

PIRMP– Mudgee Wastewater Treatment Plant and Sewerage System

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN (PIRMP)
LICENCE NUMBER: 5230

Approved by: Manager Water and Sewer

Date: 15/12/2021

PURPOSE:

Mid-Western Regional Council holds an Environment Protection Licence with the NSW Environment Protection Authority (EPA) for Mudgee Wastewater Treatment Plant. As per the Protection of the Environment Operations Act 1997 (the POEO Act), Mid-Western regional Council must prepare, keep, test and implement a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the POEO Act.

If a pollution incident occurs in the course of our activities so that material harm to the environment (within the meaning of section 147 of the POEO Act) is caused or threatened, Mid-Western Regional Council will **immediately** implement this plan as required by Part 5.7A of the POEO Act.

A copy of this plan is kept at the licensed premises and can be made available on request by an authorised EPA officer and to any person who is responsible for implementing this plan.

Parts of the plan is also available on Mid-Western Regional Council website as set out in clause 98D of the Protection of the Environment Operations (General) Regulation 2009.

NOTE: This plan has been developed in accordance with the *Protection of the Environment Operations Act 1997* and the Protection of the Environment Operations (General) Regulation 2009.

NOTIFICATION OF A POLLUTION INCIDENT

Notification is required if a pollution incident causes or threatens to cause 'material harm to the environment'. Harm to the environment is material as per section 147 of the POEO Act if:

- (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, **or**
- (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations)

and the loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Notification is required even where 'harm to the environment is caused only in the premises where the pollution incident occurs', as specified in section 147(2)

Environment Protection Licence (EPL) Details

Name of licensee:	Mid-Western regional Council
EPL number:	5230
Premises name and address:	Mudgee Wastewater treatment Plant, 33 Blain Road Carleon, 2850 NSW
Website address:	http://www.midwestern.nsw.gov.au/
Scheduled activity/activities on EPL:	Sewage treatment
Fee-based activity/activities on EPL:	Sewage Treatment processing by small plant

PIRMP activation	<p>Position or title: Water and Sewer Process Coordinator Business hours contact number/s: 1300 765 002 After hours contact number/s: 1300 765 002</p> <p>Alternative contact Position or title: Manager Water and Sewer Business hours contact number/s: 1300 765 002 After hours contact number/s: 1300 765 002</p>
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Notification of relevant authorities

See below for persons and/or **any relevant authorities requiring to be notified as per Part 5.7A of the POEO Act** in the case of a pollution incident that causes or threatens to cause material harm to the environment.

The following information must be noted and forwarded to the authorities when they are notified of the incident:

- Time and date.
- Nature and location of the incident.
- Duration of the incident (including estimated quantity /volume discharged if applicable)
- Location of areas that may be affected by incident.
- Circumstances in which the incident occurred.
- The proposed action to be taken in dealing with the incident

Fire & Rescue NSW	Contact number/s:	000 Emergency (112 mobile phones) 1300 729 579 (generic) 6372 6772 Mudgee Fire & Rescue
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EPA (written report to be provided within 7 days)	Contact number/s:	131 555
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NSW Health	Relevant Area Health Service:	Dubbo Office
	Contact number/s:	6809 8979
	After hours	0407 551 548 / 0418 66 397

SafeWork NSW	Contact number/s:	131 050
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Notification of relevant authorities, continued

See below for persons and/or authorities that also **may** need to be notified in the case of a pollution incident that causes or threatens to cause material harm to the environment.

Department of Planning Industry and Environment (DPIE)	Contact number/s: (business hours)	1800 353104
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WaterNSW	Contact number/s:	1300 662 077
	Emergency reporting – 24h (spills etc)	1800 061 069

Mid-Western, Regional Council (24h)	Contact number/s:	1300 765 002/(02) 6378 2850
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Rural Fire Services - Mudgee	Contact number/s:	6372 4434
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NSW Fisheries – Central Tablelands	Contact number/s:	0488 220 443
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Notification of neighbours and the local community

Mid-Western Regional Council will attempt to provide early warning to directly affected premises. Depending on the severity of the incident and the likelihood of impact on the community, a range of communications methods can be deployed during and after an incident. These include:

- Site visits/door knocking
- Phone calls
- SMS messages
- Emails (internal and external)
- Social media, website updates
- Media updates
- Letter drop
- Warning signs
- Depending on the incident; WaterNSW has an early warning system to alert Water Licence Holders. WaterNSW can be contacted and request made for them to send an alert

Description and likelihood of hazards; Pre-emptive actions to be taken

Sewage overflow

	Impact	Risk Rating*	Pre-emptive actions
Heavy rainfall	Land/waterway contamination	C 3 = M11	<ul style="list-style-type: none"> • Sewerage system maintenance and rehabilitation to reduce infiltration and inflows • Spare capacity in pump wells • Monitoring and maintenance • SCADA alarm
Power failure	Land/waterway contamination	B 2 = L5	<ul style="list-style-type: none"> • Lightning protection • Backup generators at some SPS • Vegetation management to prevent damage to infrastructure in case of storm



