

APPENDIX

F

PERFORMANCE INDICATOR
MONITORING PROGRAM
(PITM) RESULTS

Figure F-1 2022 Surface Water PITM Results
SWI - Rob Roy Swamp 6 Quarry Discharge

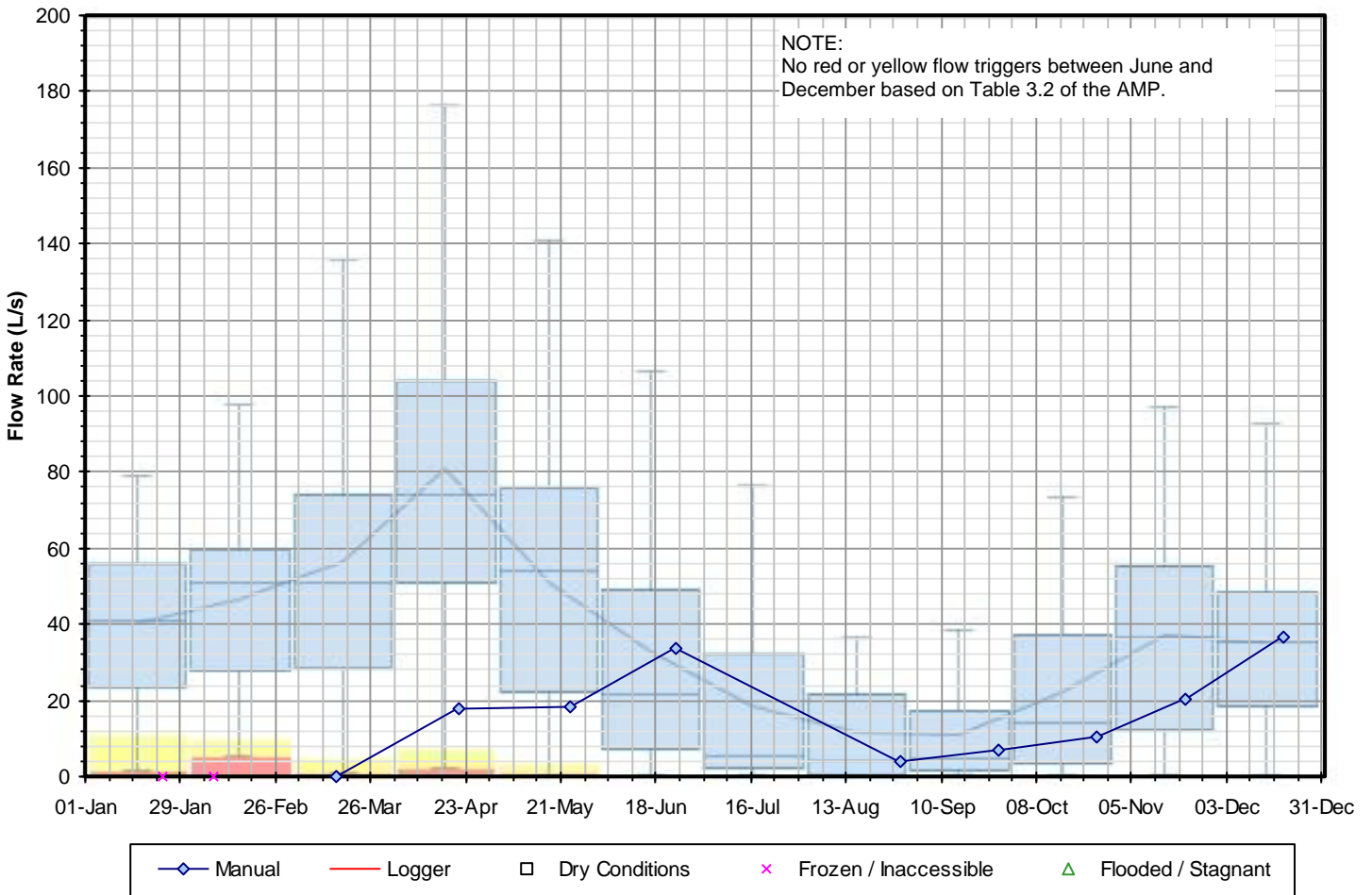
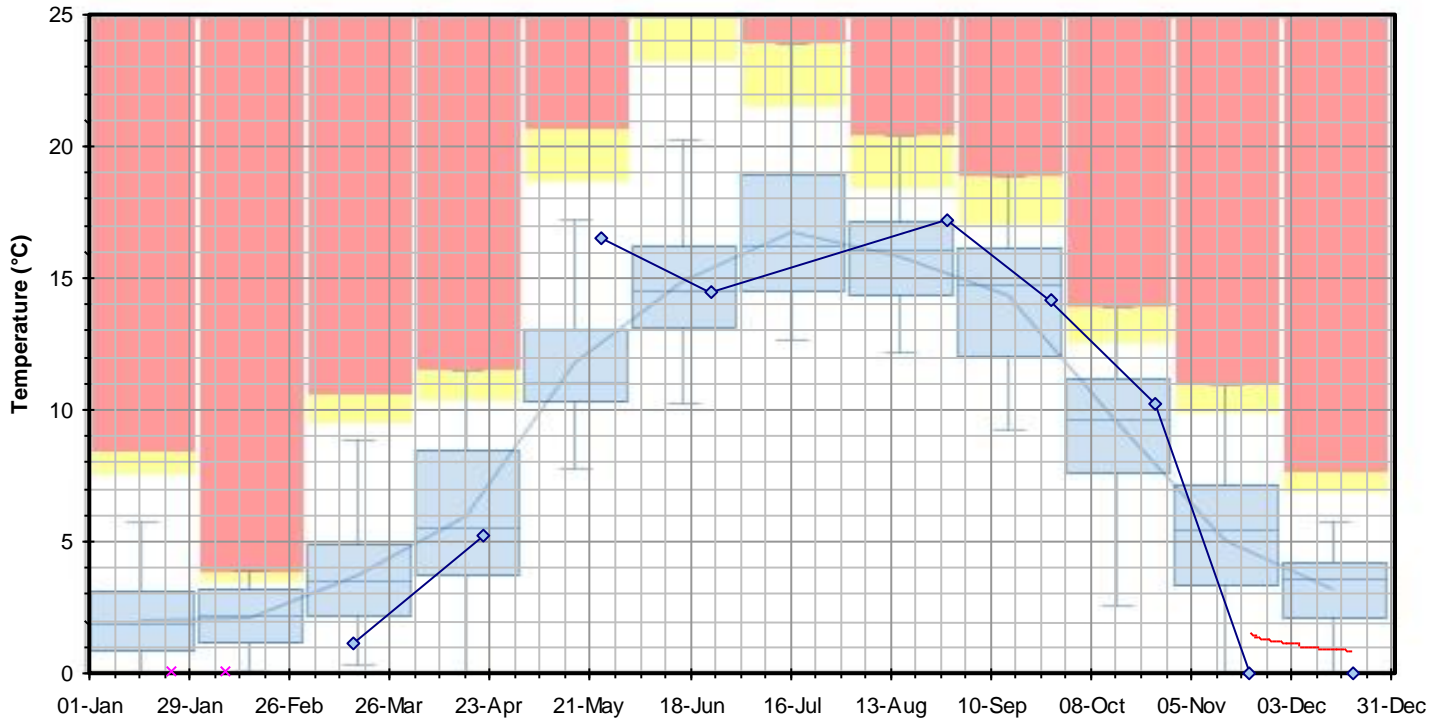


Figure F-2 2022 Surface Water PITM Results
SW2 - Rob Roy Swamp 6 Culvert south of County Rd 91

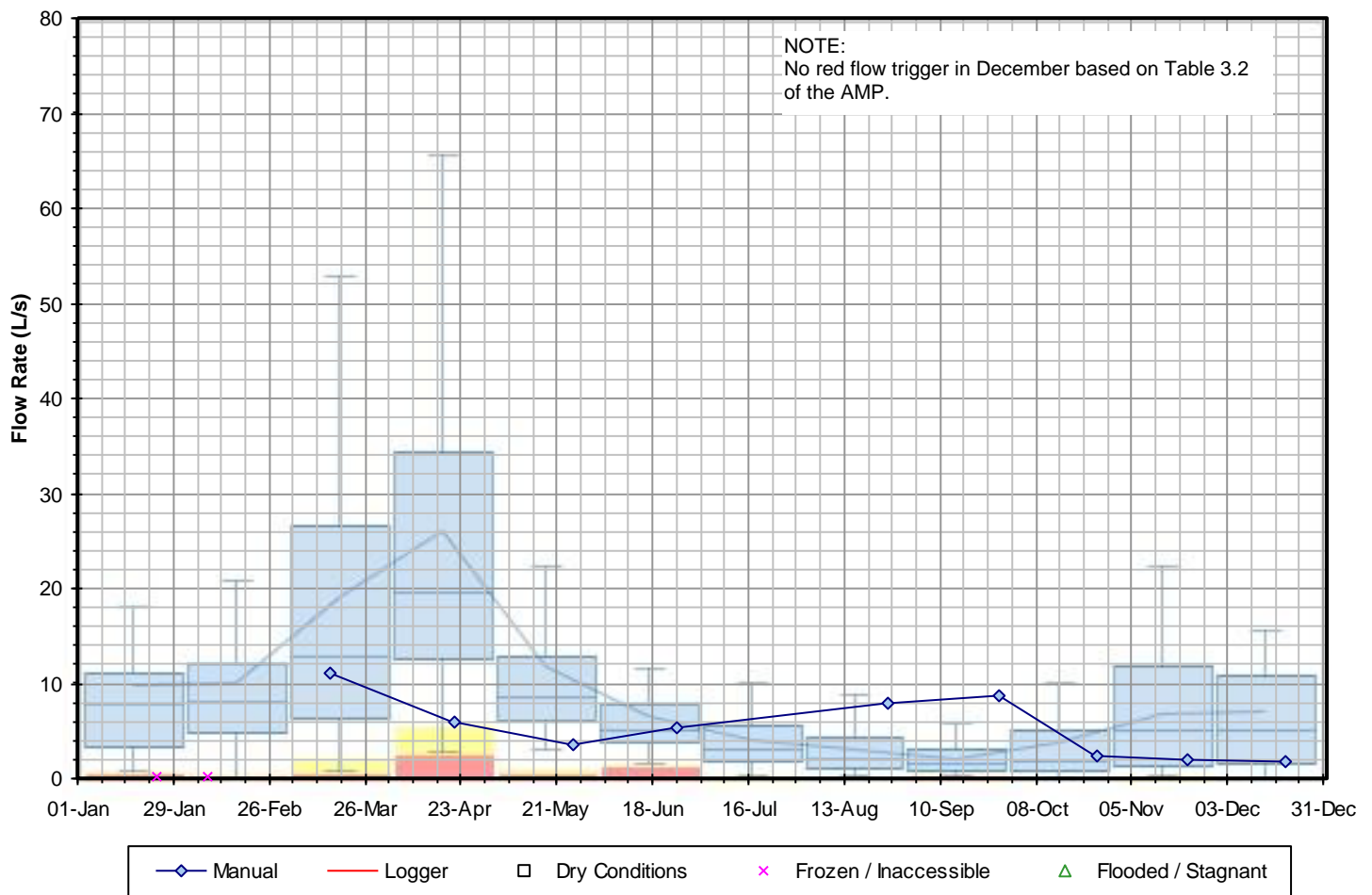
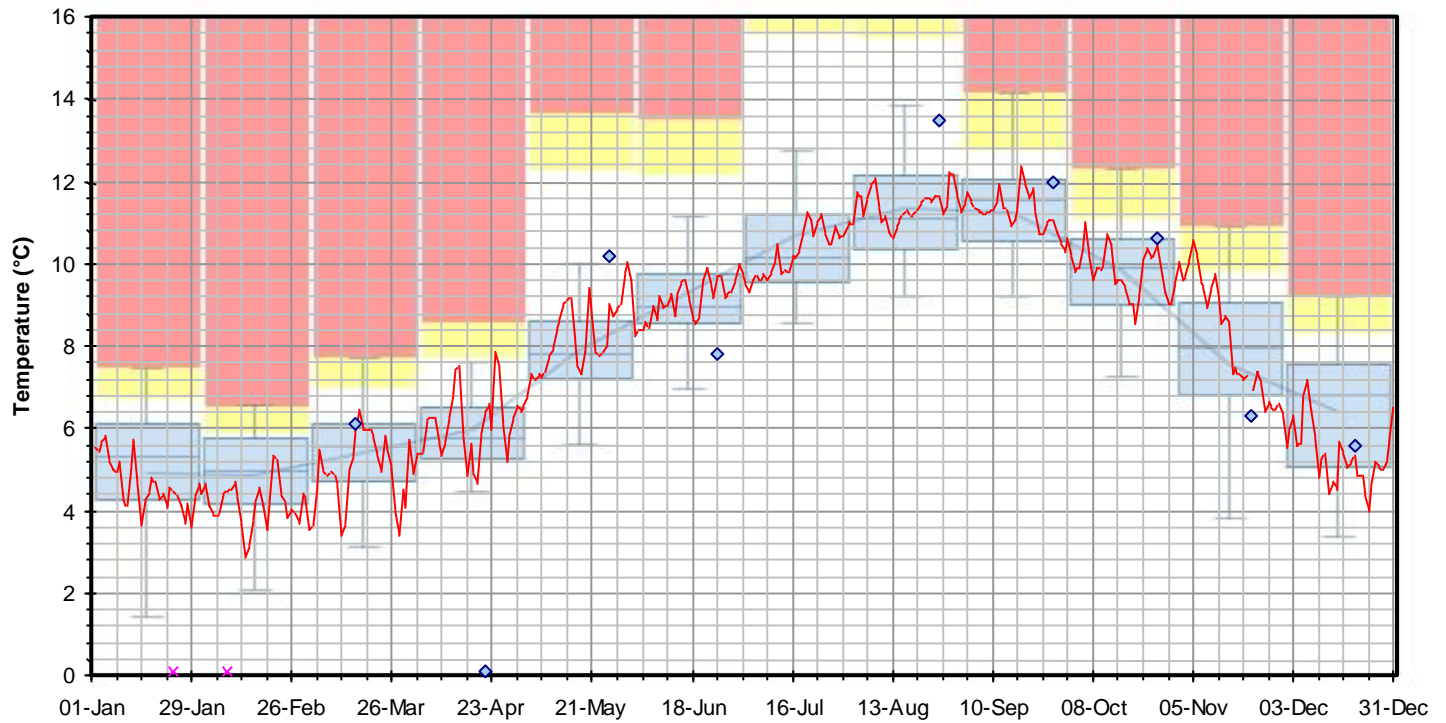


Figure F-3 2022 Surface Water PITM Results
SW0-2 - Rob Roy Swamp 6 Northwest Outlet

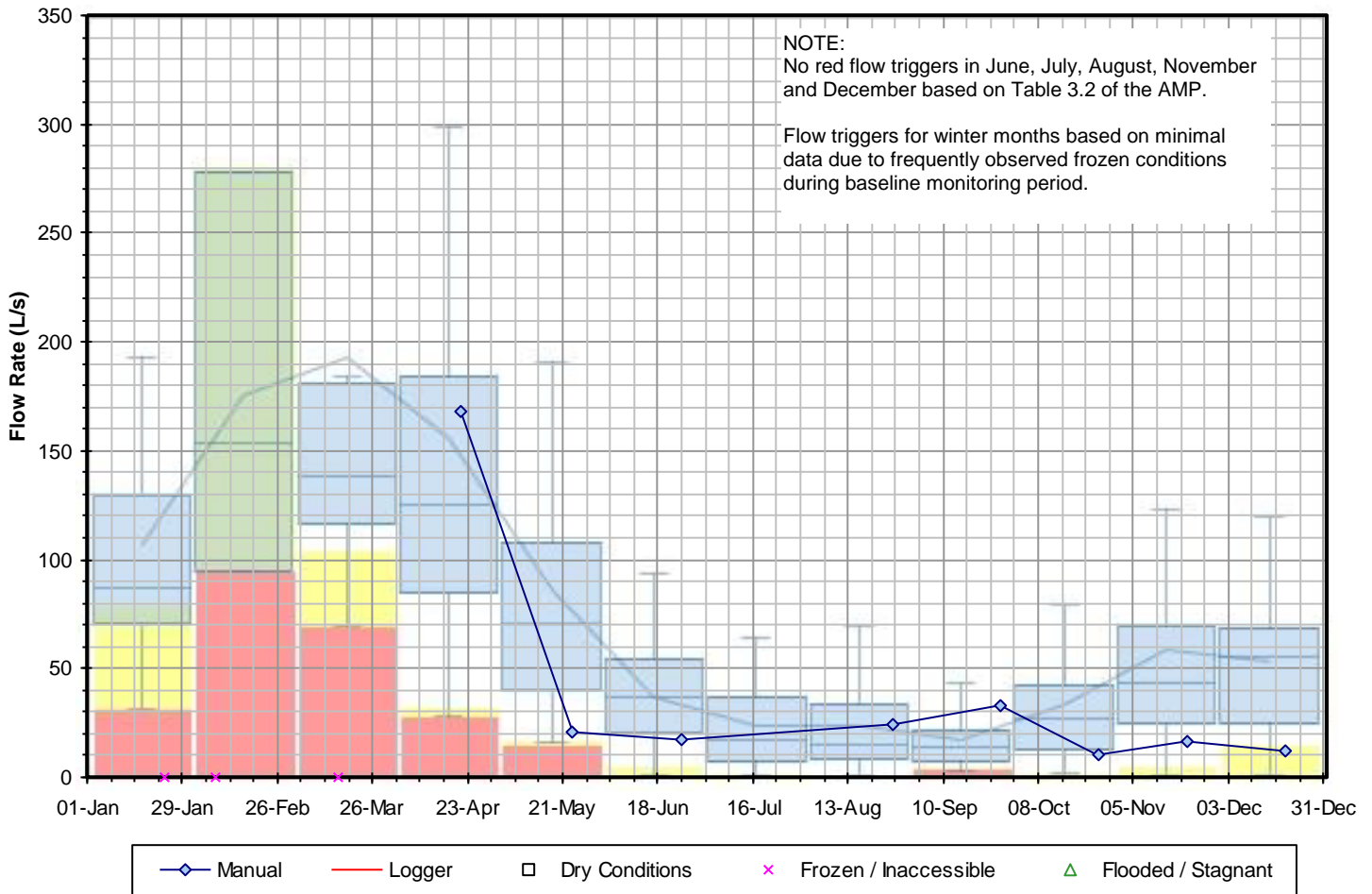
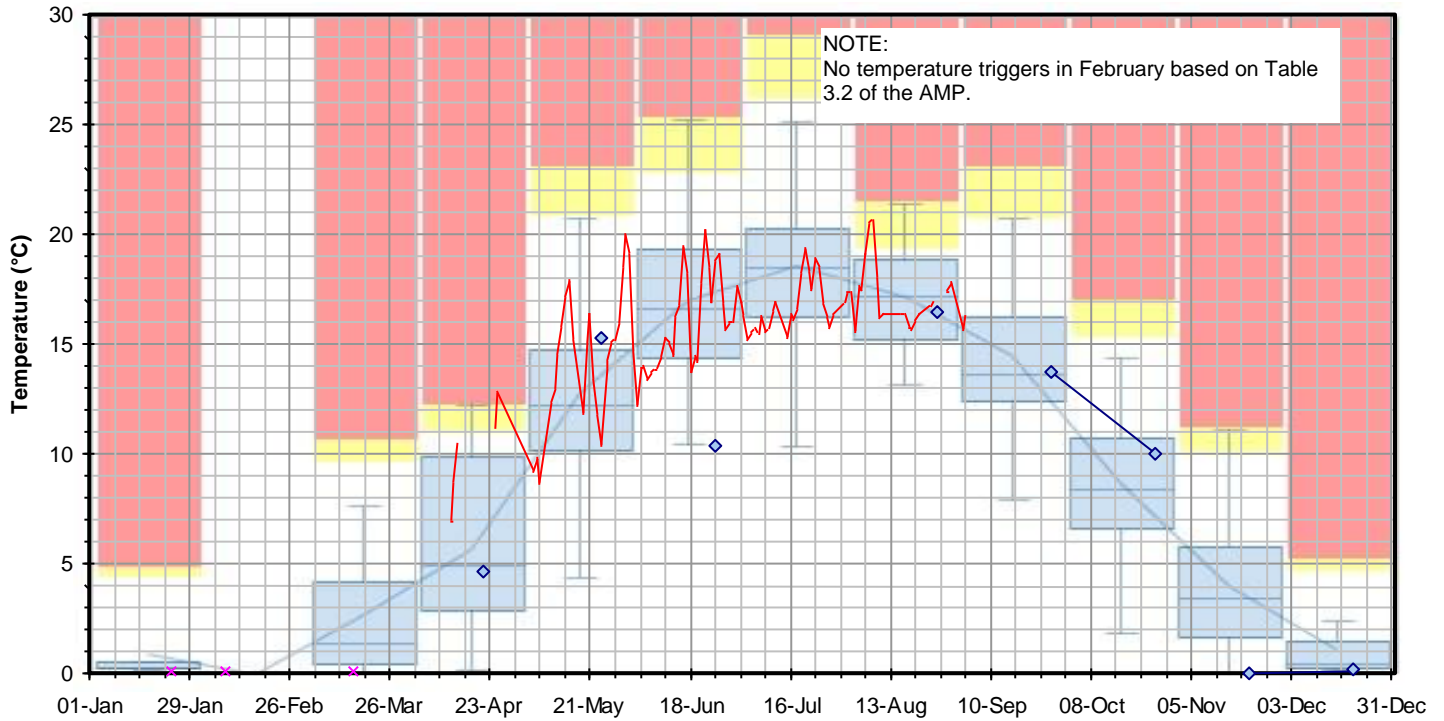


Figure F-4 2022 Surface Water PITM Results

SW3 - Rob Roy Swamp 2 West Outlet

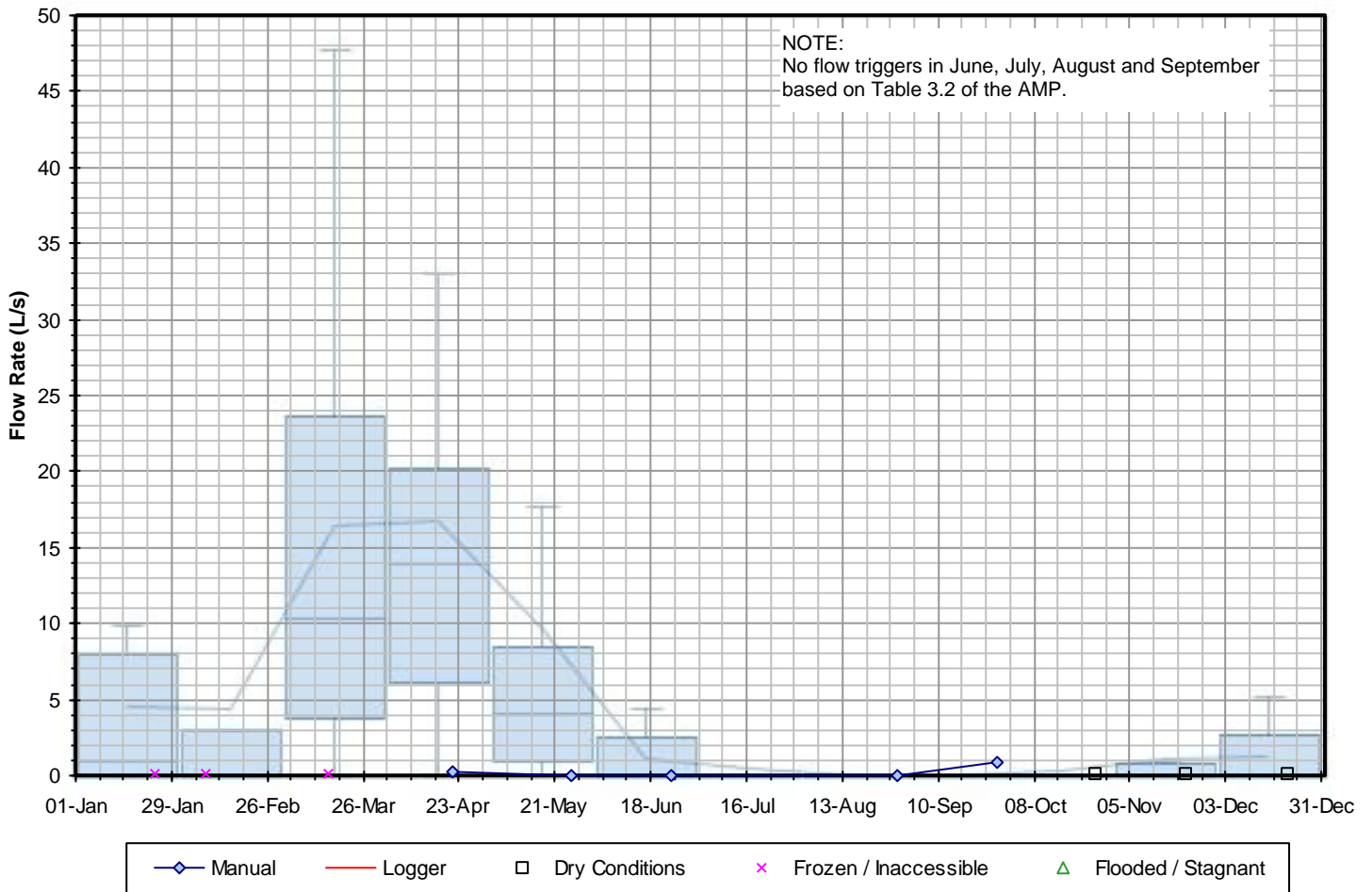
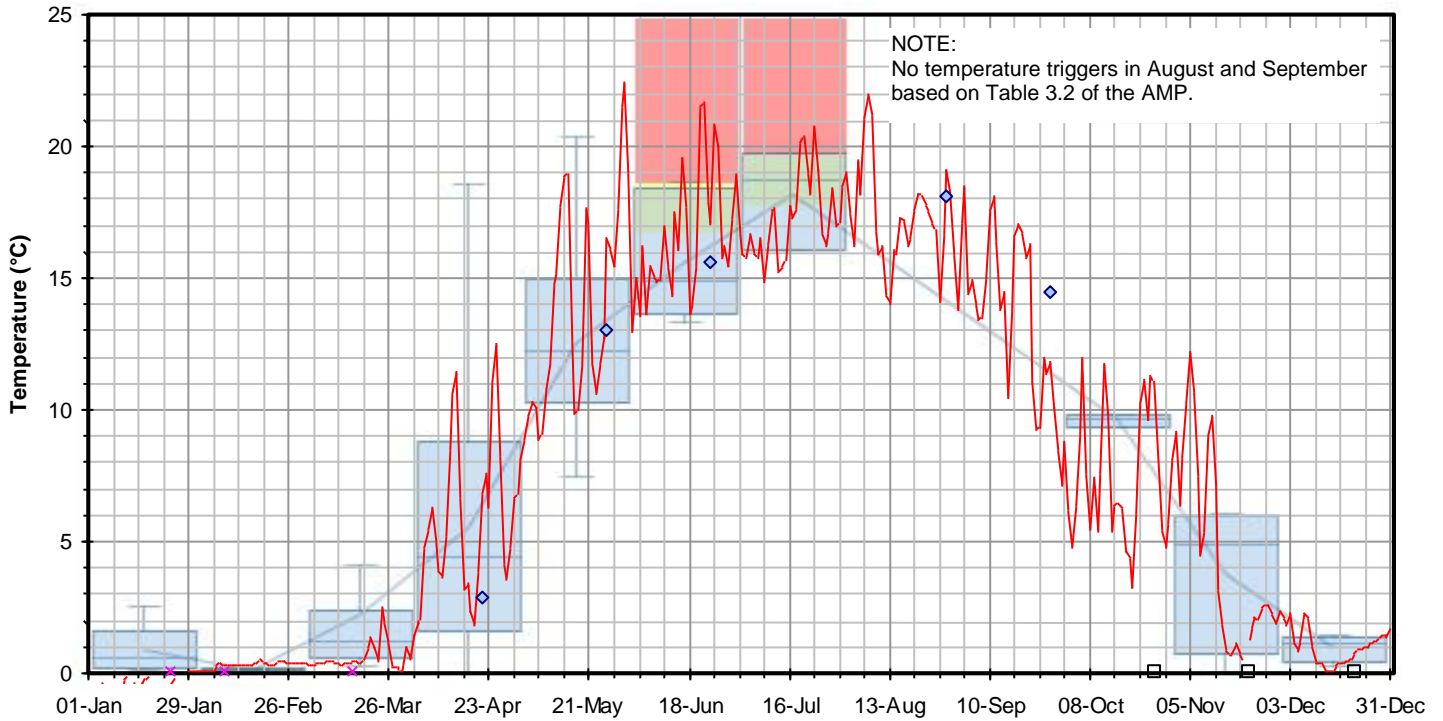


Figure F-5 2022 Surface Water PITM Results
SW6A - Beaver River Downstream of SW6 at Sideroad 30

