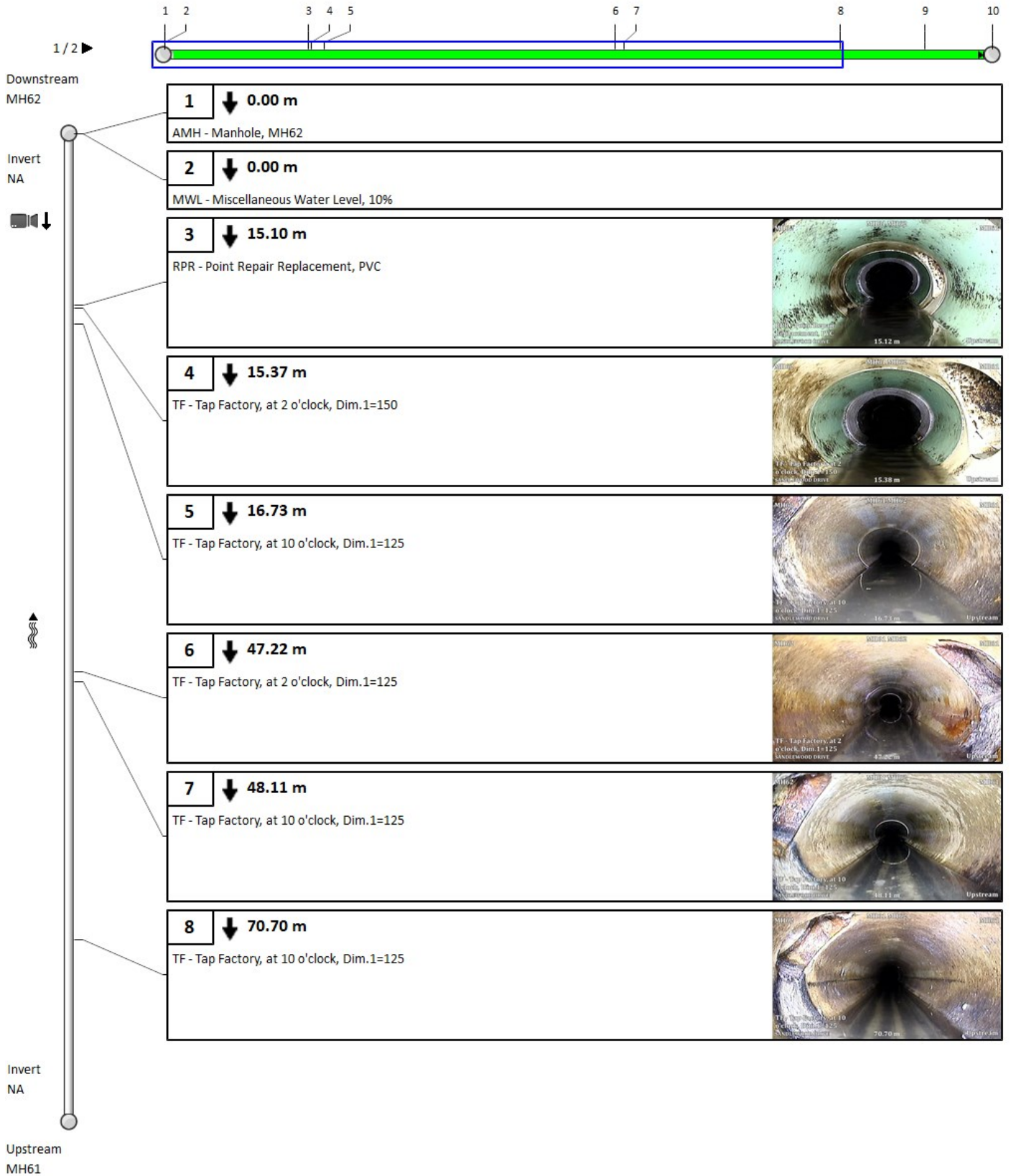
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

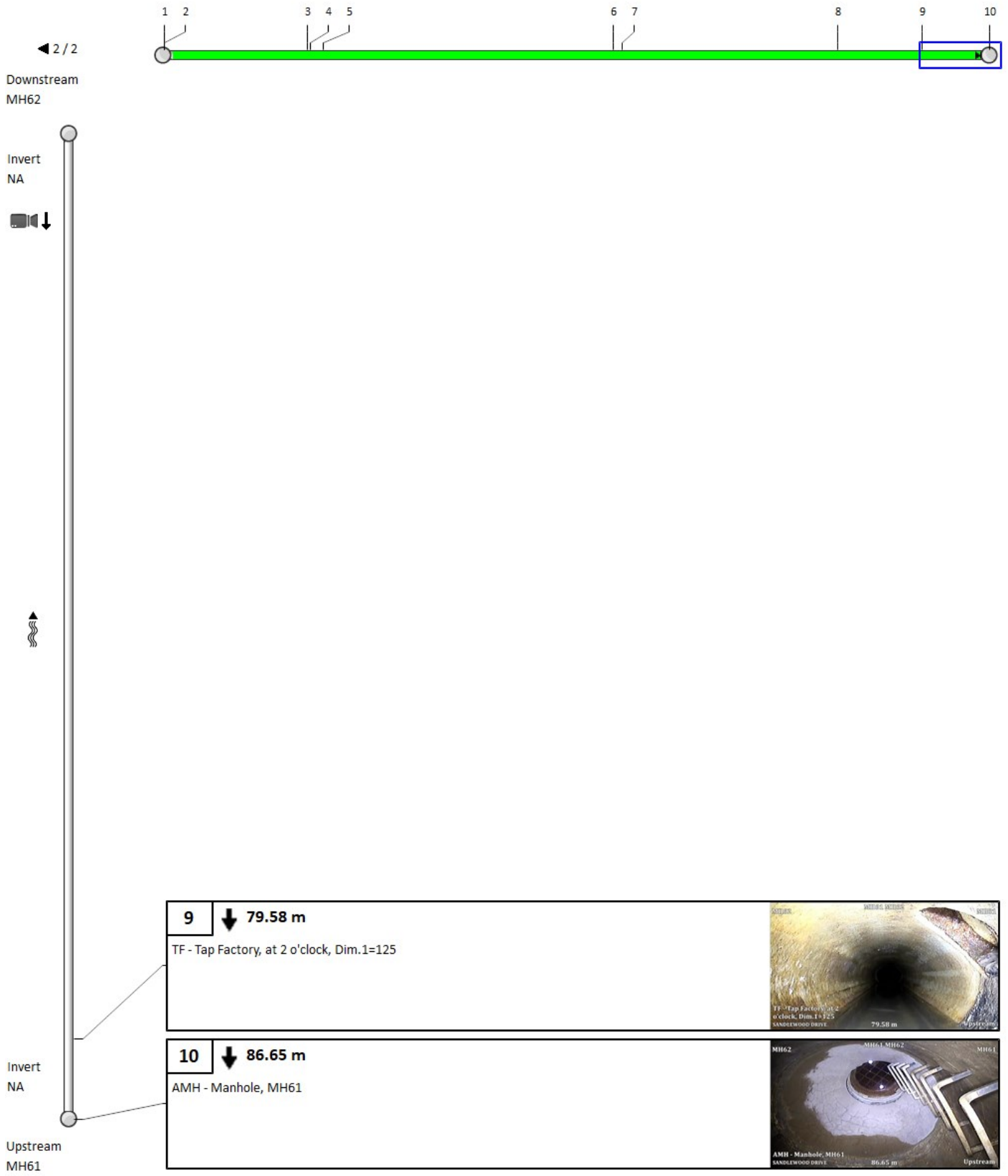
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH62 MH63  
 Direction of flow: MH62 --> MH63

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |    |
|-------------------|----------------------|------------------|----|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 98 |
| Height:           | 200                  | Total length:    | 98 |
| Width:            |                      | Joint length:    |    |
| Shape:            | Circular             | Rim/Inv.:        |    |
| Material:         | Asbestos Cement      | Grade/Inv.:      |    |
| Lining:           |                      | Rim/Grade:       |    |
| Coating Method:   |                      | Rim/Inv.:        |    |
| Year Constructed: |                      | Grade/Inv.:      |    |
| Year renewed:     |                      | Rim/Grade:       |    |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 10:00 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

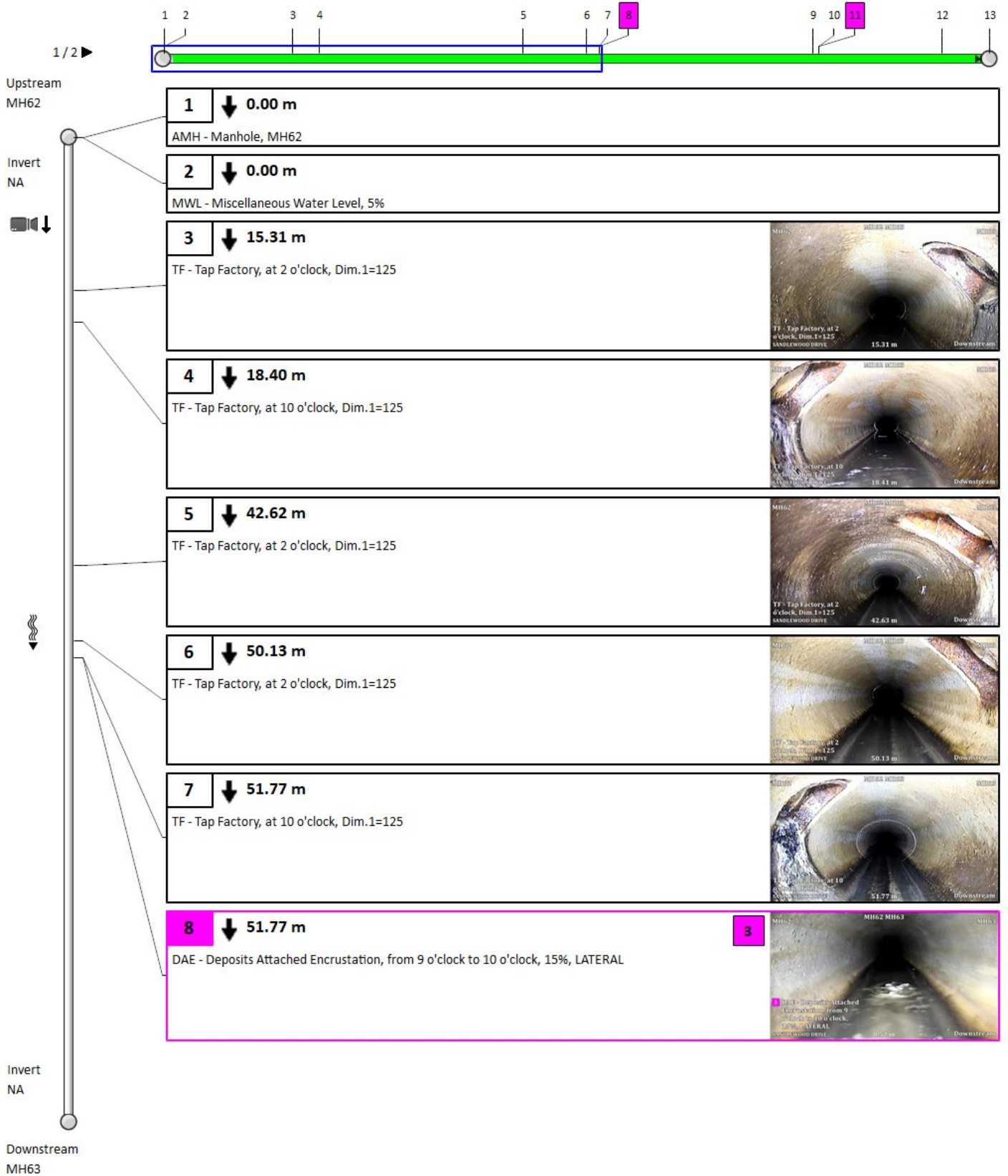
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3200 | Quick rating: | 3200 | Likelihood:  | 3.2 |
| Score:        | 0    | Score:        | 6    | Score:        | 6    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

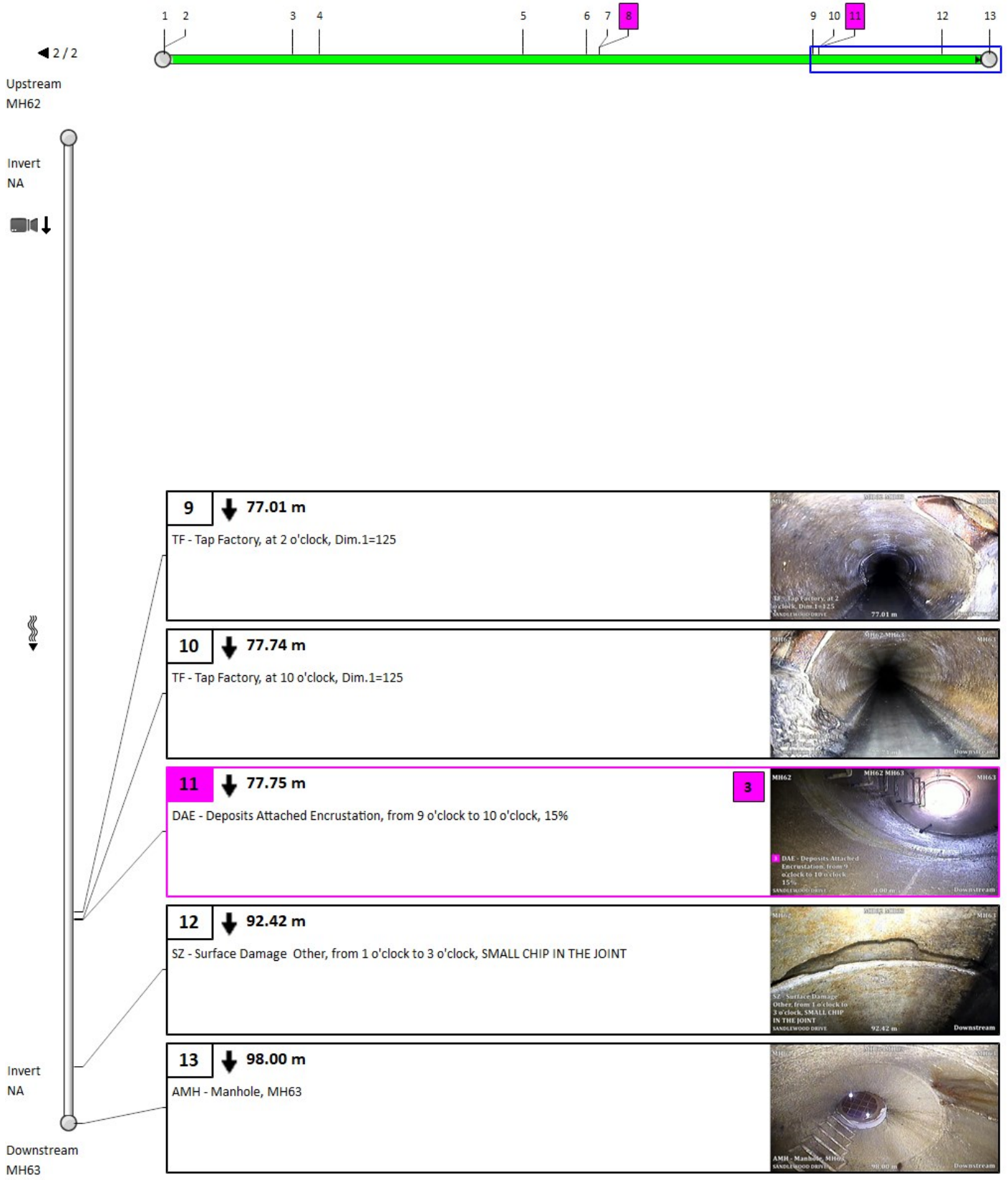


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH63 MH66  
 Direction of flow: MH63 --> MH66

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 32.99 |
| Height:           | 200                  | Total length:    | 90    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 06/05/2022 12:04 PM | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

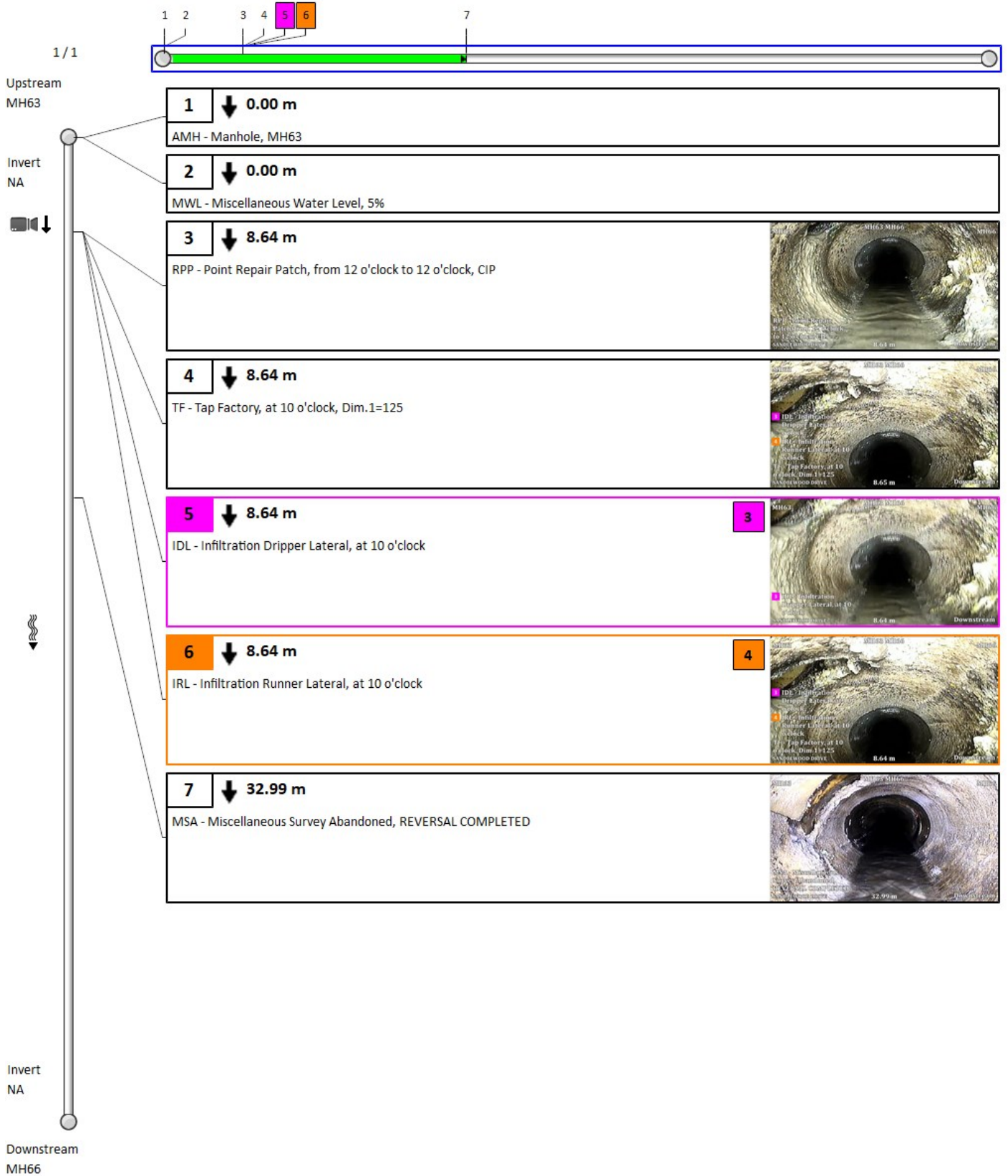
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4131 | Quick rating: | 4131 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 7    | Score:        | 7    | Risk:        |     |
| Index:        | 0    | Index:        | 3.5  | Index:        | 3.5  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH63 MH66  
 Direction of flow: MH63 --> MH66

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | SANDLEWOOD DRIVE | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 57.16 |
| Height:           | 200                  | Total length:    | 90    |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 06/05/2022 11:22 AM | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

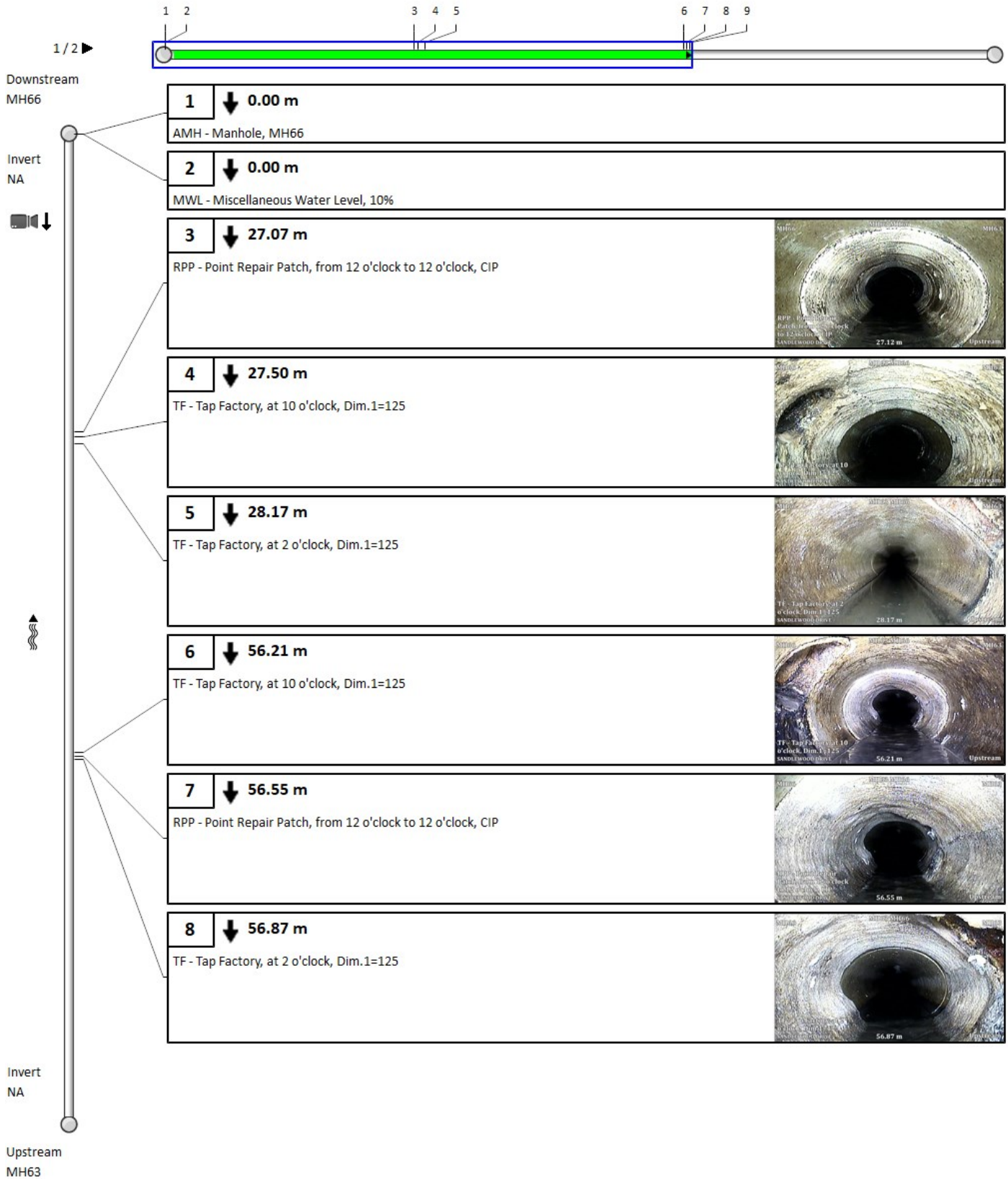
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

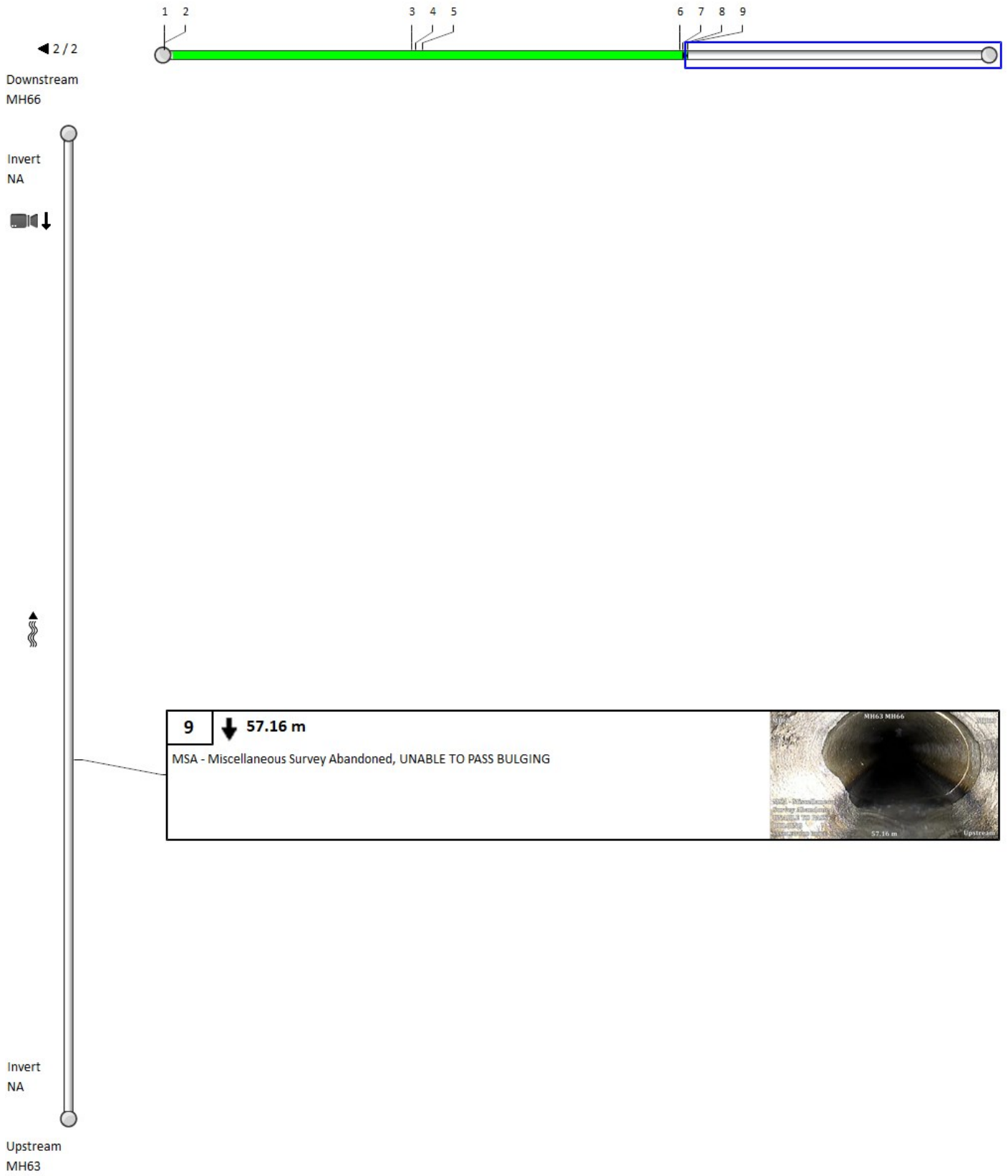
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH64 MH65  
 Direction of flow: MH64 --> MH65

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | LATERN COURT     | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 48.53 |
| Height:           | 200                  | Total length:    | 48.53 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 09/05/2022 10:00 AM | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | BAYSHORE VILLAGE    | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

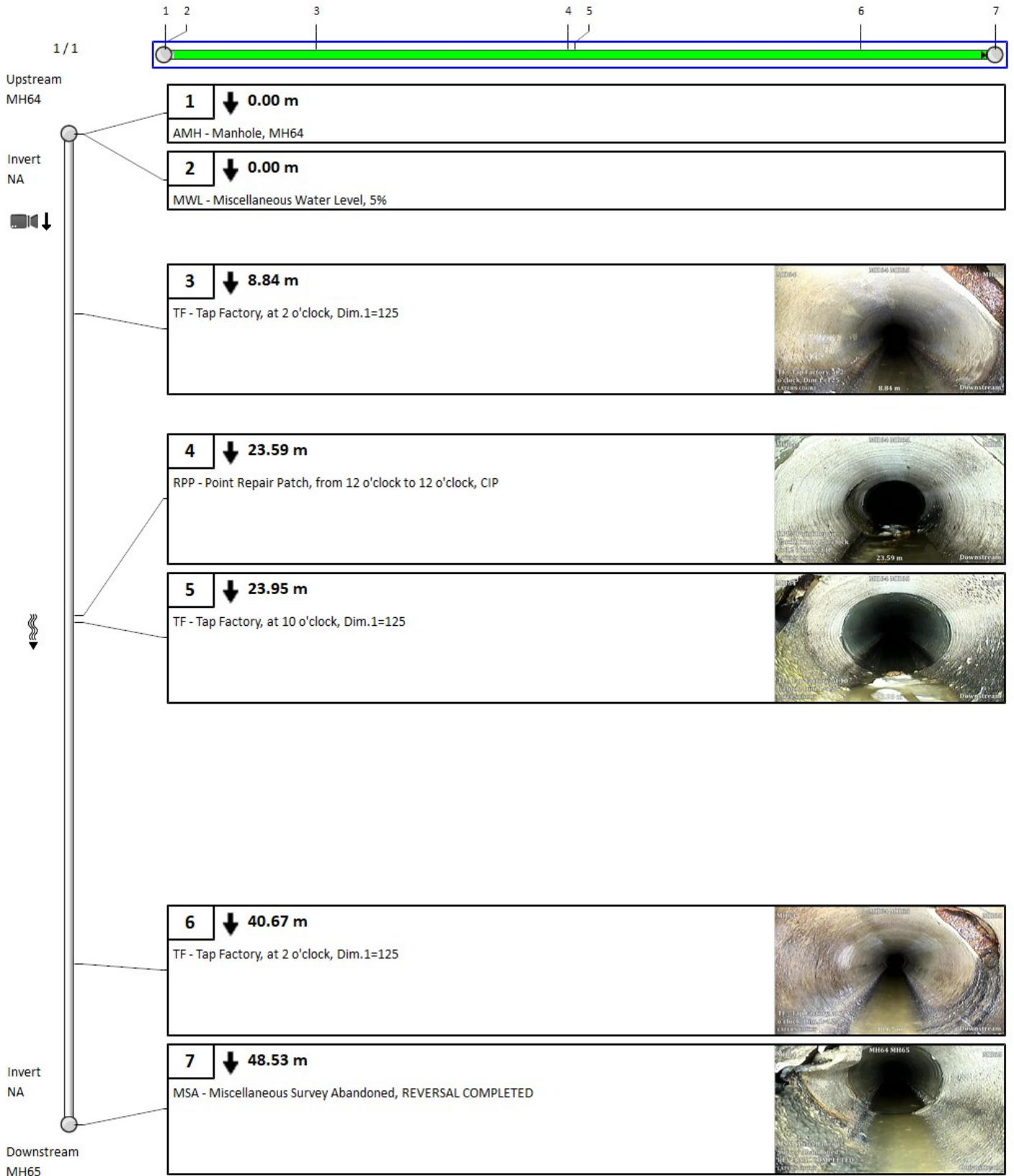
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH64 MH65  
 Direction of flow: MH64 --> MH65

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | LATERN COURT     | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 12.49 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 09/05/2022 9:28 AM  | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

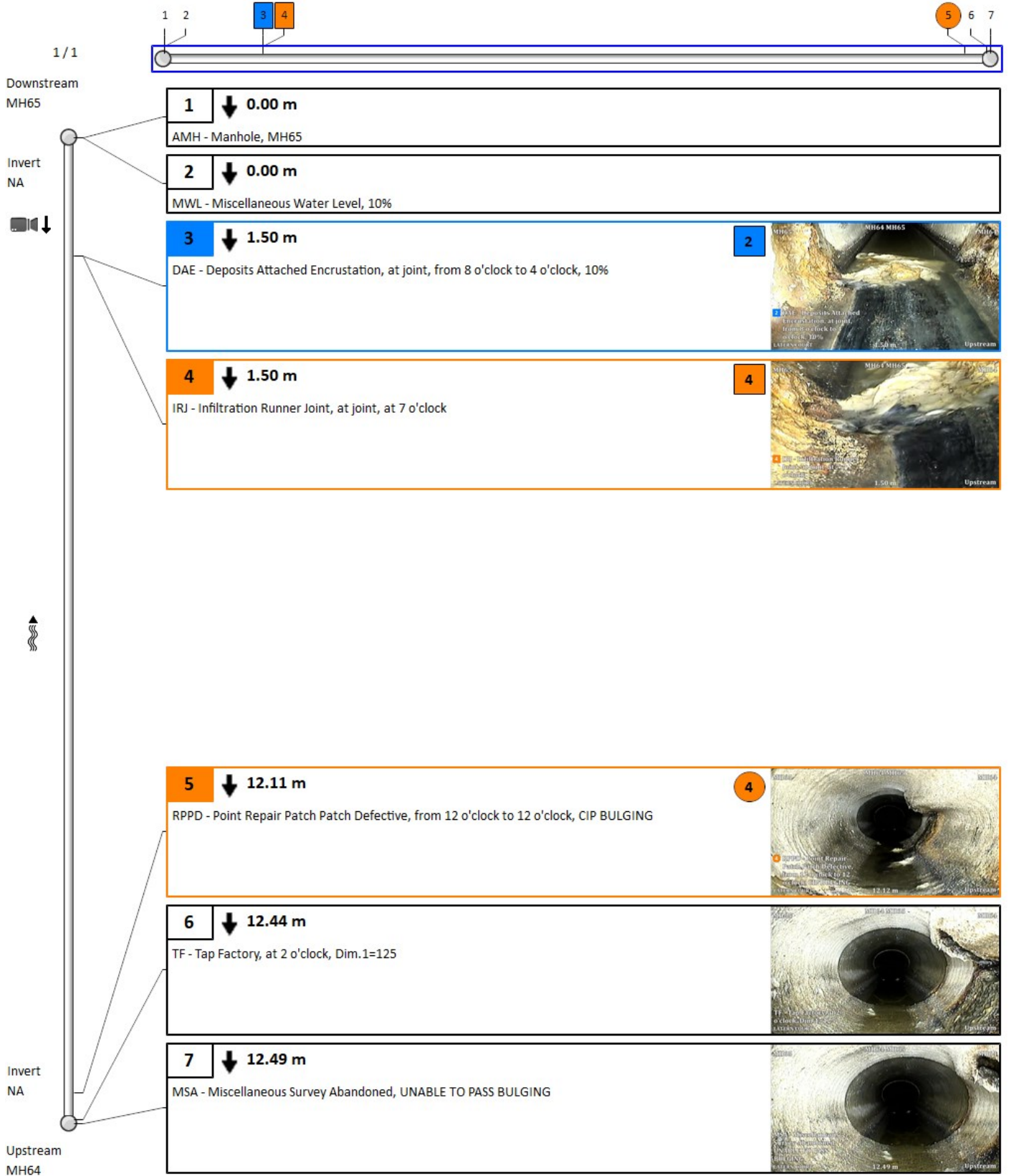
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 4121 | Quick rating: | 4221 | Likelihood:  | 4.2 |
| Score:        | 4    | Score:        | 6    | Score:        | 10   | Risk:        |     |
| Index:        | 4    | Index:        | 3    | Index:        | 3.3  |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH65 MH66  
 Direction of flow: MH65 --> MH66

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | LATERN COURT     | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 43.23 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 09/05/2022 9:35 AM  | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

### Failure

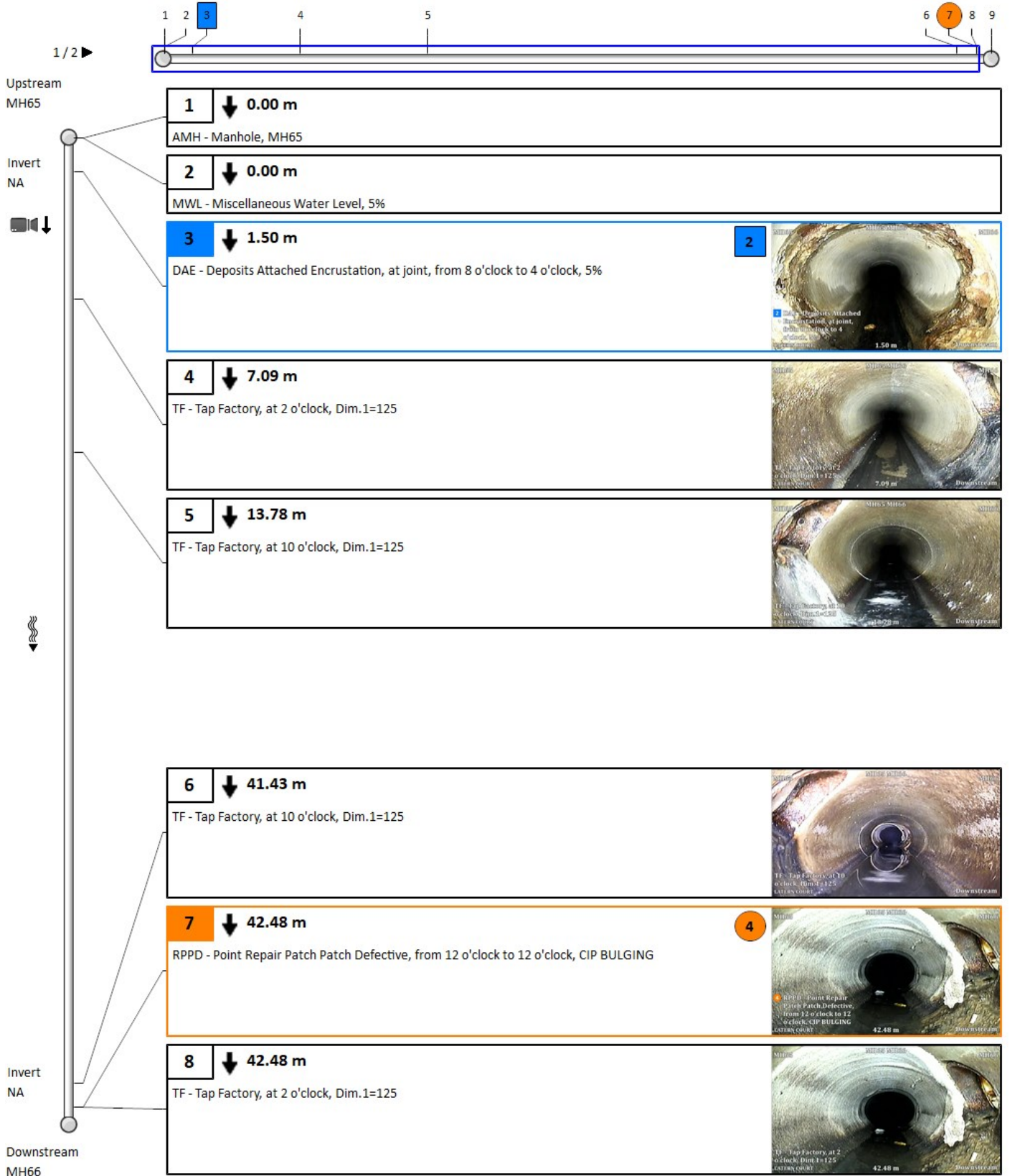
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 2    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 2100 | Quick rating: | 4121 | Likelihood:  | 4.1 |
| Score:        | 4    | Score:        | 2    | Score:        | 6    | Risk:        |     |
| Index:        | 4    | Index:        | 2    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