			<ul style="list-style-type: none"> • Portable pumps • SCADA alarms
	Impact	Risk Rating*	Pre-emptive actions
Blockage or damage to sewers	Land/waterway contamination	C 2 = M8	<ul style="list-style-type: none"> • Sewerage system maintenance • Sewer Jetting program (high pressure cleaning of mains for repeat chokes) • Spare capacity in pump wells • Monitoring and maintenance
SCADA/Communication failure	Land/waterway contamination	A 2 = L4	<ul style="list-style-type: none"> • SCADA testing and alarming • Monitoring of SCADA signal issues
External person hitting sewers when excavating	Land/waterway contamination	C 2 = M8	<ul style="list-style-type: none"> • Provide approximate location of underground service to external persons • Telemetry designed to pick up a change in inflows (for example excessive pumping hours) • Vacuum trucks (for clean-up) • Portable pumps (for clean-up) • Review of design plans by Council
Infrastructure failure (general)	Land/waterway contamination	C 3 = M11	<ul style="list-style-type: none"> • Maintenance and renewal programs • Smoke testing program and asset condition assessment aimed at reducing stormwater infiltration • Sewer relining program
Infrastructure failure such as: 1. Failure of Putta Bucca Rising Main 2. Failure at Mudgee STP site 3. Sewer Pump Station failure	Land/waterway contamination	C 3 = M11	<ul style="list-style-type: none"> • Condition assessment of rising main between Putta Bucca and Mudgee STP (scheduled for 21-22) • Document "Contingencies - Mudgee STP, Putta Bucca Rising Main and SPS" has details for setting up a temporary pump station at STP, list of critical stock items and their location as well as

			Epump/generator setup details for sewer pump station
Mechanical breakdown/dual pump failure	Land/waterway contamination	B 2 = L5	<ul style="list-style-type: none"> Telemetry monitoring Maintenance and inspection programs
	Impact	Risk Rating*	Pre-emptive actions
			<ul style="list-style-type: none"> Spare capacity in pump wells vacuum truck Monitoring and maintenance
Excessive flow at STP	Land/waterway contamination	B 2 = L5	<ul style="list-style-type: none"> Sewerage system maintenance and rehabilitation to reduce infiltration and inflows Spare capacity in pump wells Monitoring and maintenance SCADA alarm

Chemical Spills

	Impact	Risk Rating*	Pre-emptive actions
Chemical spill due to Tank/storage failure	Land contamination, possibly enter a waterway	B 2 = L5	<ul style="list-style-type: none"> Bunding Inspection and maintenance of tanks
Chemical spill during delivery	Land contamination, possibly enter a waterway	B 2 = L5	<ul style="list-style-type: none"> PPE Spill kit at STP and in fuel trucks Bund
Chemical spill due to damage to chemical system	Land/waterway contamination	C 1 = L2	<ul style="list-style-type: none"> Bund Alarms Shut off valves
Chemical spill due to vandalism	Land/waterway contamination	B 2 = L5	<ul style="list-style-type: none"> Security fences
Chemical spill due to Bund failure	Land/waterway contamination	B 2 = L5	<ul style="list-style-type: none"> Bund inspections Maintenance and renewal

Chemical truck incident outside of bunded area	Land/waterway contamination	C 2 = M8	<ul style="list-style-type: none"> • Only use transport companies with evidence of driver licensing and training • Operator always on-site during deliveries. Chain of Responsibility (CoR) – supervision of connection
Storage of chemicals	Toxic effect on human, flammability, Land/waterway contamination	C 2 = M8	<ul style="list-style-type: none"> • Spill kit and bund • SDS

Fire (bushfire, fire at landfill)

	Impact	Risk Rating*	Pre-emptive actions
Fire destroying pump station	Land/waterway contamination	C 3 = M11	<ul style="list-style-type: none"> • Vegetation management • Fire extinguishers • Fire alarm • SCADA monitoring
Fire destroying part of or all of STP infrastructure	Land/waterway contamination	B 4 = M12	<ul style="list-style-type: none"> • Vegetation management • Fire extinguishers • Fire alarms • SCADA Monitoring
Fire at Landfill – no access to STP	Land/waterway contamination	B 3 = M9	<ul style="list-style-type: none"> • SCADA monitoring and operation

* MWRC Risk Matrix WHS302 used to evaluate risk rating (see Appendix A)

Inventory of pollutants

Provide an inventory of potential pollutants on the premises or used in carrying out the activity to which the licence relates:

Identify the maximum quantity of any pollutant/s likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates.

Example

Location/Tank	Max. quantity	Contents	Comments
Workshop	50 L	Diesel	
Workshop	50 L	Unleaded Petrol	
Workshop	5 L	2 stroke oil	
Workshop	300 L	Oil (Shell, Valvoline, Castrol)	
Workshop	20 L	Glyphosate (Roundup)	
Workshop	8 L	Weed'n'Feed	
Workshop	40 L	Disinfectant – All Pro Premium Lemon X (2% W/V quaternary Ammonium Compound)	
Workshop	10 kg	Sodium Hydrogen Carbonate	
Workshop	500 L	For Earth (Probiotic bacteria)	
Near Aluminium Sulphate Tank	300 L	Aluminium Sulphate	
Aluminium Sulphate Tank	20,000 L	Aluminium Sulphate	
Near UV system	300 kg	Zetag 8147 (polyacrylamide and adipic acid)	
Scrubber stack		Carbon granules	
Pump stations	Fuel in generators only		

