Official Draft Public Notice Version **December 8, 2023**The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

FACT SHEET AND STATEMENT OF BASIS
MAGNA WATER RECLAMATION FACILITY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & REUSE
UPDES PERMIT NUMBER: UT0021440
UPDES BIOSOLIDS PERMIT NUMBER: UTL-021440
MAJOR MUNICIPAL FACILITY

FACILITY CONTACTS

Operator Name: Dallas Henline

Position: Wastewater Operations Manager

Permittee: Magna Water District

Facility Name: Magna Water Reclamation Facility

Facility Location: 7650 West 2100 South

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DESCRIPTION OF FACILITY

The Magna Water District owns and operates the Magna Water Reclamation Facility (MWRF) located in the northwest part of Salt Lake County, Utah and serving a population of over 33,000 in the Township of Magna, as well as small portions of West Valley City and Salt Lake City. MWRF collects and treats wastewater with a monthly average design flow of 4.0 million gallons per day (MGD) and a maximum daily design flow of 8.0 MGD. The domestic wastewater treatment at MWRF consists of 2 influent fine screens, followed by 2 grit removal traps, 3 influent lift pumps, 2 oxidation ditches, Alum injection for phosphorus removal, 3 secondary clarifiers, a chlorine contact chamber with 2 sections prior to the final effluent discharge to the C-7 Ditch via Outfall 002, which first began discharging in November 2021. Prior to the construction and operation of Outfall 002, the effluent discharged via Outfall 001 to Kersey Creek. Outfall 002 continues to be the primary discharge location while Outfall 001 remains onsite as a backup discharge location in case of an emergency situation. MWRF is currently in the process of implementing a tertiary treatment filtration system to meet Type I reuse requirements in order to provide customers with secondary water for irrigation purposes. The MWRF solids waste handling consists of a screw press facility on site with all biosolids either land applied or sent to an approved off-site disposal facility.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

There are only two proposed changes with this permit renewal. The first change is regarding the previously included Stormwater provisions, which have been removed as part of a Division of Water Quality (DWQ)

programmatic separation of the previously combined UPDES permits. MWRF may now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the UPDES MSGP No. UTR000000, or an applicable exemption, as described further in the **STORMWATER** section of this Fact Sheet.

The second permit change is the addition of Reuse provisions including the effluent Reuse Outfall 001R and monitoring requirements as included in the permit and referenced in this Fact Sheet. MWRF plans to produce Type I Reuse water and the renewal permit will include provisions covering the Type I Reuse of the effluent. MWRF submitted a Secondary Effluent Reuse Plan to DWQ in August 2021 that was subsequently approved, as MWRF plans to provide secondary water for its customers during the irrigation seasons beginning in 2024-25. Therefore, Reuse provisions are being included in the permit as appropriate.

DISCHARGE INFORMATION

DESCRIPTION OF DISCHARGE OUTFALLS

MWRF has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis as required. Outfall 002 is the primary discharge location while Outfall 001 remains in place as a backup for emergency use. A description of the permitted discharging outfalls are as follows:

Permitted Outfalls	Location and Description of Outfalls
001	Located at latitude 40°43'30"N and longitude
	112°04'26"W. The discharge is through a pipe
	east of the plant into Kersey Creek.
002	Located at latitude 40°43'43"N and longitude
	112°04'04"W. The discharge is through a 42-inch
	pipe north of the plant into the C-7 Ditch.
Outfall Number	Location of Effluent Reuse Discharge Outfall
001R	Located at latitude 40°43'38"N and longitude
	112°04'26"W. The discharge is from the reuse
	pump station into the secondary irrigation
	system.

RECEIVING WATERS AND STREAM CLASSIFICATION

Discharges from MWRF flow directly into either Kersey Creek via Outfall 001, which is tributary to the C-7 Ditch, or Outfall 002 which discharges directly into the C-7 Ditch and ultimately to the Great Salt Lake. Kersey Creek has designated beneficial uses classified as 2B, 3D according to *Utah Administrative Code (UAC) R317-2-12.7*. The C-7 Ditch, which was determined by DWQ to be a drainage ditch, does not have designated beneficial uses or downstream agricultural users. Therefore, per *UAC R317-2-13.10*, the presumptive beneficial uses for all drainage canals and ditches statewide are 2B and 3E and the applicable designated beneficial uses for both receiving waters are collectively as follows:

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

- Class 3D -- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
- Class 5 -- The Great Salt Lake. Protected for primary and secondary contact recreation, aquatic wildlife, and mineral extraction.

