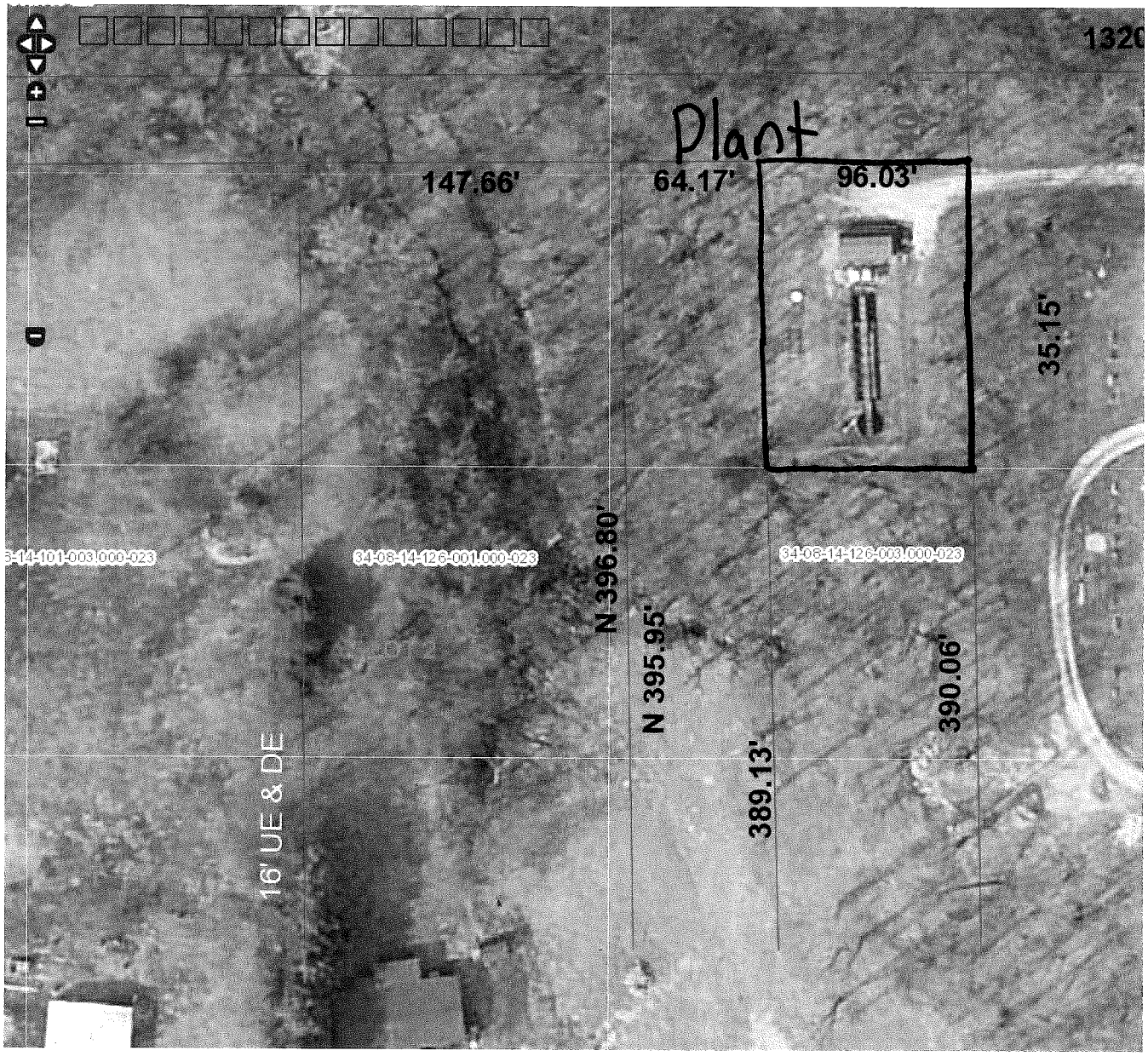

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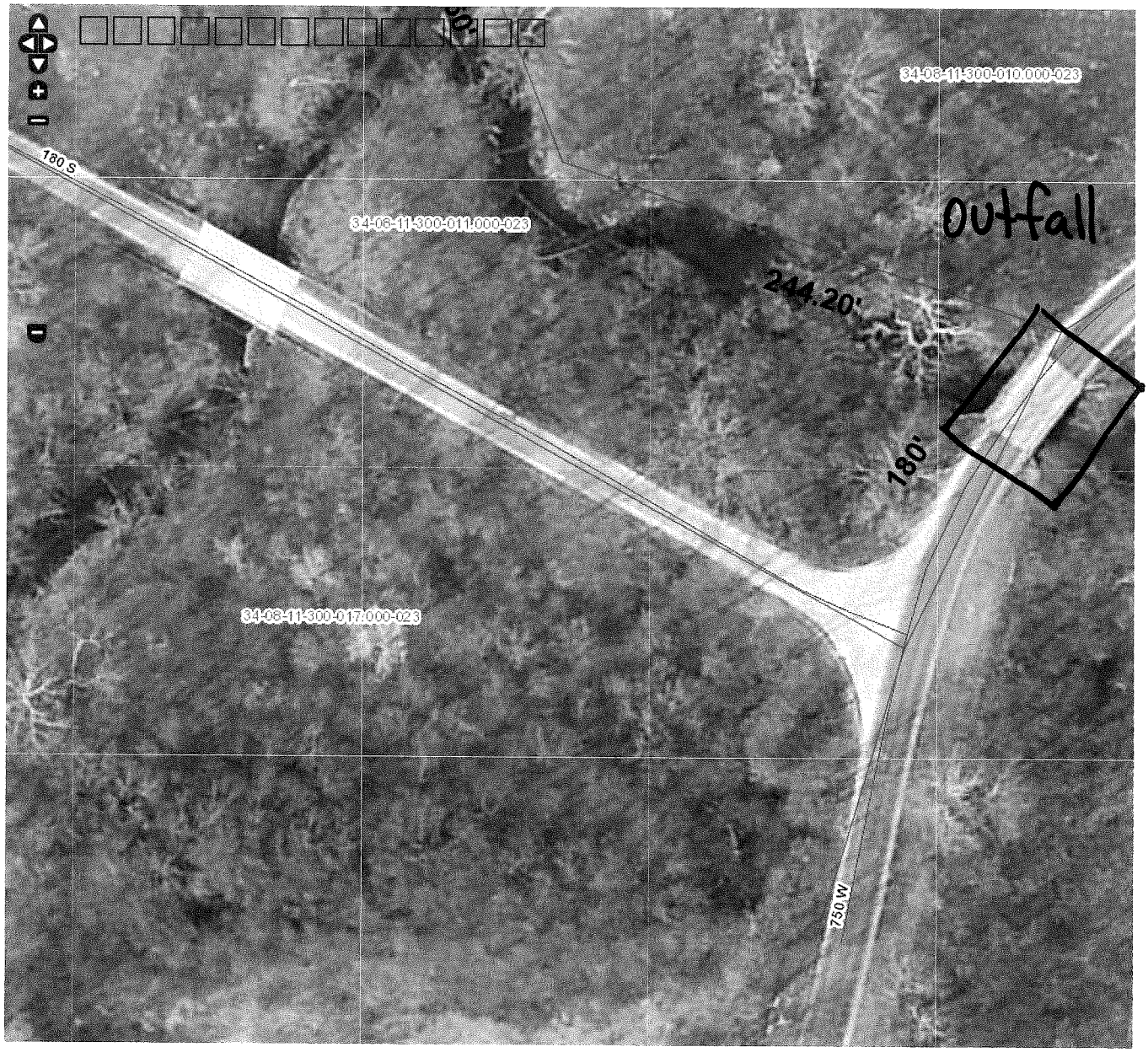

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EXHIBIT D
1995 CONSTRUCTION PERMIT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

November 3, 1994

VIA CERTIFIED MAIL Z 339 825 037

New London Conservancy District
P.O. Box 207
West Middleton, Indiana 46995

Dear Applicant:

Re: 327 IAC Article 3 Construction
Permit Application
Plans and Specifications for
New London Conservancy District
Sewers and WWTP
Permit Approval No. 8088
New London, Indiana

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC Article 3. Enclosed is the Construction Permit (Approval No. 8088), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located in New London.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms, conditions, and reporting and testing requirements.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Technical Secretary of the Water Board for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-7-10-2.5. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.

Plans and specifications were prepared by Sanco Engineering and Associates, Inc., and certified by Mr. Robert C. Stinchcomb, P.E., and submitted for review on June 4, 1994, with additional information submitted on September 2, 1994, September 19, 1994 and September 29, 1994.

Any questions concerning this permit may be addressed to Mr. D. S. Patel of our staff, at 317/232-8646. Legal questions or questions concerning appeal procedures should be addressed to the Office of Legal Counsel, at 317/232-8493.

Sincerely,

Kenneth A. Lee

Kenneth A. Lee, Chief
Facility Construction Section
Office of Water Management

DSP/cd
Project No. P-6932
Enclosures
cc: Howard County Health Department
Indiana Department of Natural Resources
Sanco Engineering and Associates, Inc.
New London Cemetery Association
c/o Kenneth Stout
Teresa E. Williams
Lloyd H. & Roselyn J. Lewis
Larry N. Weichmann
Joseph & Kay Noel
New London Quarterly Meeting of Friends
Cemetery Associates
Ralph & Carol Williams
Charles & Katherine Mays
Arthur Thomas
Ronald L. & Margaret Sanders
Charles & Naomi Tucker
Charles W. & Dianne K. Watkins
J. Alan & Lee Ann Teller
Lee E. & Nina M. Trapp
Richard H. & Mary Whitehouse
c/o Vincent McAninch
Steven K. & Michelle Wright
Joyce Williams
Parks & Katie Ratcliff
Robert W. & Judith Record
c/o William Glover
George E. Reed
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Joseph L. & Cheryl J. DeLong
American Housing Trust VIII
Bankers Trust Company
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George C. & Linda Bookmiller
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Gregory Bugher

bcc: Data Management Section
Inspection Section

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC ARTICLE 3

DECISION OF APPROVAL

New London Conservancy District, in accordance with the provisions of IC 13-7-10 and 327 IAC Article 3 is hereby issued a permit to construct the water pollution treatment/control facility to be located in New London. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 13-7-10-2.5(b), IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-7-10-2.5(c), an Administrative Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

This permit and the authorization to initiate construction of this pollution treatment/control facility shall expire at midnight November 1, 1995. In order to receive authorization to begin construction beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management at least sixty (60) days prior to the expiration date.

Signed this 3 day of November, 19 94, for the Indiana Department of Environmental Management.

Kenneth A. Lee

Kenneth A. Lee, Chief
Facility Construction Section
Office of Water Management

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

The proposed facilities will be a new 0.02 MGD extended aeration plant, 6,334 feet of 8-inch diameter (PVC - SDR 26) sanitary sewer, 2,013 feet of 2.5-inch diameter (PVC SDR 21) force main, 1,232 feet of 3-inch diameter (PVC, SDR 21) force main, 519 feet of 2-inch diameter (PVC, SDR 21) force main and two submersible grinder lift stations with a capacity of 50 GPM at 72 ft. TDH and 40 GPM at 36 ft. TDH.

Inspection during construction of the projects will be provided by Sanco Engineering and Associates, Inc.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC Article 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.

2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.

3. Plans for construction in a floodway must be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

4. After construction and before start up of the sewage treatment facilities, the Commissioner shall be notified of the date of start up and the name of the properly certified operator in responsible charge.

5. Technical supervision, by a certified operator, shall be provided for operation and control of the wastewater treatment facilities and monthly reports of operation shall be submitted to the Department of Environmental Management.

be submitted to this office, and the operator must file monthly monitoring reports with this office in accordance with 327 IAC 5-2-15.

7. The plans for ultimate sludge disposal must be submitted to the Department of Environmental Management for consideration of approval.

8. If sludge handling problems arise due to the chemical addition, the digester capacity and/or dewatering facilities shall be expanded.

9. Close supervision must be provided by qualified personnel during the start-up period to determine proper locations and dosages of coagulant chemical addition for phosphorus removal and/or advanced waste treatment.

10. Analysis of the necessary wastewater parameters must be provided, either by in-house laboratory equipment or by contract with an outside laboratory.

11. Plans and specifications for construction of buildings must be submitted to the Department of Fire and Building Services for consideration of approval.

12. Plans for the outfall structure shall be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.

13. Additional treatment facilities will be installed if the proposed facilities fail to provide adequate control or if necessary for compliance with more stringent Federal or State pretreatment standards or requirements promulgated subsequent to the date of this approval.

14. An audio-visual alarm shall be installed for the proposed lift station.

15. Sewer to water main separation distances must comply with Section 38 of the Recommended Standards for Sewage Works, 1990 Revised Edition.

16. The infiltration/exfiltration for the subject sewer system shall not exceed 200 gallons per inch of diameter per mile of sewer in a 24-hour period.

17. Air relief valves shall be installed at high points in the force main.

18. A drop pipe must be provided for all sewers entering a manhole at an elevation of 24 inches or more above the manhole invert.

19. All force main must be tested (two hour minimum) at 150% of design working pressure for leakage. Leakage (gallons per hour) shall be less than ((# of joints) (d in inches) $(psi)^{1/2}$)/3700. Test procedures from the appropriate AWWA specifications for pressure pipe may be used as an alternate.

20. Deflection tests must be performed on all flexible* pipe after the final backfill has been in place at least 30 days. No pipe shall exceed a vertical deflection of 5%. Deflection test results shall be submitted with the infiltration/exfiltration test results. (*The following are considered nonflexible pipes: vitrified clay pipe, concrete pipe, ductile iron pipe, cast iron pipe, asbestos cement pipe.)

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:

   a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;

   b. Submit a detailed statement of such proposed changes;

   c. Submit revised plans and specifications including a revised design summary; and

   d. Obtain a revised construction permit from this agency.

2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:

   a. Violation of any term or conditions of this permit;

   b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.

3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-7-10-2.5 requires that your petition include:

1. The name and address of the person making the request;

2. The interest of the person making the request;

3. Identification of any persons represented by the person making the request;

4. The reasons, with particularity, for the request;

5. The issues, with particularity, proposed for consideration at the hearing; and

6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.

7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with Kathy Prosser, Technical Secretary of the Water Pollution Control Board. Filing of such a document is complete on the earliest of the following dates:

   a. The date on which the petition is delivered to the Office of the Technical Secretary of the Water Pollution Control Board, located at 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015;

   b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or

   c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Checklist for Construction Project
Design Summary

I. GENERAL

1. Applicant: New London Conservancy District

2. Project Name and Location: New London Conservancy District WWTP

3. Engineer (Consultant): Sanco Engineering and Associates, Inc.

4. Remarks:

   A. Description of Present Situation: Failing septic systems

   B. Description of Proposed Facilities: New 0.02 MGD extended aeration plant, 6, 334 feet of 8-inch diameter (PVC-SDR 26) sanitary sewer, 2,013 feet of 2.5-inch diameter (PVC, SDR 21) force main, 1,232 feet of 3-inch diameter (PVC, SDR 21) force main, 519 feet of 2-inch diameter (PVC, SDR 21) force main and two submersible grinder lift stations with a capacity of 50 GPM at 72 ft. TDH and 40 GPM at 36 ft. TDH.

II. DESIGN DATA

1. Current Population: 1994 - 177

2. Design Year and Population: 2014 - 237

3. Design P.E.: 241

4. Design Flow: 19,400 GPD

   A. Domestic: 16,590 GPD

   B. Industrial/Commercial: 500 GPD

   C. Infiltration/Inflow: 2,310 GPD

5. Average Design Peak Flow: 72,550 GPD

6. Maximum Plant Flow Capacity: 100,000 GPD

7. Design Waste Strength

   A. TBOD : 250 mg/l

   B. CBOD : 208 mg/l

   C. TSS: 250 mg/l

   D. NH_3-N: 20 mg/l

   E. P: N/A

8. NPDES Permit Limitation on Effluent Quality:

		Summer	Winter
A.	TBOD :	24 mg/l	30 mg/l
B.	CBOD :	20 mg/l	25 mg/l
C.	SS:	30 mg/l	30 mg/l
D.	NH_3-N:	2.2 mg/l	3.4 mg/l
E.	P:	N/A	N/A
F.	E-Coli:	125 count/ 100 mg/l	
G.	Chlorine Residual:	0.05 mg/l	
H.	pH:	6 to 9	
I.	D.O.:	N/A	

9. Receiving Stream:

   A. Name: Honey Creek

   B. Tributary to: Wildcat Creek

   C. Stream Uses: Recreational

   D. 7-day, 1-in-10 year low flow: 0.1 CFS

III. TREATMENT UNITS

A. Flow Meters

1. Type: Ultrasonic depth measurement - 3" Parshall flume
2. Location: Effluent metering manhole
3. Indicating, recording and totalizing: Yes

B. Comminutors

1. Type: Smith & Loveless Model - 7R
2. Location: Influent to plant
3. Maximum capacity: 125 gpm
4. By-pass (over flow) bar screen: Yes

C. Activated Sludge

1. Type of activated sludge process: Extended aeration
2. Number and size of units: One - 32.5 ft. L x 12 ft. W x 10.5 ft. SWD
3. Detention time (hrs): 37.9 hours
4. Organic loading (lb BOD /1000 cf): 9.87 #BOD/1,000 CF
5. Type of aeration equipment: Coarse bubble diffusers
6. Type and size of blowers: Two - Rotary P.D. 220 CFM/each
7. Air required (itemize, cfm): 114 CFM - BOD, 42 CFM NH_3-N, 40 CFM digester, 20 CFM air lifts - TOTAL = 216 CFM
8. Provisions for speed adjustment: Yes
9. Air provided: 220 CFM
10. Ventilation in the blower room: N/A - outside in shelters
11. Number and capacity of return sludge pump: Air lift pump 10 - 30 GPM
12. Method of return sludge rate control: Air adjustment valves

13. Return sludge rate as % of design flow: 0 to 200%

14. Provisions for return rate metering: Weir

15. Location of return sludge discharge: Influent end of mixed liquor

16. Facilities to isolate units: No

17. Facilities for flow split control: No

D. Secondary Clarifiers

1. Type of clarifiers: Circular steel

2. Number and size of units: One - 12 ft. dia. x 10.25 ft. SWD

3. Surface settling rate (gpd/sf):

   a. at the design flow: 171.7 GPD/SF

   b.. at the influent pumping rate: 885 GPD/SF

   c. at the equalized flow rate: N/A

4. Detention time (hrs): 10.7 hours

5. Type of sludge removal mechanism: Circular sweep to center collection sump

6. Weir overflow rate: 587 GPD/LFT

7. Disposal of scum: Digester

8. Facilities for unit isolation: No

9. Facilities for flow split control: No

E. Disinfection

1. Type of disinfectant used: Hypochlorite tablet

2. Size of contact tank: 4 bays - 5 ft. x 2.5 ft. x 4 ft. SWD

3. Contact time: 29.8 minutes at peak flow

4. Type of disinfectant feeders: Flow proportional

5. Capacity of the feeders: 8 lbs. Cl_2/day

6. Disinfectant dosage: 8 mg/l = 4.8 lbs. Cl_2/day

7. Scum control baffle: Over and under baffling

8. Source of the disinfectant feed water: N/A

9. Breakwater tank for the feed water: N/A

10. Bypass: No

11. Drain for tank: No

12. Ventilation in chlorine room: N/A

13. Safety equipment: N/A

F. De-Chlorination

1. Chemical used: Sodium Bi-sulfite tablets ($NaHSO_3$)

2. Type of feeders: Tablet feeder with weir control for feed rate

3. Capacity of feeders: 8 lbs. $NaHSo_3$/day

4. Dosage: 0.68 lbs $NaHSO_3$/lbs Cl_2 = 0.41 lbs $NaHSO_3$/day

5. Equipment location: In dechlorination tank

6. Ventilation provided: N/A

10. Safety equipment: N/A

G. Aerobic Digesters

1. Number and size of units: One - 10.67 ft. L x 12 ft. W x 10.5 ft. SWD

2. Detention time: 100 days

3. Organic Loading: 11.7 lbs/day

4. Air supply: Blower

5. Decanting method: Air lift pump

H. Sludge Disposal

1. Ultimate disposal method of sludge: By contract with licensed sludge haulers to Kokomo WWTP

2. Expected solids content of sludge (by the principal method of disposal): 2% to 4%

3. Location of disposal site: N/A

4. Ownership of the disposal site: N/A

5. Availability of sludge transport equipment: By contract

IV. SEWER COLLECTION SYSTEM

Lift Stations

1.	Location:	South pumping	North pumping
2.	Type of pump:	Grinder submersible	Grinder submersible
3.	Number of pumps:	Two	Two
4.	Constant or variable speed:	Constant	Constant
5.	Capacity of pumps:	50 GPM	40 GPM
6.	RPM and TDH:	3,450 RPM - 72 Ft. TDH-3 HP	3,450 RPM - 36 ft. TDH 2 HP
7.	Volume of the wet well:	280 gallons	159 gallons
8.	Detention time in the wet well:	30 min.	30 min.
9.	A gate valve and a check valve in the discharge line:	Yes	Yes
10.	A gate valve on suction line:	N/A	N/A
11.	Ventilation:	Yes	Yes
12.	Standby power:	Yes - Trailer mounted	Yes
13.	Alarm:	Yes	Yes
14.	Breakwater tank:	N/A	N/A
15.	Bypass or overflow:	No	No
16.	Type of force main:	PVC - SDR 21	PVC - SDR 21
17.	Diameter and length of force main:	2.5" - 2,013 ft. 3" - 1,232 ft.	2" - 519 ft. 3" - 1,232 ft.

Sewer

1. Type of sewer material: PVC SDR 26
2. Diameter and length of sewer (indicate length for each size): 8" - 6,334 ft.

3. Stream, highway, and railroad crossing: No

4. Separation of combined sewer or new sewer: N/A

5. Number of manholes: 32

6. Water main protection: Yes

V. MISCELLANEOUS

A. Laboratory equipment: No - by contract

B. Safety equipment: No

C. Plant site fence: yes

D. Handrail for the tanks: Yes

E. Units, unit operation, and plant bypasses: No

F. Flood elevation (10, 25, or 100 year flood): 765 MSL

G. Consistency with EPA Reliability Technical Bulletin: Yes

H. Provisions to maintain the same degree of treatment during construction: N/A

I. Standby power equipment: provided trailer mounted unit

J. Site inspection: Yes

K. Statement in the specifications as to the protection against any adverse environmental effect (e.g., dust, noise, soil erosion) during construction: Yes

L. Hoists for removing heavy equipment: No

M. Adequate sampling facilities: Yes

N. Hydraulic Gradient: Yes

O. Septage receiving facilities: No

8088S

PROJECT No.

