



Sanitaire

9535 N. 49th Street  
Brown Deer, WI 53223, USA  
tel: 414 365 2200  
fax: 414 365 2210  
www.sanitaire.com  
www.abjwastewater.com

March 31, 2006

The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1



RE: Bid Opportunity No. 31-2006  
Supply and Delivery of Decanters for the North End Water Pollution Control  
Centre Centrate Nitrogen Removal Facility

To: City of Winnipeg

Thank you for the opportunity to provide a quotation for the above referenced equipment. Attached are the required bid documents. Following are comments with regards to the enclosed quotation.

**1. Decanter Discharge Piping:** The attached proposal shows a piped discharge from the decanters to the Effluent EQ Basin. We have proposed two (2) 10.67M decanters per basin. Each pair of decanters in each basin will be connected via a truss structure such that each pair of decanters will act as one (1) unit. Although the pair of decanters in each basin will act as one (1) unit, they will have separate discharge piping. The decanter closest to the Effluent EQ Basin is designed to connect to a wall-plate (provided by Sanitaire) and discharge directly into the Effluent EQ Basin. The decanter farthest from the Effluent EQ Basin is designed such that an effluent discharge pipe will be required from the far end of the far decanter (farthest from Effluent EQ Basin) to the Effluent EQ Basin (See attached drawing.). Our quote does NOT include the discharge piping downstream of the double elbow at the end of the farthest decanters. We have included a flange connection where our scope of supply ends, for connection to the downstream discharge piping by OTHERS. Supports, joints, wall pieces, vent piping, etc. for the discharge piping downstream of the double elbow is also by OTHERS.

As an option, a concrete effluent channel could also be constructed to take the flow from the far decanter to the Effluent EQ Basin or the discharge piping for the far decanter could be provided by Sanitaire. The adder, to be added to the quote enclosed, for discharge piping (including wall pipe), discharge piping venting, and discharge piping supports downstream of the double elbow is \$86,990 CDN.

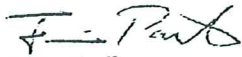
City of Winnipeg NEWPCC  
Decanters

- 2. Decanter Supports:** Each Pair of decanters will require two concrete pedestal support structures to be provided by OTHERS (See attached drawing.). Hardware for mounting the decanters to the pedestals will be provided by Sanitaire. Each pedestal shall have approximate footprint of 0.9M x 0.9M.

Thank you for your consideration. Let us know if you have any questions or concerns.

Best Regards,

ITT – Sanitaire



Francis Pastors  
Application Engineer  
PH: 414-365-2256



## DESCRIPTION OF CONTROL SYSTEM IN SANITAIRE'S SCOPE

Our electrical scope will include a local decanter station at each basin, two wall mounted enclosures with decanter VFD's, wiring diagram of decanter circuit, and a copy of our decanter PLC program. Components included as follows:

### Decanter Control Panel (One per Basin – Two Total)

Provide a wall mounted Nema 12 enclosure which will house the VFD and associated control circuits. The enclosure components shall consist of:

- . Nema 12 with Flange Disconnect for each Decanter
- . Fusible Disconnect
- . Input Line Reactor
- . VFD (ABB per Spec.)
- . Limit Switch Relays

NOTE: The customer will be providing there own PLC for start/stop and control of the VFD.

### Spare

Provide loose a spare VFD

### Local Decanter Station (One per Basin – Two Total)

Provide our standard local decanter station for each decanter, with Raise/Lower/Auto selector switch. This will be wired back to each decanter control panel.

### Circuit Diagram

Sanitaire will provide a wiring diagram for the circuits we are providing. Since we are interfacing with the customers panel, our digital signals such as auto, raised LS, etc will be isolated contacts which the customer will supply voltage to. There is a Bailey control system that will be the customer PLC. The speed reference command will come over a communication network.

### PLC Code

Sanitaire will provide PLC code for a decanter routine.

WINNIPEG, MB  
WASTEWATER TREATMENT PLANT  
ABJ-ICEAS®

ABJ PROPOSAL No. A16639-04

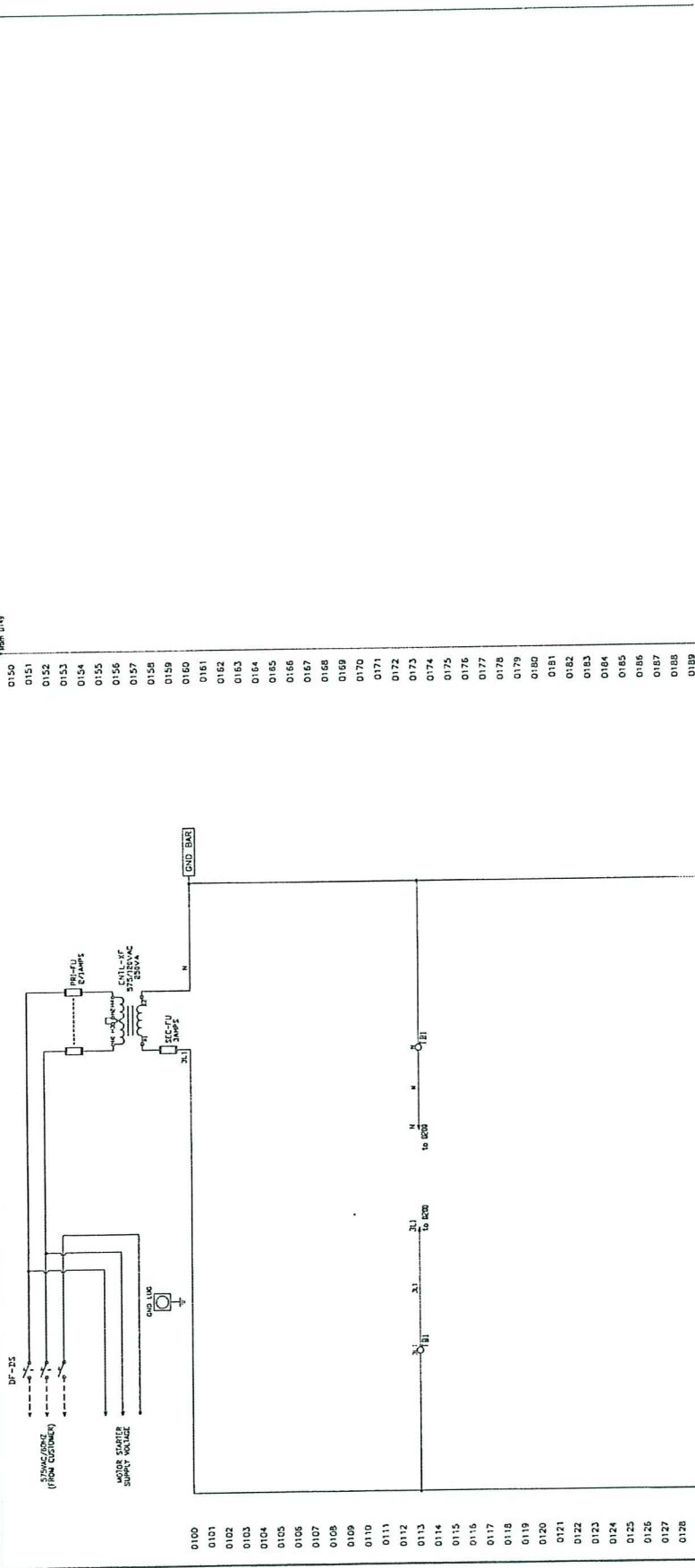
DATE: MARCH 24, 2006



ADVANCED WATER TREATMENT

From 019

To 019



**NOTES:**

- 1) ..... DASHED LINES INDICATES A FIELD DEVICE OR FIELD WIRING.
- 2) ——— SOLID LINES INDICATES WIRING INSIDE CONTROL.