Safety equipment	
Safety Equipment/Process	Location
Alarms via SCADA when issues with processes	Can be remotely monitored
Internal sampling and testing	Mudgee STP laboratory
External Sampling and testing	Contracted to ALS Mudgee
Safety Data Sheet (SDS)	in Chemwatch plus hard copy on site
Gas meter (confined space)	In W&S Process Coordinator office (Depot road Mudgee)
PPE including gloves and safety glasses	at STP and in trucks
Life jacket, safety buoy, hand railing, harness	at various locations as appropriate
Fire extinguishers and fire hoses	at STP and SPS
Safety Showers and eye wash stations	at STP
Emergency Evacuation Plan	at STP
Emergency alert/evacuation warning system	at STP
Bund to contain chemical spills	at STP Workshop and chemical tanks
Spill containment kits (including sandbags, silt trap)	At Depot shed and stores as appropriate
Witches hats, star pickets and tape to isolate spill area	
Backup generator/ E pump	Pump Stations: Putta Bucca, Racecourse, Mudgee East and Industrial

Communicating with neighbours and the local community

Mid-Western Regional Council will attempt to provide early warning to directly affected premises. Depending on the severity of the incident and the likelihood of impact on the community, a range of communications methods can be deployed during and after an incident. These include:

- Site visits/door knocking
- Phone calls
- SMS messages
- Emails (external and internal)
- Social media, website updates
- Media alerts
- Letter drop
- Warning signs
- Depending on the incident; WaterNSW has an early warning system to alert Water Licence Holders. WaterNSW can be contacted and request made for them to send an alert

Depending on the nature of the incident, MWRC will liaise with NSW Health and DPIE to ensure best advice is given to the community. The advice will be given to the community either by phone call, email, SMS messages if individuals are directly affected; or by media alerts and social media post for advice to the general community. Community will be regularly updated by the same mediums as the situation evolves.

Depending on the incidents, specific warning signs may be erected near incident sites or near affected area.

Minimising harm to persons on the premises

The following are in place to minimise the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried out:

- Operators are trained and qualified to undertake the work
- Operators in training are actively supervised by qualified operators
- Contractors have completed MWRC induction and site induction/ risk assessment
- Visitors are to sign in and out and visitors are accompanied by MWRC staff
- PPE are supplied and kept in good condition
- Gas meter are available to operators

Maps

Maps are presented in Appendix B and includes:

- location of the premises to which the licence relates
- surrounding area likely to be affected by a pollution incident
- location of potential pollutants on the premises
- Stormwater drainage site plan

