ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

May 16, 2006

Pekin Paperboard Company	)	
	)	
	)	
	)	
Petitioner,	)	
	)	
v.	)	IEPA- 06-12
	)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL PROCTECTION AGENCY,	)	
	)	
Respondent.	)	

Re: Provisional Variance From Limits of NPDES Permit IL0037729
For CBOD, TSS and Ammonia as N

Dear Mr. Collins:

The Illinois Environmental Protection Agency (Agency) has completed review of the attached provisional variance request submitted by Pekin Paperboard Company (PPC) on May 15, 2006. PPC is in immediate need to dredge a portion of its wastewater treatment lagoon to remove excess solids buildup that is resulting in degradation of effluent quality.

Background

PPC owns and operates a cardboard manufacturing plant, which is located at 1525 South Second Street in Pekin, Illinois. The manufacturing plant includes a wastewater treatment facility that consists of a bar screen, wet well pumping, primary clarifier, and a lagoon. The lagoon has been channelized into a serpentine flow pattern with the addition of divider walls that essentially forms three "cells". Aeration has been added to the first "cell" and the other two "cells" provide settling of solids.

A provisional variance is being sought to remove the solids in the settling portion of the lagoon. Due to the volume of sludge in the settling portion of the lagoon, degradation in effluent quality is occurring. Immediate removal of this sludge accumulation is necessary for the wastewater

treatment plant to provide proper treatment. The sludge will be removed by hydraulic dredging over a period of 16 days. The sludge will be dewatered and a transported to a landfill.

Relief Requested

PPC requests a provisional variance from the CBOD, TSS and Ammonia limitations contained in NPDES Permit IL0037729 for Outfall A01 (Attachment B). This permit requires PPC to meet the following for CBOD, TSS and Ammonia at Outfall A01:

Parameter	Concentration Limits (mg/l)	
	30 day avg.	Daily max.
CBOD	25	50
TSS	30	60
Ammonia as N	*	*

* If the 30 day average exceeds 100 lbs/day then the effluent concentration shall not exceed 3 mg/l on a 30 day average basis. If the daily maximum exceeds 200 lbs/day then the effluent concentration shall not exceed 6 mg/l on a daily basis.

During the 30 day term of the provisional variance PPC requests limitations of 75 mg/l for CBOD and TSS as a weekly average and 15 mg/l ammonia as N as a daily maximum.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. The environmental impact from the requested relief is predicted to be minimal;

2. No other reasonable alternative appear available;

3. No public water supplies will be affected;

4. No federal regulations will preclude the granting of this request; and

5. PPC will face an arbitrary and unreasonable hardship if the request is not granted.

The Agency hereby GRANTS the Pekin Paperboard Company a provisional variance from the CBOD, TSS and Ammonia as N limits of NPDES IL0037729 for Outfall A01 subject to the following conditions:

A. The provisional variance shall begin on May 16, 2006, and shall continue for a period of 30 days.

B. PPC shall operate is wastewater treatment system to produce the best effluent possible, and at no time shall the PPC exceed a daily maximum of 15 mg/l for ammonia as N and a weekly average of 75 mg/l for CBOD and TSS at Outfall A01.

C. In the event that any of the limits imposed under this provisional variance are exceeded, PPC shall take immediate steps to insure compliance with this provisional variance is obtained, and shall immediately notify the Agency at the telephone number listed in D. below.

D. PPC shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the dredging of the lagoon begins and again when the dredging of the lagoon is completed. Written confirmation of each notice shall be sent within five days to the following address:

Illinois Environmental Protection Agency
Bureau of Water – Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

E. PPC shall sign a Certificate of Acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order. The certificate should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and condition of the provisional variance granted by the Agency in _____ dated _____.

_____
Petitioner

_____
Authorized Agent

_____
Title

_____
Date

The City shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0037729.