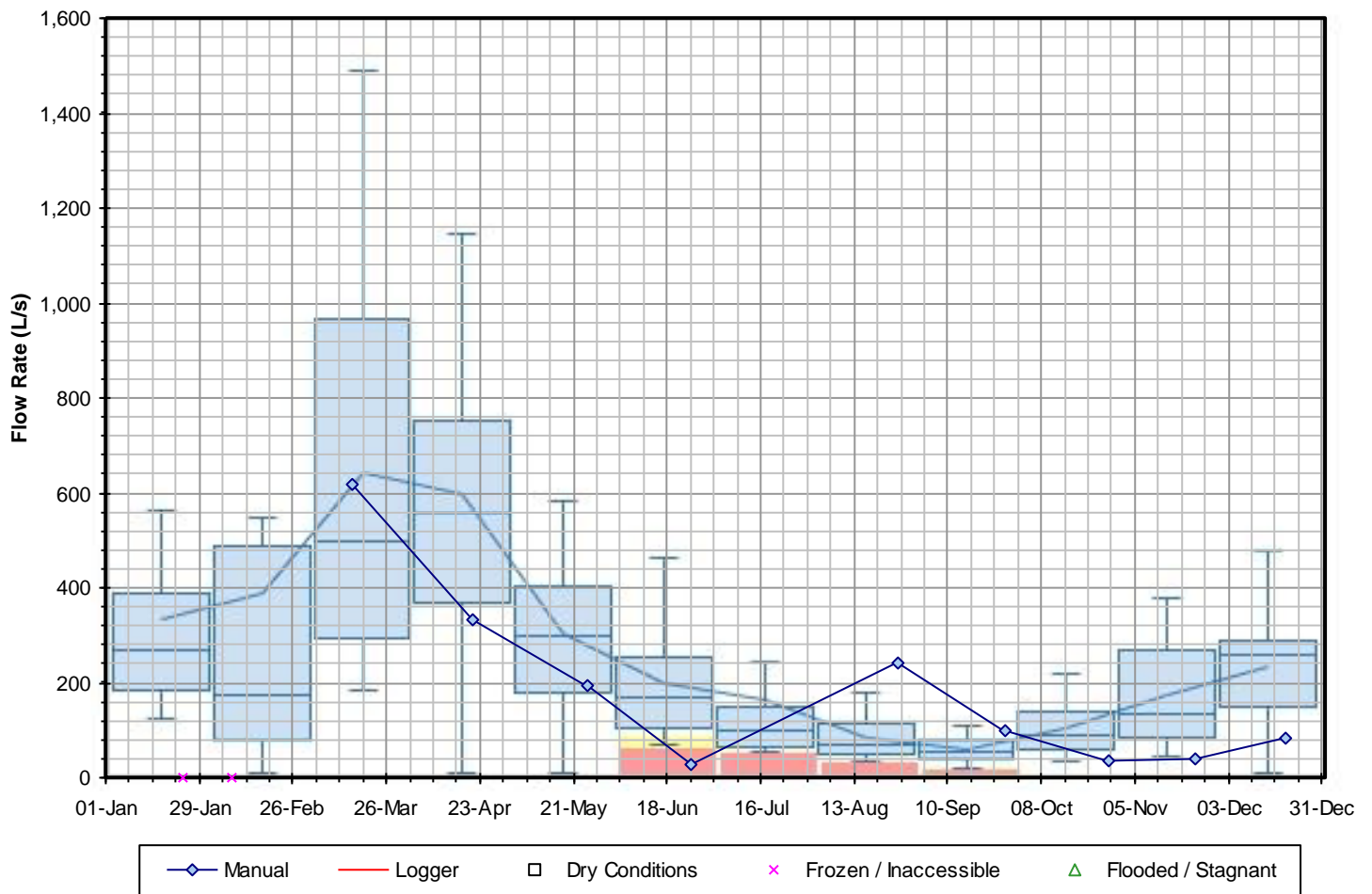
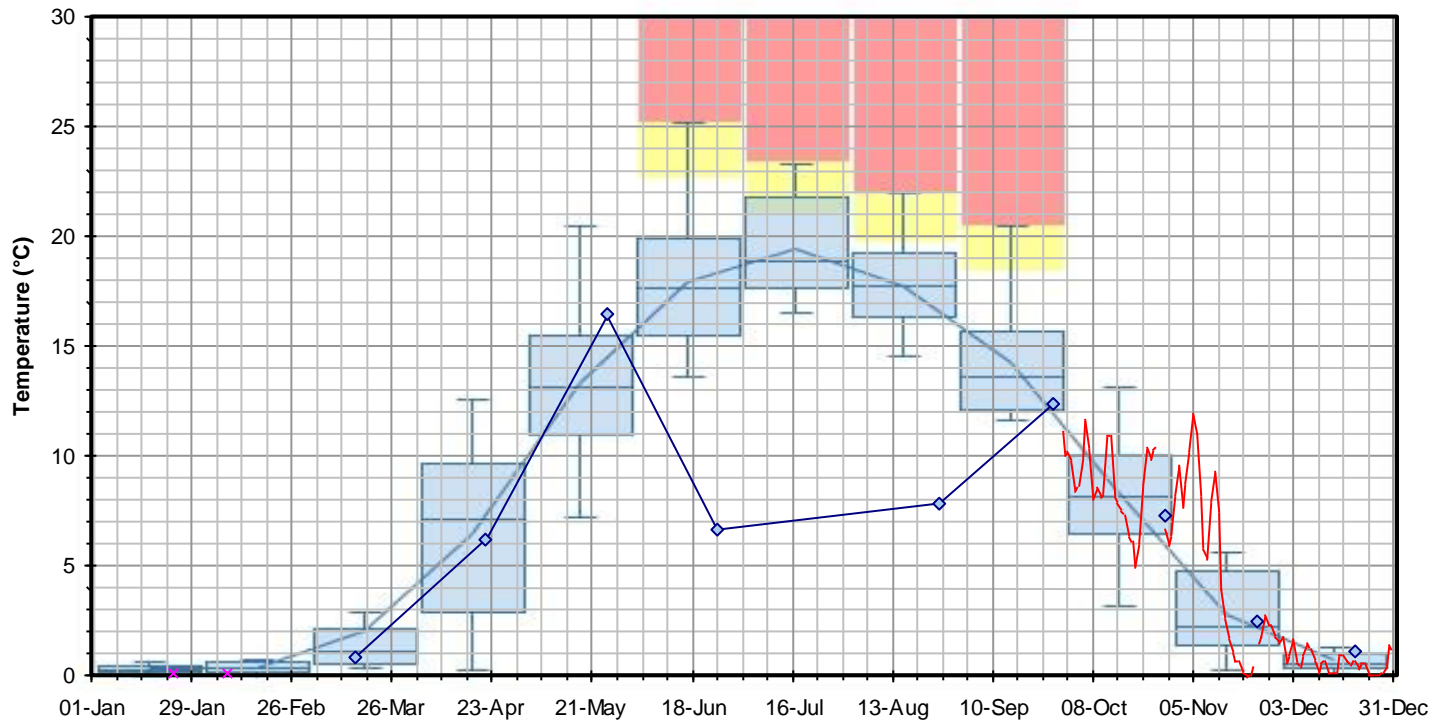


Figure F-6 2022 Surface Water PITM Results
SW9 - Inlet to Sinkhole on Bridson Property

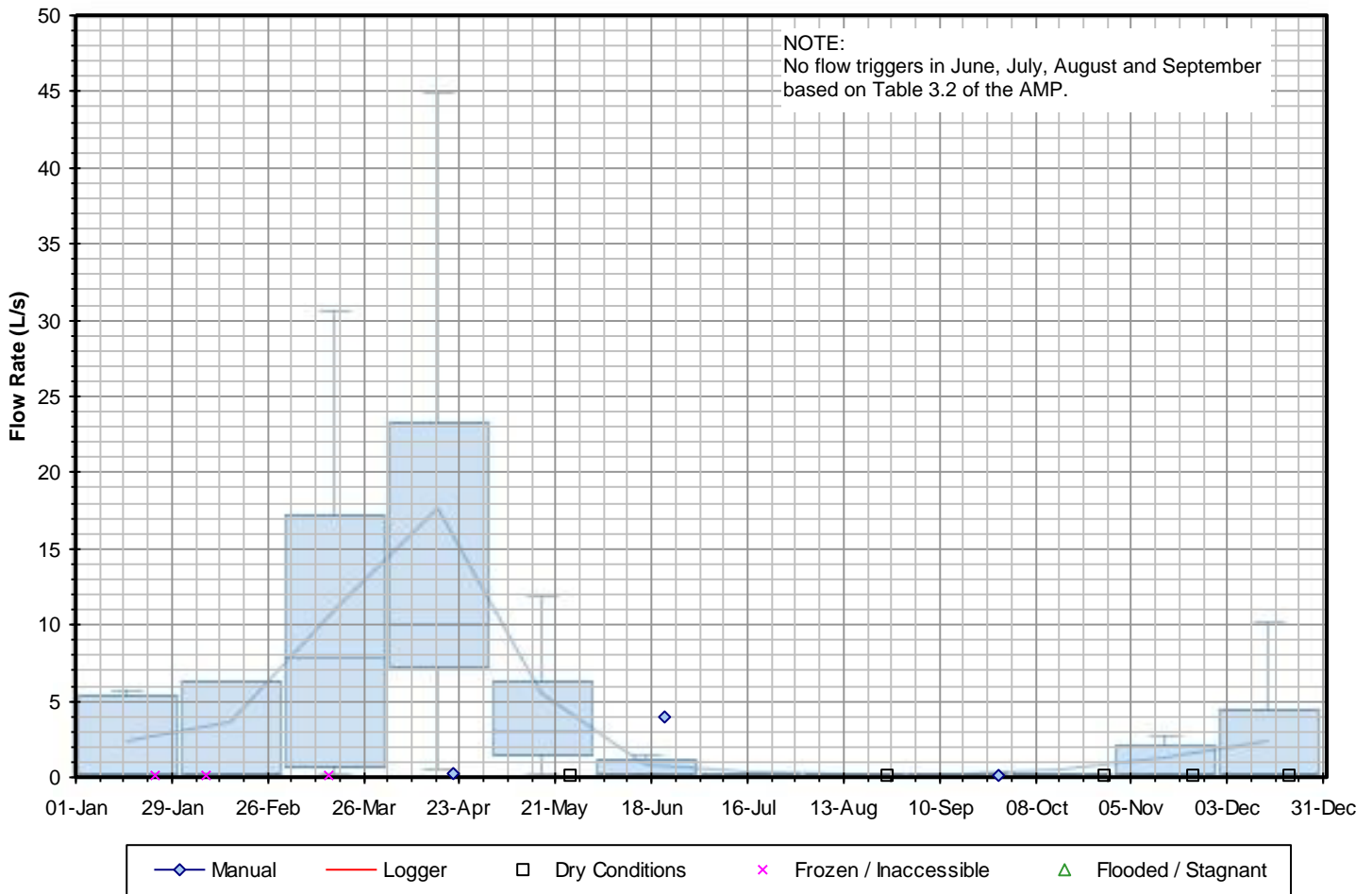
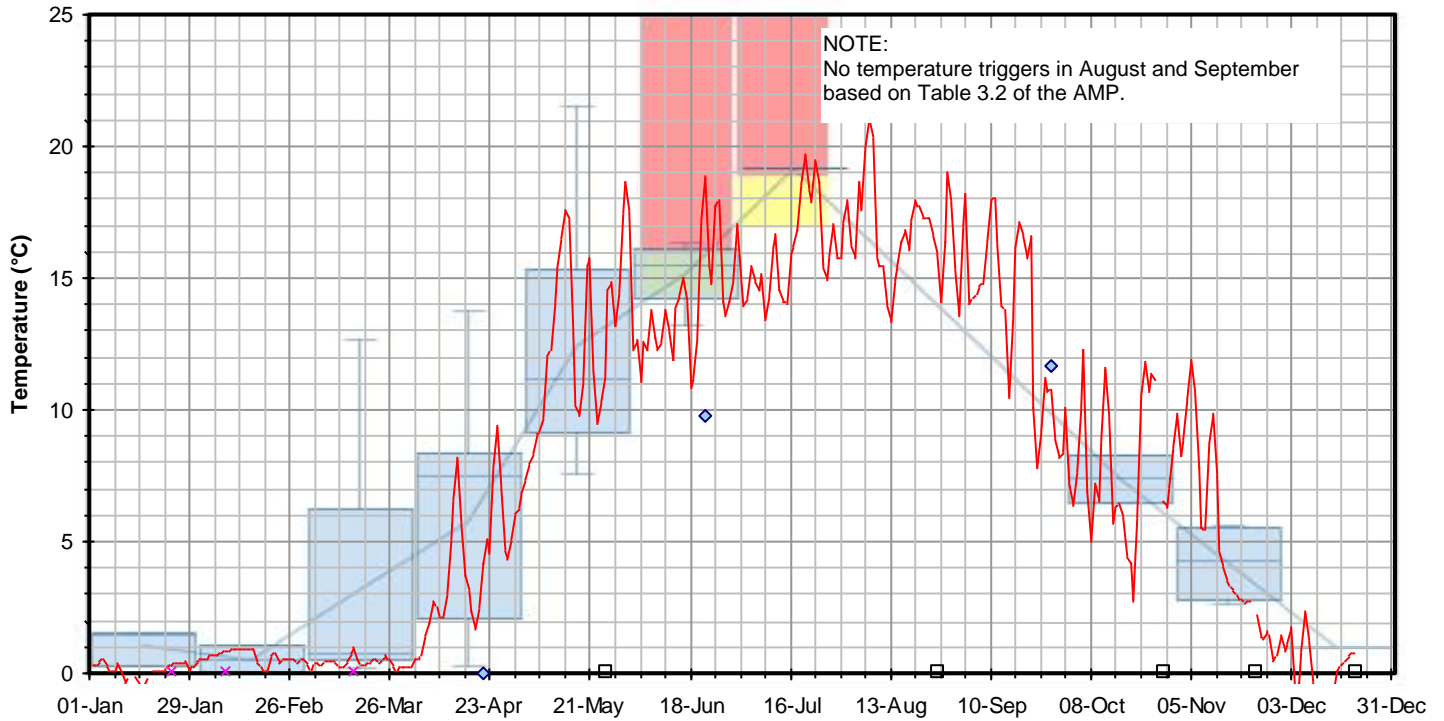


Figure F-7 2022 Surface Water PITM Results
SW10 - Escarpment Seep on Franks Property

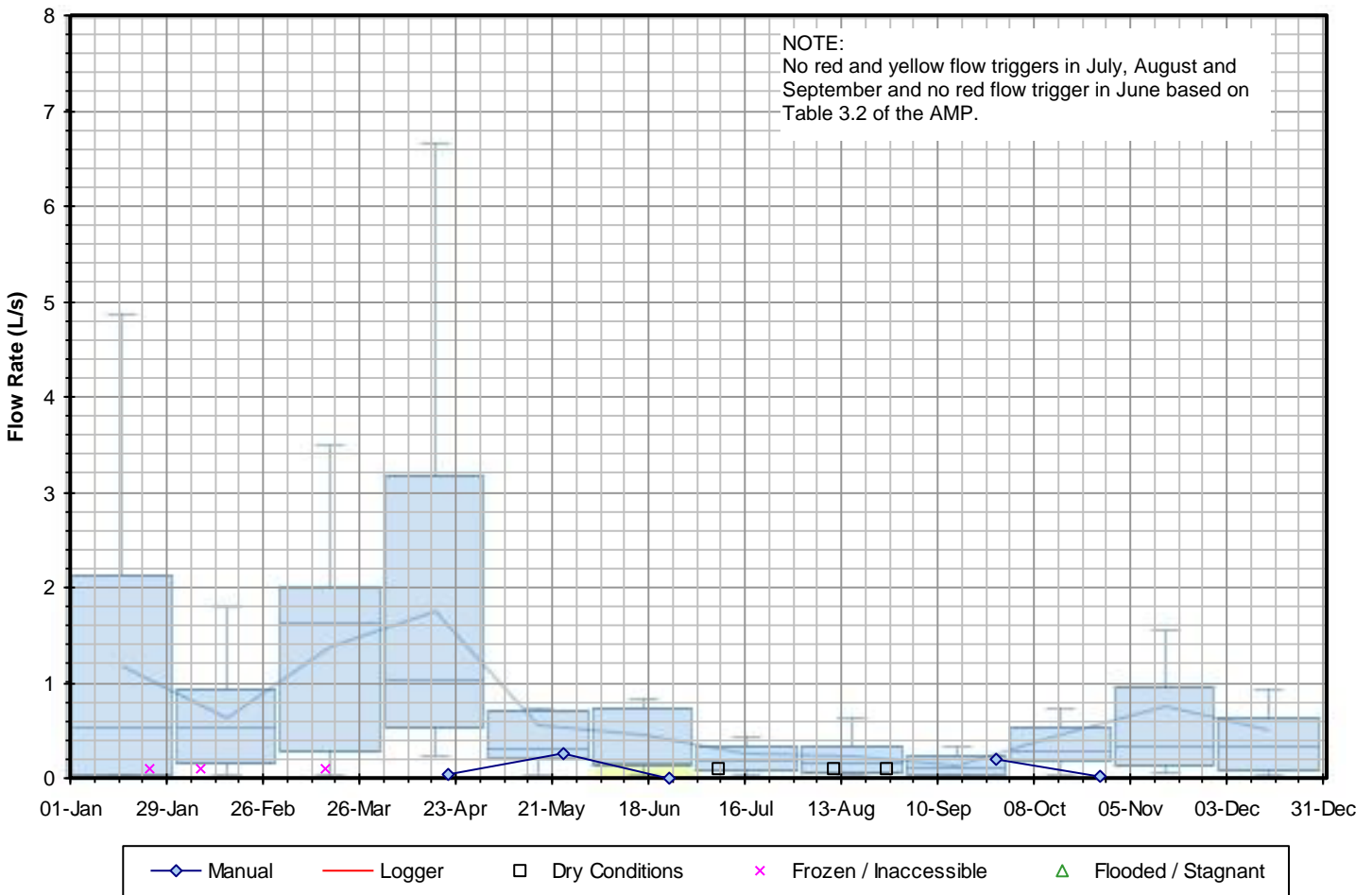
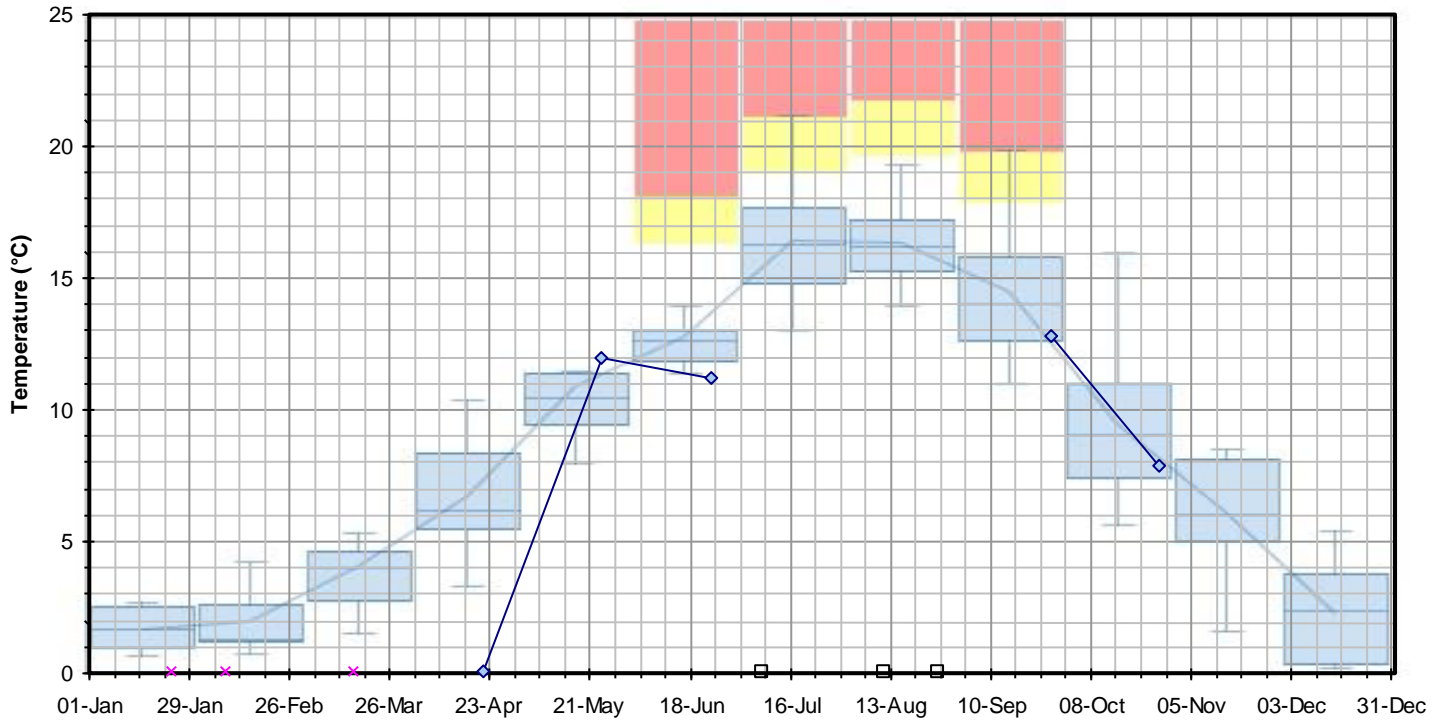


Figure F-8 2022 Surface Water PITM Results
SW11 - Culmination of Escarpment Seeps SW11A-D on Franks Property

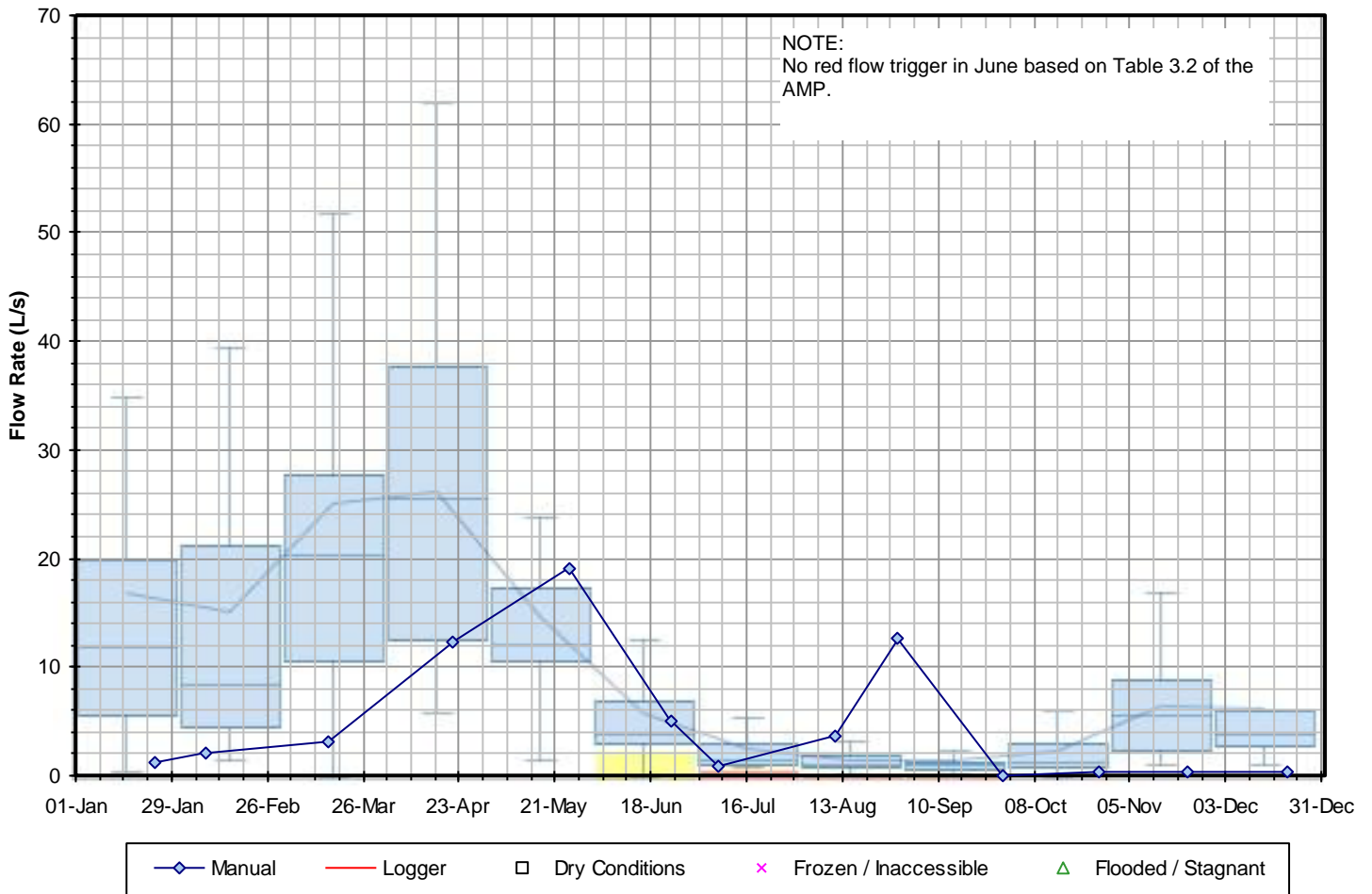
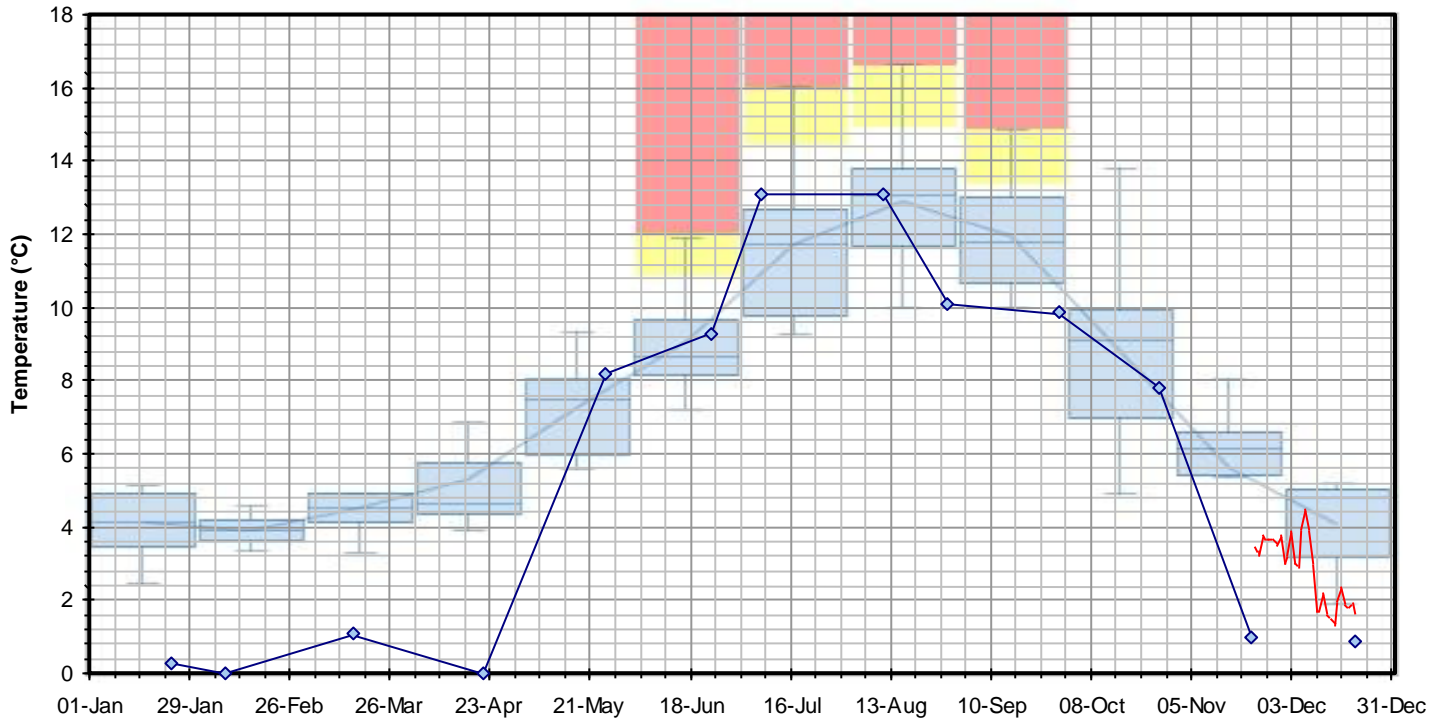


Figure F-9 2022 Surface Water PITM Results
SW14 - Batteaux Creek Downstream of Franks Pond