Cabinet:

INTRA-OFFICE MEMO P-6932 DATE: 6/15/94

FROM: 327 IAC Construction Permit Coordinator
Engineering Plan Review Section
Office of Water Management

TO: DSP

SUBJECT:

Project: NEW LONDON WWTP + SEWERS

Location: NEW LONDON

Units: 59 SFH; 1 Church; 10 future Homes

Design Flow: 21,890 gpd

Received On: 6/14/94

Connection To: Lift station

Wastewater Treatment By: New London Cons. Dist

Maintenance Provided By: " " "

Wasteload Allocation Checklist -Required only if additional loading (flow) to treatment plant	N/A	New one needed if more than 1 year old- it may need to include maintenance and inspection information.
Sanitary Sewer Design Summary	✓	Should be completely filled out, and match submitted WLA.
$50 Check	✓	not required for State or Federal projects
Signed Application	✓	If signed by mayor or other official of Municipality or Semipublic entity, then WLA letter may not be required.
Plans and Specifications	✓	Each page must be signed or sealed by Indiana P.E., A.I.A. or L.S. (if no lift station work is being done) PLAN VIEW, PROFILE VIEW, DETAILS, SPECIFICATIONS (ASTM,SDR, Bedding, Separation, etc.)
Potentially Affected Person List	✓	Names and addresses.

APPLICATION FOR WATER POLLUTION CONTROL FACILITY
CONSTRUCTION PERMIT REQUIRED BY 327 IAC 3 ARTICLE 3

RECEIVED
JUN 14 1994

See INSTRUCTIONS on Reverse Side

1. APPLICANT (Name and Address)

New London Conservancy District
c/o Mr. Bud Temple, Secretary
Post Office Box 207
West Middleton, Indiana 46995
Phone No (317) 883-7427

2. APPLICANT'S ENGINEER

Name Robert C. Stinchcomb
Company Name Sanco Engineering and Associates, Inc.
Address 410 North U.S. 31
Whiteland, IN 46184
Phone No (317) 535-9022

3. NAME OF PROPOSED FACILITY New London Wastewater Facilities

LOCATION OF PROPOSED FACILITY
New London Conservancy District.

CITY

COUNTY Howard

4. PERMIT APPLICATION FOR CONSTRUCTION, EXPANSION, OR MODIFICATION OF: (check where applicable)

A.	Municipal Collection Facility	☒
B.	Semipublic Collection Facility	☐
C.	Municipal Treatment Facility	☒
D.	Semipublic Treatment Facility	☐
E.	Industrial or Commerical Treatment Facility	☐
F.	Coal Mine Sedimentation Basin	☐
G.	Other Specify	☐

New Facility	☒
Expansion or Modification of Existing Facility	☐

5. ATTACHMENT CHECKLIST - Check Where Applicable

SANITARY SEWER PROJECTS

The following Documents are attached:

A.	Sanitary Sewer Design Summary	☒
B.	Wasteload Allocation Checklist (Acceptance/Capacity Letter from Municipality or Santary District)	☐
C.	Plans and Specifications	☒
D.	$ Non-refundable Application Fee (Do not send cash)	☒
* E.	List of Potentially Affected Persons or Parties	☒

MUNICIPAL/SEMIPUBLIC WASTEWATER TREATMENT

The following Documents are attached:

A.	Wastewater Treatment Design Summary	☒
B.	Plans and Specifications	☒
C.	$ Non-refundable Application Fee (Do not send cash)	☒
* D.	List of Potentially Affected Persons or Parties	☒

INDUSTRIAL WASTEWATER TREATMENT

The following Documents are attached:

A. *	Industrial Treatment Design Summary	☐
B.	Wasteload Allocation Checklist (Acceptance/Capacity Letter from Municipality or Sanitary District)	☐
C.	Plans and Specifications	☐
D.	$** Non-refundable Application Fee (Do not send cash)	☐
* E.	List of Potentially Affected Persons or Parties	☐

* - Fully identify all persons, by name and address, who may be potentially affected by the issuance of this permit, such as adjoining landowners, persons with a proprietary interest, and/or persons who have complained or submitted comments about your proposed facility. Failure to fully identify a potentially affected person may result in any issued permit being challenged and rendered null and void.

6. SIGNATURE

Application is hereby made for a Permit to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and to the best of my knowledge and belief such information is true, complete, and accurate.

Mr. Bud Temple
Printed Name of Person Signing

Secretary, New London Conservancy District
Title

Bud R Temple
Signature of Applicant

June 14, 1994
Date Application Signed

Please refer to IC 13-7-13-3 for penalties for submission of false information

327 IAC ARTICLE 3 CONSTRUCTION PERMIT
SANITARY SEWER DESIGN SUMMARY FORM

Design Flow

Number of Units

_____	1 Bdrm. apts.	@	200 gpd/unit	=	_____	gpd
_____	2 Bdrm. apts.	@	300 gpd/unit	=	_____	gpd
59	Single family homes	@	310 gpd/unit	=	18,290	gpd
_____	Commercial lots					
1	Church	@	500 gpd/unit	=	500	gpd
10	Future Residential	@	310 gpd/unit	=	3,100	gpd

Peaking factor 4.11

Total average flow 21,890 gpd
Peak flow 89,968 gpd
(62 gpm)

Sewer

6,458	ft.	8-inch	ASTM D 3034 SDR 35 (sewer type)
_____	ft.	10-inch	_____
_____	ft.	_____	_____
_____	ft.	_____	_____
_____	ft.	Total length of sewer	

Certified Seal
ROBERT L. STINCHCOMB
REGISTERED
No. 14906
STATE OF INDIANA
PROFESSIONAL ENGINEER

The new sewer will be connected to an existing N/A -inch diameter sanitary sewer at N/A (relative to streets).

Lift Station

Type 1 Wet Wall/Dry Wall; 1 Submersible Grinder (wet/dry well, submersible, wet-well mounted, etc.)
Number of pumps 2 Each
Capacity of pump 80, 22 gpm, 80, 32 TDH, 1750, 3450 RPM, 5, 2 HP
Back-up power source Standby generator, trailer mounted
Average wet-well detention time 30 minutes, 30 minutes, adjustable
Audio/visual alarm with self-contained power supply or telemetry system Yes
Force main 3,252', 215 ft. of 4 inch; 2 -inch ASTM D2241 SDR-21 (type)
Force main discharge elevation 818.25 - 4" 813.25 - 2"

Waste Treatment

Wastewater treatment will be provided by New Treatment Plant - Owned by New London Conservancy District

Inspection/Maintenance

Inspection during construction will be provided by Engineer selected by New London Conserancy District Board

Maintenance after completion will be provided by New London Conservancy District

IDENTIFICATION OF POTENTIALLY AFFECTED PERSONS

SEE ATTACHED MAILING LIST

Please list here any and all persons whom you have reason to believe have a substantial or proprietary interest in this matter, or could otherwise be considered to be potentially affected under the law. Failure to notify a person who is later determined to be potentially affected could result in voiding our decision on procedural grounds. To ensure conformance with the Administrative Adjudication Act (AAA) and to avoid reversal of a decision, please list all such parties. The letter on the opposite side of this form will further explain the requirements under the AAA. Attach additional names and addresses on a separate sheet of paper, as needed. Please indicate below the type of Agency action you are requesting.

NAME _____
STREET _____
CITY, STATE, ZIP _____

NAME _____
STREET _____
CITY, STATE, ZIP _____

NAME _____
STREET _____
CITY, STATE, ZIP _____

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CITY, STATE, ZIP _____

NAME _____
STREET _____
CITY, STATE, ZIP _____

NAME _____
STREET _____
CITY, STATE, ZIP _____

Please complete this form by signing the following statement:

I certify that to the best of my knowledge I have listed all potentially affected parties, as defined by IC 4-21.5.

FACILITY NAME New London Conservancy District
ADDRESS Post Office Box 207
West Middleton, IN 46995

SIGNATURE Bud R Temple
PRINTED NAME Mr. Bud Temple
DATE June 14,1994

- ☐ NPDES PERMIT - 327 IAC 5
- ☐ LAND APPLICATION PERMIT - 327 IAC 6
- ☐ PRETREATMENT PERMIT - 327 IAC 5
- ☐ CONFINED FEEDING APPROVAL - IC 13-1-5.7
- ☐ SEWER BAN WAIVER REQUEST - 327 IAC 4
- ☐ OPERATOR CERTIFICATION 327 IAC 8-12
- ☒ CONSTRUCTION PERMIT 327 IAC 3

Return to:

Indiana Department of Environmental Management
Office of Water Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, Indiana 46206-6015

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 WHITELAND, INDIANA 46184
(317) 535-9022

June 14, 1994

Facility Construction Section
Indiana Department of Environmental Management
100 North Senate Avenue
Post Office Box 6015
Indianapolis, Indiana 46206-6015

Attention: Robin Feller

Re: Application for Construction Permit
Wastewater Facilities Project
New London Conservancy District

Dear Mrs. Feller:

Enclosed herewith is 1 set of plans and specifications for Division "A" and Division"B" of the Wastewater Facilities project for the New London Conservancy District, Howard County, Indiana. Also enclosed is 1 completed application for a construction permit and an application check in the amount of Fifty Dollars ($50.00).

This project is intended to eliminate documented pollution problems in the Conservancy District area.

If you have any questions, please feel free to call or write our office. We would sincerely appreciate your prompt attention to this project.

Sincerely,

SANCO ENGINEERING & ASSOCIATES, INC.

Ronald M. Carter

Ronald M. Carter, P.E.

Enclosure

pc: Mr. Bud Temple

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 WHITELAND, INDIANA 46184
(317) 535-9022

September 16, 1994

Mr. Tom High, Superintendent
Kokomo Wastewater Treatment Plant
1501 West Markland
Kokomo, Indiana 46901

Re: New London Conservancy District
Digested Sludge Disposal
Request for Permit to Accept Waste Digested Sludge

Dear Mr. High:

I would like to request, on behalf of the New London Conservancy District, your consideration in the acceptance of the waste digested sludge from their proposed 20,000 gpd treatment plant. The treatment plant is scheduled for completion of construction in late summer of 1995.

The following information is offered to assist in your evaluation of the liquid sludge and its acceptability for discharge at your treatment facilities.

The treatment facility will serve a residential population only. The only non-residential customer initially will be a church. The sludges, therefore, are expected to be of good quality with only traces of heavy metals or toxics being present, if at all. The treatment process will be preceded with a grinder so that possible plastics and other items will be reduced in size or removed.

The treatment processes will be an extended aeration activated sludge process with sludge wasting to an aerobic digester. The aerobic digester is expected to produce digested sludge in the 2% to 4% concentration range. The volatile solids reduction is expected to be greater than 50% of initial volatiles. The sludge should be acceptable for land application except that initially the "District" is not planning to apply for their own land application permits.

Sludge output from the proposed facility is expected to be only 20,000 to 25,000 gallons per year. It is expected that the sludge will be transported to your plant by any one of the licensed septic tank haulers in your area. This would be achieved by a contract with the septic tank hauler and a written authorization from the City of Kokomo to accept this sludge.

The New London Conservancy District would appreciate your consideration of this sludge disposal problem. In order to assist in the approval of the project for a construction permit by IDEM, it would be appreciated if a letter could be written either to us or to the Indiana Department of Environmental Management advising them of the acceptability of this proposal to discharge sludge to your facility.

If you have any questions or desire any additional information, please contact this office.

Respectfully,

SANCO ENGINEERING & ASSOCIATES, INC.

Ronald M. Carter

Ronald M. Carter, P.E.

RCM/lnb

pc: Mr. D.S. Patel, Facilities Construction ✓
Indiana Department of Environmental Management
Mr Bud Temple, Secretary, New London Conservancy District

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 WHITELAND, INDIANA 46184
(317) 535-9022

September 15, 1994

Mr. D.S. Patel
Facility Construction Section
Indiana Department of Environmental Management
100 North Senate Avenue
Post Office Box 6015
Indianapolis, Indiana 46206-6015

Re: Application for Construction Permit
Wastewater Facility Project
New London Conservancy District
Response to Review Comments

Dear Mr. Patel:

We are transmitting with this correspondence, one complete set of revised plans and specifications for Division "A" and Division "B" of the subject project. These plans and specifications include all recommended revisions that you and I have discussed in our phone conversations. Also, included with this transmittal is a revised design summary page for the aeration and blower discussion (*Page 6 of 17*) and a supplementary page to be attached to the summary.

The system curves for each pump station are attached. Each pumping station has a system curve with operation by itself and no flow from the other station. Also, each pump station has a system curve showing the system with flow being produced by the other station . The system curves have the specified pump curves added to the system curves to show theoretical operating points. It is clear that each station will be capable of pumping the required peak rate when the second station is also running. We do not see a problem with the common force main design as proposed.

One point of discussion remains. The New London Conservancy District is expecting to receive letters of agreement from licensed sludge haulers for disposal of their waste digested sludge. It is expected that the treatment plant will develop approximately 20,000 to 25,000 gallons of 3% digested sludge per year. This may require 6 to 10 tank truck loads out by Contract hauling per year. Letters to this effect are being acquired and will be forwarded to you when available.

If you have any additional questions or comments please call. I hope that you have all needed information to allow this project to be approved for construction.

Respectfully,

SANCO ENGINEERING & ASSOCIATES, INC.

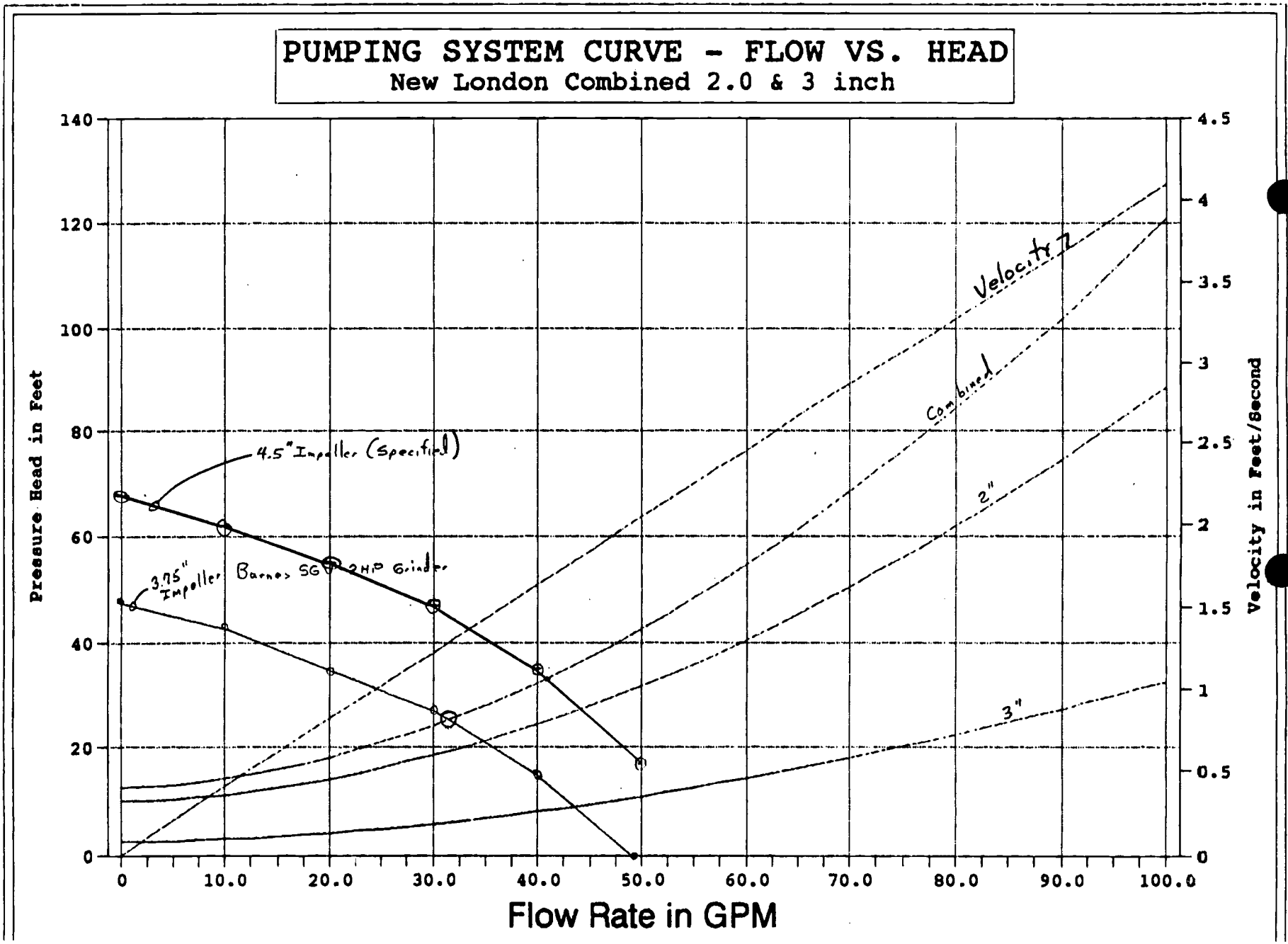
Ronald M. Carter

Ronald M. Carter, P.E.

