SMALL WATER SYSTEM PLAN

TABLE OF CONTENTS

Washington State Department of Health

Public Water System

Annual Fee Statement

Read Instructions on back before completing.

RECEIVED MAY - 6 1996

Part 1 - System Information

Review the following Public Water System (PWS) or Satellite Management Agency (SMA) information and make appropriate changes:

PWS OR SMA NAME
LAKE LIMERICK WATER

OWNER'S NAME
LAKE LIMERICK COUNTY CLUB, INC.

OWNER'S PHONE

PWS OR SMA ID NUMBER
44150T

OWNER NUMBER
3162

CONTACT DAY PHONE
360 426 7892

CONTACT EVENING PHONE
360 426 7892

OWNER'S ADDRESS
E. 790 ST. ANDREWS DRIVE

SHELTON, WA 98584

MASON

Part 2 - Fee Calculation

EQUIVALENT SERVICES
1570 yearly total non-resident population /
12 months in operation / 25 = 5 equivalent services
+ 417 residential service = 422 equivalent services

According to the most recent Water Facilities Inventory (WFI) on file with the Department of Health, following is the calculation of your fee:

FEE CATEGORY	FEE AMOUNT	PAID	BALANCE
CATEGORY D			
Operating Permit Fee :	633.00		633.00
Operator Certification System Fee:	75.00		75.00
	708.00	0.00	708.00

called back 6-15 4pm

Payment of is Due 708.00
06 / 20 / 96

Part 3 - Certification

In accordance with WAC 246-294 this statement is considered an application for an operating permit. I certify the information on this statement is complete and accurate.

AUTHORIZED SIGNATURE | NAME (PRINT) | TITLE | DATE | PHONE

(Do Not Detach)

Make check/money order payable to Department of Health and mail with this completed statement to:

Department of Health
PO Box 1099
Olympia WA 98507-1099

44150 T 23 SW
708.00
6 - 20 - 96

DOH 331-029 (11/93)

LAKE LIMERICK COUNTY CLUB, INC.
E. 790 ST. ANDREWS DRIVE

SHELTON, WA 98584

40PA10420243000 DW0044150T006209600070800

Check Cleared 7/5/96 called Bank 7/3/96

MERICK WATER SYSTEM

3045

ID: DOHOLYMPIA Vendor name: Department of Health PO

C	No.	Reference	Date	Inv Amt	Amt Paid	Disc Taken	Net Amt
	3162	CatD Permit	06/01/96	708.00	708.00	0.00	708.00

Net Check Amount 708.00

3045

KEY BANK OF WASHINGTON
SHELTON, WA 98584
34-7/1251

LAKE LIMERICK WATER SYSTEM
PH. 360-426-3581
E. 790 ST. ANDREWS DR.
SHELTON, WA 98584

3045

********** Seven Hundred Eight & 00/100 Dollars

DATE 06/17/96

AMOUNT *******708.00

Department of Health PO
PO Box 1099
Olympia, WA 98507

AUTHORIZED SIGNATURE

⑈003045⑈ ⑆125100076⑆00272748021⑈

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

returned 6-27-96

STATE OF WASHINGTON

DEPARTMENT OF HEALTH

Olympia, Washington 98504

8-19
1-5

June 26 1996

Lake Limerick Water System
E 790 St Andrews Dr
Shelton, WA 98584

To whom it may concern:

We are unable to deposit your check for the following reason:

___ Check incomplete, there is no signature

___ Name listed on original license

___ No profession indicated

___ Please complete your check by filling in the written dollar amount.

___ The written line and the numerical line on your check must match.

___ We are unable to determine what this payment pertains to. Please forward more information with payment so that we may process it properly.

XXX Other:We must have the invoice to process this payment. Thankyou.

Until we receive your check and the information indicated above, your license will not be updated. We apologize if this causes you any inconvenience.

Please return to:

DEPARTMENT OF HEALTH
PO BOX 1099
OLYMPIA, WA 98507-1099

L'vonne Howell
Revenue Accounting

Enclosure

RECEIVED JUN 2 8 1996

STATE OF WASHINGTON
Public Water System

Operating Permit

The Department of Health Division of Drinking Water issues a permit to operate

LAKE LIMERICK WATER (ID# 44150 T)

LAKE LIMERICK COUNTY CLUB, INC. COUNTY: MASON

to owner:

LAKE LIMERICK COUNTY CLUB, INC.
E. 790 ST. ANDREWS DRIVE

SHELTON WA 98584

This permit is valid through AUG 1, 1996

PERMIT CATEGORY: **** GREEN ****

The permit category may be modified or the permit revoked subject to water system compliance with applicable State of Washington drinking water rules and regulations and the following statements:

NOTE: SYSTEM IS APPROVED FOR 1100 SERVICE CONNECTIONS, WFI SHOWS 417 ACTIVE RESIDENTIAL SERVICE CONNECTIONS

NOTE: WAC 246-294 requires water system plan approval and issuance of a new operating permit before transfer of ownership of a Public Water System.

DOH 331-030 (6/95) Front

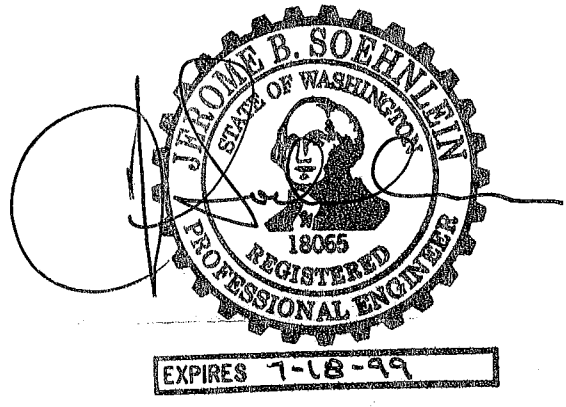
RECEIVED AUG 25 19

SMALL WATER SYSTEM PLAN
Lake Limerick County Club
Mason County

The following Small Water System Plan for Lake Limerick Country Club has been compiled by LLCC Staff and Water Committee Members in accordance with WAC 246-290-100 and discussions with the Department of Health.

I certify that I have reviewed the following plan and find it appropriate for submittal as a working document to be reviewed by DOH for further recommendations and comments.

Jerome Soehnlein, P.E.
LLCC Water Committee Treasurer



LAKE LIMERICK COUNTRY CLUB, INC.
E 790 ST ANDREWS DR
SHELTON WA 98584
(360) 426-3581
FAX: (360) 426-8922

July 1996

To Whom it may concern:

I.D. Number 44150T Class 1

Lake Limerick Country Club, Inc. maintains and operates a class I water system. This system is in compliance with Washington State Department of Ecology regulations for class I systems. The water quality is inspected twice per month and the system is checked once every three years by the state.

The water is currently provided by a series of six wells which are located on community held property.

Sincerely,

Daniel Robinson
President
LAKE LIMERICK COUNTRY CLUB, INC.

Lake Limerick

COUNTRY CLUB INC. MARCH, 1966

Articles of Incorporation

and

By-Laws

Mason County, Washington

ref:
Article I
Section 9

Revised April, 1982

ARTICLES OF INCORPORATION
of
LAKE LIMERICK COUNTRY CLUB, INC.

KNOW ALL MEN BY THESE PRESENTS: That we, Mark J. Antoncich, Kenneth W. Engel, and Allan F. Osberg, John W. Osberg and W.J. Pierce, residing in the State of Washington, and being citizens of the United States, each being over the age of twenty-one years, and being desirous of forming a corporation under Title 24, Revised Code of Washington, relating to non-profit corporations, do hereby associate ourselves together for the purpose of forming a non-profit corporation, and make, subscribe, execute and adopt, in triplicate, the following Articles of Incorporation, and certify as follows:

ARTICLE I

The name of the corporation shall be Lake Limerick Country Club, Inc.

The purposes for which this corporation is formed are:

1. To purchase or otherwise acquire, construct, improve, develop, repair, maintain, operate, care for and/or dispose of streets, roadways, easements, parkways, playgrounds, open spaces and recreational areas, tennis courts, beaches, boat landings, mooring basins, floats, piers, clubhouses, swimming pools and/or swimming areas, bathhouses, places of amusement, community buildings, community clubhouses and in general community facilities appropriate for the use and benefit of its members, and/or for the improvement and development of the property hereinafter referred to.

2. To build, improve and maintain roadways, culverts, bridges and drainage areas and to provide for the improving, cleaning and sprinkling of streets, and for collection and disposal of the street sweepings, garbage, ashes, rubbish and the like; to prevent and suppress fires, to provide police protection, and to make and collect charges to cover the costs and expenses therefor.

3. To improve, light and/or maintain streets, roads, alleys, courts, walks, gateways, fences and ornamental features now existing or hereafter to be created or erected, and shelters, comfort stations and/or buildings and improvements ordinarily appurtenant tc any of the foregoing; to improve, plant and maintain grass plots and other areas, trees and plantings within the lines of the street immediately adjoining or within the property hereinafter described or referred to.

4. So far as it can legally do so, to grant franchises, rights of way and easements for public utilities or other purposes upon, over and/or under any of said property.

5. To acquire by gift, purchase, lease or otherwise, and to own, hold, enjoy, operate, maintain and to convey, sell, lease, transfer, mortgage and otherwise encumber, dedicate for public use and/or otherwise dispose of, real and/or personal property and interest therein wherever situate.

6. To enforce assessments, liens, charges, restrictions, conditions and covenants existing upon and/or created for the benefit of parcels of real property in the plat or added to the plats of Lake Limerick in Section 27, T21N, R3W, W.M. and the S½ S½ Section 22, T21N, R3W, W.M. and SE¼ SE¼ Section 21, T21N, R3W, W.M. and SW¼ SW¼ of Section 23, T21N, R3W, W.M. (all of the foregoing in Mason County, Washington) to which said parcels may be subject, and to pay all expenses incidental thereto.

7. To pay the taxes and assessments which may be levied by any public authority upon any of the said property now or hereafter used or set apart for roadways, easements, parks, parkways, playgrounds, open areas, tennis courts, beaches, boat landings, mooring basins, community clubhouses, community club buildings, places of amusement and/or recreation areas, or upon such other recreation spaces wherever situate as may be maintained for the general benefit and use of the owners of lots in said property; to pay taxes and assessments levied by any public authority upon any property which may be held in trust for said corporation.

8. To exercise such powers of control, interpretation, construction, consent, decision, determination, modification, amendment, cancellation, annulment and/or enforcement of covenants, reservations, restrictions, liens and charges imposed upon said property, and as may be vested in, delegated to, or assigned to said corporation and such duties with respect thereto as may be assigned to and assumed by said corporation.

9. To appropriate, purchase, divert, acquire, and store water from streams, water courses, wells or any other source, and to distribute the water so appropriated and acquired to its members for use upon the lands of said members and for domestic purposes; to acquire, own, construct, hold, possess, use and maintain such pumping plants, tanks, pipe lines, reservoirs, ditches, buildings, roads, trails and appliances, and such other property, including water rights and shares of stock in other corporations as said corporation may from time to time desire to acquire or purchase for furnishing and supplying water to its members; provided that this corporation shall not use or dispose of such water as a public utility, but solely for the use and benefit of its members and for the irrigation of lands and domestic and other useful and beneficial purposes.

10. To fix, establish, levy and collect annually such charges and/or assessments as may be necessary in the judgment of the board of trustees, to carry out any or all of the purposes for which this corporation is formed, but not in excess of the maximum from time to time fixed by the By-Laws.

11. To expend the moneys collected by said corporation from assessments and charges and other sums received for the payment and discharge of costs, expenses and obligations incurred by said corporation in carrying out any or all of the purposes for which said corporation is formed.

12. Generally, to do any and all lawful things which may be advisable, proper, authorized and/or permitted to be done by said corporation under or by virtue of any restrictions, conditions, and/or covenants or laws affecting said property, or any portions thereof (including areas now or hereafter dedicated

to public use); and to do and perform any and all acts which may be either necessary for, or incidental to, the exercise of any of the foregoing powers or for the peace, health, comfort, safety, and/or general welfare of owners of said property, or portions thereof, or residents thereon.

13. To borrow money and mortgage, pledge or hypothecate any or all of the real or personal property of said corporation as security for money borrowed or debts incurred; and to do any and all things that a corporation organized under said laws of the State of Washington may lawfully do when operating for the benefit of its members or the property of its members, and without profit to said corporation.

14. Generally, to do and perform any and all acts which may be either necessary or proper for or incidental to the exercise of any of the foregoing powers and such powers granted by the provisions of Title 24, Revised Code of Washington, and other laws of the State of Washington relating to non-profit corporations.

15. Nothing contained in these Articles of Incorporation shall be construed as authorizing or permitting said corporation to own, manage or operate any real or personal property for profit. It is the intention and purpose that the business of said corporation shall not be carried on for profit either to itself or for the benefit of its members, and wherever it is authorized to collect charges or assessments it shall have no power or authority to use said charges or assessments except as necessary to cover the actual cost or expense of the act, duty, power, or transaction performed.

16. All of the foregoing purposes and powers are to be exercised and carried into effect for the purpose of doing, serving and applying the things above set forth for the benefit of all property situated in the plat or added to the plat of Lake Limerick Country Club, Inc., Section 27, T21N, R3W, W.M. and the S½ S½ Section 22, T21N, R3W, W.M. and SE¼ SE¼ Section 21 T21N, R3W, W.M. and SW¼ SW¼ of Section 23, T21N, R3W, W.M. (all of the foregoing in Mason County, Washington).

ARTICLE II

The corporation shall at all times hereafter be a joint and mutual association of the above named incorporators, and such other persons as may hereafter be admitted to membership in accordance with the By-Laws of the corporation. Membership and certificates evidencing the same shall be inseparably appurtenant to tracts or division of tracts owned by the members, and upon transfer of ownership or contract for sale of any such tract, membership and certificate of membership shall ipso facto be deemed to be transferred to the grantee or contract purchaser. No membership or certificate of membership may be transferred, assigned, or conveyed in any manner other than in the manner herein set forth. In the event of the death of a member the membership or certificate of membership of such deceased member shall be and become the property of the personal representative of such deceased member upon appointment and qualification as such in a judicial proceeding and such personal representative shall have all of the rights, privileges and liabilities of such member until title shall be transferred or contracted to be transferred. The property in possession of this corporation shall be managed by the board of trustees hereinafter mentioned and only alienated and disposed of in accordance with the By-Laws of the corporation. The interest of each incorporator or member shall be equal to that of any other and no incorporator or member can acquire any interest which will entitle him to any greater voice, vote, authority or interest in the corporation than any other member.

ARTICLE III

The number of trustees of this corporation shall not be less than three (3) nor more than ten (10). The names of the trustees who shall manage the affairs of the corporation for not more than six (6) months until the trustees are elected by the members are:

NAME	ADDRESS
Mark J. Antoncich	7001-31st N.E., Seattle, Wash.
Kenneth W. Engel	8010-208th N.E., Redmond, Wash.
John W. Osberg	1132 N. 128th, Seattle, Wash.
Allan F. Osberg	1132 N. 128th, Seattle, Wash.
W. J. Pierce	1132 N. 128th, Seattle, Wash.

ARTICLE IV

The time of the existence of this corporation shall be perpetual.

ARTICLE V

The registered office and post office address of this corporation shall be 5125 - 25th Avenue N.E., Seattle, Wash. 98105.

ARTICLE VI

The qualifications of the members of said corporation, the property, voting and other rights and privileges, and the liabilities to charges and assessments of the members, shall be set forth in the By-Laws of the corporation.

IN WITNESS WHEREOF, we, the undersigned, the incorporators of this corporation have this 28th day of February, 1966, hereunto set our hands and seals in triplicate, and state that our first meeting was this day.

(Signed) JOHN W. OSBERG
(Signed) W. J. PIERCE
(Signed) MARK J. ANTONCICH
(Signed) KENNETH W. ENGEL
(Signed) ALLAN F. OSBERG

STATE OF WASHINGTON)
) ss
COUNTY OF KING)

Notarized by JOHN R. BLACKBURN, Notary Public in and for the State of Washington, residing in Seattle, on February 28, 1966.

470924 Vol 384 Pg 600

384 1480 600-609

07 AUG 14 P3:33

BY - LAWS
of
LAKE LIMERICK COUNTRY CLUB, INC.

ARTICLE I
PURPOSES

Section 1. This corporation shall be conducted as a non-profit maintenance corporation for the purposes set forth in the Articles of Incorporation for the property situated in the plats of Lake Limerick in Mason County, Washington, as described in Article I, Item 6 of the Articles of Incorporation.

Section 2. The corporation shall have power to levy and collect assessments against its members and against the tracts owned or purchased by them for the purposes in its Articles of Incorporation and By-Laws set forth, and to sell or forfeit their interest in the corporation for default with respect to any lawful provisions of said Articles of Incorporation and By-Laws and upon forfeiture of any such property as by law and in the By-Laws provided, may transfer the membership of such defaulting member.

Section 3. The purposes for which this corporation was created may be altered, modified, enlarged or diminished by the vote of two-thirds of the members at a meeting duly called for such purpose, notice of which meeting shall be given in the manner provided by the By-Laws for giving of notice for the election of trustees.

ARTICLE II
MEMBERSHIP

Section 1. The membership of the corporation shall consist of and be limited to the incorporators and the owners or purchasers of tracts in the area described in Article I of the Articles of Incorporation. Ownership does not include membership in a corporation owning or purchasing any of said tracts. Membership shall be appurtenant to tracts owned by members, and upon transfer of ownership, or contract of sale, of any of such tracts, membership shall be transferred to the transferee or contract purchaser. No membership may be transferred, assigned or in any manner conveyed other than as set forth herein. In the event of the death of a member, the membership shall become the property of his personal representative, who shall have all the privileges and responsibilities of membership until title is transfered or contracted to be transferred; or, if no personal representative is appointed, said membership shall become the property of the member's lawful successor in interest.

Section 2. If any tract is owned by more than one person, or a marital community, the owners of such tract shall be entitled collectively to cast one vote. Any one person may only cast one vote. A purchaser under a contract of purchase shall be deemed to be an owner for voting purposes.

Except as herein provided, no membership shall be voted by or on behalf of any for-profit corporation, as defined by the laws of the State of Washington.

The owners of any tract in multiple ownership shall be responsible for delegating the privilege of voting to one among them. The only vote recognized for any tract shall be that first received, either as an absentee or present ballot.

Section 3. All owners or contract purchasers of any tract shall have the privilege to use and enjoy the facilities provided by the corporation, including the lakes, and other corporation-owned areas, as well as improvements thereon. Such privileges are appurtenant to all of the said tracts. Children of said owners and purchasers, as well as guests of members, are entitled to the same privileges, provided that each member is responsible for such children and guests; subject to restrictions imposed by the Board of Trustees.

The Board of Trustees shall have the power to create social memberships, as it may in its discretion desire, subject to the Articles of Incorporation and these By-Laws.

ARTICLE III
DISSOLUTION

In the event of the dissolution of the corporation, the property and assets shall first go toward payment of corporate debts. Any excess shall be divided by the number of existing lots and the owner(s) of each lot shall each receive their proportionate share derived thereby.

ARTICLE IV
TRUSTEES AND OFFICERS

Section 1. Corporate powers of the corporation shall be vested in a Board of Trustees. The number of trustees who shall manage the affairs of the corporation shall be eleven. At any meeting or special meeting called therefore the members may increase or decrease the number of trustees to any number not more than eleven nor less than five.

Section 2. Trustees shall be elected to serve for a period of three years, or until their successors are elected and duly qualified. In order to provide experience and continuity on the

Board of Trustess, the terms of the trustees shall be staggered by electing not less than three, and no more than four trustees at each annual meeting.

Section 3. Each trustee shall be an incorporator or a member who shall not have lost his right to vote by reason of having disposed of land to which his membership is appurtenant.

Section 4. In the event a trustee, other than an incorporator, ceases to be the owner of the land to which his membership is appurtenant, or contracts for the sale thereof to another, he shall thereby cease to be a trustee and his office shall become vacant upon written notification without action other than to report such fact in the minutes of the Board of Trustees.

Section 5. At the first meeting of the Board of Trustees after each annual meeting of the members, the Board of Trustees shall elect a president, vice president, secretary and treasurer. The board may also at any time appoint an executive secretary and/or assistant secretary and/or assistant treasurer. Officers of the corporation so elected shall hold office for the term of one year and until their successors are qualified. Any officer or trustee may be suspended or removed by a majority vote of the total number of trustees.

Section 6. No person shall be paid for services as an elected official of the corporation.

Section 7. Any vacancy occurring in the Board of Trustees shall be filled by appointment by a majority of the remaining trustees. The person so appointed shall hold office for the unexpired term of his predecessor.

Section 8. No member of the Board of Trustees shall participate in any vote on any subject in which he has a specific personal, professional, financial or any other conflict of interest.

ARTICLE V
MEETINGS

Section 1. Annual meetings of the members of the corporation shall be held at the principal place of business of the corporation or at such other place in Mason County, Washington as the Board of Trustees may elect. The annual meetings shall be held during the month of April. Notice thereof shall be given by the secretary by mailing notice by first class mail to each member not less than ten calendar days prior to the date of the meeting.

Section 2. At the first regular Board of Trustees meeting

after the annual membership meeting, the president shall appoint a nominating committee of three or more members not currently serving on the Board. The Board of Trustees shall then set up voting procedures and requirements for nominees, such as, but not limited to, being conversant with the By-Laws, the Declaration of Restrictions, and willingness to serve if elected. Nominations may be made by the nominating committee or by petition signed by ten (10) voting members. Nominations shall close by the deadline for membership meeting notice, and none will be accepted from the floor.

Section 3. Special meetings of the members may be called at any time by the president or a majority of the Board of Trustees or by members representing ten per cent of the tracts within the jurisdiction of the corporation. Notice of a special meeting, stating the object thereof, shall be given by the secretary by mailing such notice to each member by first class mail not less than five days prior to the date on which such meeting is to be held.

Section 4. At all annual and special meetings of the members, ten per cent of all of the registered voters of the corporation voting shall constitute a quorum for the transaction of business.

Section 5. Special meeting of the Board of Trustees shall be called at any time by the secretary on order of the president or a majority of the Board of Trustees. The secretary shall give each available trustee notice, personally or by telephone, of all regular and special meetings at least one day previous thereto.

Section 6. A member may exercise his right to vote by absentee ballot, which must be received at the Corporate office by the time the meeting is called to order.

Section 7. Except as may otherwise be provided by law, all meetings of members and trustees shall be governed by Roberts' Rules of Order. All meetings of the members, trustees and committees shall be open to all members, except for those addressing personnel and legal matters.

ARTICLE VI
POWERS AND DUTIES OF TRUSTEES

Section 1. Subject to limitation in the Articles of Incorporation and the By-Laws and the laws of the State of Washington, all power of the corporation shall be exercised by or under the authority of, and the business and affairs of the corporation shall be controlled by the Board of Trustees. Without prejudice to such general powers, and subject to the same limitations, it is hereby expressly declared that the trustees

shall have the following powers and duties:

Section 2. To select and remove all of the other officers, agents, and employees of the corporation, prescribe such powers and duties for them as may not be inconsistent with law, with the Articles of Incorporation or the By-Laws, fix their compensation and require from them security for faithful service.

Section 3. To create an Executive Committee of the Board of Trustees composed of the President, Vice-President, Secretary and Treasurer of the Board of Trustees, as well as one representative from the Water Committee.

Section 4. To conduct, manage and control the affairs and business of the corporation, and to make such rules and regulations therefor not inconsistent with law, with the Articles of Incorporation or the By-Laws, as they may deem best.

Section 5. To issue certificates of membership only to the owners or purchasers of tracts in the plats of Lake Limerick as described in Article I, Item 6 of the Articles of Incorporation, subject to such conditions or terms as provided in the Articles of Incorporation and the By-Laws.

Section 6. To charge and/or assess the several parcels of land and the owners thereof as set forth herein.

Section 7. To cause to be kept a complete record of all minutes and acts and to present a full statement to the regular annual meeting of members showing in detail the condition of the affairs of the corporation.

Section 8. To prepare and adopt an annual budget that reflects income and expenses in sufficient detail to measure performance. The budget must contain income and expenses that are in balance for the subject period.

ARTICLE VII
DUTIES OF OFFICERS

Section 1. President. The President shall preside at all meetings of the trustees and members; he shall sign as President all certificates of membership and all contracts or other instruments in writing authorized by the Board of Trustees, he shall call special meetings of the trustees or of the members whenever he deems it necessary; he shall have and exercise under the direction of the Board of Trustees the general supervision of the affairs of the corporation.

Section 2. Vice President. The Vice President shall preside at all meetings in the absence of the President and in case of the absence or disability of the President he shall

perform all other duties of the President which are incidental to his office.

Section 3. Secretary. The Secretary shall issue all notices and shall attend and keep the minutes of all meetings; he shall have charge of all corporate books, records and papers; he shall be the custodian of the corporate seal, shall attest his signature and impress with the corporate seal all written contracts of the corporation, and shall perform all such other duties as are incidental to his office.

Section 4. Treasurer. The Treasurer shall keep safely all moneys and securites of the corporation and disburse the same under the direction of the Board of Trustees. He shall cause to be deposited all funds of the corporation in a bank selected by the trustees. At each annual meeting of the members, and at any time directed by the trustees, he shall issue and present a full statement showing in detail the condition of the affairs of the corporation.

Section 5. The executive secretary and/or assistant secretary and/or assistant treasurer, if apointed by the Board of Trustees, shall perform such duties as may be designated by it.

Section 6. Any officer, other than the President, may occupy two offices concurrently if the Board of Trustees so directs.

ARTICLE VIII
ASSESSMENTS

Section 1. Annual Assessments. The Board of Trustees shall impose, and the members of the corporation and the lots or tracts of land in which they hold an interest shall be responsible for and pay, an annual assessment for the purpose of providing funds for the operation, maintenance, repair, replacement and/or protection of existing real and personal property of the corporation; as well as for providing funds in amounts not to exceed five thousand dollars for the purchase or other acquisition, development, construction, building, expansion or improvement of existing or new real or personal property of the corporation; said limit not to apply to purposes of water supply as set forth in Article I, Sec. 9 of the Articles of Incorporation.

The amount of said annual assessment shall be a base of $135.00 per lot based upon the value of the dollar on September 1, 1987.

To determine future changes, the United States cost of living index for the year ending preceding the annual meeting will be used as the multiplying factor.

The Board of Trustees may also impose up to an additional 5% per year increase over the previous year's assessment.

Section 2. Special Assessments. Assessments for the purpose of providing funds for the purchase or other acquisition, development, construction, building, expansion or improvement of existing or new real or personal property of the corporation; or for significant, unanticipated expenses for purposes set forth in Section 1 above; except for purposes of water supply as set forth in Article I, Section 9 of the Articles of Incorporation; in amounts exceeding five thousand dollars shall only be imposed by vote of the members of the corporation.

A proposal for a special assessment may be presented in two ways. First, the Board of Trustees may vote to submit a proposal to the membership. Second, any member may present the Board of Trustees with a petition to submit a proposal to the membership.

For a petition to be valid and effective, it must be signed by members representing ownership of 15% of the total number of platted lots of the development. Original signatures are required, and all signatures must be to precisely the same proposal.

Once a valid submission has been made, the Secretary of the Board of Trustees shall cause a copy of the proposal to be included with notice to the members of the call of either a special or annual membership meeting.

The proposed assessment shall be imposed if a quorum is present at the meeting and more than half of the members voting approve it.

Section 3. Dues. Each individual member with an ownership interest in one or more lots shall pay dues of $15.00 per year, regardless of the number of lots owned. Each individual participant, including owners, members and all other participants in a corporate, partnership, association or other form of ownership who uses any such owned facility, except lawful use as a member of the general public, shall be considered an individual membership for purposes of this section.

Section 4. Application of Assessments. Assessments and dues imposed by the Board of Trustees shall be levied on an equitable basis without distinction or preference of any kind. Assessments imposed pursuant to vote of the membership shall be imposed according to their terms as approved. The Board of Trustees shall administer the collection of all assessments and dues in a fair manner, and they shall be paid pursuant to terms set forth by the Board of Trustees.

The requirement to pay dues and assessments is a lien upon each lot within the development, prior to all other liens, regardless of the status of any account for the same. Said dues and assessments shall not be extinguished or otherwise affected by any sale for unpaid taxes because of their community benefit purposes. The aggregate amount of all such dues and assessments, including expenses, fees and costs reasonably imposed pursuant hereto associated with the same shall be a personal obligation of the lot owner and/or purchaser, shall run with the title to the lot, and may be sued upon directly by the corporation.

In addition, the amount of any dues or assessments not paid pursuant to the terms for payment set forth by the Board of Trustees, as well as all expenses, attorney fees and costs, including title search and certificate costs, reasonably incurred in enforcing and collecting judgments for the same shall be a lien upon the land assessed and the membership appurtenant therto, superior to any and all other liens created or permitted by the owner of such land, and enforcible by foreclosure proceedings in the manner provided by law for foreclosure of mortgages upon land or nonjudicial foreclosures of deeds of trust, at the option of the Board of Trustees; provided, that no proceedings for the foreclosure of any of said liens in this Article VIII provided, shall be commenced except upon the expiration of four months from and after the date of mailing said notice of dues and/or assessment in this section described. Deficiency judgments in such foreclosure proceedings are specifically authorized.

ARTICLE IX
AMENDMENTS

Section 1. These By-Laws may be amended at any annual or special meeting of members, provided written notice of the proposed amendment is given with the notice of the call of the meeting, by a majority vote of the members of the corporation present at said meeting in person or by absentee ballot; except that there shall be no amendment of these By-Laws that shall exclude membership in this organization those owning or purchasing a tract or tracts in the plat of Lake Limerick, Division No. 1 and all future Divisions in the Lake Limerick development as developed by the Lake Limerick Associates (Lake Limerick Corporation and Osberg Construction Co. Inc.) or their assigns or successors, said parcels being located or to be located in Sections 21, 22, 23 and 27, Township 21 North, Range 3W, W.M. of Mason County, Washington, to which said parcels may be subject, and to pay all expenses incidental thereof.

Section 2. The membership may, by a petition of fifteen (15) percent of the number of members voting at the preceding annual meeting, initiate a By-Law or Articles of Incorporation amendment proposal and cause said proposal to be placed on the

ballot at the next meeting of the general membership.

Section 3. Effective Dates. All amendments shall become effective on the date of adoption except as otherwise specifically set forth.

Section 4. Severance. If any part of these By-Laws is found to be illegal or sticken in any way, the remainder shall not be so affected.

ARTICLE X
CORPORATE SEAL

The seal of the corporation shall be in a circular form and shall contain the words "LAKE LIMERICK COUNTRY CLUB, INC." and the words "Corporate Seal Washington 1966" in the form and style as affixed in these By-Laws by the impression of said corporate seal.

ARTICLE XI
DATE OF ADOPTION

These By-Laws were duly adopted by the corporation and the corporate seal thereof affixed on the 25th day of March, 1966; as amended on the 25th day of April, 1987.

Jerome Soehnlein

JERRY SOEHNLEIN, PRESIDENT
LAKE LIMERICK BOARD OF TRUSTEES

STATE OF WASHINGTON)
) ss.
County of Mason)

I certify that I know or have satisfactory evidence that JERRY SOEHNLEIN signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the President of the Board of Trustees of Lake Limerick Country Club, Inc., to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: Aug 7, 1987

Robert Davison

Notary Public in and for the State of Washington, residing at Shelton WA
My appointment expires: 1990

Attest:

Rec 384 Fe 609

Patricia Gronseth

Patricia Gronseth, Secretary

STATE OF WASHINGTON)
) ss.
County of Mason)

I certify that I know or have satisfactory evidence that PATRICIA GRONSETH signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Secretary of the Board of Trustees of Lake Limerick Country Club, Inc., to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: Aug. 7, 1987

Helen M. Kinne

Notary Public in and for the State of Washington, residing at Shelton

My appointment expires: 6/13/90

BYLAWS
LAKE LIMERICK WATER SYSTEM

PURPOSE AND SCOPE

The Water Company is charged with the responsibility of the operation and maintenance of the water system. To fulfill that responsibility, the Board of Trustees created a six member Water Committee. Two members are to be elected to three-year terms at each General Membership Meeting. The actions of the Committee are accountable to the Board of Trustees.

In order to retain the private water system classification with the Washington State Utilities and Transportation Commission it is required that the Lake Limerick water system supply water only to Lake Limerick property and members.

Monies collected by the Water Committee are to be used solely for operation, maintenance, and improvement of the Lake Limerick water system.

All business affairs of the water system shall be conducted in a professional, expeditious, and ethical manner.

COMMITTEE STRUCTURE AND RESPONSIBILITIES

Officers of the Committee are to be chair-person, treasurer, and secretary. Officers are to be elected in May of each year.

The chairman will conduct the meetings and cause an agenda to be prepared for each meeting. All items of importance are to be approved by a vote of the Committee. The chair-person will not vote unless there is a tie, in which event that vote will be the deciding vote.***In the absence of the chair-person the water committee secretary will assume the duties of the chairman.

The treasurer will be responsible for the monies collected and for the distribution of such monies. All checks issued shall require signatures of both the Water Committee treasurer and the Country Club *** office manager. The treasurer and***office manager shall be bonded for an amount not less that $20,000.00. The position of the ***office manager shall be supervised by the treasurer ***in the matters of the water committee.

The Committee shall cause to have an annual review of the financial records of the Water System by a Public Accountant who is not a member of the Water Committee or the Board of Trustees. The Committee, by majority vote, may waive the annual review requirement for any year, provided the review by a Certified Public Accountant is performed not less that once each third year.*

Committee member may be removed for excessive absence, non-interest or incompetence by a majority vote of the Committee. The Board of Trustees will then be requested to appoint a new member to fill the unexpired term of the removed member.

MEETINGS

Regular meetings of the Water Committee shall be established after the annual election in April by vote of the committee. Special meetings may be called by the chair-person or a vote of the committee. All meetings shall be open to Lake Limerick members.**

AMENDMENTS

These bylaws may be amended by a majority vote of the Water Committee followed by approval of the Board of Trustees.

These Bylaws adopted by the Water Committee this 8th day of May 1976.
These Bylaws approved the Board of Trustees this 19th day of June, 1976.

*This amendment adopted by the Water Committee the 16th day of August 1990.
This amendment approved by the Board of Trustees the 18th day of August 1990.

*This amendment adopted by the Water Committee the 11th day of February 1992.
This amendment approved by the Board of Trustees the 22nd day of February 1992.

***This amendment adopted by the Water Committee the 7th day of August 1992.
This amendment approved by the Board of Trustees the 19th day of December 1992.

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
SOUTHWEST DRINKING WATER OPERATIONS
2411 Pacific Ave. • P.O. Box 47823 • Olympia, Washington 98504-7823 • (206) 664-0768

June 30, 1993

Washington Mutual
P.O. Box 5647
Olympia, Washington 98507

Attention: Shannon

Subject: Adequacy of Lake Limerick Water System, ID #44150T, Mason County; Division 2, Lot 72, Tad & Linda Smith, Loan #01-879-290800-2

Dear Shannon:

Please disregard the June 29, 1993 letter we faxed you today on this water system. Following is the corrected status of this system.

We have reviewed the status of the subject water system. The system does not appear on our list of inadequate systems, and a file search indicates that engineering documents have been approved for more service connections than indicated on the system's current Water Facility Inventory.

We consider this system to be in substantial compliance with the drinking water regulations at this time. However, as compliance may change, this assessment is valid for this inquiry only.

Our review of this system's engineering documents found that this water system is able to provide an adequate supply of drinking water to 1,100 connections. The Water Facility Inventory form indicates that there are 360 active residential and 157 non-residential connections.

Therefore, the subject water system has adequate capacity to serve additional service connections, provided the new connections will not require installation of additional distribution lines.

If you have any questions, please call me at (206) 753-2884.

Sincerely,

Harry Walden
Environmentalist
Southwest Drinking Water Operations

HW:clu
cc: Lake Limerick Water System
Mason County Health Department
Lisa Raysby, DOH

HOWARD GODAT & ASSOCIATES, INC.
CONSULTING ENGINEERS
2708 WESTMOOR COURT • OLYMPIA, WASHINGTON 98502 • PHONE (206) 943-1599 • FAX (206) 357-6299

March 17, 1993

Washington State
Department of Health
P. O. Box 47823
Olympia, WA 98504

Attn: Mr. Richard Hoey

RE: Lake Limerick Community
Water System, ID #44150T

Dear Mr. Hoey:

Enclosed is a brief synopsis of the storage and source capability of the Lake Limerick Water System. Also enclosed is a hydraulic analysis of the system which was performed in January, 1990.

In a letter to Mr. Tim Blake, January 2, 1992 we provided a summary of the water supply and storage capacity of the Lake Limerick System. (Copy Enclosed). At that time Lake Limerick had 355 full-time and 157 recreational connections (See attached WFI). As the enclosed summary clearly shows, there is ample storage available for 500 services. What we did not fully develop at the time was the ultimate capacity of the system. To wit,

Number of Lots	1,380 Lots
Number of Buildable Lots @ 80%	1,100 Lots
Total Source Capacity:	913 gpm
Source Capacity less Well #3b:	703 gpm
Existing Storage Capacity:	310,000 Gallons

MID = (1,100-100)0.70 + 153 gpm = 853 gpm < 913,
No Equalizing Storage Required

Daily Production = 703 gpm(60)24/1,100 = 920 gpd/conn

Standby = (200 gpd/conn)1,100 = 220,000 Gal

Storage and source capacity are adequate to 1,100 connections.

In line booster pumps are installed downstream of the reservoirs at Wells 1, 3a/3b, and 4. Capacity is as shown below

	Source	Booster
Well #1	75 gpm	75 gpm
Well #3a	146 gpm	230 gpm
Well #3b	210 gpm	230 gpm
Well #4	90 gpm	80 gpm
	521 gpm	615 gpm

Ability to deliver MID from storage exceeds the source capability used to define storage. The enclosed hydraulic analysis shows adequate minimum service pressures both for existing conditions and buildout at 1,100 lots.

As the preceding clearly shows, the Lake Limerick Water System is well able to provide water for many more than 500 services. Please adjust the listed adequacy figure to 1,100 as quickly as possible to avoid any more hardship in the community.

If you have any questions or comments, please contact this office at your convenience.

Sincerely,

HOWARD GODAT & ASSOCIATES, INC.

Steven D. Hatton, P.E.

cc: Dave Best, Lake Limerick

File #2936

#233A

DATE PRINTED: 08/08/91

WASHINGTON STATE DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH

WATER FACILITIES INVENTORY (WFI)

READ INSTRUCTIONS ON BACK BEFORE COMPLETING

UPDATED

1. SYSTEM ID NO.	2. COUNTY	GROUP	TYPE	WRIA
44150T	MASON	A	COMM	14

3. SYSTEM NAME: LAKE LIMERICK WATER

STREET ADDRESS: E. 790 ST. ANDREWS DRIVE

P.O. BOX (IF APPLICABLE):

CITY: SHELTON | STATE: WA | ZIP CODE: 98584

4. OWNER'S NAME: LAKE LIMERICK COUNTY CLUB, INC.

STREET ADDRESS: E. 790 ST. ANDREWS DRIVE

P.O. BOX (IF APPLICABLE):

CITY: SHELTON | STATE: WA | ZIP CODE: 98584

5. SYSTEM CONTACT PERSON: DAVID NEST - CHAIRMAN | TITLE:

DAY TELEPHONE: 206-426-7892 | EVENING TELEPHONE: 206-426-7892

WFI COMPLETED BY | TITLE

DAY TELEPHONE | DATE

8. SUBMITTED FOR: ( ) NEW SYSTEM ( ) NO CHANGE ( ) REACTIVATE ( ) SYSTEM NAME CHANGE * ( ) OTHER ( ) DELETE

* OLD SYSTEM NAME - ENTER ONLY IF CHANGING WITH THIS WFI

SYSTEMS SERVING ANY RESIDENTS (PEOPLE LIVING IN A DWELLING SERVED BY THE SYSTEM), COMPLETE THIS SECTION.

9. NUMBER ACTIVE RESIDENTIAL CONNECTIONS	10. NUMBER RESIDENTIAL CONNECTIONS IN USE ANY 180 OR MORE DAYS / YR
355	355

11. IN THE APPROPRIATE BOX(ES) BELOW, ENTER THE RESIDENTIAL POPULATION SERVED.

180 OR MORE DAYS / YR	60 - 179 DAYS / YR	LESS THAN 60 DAYS / YR
710		

SYSTEMS SERVING ANY NON-RESIDENTS (I.E., TRAVELERS, EMPLOYEES, STUDENTS, ETC.), COMPLETE THIS SECTION.

12. NUMBER NON-RESIDENTIAL CONNECTIONS: 1

13. ENTER AVERAGE DAILY NON-RESIDENTIAL POPULATION SERVED FOR EACH MONTH. MAKE ENTRY FOR EACH MONTH.

JAN.		APR.		JULY	50 OCT.
FEB.		MAY		AUG.	80 NOV
MAR.		JUNE	600	SEP.	50 DEC.

14. DOES THE SYSTEM SERVE AT LEAST 25 OF THE SAME NON-RESIDENTS FOR 4 OR MORE DAYS PER WEEK FOR AT LEAST 180 DAYS PER YEAR?

( ) YES (X) NO

15. TOTAL NUMBER CONNECTIONS METERED	16. DISTRIBUTION RESERVOIR(S) TOTAL CAPACITY
	170,900 GALLONS

6. OWNERSHIP (CHECK ONE ONLY)

- (X) PRIVATE: NON-PROFIT
- ( ) PRIVATE: FOR PROFIT
- ( ) LOCAL GOVERNMENT (COUNTY / CITY / PUD / WATER DISTRICT)
- ( ) STATE
- ( ) FEDERAL

7. PREDOMINANT CHARACTERISTIC (CHECK ONE ONLY)

- (X) RESIDENTIAL
- ( ) RECREATIONAL
- ( ) BUSINESS / INDUSTRIAL / AGRICULTURAL / COMMERCIAL
- ( ) LODGING / FOOD SERVICE
- ( ) SCHOOL / DAY CARE
- ( ) OTHER (CHURCHES, ETC.)

17. DOH SOURCE NUMBER	18. SOURCE NAME: LIST UTILITY'S NAME FOR SOURCE. IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S ID # AND NAME USING FOLLOWING FORMAT: XXXXXX / NAME EXAMPLE: 77050Y / SEATTLE	19. SOURCE CATEGORY: WELL	WELL FIELD	SURFACE	SPRING	RANNEY / INF. GAL.	INTERTIE	PURCHASE-TREATED	PURCHASE-UNTREATED	20. USE: PERMANENT	SEASONAL	EMERGENCY	21. SOURCE METERED	22. TREATMENT: NONE	CHLORINATION	FILTRATION	FLUORIDATION	OTHER	23. WELL DEPTH (FEET)	24. SOURCE CAPACITY (GPM)	25. SOURCE LOCATION: 1/4, 1/4 SEC.	SEC. NO.	TWP.	RNG.	SWR EVALUATION / WQA EVALUATION
S02	WELL # 2	X							X			Y	X						103	200	NE/NW	27	21N	03W	
S03	WELL # 3_A	X							X			Y	X						131	146	SW/SW	27	21N	03W	
S04	WELL # 4	X								X		Y	X						92	92	SW/SE	27	21N	03W	
S05	WELL #1	X							X			Y	X						89	75	NE/NE	27	21N	03W	
S06	WELL #3B	X							X			Y	X						167	210	SW/SW	27	21N	03W	
S07	WELL #5	X							X			Y	X						110	200	NW/SW	27	21N	03W	

MINIMUM REQUIRED BACTERIOLOGICAL SAMPLING SCHEDULE

26.	27	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
		1	1	1	1	1	1	1	1	1	1	1	

NO. APPROVED SERVICES (PER PLANS) | DATE OF LAST SANITARY SURVEY | BY DOH ( ) | LHD ( )

SYSTEM IN CRITICAL WATER SUPPLY SERVICE AREA? ( ) YES ( ) NO | GW MGMT AREA? ( ) YES ( ) NO | FOR LHD USE ONLY

EFFECTIVE DATE RETRO. CHANGES | SIGNATURE OF DOH REVIEWER | DATE

WATER SYSTEM

HOWARD GODAT & ASSOCIATES, INC.
CONSULTING ENGINEERS
2708 WESTMOOR COURT • OLYMPIA, WASHINGTON 98502 • PHONE (206) 943-1599 • FAX (206) 357-6299

January 2, 1992

State of Washington
Department of Health
Southwest Drinking Water Operations
Airdustrial Park LD-11
Olympia, WA 98504

Attn: Mr. Tim Blake

RE: Lake Limerick Storage Tank
#109104

Dear Mr. Blake:

On December 17, 1991 I submitted to you a brief summary of the Lake Limerick Water System. Some of the production figures were erroneously obtained from old data. The enclosed Summary Report accurately reflects the official production rates of the wells in service.

If you have any questions or comments, please do not hesitate to contact this office at your earliest convenience.

Sincerely,

HOWARD GODAT & ASSOCIATES, INC.

Steven D. Hatton, P.E.

cc: Lake Limerick

File #2333

STUDY REPORT DESIGN

LAKE LIMERICK
WATER SUPPLY SYSTEM
Summary Report
January 2, 1992

I. INTRODUCTION

The Lake Limerick Country Club operates and maintains its own water supply system for homeowners within the jurisdiction of the Club. The system contains 5 producing wells, 2 existing storage tanks and 500 connections. The system operates between 40 psi and 60 psi. Distribution mains are 4-inch and 6-inch diameter. A plan of the system is included. In an effort to balance the physical location of system storage, and to provide for future growth at a time when funds were currently available, the Lake Limerick Community has decided to install a 150,000 gallon storage tank and booster pump station.

II. PRODUCTION

Well #1	75 g.p.m.
Well #2	200 g.p.m.
Well #3a	146 g.p.m.
Well #3b	210 g.p.m.
Well #4	92 g.p.m.
Well #5	190 g.p.m.
	913 g.p.m.

MID = 153 g.p.m. - 400(.70) = 433 g.p.m.

III. STORAGE

A. Standby Storage:

Required = 500 connect (800 gal/conn./day) = 400,000 gal/day

Production:	Q = 913 g.p.m. - 200 g.p.m. = 713 g.p.m.
Production:	V = (713 g.p.m.) 60(24)/500 conn. = 2,053 g.p.m.
Minimum:	V = (200 gal/conn./day) 500 conn. = 100,000 gal.
Provided:	100,000 gal. @ Well #1
	60,000 gal. @ Well #4

B. Equalizing Storage:

MID = 433 g.p.m.
Available = 713 g.p.m.

Therefore, no equalizing storage is required.