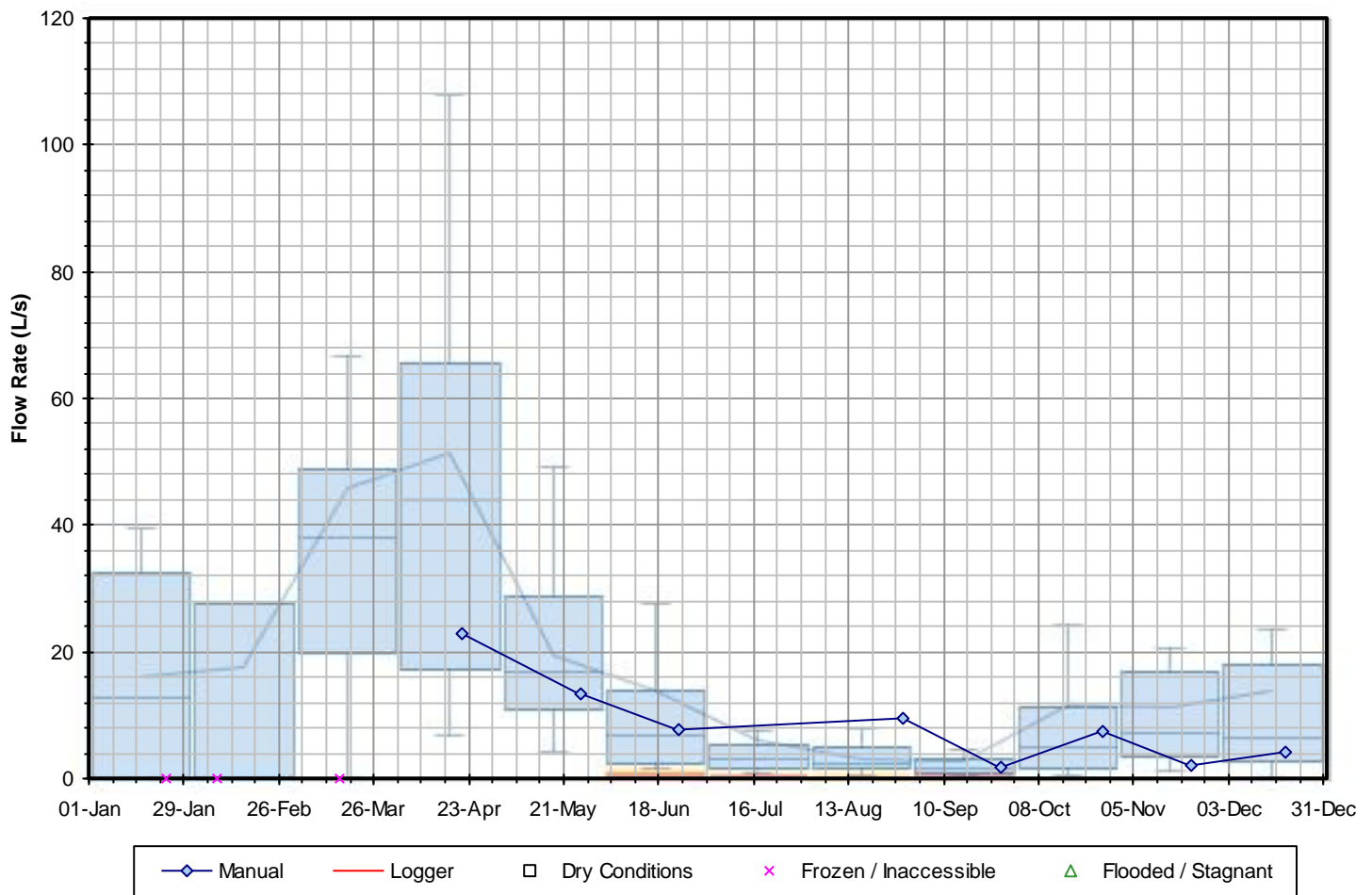
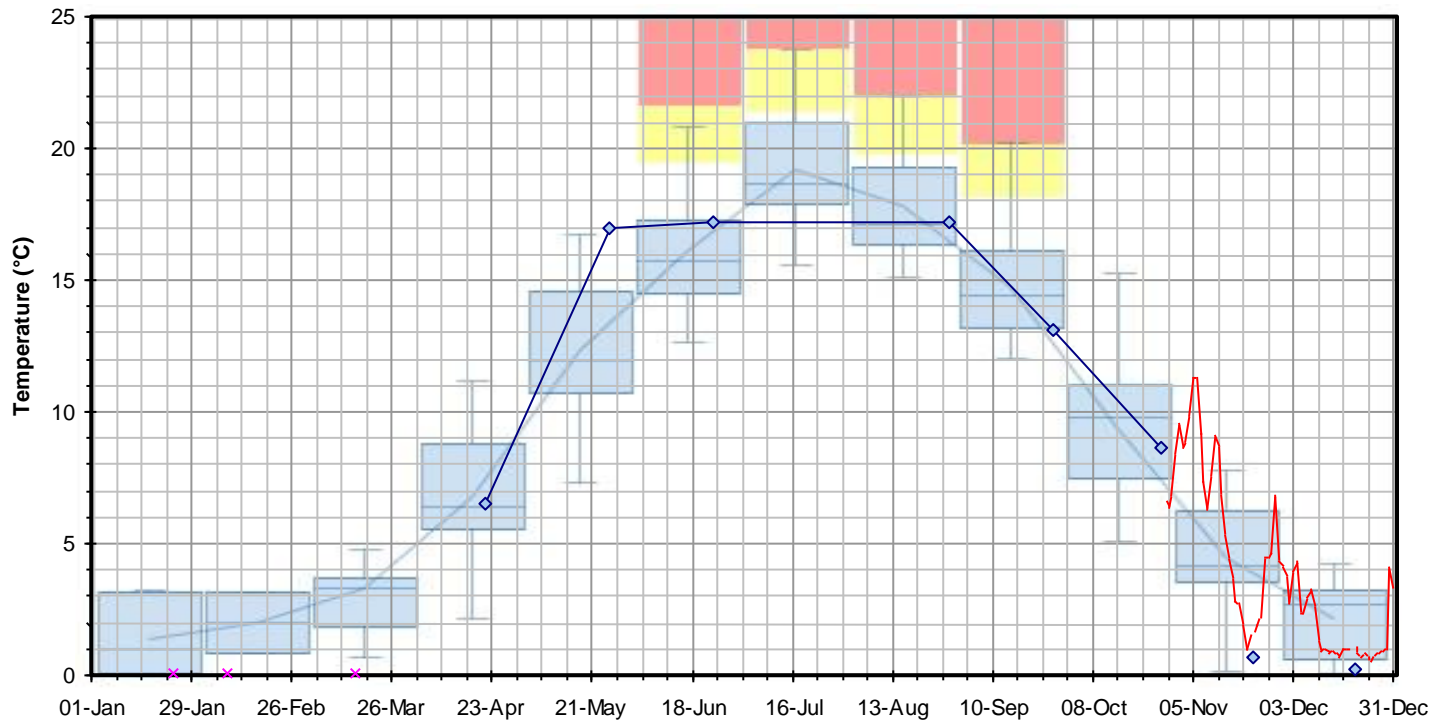


Figure F-10 2022 Surface Water PITM Results
SW15 - Batteaux Creek Downstream of Franks Pond

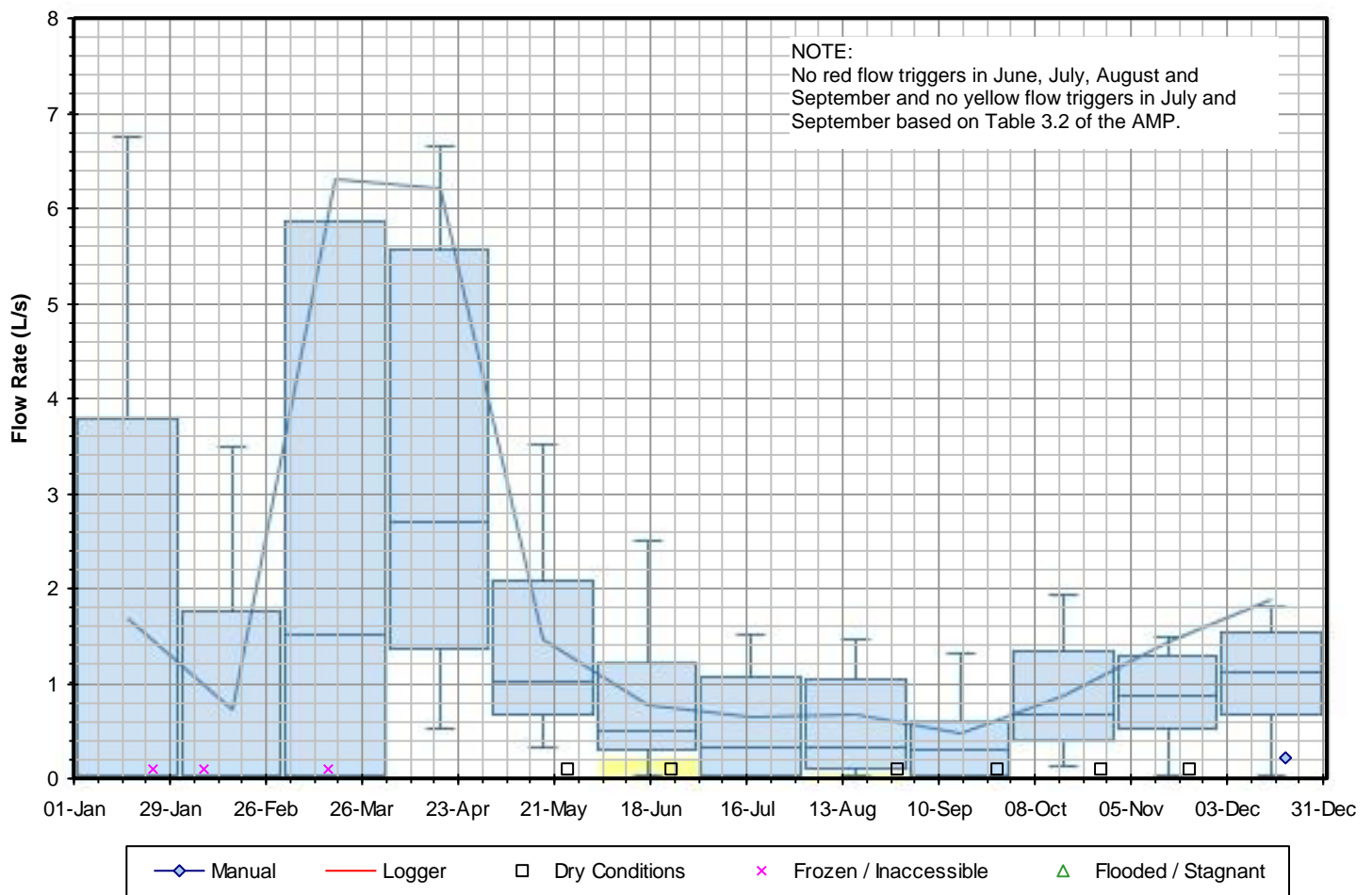
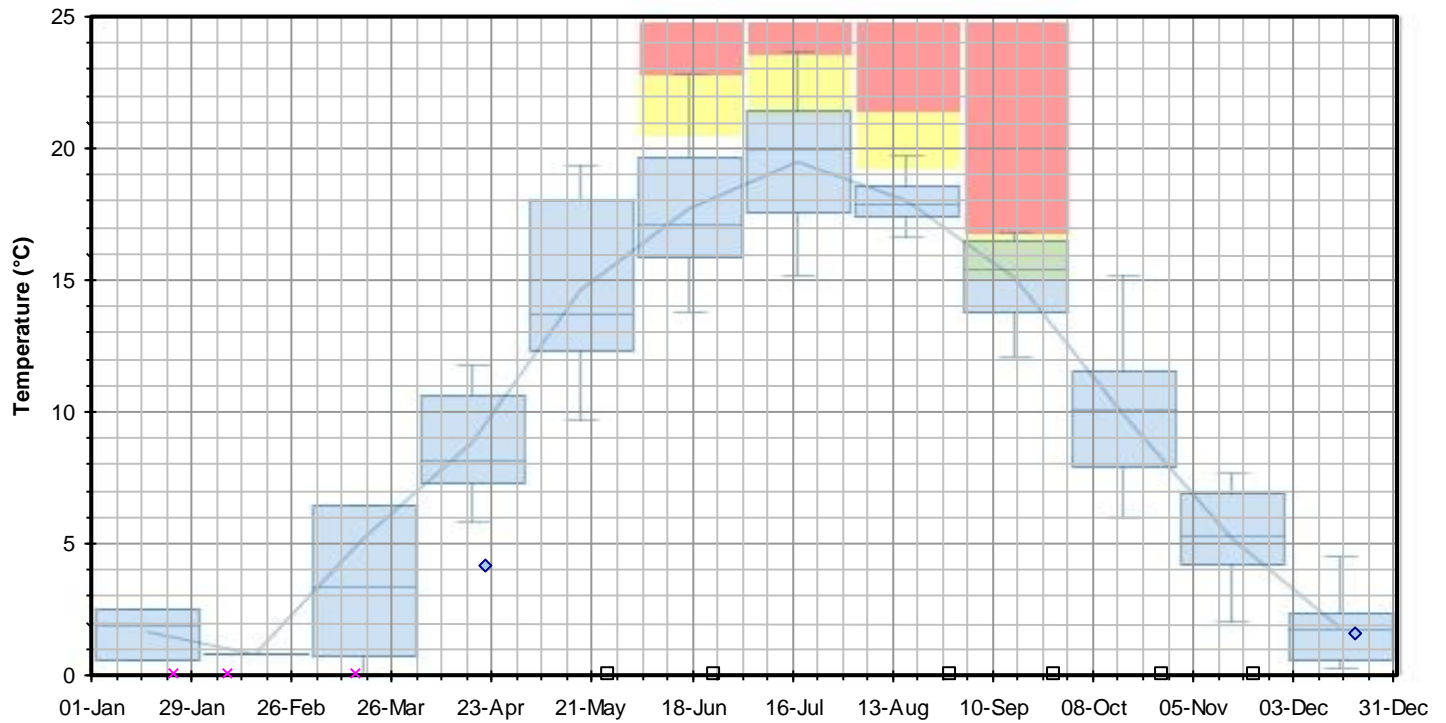


Figure F-11 2022 Surface Water PITM Results

SW16 - Pretty River Escarpment Seep

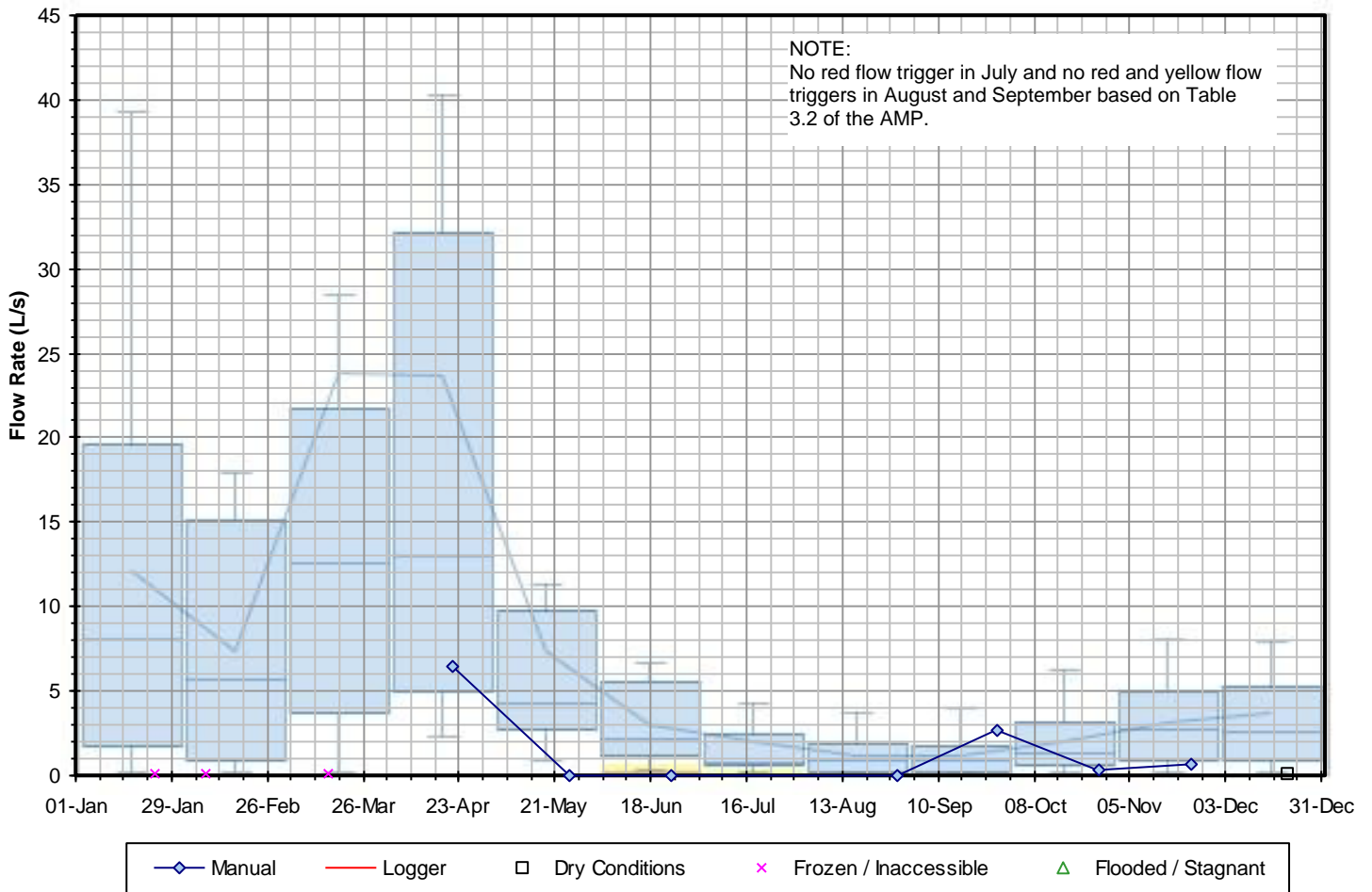
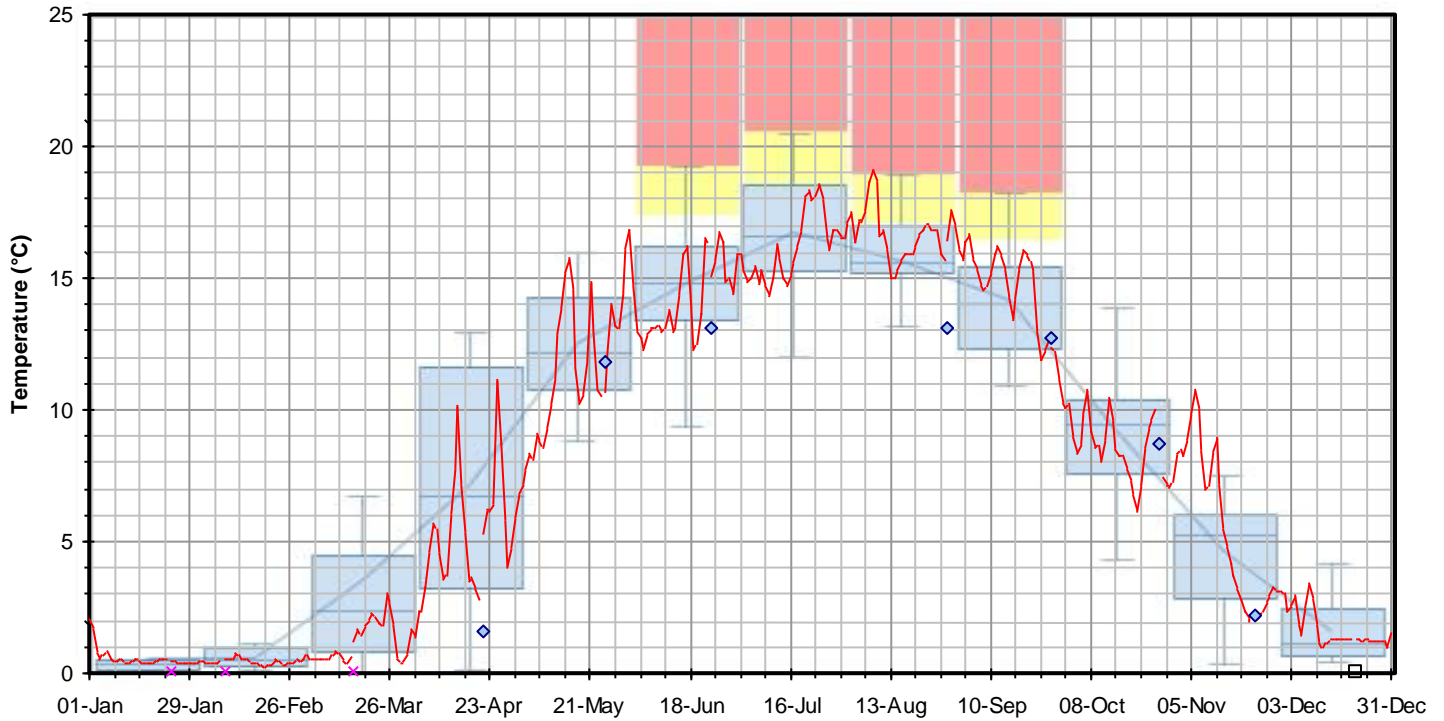


Figure F-12 2022 Surface Water PITM Results
SW17 - Sestito Pond Outlet

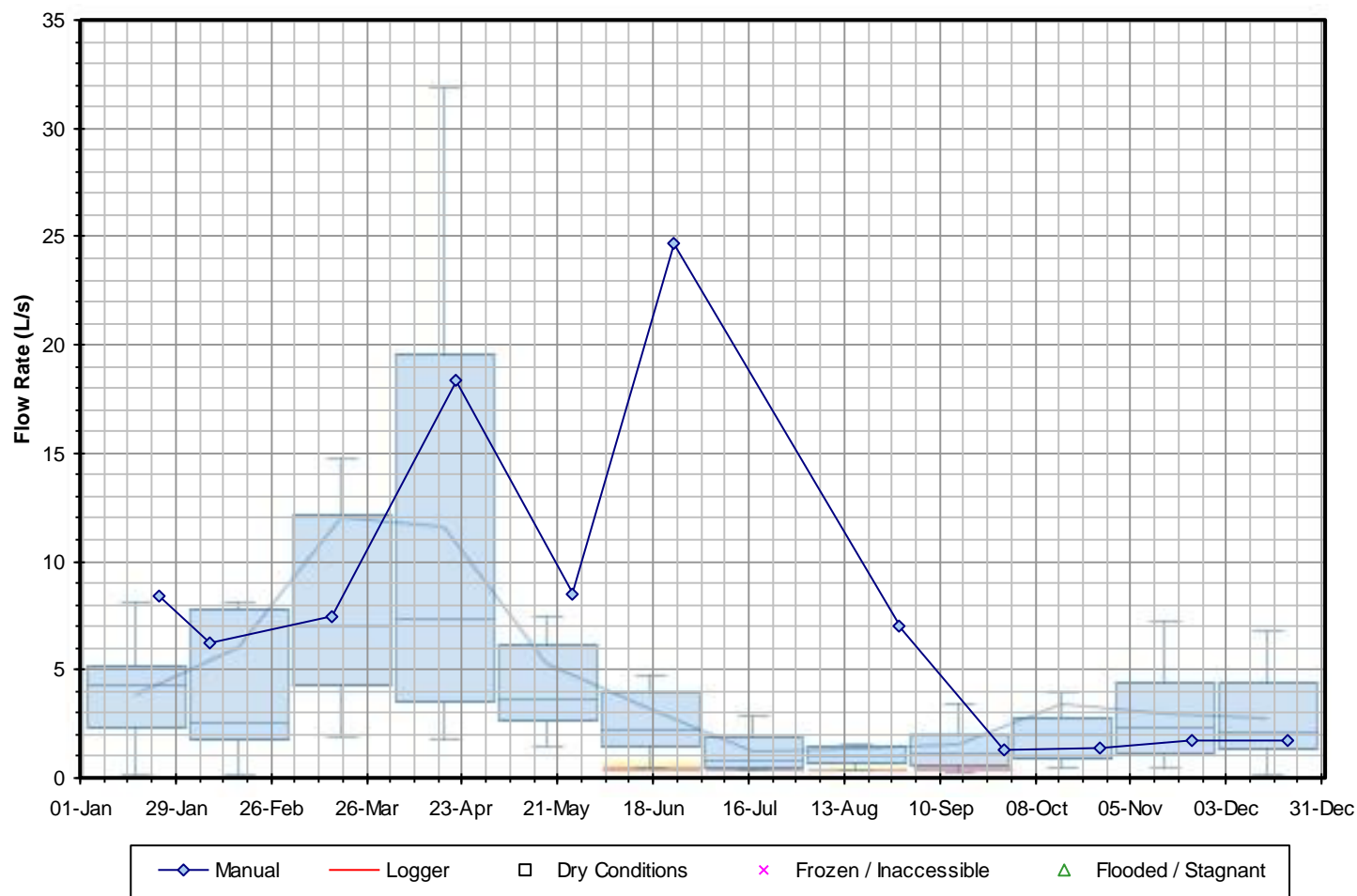
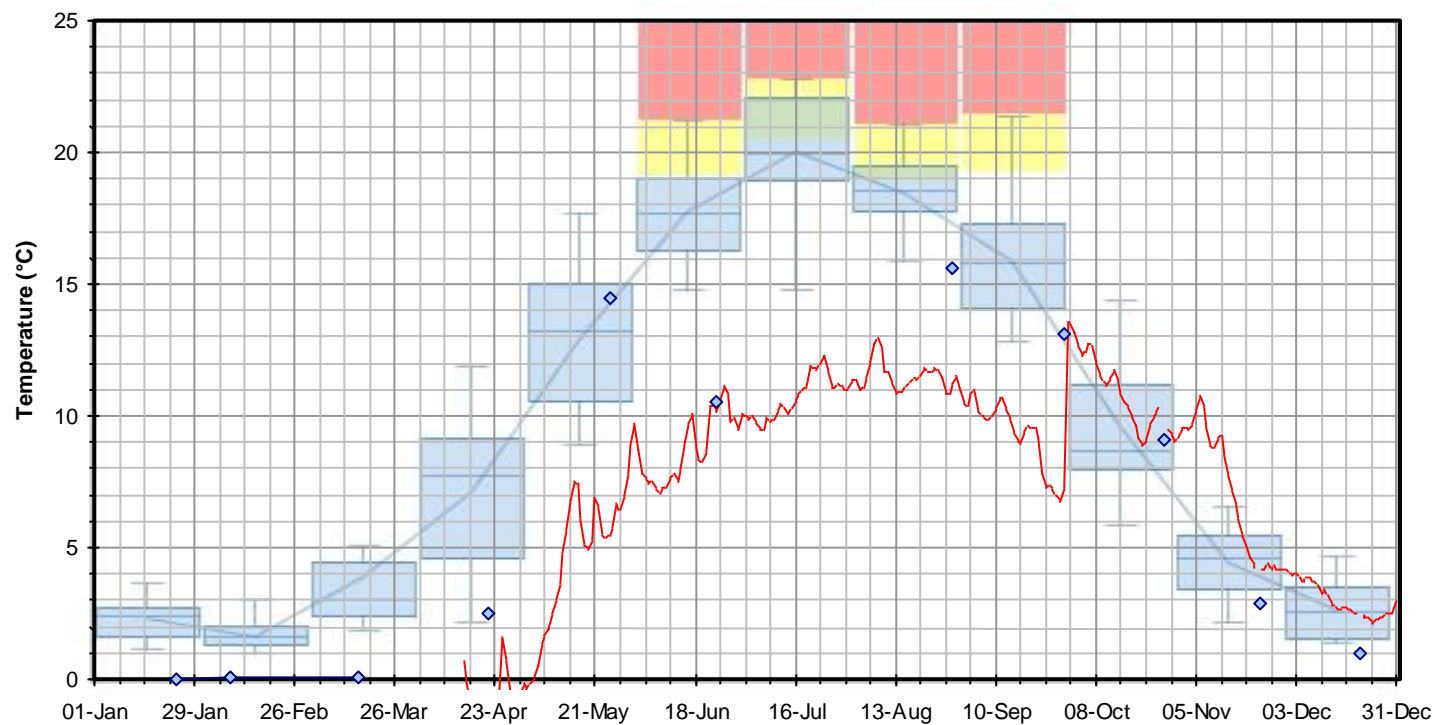