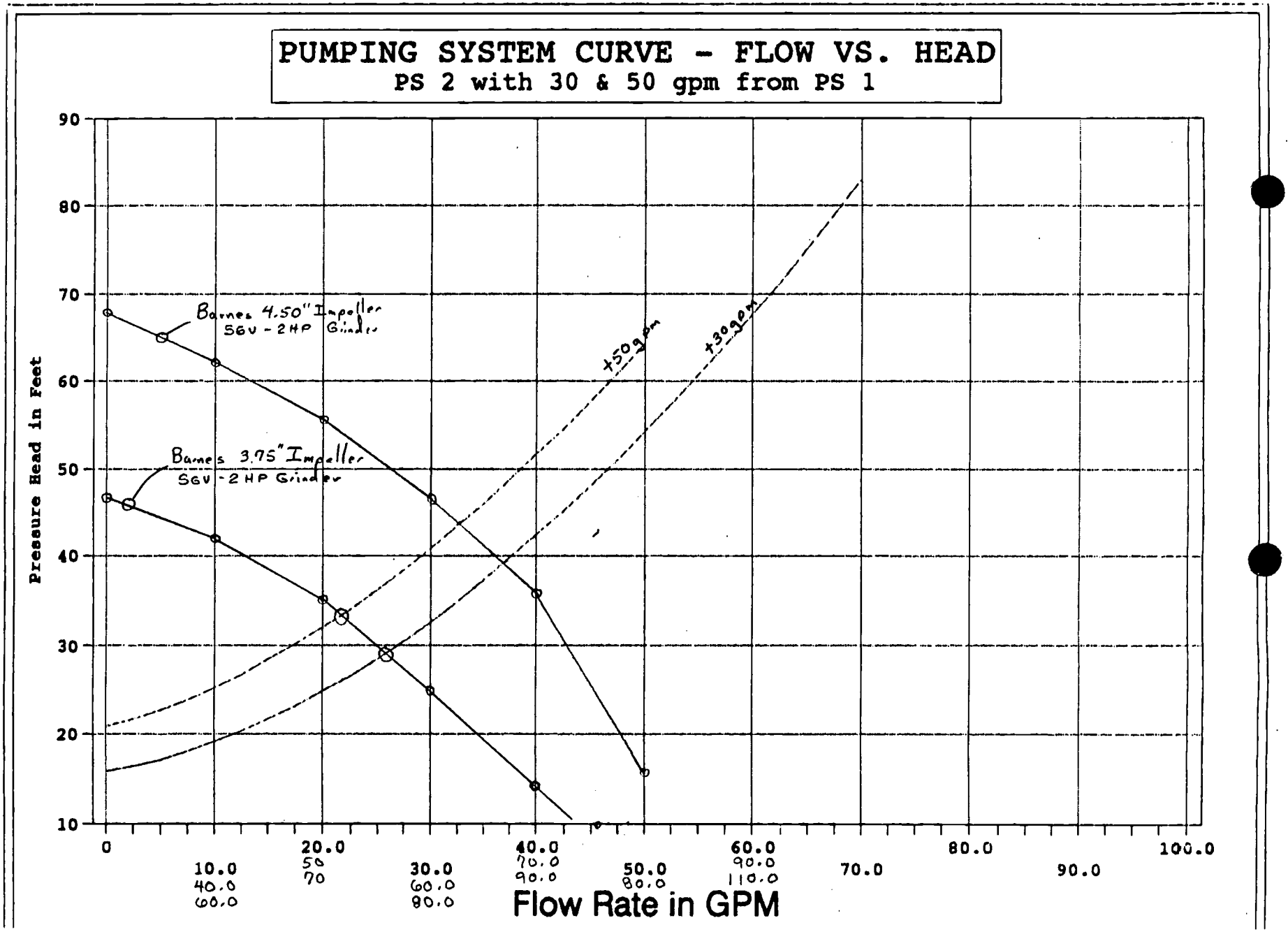
Enclosures

pc: Bud Temple, Secretary, New London Conservancy District

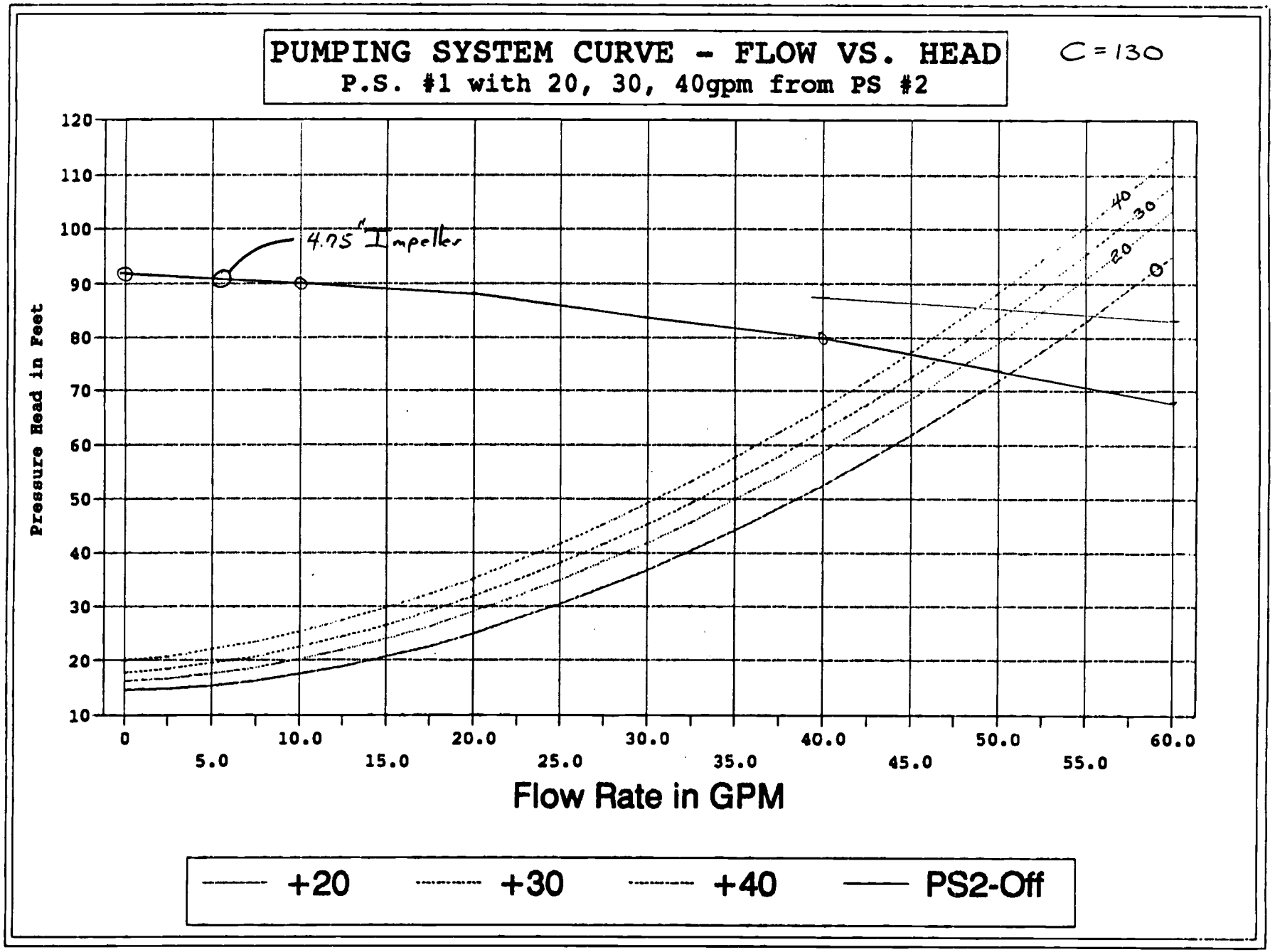
North Pumping Station



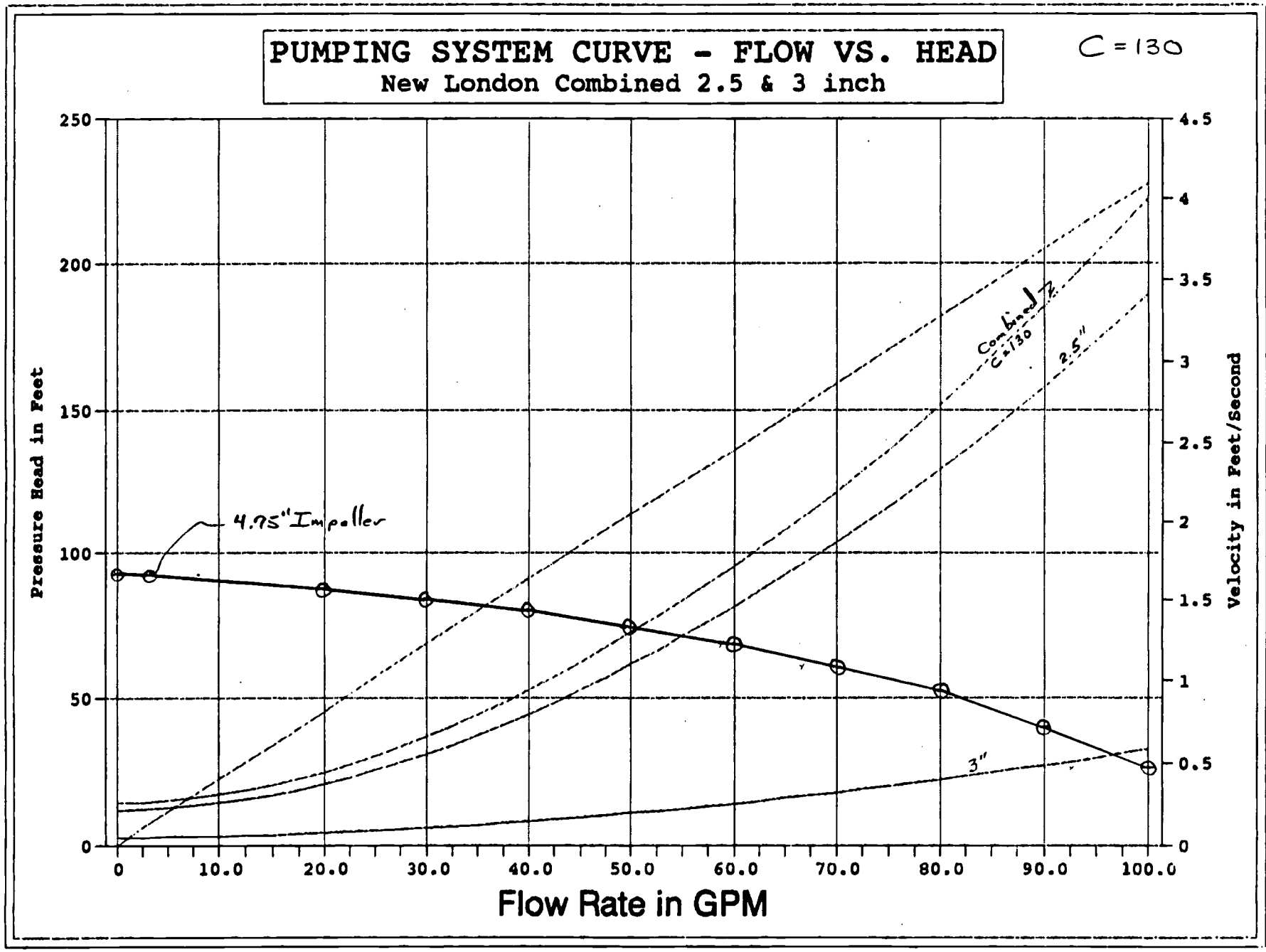
North Pump Station



South Pumping Station



South Pumping Station



AIR PIPING HEADLOSS CALCULATIONS
PREPARED: MAY 16, 1988
REFERENCE: BASIC REFERENCE WAS METCALF & EDDY, PAGE 514

PROJECT DESCRIPTION: NEW LONDON CONSERVANCY DISTRICT

INSTRUCTIONS FOR USE:
1. Complete the required input data. Press F9 to recalculate.
2. For the first pass, estimate the pipe and diffuser loss.
3. Replace this estimate with the calculated result and recalculate. Repeat untill no change.
4. For pipeline losses not listed, go to the table and add the total feet of losses & put in misc.

GENERAL INPUT DATA:

WWTP SITE ELEVATION---------->	820 (FT MSL)
AMBIENT AIR TEMPERATURE (-22 DEG F, WINTER; 104 DEG F, SUMMER)---------->	104 (DEG F)
COMPRESSOR EFFICIENCY (TYP. 70 %)---------->	70 (%)
ESTIMATED PIPING & DIFFUSER HEADLOSS (TYP. 0.5 TO 2 PSI)---------->	1.88 (PSI)
ABSOLUTE PIPING ROUGHNESS COEFF., e---------->	0.00015 (FT)
INDIV. INTAKE AIR FLOW RATE---------->	220 (CFM)
COMBINED DISCHARGE AIR FLOW RATE---------->	220 (CFM)

PIPE INPUT DATA:

	DIA (IN)	LENGTH (FT)	GATE VALVE 1 (NO)	BUTERFLY VALVE 2 (NO)	SWING CHECK VALVE 3 (NO)	45 DEG BEND 4 (NO)	90 DEG BEND 5 (NO)	RUN OF TEE 6 (NO)	SIDE OUTLET TEE 7 (NO)	MISC (FT)	TOTAL EQUIV LENGTH (FT)
INDIV. INTAKE PIPE---------->	2	2	0	0	0	0	2	0	0	12	24.4
INDIV. DISCHARGE PIPE----->	2	2	1	0	1	0	1	0	1	0	42.9
COMBINED DISCHARGE PIPE--->	2	10	0	0	0	0	4	1	0	2	36.2

APPURTENANT INPUT DATA:

INDIV. INTAKE FILTER (TYP. 0.5 TO 2 " H20)---------->	2 (" H20)
INDIV. INTAKE SILENCER (TYP. 0.5 TO 1 FOR CENT.; 6 TO 8 " H20 FOR PD)---------->	8 (" H20)
INDIV. DISCHARGE SILENCER (TYP. 0.5 TO 1 FOR CENT.; 6 TO 8 " H20 FOR PD)---------->	8 (" H20)

TANK INPUT DATA:

DROP PIPE & GRID LOSS (TYP. 0.5 PSI)---------->	0.5 (PSI)
DIFFUSER LOSS (TYP. 0.5 PSI)---------->	0.5 (PSI)
DEPTH OF LIQUID OVER DIFFUSER (TYP. 10 TO 14)---------->	9 (FT)

OUTPUT DATA:

	VEL. (FPM)	RECOMMENDED VELOCITY RANGE: LOW END (FPM)	TO	HIGH END (FPM)	PIPE LOSS (PSI)	APPURT. LOSS (PSI)	TOTAL LOSS (PSI)
INDIV. INTAKE PIPE---------->	8758	1200	-	1800	0.675	0.361	1.036
INDIV. DISCHARGE PIPE----->	8758	1200	-	1800	1.187	0.289	1.476
COMBINED DISCHARGE PIPE--->	8758	1200	-	1800	1.002	X	1.002
TANK LOSSES---------->	X	X		X	0.500	0.500	1.000
LIQUID HEAD---------->	X	X		X	X	X	3.897

TOTAL DYNAMIC HEAD----------> 8.410

ATTACHMENT TO
SANITARY SEWER DESIGN SUMMARY
NEW LONDON CONSERVANCY DISTRICT

PUMPING STATION INFORMATION

South Pumping Station Flow Estimation No. 1

Existing Residences		=	34		
Future Growth Residence		=	15		
Population Estimation ≈ 49 x 3		=	147	Capita	
Flow Estimate =	Residential 147 x 70	=	10,290	gpd	
	Infiltration	=	1,310	gpd	
	Total Base Flow	=	11,600	gpd	
	Peak Hourly Flow	=	44,528	gpd	= 30.9 gpm

North Pumping Station Flow Estimation No. 2

Existing Residences		=	25	Residences	
Future Residential		=	5	Residences	
Population Estimation ≈ 30 x 3.0		=	90	Capita	
Flow Estimate =	Residential 90 x 70	=	6,300	gpd	
	Institutional	=	500	gpd	
	Infiltration	=	1,000	gpd	
	Total Base Flow	=	7,800	gpd	
	Peak Hourly Flow	=	29,560	gpd	= 20.5 gpm

4. Organic loading (lb BOD /1000 cf): 48.54 lb/4,095 cf = 11.85 #/1,000 cf

5. Type of aeration equipment: Coarse Bubble Diffusers

6. Type and size of blowers: Rotary P.D. - 220 cfm - Two Supplied

7. Air required (itemize, cfm): BOD - 114 cfm, NH_3-N = 42 cfm
Digester = 40 cfm, Air Lifts = 20 cfm

8. Provisions for speed adjustment: Yes - Belt - Sheave Variable Drive

9. Air provided: 220 cfm

10. Ventilation in the blower room: Located Outside in Shelters

11. Number and capacity of return sludge pump: 1 - Air Lift Pump 10-30 G.P.M.

12. Method of return sludge rate control: Air Adjustment Valves

13. Return sludge rate as % of design flow: 50% to 200% of D.A.F.

14. Provisions for return rate metering: Visual by measuring weir observation

15. Location of return sludge discharge: Influent end of mixed liquor

16. Facilities to isolate units: Short term diversion of influent to digester. Isolation not generally provided.

17. Facilities for flow split control: NOT APPLICABLE

Oxidation Ditch NOT APPLICABLE

1. Number and size of units:

2. Detention time (hrs):

3. Organic loading (lb BOD /1000 cf):

4. Type and efficiency of aeration equipment (lb 0 /HP-hr):

5. Oxygen required:

6. Oxygen provided:

7. Flow velocity in ditch:

8. Number and capacity of return sludge pump:

9. Method of return sludge rate control:

10. Return sludge rate as % of design flow:

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 WHITELAND, INDIANA 46184
(317) 535-9022

September 1, 1994

Mr. D.S. Patel
Facility Construction Section
Indiana Department of Environmental Management
100 North Senate Avenue
Post Office Box 6015
Indianapolis, Indiana 46206-6015

Re: Application for Construction Permit
Wastewater Facility Project
New London Conservancy District
Response to Review Comments

Dear Mr. Patel:

The project plans and specifications have been revised to include the recommended changes as requested in your phone conversations made during your review. Our notations of your comments indicate that there were several key items to be corrected and responded to. The primary comment was that all private wells must be located and shown on the plans and that pressure rated pipe must be used for the new gravity sewers to protect the private wells from possible contamination.

We are submitting with this transmittal a new set of revised plans and revised specification pages for the project. Specific comments and the Engineers responses to each comment follows in the below narratives.

- **Comment No. 1** - The design Summary does not show the dimensions of plant units.

  Engineer's Response to Comment No. 1 *- The design summary has been revised to include all dimensional data as requested.*

- **Comment No. 2** - The force main system curves and pump curves should be submitted and included with the design summary.

  Engineer's Response to Comment No. 2 *- The pump station system curves and pump curves are included with this transmittal. The south pumping station has been re-designed since the original submittal and is now a submersible grinder pumping station very similar to the north pumping station. The system curves are for the redesigned stations. The system curves also are combined curves which break the system into the 2", 2½", and 3" systems. A schematic of the system layout is included to assist in the understanding of the curves.*

- **Comment No. 3** - The U.V. disinfection system may not be approvable with the effluent quality that is anticipated.

  Engineer's Response to Comment No. 3 *- The U.V. light disinfection system has been removed from the project and replaced with a chlorine contact tank and tablet feed chlorination and dechlorination system. The specifications and plans have been revised to include this change. The design summary has also been revised.*

- **Comment No. 4** - The grinder pumping stations need vents.

  Engineer's Response to Comment No. 4 *- The plans have been revised to include air vent pipes for each submersible station.*

- **Comment No. 5** - Cleanouts must be on dead end lines not longer than 150 feet and several cleanouts should be replaced with manholes. Also a cleanout detail should be shown.

  Engineer's Response to Comment No. 5 *- The plans have been revised to include manholes instead of cleanouts on sewers longer than 150 feet. A new detail has been added to the plans for the cleanouts.*

- **Comment No. 6** - A force main bedding detail should be provided.

  Engineer's Response to Comment No. 6 *- A force main bedding detail has been added to the plans.*

- **Comment No. 7** - All private wells should be shown on the plans. All piping within 100 feet of the wells should be pressure rated piping.

  Engineer's Response to Comment No. 7 *- A considerable amount of field investigation and well mapping work was initiated by this comment. All wells within the Town were field located and mapped. It was decided that all gravity sewer piping would be specified as pressure rated pipe. The plans and specifications have been revised in accordance with the comment request.*

- **Comment No. 8** - A profile of the force main should be shown in the Division "B" project drawings.

  Engineer's Response to Comment No. 8 *- A profile of the influent force main in Division "B" has been added to the Division "B" plans.*

- **Comment No. 9** - The hydraulic profile should show more specific elevation information.

  Engineer's Response to Comment No. 9 *- The hydraulic profile in Division "B" has been revised to include more elevations and also to incorporate the change made by deletion of U.V. disinfection and inclusion of chlorination/de-chlorination.*

- **Comment No. 10** - Blower piping head loss calculations should be submitted.

  Engineer's Response to Comment No. 10 *- A spreadsheet design analysis for air piping losses is attached with this submittal.*

It is important to note that other changes have been made to both Division "A" and Division "B" plans. An alignment change was made in the sewers to accommodate some difficulty with easement acquisitions.

This submittal includes a new set of plans for each Division and revised specifications sections for each Division. A new design summary for the sanitary sewer and for the wastewater treatment plant is also included. A cost summary of the project is also included as well as an air piping design spreadsheet printout. Pumping systems curves for each pump station and proposed pump curves are included.

If you have any questions, or desire further information, please contact our office.

Respectfully,

SANCO ENGINEERING & ASSOCIATES, INC.

Ronald M. Carter

Ronald M. Carter, P.E.

RMC/lnb

Enclosures

pc: New London Conservancy District with Enclosures

NEW LONDON CONSERVANCY DISTRICT

SANITARY SEWER DESIGN SUMMARY

(327 IAC Article 3 Construction Permit)

DESIGN FLOW ESTIMATIONS

A. Population Data and Customer Base

1.	Existing Residential	=	59	Homes
2.	Commercial Institutional	=	1	Church
3.	Vacant Lots (Future Growth)	=	10	Residential
4.	Service Area Growth/Expansion	=	10	Residential
5.	Existing Population Estimate			
	59 homes x 3.0 capita/home	=	177	Capita
6.	Future Growth Potential			
	20 homes x 3.0 capita/home	=	60	Capita
7.	Design Residential Population	=	237	Capita

B. Flow Estimation (Based on Assumed 70 gpcd)

1.	Existing Residential - (177 x 70)	=	12,390	gpd
2.	Future Residential - (60 x 70)	=	4,200	gpd
3.	Institutional (Church) (500 gpd)	=	500	gpd
4.	Infiltration Estimate			
	(6334/5280 * 8 x 200 + 1700/5280 * 6 * 200)	=	Say 2310	gpd
5.	Total Base Flow Estimate	=	19,400	gpd
6.	Peak Flow Rate Estimate (Di-Urnal Gravity)			
	Peak Factor = 4.11			
	D.C.I. x 4.11 = 17,090 x 4.11	=	70,240	gpd
	Infiltration = 2,310	=	2,310	gpd
	Total Peak Hourly Flow Rate	=	72,550	gpd
		=	50	gpm

7. Peak Flow Rate To Plant (Pumped)
   a. Set by pumping rates from pumping Stations
   b. Short term cycled rates
   c. Pumps sized to handle estimated peak hourly flow or slightly higher

SEWER INFORMATION

A. 6,334 feet of 8 inch ASTM D2241, SDR26 (Pressure Rated)
B. 535 Feet of 6 inch ASTM D2241, SDR26 (Service Line)
C. The new sewers will be connected to the new pump stations and all flow will be transported to the new treatment plant.

LIFT/PUMPING STATIONS INFORMATION

A. South Pumping Station

1. Type = Submersible Grinder - Duplex Station
2. Number of Pumps - 2 each rated for peak flow rate estimated
3. Capacity - 50 gpm at 72' TDH, 3450 RPM, 3 HP
4. Back up power source provided by portable trailer mounted generator set.
5. Average wet well detention time is approximately 30 minutes and is adjustable by float setting change.
6. Audio/video alarm with self contained back up battery will be provided in the contract.
7. The force main consists of 2,013 feet of 2.5 inch pipe which discharges into 1,232 feet of 3.0 inch pipe.
8. Force main material is PVC - ASTM D2241 SDR21
9. See attached schematic and system curve.

B. North Pumping Station

1. Type = Submersible Grinder - Duplex Station
2. Number of Pumps - 2 each rated for peak flow rate estimated
3. Capacity - 40 gpm at 36' TDH, 3450 RPM, 2 HP
4. Back up power source provided by portable trailer mounted generator set.
5. Average wet well detention time is approximately 30 minutes and is adjustable by float setting change.
6. Audio/video alarm with self contained back up battery will be provided in the contract.
7. The force main consists of 519 feet of 2.0 inch pipe which discharges into 1,232 feet of 3.0 inch pipe.
8. Force main material is PVC - ASTM D2241 SDR21
9. See attached schematic and system curve.

WASTE TREATMENT

Wastewater treatment will be provided by a new wastewater treatment plant owned and operated by the New London Conservancy District.

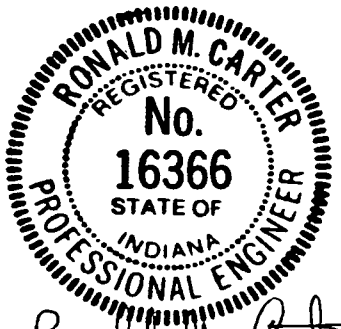
INSPECTION/MAINTENANCE

Inspection during construction will be provided by an Engineer selected by the New London Conservancy District.

Maintenance after completion will be provided by the New London Conservancy District.

CERTIFICATION

This sanitary sewer design summary is certified under the seal of a registered professional engineer.



Certified By: Ronald M. Carter

Ronald M. Carter
Registered P.E. No. 16366
State of Indiana

ITEMIZED PROJECT BUDGET
WASTEWATER FACILITIES PROJECT
NEW LONDON CONSERVANCY DISTRICT

ITEM	COST	CFF	LOCAL*
Pump Station No. 1	$ 21,000	$ 21,000	$ 0
Pump Station No. 2	31,000	31,000	0
Sanitary Sewers (6,071 LF - 8 inch)	128,800	128,800	0
Service Laterals (3,535 LF)	50,000	0	50,000
Master Flow Meter	6,000	6,000	0
Water Usage Meters (61)	0	0	0
Force Main (4 inch) 3,471 LF	28,000	28,000	0
Manholes (32)	36,000	36,000	0
Final Grading & Seeding (4,000 LF)	8,000	0	8,000
Granular Fill (993 LF)	14,000	14,000	0
Compacted Aggregate (1,150 LF)	6,700	6,700	0
Pavement Replacement (400 LF)	8,500	8,500	0
Treatment Plant Improvements	149,000	89,000	60,000
Plans & Specifications	67,000	56,000	11,000
Inspection	98,000	75,000	23,000
Construction Subtotal	**652,000**	**500,000**	**152,000**
Easements and Permits	13,000	0	13,000
Grant Administration	14,000	0	14,000
Environmental Review	5,000	0	5,000
Bond and Local Counsel	36,000	0	36,000
Financial Advisor	8,000	0	8,000
Fees, Advertising and Printing	3,000	0	3,000
Administrative Subtotal	**79,000**	**0**	**79,000**
Total Project Cost	**731,000**	**500,000**	**231,000**

*Project Cost and Funding Summary Local Funds

Previously Incurred Expenses	$ 19,000	
Project Cost (Local Share)	231,000	
Total	**$ 250,000**	
Funding and Bond Issue	$ 200,000	
Connection Fees	50,000	
Total	**$ 250,000**	

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

July 27, 1994

Mr. Robert C. Stinchcomb, P.E.
SANCO Engineering & Associates, Inc.
410 North U.S. 31
Whiteland, IN 46184

Dear Mr. Stinchcomb:

Re: Results of a Wasteload Allocation Study For a Proposed Municipal Wastewater Treatment Plant, New London, Indiana

This letter is to advise you of the proposed effluent limitations for a proposed discharge from a municipal wastewater treatment plant into Honey Creek, a tributary to Wildcat Creek in Howard County. According to your letter, you are planning to construct a 0.025 mgd biomechanical wastewater treatment plant. Since it is unclear whether or not the Russiaville Wastewater Treatment Plant discharge is located upstream of this outfall, the proposed effluent limits were determined under the assumption that it is not. The $Q_{7,10}$ low flow of the receiving stream at the outfall location is 0.1 cfs (0.0646 mgd). The dilution ratio is 2.6 to 1.