TOTAL MAXIUM DAILY LOAD (TMDL) REQUIREMENTS

The receiving waters, which are included as part of Lee Creek watershed from the Great Salt Lake to headwaters near 2100 South (UT16020204-036_00), supports all designated uses according to the Utah 2022 303(d) Water Quality Assessment Report, "Final 2022 Integrated Report on Water Quality". Therefore, no additional monitoring requirements or parameters of concern have been included in this permit as a result of any TMDL requirements.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in 40 Code of Federal Regulations (CFR) Part 122.44 and in Utah Administrative Code (UAC) R317-8-4.2, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (UAC R317-1-3.2) or Utah Water Quality Standards (UAC R317-2) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. Best Professional Judgment or BPJ, refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

Permit limits can also be derived from the Wasteload Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards (WQS), including any applicable TMDL impairments as appropriate, Antidegradation Review (ADR) and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate. An ADR Level I review was performed and concluded that an ADR Level II review was not required this time since there are no proposed increases in flow or concentrations from the existing discharge operations. The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA and ADR are attached as an addendum to this Fact Sheet.

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, as found in *UAC R317-1-3.2*. While the Total ammonia (as Nitrogen), total residual chlorine (TRC), dissolved oxygen (DO) and Whole Effluent Toxicity (WET) Biomonitoring limitations are based upon the current WLA. The oil & grease limitation is based upon best professional judgment of the permitting authority (BPJ) and is consistent with other similar UPDES permits statewide. The permittee is expected to be able to continue complying with the permit effluent limitations.

Type I Reuse Effluent Limitations are based on UAC R317-11-4.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes

defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required to be included in the permit.

A qualitative RP analysis was performed on the applicable metals constituents from the MWRF discharge data over the past five years. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed since all of the semi-annual metals concentration results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at MWRF and a quantitative RP analysis was not necessary at this time. The result of the RP analysis was; *Outcome C: No new effluent limitation, routine monitoring requirements maintained as they are in the permit.* A copy of the RP analysis summary is included as an addendum to this Fact Sheet.

The permit limitations are as follows:

Outfalls 001 and 002 Effluent Limitations *a					
Parameter	Maximum	Maximum	Yearly	Daily	Daily
T didiffeter	Monthly Avg	Weekly Avg	Average	Minimum	Maximum
Total Flow, MGD	4.0				
BOD ₅ , mg/L	25	35			
BOD ₅ Min. % Removal	85		7		
TSS, mg/L	25	35			
TSS Min. % Removal	85	-			
Total Ammonia (as N), mg/L	7.0				30
TRC, mg/L;					
Summer (Jul-Aug-Sept)	p				17.7
Fall (Oct-Nov-Dec)					2.7
Winter (Jan-Feb-Mar)					1.3
Spring (Apr-May-Jun)					2.7
E. coli, No./100mL	126	157			
WET, Acute Biomonitoring (001 & 002)					LC ₅₀ > 100% effluent
WET, Chronic Biomonitoring (002 only)					IC ₂₅ > 40% effluent
Oil & Grease, mg/L					10
pH, Standard Units				6.5	9
DO, mg/L				5.0	
Total Phosphorus, mg/L;					
Effective January 1, 2021			1.8		
Effective January 1, 2025			1.0		

The permit limitations for Outfall 001R (Reuse) are:

	(Outfall 001R Effluent Limitations *a, *p, *q			
Parameter	Max Monthly	Max Weekly	Max Daily	Minimum	Maximum
	Average	Median	Average	Millillilli	Maximum
Turbidity, NTU *p			2		5
TRC, mg/L *m, *q				1	
BOD ₅ , mg/L	10				
E coli, No/100mL *o	-	ND		-	9
pH, Standard Units				6.0	9.0