**PRELIMINARY**  
 DIMENSIONS SHOWN ON THIS DRAWING ARE  
 PRELIMINARY.  
 CERTIFIED DIMENSIONS WILL BE PROVIDED  
 AT FINAL DESIGN STAGE.  
 03/22/06

1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				

WINNIPEG, MB  
 WASTEWATER TREATMENT PLANT

CONTROL POWER SCHEMATIC



ADVANCED WATER TREATMENT  
 PROJECT NO. A16639-04  
 SHEET NO. 001 OF 001  
 DATE 03/22/06

0100  
 0101  
 0102  
 0103  
 0104  
 0105  
 0106  
 0107  
 0108  
 0109  
 0110  
 0111  
 0112  
 0113  
 0114  
 0115  
 0116  
 0117  
 0118  
 0119  
 0120  
 0121  
 0122  
 0123  
 0124  
 0125  
 0126  
 0127  
 0128  
 0129  
 0130  
 0131  
 0132  
 0133  
 0134  
 0135  
 0136  
 0137  
 0138  
 0139  
 0140  
 0141  
 0142  
 0143  
 0144  
 0145  
 0146  
 0147  
 0148  
 0149

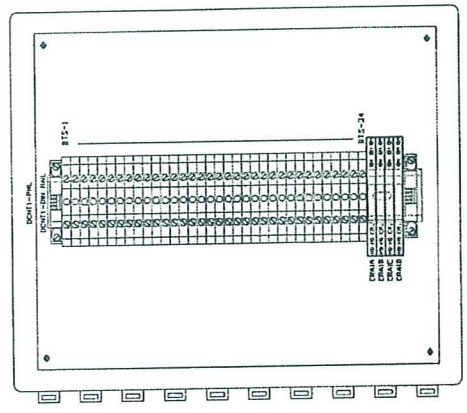
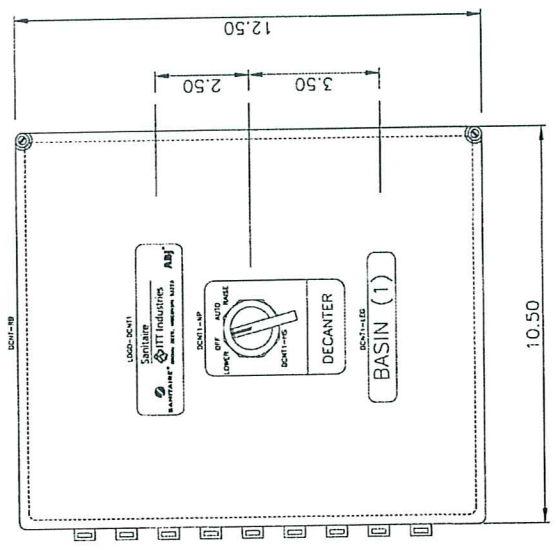
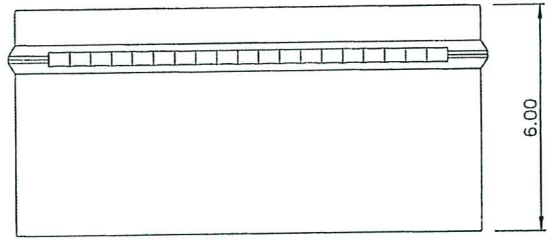
0150  
 0151  
 0152  
 0153  
 0154  
 0155  
 0156  
 0157  
 0158  
 0159  
 0160  
 0161  
 0162  
 0163  
 0164  
 0165  
 0166  
 0167  
 0168  
 0169  
 0170  
 0171  
 0172  
 0173  
 0174  
 0175  
 0176  
 0177  
 0178  
 0179  
 0180  
 0181  
 0182  
 0183  
 0184  
 0185  
 0186  
 0187  
 0188  
 0189











NO.	REV.	DATE	BY	CHKD.	APP'D.

WINNIPEG - MB  
WASTEWATER TREATMENT PLANT

BASIN 1  
LOCAL STATION PANEL  
DECANTER

ITT  
ADVANCED WATER TREATMENT

**PRELIMINARY**  
DIMENSIONS SHOWN ON THIS DRAWING ARE  
PRELIMINARY. PRELIMINARY  
CERTIFIED DIMENSIONS WILL BE PROVIDED  
AT FINAL DESIGN STAGE.  
03/24/06

BASIN ENCLOSURE  
(2 REQUIRED)