In accordance with the Small Discharger Rule, 327 IAC 5-10-5, the following effluent limitations would apply:

	Summer		Winter		
Parameter	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Units
$CBOD_5$	20.0	30.0	25.0	40.0	mg/l
TSS	30.0	45.0	30.0	45.0	mg/l
NH_3-N [*]	2.2	3.3	3.4	5.1	mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	s.u.

[*] Per 327 IAC 5-10-5 (a)(2), if the wastewater treatment plant is not hydraulically or organically overloaded and is of a type which is inherently capable of achieving the water quality standards for ammonia-nitrogen, such as an extended aeration-type plant, the ammonia-nitrogen limitations can be waived.

Disinfection of the effluent will be required from April 1 through October 31, annually. If chlorination is used as the method of disinfection, the residual chlorine at the chlorine contact tank must be no less than 0.5 mg/l and no greater than 1.0 mg/l to ensure disinfection. In addition, the effluent must then be dechlorinated to the lowest detectable level. If an alternative method of disinfection is used, such as ultraviolet light disinfection, then E. coli limits would apply. E. coli is limited to 125 count/100 ml monthly average calculated as a geometric mean and 235 count/100 ml daily maximum. Installation of a UV intensity meter may decrease the required monitoring frequency for E. coli.

Please provide this office with documentation that there are no objections to this project by the Howard County Commissioners and the Howard County Health Department.

The facility must be under the control of a certified operator.

The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact me at (317) 232-8704.

Sincerely,

Catherine Hess

Catherine Hess
NPDES Supervisor
Permits Section
Office of Water Management

CAH/cah

Enclosure

cc: Howard County Health Department

AIR PIPING HEADLOSS CALCULATIONS
PREPARED: MAY 16, 1988
REFERENCE: BASIC REFERENCE WAS METCALF & EDDY, PAGE 514

PROJECT DESCRIPTION: NEW LONDON CONSERVANCY DISTRICT

INSTRUCTIONS FOR USE:
1. Complete the required input data. Press F9 to recalculate.
2. For the first pass, estimate the pipe and diffuser loss.
3. Replace this estimate with the calculated result and recalculate. Repeat untill no change.
4. For pipeline losses not listed, go to the table and add the total feet of losses & put in misc.

GENERAL INPUT DATA:

WWTP SITE ELEVATION	820	(FT MSL)
AMBIENT AIR TEMPERATURE (-22 DEG F, WINTER; 104 DEG F, SUMMER)	104	(DEG F)
COMPRESSOR EFFICIENCY (TYP. 70 %)	70	(%)
ESTIMATED PIPING & DIFFUSER HEADLOSS (TYP. 0.5 TO 2 PSI)	1.88	(PSI)
ABSOLUTE PIPING ROUGHNESS COEFF., e	0.00015	(FT)
INDIV. INTAKE AIR FLOW RATE	150	(CFM)
COMBINED DISCHARGE AIR FLOW RATE	150	(CFM)

PIPE INPUT DATA:

	DIA (IN)	LENGTH (FT)	GATE VALVE 1 (NO)	BUTERFLY VALVE 2 (NO)	SWING CHECK VALVE 3 (NO)	45 DEG BEND 4 (NO)	90 DEG BEND 5 (NO)	RUN OF TEE 6 (NO)	SIDE OUTLET TEE 7 (NO)	MISC (FT)	TOTAL EQUIV LENGTH (FT)
INDIV. INTAKE PIPE-------->	2	2	0	0	0	0	2	0	0	12	24.4
INDIV. DISCHARGE PIPE----->	2	2	1	0	1	0	1	0	1	0	42.9
COMBINED DISCHARGE PIPE--->	2	10	0	0	0	0	4	1	0	2	36.2

APPURTENANT INPUT DATA:

INDIV. INTAKE FILTER (TYP. 0.5 TO 2 " H20)	2	(" H20)
INDIV. INTAKE SILENCER (TYP. 0.5 TO 1 FOR CENT.; 6 TO 8 " H20 FOR PD)	8	(" H20)
INDIV. DISCHARGE SILENCER (TYP. 0.5 TO 1 FOR CENT.; 6 TO 8 " H20 FOR PD)	8	(" H20)

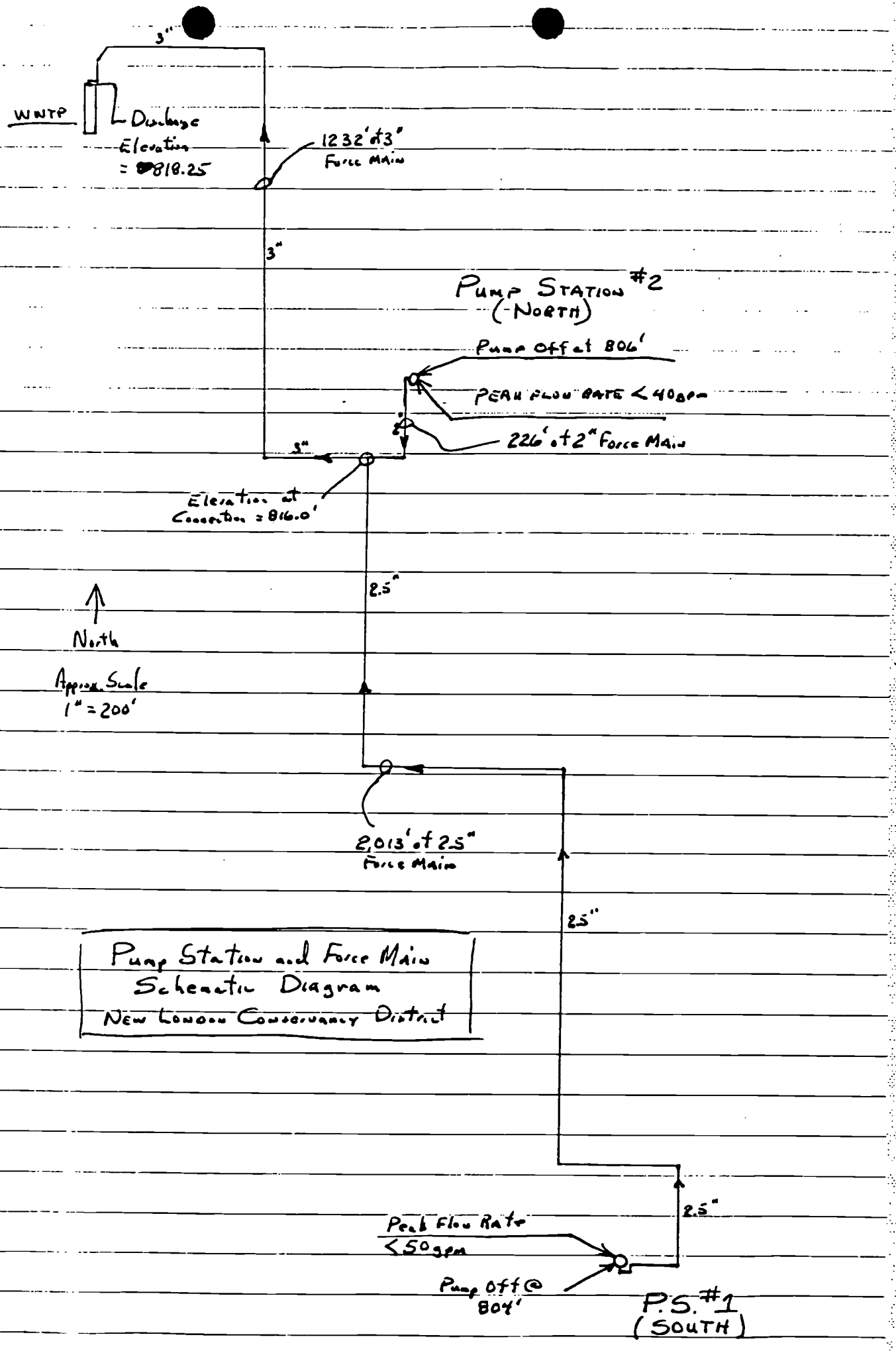
TANK INPUT DATA:

DROP PIPE & GRID LOSS (TYP. 0.5 PSI)	0.5	(PSI)
DIFFUSER LOSS (TYP. 0.5 PSI)	0.5	(PSI)
DEPTH OF LIQUID OVER DIFFUSER (TYP. 10 TO 14)	9	(FT)

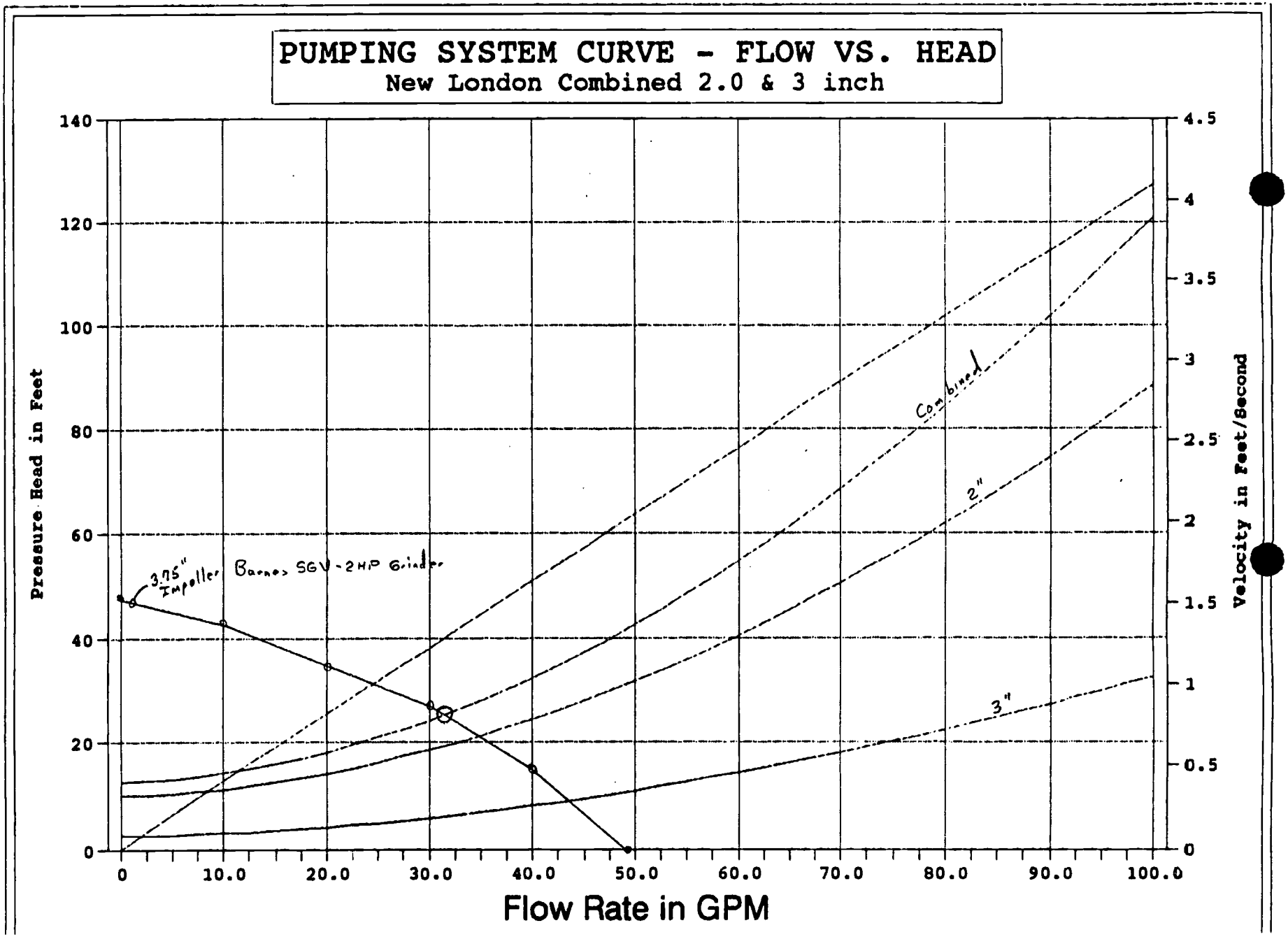
OUTPUT DATA:

	VEL. (FPM)	RECOMMENDED VELOCITY RANGE LOW END (FPM)	TO	HIGH END (FPM)	PIPE LOSS (PSI)	APPURT. LOSS (PSI)	TOTAL LOSS (PSI)
INDIV. INTAKE PIPE-------->	5972	1200	-	1800	0.314	0.361	0.675
INDIV. DISCHARGE PIPE----->	5972	1200	-	1800	0.552	0.289	0.841
COMBINED DISCHARGE PIPE--->	5972	1200	-	1800	0.466	X	0.466
TANK LOSSES--------------->	X	X		X	0.500	0.500	1.000
LIQUID HEAD--------------->	X	X		X	X	X	3.897

TOTAL DYNAMIC HEAD----------> 6.878

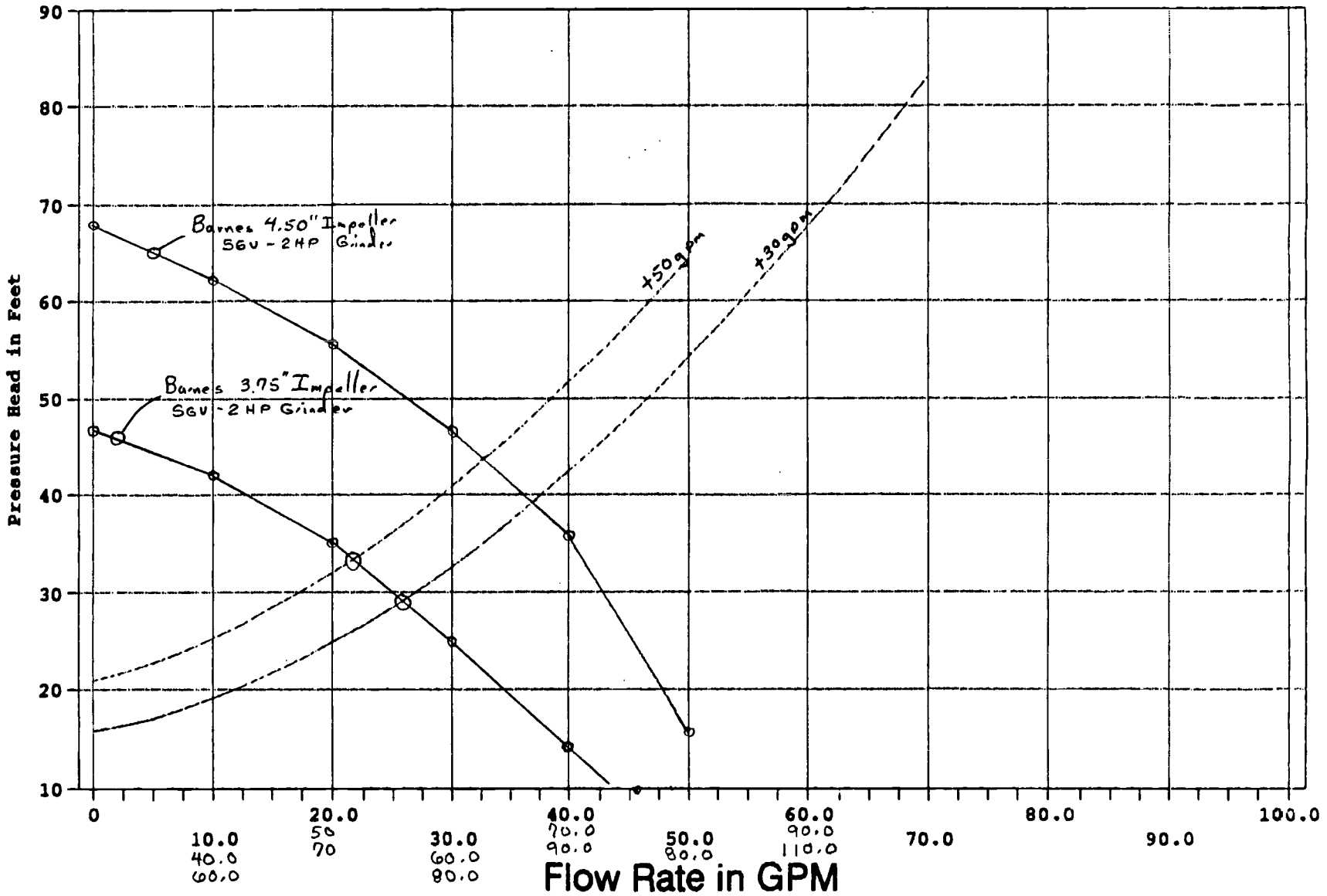


Pump Station and Force Main
Schematic Diagram
New London Conservancy District


PUMPING SYSTEM CURVE - FLOW VS. HEAD
New London Combined 2.0 & 3 inch
Pressure Head in Feet
Velocity in Feet/Second
Flow Rate in GPM
140
120
100
80
60
40
20
0
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Combined
2"
3"
3.75" Impeller
Barnes SGV-2HP Grinder

PUMPING SYSTEM CURVE - FLOW VS. HEAD

PS 2 with 30 & 50 gpm from PS 1



5" - 90
2 - 45
Etc. 518.25

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 • WHITELAND, INDIANA 46184
(317) 535-9022

PROJECT New London Conservancy District DES. RMC DATE _____

ITEM Pump Station No. 1. CK. _____ DATE _____

Capacity - Flow Prediction

Service Area South

Existing Residences	34	x 3.62 cap/lu x 60 gpcd	=	7,384 gpd
Future Residences	7	x 3.62 cap/lu x 60 gpcd	=	1,520 gpd
		Total Flow DCI	=	8,904 gpd
				(6.9 gpm)

Infiltration

$\frac{3,500' - 8"}{5,280'} \times \frac{200 \text{ gpd}}{\text{in mile}} \times \text{mile} =$ = 1,060 gpd

ADF = 9,964 gpd

Peak Flow Rate (South)

P.F. = 4.19

PHF = 8,904 x 4.19 + 1,060 = 38,368

(= 26.6 gpm)

T.D.H. Calculation

2.5" PVC Pipe	- 2,013'		=	2,013
Fittings -	90°∠ -	6 @ 4'	=	24
	45°∠ -	7 @ 3'	=	21
	22½∠ =	2 @ 3	=	6

Pump Station

26' of 1¼" pipe eq.

$L_{2.5} = 26 \times \frac{f_1}{f_{2.5}} \times \left(\frac{2.5}{1.25}\right)^5$

$26 \times \frac{32}{1} = 832'$ equiv. 2½"

Total Equiv. 2½" Pipe

Station	- 832'
Fittings	- 51'
Length	- 2,013'
Total	= 2,896'

SANCO
ENGINEERING & ASSOCIATES, INC.
410 NORTH U.S. 31 • WHITELAND, INDIANA 46184
(317) 535-9022

PAGE _____ OF _____

PROJECT _____ DES. _____ DATE _____

ITEM _____ CK. _____ DATE _____

P.S. #1

Static Lift

Pumps Off. – 804

Elev. @ Connection to "Y" - 4" – 816

Static Lift = 12'

Force Main System Curve - 4"

Length – 3245 - 2,013 = 1,232' - 4" 1,232'

Fittings 5-90° L @ 7 = 35'

2-45° L @ 5 10'

T.L. 4" = 1277' eq. 4"

Discharge @ 818.25

Pipe @ Wye = 816

Static = 2.25'

P.S. #1 (South)

BARNES® SUBMERSIBLE GRINDER PUMPS
Series: SGV, Vortex

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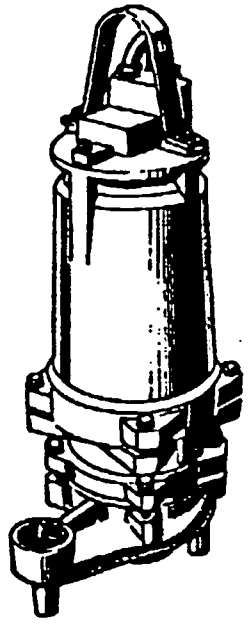

Series: SGV 3, 5, 7-1/2 HP
3450 RPM

(OPTIONAL)
Canadian Standards Association
File No. LR16567

Description:
THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC, COMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUND SLURRY.

Specifications:

DISCHARGE:		2" NPT, Vertical
LIQUID TEMPERATURE:		160°F Intermittent
VOLUTE:		Cast Iron ASTM A-48, Class 30.
MOTOR HOUSING:		Cast Iron ASTM A-48, Class 30.
SEAL PLATE:		Cast Iron ASTM A-48, Class 30.
IMPELLER:	*Design:*	12 Vane,Vortex, With Pump Out Vanes On Back Side. Dynamically Balanced, ISO G6.3.
	Material:	85-5-5-5 Bronze
SHREDDING RING:		Hardened 440C Stainless Steel Rockwell C-55.
CUTTER:		Hardened 440CStainless Steel, Rockwell C-55.
SHAFT:		416 Stainless Steel
SQUARE RINGS:		Buna-N
HARDWARE:		300 Series Stainless Steel
PAINT:		Acrylic Primer with Enamel Top Coat.
SEAL:	*Design:*	Tandem Mechanical, Oil Filled Reservoir.
	Material:	Rotating Faces - Carbon Stationary Faces - Ceramic Elastomer - Buna-N Hardware -300 Series Stainless
CABLE ENTRY:		25 ft. Cord. Pressure Grommet for Sealing and Strain Relief.
SPEED:		3450 RPM (Nominal).
UPPER BEARING:		
	Design:	Single Row, Ball
	Lubrication:	Oil
	Load:	Radial
INTERMEDIATE BEARING:		
	Design:	Single Row, Ball
	Lubrication:	Oil
	Load:	Radial & Thrust
LOWER BEARING:		
	Design:	Sleeve
	Lubrication:	Oil
	Load:	Radial
MOTOR:	*Design:*	NEMA L-Single Phase, NEMA B-Three Phase Torque Curve. Completely Oil-Filled, Squirrel Cage Induction.
	Insulation:	Class F.