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LAKE LIMERICK
WATER ALALYSIS, MAXIMUM INSTANTANEOUS DEMAND (MID)
EXISTING 517 CONN., CHANGE TO BUILDOUT, 1100 LOTS
1/26/90 - #2333.IN
*
 $PECIF NFLOW=1  NUNIT=0 NODESP=1 NPGPM=1 IHGL=1 $END
PIPES
1    224 101 700 6 130/
2    101 102 720 4/
3    102 103 700/
4    103 104 500/
5    104 105 600/
6    105 106 1340/
7    106 107 550/
8    107 108 600/
9    108 109 600/
10   108 110 600/
11   110 111 1030/
12   111 112 330/
13   111 113 600 6/
14   111 114 420/
15   114 115 720/
16   115 116 420 4/
17   116 117 680/
18   117 118 600/
19   118 119 600/
20   119 120 600/
21   120 121 260/
22   121 122 440 6/
23   122 123 600/
     123 124 800/
25   124 125 220/
26   125 115 700/
27   124 126 150 4/
28   126 127 300/
29   127 128 700/
30   128 129 540/
31   129 130 260/
32   130 131 100/
33   131 132 640/
34   132 126 640/
35   130 133 660/
36   133 134 580/
37   134 135 600/
38   135 136 700/
39   136 137 400/
40   137 138 740/
41   138 139 400/
42   139 135 440/
43   138 140 600/
44   140 141 200/
45   141 142 140 6/
46   142 143 500 4/
47   142 144 520 6/
48   144 145 500 4/
49   144 146 300 4/
     146 147 900 4/
51   147 148 300/
52   146 149 400 6/
53   149 150 600/
54   150 151 200/
55   151 152 120/
56   152 153 1100 4/
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60 156 157 620/
61 157 158 180/
62 158 159 920 4/
63 159 160 600/
64 160 161 600/
161 162 280/
162 163 340/
67 163 164 700/
68 164 165 700/
69 165 166 480/
70 166 167 400 6/
71 167 168 230 4/
72 162 168 600/
73 169 167 100 6/
74 168 170 600 4/
75 170 158 420/
76 166 171 600 6/
77 171 172 380/
78 172 173 650 4/
79 173 174 620/
80 174 175 700/
81 175 172 270/
82 174 189 440 6/
83 176 177 150/
84 177 178 520 6/
85 178 179 600/
86 179 180 420 4/
87 180 181 700/
88 180 182 600/
89 179 188 500/
90 188 184 700/
184 183 600/
92 183 185 600/
93 185 186 720/
94 186 187 360/
95 187 188 320/
96 176 189 280 6/
97 189 190 300/
98 190 191 900/
99 191 192 340/
100 192 193 300 4/
101 192 195 250 6/
102 195 194 300 4/
103 194 197 600/
104 197 198 600/
105 198 199 620/
106 199 196 600 6/
107 196 195 250/
108 199 200 400/
109 200 201 500 4/
110 200 202 740 6/
111 202 203 600 4/
112 203 204 600/
113 204 205 600 4/
114 191 204 320/
115 176 213 560 6/
213 212 380 4/
212 211 600/
118 211 210 120/
119 210 209 300 2/
120 210 208 520 4/
121 208 207 400/
122 207 206 300/
123 214 215 200/

125 218 217 400/
126 217 219 600/
127 217 218 600/
128 218 223 800/
129 223 224 400/
130 224 225 600/
1 225 103 600/
132 223 222 500/
133 222 101 500/
134 222 219 620/
135 219 220 500/
136 220 214 640/
137 221 222 170 6/
138 221 224 600/
139 122 131 500 4/
140 202 166 600 6/
141 213 214 170/
142 141 121 320 6/
144 228 157 450 4/
145 227 125 350/
146 100 224 10/
147 226 151 10/
NODES
100 0 500
101 0 500
102 10 500
103 0 475
104 10 475
105 10 475
106 0 475
107 10 475
108 0 475
109 10 470
110 10 470
111 0 470
112 10 460
113 0 475
114 10 475
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124 0 477
125 0 475
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134 10 475
135 0 480
136 0 490
137 10 500
138 10 500
139 0 500
140 0 500

143 0 480
144 0 460
145 10 500
146 0 500
147 0 500
148 10 500
[illegible] 0 490
150 10 480
151 0 480
152 0 470
153 10 475
154 10 475
155 0 470
156 10 475
157 0 490
158 0 500
159 10 490
160 0 505
161 10 520
162 0 525
163 0 515
164 10 505
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167 0 510
168 0 525
169 0 525
170 10 510
171 10 500
172 0 500
173 10 500
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[illegible] 10 505
176 0 470
177 0 465
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183 0 500
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186 10 475
187 10 475
188 0 475
189 0 465
190 0 475
191 0 495
192 0 490
193 5 480
194 0 480
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198 5 480
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[illegible] 0 500
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213 0 480
214 0 475
215 5 470
216 0 465
217 0 465
218 5 470
219 5 480
220 5 480
221 0 480
222 0 495
223 0 475
224 0 480
225 0 480
226 0 480
227 0 480
228 0 480
RESER
100 600
226 600
169 600
227 600
228 600
END
CHANGE
DFRACTION
1.78
END
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OTITLE GIVEN TO NETWORK
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 LAKE LIMERICK

 WATER ALALYSIS, MAXIMUM INSTANTANEOUS DEMAND (MID)

 EXISTING 517 CONN., CHANGE TO BUILDOUT, 1100 LOTS

 1/26/90 - #2333.IN

OALL DEMAND FLOWS ARE MULTIPLIED BY     1.0000
OPIPES          146
 NODES          129
 SOURCE PUMPS     0
 BOOSTER PUMPS    0
 RESERVOIRS       5
 MINOR LOSSES     0
 PRVS             0
 NOZZLES          0
 CHECK VALVE      0
 BACK PRES. V.    0
 DIF. HEAD DEV    0
 NODES AT SOURCE PUMPS AND RESERVOIRS WHICH HAVE BEEN      ELIMINATED
  100  169  226  227  228
 RESERVOIR(NOZZLE) PIPES AND THEIR ELEVATIONS ARE
  146   600.0  147   600.0   73   600.0  145   600.0  144   600.0
 N9=  146 N8=  124
OJUNCTION EXT. FLOW PIPES AT JUNCTION
    1 101       .000       -1     2 -133
    2 102       .022       -2     3
    3 103       .000       -3     4 -131
    4 104       .022       -4     5
    5 105       .022       -5     6
    6 106       .000       -6     7
    7 107       .022       -7     8
    8 108       .000       -8     9   10
    9 109       .022       -9
   10 110       .022      -10    11
   11 111       .000      -11    12   13   14
   12 112       .022      -12
   13 113       .000      -13
   14 114       .022      -14    15
   15 115       .000      -15    16  -26
   16 116       .000      -16    17
   17 117       .022      -17    18
   18 118       .022      -18    19
   19 119       .000      -19    20
   20 120       .022      -20    21
   21 121       .000      -21    22 -142
   22 122       .000      -22    23  139
   23 123       .022      -23    24
   24 124       .000      -24    25   27
   25 125       .000      -25    26 -145
   26 126       .000      -27    28  -34
   27 127       .022      -28    29
   28 128       .022      -29    30
   29 129       .022      -30    31
   30 130       .000      -31    32   35
   31 131       .000      -32    33 -139
   32 132       .022      -33    34
   33 133       .022      -35    36
   34 134       .022      -36    37
   35 135       .000      -37    38  -42
   36 136       .000      -38    39
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38	138	.022	-40	-41	-42	
39	139	.000	-41	42		
40	140	.000	-43	44		
41	141	.022	-44	45	142	
42	142	.000	-45	46	47	
43	143	.000	-46			
4	144	.000	-47	48	49	
45	145	.022	-48			
46	146	.000	-49	50	52	
47	147	.000	-50	51		
48	148	.022	-51			
49	149	.000	-52	53		
50	150	.022	-53	54		
51	151	.000	-54	55	-147	
52	152	.000	-55	56	58	
53	153	.022	-56	57		
54	154	.022	-57			
55	155	.000	-58	59		
56	156	.022	-59	60		
57	157	.000	-60	61	-144	
58	158	.000	-61	62	-75	
59	159	.022	-62	63		
60	160	.000	-63	64		
61	161	.022	-64	65		
62	162	.000	-65	66	72	
63	163	.000	-66	67		
64	164	.022	-67	68		
65	165	.022	-68	69		
66	166	.022	-69	70	76	-140
67	167	.000	-70	71	-73	
68	168	.000	-71	-72	74	
69	170	.022	-74	75		
70	171	.022	-76	77		
71	172	.000	-77	78	-81	
72	173	.022	-78	79		
73	174	.000	-79	80	82	
74	175	.022	-80	81		
75	176	.000	83	96	115	
76	177	.000	-83	84		
77	178	.022	-84	85		
78	179	.000	-85	86	89	
79	180	.000	-86	87	88	
80	181	.022	-87			
81	182	.022	-88			
82	183	.000	-91	92		
83	184	.000	-90	91		
84	185	.022	-92	93		
85	186	.022	-93	94		
86	187	.022	-94	95		
87	188	.000	-89	90	-95	
88	189	.000	-82	-96	97	
89	190	.000	-97	98		
90	191	.000	-98	99	114	
91	192	.000	-99	100	101	
92	193	.011	-100			
93	194	.000	-102	103		
94	195	.000	-101	102	-107	
95	196	.000	-106	107		
96	197	.011	-103	104		
97	198	.011	-104	105		
98	199	.000	-105	106	108	
99	200	.000	-108	109	110	
100	201	.011	-109			
101	202	.000	-110	111	140	
102	203	.011	-111	112		

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 105 206       .011     -122
 106 207       .000     -121   122
 107 208       .000     -120   121
 108 209       .011     -119
 109 210       .000     -118   119   120
 110 211       .000     -117   118
 111 212       .000     -116   117
 112 213       .000     -115   116   141
 113 214       .000      123  -136  -141
 114 215       .011     -123   124
 115 216       .000     -124   125
 116 217       .000     -125   126   127
 117 218       .011     -127   128
 118 219       .011     -126  -134   135
 119 220       .011     -135   136
 120 221       .000      137   138
 121 222       .000     -132   133   134  -137
 122 223       .000     -128   129   132
 123 224       .000        1  -129   130  -138  -146
 124 225       .000     -130   131
0FLOW FROM PUMPS AND RESERVOIRS EQUALS    480.000

 ITERATION=     1 SUM=   .910E+00
 ITERATION=     2 SUM=   .226E+00
 ITERATION=     3 SUM=   .452E-01
 ITERATION=     4 SUM=   .322E-02
0UNITS OF SOLUTION ARE
 DIAMETERS -  INCH
 LENGTH -  FEET
 HEADS -  FEET
 ELEVATIONS -  FEET
 PRESSURES -  (PSI)
 FLOWRATES -  (GPM)
  HAZEN-WILLIAMS FORMULA USED FOR COMPUTING HEAD  LOSS
1PIPE DATA
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	PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOSS /1000
	1	224	101	700.	6.0	130.0	30.36	.34	.08	.11
	2	101	102	720.	4.0	130.0	25.69	.66	.44	.61
	3	102	103	700.	4.0	130.0	15.69	.40	.17	.24
	4	103	104	500.	4.0	130.0	40.60	1.04	.71	1.42
	5	104	105	600.	4.0	130.0	30.60	.78	.50	.84
	6	105	106	1340.	4.0	130.0	20.60	.53	.54	.40
	7	106	107	550.	4.0	130.0	20.60	.53	.22	.40
	8	107	108	600.	4.0	130.0	10.60	.27	.07	.12
	9	108	109	600.	4.0	130.0	10.00	.26	.06	.11
	10	108	110	600.	4.0	130.0	.60	.02	.00	.00
*	11	111	110	1030.	4.0	130.0	9.40	.24	.10	.09
	12	111	112	330.	4.0	130.0	10.00	.26	.03	.11
	13	111	113	600.	6.0	130.0	.00	.00	.00	.00
*	14	114	111	420.	6.0	130.0	19.40	.22	.02	.05
*	15	115	114	720.	6.0	130.0	29.40	.33	.08	.11
	16	115	116	420.	4.0	130.0	11.79	.30	.06	.14
	17	116	117	680.	4.0	130.0	11.79	.30	.10	.14
	18	117	118	600.	4.0	130.0	1.79	.05	.00	.00
	19	119	118	600.	4.0	130.0	8.21	.21	.04	.07
*	20	120	119	600.	4.0	130.0	8.21	.21	.04	.07
*	21	121	120	260.	4.0	130.0	18.21	.46	.08	.32
	22	121	122	440.	6.0	130.0	10.07	.11	.01	.01
*	23	123	122	600.	6.0	130.0	11.47	.13	.01	.02
*	24	124	123	800.	6.0	130.0	21.47	.24	.05	.06
*	25	125	124	220.	6.0	130.0	55.55	.63	.08	.35

	28	126	127	300.	4.0	130.0	20.70	.53	.12	.41
	29	127	128	700.	4.0	130.0	10.70	.27	.08	.12
	30	128	129	540.	4.0	130.0	.70	.02	.00	.00
*	31	130	129	260.	4.0	130.0	9.30	.24	.02	.09
*	32	131	130	100.	4.0	130.0	24.92	.64	.06	.57
	33	132	131	640.	4.0	130.0	3.38	.09	.01	.01
	34	126	132	640.	4.0	130.0	13.38	.34	.12	.18
	35	130	133	660.	4.0	130.0	15.62	.40	.16	.24
	36	133	134	580.	4.0	130.0	5.62	.14	.02	.04
*	37	135	134	600.	4.0	130.0	4.38	.11	.01	.02
	38	135	136	700.	4.0	130.0	2.25	.06	.00	.01
	39	136	137	400.	4.0	130.0	2.25	.06	.00	.01
*	40	138	137	740.	4.0	130.0	7.75	.20	.05	.07
	41	138	139	400.	4.0	130.0	6.63	.17	.02	.05
	42	139	135	440.	4.0	130.0	6.63	.17	.02	.05
*	43	140	138	600.	4.0	130.0	24.38	.62	.33	.55
*	44	141	140	200.	4.0	130.0	24.38	.62	.11	.55
*	45	142	141	140.	6.0	130.0	62.66	.71	.06	.44
	46	142	143	500.	4.0	130.0	.00	.00	.00	.00
*	47	144	142	520.	6.0	130.0	62.66	.71	.23	.44
	48	144	145	500.	4.0	130.0	10.00	.26	.05	.11

1PIPE DATA

	PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOSS /1000
*	49	146	144	300.	4.0	130.0	72.66	1.85	1.25	4.16
	50	146	147	900.	4.0	130.0	10.00	.26	.10	.11
	51	147	148	300.	4.0	130.0	10.00	.26	.03	.11
*	52	149	146	400.	6.0	130.0	82.66	.94	.29	.73
*	53	150	149	600.	6.0	130.0	82.66	.94	.44	.73
	54	151	150	200.	6.0	130.0	92.66	1.05	.18	.91
	55	151	152	120.	6.0	130.0	36.47	.41	.02	.16
	56	152	153	1100.	4.0	130.0	20.00	.51	.42	.38
	57	153	154	820.	4.0	130.0	10.00	.26	.09	.11
	58	152	155	250.	6.0	130.0	16.47	.19	.01	.04
	59	155	156	600.	6.0	130.0	16.47	.19	.02	.04
	60	156	157	620.	6.0	130.0	6.47	.07	.00	.01
	61	157	158	180.	6.0	130.0	26.71	.30	.02	.09
	62	158	159	920.	4.0	130.0	15.74	.40	.23	.24
	63	159	160	600.	4.0	130.0	5.74	.15	.02	.04
	64	160	161	600.	4.0	130.0	5.74	.15	.02	.04
*	65	162	161	280.	4.0	130.0	4.26	.11	.01	.02
	66	162	163	340.	4.0	130.0	14.89	.38	.08	.22
	67	163	164	700.	4.0	130.0	14.89	.38	.15	.22
	68	164	165	700.	4.0	130.0	4.89	.12	.02	.03
*	69	166	165	480.	4.0	130.0	5.11	.13	.01	.03
*	70	167	166	400.	6.0	130.0	112.58	1.28	.52	1.30
	71	167	168	230.	4.0	130.0	18.19	.46	.07	.32
*	72	168	162	600.	4.0	130.0	19.15	.49	.21	.35
	73	169	167	100.	6.0	130.0	130.77	1.48	.17	1.71
*	74	170	168	600.	4.0	130.0	.97	.02	.00	.00
*	75	158	170	420.	4.0	130.0	10.97	.28	.05	.13
	76	166	171	600.	6.0	130.0	47.88	.54	.16	.27
	77	171	172	380.	6.0	130.0	37.88	.43	.07	.17
	78	172	173	650.	4.0	130.0	16.64	.42	.18	.27
	79	173	174	620.	4.0	130.0	6.64	.17	.03	.05
	80	175	174	700.	4.0	130.0	11.24	.29	.09	.13
*	81	172	175	270.	4.0	130.0	21.24	.54	.12	.43
	82	174	189	440.	6.0	130.0	17.88	.20	.02	.04
	83	176	177	150.	6.0	130.0	60.00	.68	.06	.41
	84	177	178	520.	6.0	130.0	60.00	.68	.21	.41
	85	178	179	600.	6.0	130.0	50.00	.57	.17	.29
	86	179	180	420.	4.0	130.0	20.00	.51	.16	.38

	88	180	182	600.	4.0	130.0	10.00	.26	.06	.1
	89	179	188	500.	4.0	130.0	30.00	.77	.40	.8
	90	188	184	700.	4.0	130.0	9.27	.24	.06	.0
	91	184	183	600.	4.0	130.0	9.27	.24	.06	.0
	92	183	185	600.	4.0	130.0	9.27	.24	.06	.0
*	93	186	185	720.	4.0	130.0	.73	.02	.00	.0
*	94	187	186	360.	4.0	130.0	10.73	.27	.04	.1
*	95	188	187	320.	4.0	130.0	20.73	.53	.13	.4
*	96	189	176	280.	6.0	130.0	37.47	.43	.05	.1
*	97	190	189	300.	6.0	130.0	19.39	.22	.02	.0
*	98	191	190	900.	6.0	130.0	19.59	.22	.05	.0

1PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOS /10
* 99	192	191	340.	6.0	130.0	14.21	.16	.01	.0
100	192	193	300.	4.0	130.0	5.00	.13	.01	.0
* 101	195	192	250.	6.0	130.0	19.21	.22	.01	.0
102	195	194	300.	4.0	130.0	1.79	.05	.00	.0
103	194	197	600.	4.0	130.0	1.79	.05	.00	.0
* 104	198	197	600.	4.0	130.0	3.21	.08	.01	.0
* 105	199	198	620.	4.0	130.0	8.21	.21	.05	.0
106	199	196	600.	6.0	130.0	21.00	.24	.03	.0
107	196	195	250.	6.0	130.0	21.00	.24	.01	.0
* 108	200	199	400.	6.0	130.0	29.21	.33	.04	.1
109	200	201	500.	4.0	130.0	5.00	.13	.01	.0
* 110	202	200	740.	6.0	130.0	34.21	.39	.11	.1
111	202	203	600.	4.0	130.0	15.39	.39	.14	.2
112	203	204	600.	4.0	130.0	10.39	.27	.07	.1
113	204	205	600.	4.0	130.0	5.00	.13	.02	.0
* 114	204	191	320.	4.0	130.0	5.39	.14	.01	.0
* 115	213	176	560.	6.0	130.0	22.53	.26	.04	.0
116	213	212	380.	4.0	130.0	10.00	.26	.04	.1
117	212	211	600.	4.0	130.0	10.00	.26	.0	.1
118	211	210	120.	4.0	130.0	10.00	.26	.01	.1
119	210	209	300.	2.0	130.0	5.00	.51	.26	.8
120	210	208	520.	4.0	130.0	5.00	.13	.02	.0
121	208	207	400.	4.0	130.0	5.00	.13	.01	.0
122	207	206	300.	4.0	130.0	5.00	.13	.01	.0
* 123	215	214	200.	4.0	130.0	14.94	.38	.04	.2
* 124	216	215	600.	4.0	130.0	19.94	.51	.23	.3
* 125	217	216	400.	4.0	130.0	19.94	.51	.15	.3
* 126	219	217	600.	4.0	130.0	3.23	.08	.01	.0
* 127	218	217	600.	4.0	130.0	16.71	.43	.16	.2
* 128	223	218	800.	4.0	130.0	21.71	.55	.36	.4
* 129	224	223	400.	4.0	130.0	16.62	.42	.11	.2
130	224	225	600.	4.0	130.0	24.91	.64	.34	.5
131	225	103	600.	4.0	130.0	24.91	.64	.34	.5
* 132	222	223	500.	4.0	130.0	5.09	.13	.02	.0
* 133	101	222	500.	4.0	130.0	4.66	.12	.01	.0
134	222	219	620.	4.0	130.0	30.82	.79	.53	.8
135	219	220	500.	4.0	130.0	22.59	.58	.24	.4
136	220	214	640.	4.0	130.0	17.59	.45	.19	.3
137	221	222	170.	6.0	130.0	31.24	.35	.02	.1
* 138	224	221	600.	6.0	130.0	31.24	.35	.07	.1
139	122	131	500.	4.0	130.0	21.54	.55	.22	.4
140	166	202	600.	6.0	130.0	49.59	.56	.17	.2
* 141	214	213	170.	6.0	130.0	32.53	.37	.02	.1
142	141	121	320.	6.0	130.0	28.28	.32	.03	.1
144	228	157	450.	4.0	130.0	20.24	.52	.18	.3
145	227	125	350.	4.0	130.0	96.74	2.47	2.47	7.07
146	100	224	10.	4.0	130.0	103.13	2.63	.08	7.9
147	226	151	10.	4.0	130.0	129.12	3.30	.12	12.07

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
101	.0	.00	500.	99.84	43.26	599.84
102	10.0	.02	500.	99.40	43.07	599.40
103	.0	.00	475.	124.23	53.83	599.23
104	10.0	.02	475.	123.52	53.53	598.52
105	10.0	.02	475.	123.02	53.31	598.02
106	.0	.00	475.	122.48	53.07	597.48
107	10.0	.02	475.	122.26	52.98	597.26
108	.0	.00	475.	122.19	52.95	597.19
109	10.0	.02	470.	127.12	55.09	597.12
110	10.0	.02	470.	127.19	55.11	597.19
111	.0	.00	470.	127.28	55.16	597.28
112	10.0	.02	460.	137.25	59.48	597.25
113	.0	.00	475.	122.28	52.99	597.28
114	10.0	.02	475.	122.31	53.00	597.31
115	.0	.00	475.	122.38	53.03	597.38
116	.0	.00	475.	122.32	53.01	597.32
117	10.0	.02	475.	122.23	52.96	597.23
118	10.0	.02	475.	122.22	52.96	597.22
119	.0	.00	475.	122.27	52.98	597.27
120	10.0	.02	475.	122.31	53.00	597.31
121	.0	.00	475.	122.39	53.04	597.39
122	.0	.00	475.	122.39	53.03	597.39
123	10.0	.02	477.	120.40	52.17	597.40
124	.0	.00	477.	120.45	52.19	597.45
125	.0	.00	475.	122.53	53.09	597.53
126	.0	.00	475.	122.29	52.99	597.29
127	10.0	.02	475.	122.17	52.94	597.17
128	10.0	.02	475.	122.09	52.90	597.09
129	10.0	.02	475.	122.09	52.90	597.09
130	.0	.00	475.	122.11	52.92	597.11
131	.0	.00	475.	122.17	52.94	597.17
132	10.0	.02	475.	122.18	52.94	597.18
133	10.0	.02	475.	121.95	52.85	596.95
134	10.0	.02	475.	121.93	52.84	596.93
135	.0	.00	480.	116.94	50.68	596.94
136	.0	.00	490.	106.94	46.34	596.94
137	10.0	.02	500.	96.94	42.01	596.94
138	10.0	.02	500.	96.99	42.03	596.99
139	.0	.00	500.	96.97	42.02	596.97
140	.0	.00	500.	97.32	42.17	597.32
141	10.0	.02	500.	97.43	42.22	597.43
142	.0	.00	500.	97.49	42.24	597.49
143	.0	.00	480.	117.49	50.91	597.49
144	.0	.00	460.	137.72	59.68	597.72
145	10.0	.02	500.	97.66	42.32	597.66
146	.0	.00	500.	98.96	42.88	598.96
147	.0	.00	500.	98.87	42.84	598.87
148	10.0	.02	500.	98.84	42.83	598.84

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
149	.0	.00	490.	109.26	47.35	599.26
150	10.0	.02	480.	119.70	51.87	599.70
151	.0	.00	480.	119.88	51.95	599.88
152	.0	.00	470.	129.86	56.27	599.86
153	10.0	.02	475.	124.44	53.92	599.44
154	10.0	.02	475.	124.35	53.89	599.35
155	.0	.00	470.	129.85	56.27	599.85
156	10.0	.02	475.	124.83	54.09	599.83
157	.0	.00	490.	109.82	47.59	599.82

160	.0	.00	505.	94.56	40.98	599.56
161	10.0	.02	520.	79.54	34.47	599.54
162	.0	.00	525.	74.54	32.30	599.54
163	.0	.00	515.	84.47	36.60	599.47
164	10.0	.02	505.	94.31	40.87	599.31
165	10.0	.02	500.	99.29	43.03	599.29
166	10.0	.02	500.	99.31	43.03	599.31
167	.0	.00	510.	89.83	38.93	599.83
168	.0	.00	525.	74.75	32.39	599.75
170	10.0	.02	510.	89.76	38.89	599.76
171	10.0	.02	500.	99.15	42.96	599.15
172	.0	.00	500.	99.08	42.94	599.08
173	10.0	.02	500.	98.91	42.86	598.91
174	.0	.00	480.	118.88	51.51	598.88
175	10.0	.02	505.	93.97	40.72	598.97
176	.0	.00	470.	128.81	55.82	598.81
177	.0	.00	465.	133.75	57.96	598.75
178	10.0	.02	475.	123.54	53.53	598.54
179	.0	.00	475.	123.36	53.46	598.36
180	.0	.00	475.	123.20	53.39	598.20
181	10.0	.02	475.	123.13	53.36	598.13
182	10.0	.02	475.	123.14	53.36	598.14
183	.0	.00	500.	97.84	42.40	597.84
184	.0	.00	480.	117.90	51.09	597.90
185	10.0	.02	475.	122.79	53.21	597.79
186	10.0	.02	475.	122.79	53.21	597.79
187	10.0	.02	475.	122.83	53.23	597.83
188	.0	.00	475.	122.96	53.28	597.96
189	.0	.00	465.	133.86	58.00	598.86
190	.0	.00	475.	123.87	53.68	598.87
191	.0	.00	495.	103.92	45.03	598.92
192	.0	.00	490.	108.93	47.20	598.93
193	5.0	.01	480.	118.92	51.53	598.92
194	.0	.00	480.	118.94	51.54	598.94
195	.0	.00	480.	118.94	51.54	598.94
196	.0	.00	480.	118.95	51.55	598.95
197	5.0	.01	480.	118.94	51.54	598.94
198	5.0	.01	480.	118.94	51.54	598.94
199	.0	.00	505.	93.99	40.73	598.99

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
200	.0	.00	500.	99.03	42.91	599.03
201	5.0	.01	500.	99.02	42.91	599.02
202	.0	.00	500.	99.14	42.96	599.14
203	5.0	.01	500.	99.00	42.90	599.00
204	.0	.00	500.	98.93	42.87	598.93
205	5.0	.01	500.	98.91	42.86	598.91
206	5.0	.01	500.	98.69	42.77	598.69
207	.0	.00	500.	98.70	42.77	598.70
208	.0	.00	480.	118.72	51.44	598.72
209	5.0	.01	500.	98.47	42.67	598.47
210	.0	.00	500.	99.73	42.78	598.73
211	.0	.00	490.	108.74	47.12	598.74
212	.0	.00	490.	108.81	47.15	598.81
213	.0	.00	480.	118.85	51.50	598.85
214	.0	.00	475.	123.87	53.68	598.87
215	5.0	.01	470.	128.91	55.86	598.91
216	.0	.00	465.	134.14	58.13	599.14
217	.0	.00	465.	134.29	58.19	599.29
218	5.0	.01	470.	129.46	56.10	599.46
219	5.0	.01	480.	119.30	51.70	599.30

222	.0	.00	495.	104.83	45.43	599.83
223	.0	.00	475.	124.81	54.09	599.81
224	.0	.00	480.	119.92	51.97	599.92
225	.0	.00	480.	119.58	51.82	599.58
100	-103.1	-.23	500.	100.00	43.33	600.00
226	-129.1	-.29	480.	120.00	52.00	600.00
169	-130.8	-.29	525.	75.00	32.50	600.00
227	-96.7	-.22	480.	120.00	52.00	600.00
228	-20.2	-.05	480.	120.00	52.00	600.00

CHANGES MADE TO NETWORK

0ALL PREVIOUS DEMANDS ARE MULTIPLIED BY 1.780
1SOLUTION TO THE 1 VARIATION OF THE BASIC NETWORK IS GIVEN BELOW
0FLOW FROM PUMPS AND RESERVOIRS EQUALS 854.400

ITERATION= 1 SUM= .158E-03
0UNITS OF SOLUTION ARE
DIAMETERS - INCH
LENGTH - FEET
HEADS - FEET
ELEVATIONS - FEET
PRESSURES - (PSI)
FLOWRATES - (GPM)
HAZEN-WILLIAMS FORMULA USED FOR COMPUTING HEAD LOSS
1PIPE DATA

	PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLO /10
	1	224	101	700.	6.0	130.0	54.03	.61	.23	.3
	2	101	102	720.	4.0	130.0	45.73	1.17	1.27	1.7
	3	102	103	700.	4.0	130.0	27.93	.71	.50	.7
	4	103	104	500.	4.0	130.0	72.27	1.85	2.06	4.1
	5	104	105	600.	4.0	130.0	54.47	1.39	1.46	2.4
	6	105	106	1340.	4.0	130.0	36.67	.94	1.57	1.1
	7	106	107	550.	4.0	130.0	36.67	.94	.65	1.1
	8	107	108	600.	4.0	130.0	18.87	.48	.21	.3
	9	108	109	600.	4.0	130.0	17.80	.45	.18	.3
	10	108	110	600.	4.0	130.0	1.07	.03	.00	.0
*	11	111	110	1030.	4.0	130.0	16.73	.43	.28	.2
	12	111	112	330.	4.0	130.0	17.80	.45	.10	.3
	13	111	113	600.	6.0	130.0	.00	.00	.00	.0
*	14	114	111	420.	6.0	130.0	34.53	.39	.06	.1
*	15	115	114	720.	6.0	130.0	52.33	.59	.23	.3
	16	115	116	420.	4.0	130.0	20.99	.54	.18	.4
	17	116	117	680.	4.0	130.0	20.99	.54	.28	.4
	18	117	118	600.	4.0	130.0	3.19	.08	.01	.0
*	19	119	118	600.	4.0	130.0	14.61	.37	.13	.2
*	20	120	119	600.	4.0	130.0	14.61	.37	.13	.2
*	21	121	120	260.	4.0	130.0	32.41	.83	.24	.9
	22	121	122	440.	6.0	130.0	17.93	.20	.02	.0
*	23	123	122	600.	6.0	130.0	20.42	.23	.03	.0
*	24	124	123	800.	6.0	130.0	38.22	.43	.14	.1
*	25	125	124	220.	6.0	130.0	98.88	1.12	.22	1.0
	26	125	115	700.	6.0	130.0	73.32	.83	.41	.5
	27	124	126	150.	4.0	130.0	60.66	1.55	.45	2.9
	28	126	127	300.	4.0	130.0	36.85	.94	.36	1.1
	29	127	128	700.	4.0	130.0	19.05	.49	.24	.3
	30	128	129	540.	4.0	130.0	1.25	.03	.00	.0
*	31	130	129	260.	4.0	130.0	16.55	.42	.07	.2
*	32	131	130	100.	4.0	130.0	44.74	1.13	.17	.1

	35	130	133	660.	4.0	130.0	27.81	.71	.46	.70
	36	133	134	580.	4.0	130.0	10.01	.26	.06	.11
*	37	135	134	600.	4.0	130.0	7.79	.20	.04	.07
	38	135	136	700.	4.0	130.0	4.01	.10	.01	.02
	39	136	137	400.	4.0	130.0	4.01	.10	.01	.02
*	40	138	137	740.	4.0	130.0	13.79	.35	.14	.19
	41	138	139	400.	4.0	130.0	11.80	.30	.06	.14
	42	139	135	440.	4.0	130.0	11.80	.30	.06	.14
*	43	140	138	600.	4.0	130.0	43.39	1.11	.96	1.60
*	44	141	140	200.	4.0	130.0	43.39	1.11	.32	1.60
*	45	142	141	140.	6.0	130.0	111.53	1.27	.18	1.28
	46	142	143	500.	4.0	130.0	.00	.00	.00	.00
*	47	144	142	520.	6.0	130.0	111.53	1.27	.66	1.28
	48	144	145	500.	4.0	130.0	17.80	.45	.15	.31

PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOSS /1000
* 49	146	144	300.	4.0	130.0	129.33	3.30	3.63	12.11
50	146	147	900.	4.0	130.0	17.80	.45	.28	.31
51	147	148	300.	4.0	130.0	17.80	.45	.09	.31
* 52	149	146	400.	6.0	130.0	147.13	1.67	.85	2.13
* 53	150	149	600.	6.0	130.0	147.13	1.67	1.28	2.13
* 54	151	150	200.	6.0	130.0	164.93	1.87	.53	2.64
55	151	152	120.	6.0	130.0	64.91	.74	.06	.47
56	152	153	1100.	4.0	130.0	35.60	.91	1.22	1.11
57	153	154	820.	4.0	130.0	17.80	.45	.25	.31
58	152	155	250.	6.0	130.0	29.31	.33	.03	.11
59	155	156	600.	6.0	130.0	29.31	.33	.06	.11
60	156	157	620.	6.0	130.0	11.51	.13	.01	.02
61	157	158	180.	6.0	130.0	47.52	.54	.05	.26
62	158	159	920.	4.0	130.0	28.02	.72	.66	.71
63	159	160	600.	4.0	130.0	10.22	.26	.07	.11
64	160	161	600.	4.0	130.0	10.22	.26	.07	.11
* 65	162	161	280.	4.0	130.0	7.58	.19	.02	.06
66	162	163	340.	4.0	130.0	26.50	.68	.22	.64
67	163	164	700.	4.0	130.0	26.50	.68	.45	.64
68	164	165	700.	4.0	130.0	8.70	.22	.06	.08
* 69	166	165	480.	4.0	130.0	9.10	.23	.04	.09
* 70	167	166	400.	6.0	130.0	200.40	2.27	1.51	3.78
71	167	168	230.	4.0	130.0	32.38	.83	.21	.93
* 72	168	162	600.	4.0	130.0	34.08	.87	.61	1.02
73	169	167	100.	6.0	130.0	232.79	2.64	.50	4.99
* 74	170	168	600.	4.0	130.0	1.70	.04	.00	.00
* 75	158	170	420.	4.0	130.0	19.50	.50	.15	.36
76	166	171	600.	6.0	130.0	85.22	.97	.47	.78
77	171	172	380.	6.0	130.0	67.42	.77	.19	.50
78	172	173	650.	4.0	130.0	29.62	.76	.51	.79
79	173	174	620.	4.0	130.0	11.82	.30	.09	.14
* 80	175	174	700.	4.0	130.0	20.01	.51	.27	.38
* 81	172	175	270.	4.0	130.0	37.81	.97	.34	1.24
82	174	189	440.	6.0	130.0	31.82	.36	.06	.13
83	176	177	150.	6.0	130.0	106.80	1.21	.18	1.18
84	177	178	520.	6.0	130.0	106.80	1.21	.61	1.18
85	178	179	600.	6.0	130.0	89.00	1.01	.50	.84
86	179	180	420.	4.0	130.0	35.60	.91	.47	1.11
87	180	181	700.	4.0	130.0	17.80	.45	.22	.31
88	180	182	600.	4.0	130.0	17.80	.45	.18	.31
89	179	188	500.	4.0	130.0	53.40	1.36	1.18	2.35
90	188	184	700.	4.0	130.0	16.50	.42	.19	.27
91	184	183	600.	4.0	130.0	16.50	.42	.16	.27
92	183	185	600.	4.0	130.0	16.50	.42	.16	.27
* 93	186	185	720.	4.0	130.0	1.30	.03	.00	.00

* 96	189	176	280.	6.0	130.0	66.71	.76	.14	.49
* 97	190	189	300.	6.0	130.0	34.88	.40	.04	.15
* 98	191	190	900.	6.0	130.0	34.88	.40	.13	.15

1PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOSS /1000
* 99	192	191	340.	6.0	130.0	25.29	.29	.03	.06
100	192	193	300.	4.0	130.0	8.90	.23	.03	.09
* 101	195	192	250.	6.0	130.0	34.19	.39	.04	.14
102	195	194	300.	4.0	130.0	3.19	.08	.00	.01
103	194	197	600.	4.0	130.0	3.19	.08	.01	.01
* 104	198	197	600.	4.0	130.0	5.71	.15	.02	.04
* 105	199	198	620.	4.0	130.0	14.61	.37	.13	.21
106	199	196	600.	6.0	130.0	37.38	.42	.10	.17
107	196	195	250.	6.0	130.0	37.38	.42	.04	.17
* 108	200	199	400.	6.0	130.0	51.99	.59	.12	.31
109	200	201	500.	4.0	130.0	8.90	.23	.04	.09
* 110	202	200	740.	6.0	130.0	60.89	.69	.31	.42
111	202	203	600.	4.0	130.0	27.39	.70	.41	.68
112	203	204	600.	4.0	130.0	18.49	.47	.20	.33
113	204	205	600.	4.0	130.0	8.90	.23	.05	.09
* 114	204	191	320.	4.0	130.0	9.59	.24	.03	.10
* 115	213	176	560.	6.0	130.0	40.09	.45	.11	.19
116	213	212	380.	4.0	130.0	17.80	.45	.12	.31
117	212	211	600.	4.0	130.0	17.80	.45	.18	.31
118	211	210	120.	4.0	130.0	17.80	.45	.04	.31
119	210	209	300.	2.0	130.0	8.90	.91	.75	2.49
120	210	208	520.	4.0	130.0	8.90	.23	.04	.09
121	208	207	400.	4.0	130.0	8.90	.23	.03	.09
122	207	206	300.	4.0	130.0	8.90	.23	.03	.09
123	215	214	200.	4.0	130.0	26.59	.68	.13	.65
* 124	216	215	600.	4.0	130.0	35.49	.91	.66	1.10
* 125	217	216	400.	4.0	130.0	35.49	.91	.44	1.10
* 126	219	217	600.	4.0	130.0	5.74	.15	.02	.04
* 127	218	217	600.	4.0	130.0	29.74	.76	.48	.80
* 128	223	218	800.	4.0	130.0	38.64	.99	1.03	1.29
* 129	224	223	400.	4.0	130.0	29.58	.76	.32	.79
130	224	225	600.	4.0	130.0	44.34	1.13	1.00	1.67
131	225	103	600.	4.0	130.0	44.34	1.13	1.00	1.67
* 132	222	223	500.	4.0	130.0	9.06	.23	.04	.09
* 133	101	222	500.	4.0	130.0	8.30	.21	.04	.07
134	222	219	620.	4.0	130.0	54.85	1.40	1.53	2.47
135	219	220	500.	4.0	130.0	40.21	1.03	.70	1.39
136	220	214	640.	4.0	130.0	31.31	.80	.56	.88
137	221	222	170.	6.0	130.0	55.61	.63	.06	.35
* 138	224	221	600.	6.0	130.0	55.61	.63	.21	.35
139	122	131	500.	4.0	130.0	38.35	.98	.64	1.27
* 140	166	202	600.	6.0	130.0	88.28	1.00	.50	.83
* 141	214	213	170.	6.0	130.0	57.89	.66	.06	.38
142	141	121	320.	6.0	130.0	50.34	.57	.09	.29
144	228	157	450.	4.0	130.0	36.01	.92	.51	1.13
145	227	125	330.	4.0	130.0	172.20	4.40	7.20	20.57
146	100	224	10.	4.0	130.0	183.57	4.69	.23	23.14
147	226	151	10.	4.0	130.0	229.83	5.87	.35	35.11

1NODE DATA:

NODE NO.	DEMAND (GPM)	(CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
101	.0	.00	500.	99.53	43.13	599.53
102	17.8	.04	500.	98.26	42.58	598.26
103	.0	.00	475.	122.77	53.20	597.77

106	.0	.00	475.	117.67	50.99	592.67
107	17.8	.04	475.	117.03	50.71	592.03
108	.0	.00	475.	116.82	50.62	591.82
109	17.8	.04	470.	121.63	52.71	591.63
110	17.8	.04	470.	121.82	52.79	591.82
111	.0	.00	470.	122.10	52.91	592.10
12	17.8	.04	460.	132.00	57.20	592.00
113	.0	.00	475.	117.10	50.74	592.10
114	17.8	.04	475.	117.16	50.77	592.16
115	.0	.00	475.	117.39	50.87	592.39
116	.0	.00	475.	117.21	50.79	592.21
117	17.8	.04	475.	116.93	50.67	591.93
118	17.8	.04	475.	116.92	50.67	591.92
119	.0	.00	475.	117.05	50.72	592.05
120	17.8	.04	475.	117.19	50.78	592.19
121	.0	.00	475.	117.42	50.88	592.42
122	.0	.00	475.	117.40	50.87	592.40
123	17.8	.04	477.	115.43	50.02	592.43
124	.0	.00	477.	115.57	50.09	592.57
125	.0	.00	475.	117.80	51.05	592.80
126	.0	.00	475.	117.13	50.76	592.13
127	17.8	.04	475.	116.77	50.60	591.77
128	17.8	.04	475.	116.53	50.50	591.53
129	17.8	.04	475.	116.53	50.50	591.53
130	.0	.00	475.	116.60	50.53	591.60
131	.0	.00	475.	116.76	50.60	591.76
132	17.8	.04	475.	116.79	50.61	591.79
133	17.8	.04	475.	116.13	50.32	591.13
134	17.8	.04	475.	116.07	50.30	591.07
135	.0	.00	480.	111.11	48.15	591.11
136	.0	.00	490.	101.10	43.81	591.10
137	17.8	.04	500.	91.09	39.47	591.09
138	17.8	.04	500.	91.23	39.53	591.23
139	.0	.00	500.	91.17	39.51	591.17
140	.0	.00	500.	92.19	39.95	592.19
141	17.8	.04	500.	92.51	40.09	592.51
142	.0	.00	500.	92.69	40.17	592.69
143	.0	.00	480.	112.69	48.83	592.69
144	.0	.00	460.	133.36	57.79	593.36
145	17.8	.04	500.	93.20	40.39	593.20
146	.0	.00	500.	96.99	42.03	596.99
147	.0	.00	500.	96.71	41.91	596.71
148	17.8	.04	500.	96.62	41.87	596.62

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
149	.0	.00	490.	107.84	46.73	597.84
150	17.8	.04	480.	119.12	51.62	599.12
151	.0	.00	480.	119.65	51.85	599.65
152	.0	.00	470.	129.59	56.16	599.59
153	17.8	.04	475.	123.37	53.46	598.37
154	17.8	.04	475.	123.12	53.35	598.12
155	.0	.00	470.	129.57	56.15	599.57
156	17.8	.04	475.	124.50	53.95	599.50
157	.0	.00	490.	109.49	47.45	599.49
58	.0	.00	500.	99.44	43.09	599.44
159	17.8	.04	490.	108.79	47.14	598.79
160	.0	.00	505.	93.72	40.61	598.72
161	17.8	.04	520.	78.65	34.08	598.65
162	.0	.00	525.	73.67	31.92	598.67
163	.0	.00	515.	83.45	36.16	598.45
164	17.8	.04	505.	93.00	40.30	598.00

164	-232.8	-.52	928.	75.00	32.50	800.00
227	-172.2	-.38	480.	120.00	52.00	600.00
228	-36.0	-.08	480.	120.00	52.00	600.00

J.R. CARR / ASSOCIATES
CONSULTING HYDROGEOLOGISTS

EVALUATION OF THE WATER SUPPLY WELLS

and

GROUND WATER RESOURCES

of

LAKE LIMERICK

with

RECOMMENDATIONS FOR DEVELOPING ADDITIONAL SUPPLIES

January, 1985

prepared by: J.R. Carr/Associates

prepared for: Lake Limerick Water Committee

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INTRODUCTION

This report provides data, information, conclusions and recommendations relative to the Lake Limerick water supply wells. This evaluation is based on review of well logs, test and analytical data, other relevant information, and direct test data collected as a part of this study. The agreement and terms to perform this work were provided in our letter/contract of November 20, 1984.

EXISTING WELLS

The Lake Limerick water system has six wells of which three are currently operated. The locations of the six wells are shown in Figure 1. Descriptive data from Wells 1 - 6 are provided below in Table 1.

VICINITY MAP

FIGURE 1

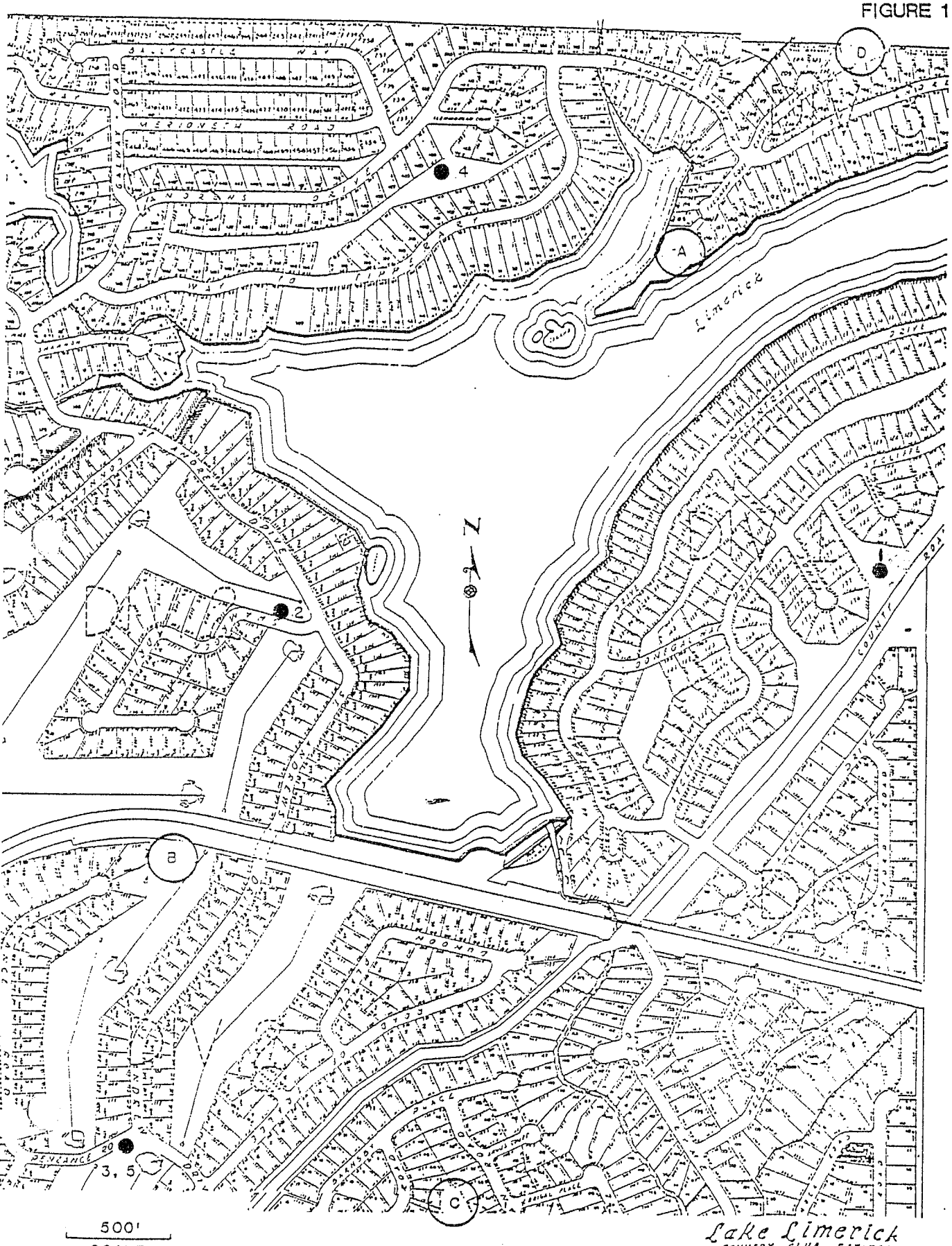

TABLE 1

	Well 1	Well 2	Well 3	Well 4	Well 5	Well 6 (capped)
Well Diam.	10 in.	10 in.	10 in.	10 in.	8 in.	10 in.
Ground Elev. ft. (approximate)	510	468	520	510	520	510
Depth	114 ft.	121 ft.	148 ft.	111 ft.	177 ft.	233 ft.
Screen Depth	89-99 99-114	103-121	131-148	91-111	167-177	213-218 218-233
Drilled by	Tyee	Russell	Russell	Russell	Bedell	Russell
Slab Elev. Rel. to Lake (1)	57.9	14.7	68.4	57.7	68.4	57.9
Status	unused	operating	aban.	op.	op.	unused

(1) elevation data taken from Alan Osberg, Osberg Construction Co. letter of 3/25/71. Elevations for Wells 5 and 6 are estimated.

In May of 1981, Well 3 was abandoned because of reduced yield, and replaced with Well 5 which was drilled about 30 feet west of Well 3.

A similar reduction in the apparent yield at Well 1 prompted drilling of Well 6 in late 1984. Well 6 is located about 10 feet east of Well 1 and reportedly did not encounter any useable aquifer at the depth of the upper aquifer zone.

:.er pumped from a Well 6 screened zone (213 - 233 feet) reportedly provided 140 gallons per minute but had very high apparent concentrations of iron and manganese as described in the Water Quality section of this report.

GEOLOGY

The area surrounding Lake Limerick development is mantled with glacial till consisting of relatively compact sand and gravel in a silt-clay matrix. This sediment is often called "hardpan" by local drillers and overlies a more permeable sequence of sand and gravel with variable amounts of silt. The cleaner, less silty horizons of this sequence are the aquifers which are pe trated by the Lake Limerick wells.

These relationships are illustrated as a fence diagram in Figure 2. The upper aquifer zone, described as sand and gravel in the well logs, is 10 to 30 feet thick and has been penetrated by all six wells at the site. The zone appears to thicken to the south (Wells 3 and 5) and is at slightly higher elevations to the north and west. As shown on the drawing, if the the depth of the Lake in the northeast section exceeds 25 feet, then the aquifer and lake may be connected (hydraulic continuity). A similar connection on the west side of Lake Limerick would require a Lake depth of over 40 feet.

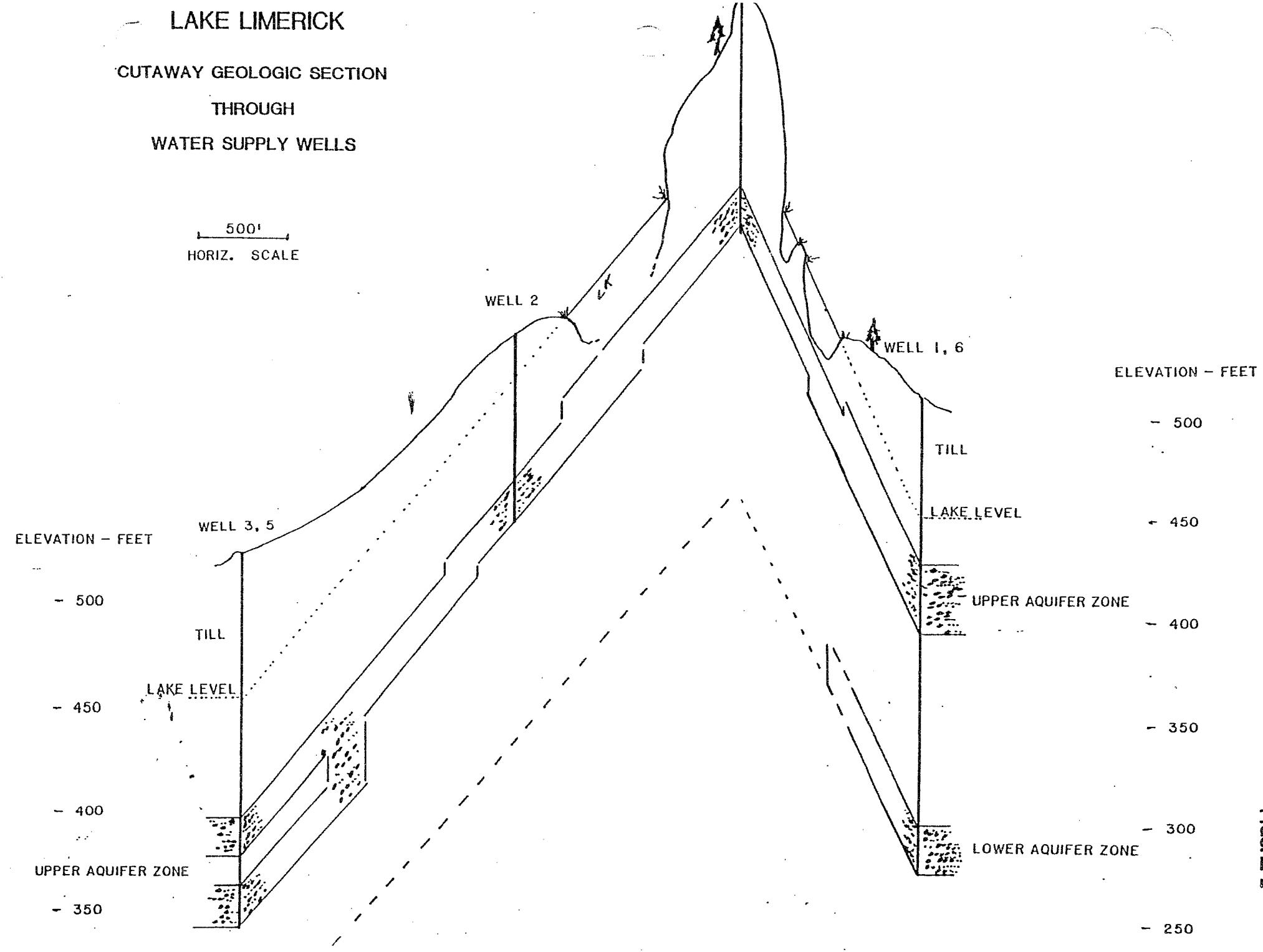
LAKE LIMERICK
CUTAWAY GEOLOGIC SECTION
THROUGH
WATER SUPPLY WELLS
500'
HORIZ. SCALE
WELL 2
WELL 1, 6
WELL 3, 5
ELEVATION – FEET
– 500
– 450
– 400
– 350
TILL
LAKE LEVEL
UPPER AQUIFER ZONE
LOWER AQUIFER ZONE
– 300
– 250

FIGURE 2

e statement that all six wells penetrate the upper aquifer is based on close examination of the well logs, and interpretation of different driller's descriptions of the sediments they encountered. Well 6, was drilled to a depth of 233 feet because the drilling contractor did not believe the gravel and sand ("gr sand" from 100 to 110 feet) would produce 100 gpm or more.

Deep drilling in Well 6 did reveal a deeper aquifer zone at a depth of 210 to 233 feet. Discussions with Mr. Russell regarding the development and testing of the well lead us to believe that some well completion and development problems may contribute to the water quality problem.

HYDROLOGY

An understanding of the hydrology of the area is important to planning the water resource development. This includes evaluation of the ground water gradient, direction of flow and analysis of recharge areas, amounts and patterns. Determination of these factors requires accurate measurment of the static water level in each well, and accurate elevations at each site.

Static water level data is reported on the well log forms for each well. Water levels were also measured in Wells 1 - 5 as part of this study. Some of these measurments (such as Well 2 and Well 5) are not believed to represent a true static level because time did not allow full recovery before the respective measurements were taken.