## CONTROL STRATEGY TO PREVENT UNEQUAL FLOW DURING DECANT

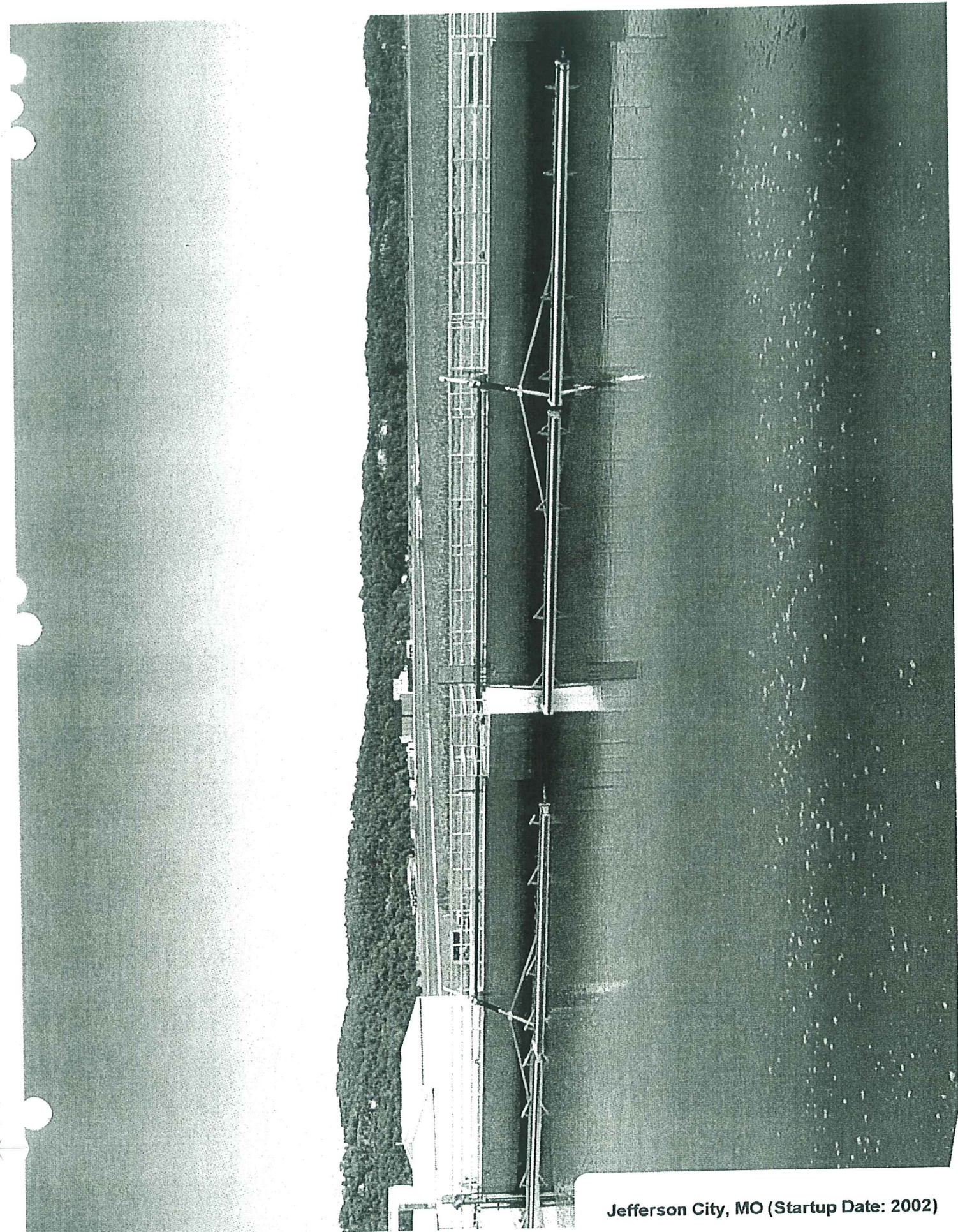
Sanitaire will provide two (2) 10.67M decanters per basin. Each pair of decanters in each basin will be connected via a truss structure as shown in the attached drawing. One (1) actuator is required for each pair of decanters, such that each pair of decanters will be raised and lowered as one (1) unit. During installation, the entire assembly shall be leveled to ensure common weir elevation during decant.

The decanter is designed to remove clarifier effluent from the top of the basin during the decant phase of the operational cycle. The decanter is parked above top water level (TWL) during the aeration and settling phases of the cycle, thereby eliminating any possibility of solids carryover during these periods. The actuator moves between top and bottom limit switches whenever the decanter is in operation, ensuring that the decanter travels from the park/start position to the bottom water level (BWL). During operation, the decanter speed is controlled through use of a variable frequency drive (VFD). As a result, the decanter discharge rate is relatively constant from the time the decanter enters the water to the time it reaches the bottom water level (BWL).

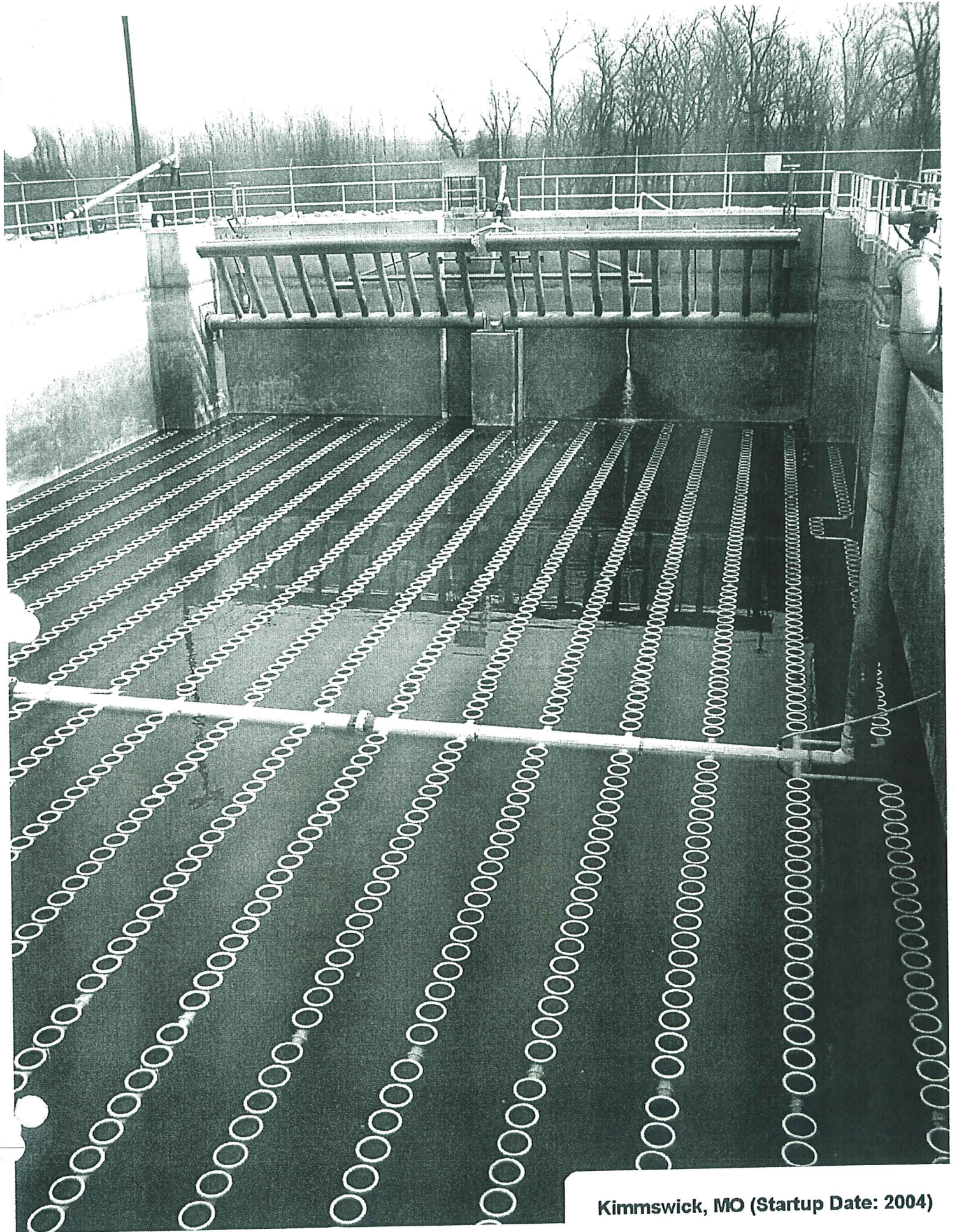
## PARTIAL LIST OF LARGE TRUSSED DECANTER INSTALLATIONS

1. Jefferson City, MO (Startup Date: 2002)
2. Kimmswick, MO (Startup Date: 2004)
3. Denton Creek, TX (Startup Date: 2004)
4. Cleveland, TN (Startup Date: 1998)
5. Afan Baglan - Wales, UK (Startup Date: 2002)
6. Cardiff - Wales, UK (Startup Date: 2000)
7. Kunming, China (Startup Date: 1997)
8. Auckland - Army Bay, New Zealand (Startup Date: 2004)