Conclusion

The Agency grants this provisional variance in accordance with its authority contained in Sections 35(b), 36(c), and 37(b) of the Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2004). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,

Robert A. Messina
Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Tom Andryk
Vera Herst

PPC

PEKIN PAPERBOARD COMPANY
P.O. Box 520
1525 South 2nd Street
Pekin, IL 61554
309-346-4118
FAX 309-346-2150

May 9, 2006 Via Overnight Delivery

Mr. Roger Callaway
Illinois Environmental Protection Agency
Bureau of Water
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Re: Lagoon Maintenance Activities & Request for Provisional Variance
NPDES No. IL0037729

Dear Mr. Callaway:

The purpose of this correspondence is to inform the IEPA that Pekin Paperboard Company (PPC) will begin the lagoon maintenance activity of dredging on May 16, 2006 in accordance with the scope of work as outlined in the attached provisional variance application.

This provisional variance application follows the guidelines discussed during the conference call held between PPC, Environ and the IEPA on April 25, 2006 and as outlined pursuant to the IEPA regulations for provisional variance applications (35 IAC 180.202).

PPC would appreciate expedited review of this provisional variance application and issuance of the provisional variance so that these dredging activities can occur as scheduled.

Provisional Variance Application for $cBOD_5$, TSS, and Ammonia-N

1) A statement identifying the regulations, Board Order, or permit requirements from which the variance is requested

Pekin Paperboard Co. L.P. (PPC) holds NPDES Permit IL0037729 from the Illinois Environmental Protection Agency (IEPA) authorizing discharge to the Illinois River. The discharge from Outfall A01 (Treated Process Wastewater) is subject to the limits and sampling requirements listed in Table 1. A 30-day provisional variance from Outfall A01 limits for $cBOD_5$, TSS, and Ammonia-N is requested. The 30-day period is requested to accommodate mobilization, active dredging, de-mobilization, and lagoon stabilization immediately after dredging.

TABLE 1. OUTFALL A01 NPDES PERMIT LIMITS

Parameter	Load Limits (lbs/day)		Concentration Limits (mg/L)		Sample Frequency	Sample Type
	30 Day Avg.	Daily Max	30 Day Avg.	Daily Max		
Flow (MGD)	Report	Report	N/A	N/A	Daily	24 hr. total
$cBOD_5$	125.10	250.20	25	50	1/week	Composite
TSS	150.12	300.24	30	60	1/week	Composite
pH	N/A	N/A	N/A	6.0 – 9.0	1/week	Grab
Ammonia[1]	100	200	3	6	1/week	Composite

(1) If the 30-day average exceeds 100 lbs/day, then the effluent concentration shall not exceed 3 mg/L on a 30 day average basis. If the daily maximum exceeds 200 lbs/day, then the effluent concentration shall not exceed 6 mg/L on a daily basis.

2) A description of the business or activity for which the variance is requested, including pertinent data on location, size, and the population and geographic area affected by the applicant's operations

Pekin Paperboard Company (Pekin) located at 1525 South Second Street in, City of Pekin, Tazewell County, Illinois, is engaged primarily in the manufacturing of 100% recycled cardboard from scrap newspaper, used corrugated containers, double lined kraft paper, and kraft clippings. Manufacturing activities at the facility consist of repulping the raw material in beater tanks, pulp thickening, grinding, pressing, water extraction and drying with steam heated rollers until dry paperboard is produced. The paperboard is then rolled, trimmed, rerolled, weighed, labeled, packaged and stored. The site is located on a 15-acre parcel consisting of approximately 130,000 square feet of process buildings, warehouse, office building, former power plant, and wastewater treatment structures. The remaining property is paved and unpaved parking areas, roadways, outdoor raw material storage areas, and undeveloped land.

Figure 1 presents a process flow diagram for the Pekin Paperboard's wastewater treatment system, along with typical flows and concentrations. To maintain the effectiveness of the aerated lagoon and the settling of solids, accumulated sludge has to be removed from the lagoon. Removal of accumulated sludge is also necessary to meet the NPDES Permit IL0037729 Attachment H Standard Condition [5] to properly operate and maintain the wastewater treatment

system. For this particular maintenance activity accumulated sludge will be removed from the settling or quiescent "polishing" portion of the lagoon. Attachment 1 presents a summary description of the PPC wastewater treatment system.