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are similar as in the previous permit with the exception that this permit now also includes Reuse Outfall monitoring. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms, or via NetDMR due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must also be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a				
Parameter	Frequency	Sample Type	Units	
Total Flow *b, *c	Continuous	Recorder	MGD	
BOD ₅ , Influent *d	2 x Week	Composite	mg/L	
Effluent	2 x Week	Composite	mg/L	
TSS, Influent *d	2 x Week	Composite	mg/L	
Effluent	2 x Week	Composite	mg/L	
E. coli	2 x Week	Grab	No./100mL	
pН	Daily	Grab	SU	
Total Ammonia (as N)	Weekly	Composite	mg/L	
DO	Weekly	Grab	mg/L	
WET – Biomonitoring *e	Quarterly			
Ceriodaphnia - Acute	1 st & 3 rd Quarter	Composite	Pass/Fail	
Ceriodaphnia - Chronic	2 nd & 4 th Quarter	Composite	Pass/Fail	
Fathead Minnows - Acute	2 nd & 4 th Quarter	Composite	Pass/Fail	
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail	
TRC, mg/L	Monthly	Grab	mg/L	
Oil & Grease *f	When Sheen Observed	Grab	mg/L	
Orthophosphate, (as P)				
Effluent	Monthly	Composite	mg/L	
Phosphorus, Total				
Influent	Monthly	Composite	mg/L	
Effluent	Monthly	Composite	mg/L	
Total Kjeldahl Nitrogen,				
TKN (as N)				
Influent	Monthly	Composite	mg/L	
Effluent	Monthly	Composite	mg/L	
Nitrate, NO3	Monthly	Composite	mg/L	

Nitrite, NO2	Monthly	Composite	mg/L
Metals, Influent *g	2 x Year	Composite	mg/L
Effluent	2 x Year	Composite	mg/L
Organic Toxics, Influent	1 st , 3 rd & 5 th year of the permit		
Effluent *h	cycle	Grab/Composite	mg/L

The following is a summary of the Type I reuse self-monitoring and reporting requirements:

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *n				
Parameter	Frequency	Sample Type	Units	
Total Flow, *b, *c	Continuous	Recorder	MGD	
Turbidity	Continuous	Recorder	mg/L	
TRC *m, *q	Daily	Recorder	mg/L	
BOD ₅	Weekly	Composite	mg/L	
E. coli	Daily	Grab	No./100mL	
pН	Daily	Grab	SU	

- *a See *Part VIII* of this permit, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e The acute Ceriodaphnia will be tested during the 1st and 3rd quarters and the acute fathead minnows will be tested during the 2nd and 4th quarters. The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
- *f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *g See Metals Monitoring table in *Part II*. of this permit.
- *h Testing shall be performed in the first, third and fifth year of the permit cycle. A list of the organics to be tested can be found in 40CFR122 appendix D table II.
- *m The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes. Chlorine residual is recommended but no longer required. Sampling not required if chlorination is not being used. The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by

the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

- *n Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, or by NetDMR post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period.
- *o The weekly median E. coli concentration shall be non-detect (ND).
- *p An alternative disposal option or diversion to storage must be automatically activated if turbidity exceeds the maximum instantaneous limit for more than 5 minutes, or chlorine residual drops below the instantaneous required value for more than 5 minutes, where chlorine disinfection is used.
- *q The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

Management Practices for Land Application of Treated Effluent:

- (1) The application of treated effluent to frozen, ice-covered, or snow-covered land is prohibited.
- (2) No person shall apply treated effluent where the slope of the site exceeds 6 percent.
- (3) The use should not result in a surface water runoff.
- (4) The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
- (5) Any irrigation with treated effluent must be at least 300 feet from a potable well.
- (6) For Type I reuse, any irrigation must be at least 50 feet from any potable water well.
- (7) For Type II reuse, any irrigation must be at least 300 feet from any potable water well.
- (8) For Type II reuse, spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
- (9) Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.
- (10) Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public (Compliance Schedule for a Particular Parameter if necessary)

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

DESCRIPTION OF TREATMENT AND DISPOSAL

The MWRF facility treats wastewater in oxidation ditches and sends it through clarifiers to separate the solids from waste stream. Solids are stabilized in the oxidation ditches with a mean cell residences time of about 50 days. Wasted sludge is then sent to a screw press for dewatering that discharges to a trailer used to transport the biosolids offsite for final disposal.

The solids dewatering building containing the screw press was constructed in one of two 1.4 acre drying beds. The old beds are no longer in service but are utilized to store equipment and material at the facility site and reduce impacts on storm water at the site. The facility also has ten 0.12 acre drying beds from decades ago that can be used in the same way. The beds have been used to store/stage biosolids for land application in the past, but currently they are only used to store biosolids when they can't transport deliver to ET Technologies.