Elevations for each well have been calculated using Osberg Const. Co. data (March 25,1971) for the pump house slab elevation based on Lake elevation = 0, corrected to an estimated elevation of Lake surface = 452 feet. Where possible, these elevations have been cross-checked with the contoured Water Layout Map (1967) Sleavin and Kors.

Because of several potentially incorrect errors in the elevations and unstabilized static water level measurements, described above conclusions regarding the movement of the ground water can be only tentative.

Static water level (SWL) elevation data is presented in Table 2.

TABLE 2

Well No.	Surface elevation	Original SWL	date	SWL 12/7/84	Elevation SWL
1	510	51	3/25/66	53.5	457
2	468	11	6/17/67	20.8*	457**
3	520	56	6/17/67	56.6	463
4	510	54	8/1/68	53.0	457
5	520	61	5/4/81	62.8	457
6	510	142	10/23/84	-	368

* does not represent a true SWL - well not fully recovered .
** elevation computed from original SWL.

The available data indicate that the ground water levels in the upper aquifer zone are above the level of Lake Limerick, and have a nearly horizontal attitude. The higher water level elevation at Well 4 (463 feet) suggests that the gradient may be from south to north. However, this direction is opposite to the surface water drainage pattern and further investigation is required to verify the actual flow direction.

The much lower water levels in the lower aquifer zone of Well 6 (elevation 368 feet), relative to the 457 foot water level elevation in the upper aquifer zone, indicates that the upper zone is recharging the lower aquifer zone.

These data also show that water levels in the upper aquifer zone have been relatively constant since 1966. Thus any changes in well performance are probably not caused by declining water levels.

WELL PERFORMANCE

During December 1984, Wells 1, 2, 4 and 5 were tested by J.R.Carr/Associates to determine yield, drawdown, and the aquifer characteristic known as transmissivity. Well yield divided by drawdown is termed "specfic capacity". A well's specific capacity is directly related to the aquifer transmissivity which is equivalent to the permeability of the entire aquifer thickness.

Well performance is best judged by comparison of specific capacity to the theoretical maximum based on the aquifer transmissivity, or to prior specific capacities measured when the well was new. Reductions in specific capacity over time are most often caused by plugging of the well screen and aquifer with chemical or bacterial incrustants. The available well performance data is summarized in Table 3.

TABLE 3

Well No.	T *	Maximum S.C. ** gpm/ft	Original S.C. gpm/ft	Current S.C. gpm/ft	Present Eff. %
1	5	3	2.3	2.8	92
2	4	3	2.1	2.9	97
3	not tested		1.1		
4	6	3	11.6 ?	2.8	93
5	28	14	2.0	5.9	21
6	not tested		2.7	x	x

* T indicates transmissivity in gallons per day per foot of aquifer width

** S.C. indicates specific capacity in gallons per minute per foot of drawdown in the well.

Operating well efficiencies of 80% or more are considered good. Thus all of the above wells except for Well 5 appear to be operating efficiently. The much higher original specific capacity of Well 4 also indicates that this well may not be operating efficiently.

ACTUAL YIELD AND SAFE YIELD

The safe yield of the Lake Limerick wells should be computed as follows:

SAFE YIELD = SAFE DRAWDOWN X SPECIFIC CAPACITY

SAFE DRAWDOWN = maximum pump depth - SWL - allowances

*(allowances for submergence, safety, and seasonal changes in water level)

The current pumping rate, safe drawdown, and recommended pumping rate for each well are shown in Table 4.

TABLE 4

Well No.	Current Pumping Rate gpm	Safe Drawdown feet	Recommended Pumping Rate gpm
1	0	18	50
2	110-210	42	120
3	not operating		
4	104	19	50
5	115	52	120
6	not operating		
TOTALS	330 - 430 GPM		340 GPM

Operating these wells at higher than the recommended pumping rates can cause unnecessary problems such as:

* pump cavitation and wear
* plugging of the screens with incrustant
* declining specfic capacity and well yield
* sand pumping

WATER QUALITY

During testing of Wells 1, 2, 4 and 5 samples were collected and analyzed by J.R. Carr/Associates with a Hach Engineers Field Laboratory. Results of these analyses are shown in Table 5.

TABLE 5

CHEMICAL ANALYSES

Well No.	Specific Conduct. umhos/cm	pH	Iron mg/L	Chlorides mg/L	Nitrate-N mg/L	Total Hardness mg/L
1	100	7.1	0.04	<5	ND	60
2	110	6.9	0.08	<5	ND	60
3	not pumped					
4	98	7.25	0.02	<5	ND	50
5	85	6.5	0.01	<5	ND	50
6	-	-	1.22	-	-	-

Well 6 analyses by WMA Laboratory, 11/12/84. All other analyses by JRC/A field laboratory. Field lab results may be different than those determined by a certified laboratory.

These results show that the ground water is of excellent quality and meets all state drinking water standards. These analyses are also similar to analytical results from samples taken in previous years, indicating no significant change in water quality since 1966.

In October, 1984, after brief development with a test pump, the drilling contractor sampled the water from Well 6 and took the samples to WMA Laboratory in Tacoma for analysis. The Laboratory report of November 12, 1984 shows:

Iron	= 1.22	mg/L
Manganese	= 0.306	mg/L

These results are well over the maximum contaminant levels prescribed by the State of Washington DSHS:

Iron	= 0.3	mg/L
Manganese	= 0.05	mg/L

The analysis for iron and manganese is very sensitive to turbidity and the clarity of the water; thus the condition of the sample submitted to the laboratory is very important. We have discussed this issue with Don Anderson of WMA Labs, and Bill Russell the drilling contractor, and can not be certain that the sample that was analyzed was truly representative of water in the aquifer.

It also appears possible that iron rich water may have been leaking down the outside of the casing from an overlying clay layer containing wood (200 - 207 feet). This is confirmed by the variable pumping capacities reported by the drilling contractor.

CONCLUSIONS

1. The Lake Limerick water system has 6 wells of which 3 are currently in use.
2. System Wells 1-5 penetrate the "upper aquifer zone" (UAZ) which appears to be deeper, thicker and more productive toward the south end of the development.
3. Well six penetrates a deep aquifer zone which underlies the UAZ and a considerable thickness of clayey sediments.
4. The upper aquifer zone may have hydraulic continuity with the Lake.
5. Water levels in the UAZ are about 5 feet higher than the Lake and nearly 100 feet higher than the water level in the deep aquifer zone.
6. The current water levels in the upper aquifer zone are similar to the original levels indicating that recharge exceeds the current use.
7. Most of the wells in the system are operating efficiently (producing the optimum amount of water).
8. Available data suggest that redevelopment of Wells 4 and 5 could improve their operating efficiencies and increase their yield.
9. Well 1 is capable of producing at a sustained pumping rate of 50 gpm.

Discharge rates of Wells 2 and 4 are above their optimum capacities and need to be controlled to prevent operational problems.

11. Water quality from the UAZ is excellent and has not diminished since the wells were put into service.

12. Water quality data from Well 6 is inconclusive.

RECOMMENDATIONS

The following recommendations are provided as a guide to actions that should be taken to improve the existing supply. We have not undertaken an evaluation of the system demand, but understand that additional supplies may be needed during peak periods and in specific areas of the system (such as around Well 1).

The recommendations are arranged according to Well Number, and in order of importance.

Well 1 Reactivate the well at a pumping rate of 50 gpm. Monitor water levels and water quality as described below.

Well 6 Conduct a 4 hour pumping test on the well to evaluate water quality and potential well yield. If results are satisfactory, put the well into service at the optimum pumping rate. The test results may indicate that additional development on the well is required, or that the screen should be retrieved and the casing extracted to overlying water-bearing sediments. We do not anticipate recommending deeper drilling.

Well 2 Control flow rate so that the well can not be pumped in excess of 120 gpm. (Flow rates can be controlled with valves or preferably a restrictive orofice in the discharge line.)

Well 4 Control the discharge rate so that the maximum pumping rate is 50 gpm. Consider redevelopment of the well to determine if higher specific capacities are possible. If the original specific capacity of 11 gpm/ft of drawdown is correct, the well could easily produce over 200 gpm.

Well 5 This well is the most productive in the system but data indicates that it could produce even more water or maintain the existing discharge with less pumping lift (and lower power costs). The well's inefficiency could be a result of inadequate development but is more likely related to well design. Redevelopment could be attempted but would probably not be beneficial. New wells drilled in the south end of the development should be designed and developed to take advantage of the high potential of the aquifer in this area.

Well 3 A pumping test could be conducted with the existing pump to determine the potential well yield (after redevelopment). Some interference should be anticipated between Well 3 and Well 5.

New Well Sites The greatest well yields are anticipated from wells drilled toward the south end of the development. However, wells drilled in this area must also have slightly greater (50 feet) depths.

Drilling at the community property peninsula off Tregaron Court would have the advantage of adjacent recharge, (assuming that the regulatory agencies will approve the site).

In addition, all future drilling should be done to fully explore the full depth of the upper aquifer zone. It is possible that the zone is thicker than indicated by the available well logs from the northern part of the development.

Based on these considerations, we rate the proposed well sites as follows:

1st.....Site A..... off Tregaron Court

2nd.....Site C..... off Dalkeith Road

3rd.....Site B..... near Tee Hole 4

4th.....Site D..... at Kilmarnock and Lyme Road

A Monitoring Program should be initiated immediately to provide data for system management. This data should include:

MONITORING PROGRAM

Data	Frequency
Well discharge rate	weekly
Pumping level.....	weekly
Static Water level.....	monthly (after pump has been off for 4 hours or more).
Water analyses (Chemical).....	annual

Each well should be monitored according to this schedule. Non-operating wells should be monitored to record variation in water levels.

We believe that it is in the best interest of the committee to retain us to assist with the work recommended here, including: testing Well 6, improvements to existing wells, supervision of new drilling, and assistance with the monitoring program. The cost of our serivces are generally recovered through improved effficiency of the contractors, and a more cost effective and dependable water supply.

OSBERG CONSTRUCTION COMPANY

General Contractors

November 4, 1983

Bob L. King
c/o Shelton Land and Homes
422 North First Street
Shelton, Washington 98584

Dear Bob:

Thanks for forwarding the letter from the State. Its meaning is a mystery to me.

Please see the attached copies of an exchange of correspondence between our engineer and the State by letters dated June 12, 1968 and June 26, 1968. Note that the then existing wells in Divisions 1 and 2 could support 1112 lots (there is a mistake in addition in the letter).

Well No. 4 (in Division 3) is certified for 100 gallons per minute so is capable of sustaining about the same number of lots as Well No. 3, this being 280 lots per the letter of June 12, 1968. Perhaps the State considers the well good for 352 connections which would give a rationale for their current letter. In any event, total capacity of the four existing wells is about 1,400 lots or the total number in all divisions at Lake Limerick.

It is possible that at some future date the community will find it necessary, because of increased water usage, to make revisions in valving, pumps and/or storage capacity. If additional supply were required, I recall that provisions were made at the time of platting for 3 or 4 additional wells throughout Lake Limerick.

I hope this is of some help to you.

Best regards,

Allan F. Osberg, President
Osberg Construction Company

AFO:bcm
Enclosures
cc: Ken Engel

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COMPREHENSIVE WATER STUDY

FOR

LAKE LIMERICK GOLF AND COUNTRY CLUB

FEBRUARY 17, 1973

Prepared By

WHITELEY, JACOBSEN & ASSOCIATES
Consulting Engineers
2118 Third Avenue
Seattle, Washington 98121
623-0331

I. INTRODUCTION

Lake Limerick is a recreational type development located near Shelton, Washington. The development is comprised of five divisions with planned lots totalling 1397 as listed below:

Division	Total Lots Planned
1	201
2	340
3	484
4	240
5	132
	1397

The development is located in rolling hills with ground elevations varying from a high of 525 to a low of approximately 425. In the center of the development is Lake Limerick. The development also includes a golf course and club house.

There is an existing water system which serves the domestic needs of the development, however, the existing system is unable to provide adequate fire protection. At the present time only 40% of the lots are estimated to be connected to the water system. There is at present no waste water collection or disposal system, thereby necessitating the use of septic tanks.

The purpose of this report is to review the existing water system capability and recommend improvements needed in order to provide the recommended fire protection. This report first describes the existing water system. The future water demands are then

discussed and recommended improvements are outlined along with cost estimates. Finally, a method of financing the improvements is outlined.

II. EXISTING WATER SYSTEM

A. Source of Supply

The existing water supply is derived from ground water through four wells. The characteristics of these wells and the characteristics of the pumps are listed below.

Characteristics	Well #1	Well #2	Well #3	Well #4
1. WELLS				
Diameter of well casing (inches)	10	10	10	10
Estimated ground elevation (feet)	515	465	505	510
Depth of well (feet)	116	121	148	110
Static water level on date shown (feet)	465 3/25/66	455 6/17/67	450 6/17/67	---
2. PUMPING EQUIPMENT				
Capacity (gallons per minute)	100	200	90	150
Total dynamic head (feet)	196	228	209	175
Estimated maximum drawdown elevation (feet)	425	370	375	417.5
Pump horsepower	7-1/2	15	7-1/2	10
Estimated hydraulic grade line elevation based on drawdown listed above (feet)	618	595	580	592.5

EXISTING WATER SYSTEM (continued)

The quality of water except for Well #2, which is reported to have a high iron and manganese content, is considered to be satisfactory. It is believed that Well #2 is used only in emergencies such as during periods of peak demand. An examination of the well drawdown data indicates that Wells #2 and #3 have experienced a fairly large drawdown. It is understood that recuperation of this drawdown is slow, thereby indicating that the water bearing aquifier is not very productive. Pump curves on the existing well pumps are attached in the Appendix.

B. Storage Facilities

Existing storage is in the form of hydropneumatic tanks located at Well #1 and Well #3. The capacity of each tank is approximately 15,000 gallons. The hydropneumatic tank at Well #1 is operated between pressures of 46 psig and 34 psig.

C. Distribution System

The existing distribution system consists of water lines ranging in size from 6 inches to 2 inches. Most of the lines serving fire hydrants are 4 inches in size. Hydrants are well spaced over the entire development. A map of the existing water system, designating the location of wells, as well as the existing distribution system is shown on Figure I.

III. DESIGN CRITERIA

The design criteria most commonly employed in designing a water system are listed below:

1. Water consumption is usually estimated from figures established for per capita use. Per capita use depends on many factors such as climate, water rate, standard of living, etc. and is taken from water system records, if available. In the absence of such a record a figure of 100 gallons per capita per day is considered reasonable annual average daily demand.

2. During the day, as well as during the entire year, daily and hourly demands fluctuate considerably. The fluctuations are large in a small system. In a system of the size under consideration, maximum daily flow and peak hour flow are assumed at 225% and 350% respectively of the annual average demand.

3. Fire demands vary according to the type of area under consideration. If the area is a high value district, fire flows are higher than those required for residential areas. For the Lake Limerick development a fire flow [illegible] gallons per minute may be considered reasonable. This flow must be available at all times, including periods of maximum daily demand.

4. The water supply system is designed to meet maximum daily demand with fire flow and peak hour flow met from storage.

DESIGN CRITERIA (continued)

5. [redacted]

IV. WATER REQUIREMENTS

A. Ultimate Development

Based on the criteria outlined above, water consumption for the entire development (1397 lots), assuming three persons per lot, is estimated as follows:

Annual Average Demand - 419,000 gallons per day - [redacted]

Maximum Daily Demand - [redacted] + 500 = 1,150
@ 225% of annual average - 936,000 gallons per day

Peak Hour Demand - [redacted]
@ 350% of annual average -

[redacted]

B. Phase I Development

At the present time only 40% of the development has water hook-ups. It has been estimated that ultimate development is 25 to 30 years away, and that only 50% of the development would be served within the next 15 years. It is therefore logical to consider updating the system to meet demands at 50% development. This is also desirable from a financing standpoint. Assuming that the [redacted] serve 700 lots in 15 years, three persons per lot, the water demand for Phase I is estimated as follows:

WATER REQUIREMENTS (continued)

Annual Average Demand -	210,000 gallons per day - 145 gallons per minute
Maximum Daily Demand - @ 225% of annual average	325 gallons per minute + 500 = 825
Peak Hour Demand - @ 350% of annual average	510 gallons per minute
Maximum Daily Demand & Fire Flow -	[redacted]

V. PROPOSED IMPROVEMENTS

A. Ultimate Development

1. Water Supply Facilities

As stated under "Design Criteria", water supply facilities are usually designed on the basis of maximum daily flow with storage to meet peak hourly variation and fire flows. Maximum daily demand for the entire development was previously estimated at 650 gallons per minute. The capacity of the existing four wells is estimated at 540 gallons per minute. [redacted] In order to provide reserve capacity, it would be necessary to [redacted] each.

Because of excessive drawdown and in order to obtain good quality water, with as little iron and manganese as possible, it will be necessary to give detailed consideration to well locations. The

quality of water is further subject to degradation due to septic tank usage for waste disposal. No water treatment except chlorination is anticipated but may very well be required if good quality water cannot continue to be obtained. Installation of additional well capacity will require filing for additional water rights. Tentative well locations are shown on Figure I.

If no storage facilities are provided, the water system must provide enough water to meet maximum day demand plus fire flow in order to be considered reasonable from a fire protection standpoint. A total demand of 1150 gallons per minute at ultimate development was estimated previously for this purpose, requiring additional facilities capable of supplying 610 gallons per minute. A total of five new wells will be required including one standby well if the storage were to be eliminated.

2. Storage Facilities

Although there are two hydropneumatic storage tanks with a capacity of 15,000 gallons each, storage in this form is not very effective. The usable volume of water, for example, between operating pressures of 40 psi and 30 psi is only 18.3% of its total capacity. Thus a total of approximately 5500 gallons of water is available for actual use from the two 15,000 gallon tanks.

PROPOSED IMPROVEMENTS (continued)

Assuming the supply works are designed to meet maximum day demand, storage will be required to meet fire demands as well as peak hourly variations. Required storage is estimated as follows:

(a)	Storage to meet fire demand of 500 gpm for 4 hours	120,000 gallons
(b)	Storage to meet peak hourly variation @ 17% of maximum day demand	160,000 gallons
(c)	Emergency storage	20,000 gallons
	Total Storage	300,000 gallons

Thus a 300,000 gallon storage tank would be needed if the supply system is designed to meet maximum consumption. Storage should be located at the highest point possible. A tentative location is shown on Figure I. The ground surface elevation at this location is approximately 525 feet. It is proposed to have this tank in the form of a standpipe with a height of 65 feet in order to provide a minimum residual pressure of 20 psi at the base of the tank. The water surface elevation would then be 590 feet. An examination of well characteristics presented earlier indicates that all pumps except the pump on Well [redacted] are capable of pumping water to this elevation.

3. Distribution System

No detailed hydraulic analysis of the distribution system has been made at this time. It will, however, be necessary to upgrade the distribution system to provide capabilities for fire protection. [redacted] improvement must

be made regardless of whether the storage is provided or not. Proposed distribution system improvements are shown on Figure I.

4. Miscellaneous Improvements

In addition to the improvements outlined above, it is necessary to provide at least two wells with an auxiliary power source. Thus for ultimate development two standby generators would be required.

B. Phase I Development

Maximum day plus fire demand was estimated to be 825 gallons per minute. Should the storage be omitted for economic reasons under Phase I, additional well capacity must be provided to supply 285 gallons per minute. Thus two additional wells, each with a capacity of 150 gallons, would be required under Phase I. One standby generator would be required under Phase I. Improvements to the distribution system would be the same as for ultimate development.

Phase II improvements would be required when development exceeds 700 units and would include one more well with a standby generator and a 300,000 gallon storage tank.

VI. COST OF IMPROVEMENTS

The estimated cost of improvements outlined on the preceding pages of this report are shown in Tables I, II and III. These

costs are based on current prices and must be escalated should the construction of improvements be delayed.

Table I presents the estimated cost of improvements needed at ultimate development with a 300,000 gallon storage tank.

Table II presents the estimated cost of the improvements for ultimate development without a storage tank. It can be seen that the cost under both conditions is the same. However, the storage tank would provide better flexibility to the system.

In Table III we present the cost estimate for Phase I improvements. These improvements are estimated at $150,000 including Engineering, Legal and Technical services.

VII. FINANCING

In public water supply systems revenues derived from monthly services charge, hook-up fee and front foot assessments are generally used toward retirement of the bonds as well as for operation and maintenance costs associated with the system. In the Lake Limerick development the existing system is paid for. The operation and maintenance costs are presently estimated at $700 per month. There is no monthly service charge for customers using the water system. There is a hook-up fee of $26 per connection. The water system is operated and maintained through the revenues derived from yearly dues.

FINANCING (continued)

The costs of Phase I improvements was estimated previously at $150,000. These improvements must be financed through a private loan as it does not appear that the development will qualify for an FHA low cost loan unless a Local Improvement District is formed. Also, in many cases, the demand for FHA loans far exceeds the funds available, thereby requiring a considerable waiting period.

In Table IV we present a debt service schedule. This is based on financing the improvements through a private loan, estimated to carry an interest rate of 6-1/2%. Operation and maintanance costs are estimated at $8400 initially and assumed to increase by $150 each year after the first year. A monthly service charge of $2.50 for lots with service connections and $1.00 for lots without service connections is expected to provide enough revenue to repay the bonds. As shown in Table IV, after 15 years the bonds outstanding would be $3700 while the funds in the cumulative reserve (set up for debt coverage and for renewal and replacement) would amount to $61,883. This money can then either be used to retire the outstanding bonds at that time or a portion may be used to finance Phase II improvements.

VIII. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

1. Based on ultimate development of 1397 lots, annual average water demand is projected at 290 gallons

per minute. Maximum daily and peak hourly demands would amount to 650 gallons per minute and 1015 gallons per minute respectively.

2. Based on a fire flow of 500 gallons per minute, water requirements on a maximum day are estimated at 1150 gallons per minute.

3. The Lake Limerick water system needs reinforcements in order to be capable of providing adequate fire protection.

4. Since ultimate development is expected to take about 25 to 30 years, facilities should be provided to meet the Phase I requirements (50% of ultimate development, or 700 lots). Phase I development is expected to provide adequate water and fire protection to cover the expected growth over the next 15 years.

5. Facilities under Phase I include two new wells, one standby generator and distribution system improvements.

6. A 300,000 gallon storage tank and a third well with a standby generator may be added under Phase II for ultimate development.

7. The estimated cost of proposed improvements for ultimate development would be $200,000. Cost of Phase I improvements is estimated at $150,000.

8. Proposed facilities must be financed through a private bank loan.

9. A monthly service charge of $2.50 (5.00) for lots with water service and $1.00 (2.00) for lots without water service would be required to repay the loan.

B. Recommendation

1. Adopt the findings of this report.

2. File for additional water rights.

3. Arrange financing for Phase I improvements.

4. Authorize Engineers to prepare detailed drawings for the proposed improvements.

TABLE I

CAPITAL COST OF TOTAL IMPROVEMENTS

WITH STORAGE

1.	Two (2) wells @ $10,000 each +25% (7%-74, 12%-75, 6%-76)		$ 20,000	25,000
2.	300,000 gallon storage tank +25%		40,000	50,000
3.	Distribution System Improvements			
	8" - 800' @ $ 5.25 (17/ft)	$ 4,100		13,600
	6" - 22,300' @ $ 4.25 (12/ft)	94,800		267,600
	Valves and fittings, etc.	5,100 + 25%		6375
		$ 104,000	104,000	287,575
4.	Emergency generators (two wells) x 25%		10,000	12,500
	Estimated Construction Cost Alternate No. 1		$ 174,000	375,075
	Contingencies at 15% including Technical Services		26,000	56,261
	TOTAL PROJECT COST Alternate No. 1		$ 200,000	431,336
			+25% 250,000	
			215.6%	

Phase I
TABLE III

CAPITAL COST PHASE I IMPROVEMENTS

1.	Two (2) wells @ $10,000 each	$ 20,000	25,000
2.	Distribution System Improvements (See Table I)	104,000	287,575
3.	One (1) Standby Generator	5,000	6250
	Estimated Construction Cost	$ 129,000	318,825
	Contingencies, Legal and Technical Services	21,000	47,824
	TOTAL ESTIMATED COST	$ 150,000	366,649
		+25% 187,500	
			244.4%

TABLE II

CAPITAL COST OF TOTAL IMPROVEMENTS

WITHOUT STORAGE

1.	Five (5) wells at $10,000 +25%	$ 50,000	62,500
2.	Distribution System Improvements (See Table I)	104,000	287,575
3.	Emergency Generator (4 wells)	20,000	25,000
	Total Construction Cost Alternate No. 2	$ 174,000	375,075
	Contingencies at 15% including Technical Services	26,000	56,261
	TOTAL PROJECT COST Alternate No. 2	$ 200,000	431,336
			215.6%

TABLE IV

DEBT SERVICE SCHEDULE

out ns	INCOME					DEBT SERVICE				
	Monthly Service Charge	Hook-Up Fee	Total	O & M Costs	Amount Available for Bond Retirement	Interest	Principal	Total	Cumulative Reserve Fund	Bonds Outstanding
	26,484	260	26,744	8,400	18,084	9,750	4,000	13,750	4,334	146,000
	26,664	260	26,924	8,550	18,374	9,490	5,000	14,490	8,218	141,000
	26,844	260	27,104	8,700	18,404	9,165	5,000	14,165	12,457	136,000
	27,024	260	27,284	8,850	18,434	8,840	6,000	14,840	16,051	130,000
	27,204	260	27,464	9,000	18,464	8,450	6,000	14,450	20,065	124,000
	27,384	286	27,670	9,150	18,520	8,060	6,000	14,060	24,525	118,000
	27,582	286	27,868	9,300	18,568	7,670	7,000	14,670	28,323	111,000
	27,780	286	28,066	9,450	18,616	7,217	7,000	14,217	32,722	104,000
	27,978	286	28,264	9,600	18,664	6,760	8,000	14,760	36,626	96,000
	28,176	286	28,462	9,750	18,712	6,240	8,000	14,240	41,098	88,000
	28,374	286	28,660	9,900	18,760	5,720	9,000	14,720	45,138	79,000
	28,572	286	28,858	10,050	18,808	5,135	9,000	14,135	49,811	70,000
	28,770	286	29,056	10,200	18,856	4,550	10,000	14,550	55,117	60,000
	28,968	286	20,254	10,350	18,904	3,900	11,000	14,900	58,121	49,000
	29,166	286	29,452	10,500	18,952	3,185	12,000	15,185	61,883	37,000

APPENDIX

REPORT TO THE MEMBERSHIP
from the
LAKE LIMERICK WATER SYSTEM

The Water Committee would like to take this opportunity to bring you up to date on progress made on your water system since the last report to you.

SYSTEM IMPROVEMENTS - A year ago only two of the four wells were operating. At times, one well carried the load for the entire community, resulting in excess wear on the operating well and fluctuating pressures to the lots. One of the two non-operating wells had to be pulled and completely overhauled, and the motor in the other well had to be replaced. Two pressure tanks have been installed at wells #2 and #4 to help stabilize water pressure in their areas. Controls have been installed with recording pressure charts to allow well control and regulate pressure fluctuation in the water distribution system. Other changes have been made to the wells that have improved their operation and maintenance. We have developed a preventative maintenance program for each of the wells and have accumulated data to enable us to evaluate its performance and to project improvements. A standby generator is proposed in the near future to provide a secondary source of power in the event of line failure or other electrical loss.

HYDRANTS and INSURANCE RATES -

At present, Lake Limerick is designated by the Fire Insurance Rating Bureau as Class 8-A (without hydrants). We will begin this summer to install approximately 11 hydrants (see Fig.1) which will allow one-half of the community to receive a lower insurance rating of Class 8 for their property. This will result in an estimated savings of 20% on your fire insurance premiums. The remaining community will be served by cistern-type hydrants (see Fig. 2) by the end of 1979. The first hydrant will be installed near the clubhouse and will result in an annual savings of $2300.00 for the clubhouse and pro-shop insurance premiums. These hydrants are classed at the same rate as a 6" hydrant in the city, therefore allowing a distribution expansion for domestic water only.

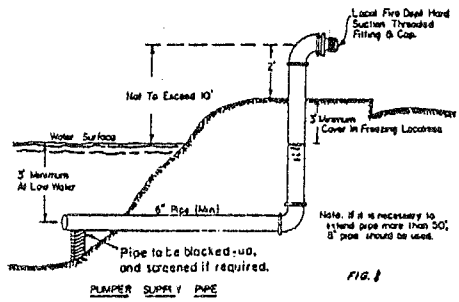


FIG. 1

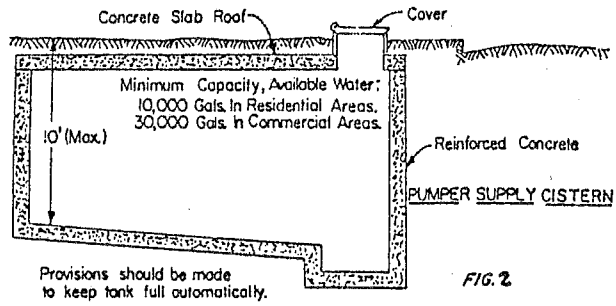


FIG. 2

OPEN HOUSE - To provide a better understanding of how your system works, there will be an open house the day of the annual meeting at well #2, next to the pro-shop, from 12 Noon to 2 p.m. and for one-half hour after the meeting.

WATER SHORTAGE - The Department of Water Resources and the U. S. Soil Conservation Service of the Department of Agriculture were contacted to determine the effect of a sustained drought in the area. It was their opinion that there would be no adverse effect on the lake for a drought of less than one year, and no adverse effect on our water supply for a drought of less than five years. This is due to the fact that the water table on this pleateau is one of the most stable of the Olympic Mountain Range. The well levels are currently being checked on a regular basis to monitor any change.

(over, please)

BILLING PROCEDURES - Because of the response to the change from quarterly to semi-annual billing, we have realized a savings in excess of $1000.00 per year in postage, time and supplies. Further savings have been achieved as a result of those members (28% of the total) who have chosen to pay annually. These savings are passed on to those members in the form of a $3.00 discount when the annual rate is paid in advance within 30 days of billing.

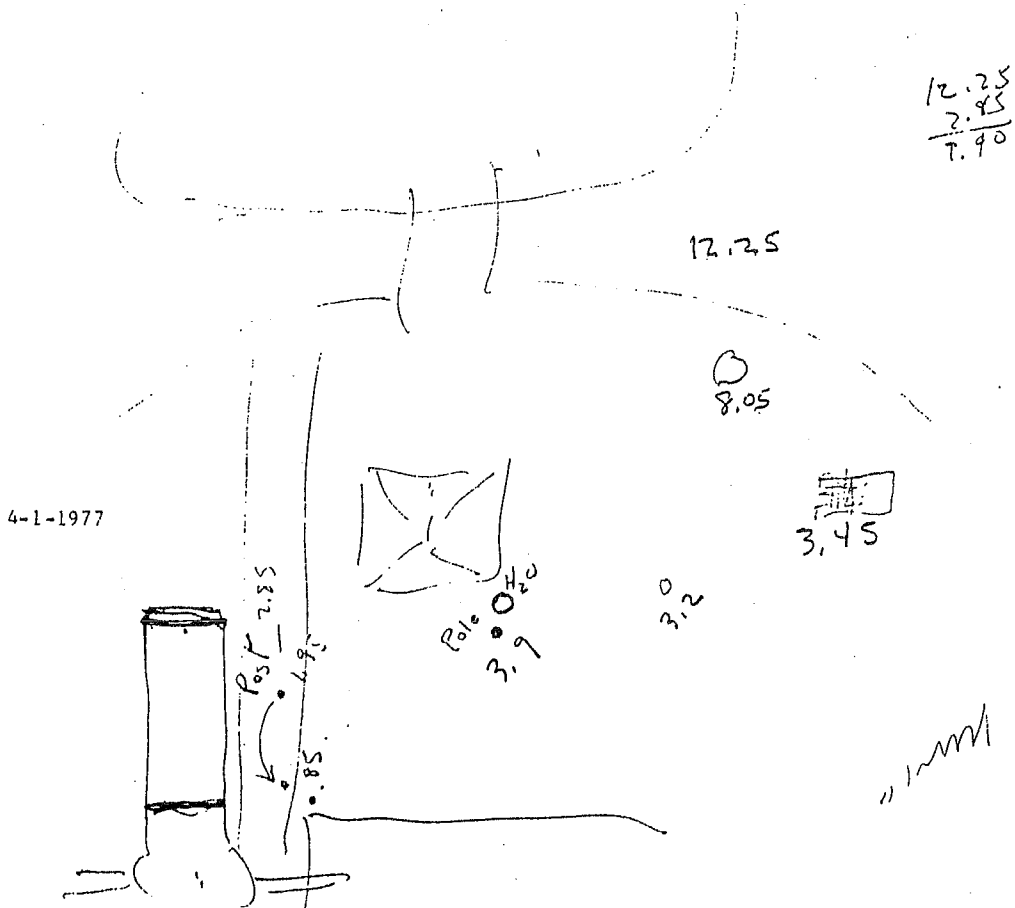
AUDIT - In order to evaluate accounting procedures and to assure proper allocation of funds, an independent audit is called for periodically by the Lake Limerick Water System Bylaws. The result of this audit and any other water system information or financial records are available to any interested member on request.

WATER SYSTEM MAINTENANCE MAN - We are presently looking for an individual to work part-time for the Water System, with skills in electrical, plumbing and maintenance crafts. Applications will be available after April 1st by contacting the Lake Limerick office.

We hope this message has been informative about the development and progress in our community. A lot of work has been accomplished these past two years to insure adequate water availability and expansion for future needs. If there are any further questions that we may not have covered, please do not hesitate to contact any of the committee members listed below, or attend any of the monthly meetings.

Bob Jacobs, Chairman
Al Gronseth
Bob O'Brien

Joe Anne Paradise, Secretary
Boots Pyle
Jerry Soehnlein, Treasurer



SLEAVIN-KORS *Professional Engineers*

901 TACOMA AVENUE SOUTH / TACOMA, WASHINGTON 98402 / FU 3-4491
SEATTLE MA 3-5736 / BELLEVUE GL 5-1383

November 20, 1970
#1061

Mr. Frank Petoski
P.O. Box 344
Spanaway, Washington

Dear Sir:

We are enclosing herewith two (2) prints each of five (5) drawings pertaining to the pumphouse and pump details for the water system on the plat of Lake Limerick Additions as we discussed on the telephone yesterday.

If we can be of further service in this regard, please feel free to contact our office.

Very truly yours,

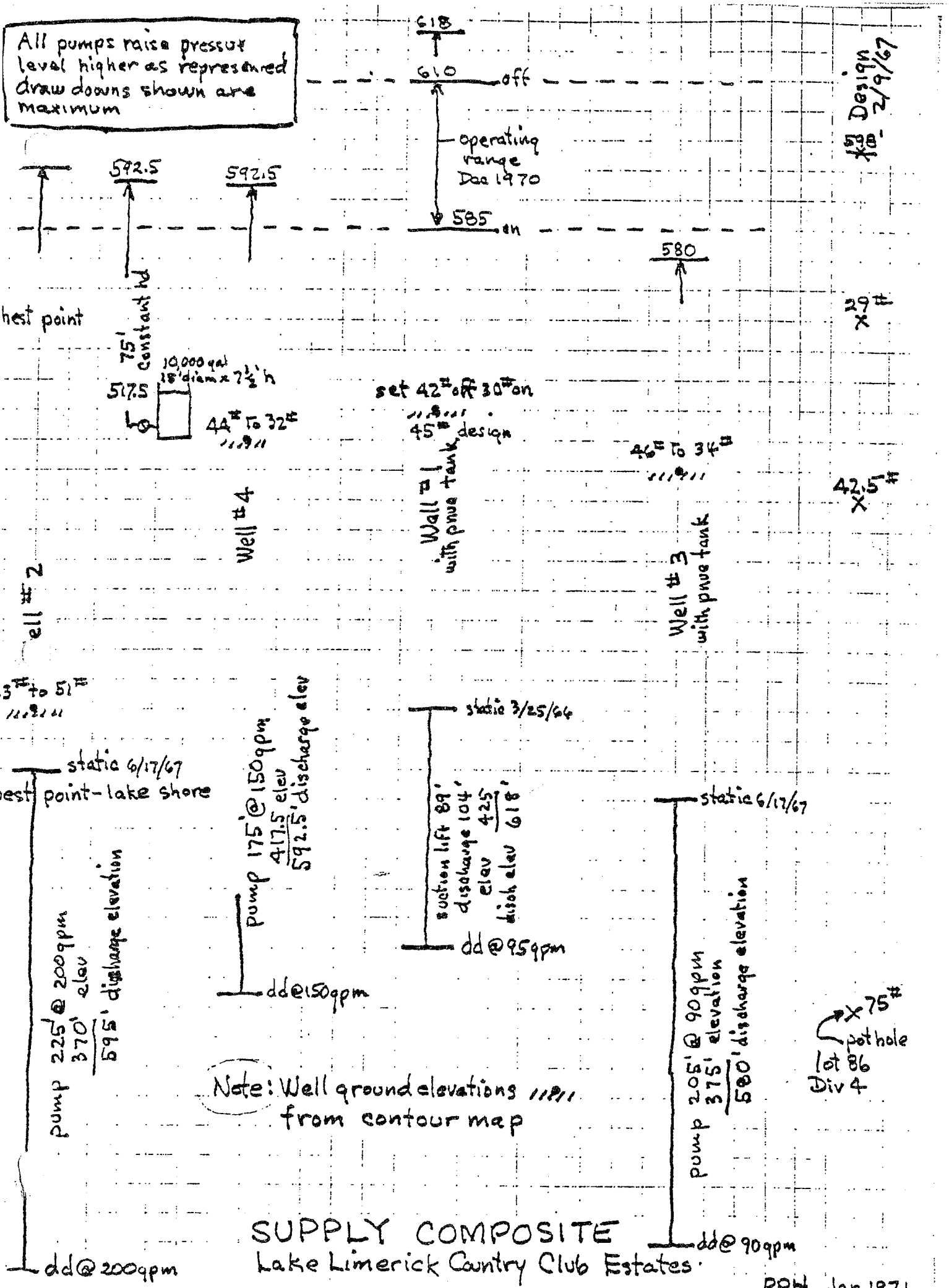
SLEAVIN-KORS, INC.

J. J. Sleavin, P.E.

NR/mfm

Enclosures

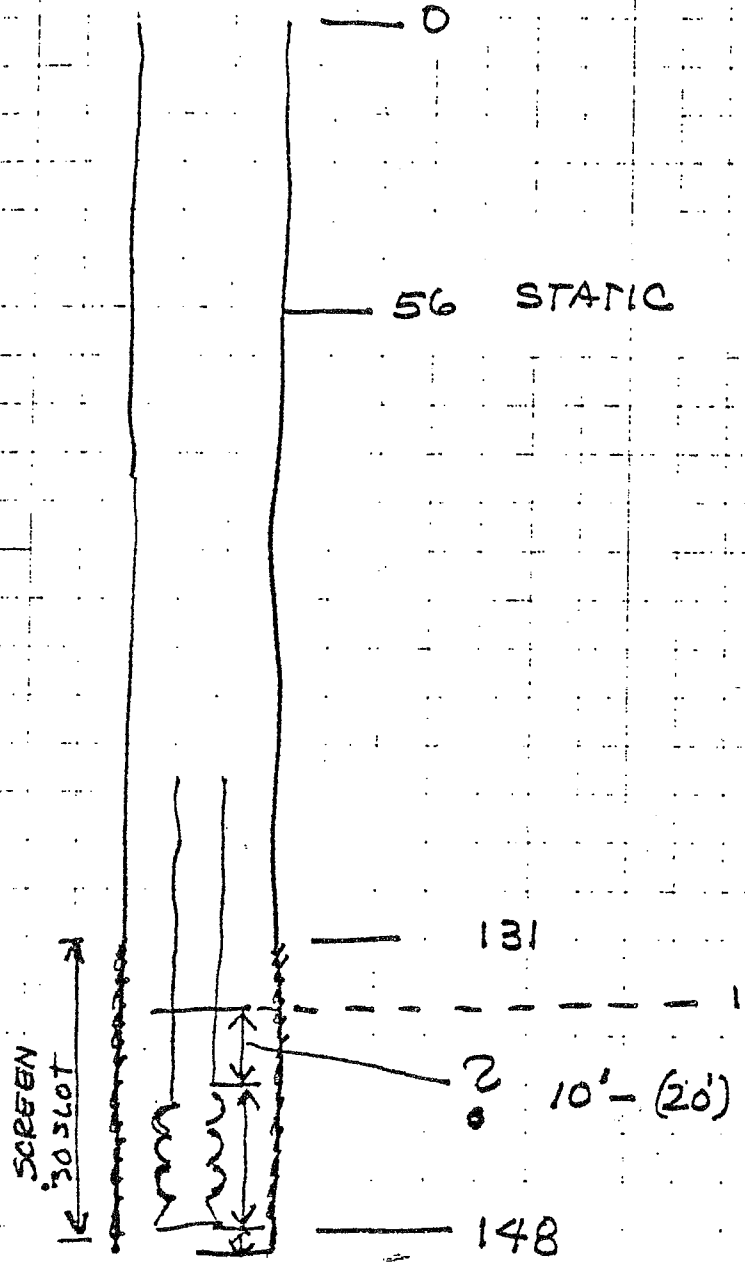
cc: Mr. Kenneth Engel
5125 25th Avenue, N.E.
Seattle, Washington



SUPPLY COMPOSITE

Lake Limerick Country Club Estates

RDH Jan 1971



AT 90 GPM.
79' D.D.
4 HRS
specific cap.
S.C. 1.5 G.P.F.

1 1446 F'dav

Thurston - Mason

: _____ S P C C _____ COUNTY HEALTH DEPT. _____ HEALTH DIST.

U ... - K...

Date _____

ake Limerick Country Club Inc

.5 25 NE

Seattle Wash

Subject: Water Supply Lake Limerick

Division No. 2, Mason Co

ised Plans ✓ (and) Specs ✓ Subject Report ____ (other) _____

_____ for the above project received in this office July 24, 1967

ether with _____

( ) _____ have been reviewed, and,

✓ in accordance with Chapter .54 * * * * * * * (water) WAC 248.54
Chapter .92 * * * * * * * (sewer)

he codified Rules and Regulations of the State Board of Health and the State
rtment of Health

pursuant to the authority vested in me by the laws of the State of Washington,
uding RCW 70.90.020 and RCW 70.90.030 (Chapter 57, Laws of 1957), and Rules
Regulations adopted January 17, 1958, are hereby approved.

: PROVIDED, that: _____

Upon nearing the completion of the swimming pool, please fill out the enclosed
l inspection form so that a field inspection can be arranged. Clearance must
tained from this Department before the pool can be put into public use.

(See over)

Very truly yours,

BERNARD BUCOVE, M.D.,
State Director of Health

IEL J. EVANS
RNOR

LAC NE, M.D., M.P.H.
JR

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
PUBLIC HEALTH BUILDING, OLYMPIA, WASHINGTON 98501

304 Public Health Building
Olympia, Washington 98501
June 26, 1968

Lake Limerick County Club, Inc.
5125 25th N.E.
Seattle, Washington 98105

Subject: Lake Limerick Water Supply

Gentlemen:

Plans for the above project received in this office October 31, 1967 and June 10, 1968 together with supplemental information received June 12, 1968 have been reviewed, and, in accordance with the provisions of WAC 248.54 are hereby APPROVED.

Very truly yours,

WALLACE LANE, M.D.
Acting Director

By: Kenneth J. Merry
District Engineer

KJM:bg
cc: Thurston-Mason Health District
Carl F. Reichhardt, P.E.

June 12, 1968
Job No. 1061-F

Mr. Ken Merry, P. E.
DEPARTMENT OF PUBLIC HEALTH
Public Health Building
Olympia, Washington 98501

Re: Lake Limerick Water Supply

Dear Mr. Merry:

This is to put into written form the substance of our conversation of Monday, in which verbal approval was given by your office for the design criteria for the completion of the water system for Lake Limerick Country Club Estates. This will also serve as a reply to the letter from Mr. Jim Pluntze addressed to Mr. Carl F. Reichhardt of this office dated December 28, 1967.

DESIGN CRITERIA

Water usage for this recreational plat will be based on 150 gallons/day per lot average consumption. Peak weekend demand will assume 70% occupancy of all of the lots and a peak to average ratio of 2.5. Maximum estimated daily water requirements per lot equals 150 x 0.7 x 2.5 equals 262 gallons equals 0.18 gallons per minute. Maximum estimated hourly water requirements per lot equals 200% of the daily requirements or 2 x 0.18 or 0.36 gallons per minute.

The existing wells and the number of lots they supply are as follows:

Well #1: 95 GPM will supply 95/0.36 equals 264 lots

Well #2: 200 GPM will supply 200/0.36 equals 568 lots

Well #3: 100 GPM will supply 100/0.36 equals 280 lots

For a total of: 1102 lots

These existing three wells are operated with a single system with hydropneumatic storage. These three wells and the hydropneumatic system serve Divisions 1, 2 and 4 of Lake Limerick Estates. The final step in the development of the water system will be a new well of 150 to 200 gallons per minute capacity, a 10,000 gallon ground storage tank, and a constant pressure system which will be located in Division 3.

Because this system in Division 3 will operate on a different principle than the pheumatic systems in Divisions 1, 2 and 4, Division 3 will be separated from the remainder of the system by check valves which will allow flow from Division 3, at which point the 10,000 gallon storage is located, into the other part of the system. At the location of these two check valves, there will also be a gate valve which will serve to connect the entire system at such times as this is necessary. Division 3 system will be a constant pressure system operated by a series 2 Pacific Pump Company constant pressure apparatus, which consists of three pumps, manifolding and controls.

This ground storage of 10,000 gallons will be pump storage. However, it will provide gravity pressure to the Lakefront lots and possibly some lots just above the lake level. Auxiliary power is not contemplated in this system. The reason being the nature of the power supply available to Lake Limerick Estates and also the fact that during the winter months, at which time power failure is most likely to occur, the residency at Lake Limerick Estates would be at a minimum. Existing storage would probably be adequate for short periods of power outage.

As outlined on the several maps which I brought to your office Monday, there are several other well sites designated for future development. This will be done as demand increases and further expense is warranted. This will be done under the auspices of the Lake Limarick Country Club Estates which is a community group empowered to assess costs against the property owners.

As we received your verbal approval for this design priteria Monday, we are proceeding with the development of the system. If there are further questions, please contact me.

Very truly yours,

SLEAVIN-KORS

Carl F. Reichhardt, P. El

CFR:pjb:jc

304 Public Health Building
Olympia, Washington 98501
December 28, 1967

Carl F. Reichhardt, P.E.
Sleavin-Kors, Professional Engineers
901 Tacoma Avenue South
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply

Dear Mr. Reichhardt:

Thank you for summarizing for us the present status of this water supply and also for pointing out that Division #2 had, in fact, been approved by this Department contrary to our previous letter.

It seems obvious that the three wells presently developed will not be adequate to serve the ultimate water demand from Divisions 1, 2 and 3. We would, therefore, be interested in your clarification of future improvements as follows:

1. What is the ultimate peak demand for the entire system including Division #4?

2. How will this demand be satisfied?

3. Are there plans for gravity or pumped storage? Auxillary power?

Since Division #3 represents such a substantial portion of the entire development, we would like to resolve these questions now. We would particularly like to know what additional supply and/or storage facilities will be required to satisfy the ultimate demand from Divisions 3 and 4, when these will be provided and by whom. We assume that the developer would plan to provide a system capable of satisfying the ultimate demand even though this demand may not occur for some years hence.

We would appreciate any information or comments you can provide on these points.

Sincerely,

James C. Plunkett, Head
Sanitary Engineering Section

JCP:bg
cc: Thurston-Mason Health District

Report of Examination on Ground Water

eived date April 19, 1966 Date of exam. July 6, 1966 Appli. No. 8049

Osberg Construction Company

r Lake Limerick Corporation and/ Address 5125-25th Avenue NE, Seattle, Wash.

of works a well Dimensions 10" x 116'

Progress of works Started - well drilled and capped

ntity

applied for 125 g.p.m. acre-feet per year

03, Proposed Plat of Lake Limerick Division No. 1,

al sub. NE¼NE¼ Sec. 27 Twp. 21 N. R. 3 W. County Mason

community domestic supply

Irrigation-acreage: Present Planned Feasible

Municipal: Population 700 as of 1970

Industrial

Time pump will be operated continuously

r water rights appurtenant to the land Surface Water Application No. 19276

mity to existing works, springs, wells, or strear None

Sub-area Zone

RECOMMENDATIONS

ved for 125 g.p.m. 117 acre-feet per year, subject to existing

ater rights. (1 acre-foot 325,850 gallons.)

installation of an access port to well as described in attached Ground Water Bulletin
1 is recommended.

licant is advised that notice of proof of appropriation of water under which the final
ificate of water right issues, should not be filed until the permenent withdrawal
lities have been installed together with a distribution system of main line piping
ble of furnishing water for domestic supply to all lots which are intended to be supplied
r this application.

of the waters to be appropriated under this application will be for a public water
y. State Board of Health rules require every owner of a public water supply to
n written approval from the State Director of Health prior to any new construction
terations of a public water supply. The applicant is advised to contact the
ington State Department of Health, Fourth Floor, Public Health Building, Olympia, with
d to the need for compliance.

ided under R.C.W. 43.21.130, 90.03.360 and 90.44.020, a master meter, individual
meters or other suitable measuring devices shall be installed in this system to
re the total amount of the withdrawal. Records of total monthly withdrawal shall be
ained by an official, responsible for the management and operation of this water
m, and after certificate of water right issues, this information shall be reported
year to the Supervisor of the Division of Water Resources. A standard form for re-
ng such information shall be sent annually to the

SPECIFICATIONS

FOR

LAKE LIMERICK DIVISION 2 WATER SUPPLY SYSTEM

Well No. 2 and Well No. 3

SPECIFICATIONS

FOR

LAKE LIMERICK DIVISION 2 WATER SUPPLY SYSTEM

Well No. 2 and Well No. 3

SCOPE:

Work covered under these specifications and drawings shall include the construction of two pump houses with pumps, pressure tank, and all appurtenances required for a complete workable installation.

PUMP HOUSES:

Both pump houses for Well No. 2 and Well No. 3 shall be concrete block buildings with one-half inch plywood sheathing, and four ply flat built-up roofing, and shall be constructed over the well. One 3-foot by 6-foot 8-inch exterior solid panel fir door, with lock set, shall be installed. In addition, a 3-foot by 3-foot waterproof hatch shall be constructed in the roof and centered over the well. All wood surfaces shall be primed and given two coats of paint. The owner will furnish all material and construct the pump houses for both Well No. 2 and Well No. 3.

PUMPS:

WELL NO. 2:

The pump shall be Floway, Size 6 JKL, 3500 RPM Vertical Turbine Pump, or equal. The pump shall have a four stage bowl assembly, with a 5-inch by 1-1/8-inch water lube column and shaft assembly, 5-inch cone, galvanized suction strainer and a 4-inch by 12 GS cast iron discharge head. It shall be capable of pumping 200 gpm against a 225-foot total head. The static water

evel on June 17, 1967 was 11 feet below land surface. The depth of the 10-inch well is 121 feet with the lower 18-feet screened. The well has been tested to yield 200 gpm with 84-feet of draw down from the static water level after four hours of pumping.