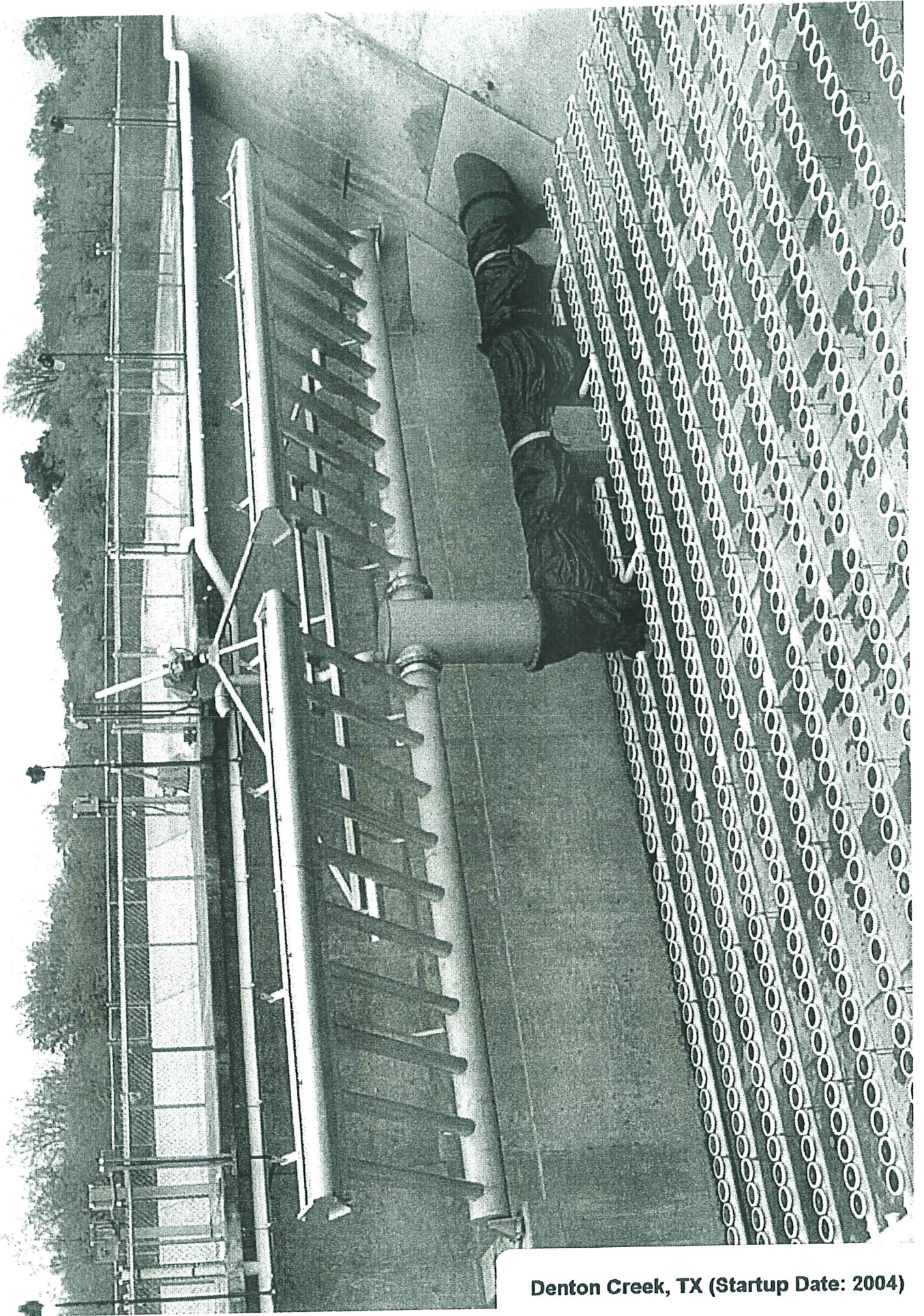
Pictures of each installation are attached. For additional information on each installation, please feel free to contact our local sales representative (eda Environmental) or Sanitaire direct.



Jefferson City, MO (Startup Date: 2002)



Kimmswick, MO (Startup Date: 2004)