Currently, MWRF sends all biosolids to ET Technologies for further treatment and use at the Salt Lake Valley Solid Waste Management Facility. ET Technologies mixes the biosolids petroleum cleanup soils, sump and interceptor waste, and other mixed waste, then stabilize it in cells until it can be used for cover at the landfill.

In the past, MWRF has land applied the biosolids at a mine reclamation site, but the receiving facility started to be concerned with the level of plastic that was getting through the primary screening and making its way through to the biosolids. Since that time the MWRF has replaced and upgraded the screening system, eliminating plastic from the biosolids. The MWRF has not commenced land application again yet, but is ready to do so when needed in the future.

SELF-MONITORING REQUIREMENTS

Under 40 CFR 503.16(a)(1), the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)			
Amount of Biosolids Disposed Per Year Monitoring Frequency			
Dry US Tons	Dry Metric Tons	Per Year or Batch	
> 0 to < 320 > 0 to < 290 Once Per Year or Bate			
> 320 to < 1650 > 290 to < 1,500 Once a Quarter or Fo			
> 1,650 to < 16,500 > 1,500 to < 15,000 Bi-Monthly or Six Times			
> 16,500	> 15,000	Monthly or Twelve Times	

Annually MWRF disposes of approximately 500 DMT of biosolids and would therefore need to sample four times a year. However, in 2018 MWRF petitioned DWQ for a reduction in sampling frequency to once per year following Part II.B.4.d of the permit. Subsequently, DWQ approved this reduction as of October 2018. Accordingly, the Permittee will sample once per year unless they chose to land apply, which will then resume to sampling four times per year as required.

Landfill Monitoring

Under 40 CFR 258, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (40 CFR 258.28(c)(1).

BIOSOLIDS LIMITATIONS

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, 40 CFR 503.13 is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see Part III. C. of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 3 below. If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

The intent of the heavy metals regulations of Tables 1, 2 and 3, of 40 CFR 503.13 is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see Part III. C. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of 40 CFR 503.13, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in 40 CFR Part 503.13(b) Table 1 and the heavy metals loading rates in 40 CFR Part 503.13(b) Table 2; or

The maximum heavy metals in 40 CFR Part 503.13(b) Table 1 and the monthly heavy metals concentrations in 40 CFR Part 503.13(b) Table 3.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc.	CPLR ² ,	Pollutant Conc.	APLR ⁴ ,
	Limits ¹ , (mg/kg)	(mg/ha)	Limits ³ (mg/kg)	(mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc.	CPLR ² ,	Pollutant Conc.	APLR ⁴ ,
	Limits ¹ , (mg/kg)	(mg/ha)	Limits ³ (mg/kg)	(mg/ha-yr)
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140

- 1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.
- 2, CPLR Cumulative Pollutant Loading Rate The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.
- 3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.
- 4, APLR Annual Pollutant Loading Rate The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit. If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

The Pathogen Control class listed in the table below must be met;

Pathogen C	ontrol Class
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN ¹	Fecal Coliforms – less than 2,000,000 MPN or
per four (4) grams total solids (DWB) ² or Fecal	CFU ³ per gram total solids (DWB).
Coliforms – less than 1,000 MPN per gram	
total solids (DWB).	
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN	
per four (4) grams total solids (DWB) or less	
than 1,000 MPN Fecal Coliforms per gram total	
solids (DWB),	
And - Enteric viruses –less than one (1) plaque	
forming unit per four (4) grams total solids	
(DWB)	
And - Viable helminth ova –less than one (1)	
per four (4) grams total solids (DWB)	
1 - MPN – Most Probable Number	

Pathogen Control Class		
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B	
2 - DWB – Dry Weight Basis		
3 - CFU – Colony Forming Units		

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. At this time the MWRF does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements currently.

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). At this time MWRF does not intend to distribute bulk biosolids for land application and thus is not required meet Class B Biosolids requirements currently.

