ORDINANCE NO. 980

AN ORDINANCE AUTHORIZING THE MAYOR AND CITY RECORDER TO EXECUTE A CONTRACT WITH CURRAN- McLEOD, INC. CONSULTING ENGINEERS FOR ENGINEERING SERVICES ON AERATION BASIN IMPROVEMENTS, EFFLUENT FILTRATION AND BIOSOLIDS DE-WATERING AT THE WASTEWATER TREATMENT PLANT; AND DECLARING AN EMERGENCY.

WHEREAS, the City of Canby has heretofore advertised and received proposals for engineering services for Aeration Basin Improvements, Effluent Filtration and Biosolids De-watering at the Wastewater Treatment Facility; and

WHEREAS, the Request for Proposals was duly and regularly published in the Oregon Daily Journal of Commerce on September 10th, 1997; and

WHEREAS, three proposals were received on September 24th, 1997 at 5:00 pm by the City Recorder, Marilyn K. Perkett, in the Canby City Hall, including proposals from:

Curran-McLeod, Inc, Engineers, Portland, Oregon
John Carollo Engineers, Portland, Oregon
Century West Engineering, Portland, Oregon; and

WHEREAS, the proposals were reviewed, oral interviews held by the City's selection committee on October 1st, 1997 and the selection committee recommended entering into a contract with Curran-McLeod, Inc. Consulting Engineers; and

WHEREAS, the Canby City Council met on October 15th, 1997, and considered the proposals and recommendation of the selection committee; now therefore

THE CITY OF CANBY ORDAINS AS FOLLOWS:

Section 1. The Mayor and City Recorder are hereby authorized and directed to make, execute, and declare in the name of the City of Canby and on its behalf, an appropriate contract with Curran-McLeod, Inc. for engineering design and construction services for Aeration Basin Improvements for the amount not to exceed $254,880. A copy of said contract is attached hereto and marked as Exhibit "A" and by this reference incorporated herein.

Section 2. Inasmuch as it is in the best interest of the citizens of Canby, Oregon, to complete this project as soon as possible, an emergency is hereby declared to exist and this ordinance shall therefore take effect immediately upon its enactment after final reading.

SUBMITTED to the Canby City Council and read the first time at a regular meeting therefore on Wednesday, October 15, 1997; ordered posted as required by the Canby City Charter and scheduled for second reading on Wednesday, November 5, 1997, after the hour of 7:30 pm at the Council Chambers at the Canby City Hall, 182 N. Holly, Canby, Oregon.

Marilyn K. Perkett, City Recorder

PASSED on second and final reading by the Canby City Council at a regular meeting thereof on the 5th day of November, 1997, by the following vote:

YEAS 6 NAYS 0

Scott Taylor, Mayor

ATTEST:

Marilyn K. Perkett, City Recorder

AGREEMENT FOR ENGINEERING SERVICES

This Agreement, made this 5 day of Nov, 1997, by and between **THE CITY OF CANBY,** Clackamas County, Oregon, hereinafter referred to as the OWNER, and **CURRAN-McLEOD, INC. Consulting Engineers**, Portland, Oregon, hereinafter referred to as the ENGINEER:

The OWNER intends to complete the planning, design and construction of improvements to the Wastewater Treatment Plant including Aeration Basin Improvements, Effluent Filtration and Biosolids De-watering, and for which the ENGINEER agrees to perform the various professional engineering services as described herein and as further described in Attachment II, City of Canby, Wastewater Treatment Facility Improvements, Proposal for Engineering Services, September 1997.

WITNESSETH

That for and in consideration of the mutual covenants and promises between the parties hereto, it is hereby agreed:

SECTION A - ENGINEERING SERVICES

The ENGINEER shall furnish engineering services to accomplish the work as provided herein:

PRE-DESIGN REPORT

1. The ENGINEER shall complete a pre-design report in accordance with the guidelines of the Oregon Department of Environmental Quality and the attached proposal, to identify the design criteria, specific design constraints, and estimated project costs for the specific plant improvements.

PROJECT DESIGN

2. The ENGINEER will attend conferences with the OWNER, representatives of the State and Federal government, or other interested parties as may be required for completion of the work hereinbefore described.

3. After the OWNER directs the ENGINEER to proceed with project design, the ENGINEER will perform the necessary alignment determination, accomplish the detailed design of the projects, prepare construction Drawings, Specifications and Contract Documents, and prepare a final cost estimate based on the final design for the entire

system. It is also understood that unless specifically identified in the scope of work, if subsurface explorations (such as borings, soil tests, rock soundings and the like) are required, the ENGINEER will furnish coordination of said explorations without additional charge, but the costs incident to such explorations shall be paid for by the OWNER as set out in Section D hereof. The ENGINEER will be prepared to proceed with design of any one or all of the identified project elements at the direction of the OWNER.

Statements of probable construction costs and detailed cost estimates prepared by the ENGINEER represent his best judgement as a design professional familiar with the Construction Industry. It is recognized, however, that neither the ENGINEER nor the OWNER has any control over the cost of labor, materials or equipment, over the Contractor's method of determining bid prices, or over competitive bidding or market conditions. Accordingly the ENGINEER cannot and does not guarantee that bids will not vary from any statement of probable construction cost or other cost estimate prepared by the ENGINEER. All construction and service contracts prepared by the ENGINEER on behalf of the OWNER shall require compliance with State of Oregon Workers Compensation statutes.

4. The Contract Documents furnished by the ENGINEER under Section A-2 shall include State of Oregon Wage Rates, and Equal Employment Opportunities requirements as appropriate.

5. Prior to the advertisement for bids, the ENGINEER will provide for each Construction Contract, not to exceed 10 copies of detailed Drawings, Specifications, and Contract Documents for use by the OWNER, and for appropriate Federal, State, and local agencies from whom approval of the project must be obtained. The cost of such Drawings, Specifications, and Contract Documents shall be included in the basic compensation paid to the ENGINEER. The OWNER pays the cost of permits and review fees as provided in Section F-2 of this Agreement.

6. The ENGINEER will furnish additional copies of the Drawings, Specifications and Contract Documents as required by prospective bidders, material suppliers, and other interested parties, but may charge them for the reasonable cost of such copies. Upon award of each contract, the ENGINEER will furnish to the OWNER five sets of the Drawings, Specifications and Contract Documents for execution. The cost of these sets shall be included in the basic compensation paid to the ENGINEER.

7. The drawings prepared by the ENGINEER under the provisions of Section A-2 above shall be in sufficient detail to permit the actual location of the proposed improvements on the ground. The ENGINEER shall prepare and furnish to the OWNER without any additional compensation, three copies of a map(s) showing the general location of needed construction easements and permanent easements and the land to be acquired. Property surveys, property plats, property descriptions, abstracting and negotiations for land rights shall be provided by the OWNER, unless the OWNER requests, and the ENGINEER agrees to provide those services. In the event the ENGINEER is requested to provide

such services, the ENGINEER shall be additionally compensated as set out in Section D hereof.

8. The ENGINEER will require prospective contractors to file an approved Prequalification Form with the Oregon Department of Transportation and will require a Bid Bond in the Bidding Documents to secure the Bid.

9. The ENGINEER will attend the bid opening and tabulate the bid proposals, make an analysis of the bids, make recommendations for awarding contracts for construction.

10. The ENGINEER will assist in the Preconstruction Conference, and will review and approve, for conformance with the design concept, any necessary shop and working drawings furnished by contractors.

11. The ENGINEER will interpret the drawings and specifications to protect the OWNER against defects and deficiencies in construction on the part of the Contractor. The ENGINEER will not, however, guarantee the performance of any contractor but will require a performance bond securing performance by the contractor. Planning and design of the project and construction engineering services shall be accomplished with due diligence and in conformance with accepted standards of the practice of professional engineering.

12. The ENGINEER will provide general engineering review of the work of the contractors as construction progresses to monitor conformance with the design concept. A written record of site visits during construction shall be maintained by the ENGINEER, and be available for review by the Owner at anytime requested.

13. The ENGINEER will establish baselines and grades for locating the work together with a suitable number of bench marks adjacent to the work as shown in the Contract Documents.

14. The ENGINEER, as representative of the OWNER during the construction phase, shall advise and consult with the OWNER and all of the OWNER'S instructions to the Contractor shall be issued through the ENGINEER. The ENGINEER shall have authority to act on behalf of the OWNER to the extent provided in this Agreement.