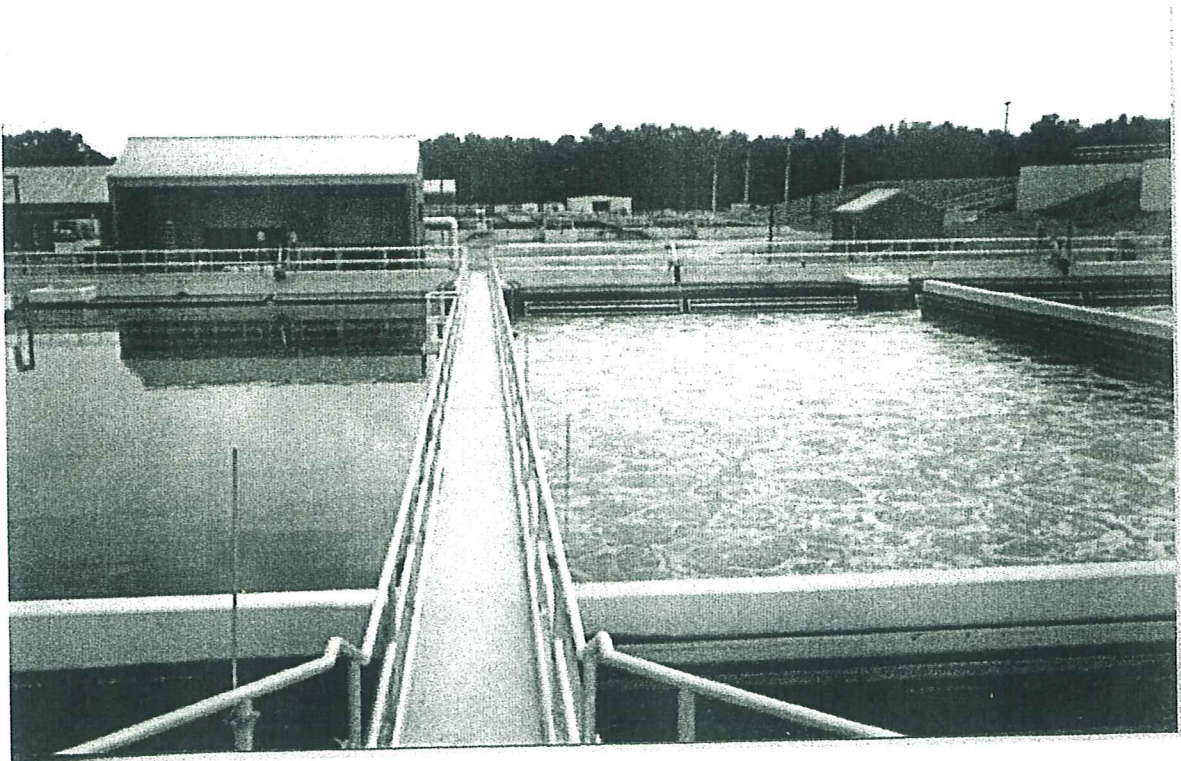
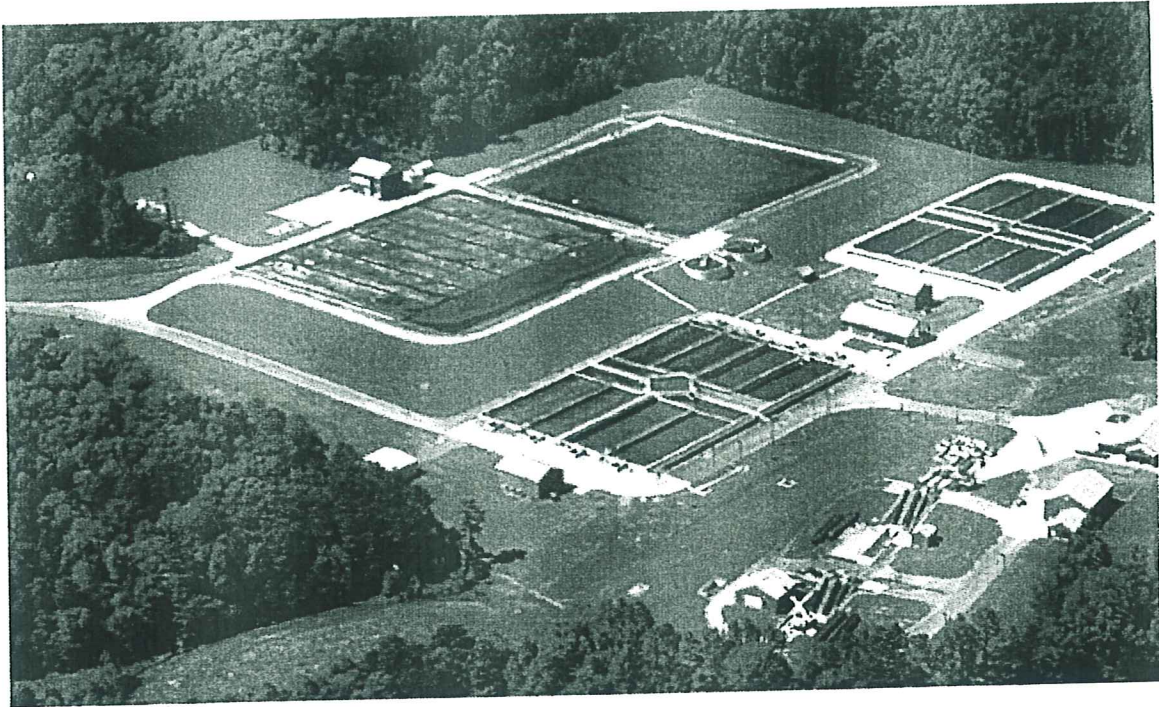


Denton Creek, TX (Startup Date: 2004)

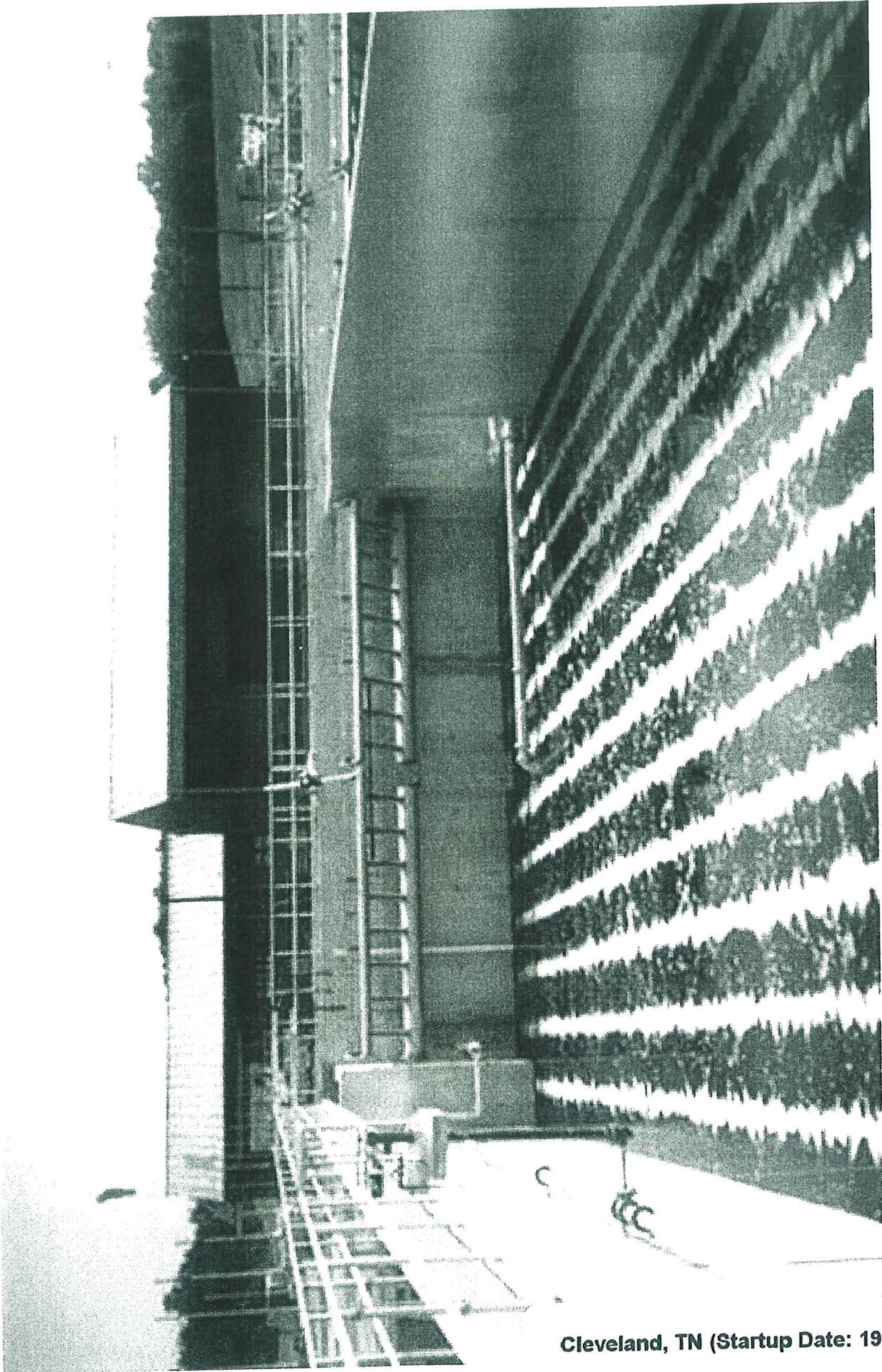
# CLEVELAND WWTP, TN – USA

(Flow Range 62,000 – 167,000 m<sup>3</sup>/day)

(Startup Date: 1998)