Vector Attraction Reduction (VAR)

If the biosolids are land applied, MWRF will be required to meet VAR through the use of a method of listed under 40 CFR 503.33. At this time MWRF does not intend to distribute biosolids to the public for beneficial use, and will be disposing of them in a landfill. Under 40 CFR 503.33(b)(11)

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If the Permittee intends to use another one of the listed alternatives in 40 CFR 503.33, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Landfill Monitoring

Under 40 CFR 258, the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill (40 CFR 258.28(c)(1).

Record Keeping

The record keeping requirements from 40 CFR 503.17 are included under Part III.G. of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of Table 3 of 40 CFR 503.13, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting

MWRF must report annually as required in 40 CFR 503.18. This report is to include the results of all monitoring performed in accordance with Part III.B of the permit, information on management practices,

biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

METALS MONITORING DATA

MWRF has been required to sample for metals at least once a year since 2018. The metals monitoring data is summarized in the table below.

MWRF Metals Monitoring Data:

	MWRF Metals Monitoring Data (2012 – 2022)					
Parameter	Table 3, mg/kg	Average, mg/kg	Maximum, mg/kg			
	(Exceptional Quality)					
Arsenic	41.0	20.3	28.4			
Cadmium	39.0	0.8	2.8			
Copper	1,500.0	415.7	565.0			
Lead	300.0	12.7	28.1			
Mercury	17.0	0.8	1.5			
Molybdenum	75.0	9.5	11.1			
Nickel	400.0	12.0	17.2			
Selenium	36.0	11.7	28.2			
Zinc	2,800.0	468.8	632.0			

The results indicate that the biosolids produced at MWRF consistently meet the requirements to be considered exceptional quality with regards to pollutants. The option to reduce or eliminate metals monitoring was evaluated by DWQ while MWRF continues to take the biosolids to ET Technologies for disposal. In 40 CFR Part 503.16(J)(a)(2), a facility may request and be allowed to reduce the monitoring frequency for pollutants after at least two years of monitoring has shown they meet the 40 CFR Part 503.13(b)Table 3 limits. MWRF submitted a formal request letter to DWQ which was subsequently evaluated and approved in October 2018. Therefore, the MWRF will only need to sample once per year instead of four times per year.

STORM WATER

Storm water permits may be required based on the types of activities occurring on site. As mentioned previously, Storm Water provisions have been removed from this permit as part of a DWQ programmatic separation of the previously combined UPDES permits. Previously, storm water discharge requirements and coverage were combined in this individual UPDES permit. The permits have now been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions. MWRF may now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the Multi Sector General Permit (MSGP) UPDES No. UTR000000, or an applicable exemption demonstration.

Permit coverage under the MSGP for Storm Water Discharges from Industrial Activities is likely required based on the Standard Industrial Classification (SIC) code for and size of the facility. If the facility is not already covered, it has 30 days from when this permit is issued to either submit the appropriate Notice of Intent (NOI) for the MSGP, or to submit the applicable exemption documentation.

Additionally. Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction. Information on storm water permit requirements can be found at http://stormwater.utah.gov.

PRETREATMENT REQUIREMENTS

The pretreatment requirements in the permit are to assist DWQ in understanding the sources discharging to the Magna Water District Publicly Owned Treatment Works (POTW). Staff with Magna Water District are currently gaining knowledge and understanding regarding implementing an Approved POTW Pretreatment Program (Program).

It is the desire of DWQ that a Program be approved and implemented by Magna Water District within the next five years. This will require the permit to be modified, although this is considered a minor modification, which will not be public noticed. The requirement to develop a Program is due to Magna Water District having a Significant Industrial User (SIU) with additional Industrial Users that may need to be permitted.

The requirement to have Magna Water District develop a Program is due to a Categorial Industrial User, which is an SIU, in the service area. Currently, DWQ is permitting SKF, which is required to meet the effluent guidelines in 40 CFR 428 due to process wastewater being discharged to the Magna Water District POTW. Also, there are other Industrial Users that if process wastewater was discharged from to facilities would be required to meet other categorical standards found in 40 CFR; although, these facilities are currently zero discharging facilities. The Northrop Grumman facility also discharges process wastewater to the Magna Water District. Although this wastewater is adequately regulated by the Magna Water District; therefore, a permit is not required to be issued by DWQ.

DWQ encourages the Magna Water District Staff to seek out opportunities to attend training locally and nationally regarding the Program to assist with understanding how to implement the Program. Also, staff should read the guidance manuals for implementing the Program developed by EPA.