Actions to be taken during or immediately after a pollution incident

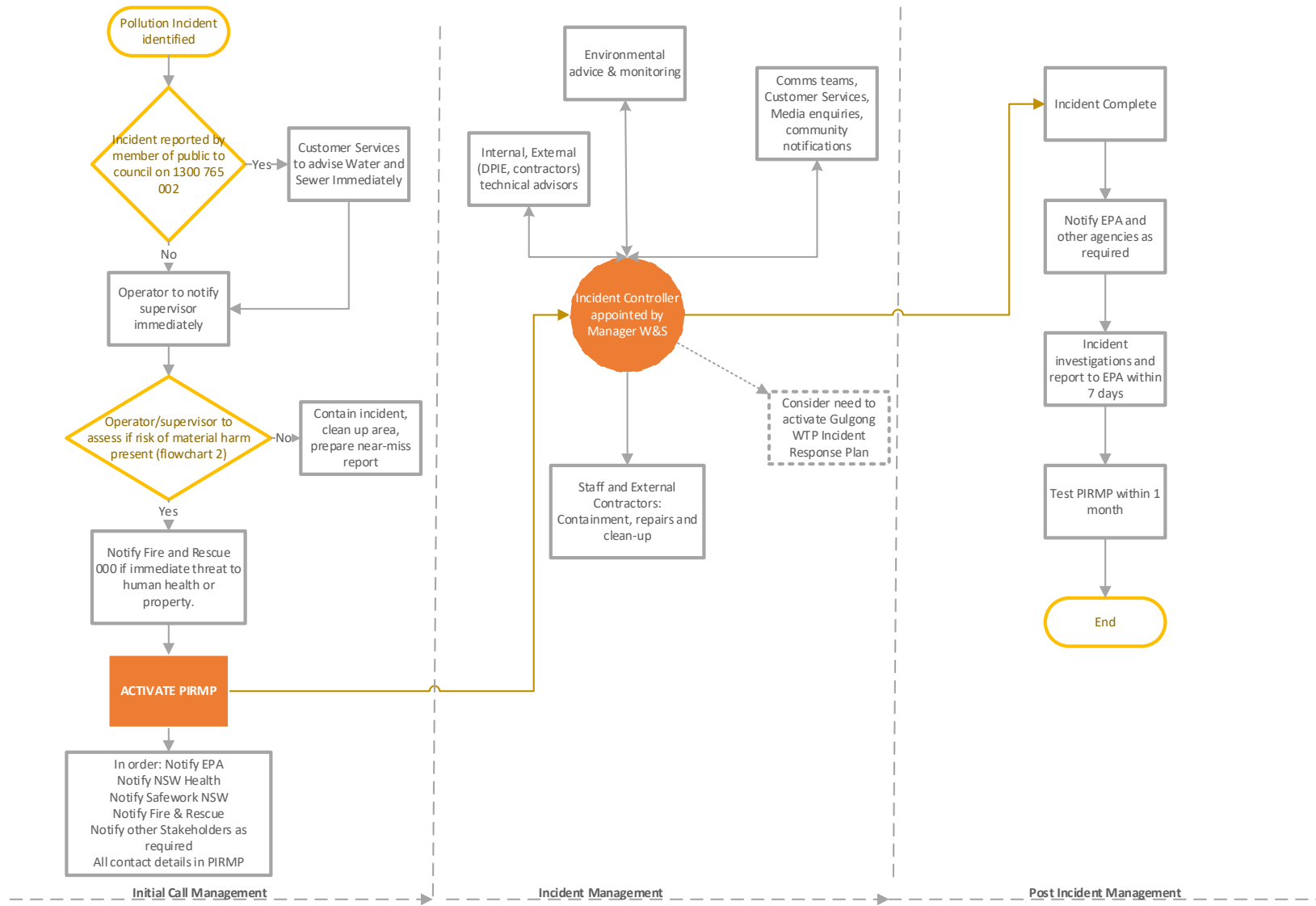
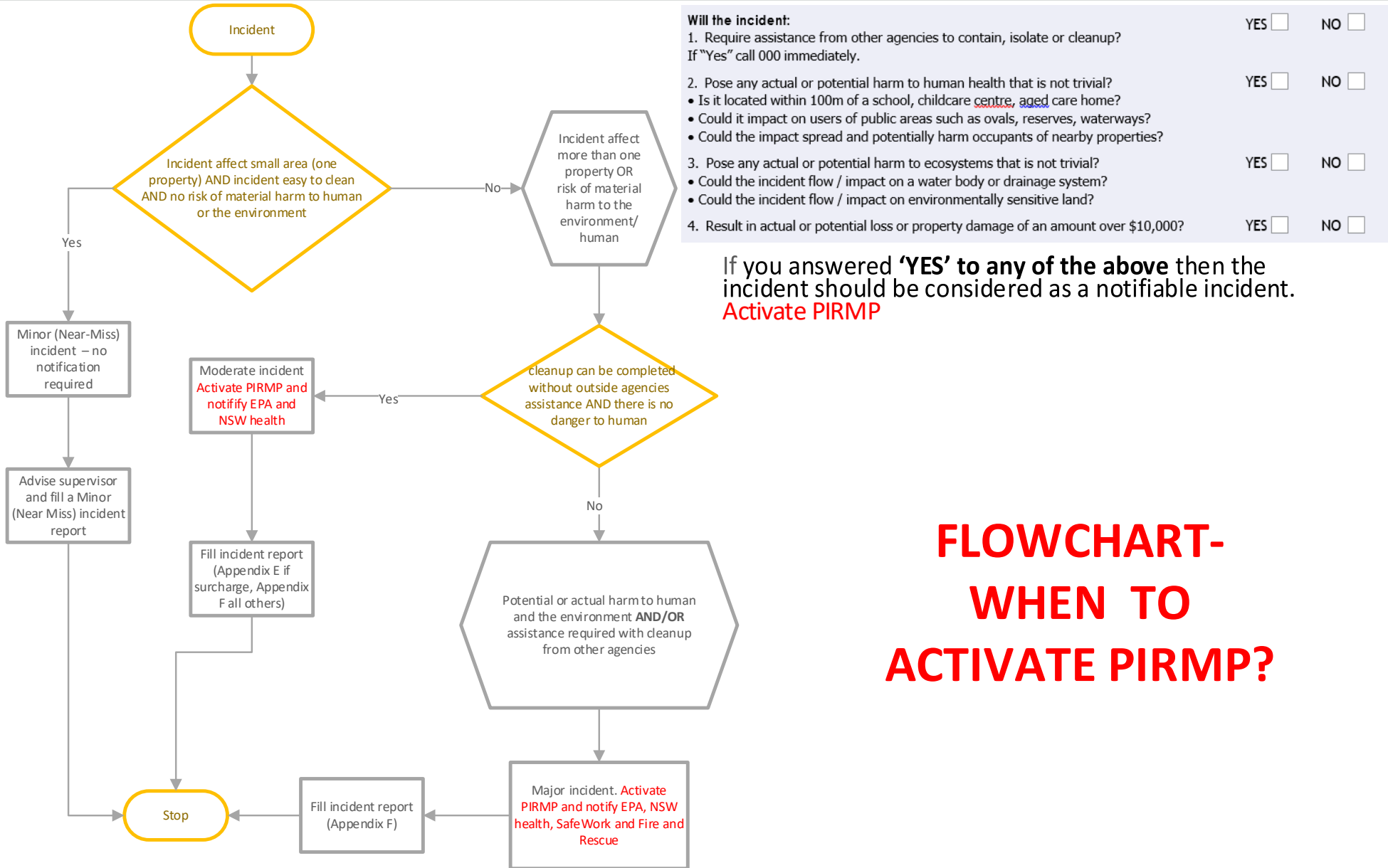


