Official Draft Public Notice Version, January 17, 2015
The findings, determinations and assertions contained in the document are not final and subject to change following the public comment period.

DRAFT

FACT SHEET/STATEMENT OF BASIS
PLAIN CITY CORPORATION
UPDES PERMIT NUMBER UT-0021326
PERMIT MODIFICATION FOR MINOR MUNICIPAL

FACILITY CONTACT

Mayor:	Bruce Higley
Person Name:	Don Weston, Operator
Position:	Public Owned Treatment Works Operator
Organization:	Plain City Corporation
Mailing Address:	4160 West 2200 North
Telephone:	Office (801) 731-4908
	Cell (801) 645-0393

DESCRIPTION OF FACILITY

This facultative lagoon sewer system was built and came into operation in 1970 and serves the community of Plain City which is located west of Ogden in Weber County. The treatment facility consists of a comminutor, followed by a six cell facultative lagoon system with two primary cells and a total surface area of 35 acres. Disinfection is accomplished with chlorination that includes three concrete tanks that serve as mixing basins. A V-notch weir is at the outfall of the basins and is used to measure the flow. A Reconnaissance Inspection was conducted on August 5, 2014 and the primary and secondary cells appeared healthy and the entire lagoon system is well maintained. The Design flow is 1.75 million gallons a day (mgd) with a monthly maximum of 1.0 mgd. Based on a review of the past 5 years of data provided in discharge monitoring reports the average monthly flow has been 0.27 mgd with a maximum peak flow during that time of 1.64 mgd. Plain City has a population of approximately 5,500 people.

The influent enters though a head works structure with an electronic flow meter before entering the lagoon system. The lagoon system is operated in two parallel tracks with three cells each. After exiting the lagoon system the tracks are comingled into a seven acre polishing wetland and then proceeds to a chlorine contact chamber if the system is discharging. If the system is discharging required sampling is conducted at a weir from a platform at the end of the chlorine contract chamber.

Two types of aeration systems are employed on the South track. 50 "Poo-Gloos" are installed in South track cell 2. These structures look like igloos. They are five feet high, and are six feet in diameter. They have multiple layers of surface area, with a high surface to volume area with packing material between the layers. The PVC pipe provides more media for bacteria in very small places to treat the wastewater. To accomplish this, the bacteria need a lot more oxygen, which is provided with forced air that produces massive amounts of very tiny bubbles that flow in and around the PVC pipe. This was the first system in the nation to have this system installed. In addition, the operator has installed modified aeration culverts in South track cell 1 with 154 and South track cell 3 with 13. Both the Poo-Gloos and the aeration culverts are intended to aerate the cell to increase dissolved oxygen and aid in release of volatile compounds. Expansion plans call for a possible installation of a bar screen at the head works.

DESCRIPTION OF DISCHARGE

The Plain City lagoon system has one discharge point named 001. Outfall 001 is where all samples of the effluent are taken for the monitoring requirements. The outfall is located at latitude 41° 18' 29' and longitude 112° 05' 56'. Discharge monitoring report (DMR) data for the past 5 years shows 15 effluent limitation (see Discharge Moitoring Results section) violations for TSS, BOD_5 and pH. Four of these violations are categorized as serious violations for exceeding the effluent limitation by 40% or more. However, since many of these exceedances span over a number of years for each constituent no notices of violation have been issued to the facility. This is in large part to the facility operators responding to these exceedances.

STREAM CLASSIFICATION

The discharge flows into a drainage ditch, then Dix Creek, First Salt Creek, Harold S. Crane Waterfowl Management Area and finally into Willard Spur of the Great Salt Lake. The drainage ditch is Class 2B and 3E, according to Utah Administrative Code (UAC) R317-2-13.10 (a).

> 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 3E - Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.

The Dix Creek presumptive designated beneficial uses are Class 2B and 3D, according to Utah Administrative Code (UAC) R317-2-13.13.

> 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.

DRAFT

SUBSTANTIVE PERMIT CHANGES

Seasonally based ammonia and total residual chlorine limitations have been added during this permit renewal.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD_5), E.Coliform bacteria, pH and percent removal requirements are based on current Utah Secondary Treatment Standards, *Utah Administrative Code R317-1-3.2*. Limitations on ammonia and total residual chloride are based on current Utah Numeric Criteria for Aquatic Wildlife (Table 2.14.2) Standards, *Utah Administrative Code R317-2*. The waste load analysis (attached) indicates these limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The flow, monitoring and reporting requirements are based on the Utah Division of Water Quality guidelines of December 1991.

Effluent Limitations

Parameter	Effluent Limitations[1]			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Flow, mgd [4]	1.0			1.75
BOD_5, mg/L [2]	45	65		
BOD_5 Min. % Removal	85			
Total Suspended Solids (TSS) mg/L	45	65		
TSS Min. % Removal	85			
E-Coli, No./100mL	126	157		
pH, Standard Units			6.5	9.0
Dissolved Oxygen, mg/L			5.0	
Oil & Grease, mg/L				10.0
Ammonia, mg/L				
Summer (Jul-Sep)	3.7			12.1
Fall (Oct-Dec)	6.8			
Winter (Jan-Mar)	9.0			
Spring (Apr-Jun)	6.8			
Total Residual Chlorine (mg/L)				
Summer (Jul-Sep)	0.78			1.27
Fall (Oct-Dec)	0.26			0.42
Winter (Jan-Mar)	0.17			0.28
Spring (Apr-Jun)	0.26			0.42

1. See Definitions, *Part VI*, for definition of terms.

DRAFT

2. Influent monitoring is required regardless of if discharge occurs at Outfall No. 001

3. Influent samples and the influent flow shall be monitored and measured at the same frequency as the effluent samples and the effluent flow.