Although Magna Water District is not implementing an approved Program, any wastewater discharges to the POTW are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, Magna Water District shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8. This includes although is not limited to notifying DWQ of Industrial Users discharging to the POTW that could violate a Pretreatment Standard or Requirement.

An industrial waste survey (IWS) is required of Magna Water District, as stated in Part II of the permit. The IWS is to assess the needs of Magna Water District regarding pretreatment assistance. If an Industrial User begins to discharge or an existing Industrial User changes their discharge, Magna Water District must resubmit an IWS within sixty days following the introduction or change as stated in Part II of the permit.

The permit requires influent and effluent monitoring of metals and organic toxics. The organic toxics are listed in UAC R317-8-7.5. Metals monitoring is required twice a year and organic toxics monitoring is required in the 1st, 3rd and 5th year of the permit cycle. For more information regarding sample requirements related to the pretreatment requirements see Part II of the permit.

It is required that Magna Water District submit for review and approval any Local Limits that are developed to DWQ for review. If Local Limits are developed, it is required that Magna Water District perform an annual evaluation of the need to revise or develop technically based Local Limits for pollutants of concern to implement the general and specific prohibitions in 40 CFR Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present Local Limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

Since the Permittee is a major municipal discharger, the renewal permit will once again require whole effluent toxicity (WET) testing. MWRF has had no WET testing failures over the past 5 years. Therefore, the Biomonitoring requirements shall remain the same as the previous permit requirements. Acute and Chronic toxicity testing shall be conducted using one species, alternating each quarter between Ceriodaphnia dubia and Pimephales promelas (fathead minnows) for each toxicity test as outlined above in the effluent monitoring tables. Prior to the installation of Outfall 002 in 2020, MWRF was only required to conduct Acute toxicity testing and that will still be the case for any potential discharges from Outfall 001, but MWRF is once again required to perform both Acute and Chronic toxicity testing at Outfall 002 in accordance with DWQ's updated WET policy entitled, Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control, dated February 2018. Specifically, as part of the 'Great Salt Lake WET Policy' section of the aforementioned updated DWQ WET policy, MWRF's Outfall 002 discharges to a severely habitat-limited waters (Class 3E), which then discharges to the Great Salt Lake, requiring both Acute and Chronic WET testing in this case. The renewal permit will also contain the standard requirements for accelerated testing upon failure of a WET test, a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE) as necessary, and a toxicity limitation re-opener provision as appropriate.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted and Reviewed by
Jeff Studenka, Discharge Permit Writer
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Jennifer Berjikian, Reuse
Jordan Bryant, Storm Water
Jim Harris, TMDL/Watershed
Suzan Tahir, Wasteload Analysis/ADR
Utah Division of Water Quality, (801) 536-4300

October 30, 2023

PUBLIC NOTICE INFORMATION (to be updated after)

Began: Month Day, Year Ended: Month Day, Year

Comments will be received at: 195 North 1950 West

PO Box 144870

Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit is to be published on DWQ website for at least 30 days as required.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections may be completed. Due to the nature of these changes they are not considered major modifications and the permit is not required to be re-Public Noticed.

Responsiveness Summary (for comments received)



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Industrial Waste Survey



Industrial Pretreatment Wastewater Survey



Do you periodically experience any of the following treatment works problems:

foam, floaties or unusual colors

plugged collection lines caused by grease, sand, flour, etc.

discharging excessive suspended solids, even in the winter

smells unusually bad

waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)

Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. is subject to Federal Categorical Pretreatment Standards;

Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding,

circuit board manufacturing, tanning animal skins, pesticide formulating or

packaging, and pharmaceutical manufacturing or packaging,

3. is a concern to the POTW.

Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet

cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.