Figure 1: Pollution Incident Response Flowchart



- Will the incident:**
1. Require assistance from other agencies to contain, isolate or cleanup? YES NO
If "Yes" call 000 immediately.
 2. Pose any actual or potential harm to human health that is not trivial? YES NO
 - Is it located within 100m of a school, childcare centre, aged care home?
 - Could it impact on users of public areas such as ovals, reserves, waterways?
 - Could the impact spread and potentially harm occupants of nearby properties?
 3. Pose any actual or potential harm to ecosystems that is not trivial? YES NO
 - Could the incident flow / impact on a water body or drainage system?
 - Could the incident flow / impact on environmentally sensitive land?
 4. Result in actual or potential loss or property damage of an amount over \$10,000? YES NO

If you answered 'YES' to any of the above then the incident should be considered as a notifiable incident.
Activate PIRMP

FLOWCHART- WHEN TO ACTIVATE PIRMP?

Figure 2: Incident classification flowchart

Initial Call Management

Pollution incident is identified either by the public or by Water and Sewer Operator.

If there is immediate threat to human health or properties, call triple zero (000 or 112 if using a mobile phone) and follow emergency evacuation protocol as required.

Operator to advise supervisor immediately and **start isolating the site** to prevent un-authorized entry. If possible, contain the incident and prevent it from spreading without endangering staff and/or public. Remain upwind if incident involves smoke or fumes.

Operator and Supervisor will assess if the incident poses a risk of material harm to the environment as defined in section 147 of the POEO Act. Flowchart 2 can help with the assessment.

Material Harm is defined as:

(i) involving actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) resulting in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations)

and the loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

If the incident is identified as **NOT** posing a risk of material harm, contain the incident, clean up the area and prepare a minor (Near Miss) incident report (Appendix D). In this instance, the PIRMP does not need to be activated.

If the incident is identified as **posing a risk** of material harm, Supervisor to advise Water and Sewer Process Coordinator and/or Manager Water and Sewer. The PIRMP must be **activated immediately**.

The following agencies **MUST** to be contacted as soon as possible:

- EPA on 131 555
- NSW Health Dubbo Office

In case of major incident (potential or actual harm to human and the environment AND/OR assistance is required with cleanup from other agencies), the following agencies **MUST ALSO** be contacted as soon as possible:

- SafeWork NSW 131 050
- Fire and Rescue Mudgee 6372 6772

Further authorities may need to be contacted as required see page 4 (notification of authorities, continued)

Incident Management

Manager Water and Sewer to immediately appoint an Incident Controller. This staff member will be in charge of managing all aspects of the response to the incident.

Incident controller, with the help of internal and external technical advisors (DPIE, external contractors), is to devise the course of action to be taken to contain, repair and clean up the affected area. Incident Controller will also allocate resources (staff, equipment etc) required to be able to deal with the incident in a timely manner. Incident Controller to consider the need to activate Gulgong WTP incident response plan (contamination in Cudgegong River)

Incident controller to contact Communication team and Customer Services to advise of incident and request assistance with communication to the community as required. Incident Controller to organise contacting Stakeholders listed in Appendix A as required. The Incident Controller will regularly review the need for communications updates.

In the event of a chemical or sewage spill, Mid-Western Regional Council staff will go to prominent and/or high use areas, erect signage and advise users. The signs are to warn users of the contamination and advise them to avoid using the area until contamination has cleared.

Incident Controller to organise sampling* as required and to advise MWRC Environmental Officer.

Incident Controller to remind all staff involved in the incident to keep a timeline and record all actions taken during the incident.

Post Incident

Incident Controller is satisfied that the incident is under control, repairs have been done and cleanup completed.

EPA and other agencies to be notified of incident completed as required.

Incident Controller to ensure that investigations into the incident, including root cause analysis, are done and report to EPA produced within 7 days. Appendix E can be used to report a sewage spill or overflow. Appendix F can be used as the basis for reporting any incident

PIRMP to be tested within 1 month of incident and amended as required

* Note: To facilitate sampling in case of an environmental incident, PIRMP sampling boxes have been made. The PIRMP boxes include 3 lots of bottles (upstream, at site and downstream), sampling SOP, Chain of Custody and some spare bottles. PIRMP Boxes are at Mudgee STP, Putta Bucca SPS and Mudgee Operations depot.



Staff training

Training in relation to the PIRMP will have three forms:

- for new members of staff at the premises, the specific induction for the premises will include details of the PIRMP,
- refresher training undertaken as part of the annual testing of PIRMP, and
- as deemed necessary, particularly after an incident that required implementation of the PIRMP

PIRMP will be tested yearly as a training exercise. This training exercise will involve all Water and Sewer staff that could potentially be involved in an actual incident.