15. Unless otherwise requested by the OWNER in writing or specifically identified in the proposal, the ENGINEER will not provide Resident Construction Inspection. The ENGINEER'S undertaking construction inspection hereunder shall not relieve the Contractor of Contractor's obligation to perform the work in conformity with the Drawings and Specifications and in a workmanlike manner; shall not make the ENGINEER an insurer of the Contractor's performance; and shall not impose upon the ENGINEER any obligation to see that the work is performed in a safe manner. Items A-11 and A-12 are intended to assure quality engineering and inspection services.

16. The ENGINEER will review the Contractor's applications for progress and final payment and, when approved, submit same to the OWNER for payment.

17. The ENGINEER will prepare and review necessary contract Change Orders on a timely basis for consideration of approval by the OWNER. Prior to implementing any change orders, the OWNER must consent in writing to same.

18. The ENGINEER and a representative of the OWNER will make an inspection of the project or project element to determine the status of completion. The ENGINEER may issue a Certificate of Substantial completion consistent with the General Conditions of the Construction Contract Documents after review with the OWNER.

19. The ENGINEER will provide the OWNER with one set of reproducible record drawings, one set on magnetic media in Autocad Version 13, and two sets of prints at no additional cost to the OWNER. Such drawings will be based upon construction records provided by the Contractor during construction, as specifically required in the Construction Contract, and reviewed by the ENGINEER, and from the ENGINEER's construction data.

20. If State statutes require notices and advertisements of final payment, the ENGINEER shall assist in their preparation.

21. The ENGINEER will be available for site visits to furnish engineering services and consultations necessary to correct unforeseen project operation difficulties for a period of one year after the date of Statement of Substantial Completion of the facility. This service will include instruction of the OWNER in initial project operation and maintenance but will not include supervision of normal operation of the system. The ENGINEER will assist the OWNER in performing a review of the project during the 11th month after the date of the Certificate of Substantial Completion.

22. The ENGINEER will provide an Operation and Maintenance Manual describing in detail the normal and emergency modes for operating the installed facilities and providing manufacturer's information regarding maintenance of the installed equipment.

23. Upon written authorization from the OWNER, the ENGINEER will complete the pre-design report, Final Plans, Specifications and Contract Documents and submit for approval of the OWNER and State regulatory agencies within 180 days from the date of authorization to proceed.

If the above is not accomplished within the time period specified, this Agreement may be terminated by the OWNER. The time for completion will be extended by the OWNER for a reasonable time if completion is delayed due to unforeseeable causes beyond the control and without the fault or negligence of the ENGINEER.

SECTION B - COMPENSATION FOR ENGINEERING SERVICES

1. The OWNER shall compensate the ENGINEER for services in accordance with the following schedule:

   a. Aeration Basin Improvements pre-design report

      Thirteen Thousand Two Hundred Dollars

      ($13,200.00)

   b. Aeration Basin Design Services:

      One Hundred Twenty Four Thousand One Hundred Eighty Dollars

      ($124,180.00)

   c. Aeration Basin Construction Engineering Services and Construction Inspection:

      One Hundred Seventeen Thousand Five Hundred Dollars

      ($117,500.00)

   d. Effluent Filtration and Biosolids De-watering Engineering Services shall be negotiated prior to implementation of these phases of the work, and incorporated by a contract amendment.

2. The compensation for the above Engineering Services shall be as follows:

   a. The Aeration Basin Pre-design Report Services shall include item A-1

   b. The Aeration Basin Design Services shall include items A-2 through A-8.

   c. Billings shall be submitted monthly by the ENGINEER for Design Services during the previous month. Payments shall be made for these billings within 30 days. Billings shall be based on percent of completion of Design Services. The ENGINEER will provide a status report with the billing.

   d. Aeration Basin Construction Engineering Services and Construction Inspection shall include items A-9 through A-23 and shall be billed by the ENGINEER on an hourly basis. The total shall not exceed the budget figure under Article B.1. above without the express written authorization of the OWNER. Item Article B.1. is estimated based on 1,100 hours of Construction Inspection over the construction time period.

e. Where hourly rates are used, they shall be in accordance with the Standard Hourly Rate Schedule, attached herewith and referenced Attachment I.

f. In the event of multiple construction contracts, the ENGINEER may negotiate a revised figure under Article B.1.c.

3. The budget figures shown above shall not be exceeded except by express written authorization of the OWNER.

4. Billings for Engineering Services shall be submitted in a format consistent with the payment provisions and format of the Agreement.

SECTION C - RESIDENT CONSTRUCTION INSPECTION

If the OWNER requests the ENGINEER to provide Resident Construction Inspection or if specifically identified in the scope of work, the ENGINEER will, prior to the Preconstruction Conference, submit a resume' of the Resident Inspector's qualifications, anticipated duties and responsibilities for approval by the OWNER. The OWNER agrees to pay the ENGINEER for such services in accordance with the "Inspector" rate schedule set out in Attachment I. The ENGINEER will render to OWNER for such services an itemized bill, once each month, for compensation for such services performed hereunder during such period, the same to be due and payable by the OWNER to the ENGINEER on or before the 10th day of the following period.

SECTION D - ADDITIONAL ENGINEERING SERVICES

In addition to the foregoing being performed, the following services may be provided UPON PRIOR WRITTEN AUTHORIZATION OF THE OWNER.

1. Providing financial feasibility or other special studies.

2. Record boundary surveys for water treatment plants, sewage treatment works, dams, reservoirs, and other similar special surveys as may be required, excepting surveys required to locate the construction project.

3. Laboratory tests, borings, specialized geological, soils, hydraulic, or other studies by the ENGINEER except as specifically identified in the scope of work.

4. Record property surveys, detailed description of sites, maps, drawings, or estimates related thereto; assistance in negotiating for land and easement rights.

5. Necessary data and filing maps for storm water discharge permits, adjudication, and litigation.

6. Redesigns not initiated by the ENGINEER after final Plans and Specifications have been approved by the OWNER, except redesigns to reduce the project cost to within the funds available.

7. Appearances before courts or boards on matters of litigation or hearings related to the project and providing services as an expert witness in connection with any public hearing, arbitration proceeding, or the proceedings of a court of record.

8. Preparation of Environmental Impact Statements (E.I.S.).

9. Performance of detailed staking requested by the contractor necessary for construction of the project in excess of the control staking set forth in Section A-13.

10. Preparing documents for alternate bids requested by the OWNER. This is not intended to mean that bid item alternates are considered extra.

11. Providing consultation concerning replacement of any work damaged by fire or other cause during construction, and furnishing professional services of the type set forth as previously mentioned in this Agreement as may be required in connection with the replacement of such work.

12. Providing professional services made necessary by the default of the Contractor in the Construction Contract.

13. Providing construction engineering services and inspection of construction after the contract time has been exceeded by more than 20%.

Payment for the services specified in this Section D shall be as agreed in writing prior to commencement of the work. The ENGINEER will render to OWNER for such services an itemized bill, once each month, for compensation for services performed hereunder during such period, the same to be due and payable by OWNER to the ENGINEER within 30 days.

SECTION E - OWNER'S RESPONSIBILITIES

1. The OWNER shall provide full information regarding his requirements for the project.

2. The OWNER shall designate, when necessary, a representative authorized to act in his behalf with respect to the project. The OWNER or his representative shall examine documents submitted by the ENGINEER and shall render decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of the ENGINEER'S work.

3. The OWNER shall furnish all pre-existing mechanical, chemical or other laboratory tests, inspections and reports as required by law or the Contract Documents, and which may impact the design apart from laboratory tests required under the Facilities Plan.

4. The OWNER shall furnish such legal, accounting and insurance counseling services as may be necessary for the project, and such auditing services as he may require to ascertain how or for what purposes the Contractor has used the moneys paid to him under the Construction Contract.

5. If the OWNER observes or otherwise becomes aware of any fault or defect in the project or non-conformance with the Contract Documents, he shall give prompt oral notice with written confirmation thereof to the ENGINEER.

6. The OWNER shall furnish information required of him as expeditiously as necessary for the orderly progress of the work.

SECTION F - SPECIAL PROVISIONS

The following is agreed to by both parties:

1. That the OWNER reserves the right to request replacement of any Resident Inspector(s) furnished by the ENGINEER or to furnish the Resident Inspector(s) from the OWNER'S own forces, subject to the approval of the ENGINEER regarding the qualifications of the Resident Inspector(s). If the OWNER furnishes the Resident Inspector(s), the OWNER agrees that the Resident Inspector(s) will be under the direction and supervision of the ENGINEER.