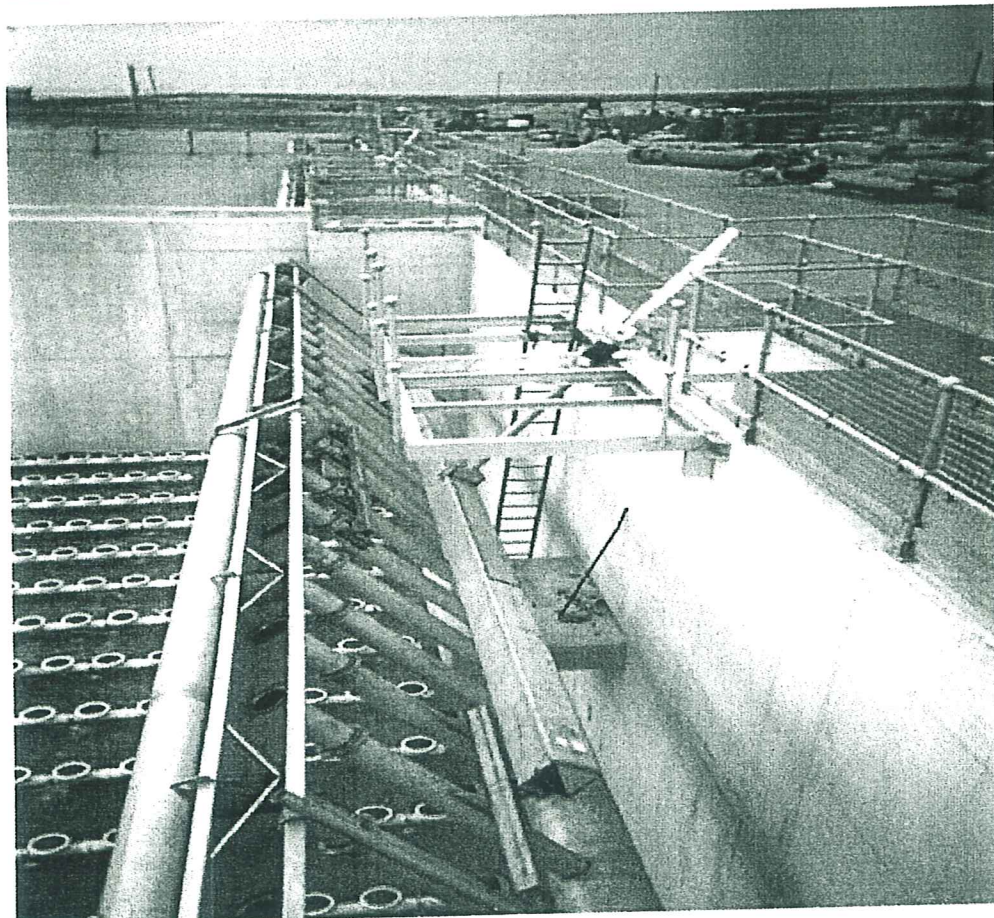
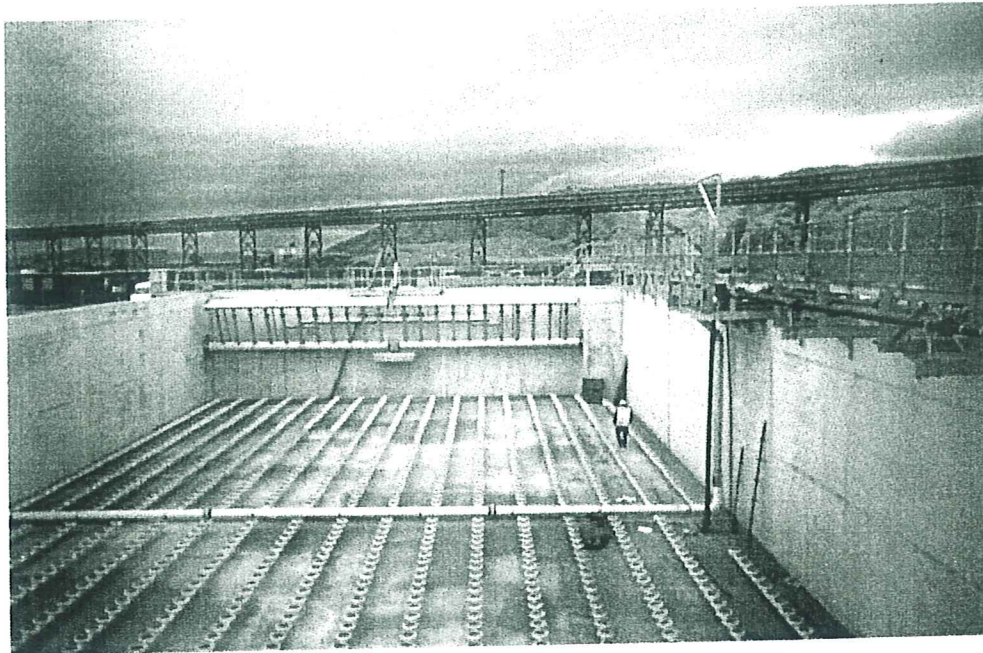




Cleveland, TN (Startup Date: 1998)