A realistic scenario will be presented to staff who will need to highlight all steps that will be taken to:

Activate the PIRMP

Contain the incident

Report the incident

Advise the community (if scenario requires)

Clean up and close the incident

Testing and updating of the PIRMP

PIRMP testing details

Date tested	Tested by	Details of test	Finding of test, including issues identified	Next scheduled testing date (must be within 12 months from current test)
09 and 14th December 21	Manager W&S W & S Process Coordinator Treatment Team Leader Water Quality Officer Water and Sewer Networks Coordinator Operators	Desktop review of PIRMP Documentation following debriefs	Amended flowchart Amended contact details Amended Appendix E	Dec 22
09 August 2021	Manager W&S W & S Process Coordinator Treatment Team Leader	Two scenarios were presented (one requiring PIRMP activation and one not requiring PIRMP activation) and tested	All aware of changes in the PIRMP	9 August 2022



Water Quality Officer
 Water and Sewer
 Networks Coordinator
 Operators
 Project Officer

19 April 2021	Manager W&S W & S Process Coordinator Planning Engineer Treatment Team Leader Water Quality Officer Admin Officer	Desktop review of PIRMP Documentation following MSTP pipeline failure on 24 th March	Some contact details of major stakeholders out of date. Include all identified downstream stakeholders. Chemical list to be updated Flowchart to be reviewed Maps to be reviewed and be more detailed. Also to include Pump stations Review the whole document and transfer to template (Appendix B: PIRMP Template)	19 April 2022
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PIRMP update details

Date update occurred	Reason for update (e.g. address issues identified in testing, contact details/personnel have changed)	Details of updates (nature of changes to PIRMP)	Date the updated version uploaded to website (if applicable)	Date of completion
December 21	Items identified during PIRMP testing of 9 th and 14 th December	Process Coordinator contact details flowchart amended	December 21	17/12/2021
September 21	DPIE contact name and number changed	DPIE contact	Not applicable	21/09/2021
July 21	Outdated items identified during the PIRMP testing of 19 April 2021	Flowcharts amended, chemical list amended, stakeholder list amended, maps amended. PIRMP document transferred into EPA template	12 August 2021	27/07/2021



July 2020	Yearly review	August 2020
February 2019	Yearly Review	February 2019



Appendix A: MWRC Risk Matrix

MID-WESTERN REGIONAL COUNCIL		RISK MATRIX				LIKELIHOOD				
						REF: WHS302 REV: 1.0				
						A	B	C	D	E
POTENTIAL CONSEQUENCE						Rare	Unlikely	Possible	Likely	Almost Certain
No.	Key Word	Health & Safety	Environmental	Financial	Public Image	Requires unusual chain of events	Not expected to occur	May Occur	Will occur occasionally	Expected to occur
5	Catastrophic	Fatality or work related fatal disease	Detrimental impact to environment or community. High level prosecution.	Greater than \$500,000	International media coverage	Moderate 13	High 19	Critical 22	Critical 24	Critical 25
4	Severe	Serious Permanent injury or illness	Long term negative impact. Low level prosecution.	No more than \$500,000	National media coverage	Moderate 10	Moderate 12	High 18	Critical 21	Critical 23
3	Serious	Lost time injury or illness	Serious but reversible impact Media enquiry.	No more than \$100,000	State media coverage	Low 6	Moderate 9	Moderate 11	High 17	Critical 20
2	Significant	Medically treated injury or illness	On-site incident promptly contained requiring external clean up aid.	No more than \$25,000	Local media coverage.	Low 4	Low 5	Moderate 8	High 15	High 16
1	Minor	First Aid treated injury or illness	On-site incident immediately contained & cleaned up.	No more than \$5,000	Public complaint.	Low 1	Low 2	Low 3	Moderate 7	High 14

STATUS	ACTION REQUIRED	NOTIFY	MONITOR
Critical	Do not commence activity. Immediate senior management action required.	General Manager (Notified by Group Mgr)	N.A.
High	Immediate action required to reduce risk. Authorisation required before commencing activity.	Group Manager (Notified by Operational Mgr)	Weekly
Moderate	Risk reduction required to as low as reasonable practicable before commencing task	Operational Manager	Monthly
Low	Follow routine procedures and monitor risk.	Team Leader	Annually