At this time, due to the volume of sludge in the polishing portion of the aerated treatment lagoon, PPC has observed degradation in effluent quality and is concerned about compliance with the discharge limits for Outfall A01. Hence, pursuant to NPDES Permit IL0037729 Attachment H. Standard Condition [4] – Duty to Mitigate, PPC has decided to initiate the dredging of the polishing portion of the treatment lagoon on an accelerated basis.

3) The quantity and types of materials used in the process or activity for which the variance is requested, as appropriate

Removal of the accumulated sludges in the lagoon will be accomplished by dredging. The contractor will be using the following equipment and processes to remove and manage sludges:

- a hydraulic dredge,
- a turbidity curtain,
- floating absorbent (pigs),
- mobile belt filter press,
- three frac tanks,
- pumps, and
- dump trailers.

4) The quantity, types and nature of materials or emissions to be discharged, deposited or emitted under the variance, and the identification of the receiving waterway or land, or the closest receiving Class A and Class B land use, as appropriate

The lagoon maintenance activity of dredging will be designed and operated to minimize disturbance of solids and to occur on an expedited schedule. However, based on historical data during prior dredging events, it cannot be assured that the lagoon effluent quality during the dredging will attain applicable permit discharge limits. It is anticipated that the provisional variance limits will be:

- $cBOD_5$ = 75 mg/L as a weekly average
- TSS = 75 mg/L as a weekly average
- Ammonia as N = 15 mg/L as a daily maximum

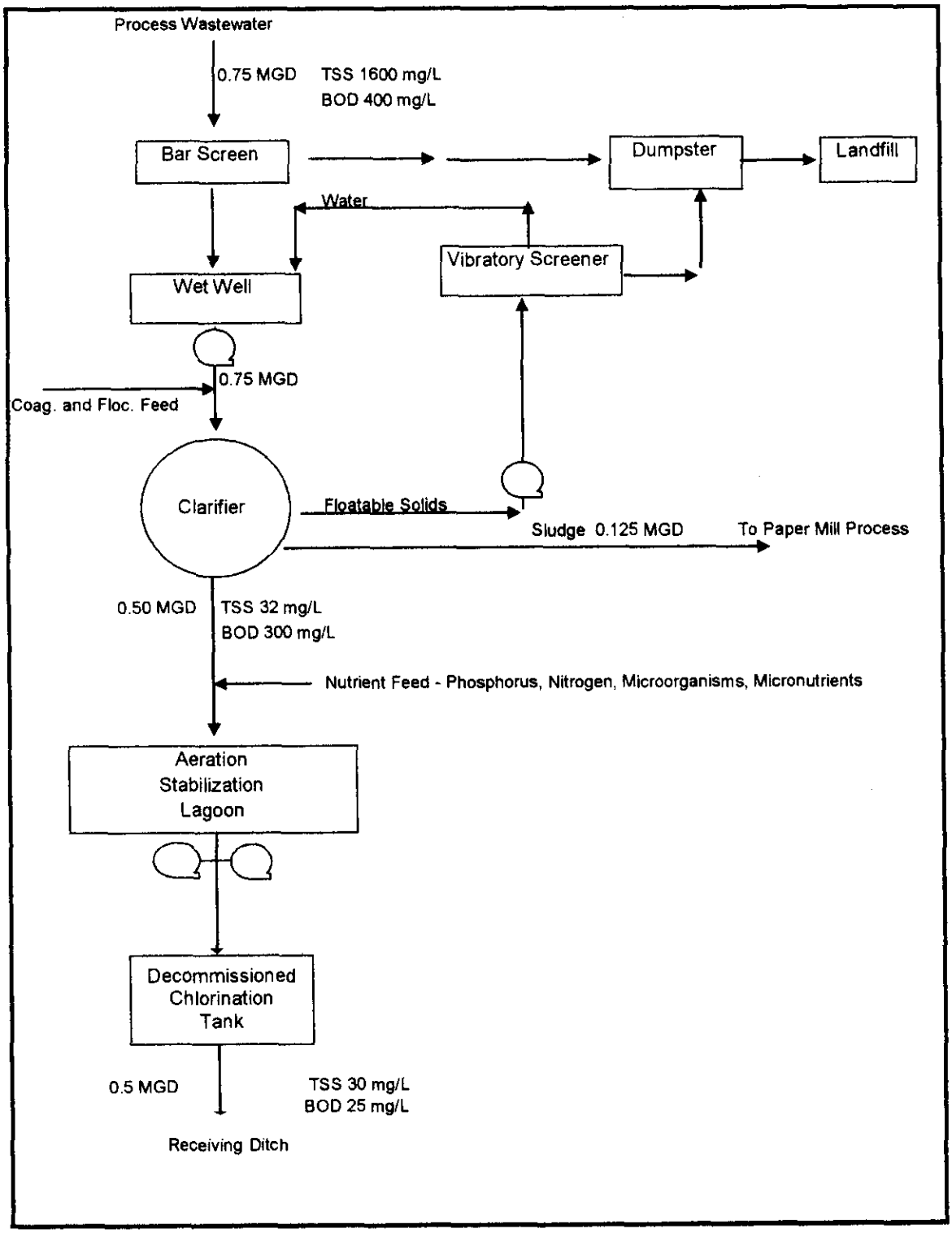
The anticipated flow during dredging as a weekly average is 500,000 gpd. Based on the anticipated provisional variance limits and the anticipated weekly average flow, the provisional mass discharge limits would be:

- $cBOD_5$ = 312.8 lb/d as a weekly average
- TSS = 312.8 lb/d as a weekly average
- Ammonia as N = current discharge limit of 100 lb/d as a monthly average

Therefore, the anticipated increase, over current Outfall A01 discharge limits, in mass discharged over the 30-day provisional variance period could be:

- $cBOD_5$ = 5,630 lbs
- TSS = 4,879 lbs
- Ammonia as N = no change from current discharge mass

FIGURE 1. PEKIN PAPERBOARD WWTP PROCESS FLOW DIAGRAM



Outfall A01 discharges to an effluent ditch which connects to Crystal Lake and then to the Illinois River. Stormwater, non-contact cooling water, demineralizer and softener regeneration water, boiler blowdown from the facility and some sheet flow from the surrounding land also enters this effluent ditch. The designated receiving water for Outfall A01 is the Illinois River. The potential increase in TSS and $cBOD_5$ load to the Illinois River due to the proposed 30-day provisional variance's weekly limits is not sufficient to cause in-stream dissolved oxygen impacts. The discharge mass of ammonia will not change, though the daily maximum concentration could double.

Active dredging is planned to occur 24 hours a day at a hydraulic dredge rate of about 1,000 gpm. It is estimated that removal of sludges will be accomplished in 16 days. It is anticipated that dewatering of sludges will take place during one shift. It is anticipated that dewatering operations will produce approximately three (3) semi-dump trailers of pressed cake each day. Filter press cake shall be transferred directly from the mobile belt filter press to the dump trailers. The contractor shall transport this material to the approved permitted landfill during normal landfill operating hours.

5) The quantity and types of materials in drinking water exceeding the allowable content, or other pertinent facts concerning variances from the Board's public water supply regulations

Not applicable.

6) An assessment of any adverse environmental impacts which the variance may produce

The lagoon maintenance activity of dredging is designed and operated to minimize disturbance of solids and to occur on an expedited schedule. The potential increase in TSS and $cBOD_5$ load to the Illinois River due to the proposed 30-day provisional variance's weekly limits is not sufficient to cause in-stream dissolved oxygen impacts. The discharge mass of ammonia will not change, though the daily maximum concentration could double. However, mixing of the Outfall A01 discharge with other discharge waters, as well as the immediate mixing in the Illinois River, is sufficient to avoid impact to aquatic life during the 30-day provisional variance.