WELL NO. 3:

The pump shall be a Floway Size 6 - LKM, 3500 rpm Vertical Turbine Pump or equal. The pump shall have a four stage bowl assembly with a 4-inch by 1-inch water lube column and shaft assembly, 4-inch cone, galvanized suction strainer and a 4-inch by 12 GS cast iron discharge head. It shall be capable of pumping 90 gpm against a 205-foot total head.

The static water level on June 17, 1967 was 56 feet below land surface. The depth of the 10-inch well is 145 feet with the lower 17-feet screened. The well has been tested to yield 90 gpm with 75 feet draw down from the static water level after 4 hours of pumping.

MOTORS:

WELL NO. 2:

The motor for the Floway 6-LKM pump shall be a 15 horsepower, 3 phase, 220 volt, 3500 rpm, drip-proof motor with non-reverse clutch.

WELL NO. 3:

The motor for the Floway 6-JKL pump shall be a 7-1/2 horsepower, 3 phase, 220 volt, 3500 rpm, drip-proof motor with non-reverse clutch.

AUTOMATIC TIME CONTROLS:

Furnish and install an integrated control system which shall be the

product of one manufacturer who has had at least five years experience furnishing similar equipment. It shall be completely tested and inspected prior to shipment. Complete hydraulic, electric and dimensional drawings and functional description shall be furnished. All control equipment shall be guaranteed against defects of material and workmanship for a period of one year from date of shipment.

One control panel shall be located in the pump house on Well No. 3 and shall be housed in a NEMA 1 enclosure, wall mounted, of 14 gauge steel, primed and finished with DuPont ASA-49 enamel.

The control shall have combination pressure-level sensors which shall automatically control both pumps and the air cushion to accurately maintain the correct air-water ratio in the hydropneumatic tank. An adjustable pressure sensor shall start Pump No. 3 on a falling pressure of 36 psi. The pump will run until the high water level 31 inches down from top of the tank is reached. Air cushion will be rebalanced after each pumping cycle to a pressure of 44 psi by starting an air compressor to add the required air. Pressure connection shall be made in the top of the tank. Pressure sensors will be individually adjustable bellows type operating hermetically sealed mercury switches. A probe level sensor shall be mounted in the top of the tank. Probe housing shall be bronze with 2" NPT and probe rod shall be stainless steel and shall extend down to the high water level. Probe rod shall not be located over the incoming water line. The control shall also include a low level cutoff for protection of the No. 3 well pump; it shall cut the pump out at 131 feet and restore at 121

feet. Furnish 275 feet of extension wire and probe tips for installation in the well by the contractor. A 4-1/2" flush mounted gauge 0-100 psi with shut-off valve shall be mounted in the panel. To auto pre-lube the pump bearing, a 1/2" line from the water main through a 1/2" solenoid valve into an adjustable time delay relay shall be provided.

The control panel shall include a size 1 combination magnetic across-the-line starter, circuit breaker, 3 overload relays and hand-off-automatic selector switch for the compressor. Also included shall be a 15 amp control circuit breaker.

A, B & G 5YCU 43-1, or equal, air compressor with 2.86 cfm capacity shall be provided for separate mounting. The compressor shall be connected to the top of the tank with 1/2" copper tubing by the contractor. The air compressor shall be belt driven with a belt guard by a 1.5 HP, 110 volt, single phase motor.

The control panel to be installed at Well No. 2 shall be housed in a NEMA 1 enclosure similar to the one at Well No. 3, and shall include a size 2 combination magnetic across-the-line starter, circuit breaker, 3 overload relays and a hand-off-automatic selector switch for the well pump, a 15 amp control circuit breaker. A Probetrol for low level protection of pump No. 2 shall also be provided. It shall cut out at 103 feet and restore at 93 feet. Furnish 200 feet of extension wire and two probe tips for installation in the well by the contractor.

The control for pump No. 3 shall include two separately adjustable

pressure sensors for start and stop of the well pump. The panel shall also include two separately adjustable time delays range 30 seconds to 9-1/2 minutes to minimize cycling effect. A 4-1/2" flush mounted gauge 0-100 psi with shut-off, drain and bleed valves shall be mounted in the panel. Control shall be Autocon Directrol Class 1100 or equal.

PRESSURE TANK:

The pressure tank shall be 2000 gallon capacity, 4 feet 6 inches outside diameter, 17 feet- 8 inches long. The tank shall have a 5/16 inch shell with 3/8 inch heads, and shall comply with A.S.M.E. Code. The pressure tank shall be provided with a pressure gauge, drain pipe, supports and the necessary pipe. The tank supports shall consist of concrete cradles, lined with felt, set on concrete pads. The tank supports shall be furnished complete ready for the tank installation by the Owner.

The tanks shall be drilled and tapped where required for proper installation of controls and piping. Interior shall be primed and painted with a 2-coat phenolic enamel, and the outside shall be primed and painted with two coats of alkyd enamel.

PIPING:

WELL NO. 2:

The piping at Well #2 shall be 4-inch steel pipe in the pump house and into the first valve beyond the pressure tank. A 4-inch apco silent check valve and a 4-inch gate valve shall be installed at the location shown in the plans. A 1/2-inch Apco 141 air and vacuum valve with throttling device shall be mounted on the pump discharge head.

WELL NO. 3:

The piping at well #3 shall be 4 inch steel pipe in the pump house and to a distance 10 feet from pump house exterior wall, or pump cradles. A 4 inch Apco Silent check valve and a 4 inch gate valve shall be installed at the location shown in the plans. A 1/2 inch No. 14[illegible] Apco Airand vacuum valve with throttling device shall be located at the pump discharge head.

SPECIAL CONSTRUCTION INSTRUCTIONS:

The control panel, tank and compressor for Well No. 3 as described above shall be mounted initially in Pump House No. 2 as a temporary installation.

At a later date the contractor will remove control Panel No. 3 from Pump House No. 2 and install it in Pump House No. 3. At this time he will install control Panel No. 2 in Pump House No. 2. It will be the contractor's responsibility to switch circuit breakers and motor starters as required to make the temporary and permanent installation of the control panels, and to move the tank, compressor and other items back to Well No. 3 [illegible] as instructed by the owner.

PROPOSAL

PHASE I

Lump sum price for materials and installation of pumping equipment at Well No. 2 including temporary installation of tank and controls at Well No. 2. $_____.

PHASE II

Lump sum price for materials and installation of pumping equipment for Well No. 3 including moving tank, compressor, and temporary controls from Well No. 2 to Well No. 3, and replacing controls with specified type at Well No. 2 $_____.

Maximum date of completion _____, 1967

Signed _____

_____

SPECIFICATIONS

FOR

LAKE LIMERICK WATER SUPPLY SYSTEM

SCOPE:

Work covered under these specifications and drawings shall include the construction of a pump house with pump and pressure tank, and all appurtenances required for a complete, workable installation.

PUMP HOUSE:

A concrete block or wood frame building, with one-half inch plywood sheathing, wood siding and four ply flat built-up roofing shall be constructed over the well, so that the door faces the County Road. One 3-foot by 6-foot 8-inch exterior solid panel fir door, with lock set, shall be installed. In addition, a 4-foot by 4-foot waterproof hatch shall be constructed in the roof and centered over the well One metal grill shall be placed in the lower part of the door and one near the ceiling opposite the door Each grill shall have a minimum area of 192 square inches (12-inches by 16-inches). All wood surfaces shall be primed and given two coats of Ivy Green paint

PUMP:

The pump shall be a Byron Jackson 5.5 Inch G, with a three stage BR-2 FTD bowl assembly, or equal, with 90-foot of 4-inch by 1-inch water lube column and shaft assembly, 4-inch cone, galvanized suction strainer and a 4-inch by 12 GS cast iron discharge head. It shall be capable of pumping 100 gpm against a maximum pressure in the pressure tank of 45 psi The static water level on March 25, 1966 was 51-feet. The point of maximum draw down is 89-feet and the depth of the well is 114-feet. The well has been tested to yield 95 gpm with 40-feet of draw down after six hours of pumping

Specifications for
Lake Limerick Water Supply System

MOTOR AND CONTROLS:

The following items shall be installed in the pump house as shown on the plans to provide a complete, workable installation

1. One 7½-horsepower, 3-phase, 440-volt, 3600 rpm, drip-proof motor with non-reverse clutch.

2 One pumping plant panel, Allen Bradley X1232BRB24, or equal, 3-phase, 440-volt, with starter, disconnect switch, HOA switch, three pole overload protection.

3. One Warrick Low Level Cut-Off Control, or equal, drip-proof with two Type W electrodes and 180-feet of No 14 wire.

4 One B & G SIOT 43-1, or equal, air compressor with 10 gallon storage tank, 2.86 cfm capacity, one-third horsepower, single phase with one-quarter inch air line and 110 volt solenoid valve.

5. One Healy Ruff FW-59 or equal, pneumatic tank controller

The pump control shall be set to start the pump at a low pressure of 20 psi and stop the pump at high water level, and shall start the air compressor at high water level, if required. To auto pre-lubricate the pump bearing, a one-half inch line from the pressure tank through a one-half inch solenoid valve into an adjustable time delay relay shall be provided

All electrical work shall comply with the National Electric Code.

PRESSURE TANK:

The 2000 gallon pressure tank shall be provided with a one-half inch air vent and relief valve, pressure gauge, drain pipe, supports and the necessary pipe. The air vent and relief valve shall be Crane No. 984 and 2651, respectively, or equal, and shall be set at 50 psi. The pressure switch shall be adjustable and shall be set to turn the pump on when the

pressure in the tank reaches 20 psi and to turn the pump off when the pressure reaches 45 psi The tank support shall consist of timber or concrete cradles, lined with felt, set on concrete pads

The tanks shall be drilled and tapped where required for proper installation of controls and piping

PIPES:

The piping in the pump house and into the first valve beyond the pressure tank shall be 6-inch, cast iron.

Prepared by:

SLEAVIN - KORS
Professional Engineers
901 Tacoma Avenue So.
Tacoma 2, Washington
Telephone: FUlton 3-4[illegible]

206 lts × 400 : 80,000 gpd = 65 gpm

304 Public Health Building
Olympia, Washington 98501
November 2, 1967

Mr. Carl F. Reichhardt, P.E.
Sleavin-Kors Professional Engrs.
201 Hess Building
901 Tacoma Avenue So.
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply
Division No. 3

Dear Mr. Reichhardt:

Thank you for submitting plans for this proposed water supply project. In view of the two divisions submitted previously and the fact that Division #2 has not yet been approved, it would be appreciated if you would furnish us with an up-to-date summary of the status of this system covering the number of lots developed in each of the divisions, the amount of water developed to date, and the chemical quality of each well. We will also want specifications on the pump installations in well #3. This information does not appear to have been submitted previously. We are still interested in your plans for connecting these three divisions, either through automatic or manual valves.

We shall be pleased to review this additional information when it is available.

Yours very truly,

James C. Plantre, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

SLEAVIN-KORS
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA, WASH. 98402
FU 3-4491

October 30, 1967
Job No. 1061-C

Mr. James C. Pluntze
Washington State Department of Health
304 Public Health Building
Olympia, Washington 98501

Dear Mr. Pluntze:

Enclosed is a map of the water system at Lake Limerick showing the proposed water line layout for Division #3. At this time the owners plan to extend the waterlines in Division #3 and provide water from wells #1, 2, and 3 which are existing and are adequate to meet the present demands of Divisions number 1, 2 and 3. Please note that several well sites have been reserved for future water requirements. These areas are shown on the recorded plat and are to be kept free from pollution within a 100 foot radius of the proposed well.

Please contact us regarding any questions you may have.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

Carl F. Reichhardt, P. E.

CFR:jc

Enclosure

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam. August 29, 1967 Appli. No. 8834

Name Lake Limerick Country Club, Inc. Address 5125 25th N.E., Seattle, Washington

Type of works a well (33) Dimensions 10" x 148'

Progress of works Started (well drilled and in use for building needs)

Quantity applied for 100 g.p.m. 41 acre-feet per year

Legal sub. / Sec. 27 Twp. 21 N. Rge. 3 W. County Mason

Lot 5, Plat of Lake Limerick Division Number 2, SW¼SW¼

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community
Municipal: Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8833

Proximity to existing works, springs, wells, or streams None

Area Sub-area Zone

RECOMMENDATIONS

Approved for 100 g.p.m. 84 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 670 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 84 acre-feet.

It is noted that this filing and Ground Water Application 8833 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to submit information to this office as part of his proof of appropriation as to the size and type of equipment installed and the rate at which water is withdrawn in gallons per minute.

(over)

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam August 29, 1967 Appli. No 8833

Name Lake Limerick Country Club, Inc. Address 5125 25th N.E., Seattle, Washington

Type of works a well (#2) Dimensions 10" x 121'

Progress of works Started (well drilled)

Quantity applied for 200 g.p.m. 82 acre-feet per year

Legal sub Lot 1, Plat of Lake Limerick Division Number 2, SE¼NW¼ Sec. 27 Twp. 21 N. Rge. 3 W. County Mason

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community Municipal: Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8834

Proximity to existing works, springs, wells, or streams Lake Limerick, 350 feet east

Area Sub-area Zone

RECOMMENDATIONS

Approved for 200 g.p.m. 166 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 1330 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 166 acre-feet.

It is noted that this filing and Ground Water Application 8834 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to furnish information to this office as part of his proof of appropriation as to the size

(over)

304 Public Health Building
Olympia, Washington 98501
September 18, 1967

Mr. George J. Capestany
Sanitary Engineer
Sleavin-Kors Professional Engrs.
201 Moss Building
Tacoma, Washington 98402

Dear George:

In view of the discrepancy, I suggest another sample be taken for complete analysis. You may send it to the lab of your choice. We will be awaiting the results. The sample should, of course, be taken after sufficient flushing of the well.

Yours very truly,

James C. Plunkett, Head
Sanitary Engineering Section

JCP:bg

304 Public Health Building
Olympia, Washington 98501
August 4, 1967

Mr. Carl F. Reichhardt, P.E.
Sleavin-Kors, Professional Engineers
201 Hess Building
901 Tacoma Avenue South
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply
Division No. 2

Dear Mr. Reichhardt:

Thank you for the additional information on the Lake Limerick Water Supply. We would suggest that an additional sample be taken from Well No. 2 for chemical analysis. If the water quality is indeed high in iron and manganese, as indicated by the first chemical sample, then it will be necessary to plan on some chemical treatment of this well if it is to be used in the system.

We will be glad to review any further information you may develop in this regard.

Very truly yours,

James C. Pluntze, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

THURSTON-MASON DISTRICT HEALTH CENTERS

Shelton, Washington
July 31, 1967

J. V. DESHAYE, M.D., D.P.H.
DISTRICT HEALTH OFFICER

OLYMPIA
Court House Annex
352-4851

SHELTON
Corner 5th and Birch
426-4407

Mr. Jim Pluntze
Sanitary Engineering Section
Washington State Health Department
Public Health Building
Olympia, Washington

Dear Mr. Pluntze:

We have inspected and approved the two well sites for Lake Limerick plat.

Sincerely,

J. V. Deshaye, M.D., D.P.H.
District Health Officer

Gary Plews

Gary Plews, R.S.
District Sanitarian

GP:njo

cc: Carl Reichhardt

SLEAVIN-KORS
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA, WASH. 98402
FU 3-4491

July 31, 1967
Job No. 1061

DEPARTMENT OF HEALTH
304 Public Health Building
Olympia, Washington

Attn: James C. Pluntze

Re: Lake Limerick Water Supply,
Division Number 2

Dear Mr. Pluntze:

Enclosed are logs for wells No. 2 and 3, Lake Limerick, with drawdown information as noted.

We agree that Divisions Number 1 and Number 2 should be connected, and this is shown on the overall plan which we forwarded to you. Division Number 3 on the North side of the Lake has been platted and possibly this fall the owners will install the water lines which will tie divisions 1, 2 and 3 together. When Division 4 is completed, we plan to tie the water lines for it into Divisions 1 and 2, which will complete a loop entirely around the Lake.

Regarding the high iron and manganese content of Well Number 2, we plan to use this well only during periods of peak demand, and use the better quality wells for normal usage. Please note that this well will be operated by a pressure control and time delay, and will be in operation only when adequate water from the other wells cannot be supplied.

Please review this information and advise us of your comments.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

Carl F. Reichhardt, P. E.

# 2	# 3
0.97	—
0.13	0.014

CFR:mp
Enclosures

RECEIVED
AUG 1 1967
STATE DEP'T OF HEALTH
ENGINEERING & SANITATION

#1446

304 Public Health Building
Olympia, Washington 98501
July 28, 1967

Mr. Carl F. Reichhardt, P.E.
Sleavin-Kors, Professional Engineers
201 Hess Building
901 Tacoma Avenue South
Tacoma 2, Washington

Subject: Lake Limerick Water Supply
Division No. 2

Dear Mr. Reichhardt:

Thank you for submitting plans and specifications for Division No. 2 of the Lake Limerick Water Supply. We will need well logs and drawdown data for the two new wells, as well as some additional information on the chemical quality of Well No. 2, which appears to be high in iron and manganese.

It would also seem desirable to us to connect Division 2 with Division 1, possibly through a valve, to improve the reliability of both systems in the event of power or pump failure.

We will be pleased to review this additional information at your convenience.

Yours very truly,

James C. Plumtree, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

SLEAVIN-KORS
Professional Engineers

CES IN
LE AND
IOR[illegible]E

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

July 21, 1967
Job No. 1061-C

Washington State Health Department
Room 409
Public Health Building
Olympia, Washington

Attention: James C. Pluntze

Dear Mr. Pluntze:

We are enclosing herewith copies of the Plans and Specifications for a water system for Division No. 2 of Lake Limerick.

Please note on the overall layout that this system basically conformswith the comprehensive plan for the entire developments su[illegible]itted you previously.

The water lines are to be installed, disinfected and tested in accordance with the standard specifications for Municipal Public Works Construction prepared by the Washington State Chapter of the American Public Works Association, and as shown on the Lake Limerick overall water layout outlined in red.

Well No. 2 and Well No. 3 have been drilled and samples of the water submitted to the State Health Department laboratory in Seattle for analysis. Both wells in this Division are located on the Golf Course which is to be deeded to the Lake Limerick Country Club.

The elevations in this Plat vary between elevation 450 at the Lake and 520 at the high areas. The water sypply system will be set to provide water between 20 and 40 psi at the highest area in the Plat.

Please advise us if you need additional information or have any questions regarding this project.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

CARL F. REICHHARDT, P.E.

CFR/ajk
encl.

SLEAVIN-KORS
Professional Engineers

OFFICES IN
SEATTLE AND
NC[illegible]GE

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

880 acres

June 24, 1966
Job No. 1061

Washington State Health Department
406 Public Health Building
Olympia, Washington 98501

SUBJECT : LAKE LIMERICK WATER SUPPLY, MASON COUNTY

ATTENTION : MR. JAMES C. PLUNTZE

Dear Sir :

Regarding your letter of June 22, 1966, we wish to inform you that a copy of the Well Report and Chemical Analysis was forwarded to your office April 8, 1966. However, we have enclosed an additional copy of each.

We presently have plans to drill more wells at Lak Limerick to provide additional water and are investigating the possibility of gravity storage at Lake Limerick.

The effect of topography on pressure during maximum use periods will be relatively insignificant due to the fact that there is approximately only 25' difference in elevation between the well and the areas served.

If you have any questions, or need additional information, please contact us.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

CARL F. REICHHARDT

CFR:bd

NORTHWEST FILTER CO.

528 HOLDL STREET • PArkway 5-8660
SEATTLE 8, WASHINGTO

WATER ANALYSIS
Industrial and Municipal Form

Original to: Sleavin & Assoc., Att: Carl Reichhardt

COMPANY . Tacoma Pump & Drilling Co.
Box 233
Allyn, Washington

ANALYSIS No : 573
DATE : 3-31-66
INTENDED USE:

SOURCE OF WATER: Well
TEMP. SAMPL WHEN DRAWN:
LOCATION: Limerick

	RAW WATER PPM	TREATED WATER PPM
pH AS REC'D	7.55	
COLOR AS REC'D	0	
TURBIDITY	0	
FREE CARBON DIOXIDE (CO_2)		
TOTAL HARDNESS AS ($CaCo_3$)	32	
CALCIUM (Ca)	11.2	
MAGNESIUM (Mg)	.97	
DE (Cl)	9	
TOTAL IRON (F_e)	.1	
ALUMINUM (Al)		
SILICON DIOXIDE (SiO_2)	28	
DISSOLVED SOLIDS (Approx.)	68	
BICARBONATE (HCO_3)	40	
CARBONATE (CO_3)	0	
ALKALINITY - PHENOL ($CaCO_3$)	0	
ALKALINITY - M.O.	33.4	

CHEMICAL TREATMENT	FLOCCULATION CHARACTERISTICS
ALUM - gpg –	TIME TO FORM –
CAUSTIC - gpg –	COMPLETION –
CHLORINE - ppm –	SETTLING –
OTHER –	

REMARKS – Good water. Small amount of sand drops out rapidly.

406 Public Health Building
Olympia, Washington 98501
June 22, 1966

Sleavin-Kovs
Professional Engineers
201 Hess Bldg.
901 Tacoma Ave. South
Tacoma 2, Washington

Subject: Lake Limrick Water Supply
Mason County

Attention: Mr. Carl F. Reichardt

Gentlemen:

Thank you for submitting plans and specifications of the Lake Limrick water supply.

We question the adequacy of the supply and storage proposed to serve 200 lots. Would you please send us the design criteria used in this instance. It appears to us that good design practice would call for some storage, preferably gravity, to guard against power or pump failure and to satisfy peak demand. Would you please advise us also the effect of topography in the sub-division on pressure during maximum use periods. We would also appreciate a chemical analysis of the supply taken during test pumping or whenever a representative sample may be obtained.

Thank you for your attention to this matter.

Yours very truly,

James C. Pluntze, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

Folder 1260

Thurston-Mason

c:_____ S P C C _____ COUNTY HEALTH DEPT._____ HEALTH DIST.

Sleavin - Kors

Date_____

Sleavin - Kors

Prof. Engrs

Subject: Lake Limerick Water Supply, Division #1, Mason Co.

vised Plans ✓ (and) Specs ✓ Subject Report ____ (other) Jan 18 1966 & June 9, 1966 and Feb 10, 1967

for the above project received in this office

gether with additional information dated Feb 1967 have been reviewed, and,

✓ in accordance with Chapter .54 * * * * * * (water)
Chapter .92 * * * * * * (sewer)

the codified Rules and Regulations of the State Board of Health and the State artment of Health

pursuant to the authority vested in me by the laws of the State of Washington, luding RCW 70.90.020 and RCW 70.90.030 (Chapter 57, Laws of 1957), and Rules Regulations adopted January 17, 1958, are hereby approved.

: PROVIDED, that: _____

Upon nearing the completion of the swimming pool, please fill out the enclosed nal inspection form so that a field inspection can be arranged. Clearance must obtained from this Department before the pool can be put into public use.

(See over)

Very truly yours,

BERNARD BUCOVE, M.D.,
State Director of Health

E

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

April 8, 1966

Job 1061

State of Washington
Department of Health
406 Public Health Building
Olympia, Washington

ATTN: James C. Pluntze

Re: Lake Limerick Water Supply

Dear Mr. Pluntze:

Enclosed are a copy of the Well Report and Chemical Analysis for the well drilled for the Water Supply System for the plat of Lake Limerick. The specifications are being prepared and a copy will be forwarded to you.

If you need any additional information please contact us.

Sincerely yours,

SLEAVIN & ASSOCIATES, INC.

Carl Reichhardt

Carl Reichhardt

CR/eh

Encl:

NORTHWEST FILTER CO.

528 HOLDEN STREET • PArkway 5-8660

SEATTLE 8, WASHINGTON

WATER ANALYSIS

Industrial and Municipal Form

Original to: Sleavin & Assoc., Att: Carl Reichhardt

Y . Pur. & Drilling Co.

Allyn, Washington

LYSIS No 3

E

NDED USE:

SOURCE OF WATER: Well

EMP. SAMPLE WHEN DRAWN:

LOCATION: Limerick

	RAW WATER PPM	TREATED WATER PPM
S REC'D	7.5	
OR AS REC'D	0	
BIDITY	0	
E CARBON DIOXIDE (CO_2)		
AL HARDNESS AS ($CaCo_3$)	32	
CIUM (Ca	11.2	
S. (Mg	.97	
URIDE (Cl)	9	
AL IRON (Fe)	.1	
INUM (Al		
N DIOXIDE (SiO_2)	28	
LVED SOLIDS (Approx.)	68	
RBONATE (HCO_3)	40	
ONATE (CO_3)	0	
LINITY - PHENOL ($CaCO_3$)	0	
LINITY - M.O.	33.4	

CHEMICAL TREATMENT	FLOCCULATION CHARACTERISTICS
- gpg –	TIME TO FORM –
TIC - gpg –	COMPLETION –
RINE - ppm –	SETTLING –
R –	

RKS - water. Drill am[illegible] good quality.

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

January 25, 1966

Job No. 1061

State of Washington
Department of Public Health
406 Public Health Building
Olympia, Washington

Re: Lake Limerick Water Supply
Mason County, Washington

Attn: Mr. James C. Pluntze, District Engineer

Dear Sir:

Regarding your letter of January 19, 1966 requesting design criteria for the Lake Limerick water system, we would like to submit the following information.

1. Difference in elevation between the well site and lower lots equals 65-feet.

2. Maximum and minimum static pressures equal 0 to 29 pounds per square inch.

3. Addition of a 2,000 gallon pressure tank at 40 psi less line losses will give approximately a minimum pressure of 36 psi and a maximum pressure of 62 psi.

If you have any questions or require additional information, please contact us.

Cordially,
SLEAVIN & ASSOCIATES, INC.

J. J. Sleavin

JJS:CR:b-

406 Public Health Building
Olympia, Washington 98501
January 19, 1966

Mr. J. J. Sleavin
Sleavin and Associates, Inc.
201 Hess Building
901 Tacoma Avenue South
Tacoma 2, Washington

Subject: Lake Limerick Water Supply
Mason County

Dear Mr. Sleavin:

We are sending one copy of the preliminary water supply plan to the local health department for their comments on the well site.

We would appreciate having your design criteria some time at or before the submission of final plans for this system.

Very truly yours,

James C. Pluntze, P.E.
District Engineer

JCP:pw

cc: Thurston-Mason Health District w/
1 set of plans

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

January 17, 1966
Job No. 1061

State of Washington
State Department of Health
Olympia, Washington

Attention: Mr. Pluntze

Dear Sir:

We are enclosing two prints for your approval and/or recommendations of the proposed water system for the first stage development at Lake Limerick. This project is located approximately five miles Northeasterly of Shelton in Section 27, Township 21 North, Range 3 West, W.M.

The layout proposes to provide pressures varying between 40 and 68 psi by providing a 2,000 gallon, 40 psi pressure storage tank adjacent to the well. All lines 4 inches and over will be Class 150 asbestos cement. Lines less than 4 inches will be Class 160 P.V.C.

The log of the well will be submitted for approval after the well has been drilled.

Very truly yours,

SLEAVIN & ASSOCIATES, INC.

J. J. Sleavin

JJS:do
Encls.

1260

~~1260~~

Subject: Lake Limerick Water Supply, Mason C.

Dear Mr. Sleavin

We are sending our copy of the preliminary water supply plan to the local health department for their comment on the well site.

We would appreciate having your design criteria some time at or before the submission of final plans for this system.

RECEIVED
JAN 18 1966
STATE DEP'T OF HEALTH
ENGINEERING & SANITATION

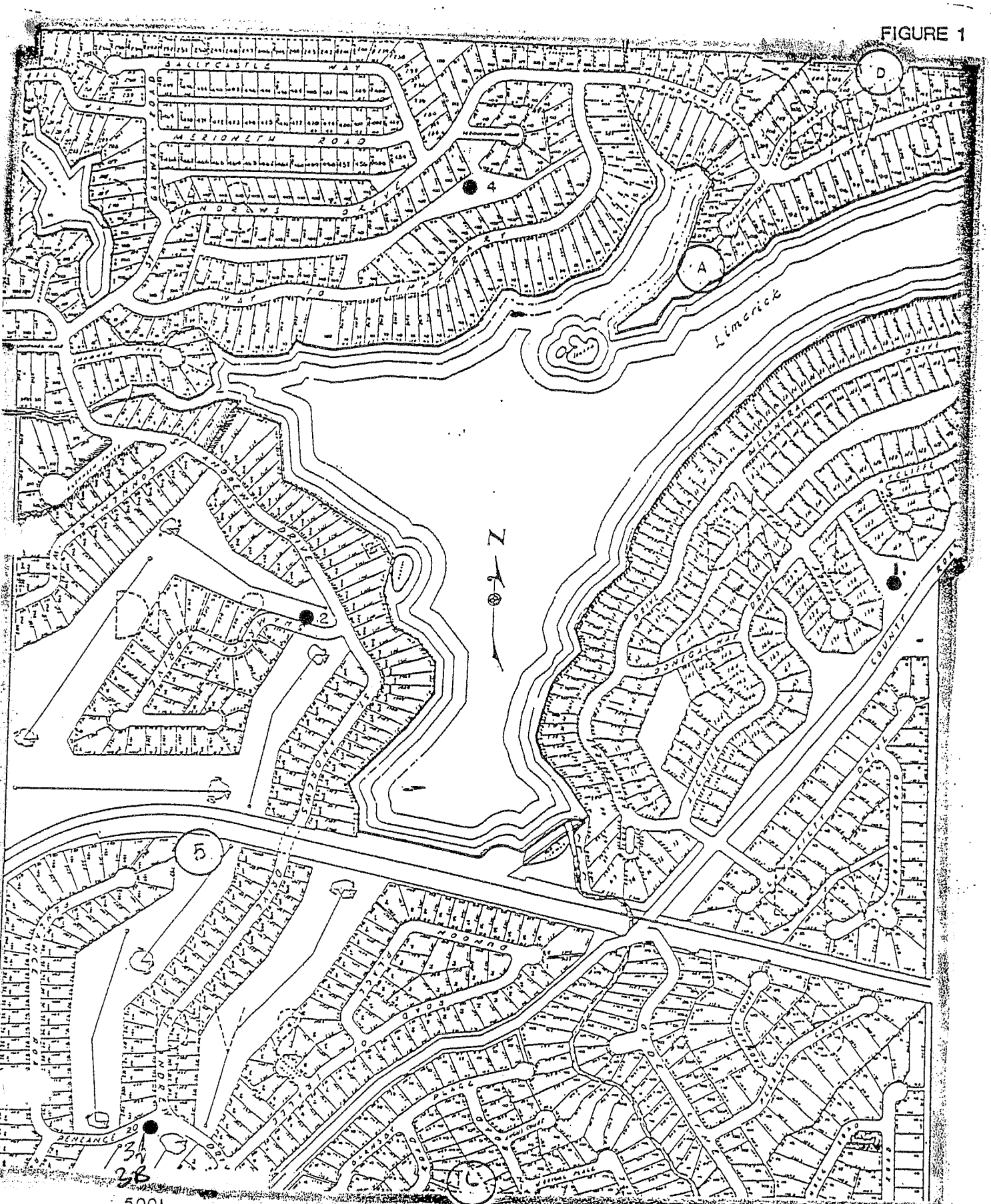
cc LHD w/ 1 cc plan

VICINITY MAP

EXISTING SERVICE AREA

FUTURE SERVICE AREA

FIGURE 1



DESCRIPTION OF EXISTING SERVICE AREA

Existing Service Area: " a specific area within; which direct service or retail connections to customers of a public water system are currently available".

LAKE LIMERICK COUNTRY CLUB, INC.
ARTICLES OF INCORPORATION
PAGE ii
SECTION 6

Legal description of Lake Limerick Country Club, Inc.:
Section 27, T21N, R3W, W.M. and the S 1/2 S 1/2, T21N, R3W, W.M. and SE 1/4 SE 1/4 Section 21, T21N, R3W, W.M. and SW 1/4 SW 1/4 of Section 23, T21N, R3W, (all of the foregoing in Mason County, Washington)

FUTURE SERVICE AREA

No expansion policies for existing service area are planned. Lake Limerick is an established area with no room for growth.

PROJECTED WATER USAGE FOR
LAKE LIMERICK COUNTRY CLUB, INC.

Average day
Gallons per day by Well

Well # 1:	65,092
Well # 2:	36,476
Well # 3A:	32,131
Well # 3B:	102,817
Well # 4:	54,339
Well # 5:	73,059
Well #6	79,200

Peak Day
Gallons per Day by Well

Well # 1:	86,065
Well # 2:	39,573
Well # 3A:	94,300
Well # 3B:	224,933
Well # 4:	87,780
Well # 5:	123,380
Well # 6	158,400

Peak Month (July)
Gallons per Month by Well

Well # 1:	2,581,997
Well # 2:	1,226,800
Well # 3A:	2,923,333
Well # 3B:	6,750,800
Well # 4:	2,721,200
Well # 5:	3,824,800
Well # 6	4,752,000

Annual Production
Gallons per Year by Well

Well # 1:	23,758,971
Well # 2:	13,314,200
Well # 3A:	8,159,462
Well # 3B:	37,528,800
Well # 4:	19,834,000
Well # 5:	25,122,667
Well # 6	28,908,000

REEL 645 FR 007

LAKE LIMERICK COUNTRY CLUB, INC.
E 790 ST. ANDREWS DR.
SHELTON WA 98584

597707

WATER USAGE GUIDELINE
Common To All Divisions

(merick Country Club is obligated to provide an unquestionable supply of water to the ..cy, exclusively. The water system is managed by the Water Board Committee, and intained by the Maintenance Department.

e intent of these Guidelines is to provide a uniform standard for Lake Limerick Country Club ter users. Following these recommended items will reduce consumption and conserve our water.

ter distributed shall be used in the manner set forth in these guidelines.

ecifically:
Water should not be allowed to run in a manner that is wasteful. Letting water run attended for a extended period is considered wasteful. Ponds, waterfalls, fountains should e pumps, recycling the water. Continual supply of fresh water is prohibited. Replenishing aporated water is acceptable.

wns, flower beds, and gardens need short periods of watering, one hour at the most two or ree times a week.

Water is provided at two designated commercial sites. Water provided to these sites may metered and appropriate rate charges can be adopted. The Water Board shall have the thority to make a final determination.

Residences that are left for an extended period of time, such as weekenders, owners ending extended time away, it would be advisable for you to shut off the water when the house not occupied. Water shut off could be at your house valve or at the street entry valve. aining the house piping, and turning off power or gas to the water heater would prevent any mage from failed plumbing, or winter freeze up, when the owners are not present.

No owner shall be allowed to install or have a previously installed irrigation system, rden, lawn, flower beds, with out a back flow protection device, between the irrigation and the Lake Limerick water distribution system. Not having a back flow prevention vice is illegal, (new State Law; "WAC 246-290-490" Drinking Water Regulations). Owners will subject to inspections, and if not in compliance water service may be refused.

Water conservation practices should be used by all owners. Flow reducing shower heads, w flow toilets, etc. Intelligent water usage, in gardens, flower beds and lawns, must be acticed by the community.

se usage of our water here at Lake Limerick must be done. Conserving our supply now will sure adequate water for all.

RECORDED 7.00 FILED
REEL 645 FRAME 007
AUDITOR MASON COUNTY
ALLAN T. BROTCHE

proved by the Water Committee October 5, 1994

Kirk Osborne

rk Osborne, Chairperson

10/19/94
Date

94 OCT 27 AM 9:52

REQUEST OF:
LK. Lim

ATE OF WASHINGTON)
unty of Mason) ss.

ON THIS 18th day of OCTOBER, 1994, personally appeared KIRK OSBORNE personally known by to be the Chairman of LAKE LIMERICK COUNTRY CLUB WATER SYSTEM, INC. the corporation that ecuted the within and foregoing Document and acknowledged the said instrument to be the free d voluntary act and deed of said corporation, for the uses and purposes therein mentioned, d on oath stated that he was authorized to execute said instrument.

WITNESS my hand and official seal the day and year first above written.

Suzanne Sirokman 10/19/94

Suzanne Sirokman
NOTARY PUBLIC in and for the State of Washington, residing at Shelton
My commission expires:06/05/98

CAPITAL IMPROVEMENTS July96

FLAT FEE EXPENSE FORECAST ANALYSIS BY YEAR

OPERATING EXPENSES BY DEPT:	1996	1997	1998	1999	2000	2001	2002	2003
WATER DEPT 95								
CAPITAL BUDGET IMPROVEMENTS								
TRUCK REPLACMENT					$ 1,500.00			
#3A WELL PUMP REPLACE								
METERS		$ 50,000.00	$ 50,000.00	$ 50,000.00				
PIPE DETECTOR	$ 2,000.00							
GENERATOR	$ 20,000.00							
#3B WELL PUMP REPLACE		$ 3,000.00						
LEAK DETECTOR		$ 2,000.00						
PAINT TANK #1		$ 7,000.00						
COMPUTER UPGRADE		$ 5,000.00						
#1 WELL-CLONAKILTY LOOP			$ 8,000.00					
#3A BOOSTER PUMP REPLACE			$ 3,000.00					
#3B BOOSTER PUMP REPLACE			$ 3,000.00					
ACTIVATE WELL #6			$ 100,000.00					
#1 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
#4 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
SLEAFOR-PEEBLES LOOP LINES				$ 12,000.00				
TEXTURE TANK #3				$ 5,000.00				
#2 WELL PUMP REPLACEMENT				$ 3,000.00				
OLDE LYME-PEEBLES LOOP LINES					$ 10,000.00			
#4 WELL PUMP REPLACEMENT						$ 3,000.00		
FENCE WELL #4							$ 3,000.00	
FENCE WELL #6							$ 3,000.00	
TEXTURE TANK #3							$ 5,000.00	
#5 WELL PUMP REPLACEMENT								$ 3,000.00
WELL-COMPUTER RADIO LINK								
WATER TREATMENT								
CONNEMARA WAY-BLEINHEM LOOP LINES								
#1 WELL PUMP REPLACEMTN								
NEW BUILDING								$ 10,000.00
	$ 22,000.00	$ 67,000.00	$ 164,000.00	$ 76,000.00	$ 11,500.00	$ 3,000.00	$ 11,000.00	$ 13,000.00

LAKE LIMERICK WATER COMMITTEE - Kirk Osborne, Chair-person

Your Lake Limerick Water Board and Maintenance Department are committed to providing our community with an unquestionable supply of water, without interruption.

All of us here at Lake Limerick must make a strong commitment to water conservation. The State is also very concerned about this. And, as had been mentioned before, we are becoming more and more encumbered with new laws and regulations. We must protect and conserve our water now, when we are in compliance with the law.

Therefore, we would hope the community will join in and make an effort to practice good conservation.

The enclosed reprint of an article from the Daily Olympian is full of great ideas about water conservation. Also, the enclosed article from the Mason County Neighbors, The Olympian, on July 27, 1994, dealing with watering practices. Please keep these articles, and use some of the suggestions.

A point of information about water usage. Some owner, obviously over watering, was asked why he was using so much. His reply was, "the golf course water is on alot more than his, so we must have plenty to spare." Well this may be something some people are not aware of, that the water you receive at your property comes from our deep wells. The golf course water comes from the lake. There is no connection between these two systems.

A number of items have developed since our July Newsletter. The most significant was record water consumption for the month of July, 14,453,300 gallons in one month. The good news is that it sets a record and indicates we have adequate water available. The bad news is, we simply do not need to use that much water, based on the current size of our community's population. To use that much water, compared to a national average of 111 - 146 gallons per day per person, Lake Limerick Country Club would reflect a population of 3600 full time residences. Lake Limerick's average is 2.3 person per household. Lake Limerick has approximately 1350 residential lots, 665 full time residences, and an estimated 400 weekenders. It is apparent that some users are not practicing good conservation methods.

When we use water at an accelerated rate, to keep up with the demand, pumping goes on almost around the clock. The pumps need some rest, just like you and me. When they run for such a long time, they become over heated and shut down. Fortunately, no damage is done, except the pumps have to be reset, and usually a loss of pressure occurs until they are back on line. That is exactly what happened July 22, 1994, when it was so hot.

The Lake Limerick Water Board is asking full time residences not to water on Friday and Saturday afternoons, during the remainder of the summer. To help minimize water demand, we are asking everyone to alternate their watering days during the week. Odd numbered lots on odd numbered calendar days, even numbered lots on even numbered calendar days.

LAKE LIMERICK WATER COMMITTEE - continued.....

Lake Limerick property owners can help in monitoring non conservative water usages. If you observe a condition where water is being used in a manner not consistent with Water Board Guidelines, there is a form available at the office for you to complete. Your anonymity will be protected. The Water Board will assume the responsibility to investigate and follow up the complaint with a letter, if deemed necessary, or other appropriate action.

Another event worth mentioning is that work on Well and Storage tank #1 is completed and will soon be back on line. This will definitely aid in providing uninterrupted flow.

No matter how well all of our systems function, there may be times when we experience low pressure. Our goal is to make sure no one is without water for any length of time.

Our maintenance people have been actively seeking water leaks in the system for over a year. Many small leaks have been repaired. Your Water Board has planned capital expenses for next year, to purchas state of the art detection devices. This will better aid maintenance in finding more difficult to locate leaks.

What had first looked like another act of vandalism at well site #1, turned out to be an electrical malfunction with the high level sensor in the storage tank. The tank was being filled for sanitary flushing. After the inside work was done, the tank overflowed, but no damage was done. Just a lot of wet ground and some water lost.

Repeated events of vandalism, especially at sites one and four, which both are fairly remote, are forcing your Water Board to allocate capital funds for security fencing and lighting at these sites. So far the acts of vandalism have had a small impact on the water quality.

A great deal of money was spent this year on our Capital Budget. Some planned, some not. We did go over budget on Capital items due to emergencies, and we were obligated to use some reserves. Our operating costs are on budget and anticipated to continue through the year.

Our five year projected budget, at this time, looks to be achievable. Hopefully, your water rates will remain stable for the period. But, if we do not conserve now, we may be facing tough and expensive solutions.

Our recent water survey, sent out in the Spring Newsletter, did show a better response. Twenty three percent of owners still did not respond. This survey, required by state law, documents our system demographics. The survey will be done again early in 1995.

In closing, I must say that this year has had it's share of problems. We are in good shape, reasonably budgeted, and are making improvements each day. Your Maintenance Personnel have done a great job keeping things working. Steve Morely, Ken Douglas and the rest of the maintenance crew need to be commended on their work and dedication to the Lake Limerick Water System.

We, here, receiving these benefits, and paying the bills, must be involved with conservation of our water. As I said before, conservation now will cost less in the long run.

LAKE LIMERICK WATER COMMITTEE - Kirk Osborne, Chair-person

The Lake Limerick Water Board held it's meeting May 4, 1994, welcoming newly elected members Henry Yates and Jerry Soehnlein, incumbent, to the board. Current members are Kirk Osborne, Dan Robinson, Bob Braget and Dave Best. Dave Best has served as Chair-person for 4 years.

New officers were elected, Chair-person Kirk Osborne, Treasurer Jerry Soehnlein and Secretary Bob Braget.

The board members wish to commend Dave Best for his lengthy tenure as our chair-person. His work has kept the water system on a steady course for a long while. Dave will remain a working member for your water board.

Due to the lack of response, we are including another Water Usage Survey form. Please take time to complete this simple task. This is very important! We need this data, to conform with State requirements and to plan our system usage. We have included a pre-addressed envelope, for the survey form to be returned. Again, I must iterate the importance of this; ALL owners need to respond, if you have water valves installed on your property or not. Please check the appropriate box.

The water board has the responsibility of management and control over the water distributed through our extensive system. We have five active wells and three storage tanks with a holding capacity of 360,000 gallons. The board works closely with the maintenance department in the installation, repair, upkeep, cleaning, etc., of our system. Responsibility does not extend beyond our installed valves, at owners property line.

The Lake Limerick Water System and all other such systems in the state are being heavily demanded to comply with many new and more stringent water usage rules. Most newspapers have had numerous articles about water rights, usage, distributing, safety, etc. These changes and existing rules are monitored by your water board and we will make every effort to assure Lake Limerick water is in compliance and water quality is unquestionable. These mandated regulations will cause an increase in our expenditures for testing.

The water system has had a few major expenditures that have pressed the budget this year, but we still are under our expectations. Well # 2 pump failed unexpectedly and Well # 3 pump finally failed, as we anticipated. Well # 1 is being revamped, the piping is being updated to ...d the storage tank first then the distribution system. The storage ...nk was drained, inspected and cleaned. The system should be back on ...ne before peak demand this summer. Our system is aging, things will wear out, but our fee structure should keep us in a positive position.

Much work is still to be done. Hopefully, no major break down will occur and we can continue to improve our system.

LAKE LIMERICK WATER COMMITTEE - continued....

State law requires all water systems to have a full time licensed and credited water master. This individual is responsible for conducting all testing, and compliances with existing and new laws. John Bykonen has turned in his resignation as the Lake Limerick Water Master due to the compelling condition of his present employment and the added responsibility at Lake Limerick due to ever increasing regulation for the State and E.P.A. Our personnel in the maintenance department are presently in training for Water System Certification with the Department of Ecology.

The following, preliminary, and not yet approved, water usage guidelines are being considered for all Lake Limerick owners that receive water from our system.

PROPOSED WATER USAGE GUIDELINE
Common To All Divisions

Usage of water distribution by Lake Limerick Water System shall be used in the manner set forth in this guideline. Specifically:

1. Water will not be allowed to run continuously, or be left unattended for an extensive period of time, ie, more than a two or three hour period.
2. Water shall not be used in a commercial enterprise, such as car wash, laundromat etc. If cases should arise with respect to this type of usage, the water board will have the authority to make the final determination.
3. Residences that are left for an extended period of time, such as weekenders, owners spending extended time away, it would be advisable for you to shut off the water when the house is not occupied. This would prevent any damage from failed plumbing, or winter freeze up, when the owners are not present.
4. No owner shall be allowed to install or have a previously installed irrigation system, for garden, lawn, flower beds, with out a back flow protection device, between the irrigation system and the Lake Limerick water distribution system. Not having a back flow prevention device is illegal, (new state law). Owners will be subject to state inspections.
5. Water conservation practices should be used by all owners; flow reducing shower heads, low flow toilets, etc.

Some time in the past, Lake Limerick Water System installed a number of water meters around the community. These were placed for informational purposes. We cannot find records of where they were placed. If anyone is aware of the location of a water meter, please notify maintenance.

If you experience any problems with your water please call maintenance first at 426-4563. Then if you are not able to reach someone, call Lake Limerick office at 426-3581. If you cannot contact any of the above mentioned then call Kirk Osborne at 426-0325.

LAKE LIMERICK COUNTRY CLUB, INC.
INCIDENT/COMPLAINT FORM

Type of Incident/Complaint: Security Architectural Water Inn
(her (explain):_____

Date of Incident/Complaint: _____

Name:_____

Address: _____ Phone:_____

Name:_____
(person incident/complaint is against)

Address _____ Div/Lot#_____
(architectural, water or security use only)

Nature of Incident/Complaint:_____

commended Solution for this Incident/Complaint: _____

FOR COMMITTEE USE ONLY
***Circle Committee accepting the responsibility:**
Security Architectural Water Inn Other*

Date of Initial Inspection of Incident/Complaint: _____

Outcome: _____

Follow Up Dates: Outcome:

"It's All For Fun"

Lake Limerick COUNTRY CLUB

NEWSLETTER

OFFICE: 426-3581 | E. 790 St. Andrews Drive Shelton, WA 98584 | PRO SHOP: 426-6290

SPRING 1994 | ISSUE 9

* * * * A N N O U N C I N G * * * *

LAKE LIMERICK COUNTRY CLUB, INC.

A N N U A L M E E T I N G

APRIL 23, 1994

See voting details inside of your Newsletter

PRESIDENT'S MESSAGE - Scott Carey

Greetings. As most of you have probably seen, the new pro shop is under construction. If the weather cooperates it should be completed the fourth week of May. My thanks to all those who worked towards seeing this project completed.

It's been a challenging year as president, and I'm glad I had the opportunity to serve. It has certainly given me a different perspective of our unique community and a greater appreciation for all of you who volunteer your time to make Lake Limerick a better place to live.

I'm looking forward to a little free time this spring and summer to spend with my family and to work on my golf game.

I have one year left to serve on the Board, but I won't be seeking the President's Office for a second term.

We have a good slate of candidates for the April Election and I'm confident those elected will represent you to the best of their ability.

Again, my thanks for your support, as your President and have a wonderful spring and summer.

EASURER'S REPORT - Jim Joseph

r fiscal year ended August 31, 1993 with our budgeted income and pense predictions very close considering an annual budget of nearly 00,000.00. We did pay $12,000.00 Federal Income Tax which meant we owed a profit.

r 1993 - 1994 budget of over $800,000.00 (including the special sessment) is on target. As you can see your Board of Trustees has a emendous responsibility in over seeing your investment in Lake nerick. A 52 page financial statement is available at the office. e special assessment will be approximately $12,000.00 over budget for o reasons, the septic system, and the pro shop, due to increases in ilding costs. Many thanks to Long Range Planning, Financial Advisory, eens and the Ad Hoc Committees for all their special efforts in these ojects. Special thanks to President Scott Carey and Max Dean for all eir extra hours on these projects.

has been a privilege and an honor to have served on this board for e past three years, two as secretary and one as treasurer. I have en many of our members and trustees contribute their time, energy and inions to help make Lake Limerick Country Club what it is now and for e future.

shes to all and good luck to the new board members.

ank you for your help and prayers for Betty, she is still on the road recovery.

TER COMMITTEE - Dave Best, Chair-person

per the State of Washington drinking water regulations, our water stem routinely monitors each water source for volatile organic emicals (VOC's) to analyze for foreign chemicals. Samples were llected from each well in November 1993, all samples tested were thin state guidelines. These water test results are available to any mber by calling the office at 426-3581.

e Maintenance Department has been working hard over this winter to epare the distribution system and wells for high usage this summer. u can help also by using discretion in your individual water nsumption and practices. Water timers are inexpensive and available r your sprinklers to turn your water off at night or if you're away.

Remember a gallon wasted is a gallon lost.

If you cannot be a

Absentee ballots ar
5:00 p.m. on April
on April 23, 1994.

In person voter reg
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BASIC REGISTRATION
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NOMINATING COMMIT

Lake Limerick boa
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Jerry Party

LAKE LIMERICK WATER COMMITTEE - Kirk Osborne, Chair-person

Did you know that, an average residential water user flushes 75% of our water down the toilet, and 10% of what you pay for is actually used to drink?

Conservation and methods to save water will be a dominant item here at Lake Limerick.

We are fortunate to have good water and an apparent good supply in our wells. The down side is that if we do not educate ourselves in efficient usage of our resource we could jeopardize what we now enjoy. There are so many things each of us can do, many guides, tip booklets and media articles are available to everyone. A small individual effort becomes a major savings when we all do the same. We will be talking more about conservation, especially when we approach the dry season next year.

A significant item to report is that two of our Maintenance Employees, Steve Morely and Ken Douglas, are now certified Water Distribution Managers - 1, (WDM-1). This certification promotes efficient operation and reduced hazards to public health incidents in furnishing water to Lake Limerick residences. With these people certified, it provides our water system with qualified operators and continues to position our water system in compliance with State Requirements. This effort, of continuing education and certification, will be an on going program for our personnel in the water department.