Appendix B: Maps of STP and Pump Stations

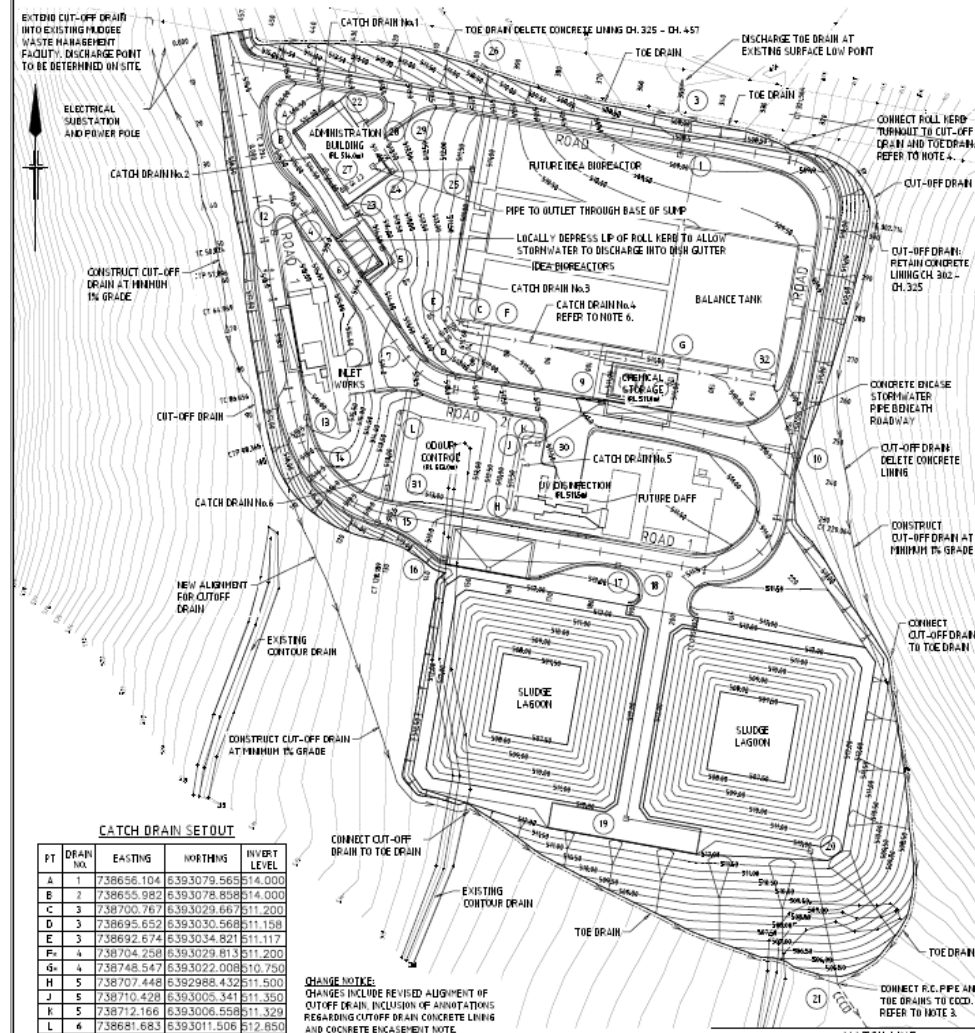
Mudgee STP is located at the back of the MWRC Waste Facility, 33 Blain Road Carleon 2850 NSW. The Waste facility has its own EPA Licence (6348) and associated PIRMP.





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MSTP Stormwater Drainage Site Plan



LEGEND :

- CUT-OFF DRAIN
- TOE DRAIN
- CASCADING CAST-IN-SITU CONCRETE DRAIN (CCCD)
- CATCH DRAIN
- R.C. PIPE FIT & HEADWALL
- 24 FIT NUMBER
- E CATCH DRAIN SETOUT POINT
- SEP SIDE ENTRY FIT
- GSP GRATED SURFACE INLET FIT
- VGSP V GRATED SURFACE INLET FIT
- LGSP LETTER BOX GRATED SURFACE INLET FIT

NOTES :

1. ALL PIPE LENGTHS ARE APPROXIMATE ONLY. PIPES TO BE OUT TO SLOTT ON SITE.
2. FOR EARTHWORKS DRAINS AND CASCADING CAST-IN-SITU CONCRETE DRAIN (CCCD) OUTFALL STRUCTURE DETAILS REFER TO DRAWING NO. 21-16645-G019.
3. FOR CONNECTION OF R.C. PIPE AND TOE DRAINS TO CCCD REFER TO DETAIL ON DRAWING NO. 21-16645-G019.
4. FOR CONNECTION OF ROLL OVER TURNOUT CUT-OFF DRAIN AND THE DRAIN REFER TO DRAWING NO. 21-16645-G031.
5. FOR FIT DIMENSIONS, FIT TYPE DETAILS AND TRUNK DETAILS REFER TO DRAWING NO. 21-16645-G034.
6. CATCH DRAIN No. 4 IS TO BE LOCATED BETWEEN CHEMICAL PIT No. 1 AND FOOTPATH AS SHOWN ON DRG. No. 21-16645-G031. INVERT LEVELS TO BE AS SHOWN IN CATCH DRAIN SETOUT TABLE.

PIT SCHEDULE

PIT NO.	EASTING	NORTHING	FIT TYPE	TOP OF GRATE LEVEL
1	738748.871	6393073.541	LGSP	516.76
2	738748.871	6393073.541	LGSP	516.76
3	738750.134	6393080.944	HEADWALL	516.02
4	738661.263	6393040.160	SEP	515.28
5	738674.574	6393041.423	SEP	514.42
6	738672.261	6393044.953	VGSP	514.48
7	738683.172	6393027.228	SEP	513.67
8	738695.367	6393020.367	SEP	512.79
9	738729.916	6393019.970	SEP	510.93
10	738716.264	6393013.346	SEP	510.32
11	738651.555	6393054.465	SEP	515.77
12	738664.902	6393010.500	SEP	515.61
13	738659.917	6392995.768	SEP	514.51
14	738676.740	6392995.768	SEP	512.67
15	738691.261	6392994.579	GSP	511.95
16	738733.950	6392994.879	GSP	511.69
17	738744.240	6392992.717	GSP	511.54
18	738735.876	6392995.964	GSP	512.00
19	738702.792	6392994.746	GSP	512.00
20	738706.794	6392976.768	HEADWALL	516.07
21	738665.106	6393015.268	LGSP	513.89
22	738666.697	6393061.111	LGSP	513.83
23	738660.157	6393069.551	GSP	513.80
24	738698.901	6393070.355	LGSP	510.83
25	738702.852	6393091.553	HEADWALL	509.95
26	738674.984	6393070.768	SUMP	513.39
27	738677.903	6393072.816	GSP	513.86
28	738635.914	6393073.303	HEADWALL	517.50
29	738715.437	6393054.095	LGSP	511.80
30	738674.505	6392993.444	LGSP	517.65
31	738707.448	6393011.506	LGSP	510.00