In the summer of 2003 (July – August) PPC undertook maintenance activities that involved dredging of its lagoon. The scope of dredging involved all the sections of lagoon. The DMR data from this period are presented in Table 2. It is unlikely that the current dredging plan would create such extreme values as seen for the 2003 maintenance dredging for three reasons: (1) the current plan calls for maintenance on only one section of the lagoon, (2) the sludge volume is less than in 2003, and (3) the sludges are not as "aged". However, the mean values may be similar to the proposed maintenance activity.

TABLE 2. DRM DATA DURING 2003 DREDGING ACTIVITIES

SAMPLE DATE	FLOW (gpd)	$cBOD_5$ (mg/L)	$cBOD_5$ (lb/d)	TSS (mg/L)	TSS (lb/d)	NH_3-N (mg/L)	NH_3-N (lb/d)
07/09/03	991,520	95	786	48	397	11.00	91
07/11/03	633,623	94	497	53	280	13.00	69
07/16/03	581,369	76	368	28	136	21.00	102
07/18/03	530,335	220	973	46	203	19.00	84
07/23/03	400,084	72	240	40	133	16.00	53
07/25/03	453,399	100	378	32	121	13.00	49
07/30/03	560,120	110	514	46	215	7.80	36
08/01/03	567,123	82	388	53	251	6.40	30
08/06/00	571,349	29	138	57	272	7.30	35
08/08/03	529,417	23	102	41	181	7.00	31
30-day Average =		90	438	44	219	12	58
Daily Maximum =		220	973	57	397	21	102

During the summer of 2003, there were no observed or reported adverse environmental impacts due to the discharge of elevated cBOD5, TSS, and ammonia-N.

7) A statement explaining why compliance with the Act, regulations or Board Order imposes arbitrary and unreasonable hardship

Even though the lagoon maintenance activity of dredging will be designed and operated to minimize disturbance of solids and to occur on an expedited schedule, PPC cannot assure that permitted discharge limits will be attained during the dredging and the settling periods. Maintenance of the lagoon is necessary as effluent quality has degraded over the past month due to an increase in sludge (solids build-up) in the polishing section of the lagoon. During dredging, PPC will be using feasible methods to control TSS, however, temporary measures to control ammonia-N and cBOD5 to discharge limits during the disturbance of sludges are not feasible for the 30-day period. Implementation of alternatives that are not feasible but could, during the dredging activity, achieve compliance imposes arbitrary and unreasonable hardship on PPC.

8) A description of the proposed methods to achieve compliance with the Act, regulations or Board Order, and a timetable for achieving such compliance

The lagoon maintenance activity of dredging will be designed and operated to minimize disturbance of solids and to occur on an expedited schedule. Effluent TSS controls will include use of the turbidity curtain and a temporary suspended solids removal system (e.g., clarifiers or filters). At the end of the 30-day provisional variance, with the removal of lagoon sludges and the return of the lagoon to more optimal operating conditions, the wastewater treatment system should be in compliance with the NPDES Permit limits and conditions.

9) A discussion of alternate methods of compliance and of the factors influencing the choice of applying for a provisional variance

Summaries of alternative methods (to being granted a provisional variance) for achieving compliance are listed below, not all alternatives are feasible.

An alternate method to achieve compliance with the discharge limits is to cease discharging wastewater for 30 days. This alternative would require PPC to shut-down production operations and potentially require re-seeding the lagoons to re-establish bacteria population. This is not an option for PPC based on cost and uncertainty of re-establishment of bacteria population. This alternative is not feasible.

A temporary biological wastewater treatment facility could be constructed on-site to treat effluent (by-passing the lagoon entirely) before discharging to the Illinois River. Maintenance dredging would have to be delayed until construction of the temporary facility was complete. As PPC has already noted, degradation in the effluent quality of Outfall A01 is occurring, and a delay of this duration would be detrimental to achieving compliance NPDES Permit limits. In addition, the cost of such an undertaking when other more reasonable methods are available is a deterrent to pursuing a temporary wastewater treatment facility. This alternate method is not considered feasible.