2. That the OWNER shall pay for advertisement for bids, building or other permits, licenses, etc., as may be required by local, State or Federal authorities, and shall secure the necessary land easements and rights-of-way.

3. The ENGINEER will assure compliance of his work with applicable State and Federal requirements.

4. That insofar as the work under this Agreement may require, the OWNER shall furnish the ENGINEER all existing maps, field survey data, grades and lines of streets, pavements, and boundaries, rights-of-way, and other surveys presently available, which will be returned upon project completion. ENGINEER will provide the OWNER a copy of survey notes establishing bench marks and location of improvements.

5. That if all engineering work covered in this Agreement has not been completed on or after the expiration of a 24-month period from the date of execution of this Agreement, the OWNER or ENGINEER may, at the option of either, on written notice, request a renegotiation of Sections B, C, and D (providing for the compensation to be paid the ENGINEER for services rendered) to allow for changes in the cost of services. Such new schedule of compensation is to apply only to work performed by the ENGINEER after delivery date of such written notice.

6. That this Agreement is to be binding on the heirs, successors and assigns of the parties hereto and is not to be assigned by either party without first obtaining the written consent of the other. At least fifteen (15) days shall be allowed for such consent.

7. Attorney's fees: In the event a suit, arbitration or other legal action is required by either the OWNER or the ENGINEER to enforce any provision of this Agreement, the prevailing parties shall be entitled to all reasonable costs and reasonable attorneys' fees upon litigation or upon appeal.

8. Termination

   a. This Agreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill it obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given (1) not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) an opportunity for consultation with the terminating party prior to termination. This notation does not invalidate the provisions of A-23.

   b. This Agreement may be terminated in whole or in part in writing by the OWNER for its convenience, provided that the ENGINEER is given (1) not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) opportunity for consultation with the terminating party prior to termination.

   c. If termination for default is effected by the OWNER an equitable adjustment in the price provided for in the Agreement shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due to the ENGINEER at the time of termination may be adjusted to cover any additional costs to the OWNER because of the ENGINEER'S default. If termination for default is effected by the ENGINEER, or if termination for convenience is effected by the OWNER, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the ENGINEER for services rendered and expenses incurred prior to the termination, in addition to termination settlement costs reasonably incurred by the ENGINEER relating to commitments which had become firm prior to the termination.

9. The ENGINEER agrees to hold harmless and indemnify the OWNER against all claims, damages, losses and costs, including costs of defense, arising out of the negligent performances of services under this Agreement.

10. The ENGINEER agrees to acquire and maintain for the duration of this Agreement, Professional Liability Insurance in the amount of $1,000,000. The ENGINEER further agrees to obtain and maintain, at the ENGINEER'S expense, such insurance as will protect the ENGINEER from claims under the Workers' Compensation Act and such comprehensive general liability insurance as will protect the OWNER and the ENGINEER from all claims for bodily injury, death, or property damage which may arise from the performance by the ENGINEER or by the ENGINEER'S employees of the ENGINEER'S functions and services required under this Agreement.

11. The ENGINEER will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The ENGINEER will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin, such action shall include, but not limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; lay off or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

12. Affirmative steps shall be taken to assure that small, minority and female business firms located in labor surplus areas are used when possible as sources of supplies, equipment, construction and services.

13. The records and documents with respect to all matters covered by this Agreement shall be subject at all times to inspection, review or audit by the OWNER, County, Federal or State officials so authorized by law during the performance of this contract. Required records shall be retained for a period of three (3) years after termination of this Agreement.

14. ENGINEER covenants that he presently has no interest and shall not acquire interest, direct or indirect, which would conflict in any manner or degree with the performance of his services under this agreement. Any interest on the part of the ENGINEER or his employees must be disclosed to the OWNER.

15. No member or delegate to the Congress of the United States and no Resident Commissioner or city official shall be admitted to any share or part of this Agreement or to any benefit that may arise hereunder.

16. This Agreement, including Attachment I and II, represents the entire integrated agreement between the OWNER and the ENGINEER and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both OWNER and ENGINEER.

Exhibit I

STANDARD HOURLY RATES

Effective January 1, 1996

Principal Engineer	$ 92.00
Engineering Project Manager	72.00
Environmental Project Manager	68.00
Design Engineer	68.00
Design Technician	48.00
Drafting Technician	42.00
Word Processing	32.00
Resident Inspector	52.00

REIMBURSABLE EXPENSES

Reproduction expenses are at cost.

Travel for Inspector at 31.5¢ per mile

CURRAN-McLEOD, INC., Consulting Engineers

EXHIBIT II

September 24, 1997

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS

Mr. Steve Hanson
Wastewater Treatment Facility Supervisor
City of Canby
182 N Holly
Canby, OR 97013

RE: CITY OF CANBY
WASTEWATER TREATMENT FACILITY IMPROVEMENTS
PROPOSAL FOR ENGINEERING SERVICES

Dear Steve:

CURRAN-McLEOD, INC. appreciates the opportunity to submit this proposal for engineering services for continuation of improvements to the Wastewater Treatment Facility. Our firm has extensive knowledge of the design and function of the Canby facility and are uniquely capable of accomplishing the most cost effective needed improvements.

Our primary contact person for the City will be Curt J. McLeod, P.E., although both he and Patrick D. Curran, P.E. will be principals in direct charge of the project. Our professional support staff can also provide extensive experience and knowledge of current technologies and applications.

Additionally we have for many years associated our firm with several sub-consultants that provide specialized services. The sub-consultants proposed for completion of the project include:

Mr Lou Perkins, P.E.
Perkins Engineering, Inc.
Electrical Power Distribution

Mr. Ron Sellards, P.E.
ZTec Engineers, Inc.
Structural Design

Mr. Ermel Quevedo, P.E.
Cornforth Consultants
Geotechnical Analysis

CURRAN-McLEOD, INC. has specialized to provide municipal engineering services throughout Oregon. Our works include numerous water and wastewater planning and construction projects similar to the City of Canby. We currently are completing construction of a $6.2 million project for the City of Sandy which includes an aeration facility with nutrient removal capabilities.

Our tentative approach for the City of Canby is to provide a conventional activated sludge plant with the capability of advanced nutrient removal. This will permit application of several well established Biological Nutrient Removal treatment modes in response to evolving permit constraints. This approach has proven cost effective against all other treatment options for the past few years.

The initial tasks of this project will be to complete a pre-design report to identify the specific needs, options and cost effectiveness. At the onset of the project, we will also coordinate negotiation and execution of a Mutual Agreement and Order (MAO) with the Oregon Department of Environmental Quality. This will permit the City to produce the best available effluent quality without compromise due to ammonia levels.

We are anxious to continue working with the City of Canby and can assure the City of a knowledgeable and effective project team. The plant improvements proposed in the scope of this project will complete the overall plant complex. This capacity should provide for development beyond the current Urban Growth Boundary and will provide sufficient flexibility to meet nutrient removal constraints.

CURRAN-McLEOD, INC. would appreciate the opportunity of meeting with your selection committee to present our ideas in more detail or answer any questions you may have. Please let us know of anything additional you may need.

Very truly yours,

CURRAN-McLEOD, INC.

Curt J. McLeod, P.E.
CJM/tdg

CITY OF CANBY
WASTEWATER TREATMENT FACILITY IMPROVEMENTS

PROPOSAL FOR ENGINEERING SERVICES

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CITY OF CANBY
WASTEWATER TREATMENT FACILITY IMPROVEMENTS

PROPOSAL FOR ENGINEERING SERVICES

The City of Canby has undertaken substantial improvements to their infrastructure systems over the past few years. These improvements to both the water and wastewater systems were in response to the service demands of the community and regulatory constraints. In 1992, a supplemental Facility Plan was adopted and implemented that provided for planned development of the wastewater treatment facilities to serve the anticipated development within the Urban Growth Boundary.

This Plan additionally anticipated various plant improvements that would be required upon incorporation of nutrient removal constraints in the City's waste discharge permit. In the National Pollutant Discharge Elimination System (NPDES) Permit renewal executed in 1994, the Oregon Department of Environmental Quality required the plant effluent meet new limitations for nitrogen discharge. This nutrient limitation is the trigger for implementing the next stage of plant improvements as identified in the Facility Plan.