Figure F-13 2022 Surface Water PITM Results
SW17A - Downstream of SW17

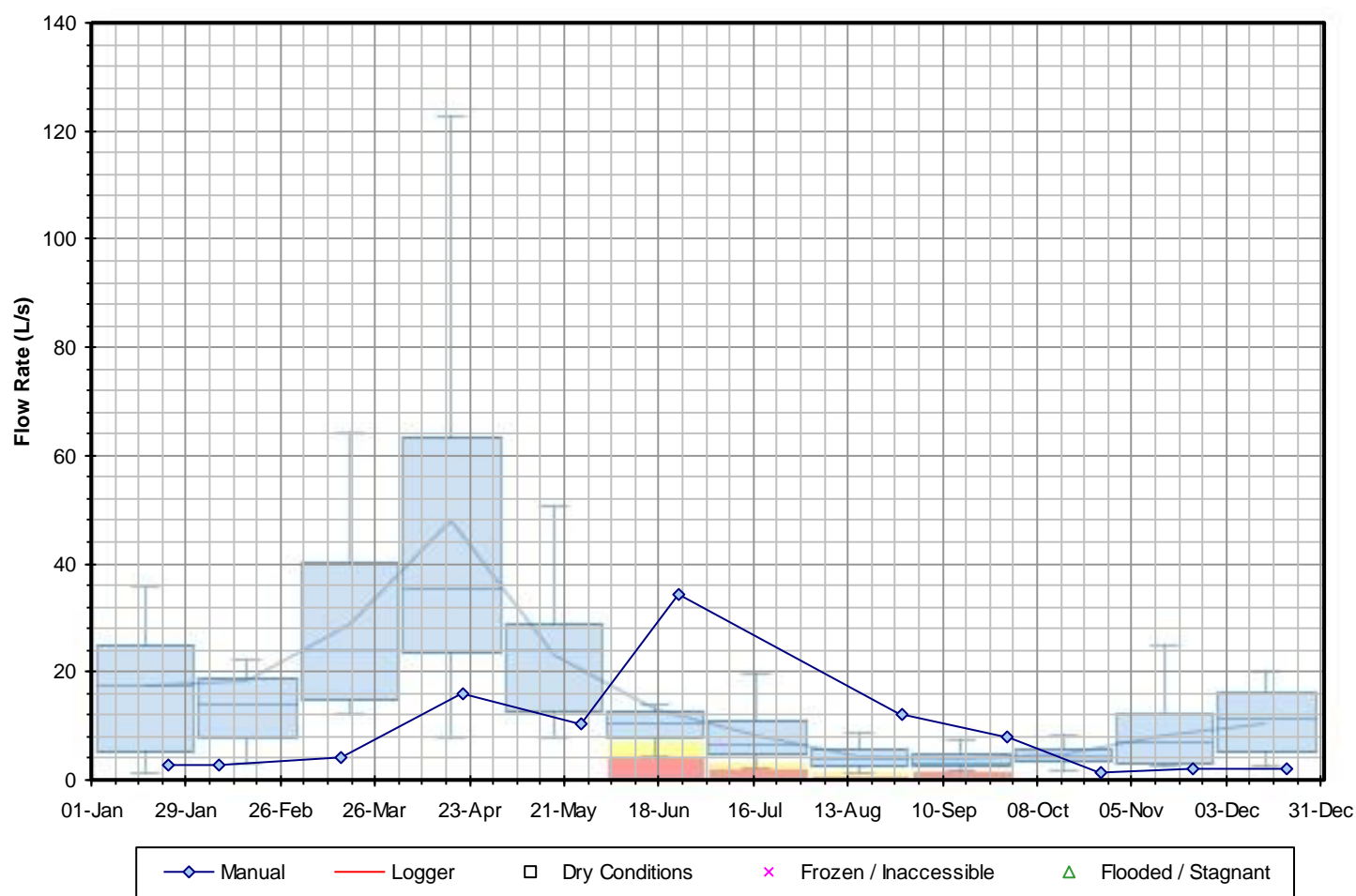
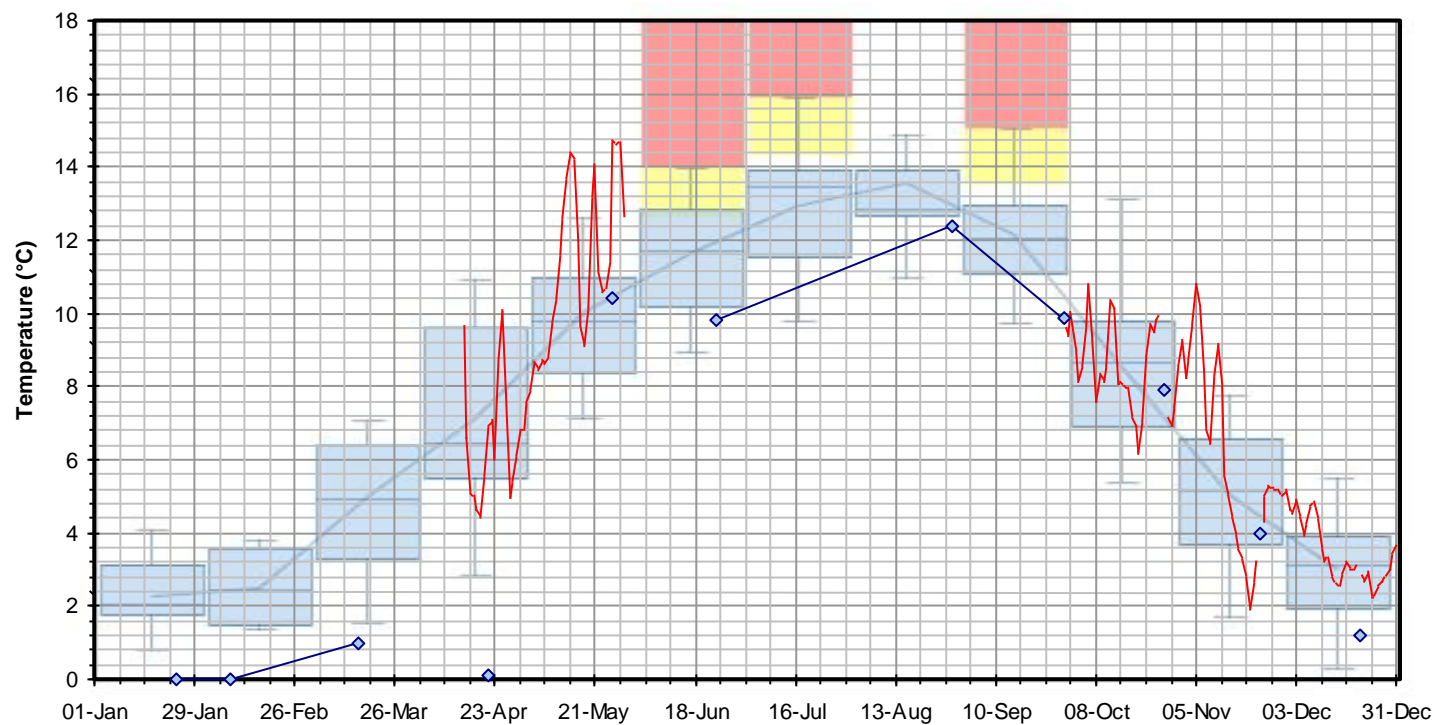


Figure F-14 2022 Surface Water PITM Results
SW18 - Pretty River at Concession 10

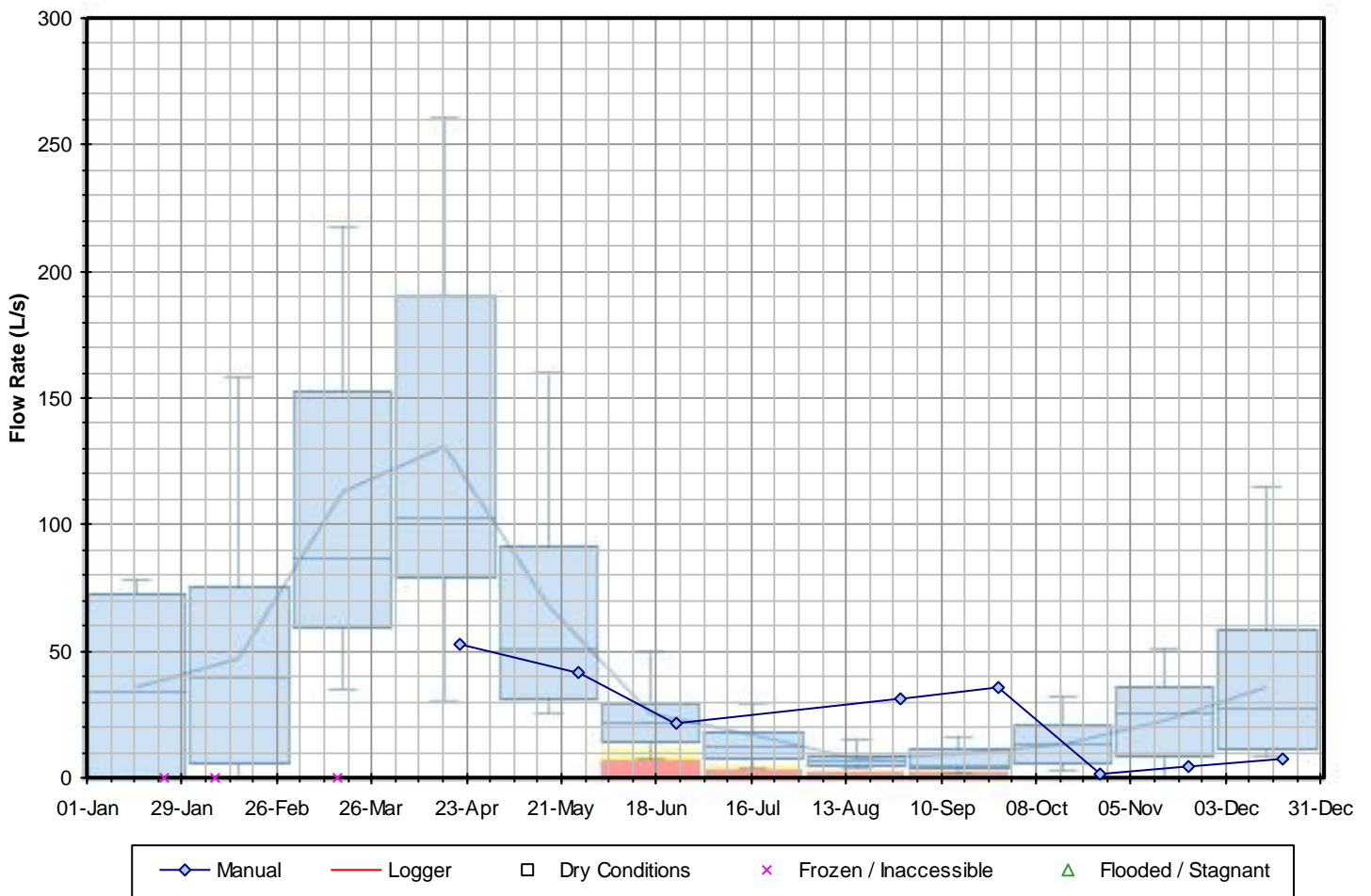
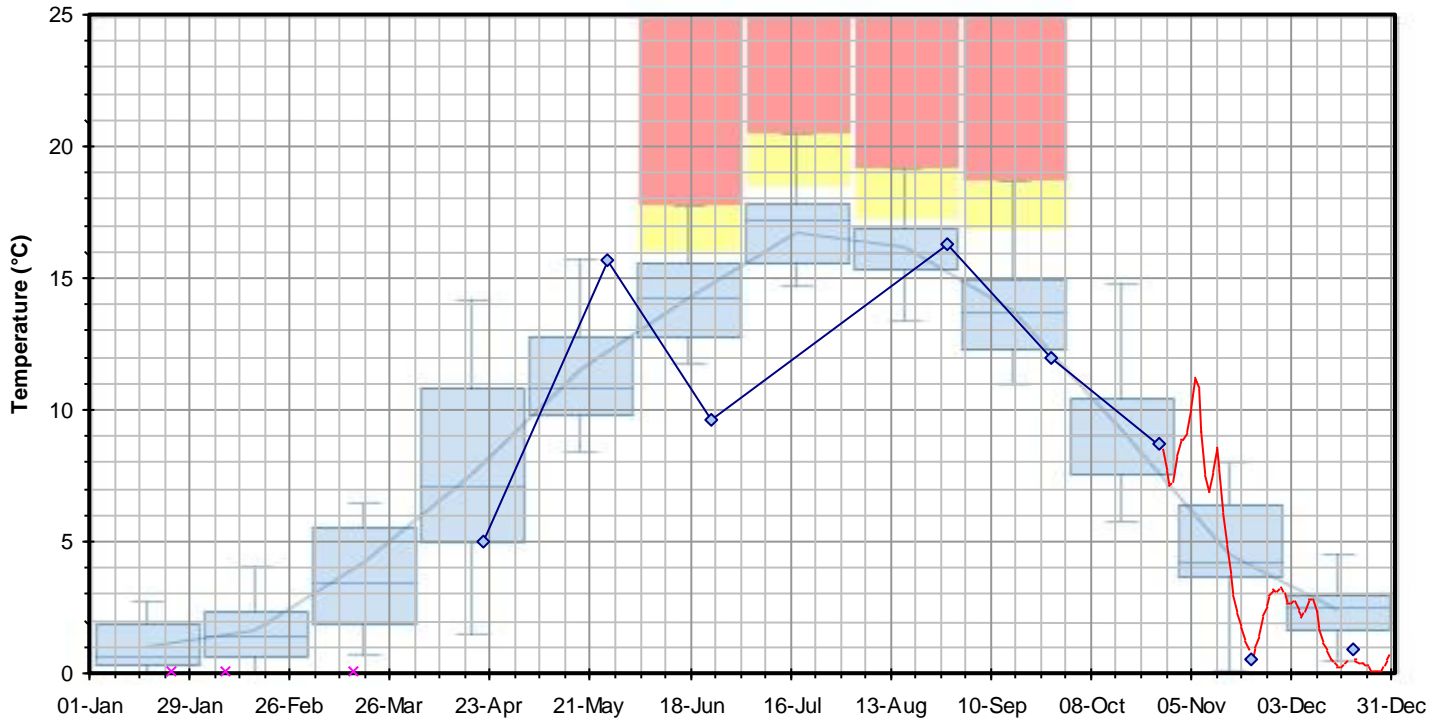


Figure F-15 2022 Surface Water PITM Results
SW21C - Upstream of SW21B

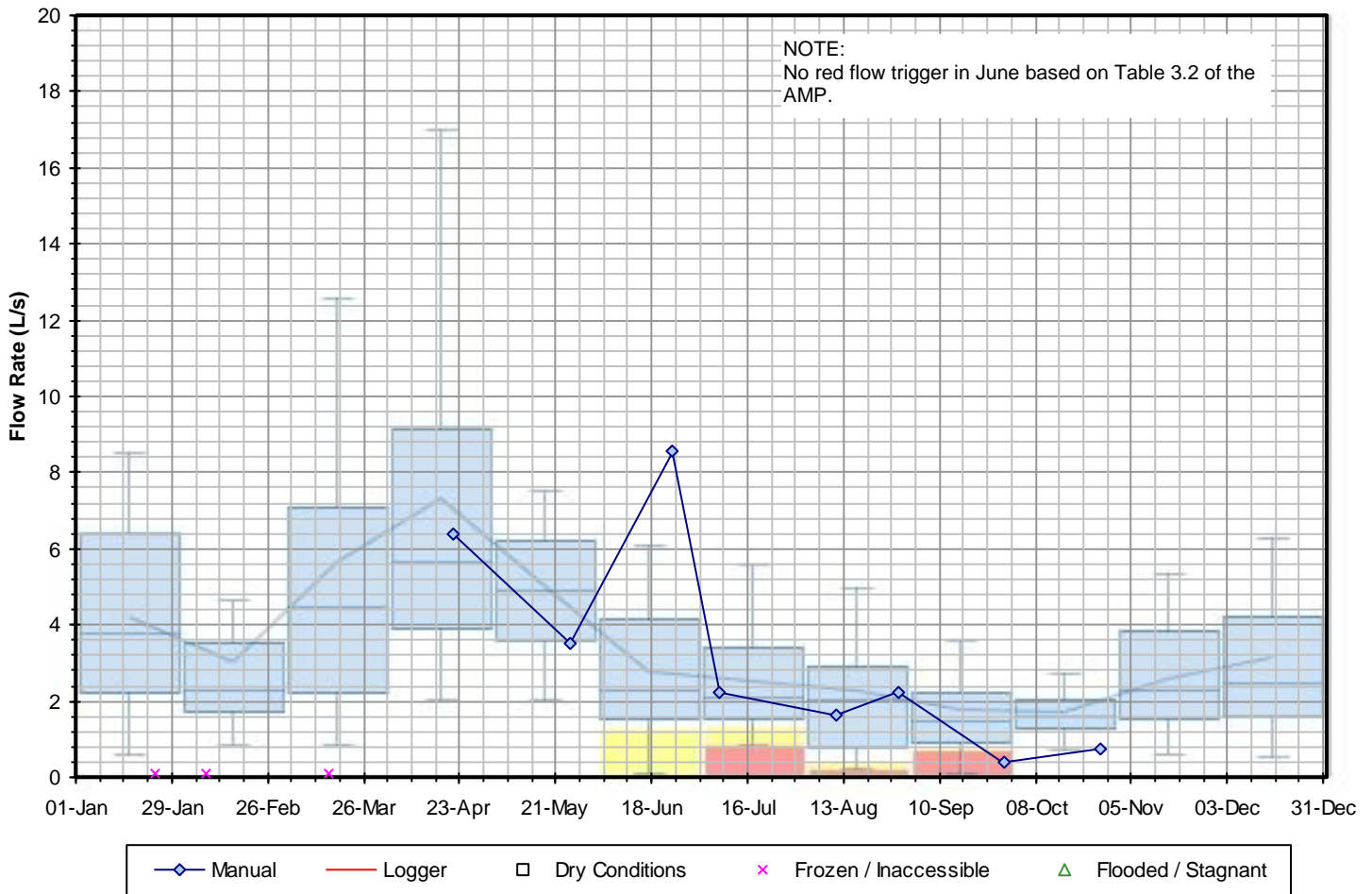
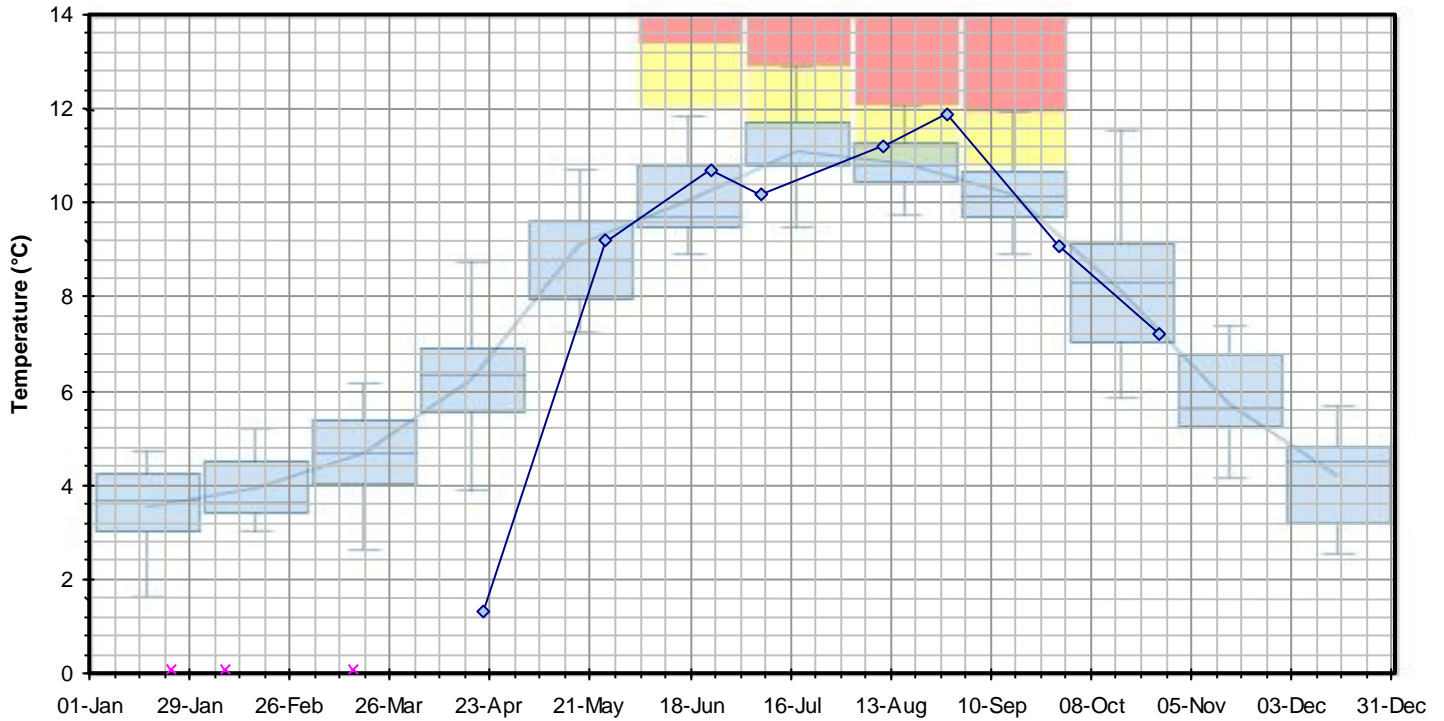


Figure F-16 2022 Surface Water PITM Results
SW24A - Escarpment Seep on Sestito Property

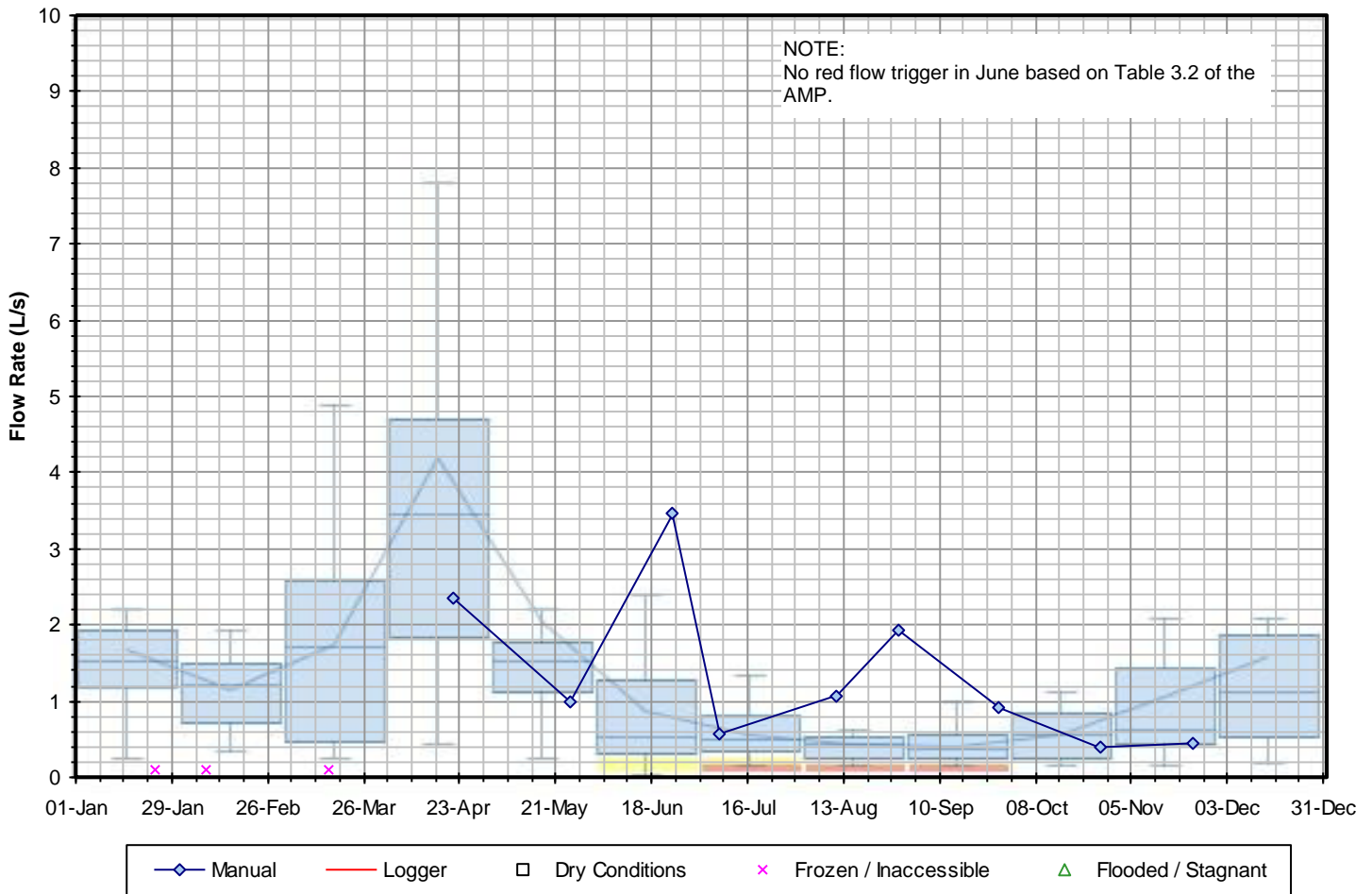
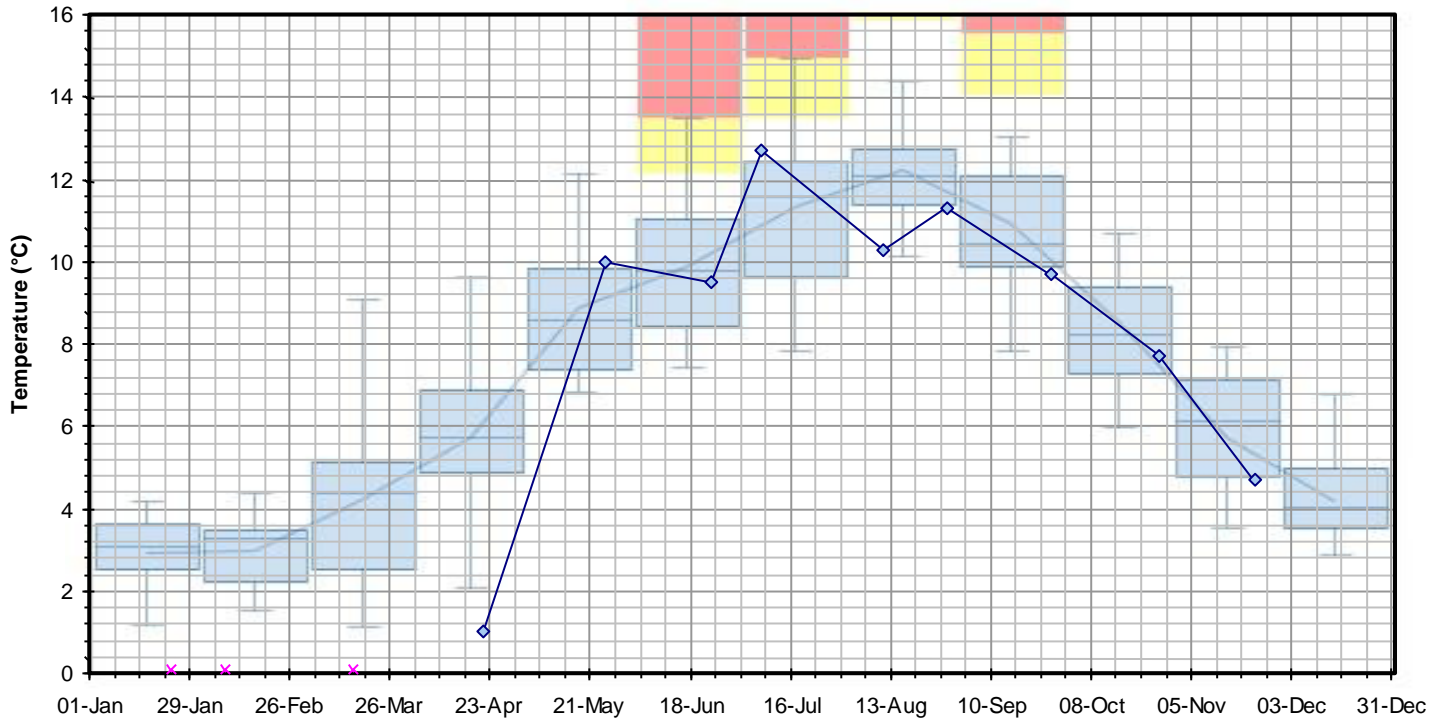


Figure F-17 2022 Surface Water PITM Results
SW77 - Escarpment Seep to Pretty River