4. If the rate of the discharge is controlled, the rate and duration of the discharge shall be reported.

PN DRAFT

SELF-MONITORING AND REPORTING REQUIREMENTS

The following influent and effluent self-monitoring requirements are based on the Utah Monitoring, Recording and Reporting Frequency Guideline, December 1, 1991. Reports shall be submitted monthly on DMR forms, and are due 28 days after the end of the monitoring period.

Influent Self-Monitoring and Reporting Requirements[1]			
Parameter	Frequency	Sample Type	Units
Total Flow[3,4]	Continuous	Recorder	mgd
BOD_5[3]	Monthly	Grab	mg/L
TSS[3]	Monthly	Grab	mg/L

Effluent Self-Monitoring and Reporting Requirements[1]			
Parameter	Frequency	Sample Type	Units
Total Flow[3,4]	Continuous	Recorder	mgd
BOD_5[3]	Monthly	Grab	mg/L
BOD_5 % Removal	Monthly	Calculated	%
TSS[3]	Monthly	Grab	mg/L
TSS % Removal	Monthly	Calculated	%
E-Coli	Monthly	Grab	No./100mL
pH	Monthly	Grab	SU
Dissolved Oxygen	Monthly	Grab	mg/L
Oil & Grease[5]	Monthly	Grab	mg/L
Ammonia	Monthly	Grab	mg/L
Total Residual Chlorine	Monthly	Grab	mg/L

5. Sample only if a sheen is observed.

PN DRAFT

STORM WATER REQUIREMENTS

Wastewater Treatment Facilities, which includes Lagoon Systems, are required to comply with storm water permit requirements if they meet one or both of the following criteria,

1. The facility has an approved pretreatment program as described in *40 CFR Part 403*.
2. The facility has a design flow of 1.0 MGD or greater.

The Plain City Lagoon system does not meet either of the criteria and therefore no storm water requirements are included in the permit. A storm water re-opener provision is included in the permit should storm water requirements be needed in the future.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility such as upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to *Section 307* of the *Clean Water Act*, the permittee 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*.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee 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 *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. It is recommended that the permittee submit for review any local limits that are developed to the Division of Water Quality for review.

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance*

DRAFT

Document for Whole Effluent Toxicity (WET) Control (biomonitoring). 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.*

The permittee is a minor municipal intermittent discharger that will be contributing a small volume of effluent when compared to the existing receiving waters, in which toxicity is not likely to be present. Based on these considerations, and the fact that there are no present or anticipated industrial users on the system, there is no reasonable potential for toxicity in the permittee's discharge *(per State of Utah Permitting and Enforcement Guidance Document for WET Control).* As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

BIOSOLIDS (SEWAGE SLUDGE) DISPOSAL REQUIREMENTS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met

DISCHARGE MONITORING RESULTS:

Below is DMR data for the past 5 years of effluent limitation exceedances for TSS, BOD_5 and pH. Four of these violations are categorized as serious violations for exceeding the effluent limitation by 40% or more. However, since many of these exceedances span over a number of years for each constituent no notices of violation have been issued to the facility. This is in large part to the facility operators responding to these exceedances.

PN DRAFT

Monitoring Period Ending		Maximum 7 Day Average		Maximum 30 day average	
BOD, 5-day, 20 deg. C					
	Limit	65		45	
	9/30/2010	**86.6**	mg/L	**86.6**	mg/L
	7/31/2011	60.2	mg/L	**47.05**	mg/L
	7/31/2012	**75.9**	mg/L	**75.9**	mg/L
pH		MINIMUM		MAXIMUM	
	Limit	5.0		9.0	
	4/30/2010	9.1	SU	**9.1**	SU
	7/31/2011	9.27	SU	**9.27**	SU
	7/31/2012	9.32	SU	**9.32**	SU
	6/30/2013	9.35	SU	**9.35**	SU
	4/30/2014	9.33	SU	**9.33**	SU
Total Suspended Solids (TSS)					
		Maximum 7 Day Average		Maximum 30 day average	
	Limit	65		45	
	9/30/2010	**83**	mg/L	**83**	mg/L
	7/31/2011	62	mg/L	**58**	mg/L
	7/31/2012	**71.4**	mg/L	**71.4**	mg/L

PERMIT DURATION

It is recommended that this permit be effective for duration of five (5) years from the date of issuance.

Drafted by Ken Hoffman, P.E.
Mike Herkimer - WET
Division of Water Quality
January 17, 2015

PUBLIC NOTICE

Began:
Ended:
Public Noticed in the Standard Examiner.

PI DRAFT