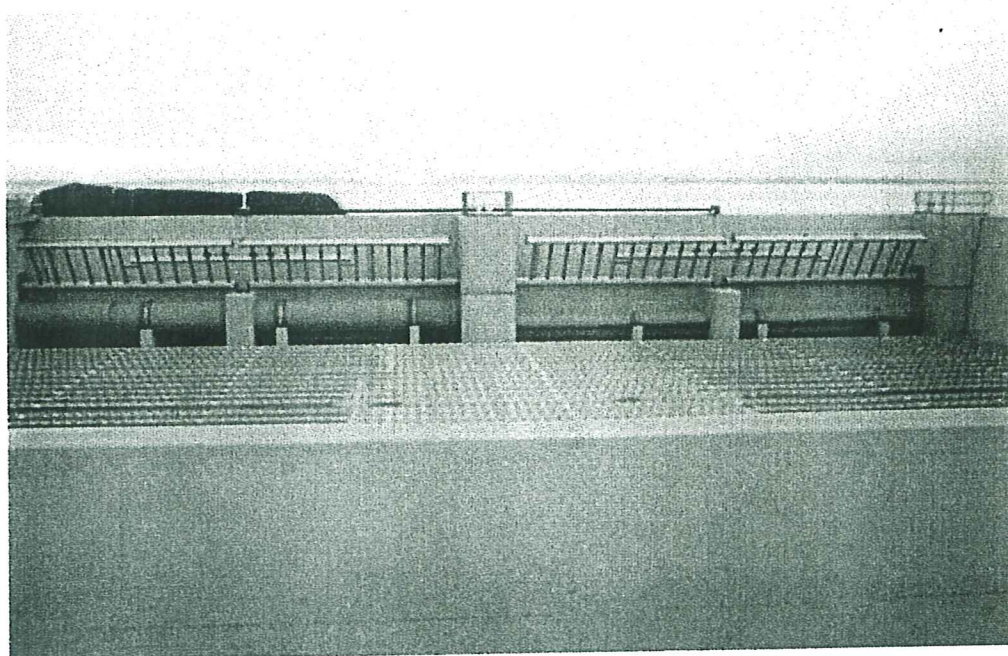
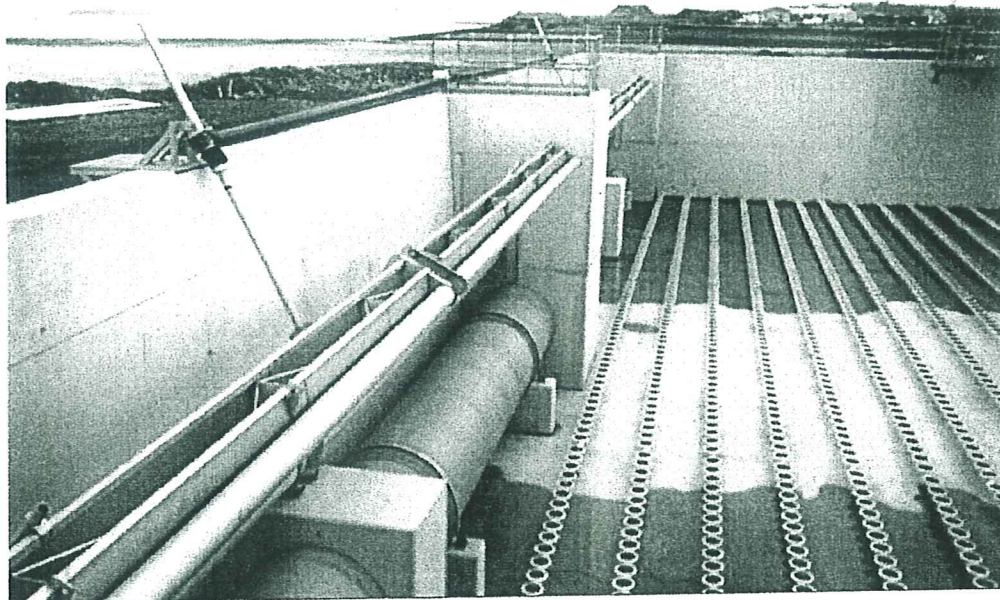
# AFAN BAGLAN WwTW, WALES, UK

(Flow Range 52,500– 106,000 m<sup>3</sup>/day)  
(Startup Date: 2002)



# CARDIFF W<sub>w</sub>TW, WALES UK

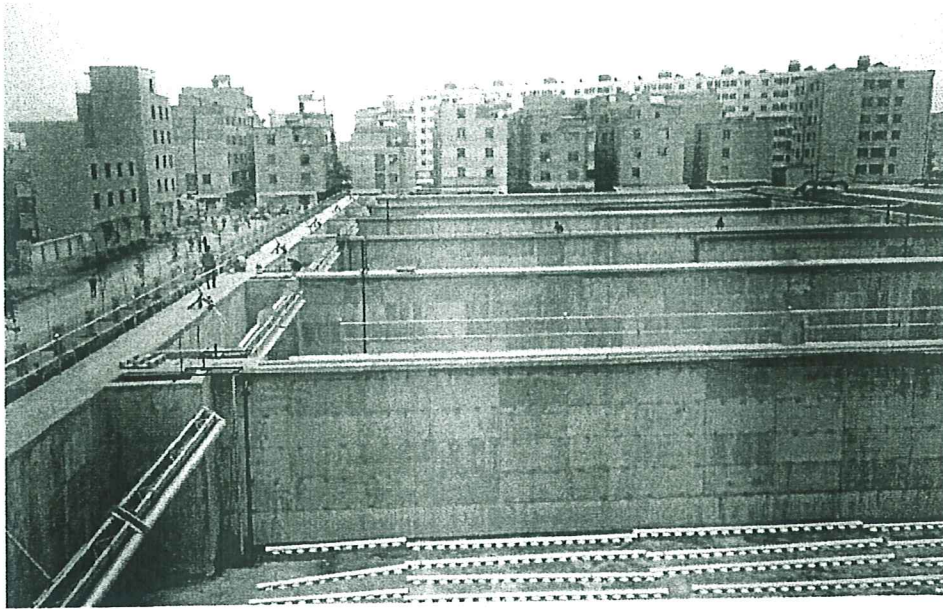
(Flow Range 286,000 – 535,000 m<sup>3</sup>/day)  
(Startup Date: 2000)