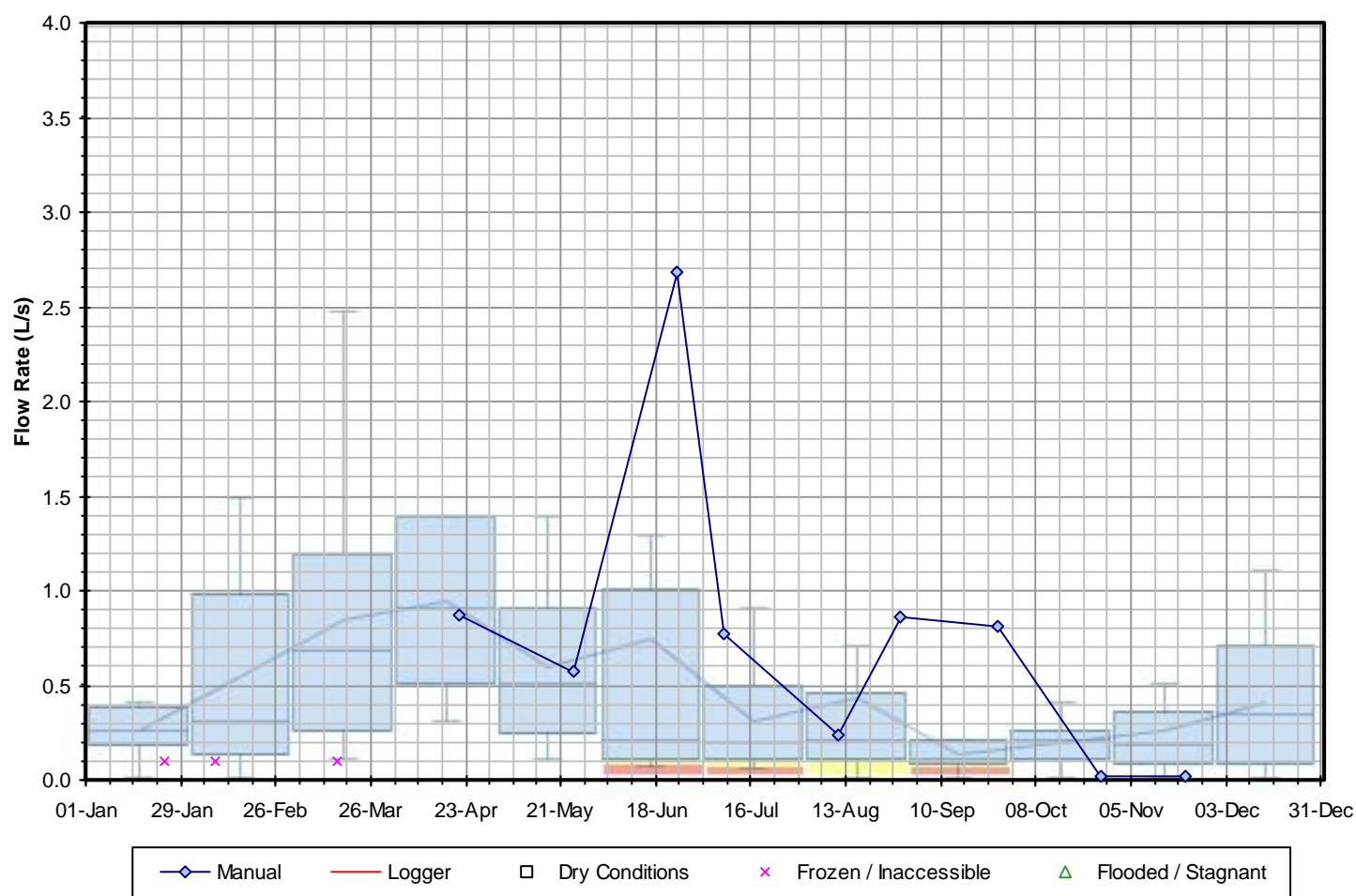
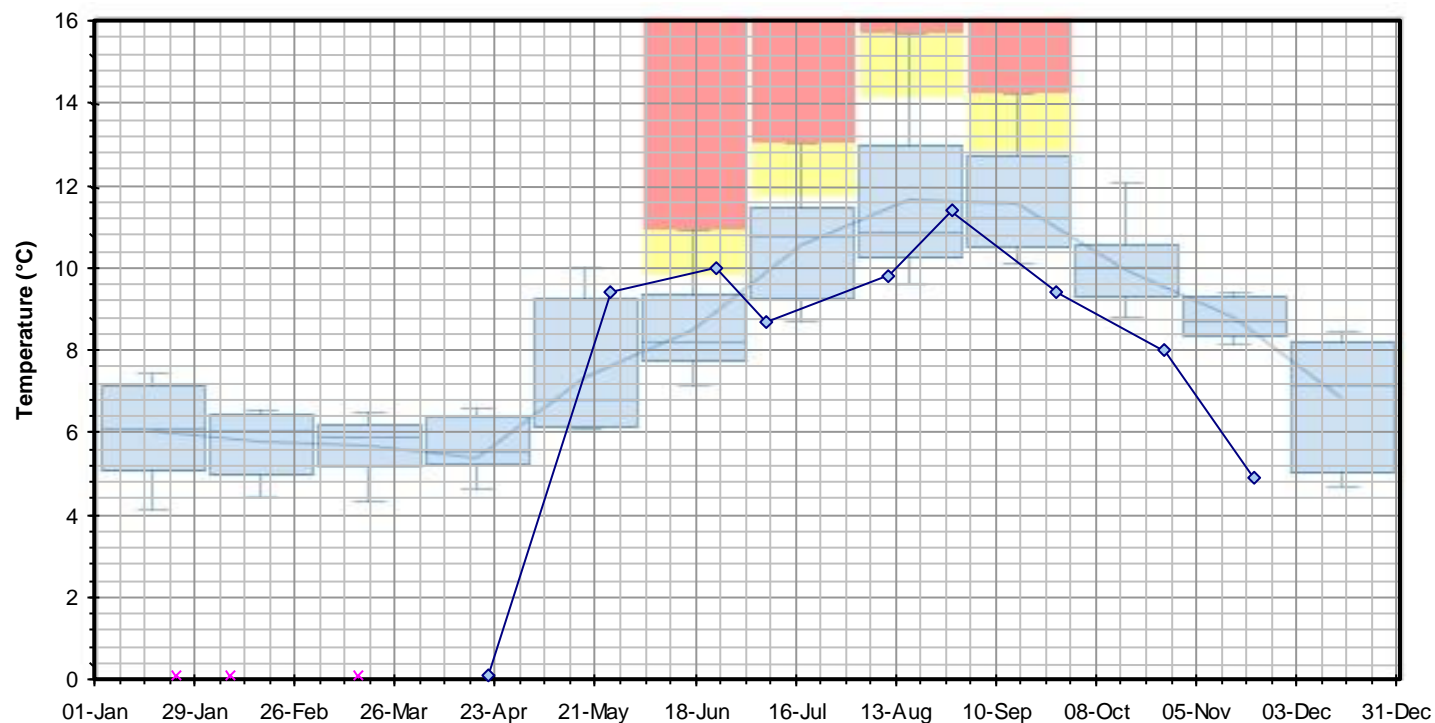


Figure F-18 2022 Surface Water PITM Results
Pretty River Control

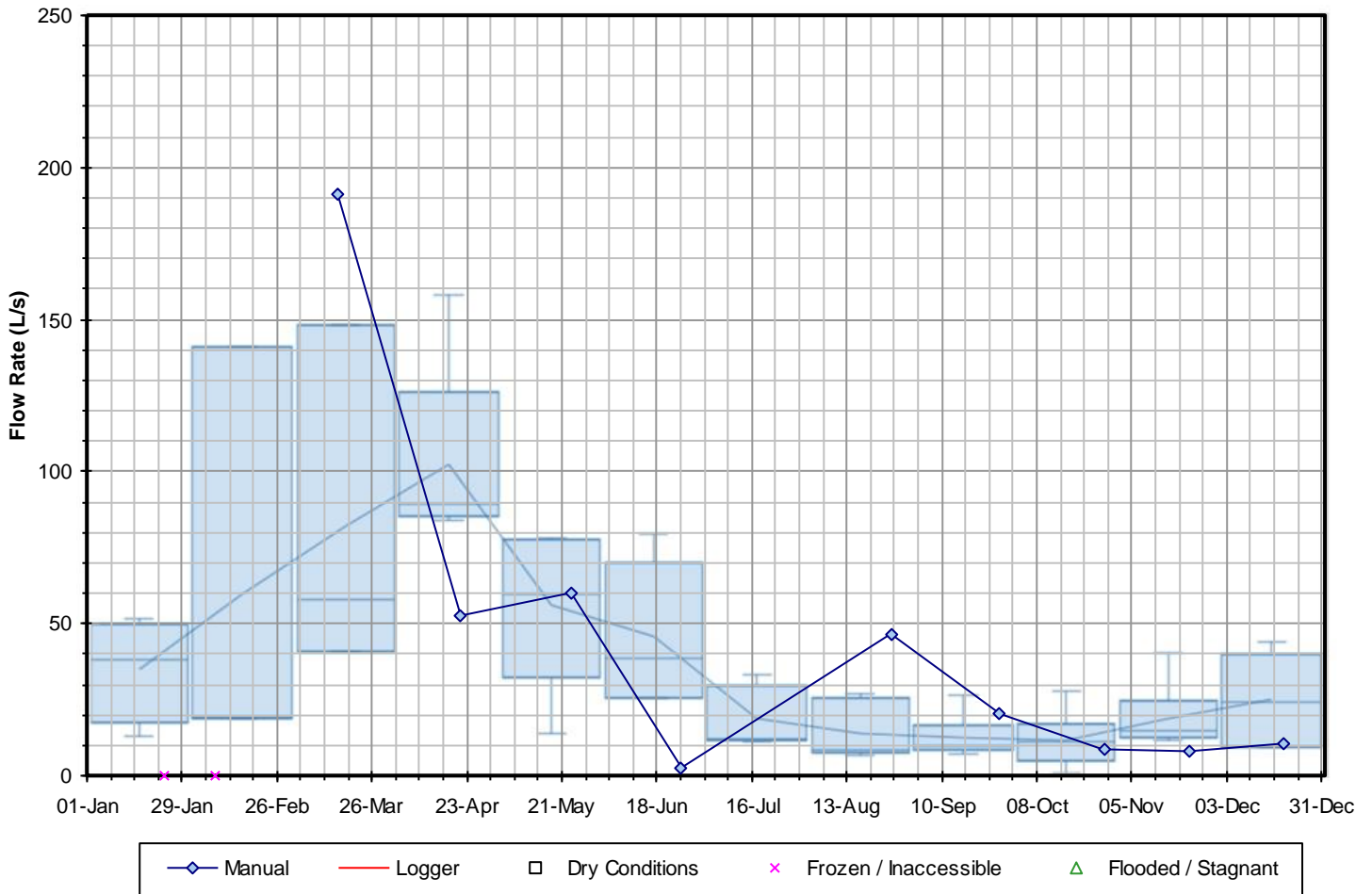
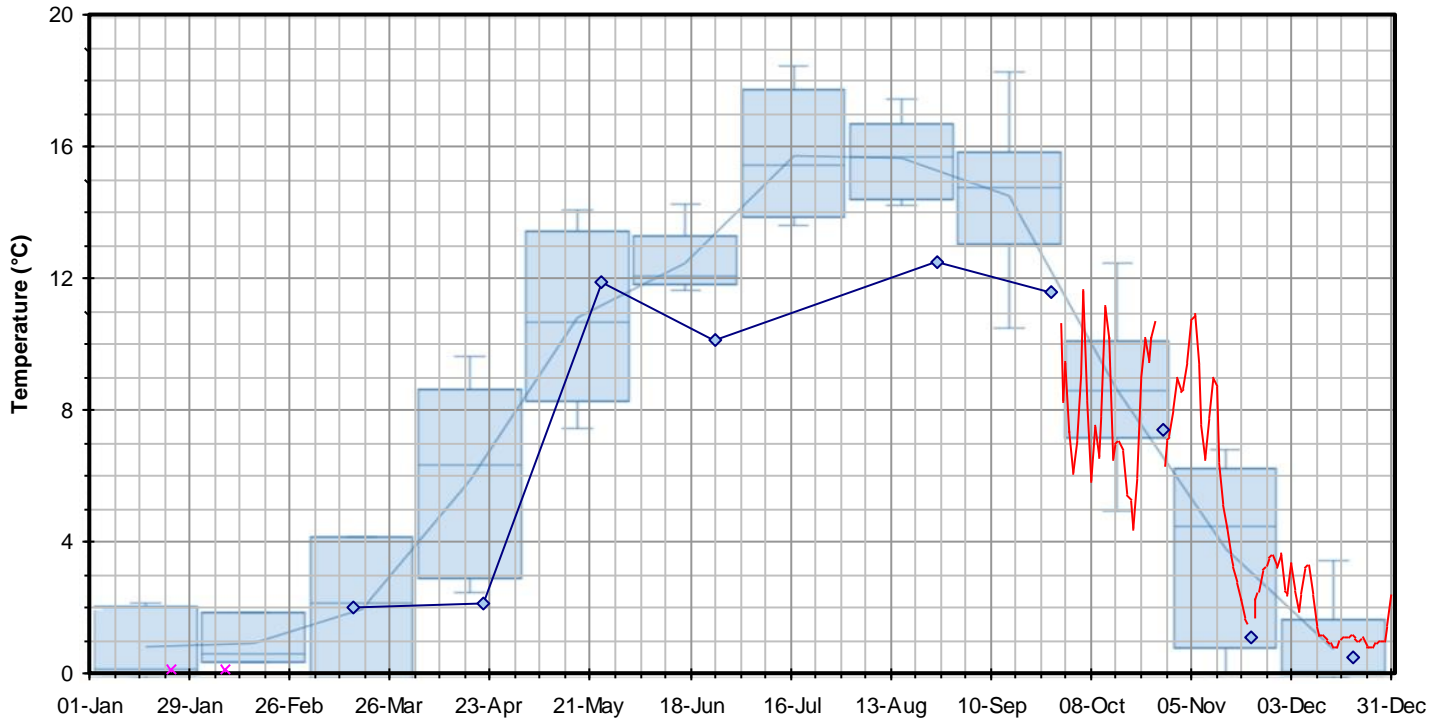


Figure F-19 2022 Surface Water PITM Results
Batteaux Creek Control

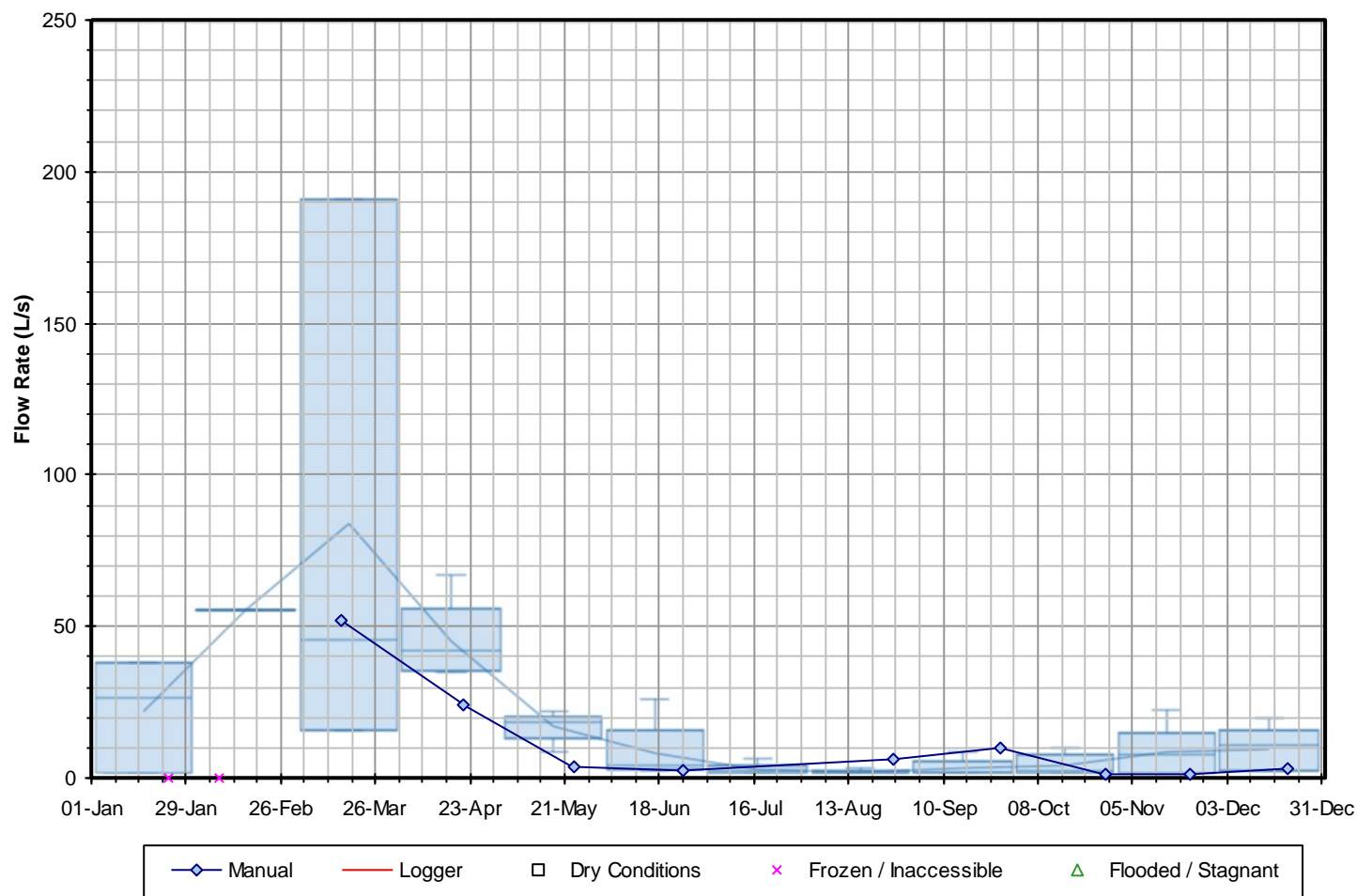
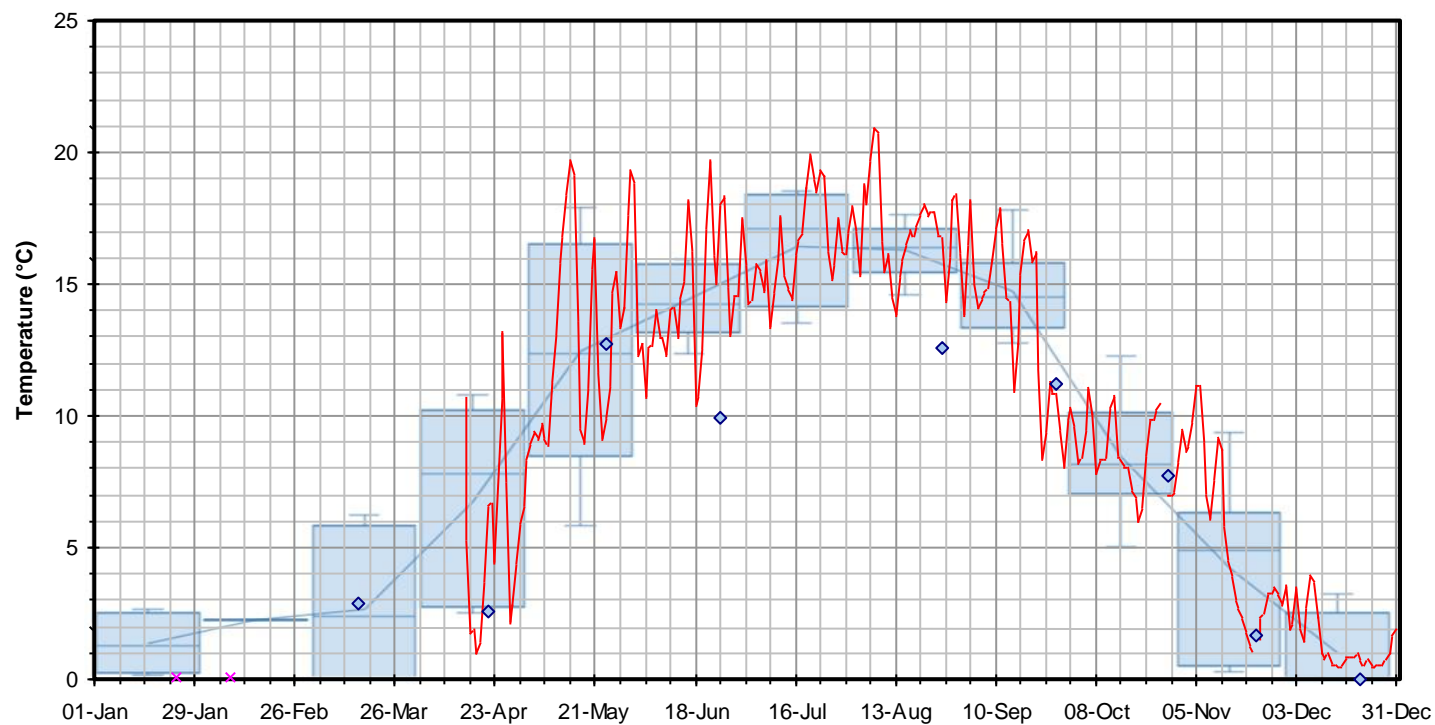