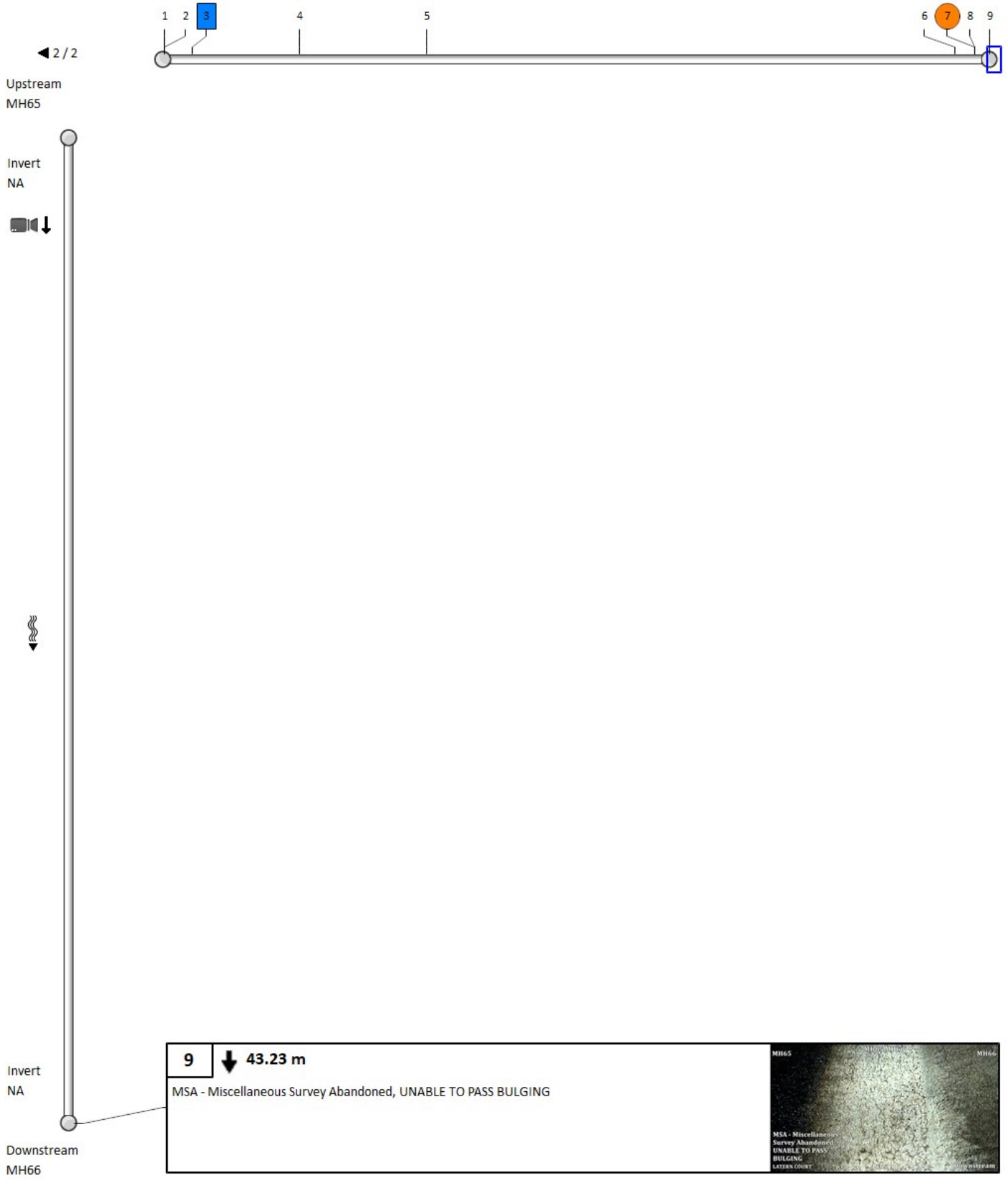


# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH65 MH66  
 Direction of flow: MH65 --> MH66

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | LATERN COURT     | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 21.57 |
| Height:           | 200                  | Total length:    | 21.57 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 09/05/2022 10:25 AM | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | BAYSHORE VILLAGE    | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

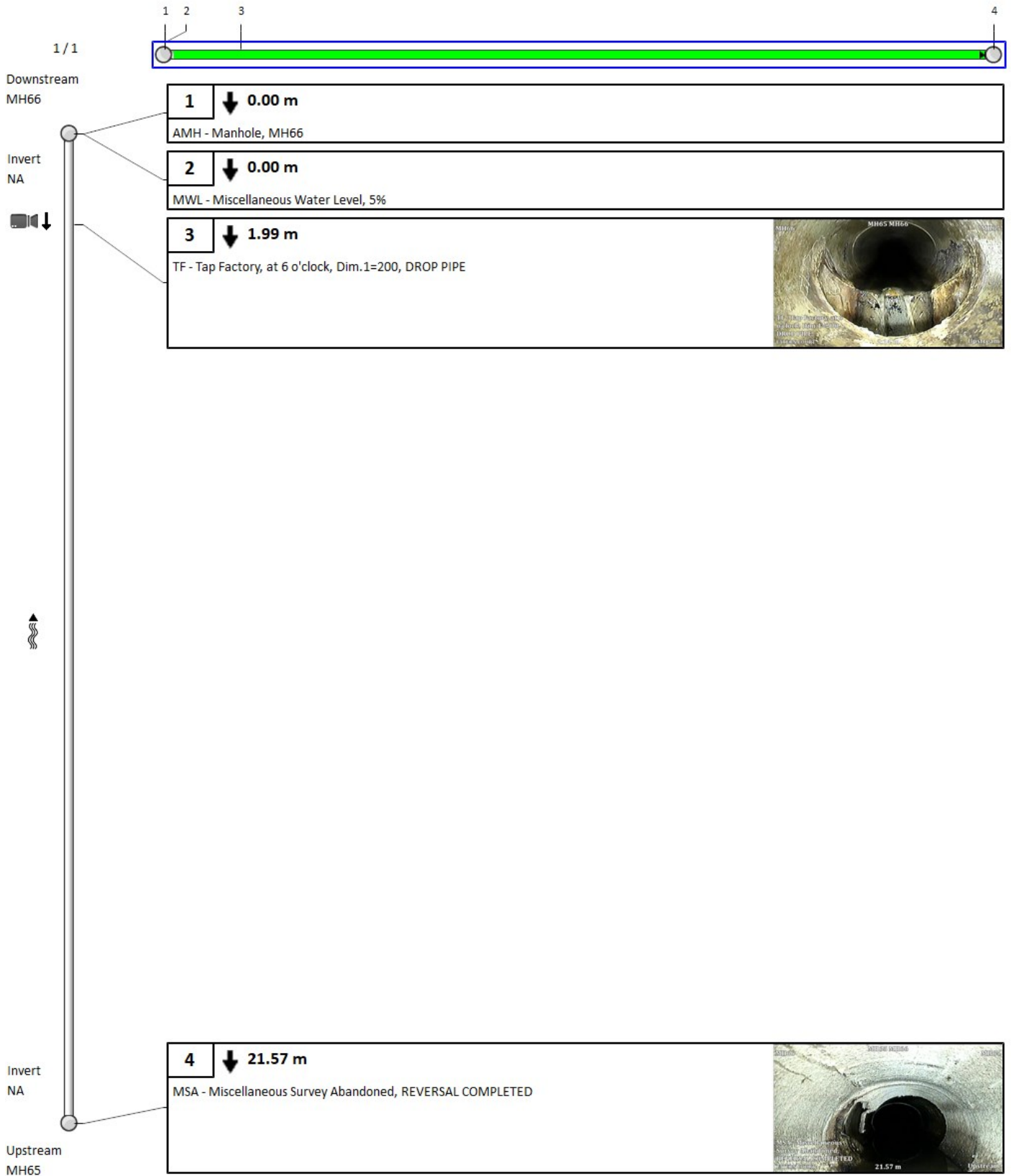
### Failure

|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH66 MH70  
 Direction of flow: MH66 --> MH70

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 67.32 |
| Height:           | 200                  | Total length:    | 67.32 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 06/05/2022 11:31 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

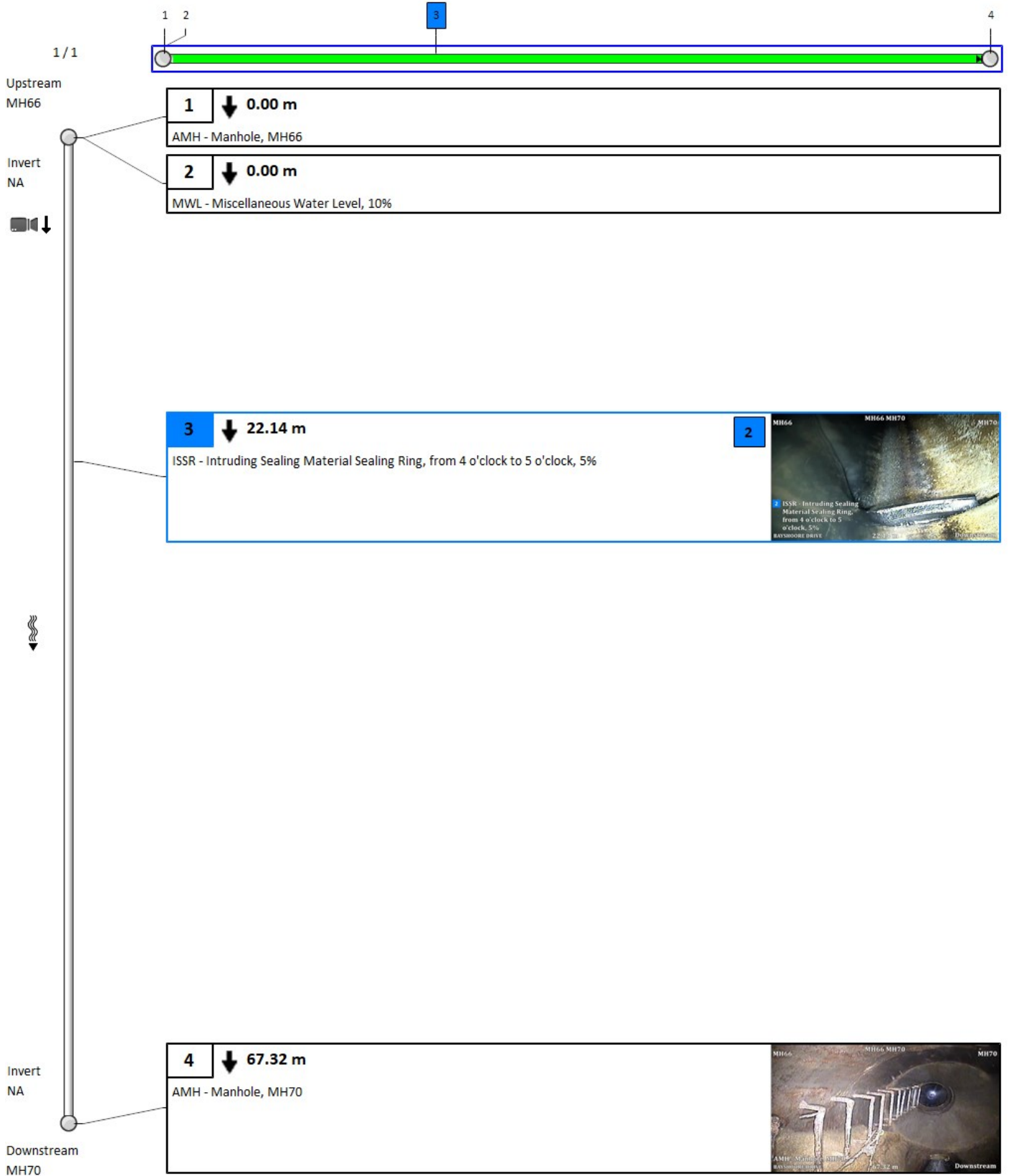
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 2    | Peak:         | 2    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 2100 | Quick rating: | 2100 | Likelihood:  | 2.1 |
| Score:        | 0    | Score:        | 2    | Score:        | 2    | Risk:        |     |
| Index:        | 0    | Index:        | 2    | Index:        | 2    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH67 MH68  
 Direction of flow: MH67 --> MH68

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | LAVENDER COURT   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 57.1 |
| Height:           | 200                  | Total length:    | 57.1 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 12:44 PM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

### Failure

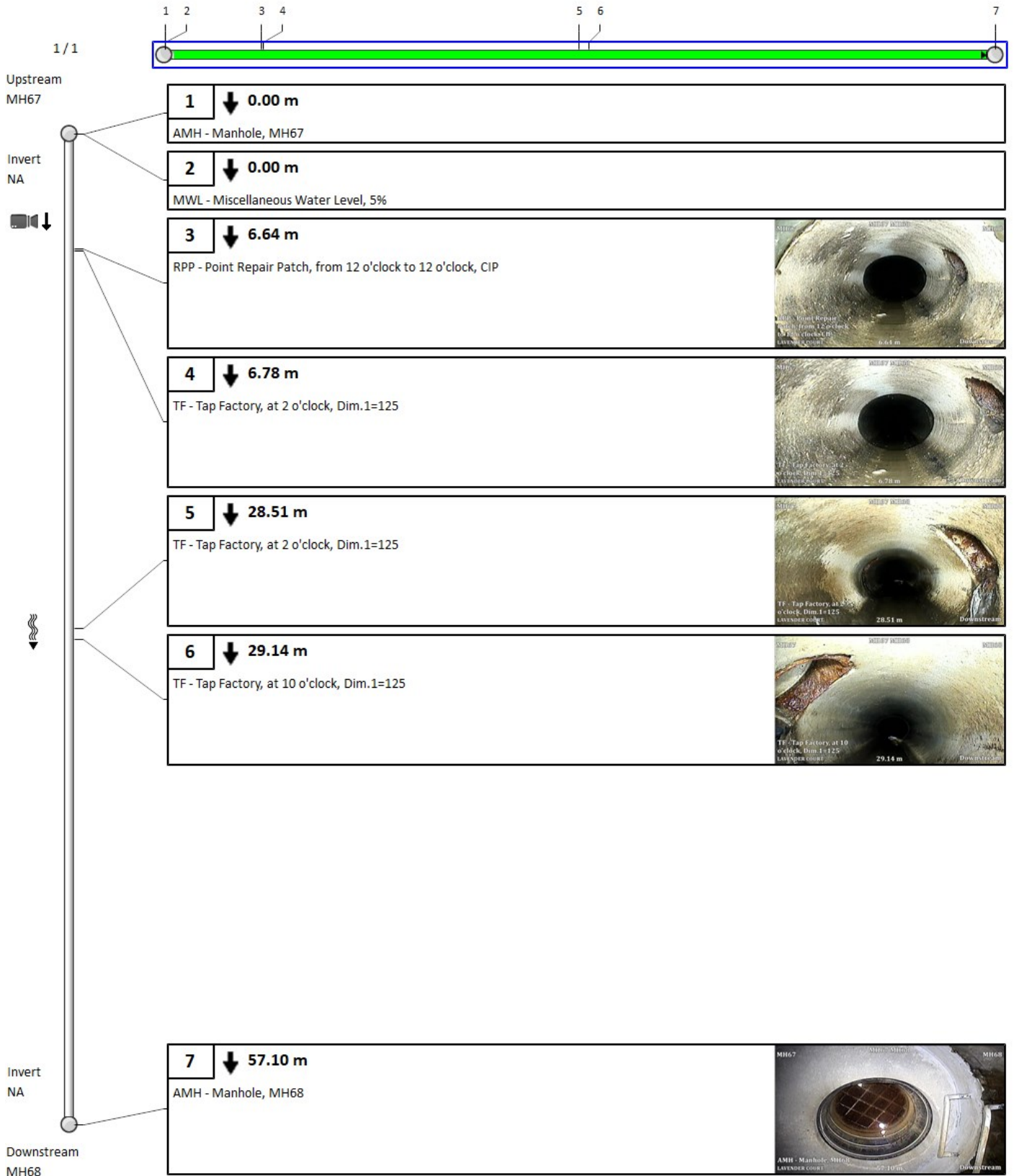
|               |      |               |      |               |      |              |   |
|---------------|------|---------------|------|---------------|------|--------------|---|
| Peak:         | 0    | Peak:         | 0    | Peak:         | 0    | Consequence: |   |
| Quick rating: | 0000 | Quick rating: | 0000 | Quick rating: | 0000 | Likelihood:  | 1 |
| Score:        | 0    | Score:        | 0    | Score:        | 0    | Risk:        |   |
| Index:        | 0    | Index:        | 0    | Index:        | 0    |              |   |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH68 MH69  
 Direction of flow: MH68 --> MH69

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 88.81 |
| Height:           | 200                  | Total length:    | 88.81 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 11:43 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

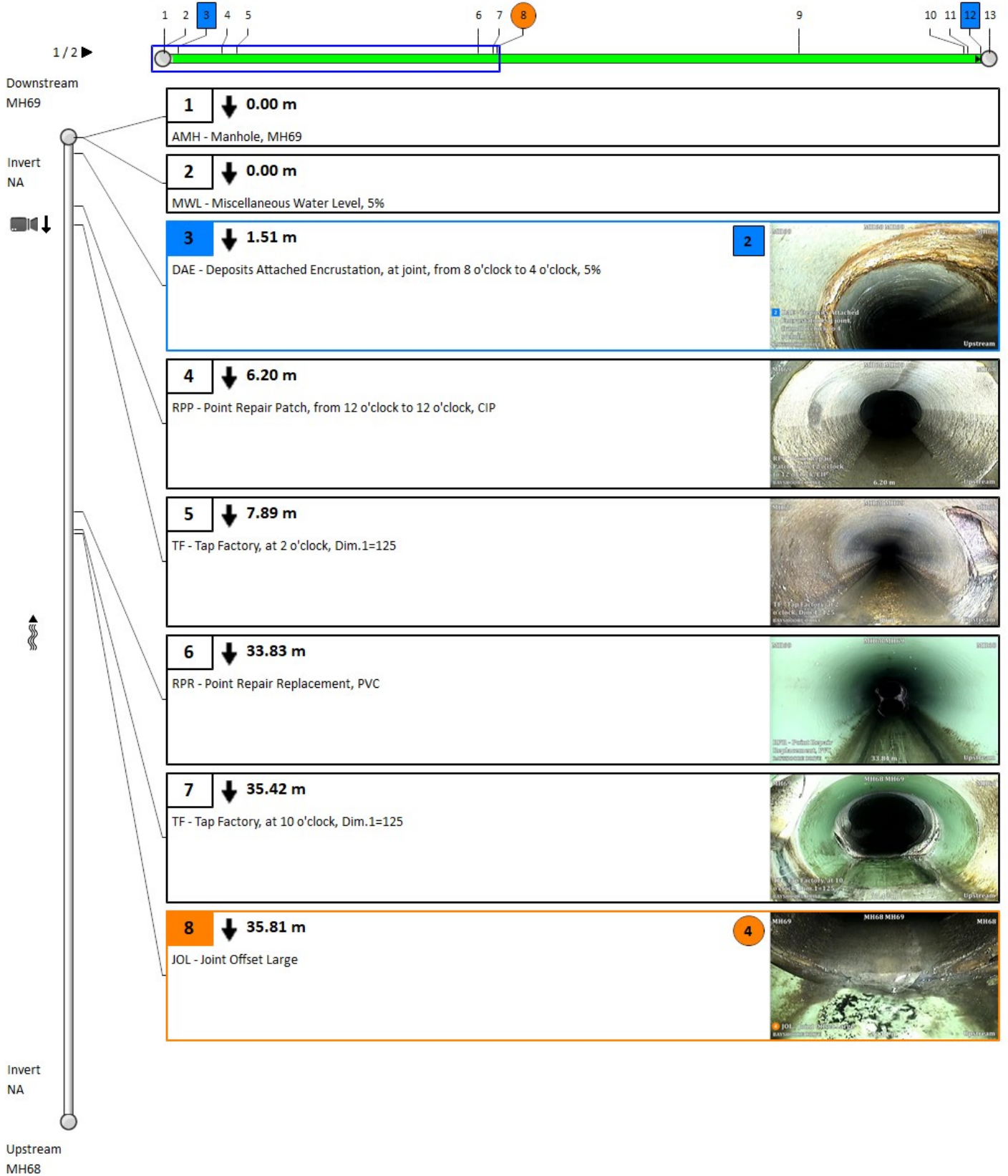
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 2    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 2200 | Quick rating: | 4122 | Likelihood:  | 4.1 |
| Score:        | 4    | Score:        | 4    | Score:        | 8    | Risk:        |     |
| Index:        | 4    | Index:        | 2    | Index:        | 2.7  |              |     |

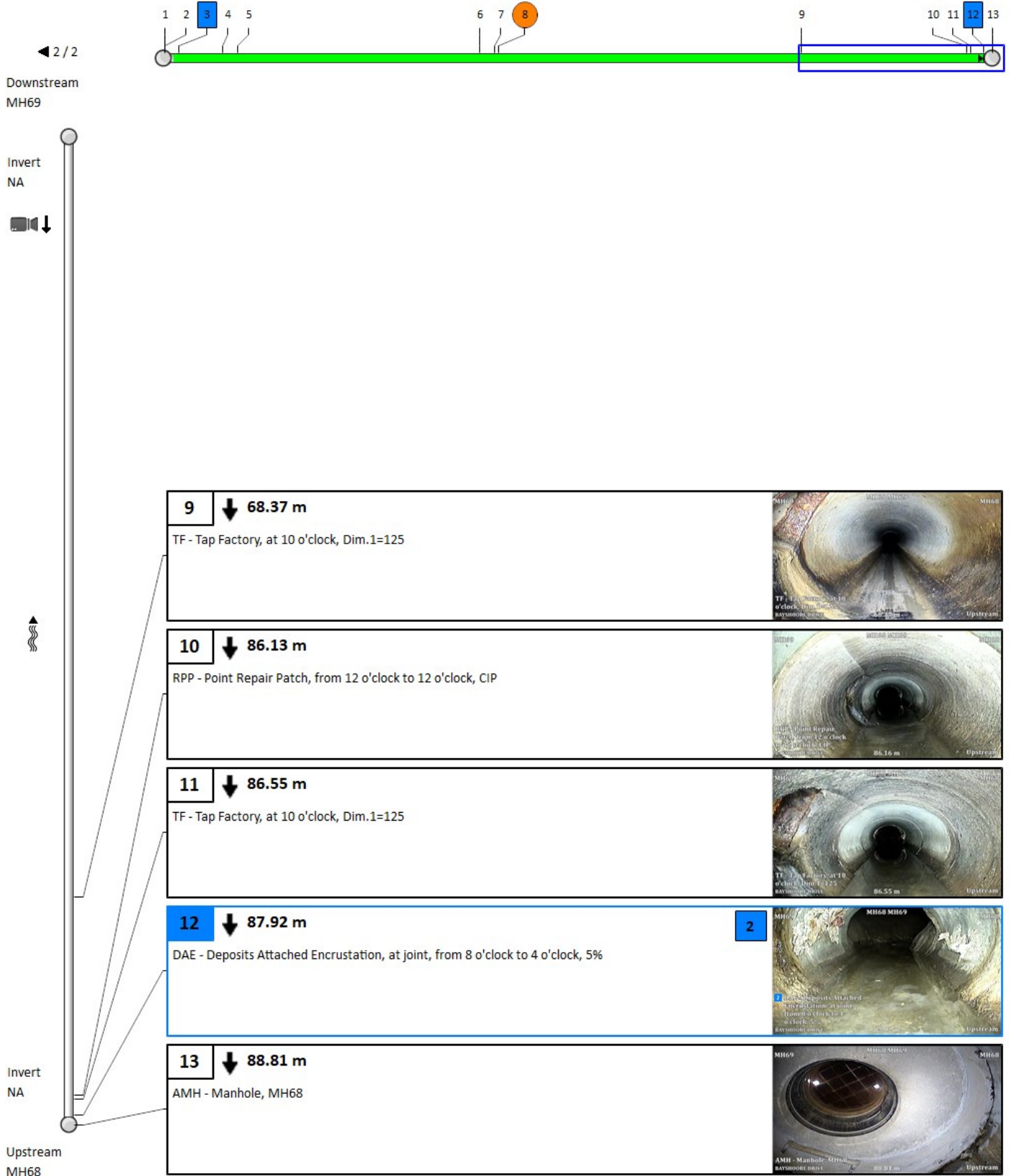
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH69 MH70  
 Direction of flow: MH69 --> MH70

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 50.08 |
| Height:           | 200                  | Total length:    | 50.08 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                    |
|----------------------|---------------------|-------------------------|--------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN       |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296    |
| Date:                | 09/05/2022 11:33 AM | Reviewed By:            |                    |
| Project:             |                     | Reviewer Certificate:   |                    |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning     |
| PO number:           |                     | Date cleaned:           |                    |
| Work Order:          |                     | Media Label:            |                    |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric             |
| Weather:             | Dry                 | Sheet Number:           |                    |
| Flow control:        | Not Controlled      | Additional information: | REVERSAL COMPLETED |
| Used Technology:     | CCTV                |                         |                    |

### Structural rating

### O&M rating

### Overall rating

### Failure

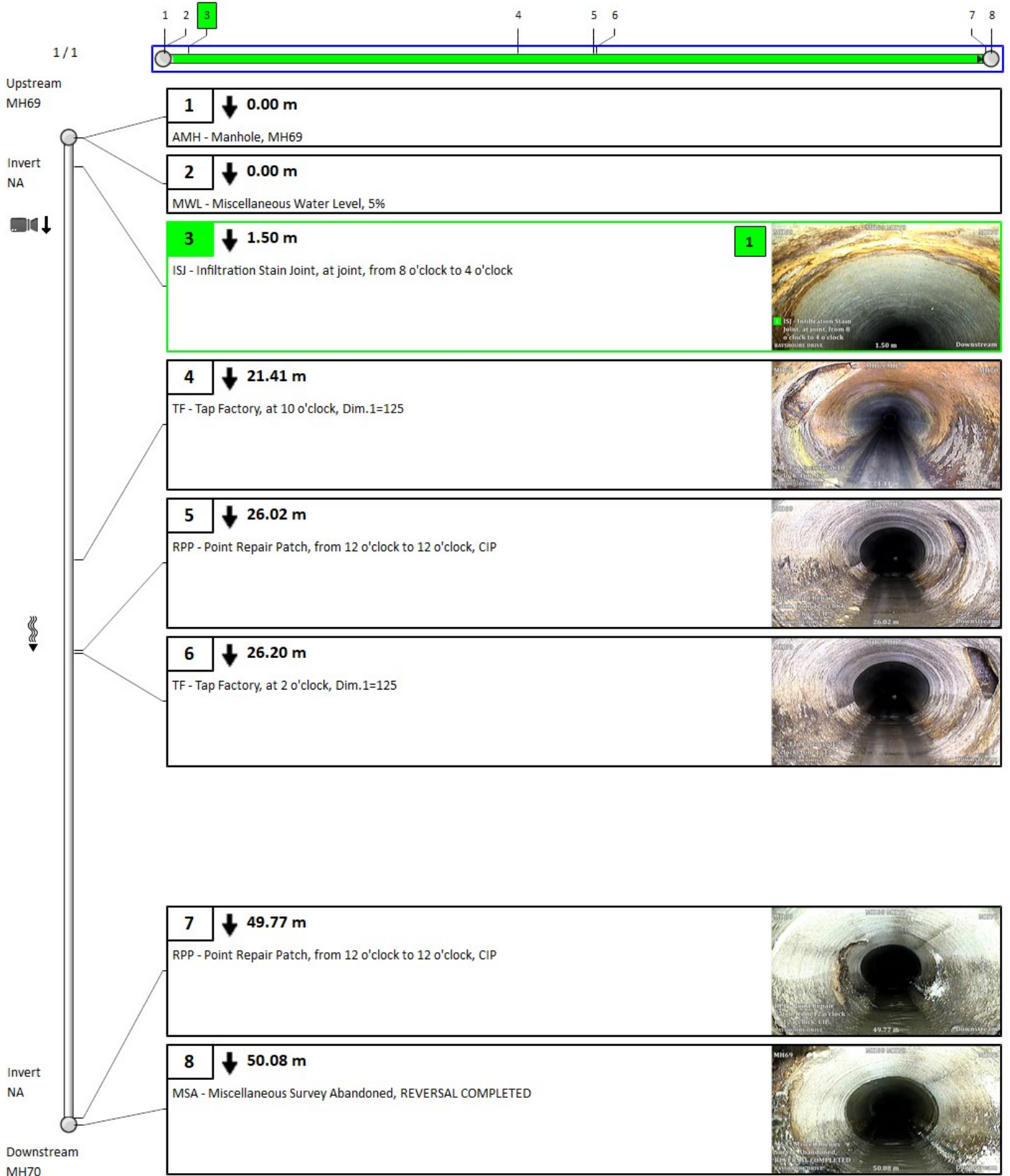
|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 1    | Peak:         | 1    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 1100 | Quick rating: | 1100 | Likelihood:  | 1.1 |
| Score:        | 0    | Score:        | 1    | Score:        | 1    | Risk:        |     |
| Index:        | 0    | Index:        | 1    | Index:        | 1    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |



# 5. Pipe summary and condition details





## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH69 MH70  
 Direction of flow: MH69 --> MH70

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 24.72 |
| Height:           | 200                  | Total length:    |       |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                        |
|----------------------|---------------------|-------------------------|------------------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN           |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296        |
| Date:                | 09/05/2022 10:46 AM | Reviewed By:            |                        |
| Project:             |                     | Reviewer Certificate:   |                        |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning         |
| PO number:           |                     | Date cleaned:           |                        |
| Work Order:          |                     | Media Label:            |                        |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric                 |
| Weather:             | Dry                 | Sheet Number:           |                        |
| Flow control:        | Not Controlled      | Additional information: | UNABLE TO PASS BULGING |
| Used Technology:     | CCTV                |                         |                        |

### Structural rating

### O&M rating

### Overall rating

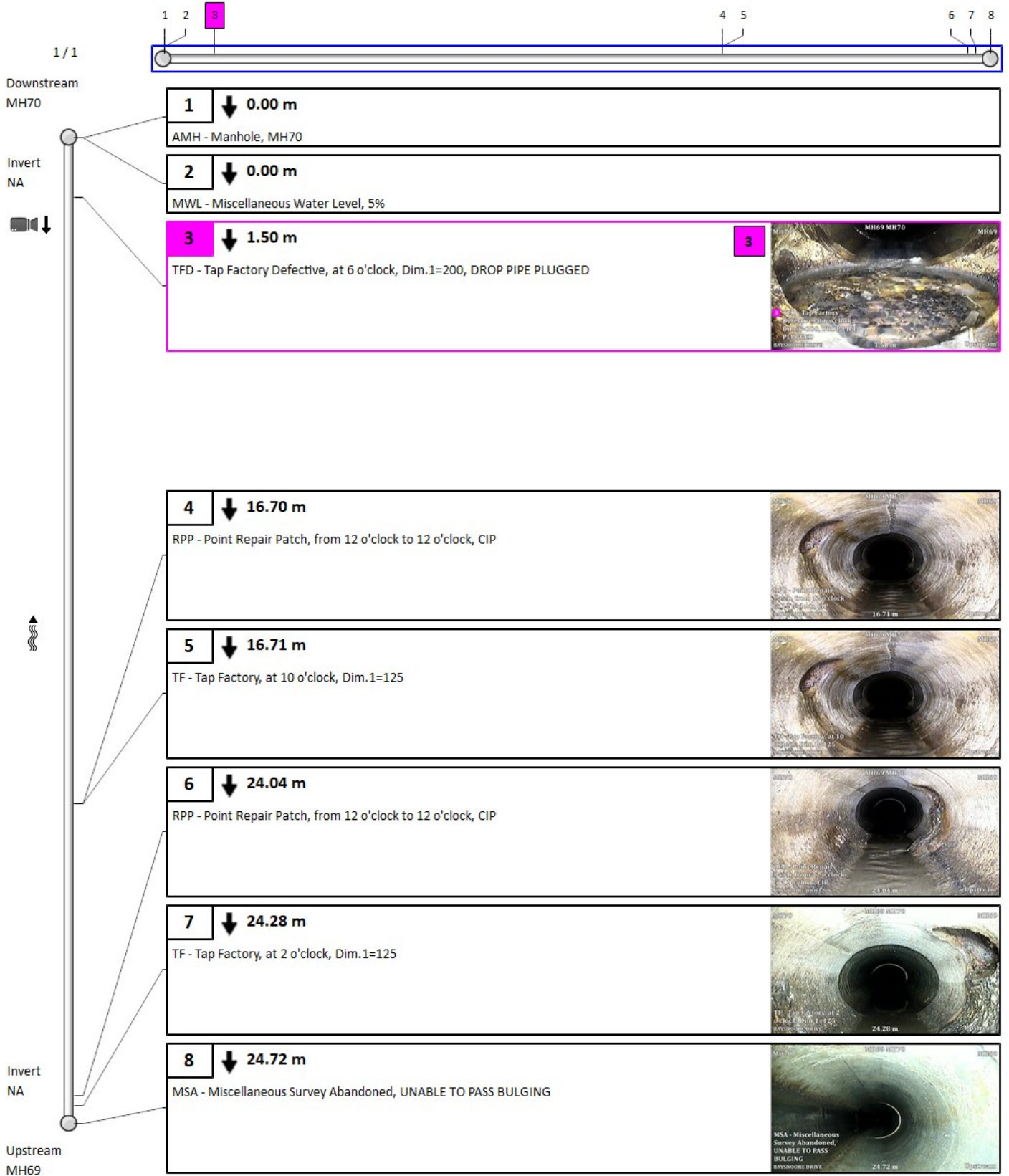
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 3    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 3100 | Quick rating: | 3100 | Likelihood:  | 3.1 |
| Score:        | 0    | Score:        | 3    | Score:        | 3    | Risk:        |     |
| Index:        | 0    | Index:        | 3    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH70 PS1  
 Direction of flow: MH70 --> PS1

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |      |
|-------------------|----------------------|------------------|------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 15.8 |
| Height:           | 200                  | Total length:    | 15.8 |
| Width:            |                      | Joint length:    |      |
| Shape:            | Circular             | Rim/Inv.:        |      |
| Material:         | Asbestos Cement      | Grade/Inv.:      |      |
| Lining:           |                      | Rim/Grade:       |      |
| Coating Method:   |                      | Rim/Inv.:        |      |
| Year Constructed: |                      | Grade/Inv.:      |      |
| Year renewed:     |                      | Rim/Grade:       |      |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 10:46 AM | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

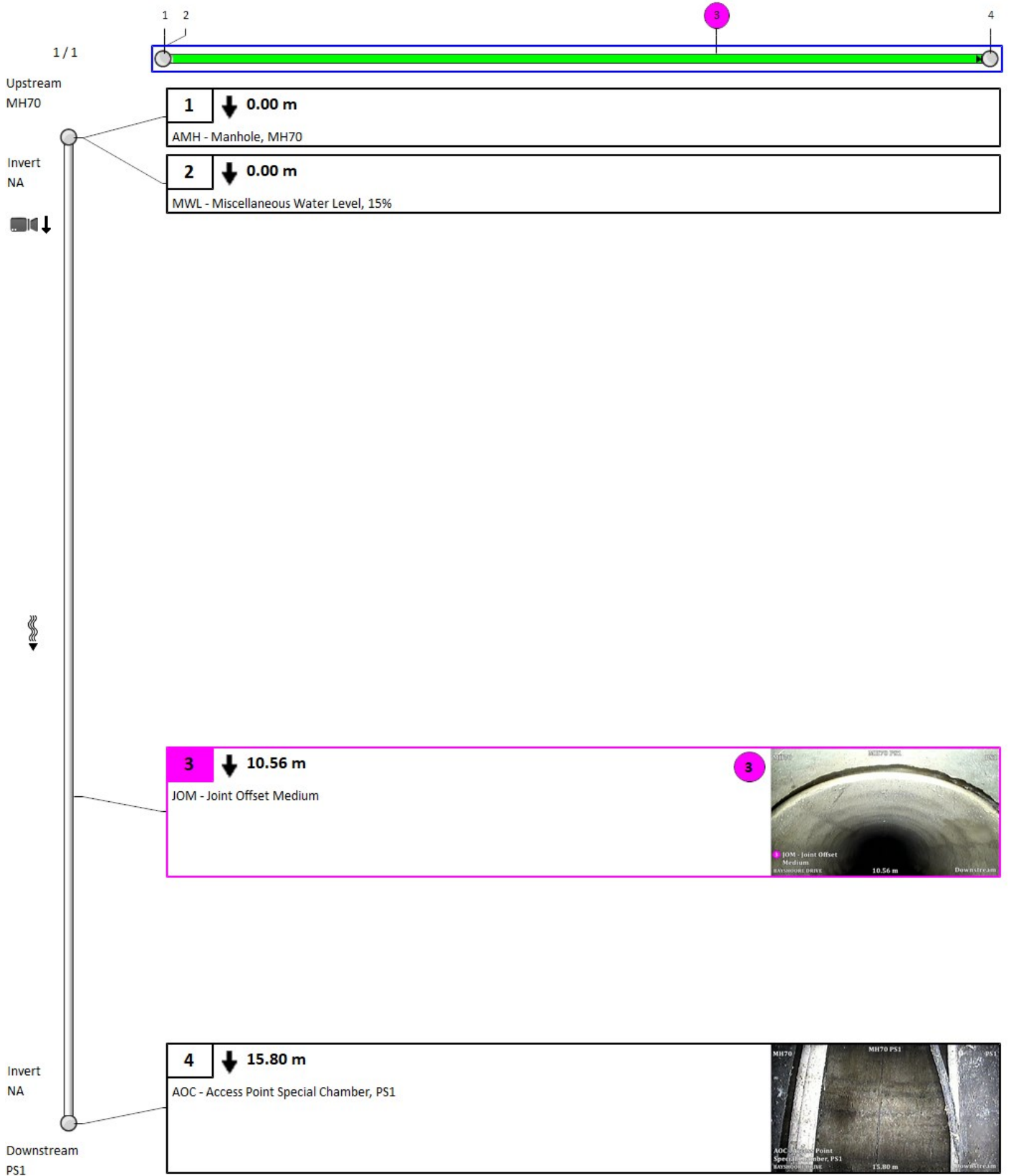
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 3    | Peak:         | 0    | Peak:         | 3    | Consequence: |     |
| Quick rating: | 3100 | Quick rating: | 0000 | Quick rating: | 3100 | Likelihood:  | 3.1 |
| Score:        | 3    | Score:        | 0    | Score:        | 3    | Risk:        |     |
| Index:        | 3    | Index:        | 0    | Index:        | 3    |              |     |

### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH71 MH72  
 Direction of flow: MH71 --> MH72

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 107.96 |
| Height:           | 200                  | Total length:    | 107.96 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 2:45 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

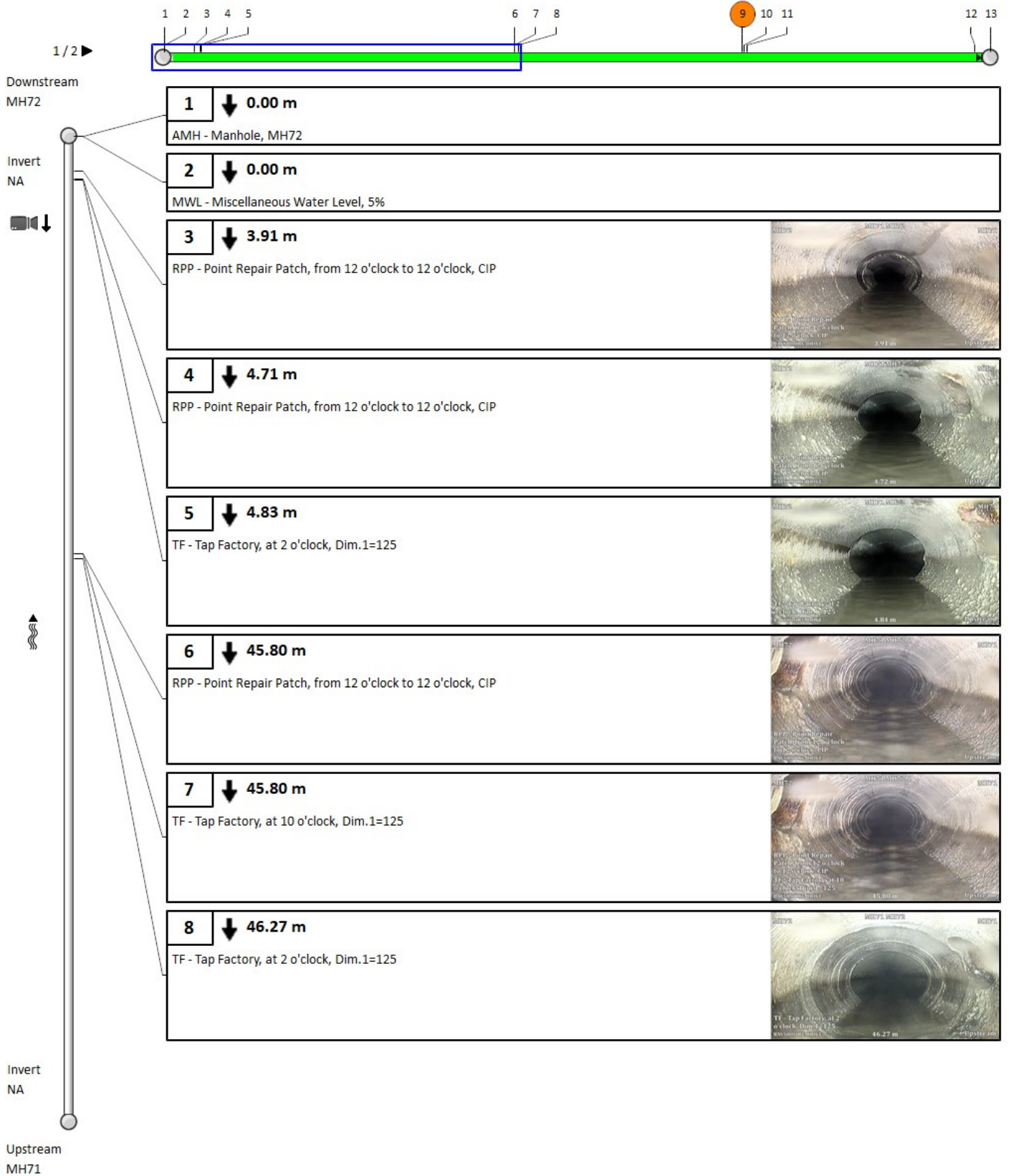
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 4    | Peak:         | 0    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 4100 | Quick rating: | 0000 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 4    | Score:        | 0    | Score:        | 4    | Risk:        |     |
| Index:        | 4    | Index:        | 0    | Index:        | 4    |              |     |