SINGLE PHASE: Capacitor Start/Capacitor Run. Requires Overload Protection to be Included In control panel. Requires Barnes® Starter or Control Panel which Includes Capacitors, or Capacitor pack.
THREE PHASE: Dual Votage 230/460; Requires Overload Protection to be Included in control panel.
OPTIONAL EQUIPMENT: Seal Material, Impeller Trims, Moisture Sensors (Requires Relay in Panel), Additional Cable.

BARNES PUMPS, INC.
A Burks Pumps, Inc. Company
Distributor Sales & Service Dept.
420 Third Street/P.O. Box 603
Piqua, Ohio 45356-0603
Ph: (513) 773-2442
Fax: (513) 773-2238

Special Bids & Project Sales
1485 Lexington Ave.
Mansfield, Ohio 44907-2674
Ph: (419) 774-1511
Fax: (419) 774-1530

Submersible Wastewater Pump Association SWPA MEMBER

MADE IN THE U.S.A.

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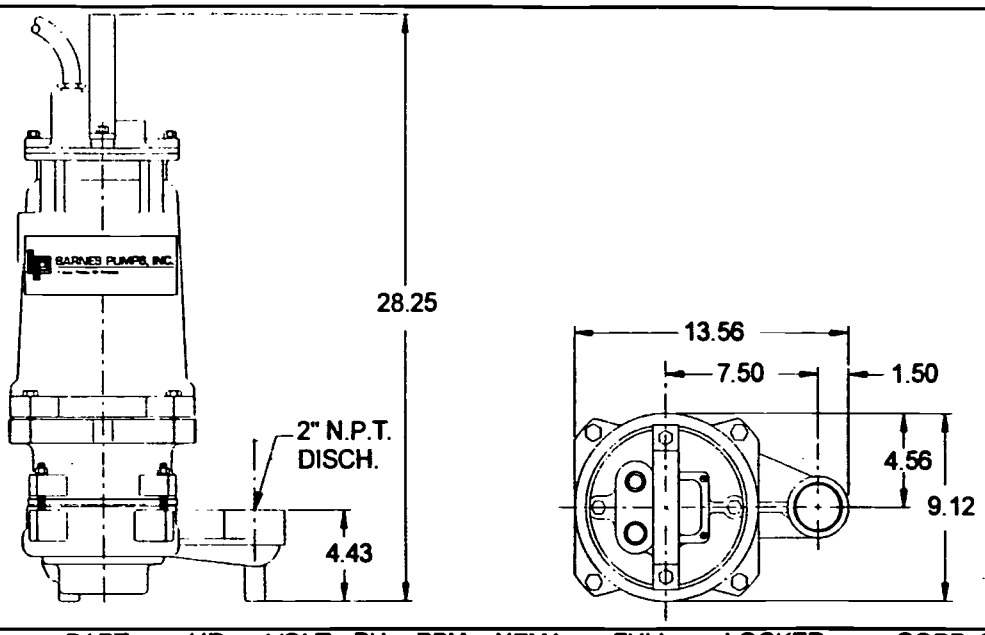

MODEL NO.	PART NO.	HP	VOLT	PH	RPM (Nom)	NEMA CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD OD
SGV3002L	084798	3	200	1	3450	G	27.0	86.0	10/4	SO	0.745
SGV3022L	084799	3	230	1	3450	G	23.0	75.0	10/4	SO	0.745
SGV3062L	084800	3	200	3	3450	J	15.0	65.0	10/4	SO	0.745
SGV3032L	084801	3	230	3	3450	J	13.0	56.6	10/4	SO	0.745
SGV3042L	084802	3	460	3	3450	J	6.5	28.3	10/4	SO	0.745
SGV3052L	088861	3	575	3	3450	J	5.2	22.6	10/4	SO	0.745
SGV5002L	084803	5	200	1	3450	F	42.0	134.0	6/3	SO	1.010
SGV5022L	084804	5	230	1	3450	F	39.0	117.0	8/4	SO	0.780
SGV5062L	084805	5	200	3	3450	H	22.0	94.0	10/4	SO	0.745
SGV5032L	084806	5	230	3	3450	H	20.0	81.4	10/4	SO	0.745
SGV5042L	084807	5	460	3	3450	H	10.0	40.7	10/4	SO	0.745
SGV5052L	088862	5	575	3	3450	H	8.0	32.5	10/4	SO	0.745
SGV7532L	084808	7.5	230	3	3450	F	24.0	102.0	10/4	SO	0.745
SGV7542L	084809	7.5	460	3	3450	F	12.0	51.0	10/4	SO	0.745
SGV7552L	088863	7.5	575	3	3450	F	9.6	40.8	10/4	SO	0.745

Standard Units:
Temperature sensor cable is 14/2 SO, 0.530 OD.
(Optional - Moisture/Temperature sensor cable for all models is 18/5 SO, 0.476 OD., replaces Temp sensor cable.)
CSA Listed Units:
(Optional - CSA Listed Power cable for all models is SOW, with same dimensions as STD. units & Temperature sensor cable is 14/2 SOW, 0.530 O.D.)
(Optional - CSA Listed Moisture/Temperature sensor cable is 18/5 SOW, 0.476 OD., replaces Temp sensor cable.)
IMPORTANT !
1.) DO NOT USE THIS PUMP TO PUMP FLAMMABLE LIQUIDS.
2.) THIS PUMP IS NOT RECOMMENDED FOR USE IN LOCATIONS SPECIFIED AS HAZARDOUS.
3.) THIS PUMP IS NOT APPROVED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER INSTALLATIONS,DECORATIVE FOUNTAINS OR ANY INSTALLATION WHERE HUMAN CONTACT WITH THE PUMPED FLUID IS COMMON WHILE THE PUMP IS RUNNING.
4.) PUMP CAN BE OPERATED DRY FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.

BARNES PUMPS, INC.
A Burks Pumps, Inc. Company
Distributor Sales & Service Dept.
420 Third Street/P.O. Box 603
Piqua, Ohio 45356-0603
Ph: (513) 773-2442
Fax: (513) 773-2238

Special Bids & Project Sales
1485 Lexington Ave.
Mansfield, Ohio 44907-2674
Ph: (419) 774-1511
Fax: (419) 774-1530

P.S. #1 South

PERFORMANCE CURVE
Series: SGV GRINDER, 3,5,7.5HP, 3450RPM

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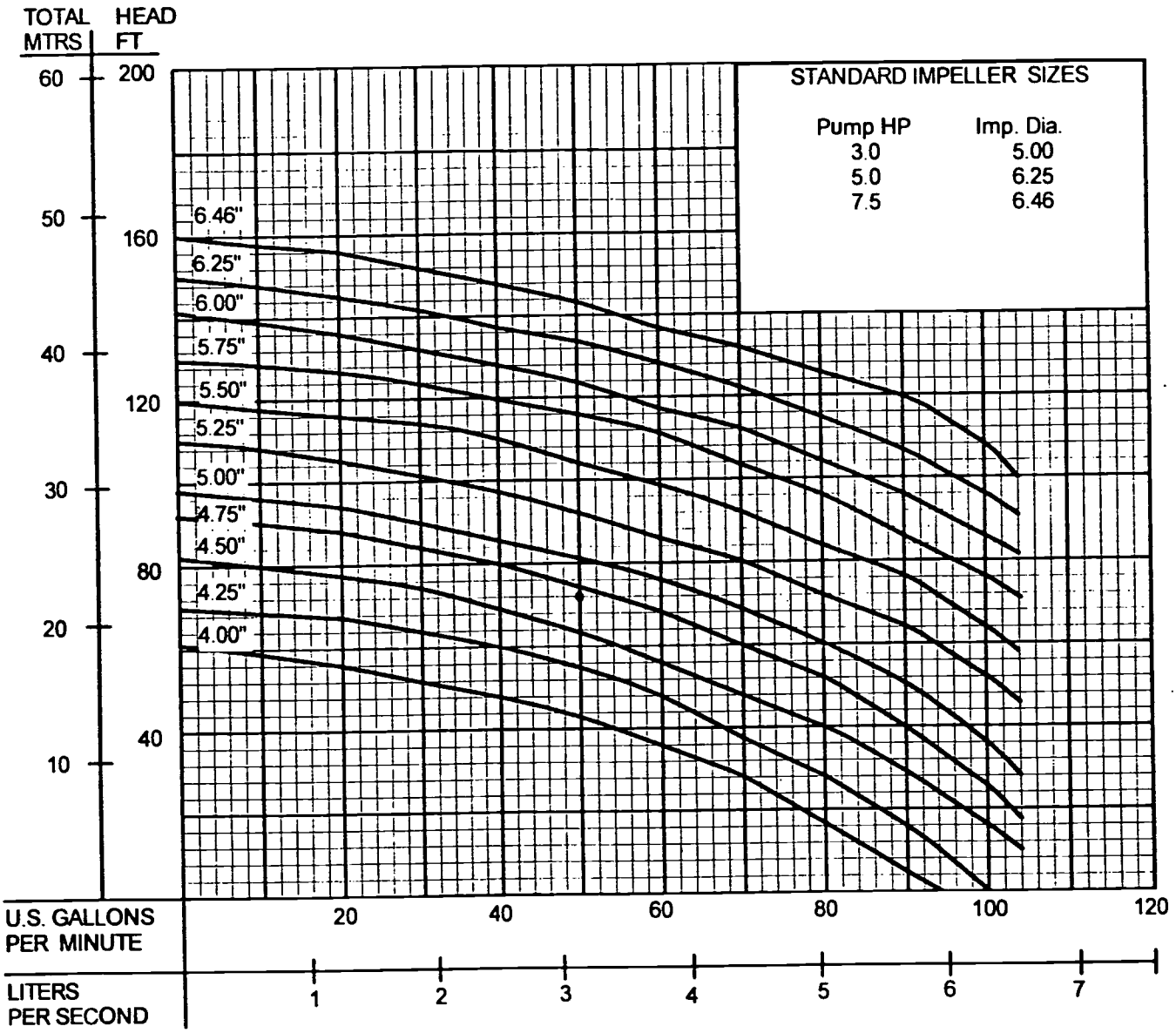

Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

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Submersible Wastewater Pump Association SWPA MEMBER

MADE IN THE U.S.A.

P.S. #2 (North)

BARNES® SUBMERSIBLE GRINDER PUMPS
Series: SGV, Vortex

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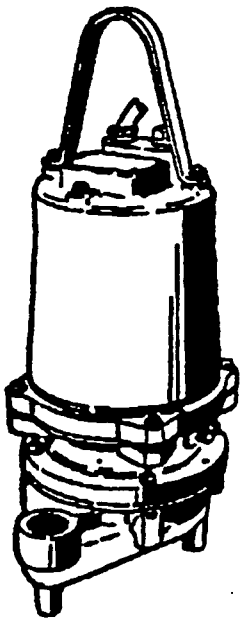

Series: SGV 2 HP
3450 RPM

(OPTIONAL)
® Canadian Standards Association
File No. LR16567

Description:
THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC, COMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUND SLURRY.

Specifications:

DISCHARGE:		1-1/4" NPT, Vertical
LIQUID TEMPERATURE:		160°F Intermittent
VOLUTE:		Cast Iron ASTM A-48, Class 30.
MOTOR HOUSING:		Cast Iron ASTM A-48, Class 30.
SEAL PLATE:		Cast Iron ASTM A-48, Class 30.
IMPELLER:	*Design:*	10 Vane, Vortex, With Pump Out Vanes On Back Side. Dynamically Balanced, ISO G6.3.
	Material:	85-5-5-5 Bronze
SHREDDING RING:		Hardened 440C Stainless Steel, Rockwell C-55.
CUTTER:		Hardened 440C Stainless Steel, Rockwell C-55.
SHAFT:		416 Stainless Steel
SQUARE RINGS:		Buna-N
HARDWARE:		300 Series Stainless Steel
PAINT:		Acrylic Primer with Enamel Top Coat.
SEAL:	*Design:*	Tandem Mechanical, Oil Filled Reservoir.
	Material:	Rotating Faces - Carbon Stationary Faces - Ceramic Elastomer - Buna-N Hardware -300 Series Stainless
CABLE ENTRY:		15 ft. Cord. Pressure Grommet for Sealing and Strain Relief.
SPEED:		3450 RPM (Nominal).
UPPER BEARING:		
	Design:	Single Row, Ball
	Lubrication:	Oil
	Load:	Radial
INTERMEDIATE BEARING:		
	Design:	Single Row, Ball
	Lubrication:	Oil
	Load:	Radial & Thrust
LOWER BEARING:		
	Design:	Sleeve
	Lubrication:	Oil
	Load:	Radial
MOTOR:	*Design:*	NEMA L-Single Phase, NEMA B-Three Phase Torque Curve. Completely Oil-Filled, Squirrel Cage Induction.
	Insulation:	Class B

SINGLE PHASE: Capacitor Start/Capacitor Run. Requires Overload protection to be Included in control panel. Requires Barnes® Starter or Control Panel Which Includes Capacitors, or Capacitor Pack.
THREE PHASE: Dual Voltage 230/460; Requires Overload Protection to be Included in control panel.
OPTIONAL EQUIPMENT: Seal Material, Impeller Trims, Moisture Sensors (Requires Relay in Panel), Additional Cable.

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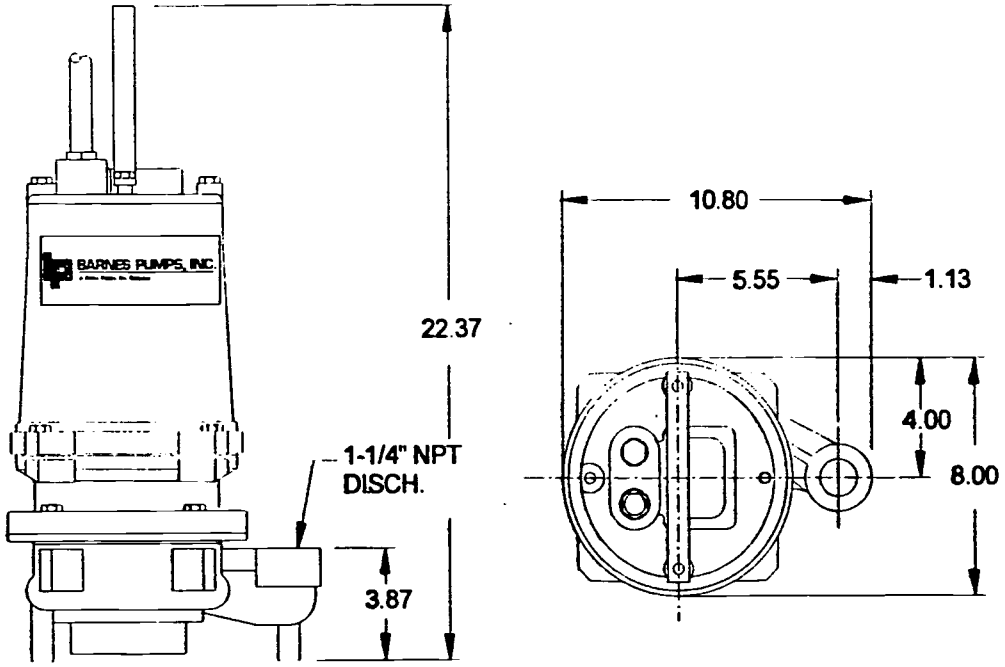


MODEL NO.	PART NO.	HP	VOLT	PH	RPM (Nom)	NEMA CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD OD
SGV2022L	084794	2	230	1	3450	F	14.5	46.0	10/4	SO	0.745
SGV2062L	084795	2	200	3	3450	J	9.2	42.0	10/4	SO	0.745
SGV2032L	084796	2	230	3	3450	H	8.0	36.0	10/4	SO	0.745
SGV2042L	084797	2	460	3	3450	H	4.0	18.0	10/4	SO	0.745
SGV2052L	088860	2	575	3	3450	H	3.2	14.4	10/4	SO	0.745

Standard Units:
Temperature Sensor cable is 14/2 SO, 0.530 OD.
(Optional - Moisture/Temperature sensor cable for all models is 18/5 SO, 0.476 OD., replaces Temp sensor cable.)

CSA Listed Units:
(Optional - CSA Listed Power cable for all models is 10/4 SOW, 0.745 O.D.)
(Optional - CSA Listed Temperature sensor cable is 14/2 SOW, 0.530 O.D.)
(Optional - CSA Listed Moisture/Temperature sensor cable is 18/5 SOW, 0.476 OD., replaces Temp sensor cable.)

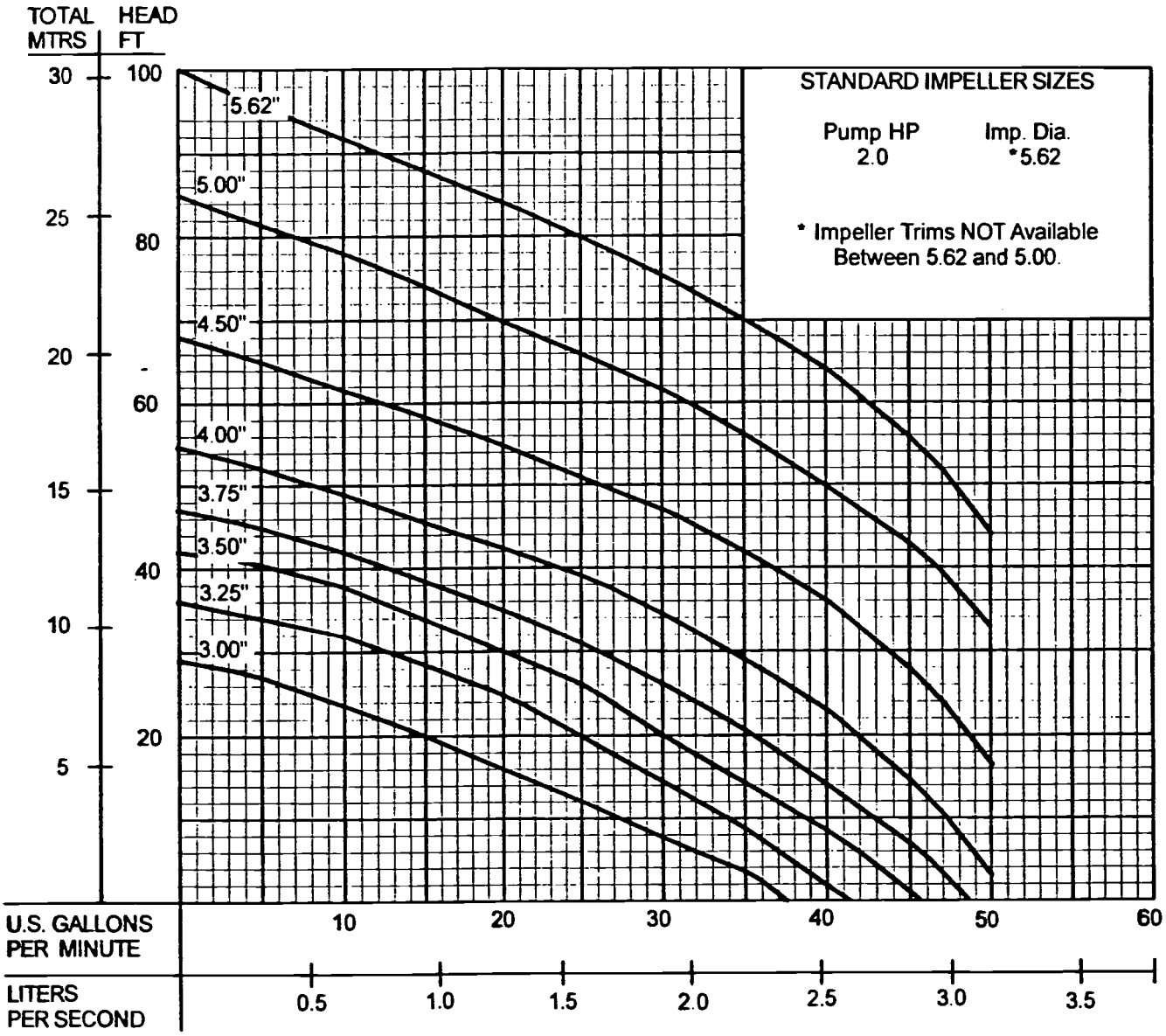
IMPORTANT !
1.) DO NOT USE THIS PUMP TO PUMP FLAMMABLE LIQUIDS.
2.) THIS PUMP IS NOT RECOMMENDED FOR USE IN LOCATIONS SPECIFIED AS HAZARDOUS..
3.) THIS PUMP IS NOT APPROVED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER INSTALLATIONS,DECORATIVE FOUNTAINS OR ANY INSTALLATION WHERE HUMAN CONTACT WITH THE PUMPED FLUID IS COMMON WHILE THE PUMP IS RUNNING.
4.) PUMP CAN BE OPERATED DRY FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.

BARNES PUMPS, INC.
A Burke Pumps, Inc. Company
Distributor Sales & Service Dept.
420 Third Street/P.O. Box 603
Piqua, Ohio 45356-0603
Ph: (513) 773-2442
Fax: (513) 773-2238

Special Bids & Project Sales
1485 Lexington Ave.
Mansfield, Ohio 44907-2674
Ph: (419) 774-1511
Fax: (419) 774-1530

PERFORMANCE CURVE
Series: SGV Grinder, 2HP, 3450RPM

SECTION	3B
PAGE	7
DATE	7/93
REPLACES	7/92



Testing is performed with water, specific gravity of 1.0 @ 68° F, other fluids may vary performance.