Figure F-20 2022 Groundwater / Surface Water PITM Results

DP2 - Rob Roy Swamp 6 Northeast Portion

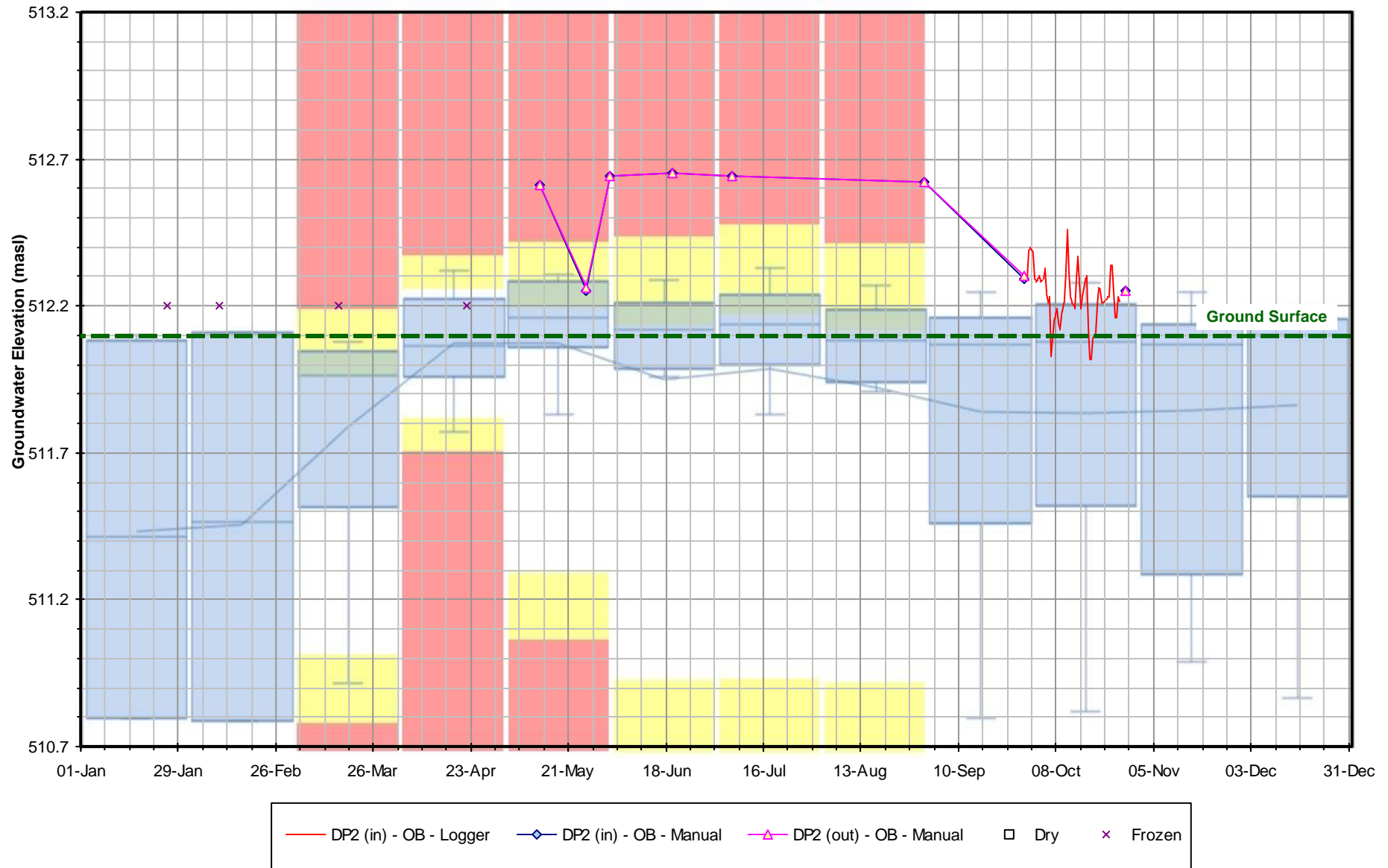


Figure F-21 2022 Groundwater / Surface Water PITM Results

DP4 - Rob Roy Swamp 6 West of Clearview Townline

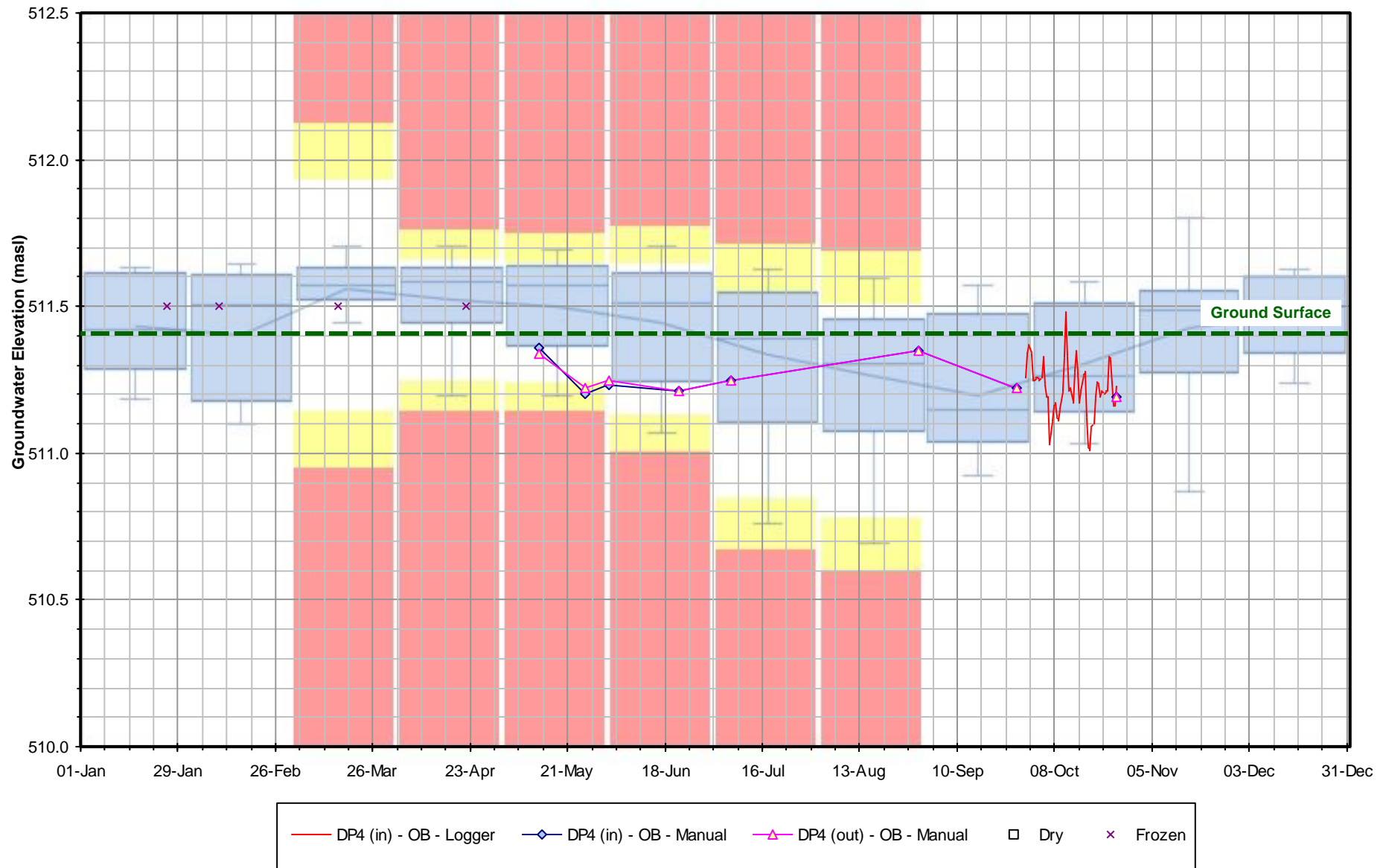


Figure F-22 2022 Groundwater / Surface Water PITM Results

DP5 - Rob Roy Swamp 2 Vernal Pool

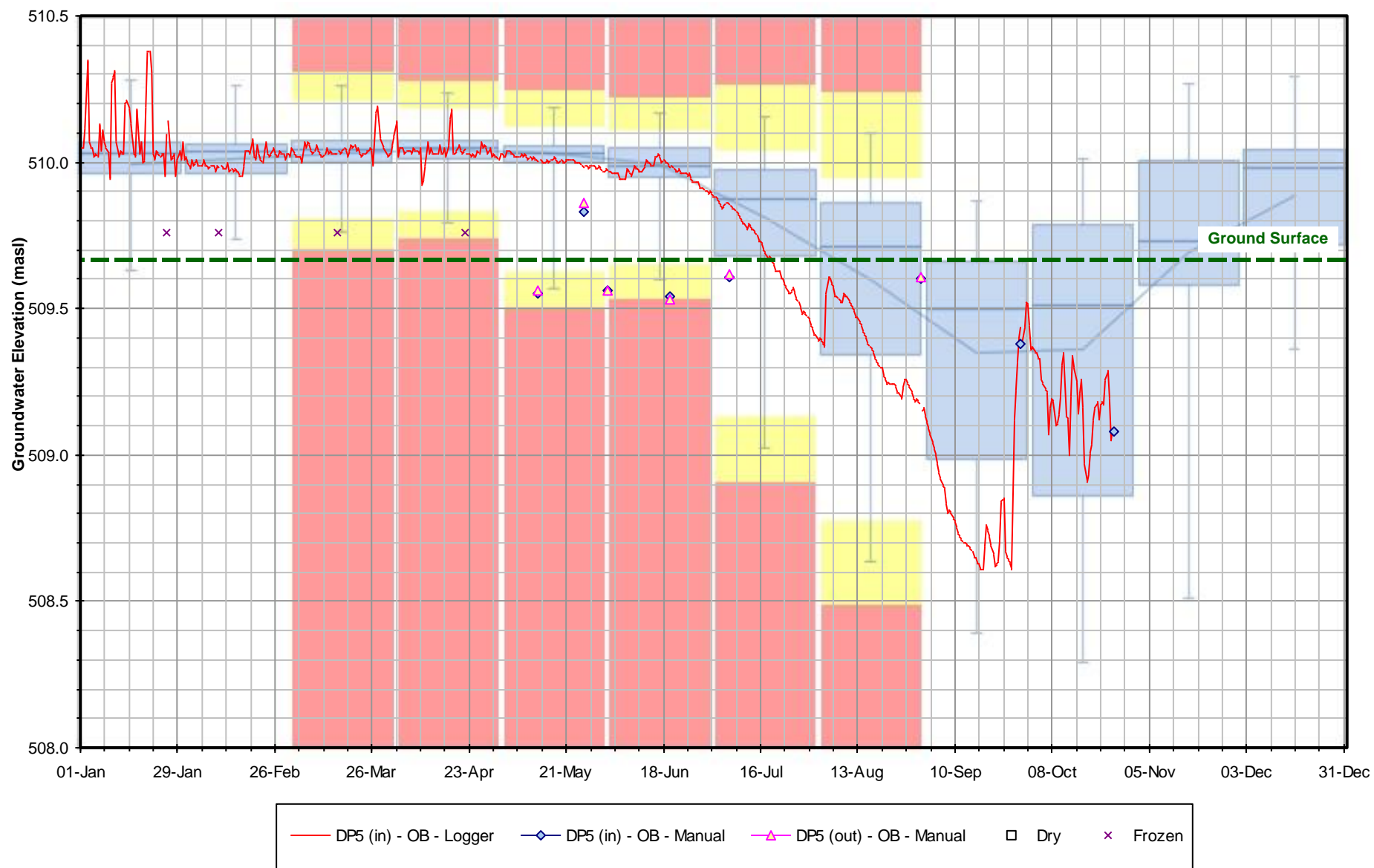


Figure F-23 2022 Groundwater / Surface Water PITM Results

DP6 - ANSI Wetland A Vernal Pool

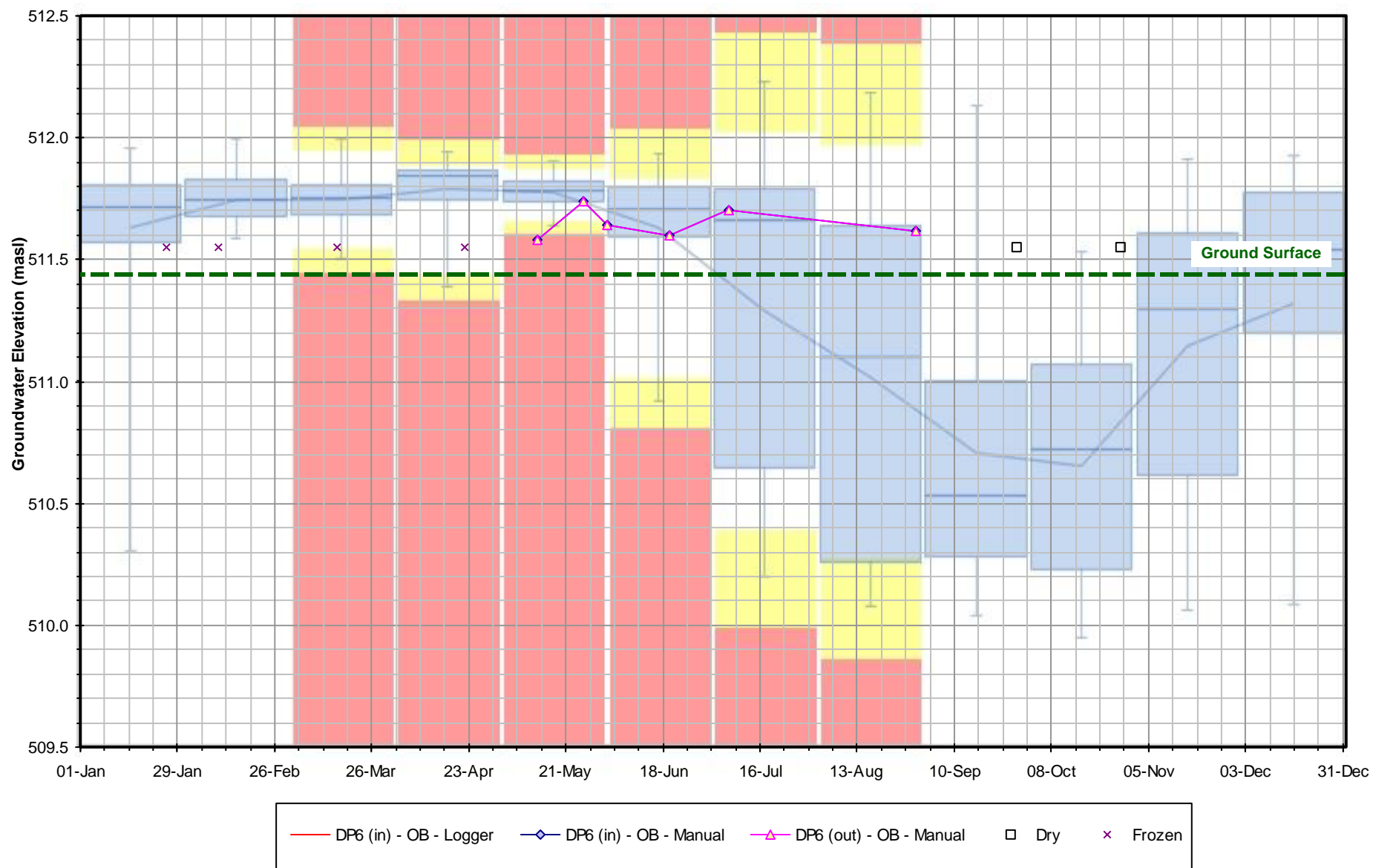


Figure F-24 2022 Groundwater / Surface Water PITM Results

DP7 - Rob Roy Swamp 2 Vernal Pool

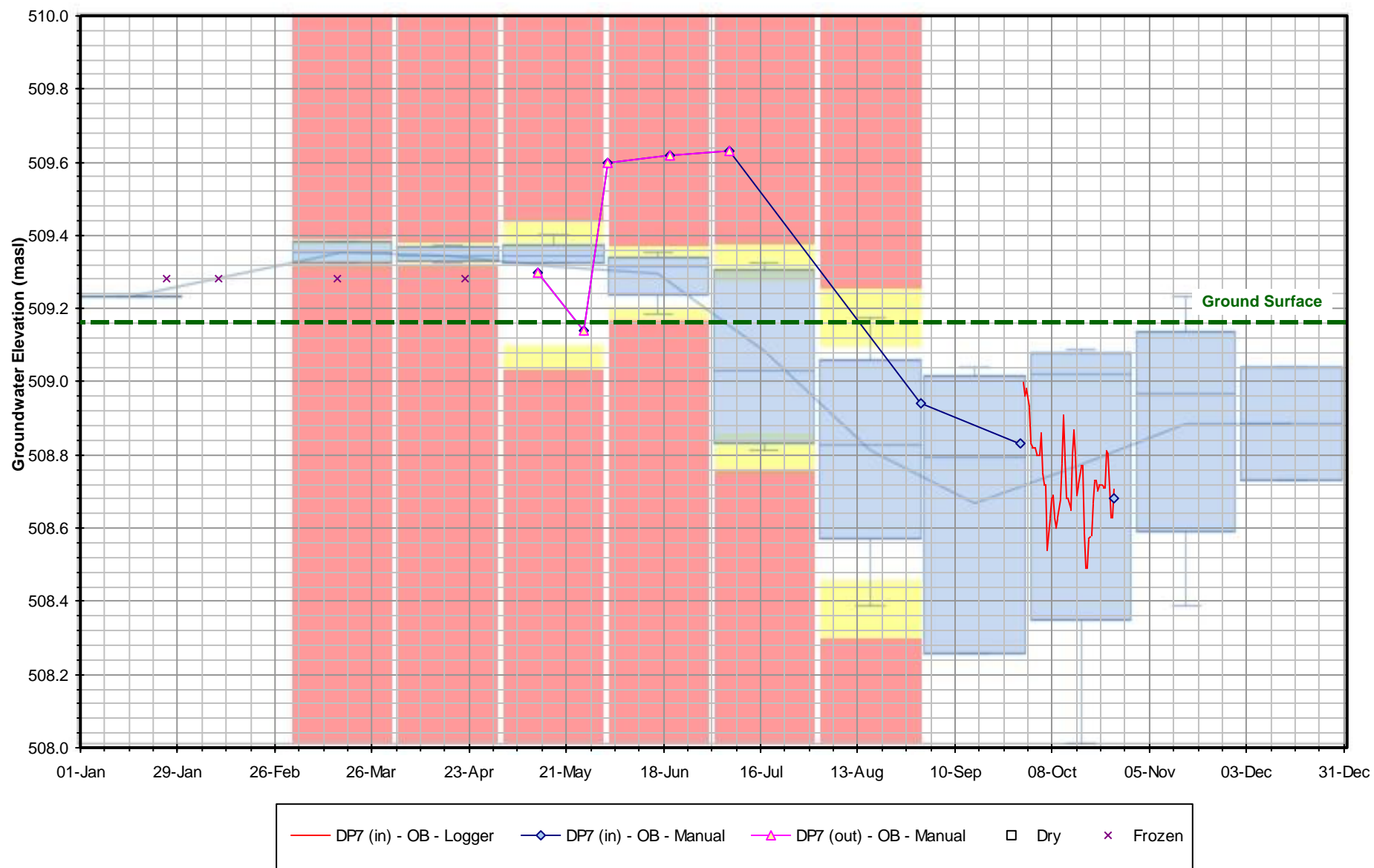


Figure F-25 2022 Groundwater / Surface Water PITM Results

DP8 - Rob Roy Swamp 6 Northwest Portion

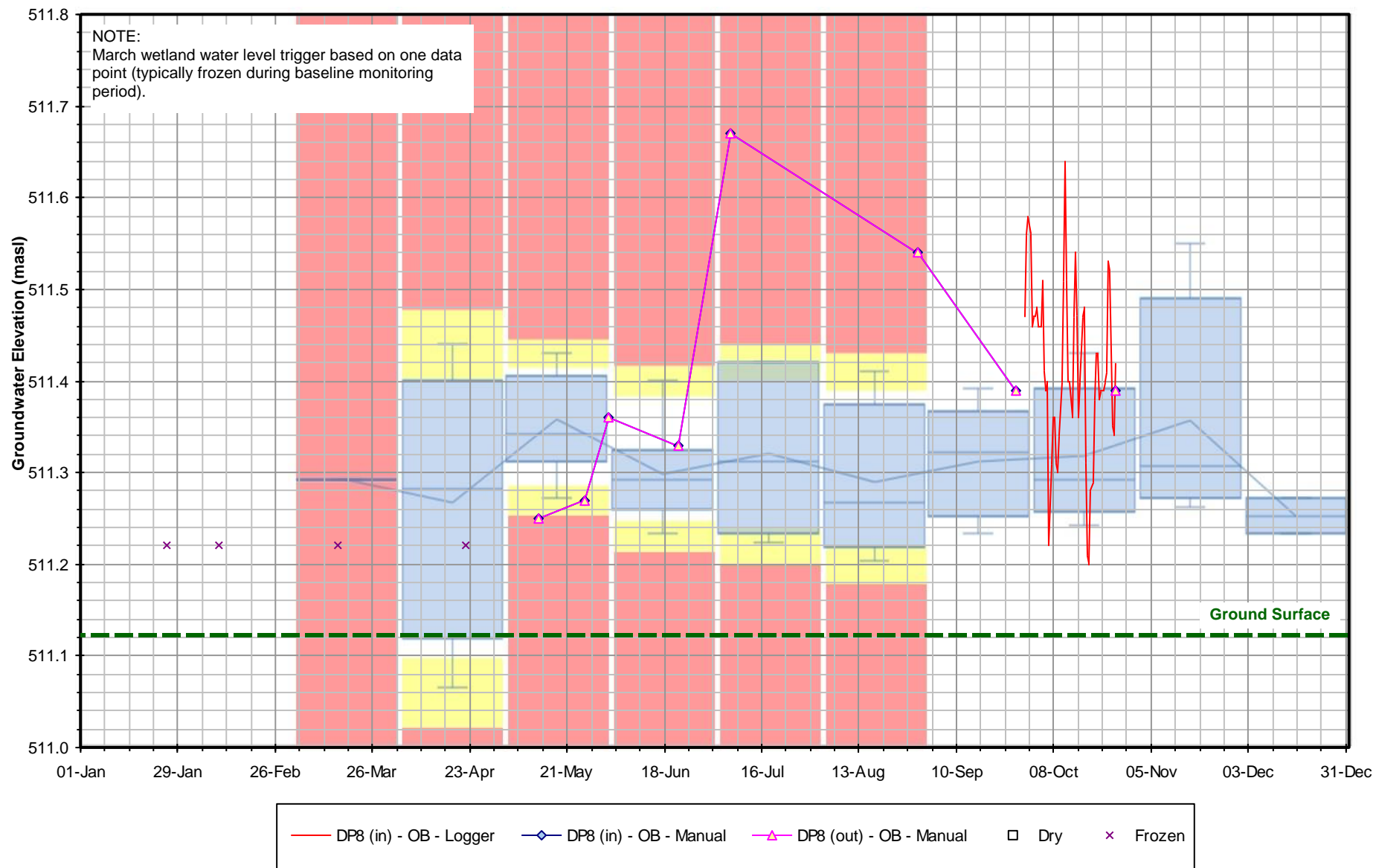


Figure F-26 2022 Groundwater / Surface Water PITM Results

DP9 - ANSI Wetland B North Portion

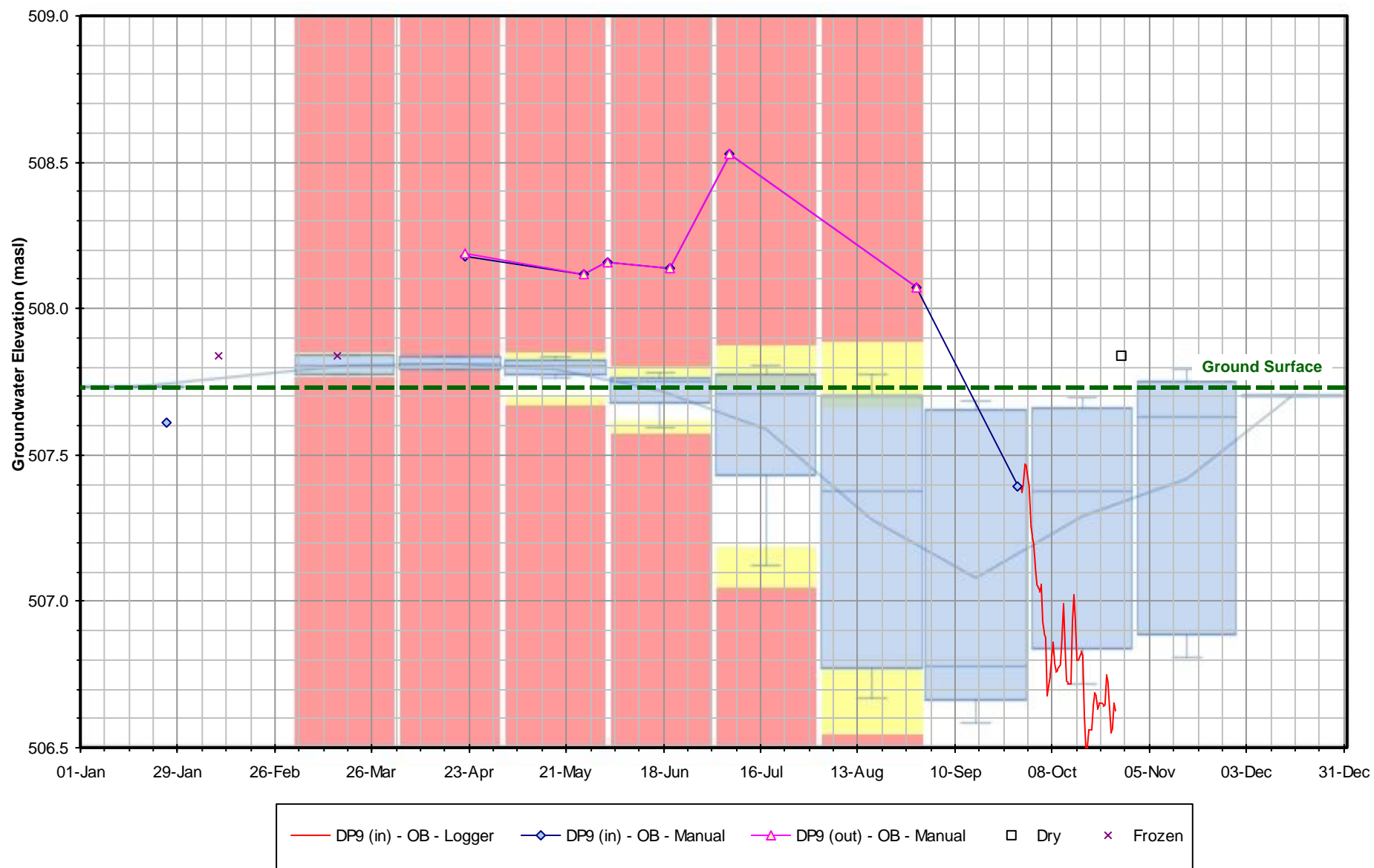
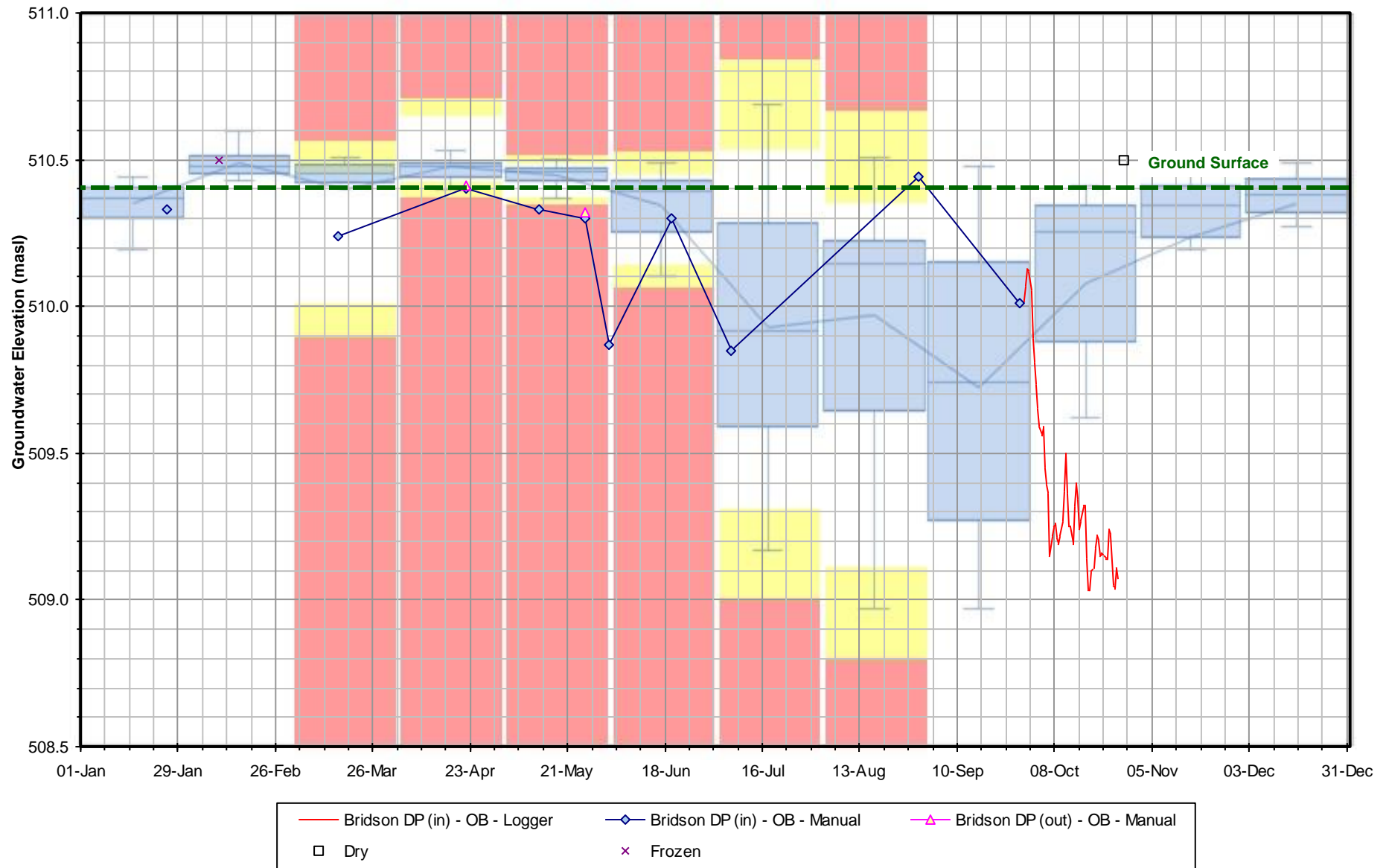


Figure F-27 2022 Groundwater / Surface Water PITM Results

Bridson DP - ANSI Wetland B South Portion



APPENDIX

F-1 *AMP TRIGGER EXCEEDANCE NOTIFICATIONS*



March 30, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – March 25/28 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of a red zone trigger as identified during the monthly monitoring event from March.

PITM Results

For surface water monitoring locations, one (1) red trigger exceedance was identified for flow. The results of PITM including identification of the trigger is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Observations during the monitoring event were used to investigate the red trigger. The results of the investigation are provided in **Appendix C**. The technician collecting the monitoring data observed ice obstructions during the collection of the flow rates which reduced the flow and caused difficulties in calculating flow rate. Therefore, the red trigger identified by the PITM are a direct reflection of the conditions observed (ice build-up) and **not due to quarry operations**.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.



APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

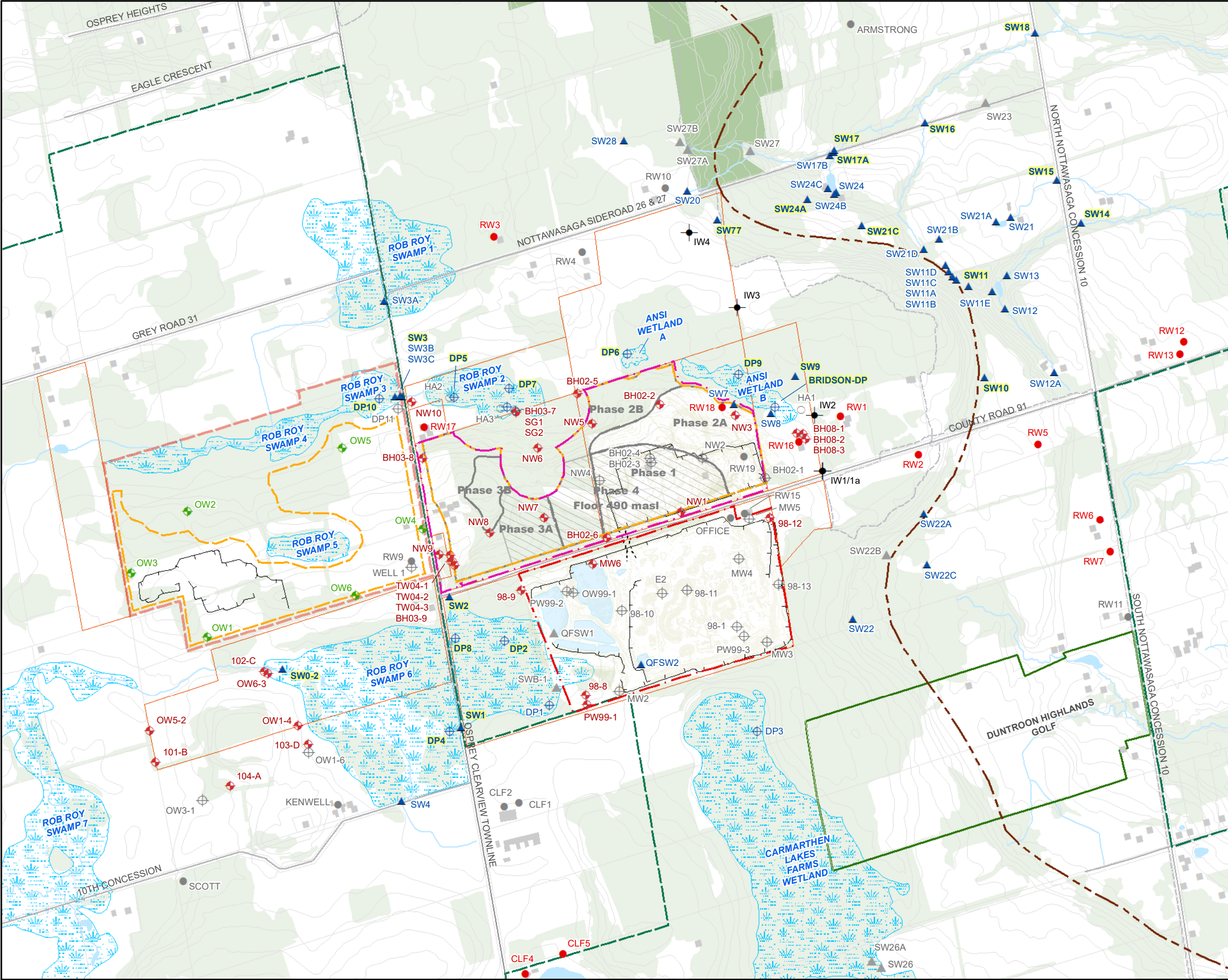
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
- APPROX. WORKING FACE
- NIAGARA ESCARPMENT COMMISSION POLICY AREA
- APPROX. NIAGARA ESCARPMENT
- WETLAND
- WOODLOT
- MONITORING WELL
- HISTORICAL MONITORING WELL
- OSPREY QUARRY MONITORING WELL
- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN

2021 ANNUAL SUMMARY AND PERFORMANCE REPORT
DUNTROON QUARRY
For Walker Aggregates Inc.


DATE:	APRIL 2022	 <p>55 KING STREET, SUITE 600 ST. CATHARINES, ON L7R 3H5 T 905-687-1771 F 905-687-1773 www.wsp.com</p>
PROJECT:	111-53312-05	
SCALE:	1 : 15,000	
DRAWN BY:	JLD	

FIGURE No: **2**

APPENDIX B: MARCH 2022 TRIGGER EXCEEDANCES

Table 1: Surface Water Stations – March 25, 2022

Escarpment Springs	March Monthly Report		March PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C)	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
				Table 3.6 'RED'		
SW 1	1.1	0.1	NO TRIGGER	NO TRIGGER	6.8	0.6



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Observations

During sampling, the Walker field coordinator noted snow and ice, near frozen conditions. The creeks/springs were obstructed by snow and ice reducing flow and creating difficulties in calculating the flow rates.



April 24, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – April 22 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNR), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of a red and yellow zone trigger as identified during the monthly monitoring event from April.

PITM Results

No triggers were identified in the surface water and escarpment springs monitoring. One yellow and one red trigger exceedance were identified for wetland water level elevations. The wetland trigger results of PITM is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation) were completed as part of the investigation into the trigger exceedances. The results of the investigation are provided in **Appendix C**. Operationally, there have been no abnormal conditions at the quarry faces. Higher temperatures than normal temperatures may lead to drier than normal conditions in certain areas while more rainfall above the baseline water levels may lead to a wetter than normal situation. The wetland drivepoint indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNR and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNR or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
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Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

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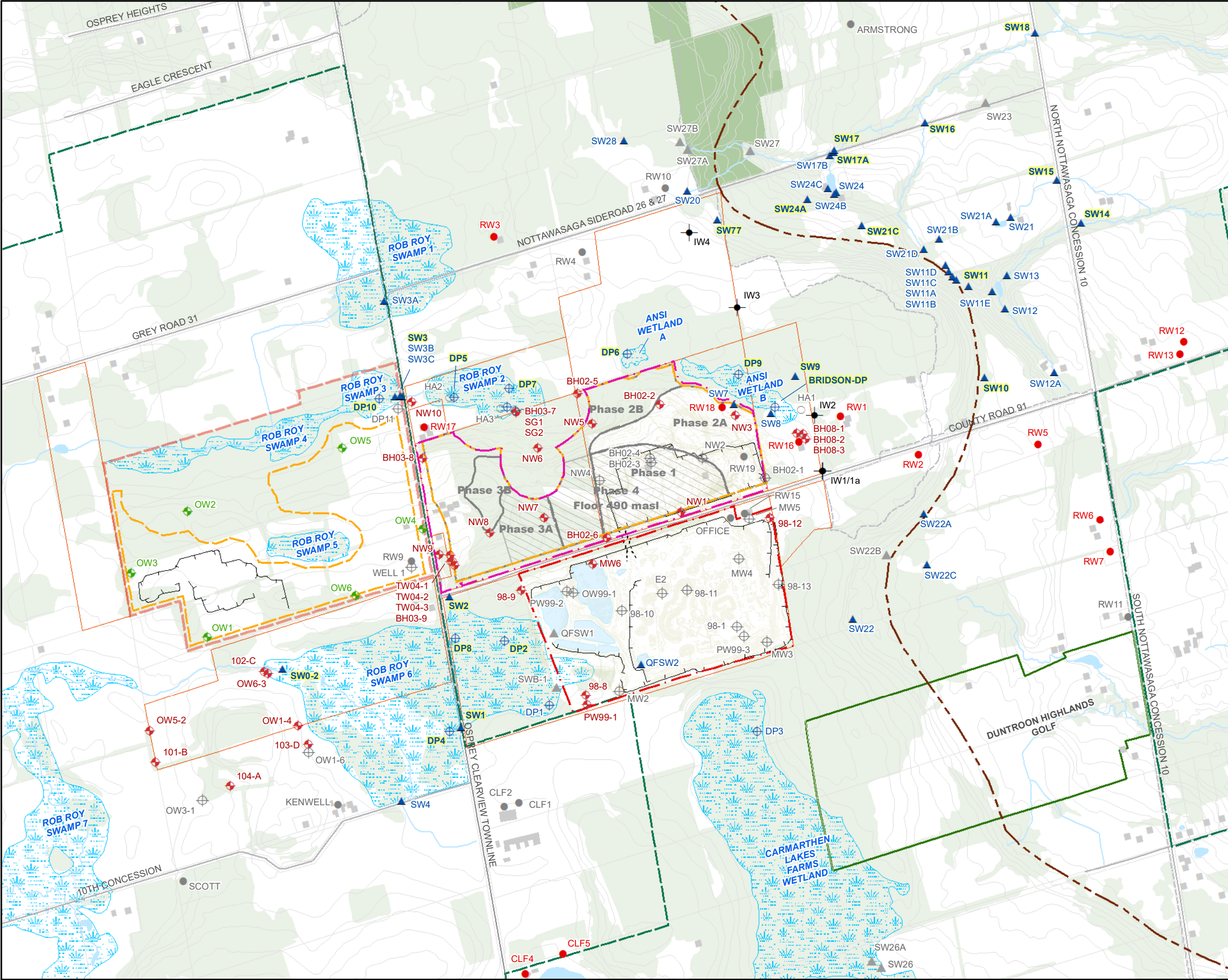
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- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
- APPROX. WORKING FACE
- NIAGARA ESCARPMENT COMMISSION POLICY AREA
- APPROX. NIAGARA ESCARPMENT
- WETLAND
- WOODLOT
- MONITORING WELL
- HISTORICAL MONITORING WELL
- OSPREY QUARRY MONITORING WELL
- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN

2021 ANNUAL SUMMARY AND PERFORMANCE REPORT
DUNTROON QUARRY
For Walker Aggregates Inc.

DATE:	APRIL 2022	<p>55 KING STREET, SUITE 600 ST. CATHARINES, ON L7R 3H5 T 905-687-1771 F 905-687-1773 www.wsp.com</p>
PROJECT:	111-53312-05	
SCALE:	1 : 15,000	
DRAWN BY:	JLD	

FIGURE No:

2

APPENDIX B: APRIL 2022 TRIGGER EXCEEDANCES

Table 1: Wetland Drivepoints Trigger Exceedances – April 22, 2022

Surface Water Stations	April Monthly Report	April PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP9	<u>508.18</u>	507.79	507.79	507.83	507.83
Bridson DP	510.4	510.38	510.44	510.66	510.72

Notes:

Bold and underlined indicates "wet" trigger



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

In April 2022, the average temp for the Collingwood was 5.43 °C and the total precipitation was 45.3 mm. The 2021 total annual precipitation up to and including April 24th, 2022 was 187.5 mm which is higher than the previous year January to April total of 113.5 mm.