### Other information

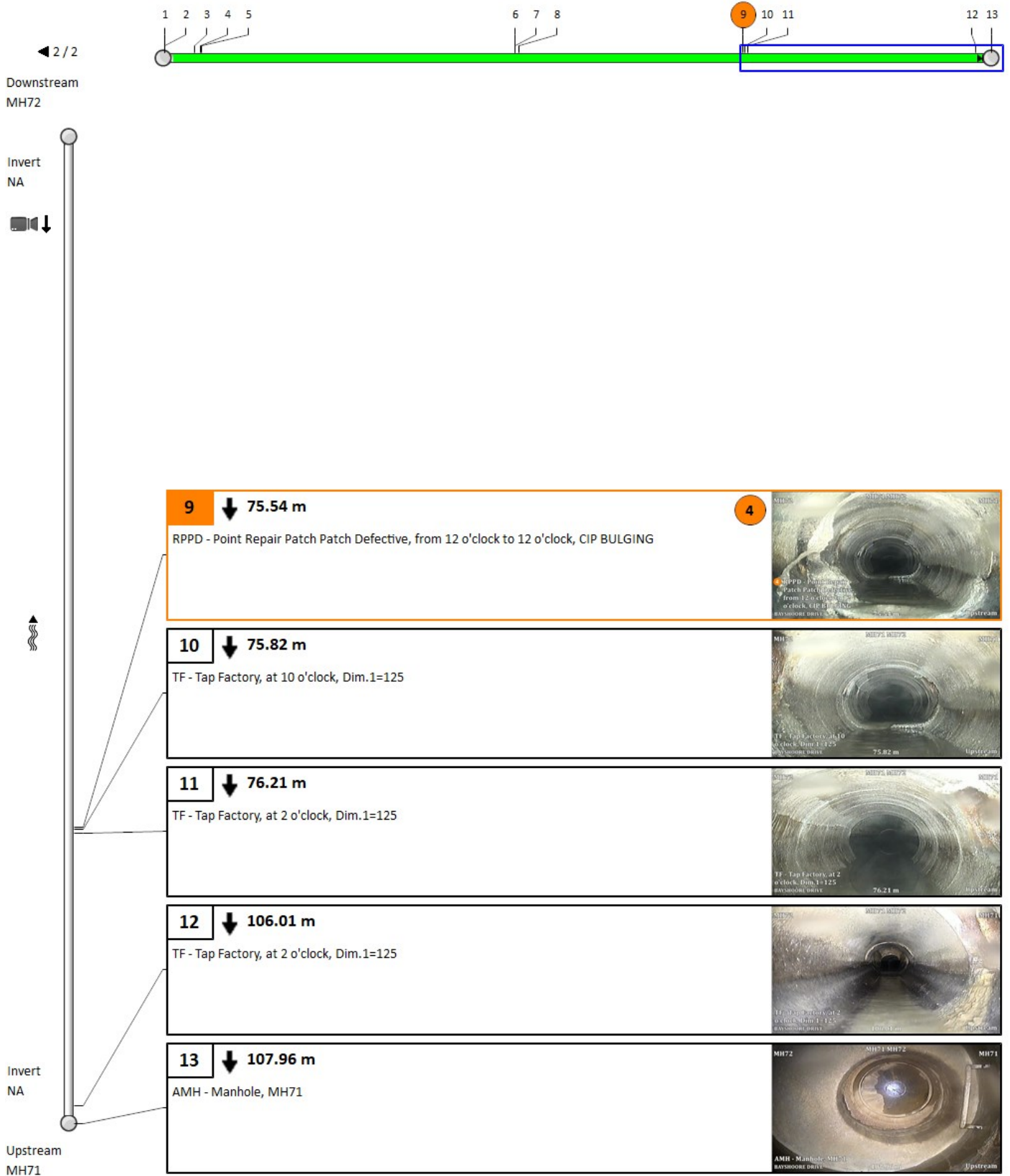
|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH72 MH73  
 Direction of flow: MH72 --> MH73

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | BAYSHOORE DRIVE  | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |        |
|-------------------|----------------------|------------------|--------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 106.23 |
| Height:           | 200                  | Total length:    | 106.23 |
| Width:            |                      | Joint length:    |        |
| Shape:            | Circular             | Rim/Inv.:        |        |
| Material:         | Asbestos Cement      | Grade/Inv.:      |        |
| Lining:           |                      | Rim/Grade:       |        |
| Coating Method:   |                      | Rim/Inv.:        |        |
| Year Constructed: |                      | Grade/Inv.:      |        |
| Year renewed:     |                      | Rim/Grade:       |        |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 2:09 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

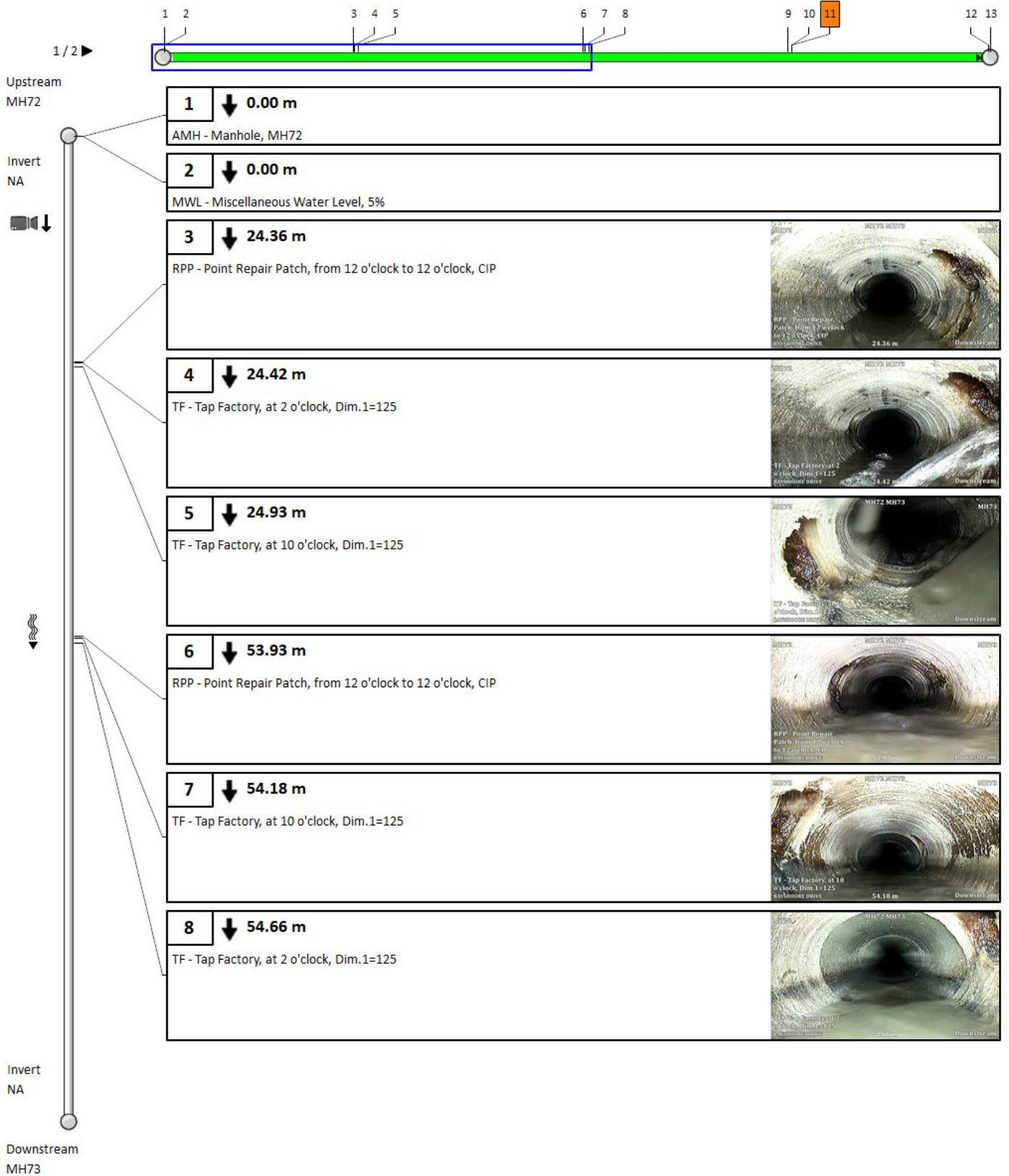
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

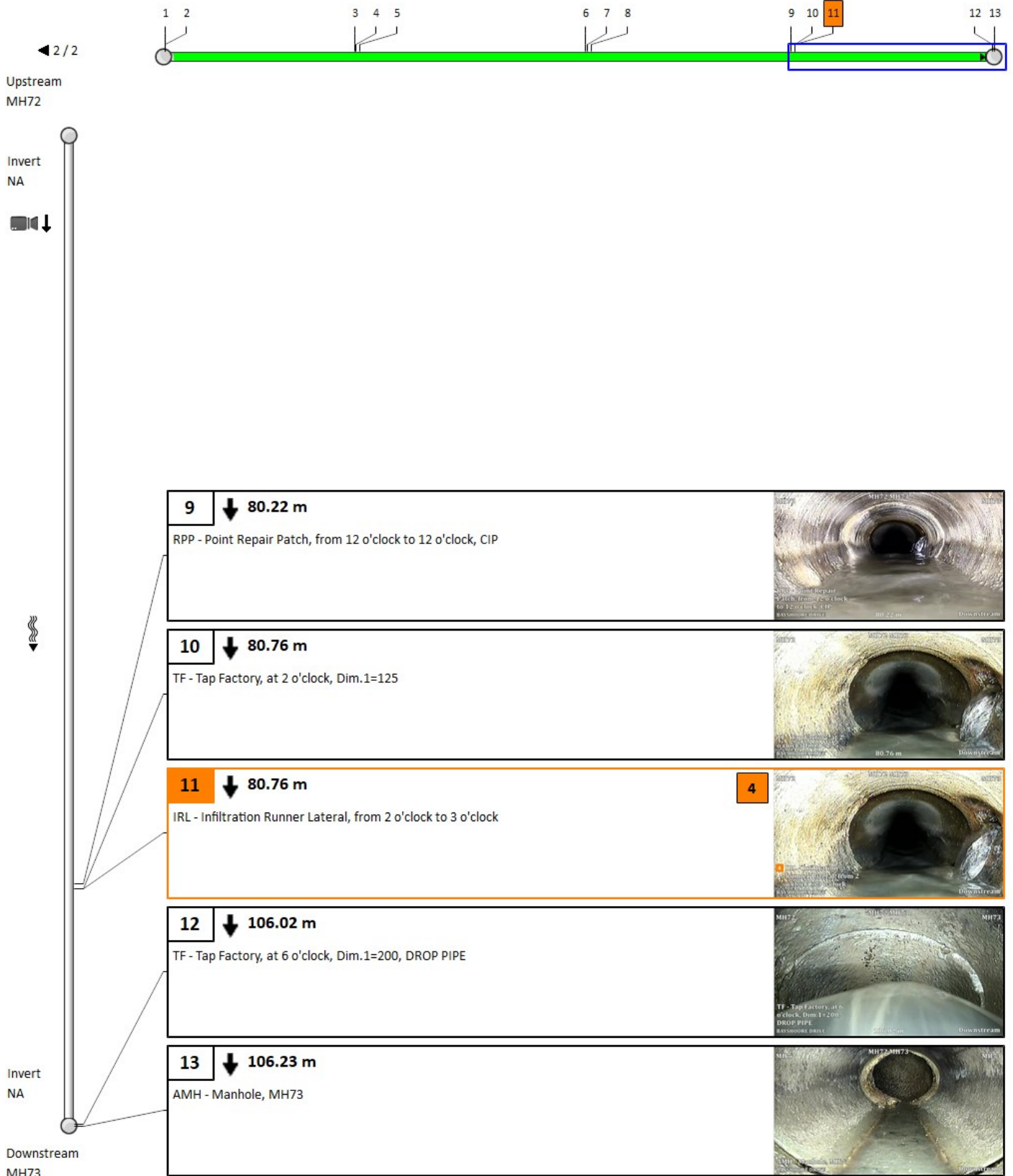
### Other information

|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details



# 5. Pipe summary and condition details



## 5. Pipe summary and condition details

### Pipe identification

Pipe: MH73 MH33  
 Direction of flow: MH73 --> MH33

### Pipe location

|                   |                  |                    |                   |
|-------------------|------------------|--------------------|-------------------|
| Road:             | FERNWOOD DRIVE   | <u>UPSTREAM</u>    | <u>DOWNSTREAM</u> |
| Crossroad:        |                  | Easting (X):       | Easting (X):      |
| Drainage Area:    |                  | Northing (Y):      | Northing (Y):     |
| City:             | BAYSHORE VILLAGE | Elevation (Z):     | Elevation (Z):    |
| Location:         |                  | GPS Accuracy:      |                   |
| Location details: |                  | Corrdinate System: |                   |
| Owner:            | BAYSHORE VILLAGE | Vertical Datum:    |                   |
| Road segment:     |                  |                    |                   |

### Pipe characteristics

|                   |                      |                  |       |
|-------------------|----------------------|------------------|-------|
| Pipe Use:         | Sanitary Sewage Pipe | Surveyed Length: | 67.73 |
| Height:           | 200                  | Total length:    | 67.73 |
| Width:            |                      | Joint length:    |       |
| Shape:            | Circular             | Rim/Inv.:        |       |
| Material:         | Asbestos Cement      | Grade/Inv.:      |       |
| Lining:           |                      | Rim/Grade:       |       |
| Coating Method:   |                      | Rim/Inv.:        |       |
| Year Constructed: |                      | Grade/Inv.:      |       |
| Year renewed:     |                      | Rim/Grade:       |       |

### Additional details

|                      |                     |                         |                 |
|----------------------|---------------------|-------------------------|-----------------|
| Inspection standard: | PACP 7.0            | Surveyed by:            | AHMAD YASEEN    |
| Inspection Status:   | Complete Inspection | Certificate Number:     | U-0317-07006296 |
| Date:                | 09/05/2022 3:27 PM  | Reviewed By:            |                 |
| Project:             |                     | Reviewer Certificate:   |                 |
| Customer:            | OCWA                | Pre-Cleaning:           | Light Cleaning  |
| PO number:           |                     | Date cleaned:           |                 |
| Work Order:          |                     | Media Label:            |                 |
| Purpose:             | Maintenance Related | Unit of measurement:    | Metric          |
| Weather:             | Dry                 | Sheet Number:           |                 |
| Flow control:        | Not Controlled      | Additional information: |                 |
| Used Technology:     | CCTV                |                         |                 |

### Structural rating

### O&M rating

### Overall rating

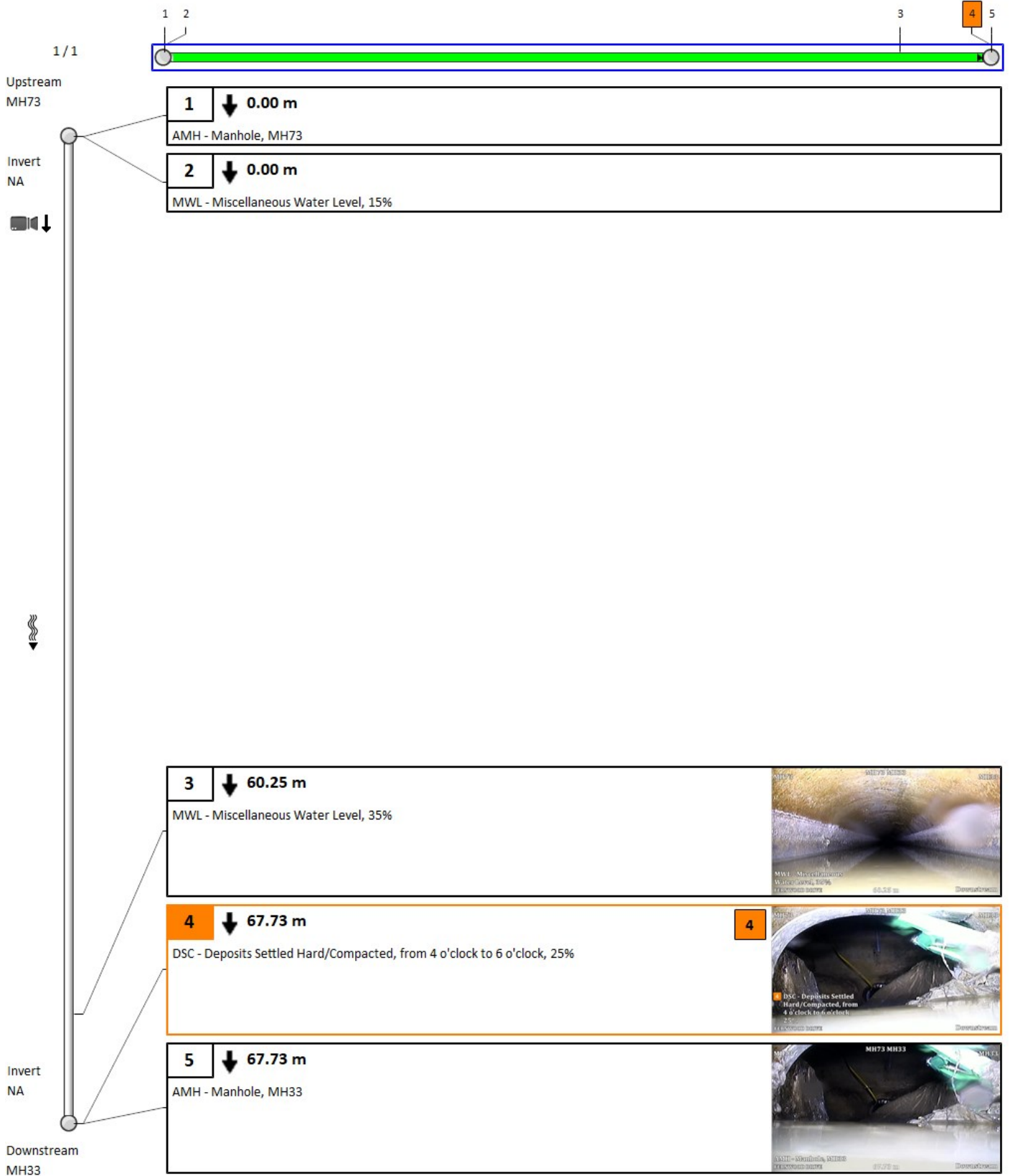
### Failure

|               |      |               |      |               |      |              |     |
|---------------|------|---------------|------|---------------|------|--------------|-----|
| Peak:         | 0    | Peak:         | 4    | Peak:         | 4    | Consequence: |     |
| Quick rating: | 0000 | Quick rating: | 4100 | Quick rating: | 4100 | Likelihood:  | 4.1 |
| Score:        | 0    | Score:        | 4    | Score:        | 4    | Risk:        |     |
| Index:        | 0    | Index:        | 4    | Index:        | 4    |              |     |

### Other information

















|                |            |                 |  |
|----------------|------------|-----------------|--|
| Information 1: | WESSUC INC | Information 6:  |  |
| Information 2: |            | Information 7:  |  |
| Information 3: |            | Information 8:  |  |
| Information 4: |            | Information 9:  |  |
| Information 5: |            | Information 10: |  |

# 5. Pipe summary and condition details





# Vision Report© Legend

|   |  |
|---|--|
|              | The numbers sequentially indicate each observation that was picked up throughout the inspection period. This will allow you to sift through the pages and view the accompanying description and photos in each section. Note that when a pipe section contains too many observations, Vision© Report must hide secondary observations in order to optimize the display.* |
| 60  | A number with neither a square nor circle indicates a general observation.   |
|              | A circled number indicates a structural anomaly. The color of the circle indicates the severity of the anomaly on a scale of 1 to 5, 5 being the most severe: green=1, blue=2, magenta=3, orange=4 and red=5.  |
|              | A number in a square indicates an operation and maintenance anomaly. The color of the square indicates the severity of the anomaly on a scale of 1 to 5, 5 being the most severe: green=1, blue=2, magenta=3, orange=4 and red=5.  |
| ◀ 3 / 31 ▶  | Indicates the current page number of the inspection report.  |
|              | The blue square indicates a section of the pipe; this section is covered in detail on the current page of the report.  |
|              | The green line indicates the inspected part of the pipe. The remaining white line indicates the uninspected part of the pipe.  |
|              | Indicates the hold points on the camera during an inspection.  |
|              | Indicates the hold points on the camera during the reverse inspection.   |
|              | Indicates that a reverse inspection was carried out, however the camera did not reach the initial inspection hold point. (the hold point of the initial inspection)  |
|              | Indicates that a reverse inspection was carried out and that it has joined (has arrived at) the initial inspection hold point.   |
| 401-059B<br> | Identifies the start manhole number. Note that this manhole is not necessarily the upstream manhole of the pipe.   |
| 401-631<br>  | Identifies the end manhole number. Note that this manhole is not necessarily the downstream manhole of the pipe.   |
|            | A downward arrow indicates that the inspection was carried out in the direction of the current, whereas an upward arrow indicates an inspection against the current.<br>Note that the manhole located on the upper left of the page is always the start manhole, but not necessarily the upstream manhole of the pipe.   |
|            | This camera followed by a downward arrow is located on the upper left of the vertical pipe; it indicates that an inspection was done from this manhole.  |
|            | When the second camera appears on the bottom left page it means that a reverse inspection was carried out. Information about the reverse inspection is included in the report, thereby combining both inspections.   |
| Invert<br>3.40  | The measurement shown under the word <Invert> indicates the measurements between the frame and the pipe captured during the inspection. This measurement is available at the top left for the start manhole and the bottom left for the end manhole. If the invert was not measured during the inspection, an <NA> mark will be displayed.                               |
|            | The downward bold arrow to the right of the observation number indicates that this observation was captured during the initial inspection.   |
|            | The blank arrow pointing upwards and located to the right of the observation number indicates that this observation was taken during the reverse inspection period, thereby confirming that this report combined both inspections.   |
| 18.40 m   | Located to the right of the observation number is a number identifying the observation distance in relation to the start of the pipe.  |
| SRV - Armature visib  | A full description of the observation code according to the protocol used.   |

\*Any hidden observations are readily accessible from the database as well as in other CTSpec report templates.

\*\* CTSpec inc. reserves the right to modify, eliminate or add to the product features described in this pamphlet without notice.

© 2012 CTSpec inc. All rights reserved.

# **ATTACHMENT B**

## **Ramara Flow Monitoring (Apr-Jul)**

### **Civica Infrastructure Inc.**

# Monthly OCW Report

## Ramara Flow Monitoring

*Monitoring Period: Apr 01, 2022 – Jul 31, 2022*

*Generated on: Sep 06, 2022*

## Table of Contents

|  |    |
|--|----|
| <b>Flow Statistic Summary Table</b> .....                        | 2  |
| <b>Total Daily Flow Volume Graph (Monitoring Duration)</b> ..... | 3  |
| <b>RDII (I/I) Analysis (MH33 FM01)</b> .....                     | 4  |
| <b>RDII (I/I) Analysis (MH33 FM02)</b> .....                     | 5  |
| <b>Data Charts MH33 FM01 (Weekly)</b> .....                      | 6  |
| <b>Data Charts MH33 FM02 (Weekly)</b> .....                      | 24 |
| <b>Appendices</b>  |    |
| <b>Appendix A April Monthly Report</b>                           |    |
| <b>Appendix B May Monthly Report</b>                             |    |
| <b>Appendix C June Monthly Report</b>                            |    |

## Flow Statistics Summary Table

### MH33 FM01

| Period   | Total Precipitation (mm) | Average Daily Flow (L/s) | Peak Flow (L/s) | GWI (L/s) |
|----------|--------------------------|--------------------------|-----------------|-----------|
| April-22 | 71.75                    | 3.89                     | 21.08           | 0.794     |
| May-22   | 42.25                    | 1.35                     | 19.05           | 0.006     |
| June-22  | 160.75                   | 1.23                     | 12.37           | 0.004     |
| July-22  | 60                       | 1.13                     | 9.06            | 0.003     |
| Overall  | 334.75                   | 1.90                     | 21.08           | 0.052     |

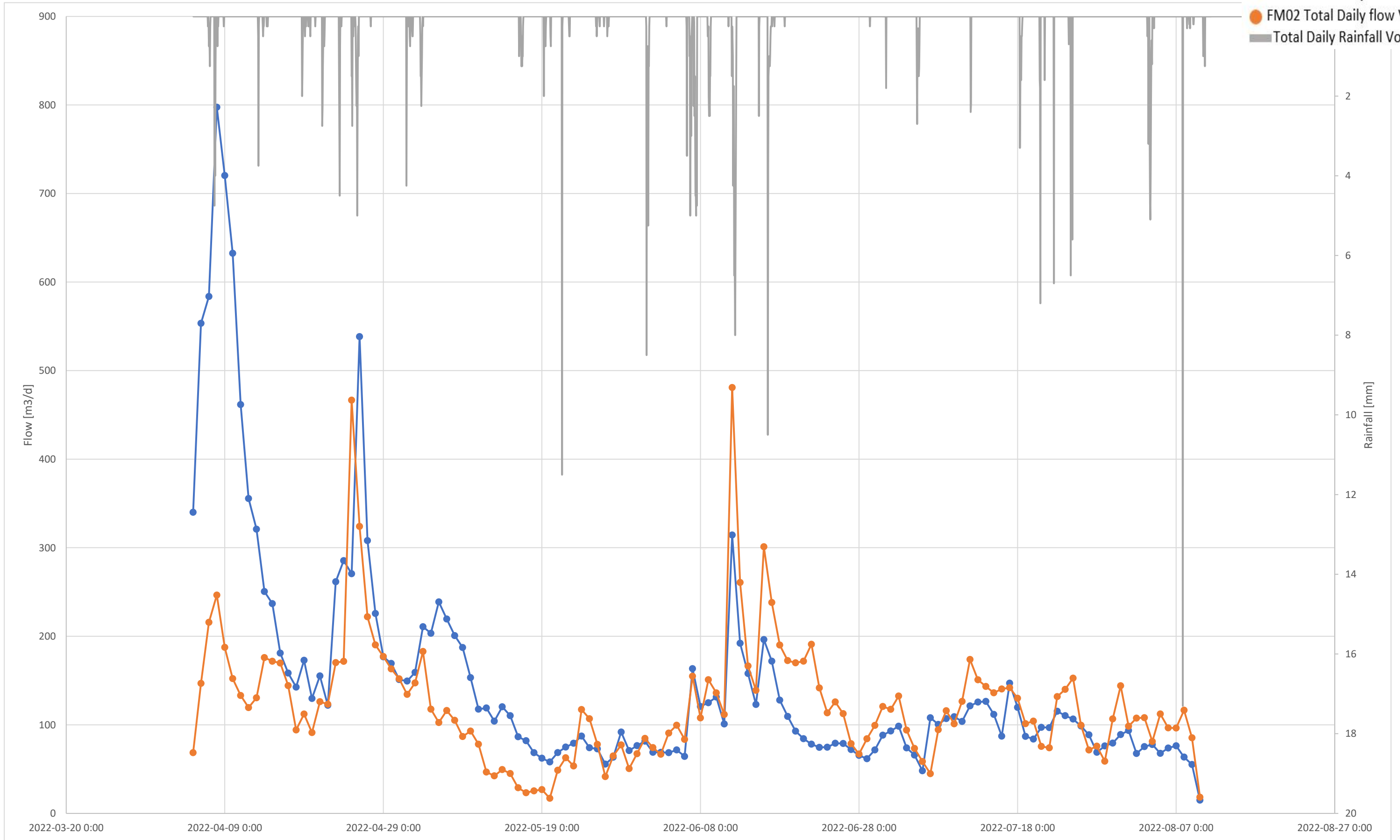
### MH33 FM02

| Period   | Total Precipitation (mm) | Average Daily Flow (L/s) | Peak Flow (L/s) | GWI (L/s) |
|----------|--------------------------|--------------------------|-----------------|-----------|
| April-22 | 71.75                    | 2.04                     | 49.79           | 0.025     |
| May-22   | 42.25                    | 0.89                     | 16.63           | 0.006     |
| June-22  | 160.75                   | 1.72                     | 19.4            | 0.017     |
| July-22  | 60                       | 1.28                     | 8.97            | 0.115     |
| Overall  | 334.75                   | 1.48                     | 49.79           | 0.041     |

# Daily Flow Volume

## Legend

- FM01 Total Daily Flow Volume
- FM02 Total Daily flow Volume
- Total Daily Rainfall Volume



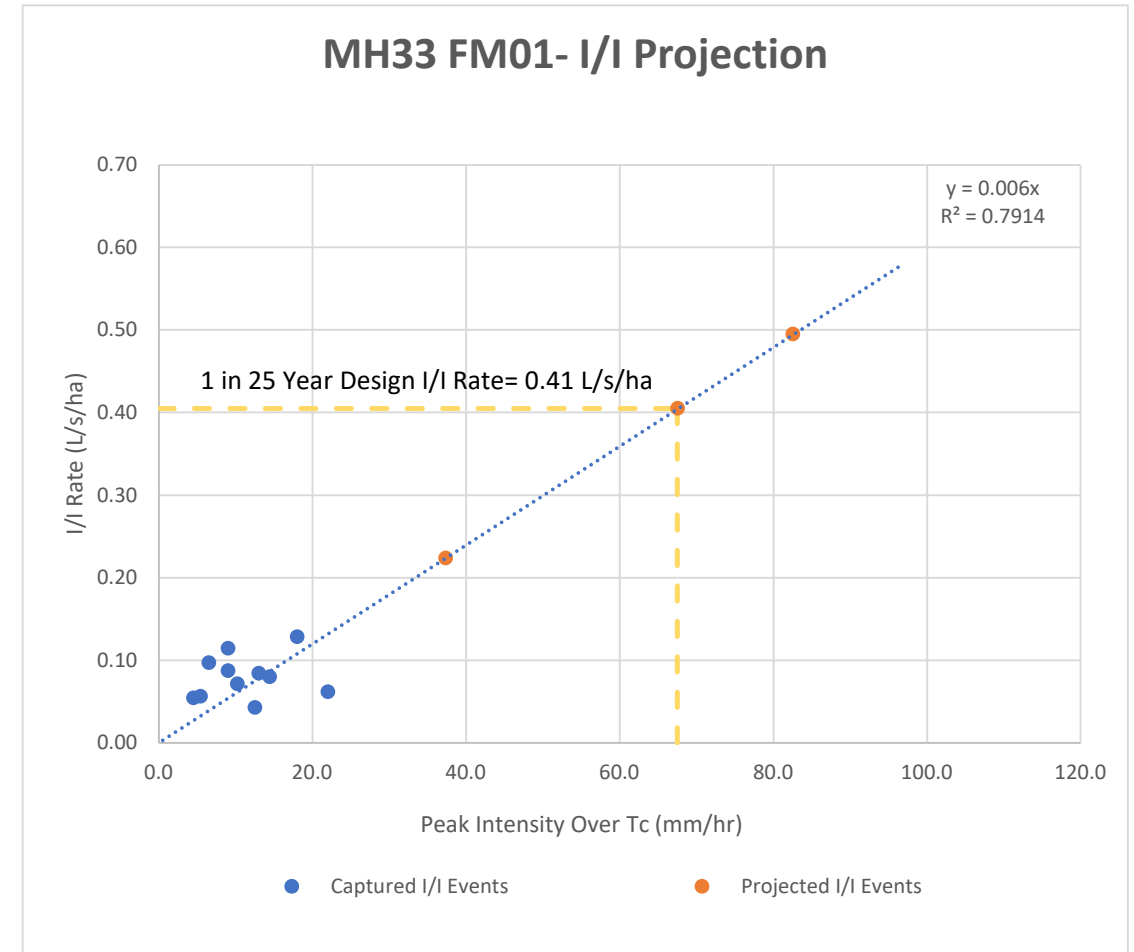


**MH33 FM01 (North)  
Inflow and Infiltration (I/I) Report  
Catchment Area: 47.1 ha**

| Event     | Total precipitation | Duration | Peak intensity over station's Tc | I/I Rate (L/s/ha) |        |
|-----------|---------------------|----------|----------------------------------|-------------------|--------|
|           | (mm)                | (hr)     | (mm/Tc)                          | L/s               | L/s/ha |
| 23-Apr-22 | 10                  | 7        | 6.5                              | 4.57              | 0.10   |
| 21-May-22 | 12                  | 1        | 22.0                             | 2.91              | 0.06   |
| 01-Jun-22 | 20                  | 8        | 12.5                             | 2.01              | 0.04   |
| 06-Jun-22 | 49                  | 31       | 9.0                              | 4.12              | 0.09   |
| 08-Jun-22 | 14                  | 9        | 4.5                              | 2.56              | 0.05   |
| 11-Jun-22 | 51                  | 23       | 9.0                              | 5.39              | 0.11   |
| 16-Jun-22 | 23                  | 20       | 18.0                             | 6.05              | 0.13   |
| 05-Jul-22 | 11                  | 8        | 5.4                              | 2.65              | 0.06   |
| 20-Jul-22 | 11                  | 2        | 14.4                             | 3.76              | 0.08   |
| 24-Jul-22 | 14                  | 11       | 13.0                             | 3.96              | 0.08   |
| 03-Aug-22 | 27                  | 20       | 10.2                             | 3.36              | 0.07   |

Please note: 10mm storm size is used for rainfall analysis

| Projected Events    | Intensity Over Timestamp = 30 min | I/I Projection |
|---------------------|-----------------------------------|----------------|
|                     | (mm/hr)                           | L/s/ha         |
| 1 in 2-Year Storm   | 37.30                             | 0.22           |
| 1 in 25-Year Storm  | 67.50                             | 0.41           |
| 1 in 100-Year Storm | 82.50                             | 0.50           |

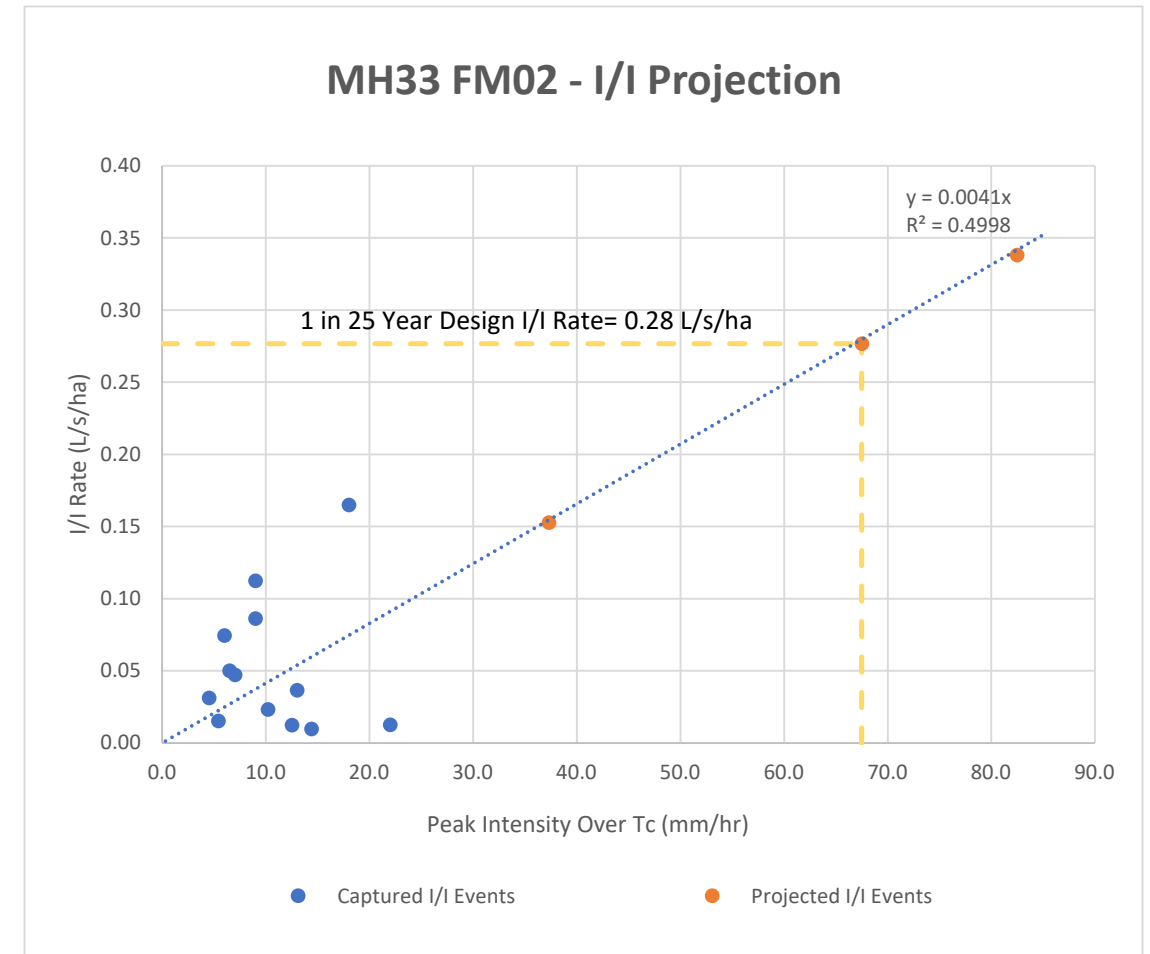


**MH33 FM02 (South)**  
**Inflow and Infiltration (I/I) Report**  
**Catchment Area: 49.82 ha**

| Event     | Total precipitation | Duration<br>(hr) | Peak intensity<br>over station's Tc<br>(mm/Tc) | I/I Rate (L/s/ha) |        |
|-----------|---------------------|------------------|--|-------------------|--------|
|           | (mm)                |                  |  | L/s               | L/s/ha |
| 07-Apr-22 | 12                  | 11               | 7.0  | 2.36              | 0.05   |
| 23-Apr-22 | 10                  | 7                | 6.5  | 2.51              | 0.05   |
| 24-Apr-22 | 23                  | 22               | 6.0  | 3.71              | 0.07   |
| 21-May-22 | 12                  | 1                | 22.0   | 0.64              | 0.01   |
| 01-Jun-22 | 20                  | 8                | 12.5   | 0.62              | 0.01   |
| 06-Jun-22 | 49                  | 31               | 9.0  | 4.30              | 0.09   |
| 08-Jun-22 | 14                  | 9                | 4.5  | 1.57              | 0.03   |
| 11-Jun-22 | 51                  | 23               | 9.0  | 5.60              | 0.11   |
| 16-Jun-22 | 23                  | 20               | 18.0   | 8.23              | 0.17   |
| 05-Jul-22 | 11                  | 8                | 5.4  | 0.77              | 0.02   |
| 20-Jul-22 | 11                  | 2                | 14.4   | 0.49              | 0.01   |
| 24-Jul-22 | 14                  | 11               | 13.0   | 1.83              | 0.04   |
| 03-Aug-22 | 27                  | 20               | 10.2   | 1.17              | 0.02   |

Please note: 10mm storm size is used for rainfall analysis.