We have budgeted capital expense for the coming year, which includes the addition of two booster pumps in the distribution system. These pumps will provide redundant pressure capacity and the ability to cycle the pressure pumps.

Your water board has made an effort not to increase the price of water. But, in light of increased costs, due to upgrading of our system, education of our employees, and other replacement costs, we probably will ask for a rate increase in 1996. That would be a year earlier than our long range plan had predicted. Keeping in mind the rates you now pay, and any modest increase this still will remain well below other communities with systems like ours.

Your water department personnel are on call 24 hours a day. They and your water board members will be responsive to customer water problems. Our responsibility to you technically ends at the water distribution valve. The line(s) and plumbing on your property are the owners responsibility. We are available to suggest solutions, but cannot do repairs on your property, or pay for such repairs.

Please note that the Water Board Meetings are now being held on the FIRST MONDAY OF EACH MONTH.
Hope you all have a good winter and holiday season.

Lake Limerick COUNTRY CLUB

NEWSLETTER

OFFICE: 426-3581

E. 790 St. Andrews Drive
Shelton, WA 98584

PRO SHOP: 426-6290

DECEMBER 1994

PRESIDENT'S LETTER - Betty Malloy-Braget

Dear Fellow Members:

On October 29, 1994 Lake Limerick Country Club had their Semi-Annual Meeting. Our membership was updated on the major projects and happenings here at Lake Limerick. Guest speakers were Richard Burleigh of Washington State University on clean water and John Sheridan of Royal Guard Security.

Our new Board Members were introduced; they are Clyde Combes, Martha Fairbanks, and Randy Hominda.

Our ongoing projects are almost too numerous to mention, they all deserve your attention. The primary projects are the emergency dam valve repair and tube repair and updating. Unfortunately the cost is sky rocketing despite our efforts to keep costs down. Necessary design changes as well as the decision for Lake Limerick Country Club not to be our own general contractor have added to the cost.

Our Aquatic Weed Control Grant from Washington State is requiring a great deal of study to determine our direction and acceptance of the terms offered by Mason County and Washington State.

Our Inn interior will soon enjoy a new coat of paint, our community will enjoy completely new docks and play equipment before next summer. Also, we have hired a Greenskeeper which will add to the condition and beauty of our golf course.

On all of the above projects, and many more we have had numerous volunteers. The Board of Trustees have contributed their endless time and effort.

On a lighter note our Halloween Dinner and Dance was a tremendous success as was the Children's Halloween Party.

We now have the holidays to plan and look forward to. Our Tom and Jerry Party will be held on December 17, 1994, also on December 17th we will have our Annual Children's Christmas Party. We will be open Christmas Eve and of course on December 31, 1994 we can all enjoy our Annual New Year's Eve Dance and Midnight Breakfast.

Happy Holidays and God Bless.

LAKE LIM[illegible]K WATER COMMITTEE - Kirk Osborne, Chair-person

During this winter the Maintenance Department and your Water Committee have worked diligently to prepare your water system for this summer. Well and storage capacities have been improved and are capable of supplying water for our predicted seasonal consumption. But, as in previous years there continues to be a concern of excess water usage. Last summer our system had usage peaks of three to four times the national average here at Lake Limerick. It will only be with your effort and help that this excess can be reduced.

With only one exception, Lake Limerick has the least user fees of 11 surveyed comparable communities and municipalities systems in the area (Olympia, Seattle, Shelton, Timberlakes, Hartstene Point, Lake Land Village, Alderbrook, Oak Park, Rainbow Lake and Fawn Lake). In addition, your system continues to be exemplified as a model system by the State. With your help, it will continue to meet this standard and your needs.

MAGPIES - Marilyn Feist, President

The Magpies will have their Annual Bake Sale @ 10:00 a.m. on April 22, 1995 before the Annual Meeting. Stop by as you register to vote and buy some cookies, pies or cakes.

On May 2, 1995 we will have our Annual Spring Card Shark Party. Tickets will be available after April 1, 1995 from any Magpie Member or Chairperson Sheila Theil. Come join us for a fun time of pinochle, bridge or cribbage and lunch.

Hope to see you all at the Annual Meeting.

FROM THE PRO SHOP - Terry O'Hara, Manager

Well spring was here but left again and winter returned. But Spring is for sure just around the corner. Time to think about your golf swing!

Schedule a spring tune up lesson. Full swing, putting, chipping, course management. Lessons include time on the course under actual playing conditions.

How are your grips? Worn and slippery? Now is the time to get them redone.

Check our prices on balls and equipment. We are competitive with any shop, Pro Golf etc..

If you haven't been in for breakfast or lunch in awhile, stop by. Check out our new menu items, as well as our delicious homemade soups.

LAKE LIMEI[illegible]K COUNTR
SCHEDULE OF SPECIAL C

March 17, 1995	St. Patrick's D Music with Jeff
April 15, 1995	Children's East 10:00 a.m. at t Children ages 2
April 16, 1995	HAPPY EASTER !
April 21, 1995	Absentee Ballot 5:00 p.m. ALL ABSENTEE BA 2:00 p.m. April
April 21, 1995	Candidates Nigh A buffet will b starting at 5:3 Candidates will
April 22, 1995	Meet the Candid 12:30 p.m. to 1
April 22, 1995	Magpies Annual
April 22, 1995	Annual Meeting. In person Votin to 2:00 p.m. Voting Registrat 2:00 p.m. You m Meeting will be @ 2:00 p.m.
April 23, 1995	Opening Day Fis Raffle Tickets f 6 for $5.00. Prizes will be a 12:00 noon.
May 2, 1995	Magpies Annual S Party. Tickets availabl Magpie Member.
May 26, 1995	Summer Kick Off

Lake Limerick COUNTRY CLUB

NEWSLETTER

OFFICE: 426-3581

E. 790 St. Andrews Drive
Shelton, WA 98584

PRO SHOP: 426-6290

JUNE 1995

PRESIDENT'S LETTER - Dan Robinson

As we begin a new administrative year in our community club, your Board of Trustees has a revised slate of officers as well as two new Board Members. As always, there are plenty of challenges (and opportunities) facing the community.

Priority efforts for the new administration include reviewing and updating the guidelines for our many volunteer committees, and reestablishing the network of committee chairpeople required to make those committees the vigorous part of this community they need to be. We are reevaluating the charter for certain committees as a means of improving their focus. We will be reestablishing the Long Range Planning Committee to consider major impacts on the Community of various potential future events or decisions. We're expanding the charter of the Community Service Committee to include an ongoing effort to assess all club activities from the standpoint of assuring appropriate membership communications.

An effort begun during the previous administration to review and update the Club's personnel policy is now nearing completion. This policy governs all aspects of the continued employment of our staff of 11 full time and 8 part time employees.

Another of the priority activities is addressing the financial status of the Club following the expenditures required last year to repair the Lake Limerick Dam. These repairs, required by the State of Washington, cost the Club approximately $135,000.00. These funds came from a combination of a $95,000.00 loan from Key Bank, and $40,000.00 from our operating reserves. The loan has yet to be repaid, and the operating reserves remain severely depleted by this expenditure. The proposal to replace these funds through an increase in the membership dues was defeated in the April election, leaving this new administration with the task of developing a funding approach acceptable to the Club membership. The present plan calls for a "Town Meeting" announced elsewhere in this newsletter for June 24, 1995 to develop such a funding approach for presentation to the membership by late July. As our By-Laws require the Board to properly maintain our facilities and infrastructure, we cannot neglect other requirements in order to fund the Dam repairs. We will need your help and support to accomplish this. You will be getting additional information as it is available.

LAKE LIMERICK WATER COMMITTEE - Kirk Osborne, Chair-person

WATER CONSERVATION. The issue will always be with us here at Lake Limerick. Water conservation can only be successful if all users practice the methods, and suggested guidelines. Your Water Committee, the Water Maintenance personnel can only make suggestions and repairs to our system. You personally must make the effort to impact water usage.

Your Water Committee will again ask all users to water lawns, gardens, and flowers on a even-odd day rotational basis, beginning June 1, 1995 and continuing through September 30, 1995. If your lot number is even, water on even days, your lot number is odd, water on odd days. Late evening and early morning, for an hour at a time is ample.

We do have a system available, in the office, for anyone who feels they observe misuse of our water. File a complaint in the office and it will be looked into by the Water Committee.

Our Water Conservation bulletin board will be displayed in the Inn Foyer. This board will be updated with useful information and literature. Please take time to look at it and take the handout material available.

Our system is working very well. We have done many things to improve deliver, and assure quality. The system is now producing water from all sources, at a balanced rate. This can be credited to Water Maintenance Personnel, who continue to "fine tune" the system.

Your Water Committee and Water Maintenance Personnel hope you all have a beautiful summer and enjoy the fine water resource you own.

MASON COUNTY
ANIMAL CONTROL ADVISORY
BOARD MEETING

LAKE LIMERICK MAIN HALL

JUNE 12, 1995
7:00 P.M.

PUBLIC WELCOME

Lake Limerick COUNTRY CLUB

NEWSLETTER

OFFICE: 426-3581

E. 790 St. Andrews Drive
Shelton, WA 98584

PRO SHOP: 426-6290

SEPTEMBER 1995

SEMI-ANNUAL MEETING
OCTOBER 28, 1995
2:00 P.M.

PRESIDENT'S LETTER - Dan Robinson

The first full quarter of our administration has been marked by a number of gratifying events. Principal among these is a significant increase in the patronage, and the customer satisfaction, of the Restaurant at the Inn. This is due in large part to the expertise and untiring efforts of our new chef, Susan Reid. The Lounge, whose activities are capably directed by Dale Darling, has opened additional hours for the summer, due to the increase demand from our members. The golf course is doing well under the control of Terry O'Hara and is experiencing a prosperous summer. We recently employed a professional Greenskeeper, Skip Wirtz, to direct the golf course maintenance activity. Judicious application of lake weed control funding has provided aesthetic improvement on the lake without chemical application this summer. We expect to implement a more permanent weed control program under the State Department of Ecology grant during the summer of 1996.

The Washington State Legislature has approved a new measure governing homeowners' groups such as ours, and it became effective late in July 1995. The new law generally requires a similar array of organization and operational guidelines to those we have operated under since our beginning. The law does, however, identify new areas of membership involvement that are addressed in the Treasurer's Report.

PRESIDENTIAL AVAILABILITY HOURS AT LLCC OFFICE

Monday; ..... 12:00 p.m. to 4:00 p.m.
Wednesday: ..... 11:00 a.m. to 2:00 p.m.
Thursday; ..... 9:00 a.m. to 2:00 p.m.
Third Saturday each Month; ..... 12:00 p.m. to 1:00 p.m.
(following Board Meeting)

LAKE LIMERICK WATER COMMITTEE - Kirk Osborne, Chair-person

Since I first wrote for this Newsletter, I have emphasized Water Conservation. The message is getting around to some, but as a whole the community is not doing a very conscientious job of conservation. Our consumption level is way out of proportion for our population. If we we're to assume every piece of property had a house, and an average family of three, we would have a population of 4,200. The national average is 748 gallons per person, per month. This would give a consumption level of 3,141,600 gallons per month. But we estimate, there are between 1000 and 1300 people here. Using the same formula we should be using no more than 1,000,000 gallons per month. In the month of July we consumed a whopping 13,280,458 gallons of water. As you can see we are concerned about how the water is being used. The Water Board has determined that the only effective way to control and determine where the water is going, is to begin water meter installation. Beginning January 1,1996 the Water Department will install meters on all new connections. A continuing program of meter installation is being implemented and over the next few years, all locations will be metered. Rate charges will be established when all meters are installed. As for now, until this program is complete, the established annual rates will be used.

So far this year, your water system has been performing exceptionally. We had a few minor pressure drops, but these were resolved quickly. Many improvements are being made. Even though these things may not be apparent to the casual observer, they reflect on the system performance.

A meeting with State Department of Health Officials last month was very positive. We felt they left with a very positive impression of Lake Limerick Water System.

Continuing requirements from State and Federal Health Organizations, who regulate water usage, are having a tremendous impact on our costs of keeping the system in compliance. Coupled with our own capital improvements, the cost of business is increasing. One very large, mandated, requirement that we will be doing before next spring is the "Water System Plan", (WSP). This is a comprehensive document requiring us to detail, in depth, the water system operation, and long range plan for costs and improvements. The Water Board anticipates some 500 person hours are required to accomplish this task. On top of this, more stringent and complicated testing is required. All of these things must be done, and it impacts our budget. Keep in mind, all of this is for your continued assurance you receive water that is unquestionable. I want to emphasize this is very important for the community. It has long range impact on the future viability of Lake Limerick.

Focusing all of these requirements is the responsibility of your Water Board, and we do not take these matters lightly. Your cooperation and inputs to the Board are important. Being aware of population and growth of Lake Limerick will help our water system manage current usage and forecast for future use.

LAKE LIMERICK WATER SYSTEM
E 790 ST ANDREWS DR
SHELTON WA 98584
(360) 426-3581

October 1995

To: All Lake Limerick Property Owners:

Your Water Board has been deliberating for several months about the need increase water fees during a period when costs are increasing everywhere. order to insure that Lake Limerick Members receive the quality of water a service it should expect in a planned and timely manner, the Water Board h chosen to increase water fees beginning January 1, 1996. The new rates will $115.00 per year (or $60 semi-annual) for water users and $38.00 per year f lots without hookups with all other fees remaining the same.

For several years Lake Limerick has been cited by Washington State as an examp of an outstanding community water system. It is the goal of your water board sustain that level of performance and to provide the best water quality at t least cost. As a comparison we inquired about operating costs of simil communities and city rates, which shows your system as one of the lea expensive, (refer to attachment A).

There are a number of reasons that led your board to decide to increase the fe at this time including mandated operating costs and capital requirements.

* Operating costs: Expense costs have increased 20% since last year and 53% since 1993 due primarily to mandated compliance with regulations and the Environmental Protection Agency's (EPA) recent and continuing, emphasis on clean water. This has been marked by increased sampling requirements (lead, copper, volatile organic compounds, etc.), personnel training certifications, system development, long range planning documentation, etc...

* Capital: Enclosed (attachment B) you will find a 20 year capital plan that recognizes and plans a funding program for it's implementation. These projects are designed to further improve the water system, accommodate growth, meet regulations, as well as fund major repairs if necessary.

Within the first 6 years of the plan, number 6 well (lot 75, division 4) scheduled to go on line in the year 2001. Once developed this will secure c water rights at that well site, assure adequate water supply for the communit provide back up to existing wells and improve a balanced distribution system divisions 4 and 5 as they develop.

As previously discussed Lake Limerick Country Club has water storage capacity meet the requirements of the full development of our properties and a sour capacity (wells) for 1,100 residences. With number 6 well on line, the fu development source requirement will be met. Because of the potential wat rights issues, the sooner these rights are secured for our community the bette Because of the big "tax bite" assessed against our water reserve funds the wat board is investigating a "utility" exemption again together with the club. this can be achieved, capital costs could be reduced by as much as 39%, and c s would be reduced to reflect this.

If you have any questions or comments you may call the office at 426-3581, Ki Osborne at 426-0325, Jerry Soehnlein at 426-0703, or you are welcome to atte our water board meetings.

An investment in your water system today insures quality water tomorrow.

LAKE LIMERICK COUNTRY CLUB NEWSLETTER

E 790 St. Andrews Dr., Shelton WA, 98584 (360) 426-3581 Fax (360) 426-8922

Volume 1 Issue 2 December 1995

PRESIDENT'S LETTER, Dan Robinson

At the half way point for this administration, we can look back on a period marked by a number of accomplishments. The 1995 - 1996 budget has been approved by the membership; we have secured the services of a new restaurant manager, a new golf course supervisor, and a new maintenance supervisor.

The removal phase of the golf course timber harvest has been completed, yielding a surprising amount of income for the Club's general fund. The cleanup, being jointly conducted by our course maintenance employees and volunteer crews organized by Carl Nielsen and Jerry Fairbanks, is well underway and will continue through the winter.

We are very concerned about the extensive weed growth in Lake Limerick, and the actions planned for 1996 and beyond are reviewed elsewhere in this newsletter. We will also be replacing golf course irrigation pumps this winter as approved in the capital budget.

Our parks have received significant attention and improvements this year. Unfortunately, a few of our youth and their guests frequently inflict severe damage to these facilities, making it impractical to try to keep up with the replacement and repair of the damage.

We have upgraded our office computing network and have replaced our ancient accounting system with a State of the Art system that will allow many improvements to our accounting reports and greatly improve the availability of all our data. This improvement will also allow presentation of data by lot in addition to member account information.

All of the above listed activities, along with many others of lesser but still time consuming importance, require extensive planning and execution time, provided in large part by volunteers from within our community. During the months I have held the Presidency, along with the previous year as Vice-President, it has become very clear to me that the work involved in administering this community exceeds that which we can reasonably expect of community volunteers. Accordingly, most persons serving as officers of the Corporation, including myself, are unwilling to commit to more than one year of their life to the Community in such a demanding capacity. The significant downside to this situation is a lack of continuity from year to year, leaving a new set of officers essentially starting over. Fortunately, our office staff, Suz Sirokman and Sheila Hedlund, are very capable and have both been in their current positions for several years providing the only consistent thread of continuity that exists.

The answer to this problem, as many other communities have found, is a professional manager employed as Executive Director to guide the business, and community activities of the Club. Such a position would

WATER COMMITTEE, Kirk Osborne

Your Lake Limerick Water Board Members and associated maintenance employees are dedicated to providing to all members a supply of water which is umcompromized in quality and safety. Also, the consistent supply of this water is a priority. Lake Limerick employs a full time maintenance person who is a State Certified Water Distribution Manager - 1 (WDM-1). With this expertise available on a day by day basis, the water system remains in full compliance with all regulations and operates under the highest State issued permit.

The new charges you will be paying in 1996 will assure the continuance of this service to you.

We want to be responsive to you our customers. Your input and questions will not go unheeded.

Water consumption and conservation are still a problem within the community. Next year we will again ask you to save water and have restrictions during the summer months.

We are beginning to install water meter setting devices that will eventually lead to a total metering system for Lake Limerick Country Club. When this is all completed we will have finite control of the usage of water. Those exceeding a set amount will pay a heavy burden, those using less could see a reduction in their cost.

The water system charges now in place will assure a reserve capital to be used for major improvements. This reserve, which will generate some additional income through interest, will pay for capital projects without borrowing money.

Our intent is to keep the water charges at the same level as long as possible. The current rate should provide needed revenue through the six year capital improvement program.

As reflected in our general letter sent to all members in October, your water costs are still lower than most when comparison is made to other size systems.

All owners share the responsibility of costs for all aspects of our community. Please conserve water, report any leaks or broken pipes quickly. Thank you all for your cooperation and we wish you a happy holiday season.

LONG RANGE PLANNING COMMITTEE, Jerry Soehnlein

This committee has been established to coordinate with operating committees to assist them in their long range plans. In addition it advises the Board of Trustees and the community of long range planning strategy, potential impacts, costs when requested and continuity from one administration to another.

One such project is evaluating jogging (walking) paths in our green belts. Two areas under consideration are in Division 3, between St. Andrews Dr. and The Way To Tipperary and in Division 1 between Ballantrae Dr. and the Mason Lake Road. Benefits would be relieving jogging (walking) from the golf course, enhanced and expanded health trails, clean up of the green belts and increase of utilization of club property for the benefit of its membership. We will be soliciting comments and suggestions from the community to assist this committee and assure our quality of living at Lake Limerick.

WATER COMMITTEE, Kirk Osborne

Looking ahead to a new year of activity by all Lake Limerick Owners, your Water Committee would again remind all users to be aware of the conservation effort of our valuable resource.

Several residents and lots were not protected or winterized this last month and required attention as they froze and broke. As a reminder Emergency Shutoff or Repair of Water Services on private properties will be billed to the lot owners.

We are confident that the short and long range planned projects that will be initiated in the next few years will continue to provide safe and adequate water for all owners. The Water Board and membership will continue to move forward to make your water system the best you would expect.

Any comments you have will be appreciated. Your concerns are important to the Water Committee.

MAGPIES, Evelyn Springer, President

We wish to thank all our members who have sent us their recipes to help make our cook book a success. We will have it ready for sale at the "Lake Limerick Daze Celebration".

The past year we have donated $2,000.00 toward the purchase of new chairs for our restaurant and lounge. We have also purchased new salad plates to be used in the restaurant.

As usual we will have our Annual Bake Sale before the Annual Meeting on April 27, 1996. Be sure to stop by for your favorite "goody".

Our Spring Card Shark Social will be held May 14, 1996. Come join us for lunch and cards. We always have a great time. For reservations call Sheila Theil 426-3130 or Evelyn Springer 426-8341.

Ladies of Lake Limerick, we invite you to join us. We hold our meetings on the first Thursday of every month in the dining room of the club.

INN COMMITTEE, OraLee Barker

The restaurant and lounge are looking good after being closed for cleaning and maintenance. We have new table covers, which are lovely and new dinner salad plates. Thank you to Evelyn Springer and the Magpies.

Terry Surratt is proving his culinary arts with the new menu and the weekend specials he presents each weekend. He is doing a wonderful job for us.

The Comment Cards are back for your compliments and complaints. If none are at your table they are available at the sign in table on the landing. Your comments and suggestions are always welcome.

With the new "Not For Profit" status the sign in sheets for the Restaurant and Lounge have been revised. Members are urged to pay the bill, this procedure will save us from having to pay income tax on these moneys. Our wait staff and bartenders are learning new procedures, so your patience and cooperation is appreciated during this learning period.

We encourage you to use our facilities as often as possible. Thank you for your patronage.

WATER COMMITTEE, Kirk Osborne

The Water Committee welcomes newly elected member John Bykonen and incumbent Dan Robinson. We want to thank Dave Best, who did not choose to run again, for his years of dedication to the Water Committee.

Your water system is 30 years old. The attention given to the maintenance and upkeep has kept the system running smoothly and with a minimum of interruptions. Credit must be given to the water employees who are taking care of the system. Presently we are recognized by the Washington State Department of Health, as a model system. Your Water Committee has put in place an ambitious program, over the next few years, for capital improvements to upgrade the water distribution.

The increase in your water fees has been programmed to provide continuing upkeep and provide capital reserve to enhance the system to insure adequate water for the maximum buildable lots.

A recent physical survey of our community shows 836 homes on a total of 1400 plus buildable lots. We are approaching the maximum quickly.

A major project that will consume a large capital outlay will be putting well #6 on line. Well #6 is located on a site in Division 4. The well was drilled a few years ago and water rights for it were secured. The Department of Health now has enacted legislation to demand the water rights be used within an established time frame. This is rapidly approaching for well #6, so we are obligated to utilize the well soon. Once the well is on line, we will have sufficient water to provide connections to all available building lots here at Lake Limerick.

Currently, we have five well sites, with six active wells in use. The Water Committee has committed one well to provide irrigation water to the golf course during the Aquatic Weed Management (AWM) Program for the lake this summer. This source, well #5, will be completely isolated from the drinking water system for the duration of the lake treatment program. The diversion of this well will not affect your supply of water in that the system is looped to all wells. It will put more demand on the remaining wells, but there will still be adequate water.

This is another reason we must practice good water conservation methods. Even if this diversion were not taking place we still would be asking you to practice conservation. Lawn watering restrictions will be in place again this summer, using the even/odd days watering method.

Conservation of water will never go away. Even though it seems we have more water than we can use, its just not true. The aquifers we draw from potentially could be over used in dryer times and the supply threatened.

The Committee has decided to begin installation of water meters for the community beginning next year. We anticipate a three year program to complete the project. The same rates for water will remain in place until the project is finished then a rate structure will be used. Your cost should not change until the program is done. Then, based on your usage it could be reduced.

Please be aware that for any emergency response to your property by Water Department personnel for water line breaks or major leaks, you will be charged $40.00 for that service. If such an occurrence happens and you are not home, a notification of the water shutoff will be left at the residence, and non resident owners will be notified as soon as possible.

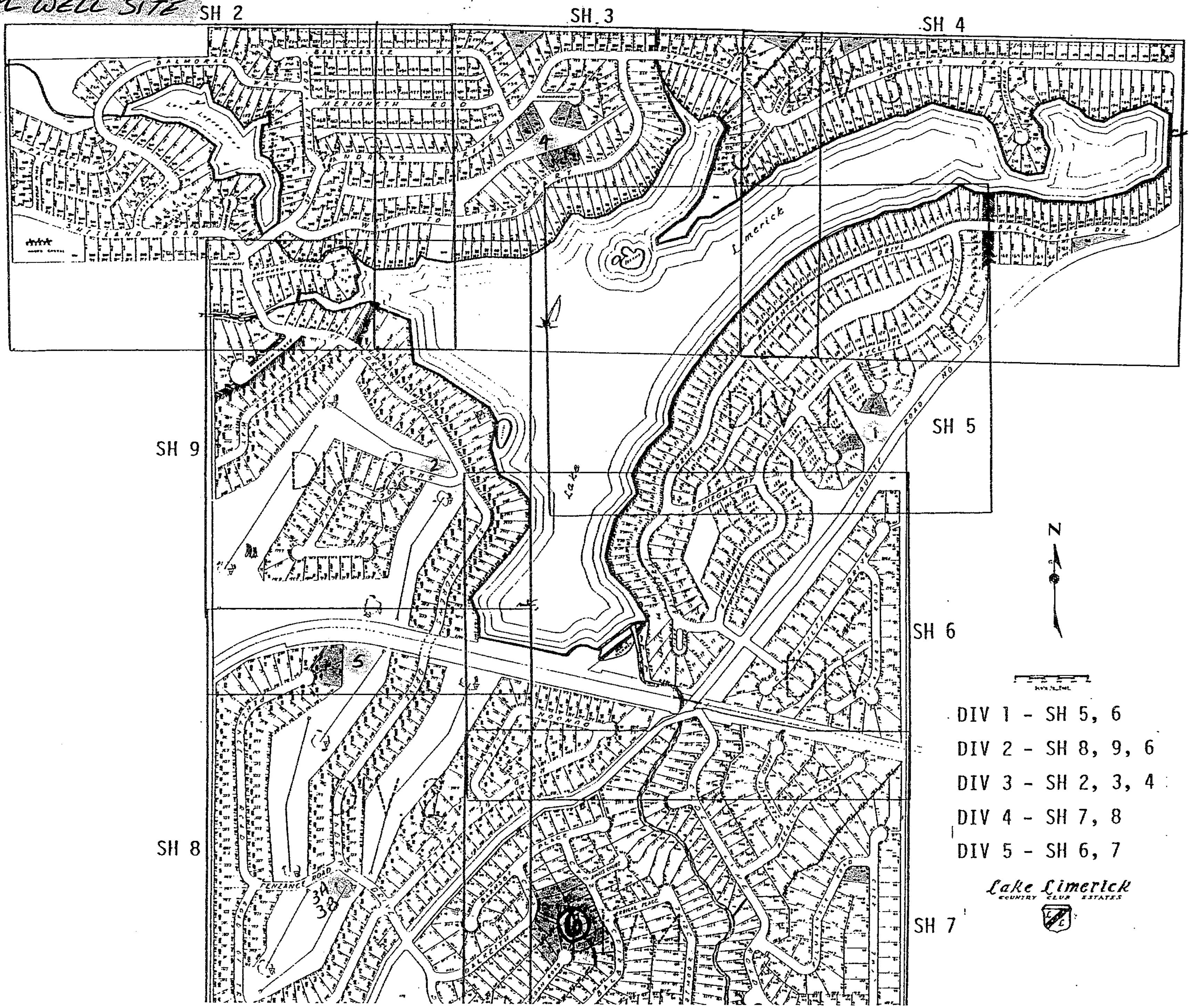
The Water Department personnel will not repair your pipes or valves. Each owner is responsible for any lines beyond the system shut off valve. You will be billed separately for this action.

In conclusion the Water Committee would like to thank all candidates who took their time to run for the committee this year. Also, the support from the Office Staff and Employees who do the work for the committee.

Have a good summer and enjoy the great water you have here.

6/1/96

WELL SITE
RESIDENTIAL LOT WITH "NO EASEMENT" "POLLUTION"
POTENTIAL WELL SITE



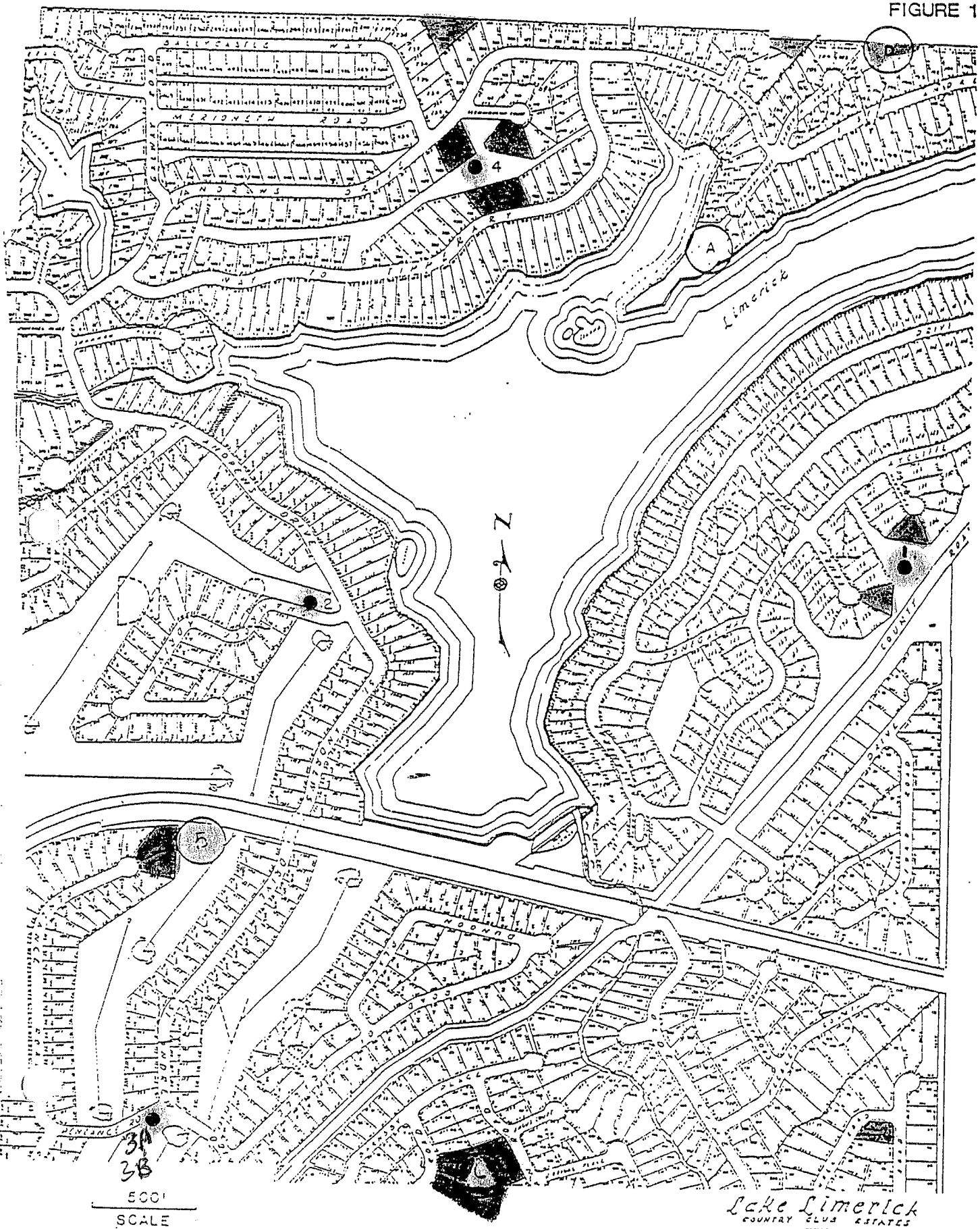
VICINITY MAP

well site

Restricted lot with "no pollution easement"

Potential Well Sites

FIGURE 1



December 14, 1994

Well Site # 1 and 110,000 gallon storage tank
Division 1 Lot 203 - Greenbelt
Mason Lake Road - county road
Lot 176 * Residential lot with no pollution easement
Lot 185 * Residential lot with no pollution easement

Well Site # 2
Division 2 Lot 001-A EX DOR # 043510- Golf Course
Golf Course
St. Andrews Drive - county road
Shamrock Drive - county road

Well Site # 3 & 3A and 150,000 gallon storage tank
Division 2 Lot 005 Golf Course
Golf Course
St Andrews Dr - county road
Penzance Road - county road

Well Site # 4 and 70,000 gallon storage tank
Division 3 Lot 506 - Greenbelt
Lot 402 + Residential lot with no pollution easement
Lot 403 * Residential lot with no pollution easement
Lot 404 * Residential lot with no pollution easement
Lot 422 * Residential lot with no pollution easement
Lot 423 * Residential lot with no pollution easement
Lot 424 * Residential lot with no pollution easement
Lot 425 + Residential lot with no pollution easement

Well Site # 5
Division 2 Lot 003
Lot 136 * Residential lot with no pollution easement
Lot 137 * Residential lot with no pollution easement

Well Site # 6 standby emergency
Division 4 Lot 75
Lot 041 + Residential lot with no pollution easement
Lot 042 + Residential lot with no pollution easement
Lot 043 + Residential lot with no pollution easement
Lot 052 * Residential lot with no pollution easement
Lot 053 + Residential lot with no pollution easement
Lot 054 * Residential lot with no pollution easement
Lot 074 + Residential lot with no pollution easement
Lot 076 * Residential lot with no pollution easement

Property defined as potential well sites:
Division 3 Lot 508
Division 3 Lot 509
Division 3 Lot 511
Division 5 Lot 094

+ = no water valve
* = water valve

IDENTIFICATION OF ADJACENT WATER UTILITIES

There are no water utilities adjacent to Lake Limerick Country Club, Inc. There maybe however, several private wells

June 24, 1996

WATER ALERT

Lake Limerick Water Department is asking for ur immediate restraint for non essential water sage between 4:00 P.M. and 8:00 P.M. The mand is extremely high during this peak period d some residences lose water pressure. If we uld all cooperate at that time, a problem would t exist.

Also, we wish to begin the practice of en/odd non essential watering. Late evening d early mornings is desired. Your watering y is based on your lot number, (i.e...if your lot umber is odd, water on odd days, if your lot umber is even, water on even days).

We have ample water to accomplish supplying omes and irrigation, the problem is everyone is ushing at the same time.

Your best effort would be appreciated during is period.

irk Osborne
ater Committee Chairperson
AKE LIMERICK COUNTRY CLUB, INC.

LAKE LIMERICK COUNTRY CLUB, INC.
E 790 ST. ANDREWS DR.
SHELTON WA 98584

REEL 645 FR 007

597707

WATER USAGE GUIDELINE
Common To All Divisions

Limerick Country Club is obligated to provide an unquestionable supply of water to the ..ity, exclusively. The water system is managed by the Water Board Committee, and ..intained by the Maintenance Department.

..e intent of these Guidelines is to provide a uniform standard for Lake Limerick Country Club ..ter users. Following these recommended items will reduce consumption and conserve our water.

..ter distributed shall be used in the manner set forth in these guidelines.

..ecifically:
Water should not be allowed to run in a manner that is wasteful. Letting water run ..attended for a extended period is considered wasteful. Ponds, waterfalls, fountains should ..e pumps, recycling the water. Continual supply of fresh water is prohibited. Replenishing ..aporated water is acceptable.

..wns, flower beds, and gardens need short periods of watering, one hour at the most two or ..ree times a week.

Water is provided at two designated commercial sites. Water provided to these sites may metered and appropriate rate charges can be adopted. The Water Board shall have the ..thority to make a final determination.

Residences that are left for an extended period of time, such as weekenders, owners ..ending extended time away, it would be advisable for you to shut off the water when the house not occupied. Water shut off could be at your house valve or at the street entry valve. ..aining the house piping, and turning off power or gas to the water heater would prevent any ..mage from failed plumbing, or winter freeze up, when the owners are not present.

No owner shall be allowed to install or have a previously installed irrigation system, ..rden, lawn, flower beds, with out a back flow protection device, between the irrigation ... and the Lake Limerick water distribution system. Not having a back flow prevention ..vice is illegal, (new State Law; "WAC 246-290-490" Drinking Water Regulations). Owners will subject to inspections, and if not in compliance water service may be refused.

Water conservation practices should be used by all owners. Flow reducing shower heads, ..w flow toilets, etc. Intelligent water usage, in gardens, flower beds and lawns, must be ..acticed by the community.

..se usage of our water here at Lake Limerick must be done. Conserving our supply now will ..sure adequate water for all.

RECORDED 7.00 FILED
REEL 645 FRAME 007
AUDITOR MASON COUNTY
ALLAN T. BROTCHE

..proved by the Water Committee October 5, 1994

..rk Osborne, Chairperson

10/19/94
Date

94 OCT 27 AM 9:52

REQUEST OF:
UC. Lim

..ATE OF WASHINGTON)
..unty of Mason) ss.

ON THIS 18th day of OCTOBER, 1994, personally appeared KIRK OSBORNE personally known by to be the Chairman of LAKE LIMERICK COUNTRY CLUB WATER SYSTEM, INC. the corporation that ..ecuted the within and foregoing Document and acknowledged the said instrument to be the free ..d voluntary act and deed of said corporation, for the uses and purposes therein mentioned, ..d on oath stated that he was authorized to execute said instrument.

WITNESS my hand and official seal the day and year first above written.

Suzanne Sirokman 10/19/94
Suzanne Sirokman
NOTARY PUBLIC in and for the State of
Washington, residing at Shelton
My commission expires:06/05/98

LAKE LIMERICK COUNTRY CLUB, INC.
LAKE LIMERICK WATER SYSTEM
E 790 ST. ANDREWS DRIVE
SHELTON, WA 98584
(360) 426-3581

L.L.C.C. FISCAL YEAR 1995 - 1996

THE FOLLOWING IS A BREAKDOWN OF CHARGES DUE TO LAKE LIMERICK EACH YEAR.

ANNUAL MEMBERSHIP FEES - ANNUAL - BILLED 09/01 thru 08/31:
COUPLE.....30.00
SINGLE.....15.00
THESE FEES WILL SUPPORT THE MAINTENANCE AND OPERATION OF THE CLUB HOUSE, IN WHICH YOU WILL BE AN AUTOMATIC MEMBER UPON PURCHASE OF YOUR LOT.

ASSESSMENTS - BILLED QUARTERLY - $228.00 / LOT PER YEAR
SEPTEMBER 1, 1995.....$57.00
DECEMBER 1, 1995.....$57.00
MARCH 1, 1996.....$57.00
JUNE 1, 1996.....$57.00
THESE FEES WILL SUPPORT THE GENERAL MAINTENANCE AND OPERATION OF LAKE LIMERICK COUNTRY CLUB.

SPECIAL ASSESSMENT- $78.00/LOT (Dam/Valve Repair)
PTEMBER 1, 1995.....$78.00
SEPTEMBER 1, 1996.....$78.00
THESE FEES (voted in by the Membership 7/29/95) WILL BE USED TO REPAY OUR DEBT OF $95,000.00 WITH KEY BANK AND TO REPLENISH THE CAPITAL RESERVES OF $40,000.00 USED TO REPAIR THE LAKE LIMERICK DAM VALVE.

WATER CHARGES - BILLED ANNUALLY - JANUARY 1, OF EACH YEAR
BASIC WATER CHARGES - NO VALVE HOOK UP.....$ 38.00
WATER CHARGES - WITH VALVE HOOKED UP.....$115.00
VALVE HOOK UP (1 TIME CHARGE).....$135.00
INSTALL SPIGOT (1 TIME CHARGE).....$ 40.00
REPLACE VALVE (1 TIME CHARGE).....$ 40.00
DISCONNECT VALVE (1 TIME CHARGE).....$ 40.00
EMERGENCY SHUT OFF AND RECONNECT.....$40.00
^ (you will receive prior notice before this billing is sent to you.)

IF YOU HAVE ANY FURTHER QUESTIONS PLEASE FEEL FREE TO CALL THE LAKE LIMERICK OFFICE DURING BUSINESS HOURS, 8:30 A.M. TO 5:00 P.M.

INTERLOCAL AGREEMENTS

Lake Limerick Country Club is a community owned water system. The By-Laws do not allow for any future plans of supplying water to any other community.

DATE PRINTED: 06/21/96

UPDATED

DATE UPDATED: ~~06/20/96~~

Washington State Department of Health
Environmental Health

WATER FACILITIES INVENTORY (WFI)

Read Instructions on back before completing

1. EM ID NO.	2. COUNTY	GROUP	TYPE	WRIA
150T	MASON	A	COMM	14

WFI COMPLETED BY: ____ TITLE: ____

DAY TELEPHONE: ____ DATE: ____

8. SUBMITTED FOR: [ ] NEW SYSTEM [ ] NO CHANGE [ ] REACTIVATE [ ] SYSTEM NAME CHANGE* [ ] UPDATE [ ] DELETE

*OLD SYSTEM NAME - ENTER ONLY IF CHANGING WITH THIS WFI: ____

SYSTEM NAME: LAKE LIMERICK WATER

STREET ADDRESS: 790 ST. ANDREWS DRIVE

P.O. BOX (IF APPLICABLE): ____

CITY: SHELTON STATE: WA ZIP CODE: 98584

OWNER'S NAME (LAST, FIRST): LAKE LIMERICK COUNTY CLUB OWNER NO.: 3162

STREET ADDRESS: 790 ST. ANDREWS DRIVE

P.O. BOX (IF APPLICABLE): ____

CITY: SHELTON STATE: WA ZIP CODE: 98584

SYSTEM CONTACT PERSON: KENNETH DOUGLAS TITLE: WDM 1, MAINT SUPV

TELEPHONE: 360-426-4563 EVENING TELEPHONE: 360-426-0775

SYSTEMS SERVING ANY RESIDENTS (PEOPLE LIVING IN A DWELLING SERVED BY THE SYSTEM), COMPLETE THIS SECTION

9. NUMBER ACTIVE RESIDENTIAL CONNECTIONS: 636

10. NUMBER ACTIVE RESIDENTIAL POPULATION: 1,300

SYSTEMS SERVING ANY NON-RESIDENTS (I.E., TRAVELERS, EMPLOYEES, STUDENTS, ETC.), COMPLETE THIS SECTION

11. NUMBER NON-RESIDENTIAL CONNECTIONS: 200

12. ENTER AVERAGE DAILY NON-RESIDENTIAL POPULATION SERVED FOR EACH MONTH. MAKE ENTRY FOR EACH MONTH.

JAN.	30	MAY	200	SEP.	200	JAN.	30
FEB.	30	JUNE	200	OCT.	30	FEB.	30
MAR.	30	JULY	320	NOV.	30	MAR.	30
APR.	200	AUG.	320	DEC.	30	APR.	200

13. DOES THE SYSTEM SERVE AT LEAST 25 OF THE SAME NON-RESIDENTS FOR 4 OR MORE DAYS PER WEEK FOR AT LEAST 180 DAYS PER YEAR? [ ] YES [X] NO

14. TOTAL NUMBER CONNECTIONS METERED: ____

15. DISTRIBUTION RESERVOIR(S) TOTAL CAPACITY: 320,000 GALLONS

OWNERSHIP (CHECK ONE ONLY)

[ ] PRIVATE: NON-PROFIT
[ ] PRIVATE: FOR-PROFIT
[ ] LOCAL GOVERNMENT (COUNTY / CITY / PUD / WATER DISTRICT)
[ ] STATE
[ ] FEDERAL

7. PREDOMINANT CHARACTERISTIC (CHECK ONE ONLY)

[X] RESIDENTIAL
[ ] RECREATIONAL
[ ] BUSINESS / INDUSTRIAL / AGRICULTURAL / COMMERCIAL
[ ] LODGING / FOOD SERVICE
[ ] SCHOOL / DAY CARE
[ ] OTHER (CHURCHES, ETC.)

DOH SOURCE NUMBER	17. SOURCE NAME (LIST UTILITY'S NAME FOR SOURCE. IF SOURCE IS PURCHASED OR INTERTIED, LIST SELLER'S ID# AND NAME USING FOLLOWING FORMAT: XXXXXX / NAME EXAMPLE: 77050Y / SEATTLE)	18. SOURCE CATEGORY: WELL	WELL FIELD	SURFACE	SPRING	RANNEY / INF. GAL.	INTERTIE	PURCHASE-TREATED	PURCHASE-UNTREATED	19. USE: PERMANENT	SEASONAL	EMERGENCY	20. SOURCE METERED	21. TREATMENT: NONE	CHLORINATION	FILTRATION	FLUORIDATION	OTHER	22. WELL DEPTH (FEET)	23. SOURCE CAPACITY (GPM)	24. SOURCE LOCATION: 1/4, 1/4 SEC.	SEC. NO.	TWP	RNG.	SWTR EVALUATION / VOC EVALUATION
02	WELL # 2	X							X			Y	X						103	200	NE/NW	27	21N	03W	
03	WELL # 3_A	X							X			Y	X						131	146	SW/SW	27	21N	03W	
04	WELL # 4	X							X			Y	X						92	92	SW/SE	27	21N	03W	
05	WELL #1	X							X			Y	X						89	75	NE/NE	27	21N	03W	
06	WELL #3B	X							X			Y	X						167	210	SW/SW	27	21N	03W	
07	WELL #5	X							X			Y	X						110	200	NW/SW	27	21N	03W	
08	WELL #6	X									X		X						434	110	SE/SW	27	21N	03W	

MINIMUM REQUIRED BACTERIOLOGICAL SAMPLING SCHEDULE

26.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	2	2	2	2	2	2	2	2	2	2	2	2

APPROVED SERVICES (PER PLANS): 1,100 DATE OF LAST SANITARY SURVEY: 05 11 1993 BY DOH [ ] LHD

CRITICAL WATER SUPPLY SERVICE AREA? [ ] YES [ ] NO GW MGMT AREA? [ ] YES [ ] NO FOR LHD USE ONLY

EFFECTIVE DATE RETRO. CHANGES | SIGNATURE OF DOH REVIEWER | DATE

331-011 (Rev. 2/95)

WATER SYSTEM

RECEIVED JUN 2 8 1996

April 28, 1996

Memo - From Kirk Osborne - Water Committee

The last two weeks of April, the Water Committee members conducted a physical survey of homes at Lake Limerick. Following is a break down of the count by division and type.

Division 1, 124 Frame homes or Manufactured
Division 2, 184 Frame homes or Manufactured
Division 3, 317 Frame homes or Manufactured
Division 4, 48 Frame homes or Manufactured
88 Mobile homes
136 Total
Division 5, 22 Frame homes or Manufactured
53 Mobile homes
75 Total

Grand Total All Divisions 836

Kirk Osborne
Chairman
Water Committee

CC
BOT
WB
EX
OFFICE STAFF
FILE

WFI HISTORICAL SUMMARY

The following surveys were gathered from the Water Department Files:

1976

Lots with Valves	770	Lots without Valves	638
Permanent Residences	65	Summer Cabins	118

1981 WFI Report

Permanent Services	177	Population	365

1984 WFI Report

Permanent Services	234	Population	468

1991 WFI Report

Permanent Services	355	Population	710

1992 WFI Report

Permanent Services	360	Population	753

1993 WFI Report

Permanent Services	407	Population	859

1994 WFI Report

Permanent Services	417	Population	878

1995 WFI Report

Permanent Services	636	Population	1300

1996 WFI Report

Permanent Services	636	Population	1300

AVERAGE WATER USAGE REPORT FOR LAKE LIMERICK COUNTRY CLUB, INC.

Average day
Gallons per day by Well

Well # 1:.....48,819
Well # 2:.....27,357
Well # 3A:.....24,098
Well # 3B:.....77,113
Well # 4:.....40,754
Well # 5:.....54,794

Peak Day
Gallons per Day by Well

Well # 1:.....64,549
Well # 2:.....29,680
Well # 3A:.....70,725
Well # 3B:.....168,700
Well # 4:.....65,835
Well # 5:.....92,535

Peak Month (July)
Gallons per Month by Well

Well # 1:.....1,936,498
Well # 2:.....920,100
Well # 3A:.....2,192,500
Well # 3B:.....5,063,100
Well # 4:.....2,040,900
Well # 5:.....2,868,600

Annual Production
Gallons per Year by Well

Well # 1:.....17,819,228
Well # 2:.....9,985,650
Well # 3A:.....8,795,900
Well # 3B:.....28,46,600
Well # 4:.....14,875,500
Well # 5:.....18,842,000

Averages are based on figures collected from June 1993 - June 1996

FUTURE GROWTH PROJECTIONS

1981 to 1984 (3 years)	149 new homes built = 50 homes per year
1984 to 1991 (7 years)	189 new homes built = 27 homes per year
1992 to 1993 (1 year)	63 new homes built = 63 homes per year
1993 to 1994 (1 year)	17 new homes built = 17 homes per year
1994 to 1995 (1 year)	41 new homes built = 41 homes per year
Average growth per year:	35 homes per year

Currently there are 836 residences; Largest potential growth is 1,350 (with well # 6 on line); leaving a potential of 514 available hook ups. A the growth rate of 35 residences per year, our maximum will be reached in 14.69 years.

METERS

Customer Meter

5/8" X 3/4" Master meter
Cold water meter with frost free bottom
Nutating-Disk Displacement-type meter
measure by gal.

Well Meter

3" Rockwell
Nutating-Disk Displacement-type meter
measure by 100 gal.

Lake Limerick began installing Meter Setters in October 1995.

WATER CONSERVATION PROGRAM

Lake Limerick Water Committee began a water conservation program two years ago. We recognized the excessive use of our water here and began a campaign to educate the users.

A bulletin board was created to convey the conservation message and every opportunity, that was available, we wrote to the users a conservation message. The sample newsletters, included in this report, show our efforts to alert the users to conservation.

Our system, being an unmetered one, is difficult to make a major conservation impact on our users. The past two years, as our population grew rapidly, the effect of the conservation message was not evident in the overall water consumption.

This being the case, the water committee has decided to install water meters throughout the community. Beginning in 1997 and anticipated completion in 1999 the community will be fully metered.

Until the completion of this project, the two tiered rate structure will remain in effect. $115.00 per year for lots with valves, $38.00 per year for lots without valves. Then after completion a structured rate will be put into place. The cost impact of excessive use should lower the consumption.

We anticipate the basic cost to the user could be reduced with the metered system. Our present program is expected to conserve approximately 20% of flow. Our future program is expected to conserve approximately 50% of flow.

The water committee recognizes the conservation message still must be continued to the user even though we have a metered system. To continue the message of conservation and show the community the value of saving water, should translate to better system utilization and reduced cost.

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
SOUTHWEST DRINKING WATER OPERATIONS
2411 Pacific Ave. • P.O. Box 47823 • Olympia, Washington 98504-7823 • (206) 664-0768

June 30, 1993

Washington Mutual
P.O. Box 5647
Olympia, Washington 98507

Attention: Shannon

Subject: Adequacy of Lake Limerick Water System, ID #44150T, Mason County; Division 2, Lot 72, Tad & Linda Smith, Loan #01-879-290800-2

Dear Shannon:

Please disregard the June 29, 1993 letter we faxed you today on this water system. Following is the corrected status of this system.

We have reviewed the status of the subject water system. The system does not appear on our list of inadequate systems, and a file search indicates that engineering documents have been approved for more service connections than indicated on the system's current Water Facility Inventory.