CURRAN-McLEOD, INC. prepared the supplemental Facility Planning document in 1992 and has implemented the first phases of this plan over the past five years. This current phase includes expansion of the biological treatment process at the plant, which will provide the foundation for all waste treatment.

CURRAN-McLEOD, INC., Consulting Engineers has specialized in municipal water and wastewater systems since inception of our firm in 1984. Our work is limited to the support of municipal clients to provide infrastructure development. CURRAN-McLEOD, INC works for numerous municipalities statewide in a similar capacity as we currently serve the City of Canby.

The following information was prepared in response to the City of Canby's request for proposals, to implement the final tasks identified in the Facility Plan. The scope of the proposed work includes all tasks, terms and conditions identified in the RFP. Additionally this work includes all tasks required to comply with the Oregon Department of Environmental Quality requirements for plant improvements and to secure their permits and approval.

I. PROJECT ORGANIZATION & STAFFING

CURRAN-McLEOD, INC., Consulting Engineers employs a staff of eleven, including seven engineers specializing in municipal infrastructure. A brief listing of the professional staff that would contribute to the Canby Wastewater Treatment Plant project includes:

Patrick D. Curran, P.E., Principal Engineer
Curt J. McLeod, P.E., Principal/Project Manager
Thomas J. Perry, P.E., Project Engineer
Ralph E. Funk, Environmental Scientist
Nate M. England, P.E., Project Engineer

The individuals responsible for negotiations for the firm include both Patrick D. Curran, President, and Curt J. McLeod, Secretary/Treasurer of CURRAN-McLEOD, INC.

Additionally, Curran-McLeod, Inc. has long-standing relationships with team members who are sub-consultants for specialized tasks. For this wastewater improvement project we have included the following firms to compliment our team:

Perkins Engineering, Inc - Electrical Power Distribution
ZTec Engineers, Inc - Structural Engineering
Cornforth Consultants, Inc - Geotechnical Analysis
Gaylord Land Surveyors - Site Layout

A more detailed discussion of staff and subcontractor qualifications and involvement is contained in the cost estimates and Project Team sections of this proposal.

CURRAN-McLEOD, INC., Consulting Engineers has established a policy of non-discrimination in employment because of race, age, color, sex, religion, national origin, mental and physical handicap, political affiliation, or marital status. CURRAN-McLEOD, INC. is qualified as an Equal Opportunity Employer under the City of Portland Code 3.100.

II. TECHNICAL PROJECT APPROACH

BACKGROUND

The facility planning efforts completed in the early 1990s established a long-term plan to cost-effectively provide wastewater treatment capacity to accommodate build-out of the Urban Growth Boundary. The improvements identified in the Facility Planning were phased in two stages.

The first stage of improvements provided essential raw sewage pre-treatment and pumping facilities, secondary clarification, effluent disinfection and solids handling improvements. The second and final stage includes biological treatment, effluent filtration, enhanced solids handling as well as several miscellaneous site improvements.

Construction of Stage I improvements was undertaken in the mid 1990s. The construction bids were very competitive and permitted the City to incorporate some portions of Stage II work.

The remaining elements identified in Stage II plant improvements include the following major elements:

- Biological treatment unit
- Effluent filtration
- Solids dewatering process

The RFP identified these three components phased over the next three years to coincide with the funding resources. The first year's task, and by far the task with the greatest impact on the entire treatment process, is construction of the biological treatment component of the plant.

Design flows for the treatment process were identified in the facility plans as an average dry weather flow of 2.0 MGD with peak capacity for 5.0 MGD. Design of the new facilities must have this capacity as a minimum.

EXISTING BIOLOGICAL TREATMENT

The existing aeration basin has a volume of approximately 345,000 gallons, which can accommodate a design flow of a maximum of 2.0 MGD. This system can provide effective conversion of BOD and result in effluent quality that can meet the stringent BOD and TSS limitations of the permit.

Although more difficult, this basin can also function to effectively reduce nutrient levels to within the limits of the NPDES waste discharge permit. The process to achieve this reduction however is not conducive to the reduction of BOD. In summary, the existing basin and air supply is only marginally adequate to provide the combined treatment requirements of both BOD and nutrient components concurrently.

This limitation was identified in the facility planning efforts and interim provisions were made to assist in nutrient removal functions. Ultimately, the resolution of this conflict requires construction of the proposed new structure with support equipment. The 1992 Supplemental Wastewater Treatment Facility Plan identified this work and targeted 1998 for the improvement.

PROPOSED TREATMENT FACILITIES

Although the first design task will be to complete a pre-design study for the City and DEQ concurrence, our experience indicates that the most cost effective and flexible operation is provided through a conventional activated sludge process with biological nutrient removal capabilities. Our tentative direction is to provide a multi chambered basin with zones that can be isolated to function with anaerobic, anoxic or aerobic processes, with sufficient water depth and internal recirculation to provide both organic treatment and nutrient removal.

The aeration basins should also provide multiple parallel basins for redundancy. Each basin will be designed to provide efficient oxygen transfer as well as mixing capabilities in anoxic or anaerobic chambers, respectively. The typical depth will be approximately 18 feet to provide for good oxygen transfer and efficient land use by reducing the structure foot print.

The essential components of an aeration basin with nutrient removal capabilities include the following:

- Influent flow distribution
- Anaerobic/anoxic/aerobic cell partitions
- Multiple activated sludge operating modes
- Internal recirculation capabilities
- Effective flow split to secondary clarifiers
- Parallel trains for treatment redundant

The tentative organic treatment design proposed for the Canby Wastewater Treatment Plant aeration basin would have the capability to operate in several modes. Under low loading, the facility can operate in an extended aeration mode. As loading increases, the basin would have the flexibility to operate under alternative modes, depending on load, including conventional activated sludge, step feed, contact stabilization, or one of several nutrient removal modes.

The following Figure II.1 shows the proposed operating mode flexibility of a proposed five cell treatment unit with full redundancy. Depending on the City's objectives, this basin could potentially be reduced to a three or four cell process and still maintain the organic treatment

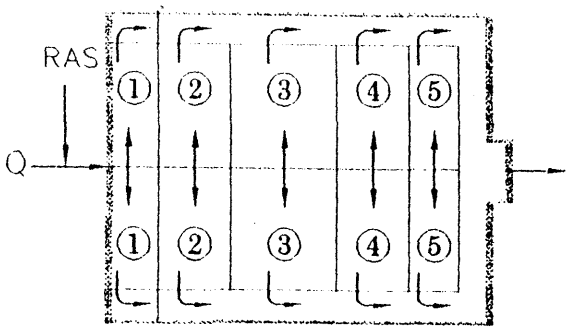
processes. In addition to the treatment cells, we anticipate that internal recirculation, general purpose transfer pumping and a splitter box to the clarifiers would all be accomplished with separate chambers.

Biological nutrient removal (BNR) processes include several proven modes that provide various levels of treatment. Currently the City's NPDES permit requires only a modest treatment level for nitrogen and no treatment requirements for phosphorus. Future Willamette River standards will most likely require incorporation of a phosphorus limitation. To be conservative, the BNR process selected must be capable of reducing both nitrogen and phosphorus discharge to the Wilamtte River.

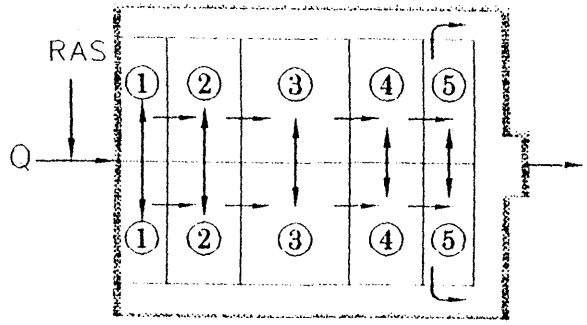
Two processes are proposed to be designed into the basin which would dictate the volume requirements and cell partitions. The city has voiced a desire for a five-celled structure, which lends itself to utilizing a patented "modified Bardenpho" process. This process can be effective for both nitrogen and phosphorus, however, it requires a relatively large basin volume.

To provide the maximum flexibility, we have generated a flow pattern that takes advantage of the five-step modified Bardenpho process, but can also evolve to a high-rate process as plant loading increases. The following Figure II.2 shows a tentative BNR cell configuration that permits the application of various operating modes.