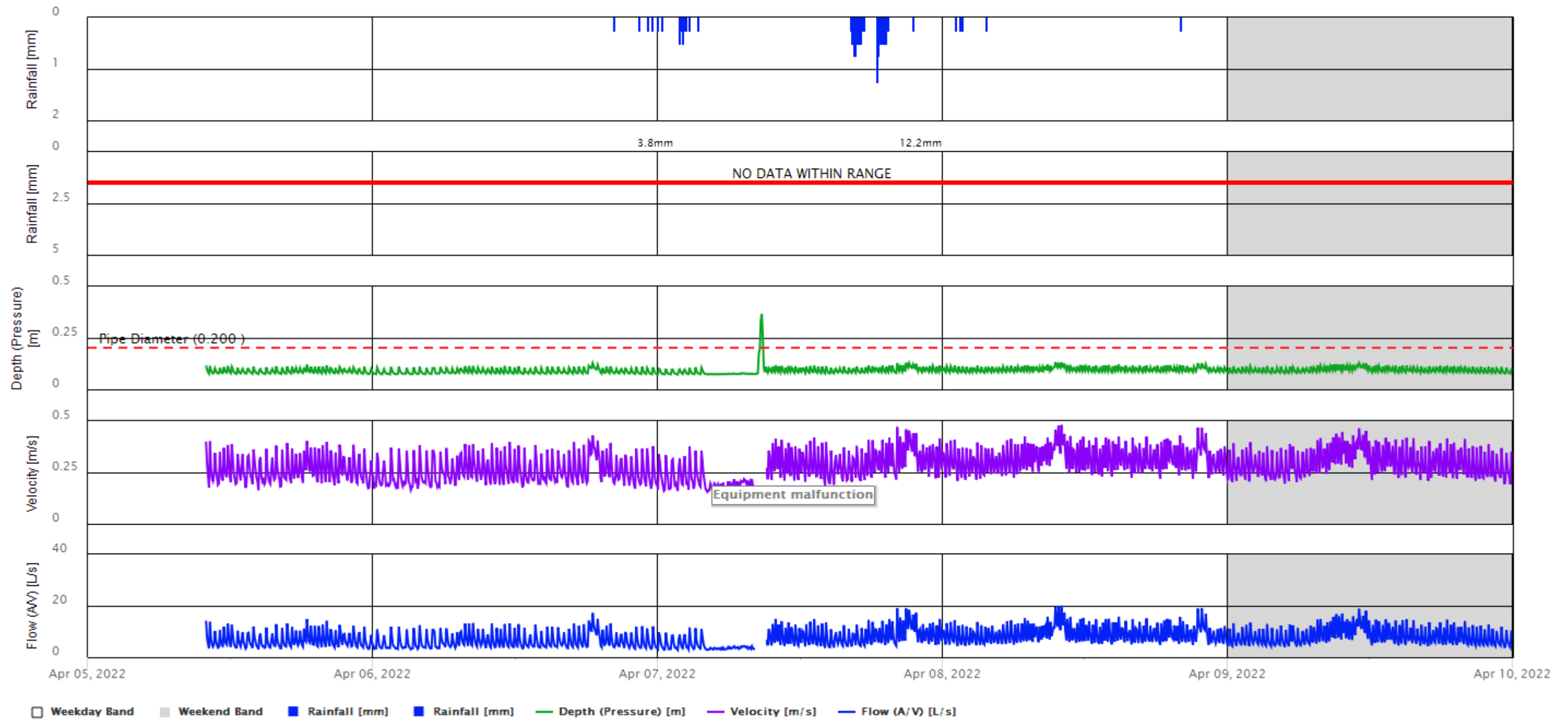
| Projected Events    | Intensity Over<br>Timestamp =<br>30 min | I/I Projection |
|---------------------|---|----------------|
|                     | (mm/hr)                                 | L/s/ha         |
| 1 in 2-Year Storm   | 37.30                                   | 0.15           |
| 1 in 25-Year Storm  | 67.50                                   | 0.28           |
| 1 in 100-Year Storm | 82.50                                   | 0.34           |



# Data Chart

Station: MH33\_FM01 (North)

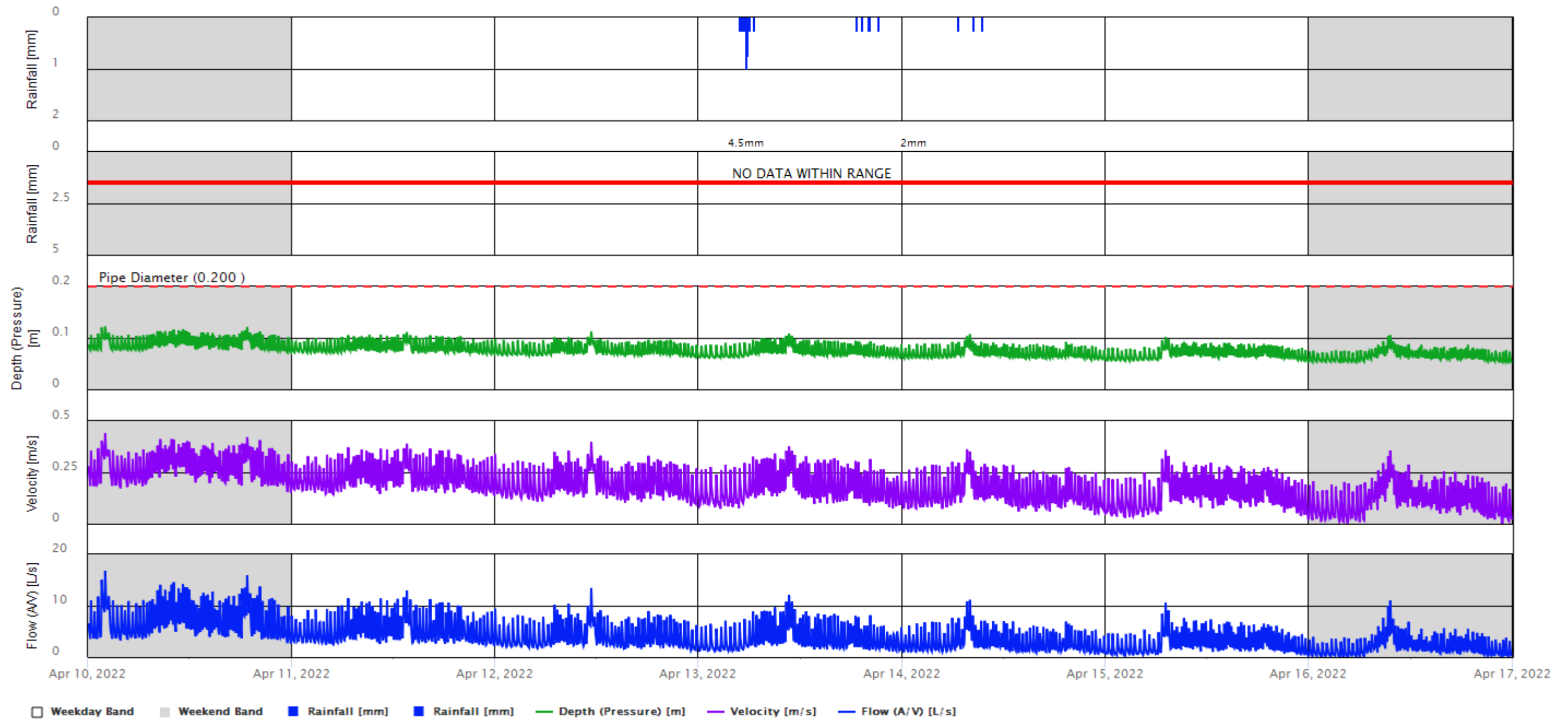
[Apr 05, 2022 – Apr 09, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

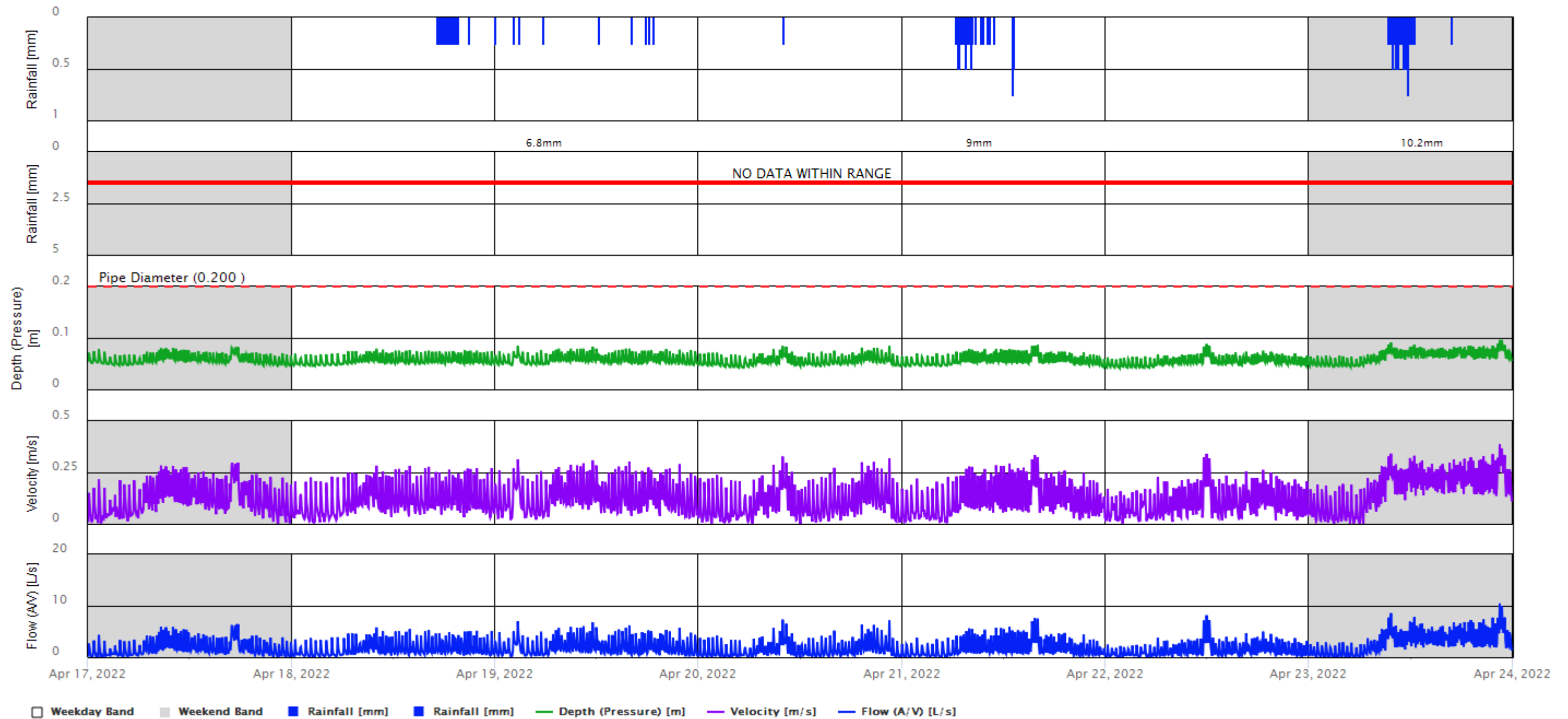
[Apr 10, 2022 – Apr 16, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

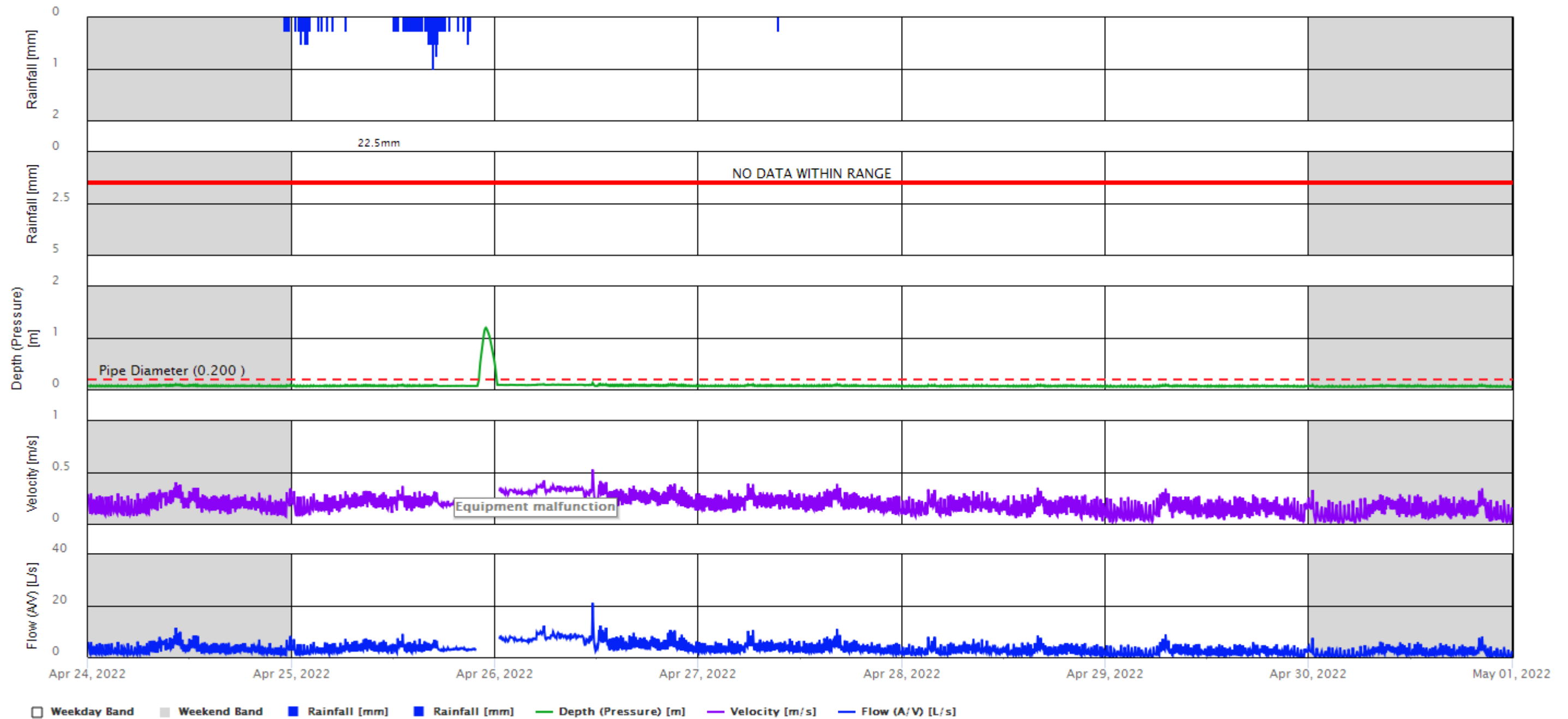
[Apr 17, 2022 – Apr 23, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

[Apr 24, 2022 – Apr 30, 2022](#)

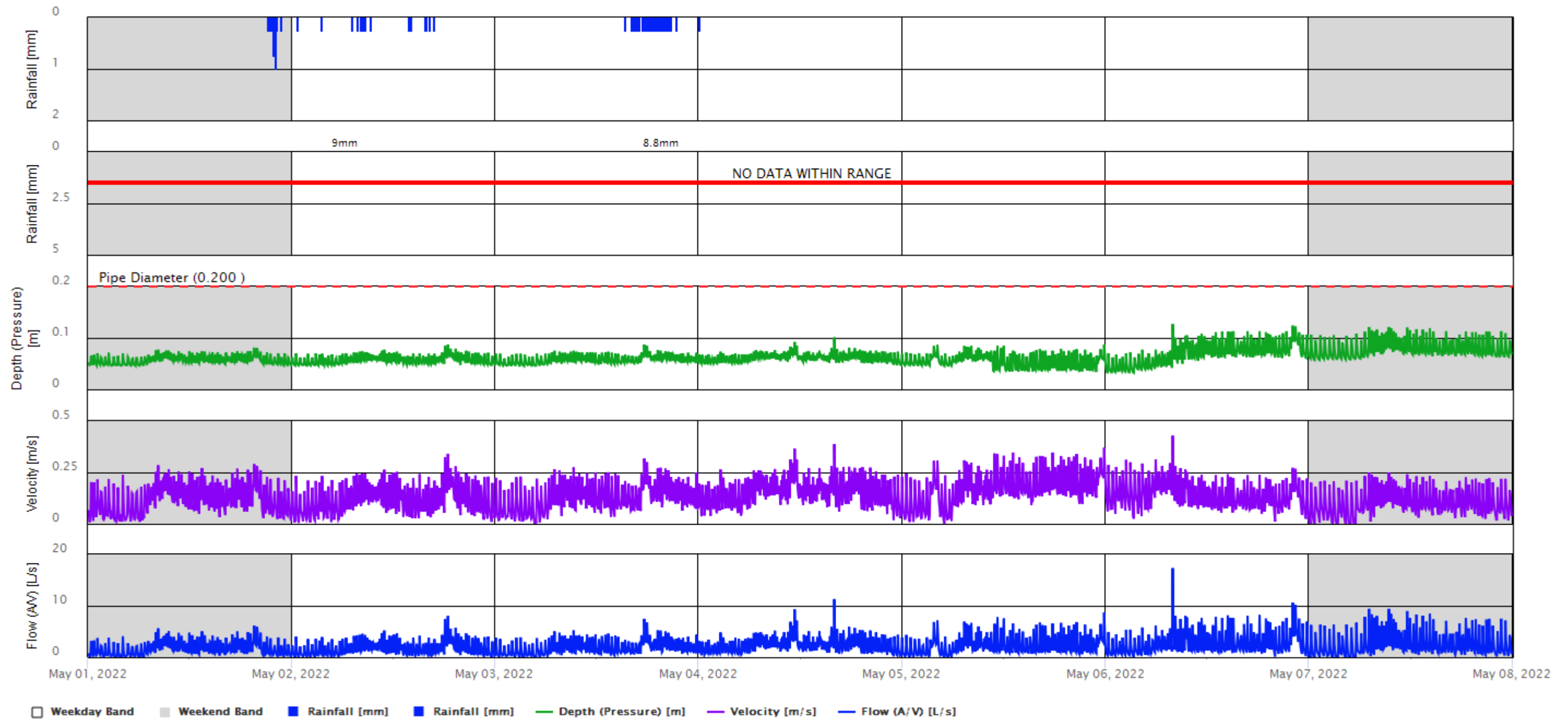




# Data Chart

Station: MH33\_FM01 (North)

[May 01, 2022 – May 07, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

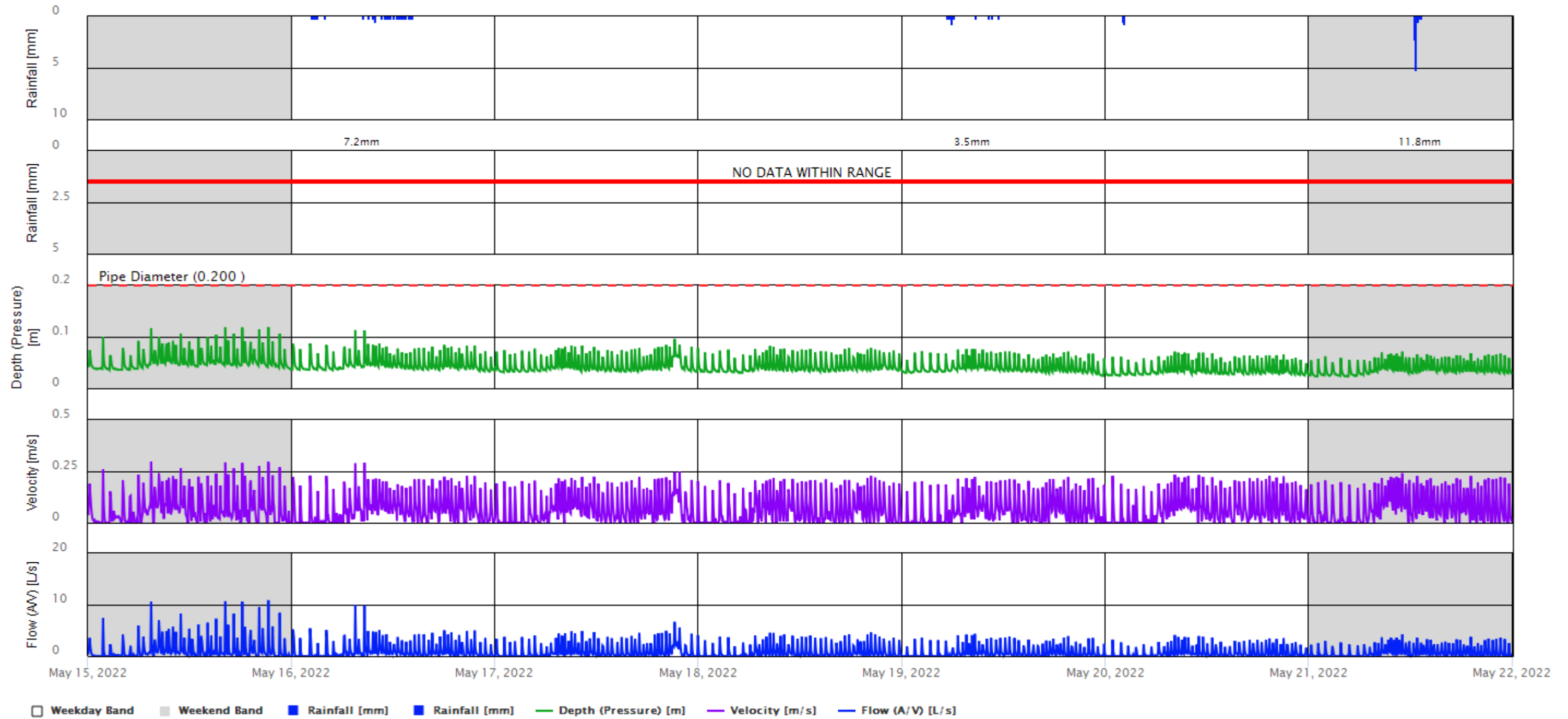
[May 08, 2022 – May 14, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

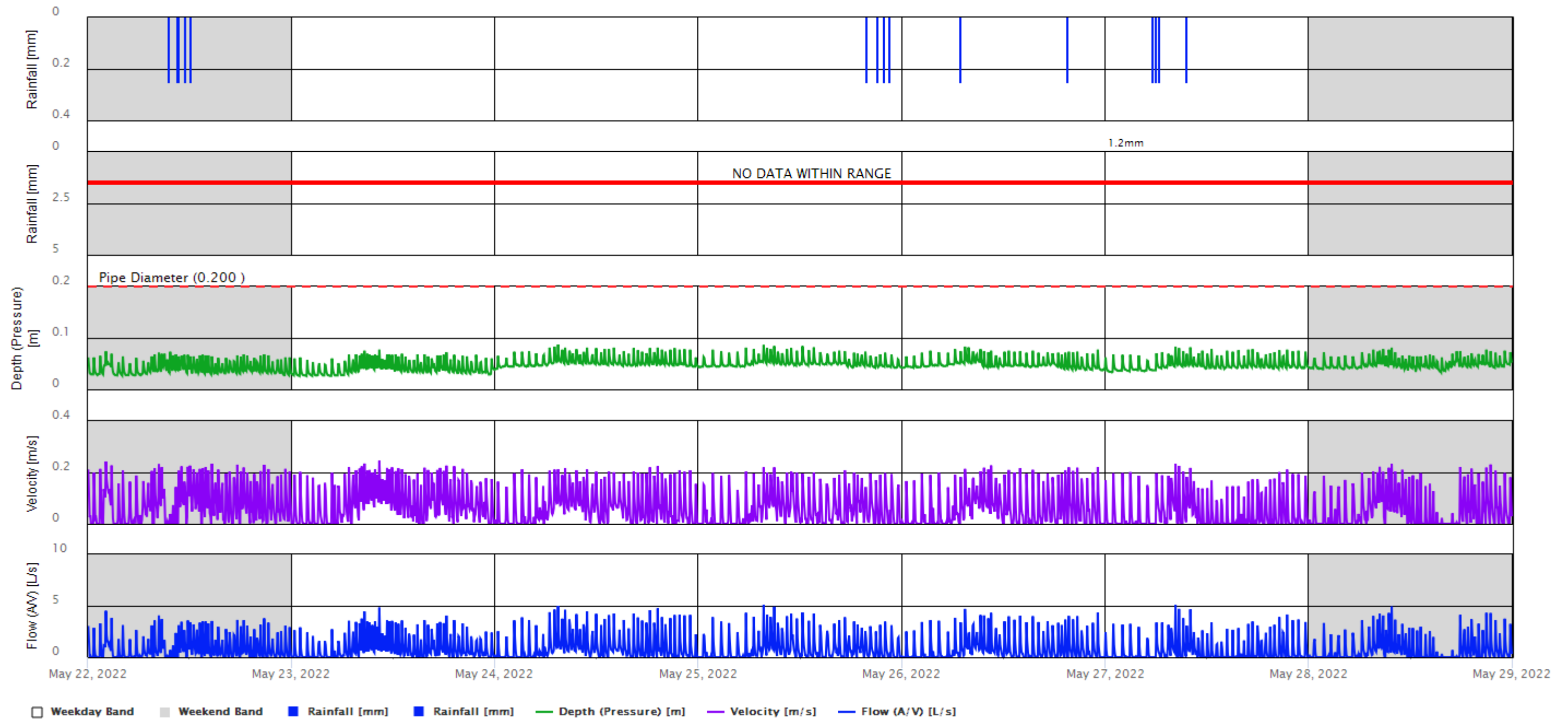
[May 15, 2022 – May 21, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

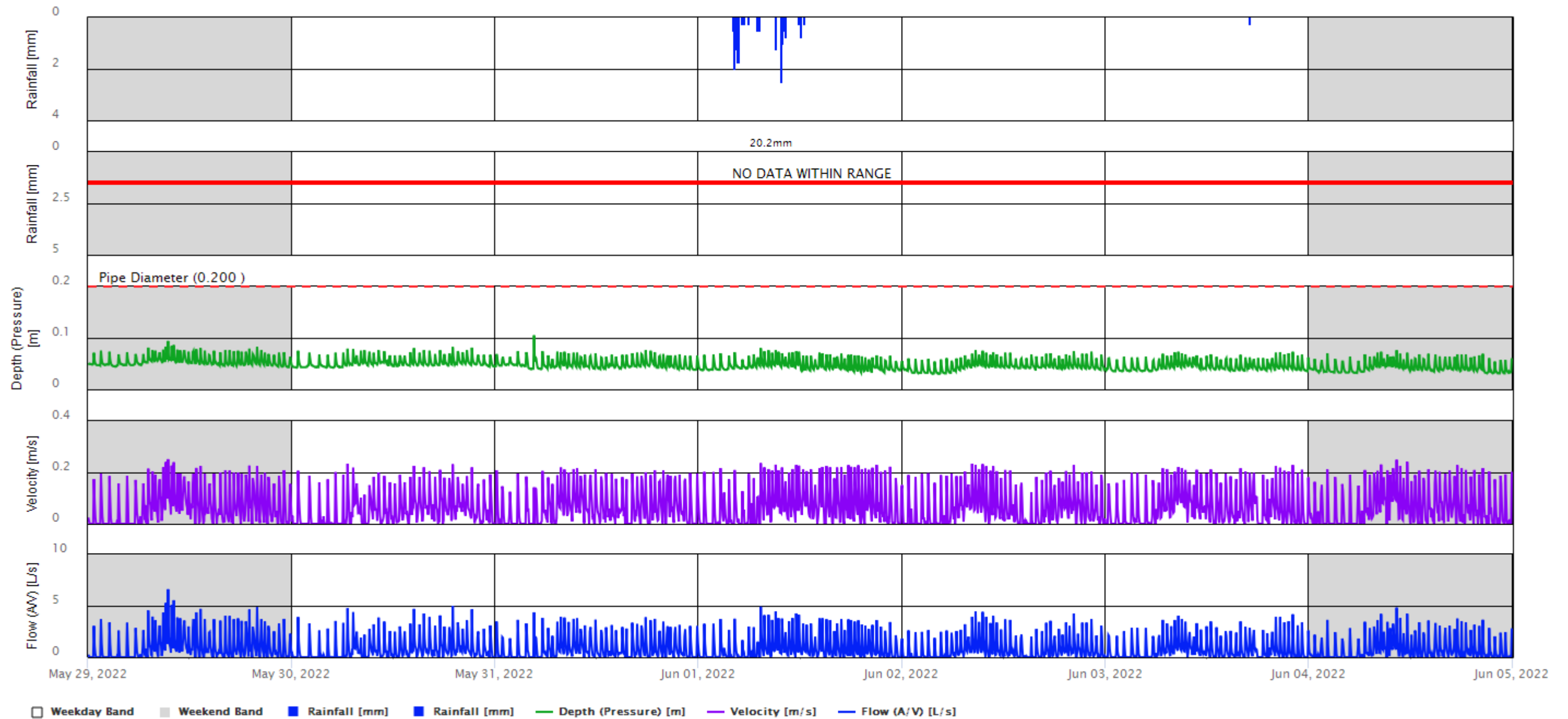
[May 22, 2022 – May 28, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

[May 29, 2022 – Jun 04, 2022](#)

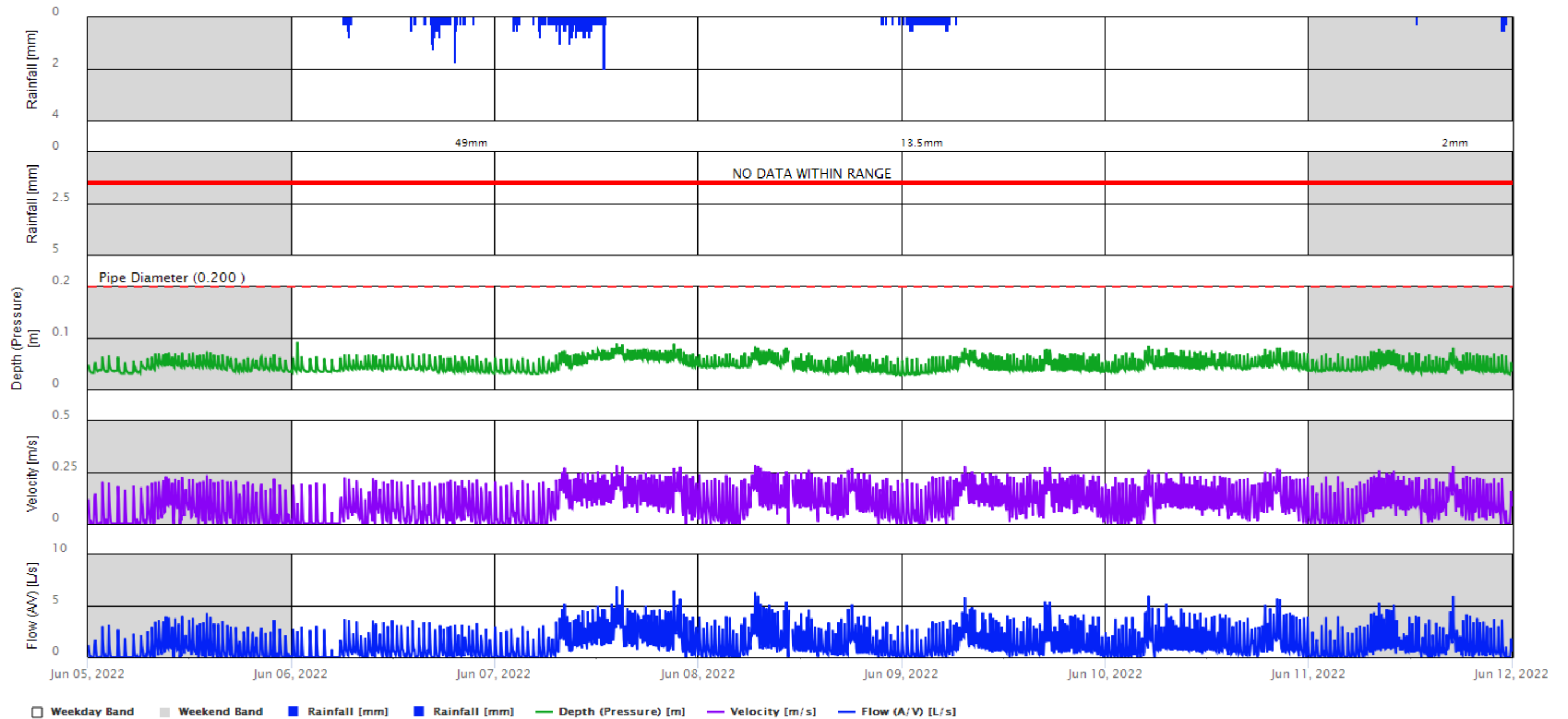




# Data Chart

Station: MH33\_FM01 (North)

[Jun 05, 2022 – Jun 11, 2022](#)

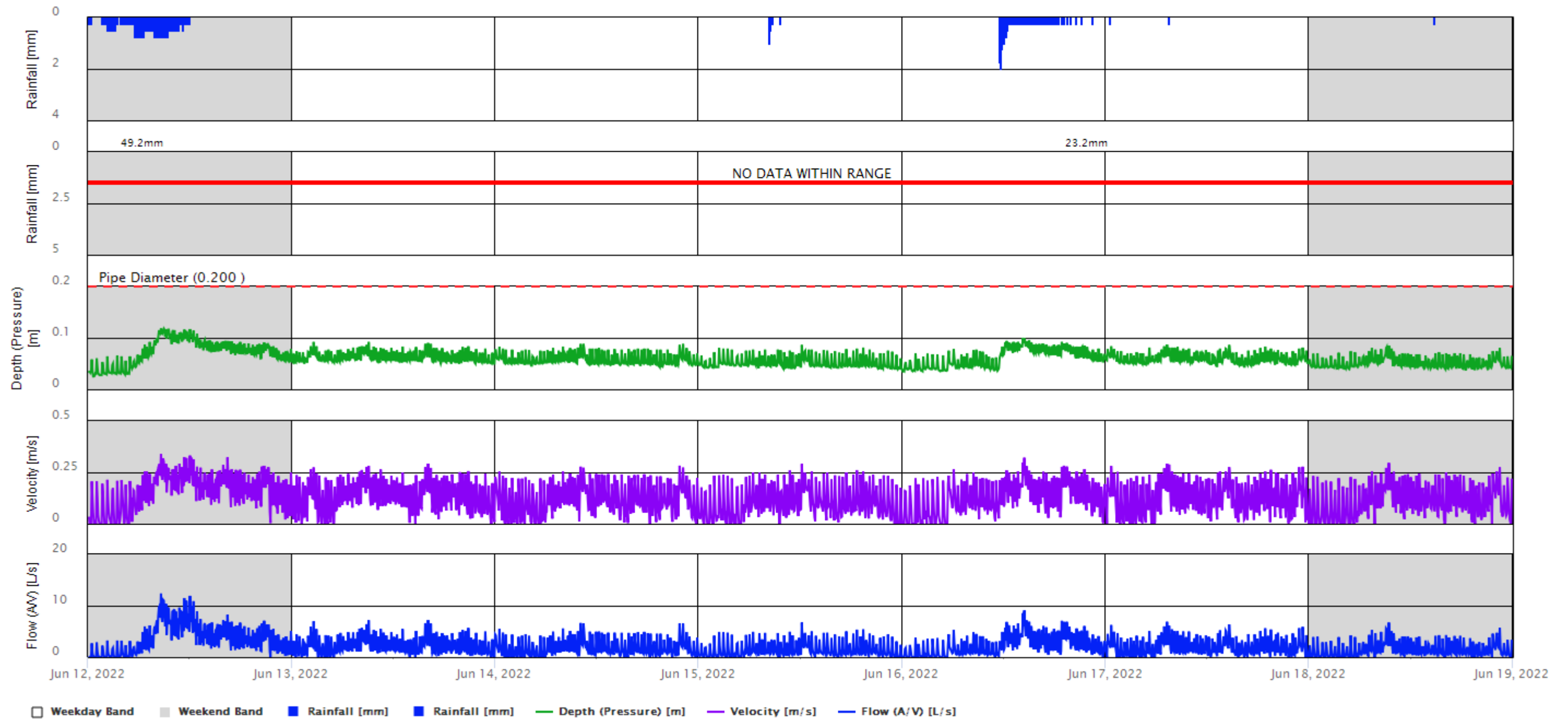




# Data Chart

Station: MH33\_FM01 (North)

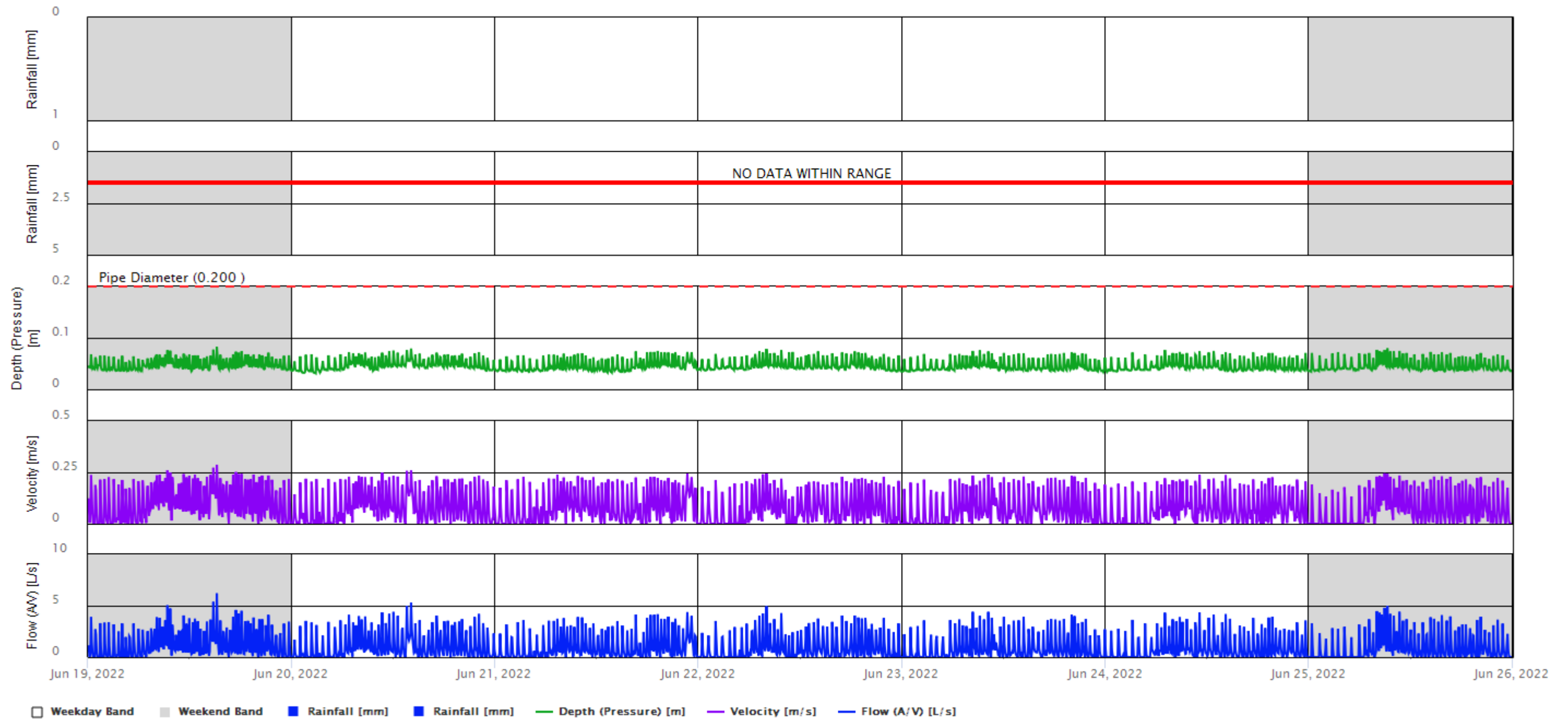
[Jun 12, 2022 – Jun 18, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

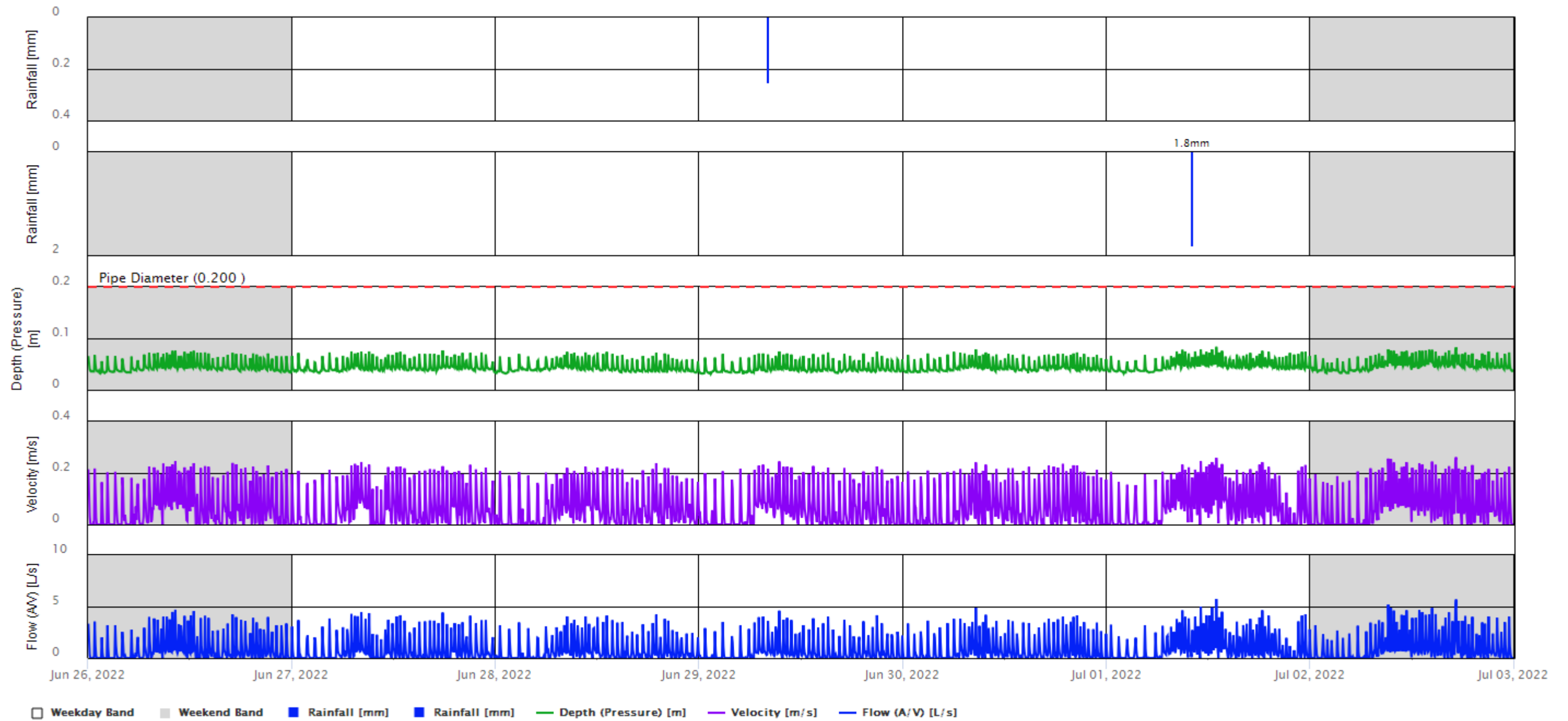
[Jun 19, 2022 – Jun 25, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