PIPE SCHEDULE

PIPE NO.	PIPE SIZE (mm)	PIPE TYPE & CLASS	PIPE LENGTH (m)	GRADIENT (%)	UP STREAM LEVEL	DOWN STREAM LEVEL
1-3	300	ROP R/RJ-2	7.5	1.07	518.10	516.02
4-6	300	ROP R/RJ-2	18.9	2.11	518.40	512.20
5-6	300	ROP R/RJ-2	5.0	2.00	513.30	512.10
6-7	300	ROP R/RJ-2	21.3	1.88	515.20	512.60
7-8	300	ROP R/RJ-2	13.3	5.28	512.50	511.60
8-9	300	ROP R/RJ-4	35.1	2.35	510.70	519.90
10-9	300	ROP R/RJ-4	17.6	2.97	510.60	510.28
9-10	300	ROP R/RJ-4	44.1	0.44	509.88	509.65
10-11	315	ROP R/RJ-4	28.6	0.52	509.50	509.35
11-18	315	ROP R/RJ-2	20.8	0.96	509.35	509.15
12-4	300	ROP R/RJ-2	15.2	1.36	515.15	513.60
13-14	300	ROP R/RJ-2	14.8	4.16	516.30	513.70
14-15	300	ROP R/RJ-3	19.4	10.83	513.70	511.60
15-16	300	ROP R/RJ-3	10.3	2.16	511.50	511.10
16-17	300	ROP R/RJ-3	41.8	1.45	511.10	510.50
17-18	300	ROP R/RJ-2	12.6	4.00	510.50	510.20
18-19	315	ROP R/RJ-2	59.7	1.04	510.55	510.55
19-20	315	ROP R/RJ-2	45.0	1.11	510.55	510.05
20-21	315	ROP R/RJ-2	32.6	10.97	510.05	514.47
22-24	150	uPVC	22.2	1.08	513.39	513.15
23-24	150	uPVC	14.2	1.29	513.33	513.15
24-25	150	uPVC	10.8	6.00	515.15	510.33
25-26	300	ROP R/RJ-4	22.8	1.67	510.33	509.95
27-28	100	uPVC	3.5	1.43	512.74	512.69
28-29	100	uPVC	6.0	2.38	512.69	512.50
31-15	300	ROP R/RJ-2	4.67	1.15	511.60	511.50
32-10	150	uPVC	17.4	1.17	509.75	509.55

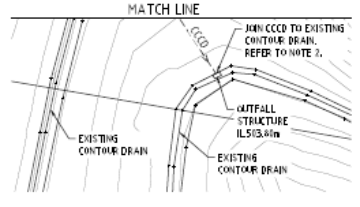
CATCH DRAIN SETOUT

PT	DRAIN NO.	EASTING	NORTHING	INVERT LEVEL
A	1	738656.104	6393079.565	514.000
B	2	738655.982	6393078.858	514.000
C	3	738700.767	6393029.667	511.200
D	3	738695.652	6393030.568	511.158
E	3	738692.674	6393034.821	511.117
F	4	738704.258	6393029.813	511.200
G	4	738748.547	6393022.008	510.750
H	5	738707.448	6392988.432	511.500
J	5	738710.428	6393005.341	511.350
K	5	738712.166	6393006.558	511.329
L	4	738681.683	6393011.506	512.850

1 REFER TO NOTE 6

CHANGE NOTE:
CHANGES INCLUDE REVISED ALIGNMENT OF CUT-OFF DRAIN, INCLUSION OF ANNOTATIONS REGARDING CUT-OFF DRAIN CONCRETE LINING AND CONCRETE ENCASUREMENT NOTE.

- △ PROVIDE CONCRETE GATIC LID INSTEAD OF GRATE
 - △ PIPE TO OUTLET THROUGH BASE OF SUMP
 - LEVEL AT BASE OF GRATE LEG
- WHERE INSUFFICIENT COVER EXISTS TO STORMWATER PIPES PROVIDE CONCRETE ENCASUREMENT IN ACCORDANCE WITH DWG. 0394.



WORK AS EXECUTED

X WORK AS EXECUTED	CP	KD	CC	30-11-43
C PIPE LENGTHS AND GRADES UPDATED FOLLOWING SURVEY	PC	RED	KD	31-02-41
B REVISED STORMWATER INVERT LEVELS	PC	RED	KD	25-01-43
A FOR CONSTRUCTION	DR	KD	CC	25-05-42

Scale: 1:500

DO NOT SCALE

Drawn: S. ATKINS
Designed: F. CARROZZA
Client: MID-WESTERN REGIONAL COUNCIL
Project: MUDGEE SEWERAGE AUGMENTATION
Title: STP - STORMWATER DRAINAGE SITE PLAN
Drawing No: 21-16645-G030
Rev: X

Mudgee Sewerage System