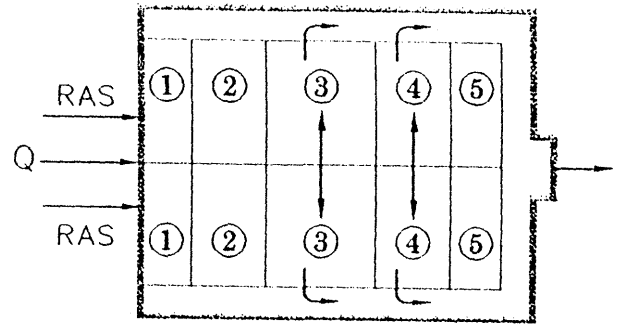
The modified Bardenpho treatment process is capable of reducing nitrogen levels to 3-5 mg/L and phosphorus to below 1 mg/L.



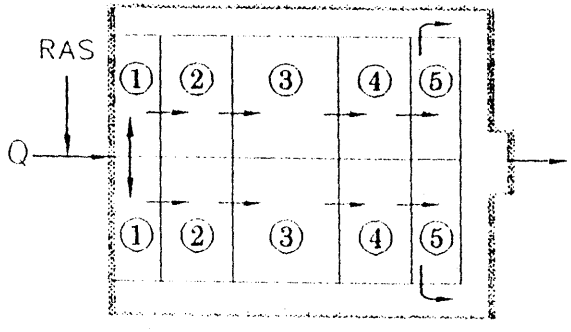
COMPLETE MIX



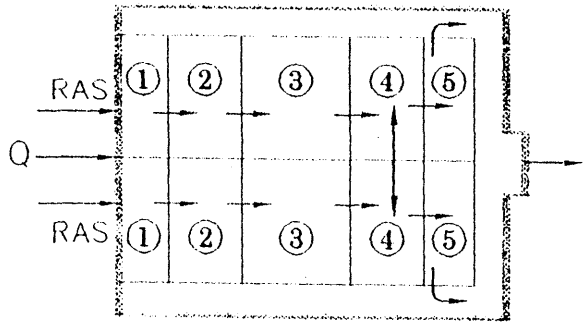
STEP FEED



TWO-STAGE AERATION



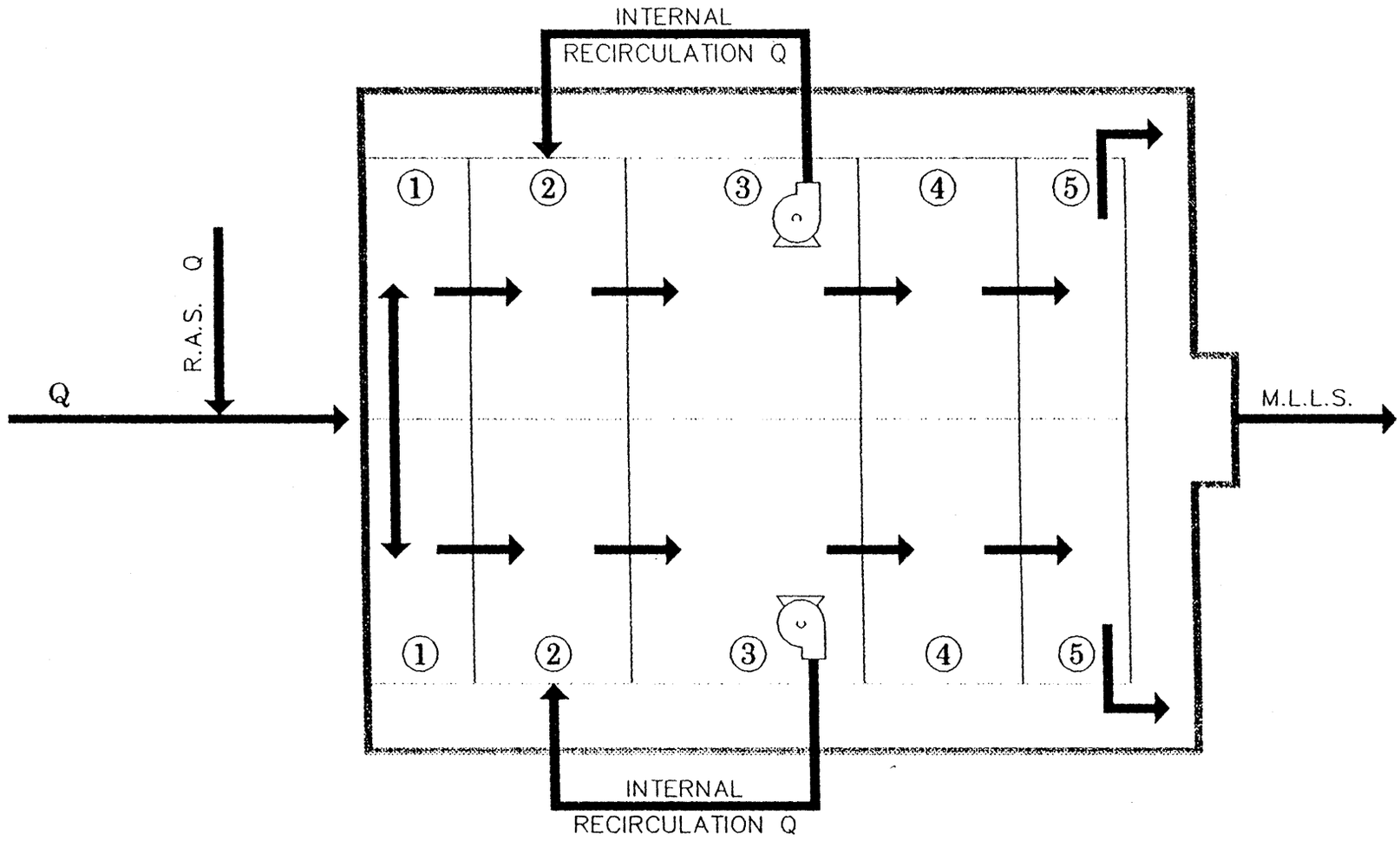
EXTENDED AERATION



CONTACT STABILIZATION

CITY OF CANBY
WWTP IMPROVEMENTS
AERATION BASIN SCHEMATICS
ALTERNATIVE FLOW PATTERNS
FIGURE II.1

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS



TENTATIVE DESIGN CONFIGURATION

	VOLUME each	TOTAL	EQUIPMENT
(1) ANAEROBIC CELL	42,000 g	84,000 g	MIXER
(2) ANOXIC CELL	84,000 g	168,000 g	MIXER
(3) AEROBIC CELL	252,000 g	504,000 g	DIFFUSERS
(4) ANOXIC/AEROBIC CELL	84,000 g	168,000 g	MIXER/DIFFUSERS
(5) AEROBIC CELL	21,000 g	42,000 g	DIFFUSERS
TOTALS	483,000 g	966,000 g	

CITY OF CANBY
WWTP IMPROVEMENTS
BNR TREATMENT
FIGURE II.2
CURRAN-McLEOD, INC.
CONSULTING ENGINEERS

Typical design parameters for the five-cell modified Bardenpho process includes the following:

TABLE II.1: MODIFIED BARDENPHO DESIGN CRITERIA

Cell	Process	Detention Time
Cell 1	Anaerobic Selector	1-2 hours
Cell 2	Anoxic Selector	2-4 hours
Cell 3	Aerobic Treatment	6-12 hours
Cell 4	Anoxic Selector	2-4 hours
Cell 5	Aerobic Treatment	0.5-1 hour

Total basin detention time is from 12 to 23 hours which mandates a very large structure. This is reasonable for current loadings but is not economically feasible for future design loadings.

A second process that lends itself well to the Canby installation is the patented process termed A^2/O. This process similarly has both nitrogen and phosphorus removal capabilities, but can accomplish this task in approximately one fourth the volume of the modified Bardenpho process. Additionally, this process requires only three cells as opposed to five.

To accommodate future loadings within the five-cell basin design, the A^2/O process could utilize the same configuration and accomplish the treatment requirements in much shorter detention times. Following are typical design parameters for the A^2/O process, configured into the tentative five-cell basin:

TABLE II.2: A2/O DESIGN CRITERIA

Cell	Process	Detention Time
Cell 1	Anaerobic Selector	0.5-1.5 hours
Cell 2	Anoxic Selector	0.5-1 hour
Cell 3/4/5	Aerobic Treatment	3.5-6 hours

Total basin detention time is reduced to as little as 4.5 to8.5 hours. This permits the same volume basin to treat up to four times the design flow of the five-cell modified Bardenpho process.