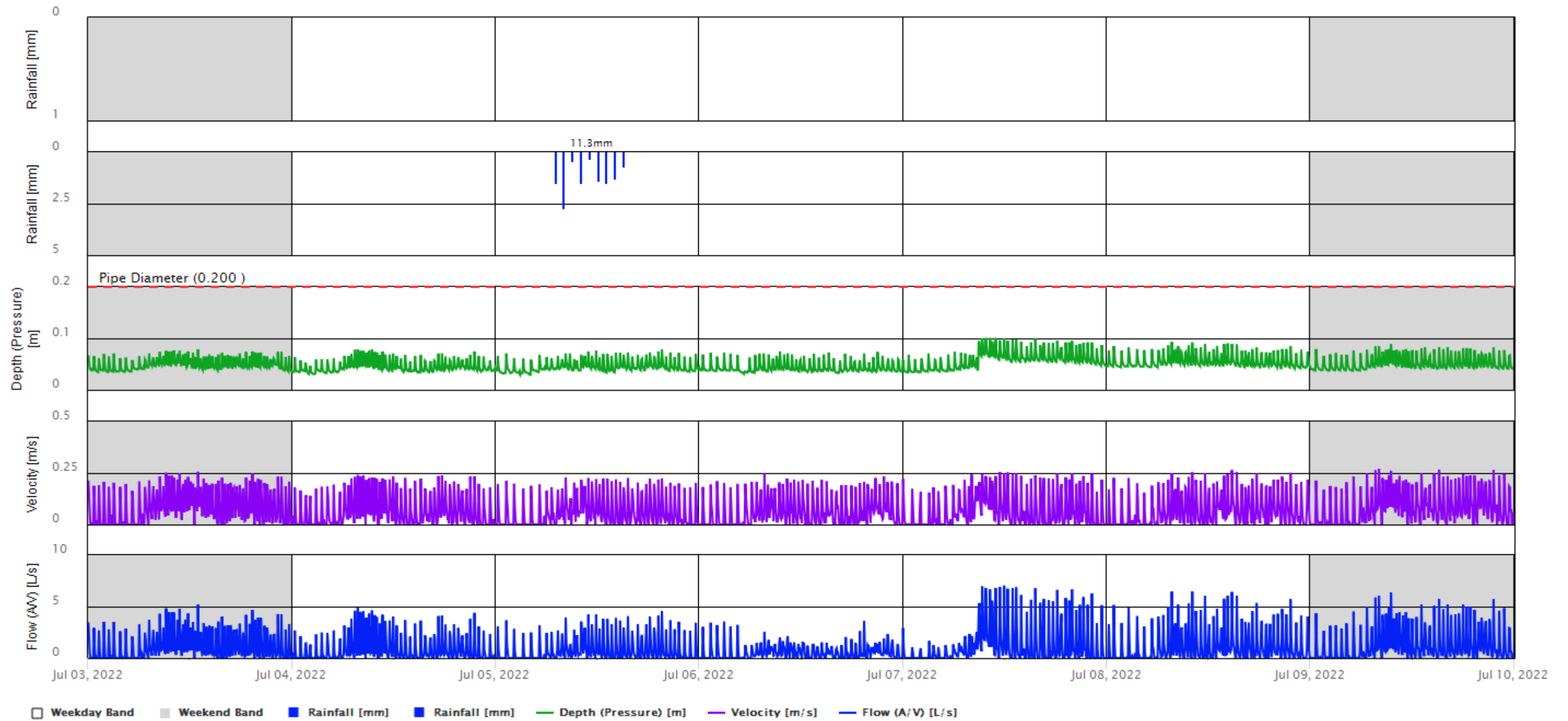
[Jun 26, 2022 – Jul 02, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

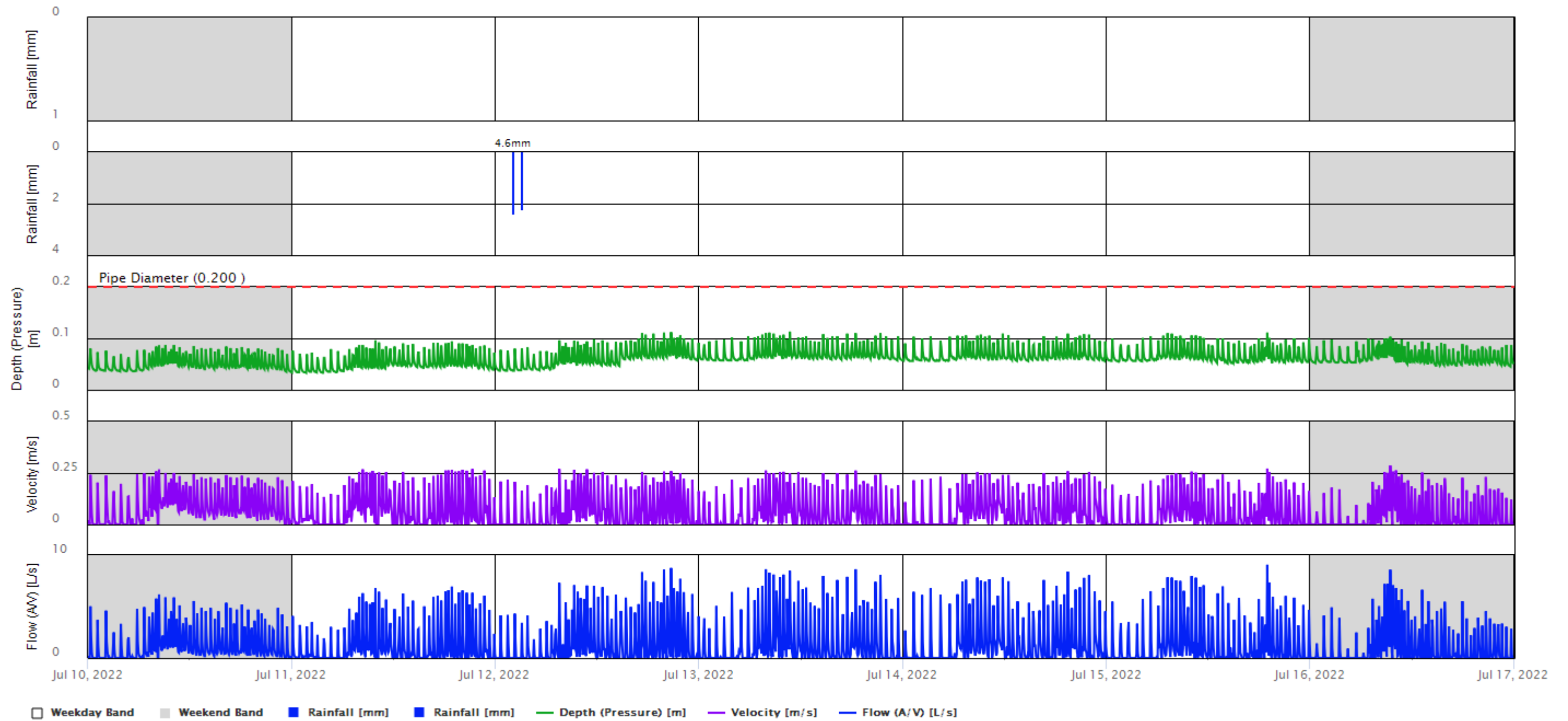
[Jul 03, 2022 – Jul 09, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

[Jul 10, 2022 – Jul 16, 2022](#)

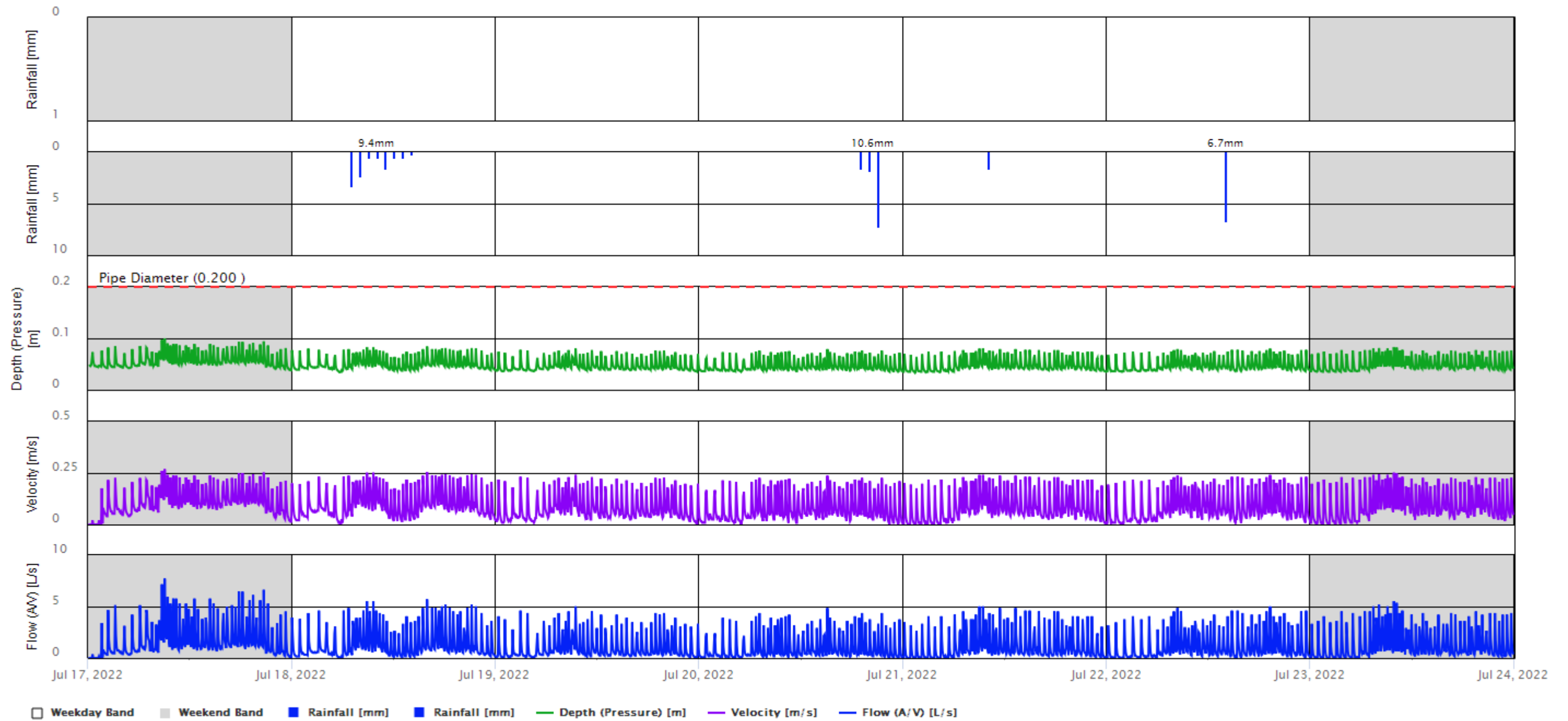




# Data Chart

Station: MH33\_FM01 (North)

[Jul 17, 2022 – Jul 23, 2022](#)

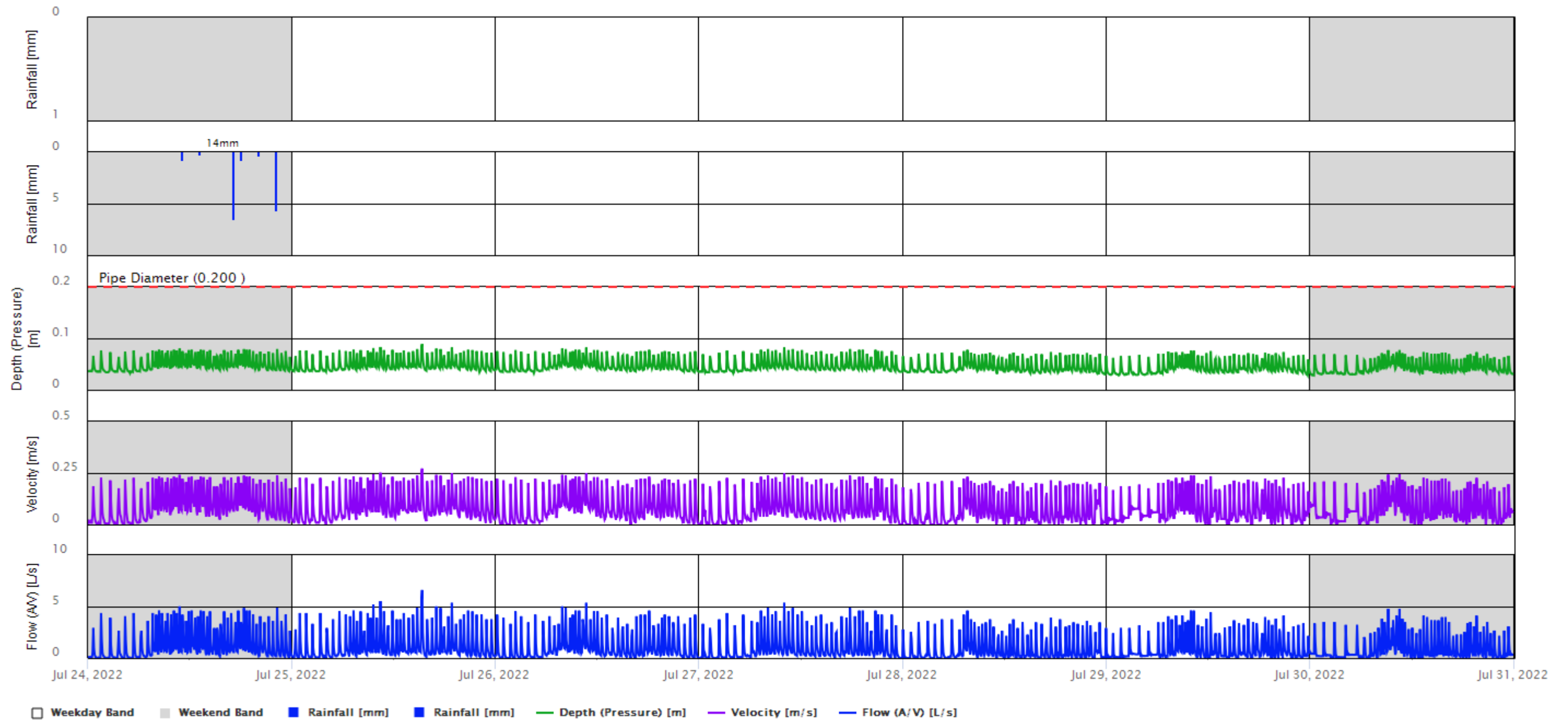




# Data Chart

Station: MH33\_FM01 (North)

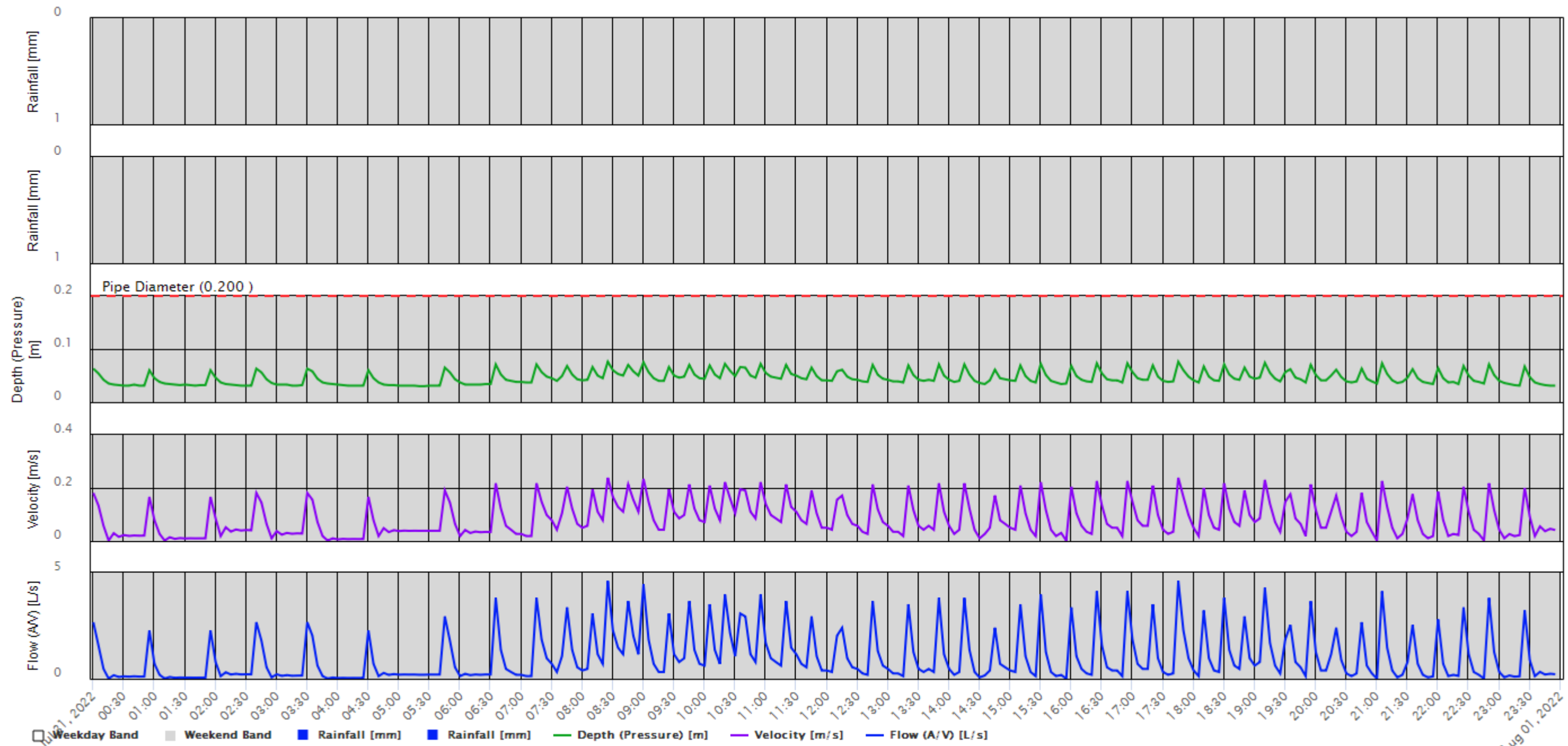
[Jul 24, 2022 – Jul 30, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

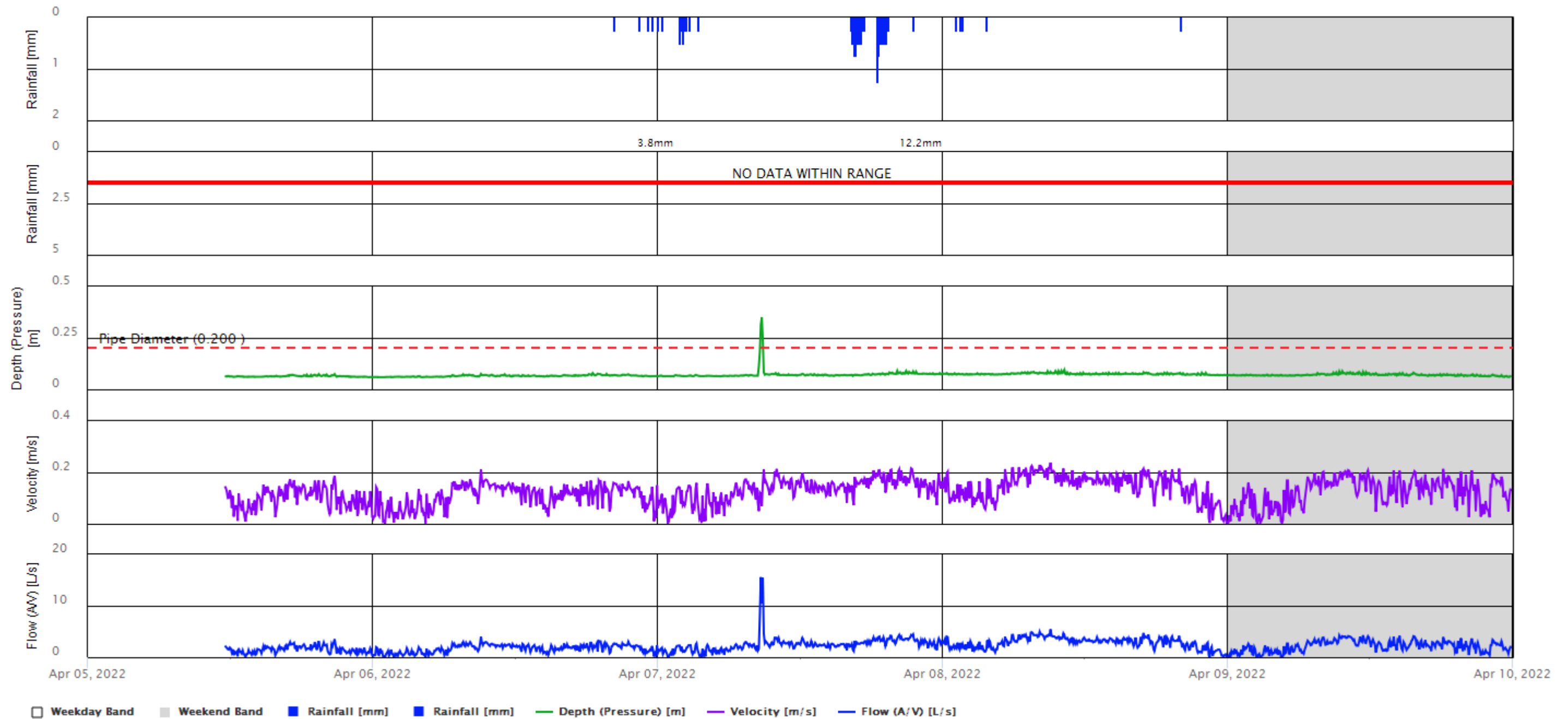
[Jul 31, 2022 – Jul 31, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

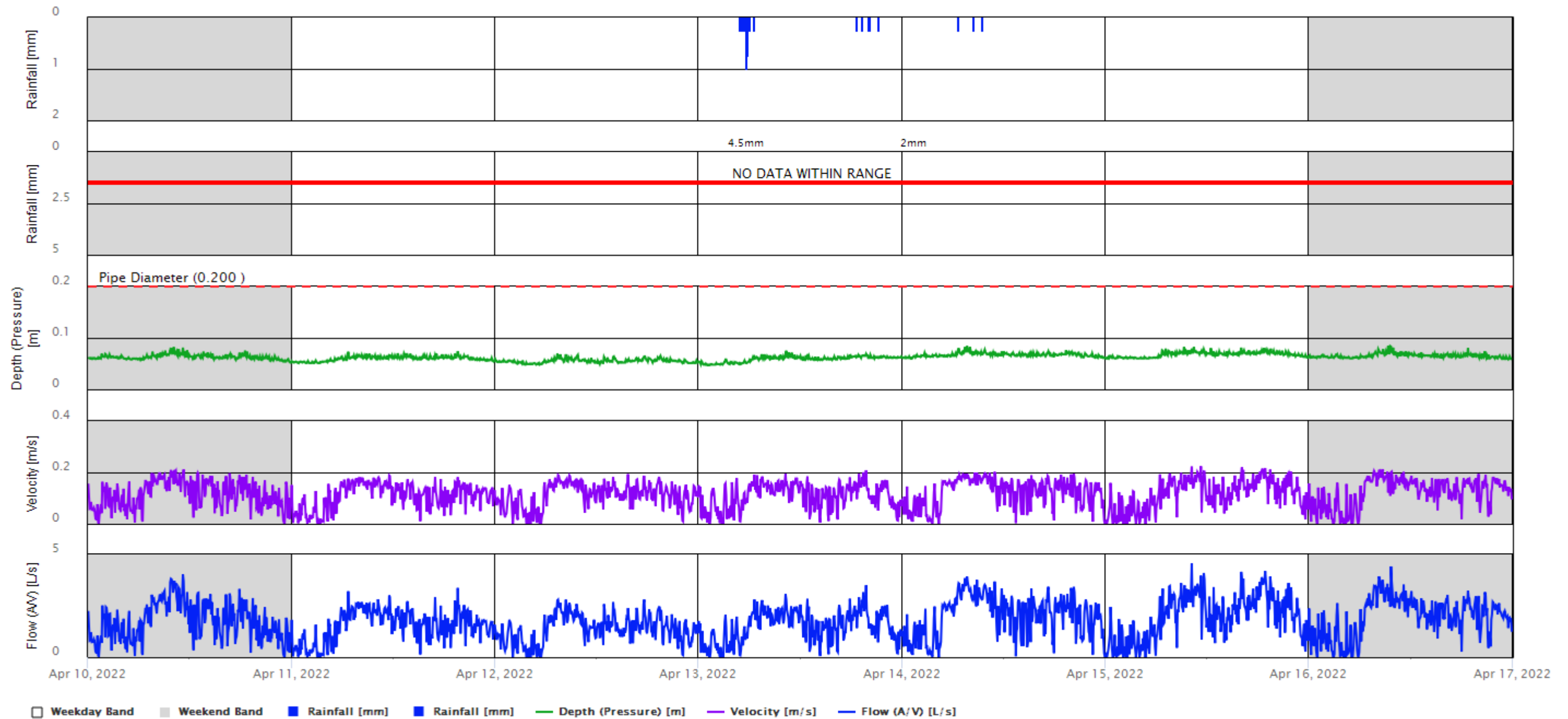
[Apr 05, 2022 – Apr 09, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

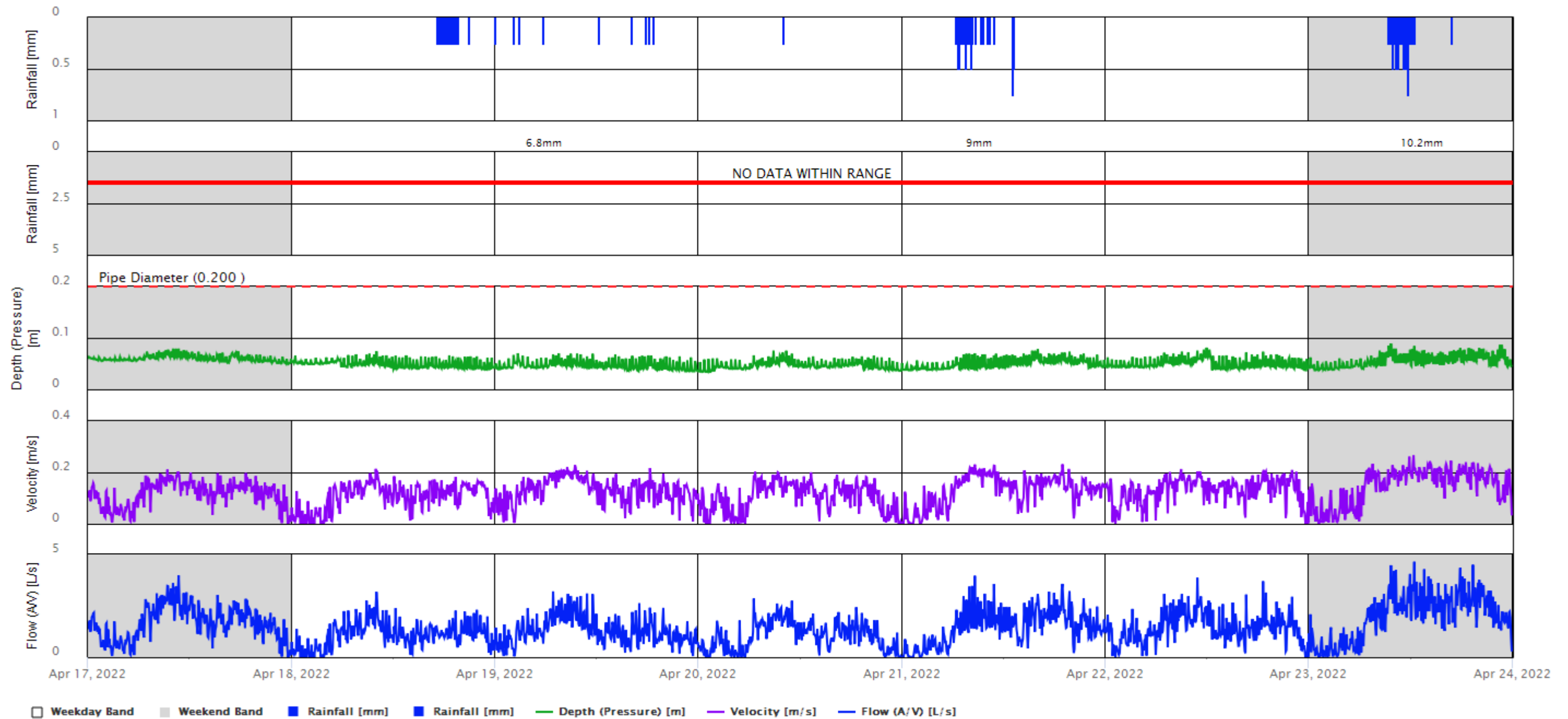
[Apr 10, 2022 – Apr 16, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

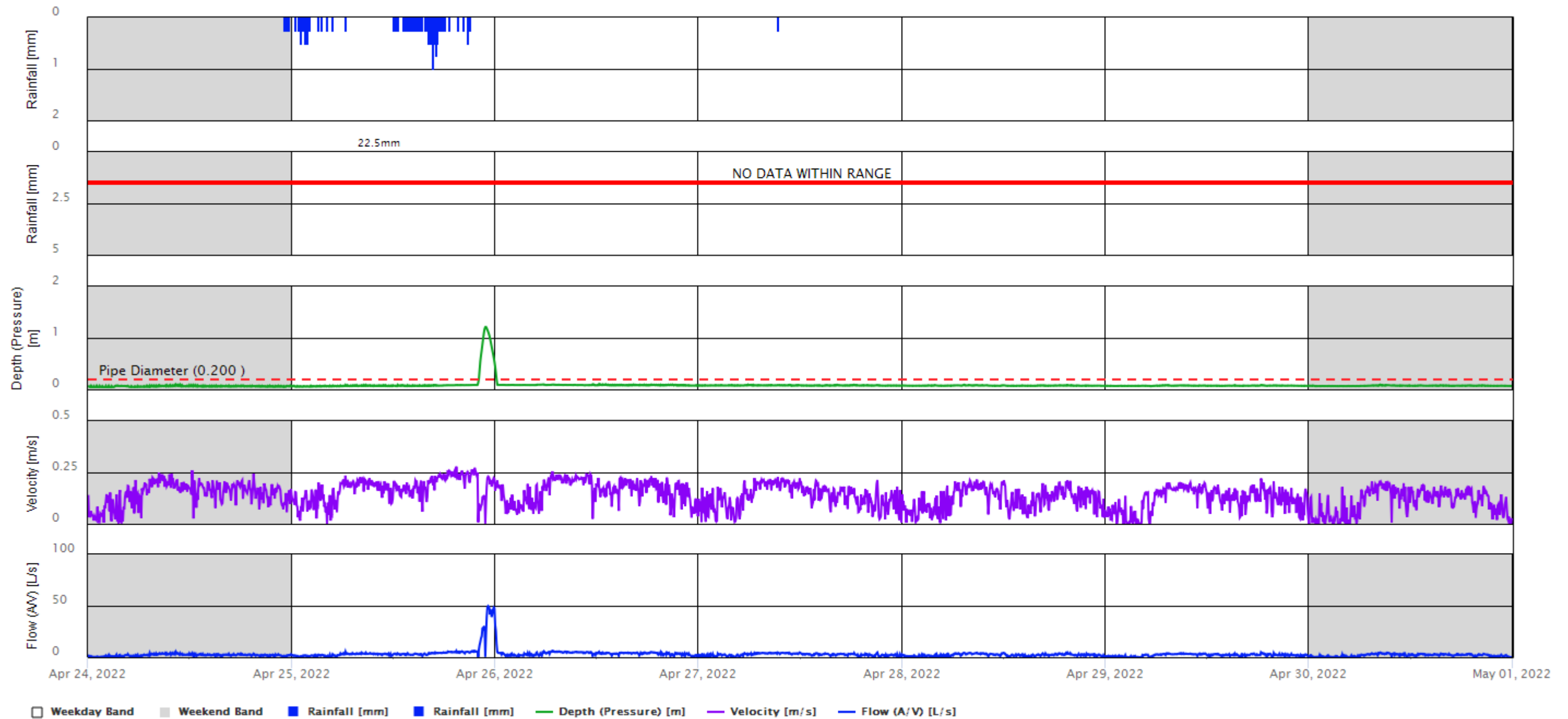
[Apr 17, 2022 – Apr 23, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

[Apr 24, 2022 – Apr 30, 2022](#)

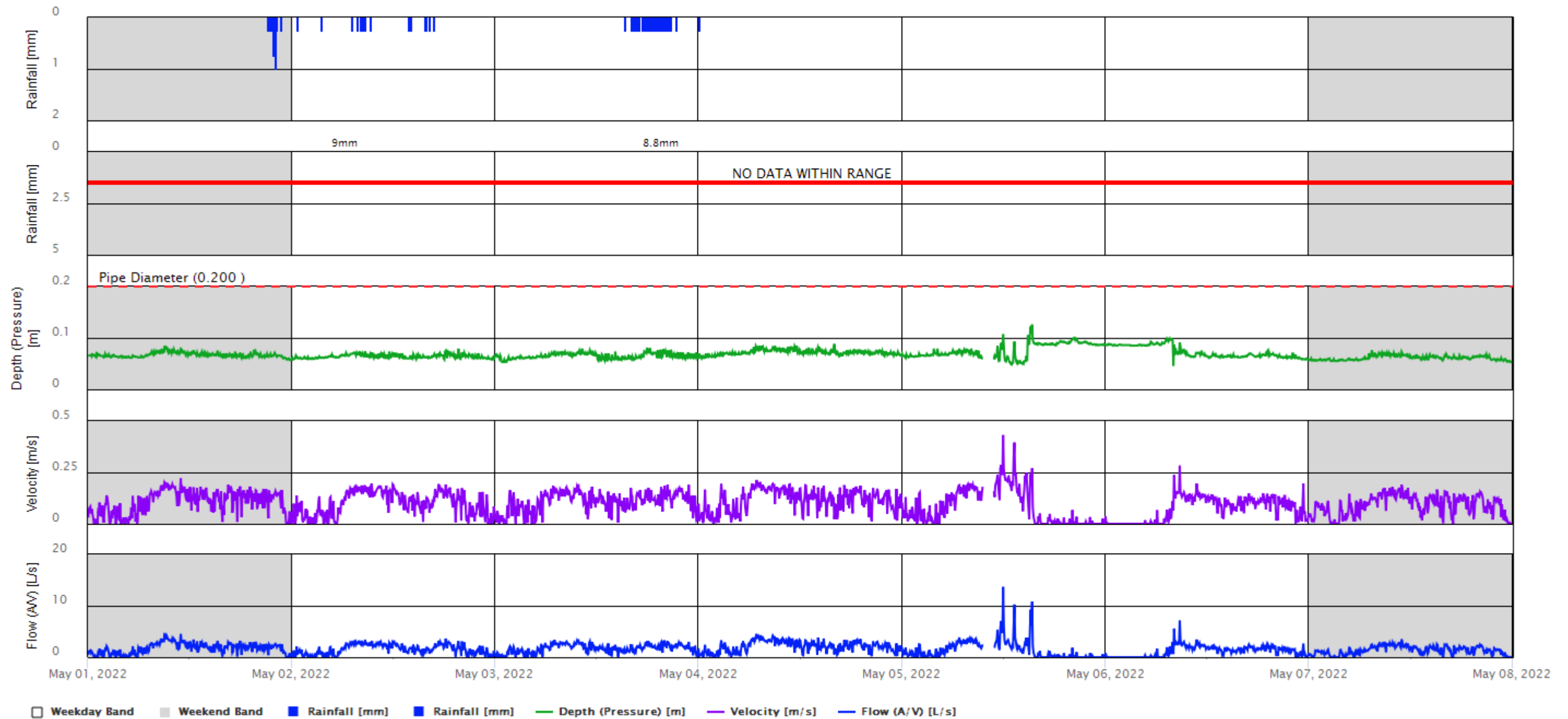




# Data Chart

Station: MH33\_FM02 (South)

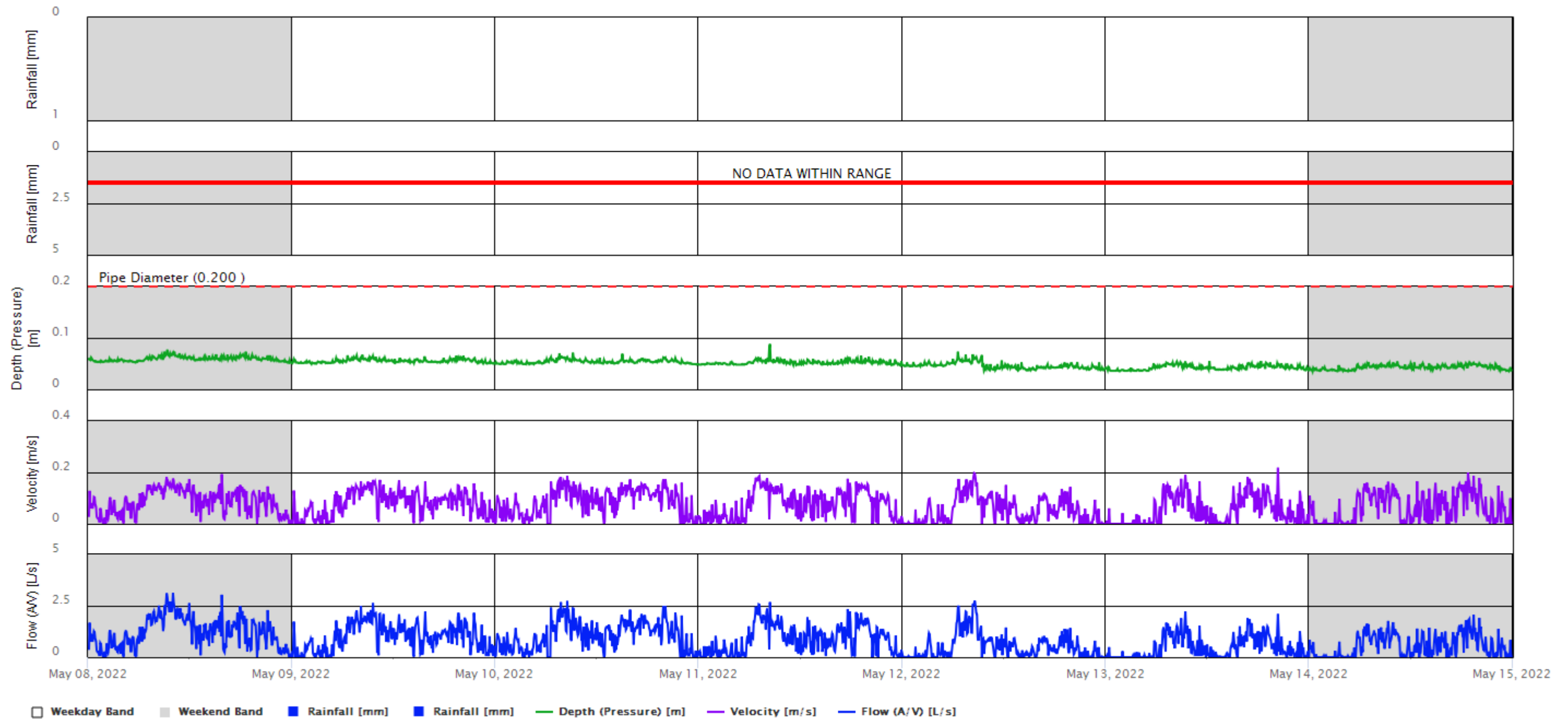
[May 01, 2022 – May 07, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