A temporary discharge of wastewater to the City of Pekin Sewage Treatment Plant (STP) was also investigated. IEPA Water Pollution Control Permit 2006-EP-0420 authorizes PPC to "...Discharge of clarifier effluent to the sanitary sewer shall occur only when dredging of the aerated lagoon is taking place or under upset condition. ...". However, there are limitations in the permit issued to PPC by the City of Pekin on the flow quantity and timing of discharge to the STP, and the quality of discharge sent to the STP. These limitations make the option of sending wastewater to the STP not viable, particularly considering the goal of expedited dredging to immediately maintain lagoon operations. Increasing the flow and expanding the duration time of discharge from PPC to the STP is not considered an option by the City of Pekin. This alternate method of sending the discharge during dredging to the STP is not feasible.

10) A statement of the period, not to exceed 45 days, for which the variance is requested;

The lagoon maintenance activity of dredging should take 16 days to complete, with a projection of 30 days to allow for unplanned delays, de-mobilization, and lagoon stabilization after dredging. Efforts will be taken to avoid and minimize an extension of a 30-day provisional variance time period, though if needed, the extension would not exceed the total of 45 days.

11) A statement of whether the applicant has been granted any provisional variances within the calendar year, and the terms and duration of such variances;

PPC has not applied for any provisional variances within the calendar year.

12) A statement regarding the applicant's current permit status as related to the subject matter of the variance request;

NPDES Permit IL0037729 was issued on June 27, 2001 and became effective on July 1, 2001. The expiration date is June 20, 2006 and an application for renewal was submitted to IEPA on February 27, 2006. That application is currently pending before the Agency.

13) Any Board orders in effect regarding the applicant's activities and any matters currently before the Board in which the applicant is a party.

PPC is not subject to any Board orders regarding its NPDES Permit. The Attorney General of Illinois, on behalf of the Illinois Environmental Protection Agency filed People v. Pekin Paperboard Company, LP, PCB 05-163, an enforcement action relating, in part, to the Facility's compliance under its NPDES permit.

ATTACHMENT 1 – PEKIN PAPERBOARD WWTP DESCRIPTION

Wastewater is generated in the mill from the recycling of post consumer waste paper. The wastewater contains organic material and solids. Gross solids are removed using a bar screen. The wastewater is collected in a wet well and is pumped to a primary clarifier using centrifugal lift pumps.

The primary clarifier is used to remove settleable solids. These solids are sent back to the mill to be used in the production of recycled paper. Floatable solids are removed using a mechanical arm and sent to a vibratory screener for dewatering and disposal. A coagulant and flocculant is utilized in the clarifier to enhance the settling characteristics of the solids and to minimize the amount of solids sent to the lagoon.

The lagoon is used to remove biodegradable organic material. This organic material is consumed by aerobic (heterotrophic) bacteria, which convert it to carbon dioxide, water, and other dissolved constituents. Oxygen and mixing are provided via floating surface aerators in the first section of the lagoon. Baffling is present in the lagoon to prevent short-circuiting to maximize the treatment and residence time.

As bacteria consume the organic material, new bacteria are produced through reproduction. After the aerated portion, the bacteria and solids are settled out in the facultative (settling / non-aerated) portion of the lagoon. Biological removal continues utilizing facultative bacteria. Facultative bacteria can utilize either free (dissolved) oxygen, or chemically-bound oxygen, such as that found in nitrate (NO_3). As the bacteria and solids (sludge) settle, another type of bacteria, i.e. anaerobic, continues to consume and digest the settled material. These anaerobic bacteria provide biodegradation in the absence of oxygen, and reduce the settled sludge volume. Accumulated sludge will reduce the overall treatment volume over time, and must be removed periodically (every 5 years, or so). Effluent from the lagoon is discharged out Outfall A01.