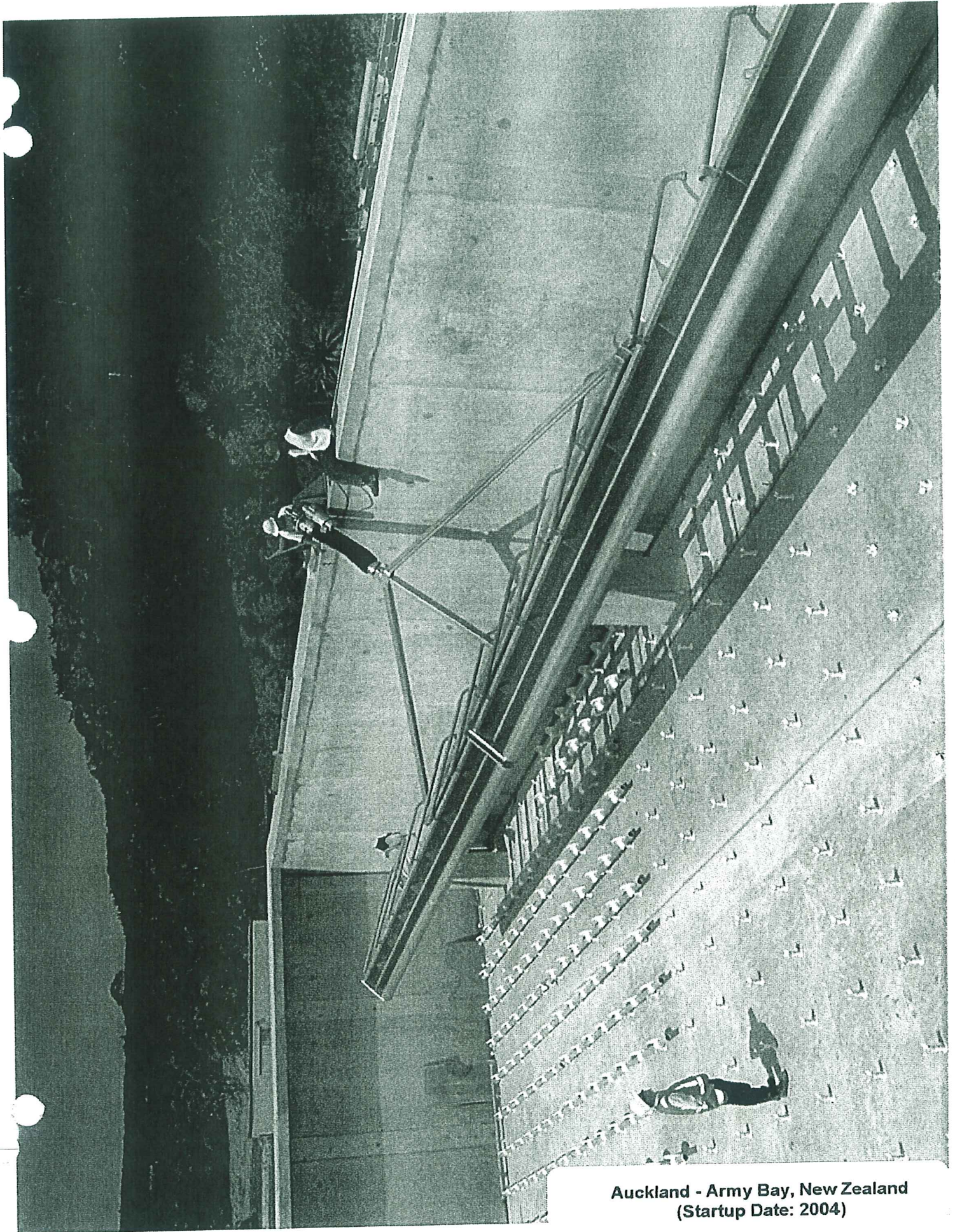


# KUNMING STP No. 3, China

(Flow Range 150,000 – 300,000 m<sup>3</sup>/day)

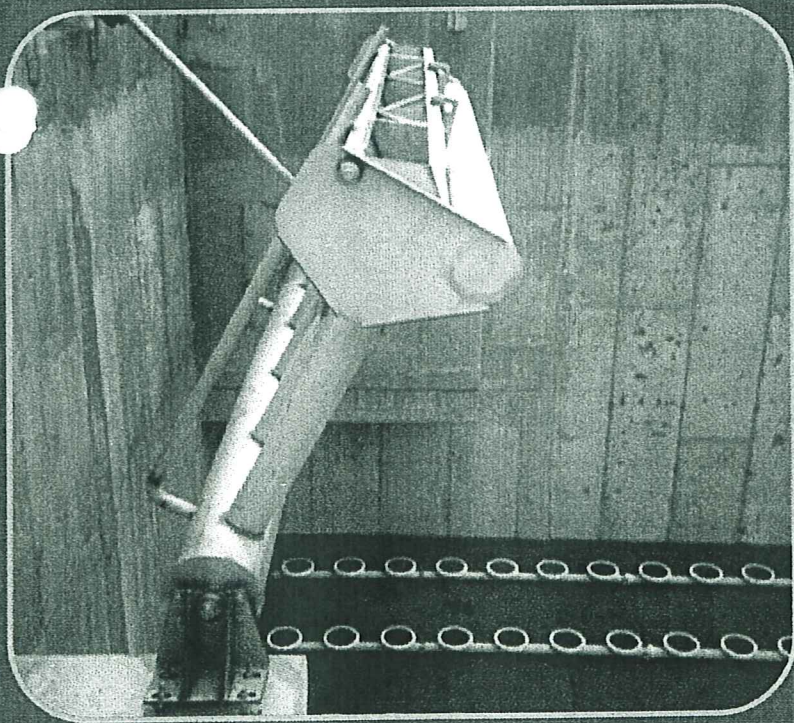
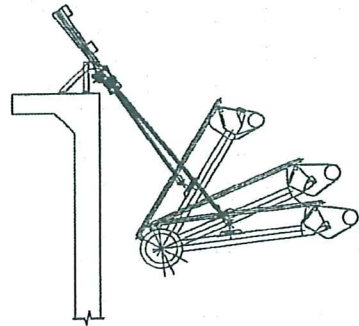
(Startup Date: 1997)





Auckland - Army Bay, New Zealand  
(Startup Date: 2004)

# Decanter System



Sanitaire



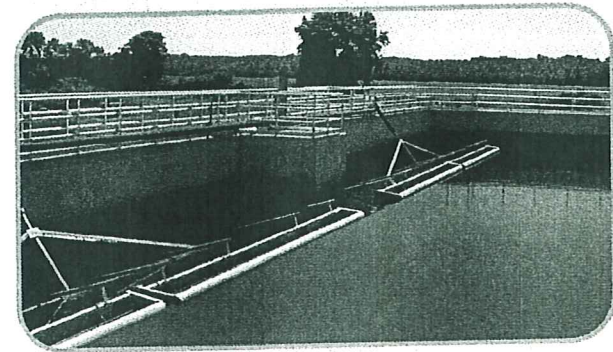
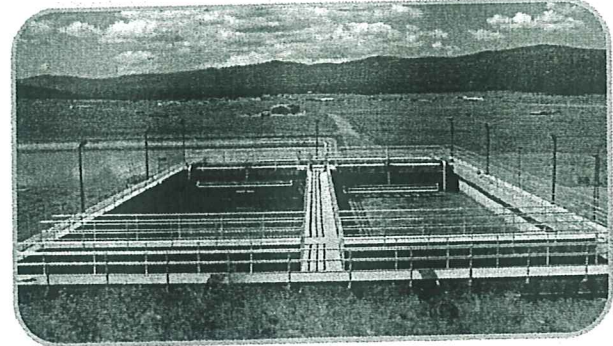
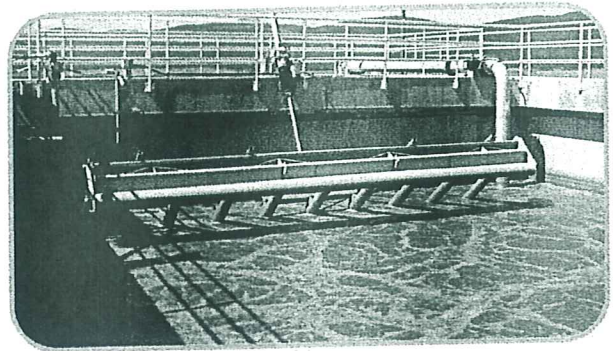
**ITT Industries**  
*Engineered for life*

# ABJ<sup>®</sup>

## Decanter System

Sanitaire has developed through years of experience, a high quality, advanced-engineered decanter.

- Rugged, corrosion resistant stainless steel construction.
- Uses an electromechanical actuator with redundant limit switches and variable frequency drives (VFDs) for speed control.
- Decants from the top down withdrawing only the uppermost clear water from the basin preventing disruption of the settling solids.
- Effluent flow is visible providing a quick check of effluent quality.
- Rests clear of liquid during aeration eliminating the need for valves that are subject to failure.
- Rests below the top of the basin wall acting as an emergency overflow device during power outages.
- Removes effluent from 2-3" below water surface level and excludes scum and other floatables.
- Visible and accessible from the walkway allowing easy access and service without the need to enter the basin.
- Constant overflow rate over entire length of decant period.
- Easy installation.



### Contact Sanitaire for more information

9333 N. 49th Street  
Brown Deer, WI 53223 USA  
Tel 414 365 2200  
Fax 414 365 2210  
[www.sanitaire.com](http://www.sanitaire.com)

Sanitaire



ITT Industries  
*Engineered for life*