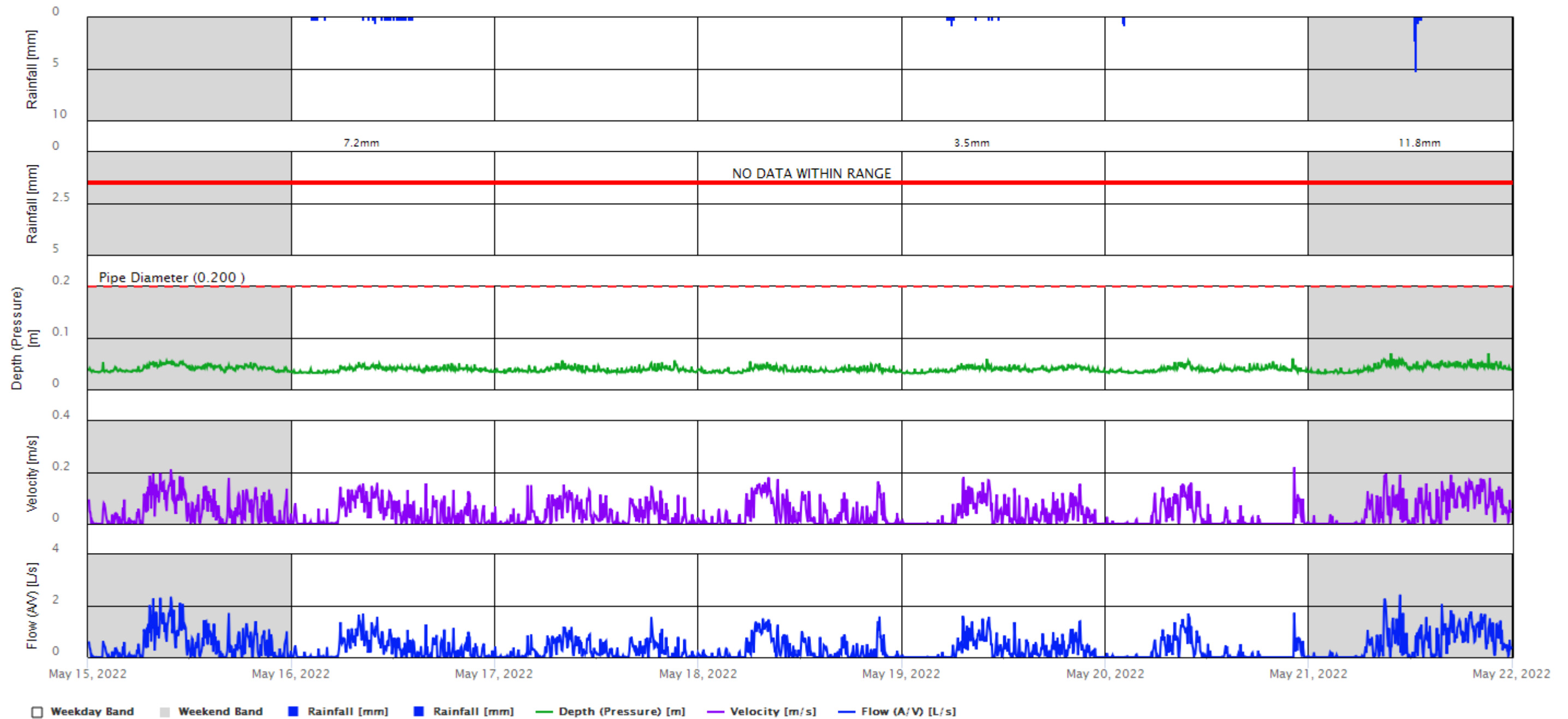
[May 08, 2022 – May 14, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

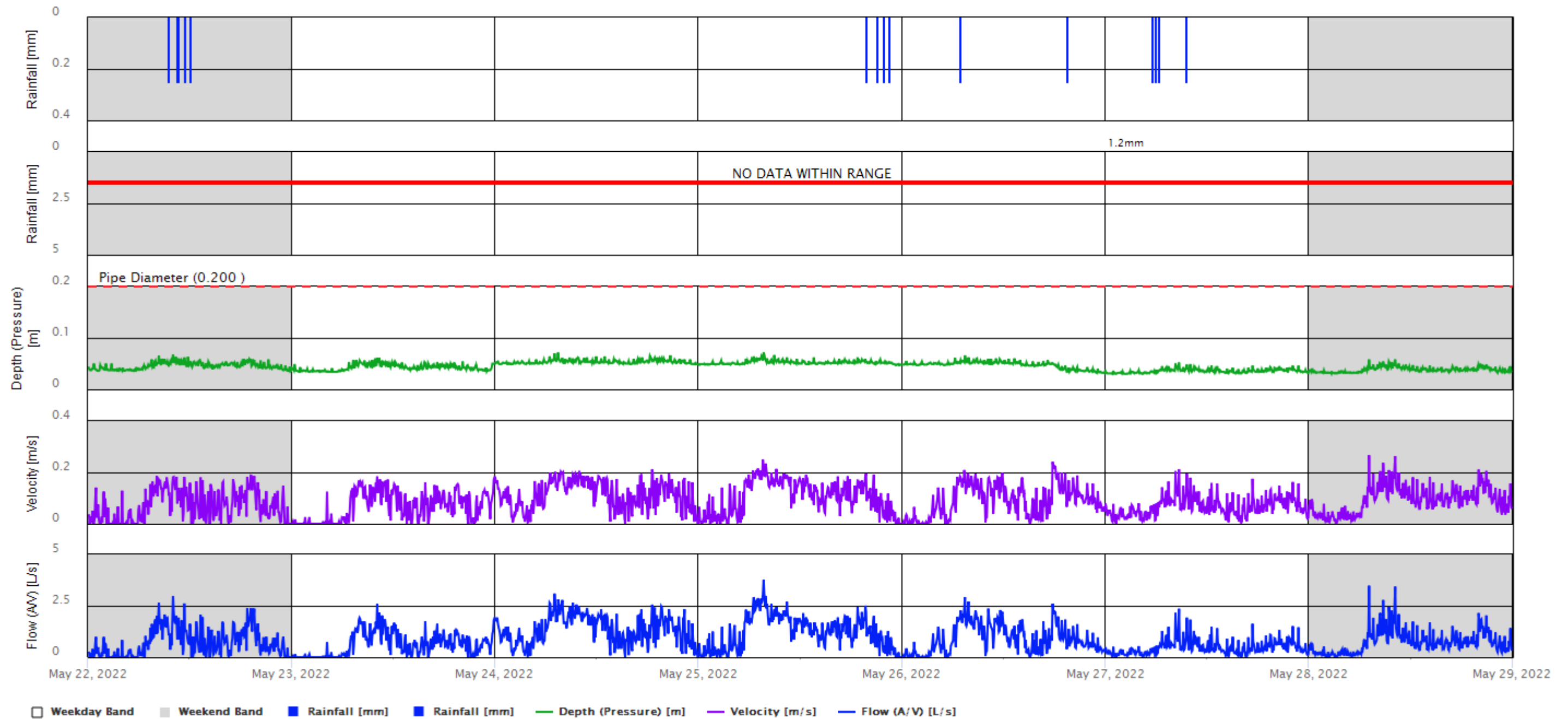
[May 15, 2022 – May 21, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

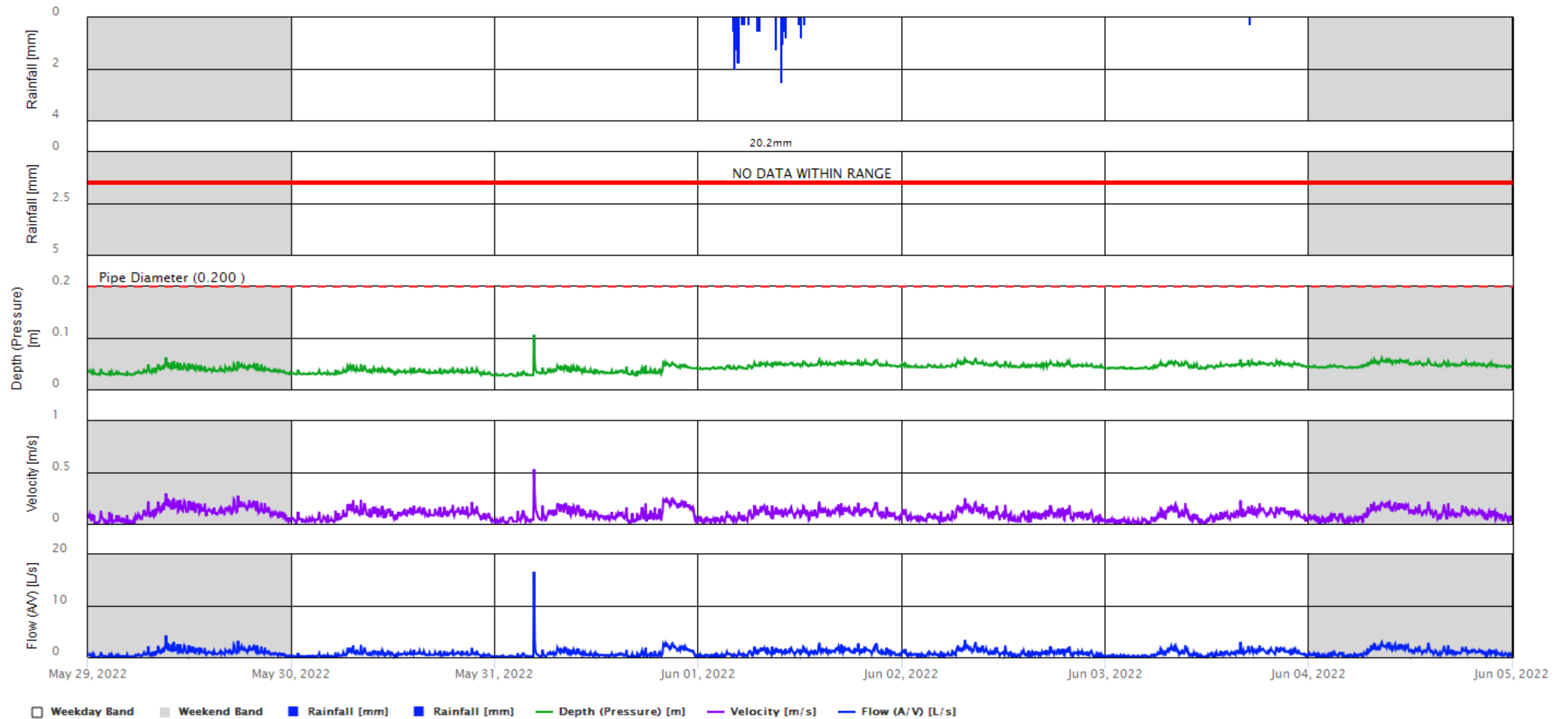
[May 22, 2022 – May 28, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

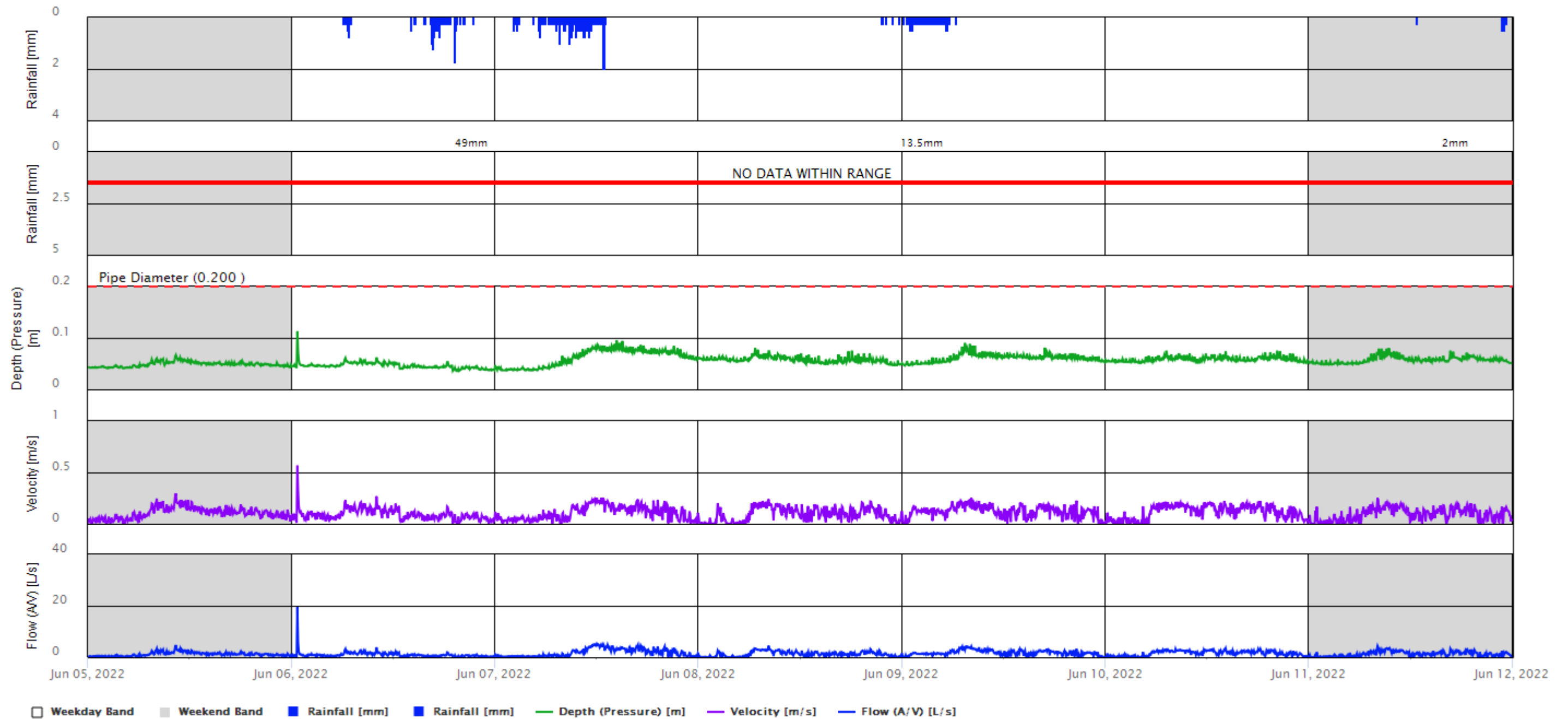
[May 29, 2022 – Jun 04, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

[Jun 05, 2022 – Jun 11, 2022](#)

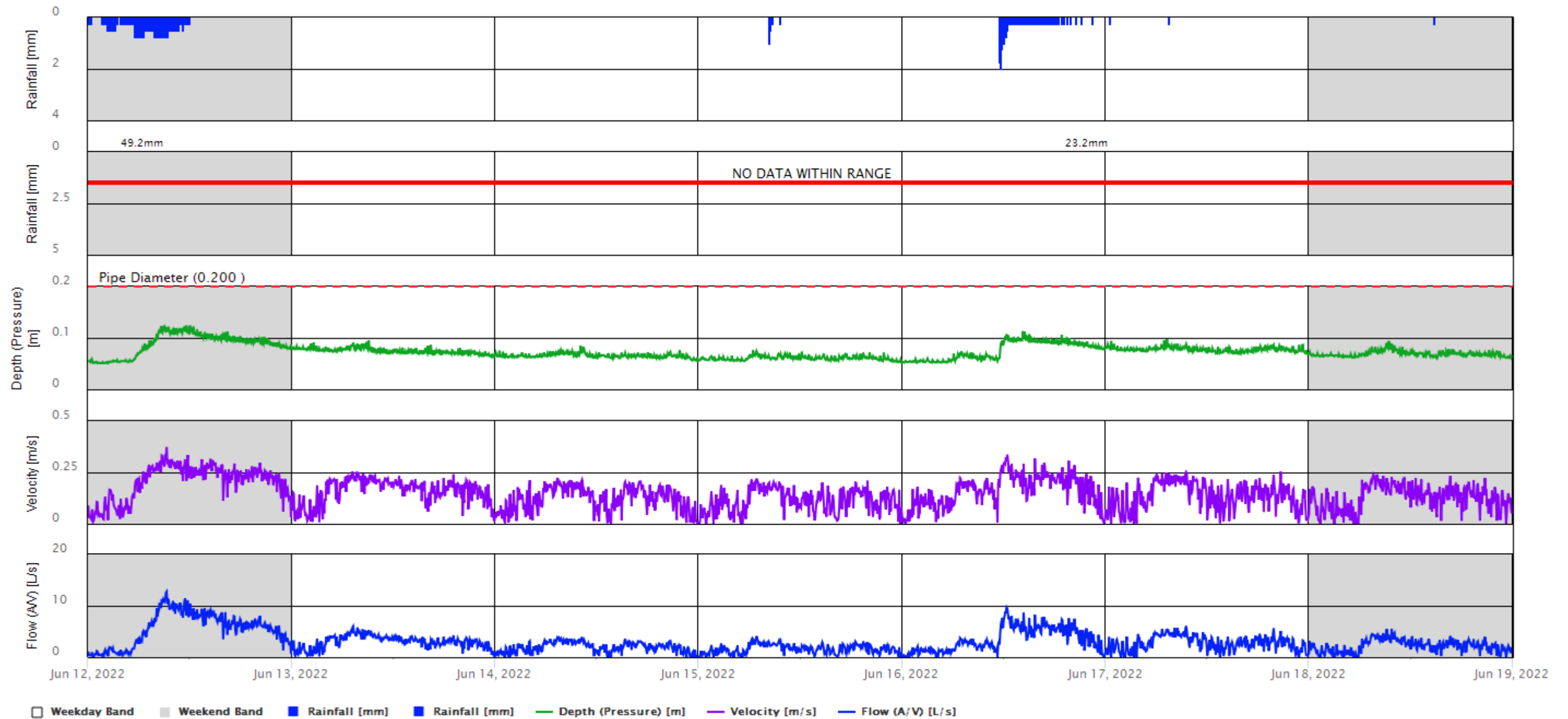




# Data Chart

Station: MH33\_FM02 (South)

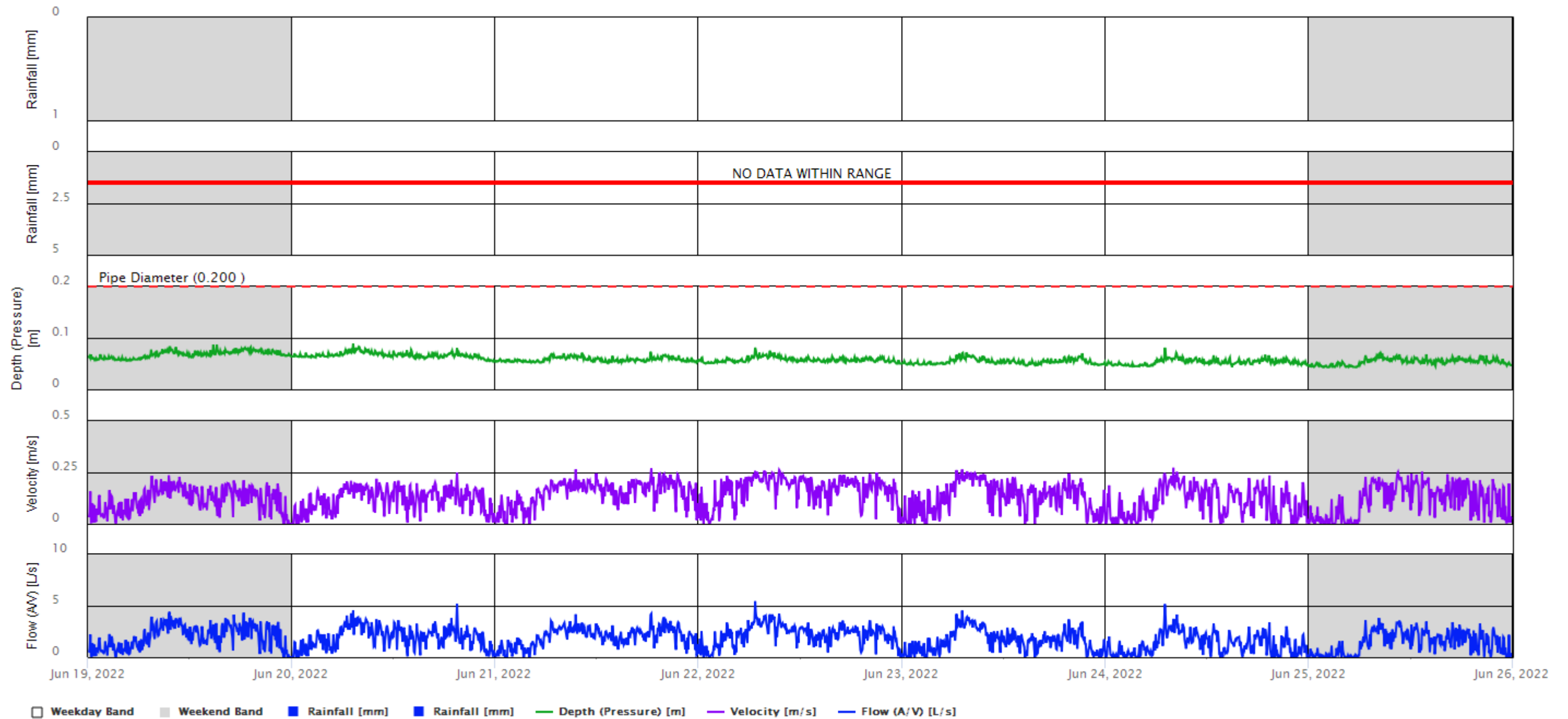
[Jun 12, 2022 – Jun 18, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

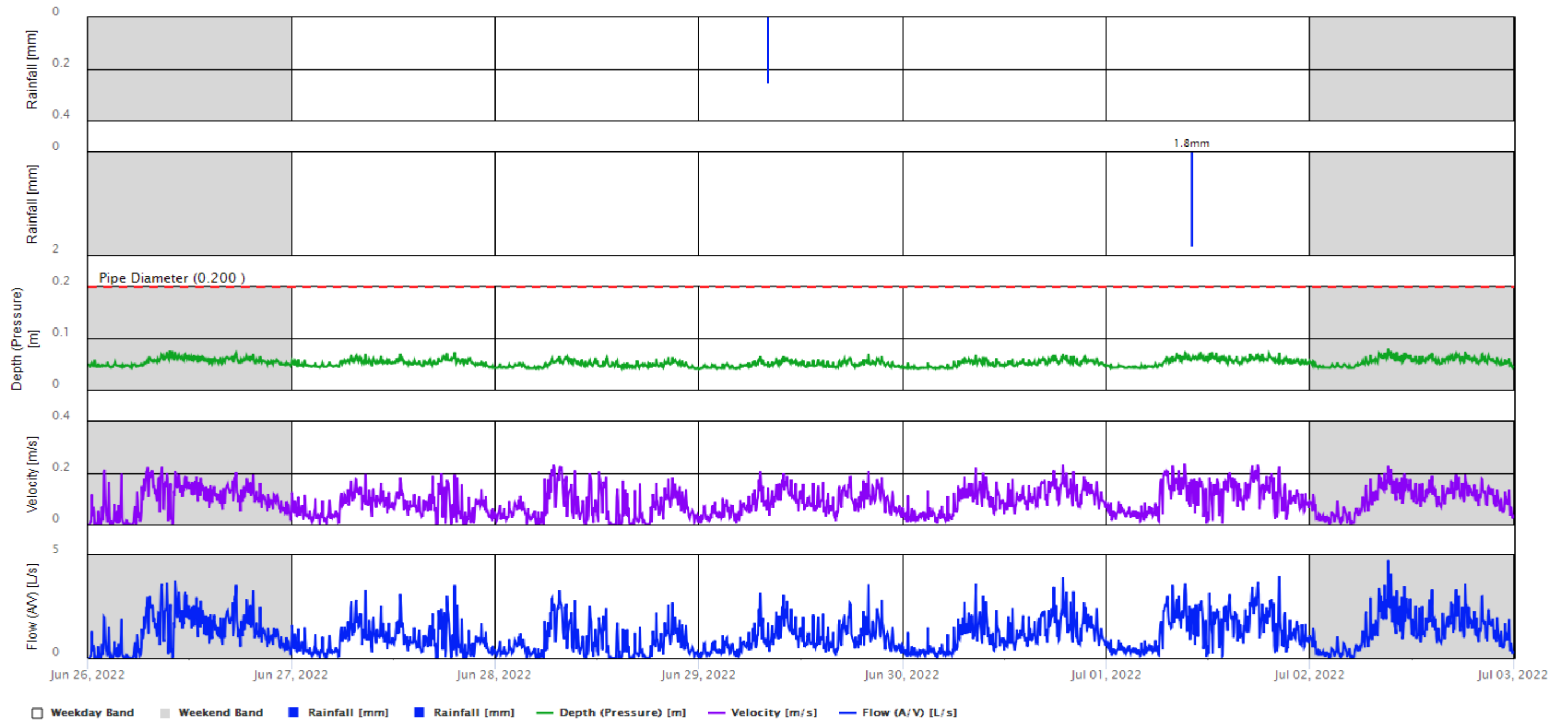
[Jun 19, 2022 – Jun 25, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

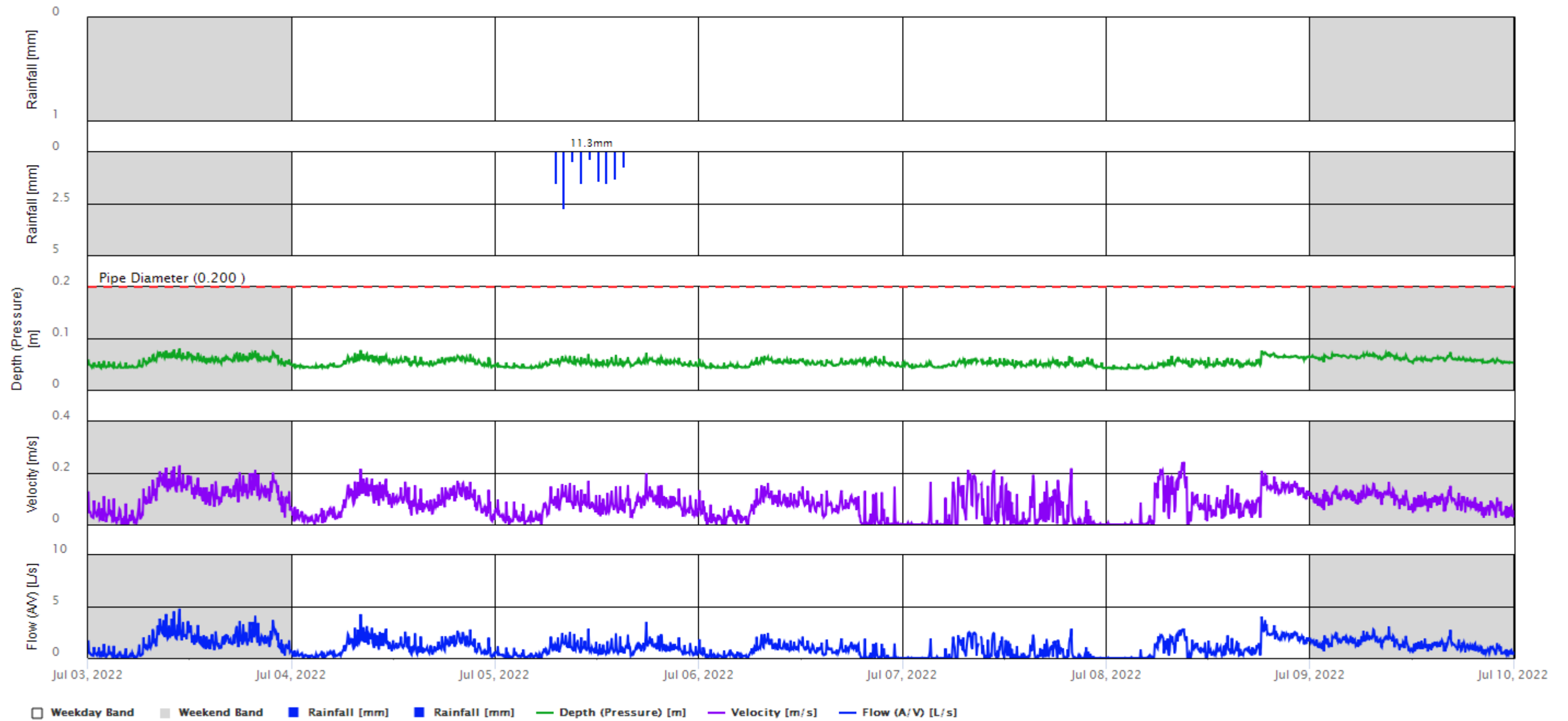
[Jun 26, 2022 – Jul 02, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

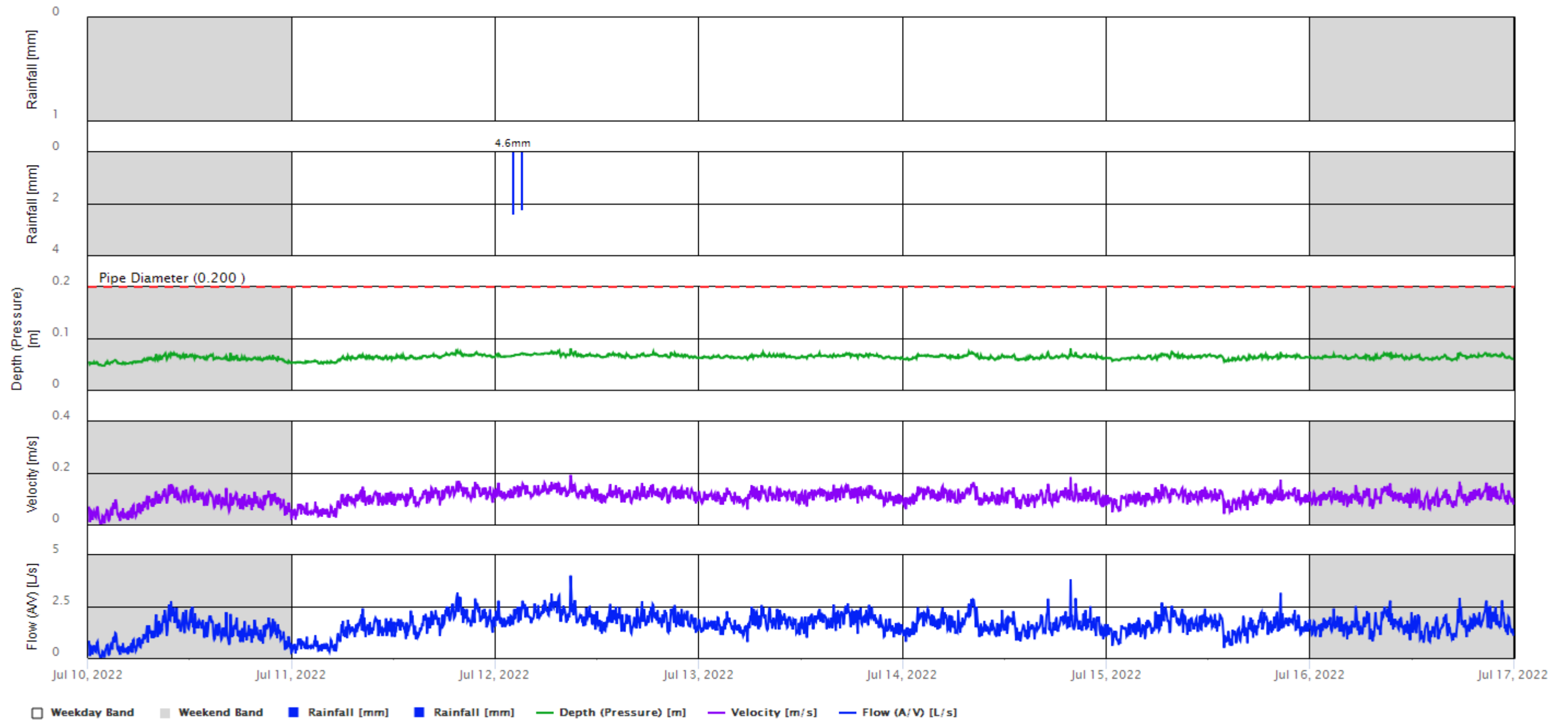
[Jul 03, 2022 – Jul 09, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

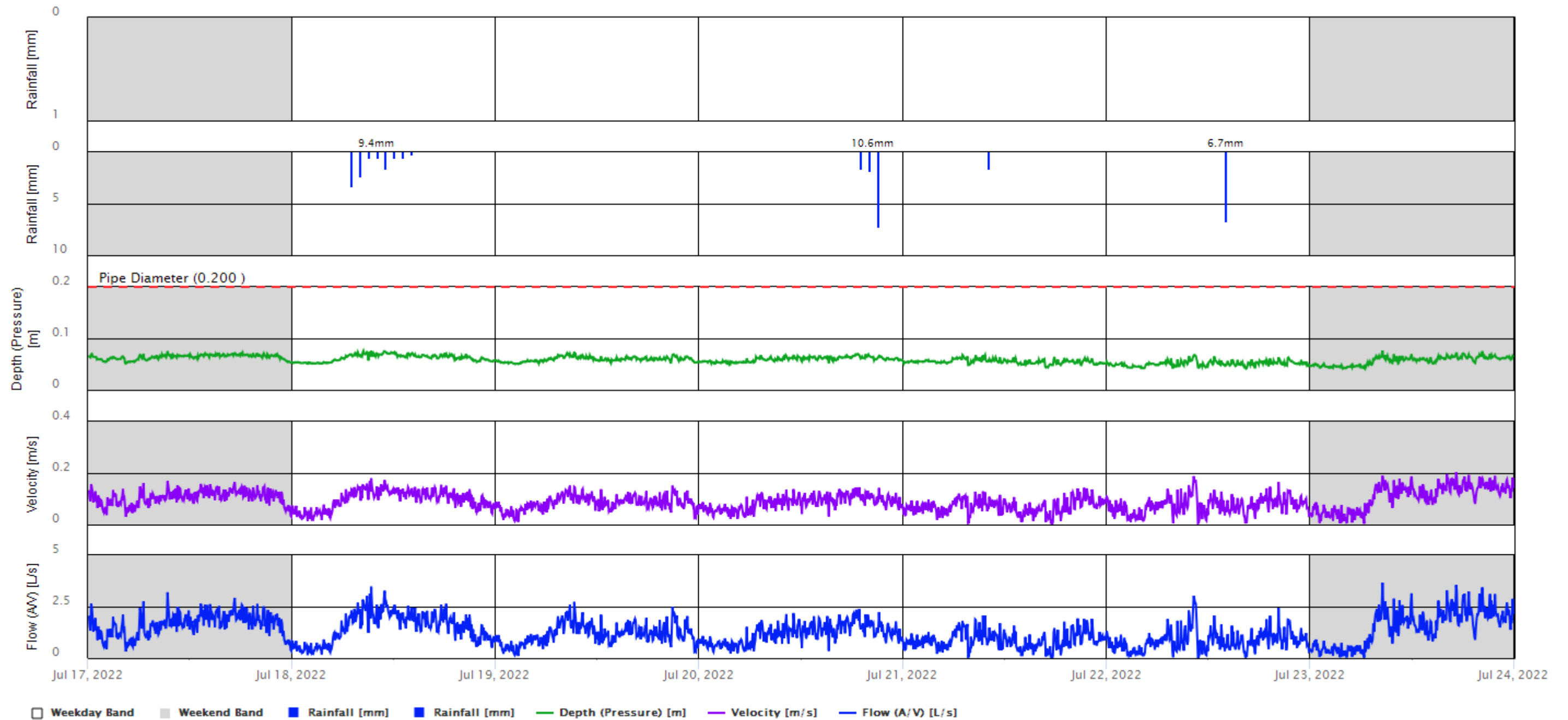
[Jul 10, 2022 – Jul 16, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

[Jul 17, 2022 – Jul 23, 2022](#)

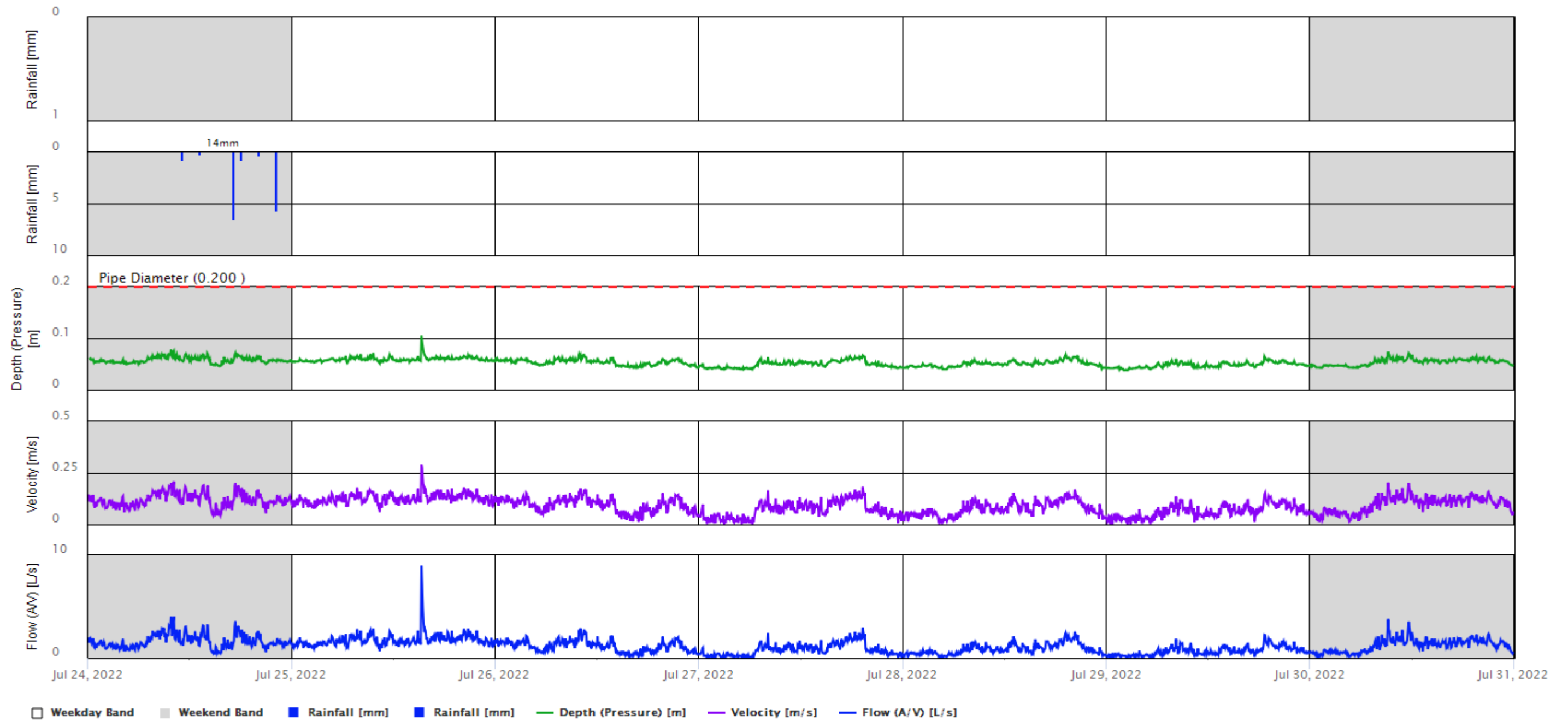




# Data Chart

Station: MH33\_FM02 (South)

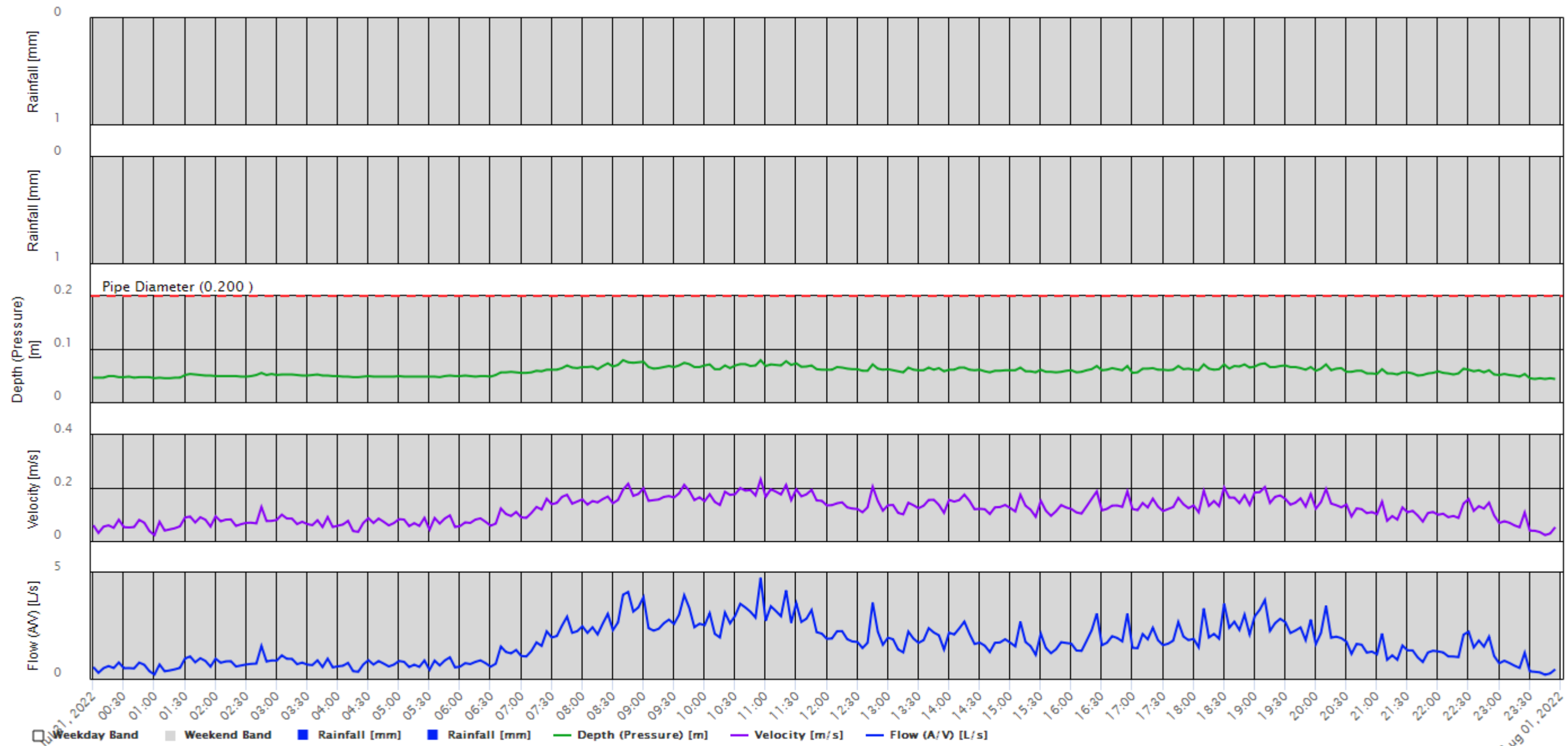
[Jul 24, 2022 – Jul 30, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