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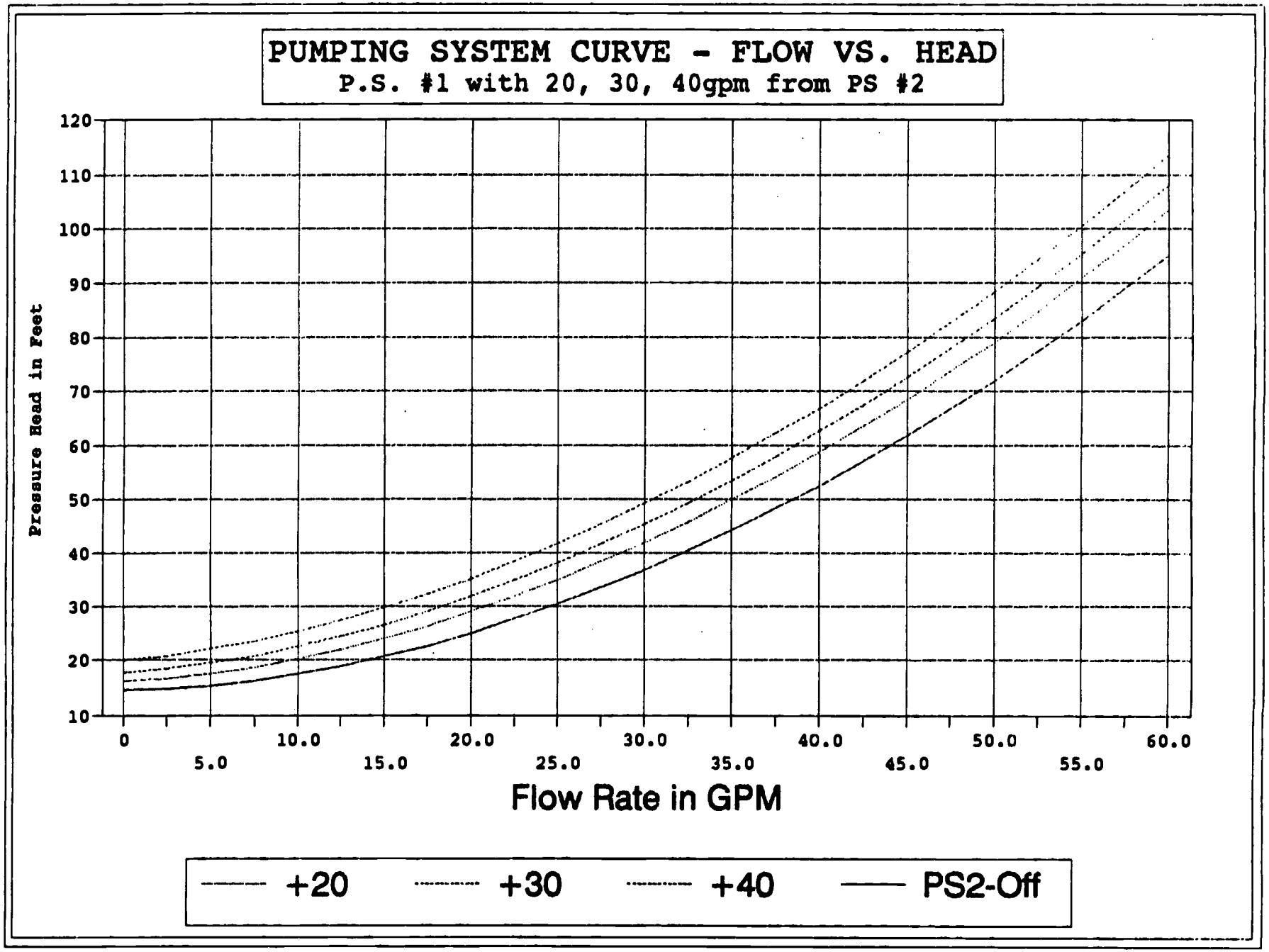
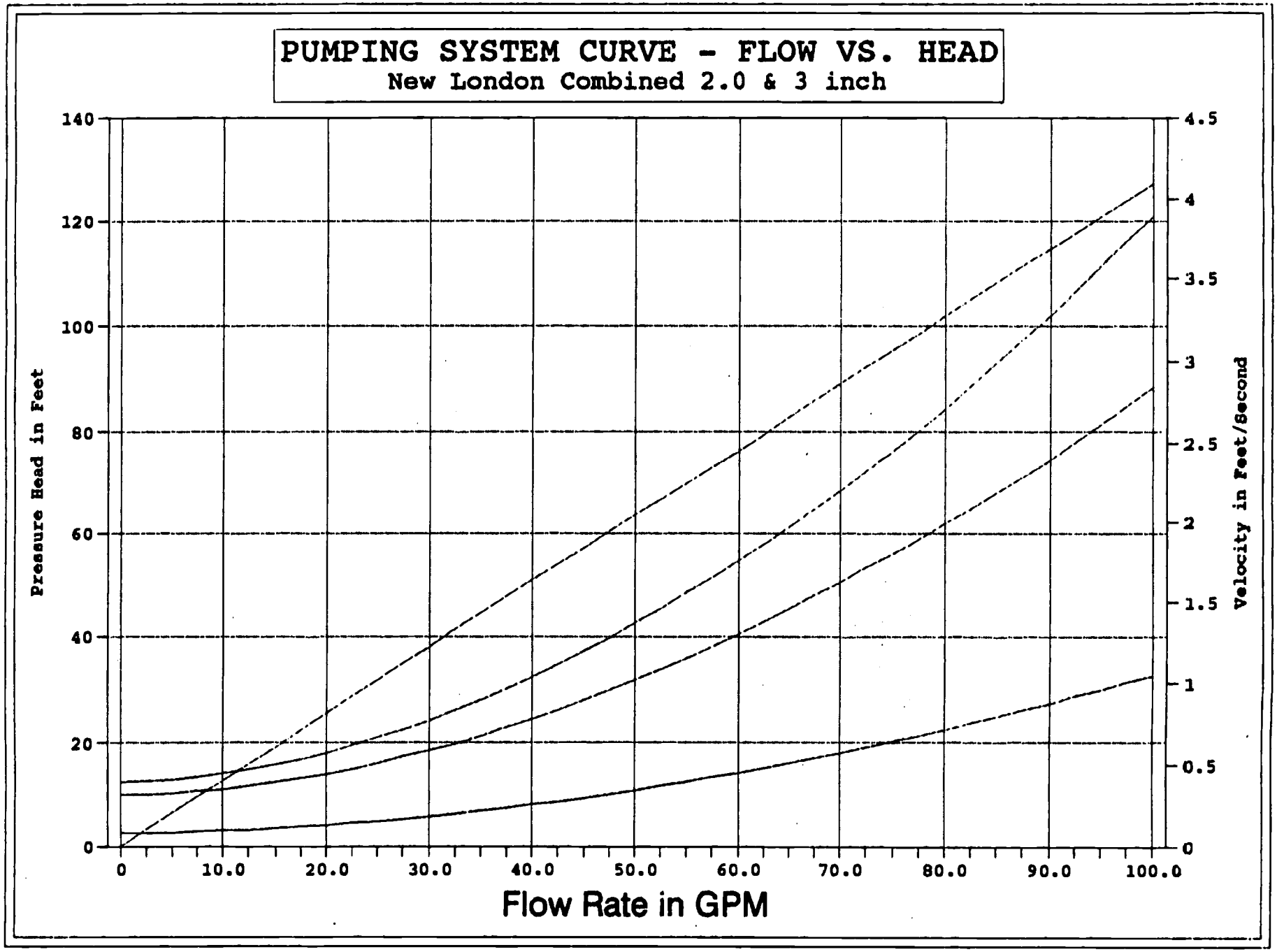

PUMPING SYSTEM CURVE - FLOW VS. HEAD
P.S. #1 with 20, 30, 40gpm from PS #2
Pressure Head in Feet
120
110
100
90
80
70
60
50
40
30
20
10
0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
Flow Rate in GPM
+20
+30
+40
PS2-Off

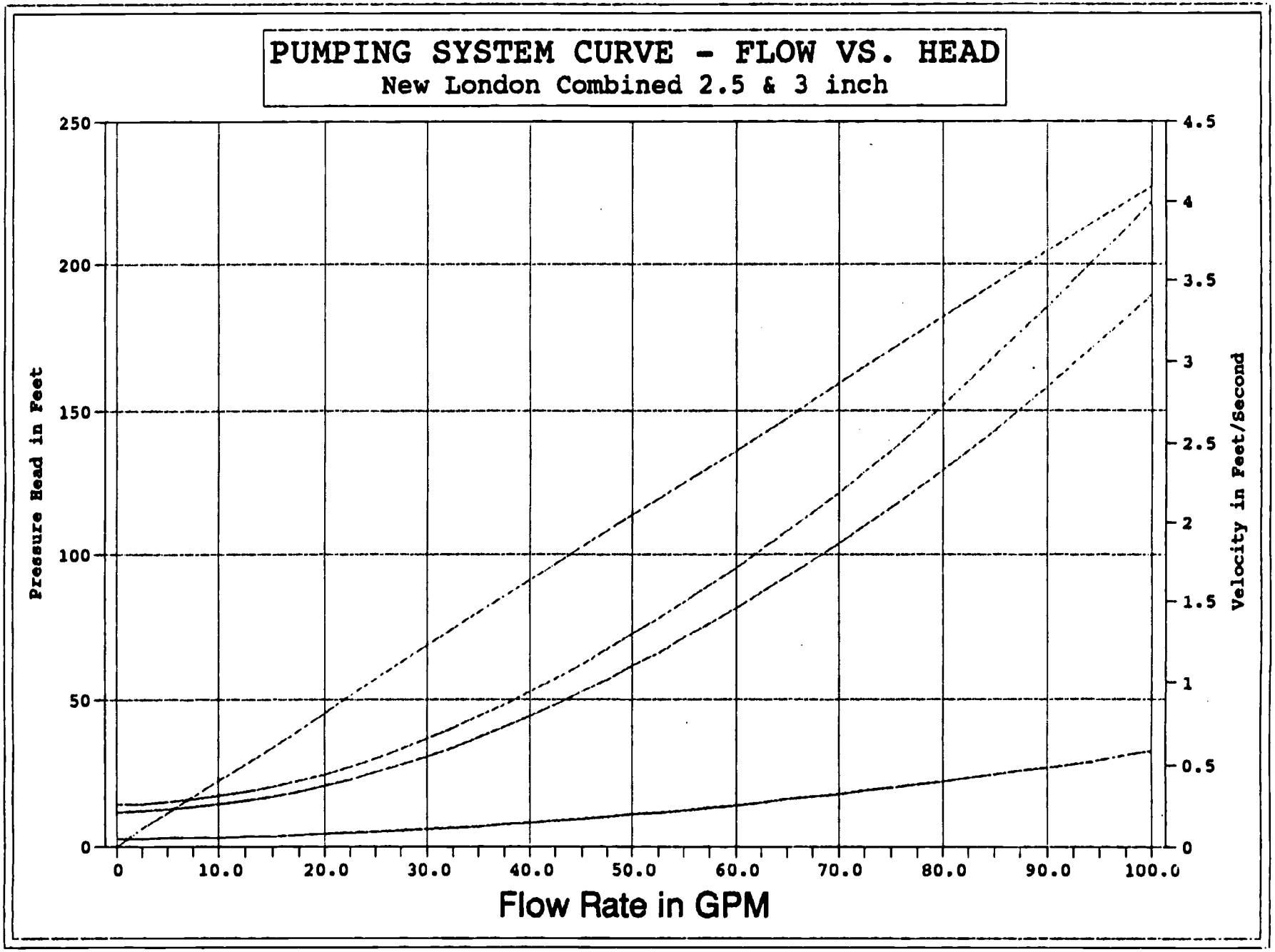
JOB DESCRIPTION-TITLE :P.S. #1 with 20. 30. 40gpm from PS #2
FLOW RANGE IN GPM :0 TO
STEPS OF FLOW-GPM : 2.5
PIPE SIZE ID (INCHES): 2.6
C FACTORS USED : 110
PIPE LENGTH EQUIV.(FT): 2896
STATIC HEAD IN FEET : 12

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	TDH-130 2.5 inch	TDH +20gpm	TDH +30gpm	TDH +40gpm	TDH +0gpm
0	0.00000	0.00000	12.00000	16.0282	17.7380	20.0163	14.500
2.5	0.15107	0.26105	12.19159	16.5923	18.4470	20.8633	14.724
5.0	0.30214	0.94231	12.69158	17.5018	19.4994	22.0524	15.309
7.5	0.45321	1.99659	13.46533	18.7215	20.8602	23.5486	16.214
10.0	0.60428	3.40139	14.49634	20.2344	22.5126	25.3352	17.420
12.5	0.75536	5.14185	15.77369	22.0291	24.4454	27.4011	18.914
15.0	0.90643	7.20694	17.28930	24.0971	26.6501	29.7379	20.686
17.5	1.05750	9.58796	19.03677	26.4316	29.1200	32.3390	22.730
20.0	1.20857	12.27774	21.01085	29.0271	31.8498	35.1989	25.039
22.5	1.35964	15.27022	23.20708	31.8788	34.8345	38.3129	27.608
25.0	1.51071	18.56015	25.62161	34.9824	38.0702	41.6771	30.432
27.5	1.66178	22.14290	28.25105	38.3343	41.5533	45.2878	33.507
30.0	1.81285	26.01436	31.09239	41.9313	45.2804	49.1419	36.830
32.5	1.96392	30.17084	34.14290	45.7703	49.2487	53.2364	40.398
35.0	2.11499	34.60897	37.40011	49.8487	53.4556	57.5688	44.208
37.5	2.26607	39.32566	40.86178	54.1640	57.8985	62.1366	48.257
40.0	2.41714	44.31809	44.52580	58.7138	62.5753	66.9375	52.542
42.5	2.56821	49.58362	48.39027	63.4961	67.4838	71.9696	57.062
45.0	2.71928	55.11982	52.45338	68.5089	72.6220	77.2309	61.814
47.5	2.87035	60.92440	56.71346	73.7502	77.9882	82.7195	66.797
50.0	3.02142	66.99522	61.16894	79.2184	83.5807	88.4338	72.008
52.5	3.17249	73.33026	65.81834	84.9119	89.3977	94.3721	77.446
55.0	3.32356	79.92762	70.66025	90.8289	95.4377	100.5330	83.109
57.5	3.47463	86.78549	75.69336	96.9681	101.6994	106.9150	88.996
60.0	3.62570	93.90216	80.91641	103.3281	108.1813	113.5168	95.104
62.5	3.77678	101.27602	86.32821	109.9075	114.8820		101.434
65.0	3.92785	108.90550	91.92762	116.7051	121.8004		107.983
67.5	4.07892	116.78912	97.71354	123.7196	128.9352		114.750
70.0	4.22999	124.92548	103.68495	130.9498	136.2853		121.734
72.5	4.38106	133.31320	109.84084	138.3946			128.934
75.0	4.53213	141.95098	116.18026	146.0531			136.349
77.5	4.68320	150.83758	122.70229	153.9240			143.977
80.0	4.83427	159.97179	129.40604	162.0064			151.818
82.5	4.98534	169.35244	136.29066				159.870
85.0	5.13642	178.97841	143.35533				168.133
87.5	5.28749	188.84862	150.59925				176.605
90.0	5.43856	198.96203	158.02165				185.286
92.5	5.58963	209.31761	165.62179				194.176
95.0	5.74070	219.91440	173.39895				203.272
97.5	5.89177	230.75143	181.35244				212.574
100.0	6.04284	241.82779	189.48157				222.082


PUMPING SYSTEM CURVE - FLOW VS. HEAD
New London Combined 2.0 & 3 inch
Pressure Head in Feet
140
120
100
80
60
40
20
0
Velocity in Feet/Second
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Flow Rate in GPM

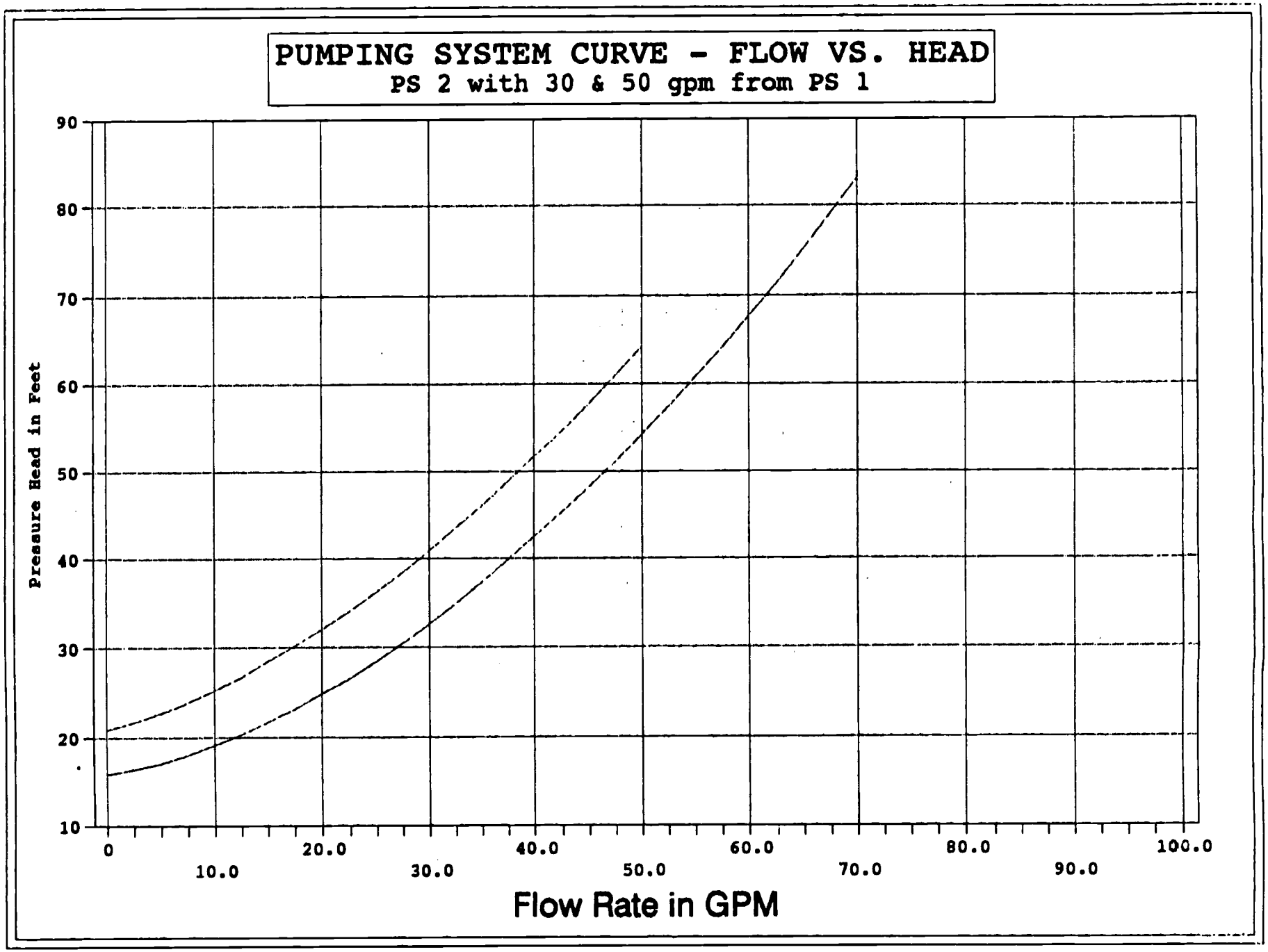
JOB DESCRIPTION-TITLE :New London Combined 2.0 & 3 inch
FLOW RANGE IN GPM :0 TO 100
STEPS OF FLOW-GPM : 2.5
PIPE SIZE ID (INCHES): 3.16
C FACTORS USED : 110 130 150
PIPE LENGTH EQUIV.(FT): 1270
STATIC HEAD IN FEET : 2.5

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	FRICTION HEAD C2	FRICTION HEAD C3	TDH 3 inch	TDH 2.0 inch	TDH TOTAL
0	0.00000	0.00000	0.00000	0.00000	2.50000	10.00000	12.50000
2.5	0.10227	0.04427	0.03249	0.02493	2.53249	10.08470	12.61720
5.0	0.20454	0.15981	0.11729	0.08999	2.61729	10.30575	12.92304
7.5	0.30681	0.33862	0.24852	0.19066	2.74852	10.64783	13.39635
10.0	0.40909	0.57687	0.42337	0.32481	2.92337	11.10365	14.02702
12.5	0.51136	0.87204	0.64001	0.49102	3.14001	11.66838	14.80839
15.0	0.61363	1.22228	0.89705	0.68822	3.39705	12.33844	15.73549
17.5	0.71590	1.62609	1.19342	0.91559	3.69342	13.11101	16.80443
20.0	0.81817	2.08227	1.52821	1.17245	4.02821	13.98377	18.01198
22.5	0.92044	2.58979	1.90069	1.45822	4.40069	14.95474	19.35543
25.0	1.02271	3.14775	2.31019	1.77239	4.81019	16.02223	20.83241
27.5	1.12498	3.75537	2.75613	2.11452	5.25613	17.18473	22.44086
30.0	1.22726	4.41196	3.23801	2.48422	5.73801	18.44090	24.17892
32.5	1.32953	5.11689	3.75537	2.88114	6.25537	19.78956	26.04493
35.0	1.43180	5.86958	4.30778	3.30495	6.80778	21.22960	28.03739
37.5	1.53407	6.66952	4.89487	3.75537	7.39487	22.76003	30.15490
40.0	1.63634	7.51622	5.51628	4.23212	8.01628	24.37993	32.39621
42.5	1.73861	8.40924	6.17168	4.73495	8.67168	26.08844	34.76012
45.0	1.84088	9.34816	6.86077	5.26362	9.36077	27.88478	37.24555
47.5	1.94315	10.33260	7.58327	5.81792	10.08327	29.76819	39.85147
50.0	2.04543	11.36219	8.33891	6.39765	10.83891	31.73800	42.57690
52.5	2.14770	12.43660	9.12743	7.00261	11.62743	33.79353	45.42096
55.0	2.24997	13.55549	9.94861	7.63262	12.44861	35.93418	48.38279
57.5	2.35224	14.71856	10.80221	8.28751	13.30221	38.15936	51.46157
60.0	2.45451	15.92553	11.68802	8.96711	14.18802	40.46852	54.65654
62.5	2.55678	17.17611	12.60585	9.67127	15.10585	42.86112	57.96696
65.0	2.65905	18.47005	13.55549	10.39984	16.05549	45.33666	61.39215
67.5	2.76132	19.80709	14.53676	11.15268	17.03676	47.89467	64.93143
70.0	2.86360	21.18699	15.54950	11.92965	18.04950	50.53468	68.58418
72.5	2.96587	22.60953	16.59352	12.73063	19.09352	53.25625	72.34977
75.0	3.06814	24.07447	17.66867	13.55549	20.16867	56.05896	76.22763
77.5	3.17041	25.58161	18.77478	14.40411	21.27478	58.94240	80.21719
80.0	3.27268	27.13074	19.91172	15.27637	22.41172	61.90619	84.31790
82.5	3.37495	28.72168	21.07933	16.17217	23.57933	64.94993	88.52926
85.0	3.47722	30.35421	22.27748	17.09139	24.77748	68.07328	92.85076
87.5	3.57950	32.02817	23.50602	18.03394	26.00602	71.27588	97.28190
90.0	3.68177	33.74337	24.76484	18.99971	27.26484	74.55738	101.82222
92.5	3.78404	35.49965	26.05380	19.98861	28.55380	77.91747	106.47127
95.0	3.88631	37.29684	27.37279	21.00054	29.87279	81.35582	111.22860
97.5	3.98858	39.13476	28.72168	22.03541	31.22168	84.87212	116.09379
100.0	4.09085	41.01328	30.10035	23.09314	32.60035	88.46607	121.06643