We consider this system to be in substantial compliance with the drinking water regulations at this time. However, as compliance may change, this assessment is valid for this inquiry only.

Our review of this system's engineering documents found that this water system is able to provide an adequate supply of drinking water to 1,100 connections. The Water Facility Inventory form indicates that there are 360 active residential and 157 non-residential connections.

Therefore, the subject water system has adequate capacity to serve additional service connections, provided the new connections will not require installation of additional distribution lines.

If you have any questions, please call me at (206) 753-2884.

Sincerely,

Harry Walden
Environmentalist
Southwest Drinking Water Operations

HW:clu
cc: Lake Limerick Water System
Mason County Health Department
Lisa Raysby, DOH

LAKE LIMERICK
WATER SUPPLY SYSTEM
Summary Report
January 2, 1992

I. INTRODUCTION

The Lake Limerick Country Club operates and maintains its own water supply system for homeowners within the jurisdiction of the Club. The system contains 5 producing wells, 2 existing storage tanks and 500 connections. The system operates between 40 psi and 60 psi. Distribution mains are 4-inch and 6-inch diameter. A plan of the system is included. In an effort to balance the physical location of system storage, and to provide for future growth at a time when funds were currently available, the Lake Limerick Community has decided to install a 150,000 gallon storage tank and booster pump station.

II. PRODUCTION

Well #1	75 g.p.m.
Well #2	200 g.p.m.
Well #3a	146 g.p.m.
Well #3b	210 g.p.m.
Well #4	92 g.p.m.
Well #5	190 g.p.m.
	913 g.p.m.

MID = 153 g.p.m. - 400(.70) = 433 g.p.m.

III. STORAGE

A. Standby Storage:

Required = 500 connect (800 gal/conn./day) = 400,000 gal/day

Production:	Q = 913 g.p.m. - 200 g.p.m. =	713 g.p.m.
Production:	V = (713 g.p.m.) 60(24)/500 conn. =	2,053 g.p.m.
Minimum:	V = (200 gal/conn./day) 500 conn. =	100,000 gal.
Provided:	100,000 gal. @ Well #1	
	60,000 gal. @ Well #4	

B. Equalizing Storage:

MID = 433 g.p.m.
Available = 713 g.p.m.

Therefore, no equalizing storage is required.

HOWARD GODAT & ASSOCIATES, INC.
CONSULTING ENGINEERS
2708 WESTMOOR COURT • OLYMPIA, WASHINGTON 98502 • PHONE (206) 943-1599 • FAX (206) 357-6299

January 2, 1992

State of Washington
Department of Health
Southwest Drinking Water Operations
Airdustrial Park LD-11
Olympia, WA 98504

Attn: Mr. Tim Blake

RE: Lake Limerick Storage Tank
#109104

Dear Mr. Blake:

On December 17, 1991 I submitted to you a brief summary of the Lake Limerick Water System. Some of the production figures were erroneously obtained from old data. The enclosed Summary Report accurately reflects the official production rates of the wells in service.

If you have any questions or comments, please do not hesitate to contact this office at your earliest convenience.

Sincerely,

HOWARD GODAT & ASSOCIATES, INC.

Steven D. Hatton, P.E.

cc: Lake Limerick

File #2333

```
LAKE LIMERICK
WATER ALALYSIS, MAXIMUM INSTANTANEOUS DEMAND (MID)
EXISTING 517 CONN., CHANGE TO BUILDOUT, 1100 LOTS
1/26/90 - #2333.IN
'*
#[illegible] NFLOW=1  NUNIT=0 NODESP=1 NPGPM=1 IHGL=1 $END
     6
1    224 101 700 6 130/
2    101 102 720 4/
3    102 103 700/
4    103 104 500/
5    104 105 600/
6    105 106 1340/
7    106 107 350/
8    107 108 600/
9    108 109 600/
10   108 110 600/
11   110 111 1030/
12   111 112 330/
13   111 113 600 6/
14   111 114 420/
15   114 115 720/
16   115 116 420 4/
17   116 117 680/
18   117 118 600/
19   118 119 600/
20   119 120 600/
21   120 121 260/
22   121 122 440 6/
23   122 123 600/
24   [illegible] 124 800/
25   [illegible]4 125 220/
26   125 115 700/
27   124 126 150 4/
28   126 127 300/
29   127 128 700/
30   128 129 540/
31   129 130 260/
32   130 131 100/
33   131 132 640/
34   132 126 640/
35   130 133 660/
36   133 134 580/
37   134 135 600/
38   135 136 700/
39   136 137 400/
40   137 138 740/
41   138 139 400/
42   139 135 440/
43   138 140 600/
44   140 141 200/
45   141 142 140 6/
46   142 143 500 4/
47   142 144 520 6/
48   144 145 500 4/
49   144 146 300 4/
50   [illegible] 147 900 4/
51   [illegible]47 148 300/
52   146 149 400 6/
53   149 150 600/
54   150 151 200/
55   151 152 120/
56   152 153 1100 4/
57   153 154 820/
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60  156 157 620/
61  157 158 180/
62  158 159 920 4/
63  159 160 600/
64  160 161 600/
65  161 162 280/
    162 163 340/
67  163 164 700/
68  164 165 700/
69  165 166 480/
70  166 167 400 6/
71  167 168 230 4/
72  168 169 600/
73  169 167 100 6/
74  168 170 600 4/
75  170 158 420/
76  166 171 600 6/
77  171 172 280/
78  172 173 650 4/
79  173 174 620/
80  174 175 700/
81  175 172 270/
82  174 189 440 6/
83  176 177 150/
84  177 178 520 6/
85  178 179 600/
86  179 180 420 4/
87  180 181 700/
88  180 182 600/
89  179 188 500/
90  188 184 700/
    184 183 600/
92  183 185 600/
93  185 186 720/
94  186 187 360/
95  187 188 320/
96  176 189 280 6/
97  189 190 300/
98  190 191 900/
99  191 192 340/
100 192 193 300 4/
101 192 195 250 6/
102 195 194 300 4/
103 194 197 600/
104 197 198 600/
105 198 199 620/
106 199 196 600 6/
107 196 195 250/
108 199 200 400/
109 200 201 800 4/
110 200 202 740 6/
111 202 203 600 4/
112 203 204 600/
113 204 205 600 4/
114 191 204 320/
115 176 213 560 6/
116 213 212 280 4/
    212 211 600/
118 211 210 120/
119 210 209 300 2/
120 210 208 520 4/
121 208 207 400/
122 207 206 300/
123 214 215 200/
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125 218 217 400/
126 217 219 600/
127 217 218 600/
128 218 223 800/
129 223 224 400/
130 224 225 600/
131 125 103 600/
    123 222 500/
133 222 101 500/
134 222 219 620/
135 219 220 500/
136 220 214 640/
137 121 222 170 6/
138 221 224 600/
139 122 131 500 4/
140 202 166 600 6/
141 213 214 170/
142 141 121 320 6/
144 228 157 450 4/
145 227 125 350/
146 100 224 10/
147 226 151 10/
NODES
100 0 500
101 0 500
102 10 500
103 0 475
104 10 475
105 10 475
106 0 475
107 10 475
108 0 475
    0 470
110 10 470
111 0 470
112 10 460
113 0 475
114 10 475
115 0 475
116 0 475
117 10 475
118 10 475
119 0  475
120 10 475
121 0 475
122 0 475
123 10 477
124 0 477
125 0 475
126 0 475
127 10 475
128 10 475
129 10 475
130 0 475
131 0 475
132 10 475
133 10 475
134  0 475
   0 480
136 0 490
137 10 500
138 10 500
139 0 500
140 0 500
141 10 500
```

145 10 500
146 0 500
147 0 500
148 10 500
149 [illegible] 490
[illegible] 10 480
151 0 480
152 0 470
153 10 475
154 10 475
155 0 470
156 10 475
157 0 490
158 0 500
159 10 490
160 0 505
161 10 520
162 0 525
163 0 515
164 10 505
165 10 500
166 10 500
167 0 510
168 0 525
169 0 525
170 10 510
171 10 500
172 0 500
173 10 500
174 [illegible] 490
[illegible] 505
[illegible] 0 470
[illegible] 0 465
[illegible] 10 475
179 0 475
180 0 475
181 10 475
182 10 475
183 0 500
184 0 480
185 10 475
186 10 475
187 10 475
188 0 475
189 0 465
190 0 475
191 0 495
192 0 490
193 5 480
194 0 480
195 0 480
196 0 480
197 5 480
198 5 480
[illegible] 0 505
[illegible] 500
[illegible] 500
[illegible] 500
[illegible] 0 500
205 5 500
206 5 500
207 0 500

```
OTITLE GIVEN TO NETWORK
 ----------------------
 LAKE LIMERICK

 WATER ALALYSIS. MAXIMUM INSTANTANEOUS DEMAND (MID)

 (    ING 517 CONN.. CHANGE TO BUILDOUT. 1100 LOTS

 1/26/90 - #2333.IN

)ALL DEMAND FLOWS ARE MULTIPLIED BY     1.0000
)PIPES          146
 NODES          139
 SOURCE PUMPS     0
 BOOSTER PUMPS    0
 RESERVOIRS       5
 MINOR LOSSES     0
 PRVS             0
 NOZILES          0
 CHECK VALVE      0
 BACK PRES. V.    0
 DIF. HEAD DEV    0
 NODES AT SOURCE PUMPS AND RESERVOIRS WHICH HAVE BEEN      ELIMINATED
  100  169  226  227  228
 RESERVOIR(NOZILE) PIPES AND THEIR ELEVATIONS ARE
  146   600.0  147   600.0   73   600.0  145   600.0  144   600.0
 NP=  146 NB=  134
)JUNCTION EXT. FLOW PIPES AT JUNCTION
   1 101        .000       -1     2 -133
   2 102        .022       -2     3
   3 103        .000       -3     4 -131
   4  04        .022       -4     5
   5 105        .022       -5     6
   6 106        .000       -6     7
   7 107        .022       -7     8
   8 108        .000       -8     9    10
   9 109        .022       -9
  10 110        .022      -10    11
  11 111        .000      -11    12    13    14
  12 112        .022      -12
  13 113        .000      -13
  14 114        .022      -14    15
  15 115        .000      -15    16   -26
  16 116        .000      -16    17
  17 117        .022      -17    18
  18 118        .022      -18    19
  19 119        .000      -19    20
  20 120        .022      -20    21
  21 121        .000      -21    22  -142
  22 122        .000      -22    23   139
  23 123        .022      -23    24
  24 124        .000      -24    25    27
  25 125        .000      -25    26  -145
  26 126        .000      -27    28   -34
  27 127        .022      -28    29
  28 128        .022      -29    30
  29 129        .022      -30    31
  30            .000      -31    32    35
  31 131        .000      -32    33  -139
  32 132        .022      -33    34
  33 133        .022      -35    36
  34 134        .022      -36    37
  35 135        .000      -37    38   -42
  36 136        .000      -38    39
```

38	138	.022	70	71	74	
39	139	.000	-41	42		
40	140	.000	-43	44		
41	141	.022	-44	45	142	
42	142	.000	-45	46	47	
43	143	.000	-46			
44	144	.000	-47	48	49	
45	145	.022	-48			
46	146	.000	-49	50	52	
47	147	.000	-50	51		
48	148	.022	-51			
49	149	.000	-52	53		
50	150	.022	-53	54		
51	151	.000	-54	55	-147	
52	152	.000	-55	56	58	
53	153	.022	-56	57		
54	154	.022	-57			
55	155	.000	-58	59		
56	156	.022	-59	60		
57	157	.000	-60	61	-144	
58	158	.000	-61	62	-75	
59	159	.022	-62	63		
60	160	.000	-63	64		
61	161	.022	-64	65		
62	162	.000	-65	66	72	
63	163	.000	-66	67		
64	164	.022	-67	68		
65	165	.022	-68	69		
66	166	.022	-69	70	76	-140
67	167	.000	-70	71	-73	
68	168	.000	-71	-72	74	
69	170	.022	-74	75		
	71	.022	-76	77		
71	172	.000	-77	78	-81	
72	173	.022	-78	79		
73	174	.000	-79	80	82	
74	175	.022	-80	81		
75	176	.000	83	96	115	
76	177	.000	-83	84		
77	178	.022	-84	85		
78	179	.000	-85	86	89	
79	180	.000	-86	87	88	
80	181	.022	-87			
81	182	.022	-88			
82	183	.000	-91	92		
83	184	.000	-90	91		
84	185	.022	-92	93		
85	186	.022	-93	94		
86	187	.022	-94	95		
87	188	.000	-89	90	-95	
88	189	.000	-82	-96	97	
89	190	.000	-97	98		
90	191	.000	-98	99	114	
91	192	.000	-99	100	101	
92	193	.011	-100			
93	194	.000	-102	103		
94	195	.000	-101	102	-107	
95	96	.000	-106	107		
	197	.011	-103	104		
97	198	.011	-104	105		
98	199	.000	-105	106	108	
99	200	.000	-108	109	110	
100	201	.011	-109			
101	202	.000	-110	111	140	

```
 105 206       .011     -122
 106 207       .000     -121   122
 107 208       .000     -120   121
 108 209       .011     -119
 109 210       .000     -118   119   120
 110 211       .000     -117   118
     212       .000     -116   117
     213       .000     -115   116   141
 113 214       .000      123  -136  -141
 114 215       .011     -133   124
 115 216       .000     -124   125
 116 217       .000     -125   126   127
 117 218       .011     -127   128
 118 219       .011     -126  -134   135
 119 220       .011     -135   136
 120 221       .000      137   138
 121 222       .000     -132   133   134  -137
 122 223       .000     -128   129   132
 123 224       .000        1  -129   130  -138  -142
 124 225       .000     -130   131
0FLOW FROM PUMPS AND RESERVOIRS EQUALS   480.000

 ITERATION=     1 SUM=   .910E+00
 ITERATION=     2 SUM=   .226E+00
 ITERATION=     3 SUM=   .452E-01
 ITERATION=     4 SUM=   .322E-02
0UNITS OF SOLUTION ARE
 DIAMETERS -  INCH
 LENGTH -  FEET
 HEADS -  FEET
 ELEVATIONS -  FEET
 PRESSURES -  (PSI)
 FLOWRATES -  (GPM)
 HAZEN-WILLIAMS FORMULA USED FOR COMPUTING HEAD  LOSS
1PIPE DATA
```

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLO /10
1	224	101	700.	6.0	130.0	30.36	.34	.08	.1
2	101	102	720.	4.0	130.0	25.69	.66	.44	.6
3	102	103	700.	4.0	130.0	15.69	.40	.17	.2
4	103	104	500.	4.0	130.0	40.60	1.04	.71	1.4
5	104	105	600.	4.0	130.0	30.60	.78	.50	.8
6	105	106	1340.	4.0	130.0	20.60	.53	.54	.4
7	106	107	550.	4.0	130.0	20.60	.53	.22	.4
8	107	108	600.	4.0	130.0	10.60	.27	.07	.1
9	108	109	600.	4.0	130.0	10.00	.26	.06	.1
10	108	110	600.	4.0	130.0	.60	.02	.00	.0
* 11	111	110	1030.	4.0	130.0	9.40	.24	.10	.0
12	111	112	330.	4.0	130.0	10.00	.26	.03	.1
13	111	113	600.	6.0	130.0	.00	.00	.00	.0
* 14	114	111	420.	6.0	130.0	19.40	.22	.02	.0
* 15	115	114	720.	6.0	130.0	29.40	.33	.08	.1
16	115	116	420.	4.0	130.0	11.79	.30	.06	.1
17	116	117	680.	4.0	130.0	11.79	.30	.10	.1
18	117	118	600.	4.0	130.0	1.79	.05	.00	.0
* 19	119	118	600.	4.0	130.0	8.21	.21	.04	.0
20	120	119	600.	4.0	130.0	8.21	.21	.04	.0
21	121	120	260.	4.0	130.0	18.21	.46	.08	.3
22	121	122	440.	6.0	130.0	10.07	.11	.01	.0
* 23	123	122	600.	6.0	130.0	11.47	.13	.01	.0
* 24	124	123	800.	6.0	130.0	21.47	.24	.05	.0
* 25	125	124	220.	6.0	130.0	55.55	.63	.08	.3
26	125	115	700.	4.0	130.0	41.13	.47	.14	.5

	28	126	127	300.	4.0	130.0	20.70	.53	.12	.4
	29	127	128	700.	4.0	130.0	10.70	.27	.08	.1
	30	128	129	540.	4.0	130.0	.70	.02	.00	.0
*	31	130	129	260.	4.0	130.0	9.30	.24	.02	.0
*	32	131	130	100.	4.0	130.0	24.92	.64	.06	.5
*	33	132	131	640.	4.0	130.0	3.38	.09	.01	.0
	34	126	132	640.	4.0	130.0	13.38	.34	.12	.1
	35	130	133	660.	4.0	130.0	15.62	.40	.16	.1
	36	133	134	580.	4.0	130.0	5.62	.14	.02	.0
*	37	135	134	600.	4.0	130.0	4.38	.11	.01	.0
	38	135	136	700.	4.0	130.0	2.25	.06	.00	.0
	39	136	137	400.	4.0	130.0	2.25	.06	.00	.0
*	40	138	137	740.	4.0	130.0	7.75	.20	.05	.0
	41	138	139	400.	4.0	130.0	6.63	.17	.02	.0
	42	139	135	440.	4.0	130.0	6.63	.17	.02	.0
*	43	140	138	600.	4.0	130.0	24.38	.62	.33	.3
*	44	141	140	200.	4.0	130.0	24.38	.62	.11	.3
*	45	142	141	140.	6.0	130.0	62.66	.71	.06	.4
	46	142	143	300.	4.0	130.0	.00	.00	.00	.0
*	47	144	142	520.	6.0	130.0	62.66	.71	.23	.4
	48	144	145	500.	4.0	130.0	10.00	.26	.05	.1

1PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLC /1C
* 49	146	144	300.	4.0	130.0	72.66	1.85	1.25	4.1
50	146	147	900.	4.0	130.0	10.00	.26	.10	.1
51	147	148	300.	4.0	130.0	10.00	.26	.03	.1
* 52	149	146	400.	6.0	130.0	82.66	.94	.29	.7
* 53	150	149	600.	6.0	130.0	82.66	.94	.44	.7
54	151	150	200.	6.0	130.0	92.66	1.05	.18	.9
55	151	152	120.	6.0	130.0	36.47	.41	.02	.1
56	152	153	1100.	4.0	130.0	20.00	.51	.42	.3
57	153	154	820.	4.0	130.0	10.00	.26	.09	.1
58	152	155	250.	6.0	130.0	16.47	.19	.01	.0
59	155	156	600.	6.0	130.0	16.47	.19	.02	.0
60	156	157	620.	6.0	130.0	6.47	.07	.00	.0
61	157	158	180.	6.0	130.0	26.71	.30	.02	.0
62	158	159	920.	4.0	130.0	15.74	.40	.23	.1
63	159	160	600.	4.0	130.0	5.74	.15	.02	.0
64	160	161	600.	4.0	130.0	5.74	.15	.02	.0
* 65	162	161	280.	4.0	130.0	4.26	.11	.01	.0
66	162	163	340.	4.0	130.0	14.89	.38	.08	.1
67	163	164	700.	4.0	130.0	14.89	.38	.15	.1
68	164	165	700.	4.0	130.0	4.89	.12	.02	.0
* 69	166	165	420.	4.0	130.0	5.11	.13	.01	.0
* 70	167	166	400.	6.0	130.0	112.58	1.28	.52	1.3
71	167	168	230.	4.0	130.0	18.19	.46	.07	.4
* 72	168	162	600.	4.0	130.0	18.15	.49	.21	.4
73	169	167	100.	6.0	130.0	130.77	1.48	.17	1.7
* 74	170	168	600.	4.0	130.0	.97	.02	.00	.0
* 75	168	170	420.	4.0	130.0	10.97	.28	.05	.1
76	166	171	600.	6.0	130.0	47.88	.54	.15	.4
77	171	172	380.	6.0	130.0	37.88	.43	.07	.2
78	172	173	850.	4.0	130.0	16.64	.42	.18	.2
79	173	174	620.	4.0	130.0	6.64	.17	.03	.0
80	175	174	700.	4.0	130.0	11.24	.29	.09	.1
* 81	172	175	270.	4.0	130.0	21.24	.54	.12	.4
82	174	189	440.	6.0	130.0	17.88	.20	.02	.0
83	176	177	150.	6.0	130.0	60.00	.68	.06	.4
84	177	178	520.	6.0	130.0	60.00	.68	.21	.4
85	178	179	600.	6.0	130.0	50.00	.57	.17	.3
86	179	180	420.	4.0	130.0	20.00	.51	.16	.3

88	180	182	600.	4.0	130.0	10.00	.26	.06	.1
89	179	188	500.	4.0	130.0	30.00	.77	.40	.8
90	188	184	700.	4.0	130.0	9.27	.24	.06	.0
91	184	183	600.	4.0	130.0	9.27	.24	.06	.0
92	183	185	600.	4.0	130.0	9.27	.24	.06	.0
* 93	186	185	720.	4.0	130.0	.73	.02	.00	.0
4	187	186	360.	4.0	130.0	10.73	.27	.04	.1
5	188	187	320.	4.0	130.0	20.73	.53	.13	.4
* 96	189	176	280.	6.0	130.0	37.47	.43	.05	.1
* 97	190	189	300.	6.0	130.0	18.59	.22	.02	.0
* 98	191	190	900.	6.0	130.0	18.59	.22	.05	.0

1PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLO /10
* 99	192	191	340.	6.0	130.0	14.21	.16	.01	.0
100	192	193	300.	4.0	130.0	5.00	.13	.01	.0
* 101	195	192	250.	6.0	130.0	19.21	.22	.01	.0
102	195	194	300.	4.0	130.0	1.79	.05	.00	.0
103	194	197	600.	4.0	130.0	1.79	.05	.00	.0
* 104	198	197	600.	4.0	130.0	7.21	.08	.01	.0
* 105	199	195	620.	4.0	130.0	8.21	.21	.05	.0
106	199	196	600.	6.0	130.0	21.00	.24	.03	.0
107	196	195	250.	6.0	130.0	21.00	.24	.01	.0
* 108	200	199	400.	6.0	130.0	29.21	.33	.04	.1
109	200	201	500.	4.0	130.0	5.00	.13	.01	.0
* 110	202	200	740.	6.0	130.0	34.21	.39	.11	.1
111	202	203	600.	4.0	130.0	15.39	.39	.14	.2
112	203	204	600.	4.0	130.0	10.39	.27	.07	.1
113	204	205	600.	4.0	130.0	5.00	.13	.02	.0
* 114	204	191	320.	4.0	130.0	5.39	.14	.01	.0
115	213	176	560.	6.0	130.0	22.53	.26	.04	.0
116	213	212	380.	4.0	130.0	10.00	.26	.04	.1
117	212	211	600.	4.0	130.0	10.00	.26	.06	.1
118	211	210	120.	4.0	130.0	10.00	.26	.01	.1
119	210	209	300.	2.0	130.0	5.00	.51	.26	.8
120	210	208	520.	4.0	130.0	5.00	.13	.02	.0
121	208	207	400.	4.0	130.0	5.00	.13	.01	.0
122	207	206	300.	4.0	130.0	5.00	.13	.01	.0
* 123	215	214	200.	4.0	130.0	14.94	.38	.04	.2
* 124	216	215	600.	4.0	130.0	19.94	.51	.23	.5
* 125	217	216	400.	4.0	130.0	19.94	.51	.15	.3
* 126	219	217	600.	4.0	130.0	3.20	.08	.01	.0
* 127	218	217	600.	4.0	130.0	16.71	.43	.16	.2
* 128	223	218	800.	4.0	130.0	21.71	.55	.36	.4
* 129	224	223	400.	4.0	130.0	16.62	.42	.11	.2
130	224	225	600.	4.0	130.0	24.91	.64	.34	.5
131	225	103	600.	4.0	130.0	24.91	.64	.34	.5
* 132	222	223	500.	4.0	130.0	5.09	.13	.02	.0
* 133	101	222	500.	4.0	130.0	4.66	.12	.01	.0
134	222	219	620.	4.0	130.0	30.82	.79	.53	.8
135	219	220	500.	4.0	130.0	22.59	.58	.24	.4
136	220	214	640.	4.0	130.0	17.59	.45	.19	.3
137	221	222	170.	6.0	130.0	31.24	.35	.02	.1
* 138	224	221	600.	6.0	130.0	31.24	.35	.07	.1
139	132	131	500.	4.0	130.0	21.54	.55	.22	.4
140	186	202	600.	6.0	130.0	49.59	.56	.17	.2
141	214	213	170.	6.0	130.0	32.53	.37	.02	.1
142	141	121	320.	6.0	130.0	28.29	.32	.03	.1
144	228	157	450.	4.0	130.0	20.24	.52	.18	.3
145	227	125	350.	4.0	130.0	96.74	2.47	2.47	7.0
146	100	224	10.	4.0	130.0	103.13	2.63	.08	7.9
147	226	151	10.	4.0	130.0	129.12	3.30	.12	12.0

NO.	(GPM)	(CFS)	ELEV	HEAD	PRESSURE	ELEV
101	.0	.00	500.	99.84	43.26	599.84
102	10.0	.02	500.	99.40	43.07	599.40
103	.0	.00	475.	124.23	53.83	599.23
104	10.0	.02	475.	123.52	53.53	598.52
	10.0	.02	475.	123.02	53.31	598.02
	.0	.00	475.	122.48	53.07	597.48
107	10.0	.02	475.	122.28	52.98	597.28
108	.0	.00	475.	122.19	52.95	597.19
109	10.0	.02	470.	127.12	55.09	597.12
110	10.0	.02	470.	127.19	55.11	597.19
111	.0	.00	470.	127.28	55.15	597.28
112	10.0	.02	480.	117.25	50.48	597.25
113	.0	.00	475.	122.28	52.99	597.28
114	10.0	.02	475.	122.31	53.00	597.31
115	.0	.00	475.	122.38	53.03	597.38
116	.0	.00	475.	122.32	53.01	597.32
117	10.0	.02	475.	122.23	52.96	597.23
118	10.0	.02	475.	122.22	52.96	597.22
119	.0	.00	475.	122.27	52.98	597.27
120	10.0	.02	475.	122.31	53.00	597.31
121	.0	.00	475.	122.39	53.04	597.39
122	.0	.00	475.	122.39	53.03	597.39
123	10.0	.02	477.	120.40	52.17	597.40
124	.0	.00	477.	120.45	52.19	597.45
125	.0	.00	475.	122.53	53.09	597.53
126	.0	.00	475.	122.29	52.99	597.29
127	10.0	.02	475.	122.17	52.94	597.17
128	10.0	.02	475.	122.09	52.90	597.09
129	10.0	.02	475.	122.09	52.90	597.09
[illegible]	.0	.00	475.	122.11	52.92	597.11
[illegible]	.0	.00	475.	122.17	52.94	597.17
[illegible]32	10.0	.02	475.	122.18	52.94	597.18
133	10.0	.02	475.	121.95	52.85	596.95
134	10.0	.02	475.	121.93	52.84	596.93
135	.0	.00	480.	116.94	50.68	596.94
136	.0	.00	490.	106.94	46.34	596.94
137	10.0	.02	500.	96.94	42.01	596.94
138	10.0	.02	500.	96.99	42.03	596.99
139	.0	.00	500.	96.97	42.02	596.97
140	.0	.00	500.	97.32	42.17	597.32
141	10.0	.02	500.	97.43	42.22	597.43
142	.0	.00	500.	97.49	42.24	597.49
143	.0	.00	480.	117.49	50.91	597.49
144	.0	.00	480.	117.72	50.68	597.72
145	10.0	.02	500.	97.66	42.32	597.66
146	.0	.00	500.	98.96	42.88	598.96
147	.0	.00	500.	98.87	42.84	598.87
148	10.0	.02	500.	98.84	42.83	598.84

NODE DATA:

NODE NO.	DEMAND (GPM)	(CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
149	.0	.00	490.	109.26	47.35	599.26
150	10.0	.02	480.	119.70	51.87	599.70
[illegible]	.0	.00	480.	119.88	51.95	599.88
[illegible]52	.0	.00	470.	129.86	56.27	599.86
153	10.0	.02	475.	124.44	53.92	599.44
154	10.0	.02	475.	124.35	53.89	599.35
155	.0	.00	470.	129.85	56.27	599.85
156	10.0	.02	475.	124.83	54.09	599.83
157	.0	.00	490.	109.82	47.59	599.82

160	.0	.00	505.	94.56	40.98	599.56
161	10.0	.02	520.	79.54	34.47	599.54
162	.0	.00	525.	74.54	32.30	599.54
163	.0	.00	515.	84.47	36.60	599.47
164	10.0	.02	505.	94.31	40.87	599.31
165	10.0	.02	500.	99.29	43.03	599.29
166	10.0	.02	500.	99.31	43.03	599.31
167	.0	.00	510.	89.20	38.63	599.20
168	.0	.00	525.	74.75	32.39	599.75
170	10.0	.02	510.	89.76	38.89	599.76
171	10.0	.02	500.	99.15	42.96	599.15
172	.0	.00	500.	99.08	42.94	599.08
173	10.0	.02	500.	99.71	43.21	599.71
174	.0	.00	480.	119.38	51.71	599.38
175	10.0	.02	505.	93.97	40.72	598.97
176	.0	.00	470.	128.81	55.82	598.81
177	.0	.00	465.	133.75	57.96	598.75
178	10.0	.02	475.	123.54	53.53	598.54
179	.0	.00	475.	123.36	53.46	598.36
180	.0	.00	475.	123.20	53.39	598.20
181	10.0	.02	475.	123.13	53.36	598.13
182	10.0	.02	475.	123.14	53.36	598.14
183	.0	.00	500.	97.84	42.40	597.84
184	.0	.00	480.	117.90	51.09	597.90
185	10.0	.02	475.	122.79	53.21	597.79
186	10.0	.02	475.	122.79	53.21	597.79
187	10.0	.02	475.	122.83	53.23	597.83
188	.0	.00	475.	122.96	53.28	597.96
189	.0	.00	465.	133.86	58.00	598.86
190	.0	.00	475.	123.87	53.68	598.87
191	.0	.00	495.	103.92	45.03	598.92
	.0	.00	490.	108.93	47.20	598.93
193	5.0	.01	480.	118.92	51.53	598.92
194	.0	.00	480.	118.94	51.54	598.94
195	.0	.00	480.	118.94	51.54	598.94
196	.0	.00	480.	118.95	51.55	598.95
197	5.0	.01	480.	118.94	51.54	598.94
198	5.0	.01	480.	118.94	51.54	598.94
199	.0	.00	505.	93.99	40.73	598.99

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
200	.0	.00	500.	99.03	42.91	599.03
201	5.0	.01	500.	99.02	42.91	599.02
202	.0	.00	500.	99.14	42.96	599.14
203	5.0	.01	500.	99.00	42.90	599.00
204	.0	.00	500.	98.93	42.87	598.93
205	5.0	.01	500.	98.91	42.86	598.91
206	5.0	.01	500.	98.89	42.77	598.89
207	.0	.00	500.	98.70	42.77	598.70
208	.0	.00	480.	118.72	51.44	598.72
209	5.0	.01	500.	98.47	42.67	598.47
210	.0	.00	500.	98.73	42.78	598.73
211	.0	.00	490.	108.74	47.12	598.74
212	.0	.00	490.	108.81	47.15	598.81
213	.0	.00	480.	118.85	51.50	598.85
214	.0	.00	475.	123.87	53.68	598.87
215	5.0	.01	470.	128.91	55.86	598.91
216	.0	.00	465.	134.14	58.13	599.14
217	.0	.00	465.	134.29	58.19	599.29
218	5.0	.01	470.	129.46	56.10	599.46
219	5.0	.01	480.	119.30	51.70	599.30

221	.0	.00	480.	119.92	51.97	599.92	
222	.0	.00	495.	104.83	45.43	599.83	
223	.0	.00	475.	124.81	54.09	599.81	
224	.0	.00	480.	119.92	51.97	599.92	
225	.0	.00	480.	119.58	51.82	599.58	
100	-103.1	-.23	500.	100.00	43.33	600.00	
226	-129.1	-.29	480.	120.00	52.00	600.00	
1	-130.8	-.29	525.	75.00	32.50	600.00	
227	-96.7	-.22	480.	120.00	52.00	600.00	
228	-30.1	-.07	480.	120.00	52.00	600.00	

CHANGES MADE TO NETWORK

0ALL PREVIOUS DEMANDS ARE MULTIPLIED BY 1.750
1SOLUTION TO THE 1 VARIATION OF THE BASIC NETWORK IS GIVEN BELOW
0FLOW FROM PUMPS AND RESERVOIRS EQUALS 854.400

ITERATION= 1 SUM= .1E3E-03
0UNITS OF SOLUTION ARE
DIAMETERS - INCH
LENGTH - FEET
HEADS - FEET
ELEVATIONS - FEET
PRESSURES - (PSI)
FLOWRATES - (GPM)
HAZEN-WILLIAMS FORMULA USED FOR COMPUTING HEAD LOSS
1PIPE DATA

	PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HL /1
	1	224	101	700.	6.0	130.0	54.03	.61	.23	.
	2	101	102	720.	4.0	130.0	45.73	1.17	1.27	1.
	3	102	103	700.	4.0	130.0	27.93	.71	.50	.
	4	103	104	500.	4.0	130.0	72.27	1.85	2.06	4.
	5	104	105	600.	4.0	130.0	54.47	1.39	1.46	2.
	6	105	106	1340.	4.0	130.0	36.67	.94	1.57	1.
	7	106	107	330.	4.0	130.0	36.67	.94	.65	1.
	8	107	108	600.	4.0	130.0	18.87	.48	.21	.
	9	108	109	600.	4.0	130.0	17.80	.45	.18	.
	10	108	110	600.	4.0	130.0	1.07	.03	.00	.
*	11	111	110	1030.	4.0	130.0	16.73	.43	.28	.
	12	111	112	330.	4.0	130.0	17.80	.45	.10	.
	13	111	113	600.	6.0	130.0	.00	.00	.00	.
*	14	114	111	420.	6.0	130.0	34.53	.39	.06	.
*	15	115	114	720.	6.0	130.0	52.33	.59	.23	.
	16	115	116	420.	4.0	130.0	20.99	.54	.18	.
	17	116	117	680.	4.0	130.0	20.99	.54	.28	.
	18	117	118	600.	4.0	130.0	7.19	.08	.01	.
*	19	119	118	600.	4.0	130.0	14.61	.37	.13	.
*	20	120	119	600.	4.0	130.0	14.61	.37	.13	.
*	21	121	120	280.	4.0	130.0	72.41	.53	.24	.
	22	121	122	440.	6.0	130.0	17.93	.20	.02	.
*	23	123	122	600.	6.0	130.0	20.42	.23	.03	.
*	24	124	123	800.	6.0	130.0	38.22	.43	.14	.
*	25	125	124	220.	6.0	130.0	98.86	1.12	.22	1.
	26	125	115	700.	6.0	130.0	73.32	.83	.41	.
	27	124	126	150.	4.0	130.0	80.66	1.58	.45	2.
	28	126	127	300.	4.0	130.0	36.85	.94	.36	1.
	29	127	128	700.	4.0	130.0	19.05	.49	.24	.
	30	128	129	540.	4.0	130.0	1.25	.03	.00	.
*	31	130	129	260.	4.0	130.0	16.55	.42	.07	.
*	32	131	130	100.	4.0	130.0	44.36	1.13	.17	1.

	35	130	133	660.	4.0	130.0	27.81	.71	.46	.70
	36	133	134	580.	4.0	130.0	10.01	.26	.06	.11
*	37	135	134	600.	4.0	130.0	7.79	.20	.04	.07
	38	135	136	700.	4.0	130.0	4.01	.10	.01	.02
	39	136	137	400.	4.0	130.0	4.01	.10	.01	.02
*	40	138	137	740.	4.0	130.0	13.79	.35	.14	.19
		138	139	400.	4.0	130.0	11.80	.30	.06	.14
	2	139	135	440.	4.0	130.0	11.80	.30	.06	.14
*	43	140	138	600.	4.0	130.0	40.29	1.11	.95	1.60
*	44	141	140	200.	4.0	130.0	40.39	1.11	.32	1.60
*	45	142	141	140.	6.0	130.0	111.53	1.27	.18	1.28
	46	142	143	500.	4.0	130.0	.00	.00	.00	.00
*	47	144	142	220.	6.0	130.0	111.53	1.27	.66	1.28
	48	144	145	500.	4.0	130.0	17.80	.45	.15	.31

PIPE DATA

PIPE NO.	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOSS /100
* 49	146	144	300.	4.0	130.0	129.33	3.30	3.63	12.11
50	146	147	900.	4.0	130.0	17.80	.45	.28	.31
51	147	148	300.	4.0	130.0	17.80	.45	.09	.31
* 52	149	146	400.	6.0	130.0	147.13	1.67	.85	2.13
* 53	150	149	600.	6.0	130.0	147.13	1.67	1.28	2.13
* 54	151	150	200.	6.0	130.0	164.93	1.87	.53	2.64
55	151	152	120.	6.0	130.0	64.91	.74	.06	.47
56	152	153	1100.	4.0	130.0	38.60	.91	1.22	1.11
57	153	154	820.	4.0	130.0	17.80	.45	.25	.31
58	152	155	250.	6.0	130.0	29.31	.33	.03	.11
59	155	156	600.	6.0	130.0	29.31	.33	.06	.11
60	156	157	620.	6.0	130.0	11.81	.13	.01	.02
	157	158	180.	6.0	130.0	47.52	.54	.05	.28
	158	159	720.	4.0	130.0	28.02	.72	.66	.71
63	159	160	600.	4.0	130.0	10.22	.26	.07	.11
64	160	161	600.	4.0	130.0	10.22	.26	.07	.11
* 65	162	161	280.	4.0	130.0	7.58	.19	.02	.06
66	162	163	340.	4.0	130.0	26.50	.68	.22	.64
67	163	164	700.	4.0	130.0	26.50	.68	.45	.64
68	164	165	700.	4.0	130.0	8.70	.22	.06	.08
* 69	166	165	480.	4.0	130.0	9.10	.23	.04	.09
* 70	167	166	400.	6.0	130.0	200.40	2.27	1.51	3.78
71	167	168	230.	4.0	130.0	32.38	.83	.21	.91
* 72	168	162	600.	4.0	130.0	34.08	.87	.61	1.02
73	169	167	100.	6.0	130.0	201.79	2.64	.50	4.99
* 74	170	168	600.	4.0	130.0	1.70	.04	.00	.00
* 75	158	170	420.	4.0	130.0	19.50	.50	.15	.36
76	166	171	600.	6.0	130.0	85.22	.97	.47	.78
77	171	172	780.	6.0	130.0	87.42	.77	.19	.50
78	172	173	650.	4.0	130.0	29.42	.76	.51	.78
79	173	174	620.	4.0	130.0	11.82	.30	.09	.14
+ 80	175	174	700.	4.0	130.0	20.01	.51	.27	.38
+ 81	172	175	270.	4.0	130.0	37.81	.97	.34	1.24
82	174	189	440.	6.0	130.0	91.82	.36	.06	.13
83	176	177	150.	6.0	130.0	102.80	1.21	.19	1.19
84	177	178	520.	6.0	130.0	102.80	1.21	.61	1.19
85	178	179	600.	6.0	130.0	89.00	1.01	.50	.84
87	179	180	420.	4.0	130.0	38.60	.91	.47	1.11
	180	181	700.	4.0	130.0	17.80	.45	.22	.31
88	180	182	600.	4.0	130.0	17.90	.45	.18	.31
89	179	188	500.	4.0	130.0	32.40	1.36	1.18	2.35
90	188	184	700.	4.0	130.0	16.50	.42	.19	.27
91	184	183	600.	4.0	130.0	16.50	.42	.16	.27
92	183	185	600.	4.0	130.0	16.50	.42	.16	.27
* 93	186	185	720.	4.0	130.0	1.30	.03	.00	.00
* 94	187	184	740	4.0	130.0	15.10	.40	.14	.25

* 96	189	176	280.	6.0	130.0	66.71	.76	.14	.49
* 97	190	189	300.	6.0	130.0	34.88	.40	.04	.13
* 98	191	190	600.	6.0	130.0	34.88	.40	.13	.15

1PIPE DATA

PIPE	NODES FROM	TO	LENGTH	DIAM	COEF	FLOW RATE	VELOCITY	HEAD LOSS	HLOS /100
* 99	192	191	240.	6.0	130.0	25.29	.29	.03	.03
100	192	193	300.	4.0	130.0	8.90	.23	.03	.08
* 101	195	192	250.	6.0	130.0	34.19	.39	.04	.14
102	195	194	300.	4.0	130.0	2.19	.06	.00	.01
103	194	197	600.	4.0	130.0	2.19	.06	.01	.01
* 104	198	197	600.	4.0	130.0	5.71	.15	.02	.04
* 105	199	198	220.	4.0	130.0	14.61	.37	.13	.21
106	199	196	600.	6.0	130.0	37.38	.42	.10	.17
107	196	195	250.	6.0	130.0	37.08	.42	.04	.17
* 108	200	199	400.	6.0	130.0	51.99	.59	.12	.31
109	200	201	300.	4.0	130.0	8.90	.23	.04	.08
* 110	202	200	740.	8.0	130.0	60.89	.69	.31	.42
111	202	203	600.	4.0	130.0	17.39	.70	.41	.68
112	203	204	600.	4.0	130.0	12.49	.47	.20	.33
113	204	205	600.	4.0	130.0	8.90	.23	.05	.09
* 114	204	191	320.	4.0	130.0	9.59	.24	.03	.10
* 115	213	176	560.	6.0	130.0	40.09	.45	.11	.19
116	213	212	380.	4.0	130.0	17.80	.45	.12	.31
117	212	211	600.	4.0	130.0	17.80	.45	.18	.31
118	211	210	120.	4.0	130.0	17.80	.45	.04	.31
119	210	209	300.	2.0	130.0	8.90	.91	.75	2.49
120	210	208	530.	4.0	130.0	8.90	.23	.04	.08
121	208	207	400.	4.0	130.0	8.90	.23	.03	.08
	207	206	300.	4.0	130.0	8.90	.23	.03	.08
123	215	214	200.	4.0	130.0	24.59	.63	.13	.63
* 124	216	215	600.	4.0	130.0	35.49	.91	.66	1.10
* 125	217	216	400.	4.0	130.0	35.49	.91	.44	1.1
* 126	219	217	600.	4.0	130.0	5.74	.15	.02	.04
* 127	218	217	600.	4.0	130.0	29.74	.76	.48	.8
* 128	223	219	800.	4.0	130.0	38.64	.99	1.03	1.29
* 129	224	223	400.	4.0	130.0	29.58	.76	.32	.79
130	224	225	600.	4.0	130.0	44.34	1.13	1.00	1.66
131	225	103	600.	4.0	130.0	44.34	1.13	1.00	1.66
* 132	222	223	500.	4.0	130.0	9.06	.23	.04	.09
* 133	101	222	500.	4.0	130.0	8.30	.21	.04	.09
134	222	219	220.	4.0	130.0	54.85	1.40	1.53	2.49
135	219	220	500.	4.0	130.0	40.21	1.03	.70	1.39
136	220	214	640.	4.0	130.0	21.31	.80	.56	.88
137	221	222	170.	6.0	130.0	55.61	.63	.06	.33
* 138	224	221	300.	6.0	130.0	55.61	.63	.21	.33
139	122	101	500.	4.0	130.0	38.05	.98	.64	1.29
* 140	166	202	300.	6.0	130.0	82.28	1.00	.50	.83
* 141	214	213	170.	6.0	130.0	57.89	.66	.06	.33
142	141	121	220.	6.0	130.0	50.34	.57	.09	.23
144	228	157	480.	4.0	130.0	36.01	.92	.81	1.69
145	227	125	380.	4.0	130.0	172.20	4.40	7.20	20.53
146	100	224	10.	4.0	130.0	153.57	3.92	.23	23.13
147	226	151	10.	4.0	130.0	229.53	5.87	.35	35.13

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
101	.0	.00	500.	99.53	43.13	599.53
102	17.8	.04	500.	98.26	42.58	598.26
103	.0	.00	475.	122.77	53.20	597.77

106	.0	.00	475.	117.67	50.99	592.67
107	17.8	.04	475.	117.03	50.71	592.03
108	.0	.00	475.	116.82	50.62	591.82
109	17.8	.04	470.	121.63	52.71	591.63
110	17.8	.04	470.	121.82	52.79	591.82
111	.0	.00	470.	122.10	52.91	592.10
[illegible]	17.8	.04	460.	132.00	57.20	592.00
[illegible]	.0	.00	475.	117.10	50.74	592.10
114	17.8	.04	475.	117.16	50.77	592.16
115	.0	.00	475.	117.39	50.87	592.39
116	.0	.00	475.	117.21	50.79	592.21
117	17.8	.04	475.	116.93	50.67	591.93
118	17.8	.04	475.	116.92	50.67	591.92
119	.0	.00	475.	117.05	50.72	592.05
120	17.8	.04	475.	117.18	50.78	592.18
121	.0	.00	475.	117.42	50.88	592.42
122	.0	.00	475.	117.40	50.87	592.40
123	17.8	.04	477.	115.43	50.02	592.43
124	.0	.00	477.	115.57	50.08	592.57
125	.0	.00	475.	117.30	51.05	592.30
126	.0	.00	475.	117.13	50.76	592.13
127	17.8	.04	475.	116.77	50.60	591.77
128	17.8	.04	475.	116.53	50.50	591.53
129	17.8	.04	475.	116.50	50.50	591.50
130	.0	.00	475.	116.60	50.53	591.60
131	.0	.00	475.	116.76	50.60	591.76
132	17.8	.04	475.	116.79	50.61	591.79
133	17.8	.04	475.	116.13	50.32	591.13
134	17.8	.04	475.	116.07	50.30	591.07
135	.0	.00	480.	111.11	48.15	591.11
136	.0	.00	490.	101.10	43.81	591.10
[illegible]	17.8	.04	500.	91.09	39.47	591.09
[illegible]	17.8	.04	500.	91.23	39.53	591.23
139	.0	.00	500.	91.17	39.51	591.17
140	.0	.00	500.	92.19	39.95	592.19
141	17.8	.04	500.	92.51	40.09	592.51
142	.0	.00	500.	92.69	40.17	592.69
143	.0	.00	480.	112.69	48.83	592.69
144	.0	.00	460.	133.36	57.79	593.36
145	17.8	.04	500.	93.20	40.39	593.20
146	.0	.00	500.	96.99	42.03	596.99
147	.0	.00	500.	96.71	41.91	596.71
148	17.8	.04	500.	96.62	41.87	596.62

1NODE DATA:

NODE NO.	DEMAND (GPM)	DEMAND (CFS)	ELEV	HEAD	PRESSURE	HGL ELEV
149	.0	.00	490.	107.84	46.73	597.84
150	17.8	.04	480.	119.12	51.62	599.12
151	.0	.00	480.	119.28	51.69	599.28
152	.0	.00	470.	129.59	56.16	599.59
153	17.8	.04	475.	123.37	53.46	598.37
154	17.8	.04	475.	123.12	53.35	598.12
155	.0	.00	470.	129.57	56.15	599.57
156	17.8	.04	475.	124.50	53.95	599.50
157	.0	.00	490.	109.49	47.45	599.49
[illegible]	.0	.00	500.	99.44	43.09	599.44
[illegible]	17.8	.04	490.	108.79	47.14	598.79
160	.0	.00	505.	93.72	40.61	598.72
161	17.8	.04	520.	78.65	34.09	598.65
162	.0	.00	525.	73.67	31.92	598.67
163	.0	.00	515.	83.45	36.16	598.45
164	17.8	.04	505.	93.00	40.30	598.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

227	-172.2	-.38	480.	120.00	52.00	600.00
228	-36.0	-.08	480.	120.00	52.00	600.00

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CONSULTING HYDROGEOLOGISTS

EVALUATION OF THE WATER SUPPLY WELLS

and

GROUND WATER RESOURCES

of

LAKE LIMERICK

with

RECOMMENDATIONS FOR DEVELOPING ADDITIONAL SUPPLIES

January, 1985

prepared by: J.R. Carr/Associates

prepared for: Lake Limerick Water Committee

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EVALUATION OF THE WATER SUPPLY WELLS
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RECOMMENDATIONS FOR DEVELOPING ADDITIONAL SUPPLIES

INTRODUCTION

This report provides data, information, conclusions and recommendations relative to the Lake Limerick water supply wells. This evaluation is based on review of well logs, test and analytical data, other relevant information, and direct test data collected as a part of this study. The agreement and terms to perform this work were provided in our letter/contract of November 20, 1984.

EXISTING WELLS

The Lake Limerick water system has six wells of which three are currently operated. The locations of the six wells are shown in Figure 1. Descriptive data from Wells 1 - 6 are provided below in Table 1.

VICINITY MAP

FIGURE 1

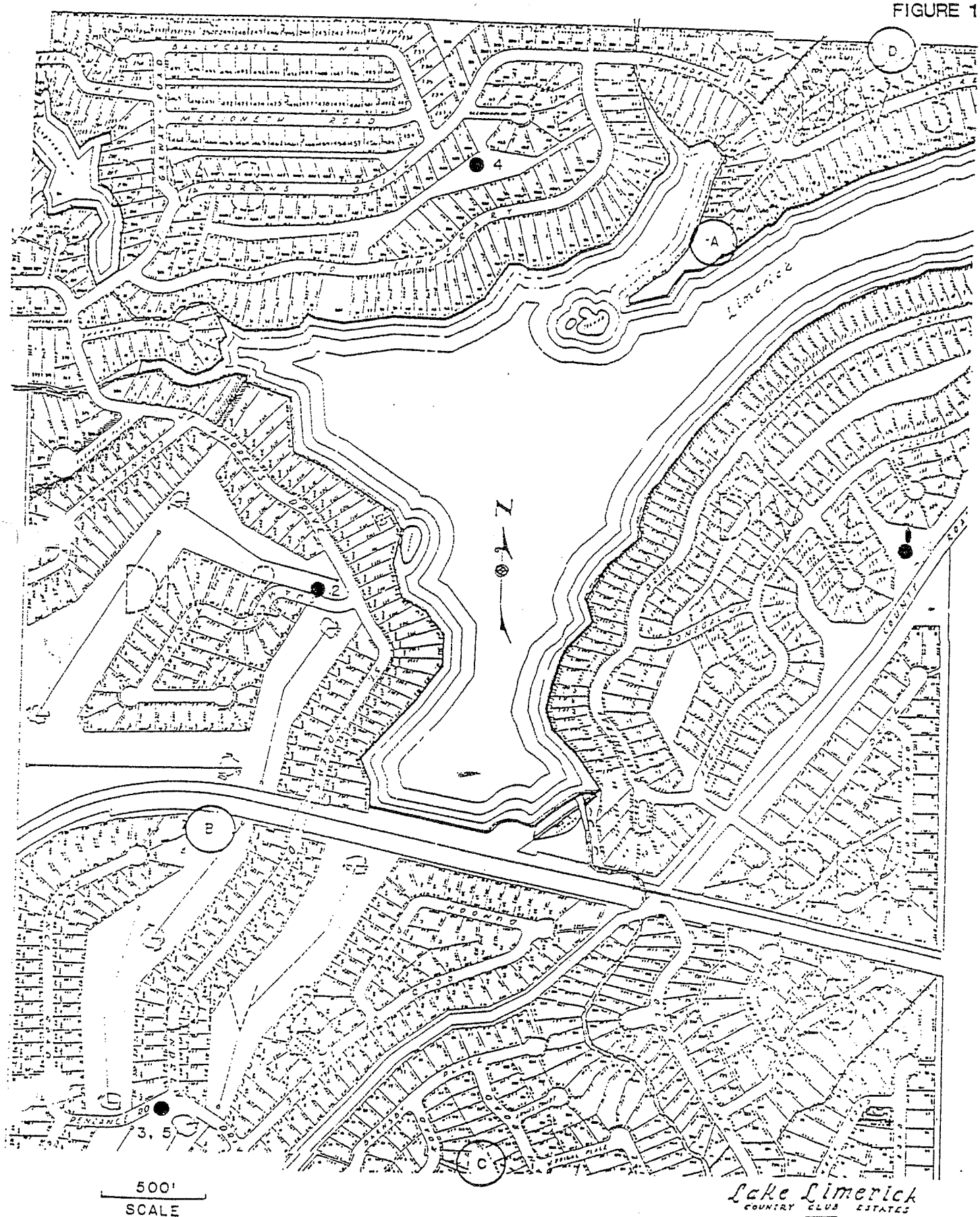


TABLE 1

	Well 1	Well 2	Well 3	Well 4	Well 5	Well 6 (capped)
Well Diam.	10 in.	10 in.	10 in.	10 in.	8 in.	10 in.
Ground Elev. ft. (approximate)	510	468	520	510	520	510
Depth	114 ft.	121 ft.	148 ft.	111 ft.	177 ft.	233 ft.
Screen Depth	89-99 99-114	103-121	131-148	91-111	167-177	213-218 218-233
Drilled by	Tyee	Russell	Russell	Russell	Bedell	Russell
Slab Elev. Rel. to Lake (1)	57.9	14.7	68.4	57.7	68.4	57.9
atus	unused	operating	aban.	op.	op.	unused

(1) elevation data taken from Alan Osberg, Osberg Construction Co. letter of 3/25/71. Elevations for Wells 5 and 6 are estimated.