A basin designed with the flexibility to accommodate both processes can provide the City of Canby with an economically sized basin and yet have the design capacity to accommodate the City's growth well beyond development of the current UGB. Limiting factors will be the capacity of the trunk sewers to the plant site, the primary clarifier (3.9 MGD) and the secondary clarifiers (5.0 MGD)

To accommodate the design capacity indicated in the request for proposals, the basin would need a minimum volume of approximately 900,000-1,000,000 gallons. This would provide ideal application of the modified Bardenpho process up through average daily flows of 2.1 mgd. Using the same basins with the A^2/O process, this structure could accommodate flows up to 5.3 mgd and meet the design detention times.

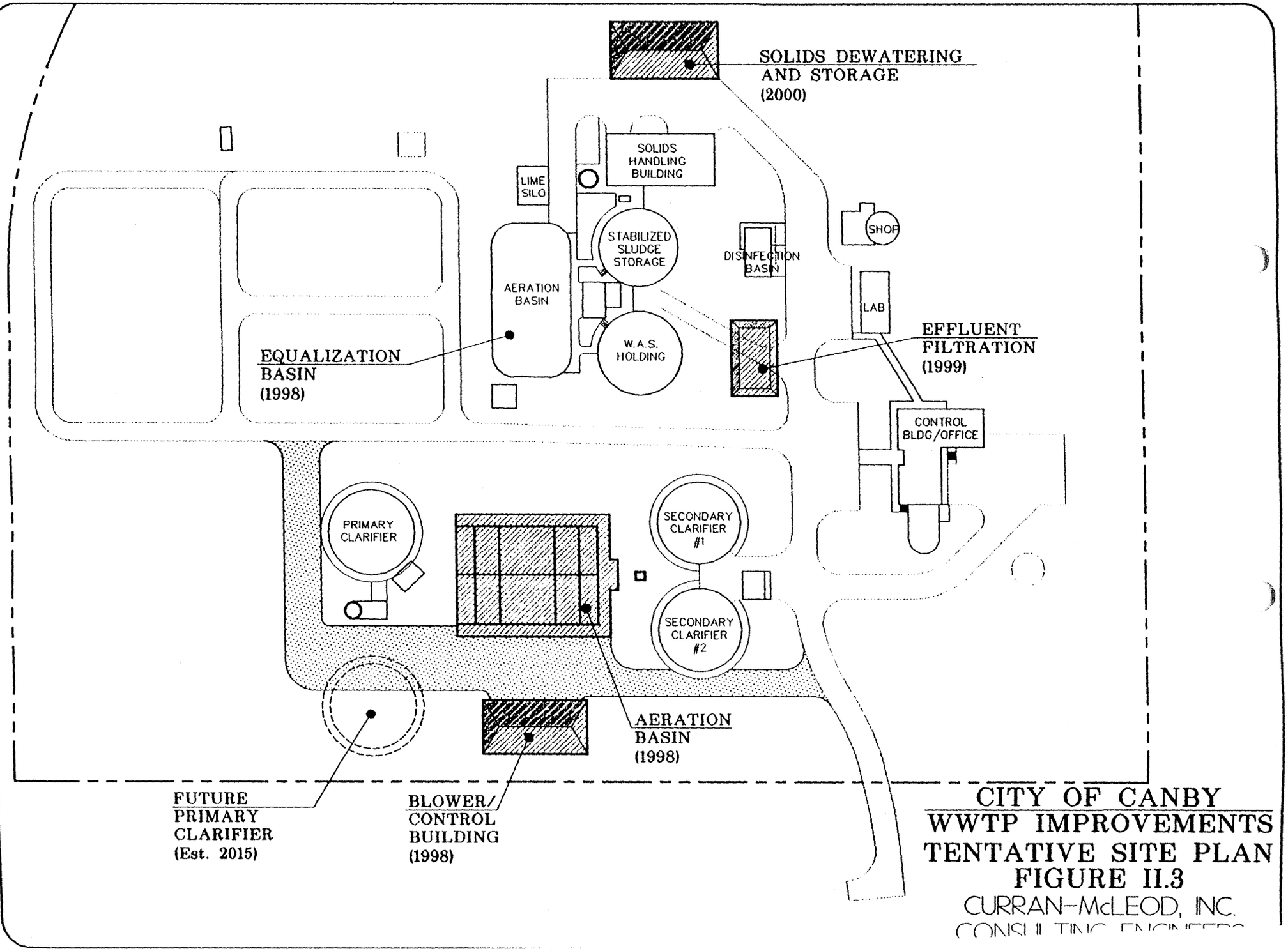
Both processes require return activated sludge pumping capability (80-100% for the modified Bardenpho process; 20-50% for the A^2/O process) and internal recirculation pumps to generate an anoxic zone (400-600% for modified Bardenpho; 100-300% for A^2/O).

Miscellaneous Improvements

Miscellaneous improvements required to support the aeration basin operations would include construction of a new blower building with a minimum of three centrifugal blowers, additional engine generator capacity, and control instrumentation for monitoring and automated operation.

The existing aeration basin should be modified to operate as an equalization basin for filtrate or centrate return to the process stream. This basin may require a cover for odor control and can be treated through the existing scrubber.

The following site plan, Figure II.3, shows a tentative layout of building and basin construction; as well as the improvements noted for the second and third year of the stage II improvements. This retains an area for a future primary clarifier.



CITY OF CANBY
WWTP IMPROVEMENTS
TENTATIVE SITE PLAN
FIGURE II.3

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS

EFFLUENT FILTRATION AND SOLIDS DEWATERING

Prior to initiating the second and third year tasks of effluent filtration and solids dewatering, pre-design studies should evaluate the cost and performance of the commonly available equipment. The industry fluctuates on its support of equipment for these tasks.

The use of a fabric filter as proposed for the effluent filtration, is new to Oregon. Although there are numerous units across the United States, the first Oregon unit is currently being installed at the Sandy Wastewater Treatment Plant. The filter is capable of producing a Class IV effluent with chemical addition and this will provide a very cost effective solution to UV lamp fouling concerns and effluent reuse concerns. This technology will provide the basis for future effluent irrigation.

Achieving a dewatered sludge density as high as 35% as requested in the Request For Proposals is very difficult. More typically, densities of 22-28% are achievable with non-digested waste activated sludge. A filter belt press is the typical product for this application although this does not mesh well with the City's lime stabilization process. An alternative application point may be warranted for the lime slurry if a filter belt press is utilized.

Alternatively, a centrifuge can produce a high density sludge product, although operation and maintenance is costly. This process requires less building space and can process lime stabilized sludge. By the year 2,000, this equipment will be more evolved with greater selections greater. The equipment choices should be evaluated as a component of the 1998-99 pre-design study for this future task.

As much as is practical, the design team and plant operators should anticipate visiting existing plant sites to observe various BNR treatments and plant equipment operation. There are several plants in Oregon and nearby states under construction or in operation. As a component of the pre-design studies, our office will locate and arrange to visit representative sites.

PROJECT APPROACH SUMMARY

CURRAN-McLEOD, INC is very familiar with current activated sludge treatment plant designs and is in a position to evaluate each thoroughly for the City of Canby. We currently have a BNR plant under construction for the City of Sandy. This recent effort has many similarities to the City of Canby's project and will be a valuable hands-on resource.

Our overall approach to the project will include four distinct phases for each year's task:

1. Pre-design Report Preparation
2. Design Plans and Specifications
3. Approval and Bid Process
4. Construction Phase

Each will have an identified goal and time line as shown on the Project Cost Schedule, to meet this City of Canby's needs.

The Pre-design report for the biological treatment facility would include installing a boring a the site to identify the soil types and groundwater conditions. The report phase is intended to identify the most effective option for treatment, recommend an efficient site layout, and confirm the design constraints. This document would be submitted to DEQ for concurrence prior to proceeding into the design phase.

Preparation of plans and specifications will be completed in close coordination with the City staff to assure we address all of their concerns. Status meetings will be held frequently and City staff will be aware of the basin configuration and equipment selections options and our recommendations.