[Jul 31, 2022 – Jul 31, 2022](#)



Appendix A  
Appendix B

*Monitoring Period: April-May 2022*

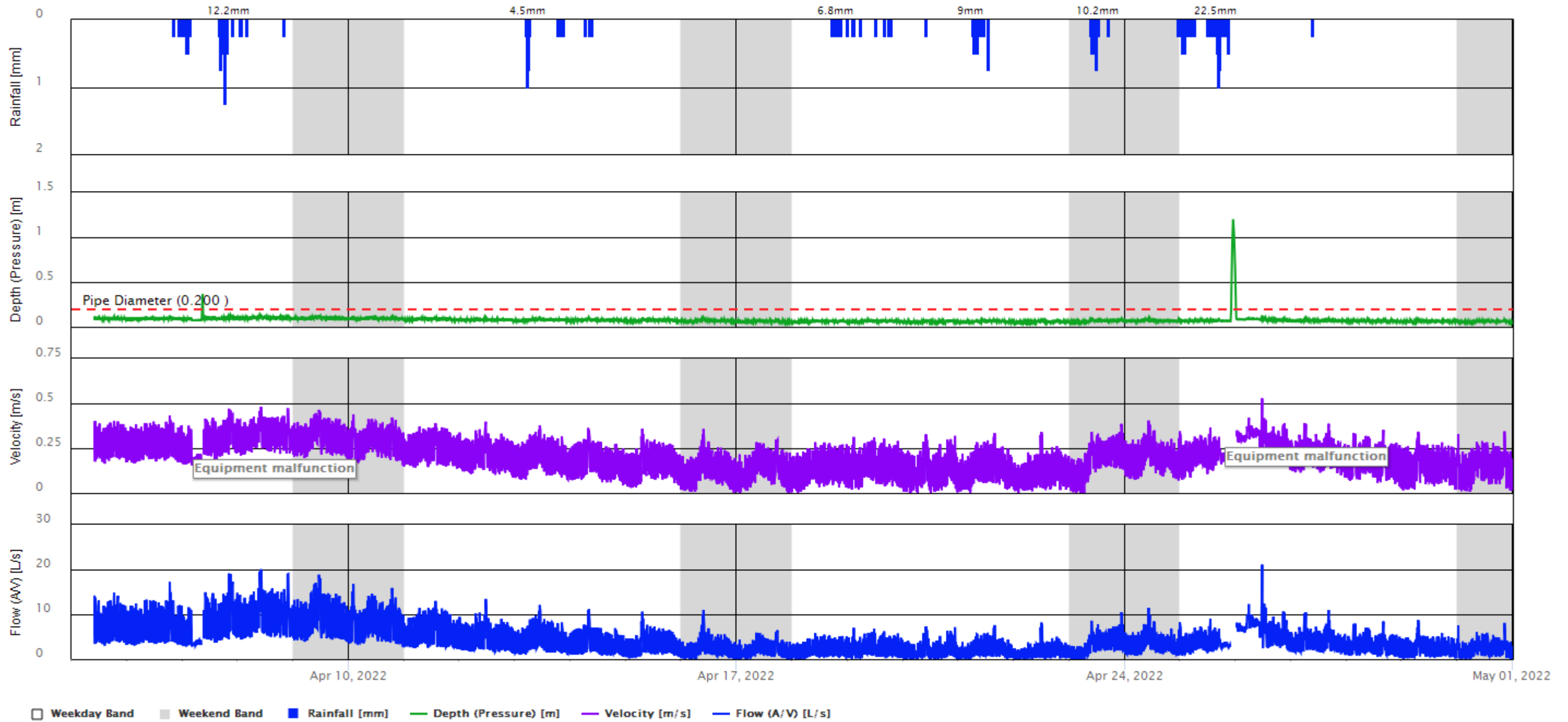
## Table of Contents

|  |    |
|--|----|
| Data Chart <b>Station: MH33_FM01 (North)</b> .....                                 | 2  |
| Aggregate Data <b>Station: MH33_FM01 (North)</b> .....                             | 5  |
| IDF Analysis <b>Station: MH33_FM01 (North) (Apr 05, 2022 – Apr 30, 2022)</b> ..... | 9  |
| Monitoring Station List .....  | 15 |
| Data Chart <b>Station: MH33_FM02 (South)</b> .....                                 | 16 |
| Aggregate Data <b>Station: MH33_FM02 (South)</b> .....                             | 19 |

# Data Chart

Station: MH33\_FM01 (North)

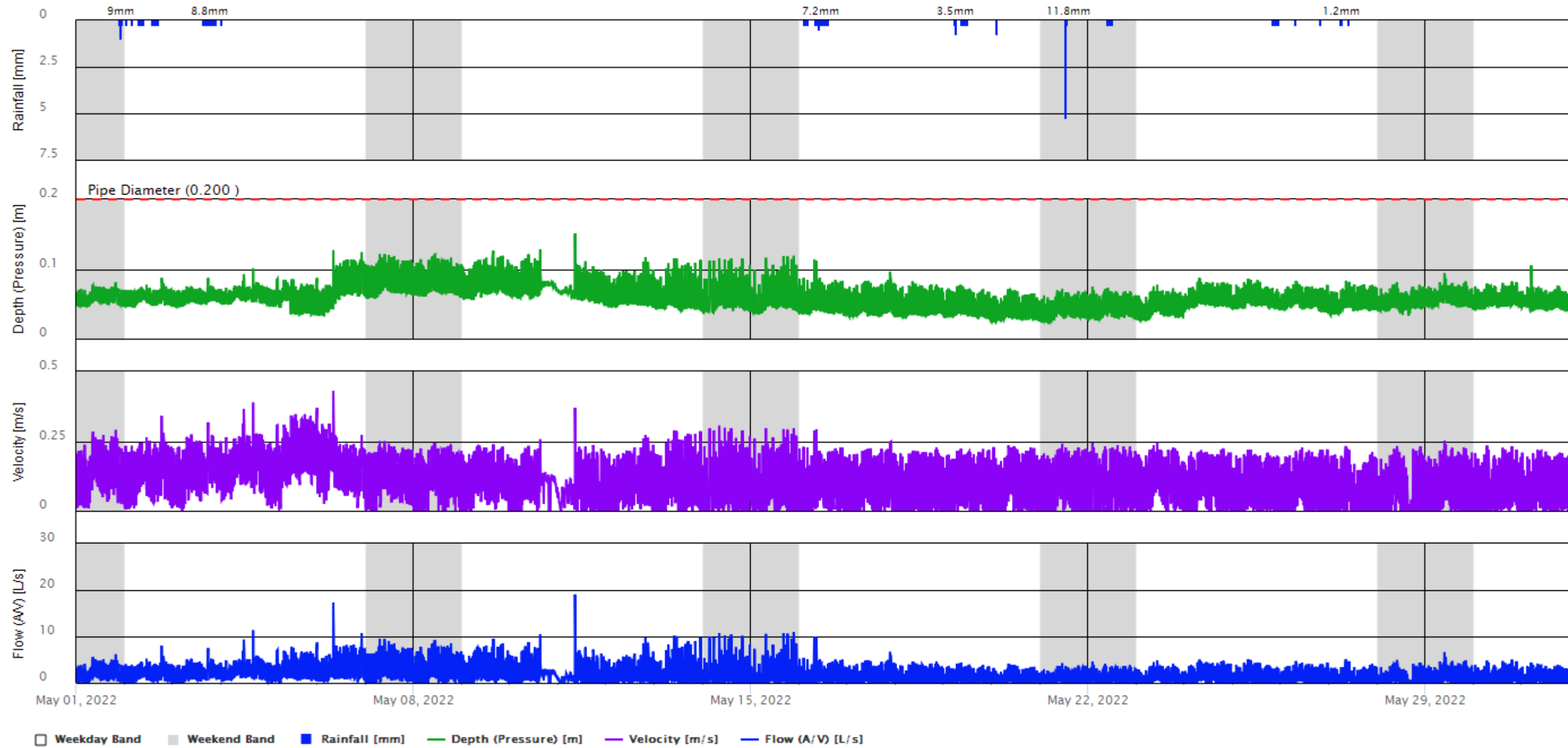
[Apr 05, 2022 – Apr 30, 2022](#)



# Data Chart

Station: MH33\_FM01 (North)

[May 01, 2022 – May 31, 2022](#)





# Aggregate Data

Station: MH33\_FM01 (North)

## Level

| Date From    | Date To      | Days | Min (m) | Avg (m) | Max (m) | Count | Time of Min <sup>1</sup>  | Time of Max <sup>1</sup>  |
|--------------|--------------|------|---------|---------|---------|-------|---------------------------|---------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.07    | 0.09    | 0.37    | 1,321 | Thu Apr 07, 2022<br>01:40 | Thu Apr 07, 2022<br>08:45 |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.05    | 0.08    | 0.12    | 2,016 | Sat Apr 16, 2022<br>05:35 | Sun Apr 10, 2022<br>02:00 |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.04    | 0.06    | 0.10    | 2,016 | Fri Apr 22, 2022<br>01:40 | Sat Apr 23, 2022<br>22:30 |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.05    | 0.08    | 1.20    | 2,016 | Sat Apr 30, 2022<br>04:05 | Mon Apr 25, 2022<br>22:55 |
| May 01, 2022 | May 07, 2022 | 7    | 0.03    | 0.06    | 0.13    | 2,016 | Fri May 06, 2022<br>03:20 | Fri May 06, 2022<br>07:55 |
| May 08, 2022 | May 14, 2022 | 7    | 0.04    | 0.07    | 0.15    | 2,016 | Sat May 14, 2022<br>00:20 | Wed May 11, 2022<br>08:20 |
| May 15, 2022 | May 21, 2022 | 7    | 0.02    | 0.04    | 0.12    | 2,016 | Sat May 21, 2022<br>04:35 | Sun May 15, 2022<br>21:15 |
| May 22, 2022 | May 28, 2022 | 7    | 0.03    | 0.05    | 0.09    | 2,016 | Mon May 23, 2022<br>00:55 | Tue May 24, 2022<br>07:25 |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.03    | 0.05    | 0.10    | 2,016 | Thu Jun 02, 2022<br>03:35 | Tue May 31, 2022<br>04:35 |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.03    | 0.05    | 0.09    | 2,012 | Wed Jun 08, 2022<br>23:50 | Mon Jun 06, 2022<br>00:40 |
| Jun 12, 2022 | Jun 16, 2022 | 1    | 0.03    | 0.04    | 0.07    | 61    | Sun Jun 12, 2022<br>00:35 | Sun Jun 12, 2022<br>03:25 |

## Velocity

| Date From    | Date To      | Days | Min (m/s) | Avg (m/s) | Max (m/s) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.16      | 0.28      | 0.48      | 1,310 | Thu Apr 07, 2022 04:10   | Fri Apr 08, 2022 10:00   |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.00      | 0.19      | 0.44      | 2,016 | Sat Apr 16, 2022 22:45   | Sun Apr 10, 2022 02:00   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00      | 0.12      | 0.39      | 2,016 | Sun Apr 17, 2022 22:25   | Sat Apr 23, 2022 22:30   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.01      | 0.19      | 0.53      | 1,984 | Sat Apr 30, 2022 05:25   | Tue Apr 26, 2022 11:30   |
| May 01, 2022 | May 07, 2022 | 7    | 0.00      | 0.13      | 0.43      | 2,016 | Sat May 07, 2022 03:20   | Fri May 06, 2022 07:55   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00      | 0.08      | 0.37      | 2,016 | Sun May 08, 2022 00:05   | Wed May 11, 2022 08:20   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00      | 0.07      | 0.30      | 2,016 | Sun May 15, 2022 01:25   | Sun May 15, 2022 07:25   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00      | 0.06      | 0.24      | 2,016 | Sun May 22, 2022 00:20   | Mon May 23, 2022 10:20   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.00      | 0.07      | 0.25      | 2,016 | Sun May 29, 2022 00:10   | Sun May 29, 2022 09:25   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00      | 0.10      | 0.28      | 2,012 | Sun Jun 05, 2022 00:10   | Tue Jun 07, 2022 14:20   |
| Jun 12, 2022 | Jun 16, 2022 | 1    | 0.00      | 0.06      | 0.21      | 61    | Sun Jun 12, 2022 00:10   | Sun Jun 12, 2022 02:15   |

## Flow

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 2.83      | 7.62      | 20.06     | 2.99                       | 1,310 | Thu Apr 07, 2022 01:40   | Fri Apr 08, 2022 10:00   |

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.03      | 4.03      | 16.75     | 2.44                       | 2,016 | Sat Apr 16, 2022 22:45   | Sun Apr 10, 2022 02:00   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00      | 1.89      | 10.45     | 1.14                       | 2,016 | Sun Apr 17, 2022 22:25   | Sat Apr 23, 2022 22:30   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.07      | 3.32      | 21.08     | 1.97                       | 1,984 | Sat Apr 30, 2022 05:25   | Tue Apr 26, 2022 11:30   |
| May 01, 2022 | May 07, 2022 | 7    | 0.00      | 2.20      | 17.32     | 1.33                       | 2,016 | Sat May 07, 2022 03:20   | Fri May 06, 2022 07:55   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00      | 1.66      | 19.05     | 1.00                       | 2,016 | Sun May 08, 2022 00:05   | Wed May 11, 2022 08:20   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00      | 0.89      | 10.88     | 0.54                       | 2,016 | Sun May 15, 2022 01:25   | Sun May 15, 2022 21:15   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00      | 0.84      | 5.10      | 0.51                       | 2,016 | Sun May 22, 2022 00:20   | Fri May 27, 2022 08:15   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.00      | 0.87      | 6.61      | 0.53                       | 2,016 | Sun May 29, 2022 00:10   | Sun May 29, 2022 09:25   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00      | 1.29      | 6.87      | 0.78                       | 2,012 | Sun Jun 05, 2022 00:10   | Tue Jun 07, 2022 14:20   |
| Jun 12, 2022 | Jun 16, 2022 | 1    | 0.00      | 0.63      | 3.22      | 0.01                       | 61    | Sun Jun 12, 2022 00:10   | Sun Jun 12, 2022 02:15   |

## Precipitation

| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.00     | 0.01     | 1.25     | 16.25    | 1,439 | Tue Apr 05, 2022 00:05   | Thu Apr 07, 2022 18:30   |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.00     | 0.00     | 1.00     | 6.50     | 2,016 | Sun Apr 10, 2022 00:00   | Wed Apr 13, 2022 05:35   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00     | 0.01     | 0.75     | 26.25    | 2,016 | Sun Apr 17, 2022 00:00   | Thu Apr 21, 2022 13:00   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.00     | 0.01     | 1.00     | 22.75    | 2,016 | Sun Apr 24, 2022 00:00   | Mon Apr 25, 2022 16:40   |

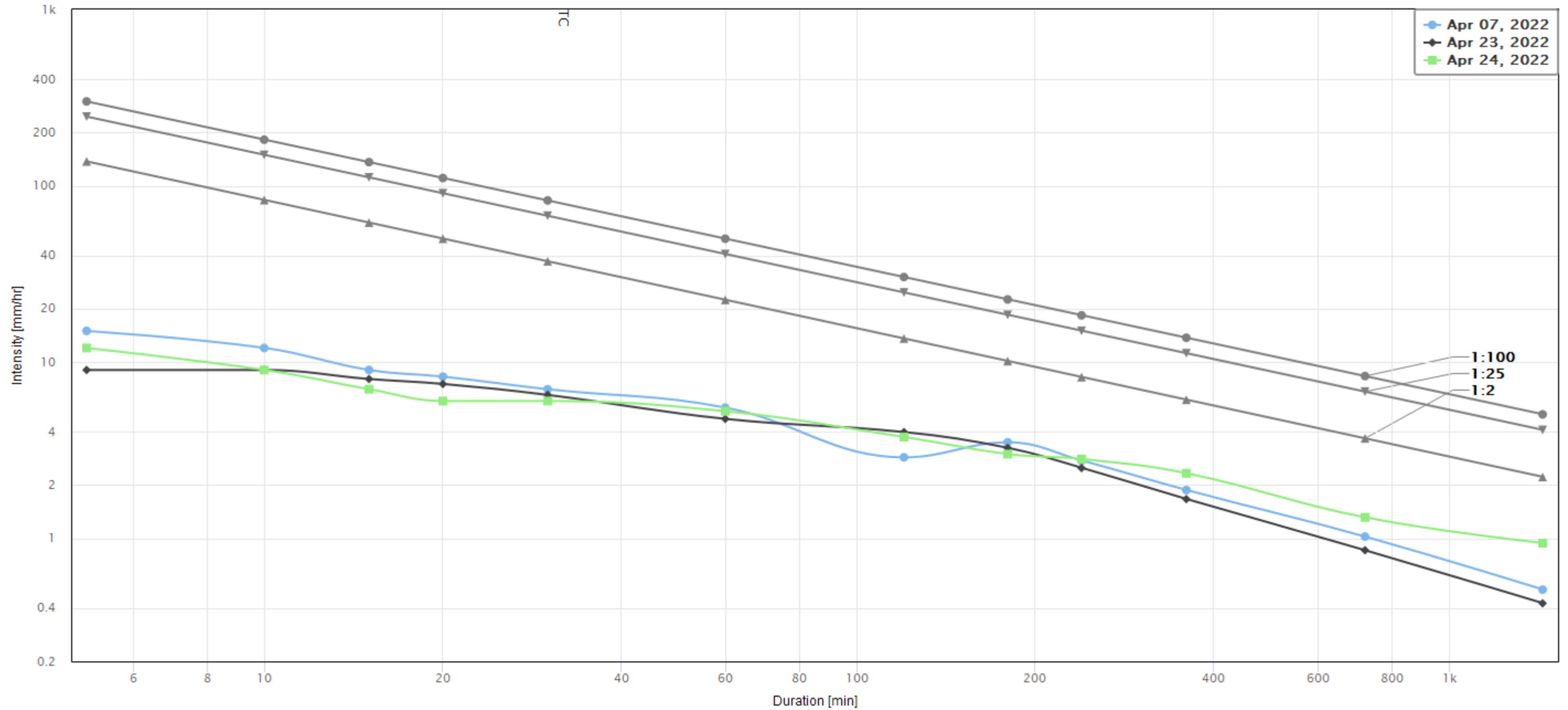
| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| May 01, 2022 | May 07, 2022 | 7    | 0.00     | 0.01     | 1.00     | 17.75    | 2,016 | Sun May 01, 2022 00:00   | Sun May 01, 2022 22:00   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00     | 0.00     | 0.00     | 0.00     | 2,016 | Sun May 08, 2022 00:00   | Sun May 08, 2022 00:00   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00     | 0.01     | 5.25     | 23.75    | 2,016 | Sun May 15, 2022 00:00   | Sat May 21, 2022 12:30   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00     | 0.00     | 0.25     | 3.75     | 2,016 | Sun May 22, 2022 00:00   | Sun May 22, 2022 09:25   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.00     | 0.01     | 2.50     | 20.50    | 2,016 | Sun May 29, 2022 00:00   | Wed Jun 01, 2022 09:45   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00     | 0.03     | 2.00     | 64.50    | 2,016 | Sun Jun 05, 2022 00:00   | Tue Jun 07, 2022 12:45   |
| Jun 12, 2022 | Jun 16, 2022 | 5    | 0.00     | 0.04     | 1.00     | 52.00    | 1,212 | Sun Jun 12, 2022 00:00   | Wed Jun 15, 2022 08:20   |

<sup>1</sup> Time of Min and Time of Max will be displayed by first occurrence

# IDF Analysis

Station: MH33\_FM01 (North) (Apr 05, 2022 – Apr 30, 2022)

IDF Return Period Analysis MH33\_FM01 (North)



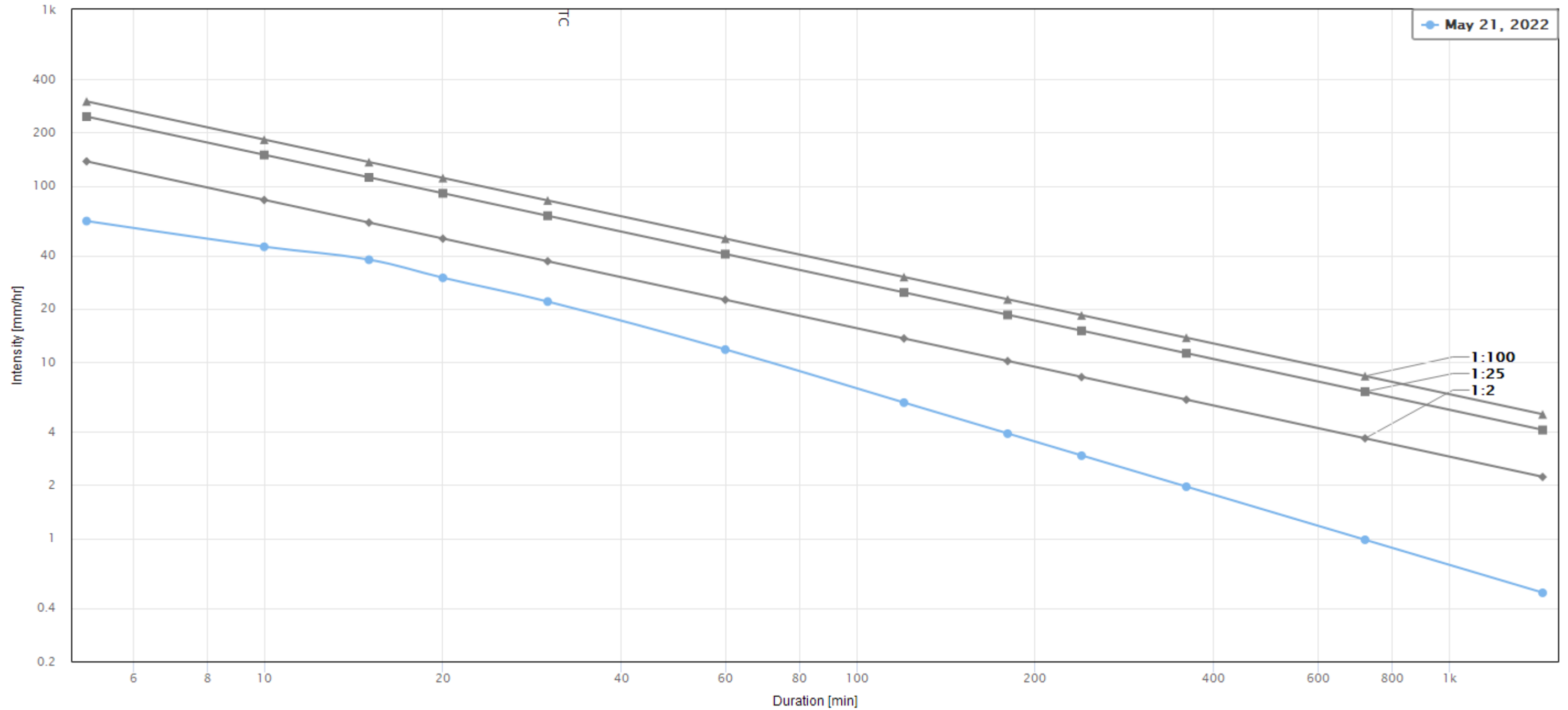
| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| Apr 07, 2022   | 11.42          | N/A                   | 12.25                    | 15.00                              | 12.00  | 9.00   | 8.25   | 7.00   | 5.50   | 2.88    | 3.50    | 2.75    | 1.88    | 1.02    | 0.51     |
| Apr 23, 2022   | 7.42           | N/A                   | 10.25                    | 9.00                               | 9.00   | 8.00   | 7.50   | 6.50   | 4.75   | 4.00    | 3.25    | 2.50    | 1.67    | 0.85    | 0.43     |
| Apr 24, 2022   | 21.92          | N/A                   | 22.50                    | 12.00                              | 9.00   | 7.00   | 6.00   | 6.00   | 5.25   | 3.75    | 3.00    | 2.81    | 2.33    | 1.31    | 0.94     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |



# IDF Analysis

Station: MH33\_FM01 (North) (May 01, 2022 – May 31, 2022)

IDF Return Period Analysis MH33\_FM01 (North)



| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| May 21, 2022   | 0.75           | N/A                   | 11.75                    | 63.00                              | 45.00  | 38.00  | 30.00  | 22.00  | 11.75  | 5.88    | 3.92    | 2.94    | 1.96    | 0.98    | 0.49     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |

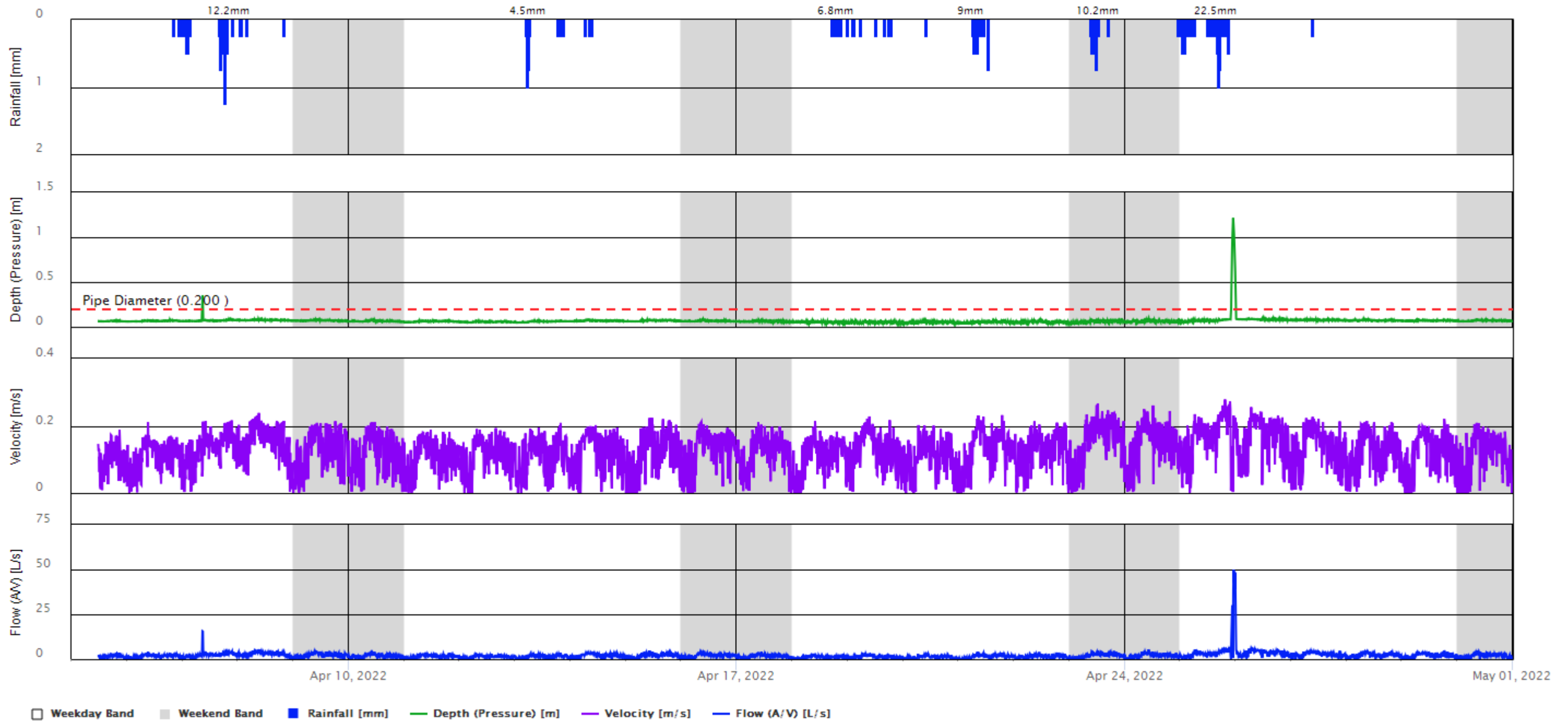
## Monitoring Station List

| Station Name         | Station Type  | Station State | Latitude    | Longitude    | Start Date            | End Date | Site Comments |
|----------------------|---------------|---------------|-------------|--------------|-----------------------|----------|---------------|
| MH33_FM01<br>(North) | Sanitary Flow | Receiving     | 44.55816984 | -79.27615238 | Apr 05, 2022<br>00:00 | Ongoing  |               |
| MH33_FM02<br>(South) | Sanitary Flow | Receiving     | 44.55815691 | -79.27610746 | Apr 05, 2022<br>00:00 | Ongoing  |               |

# Data Chart

Station: MH33\_FM02 (South)

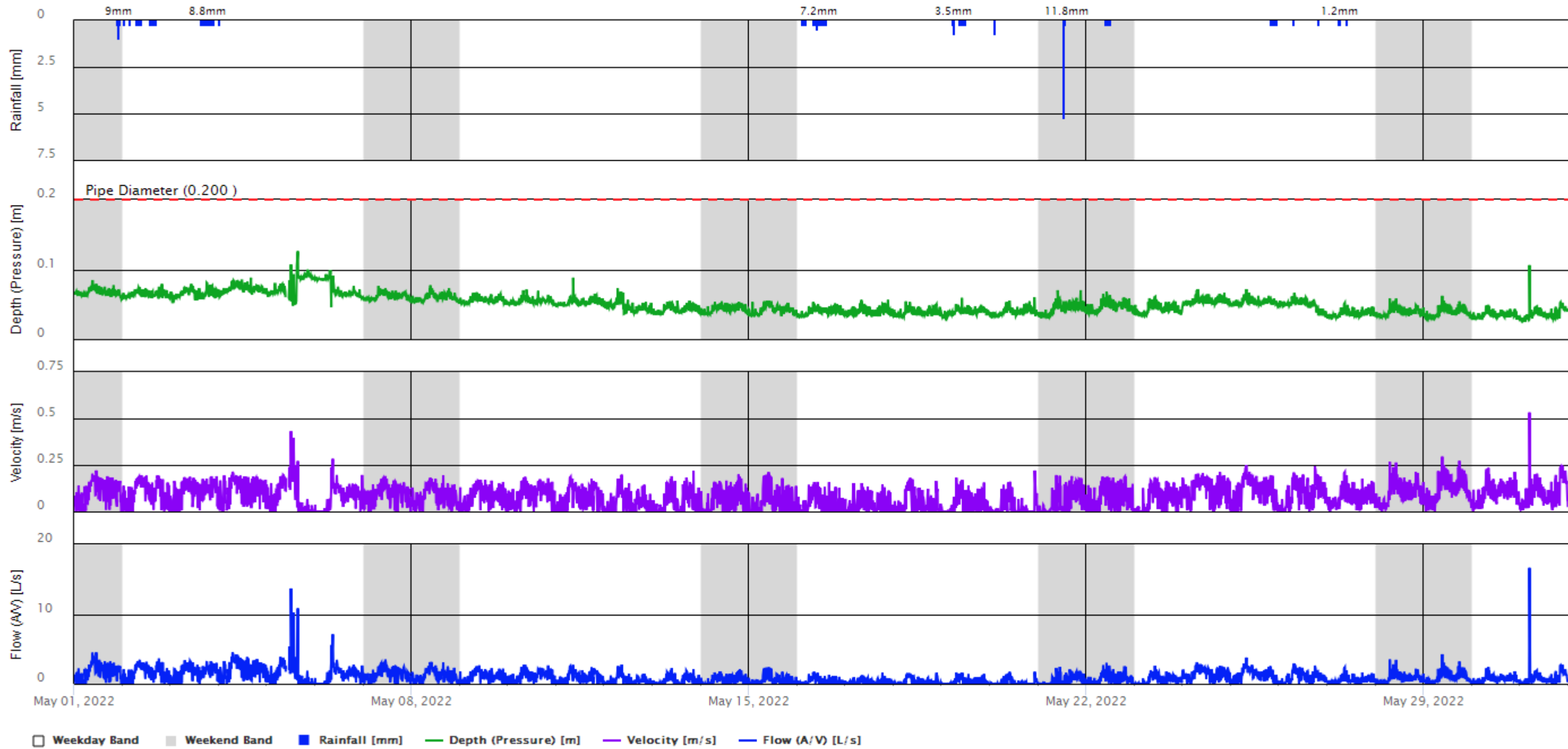
[Apr 05, 2022 – Apr 30, 2022](#)



# Data Chart

Station: MH33\_FM02 (South)

[May 01, 2022 – May 31, 2022](#)



# Aggregate Data

Station: MH33\_FM02 (South)

## Level

| Date From    | Date To      | Days | Min (m) | Avg (m) | Max (m) | Count | Time of Min <sup>1</sup>  | Time of Max <sup>1</sup>  |
|--------------|--------------|------|---------|---------|---------|-------|---------------------------|---------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.06    | 0.07    | 0.35    | 1,302 | Tue Apr 05, 2022<br>23:35 | Thu Apr 07, 2022<br>08:45 |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.05    | 0.06    | 0.08    | 2,016 | Wed Apr 13, 2022<br>01:00 | Thu Apr 14, 2022<br>07:40 |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.03    | 0.05    | 0.09    | 2,016 | Wed Apr 20, 2022<br>00:25 | Sat Apr 23, 2022<br>09:40 |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.04    | 0.08    | 1.21    | 2,016 | Sun Apr 24, 2022<br>02:40 | Mon Apr 25, 2022<br>22:55 |
| May 01, 2022 | May 07, 2022 | 7    | 0.05    | 0.07    | 0.13    | 2,001 | Fri May 06, 2022<br>08:00 | Thu May 05, 2022<br>15:20 |
| May 08, 2022 | May 14, 2022 | 7    | 0.04    | 0.05    | 0.09    | 2,016 | Fri May 13, 2022<br>01:40 | Wed May 11, 2022<br>08:25 |
| May 15, 2022 | May 21, 2022 | 7    | 0.03    | 0.04    | 0.07    | 2,016 | Wed May 18, 2022<br>04:05 | Sat May 21, 2022<br>09:40 |
| May 22, 2022 | May 28, 2022 | 7    | 0.03    | 0.05    | 0.07    | 2,016 | Fri May 27, 2022<br>00:50 | Tue May 24, 2022<br>07:25 |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.03    | 0.04    | 0.11    | 2,016 | Tue May 31, 2022<br>01:15 | Tue May 31, 2022<br>04:35 |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.04    | 0.06    | 0.11    | 2,016 | Mon Jun 06, 2022<br>19:00 | Mon Jun 06, 2022<br>00:40 |
| Jun 12, 2022 | Jun 16, 2022 | 3    | 0.05    | 0.08    | 0.12    | 637   | Sun Jun 12, 2022<br>00:35 | Sun Jun 12, 2022<br>11:35 |



## Velocity

| Date From    | Date To      | Days | Min (m/s) | Avg (m/s) | Max (m/s) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.00      | 0.13      | 0.24      | 1,302 | Wed Apr 06, 2022 01:00   | Fri Apr 08, 2022 09:05   |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.00      | 0.12      | 0.22      | 2,016 | Tue Apr 12, 2022 03:50   | Fri Apr 15, 2022 11:15   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00      | 0.12      | 0.27      | 2,016 | Sun Apr 17, 2022 23:35   | Sat Apr 23, 2022 12:20   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.00      | 0.14      | 0.28      | 2,016 | Fri Apr 29, 2022 02:10   | Mon Apr 25, 2022 19:25   |
| May 01, 2022 | May 07, 2022 | 7    | 0.00      | 0.10      | 0.43      | 2,001 | Sun May 01, 2022 00:45   | Thu May 05, 2022 11:55   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00      | 0.07      | 0.22      | 2,016 | Sun May 08, 2022 23:45   | Fri May 13, 2022 20:20   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00      | 0.04      | 0.22      | 2,016 | Sun May 15, 2022 00:30   | Fri May 20, 2022 22:15   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00      | 0.09      | 0.27      | 2,016 | Sun May 22, 2022 00:10   | Sat May 28, 2022 07:05   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.00      | 0.09      | 0.53      | 2,016 | Fri Jun 03, 2022 05:10   | Tue May 31, 2022 04:35   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00      | 0.10      | 0.57      | 2,016 | Thu Jun 09, 2022 23:45   | Mon Jun 06, 2022 00:40   |
| Jun 12, 2022 | Jun 16, 2022 | 3    | 0.01      | 0.18      | 0.37      | 607   | Tue Jun 14, 2022 01:10   | Sun Jun 12, 2022 09:15   |

## Flow

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.00      | 2.21      | 15.57     | 0.87                       | 1,302 | Wed Apr 06, 2022 01:00   | Thu Apr 07, 2022 08:40   |

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.00      | 1.74      | 4.55      | 1.05                       | 2,016 | Tue Apr 12, 2022 03:50   | Fri Apr 15, 2022 10:10   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00      | 1.42      | 4.64      | 0.86                       | 2,016 | Sun Apr 17, 2022 23:35   | Sat Apr 23, 2022 12:25   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.00      | 2.84      | 49.79     | 1.71                       | 2,016 | Fri Apr 29, 2022 02:10   | Mon Apr 25, 2022 23:10   |
| May 01, 2022 | May 07, 2022 | 7    | 0.00      | 1.59      | 13.67     | 0.95                       | 2,001 | Sun May 01, 2022 00:45   | Thu May 05, 2022 11:55   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00      | 0.83      | 3.11      | 0.50                       | 2,016 | Sun May 08, 2022 23:45   | Sun May 08, 2022 10:00   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00      | 0.36      | 2.43      | 0.22                       | 2,016 | Sun May 15, 2022 00:30   | Sat May 21, 2022 10:45   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00      | 0.87      | 3.76      | 0.52                       | 2,016 | Sun May 22, 2022 00:10   | Wed May 25, 2022 07:40   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.01      | 0.85      | 16.63     | 0.51                       | 2,016 | Sun May 29, 2022 01:00   | Tue May 31, 2022 04:35   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00      | 1.40      | 19.40     | 0.84                       | 2,016 | Thu Jun 09, 2022 23:45   | Mon Jun 06, 2022 00:40   |
| Jun 12, 2022 | Jun 16, 2022 | 3    | 0.10      | 4.12      | 12.77     | 0.75                       | 607   | Tue Jun 14, 2022 01:10   | Sun Jun 12, 2022 09:15   |

## Precipitation

| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| Apr 05, 2022 | Apr 09, 2022 | 5    | 0.00     | 0.01     | 1.25     | 16.25    | 1,439 | Tue Apr 05, 2022 00:05   | Thu Apr 07, 2022 18:30   |
| Apr 10, 2022 | Apr 16, 2022 | 7    | 0.00     | 0.00     | 1.00     | 6.50     | 2,016 | Sun Apr 10, 2022 00:00   | Wed Apr 13, 2022 05:35   |
| Apr 17, 2022 | Apr 23, 2022 | 7    | 0.00     | 0.01     | 0.75     | 26.25    | 2,016 | Sun Apr 17, 2022 00:00   | Thu Apr 21, 2022 13:00   |
| Apr 24, 2022 | Apr 30, 2022 | 7    | 0.00     | 0.01     | 1.00     | 22.75    | 2,016 | Sun Apr 24, 2022 00:00   | Mon Apr 25, 2022 16:40   |

