



EXECUTIVE SUMMARY

Proposal # QW-1605-29
Revision: 1

Lyons GA - C3500D UV Disinfection System

Calgon Carbon proposes to supply our C3500TMD Ultraviolet Disinfection System to treat effluent at the above site. This system will include 16 UV lamps to treat the peak flow of 3 MGD. The system will be configured into 1 channels, 2 banks per channel, 2 racks per bank each with 4 lamps.

The main advantages of the C3500TMD system are as follows:

- The C3500TMD uses the highest power low pressure horizontal lamps available. The UV lamp emits 204 W of UV light at 254 nm. This means our system will have fewer lamps, resulting in less maintenance.
- The C³500TMD system includes automatic, in-place cleaning as a key feature. This reduces the need for operators to remove lamp racks and manually clean them, significantly reducing maintenance. The Calgon Carbon automatic cleaner is mechanical only – no chemicals are required.
- The patented mixing devices dramatically improve the hydraulic and germicidal efficiency of the UV reactor providing unparalleled performance.

Calgon Carbon is a world leader in granular activated carbon solutions. We are also one of the world's foremost providers of ultraviolet light (UV) disinfection and oxidation technologies for water. From the initial introduction of our UV advanced oxidation systems to the continued development of drinking water and wastewater disinfection technologies, we've been delivering proven UV water treatment solutions for more than 25 years. Combined we have over 500 installations in operation or under construction.

This proposal includes system sizing and a bill of materials. If you need any further information, please feel free to contact



PROJECT SPECIFICATIONS

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1.	<u>Design Conditions</u>	
	Peak Flow	3.0 MGD
	Average Flow	1.5 MGD
	Minimum UV Transmittance	65 %
	Total Suspended Solids	30 mg/L
	Fecal Coliform at Inlet	126000 CFU/100mL
	Fecal Coliform Permit Limit	126 CFU/100mL
2.	<u>C³500D Specifications</u>	
	Lamp UV Radiation at 254 nm	204
	Lamp Life	16,000 Hours
	Lamp Life Factor	0.90
	Quartz Transmission Factor	0.92
	Quartz Fouling Factor	0.95
	T1 RED	24.4 mJ/cm2 validated
3.	<u>System Configuration</u>	
	Number of Channels	1
	Number of Banks/Channel	2
	Number of Racks/Bank	2
	Number of Lamps/Rack	4
	Total Number of Lamps	16
	Number of UV Sensors	2
	Number of Power Distribution Centers	1
	Number of Weirs	1
4.	<u>Hydraulic Considerations</u>	
	Peak Velocity in Channel	27.85 inches/s
	Headloss per UV Bank	2.06 inches
	Headloss across Level Control Device	6 inches
	Total Headloss across UV System	10.11 inches
	Retention Time	3.79 seconds
5.	<u>Electrical Requirements</u>	
	Input Voltage	480/277 VAC, 3 Phase, 4 Wire, 60 Hz
	Peak Loading per PDC	16.75 Amps
	Power Consumption per PDC	9.74 kW
	Total System Power Consumption	9.74 kW
6.	<u>Approximate Channel Dimensions</u>	
	Length	377 inches
	Width	12 inches
	Width at Level Control Weir	30 inches
	Depth	48 inches
	Depth at Level Control Weir	46 inches
	Effluent Depth in Channel	24 inches, nominal



BILL OF MATERIALS

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Item No.	Qty.	Model Number C3500D1202042WB
1.	1	Channel Equipment
	Qty. 1	Level Control Weir
	Qty. 8	Bank Support Brackets
	Qty. 4	Lamp Rack Support Brackets
	Qty. 1	Point Ultrasonic Level Sensor with Mounting Bracket
	Qty. 2	UV Sensors with Mounting Bracket and Scrapers
2.	4	Lamp Rack Assemblies
	Qty. 4	Low Pressure High Intensity Amalgam Lamps
	Qty. 4	Quartz Sleeves
	Qty. 1	Cable Assemblies
	Qty. 1	Cleaning System Motor
	Qty. Lot	Cleaning System Mechanism and Accessories
	Qty. 4	Scrapers
3.	1	Power Distribution Centers
	Qty. 16	Electronic Ballasts
	Qty. 1	Main Breaker
	Qty. 4	Earth Leakage Circuit Breakers
	Qty. Lot	Control & Monitoring Equipment with Operator Station
4.	Lot	Spare Parts and Accessories
	Qty. 1	UV Face Shield
	Qty. 1	Service Trolley
	Qty. 1	Rack Lifting Sling
5.	Lot	Equipment Documentation
6.	Lot	Start-up and Commissioning Services
7.		One (1) Year Warranty Period

Terms and Conditions

Payment Terms:	CCC Standard Terms
FOB:	Jobsite
Delivery:	14 to 18 weeks after receipt of approved shop drawings

CCC Standard Terms & Conditions Will Apply

Budgetary Price (USD):
Additional PDC +SCC Price (USD):

Including:
(1) PDC
(1) SCC
Main Breaker
Allen Bradley CompactLogix L32E PLC Equipment and Accessories
Allen Bradley PanelView 600 Plus Operator Interface