CURRAN-McLEOD, INC. maintains a close working relationship with the Oregon Department of Environmental Quality. One of our first project tasks will be to assist the City in negotiating a Mutual Agreement and Order (MAO) to eliminate the potential for a notice of non-compliance (NON) due to ammonia levels in the effluent. This relief should be available given good faith efforts shown by the City to proceed with basin improvements.

CONSTRUCTION QUALITY ASSURANCE

CURRAN-McLEOD, INC has developed several construction phase practices that better assure the owner of quality control. Our resident inspector is certified to provide many specialized inspections, and document daily observations. Additionally, we require bi-weekly project status meetings with the Owner and Contractor for the duration of construction to review schedules, conflicts, and procedures.

Our involvement in and proximity to the City of Canby will provide a strong presence for the duration of construction.

PROJECT SCHEDULING

Project scheduling for the basin improvements would permit taking advantage of the wet season for the study and design, and the summer construction season to complete all in-ground work. The goal should be to schedule the improvements to take advantage of ; 1.) early season construction bids, i.e. up until April or May, and; 2.) to complete the underground construction prior to the advent of the rainy seasons. Final completion and start-up of the new facility will be in the winter of 1998-99.

CURRAN-McLEOD, INC is prepared to accomplish the scheduling and performance goals established by the city of Canby. The following time line shows a tentative schedule for the project:

TABLE II.3: PROJECT SCHEDULING

Project Task	Duration	Completion Date
Execute Contracts	-----	November 5, 1997
Pre-design Report	4 Weeks	December 5, 1997
Design Engineering	16 Weeks	April, 1998
Plant Construction	38 Weeks	February, 1999

This schedule can be modified if it does not address a specific concern of the City of Canby. A more detailed schedule is contained in the project cost section of this proposal.

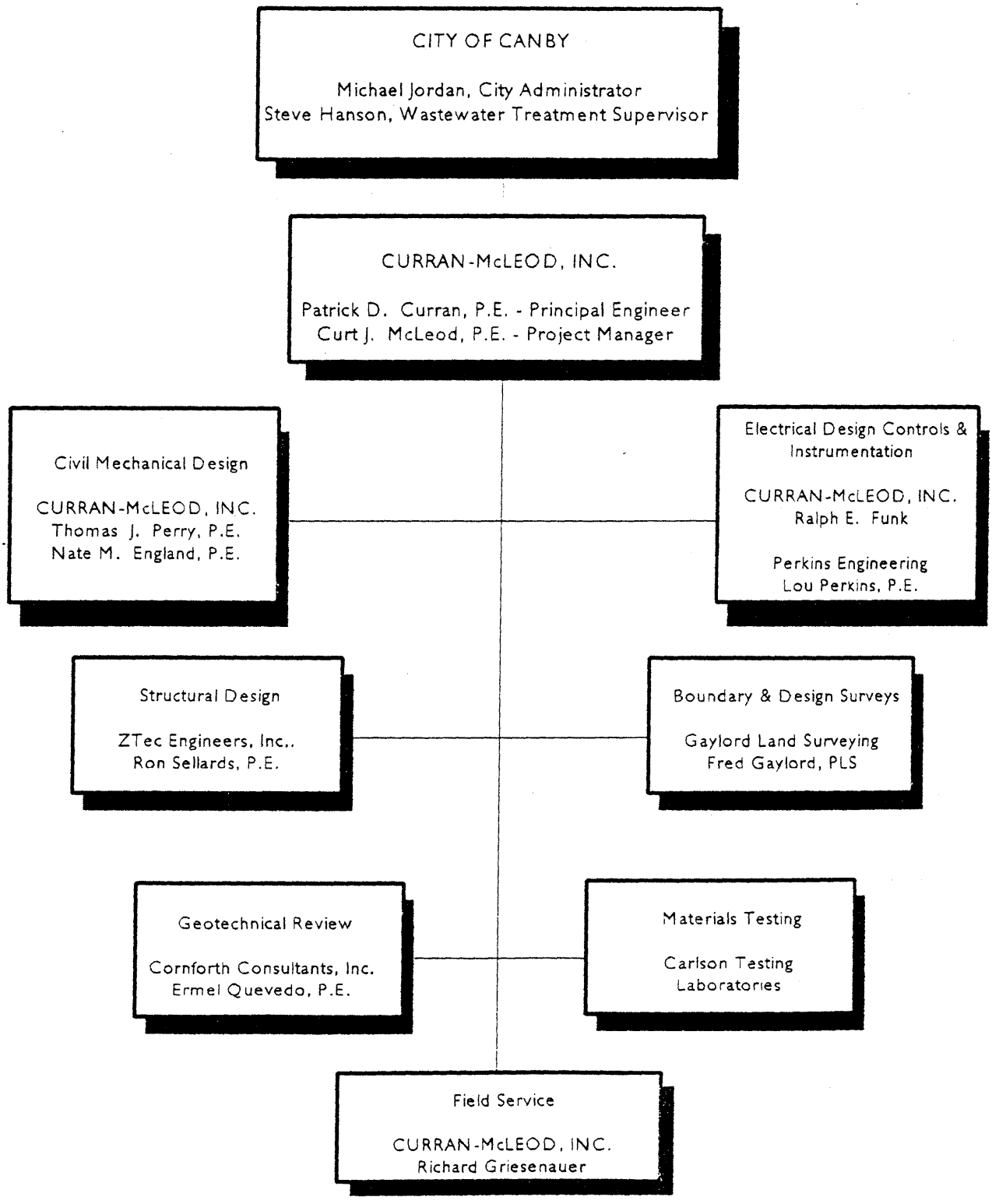
III. PROJECT TEAM

The staff of CURRAN-McLEOD, INC. has been integrally involved with Water and Wastewater Treatment Facilities design and construction for well over twenty years, fourteen years under our own corporate name. The team proposed for the Canby Wastewater Treatment Facility has worked together on many successful projects over the past years. The Team primarily utilizes the staff of CURRAN-McLEOD, INC, with support from consultants for specialized tasks. All Team members are responsive to CURRAN-McLEOD, INC. as the Project Manager, however, each consultant has the following responsibilities:

CURRAN-MCLEOD, INC Consulting Engineers	Responsible for total project management, pre-design analysis, detailed design of civil, mechanical, process and instrumentation, contract administration, and resident inspection
PERKINS ENGINEERING, INC Electrical Engineers	Responsible for power distribution, auxiliary power generation, building HVAC systems, support tasks of control, and instrumentation design
ZTEC ENGINEERS, INC Structural Engineers	Responsible for basin and building structural design, design calculations, and compliance with UBC constraints
GAYLORD LAND SURVEYORS	Responsible for pre-design surveys, site identification, and control staking
CORNFORTH CONSULTANTS Geotechnical Analysis	Responsible for geotechnical analysis of plant site, soil loading constraints, and groundwater monitoring
CARLSON TESTING LABS Material Testing	Materials quality control, aggregate compaction standards, concrete quality control, and field compaction testing.

Each task is very specialized and each consultant has proven to be very proficient. By assembling a specialized Project Team, we are able to minimize expense yet provide extensive experience and expertise. The following Figure III.1 shows the team structure and is followed by professional biographies of the team members.

PROJECT TEAM



IV. PROJECT COST ESTIMATES & SCHEDULING

Total project costs have been estimated at approximately $2.0 million for the biological treatment improvements. Engineering expenses are estimated in the following table, showing each major task and firm responsible for completion of the task:

TABLE IV.1: ESTIMATED ENGINEERING EXPENSES

Task	Team Responsibility	Estimated Cost
DESIGN PHASE ENGINEERING		
1. Pre-design Analysis		
1.1 Design Loading	CMI	$1,200
1.2 Site Configurations	CMI	3,200
1.3 Geotechnical Analysis	Cornforth	7,500
1.4 Publishing & Presentations	CMI	800
		$13,200
2. Preliminary Plan of Operations (PPO)		
2.1 Hydraulic Analysis	CMI	$1,400
2.2 Organic Treatment	CMI	800
2.3 Nutrient Treatment	CMI	800
2.4 Design Criteria	CMI	680
		$3,680
3. Project Design	Gaylord	
3.1 Site Surveys	CMI	$3,200
3.2 Process Flow Schematic	CMI/Perkins	3,600
3.3 Process & Instrumentation Diagrams	CMI	3,600
3.4 Equipment Selection	CMI	2,800
3.5 Equipment Field Selection		5,500
3.6 Architectural/Structural Design		
3.6.1 Aeration Basin	CMI/ZTec	8,500
3.6.2 Blower Building	CMI/ZTec	4,800
3.7 Civil Design		
3.7.1 Yard Piping	CMI	2,500
3.7.2 Plumbing/Air	CMI	1,800
3.7.3 Site Traffic Pattern	CMI	1,800
3.7.4 Landscaping/Irrigation	CMI/Perkins	600
3.7.5 Lighting Design	CMI	600
3.7.6 Earthwork		3,200