In May of 1981, Well 3 was abandoned because of reduced yield, and replaced with Well 5 which was drilled about 30 feet west of Well 3.

A similar reduction in the apparent yield at Well 1 prompted drilling of Well 6 in late 1984. Well 6 is located about 10 feet east of Well 1 and reportedly did not encounter any useable aquifer at the depth of the upper aquifer zone.

ater pumped from a Well 6 screened zone (213 - 233 feet) reportedly provided 140 gallons per minute but had very high apparent concentrations of iron and manganese as described in the Water Quality section of this report.

GEOLOGY

The area surrounding Lake Limerick development is mantled with glacial till consisting of relatively compact sand and gravel in a silt-clay matrix. This sediment is often called "hardpan" by local drillers and overlies a more permeable sequence of sand and gravel with variable amounts of silt. The cleaner, less silty horizons of this sequence are the aquifers which are penetrated by the Lake Limerick wells.

These relationships are illustrated as a fence diagram in Figure 2. The upper aquifer zone, described as sand and gravel in the well logs, is 10 to 30 feet thick and has been penetrated by all six wells at the site. The zone appears to thicken to the south (Wells 3 and 5) and is at slightly higher elevations to the north and west. As shown on the drawing, if the the depth of the Lake in the northeast section exceeds 25 feet, then the aquifer and lake may be connected (hydraulic continuity). A similar connection on the west side of Lake Limerick would require a Lake depth of over 40 feet.

LAKE LIMERICK

CUTAWAY GEOLOGIC SECTION THROUGH WATER SUPPLY WELLS

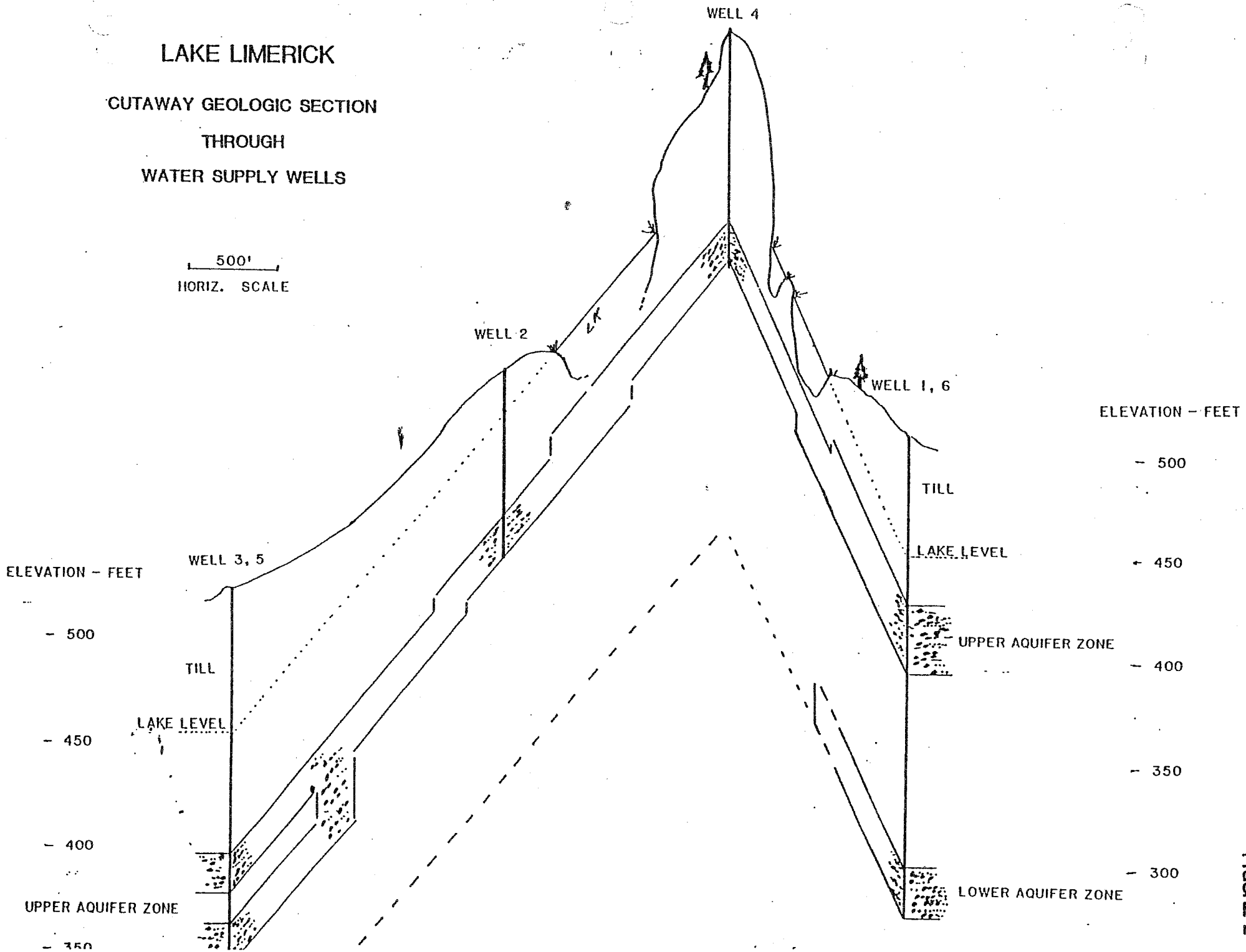


FIGURE 2

The statement that all six wells penetrate the upper aquifer is based on close examination of the well logs, and interpretation of different driller's descriptions of the sediments they encountered. Well 6, was drilled to a depth of 233 feet because the drilling contractor did not believe the gravel and sand ("gr sand" from 100 to 110 feet) would produce 100 gpm or more.

Deep drilling in Well 6 did reveal a deeper aquifer zone at a depth of 210 to 233 feet. Discussions with Mr. Russell regarding the development and testing of the well lead us to believe that some well completion and development problems may contribute to the water quality problem.

HYDROLOGY

An understanding of the hydrology of the area is important to planning the water resource development. This includes evaluation of the ground water gradient, direction of flow and analysis of recharge areas, amounts and patterns. Determination of these factors requires accurate measurment of the static water level in each well, and accurate elevations at each site.

Static water level data is reported on the well log forms for each well. Water levels were also measured in Wells 1 - 5 as part of this study. Some of these measurments (such as Well 2 and Well 5) are not believed to represent a true static level because time did not allow full recovery before the respective measurements were taken.

Elevations for each well have been calculated using Osberg Const. Co. data (March 25,1971) for the pump house slab elevation based on Lake elevation = 0, corrected to an estimated elevation of Lake surface = 452 feet. Where possible, these elevations have been cross-checked with the contoured Water Layout Map (1967) Sleavin and Kors.

Because of several potentially incorrect errors in the elevations and unstabilized static water level measurements, described above conclusions regarding the movement of the ground water can be only tentative.

Static water level (SWL) elevation data is presented in Table 2.

TABLE 2

Well No.	Surface elevation	Original SWL	date	SWL 12/7/84	Elevation SWL
1	510	51	3/25/66	53.5	457
2	468	11	6/17/67	20.8*	457**
3	520	56	6/17/67	56.6	463
4	510	54	8/1/68	53.0	457
5	520	61	5/4/81	62.8	457
6	510	142	10/23/84	-	368

* does not represent a true SWL - well not fully recovered .
** elevation computed from original SWL.

ıe available data indicate that the ground water levels in the upper aquifer zone are above the level of Lake Limerick, and have a nearly horizontal attitude. The higher water level elevation at Well 4 (463 feet) suggests that the gradient may be from south to north. However, this direction is opposite to the surface water drainage pattern and further investigation is required to verify the actual flow direction.

The much lower water levels in the lower aquifer zone of Well 6 (elevation 368 feet), relative to the 457 foot water level elevation in the upper aquifer zone, indicates that the upper zone is recharging the lower aquifer zone.

These data also show that water levels in the upper aquifer zone have been relatively constant since 1966. Thus any changes in well performance are probably not caused by declining water levels.

WELL PERFORMANCE

During December 1984, Wells 1, 2, 4 and 5 were tested by J.R.Carr/Associates to determine yield, drawdown, and the aquifer characteristic known as transmissivity. Well yield divided by drawdown is termed "specfic capacity". A well's specific capacity is directly related to the aquifer transmissivity which is equivalent to the permeability of the entire aquifer thickness.

Well performance is best judged by comparison of specific capacity to the theoretical maximum based on the aquifer transmissivity, or to prior specific capacities measured when the well was new. Reductions in specific capacity over time are most often caused by plugging of the well screen and aquifer with chemical or bacterial incrustants. The available well performance data is summarized in Table 3.

TABLE 3

Well No.	T *	Maximum S.C. ** gpm/ft	Original S.C. gpm/ft	Current S.C. gpm/ft	Present Eff. %
1	5	3	2.3	2.8	92
2	4	3	2.1	2.9	97
3	not tested		1.1		
4	6	3	11.6 ?	2.8	93
5	28	14	2.0	5.9	21
6	not tested		2.7	x	x

* T indicates transmissivity in gallons per day per foot of aquifer width

** S.C. indicates specific capacity in gallons per minute per foot of drawdown in the well.

Operating well efficiencies of 80% or more are considered good. Thus all of the above wells except for Well 5 appear to be operating efficiently. The much higher original specific capacity of Well 4 also indicates that this well may not be operating efficiently.

ACTUAL YIELD AND SAFE YIELD

The safe yield of the Lake Limerick wells should be computed as follows:

SAFE YIELD = SAFE DRAWDOWN X SPECIFIC CAPACITY

SAFE DRAWDOWN = maximum pump depth - SWL - allowances

*(allowances for submergence, safety, and seasonal changes in water level)

The current pumping rate, safe drawdown, and recommended pumping rate for each well are shown in Table 4.

TABLE 4

Well No.	Current Pumping Rate gpm	Safe Drawdown feet	Recommended Pumping Rate gpm
1	0	18	50
2	110-210	42	120
3	not operating		
4	104	19	50
5	115	52	120
6	not operating		
TOTALS	330 - 430 GPM		340 GPM

Operating these wells at higher than the recommended pumping rates can cause unnecessary problems such as:

* pump cavitation and wear
* plugging of the screens with incrustant
* declining specfic capacity and well yield
* sand pumping

WATER QUALITY

During testing of Wells 1, 2, 4 and 5 samples were collected and analyzed by J.R. Carr/Associates with a Hach Engineers Field Laboratory. Results of these analyses are shown in Table 5.

TABLE 5

CHEMICAL ANALYSES

Well No.	Specific Conduct. umhos/cm	pH	Iron mg/L	Chlorides mg/L	Nitrate-N mg/L	Total Hardness mg/L
1	100	7.1	0.04	<5	ND	60
2	110	6.9	0.08	<5	ND	60
3	not pumped					
4	98	7.25	0.02	<5	ND	50
5	85	6.5	0.01	<5	ND	50
6	-	-	1.22	-	-	-

Well 6 analyses by WMA Laboratory, 11/12/84. All other analyses by JRC/A field laboratory. Field lab results may be different than those determined by a certified laboratory.

These results show that the ground water is of excellent quality and meets all state drinking water standards. These analyses are also similar to analytical results from samples taken in previous years, indicating no significant change in water quality since 1966.

In October, 1984, after brief development with a test pump, the drilling contractor sampled the water from Well 6 and took the samples to WMA Laboratory in Tacoma for analysis. The Laboratory report of November 12, 1984 shows:

Iron = 1.22 mg/L
Manganese = 0.306 mg/L

These results are well over the maximum contaminant levels prescribed by the State of Washington DSHS:

Iron = 0.3 mg/L
Manganese = 0.05 mg/L

The analysis for iron and manganese is very sensitive to turbidity and the clarity of the water; thus the condition of the sample submitted to the laboratory is very important. We have discussed this issue with Don Anderson of WMA Labs, and Bill Russell the drilling contractor, and can not be certain that the sample that was analyzed was truly representative of water in the aquifer.

It also appears possible that iron rich water may have been leaking down the outside of the casing from an overlying clay layer containing wood (200 - 207 feet). This is confirmed by the variable pumping capacities reported by the drilling contractor.

CONCLUSIONS

1. The Lake Limerick water system has 6 wells of which 3 are currently in use.
2. System Wells 1-5 penetrate the "upper aquifer zone" (UAZ) which appears to be deeper, thicker and more productive toward the south end of the development.
3. Well six penetrates a deep aquifer zone which underlies the UAZ and a considerable thickness of clayey sediments.
4. The upper aquifer zone may have hydraulic continuity with the Lake.
5. Water levels in the UAZ are about 5 feet higher than the Lake and nearly 100 feet higher than the water level in the deep aquifer zone.
6. The current water levels in the upper aquifer zone are similar to the original levels indicating that recharge exceeds the current use.
7. Most of the wells in the system are operating efficiently (producing the optimum amount of water).
8. Available data suggest that redevelopment of Wells 4 and 5 could improve their operating efficiencies and increase their yield.
9. Well 1 is capable of producing at a sustained pumping rate of 50 gpm.

10. Discharge rates of Wells 2 and 4 are above their optimum capacities and need to be controlled to prevent operational problems.

11. Water quality from the UAZ is excellent and has not diminished since the wells were put into service.

12. Water quality data from Well 6 is inconclusive.

RECOMMENDATIONS

The following recommendations are provided as a guide to actions that should be taken to improve the existing supply. We have not undertaken an evaluation of the system demand, but understand that additional supplies may be needed during peak periods and in specific areas of the system (such as around Well 1).

The recommendations are arranged according to Well Number, and in order of importance.

Well 1 Reactivate the well at a pumping rate of 50 gpm. Monitor water levels and water quality as described below.

Well 6 Conduct a 4 hour pumping test on the well to evaluate water quality and potential well yield. If results are satisfactory, put the well into service at the optimum pumping rate. The test results may indicate that additional development on the well is required, or that the screen should be retrieved and the casing extracted to overlying water-bearing sediments. We do not anticipate recommending deeper drilling.

Well 2 Control flow rate so that the well can not be pumped in excess of 120 gpm. (Flow rates can be controlled with valves or preferably a restrictive orofice in the discharge line.)

Well 4 Control the discharge rate so that the maximum pumping rate is 50 gpm. Consider redevelopment of the well to determine if higher specific capacities are possible. If the original specific capacity of 11 gpm/ft of drawdown is correct, the well could easily produce over 200 gpm.

Well 5 This well is the most productive in the system but data indicates that it could produce even more water or maintain the existing discharge with less pumping lift (and lower power costs). The well's inefficiency could be a result of inadequate development but is more likely related to well design. Redevelopment could be attempted but would probably not be beneficial. New wells drilled in the south end of the development should be designed and developed to take advantage of the high potential of the aquifer in this area.

Well 3 A pumping test could be conducted with the existing pump to determine the potential well yield (after redevelopment). Some interference should be anticipated between Well 3 and Well 5.

New Well Sites The greatest well yields are anticipated from wells drilled toward the south end of the development. However, wells drilled in this area must also have slightly greater (50 feet) depths.

Drilling at the community property peninsula off Tregaron Court would have the advantage of adjacent recharge, (assuming that the regulatory agencies will approve the site).

In addition, all future drilling should be done to fully explore the full depth of the upper aquifer zone. It is possible that the zone is thicker than indicated by the available well logs from the northern part of the development.

Based on these considerations, we rate the proposed well sites as follows: 1st.....Site A..... off Tregaron Court

2nd.....Site C..... off Dalkeith Road

3rd.....Site B..... near Tee Hole 4

4th.....Site D..... at Kilmarnock and Lyme Road

A Monitoring Program should be initiated immediately to provide data for system management. This data should include:

MONITORING PROGRAM

Data	Frequency
Well discharge rate	weekly
Pumping level.....	weekly
Static Water level.....	monthly (after pump has been off for 4 hours or more).
Water analyses (Chemical).....	annual

Each well should be monitored according to this schedule. Non-operating wells should be monitored to record variation in water levels.

We believe that it is in the best interest of the committee to retain us to assist with the work recommended here, including: testing Well 6, improvements to existing wells, supervision of new drilling, and assistance with the monitoring program. The cost of our serivces are generally recovered through improved effficiency of the contractors, and a more cost effective and dependable water supply.

OSBERG CONSTRUCTION COMPANY

General Contractors

November 4, 1983

Bob L. King
c/o Shelton Land and Homes
422 North First Street
Shelton, Washington 98584

Dear Bob:

Thanks for forwarding the letter from the State. Its meaning is a mystery to me.

Please see the attached copies of an exchange of correspondence between our engineer and the State by letters dated June 12, 1968 and June 26, 1968. Note that the then existing wells in Divisions 1 and 2 could support 1112 lots (there is a mistake in addition in the letter).

Well No. 4 (in Division 3) is certified for 100 gallons per minute so is capable of sustaining about the same number of lots as Well No. 3, this being 280 lots per the letter of June 12, 1968. Perhaps the State considers the well good for 352 connections which would give a rationale for their current letter. In any event, total capacity of the four existing wells is about 1,400 lots or the total number in all divisions at Lake Limerick.

It is possible that at some future date the community will find it necessary, because of increased water usage, to make revisions in valving, pumps and/or storage capacity. If additional supply were required, I recall that provisions were made at the time of platting for 3 or 4 additional wells throughout Lake Limerick.

I hope this is of some help to you.

Best regards,

Allan F. Osberg, President
Osberg Construction Company

AFO:bcm
Enclosures
cc: Ken Engel

1132 NORTH 128TH STREET • P.O. BOX 33368 • SEATTLE, WASHINGTON 98133 • TELEPHONE (206) 364-4293

SPECIFICATIONS

FOR

LAKE LIMERICK DIVISION 2 WATER SUPPLY SYSTEM

Well No. 2 and Well No. 3

SPECIFICATIONS

FOR

LAKE LIMERICK DIVISION 2 WATER SUPPLY SYSTEM

Well No. 2 and Well No. 3

SCOPE:

Work covered under these specifications and drawings shall include the construction of two pump houses with pumps, pressure tank, and all appurtenances required for a complete workable installation.

PUMP HOUSES:

Both pump houses for Well No. 2 and Well No. 3 shall be concrete block buildings with one-half inch plywood sheathing, and four ply flat built-up roofing, and shall be constructed over the well. One 3-foot by 6-foot 8-inch exterior solid panel fir door, with lock set, shall be installed. In addition, a 3-foot by 3-foot waterproof hatch shall be constructed in the roof and centered over the well. All wood surfaces shall be primed and given two coats of paint. The owner will furnish all material and construct the pump houses for both Well No. 2 and Well No. 3.

PUMPS:

WELL NO. 2:

The pump shall be Floway, Size 6 JKL, 3500 RPM Vertical Turbine Pump, or equal. The pump shall have a four stage bowl assembly, with a 5-inch by 1-1/8-inch water lube column and shaft assembly, 5-inch cone, galvanized suction strainer and a 4-inch by 12 GS cast iron discharge head. It shall be capable of pumping 200 gpm against a 225-foot total head. The static water

evel on June 17, 1967 was 11 feet below land surface. The depth of the 10-inch well is 121 feet with the lower 18-feet screened. The well has been tested to yield 200 gpm with 84-feet of draw down from the static water level after four hours of pumping.

WELL NO. 3:

The pump shall be a Floway Size 6 - LKM, 3500 rpm Vertical Turbine Pump or equal. The pump shall have a four stage bowl assembly with a 4-inch by 1-inch water lube column and shaft assembly, 4-inch cone, galvanized suction strainer and a 4-inch by 12 CS cast iron discharge head. It shall be capable of pumping 90 gpm against a 205-foot total head.

The static water level on June 17, 1967 was 56 feet below land surface. The depth of the 10-inch well is 145 feet with the lower 17-feet screened. The well has been tested to yield 90 gpm with 75 feet draw down from the static water level after 4 hours of pumping.

MOTORS:

WELL NO. 2:

The motor for the Floway 6-LKM pump shall be a 15 horsepower, 3 phase, 220 volt, 3500 rpm, drip-proof motor with non-reverse clutch.

WELL NO. 3:

The motor for the Floway 6-JKL pump shall be a 7-1/2 horsepower, 3 phase, 220 volt, 3500 rpm, drip-proof motor with non-reverse clutch.

AUTOMATIC TIME CONTROLS:

Furnish and install an integrated control system which shall be the

product of one manufacturer who has had a t least five years experience furnishing similar equipment. It shall be completely tested and inspected prior to shipment. Complete hydraulic, electric and dimensional drawings and functional description shall be furnished. All control equipment shall be guaranteed against defects of material and workmanship for a period of one year from date of shipment.

One control panel shall be located in the pump house on Well No. 3 and shall be housed in a NEMA 1 enclosure, wall mounted, of 14 gauge steel, primed and finished with DuPont ASA-49 enamel.

The control shall have combination pressure-level sensors which shall automatically control both pumps and the air cushion to accurately maintain the correct air-water ratio in the hydropneumatic tank. An adjustable pressure sensor shall start Pump No. 3 on a falling pressure of 36 psi. The pump will run until the high water level 31 inches down from the top of the tank is reached. Air cushion will be reblanced after each pumping cycle to a pressure of 44 psi by starting an air compressor to add the required air. Pressure connection shall be made in the top of the tank. Pressure sensors will be individually adjustable bellows type operating hermetically sealed mercury switches. A probe level sensor shall be mounted in the top of the tank. Probe housing shall be bronze with 2" NPT and probe rod shall be stainless steel and shall extend down to the high water level. Probe rod shall not be located over the incoming water line. The control shall also include a low level cutoff for protection of the No. 3 well pump; it shall cut the pump out at 131 feet and restore at 121

feet. Furnish 275 feet of extension wire and probe tips for installation in the well by the contractor. A 4-1/2" flush mounted gauge 0-100 psi with shut-off valve shall be mounted in the panel . To auto pre-lube the pump bearing, a 1/2" line from the water main through a 1/2" solenoid valve into an adjustable time delay relay shall be provided.

The control panel shall include a size 1 combination magnetic across-the-line starter, circuit breaker, 3 overload relays and hand-off-automatic selector switch for the compressor. Also included shall be a 15 amp control circuit breaker.

A, B & G STUT 43-1, or equal, air compressor with 2.86 cfm capacity shall be provided for separate mounting. The compressor shall be connected to the top of the tank with 1/2" copper tubing by the contractor. The air compressor shall be belt driven with a belt guard by a 1/3 HP, 110 volt, single phase motor.

The control panel to be installed at Well No. 2 shall be housed in a NEMA 1 enclosure similar to the one at Well No. 3, and shall include a size 2 combination magnetic across-the-line starter, circuit breaker, 3 overload relays and a hand-off-automatic selector switch for the well pump, a 25 amp control circuit breaker. A Probetrol for low level protection of pump No. 2 shall also be provided. It shall cut out at 103 feet and restore at 99 feet. Furnish 200 feet of extension wire and two probe tips for installation in the well by the contractor.

The control for pump No. 3 shall include two separately adjustable

pressure sensors for start and stop of the well pump. The panel shall also include two separately adjustable time delays range 30 seconds to 9-1/2 minutes to minimize cycling effect. A 4-1/2" flush mounted gauge 0-100 psi with shut-off, drain and bleed valves shall be mounted in the panel. Control shall be Autocom Directrol Class 1100 or equal.

PRESSURE TANK:

The pressure tank shall be 2000 gallon capacity, 4 feet 6 inches outside diameter, 17 feet- 8 inches long. The tank shall have a 5/16 inch shell with 3/8 inch heads, and shall comply with A.S.M.E. Code. The pressure tank shall be provided with a pressure gauge, drain pipe, supports and the necessary pipe. The tank supports shall consist of concrete cradles, lined with felt, set on concrete pads. The tank supports shall be furnished complete ready for the tank installation by the Owner.

The tanks shall be drilled and tapped where required for proper installation of controls and piping. Interior shall be primed and painted with a 2-coat phenolic enamel, and the outside shall be primed and painted with two coats of alkyd enamel.

PIPING:

WELL NO. 2:

The piping at Well #2 shall be 4-inch steel pipe in the pump house and into the first valve beyond the pressure tank. A 4-inch apco silent check valve and a 4-inch gate valve shall be installed at the location shown in the plans. A 1/2-inch Apco 141 air and vacuum valve with throttling device shall be mounted on the pump discharge head.

WELL NO. 3:

The piping at well #3 shall be 4 inch steel pipe in the pump house and to a distance 10 feet from pump house exterior wall, or pump cradles. 4 inch Apco Silent check valve and a 4 inch gate valve shall be installed at the location shown in the plans. A 1/2 inch No. 14 Apco Manual vacuum valve with throttling device shall be located at the pump discharge head.

SPECIAL CONSTRUCTION INSTRUCTIONS:

The control panel, tank and compressor for Well No. 3 as described above shall be mounted initially in Pump House No. 2 as a temporary installation.

At a later date the contractor will remove control Panel No. 3 from Pump House No. 2 and install it in Pump House No. 3. At this time he will install control Panel No. 2 in Pump House No. 2. It will be the contractor's responsibility to switch circuit breakers and motor starters as required to make the temporary and permanent installation of the control panels, and to move the tank, compressor and other items back to Well No. 3 when so instructed by the owner.

PROPOSAL

PHASE I

Lump sum price for materials and installation of pumping equipment at Well No. 2 including temporary installation of tank and controls at Well No. 2. $_____.

PHASE II

Lump sum price for materials and installation of pumping equipment for Well No. 3 including moving tank, compressor, and temporary controls from Well No. 2 to Well No. 3, and replacing controls with specified type : Well No. 2 $_____.

Not earlier date of completion _____, 1967

Signed _____

_____

SPECIFYCATIONS

FOR

LAKE LIMERICK WATER SUPPLY SYSTEM

SCOPE:

Work covered under these specifications and drawings shall include the construction of a pump house with pump and pressure tank, and all appurtenances required for a complete, workable installation.

PUMP HOUSE:

A concrete block or wood frame building, with one-half inch plywood sheathing, wood siding and four ply flat built-up roofing shall be constructed over the well, so that the door faces the County Road. One 3-foot by 6-foot 8-inch exterior solid panel fir door, with lock set, shall be installed. In addition, a 4-foot by 4-foot waterproof hatch shall be constructed in the roof and centered over the well One metal grill shall be placed in the lower part of the door and one near the ceiling opposite the door Each grill shall have a minimum area of 192 square inches (12-inches by 16-inches). All wood surfaces shall be primed and given two coats of Ivy Green paint

PUMP:

The pump shall be a Byron Jackson 5.5 Inch G, with a three stage BR-2 FTD bowl assembly, or equal, with 90-foot of 4-inch by 1-inch water lube column and shaft assembly, 4-inch cone, galvanized suction strainer and a 4-inch by 12 CS cast iron discharge head. It shall be capable of pumping 100 gpm against a maximum pressure in the pressure tank of 45 psi The static water level on March 25, 1966 was 51-feet. The point of maximum draw down is 89-feet and the depth of the well is 114-feet. The well has been tested to yield 95 gpm with 40-feet of draw down after six hours of pumping

Specifications for
Lake Limerick Water Supply System

MOTOR AND CONTROLS:

The following items shall be installed in the pump house as shown on the plans to provide a complete, workable installation

1. One 7½-horsepower, 3-phase, 440-volt, 3600 rpm, drip-proof motor with non-reverse clutch.

2 One pumping plant panel, Allen Bradley X1232DRB24, or equal, 3-phase, 440-volt, with starter, disconnect switch, HOA switch, three pole overload protection.

3. One Warrick Low Level Cut-Off Control, or equal, drip-proof with two Type W electrodes and 180-feet of No 14 wire.

4 One B & G SIOT 43-1, or equal, air compressor with 10 gallon storage tank, 2.86 cfm capacity, one-third horsepower, single phase with one-quarter inch air line and 110 volt solenoid valve.

5. One Healy Ruff PW-59 or equal, pneumatic tank controller

The pump control shall be set to start the pump at a low pressure of 20 psi and stop the pump at high water level, and shall start the air compressor at high water level, if required. To auto pre-lubricate the pump bearing, a one-half inch line from the pressure tank through a one-half inch solenoid valve into an adjustable time delay relay shall be provided

All electrical work shall comply with the National Electric Code.

PRESSURE TANK:

The 2000 gallon pressure tank shall be provided with a one-half inch air vent and relief valve, pressure gauge, drain pipe, supports and the necessary pipe. The air vent and relief valve shall be Crane No. 984 and 2651, respectively, or equal, and shall be set at 50 psi. The pressure switch shall be adjustable and shall be set to turn the pump on when the

pressure in the tank reaches 20 psi and to turn the pump off when the pressure reaches 45 psi The tank support shall consist of timber or concrete cradles, lined with felt, set on concrete pads

The tanks shall be drilled and tapped where required for proper installation of controls and piping

PIPES:

The piping in the pump house and into the first valve beyond the pressure tank shall be 6-inch, cast iron.

Prepared by:

SLEAVIN - KORS
Professional Engineers
901 Tacoma Avenue So.
Tacoma 2, Washington
Telephone: FUlton 3-44[illegible]

206 lts × 400 = 80,000 gpd = 65 gpm

NIEL J. EVANS
ERNOR

LA NE, M.D., M.P.H.
R

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
PUBLIC HEALTH BUILDING, OLYMPIA, WASHINGTON 98501

304 Public Health Building
Olympia, Washington 98501
June 26, 1968

Lake Limerick County Club, Inc.
5125 25th N.E.
Seattle, Washington 98105

Subject: Lake Limerick Water Supply

Gentlemen:

Plans for the above project received in this office October 31, 1967 and June 10, 1968 together with supplemental information received June 12, 1968 have been reviewed, and, in accordance with the provisions of WAC 248.54 are hereby APPROVED.

Very truly yours,

WALLACE LANE, M.D.
Acting Director

By: Kenneth J. Merry
District Engineer

KJM:bg
cc: Thurston-Mason Health District
Carl F. Reichhardt, P.E.

June 12, 1968
Job No. 1061-F

Mr. Ken Merry, P. E.
DEPARTMENT OF PUBLIC HEALTH
Public Health Building
Olympia, Washington 98501

Re: Lake Limerick Water Supply

Dear Mr. Merry:

This is to put into written form the substance of our conversation of Monday, in which verbal approval was given by your office for the design criteria for the completion of the water system for Lake Limerick Country Club Estates. This will also serve as a reply to the letter from Mr. Jim Pluntze addressed to Mr. Carl F. Reichhardt of this office dated December 28, 1967.

DESIGN CRITERIA

Water usage for this recreational plat will be based on 150 gallons/day per lot average consumption. Peak weekend demand will assume 70% occupancy of all of the lots and a peak to average ratio of 2.5. Maximum estimated daily water requirements per lot equals 150 x 0.7 x 2.5 equals 262 gallons equals 0.18 gallons per minute. Maximum estimated hourly water requirements per lot equals 200% of the daily requirements or 2 x 0.18 or 0.36 gallons per minute.

The existing wells and the number of lots they supply are as follows:

Well #1: 95 GPM will supply 95/0.36 equals 264 lots

Well #2: 200 GPM will supply 200/0.36 equals 568 lots

Well #3: 100 GPM will supply 100/0.36 equals 280 lots

For a total of: 1102 lots

These existing three wells are operated with a single system with hydropneumatic storage. These three wells and the hydropneumatic system serve Divisions 1, 2 and 4 of Lake Limerick Estates. The final step in the development of the water system will be a new well of 150 to 200 gallons per minute capacity, a 10,000 gallon ground storage tank, and a constant pressure system which will be located in Division 3.

Because this system in Division 3 will operate on a different principle than the pheumatic systems in Divisions 1, 2 and 4, Division 3 will be separated from the remainder of the system by check valves which will allow flow from Division 3, at which point the 10,000 gallon storage is located, into the other part of the system. At the location of these two check valves, there will also be a gate valve which will serve to connect the entire system at such times as this is necessary. Division 3 system will be a constant pressure system operated by a series 2 Pacific Pump Company constant pressure apparatus, which consists of three pumps, manifolding and controls.

This ground storage of 10,000 gallons will be pump storage. However, it will provide gravity pressure to the Lakefront lots and possibly some lots just above the lake level. Auxiliary power is not contemplated in this system. The reason being the nature of the power supply available to Lake Limerick Estates and also the fact that during the winter months, at which time power failure is most likely to occur, the residency at Lake Limerick Estates would be at a minimum. Existing storage would probably be adequate for short periods of power outage.

As outlined on the several maps which I brought to your office Monday, there are several other well sites designated for future development. This will be done as demand increases and further expense is warranted. This will be done under the auspices of the Lake Limarick Country Club Estates which is a community group empowered to assess costs against the property owners.

As we received your verbal approval for this design priteria Monday, we are proceeding with the development of the system. If there are further questions, please contact me.

Very truly yours,

SLEAVEN-KORS

Carl F. Reichhardt, P. El

CFR:pjb:jc

304 Public Health Building
Olympia, Washington 98501
December 28, 1967

Carl F. Reichhardt, P.E.
Sleavin-Kors, Professional Engineers
901 Tacoma Avenue South
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply

Dear Mr. Reichhardt:

Thank you for summarizing for us the present status of this water supply and also for pointing out that Division #2 had, in fact, been approved by this Department contrary to our previous letter.

It seems obvious that the three wells presently developed will not be adequate to serve the ultimate water demand from Divisions 1, 2 and 3. We would, therefore, be interested in your clarification of future improvements as follows:

1. What is the ultimate peak demand for the entire system including Division #4?

2. How will this demand be satisfied?

3. Are there plans for gravity or pumped storage? Auxillary power?

Since Division #3 represents such a substantial portion of the entire development, we would like to resolve these questions now. We would particularly like to know what additional supply and/or storage facilities will be required to satisfy the ultimate demand from Divisions 3 and 4, when these will be provided and by whom. We assume that the developer would plan to provide a system capable of satisfying the ultimate demand even though this demand may not occur for some years hence.

We would appreciate any information or comments you can provide on these points.

Sincerely,

James C. Plumtree, Head
Sanitary Engineering Section

JCP:lg
cc: Thurston-Mason Health District

Report of Examination on Ground Water

Received date April 19, 1966 Date of exam. July 6, 1966 Appli. No. 8049

Name Lake Limerick Corporation and/ Osberg Construction Company Address 5125-25th Avenue NE, Seattle, Wash.

of works a well Dimensions 10" x 116'

Progress of works Started - well drilled and capped

Quantity applied for 125 g.p.m. acre-feet per year

t 203, Proposed Plat of Lake Limerick Division No. 1,

Legal sub. NE¼NE¼ Sec. 27 Twp. 21 N. R. 3 W. County Mason

Use community domestic supply

Irrigation-acreage: Present Planned Feasible

Municipal: Population 700 as of 1970

Industrial

Time pump will be operated continuously

ther water rights appurtenant to th. land Surface Water Application No. 19276

roximity to existing works, springs, wells, or strear None

rea Sub-area Zone

RECOMMENDATIONS

pproved for 125 g.p.m. 117 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

he installation of an access port to well as described in attached Ground Water Bulletin o. 1 is recommended.

pplicant is advised that notice of proof of appropriation of water under which the final ertificate of water right issues, should not be filed until the permenent withdrawal acilities have been installed together with a distribution system of main line piping apable of furnishing water for domestic supply to all lots which are intended to be supplied nder this application.

e of the waters to be appropriated under this application will be for a public water pply. State Board of Health rules require every owner of a public water supply to tain written approval from the State Director of Health prior to any new construction alterations of a public water supply. The applicant is advised to contact the shington State Department of Health, Fourth Floor, Public Health Buildin:, Olympia, with gard to the need for compliance.

pr ided u der R.C.W. 43.21.130, 90.03.360 and 90.44.020, a master meter, individual meters or other suitable measuring devices shall be installed in this system to sure the total amount of the withdrawal. Records of total monthly withdrawal shall be intained by an official, responsible for the management and operation of this water tem, and after certificate of water right issues, this information shall be reported h year to the Supervisor of the Division of Water Resources. A standard form for re- ting such information shall be sent annually to the manager of the syst

304 Public Health Building
Olympia, Washington 98501
November 2, 1967

Mr. Carl F. Reichhardt, P.E.
Slcavin-Kors Professional Engrs.
201 Hess Building
901 Tacoma Avenue So.
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply
Division No. 3

Dear Mr. Reichhardt:

Thank you for submitting plans for this proposed water supply project. In view of the two divisions submitted previously and the fact that Division #2 has not yet been approved, it would be appreciated if you would furnish us with an up-to-date summary of the status of this system covering the number of lots developed in each of the divisions, the amount of water developed to date, and the chemical quality of each well. We will also want specifications on the pump installations in well #3. This information does not appear to have been submitted previously. We are still interested in your plans for connecting these three divisions, either through automatic or manual valves.

We shall be pleased to review this additional information when it is available.

Yours very truly,

James C. Plantre, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

SLEAVIN-KORS
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA, WASH. 98402
FU 3-4491

October 30, 1967
Job No. 1061-C

Mr. James C. Pluntze
Washington State Department of Health
304 Public Health Building
Olympia, Washington 98501

Dear Mr. Pluntze:

Enclosed is a map of the water system at Lake Limerick showing the proposed water line layout for Division #3. At this time the owners plan to extend the waterlines in Division #3 and provide water from wells #1, 2, and 3 which are existing and are adequate to meet the present demands of Divisions number 1, 2 and 3. Please note that several well sites have been reserved for future water requirements. These areas are shown on the recorded plat and are to be kept free from pollution within a 100 foot radius of the proposed well.

Please contact us regarding any questions you may have.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

Carl F. Reichhardt, P. E.

CFR:jc

Enclosure

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam. August 29, 1967 Appli. No. 8834

Name Lake Limerick Country Club, Inc. Address 9125 25th N.E., Seattle, Washington

Nature of works a well (33) Dimensions 10" x 148'

Progress of works Started (well drilled and in use for building needs)

Quantity applied for 100 g.p.m. 41 acre-feet per year

Legal sub. / Sec. 27 Twp. 21 N. Rge. 3 W. County Mason

Lot 5, Plat of Lake Limerick Division Number 2, SW¼SW¼

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community
~~Municipal~~ Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8833

Proximity to existing works, springs, wells, or streams None

Area Sub-area Zone

RECOMMENDATIONS

Approved for 100 g.p.m. 84 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 670 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 84 acre-feet.

It is noted that this filing and Ground Water Application 8833 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to submit information to this office as part of his proof of appropriation as to the size and type of equipment installed and the rate at which water is withdrawn in gallons per minute.

(over)

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam August 29, 1967 Appli. No 8833

Name Lake Limerick Country Club, Inc. Address 5125 25th N.E., Seattle, Washington

Type of works a well (#2) Dimensions 10" x 121'

Progress of works Started (well drilled)

Quantity applied for 200 g.p.m. 82 acre-feet per year

Legal subdivision Lot 1, Plat of Lake Limerick Division Number 2, SE¼NW¼ Sec. 27 Twp. 21 N. Rge. 3 E. County Mason

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community ~~Municipal~~: Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8834

Proximity to existing works, springs, wells, or streams Lake Limerick, 350 feet east

Area Sub-area Zone

RECOMMENDATIONS

Approved for 200 g.p.m. 166 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 1330 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 166 acre-feet.

It is noted that this filing and Ground Water Application 8834 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to furnish information to this office as part of his proof of appropriation as to the size

(over)

SLEAVIN-KORS
Professional Engineers

OFFICES IN
SEATTLE AND
ANCHORAGE

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

July 21, 1967
Job No. 1061-C

RECEIVED
1446 JULY 24 1967
STATE DEPT OF HEALTH
ENGINEERING & SANITATION

Washington State Health Department
Room 409
Public Health Building
Olympia, Washington

Attention: James C. Pluntze

Dear Mr. Pluntze:

We are enclosing herewith copies of the Plans and Specifications for a water system for Division No. 2 of Lake Limerick.

Please note on the overall layout that this system basically conformswith the comprehensive plan for the entire developments submitted you previously.

The water lines are to be installed, disinfected and tested in accordance with the standard specifications for Municipal Public Works Construction prepared by the Washington State Chapter of the American Public Works Association, and as shown on the Lake Limerick overall water layout outlined in red.

Well No. 2 and Well No. 3 have been drilled and samples of the water submitted to the State Health Department laboratory in Seattle for analysis. Both wells in this Division are located on the Golf Course which is to be deeded to the Lake Limerick Country Club.

The elevations in this Plat vary between elevation 450 at the Lake and 520 at the high areas. The water sypply system will be set to provide water between 20 and 40 psi at the highest area in the Plat.

Please advise us if you need additional information or have any questions regarding this project.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

CARL F. REICHHARDT, P.E.

CFR/ajk
encl.

SLEAVIN-KORS
Professional Engineers

OFFICES IN
SEATTLE AND
[illegible]AGE

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

880 acres

June 24, 1966
Job No. 1061

Washington State Health Department
406 Public Health Building
Olympia, Washington 98501

SUBJECT : LAKE LIMERICK WATER SUPPLY, MASON COUNTY

ATTENTION : MR. JAMES C. PLUNTZE

Dear Sir :

Regarding your letter of June 22, 1966, we wish to inform you that a copy of the Well Report and Chemical Analysis was forwarded to your office April 8, 1966. However, we have enclosed an additional copy of each.

We presently have plans to drill more wells at Lake Limerick to provide additional water and are investigating the possibility of gravity storage at Lake Limerick.

The effect of topography on pressure during maximum use periods will be relatively insignificant due to the fact that there is approximately only 25' difference in elevation between the well and the areas served.

If you have any questions, or need additional information, please contact us.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

CARL F. REICHHARDT

CFR:bd

NORTHWEST FILTER CO.
528 HOLDL STREET • PArkway 5-8660
SEATTLE 8, WASHINGTC

WATER ANALYSIS
Industrial and Municipal Form

Original to: Sleavin & Assoc., Att: Carl Reichhardt

PANY . Tacoma Pump & Drilling Co.
Box 233
Allyn, Washington

NALYSIS No : 573
DATE : 3-31-66
NTENDED USE:

SOURCE OF WATER: Well
TEMP. SAMPL WHEN DRAWN:
LOCATION: Limerick

	RAW WATER PPM	TREATED WATER PPM
H AS REC'D	7.55	
OLOR AS REC'D	0	
URBIDITY	0	
REE CARBON DIOXIDE (CO_2)		
OTAL HARDNESS AS ($CaCo_3$)	32	
ALCIUM (Ca)	11.2	
AG SIUM (Mg)	.97	
DE (Cl)	9	
OTAL IRON (Fe)	.1	
LUMINUM (Al)		
LICON IDE (SiO_2)	28	
SSOLVED SOLIDS (Approx.)	68	
CARBONATE (HCO_3)	40	
ARBONATE (CO_3)	0	
LKALINITY - PHENOL ($CaCO_3$)	0	
LKALINITY - M.O.	33.4	

CHEMICAL TREATMENT

UM - gpg –

USTIC - gpg –

LORINE - ppm –

HER –

FLOCCULATION CHARACTERISTICS

TIME TO FORM –

COMPLETION –

SETTLING –

MARKS – Good water. Small amount of sand drops out rapidly.

406 Public Health Building
Olympia, Washington 98501
June 22, 1966

Sleavin-Kons
Professional Engineers
201 Hess Bldg.
901 Tacoma Ave. South
Tacoma 2, Washington

Subject: Lake Limrick Water Supply
Mason County

Attention: Mr. Carl F. Reichardt

Gentlemen:

Thank you for submitting plans and specifications of the Lake Limrick water supply.

We question the adequacy of the supply and storage proposed to serve 200 lots. Would you please send us the design criteria used in this instance. It appears to us that good design practice would call for some storage, preferably gravity, to guard against power or pump failure and to satisfy peak demand. Would you please advise us also the effect of topography in the sub-division on pressure during maximum use periods. We would also appreciate a chemical analysis of the supply taken during test pumping or whenever a representative sample may be obtained.

Thank you for your attention to this matter.

Yours very truly,

James C. Pluntze, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

Folder 1260

Thurston - Mason

cc: ______ S P C C ______ COUNTY HEALTH DEPT. ______ HEALTH DIST.

Slevin & Kors

Date ______

Slevin -- Kors
Prof. Engrs

Subject: Lake Limerick Water Supply, Division #1, Mason C.

Revised __ Plans ✓ (and) Specs ✓ Subject Report ____ (other) Jan 18 1966, June 9, 1966 and Feb 10, 1967

______ for the above project received in this office ______

together with [illegible]

[illegible]ed [illegible] have been reviewed, and,

✓ in accordance with Chapter .54 * * * * * * (water)
Chapter .92 * * * * * * (sewer)

f the codified Rules and Regulations of the State Board of Health and the State epartment of Health

____ pursuant to the authority vested in me by the laws of the State of Washington, ncluding RCW 70.90.020 and RCW 70.90.030 (Chapter 57, Laws of 1957), and Rules nd Regulations adopted January 17, 1958, are hereby approved.

____ : PROVIDED, that: ______

____ Upon nearing the completion of the swimming pool, please fill out the enclosed rmal inspection form so that a field inspection can be arranged. Clearance must obtained from this Department before the pool can be put into public use.

____ (See over)

Very truly yours,

:SE

BERNARD BUCOVE, M.D.,
State Director of Health

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

April 8, 1966

Job 1061

State of Washington
Department of Health
406 Public Health Building
Olympia, Washington

ATTN: James C. Pluntze

Re: Lake Limerick Water Supply

Dear Mr. Pluntze:

Enclosed are a copy of the Well Report and Chemical Analysis for the well drilled for the Water Supply System for the plat of Lake Limerick. The specifications are being prepared and a copy will be forwarded to you.

If you need any additional information please contact us.

Sincerely yours,

SLEAVIN & ASSOCIATES, INC.

Carl Reichhardt

Carl Reichhardt

CR/eh

Encl:

NORTHWEST FILTER CO.

528 HOLDEN STREET • PArkway 5-8660

SEATTLE 8, WASHINGTON

WATER ANALYSIS

Industrial and Municipal Form

(Original to: Sleavin & Assoc., Att: Carl Reichhardt

PANY . Pur. & Drilling Co.

Allyn, Washington

ANALYSIS No 13

DATE

NTENDED USE:

SOURCE OF WATER: Well

SAMPLE WHEN DRAWN:

LOCATION: Limerick

	RAW WATER PPM	TREATED WATER PPM
H AS REC'D	7.5	
COLOR AS REC'D	0	
URBIDITY	0	
REE CARBON DIOXIDE (CO_2)		
OTAL HARDNESS AS ($CaCo_3$)	32	
ALCIUM (Ca	11.2	
IAGNESIUM (Mg	.97	
LORIDE (Cl)	9	
OTAL IRON (Fe)	.1	
LUMINUM (Al		
ILICON DIOXIDE (SiO_2)	28	
ISSOLVED SOLIDS (Approx.)	68	
ICARBONATE (HCO_3)	40	
ARBONATE (CO_3)	0	
LKALINITY - PHENOL ($CaCO_3$)	0	
LKALINITY - M.O.	33.4	

CHEMICAL TREATMENT	FLOCCULATION CHARACTERISTICS
LUM - gpg -	IME TO FORM -
AUSTIC - gpg -	COMPLETION -
HLORINE - ppm -	SETTLING -
THER -	

EMARKS - water. Well amply [illegible] good quality.

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

January 25, 1966

Job No. 1061

RECEIVED
JAN 27 1966
STATE DEPT OF HEALTH
ENGINEERING & SANITATION

State of Washington
Department of Public Health
406 Public Health Building
Olympia, Washington

Re: Lake Limerick Water Supply
Mason County, Washington

Attn: Mr. James C. Pluntze, District Engineer

Dear Sir:

Regarding your letter of January 19, 1966 requesting design criteria for the Lake Limerick water system, we would like to submit the following information.

1. Difference in elevation between the well site and lower lots equals 65-feet.

2. Maximum and minimum static pressures equal 0 to 29 pounds per square inch.

3. Addition of a 2,000 gallon pressure tank at 40 psi less line losses will give approximately a minimum pressure of 36 psi and a maximum pressure of 62 psi.

If you have any questions or require additional information, please contact us.

Cordially,
SLEAVIN & ASSOCIATES, INC.

J. J. Sleavin

JJS:CR:b-

406 Public Health Building
Olympia, Washington 98501
January 19, 1966

Mr. J. J. Sleavin
Sleavin and Associates, Inc.
201 Hess Building
901 Tacoma Avenue South
Tacoma 2, Washington

Subject: Lake Limerick Water Supply
Mason County

Dear Mr. Sleavin:

We are sending one copy of the preliminary water supply plan to the local health department for their comments on the well site.

We would appreciate having your design criteria some time at or before the submission of final plans for this system.

Very truly yours,

James C. Pluntze, P.E.
District Engineer

JCP:pw

cc: Thurston-Mason Health District w/
1 set of plans

J. J. SLEAVIN & ASSOCIATES, INC.
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA 2, WASH.
FU 3-4491

January 17, 1966
Job No. 1061

State of Washington
State Department of Health
Olympia, Washington

Attention: Mr. Pluntze

Dear Sir:

We are enclosing two prints for your approval and/or recommendations of the proposed water system for the first stage development at Lake Limerick. This project is located approximately five miles Northeasterly of Shelton in Section 27, Township 21 North, Range 3 West, W.M.

The layout proposes to provide pressures varying between 40 and 68 psi by providing a 2,000 gallon, 40 psi pressure storage tank adjacent to the well. All lines 4 inches and over will be Class 150 asbestos cement. Lines less than 4 inches will be Class 160 P.V.C.

The log of the well will be submitted for approval after the well has been drilled.