PUMPING SYSTEM CURVE - FLOW VS. HEAD
New London Combined 2.5 & 3 inch
Pressure Head in Feet
250
200
150
100
50
0
Velocity in Feet/Second
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Flow Rate in GPM

JOB DESCRIPTION-TITLE	:New London Combined 2.5 & 3 inch		
FLOW RANGE IN GPM	:0 TO	100	
STEPS OF FLOW-GPM	:	2.5	
PIPE SIZE ID (INCHES)	:	3.18	
C FACTORS USED	:	110	130 150
PIPE LENGTH EQUIV.(FT)	:	1270	
STATIC HEAD IN FEET	:	2.5	

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	FRICTION HEAD C2	FRICTION HEAD C3	TDH 3 inch	TDH 2.5 inch	TDH TOTAL
0	0.00000	0.00000	0.00000	0.00000	2.50000	12.00000	14.50000
2.5	0.10227	0.04427	0.03249	0.02493	2.53249	12.19159	14.72409
5.0	0.20454	0.15981	0.11729	0.08999	2.61729	12.69158	15.30687
7.5	0.30681	0.33862	0.24852	0.19066	2.74852	13.46533	16.21385
10.0	0.40909	0.57687	0.42337	0.32481	2.92337	14.49634	17.41971
12.5	0.51136	0.87204	0.64001	0.49102	3.14001	15.77369	18.91370
15.0	0.61363	1.22228	0.89705	0.68822	3.39705	17.28930	20.68634
17.5	0.71590	1.62609	1.19342	0.91559	3.69342	19.03677	22.73018
20.0	0.81817	2.08227	1.52821	1.17245	4.02821	21.01085	25.03906
22.5	0.92044	2.58979	1.90069	1.45822	4.40069	23.20708	27.60777
25.0	1.02271	3.14775	2.31019	1.77239	4.81019	25.62161	30.43180
27.5	1.12498	3.75537	2.75613	2.11452	5.25613	28.25105	33.50718
30.0	1.22726	4.41196	3.23801	2.48422	5.73801	31.09239	36.83040
32.5	1.32953	5.11689	3.75537	2.88114	6.25537	34.14290	40.39827
35.0	1.43180	5.86958	4.30778	3.30495	6.80778	37.40011	44.20790
37.5	1.53407	6.66952	4.89487	3.75537	7.39487	40.86178	48.25665
40.0	1.63634	7.51622	5.51628	4.23212	8.01628	44.52580	52.54209
42.5	1.73861	8.40924	6.17168	4.73495	8.67168	48.39027	57.06195
45.0	1.84088	9.34816	6.86077	5.26362	9.36077	52.45338	61.81416
47.5	1.94315	10.33260	7.58327	5.81792	10.08327	56.71346	66.79674
50.0	2.04543	11.36219	8.33891	6.39765	10.83891	61.16894	72.00785
52.5	2.14770	12.43660	9.12743	7.00261	11.62743	65.81834	77.44577
55.0	2.24997	13.55549	9.94861	7.63262	12.44861	70.66025	83.10885
57.5	2.35224	14.71856	10.80221	8.28751	13.30221	75.69336	88.99557
60.0	2.45451	15.92553	11.68802	8.96711	14.18802	80.91641	95.10443
62.5	2.55678	17.17611	12.60585	9.67127	15.10585	86.32821	101.43405
65.0	2.65905	18.47005	13.55549	10.39984	16.05549	91.92762	107.98310
67.5	2.76132	19.80709	14.53676	11.15268	17.03676	97.71354	114.75031
70.0	2.86360	21.18699	15.54950	11.92965	18.04950	103.68495	121.73445
72.5	2.96587	22.60953	16.59352	12.73063	19.09352	109.84084	128.93436
75.0	3.06814	24.07447	17.66867	13.55549	20.16867	116.18026	136.34893
77.5	3.17041	25.58161	18.77478	14.40411	21.27478	122.70229	143.97708
80.0	3.27268	27.13074	19.91172	15.27637	22.41172	129.40604	151.81776
82.5	3.37495	28.72168	21.07933	16.17217	23.57933	136.29066	159.86999
85.0	3.47722	30.35421	22.27748	17.09139	24.77748	143.35533	168.13281
87.5	3.57950	32.02817	23.50602	18.03394	26.00602	150.59925	176.60527
90.0	3.68177	33.74337	24.76484	18.99971	27.26484	158.02165	185.28649
92.5	3.78404	35.49965	26.05380	19.98861	28.55380	165.62179	194.17559
95.0	3.88631	37.29684	27.37279	21.00054	29.87279	173.39895	203.27174
97.5	3.98858	39.13476	28.72168	22.03541	31.22168	181.35244	212.57411
100.0	4.09085	41.01328	30.10035	23.09314	32.60035	189.48157	222.08192


PUMPING SYSTEM CURVE - FLOW VS. HEAD
PS 2 with 30 & 50 gpm from PS 1
Pressure Head in Feet
90
80
70
60
50
40
30
20
10
0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
Flow Rate in GPM

JOB DESCRIPTION-TITLE :New London Pumping Station No. 2 - 2"

FLOW RANGE IN GPM	:0 TO	100	
STEPS OF FLOW-GPM	:	2.5	
PIPE SIZE ID (INCHES)	:	2.16	
C FACTORS USED	:	110	130 150
PIPE LENGTH EQUIV.(FT)	:	519	
STATIC HEAD IN FEET	:	10	

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	FRICTION HEAD C2	FRICTION HEAD C3	TOTAL DYNAMIC HEAD C1	TOTAL DYNAMIC HEAD C2	TOTAL DYNAMIC HEAD C3
0	0.00000	0.00000	0.00000	0.00000	10.00000	10.00000	10.00000
2.5	0.21889	0.11541	0.08470	0.06499	10.11541	10.08470	10.06499
5.0	0.43777	0.41660	0.30575	0.23457	10.41660	10.30575	10.23457
7.5	0.65666	0.88271	0.64783	0.49702	10.88271	10.64783	10.49702
10.0	0.87555	1.50378	1.10365	0.84673	11.50378	11.10365	10.84673
12.5	1.09444	2.27325	1.66838	1.27999	12.27325	11.66838	11.27999
15.0	1.31332	3.18625	2.33844	1.79406	13.18625	12.33844	11.79406
17.5	1.53221	4.23892	3.11101	2.38679	14.23892	13.11101	12.38679
20.0	1.75110	5.42809	3.98377	3.05637	15.42809	13.98377	13.05637
22.5	1.96998	6.75109	4.95474	3.80130	16.75109	14.95474	13.80130
25.0	2.18887	8.20560	6.02223	4.62028	18.20560	16.02223	14.62028
27.5	2.40776	9.78956	7.18473	5.51216	19.78956	17.18473	15.51216
30.0	2.62665	11.50117	8.44090	6.47590	21.50117	18.44090	16.47590
32.5	2.84553	13.33878	9.78956	7.51060	23.33878	19.78956	17.51060
35.0	3.06442	15.30091	11.22960	8.61541	25.30091	21.22960	18.61541
37.5	3.28331	17.38620	12.76003	9.78956	27.38620	22.76003	19.78956
40.0	3.50220	19.59339	14.37993	11.03235	29.59339	24.37993	21.03235
42.5	3.72108	21.92133	16.08844	12.34313	31.92133	26.08844	22.34313
45.0	3.93997	24.36893	17.88478	13.72129	34.36893	27.88478	23.72129
47.5	4.15886	26.93518	19.76819	15.16626	36.93518	29.76819	25.16626
50.0	4.37774	29.61914	21.73800	16.67750	39.61914	31.73800	26.67750
52.5	4.59663	32.41992	23.79353	18.25452	42.41992	33.79353	28.25452
55.0	4.81552	35.33666	25.93418	19.89683	45.33666	35.93418	29.89683
57.5	5.03441	38.36858	28.15936	21.60400	48.36858	38.15936	31.60400
60.0	5.25329	41.51493	30.46852	23.37560	51.51493	40.46852	33.37560
62.5	5.47218	44.77497	32.86112	25.21121	54.77497	42.86112	35.21121
65.0	5.69107	48.14802	35.33666	27.11046	58.14802	45.33666	37.11046
67.5	5.90995	51.63344	37.89467	29.07298	61.63344	47.89467	39.07298
70.0	6.12884	55.23059	40.53468	31.09841	65.23059	50.53468	41.09841
72.5	6.34773	58.93887	43.25625	33.18641	68.93887	53.25625	43.18641
75.0	6.56662	62.75771	46.05896	35.33666	72.75771	56.05896	45.33666
77.5	6.78550	66.68655	48.94240	37.54885	76.68655	58.94240	47.54885
80.0	7.00439	70.72486	51.90619	39.82268	80.72486	61.90619	49.82268
82.5	7.22328	74.87212	54.94993	42.15786	84.87212	64.94993	52.15786
85.0	7.44217	79.12784	58.07328	44.55411	89.12784	68.07328	54.55411
87.5	7.66105	83.49154	61.27588	47.01116	93.49154	71.27588	57.01116
90.0	7.87994	87.96276	64.55738	49.52874	97.96276	74.55738	59.52874
92.5	8.09883	92.54105	67.91747	52.10662	102.54105	77.91747	62.10662
95.0	8.31771	97.22598	71.35582	54.74454	107.22598	81.35582	64.74454
97.5	8.53660	102.01712	74.87212	57.44226	112.01712	84.87212	67.44226
100.0	8.75549	106.91407	78.46607	60.19956	116.91407	88.46607	70.19956

JOB DESCRIPTION-TITLE	:New London 2.5" Force Main		
FLOW RANGE IN GPM	:0 TO	100	
STEPS OF FLOW-GPM	: 2.5		
PIPE SIZE ID (INCHES)	: 2.6		
C FACTORS USED	: 110	130	150
PIPE LENGTH EQUIV.(FT)	: 2896		
STATIC HEAD IN FEET	: 12		

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	FRICTION HEAD C2	FRICTION HEAD C3	TOTAL DYNAMIC HEAD C1	TOTAL DYNAMIC HEAD C2	TOTAL DYNAMIC HEAD C3
0	0.00000	0.00000	0.00000	0.00000	12.00000	12.00000	12.00000
2.5	0.15107	0.26105	0.19159	0.14699	12.26105	12.19159	12.14699
5.0	0.30214	0.94231	0.69158	0.53058	12.94231	12.69158	12.53058
7.5	0.45321	1.99659	1.46533	1.12421	13.99659	13.46533	13.12421
10.0	0.60428	3.40139	2.49634	1.91520	15.40139	14.49634	13.91520
12.5	0.75536	5.14185	3.77369	2.89519	17.14185	15.77369	14.89519
15.0	0.90643	7.20694	5.28930	4.05797	19.20694	17.28930	16.05797
17.5	1.05750	9.58796	7.03677	5.39864	21.58796	19.03677	17.39864
20.0	1.20857	12.27774	9.01085	6.91317	24.27774	21.01085	18.91317
22.5	1.35964	15.27022	11.20708	8.59813	27.27022	23.20708	20.59813
25.0	1.51071	18.56015	13.62161	10.45057	30.56015	25.62161	22.45057
27.5	1.66178	22.14290	16.25105	12.46789	34.14290	28.25105	24.46789
30.0	1.81285	26.01436	19.09239	14.64777	38.01436	31.09239	26.64777
32.5	1.96392	30.17084	22.14290	16.98814	42.17084	34.14290	28.98814
35.0	2.11499	34.60897	25.40011	19.48709	46.60897	37.40011	31.48709
37.5	2.26607	39.32566	28.86178	22.14290	51.32566	40.86178	34.14290
40.0	2.41714	44.31809	32.52580	24.95396	56.31809	44.52580	36.95396
42.5	2.56821	49.58362	36.39027	27.91880	61.58362	48.39027	39.91880
45.0	2.71928	55.11982	40.45338	31.03604	67.11982	52.45338	43.03604
47.5	2.87035	60.92440	44.71346	34.30439	72.92440	56.71346	46.30439
50.0	3.02142	66.99522	49.16894	37.72266	78.99522	61.16894	49.72266
52.5	3.17249	73.33026	53.81834	41.28969	85.33026	65.81834	53.28969
55.0	3.32356	79.92762	58.66025	45.00443	91.92762	70.66025	57.00443
57.5	3.47463	86.78549	63.69336	48.86586	98.78549	75.69336	60.86586
60.0	3.62570	93.90216	68.91641	52.87301	105.90216	80.91641	64.87301
62.5	3.77678	101.27602	74.32821	57.02497	113.27602	86.32821	69.02497
65.0	3.92785	108.90550	79.92762	61.32086	120.90550	91.92762	73.32086
67.5	4.07892	116.78912	85.71354	65.75986	128.78912	97.71354	77.75986
70.0	4.22999	124.92548	91.68495	70.34115	136.92548	103.68495	82.34115
72.5	4.38106	133.31320	97.84084	75.06398	145.31320	109.84084	87.06398
75.0	4.53213	141.95098	104.18026	79.92762	153.95098	116.18026	91.92762
77.5	4.68320	150.83758	110.70229	84.93135	162.83758	122.70229	96.93135
80.0	4.83427	159.97179	117.40604	90.07450	171.97179	129.40604	102.07450
82.5	4.98534	169.35244	124.29066	95.35641	181.35244	136.29066	107.35641
85.0	5.13642	178.97841	131.35533	100.77646	190.97841	143.35533	112.77646
87.5	5.28749	188.84862	138.59925	106.33403	200.84862	150.59925	118.33403
90.0	5.43856	198.96203	146.02165	112.02853	210.96203	158.02165	124.02853
92.5	5.58963	209.31761	153.62179	117.85940	221.31761	165.62179	129.85940
95.0	5.74070	219.91440	161.39895	123.82608	231.91440	173.39895	135.82608
97.5	5.89177	230.75143	169.35244	129.92803	242.75143	181.35244	141.92803
100.0	6.04284	241.82779	177.48157	136.16474	253.82779	189.48157	148.16474

JOB DESCRIPTION-TITLE :New London 3 Inch Force Main
FLOW RANGE IN GPM :0 TO 100
STEPS OF FLOW-GPM : 2.5
PIPE SIZE ID (INCHES): 3.16
C FACTORS USED : 110 130 150
PIPE LENGTH EQUIV.(FT): 1270
STATIC HEAD IN FEET : 2.5

FLOW RATE GPM	VELOCITY FT/SEC	FRICTION HEAD C1	FRICTION HEAD C2	FRICTION HEAD C3	TOTAL DYNAMIC HEAD C1	TOTAL DYNAMIC HEAD C2	TOTAL DYNAMIC HEAD C3
0	0.00000	0.00000	0.00000	0.00000	2.50000	2.50000	2.50000
2.5	0.10227	0.04427	0.03249	0.02493	2.54427	2.53249	2.52493
5.0	0.20454	0.15981	0.11729	0.08999	2.65981	2.61729	2.58999
7.5	0.30681	0.33862	0.24852	0.19066	2.83862	2.74852	2.69066
10.0	0.40909	0.57687	0.42337	0.32481	3.07687	2.92337	2.82481
12.5	0.51136	0.87204	0.64001	0.49102	3.37204	3.14001	2.99102
15.0	0.61363	1.22228	0.89705	0.68822	3.72228	3.39705	3.18822
17.5	0.71590	1.62609	1.19342	0.91559	4.12609	3.69342	3.41559
20.0	0.81817	2.08227	1.52821	1.17245	4.58227	4.02821	3.67245
22.5	0.92044	2.58979	1.90069	1.45822	5.08979	4.40069	3.95822
25.0	1.02271	3.14775	2.31019	1.77239	5.64775	4.81019	4.27239
27.5	1.12498	3.75537	2.75613	2.11452	6.25537	5.25613	4.61452
30.0	1.22726	4.41196	3.23801	2.48422	6.91196	5.73801	4.98422
32.5	1.32953	5.11689	3.75537	2.88114	7.61689	6.25537	5.38114
35.0	1.43180	5.86958	4.30778	3.30495	8.36958	6.80778	5.80495
37.5	1.53407	6.66952	4.89487	3.75537	9.16952	7.39487	6.25537
40.0	1.63634	7.51622	5.51628	4.23212	10.01622	8.01628	6.73212
42.5	1.73861	8.40924	6.17168	4.73495	10.90924	8.67168	7.23495
45.0	1.84088	9.34816	6.86077	5.26362	11.84816	9.36077	7.76362
47.5	1.94315	10.33260	7.58327	5.81792	12.83260	10.08327	8.31792
50.0	2.04543	11.36219	8.33891	6.39765	13.86219	10.83891	8.89765
52.5	2.14770	12.43660	9.12743	7.00261	14.93660	11.62743	9.50261
55.0	2.24997	13.55549	9.94861	7.63262	16.05549	12.44861	10.13262
57.5	2.35224	14.71856	10.80221	8.28751	17.21856	13.30221	10.78751
60.0	2.45451	15.92553	11.68802	8.96711	18.42553	14.18802	11.46711
62.5	2.55678	17.17611	12.60585	9.67127	19.67611	15.10585	12.17127
65.0	2.65905	18.47005	13.55549	10.39984	20.97005	16.05549	12.89984
67.5	2.76132	19.80709	14.53676	11.15268	22.30709	17.03676	13.65268
70.0	2.86360	21.18699	15.54950	11.92965	23.68699	18.04950	14.42965
72.5	2.96587	22.60953	16.59352	12.73063	25.10953	19.09352	15.23063
75.0	3.06814	24.07447	17.66867	13.55549	26.57447	20.16867	16.05549
77.5	3.17041	25.58161	18.77478	14.40411	28.08161	21.27478	16.90411
80.0	3.27268	27.13074	19.91172	15.27637	29.63074	22.41172	17.77637
82.5	3.37495	28.72168	21.07933	16.17217	31.22168	23.57933	18.67217
85.0	3.47722	30.35421	22.27748	17.09139	32.85421	24.77748	19.59139
87.5	3.57950	32.02817	23.50602	18.03394	34.52817	26.00602	20.53394
90.0	3.68177	33.74337	24.76484	18.99971	36.24337	27.26484	21.49971
92.5	3.78404	35.49965	26.05380	19.98861	37.99965	28.55380	22.48861
95.0	3.88631	37.29684	27.37279	21.00054	39.79684	29.87279	23.50054
97.5	3.98858	39.13476	28.72168	22.03541	41.63476	31.22168	24.53541
100.0	4.09085	41.01328	30.10035	23.09314	43.51328	32.60035	25.59314

Indiana Department of Environmental Management
Office of Water Management
Wastewater Treatment Plant Design Summary

I. GENERAL

1. **Applicant:** New London Conservancy District - Howard County, Indiana

2. **Project Name:** Wastewater Facilities Project

3. **Location:** Howard County - New London Community

4. **Engineer (Consultant):** Sanco Engineering & Associates, Inc.

5. **NPDES Permit Number:** Application Pending

   A. **Date of Final Permit Issuance:** See Attached Letter (July 27, 1994)

   B. **Expiration Date:** Not Applicable

6. **Remarks:**

   A. **Description of Present Situation:** Failing Septic Systems, Stream Pollution

   B. **Description of Proposed Facilities:** New Sewers and Treatment Plant

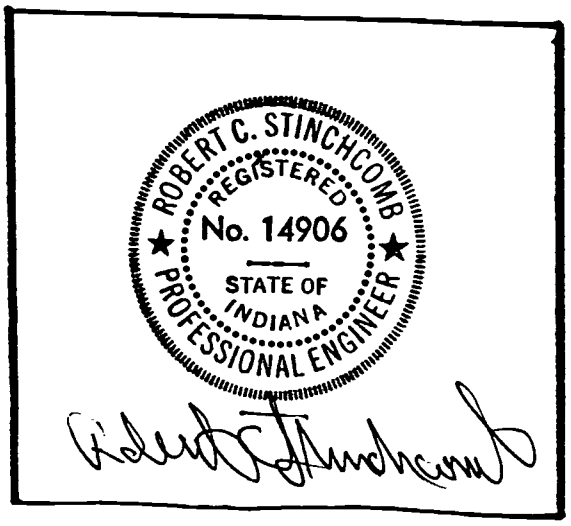
   C. **Inspection During Construction to be Provided by:** Engineer

7. **Estimated Project Cost:**

   A. **Total Cost:** $750,000 - See Attached Cost Summary

   B. **Source of Funding (Revenue Bond, State Grant, Etc.):** IDOC Grant for $500,000 and Indiana Bond Bank Bond Issue and Connection Fees

8. **Certification Seal of Engineer:**



II. DESIGN DATA

1. **Current Population:** 177 ± 5

2. **Design Year and Population:** Year 2015; 237 Capita

3. **Design Population Equivalent (P.E.):** 243 P.E. (Based on 0.20 #/Capita)

4. Design Flow: 19,400 G.P.D.

   A. **Domestic:** 16,590 G.P.D.

   B. **Industrial/Commercial:** 500 G.P.D.

   C. **Infiltration/Inflow:** 2,310 G.P.D.

5. **Average Design Peak Flow:** 72,550 G.P.D.

6. **Maximum Plant Flow Capacity:** Maximum pumped short term rate = 100,000 G.P.D.
   = 70 G.P.D.