- 2. A discharge which creates toxic gases, vapor or fumes in the collection system.
- 3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.
- 4. An acidic discharge (low pH) which causes corrosive damage to the collection system.
- 5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
- 6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality 288 North 1460 West P.O. Box 144870 Salt Lake City, UT 84114-4870

Phone: (801) 536-4383 Fax: (801) 536-4301

E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM INSPECTION DATE ____/

Name of Business Address	Person ContactedPhone Number		
Description of Business			
Principal product or service:			
Raw Materials used:			
Production process is: [] Batch [] Co	ontinuous [] Both		
Is production subject to seasonal variation? If yes, briefly describe seasonal production			
This facility generates the following types o	f wastes (check all that apply):		
1. [] Domestic wastes	(Restrooms, employee showers, etc.)		
2. Cooling water, non-contact	3. Boiler/Tower blowdown		
4. Cooling water, contact	5. Process		
6. Equipment/Facility washdown	7. Air Pollution Control Unit		
8. [] Storm water runoff to sewer	9. [] Other describe		
Wastes are discharged to (check all that ap	ply):		
[] Sanitary sewer [] Storm sewer		
[] Surface water [] Ground water		
[] Waste haulers] Evaporation		
Other (describe)			
Name of waste hauler(s), if used			
Is a grease trap installed? Yes No			
Is it operational? Yes No			
Does the business discharge a lot of process	wastewater?		
• More than 5% of the flow to the was			
• More than 25,000 gallons per work	· · · · · · · · · · · · · · · · · · ·		

Does the business do any of the following:	
 Adhesives Aluminum Forming Battery Manufacturing Copper Forming Electric & Electronic Components Explosives Manufacturing Foundries Inorganic Chemicals Mfg. or Packaging Industrial Porcelain Ceramic Manufacturing Iron & Steel 	 Car Wash Carpet Cleaner Dairy Food Processor Hospital Laundries Photo Lab Restaurant & Food Service Septage Hauler Slaughter House
 [] Metal Finishing, Coating or Cleaning [] Mining [] Nonferrous Metals Manufacturing [] Organic Chemicals Manufacturing or Packaging [] Paint & Ink Manufacturing [] Pesticides Formulating or Packaging [] Petroleum Refining [] Pharmaceuticals Manufacturing or Packaging [] Plastics Manufacturing [] Rubber Manufacturing [] Soaps & Detergents Manufacturing [] Steam Electric Generation [] Tanning Animal Skins [] Textile Mills 	
Are any process changes or expansions planned during to If yes, attach a separate sheet to this form describing the expansions.	<u> </u>
	Inspector
Please send a copy of the preliminary inspection form (b	Waste Treatment Facility oth sides) to:
Jennifer Robinson Division of Water Quality P. O. Box 144870 Salt Lake City, Utah 84114-4870	

(801) 536-4383 (801) 536-4301 jenrobinson@utah.gov **Phone:** Fax:

E-Mail:

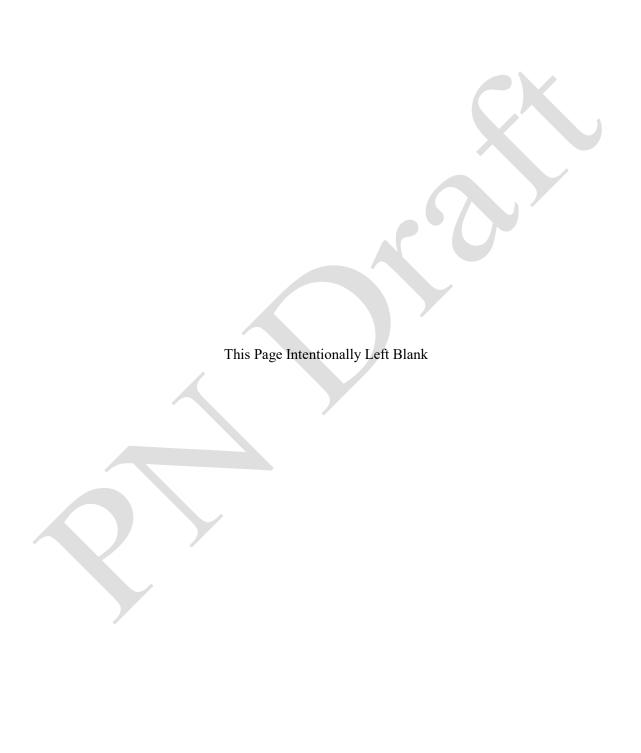
	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							