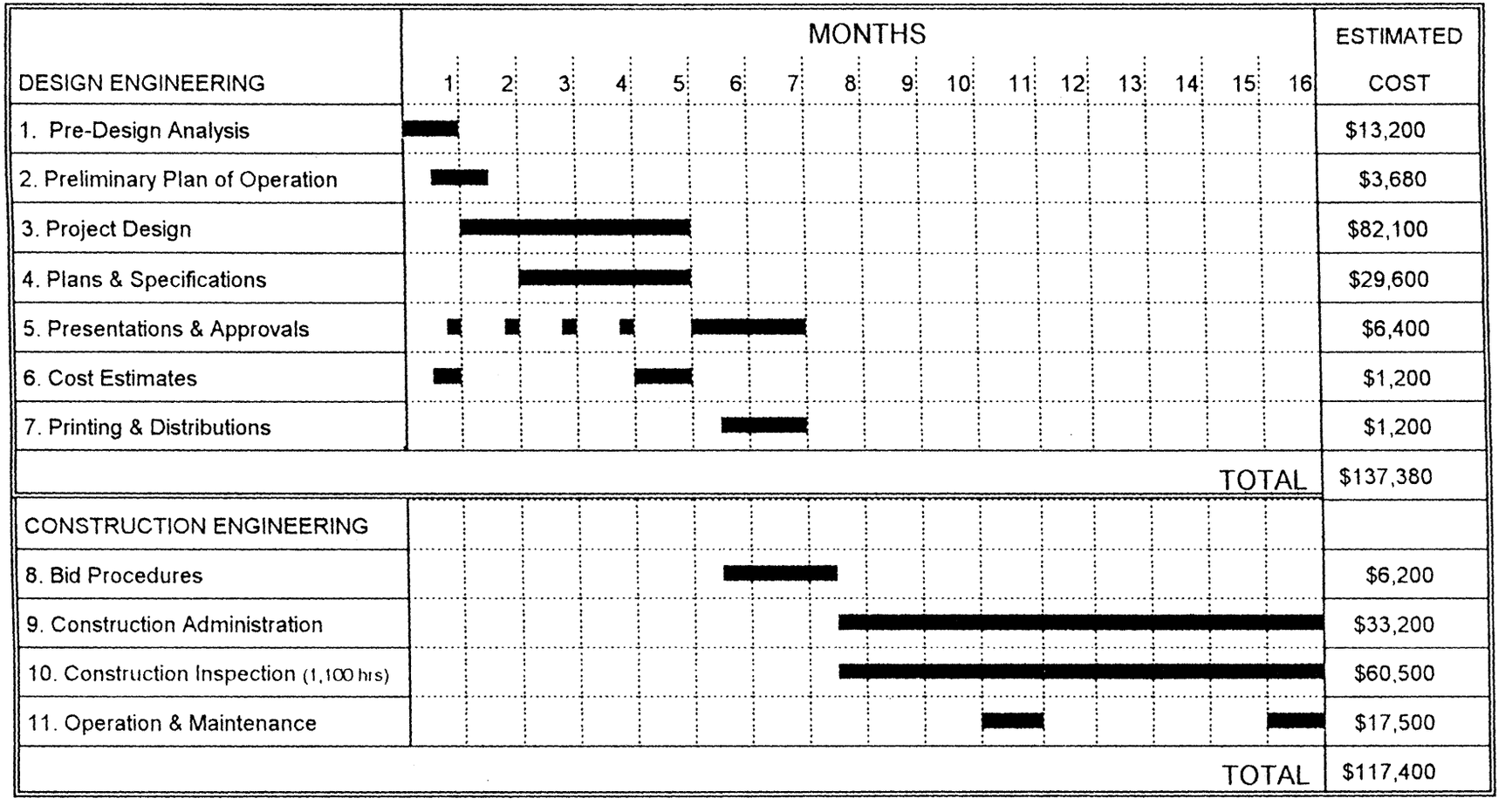
Task	Team Responsibility	Estimated Cost
3.8 Hydraulic Design		
3.8.1 Hydraulic Profile	CMI	1,200
3.8.2 Basin Configurations	CMI	3,600
3.8.3 Internal Recirc P.S.	CMI	1,200
3.8.4 Dewatering P.S.	CMI	1,200
3.8.5 Equalization Pond Piping	CMI	600
3.8.6 Miscellaneous Site Piping	CMI	2,400
3.8.7 Bypass Piping	CMI	2,400
3.9 Mechanical Design		
3.9.1 Blower Building	CMI	6,400
3.9.2 Basin Piping	CMI	4,200
3.9.3 Mixers/Diffusers	CMI	1,600
3.10 Electrical Design		
3.10.1 Power Distribution	Perkins	8,000
3.10.2 Auxillary Power	Perkins	1,200
3.10.3 Alarm/Telemetry	CMI/Perkins	1,200
3.10.4 Blower BLD Wiring/HVAC	CMI/Perkins	2,200
3.10.5 SCADA Incorporation	CMI	2,200
		$82,100
4. Preparation of Plans & Specifications		
4.1 Graphics, Approx 32 Sheets,	CMI	$22,000
4.2 Specifications, Division 1-16	CMI	6,400
4.3 Contract Documents	CMI	1,200
		$29,600
5. Reviews, Presentations, Approvals		
5.1 Progress Meetings	CMI	$2,000
5.2 DEQ Review & Approvals	CMI	3,200
5.3 City, Building Official Approvals	CMI	1,200
		$6,400
6. Construction Cost Estimates	CMI	**$1,200**
7. Printing & Distribution	CMI	**$1,200**
TOTAL DESIGN ENGINEERING		**$137,38**

CONSTRUCTION PHASE ENGINEERING		
Task	**Team Responsibility**	**Estimated Cost**
8. Bid Procedures		
8.1 Pre Bid Conference	CMI	$800
8.2 Clarification & Addenda	CMI	800
8.3 Equipment Submittals	CMI	3,400
8.4 Bid Opening & Recommendation	CMI	800
8.5 Contract Execution	CMI	400
		$6,200
9. Construction Administration		
9.1 Field Surveys	GLS	$1,800
9.2 Field Engineering	CMI/Perkins	2,000
9.3 Contract Administration	CMI	8,000
9.4 Change Order Prep	CMI	1,000
9.5 Project Closeout	CMI	4,200
9.6 Start Up & Training	CMI	4,200
9.7 Performance Evaluations	CMI	2,000
		$33,200
10. Construction Inspection		
10.1 Resident Inspector, 1,100 hours	CMI	**$60,500**
11. Operation & Maintenance		
11.1 O&M Manuals, CD ROM		$12,500
11.2 Continuing Service		2,500
11.3 Warranty Inspection		2,500
		$17,500
TOTAL CONSTRUCTION PHASE		**$117,400**

CITY OF CANBY

WASTEWATER TREATMENT PLANT EXPANSION
AERATION BASIN IMPROVEMENTS
PROJECT SCHEDULE & COST

FIGURE IV.1



DESIGN ENGINEERING	ESTIMATED COST
1. Pre-Design Analysis	$13,200
2. Preliminary Plan of Operation	$3,680
3. Project Design	$82,100
4. Plans & Specifications	$29,600
5. Presentations & Approvals	$6,400
6. Cost Estimates	$1,200
7. Printing & Distributions	$1,200
TOTAL	$137,380
CONSTRUCTION ENGINEERING	
8. Bid Procedures	$6,200
9. Construction Administration	$33,200
10. Construction Inspection (1,100 hrs)	$60,500
11. Operation & Maintenance	$17,500
TOTAL	$117,400

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in duplicate on the respective dates indicated below.

OWNER: **CITY OF CANBY**

BY: Michael Joyce

TITLE: CITY ADMINISTRATOR

DATE: 12/3/97

ENGINEER: **CURRAN-MCLEOD, INC.**

BY: Robert McLeod

TITLE: PRESIDENT

DATE: 10/3/97

ATTEST: _____

BY: _____

TITLE: _____