The 30-year normal temperature and precipitation for April respectively are -5.2 °C and 62.4 mm; with a total precipitation from January to April was 284 mm.



May 14, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – May 13 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the biweekly monitoring event from May 13, 2022.

PITM Results

For the wetland drivepoint monitoring, there were two (2) red trigger exceedances for “wet” conditions, and two (2) red trigger exceedances and two (2) yellow trigger exceedances for dry conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). The average temperature was notably above than the 30-year average. There was also lower rainfall up to this point in the year than the 30 year average which may have likely been the cause of the drier wetland condition. The “wet” triggers observed are likely the cause of the recent snow melt and the slow infiltration underneath a wetland. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best Regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.



APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

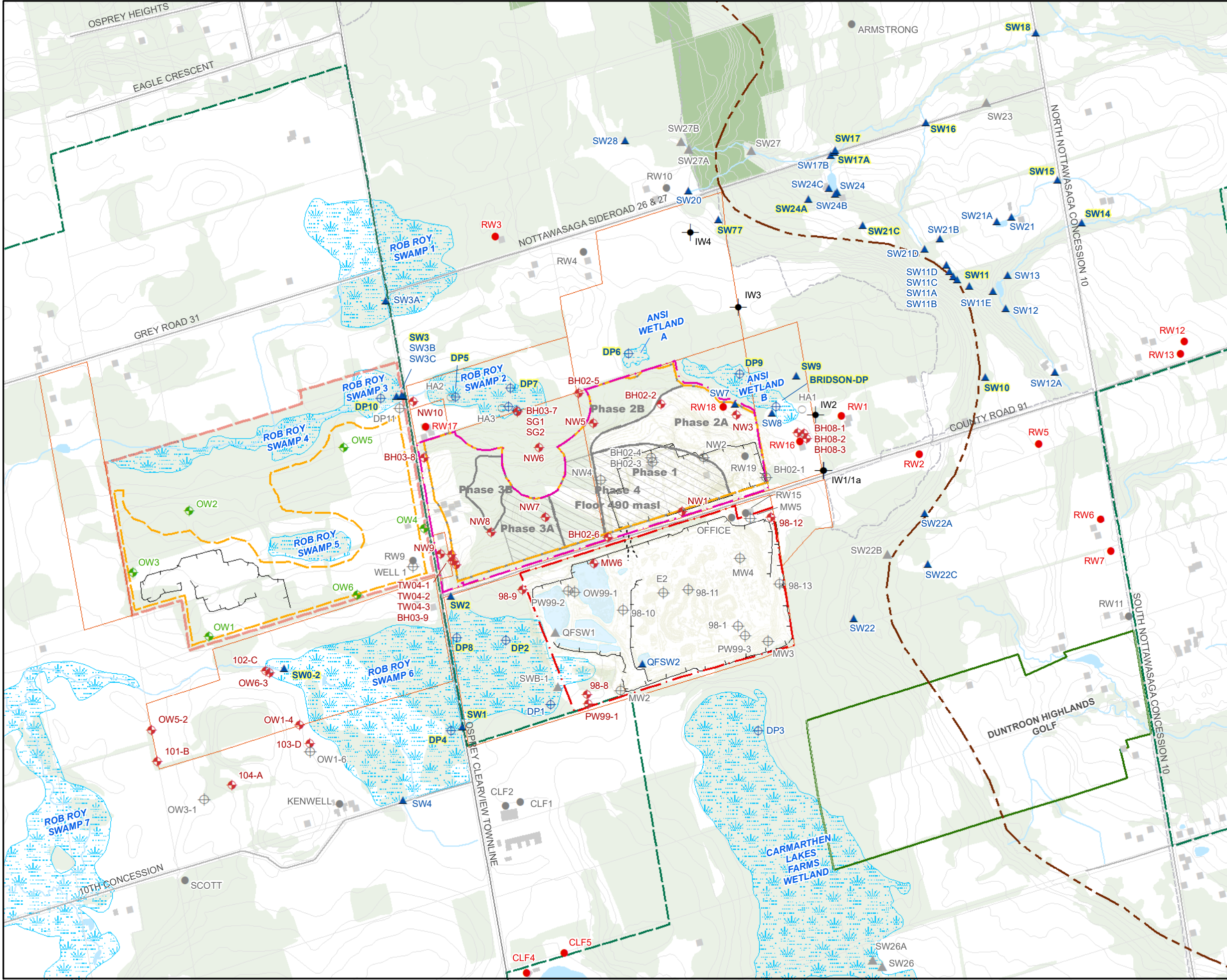
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
- APPROX. WORKING FACE
- NIAGARA ESCARPMENT COMMISSION POLICY AREA
- APPROX. NIAGARA ESCARPMENT
- WETLAND
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- MONITORING WELL
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- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN	
2021 ANNUAL SUMMARY AND PERFORMANCE REPORT DUNTROON QUARRY For Walker Aggregates Inc.	
DATE:	APRIL 2022
PROJECT:	111-53312-05
SCALE:	1 : 15,000
DRAWN BY:	JLD
FIGURE No: 2	

APPENDIX B: MAY 2022 TRIGGER EXCEEDANCES

Table 1: Wetland Drivepoint Water Level Trigger Exceedances – May 13, 2022

Surface Water Stations	May Monthly Report	May PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP2	<u>512.61</u>	511.08	511.3	512.2	512.42
DP5	509.55	509.51	509.64	510.13	510.26
DP6	511.58	511.6	511.66	511.87	511.93
DP8	511.25	511.25	511.29	511.41	511.45
DP9	<u>508.76</u>	507.67	507.7	507.82	507.85
Bridson DP	510.33	510.36	510.38	510.5	510.52
Notes:					
Bold and underlined indicates "wet" trigger					



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of April and early May (up to May 13), the average temperature for Collingwood was 12.85 °C and total precipitation was 58.9 millimetres (mm). The 2022 total precipitation was 201.5 mm from January to May 13. In 2021, the average temperature for the area was 5.41 °C and a total of 51.7 mm of rain.

The 30-year normal temperature and precipitation for April respectively are -5.2 °C and 62.4 mm with a total of 284 mm for the months of January to April.



May 28, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – May 24, 25 and 27 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the monthly monitoring event on May 24, 25, and 27, 2022.

PITM Results

There were no trigger exceedances for the surface water and escarpment springs stations. For the wetland drivepoint monitoring, there were one (1) red trigger exceedance and one (1) yellow trigger exceedance for “wet” conditions, and two (2) yellow trigger exceedances and one (1) red trigger exceedance for dry conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). There was significantly more rain in May than in the baseline period and a slight increase in the average temperature compared to the 30 year average. The higher rainfall is likely the cause of the above baseline water levels in the wetlands, which have a slower infiltration rate and the higher than normal temperatures and less rain than the 30-year average likely can affect the dry conditions at other wetland locations. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.

APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

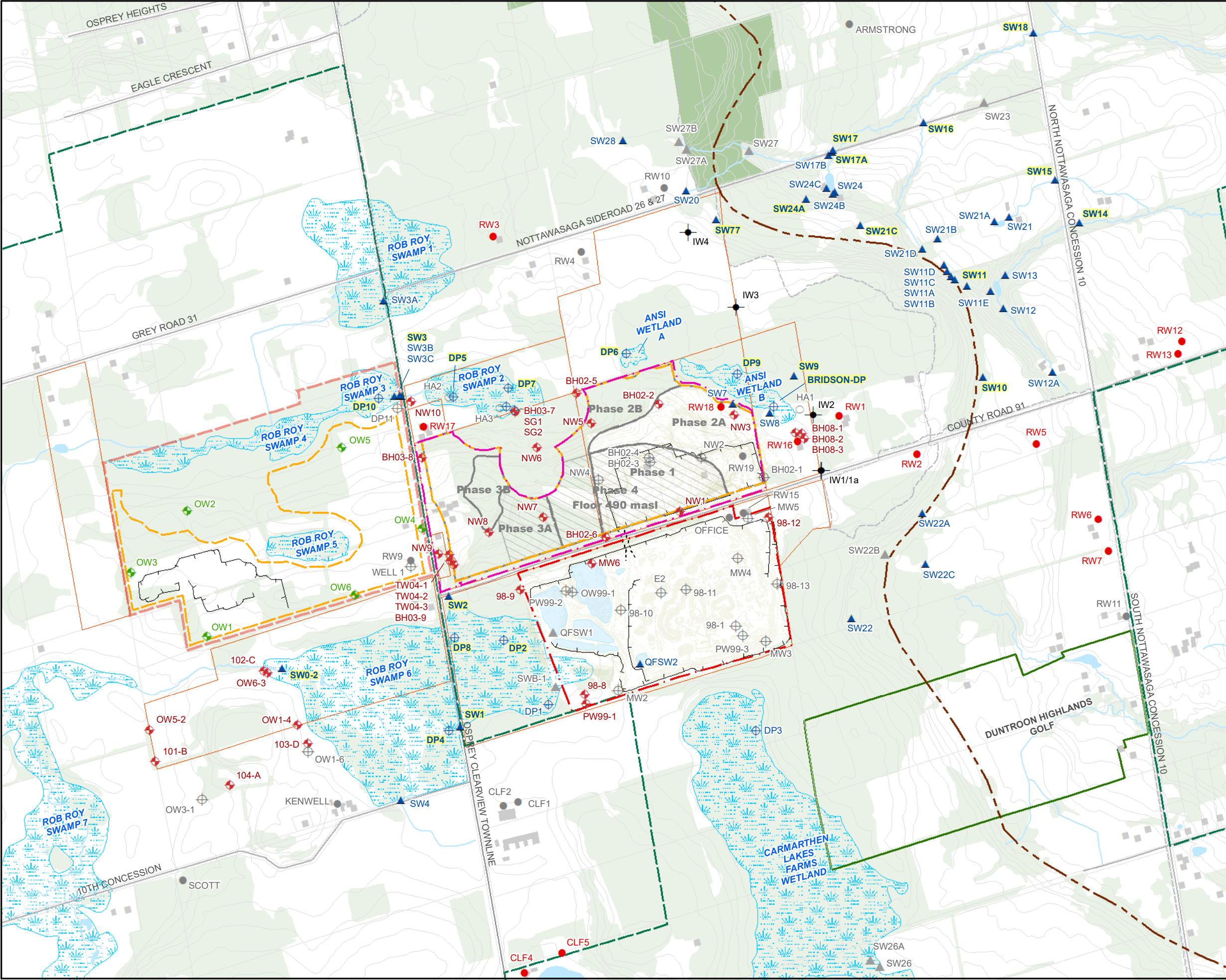
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
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- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN	
2021 ANNUAL SUMMARY AND PERFORMANCE REPORT DUNTROON QUARRY For Walker Aggregates Inc.	
DATE:	APRIL 2022
PROJECT:	111-53312-05
SCALE:	1 : 15,000
DRAWN BY:	JLD
FIGURE No: 2	

APPENDIX B: MAY 2022 MONITORING RESULTS

Table 1: Wetland Drivepoint Water Levels – May 27, 2022

Surface Water Stations	May Monthly Report	May PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP2	<u>512.25</u>	511.08	511.3	512.2	512.42
DP4	<u>511.2</u>	511.14	511.25	511.65	511.75
DP8	<u>511.27</u>	511.25	511.29	511.41	511.45
DP9	<u>508.12</u>	507.67	507.7	507.82	507.85
Bridson DP	<u>510.3</u>	510.36	510.38	510.5	510.52

Notes:

Bold and underlined indicates "wet" trigger



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of May, the average temperature for Collingwood showed an average temperature of 14.41 °C and a total precipitation was 59.6 millimetres (mm). The 2022 total precipitation was 247.5 mm from January to end of May. In 2021, the average temperature for the area was 11.1 °C and a total of 30.8 mm of rain.

The 30-year normal temperature and precipitation for May respectively are 11.5 °C and 70.6 mm with a total of 354.6 mm for the months of January to May.



June 4, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – June 2 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the biweekly monitoring event from June 2, 2022.

PITM Results

For the wetland drivepoint monitoring, there were three (3) red trigger exceedances for “wet” conditions, and one (1) yellow trigger exceedance and one (1) red trigger exceedance for dry conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). There was significantly more rain in May than in previous years and a slight increase in the average temperature compared to the 30 year average. The higher rainfall is likely the cause of the above baseline water levels in the wetlands, which have a slower infiltration rate and the higher than normal temperatures likely can affect the dry conditions at other wetland locations. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting the surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner - Walker Aggregates Inc.

APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

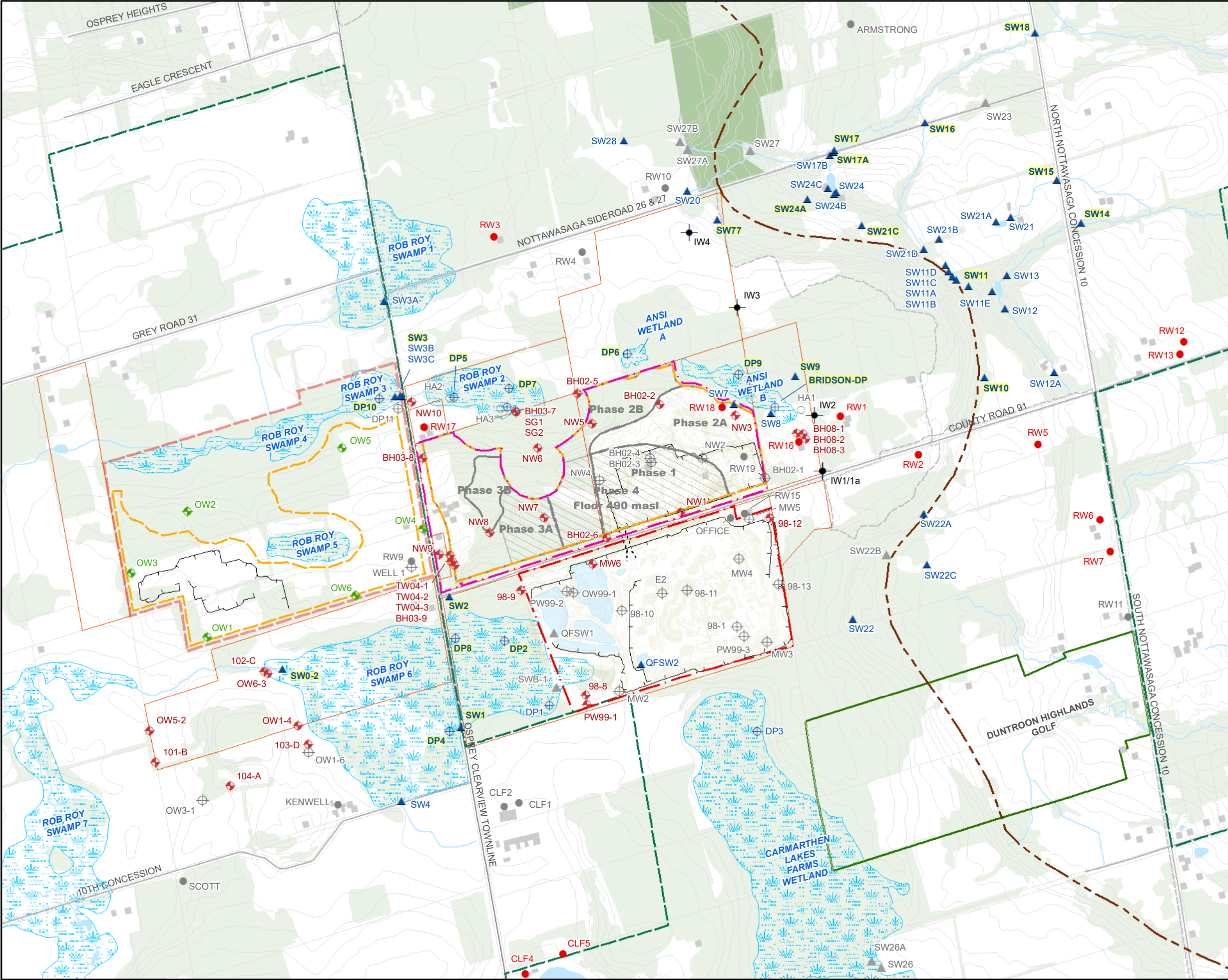
Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.

APPENDIX B: JUNE 2022 MONITORING RESULTS

Table 1: Wetland Drivepoint Water Levels – June 2, 2022

Surface Water Stations	June Biweekly Report	June PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP2	<u>512.64</u>	510.64	510.94	512.14	512.44
DP5	509.56	509.54	509.66	510.12	510.23
DP7	<u>509.6</u>	509.16	509.2	509.33	509.37
DP9	<u>508.16</u>	507.57	507.61	507.76	507.8
Bridson DP	509.85	510.07	510.15	510.46	510.54
Notes:					
Bold and underlined indicates "wet" trigger					



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
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- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN

2021 ANNUAL SUMMARY AND PERFORMANCE REPORT
DUNTROON QUARRY
For Walker Aggregates Inc.


DATE:	APRIL 2022	 <p>55 KING STREET, SUITE 600 ST. CATHARINES, ON L7R 3H5 T 905-687-1771 F 905-687-1773 www.wsp.com</p>
PROJECT:	111-53312-05	
SCALE:	1 : 15,000	
DRAWN BY:	JLD	

FIGURE No: **2**



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of May, the average temperature for Collingwood showed an average temperature of 14.41 °C and a total precipitation was 59.6 millimetres (mm). The 2022 total precipitation was 247.5 mm from January to end of May. In 2021, the average temperature for the area was 11.1 °C and a total of 30.8 mm of rain.

The 30-year normal temperature and precipitation for May respectively are 11.5 °C and 70.6 mm with a total of 354.6 mm for the months of January to May.



June 26, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – June 20 and 24 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the monthly monitoring event from June 20 and 24, 2022.

PITM Results

For surface water monitoring locations, two (2) red trigger exceedances and one (1) yellow trigger exceedance were identified for flow. For surface water escarpment spring, one (1) yellow trigger exceedance for flow and one (1) yellow trigger exceedance for temperature. For the wetland drivepoint monitoring, there were three (3) red trigger exceedances for “wet” conditions, and one (1) yellow trigger exceedance for dry conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). A drier year overall compared to the 30 year average is likely the reason triggers of lower than normal flow at the springs, however the recent high rainfall is likely the cause of the above baseline water levels in the wetlands, which have a slower infiltration rate. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.

Environmental Performance Business Partner - Walker Aggregates Inc.

APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

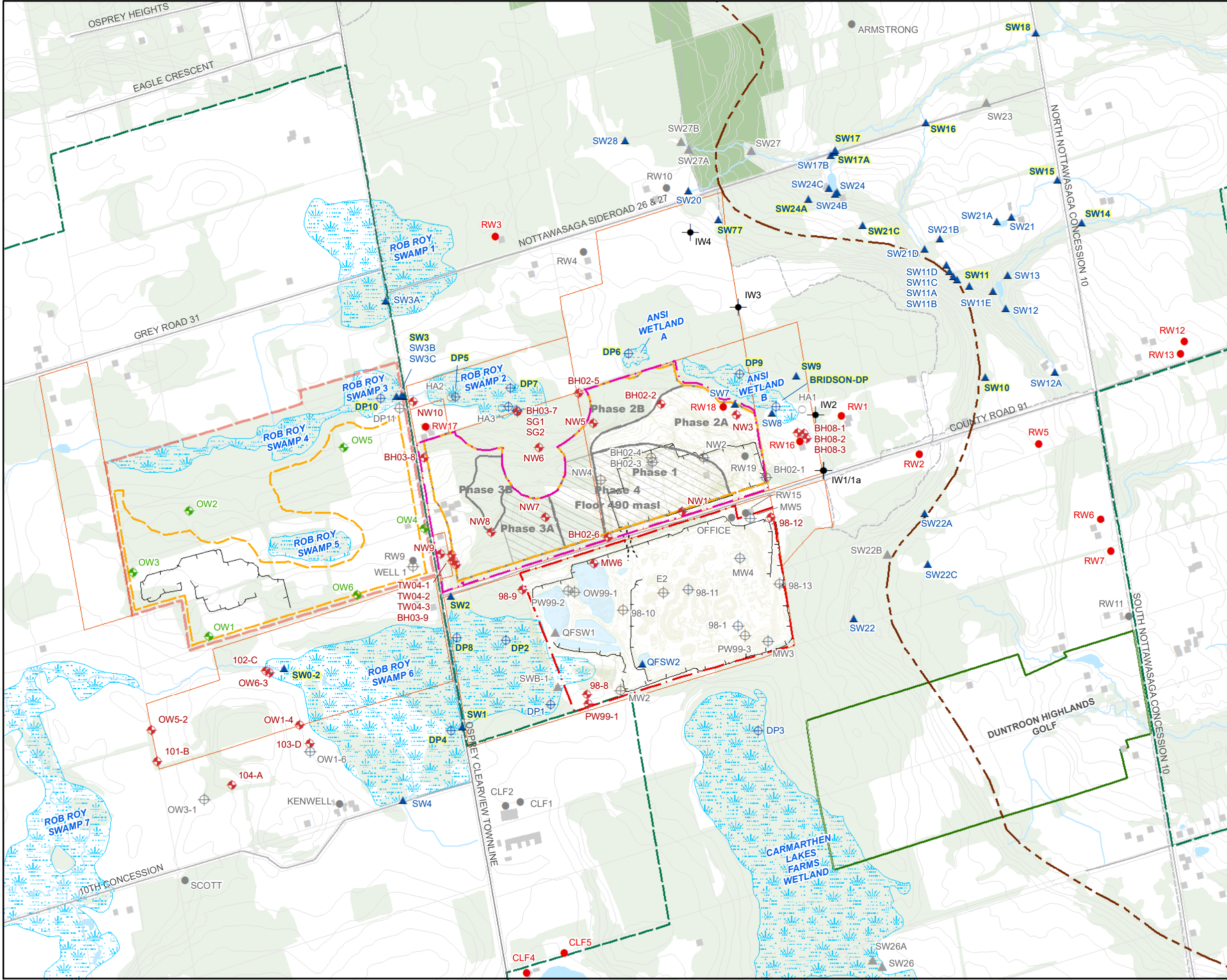
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
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- HISTORICAL MONITORING WELL
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- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
 YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN	
2021 ANNUAL SUMMARY AND PERFORMANCE REPORT DUNTROON QUARRY For Walker Aggregates Inc.	
DATE:	APRIL 2022
PROJECT:	111-53312-05
SCALE:	1 : 15,000
DRAWN BY:	JLD
FIGURE No:	2

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APPENDIX B: JUNE 2022 MONITORING RESULTS

Table 1: Surface Water Stations – June 24, 2022

Surface Water Stations	June Monthly Report		June PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 6A	6.55	26.98	22.7	25.2	83.4	58.3
SW 15	dry	dry	20.7	23	0.2	0
SW 16	13.1	0	17.5	19.4	0.6	0.06

Table 2: Surface Water Escarpment Springs – June 24, 2022

Escarpment Springs	June Monthly Report		June PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 10	11.2	0	16.4	18.3	0.1	NO TRIGGER
SW 77	10.02	2.682	9.8	10.9	0.1	0.06

Table 3: Wetland Drivepoint Water Levels – June 20, 2022

Surface Water Stations	June Monthly Report		June PITM Trigger Values			
	Elevation of Water Table (mASL)		Dry		Wet	
			Red	Yellow	Yellow	Red
DP2	<u>512.65</u>		510.64	510.94	512.14	512.44
DP5	509.54		509.54	509.66	510.12	510.23
DP7	<u>509.62</u>		509.16	509.2	509.33	509.37
DP9	<u>508.14</u>		507.57	507.61	507.76	507.8

Notes:

Bold and underlined indicates "wet" trigger



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of June, the average temperature for Collingwood showed an average temperature of 17.54 °C and a total precipitation was 112.3 millimetres (mm). The 2022 total precipitation was 359.8 mm from January to end of June. In 2021, the average temperature for the area was 17.35 °C and a total of 16.8 mm of rain.

The 30-year normal temperature and precipitation for June respectively are 16.6 °C and 75.7 mm with a total of 430.3 mm for the months of January to June.



July 11, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – July 7 and 8 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red zone triggers as identified during the monthly monitoring event from July 7 and 8, 2022.

PITM Results

There were no trigger exceedances for the surface water and escarpment springs stations. For the wetland drivepoint monitoring, there were four (4) red trigger exceedances for “wet” conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). There was significantly more rain in June and early July than in the baseline period and a slight increase in the average temperature compared to the 30 year average and a likely cause for the above baseline water levels in the wetland. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner - Walker Aggregates Inc.



APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

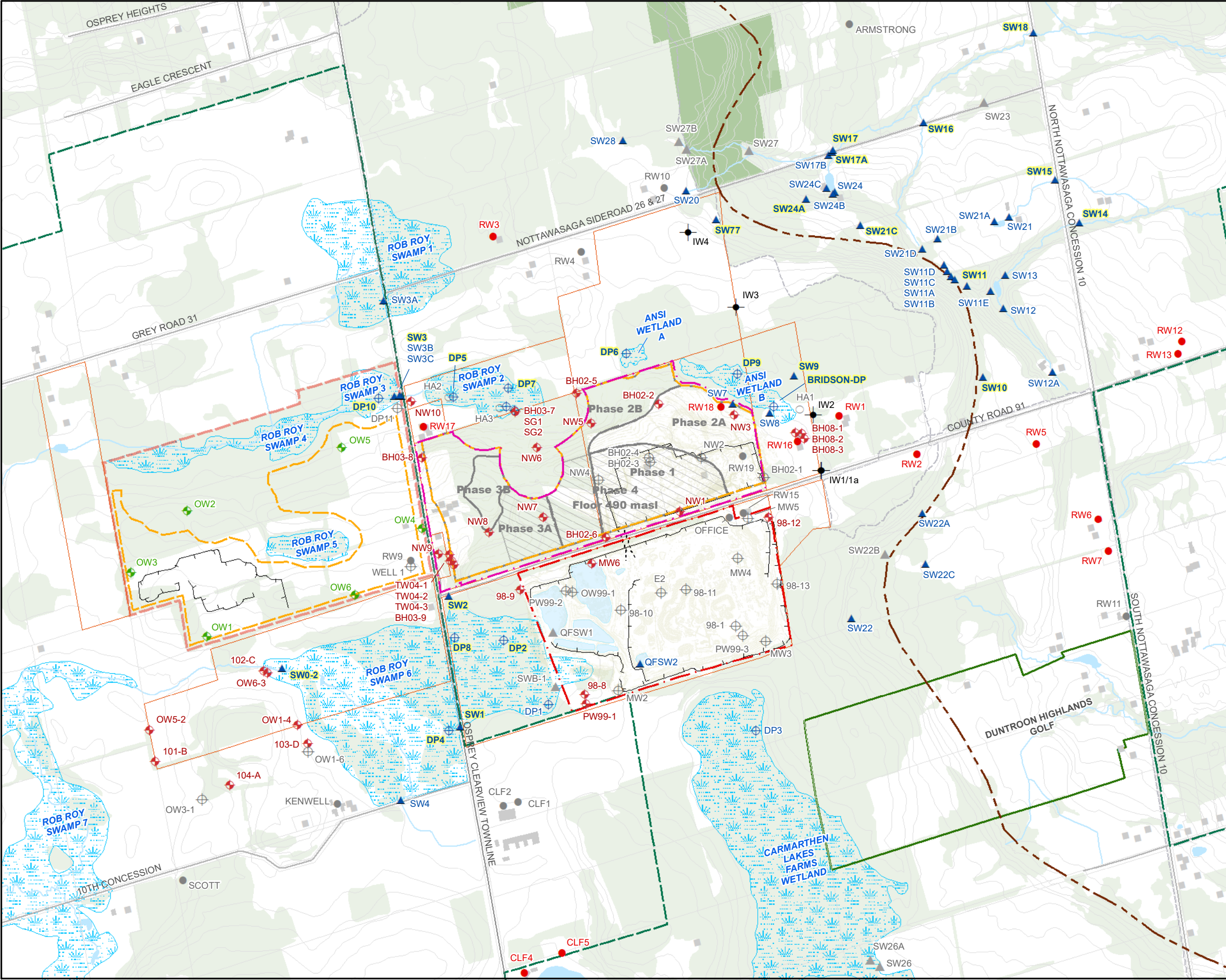
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
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NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN	
2021 ANNUAL SUMMARY AND PERFORMANCE REPORT DUNTROON QUARRY For Walker Aggregates Inc.	
DATE:	APRIL 2022
PROJECT:	111-53312-05
SCALE:	1 : 15,000
DRAWN BY:	JLD
FIGURE No:	2

55 KING STREET, SUITE 600
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APPENDIX B: JULY 2022 MONITORING RESULTS

Table 1: Wetland Drivepoint Water Levels – July 7, 2022

Surface Water Stations	July Monthly Report	July PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP2	<u>512.64</u>	510.64	510.94	512.18	512.48
DP7	<u>509.63</u>	508.75	508.85	509.27	509.37
DP8	<u>511.67</u>	511.2	511.24	511.4	511.44
DP9	<u>508.53</u>	507.04	507.18	507.73	507.87
Notes:					
Bold and underlined indicates "wet" trigger					



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of June and early July (up to July 8), the average temperature for Collingwood showed an average temperature of 18.53 °C and a total precipitation was 125.8 millimetres (mm). The 2022 total precipitation was 373.3 mm from January to July 8. In 2021, the average temperature for the area was 13.66 °C and a total of 78.3 mm of rain.