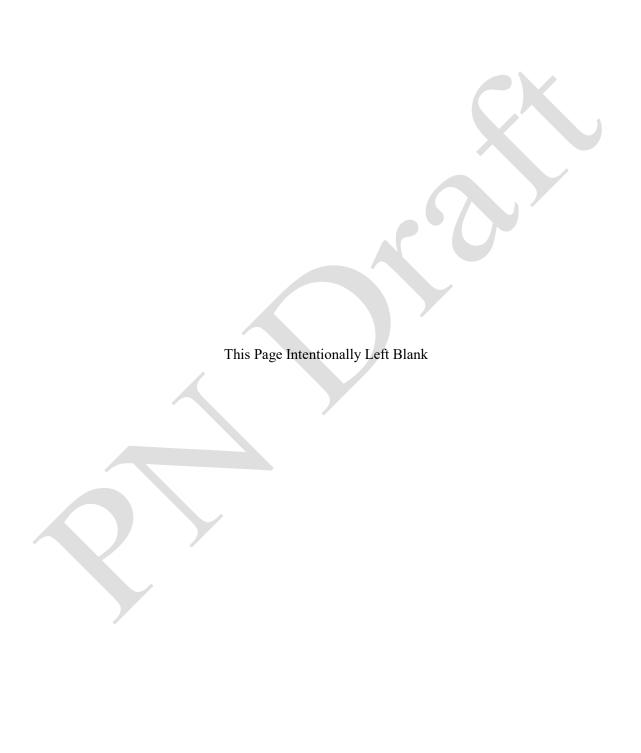
Effluent Monitoring Data Summary (DWQ-2023-124855)



Wasteload Analysis and Antidegradation Review (DWQ-2023-120348)



Reasonable Potential Analysis



REASONABLE POTENTIAL ANALYSIS

The Division of Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guidance) is available at the Division of Water Quality. As listed below, there are four outcomes from the RP Analysis¹ that provide a frame work for what routine monitoring or effluent limitations are required.

Outcome A: A new effluent limitation will be placed in the permit.

Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or

increased from what they are in the permit,

Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are

in the permit,

Outcome D: No limitation or routine monitoring requirements are in the permit.

The Initial RP Screening Table is included below for all metals parameters of concern. Note that the full RP analysis model was not necessary at this time due to the results of the initial screening results below.

RP Initial Screening Table for Magna POTW Discharges (UT0021440)

Parameter	No. of Samples	MEC* mg/L	Water Quality Standard, units MAC**		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Arsenic	10	< 0.05	0.568	0.153	MEC < MAC***
Total Cadmium	10	< 0.005	0.0166	0.0013	MEC < MAC***
Total Chromium	10	< 0.005	0.0242	0.0194	MEC < MAC***
Total Copper	10	0.005	0.0815	0.0537	MEC < MAC***
Total Lead	10	< 0.02	0.919	0.0327	MEC < MAC***
Total Mercury	10	< 0.00015	0.0047	0.00021	MEC < MAC***
Total Molybdenum	10	0.02	NA	NA	NA
Total Nickel	10	< 0.005	2.851	0.297	MEC < MAC***
Total Selenium	10	< 0.001	0.033	0.0081	MEC < MAC***
Total Silver	10	< 0.005	0.0541	NA	MEC < MAC***
Total Zinc	10	0.06	0.511	0.683	MEC < MAC***
Total Cyanide	10	0.007	0.0052	0.0387	MEC < MAC***

Notes:

NA – not applicable, no current Water Quality Standard.

*MEC – Maximum expected effluent concentration as determined from existing data set and initial metals screening.

**MAC – Maximum allowable concentration, UPDES permit effluent limits derived from the current wasteload allocation analysis (WLA).

***MEC < (less than) MAC. No Acute or Chronic limits required.

<u>Result</u>: From the table above, the RP analysis results of the discharge for all of the listed metals is: MEC < MAC, therefore no additional Acute or Chronic limits are required regarding the listed metals parameters. This equates to *RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit.*

¹ See Reasonable Potential Analysis Guidance for definitions of terms

Summary: A qualitative RP analysis was performed on the applicable metals constituents from the MWRF discharge data over the past five years. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed since all of the semi-annual metals concentration results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at MWRF for these metals parameters and a more quantitative RP analysis using the RP Model was not necessary at this time. Based upon the RP Guidance, no additional metal effluent limits have been included in this renewal permit. The results of the RP analysis was; Outcome C: No new effluent limitation, routine monitoring requirements maintained as they are in the permit. Metals monitoring will continue however, as detailed in the permit. This will be re-evaluated during the next permit cycle as appropriate.