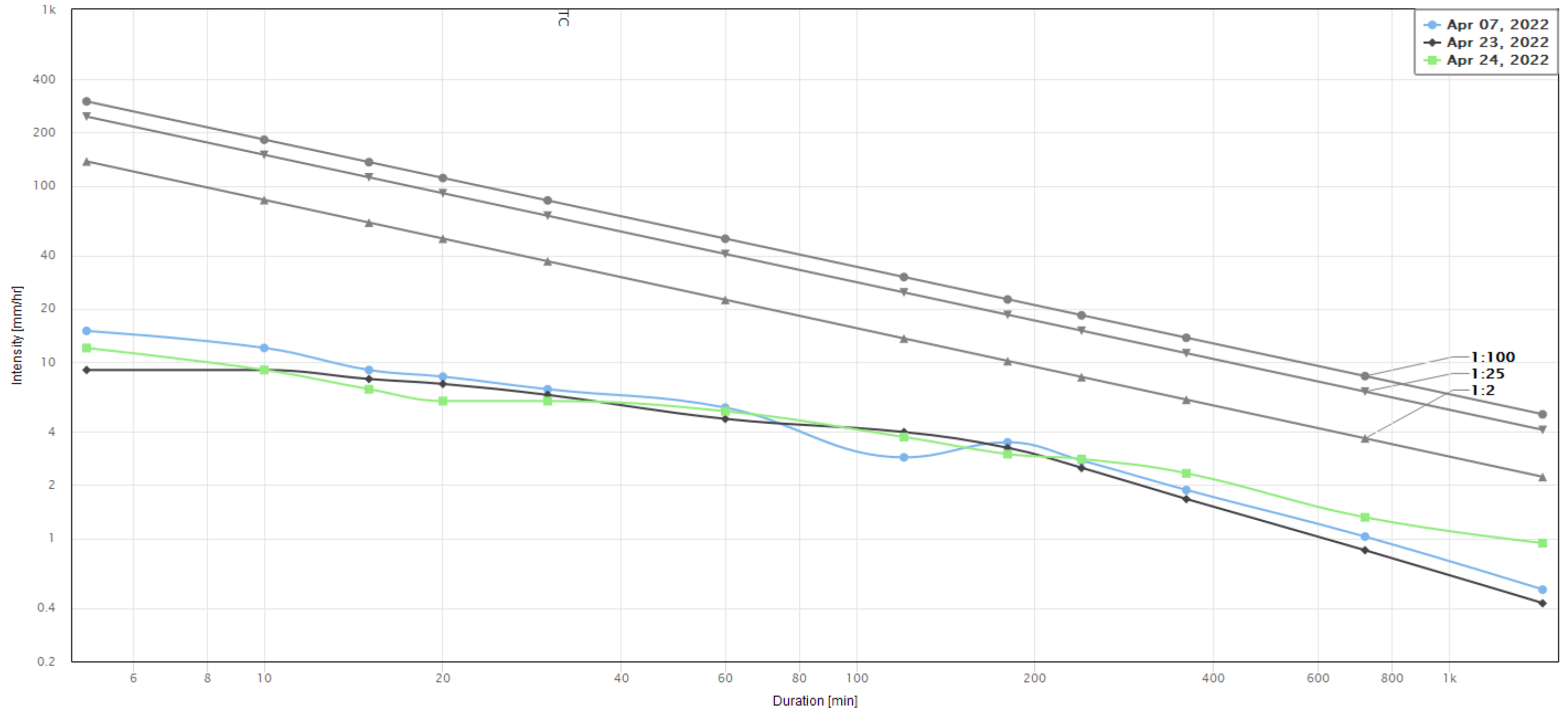
| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| May 01, 2022 | May 07, 2022 | 7    | 0.00     | 0.01     | 1.00     | 17.75    | 2,016 | Sun May 01, 2022 00:00   | Sun May 01, 2022 22:00   |
| May 08, 2022 | May 14, 2022 | 7    | 0.00     | 0.00     | 0.00     | 0.00     | 2,016 | Sun May 08, 2022 00:00   | Sun May 08, 2022 00:00   |
| May 15, 2022 | May 21, 2022 | 7    | 0.00     | 0.01     | 5.25     | 23.75    | 2,016 | Sun May 15, 2022 00:00   | Sat May 21, 2022 12:30   |
| May 22, 2022 | May 28, 2022 | 7    | 0.00     | 0.00     | 0.25     | 3.75     | 2,016 | Sun May 22, 2022 00:00   | Sun May 22, 2022 09:25   |
| May 29, 2022 | Jun 04, 2022 | 7    | 0.00     | 0.01     | 2.50     | 20.50    | 2,016 | Sun May 29, 2022 00:00   | Wed Jun 01, 2022 09:45   |
| Jun 05, 2022 | Jun 11, 2022 | 7    | 0.00     | 0.03     | 2.00     | 64.50    | 2,016 | Sun Jun 05, 2022 00:00   | Tue Jun 07, 2022 12:45   |
| Jun 12, 2022 | Jun 16, 2022 | 5    | 0.00     | 0.04     | 1.00     | 52.00    | 1,212 | Sun Jun 12, 2022 00:00   | Wed Jun 15, 2022 08:20   |

<sup>1</sup> Time of Min and Time of Max will be displayed by first occurrence

# IDF Analysis

Station: MH33\_FM02 (South) (Apr 05, 2022 – Apr 30, 2022)

IDF Return Period Analysis MH33\_FM02 (South)

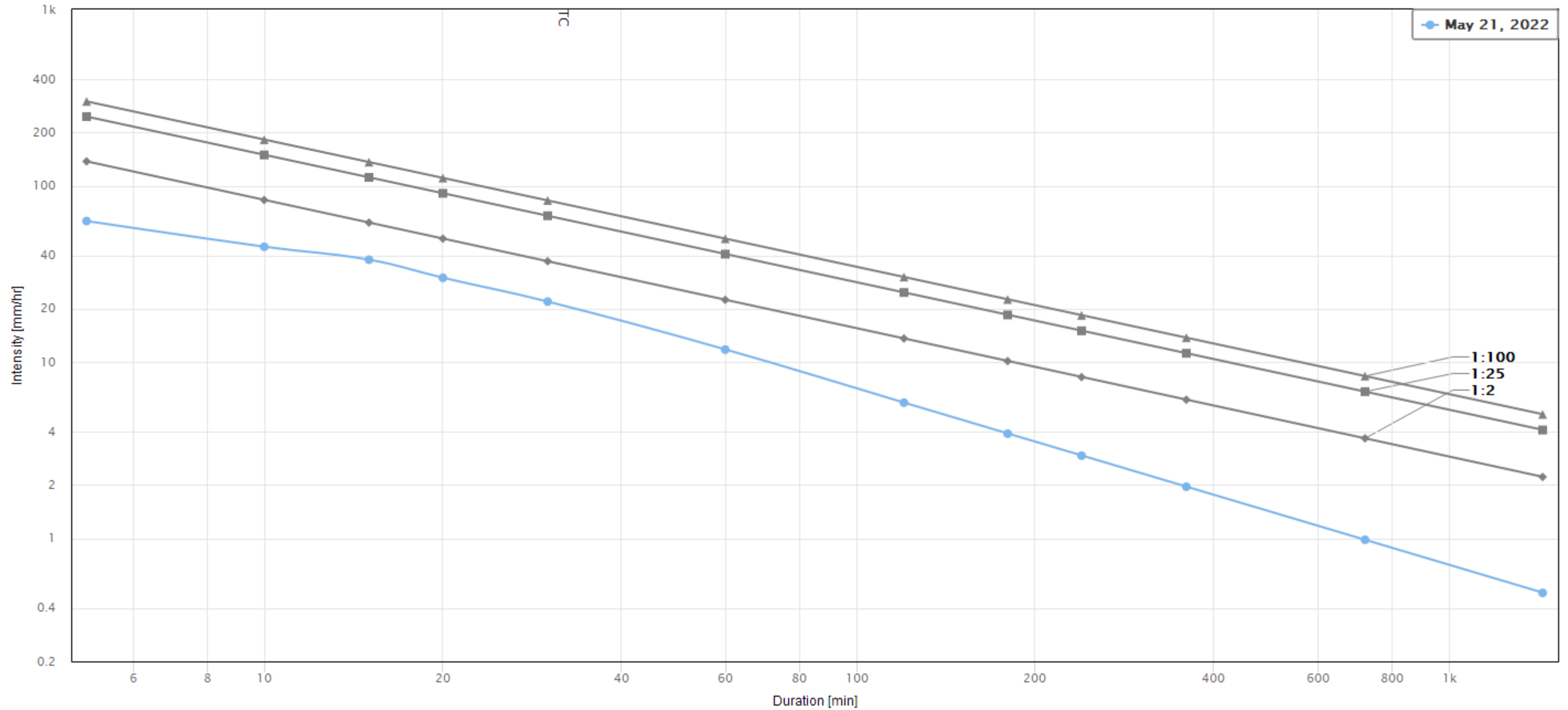


| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| Apr 07, 2022   | 11.42          | N/A                   | 12.25                    | 15.00                              | 12.00  | 9.00   | 8.25   | 7.00   | 5.50   | 2.88    | 3.50    | 2.75    | 1.88    | 1.02    | 0.51     |
| Apr 23, 2022   | 7.42           | N/A                   | 10.25                    | 9.00                               | 9.00   | 8.00   | 7.50   | 6.50   | 4.75   | 4.00    | 3.25    | 2.50    | 1.67    | 0.85    | 0.43     |
| Apr 24, 2022   | 21.92          | N/A                   | 22.50                    | 12.00                              | 9.00   | 7.00   | 6.00   | 6.00   | 5.25   | 3.75    | 3.00    | 2.81    | 2.33    | 1.31    | 0.94     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |

# IDF Analysis

Station: MH33\_FM02 (South) (May 01, 2022 – May 31, 2022)

IDF Return Period Analysis MH33\_FM02 (South)





| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| May 21, 2022   | 0.75           | N/A                   | 11.75                    | 63.00                              | 45.00  | 38.00  | 30.00  | 22.00  | 11.75  | 5.88    | 3.92    | 2.94    | 1.96    | 0.98    | 0.49     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |

## Appendix C

*Monitoring Period: Jun 01, 2022 – Jun 30, 2022*

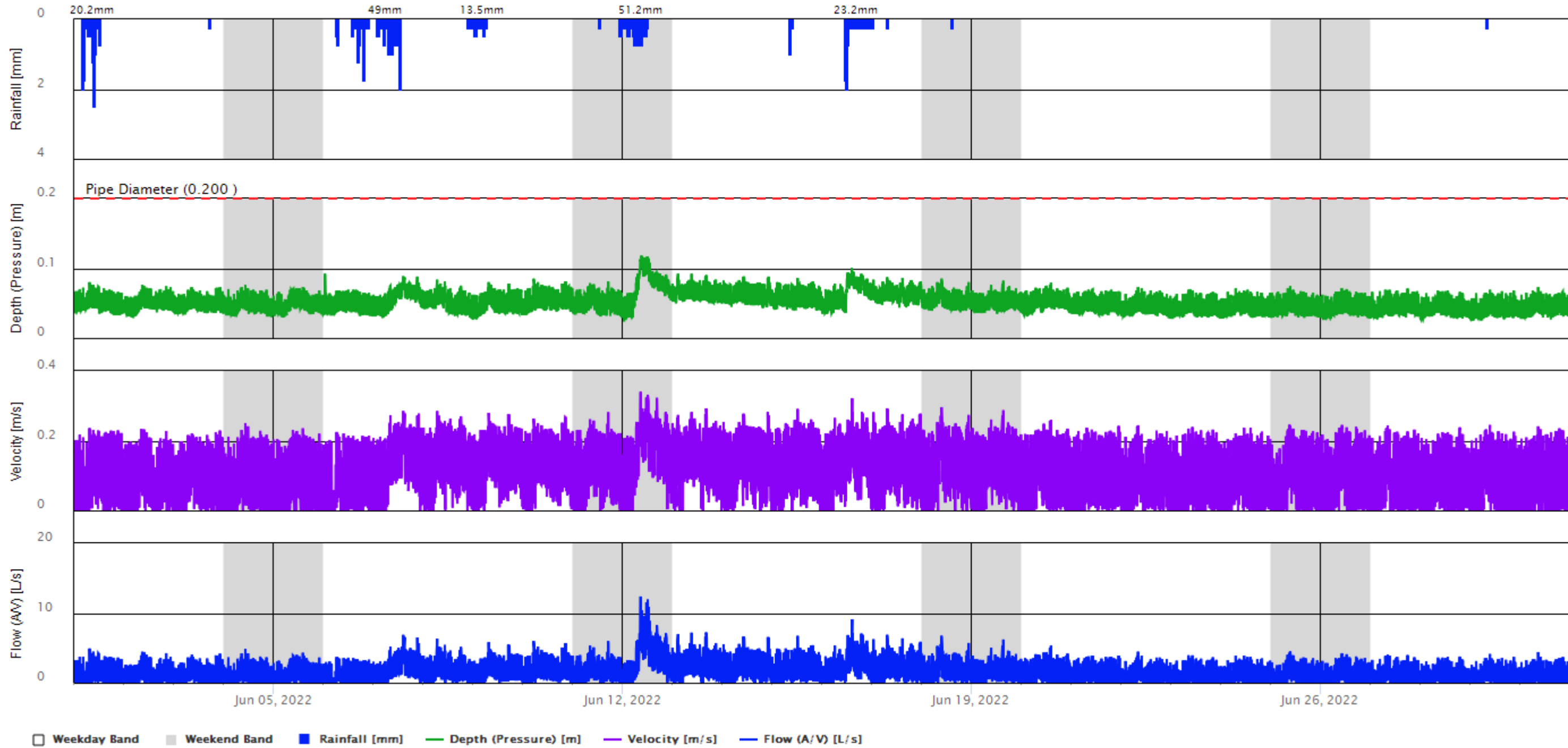
## Table of Contents

|  |   |
|--|---|
| Data Chart <b>Station: MH33_FM01 (North)</b> .....     | 2 |
| Aggregate Data <b>Station: MH33_FM01 (North)</b> ..... | 3 |
| IDF Analysis <b>Station: MH33_FM01 (North)</b> .....   | 4 |
| Monitoring Station List .....                          | 6 |
| Data Chart <b>Station: MH33_FM02 (South)</b> .....     | 7 |
| Aggregate Data <b>Station: MH33_FM02 (South)</b> ..... | 8 |

# Data Chart

Station: MH33\_FM01 (North)

[Jun 01, 2022 – Jun 30, 2022](#)



# Aggregate Data

Station: MH33\_FM01 (North)

## Level

| Date From    | Date To      | Days | Min (m) | Avg (m) | Max (m) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|---------|---------|---------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.03    | 0.05    | 0.12    | 8,636 | Sun Jun 12, 2022 00:35   | Sun Jun 12, 2022 08:35   |

## Velocity

| Date From    | Date To      | Days | Min (m/s) | Avg (m/s) | Max (m/s) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00      | 0.09      | 0.34      | 8,636 | Wed Jun 01, 2022 00:15   | Sun Jun 12, 2022 08:35   |

## Flow

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00      | 1.23      | 12.37     | 3.20                       | 8,636 | Wed Jun 01, 2022 00:15   | Sun Jun 12, 2022 08:35   |

## Precipitation

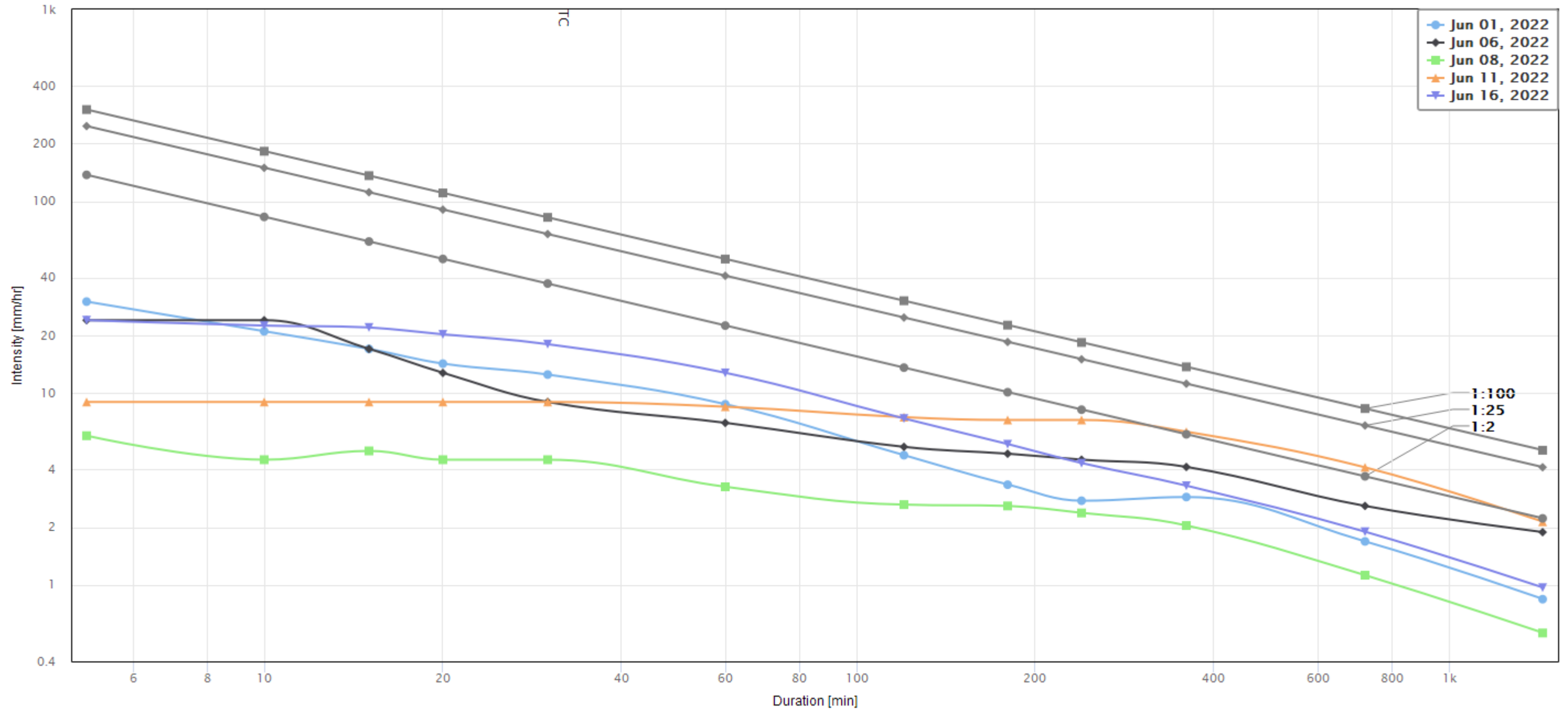
| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00     | 0.02     | 2.50     | 160.75   | 8,640 | Wed Jun 01, 2022 00:00   | Wed Jun 01, 2022 09:45   |

<sup>1</sup> Time of Min and Time of Max will be displayed by first occurrence

# IDF Analysis

Station: MH33\_FM01 (North)

IDF Return Period Analysis MH33\_FM01 (North)





| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| Jun 01, 2022   | 8.42           | N/A                   | 20.25                    | 30.00                              | 21.00  | 17.00  | 14.25  | 12.50  | 8.75   | 4.75    | 3.33    | 2.75    | 2.88    | 1.69    | 0.84     |
| Jun 06, 2022   | 30.92          | N/A                   | 49.00                    | 24.00                              | 24.00  | 17.00  | 12.75  | 9.00   | 7.00   | 5.25    | 4.83    | 4.50    | 4.13    | 2.58    | 1.89     |
| Jun 08, 2022   | 8.67           | N/A                   | 13.50                    | 6.00                               | 4.50   | 5.00   | 4.50   | 4.50   | 3.25   | 2.63    | 2.58    | 2.38    | 2.04    | 1.13    | 0.56     |
| Jun 11, 2022   | 23.25          | N/A                   | 51.25                    | 9.00                               | 9.00   | 9.00   | 9.00   | 9.00   | 8.50   | 7.50    | 7.25    | 7.25    | 6.29    | 4.10    | 2.14     |
| Jun 16, 2022   | 20.00          | N/A                   | 23.25                    | 24.00                              | 22.50  | 22.00  | 20.25  | 18.00  | 12.75  | 7.38    | 5.42    | 4.31    | 3.29    | 1.90    | 0.97     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |

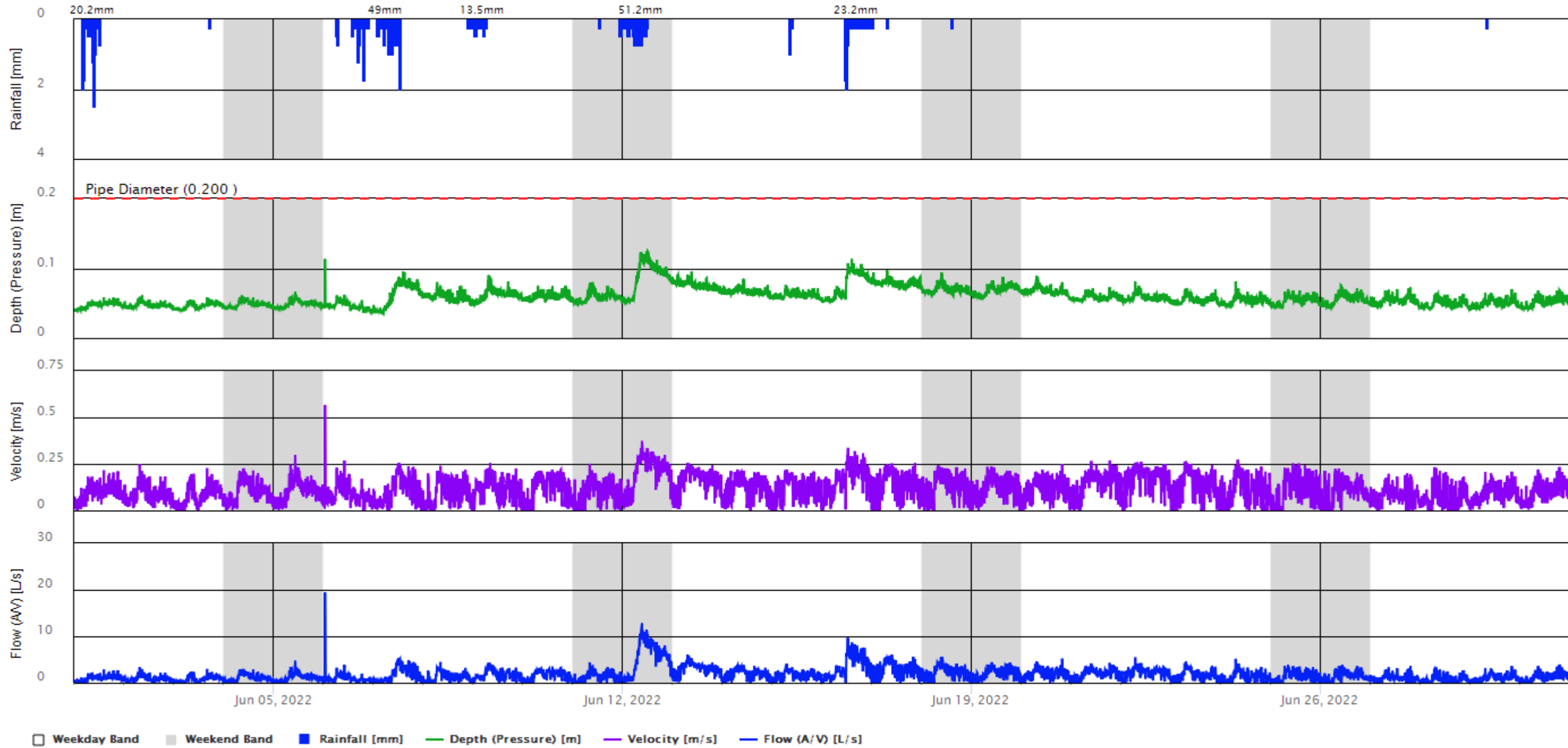
## Monitoring Station List

| Station Name         | Station Type  | Station State | Latitude    | Longitude    | Start Date            | End Date | Site Comments |
|----------------------|---------------|---------------|-------------|--------------|-----------------------|----------|---------------|
| MH33_FM01<br>(North) | Sanitary Flow | Receiving     | 44.55816984 | -79.27615238 | Apr 05, 2022<br>00:00 | Ongoing  |               |
| MH33_FM02<br>(South) | Sanitary Flow | Receiving     | 44.55815691 | -79.27610746 | Apr 05, 2022<br>00:00 | Ongoing  |               |

# Data Chart

Station: MH33\_FM02 (South)

[Jun 01, 2022 – Jun 30, 2022](#)



# Aggregate Data

Station: MH33\_FM02 (South)

## Level

| Date From    | Date To      | Days | Min (m) | Avg (m) | Max (m) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|---------|---------|---------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.04    | 0.06    | 0.12    | 8,640 | Mon Jun 06, 2022 19:00   | Sun Jun 12, 2022 11:35   |

## Velocity

| Date From    | Date To      | Days | Min (m/s) | Avg (m/s) | Max (m/s) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00      | 0.11      | 0.57      | 8,640 | Thu Jun 09, 2022 23:45   | Mon Jun 06, 2022 00:40   |

## Flow

| Date From    | Date To      | Days | Min (L/s) | Avg (L/s) | Max (L/s) | Total Volume (1,000,000 L) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|-----------|-----------|-----------|----------------------------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00      | 1.72      | 19.40     | 4.47                       | 8,640 | Thu Jun 09, 2022 23:45   | Mon Jun 06, 2022 00:40   |

## Precipitation

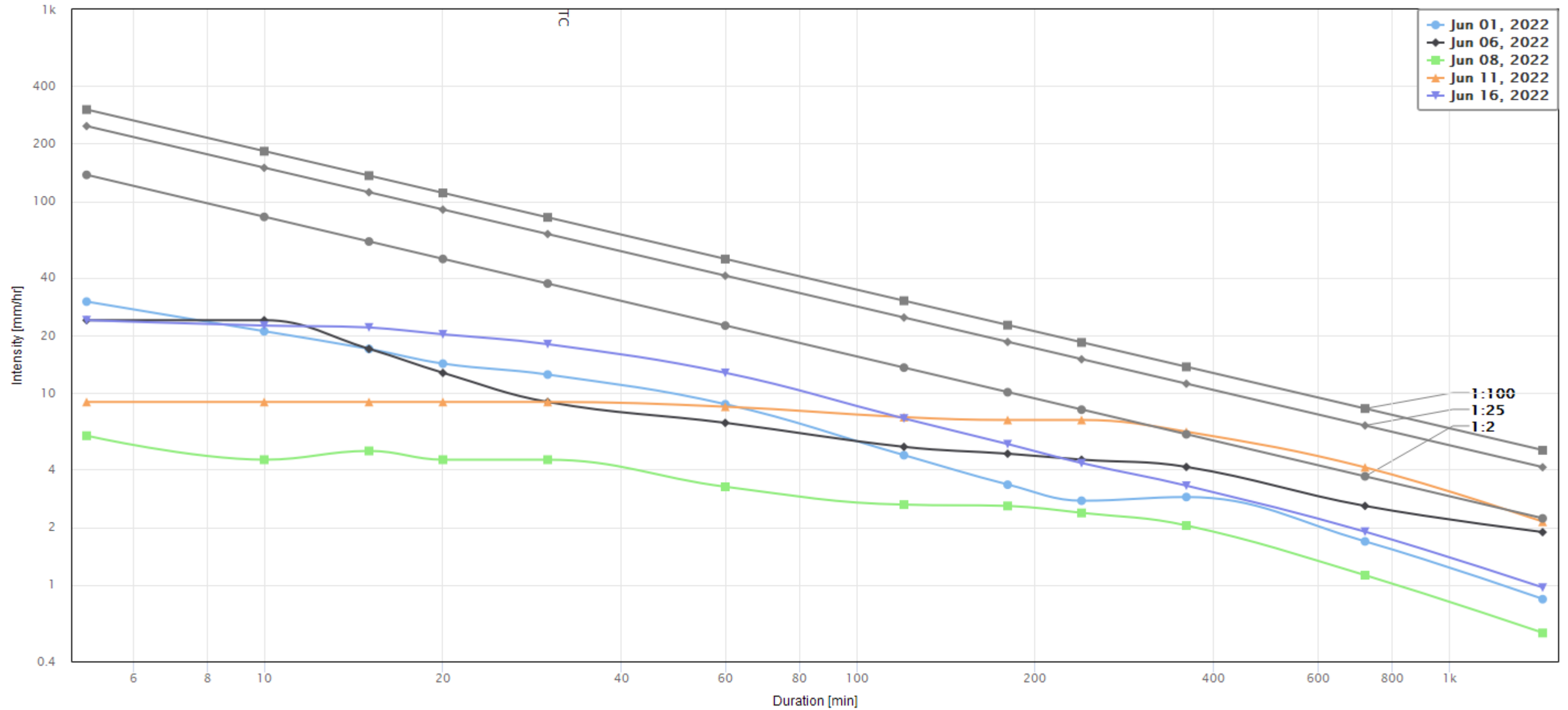
| Date From    | Date To      | Days | Min (mm) | Avg (mm) | Max (mm) | Sum (mm) | Count | Time of Min <sup>1</sup> | Time of Max <sup>1</sup> |
|--------------|--------------|------|----------|----------|----------|----------|-------|--------------------------|--------------------------|
| Jun 01, 2022 | Jun 30, 2022 | 30   | 0.00     | 0.02     | 2.50     | 160.75   | 8,640 | Wed Jun 01, 2022 00:00   | Wed Jun 01, 2022 09:45   |

<sup>1</sup> Time of Min and Time of Max will be displayed by first occurrence

# IDF Analysis

Station: MH33\_FM02 (South)

IDF Return Period Analysis MH33\_FM02 (South)



| Event          | Duration (hrs) | Return Period Over Tc | Total Precipitation (mm) | Peak Intensity at Timestep (mm/hr) |        |        |        |        |        |         |         |         |         |         |          |
|----------------|----------------|-----------------------|--------------------------|------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                |                |                       |                          | 5 min                              | 10 min | 15 min | 20 min | 30 min | 60 min | 120 min | 180 min | 240 min | 360 min | 720 min | 1440 min |
| Jun 01, 2022   | 8.42           | N/A                   | 20.25                    | 30.00                              | 21.00  | 17.00  | 14.25  | 12.50  | 8.75   | 4.75    | 3.33    | 2.75    | 2.88    | 1.69    | 0.84     |
| Jun 06, 2022   | 30.92          | N/A                   | 49.00                    | 24.00                              | 24.00  | 17.00  | 12.75  | 9.00   | 7.00   | 5.25    | 4.83    | 4.50    | 4.13    | 2.58    | 1.89     |
| Jun 08, 2022   | 8.67           | N/A                   | 13.50                    | 6.00                               | 4.50   | 5.00   | 4.50   | 4.50   | 3.25   | 2.63    | 2.58    | 2.38    | 2.04    | 1.13    | 0.56     |
| Jun 11, 2022   | 23.25          | N/A                   | 51.25                    | 9.00                               | 9.00   | 9.00   | 9.00   | 9.00   | 8.50   | 7.50    | 7.25    | 7.25    | 6.29    | 4.10    | 2.14     |
| Jun 16, 2022   | 20.00          | N/A                   | 23.25                    | 24.00                              | 22.50  | 22.00  | 20.25  | 18.00  | 12.75  | 7.38    | 5.42    | 4.31    | 3.29    | 1.90    | 0.97     |
| 2 Year Storm   | N/A            | N/A                   | N/A                      | 137.35                             | 82.92  | 61.73  | 50.06  | 37.27  | 22.50  | 13.58   | 10.11   | 8.20    | 6.11    | 3.69    | 2.23     |
| 25 Year Storm  | N/A            | N/A                   | N/A                      | 246.59                             | 149.39 | 111.43 | 90.51  | 67.51  | 40.90  | 24.78   | 18.48   | 15.01   | 11.20   | 6.78    | 4.11     |
| 100 Year Storm | N/A            | N/A                   | N/A                      | 300.70                             | 182.30 | 136.04 | 110.52 | 82.47  | 50.00  | 30.31   | 22.62   | 18.38   | 13.71   | 8.31    | 5.04     |



# **ATTACHMENT C**

## **Private Property Inspections**

### **OCWA**

# **ATTACHMENT D**

## **Maintenance Hole Inspections**

### **OCWA**

| MH# | # Gr Adj | Parged    | Debris Catcher | Flow               | PPD Comment  | CSG Comment  | Photo #    |
|-----|----------|-----------|----------------|--------------------|--|--|------------|
| 1   | 2        | No        | Good           |                    | 2 rings, concrete filler above and below. Cracked, displaced, stained.           | Some wipes in channel.   | 6410,6411  |
| 2   | 6        | No        | Damaged        | Low to Moderate    | Bottom layer cracked, broken, holes  |  | 6425       |
| 3   | 5        | No        | Damaged        |                    | Rings - cracked , minor chips  | Walls appear to be parging.  |            |
| 4   | 5        | No        | Good           | Large              | Bottom two layers bricks wo mortar, some movement                                |  |            |
| 5   | 3+       | No        | Good           | Large              | Conc bricks under three rings under filler. Some broken rings (6467)             |  | 6454, 6467 |
| 6   | 0        |           | None           | Large from N       | Cover on roof slab. OK   |  |            |
| 7   |          |           | None           | Large from N       | Lower section wet, heavy staining, and buildup                                   | Water appear to be coming in from joints & walls on north & south side.                                    | 6497       |
| 8   |          |           | None           | Very Large from N  |  |  |            |
| 9   |          |           |                |                    |  | Not installed. Map label error   |            |
| 10  | 3        | No        | Good           | No flow (dead end) | "STORM" lid. 3 plastic rings. Good condition                                     | Some sand in chamber.  |            |
| 11  | 3        | No        | Good           | Moderate           | Rings - cracked, broken and upper layer stained                                  | Lid ridge for sewer is loose.  |            |
| 12  | 3+       | No        | None           | Large              | "STORM" lid. rings with concrete fill. Bottom precast wet with stains from joint | Leaking at joints  | 6725       |
| 13  | 6        | No        | None           |                    | Gr adj ok. Lower section wet with stains from joint                              | Walls bleeding at joints.  |            |
| 14  | 5        | No        | None           |                    | Lower section lightly stained as per MH13  | Walls are bleeding at joints. Joints need repair   | 6715       |
| 15  | 2        | No        | None           |                    | Rings - cracked. Lower 2 precast wet and staining from joints                    | Walls bleeding water. 8 steps down leaking at joint.   |            |
| 16  | 3        | No        | Good           | Moderate           | Rings - cracked, small pieces missing. Evidence of infil one side from joint     | Grade rings crumbling, poor shape. Joints from cone leaking, poor shape.                                   | 6665,6669  |
| 17  |          |           | Good           | Large              | OK   | Has 2 sets of ladders and fall arrest (open at time of insp)   |            |
| 18  | 0        |           | Good           | Low to No          | Gravel coming in under frame but MH is dry                                       |  |            |
| 19  | 4-5      | Partially | Good           |                    | Parging flaked, rings broken. "Active infil" is flow from pipe, not infiltration |  | 5031       |
| 20  |          |           | n/a            |                    |  | Not installed. Map label error   |            |
| 21  | 3?       |           | Good           | Moderate           |  | 99 Bayshore appears to have moderate flow coming in.   |            |
| 22  |          |           | Good           |                    |  | Can hear water but not see where. Sounds to be coming from inside.   |            |
| 23  |          |           | None           | Moderate           |  |  |            |
| 24  |          |           | None           | Moderate           | Evidence of infil through precast jt (6199)                                      | Some rags in channel   |            |
| 25  |          |           | None           | Large              | OK   |  |            |
| 26  |          |           | None           |                    | Infil bn bottom joint/bench (shallow MH)   | Infiltration on North wall needs repair.   | 6286       |
| 27  |          |           | None           |                    | staining from jt down lower precast (not 360)                                    | Infiltration on walls, needs repairs.  | 6270       |
| 28  |          |           | Good           |                    | heavy staining/eff buildup lower section   | Infiltration on walls, lots of flow. On North & South walls.   | 6254       |
| 29  |          |           | Good           | Large              | moderate staining/eff buildup lower section                                      |  | 6241       |
| 30  |          |           | None           | Very High          | staining from one precast joint (180)  |  | 6230       |
| 31  |          |           | Good           |                    | staining from lower joint  | Walls not great. Didn't see infiltration.  | 6295       |
| 32  |          |           | None           |                    | staining (90) from lower joint   | Lots of debris blocking east line. MH appears to have previous work done. Sheet mislabelled as 31.         | 6326       |
| 33  | 3        | No        | Good           | Very Large         | OK   | Last chamber before P.S.   |            |
| 34  |          |           | Good           | Low                | OK   |  |            |
| 35  | 4        | Partially | None           | Moderate           | Looks like concrete brick, missing mortar, displaced                             | East wall appears to be bleeding water. Some parging on east wall.   | 6587,      |
| 36  |          |           | Good           |                    | No inside photos   | Frame loose in ground, heated to loosen. No infiltration. Chimey has cracking need to be paved and filled. |            |
| 37  |          |           | None           | Low                | Looks like concrete brick, missing mortar  |  |            |

| MH# | # Gr Adj | Parged    | Debris Catcher | Flow              | PPD Comment  | CSG Comment  | Photo #   |
|-----|----------|-----------|----------------|-------------------|--|--|-----------|
| 38  |          |           | None           | Fast              |  |  |           |
| 39  |          |           | Good           | Moderate          |  | Minor parging on walls.  |           |
| 40  |          |           | None           | Moderate          |  |  |           |
| 41  | 1        | No        | None           | Moderate          | OK   |  |           |
| 42  |          |           | None           | Moderate          |  | Riser lined.   |           |
| 43  | 2?       | Yes       | Good           | Low               | Parging flaked and broken but dry  | Some sand. Some wipes in channel.  | 5704      |
| 44  | 3        | No        | Good           | Moderate          | Rings intact   | 1 layer of wipes deteriorating,  |           |
| 45  |          |           | Good           | Minor             | Mild deteriorating of concrete filler above roof slab  | Rock in channels   |           |
| 46  |          |           | Good           | Moderate          | Mild efflorescence   |  |           |
| 47  | 4?       | No        | None           | Minor             | Concrete bricks, crumbling and displaced   | Ring deteriorating. Minor debris from rings falling apart.                 | 5537,5539 |
| 48  |          |           | Good           | Steady            |  | Crack in joints, especially on north side.                                 |           |
| 49  |          |           | Good           | Moderate          |  | No sewer cover.  |           |
| 50  | 5?       | Yes       | Good           | Large             | Concrete bricks under cracked and flaked parging (dry). Lower section wet and stained with buildup                                 | Cracking on chimney.   | 5963      |
| 51  |          |           | None           | Low               |  | Riser is lined.  |           |
| 52  |          |           | Good           | Large             | Lower section staining from joint  | Riser is lined.  | 5933      |
| 53  |          |           | None           | Large             | Lower 3 sections stained with building up from joint   |  | 5917      |
| 54  | 2        | No        | None           | Low               | lower section lightly stained with buildup from joint (30)   | Minor parging on walls.  | 6126      |
| 55  |          |           | None           | Low               |  | Some parging.  |           |
| 56  |          |           | None           | Moderate          |  | Some wipes in channel. Some sand on floor.                                 |           |
| 57  | 2        | No        | Good           | Minor             | Top ring broken, minor displacement  | Minor cracking on rings.   | 5685      |
| 58  | 2        | No        | Good           | Minor             | Rings cracked, mortar between crumbling  |  | 5650      |
| 59  | 3        | No        | Good           | Moderate          | Concrete brick - broken, missing   | Moderate flow. Ring all deteriorated.                                      | 5734      |
| 60  | 4        | No        | Good           | Large             | Lower section wet with stains and buildup. Rings - minor cracks  | Possible inflow where bar is sticking out. Can hear water.                 | 5750      |
| 61  | 11?      | No        | Good           | Large             | Cracked, broken, displaced pieces of rings/bricks  | Rings deteriorated.  | 5775      |
| 62  | 6        | No        | Good           | Large             | Bottom layer broken, displaced. Minor cracks in other layers   | Some layers of rings deteriorating.  | 5791      |
| 63  | 9?       | No        | Good           | Moderate to Large | "top ring" in comments is concrete filler. OK  | Minor debris, 1 ring on riser deteriorating.                               |           |
| 64  | 5?       | Partially | None           | Low               |  |  |           |
| 65  | 4?       | Yes       | None           | Low               |  | Some sand in chamber.  |           |
| 66  | 5?       | Yes       | Good           | Very Large        | Top layer cracked, displace, missing   | Old pipe in chamber- did not observe any flow from it.                     | 5865      |
| 67  |          |           | None           | Moderate          |  |  |           |
| 68  |          |           | None           |                   | Staining and buildup in lower section from joint   |  | 6372      |
| 69  | 3        | No        | None           | Moderate          | Minor vertical cracks. Localized buildup entry through joint (8-in?)   | Moderate flow.   | 6361      |
| 70  | 6        | No        | Good           | Lots              | Top 2 layers are OK rings, bottom 4 layers conc brick  | Pipe halfway up east side wall. With flow coming out. Rings deteriorating. |           |
| 71  | 4        | No        | Good           | Low               |  | Minor parging on walls.  |           |
| 72  |          |           | None           | Moderate          | Top 2 layers are OK rings, bottom 2 conc bricks that are broken and missing  |  | 6559      |
| 73  | 3        | No        | None           | Very Large        | Top 2 layers are rings with cracks, layer of brick below with missing, displace pieces. Drips maybe bench/wall joint under ladder? | Walls appear to be bleeding water. Can hear water falling somewhere.       | 6526      |