The 30-year normal temperature and precipitation for June respectively are 16.6 °C and 75.7 mm with a total of 430.3 mm for the months of January to June.



August 12, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – August 11 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red zone triggers as identified during the monthly monitoring event from August 11, 2022.

PITM Results

There was one (1) yellow trigger exceedance for temperature at the escarpment springs surface water station. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). The slightly higher than normal temperature for the time of year is likely the reason for the yellow temperature trigger. Therefore, the yellow trigger identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.



APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

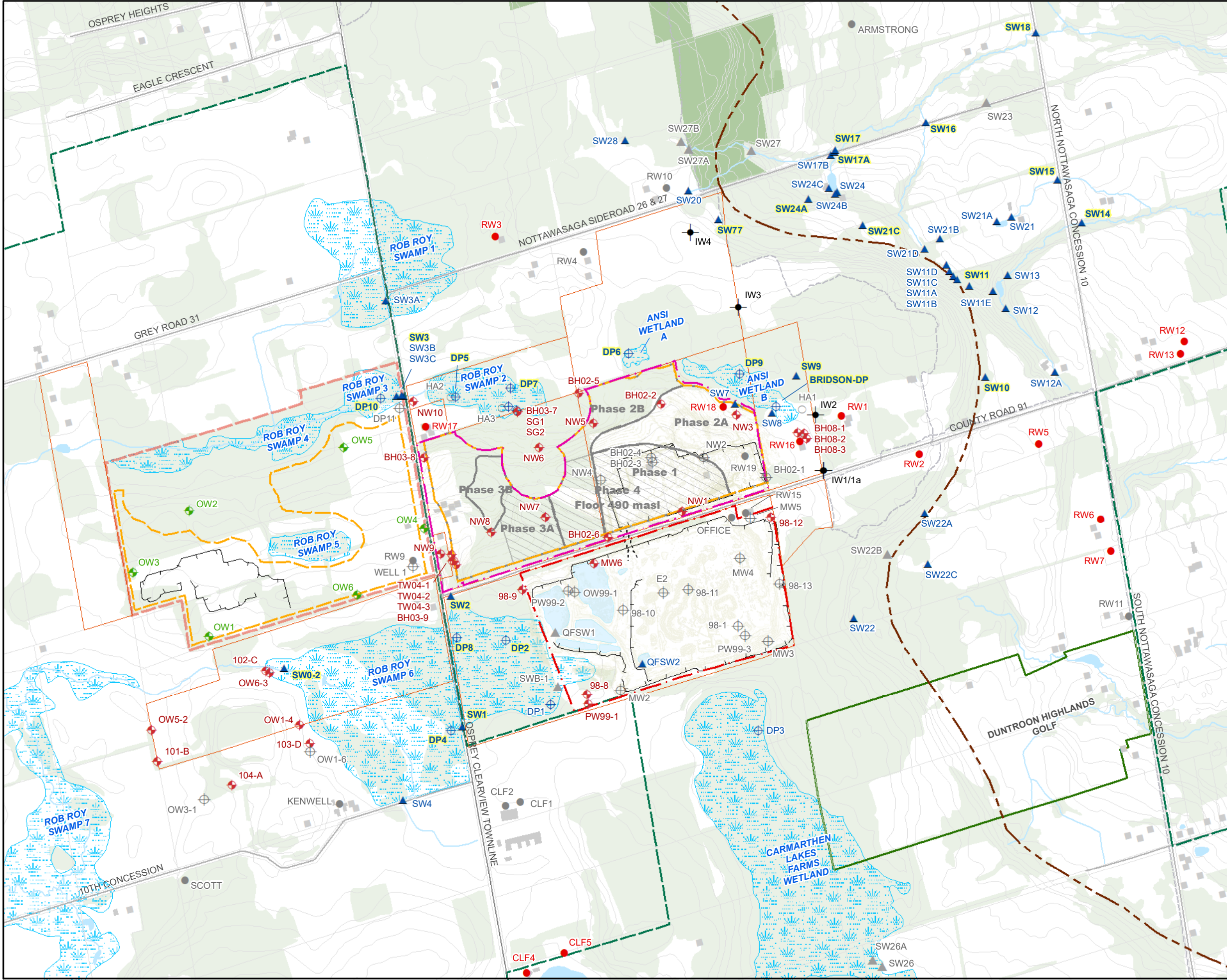
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
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NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

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DATE:	APRIL 2022
PROJECT:	111-53312-05
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FIGURE No: 2	

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APPENDIX B: AUGUST 2022 MONITORING RESULTS

Table 1: Escarpment Springs Surface Water Stations – August 11, 2022

Escarpment Springs	August Biweekly Report		August PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 21C	11.2	2.09875	10.9	12.2	0.3	0.1



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month of July and early August (up to August 11), the average temperature for Collingwood showed an average temperature of 21.48 °C and a total precipitation was 103.3 millimetres (mm). The 2022 total precipitation was 463.1 mm from January to August 11.

The 30-year normal temperature and precipitation for July respectively are 19.7 °C and 80.9 mm with a total of 511.2 mm for the months of January to July.



September 1, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – August 25, 29-31 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the monthly monitoring event from August 26, 29-31, 2022.

PITM Results

For the surface water stations, there was one (1) yellow trigger exceedance for flow. For escarpment springs, there was one (1) yellow trigger exceedance for temperature. For the wetland drivepoints, there were three (3) red trigger exceedances and one (1) yellow trigger exceedance for “wet” conditions. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). There was significantly more rain in August than the baseline period and a slight increase in the average temperature compared to the 30 year average. An overall higher temperature compared to the 30 year average is likely the reason for triggers of lower than normal flow at the springs, however the higher rainfall is likely the cause of the above baseline water levels in the wetlands, which have a slower infiltration rate. The wetland drivepoints indicating a “wetter” trigger also indicates that the quarry dewatering is not negatively impacting surface water in the area of the wetland. Therefore, the red and yellow triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner - Walker Aggregates Inc.

APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

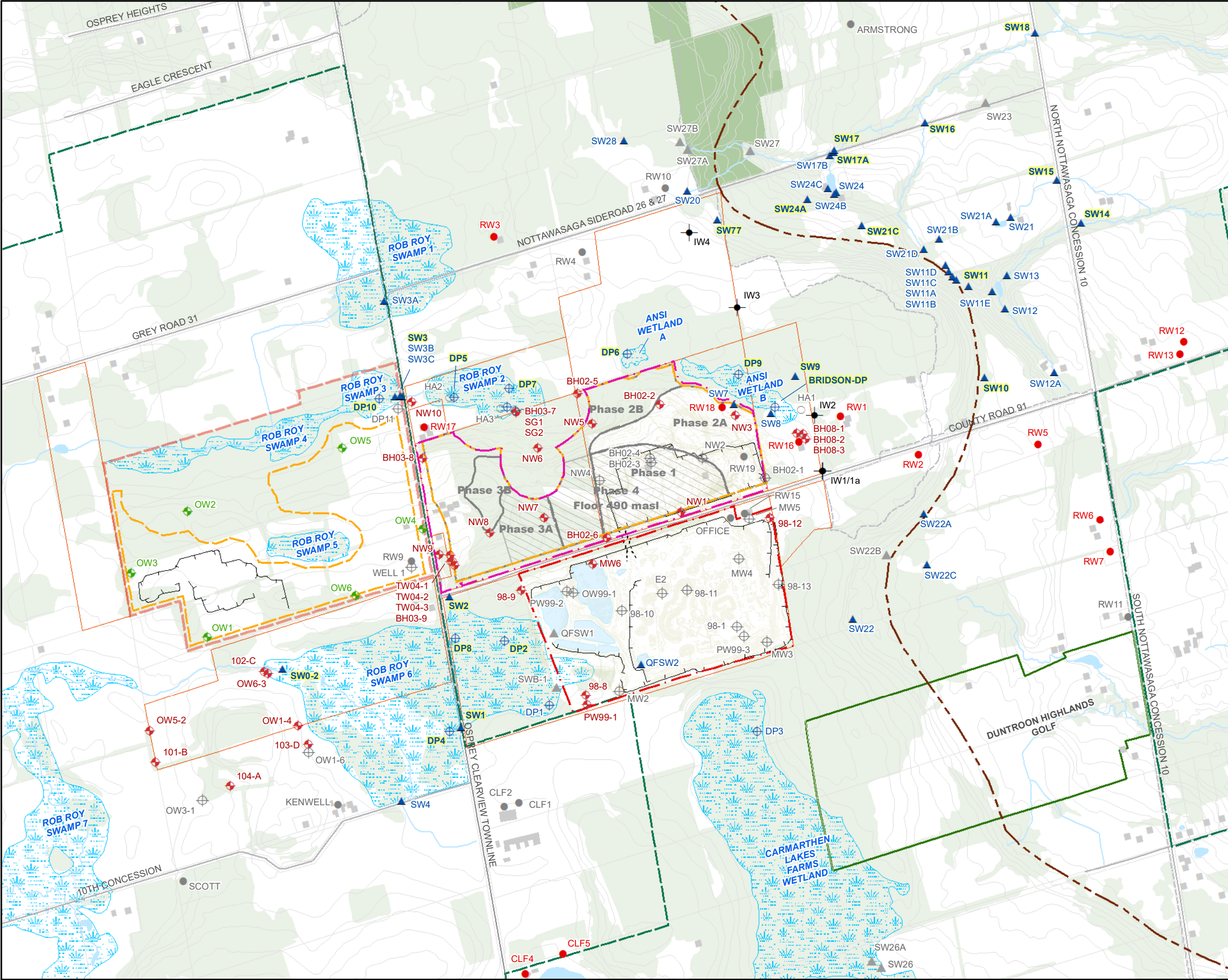
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.


These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
- APPROX. WORKING FACE
- NIAGARA ESCARPMENT COMMISSION POLICY AREA
- APPROX. NIAGARA ESCARPMENT
- WETLAND
- WOODLOT
- MONITORING WELL
- HISTORICAL MONITORING WELL
- OSPREY QUARRY MONITORING WELL
- INJECTION WELL
- DRIVEPOINT
- HAND-AUGER
- DOMESTIC WELL
- HISTORIAL DOMESTIC WELL
- SURFACE WATER STATION
- HISTORICAL SURFACE WATER STATION

NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.



0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN	
2021 ANNUAL SUMMARY AND PERFORMANCE REPORT DUNTROON QUARRY For Walker Aggregates Inc.	
DATE:	APRIL 2022
PROJECT:	111-53312-05
SCALE:	1 : 15,000
DRAWN BY:	JLD
FIGURE No:	2



55 KING STREET, SUITE 600
ST. CATHARINES, ON L7R 3H5
T 905-687-1771 | F 905-687-1773 | www.wsp.com

APPENDIX B: AUGUST 2022 MONITORING RESULTS

Table 1: Surface Water Stations – August 26, 2022

Surface Water Stations	August Monthly Report		August PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 15	dry	dry	19.4	21.5	0.05	0

Table 2: Escarpment Springs Surface Water Stations – August 29, 2022

Escarpment Springs	August Monthly Report		August PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 21C	11.9	2 25225	10.9	12.2	0.3	0.1

Table 3: Wetland Drivepoints – August 30 and 31, 2022

Surface Water Stations	August Monthly Report	August PITM Trigger Values			
	Elevation of Water Table (mASL)	Dry		Wet	
		Red	Yellow	Yellow	Red
DP2	<u>512.62</u>	510.63	510.93	512.12	512.42
DP8	<u>511.54</u>	511.18	511.22	511.9	511.43
DP9	<u>508.07</u>	506.54	506.76	507.66	507.88
Bridson DP	<u>510.44</u>	508.8	509.12	510.36	510.68

Notes:

Bold and underlined indicates "wet" trigger



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month August, the average temperature for Collingwood showed an average temperature of 20.87 °C and a total precipitation was 153.6 millimetres (mm). The 2022 total precipitation was 563.5 mm from January to end of August. In 2021, the average temperature for August was 17.6 °C and a total precipitation was 16.8 mm.

The 30-year normal temperature and precipitation for August respectively are 19 °C and 85.8 mm with a total of 597 mm for the months of January to August.



October 1, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – September 29 and 30 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of red and yellow zone triggers as identified during the monthly monitoring event from September 29 and 30, 2022.

PITM Results

There were no trigger exceedances for surface water stations. For escarpment springs, there were two (2) red trigger exceedances for flow. The results of PITM including identification of the triggers is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Investigations into operations prior to and during the PITM program as well as climatic factors (temperature and precipitation). There was slightly less rain in September than the 30 year average, which is likely the reason for a slightly lower flow rate at the surface water stations. Therefore, the red triggers identified by the PITM are a direct reflection of climatic factors and **not due to quarry operations**.

Walker circulated an alternative trigger notification program in early 2022 to the MNRF and all relevant parties, which was developed by WSP Canada; However, this has not been approved by the MNRF or relevant parties listed above. This new trigger program would consider any exceedance as a yellow trigger. This yellow trigger would be investigated within two days of the trigger to determine the cause, and would only require notification if the trigger was determined to be quarry related.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.

APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

- PR Tributary System: SW16, SW17, SW17A, SW18 and PR Control Station.
- BC Tributary System: SW9, SW14, SW15, and the BC Control Station.
- Beaver River Tributary System: SW1, SW2, SW0-2, SW3, SW6A, and RR3 Karst Sink Point Channel Station (RR3 Karst).

Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

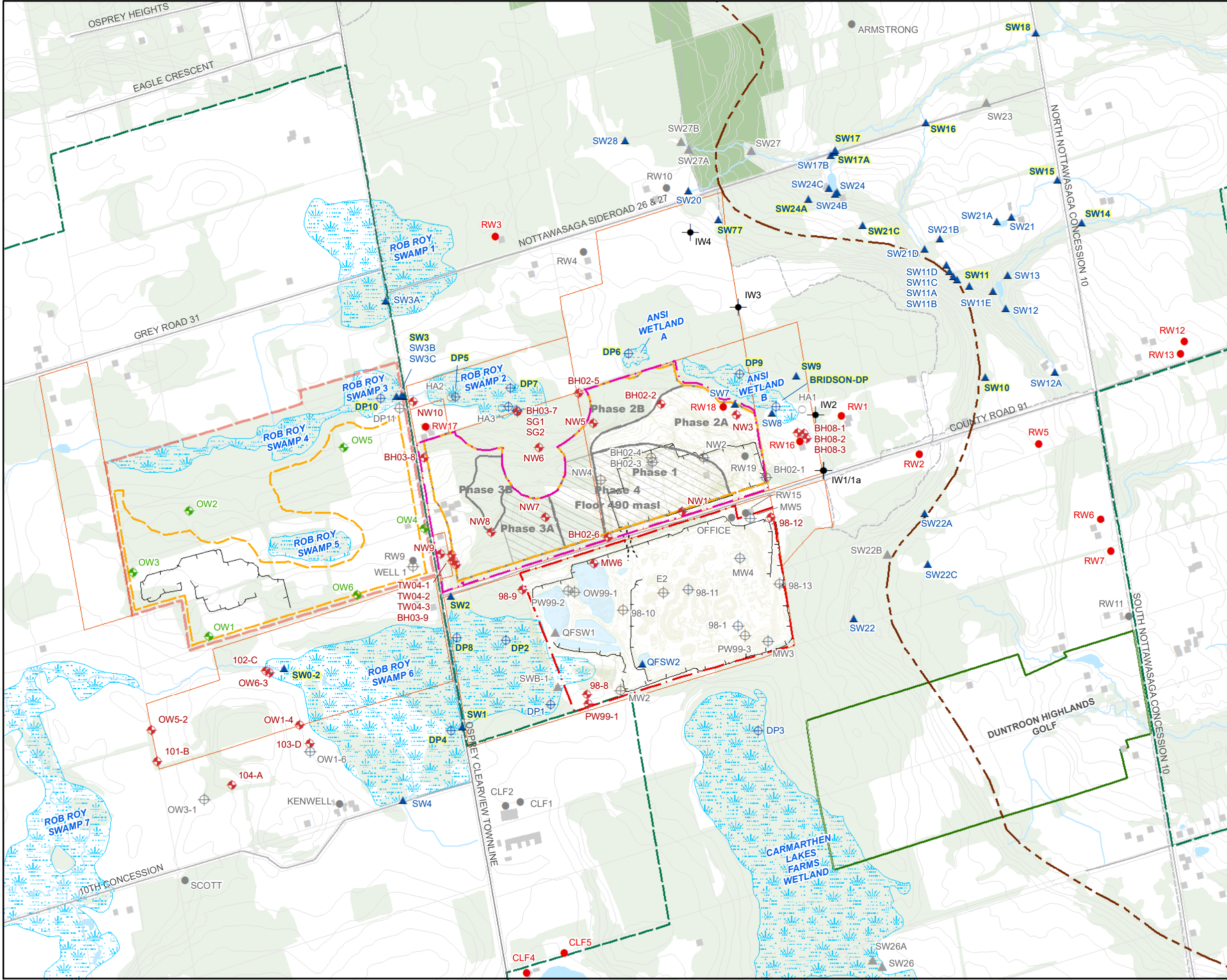
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



LEGEND

- EXTENSION QUARRY LICENSED AREA
- LIMIT OF EXTRACTION
- OLD QUARRY LICENSED AREA
- OTHER LANDS OWNED BY WAI
- OSPREY QUARRY LICENSED AREA (ST. MARY'S CEMENT)
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NOTE:
YELLOW HIGHLIGHT INDICATES SURFACE WATER STATION IS ASSOCIATED WITH FLOW / TEMPERATURE TRIGGER, DRIVEPOINT IS ASSOCIATED WITH WATER LEVEL TRIGGER.

0 300 600 m

NAD 1983 UTM Zone 17N

SITE PLAN

2021 ANNUAL SUMMARY AND PERFORMANCE REPORT
DUNTROON QUARRY
For Walker Aggregates Inc.

DATE:	APRIL 2022	<p>55 KING STREET, SUITE 600 ST. CATHARINES, ON L7R 3H5 T 905-687-1771 F 905-687-1773 www.wsp.com</p>
PROJECT:	111-53312-05	
SCALE:	1 : 15,000	
DRAWN BY:	JLD	

FIGURE No:

2

APPENDIX B: SEPTEMBER 2022 MONITORING RESULTS

Table 1: Escarpment Springs Surface Water Stations – September 29, 2022

Escarpment Springs	August Monthly Report		August PITM Trigger Values			
	Temperature (°C)	Flow (L/s)	Temperature (°C) Table 3.6 'YELLOW'	Temperature (°C) Table 3.6 'RED'	Flow (L/s) Table 3.5 'YELLOW'	Flow (L/s) Table 3.5 'RED'
SW 11	9.9	0.05906	13.4	14.9	0.32	0.28
SW 21C	9.1	0.39975	10.9	12.1	0.7	0.6



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Climate Data

During the month September, the average temperature for Collingwood showed an average temperature of 17.03 °C and a total precipitation was 82.6 millimetres (mm). The 2022 total precipitation was 646.1 mm from January to end of September.

The 30-year normal precipitation for September is 94 mm.



December 21, 2022

RE: Duntroon Quarry – Adaptive Management Plan – Trigger Notification
Performance Indicator Trigger Monitoring Program – December 20 Monitoring Event
Aggregate Resource License No. 607841

Walker Aggregates Inc. owns and operates the Duntroon Quarry on County Road 91, west of the village of Duntroon on Part Lot 24 and Lot 25, Concession XII in the Township of Clearview, County of Simcoe. The licensed property of the existing quarry operates in accordance with Aggregate Resource Act (ARA) license number 3514. The expansion quarry is licensed to WAI under ARA license number 607841, issued August 6, 2014.

As required by Conditions 5 & 6 – Natural Environment of ARA license No. 607841 and the approved Adaptive Management Plan, notification to the Ministry of Natural Resources and Forestry (MNR), the Ministry of Environment, Conservation and Parks (MECP), the Conservation Authorities (CAs; Nottawasaga and Grey Sauble), and the Township (Clearview) is required if the Performance Indicator Trigger Monitoring Program (PITM) identifies a “yellow zone” or a “red zone” trigger. A summary of the PITM is provided in **Appendix A**.

This memorandum serves as notification of a yellow zone trigger as identified during the monthly monitoring event from December.

PITM Results

For surface water monitoring locations, one (1) yellow trigger exceedance was identified for flow. The results of PITM including identification of the trigger is provided in Table 1 in **Appendix B**.

Investigation & Conclusion

Observations during the monitoring event were used to investigate the yellow trigger exceedance. The results of the investigation are provided in **Appendix C**. Ice and snow cover were observed in the watercourse. We note that the surface water station SW1, located upstream of SW0-2, and closer to the Duntroon quarry, has a higher measured flow rate in December 2022. Wetlands along the flowpath may accumulate water due to ice jamming in winter flow conditions in the winter time generally results in inaccurate flow measurements by constraining the channel in some areas and causing damming/flooding in other areas. We note that no-flow conditions have historically been observed at this station in previous December events and therefore the yellow trigger identified by the PITM is considered a direct reflection of winter conditions and the trigger methodology itself and **not due to quarry operations**.

Should you have any questions, please do not hesitate to contact the undersigned.

Best regards,

A handwritten signature in blue ink that reads 'CBarnes'.

Carrie Barnes, P.Geo.
Environmental Performance Business Partner
Walker Aggregates Inc.



APPENDIX A - BACKGROUND OF PROGRAM

The purpose of the PITM is to monitor the effects of quarry operations on water resources with respect to levels, flows and temperature, and to initiate prescribed mitigation measures to maintain these parameters within their baseline ranges. Long-term changes in prevailing climatic conditions are incorporated into the AMP by monitoring control stations established in the Pretty River (PR) and Batteaux Creek (BC) drainage basins (Figure 1). These control stations are beyond any possible influence of quarry operations.

Surface Water Control Stations

The Surface Water PITM stations are identified in the Site Plan by their location in each watershed (Figure 1):

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Temperature and flow rates are monitored hourly at all surface water control stations. Pressure transducers and a staff gauges are installed at stations: SW1, SW2, SW0-2, SW3, SW6A, SW9, SW15, SW16 and SW18. Staff gauges have been installed at stations: SW17, SW17A, and BC Control.

Surface Water Escarpment Springs

The PITM surface water escarpment springs are identified in the Site Plan as SW10, SW11, SW21C, SW24A, and SW77. The Escarpment Springs stations are monitored bi-weekly in July and August and monthly during other times of the year. Monitoring includes temperature and a visual assessment of flow conditions, and where practical, manual measurements using an electromagnetic flow meter are completed.

Wetland Drivepoints

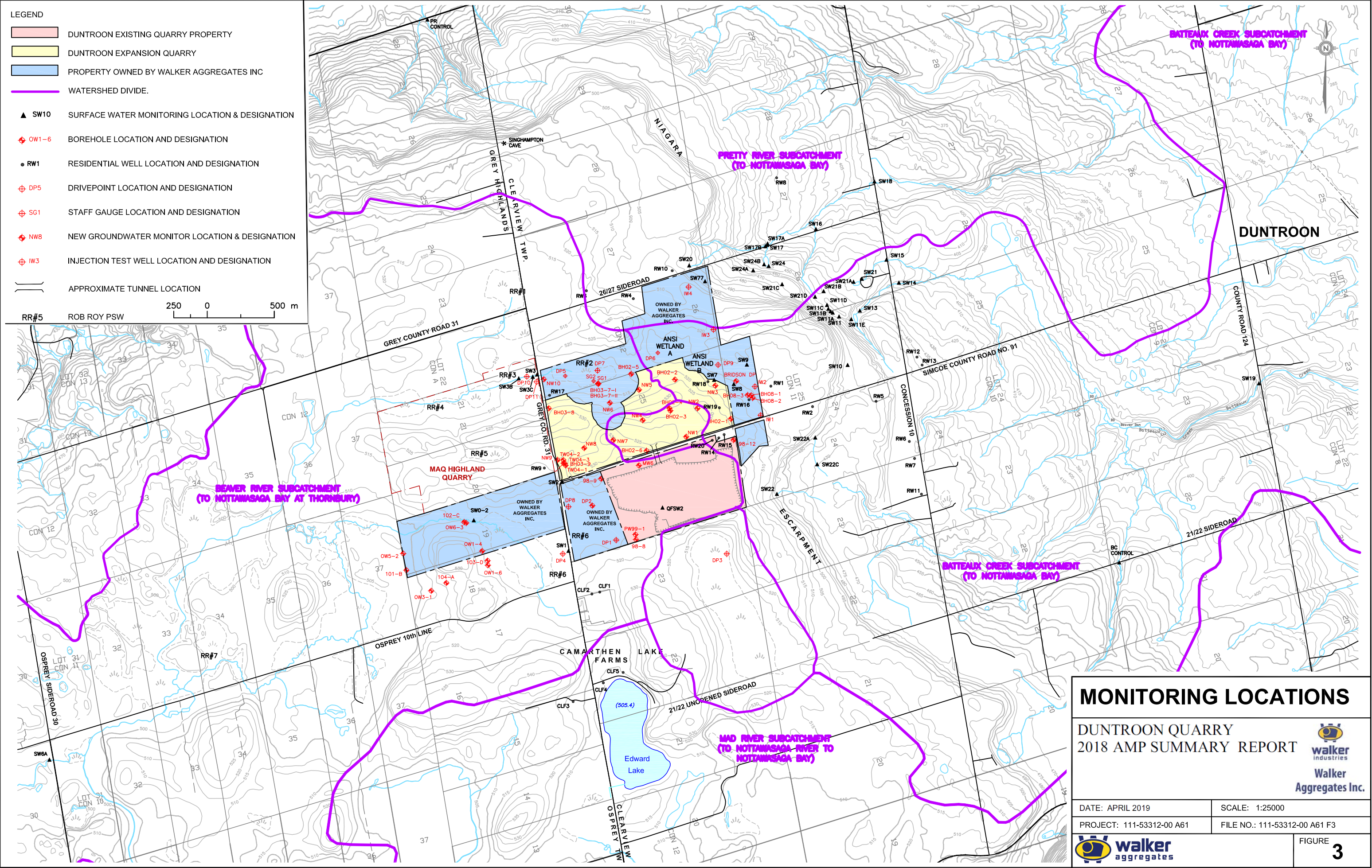
The PITM wetland drivepoints are identified in the Site Plan as DP2, DP4, DP5, DP6, DP7, DP8, DP9, and Bridson DP. Wetland drivepoints are monitored monthly from March to August, with biweekly monitoring from May to August. Monitoring includes the collection of water levels to determine the elevation of the water tables.

Trigger Values

Trigger values for surface water levels, flow and temperature, were established and fall into the following categories: red, yellow and green. Trigger periods for all surface water stations fall between June and September with the exception of SW1, SW2 and SW0-2, which apply from January through December. Trigger periods for the drivepoint wetland stations fall between March and August.

Where collected values of flow or temperature fall within the green zone, this is an indication that regular operations can proceed. Where values are in the yellow zone, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 72 hours, as well as a verification, investigation and report of the collected data. Where values enter the red zone, this represents the limit after which the extraction activities must cease, notification of relevant parties (MECP, MNRF, CAs and Township) should occur within 24 hours, and an investigation into the PITM exceedance must be taken.

These trigger values were created based on data between 2003 and 2020. The interim trigger values were finalized during the 5-year comprehensive review in September 2021.



MONITORING LOCATIONS

DUNTROON QUARRY
2018 AMP SUMMARY REPORT



DATE: APRIL 2019	SCALE: 1:25000
PROJECT: 111-53312-00 A61	FILE NO.: 111-53312-00 A61 F3





APPENDIX B: MARCH 2022 MONITORING RESULTS

Table 1: Surface Water Stations – December 20, 2022

SW LTT Stations	December Monthly Report		December PITM Trigger Values			
	Temperature	Flow	Temperature (°C)		Flow (L/s)	
	(°C)	(L/s)	Yellow	Red	Yellow	Red
SW1	0.01	36.46	6.8	7.6	0	0
SW2	5.60	1.73	8.3	9.2	0.10	0
SW0-2	0.20	12.53	4.6	5.1	14.10	0

Notes: * Updated Interim PITM Trigger Values for surface water temperature and flow rates are provided on Tables 6-9 and 6-10 of the AMP 5-Year Comprehensive Review Report (WSP, September 2021)

'0' Indicates no flow observed during baseline monitoring period



APPENDIX C – INVESTIGATION RESULTS

Operations

Operationally, the Duntroon Quarry reported that there have been no changes in quarry operations and quarry faces are normal.

Observations

During sampling, snow and ice were noted, which can cause obstructions or damming in the flow of the surface water.