7. **Design Waste Strength**

   A. **BOD :** 300 mg/l

   B. **SS:** 330 mg/l

   C. **NH_3-N:** 20 mg/l

   D. **P:** ----------

   E. **Other:** ----------

8. **NPDES Permit Limitation on Effluent Quality:**

		SUMMER	WINTER
A.	**BOD :** $CBOD_5$	20 mg/l	25 mg/l
B	**SS:**	30 mg/l	30 mg/l
C.	**NH_3-N:**	Waived	Waived
D.	**P:**	----	----
E.	**Chlorine Residual:**	0.5 mg/l Minimum	1.0 mg/l Maximum
F.	**pH:**	6.0 Minimum	9.0 Maximum
G.	**D.O.:**	6 mg/l	5 mg/l

H. Other:

9. Receiving Stream:

A. Name: Honey Creek

B. Tributary to: Wildcat Creek

C. Stream Uses: Recreational, Partial Body Contact

D. 7-day, 1-in-10 year low flow: 0.1 CFS

III. TREATMENT UNITS

Plant Site Lift Station NOT REQUIRED - NONE PROVIDED

1. Location:
2. Type of pump:
3. Number of pumps:
4. Constant or variable speed:
5. Capacity of pumps:
6. RPM and TDH:
7. Volume of the wet well:
8. Detention time in the wet well:
9. A gate valve and a check valve in the discharge line:
10. A gate valve on suction line:
11. Ventilation:
12. Standby power:
13. Alarm:
14. Breakwater tank:
15. Bypass or overflow:

Flow Equalization Not Applicable - Plant serves residential population only. Normal diurnal flow peaking is expected.

1. **Number and size of units:**
2. **Method of flow diversion to unit:**
3. **Air and mixing provided:**
4. **Method and control of flow return:**
5. **Description of unit operation:**
6. **Lagoon sealing:**
7. **Method of sludge removal:**

Flow Meters

1. **Type:** Ultrasonic Depth Measurement - 3" Parshall Flume
2. **Location:** Effluent Metering Manhole
3. **Indicating, recording and totalizing:** Provided in project

Grit Chamber Not Applicable - New Sewers - Grit Not Expected to be a Concern

1. **Type of grit chamber:**
2. **Number of units:**
3. **Size of unit:**
4. **Method of velocity (aeration) control:**
5. **Velocity (aeration) in the chamber:**
6. **Drain provided:**
7. **Flow restrictions:**
8. **Facilities to isolate:**

Comminutors

1. **Type:** Influent Comminutor - Smith & Loveless or equal
2. **Location:** Influent to Treatment Plant
3. **Maximum capacity:** 150 G.P.M.

125 gpm each pump 95 stations

4. By-pass (over flow) bar screen: Yes - Provided

Screens NOT APPLICABLE

1. Type:
2. Number and capacity:
3. Bar spacing and slope:
4. Method of cleaning:
5. Disposal of screenings:

Primary Settling NOT PROVIDED _ NOT APPLICABLE

1. Type of clarifier:
2. Number and size of units:
3. Surface settling rate (gpd/sf)
   a. at the design flow:
   b. at the influent pumping rate:
   c. at the equalized flow rate:
4. Detention time (hrs):
5. Type of sludge removal mechanism:
6. Weir overflow rate:
7. Disposition of scum:
8. Location of overflow weir:
9. Facilities to isolate:

Activated Sludge

1. Type of activated sludge process: Extended Aeration
2. Number and size of units: Single Unit - 32.5' L x 12' W x 10.5' SWD = 4,095 cf = 30,630 gallons
3. Detention time (hrs): 37.9 Hours

4. **Organic loading (lb BOD /1000 cf):** 48.54 lb/4,095 cf = 11.85 #/1,000 cf

5. **Type of aeration equipment:** Coarse Bubble Diffusers

6. **Type and size of blowers:** Rotary P.D. - 150 (125) cfm - Two Supplied

7. **Air required (itemize, cfm):** 2,050 cf /#BOD = 69 cfm; Airlifts = 20 cfm
   Digester = 40 cfm - Total = 129 cfm < 150 cfm

8. **Provisions for speed adjustment:** Yes - Belt - Sheave Variable Drive

9. **Air provided:** 150 cfm

10. **Ventilation in the blower room:** Located Outside in Shelters

11. **Number and capacity of return sludge pump:** 1 - Air Lift Pump 10-30 G.P.M.

12. **Method of return sludge rate control:** Air Adjustment Valves

13. **Return sludge rate as % of design flow:** 50% to 200% of D.A.F.

14. **Provisions for return rate metering:** Visual by measuring weir observation

15. **Location of return sludge discharge:** Influent end of mixed liquor

16. **Facilities to isolate units:** Short term diversion of influent to digester.
    Isolation not generally provided.

17. **Facilities for flow split control:** NOT APPLICABLE

Oxidation Ditch NOT APPLICABLE

1. **Number and size of units:**

2. **Detention time (hrs):**

3. **Organic loading (lb BOD /1000 cf):**

4. **Type and efficiency of aeration equipment (lb 0 /HP-hr):**

5. **Oxygen required:**

6. **Oxygen provided:**

7. **Flow velocity in ditch:**

8. **Number and capacity of return sludge pump:**

9. **Method of return sludge rate control:**

10. **Return sludge rate as % of design flow:**

11. Provisions for return sludge metering:

12. Location of return sludge discharge:

13. Facilities to isolate units:

14. Facilities for flow split control:

Trickling Filters NOT APPLICABLE

1. Number and size of units:

2. Type of media:

3. Hydraulic loading (gpm/sf):

4. Organic loading (lb BOD /1000 cf):

5. Recirculation:

6. Ventilation:

Rotating Biological Contactor NOT APPLICABLE

1. Size and number of units:

2. Type of media:

3. Detention time (min.):

4. Organic loading (lb BOD /1000 sf):

5. Hydraulic loading (gpd/sf):

6. Method of shaft drive:

7. Supplemental air:

8. Facilities to isolate:

9. Facilities for flow split control:

Lagoons NOT APPLICABLE

1. Type of lagoons:

2. Number and size of lagoons:

3. Organic loading:

4. Type of aeration equipment (if applicable):

5. Type and size of blowers (if applicable):

6. Air required (if applicable):

7. Air provided (if applicable):

8. Controlled discharge facilities:

9. Maximum water level:

10. Freeboard:

11. Soil boring data and permeability data:

12. Slope of embankment and top width:

13. Fence:

14. Detention time:

15. Stream gage:

16. Lagoon seal:

17. Facilities for multi-level lagoon discharge:

18. Scum control:

Secondary Clarifiers

1. Type of clarifiers: Circular Steel

2. Number and size of units: 1 Unit - 12' Diameter x 10.25' SWD

3. Surface settling rate (gpd/sf): Square Footage Surface = 113 sf

   a. at the design flow: 171.7 gpd/sf

   b. at the influent pumping rate: 100,000 gpd/113 = 885 gpd/sf < 1,000 gpd/st

   c. at the equalized flow rate: Not Applicable; At PHF = 642 gpd/sf

4. Detention time (hrs): 8,671/19,400 = 0.447 days = 10.7 hours

5. Type of sludge removal mechanism: Circular sweep to center collection sump

6. Weir overflow rate: 19,400 gpd/33 feet = 587 gpd/feet

7. Disposal of scum: Return to aeration or digester

8. Facilities for unit isolation: No - Not Provided

9. Facilities for flow split control: Not Applicable

Rapid Sand Filtration Not Provided - Not Applicable

1. Number and size of filters:

2. Filtration rate:

   a. at peak flow rate:

   b. at average flow rate:

3. Type, depth, and grain size of filter media:

4. Backwash rate:

5. Air scour:

6. Capability to chlorinate ahead of the filter:

7. Backwash pumps (number and capacity):

8. Method of rate control:

9. Source and capacity of backwash water:

10. Holding capacity of dirty water tank:

11. Facilities for unit isolation:

Micro-strainers Not Provided - Not Applicable

1. Number and size of strainers:

2. Screen material:

3. Filtration rate:

4. Backwash rate:

5. Number and capacity of backwash pumps:

6. Facilities for unit isolation:

7. Slime control provisions:

Two-day Lagoon NOT APPLICABLE

1. Number and size of lagoon cells:

2. Detention time (days):

3. Type of chemical:

4. Location of chemical injection:

5. Number and size of chemical feed pumps:

6. Rate adjustment capabilities:

7. Capacity of chemical storage tank:

8. Capacity of spill storage space:

9. Expected daily use of chemical (dosage and solution):

10. Lagoon seal:

11. Parallel or series operation:

12. Sludge removal facilities:

13. Method of draining:

14. Multi-level discharge:

15. Scum control:

Post-aeration NOT APPLICABLE

1. Type of aeration:

2. Number of units:

3. Size of units:

4. Aeration provided:

5. Expected effluent DO:

Nitrification System NOT APPLICABLE

1. Type of nitrification system:
2. Ammonia loading:
3. Additional oxygen demand:
4. Air supply system:
5. Hydraulic detention time:
6. Mean cell residence time (days):

Phosphorus Removal Facilities NOT APPLICABLE

1. Type of chemical to be used:
2. Location of chemical injection:
3. Number and size of chemical feed pumps:
4. Size of chemical storage tank:
5. Capacity of spill storage space:
6. Chemical dosage:
7. Daily chemical consumption expected:
8. Rapid mix tank:
9. Slow mixing equipment:
10. Other facilities - describe:

Disinfection

1. Type of disinfectant used: Hypochlorate Tablet Feed ("Sanuril")
2. Size of contact tank: 4 Bays @ 5' x 2.5' x 4' SWD = 200 cf = 1,500 gal.
3. Contact time: At Peak Hourly Flow = 29.8 Minutes; Peak Pumped Rate 21.6 Min.
4. Type of disinfectant feeders: Tablet Hypochlorite - Sanuril - Flow Proportional
5. Capacity of the feeders: Up to 100 gpm = .144 MGD

6. **Disinfectant dosage:** Up to maximum of 20 mg/l

7. **Scum control baffle:** Provided in design with over and under baffling

8. **Source of the disinfectant feed water:** Not Required

9. **Breakwater tank for the feed water:** Not Applicable

10. **Bypass:** Not Provided

11. **Drain for tank:** Drain only by pumping unit

12. **Ventilation in chlorine room:** Not Applicable

13. **Safety equipment:** Tablet Chlorination requires safe handling

De-Chlorination

1. **Chemical used:** Bi-sulfite Tablets

2. **Type of feeders:** Tablet Feeder with weir control for feed rate

3. **Capacity of feeders** Up to 100 gpm

4. **Dosage:** Variable to provide adequate reaction with residual chlorine

5. **Type of diffuser:** Not Applicable

6. **Diffuser location:** Not Applicable

7. **Equipment location:** In dechlorination tank

8. **Ventilation provided:** Open to Air

9. **Safety equipment:** Safe Handling Required

UV Disinfection NOT APPLICABLE

1. **Type:**

2. **Location:**

3. **Size of channel:**

4. **Contact time:**

5. **Dosage:**

6. **Bypass:**

7. Safety equipment:

8. Cleaning equipment:

Sludge Thickening NOT APPLICABLE

1. Number and size of thickeners:

2. Type of sludge thickeners:

3. Hydraulic loading:

4. Solids loading:

5. Provisions to chlorinate:

Anaerobic Digesters NOT APPLICABLE

1. Number and size of units:

2. Total volume:

3. Organic loading:

4. Hydraulic detention time:

5. Volume per capita:

6. Type of mixing:

7. Heating: internal or external

Aerobic Digesters

1. Number and size of units: One (1) - 10.67' x 12' x 10.5' SWD = 1,344 cf

2. Detention time: Greater than 90 days storage

3. Organic Loading: 1,344/243 = 5.5 cf/P.E.

4. Air supply: Rotary P.D. Blowers - Two Provided

5. Decanting method: Swing Pipe - Air Lift Pump

Wet-Oxidation NOT APPLICABLE

1. Number of units:
2. Type of heat treatment:
3. Temperature and pressure to be used:
4. Capacity of the unit:
5. Daily sludge production for heat treatment:

Sludge Drying Beds NOT APPLICABLE

1. Number and size of drying bed:
2. Filter area per capita:
3. Under-drain system:
4. Discharge location of filtrate:
5. Accessibility of dry sludge removal equipment:

Mechanical Dewatering NOT APPLICABLE

1. Type of dewatering units:
2. Number and size of dewatering units:
3. Capacity of dewatering units:
4. Daily solids production for dewatering:
5. Type of chemicals to be used:

Sludge Disposal

1. Ultimate disposal method of sludge: Transport to neighboring plants or Contract
2. Expected solids content of sludge (by the principal method of disposal): 1% to 2% Liquid Sludge
3. Location of disposal site: Kokomo, or others
4. Ownership of the disposal site: Varies
5. Availability of sludge transport equipment: By Contract

IV. SEWER COLLECTION SYSTEM

Lift Stations — SEE ATTACHED SEWER COLLECTION SYSTEM SUMMARY

1. Location:
2. Type of pump:
3. Number of pumps:
4. Constant or variable speed:
5. Capacity of pumps:
6. RPM and TDH:
7. Volume of the wet well:
8. Detention time in the wet well:
9. A gate valve and a check valve in the discharge line:
10. A gate valve on suction line:
11. Ventilation:
12. Standby power:
13. Alarm:
14. Breakwater tank:
15. Bypass or overflow:
16. Type of force main:
17. Diameter and length of force main:

Sewer

1. Type of sewer material:
2. Diameter and length of sewer (indicate length for each size):
3. Stream, highway, and railroad crossing:
4. Separation of combined sewer or new sewer:

5. Number of manholes:

6. Water main protection:

Individual Grinder Pumps

1. Location:

2. Number of pumps:

3. Capacity of pumps:

4. RPM and TDH:

5. Volume of the wet well:

6. A gate valve and a check valve in the discharge line:

7. Ventilation:

8. Alarm:

V. MISCELLANEOUS

A. Laboratory equipment: No - By Contract

B. Safety equipment: Yes - As Required by IOSHA

C. Plant site fence: Yes

D. Handrail for the tanks: Yes

E. Units, unit operation, and plant bypasses: No-single units with standby Equipment - Duplexing

F. Flood elevation (10, 25, or 100 year flood): 765 MGL - 100 Year

G. Consistency with EPA Reliability Technical Bulletin: Yes

H. Provisions to maintain the same degree of treatment during construction: Not Applicable

I. Standby power equipment: Yes - Portable Trailer Mounted

J. Site inspection: By Engineer

K. Statement in the specifications as to the protection against any adverse environmental effect (e.g., dust, noise, soil erosion) during construction: Yes

L. Hoists for removing heavy equipment: Not Applicable - No

M. **Adequate sampling facilities:** Yes

N. **Hydraulic Gradient:** Provided in Plans

O. **Septage receiving facilities** Not Planned or Recommended

1. **Screening:**

2. **Location of discharge:**

EXHIBIT E
FINANCIAL ADVISER'S REPORT

Town of New London

Municipal Sewage Utility

Sewage User Fee Study

Prepared By: Therber, Brock & Associates, LLC.
11550 North Meridian Street., Suite 275
Carmel, Indiana 46032

December 2016

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December 3, 2015

Town Council
Russiaville, Indiana

Re: Preliminary Sewage User Fee Study

Members of the Town Council:

We have prepared the following information and schedules for discussion and consideration by the Russiaville Town Council. These schedules are preliminary and subject to revision based on the comments of the Town Council.

Attached are our calculations of the monthly user fees recommended for the New London sewage utility. The recommendations are based on several financing alternatives.

The New London sewer works was originally administered by the New London Conservancy District. In 2012, the Town of Russiaville assumed administration of the New London Sewer Works. Russiaville has been administering the New London Sewer Wors on a stand alone basis since then. This report shows the cost and rate impact on the New London rates of regionalizing the New London sewage treatmet with the Russiaville sewage treatment.

Town of New London

New London is an unincorporated community in Howard County, Indiana. The Town was platted in 1845 and incorporated as a Town in 1848. The Town has a stand-alone sewer works that is problematic. The Town of Russiaville is operating the New Londoan sewer works. Russiaville is evaluating the regionalization of the operation of the New London sewer works. This report is intended to calculate the rate impact of that regionalization on New London User fees.

Current Sewer User Fees

The New London sewer works currently serves 57 customers. User fees are billed monthly on a flat fee basis.

The Town sewage utility is outside IURC jurisdiction. Currently, the authority for the approval of the Town's sewage rates and charges rests solely with the Town Council (although various sections of the Indiana Code do provide a framework within which municipal sewage utility rates must be determined).

Pro Forma Budget

Our rate study is intended to calculate a proforma budget of expenses and expenditures for the utility. Then the rates are calculated that will collect that budget.

The items included in the budget are the statutory items allowed by Indiana Code to be included in municipally owned sewage utility rate studies. These are operation expenses, maintenance expenses, repair and replacement expenses and expenditures, taxes, working capital, debt service expenses, a provision for a debt service reserve, payment in lieu of tax and return on utility plant.

Debt Outstanding

The sewage utility has one debt issue outstanding. This is the Sewage Works Refunding Revenue Bonds of 2012. This loan has a 6.335% interest rate, is outstanding in the amount of $126,000, has an average annual payment of $18,538 and has a final payment date of January 1, 2025.

These bonds are held by the USDA – Rural Development.

Pro Forma Budget

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Rate Alternatives

The revenue requirements and percentage increases of these various rate alternatives are included in the Revenue Requirement Statement included in my rate report on page 18.

Return on Plant

The return on plant revenue requirement is included in rates to extend the life of the rate increase. Without the return element, rates would be set at the current cash breakeven level. This makes the rate structure out of date after the first year. The return counteracts the affects of inflation and unspecified and unpredictable increases in operating expenses.

We have shown inflation calculations for 1, 3, 5 and 7 years to be included as "Return on Plant". It is important for the Council to choose an inflation factor that meets their goals for the utility. We recommend a 3 to 5 year rate.

We recommend a 3 to 5 year rate based on the belief that periodically utility rates and charges need to be reviewed to determine if the rates are set at a level that meets or exceeds the cost of operating the utility. Generally, for smaller Towns, we believe this should be done at least every 3 to 5 years. During a 3 to 5 year time frame the inflation rate affects the utility operating expenses, the number of customers, the customers water consumption and usage patterns vary and plant repair and replacement needs change. Reviewing utility rates every 3 to 5 years enables the Town to set rates at a level that meets the annual expense of operation, maintenance, repair and replacement and enables the Town to maintain its sewage utility as a Town asset.

Improvements and Replacements

My analysis includes the calculation of a capital improvement budget as allowed by Indiana Code. It is important to include an amount for capital improvements to fund replacements, capital repairs and improvements for the sewage utility infrastructure. If an amount for replacement, capital repairs and improvements is not included in rates – then these funds will not be available when these improvements and replacements need to be done – this could severely hamper the operation of the sewage utility in future years.

Debt Reserve

The current bonds require a one year debt reserve. We have not built this obligation into the rate analysis.

We generally recommend that the Clerk Treasurer transfer on a monthly basis 1/12 of the annual replacement budget to the improvement fund. In this way the Council and the operator have an idea of how much money is available for improvements, replacements and capital repairs.

We developed a range for the value of improvements and replacements based on discussions with the utility superintendent based on the typical equipment that utilities of this type have. We calculated a schedule of assets that need to be replaced and their estimated cost of replacement and their estimated useful life. We have included this estimation in our report. This estimate is within the range that we calculated based on plant value and historic expenditure. We recommend that this value be used for rate purposes.

Billing Policy

The Town has no comprehensive written billing policy that governs the billing of the utility customers. We believe it is a good idea for the Town to have a written policy that describes all of the Town's processes and procedures for billing, disconnection, penalties and the use of collection services and liens. This billing policy would be effective fro all the Town's utilities and should describe the process by which the Town notifies customer's of water disconnection and disconnects customers.

Non-Recurring Rates and Charges

Recurring rates and charges are the rates that are billed out each month – generally the sewage utility metered rates are applied to volumetric water consumption. Non-recurring rates and charges are all other rates and include penalties, tap fees, and re-connection charges. We have reviewed the sewage work's non-recurring rates and charges and have discussed them with the Town.

General Matters

The increases shown are for sewage bills only and will not affect the bill for water, trash or storm service.

I have shown a summary of the annual revenue requirements under the different estimated rate terms on the revenue requirement statements on page 17 (along with the debt service coverage calculations).

I have shown the projected monthly user fees for various monthly usage levels for each rate increase alternative on the typical residential billing schedules, page 20.

The receipts and disbursements, revenue requirements user fees and other financial results and presentations shown in this report are projections. These projections are based on operating data contained in the financial records of the utility. These projections are also based on engineering estimates on project costs and increased cost of operations for facilities to be constructed and projected interest rates and financing terms and conditions. Since this financial information is projected it can and probably will vary from actual results, because events and circumstances frequently do not occur as expected and such variances may be material. We have no responsibility to update the information in this report for events and circumstances occurring after the date of this report.

Frequency of Utility Rate Increases

Cities generally review their utility rates each year. Towns generally do not do this as frequently. All municipalities set a budget for their municipality each year. Budgets for utilities are only set when a rate analysis is performed. We generally recommend that utility rates be reviewed every 3 to 5 years.

Regionalization Project

The Town is considering the rae impact of a regionalization project. This project would allow the Russiavaille and the New London sewer systems to operate as one system. Each area would have its own rate structure. This regionalization project is estimated to cost $830,000.

Amount of Rate Increase

Page 17 of the schedules shows the annual revenue requirements statement for various alternatives.

Customers Outside of Town Limits

If the Town has customers outside the Town limits that receive utility service. These customers would have different and more extensive notice requirements for rate increases. Additionally, these customers have the ability to petition the IURC for rate relief if their rates are greater than the rates for inside Town limit customers by more than 15%.

I am available to discuss and explain this report with the Town Council at their convenience. Thank you.

Sincerely,

/s/ Steven K. Brock

Steven K. Brock MBA, CPA

New London Conservancy District
Sewer Works
Analysis of Cash Operating Fund

	Cash Operating Fund	Investments	Cash Operating Total
Balance December 31, 2012	$ 721.74	$ -	$ 721.74
Year 2013			
Receipts	39,721.61		39,721.61
Disbursements	30,879.79		30,879.79
	$ 9,563.56		
Balance December 31, 2013	$ 9,563.56	$ -	$ 9,563.56
Year 2014			
Receipts	67,783.69		67,783.69
Disbursements	71,994.75	-	71,994.75
	$ 5,352.50		
Balance December 31, 2014	$ 5,352.50	$ -	$ 5,352.50
Year 2015			
Receipts	48,187.53		48,187.53
Disbursements	52,222.48	-	52,222.48
	$ 1,317.55		
Balance December 31, 2015	$ 1,317.55	$ -	$ 1,317.55