Very truly yours,

SLEAVIN & ASSOCIATES, INC.

J. J. Sleavin

JJS:do
Encls.

1260

1260

Subject: Lake Limerick Water Supply, Mason C.

Dear Mr. Sleavin

We are sending our copy of the preliminary water supply plan to the local health department for their comment on the well site.

We would appreciate having your design criteria some time at or before the submission of final plans for this system.

RECEIVED
JAN 18 1966
STATE DEP'T OF HEALTH
ENGINEERING & SANITATION

cc LHD w/ 1 cc plan

WATER RIGHTS EVALUATION

SOURCE STATUS		DOE FILE NO.	DATE	EXISTING WATER RIGHTS ANNUAL AVERAGE USE (ACRE FT/YR)	EXISTING WATER RIGHTS INSTANTANEOUS USE (GPM OR CFS)	EXISTING CONSUMPTION ANNUAL AVERAGE USE (ACRE FT/YR)	EXISTING CONSUMPTION PUMPING/INTAKE (GPM OR CFS)	CURRENT WATER RIGHTS STATUS (EXCESS/DEFINCIENCY) ANNUAL AVERAGE USE (ARCE FT/YR)	CURRENT WATER RIGHTS STATUS (EXCESS/DEFINCIENCY) INSTANTANEOUS USE (GPM OR CFS)	PLACE OF USE
CLAIMS*	1									
	2									
	3									
	4									
	5									
	6									
CERTIFICATES	1	7551	11/10/66	117	125	54	44			WELL # 1
	2	8164	12/7/67	166	200	30	120			WELL # 2
	3	8165	12/7/67	84	100	26	100			WELL # 3A
	4	*	*	*	*	86	200			WELL # 3B
	5	9218	9/30/70	79	100	100	45			WELL # 4
	6	G2-27215P	3/2/93	152	190	100	45			WELL # 5
	7	G2-27443P	3/1/93	160	200	*	*			WELL # 6
PERMITS	1									
	2									
	3									
	4									
	5									
	6									
APPLICATIONS	1									
	2									
	3									
	4									
	5									
	6									

DIVISION OF DRINKING WATER
POLICY/PROCEDURE

Title:	Determination of Water Rights Adequacy in Reviewing Construction Documents and Project Reports. Number: C.05
References:	Erik Fairchild
Contact:	Lead Secretary, Division of Drinking Water
Effective Date:	April 15, 1995
Supersedes:	January 1, 1995 Policy
Approved:	*Director, Division of Drinking Water*

PURPOSE STATEMENT

This policy identifies the water rights information necessary for the Washington State Department of Health (DOH) to review and approve construction documents or project reports (CD/PR).

PROCEDURE:

WATER RIGHTS ADEQUACY PARAMETERS

Water system projects for a new source or increased system capacity that require DOH approval must have adequate water rights before they can proceed (WAC 246-290-110, 246-290-120, 246-290-130). Increased system capacity includes any approval that will result in additional water usage by the system. The DOH and Department of Ecology (Ecology) have identified the eight parameters listed below to define limiting factors for water rights. At a minimum, the parameters defined as critical on the next page must be met for a project to be approved.

1. The source type should be consistent with each active source (e.g. surface water, groundwater).

2. The source location for all points of diversion or withdrawal for all water rights should match or be consistent with the current configuration of the water system.

3. The purpose of use should reflect domestic drinking water supply (e.g. group domestic, municipal) for each source.

4. The time of use should match the operating conditions for each source of supply.

5. The place of use designated on each water right for each source should be consistent with the area currently served and the service area defined by the Water System Plan.

6. The maximum instantaneous flow rate (Qi) on each water right for each source must match or exceed the installed or proposed pumping capacity, and the withdrawal rate must not exceed established instantaneous limits contained on any water rights.

7. The maximum annual volume (Qa) on each water right for each source must match or exceed existing and proposed annual withdrawal volumes; i.e. the installed and permitted source capacity should match or exceed projected annual demand, and water use must not exceed established annual limits contained on any water rights.

8. Provisions or limiting conditions on each water right for each source should be met.

WATER RIGHTS ADEQUACY DETERMINATIONS IN REVIEWING CD/PR

Consistent with WAC 246-290-110 (3) (i), 246-290-130 (2) (a), and 246-290-420 (1) adequate water rights are necessary for the approval of CD/PR which will expand system capacity (allow additional water use) or add a new source of supply. Because DOH staff are not authorized to determine the legal extent of a system's water rights, and because Ecology staffing levels preclude its participation in the review of all CD/PR reviewed by DOH, systems will be required to conduct a "self-assessment" of the adequacy of their water rights. As part of this "self-assessment", systems will be required to review the 8 water right adequacy parameters and at a minimum, demonstrate in writing that the critical parameters defined below are consistent with the CD/PR proposals that are being considered for approval.

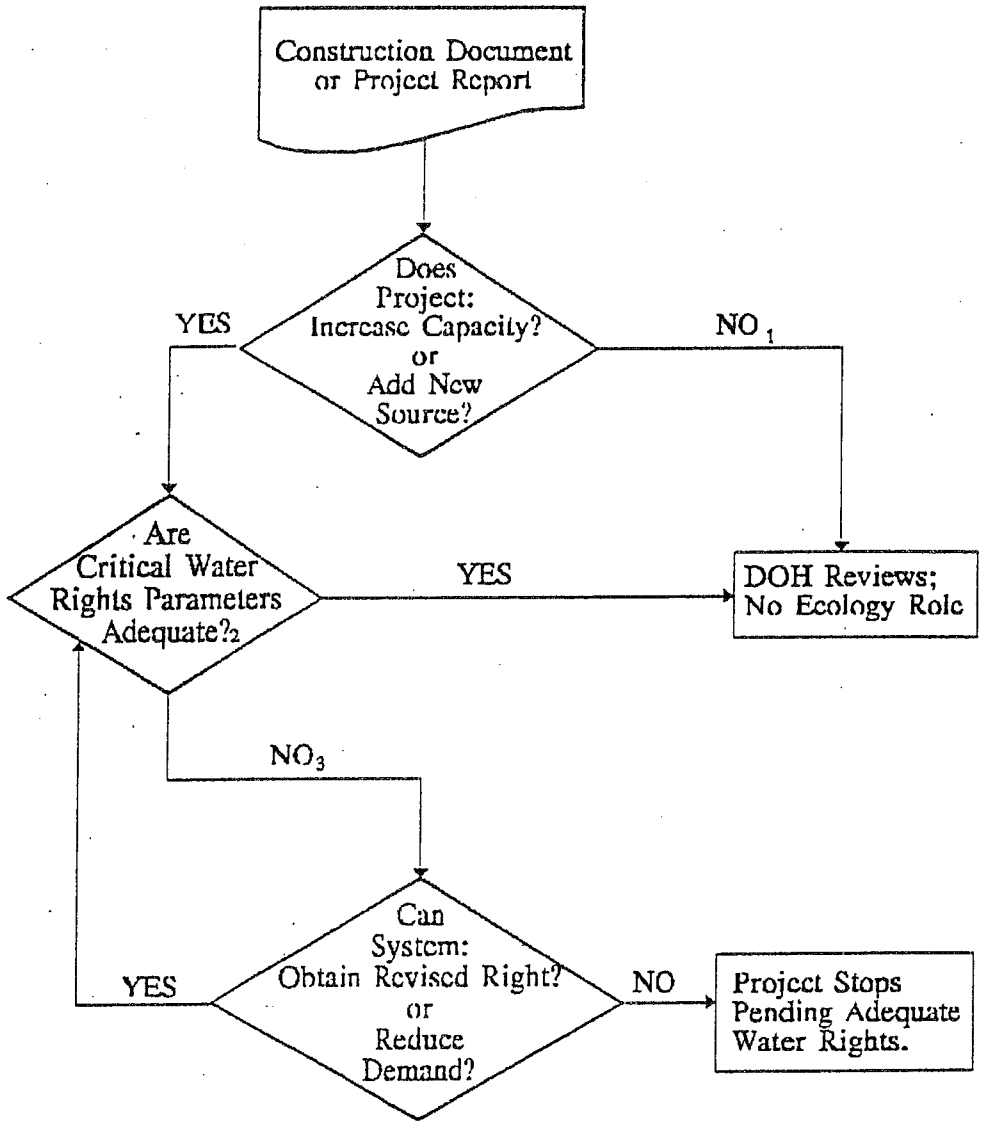
Self-Assessment: Whenever a public water system proposes a project which requires submittal of a CD/PR which will increase the capacity of the system, the project submittal to DOH must include a "self-assessment" of the adequacy of water rights. Additionally, for all source approvals, copies of the water right documents must also be submitted, per WAC 246-290-130 (2) (a). Public water systems are required to conduct a "self-assessment" using Water Rights Adequacy parameters developed by DOH and Ecology, determine compliance status, and provide a report to DOH indicating compliance status. This report shall include completion of the self-assessment form (attached), and a transmittal letter signed by the system manager or operator disclosing the status of all eight water right parameters and clearly stating how the proposed project is consistent with the critical water rights parameters defined below. If Ecology has previously provided written notice to DOH that a system's water rights are inadequate or DOH staff concludes water right related problems may exist, or there is mutual agreement between DOH and Ecology regional offices for a more thorough review by Ecology, the "self-assessment" form will be routed to Ecology for verification of the information presented. If no response is received from Ecology within 30 days of its receipt of the proposal, DOH can proceed with its review of the proposal using the utility's "self-assessment" for the purposes of determining the adequacy of existing water rights.

Critical Parameters to be Evaluated in the Self-Assessment: Maximum flow rate, and the maximum annual volume are considered to be critical water rights parameters which must be adhered to at all times. If the public water system's "self-assessment" indicates that either of these critical parameters is currently being exceeded or will be exceeded with the proposed improvements, the project will be put on hold until the water right problems are resolved. If compliance with these parameters is not possible for existing system usage, then DOH will immediately notify the utility that corrective action must be taken, per the "Water Rights Adequacy and Operating Permit Policy".

Other Parameters to be Evaluated in the Self-Assessment: The remaining water rights parameters (source type, source location, purpose of use, time of use, place of use, and provisions or limiting conditions) must also be evaluated by the utility in writing. If any of these parameters are determined to be in non-conformance with the utility's operating conditions, the discrepancies should be noted as part of the utility's self-assessment. In addition, the public water system must submit an action plan to Ecology to resolve the discrepancies, and appropriately incorporate this action plan into its water system plan. DOH staff shall review each situation and determine if compliance with any of these water rights parameters is critical to protect public health. If compliance with any of these water rights parameters is determined to be critical from a public health standpoint then the project will be on hold until the problem is resolved. Corrective actions for these parameters which are determined by DOH to be critical from a public health perspective will be taken per the "Water Rights Adequacy and Operating Permit Policy", when developed.

DOH Disclaimer: As part of the approval of all CD/PR where the system has conducted a "self-assessment" and Ecology has not confirmed the status of the system's water rights and made a formal determination of adequacy in writing, DOH shall include a disclaimer in the approval indicating that: "Ecology has not reviewed the system expansions/improvements or the water rights "self- assessment" to ensure the accuracy of the water right information presented. DOH is making the approval based upon the system's assurances that adequate water rights are secured by the system to cover all existing and proposed water uses resulting from approval of the project."

Health/Ecology Coordination Procedures for Construction Document/Project Report Review



1 Assumes that the public water system has sufficient water rights to cover current operations.

2 Refer to Water Rights Adequacy Criteria. Whenever a public water system proposes a project which would increase the capacity of the system, or add a new source, the project submitted to DOH must include a "self-assessment" of the adequacy of water rights. The public water system will be required to conduct the "self-assessment" using the Water Rights Adequacy Criteria developed by DOH and Ecology and determine compliance.

3 A public water system may resolve the problem of inadequate water rights in one of the following ways:
* Apply for and receive new water rights from Ecology.
* Justify a reduction in water demand and submit this justification to Health as a water system plan amendment or project report. If the updated demand forecasts is accepted by Health, it may enable the public water system to remain in compliance with critical water right parameters, and obtain CD/PR approval.

WILL THE PROPOSED PROJECT INCREASE THE CAPACITY OR THE ABILITY TO SERVE ADDITIONAL CUSTOMERS?

NO

ı statement below and include on transmittal
:r.

e project described in the enclosed documents is
for new source approval nor will it result in additional
er use."

_____ Signature of system manager or operator

_____ Date

YES

Conduct self-assessment of water rights

1. Conduct internal review of all 8 water right parameters.
2. Complete water right self-assessment form for critical water right parameters.
3. Submit transmittal letter that includes:
   - status of all 8 water right parameters (or refer to appropriate sections of current water system plan)
   - completed water rights self-assessment form
   - description of how proposed project is consistent with critical water right parameters

EASE NOTE: If critical water right parameters are exceeded either with or without the proposed project, the project will be ld until these critical water right issues are resolved. If non-critical water right parameters are exceeded, the problem st be addressed in the transmittal letter and an action plan submitted to Ecology (may be in form of applications for change). ere non-critical parameters are exceeded, projects will be processed by DOH, but DOH reserves the right to consult with logy prior to approving the documents.

Attachment A - Instructions for Completing the

WATER RIGHTS SELF-ASSESSMENT FORM

Chapter 246-290 WAC requires that a public water system have adequate water rights before a project that will either: 1) expand system capacity (allow additional water use), or 2) add a new source of supply, can be approved. Whenever a public water system proposes a project that will either expand system capacity or add a new source of supply, the project submittal to DOH must include a "self-assessment" of the adequacy of water rights using the Water Rights Adequacy Criteria developed by DOH and Ecology. This form identifies some of the parameters that must be addressed by a public water systems as part of its project submittal to DOH. If you need additional information or assistance regarding these parameters of your water rights, or the other parameters identified in the policy, please contact the appropriate regional office of Ecology.

Part 1 - Water Rights Inventory

Under the state water code (1917 for surface water and 1945 for ground water), water can only be put to use once a person has obtained a water right permit from Ecology (NOTE: some small uses of groundwater are exempted from the permitting process). Once water has been put to use in accordance with the conditions of the permit, a certificate of water right is issued. The information requested here should, in most cases, be included on either the permit or certificate.

1. **Permit or Certificate Number:** In most cases, this is the number that is assigned by Ecology upon receipt of an application for a water right permit (it differs on older water rights). It is listed at the very top of the permit or certificate form.

2. **Name of Rightholder:** This is generally the name of the person that originally obtained the water right permit or certificate. Unless it has been subsequently updated, it may differ from the name of the current rightholder. Use the name listed on the permit or certificate despite the fact that it may no longer be current.

3. **Priority Date:** This is the date that is listed at the very top of the permit or certificate form (next to the permit or certificate number).

4. **Source Name/Number:** Many water right permits and certificates have been issued for water from more than one source. If any permits or certificates are for multiple sources, please identify the individual sources used (e.g. well #1, well #2, etc.), as defined on water right documents. Use a separate line for each individual source. Do not use DOH assigned source numbers.

5. **Primary or Supplemental:** Use this column to indicate whether a particular source is for primary or supplemental use. This information is generally listed in the "Quantity, Type of Use, Period of Use" section on both permits and certificates. If it is not, you will need to understand how your system operates to explain how each source is used in conjunction with the others.

6. **Maximum Instantaneous Flow Rate (Qi):** This is the amount of water which can be taken from this source during a period of peak operation. For surface water sources, the flow rate is generally expressed in terms of cubic feet per second (cfs). For groundwater sources, the flow rate is generally expressed in terms of gallons per minute (gpm). One cfs equals 448.8 gpm. Please indicate the units you are using for each source. Any situations where the flow rate allowed in the permit will be limited (i.e. limitations established when other sources are utilized) must be noted in the primary/supplemental section.

7. **Maximum Annual Quantity (Qa):** This is the amount of water which can be taken from this source on an annual basis. It is almost always expressed in terms of acre-feet. An acre-foot is the amount of water necessary to submerge an acre of land to a depth of one foot. One acre-foot equals 43,560 cubic feet or 325,851 gallons of water.

Part 2 - Registered Claim Inventory

stered Water Right Claims are claims to water rights which existed prior to the state water code (1917 for surface waters and for groundwater). They were filed in compliance with Chapter 90.14 RCW and, with some limited exceptions, had to be on or before June 30, 1974. Two forms were used for filing Registered Water Right Claims: a long form which requested derable specific information and a short form which requested only minimal information. If a short form was used to file claim, and the information requested is not on the short form, make a determination based upon as reasonable an estimate as ble for each of the parameters. Depending upon which form was used, you may need to do additional research to provide of the information requested here. Please be as accurate as possible. If you need additional information or assistance ding these parameters of your water rights, or the other parameters identified in the policy, please contact the appropriate nal office of Ecology.

Registered Claim Number: This is the registration number which is stamped in the lower left hand corner of the claim form. It was assigned by Ecology upon registration of a claim.

Name of Claimant: This is the name of the person that filed the Registered Water Right Claim. The name on the claim may differ from the name of the current rightholder. Use the name listed at the top to the Water Right Claim form (line 1 of the long form) despite the fact that it may no longer be current.

Priority Date: This is the date that the use of the claimed right was initiated. It should be listed on line 4 of the long Water Right Claim form (it was not requested on the short form).

Source Number/Name: Many single registered claims are for water from more than one source. If any claims are for multiple sources, please identify the individual sources used (e.g. spring #1 or Bubbling spring, spring #2, etc.). Use a separate line for each individual source. Do not use DOH assigned source numbers.

ıry or Supplemental: Use this column to indicate whether a particular source is for primary or supplemental use. This information was not requested on either Registered Water Right Claim form, so you will need to explain here. This will require an understanding of how your system operates to explain how each source is used in conjunction with others.

Maximum Instantaneous Flow Rate (Qi): This is the amount of water which can be taken from this source during a period of peak operation. It should be listed on line 3.A. of the long Water Right Claim form (it was not requested on the short form). For surface water sources, the flow rate is generally expressed in terms of cubic feet per second (cfs). For groundwater sources, the flow rate is generally expressed in terms gallons per minute (gpm). One cfs equals 448.8 gpm. Please indicate the units you using for each source.

Maximum Annual Quantity (Qa): This is the amount of water which can be taken from this source on an annual basis. It should be listed on line 3.B. of the long Water Right Claim form (it was not requested on the short form). Annual quantity is almost always expressed in terms of acre-feet. An acre-foot is the amount of water necessary to submerge an acre of land to a depth of one foot. One acre-foot equals 43,560 cubic feet or 325,851 gallons of water.

Water Right f-Assessment Form

Permit Certificate or Claim #	Name of Rightholder or Claimant	Priority Date	Source Number	Primary or Supplemental	Existing System Capacity - Based on Water Right Limits		Projected Consumption with New Project Approved and On-Line		Projected System Capacity Status (Excess/Deficiency of Water Rights)	
					Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Part 1 Permits/ Certificates										
1. 7551	LLCC	4/66	well#1	primary	125	117	44	54	81	63
2. 8164	LLCC	6/67	well#2	primary	200	166	120	30	80	136
3. 8165	LLCC	6/67	well#3A	primary	100	84	100	26	0	58
4.	LLCC		well#3B	primary			200	86		
5. 9218	LLCC	11/68	well#4	primary	100	79	45	100	55	(21)
6. G2-27215P	LLCC	11/87	well#5	primary	190	152	100	61	90	91
7. G2-27443P	LLCC	10/88	well#6	suplimental	200	160				
Part 2 Claims										
1.										
2.										
3.										
4.										
5.										
6.										
7.										
TOTAL	***********	*********	*********	**********						

Will new water usage resulting from approval of this proposal exceed the maximum flow rate (Qi) or annual quantity (Qa) limits specified in any of the rights listed above?

Yes_____ No ✓

Signature ________ System Manager or Operator

Well #1 (Div. 1)　　Reel 331 Fr. 119

No. 7301—OS—0-00.

CERTIFICATE RECORD No. 12　PAGE No. 5566-A

STATE OF WASHINGTON, COUNTY OF Mason

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.

THIS IS TO CERTIFY That LAKE LIMERICK CORPORATION AND OSBERG CONSTRUCTION COMPANY of Seattle, Washington, has made proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the ground waters of a well located within Plat of Lake Limerick Division No. 1, NE¼NE¼ Sec. 27, Twp. 21 N., R. 3 W. W. M., for the purpose of community domestic supply under and subject to provisions contained in Ground Water Permit No. 7551 issued by the State Supervisor of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume 12 at page 5566-A; that the right hereby confirmed dates from April 19, 1966; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 100 gallons per minute; 117 acre-feet per year, for community domestic supply.

Special provisions required by the Supervisor of Water Resources:

Ruth E. Boysen
66 NOV 18 AM 9 37

A description of the lands to which such ground water right is appurtenant:

Plat of Lake Limerick, Division No. 1, within Secs. 22 & 27, T. 21 N., R. 3 W.W.M.

Mail To Lake Limerick Corp. 2125-25th Ave N.E. Seattle, Wash.

State of Washington Dept. of Conservation 335 General Adm Bldg. Olympia, Wn

Indexed 21
Recorded AC
Compared AC
Paged AC

WN. REAL ESTATE EXCISE TAX
PAID
NOV 18 1966
JOHN B. COLE
Treas., Mason County

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this 16th day of November, 1966.

State Supervisor of Water Resources.

Well No. 2 (Div 2)

REEL 42 FR. 601

CERTIFICATE RECORD NO. 12 PAGE NO. 5887-A

STATE OF WASHINGTON, COUNTY OF Mason

23/10N/4

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

THIS IS TO CERTIFY *That* LAKE LIMERICK COUNTRY CLUB, INC.,

of Seattle, Washington, *has made proof to the satisfaction of the Department of Water Resources of Washington, of a right to the use of the ground waters of a* well (#2)

located within Lot 1, Plat of Lake Limerick Division No. 2 (SE¼NW¼)

Sec. 27, *Twp.* 21 *N., R.* 3 W. *W.M.,*

for the purpose of community domestic supply

under and subject to provisions contained in Ground Water Permit No. 8164 *issued by the Department of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Water Resources of Washington and entered of record in Volume* 12 *at page* 5887-A; *that the right hereby confirmed dates from* June 30, 1967; *that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 200 gallons per minute; 166 acre-feet per year, for community domestic supply for 2000 persons as of 1970

Special provisions required by the Department of Water Resources:

A description of the lands to which such ground water right is appurtenant:

Sec. 27, LESS that part of the easterly 630 feet thereof located southerly of the Mason Lake Road; the S½S½ of Sec. 22; the south 200 feet of the N½S½ of Sec. 22; the SE¼SE¼ of Sec. 21; that portion of the SW¼SW¼ of Sec. 23 lying northerly of the southerly right-of-way line of Mason Lake Road; AND the southerly 200 feet of the NW¼SW¼ of Sec. 23; All In T. 21 N., R. 3 W.W.M., LESS rights of way.

Indexed
Recorded
Compared
Proofed

RECORDED 2 FILED
REEL 42 FRAME 601
AUDITOR MASON COUNTY
Ruth E. Boyce
'67 DEC 7 AM 9:44

REQUEST OF Shy Nash
Dept Nat'l Res

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in Section 18, Chapter 233, Laws of 1967.

WITNESS the seal and signature of the Assistant Director, Division of Water Management, Department of Water Resources affixed this 5th *day of* December, 19 67

Mail to: Country Club Secy
Lake Limerick Resp.
5125 - 25th Ave. NE
Seattle, Wn. 98105

Assistant Director
Division of Water Management
Department of Water Resources

SFT 7361—OS—6-67.   Well No. 5 (Div 2)   REEL 42 FR. 602

CERTIFICATE RECORD NO. 12 PAGE NO. 5888-A

STATE OF WASHINGTON, COUNTY OF Mason

230985

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

THIS IS TO CERTIFY That LAKE LIMERICK COUNTRY CLUB, INC.

of Seattle, Washington, *has made proof to the satisfaction of the Department of Water Resources of Washington, of a right to the use of the ground waters of a* well (#3)

located within Lot 5, Plat of Lake Limerick Division No. 2 (SW¼SW¼)

Sec. 27, *Twp.* 21 *N., R.* 3 W. *W.M.*

for the purpose of community domestic supply

under and subject to provisions contained in Ground Water Permit No. 8165 *issued by the Department of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Water Resources of Washington and entered of record in Volume* 12 *at page* 5888-A;

that the right hereby confirmed dates from June 30, 1967; *that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 100 gallons per minute; 84 acre-feet per year, continuously each year for community domestic supply for 2000 persons as of 1970

Special provisions required by the Department of Water Resources:

A description of the lands to which such ground water right is appurtenant:

Sec. 27, LESS that part of the easterly 630 feet thereof located southerly of the Mason Lake Road; the S½S½ of Sec. 22; the south 200 feet of the N½S½ of Sec. 22; the SE¼SE¼ of Sec. 21; that portion of the SW¼SW¼ of Sec. 23 lying northerly of the southerly right-of-way line of Mason Lake Road; AND the southerly 200 feet of the NW¼SW¼ of Sec. 23; All in T. 21 N., R. 3 W.W.M., LESS rights-of-way.

Indexed ___ Recorded ___ Compared ___ Mailed ___

RECORDED 2 FILED
REEL 42 FRAME 602
[illegible] COUNTY
'67 DEC 7 AM 9:48
REQUEST OF Dept. Water Resources

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in Section 18, Chapter 233, Laws of 1967.

WITNESS the seal and signature of the Assistant Director, Division of Water Management, Department of Water Resources affixed this 5th *day of* December, 19 67.

Mail: Lake Limerick Country Club Inc.
5125 - 35 Ave NE
Seattle Wn 98105

Assistant Director
Division of Water Management
Department of Water Resources

2542272 | (Div. No. 3) | REEL 72 FR. 968

CERTIFICATE RECORD NO. 15, PAGE NO. 7012-A

STATE OF WASHINGTON, COUNTY OF Mason

CERTIFICATE OF GROUND WATER RIGHT

(Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology thereunder.)

THIS IS TO CERTIFY *That* LAKE LIMERICK COUNTRY CLUB ESTATES

of Seattle, Washington, *has made proof to the satisfaction of the Department of Ecology of a right to the use of the public ground waters of the State of Washington from* a well

located within Lot 506, of the Plat of Lake Limerick Division No. 3

Sec. 22, *Twp.* 21 *N., R.* 3 W. *W.M.,*

for the purpose(s) of community domestic supply

under and specifically subject to provisions contained in Ground Water Permit No. 9218 *issued by the Department of Ecology and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Ecology and entered of record in Volume* 15 *at page* 7012-A *that the priority of the right hereby confirmed dates from* November 19, 1968; *that the quantity of ground water under the right hereby confirmed for the aforesaid purposes, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 100 gallons per minute, 79 acre-feet per year for community domestic supply during entire year.

A description of the lands to which such ground water right is appurtenant is as follows:

Plat of Lake Limerick, Division No. 3 located in Secs. 21, 22, 23 and 27, T. 21 N., R. 3 W.W.M.

RECORDED 2 - FILED
REEL 72 FRAME 968
AUDITOR MASON COUNTY
RUTH E. BOYSEN

'70 SEP 30 AM 10:32

REQUEST OF
Dept of Ecology

Indexed
Recorded
Compared
Posted

The right to use of water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390 and 90.44.020.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and seal of this office at Olympia, Washington, this 29th *day of* September, 19 70.

JOHN A. BIGGS, *Director*
Department of Ecology

Engineering Data
OK.

mail to -
Sleavin - Kors
901 Tacoma Ave S.
Tacoma WA 98402

by [signature]
Glen H. Fiedler

well #5

560615

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REEL 557 TR 025

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
November 17, 1987	G2-27215	G2-27215 P	G2-27215 C

NAME
Lake Limerick Community

mail

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
East 790 St. Andrew Drive	Shelton	Washington	98584

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	190	152

QUANTITY, TYPE OF USE, PERIOD OF USE		
152 acre-feet per year (supplemental)	Communtity domestic supply	Year-round, as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL
150 feet north and 1,200 feet east of the west quarter corner of Section 27.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
S½ NW¼	27	21	3W	14	Mason

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by the Lake Limerick Community Water System.

Dept of Ecology
REQUEST OF:
93 MAR -2 AM 10: 27
RECORDED
REEL 557 TRAN 025-026
AUDITOR MASON COUNTY
WASHINGTON

well #6

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 26, 1988	G2-27443	G2-27443 P	G2-27443 C

NAME
Lake Lemerick Country Club

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
E. 790 St. Andrews Drive	Shelton	Washington	98584

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well (No. 6).

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	200	160

QUANTITY, TYPE OF USE, PERIOD OF USE		
160 acre-feet per year	Community domestic supply	Year-round, as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL
850 feet north and 350 feet west of the south quarter corner of Section 27.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY
SE¼ SW¼	27	21	3W	14	Mason

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by the Lake Lemerick community water system.

TABLE 6.5
WATER QUALITY MONITORING COSTS

		Number of Samples Required			Monitoring Laboratory Costs		
Parameter	Approximate Cost per Sample	1995	1996	1997	1995	1996	1997
Coliform	$22	24	24	24	$528	$528	$528
Inorganics	$360	0	5	0	$0	$1,800	$0
Nitrate	$65	5	0	5	$325	$0	$325
VOCs*	$270	5	0	0	$1,350	$0	$0
SOCs*	$880	5	0	0	$4,400	$0	$0
Lead & Copper	$11	40	20	20	$440	$220	$220
Total Laboratory Analysis Cost					$7,043	$2,548	$1,073

* Cost estimate includes regulated and unregulated compounds.

** These costs are for testing services only. The cost of collecting samples and transporting samples to the testing lab have not been calculated.

The Department of Health can allow waivers to limit system monitoring and thereby reduce costs incurred by the system. Consideration of these waivers are based upon system vulnerability. Susceptibility waivers may be given if the water source(s) is protected from infiltration of contaminants. Use waivers are available and may be given if the water source is within a watershed area in which contaminants which are monitored are not in use. Health's departmental guideline titled *Source Vulnerability and Monitoring Waivers* is available to the City for guidance on how to obtain these waivers.

6.5 EMERGENCY RESPONSE

The objective of emergency response is to provide safe water, avoid system contamination and prevent a health threat. Planning for emergency response helps establish procedures which may be applied in a given situation to reduce risk. An emergency response contact list follows

TABLE 6.4
WATER QUALITY MONITORING REQUIREMENTS

Contaminant	Sample Location	Sample Frequency if Standards Not Exceeded	Consequence of Exceeding Standards
Coliform (Existing State Law)	Distribution System	Twice per Month	3 Repeat Samples, 5 Samples Following Month
Inorganics (Existing State Law, Phase II, Phase V)	Each Source Before Treatment	Every 3 Years	Quarterly Sampling
Nitrate (Phase II)	Each Source	Annually	Quarterly Sampling
Nitrite (Phase II)	Each Source	Every 3 Years	Quarterly Sampling For One Year
VOCs (Existing State Law Phase II, Phase V)	Each Source After Treatment	Every 3 Years	Quarterly Sampling For One Year
SOCs (Phase II, Phase V)	Each Source After Treatment	Annually	Quarterly Sampling
Unregulated Compounds (Phase II, V; VOCs, SOCs and Sulfate)	Each Source After Treatment	4 Consecutive Quarters	Quarterly Sampling
Asbestos (Phase II)	Distribution System	One Sample	Quarterly Sampling
Lead and Copper (Lead & Copper Rule)	20 Distribution Sites	2nd Round by 7/1/95	Corrosion Control Study
Chlorine Residual (Existing State Law)	Distribution System	Daily	Chlorination Process Improvement

TABLE IV-10
WATER QUALITY MONITORING SCHEDULE

Parameter	Sample Location	Frequency	Notes
Inorganics (IOC)	After Treatment	Every Three Years	Sample required in 1997 and 2000
Nitrate	After Treatment	Quarterly in 1995	Nitrate is included in an inorganic analysis
Nitrite	After Treatment	Every 3 Years	Sample required in 1997 and 2000
VOCs	After Treatment	One sample in 1995 then annually.	Per DOH instructions, April 1995. Confirm 1996-2000 schedule with DOH for sampling.
SOCs	After Treatment	None Required	Area waiver received. Confirm 1996-2000 schedule with DOH.
A[illegible]tos	Distribution System	One Sample in 1995	From area served by AC pipe.
Lead/Copper	Distribution System	Not Required	No samples required until after corrosion control treatment is installed.
Radionuclides	Source	Every 4 Years	Await DOH instructions before sampling.

The City currently collects two routine coliform samples per month, and the City's Coliform Monitoring Plan is included in the Appendix of this report. Based on the population projections presented in Chapter II of this report, starting in 1997 the City will need to collect three routine coliform samples per month. The City's Coliform Monitoring Plan should be updated when the additional sample is required.

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). Due to this requirement, either early mornings or evenings upon returning from work are the best times for collecting samples. The collection procedure is described in more detail below.

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample kit delivery and pick-up by water department staff.
2. A minimum 6-hour period during which there is no water use throughout the house must be achieved prior to sampling. The water department recommends that either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist.
3. A kitchen or bathroom cold-water faucet is to be used for sampling. Place the sample bottle (open) below the faucet and gently open the cold water tap. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. IF ANY PLUMBING REPAIRS OR REPLACEMENT HAS BEEN DONE IN THE HOME SINCE THE PREVIOUS SAMPLING EVENT, NOTE THIS INFORMATION ON THE LABEL AS PROVIDED.
6. Place the sample kit outside of the residence in the location of the kit's delivery so that department staff may pick up the sample kit.
7. Results from this monitoring effort will be provided to participating customers when reports are generated for the State unless excessive lead and/or copper levels are found. In those cases, immediate notification will be provided (usually 10 working days from the time of sample collection).

Call Kirk Osborne at 426-0325 if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT

Water was last used: Time_____ Date_____

Sample was collected: Time_____ Date_____

I have read the above directions and have taken a tap sample in accordance with these directions.

_____ Date_____

Signature

CASCADE ANALYTICAL SERVICE
3640 S. Cedar - Suite O
Tacoma, Washington 98409

(206) 472-6909

August 8, 1995

Report To: Lake Limerick Country Club
E 790th St Andrews Dr.
Shelton, WA 98584

ATTN: Kirk Osborne

On July 31, 1995 ten samples of water were received in the laboratory from the Lake Limerick Country Club. The results of analyses are as follows:

LOCATION	LEAD (µg/L)	COPPER (mg/L)
B	<1.00	0.050
C	<1.00	0.027
D	<1.00	0.030
E	<1.00	0.042
F	<1.00	0.041
G	<1.00	0.055
I	<1.00	0.049
J	<1.00	<0.01
K	<1.00	0.056
L	<1.00	0.065

MCL LEAD= 50 µg/L
COPPER= 1.00 mg/L

AUG 9 19[illegible]
L.L.C.

Juin TeVrucht
Technical Supervisor

Shiela

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

System's Name: LAKE LIMERICK COUNTRY CLUB, INC. **Type:** ☒ CWS ☐ NTNCWS

Address:
E 790 ST ANDREWS DR
SHELTON WA 98584

Size:
- ☐ >100,000
- ☐ 10,001 to 100,000
- ☐ 3,301 to 10,000
- ☒ 501 to 3,300
- ☐ 101 to 500
- ☐ ≤100

Telephone number: (360) 426-3581

System ID #: 44150T

Contact Person: STEVE MORLEY, WDMI, KIRK OSBORNE

DATE: September 13, 1995

CERTIFICATION OF SAMPLING SITES

LEAD SOLDER SITES

# of single-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	25
# of multi-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	-0-
# of buildings containing copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 2)	-0-
# of sites that contain copper pipes with lead solder installed before 1983 (to be used only if other conditions have been exhausted) (Tier 3)	-0-
TOTAL	25

The following sources have been explored to determine the number of structures which have interior lead pipe or copper pipe with lead solder.

- X — Plumbing and/or building codes
- X — Plumbing and/or building permits
- X — Contacts within the building department, municipal clerk's office, or state regulatory agencies for historical documentation of the service area development
- X — Water Quality Data

Other Resources Which PWS May Utilize

- X — Interviews with building inspectors
- X — Survey of service area plumbers about when and where lead solder was used from 1982 to present
- X — Survey residents in sections of the service area where lead pipe and/or copper pipe with lead solder is suspected to exist
- X — Interviews with local contractors and developers

Explanation of Tier 2 and Tier 3 sites (attach additional pages if necessary)

ı 141-A (continued) Page 2 of 3

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

CERTIFICATION OF SAMPLING SITES

LEAD SERVICE LINE SITES

of samples required to be drawn from lead service line sites: -0-

# of samples actually drawn from lead service line sites: -0-

Difference (explain differences other than zero) Distsribution System contains no Lead Service Lines

The following sources have been explored to determine the number of lead service lines in the distribution system.

X	Distribution system maps and record drawings
	Information collected for the presence of lead and copper as required under §141.42 of the Code of Federal Regulations
X	Capital improvement plans and/or master plans for distribution system development
X	Current and historical standard operating procedures and/or operation and maintenance (O&M) manuals for the type of materials used for service connections
X	Utility records including meter installation records, customer complaint investigations and all historical documentation which indicate and/or confirm the location of lead service connections
X	Existing water quality data for indications of 'troubled areas'

Other Sources Which PWS Utilized

X	Interviews with senior personnel
N/A	Conduct service line sampling where lead service lines are suspected to exist but their presence is not confirmed
X	Review of permit files
X	Community survey
	Review of USGS maps and records
	Interviews with pipe suppliers, contractors, and/or developers

Explanation of fewer than 50% LSL sites identified (attach additional pages if necessary):
Distribution System contains no lead service lines.

CERTIFICATION OF COLLECTION METHODS

I certify that:

Each first draw tap sample for lead and copper is one liter in volume and has stood motionless in the plumbing system of each sampling site for at least six hours.

Each first draw sample collected from a single-family residence has been collected from the cold water kitchen tap or bathroom sink tap.

Each first draw sample collected from a non-residential building has been collected at an interior tap from which water is typically drawn for consumption.

Each first-draw sample collected during an annual or triennial monitoring period has been collected in the months of June, July, August or September.

Each resident who volunteered to collect tap water samples from his or her home has been properly instructed by [insert water system's name] Lake Limerick Country Club, Inc. the proper methods for collecting lead and copper samples. I do not challenge the accuracy of those sampling results. Enclosed is a copy of the material distributed to residents explaining the proper collection methods,(and a list of the residents who performed sampling.) *

*Note- Per conversation10/6/93, with Rich Hoey DOH, Lake Limerick Country Club wishes for the residents who performed sampling to remain anonymous per residents and Board Members requests. Stephen Morley(WDMI)

41-A (continued)

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

RESULTS OF MONITORING

THE RESULTS OF LEAD AND COPPER TAP WATER SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required 10 **# of samples submitted** 10 **90th Percentile Pb** <1.00ug/L
90th Percentile Cu .056mg/L

THE RESULTS OF WATER QUALITY PARAMETER SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required N/A **# of tap samples submitted** N/A
# of entry point samples required N/A **# of entry point samples submitted** N/A

CHANGE OF SAMPLING SITES

Original site address:

New site address:

Distance between sites (approximately):

Targeting Criteria: NEW: OLD:

Reason for change (attach additional pages if necessary):

SIGNATURE Stephen Morley WDMI 6786 Kirk W. Osborne

Stephen Morley, WDMI / Kirk Osborne, LLWB Chairman 9/ /95

TITLE DATE

CASCADE ANALYTICAL SERVICE
3640 S. Cedar - Suite O
Tacoma, Washington 98409

(206) 472-6909

August 8, 1995

Report To: Lake Limerick Country Club
E 790th St Andrews Dr.
Shelton, WA 98584

ATTN: Kirk Osborne

On July 31, 1995 ten samples of water were received in the laboratory from the Lake Limerick Country Club. The results of analyses are as follows:

LOCATION	LEAD (µg/L)	COPPER (mg/L)
B	<1.00	0.050
C	<1.00	0.027
D	<1.00	0.030
E	<1.00	0.042
F	<1.00	0.041
G	<1.00	0.055
I	<1.00	0.049
J	<1.00	<0.01
K	<1.00	0.056
L	<1.00	0.065

MCL LEAD= 50 µg/L
COPPER= 1.00 mg/L

AUG 9 19[illegible]
L.L.C.

Juin TeVrucht
Technical Supervisor

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). Due to this requirement, either early mornings or evenings upon returning from work are the best times for collecting samples. The collection procedure is described in more detail below.

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample kit delivery and pick-up by water department staff.
2. A minimum 6-hour period during which there is no water use throughout the house must be achieved prior to sampling. The water department recommends that either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist.
3. A kitchen or bathroom cold-water faucet is to be used for sampling. Place the sample bottle (open) below the faucet and gently open the cold water tap. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. IF ANY PLUMBING REPAIRS OR REPLACEMENT HAS BEEN DONE IN THE HOME SINCE THE PREVIOUS SAMPLING EVENT, NOTE THIS INFORMATION ON THE LABEL AS PROVIDED.
6. Place the sample kit outside of the residence in the location of the kit's delivery so that department staff may pick up the sample kit.
7. Results from this monitoring effort will be provided to participating customers when reports are generated for the State unless excessive lead and/or copper levels are found. In those cases, immediate notification will be provided (usually 10 working days from the time of sample collection).

Call Kirk Osborne at 426-0325 if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT

Water was last used: Time_____ Date_____

Sample was collected: Time_____ Date_____

I have read the above directions and have taken a tap sample in accordance with these directions.

_____ Date_____

Signature

WHITE EARTH ANALYTICAL

P.O. BOX 635 EPHRATA, WA 98823 PHONE: (509)754-5725 FAX: (509)754-4239

INVOICE #	W5080810
CUSTOMER #	1570

INVOICE INVOICE INVOICE

BILL TO:

LAKE LIMERICK WATER
E. 790 ST. ANDREWS DR.
SHELTON, WA. 98584

DATE	P.O.#	TERMS
08/08/95		NET 30 DAYS

QUANTITY	ITEM NUMBER/DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	INORGANIC COMPOUNDS	235.00	235.00
		Shipping Credit	(3.48)

RECEIVED AUG 1 2 1995

WE5071901

TERMS: Net 30 days, 1.5% per month
charged on past due accounts.

PLEASE PAY BY INVOICE
STATEMENT WILL NOT BE SENT

INVOICE TOTAL	231.52
FREIGHT	0.00
TAX - 7.5%	0.00
BALANCE DUE	231.52

White Earth Analytical

P.O. Box 635 103 12th Ave. S.W. Ephrata, WA 98823
(509)754-3821 (800)462-2007 FAX (509)754-4239

Laboratory Number:
109-30806

Date Received:
07/19/95

1. Date Collected:
07/18/95

2. System Name
Lake Limerick Water

3. System Id #:
44150T

4. Group(A or B)
A

5. County:
Mason

6. Source Type:
[ ] Surface [X] Well
[ ] Spring [ ] Purchase

7. Sample Taken
[X] Before Treatment [ ] After Treatment

8. Source Number:
SO 3

9. Source Name:
Well 3-A

10. Collected by:
Steve Morley
Phone

11. If taken after treatment, list treatment as:
[ ] Fluoridation
[ ] Chlorination
[ ] Filtration
[ ] Water Softener
[ ] Type:
[ ] Other:

12. If taken from distribution, indicate address:

13. Party to pay for testing:

Name: Lake Limerick Water
Address: E.790 St. Andrews Dr.
City, ST, zip Shelton, WA. 98584
Phone #: (360) 426-8922

14. Remarks:

White Earth Analytical # WE5071901

Inhibitors Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006	<	0.005	mg/L	X		FM
Arsenic P	As	0.05	<	0.01	mg/L	X		FM
Barium P	Ba	2.0	<	0.1	mg/L	X		FM
Beryllium	Be	0.004	<	0.002	mg/L	X		FM
Cadmium P	Cd	0.005	<	0.002	mg/L	X		FM
Chromium P	Cr	0.1	<	0.01	mg/L	X		FM
Copper	Cu	1.0[2]	<	0.02	mg/L	X		FM
Iron	Fe	0.3	<	0.05	mg/L	X		FM
Lead P	Pb	0.015		0.004	mg/L	X		FM
Manganese	Mn	0.05	<	0.01	mg/L	X		FM
Mercury P	Hg	0.002	<	0.0005	mg/L	X		FM
Nickel	Ni	0.1	<	0.04	mg/L	X		FM
Selenium P	Se	0.05	<	0.005	mg/L	X		FM
Silver P	Ag	0.1	<	0.010	mg/L	X		FM
Sodium P	Na			3.9	mg/L	X		FM
Thallium	Tl	0.002	<	0.002	mg/L	X		FM
Zinc	Zn	5.0	<	0.05	mg/L	X		FM
Hardness				66	mg/L as $CaCO_3$	X		DH
Conductivity		700		137	mmhos/cm @25°C	X		DH
Turbidity P		1.0		0.18	NTU	X		DH
Color		15.0	<	5.0	Color Units	X		DH
Ioride	Cl	250	<	20.0	mg/L	X		DH
Cyanide	CN	0.2	<	0.100	mg/L	X		GM
Fluoride P	F	2.0	<	0.50	mg/L	X		DH
Nitrate P	as N	10.0		0.53	mg/L	X		DH
Nitrite	as N	1.0	<	0.50	mg/L	X		DH
Sulfate	SO 4	250	<	10.0	mg/L	X		DH
TDS		500	<	150	mg/L	X		DH

Laboratory Comments:

Charge:	Laboratory Supervisor:	Date of Report:
See Invoice	Gary Miller	08/04/95

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper, P = Primary Standard, TDS = Total Dissolved Solids

National Chem Lab, Inc.
103 12th Ave. S.W.
Ephrata, WA 98823

VOLATILE ORGANIC CHEMICAL (VOC) REPORT

Customer : LAKE LIMERICK COUNTRY CLUB, INC. attn: WATER DEPT.
Address : E. 790 ST. ANDREWS DRIVE
City : SHELTON
State ZIP : WA 98584

WATER SAMPLE INFORMATION FOR VOLATILE ORGANIC CHEMICAL ANALYSIS

COMPOSITED

County :	MASON	Lab Number :	10911705
System Name :	LK. LIMERICK COUNTRY CLUB	Date Collected :	11-16-93
System Id Number :	44150T	Date Tested :	11-20-93
DOH Source Number :	SO2, SO4, SO5	EPA Method	524.2
Source Type :	WELL 2, 4, 1		

RESULTS OF ANALYSIS BY EPA METHOD 524.2

Measurement of Purgeable Organic Compounds in Water by Capillary Column
Gas Chromatography/Mass Spectrometry (GC/MS)

Analyst : Rich King
Data File : WE3111705

Date of Report : 11-28-93
Supervisors Initials : G R K

Regulated Compounds

EPA Code #	Compound Name	* MCL (µg/L)	**Amount (µg/L)
2976	VINYL CHLORIDE	2	0.0
2977	1,1-DICHLOROETHYLENE	7	0.0
2981	1,1,1-TRICHLOROETHANE	200	0.0
2982	CARBON TETRACHLORIDE	5	0.0
2990	BENZENE	5	0.0
2980	1,2-DICHLOROETHANE	5	0.0
2984	TRICHLOROETHYLENE	5	0.0
2969	P-DICHLOROBENZENE	75	0.0

Maximum Contaminant Level

NOTE: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

ESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

ab(imber : 10911704
. File : WE3111704

Unregulated Compounds
Monitoring Required

PA Code #	Compound Name	*Amount (µg/L)
2210	CHLOROMETHANE	0.0
2214	BROMOMETHANE	0.0
2216	CHLOROETHANE	0.0
2964	METHYLENE CHLORIDE	0.0
2979	T-1,2-DICHLOROETHYLENE	0.0
2978	1,1-DICHLOROETHANE	0.0
2416	2,2-DICHLOROPROPANE	0.0
2380	CIS-1,2-DICHLOROETHYLENE	0.0
2410	1,1-DICHLOROPROPENE	0.0
2983	1,2-DICHLOROPROPANE	0.0
2408	DIBROMOMETHANE	0.0
2991	TOLUENE	0.0
2985	1,1,2-TRICHLOROETHANE	0.0
[illegible]87	TETRACHLOROETHYLENE	0.0
2412	1,3-DICHLOROPROPANE	0.0
2989	CHLOROBENZENE	0.0
2986	1,1,1,2-TETRACHLOROETHANE	0.0
2992	ETHYL BENZENE	0.0
2995	M/P-XYLENE	0.0
2997	O-XYLENE	0.0
2996	STYRENE	0.0
2993	BROMOBENZENE	0.0
2414	1,2,3-TRICHLOROPROPANE	0.0
2988	1,1,2,2-TETRACHLOROETHANE	0.0
2965	O-CHLOROTOLUENE	0.0
2966	P-CHLOROTOLUENE	0.0
2967	M-DICHLOROBENZENE	0.0
2968	O-DICHLOROBENZENE	0.0
2224	T-1,3-DICHLOROPROPENE	0.0
2228	CIS-1,3-DICHLOROPROPENE	0.0

TE: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

ESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

ab mber : 10911705
File : WE3111705

Unregulated Compounds
Monitoring Required

EPA Code #	Compound Name	*Amount (µg/L)
2212	DICHLORODIFLUOROMETHANE (FREON 12)	0.0
2218	TRICHLOROFLUOROMETHANE (FREON 11)	0.0
2430	BROMOCHLOROMETHANE	0.0
2994	ISOPROPYLBENZENE	0.0
2998	N-PROPYLBENZENE	0.0
2424	1,3,5-TRIMETHYLBENZENE	0.0
2426	TERT-BUTYLBENZENE	0.0
2418	1,2,4-TRIMETHYLBENZENE	0.0
2428	SEC-BUTYLBENZENE	0.0
2030	P-ISOPROPYLTOLUENE	0.0
2422	N-BUTYLBENZENE	0.0
2378	1,2,4-TRICHLOROBENZENE	0.0
2248	NAPHTHALENE	0.0
2246	HEXACHLOROBUTADIENE	0.0
2420	1,2,3-TRICHLOROBENZENE	0.0
2946	*ETHYLENE DIBROMIDE (EDB)†*	*0.0*
2931	*1,2-DIBROMO-3-CHLOROPROPANE (DBCP)†*	*0.0*
	Trihalomethanes (THM)	
2941	CHLOROFORM	0.0
2943	BROMODICHLOROMETHANE	0.0
2944	CHLORODIBROMOMETHANE	0.0
2942	BROMOFORM	0.0

NOTE: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

EDB & DBCP included for screening purposes only. Compliance samples must be done by EPA Method 504 (microextraction with hexane & GC/ECD) to reach the ultra-trace detection limits.

National Chem Lab, Inc.
103 12th Ave. S.W.
Ephrata, WA 98823

VOLATILE ORGANIC CHEMICAL (VOC) REPORT

Customer : LAKE LIMERICK COUNTRY CLUB, INC. attn: WATER DEPT.
Address : E. 790 ST. ANDREWS DRIVE
City : SHELTON
State ZIP : WA 98584

WATER SAMPLE INFORMATION FOR VOLATILE ORGANIC CHEMICAL ANALYSIS

COMPOSITED

County :	MASON	Lab Number :	10911704
System Name :	LK. LIMERICK COUNTRY CLUB	Date Collected :	11-16-93
System Id Number :	44150T	Date Tested :	11-20-93
DOH Source Number :	SO3, SO6, SO7	EPA Method	524.2
Source Type :	WELL 3A, 3B, 5		

RESULTS OF ANALYSIS BY EPA METHOD 524.2

Measurement of Purgeable Organic Compounds in Water by Capillary Column
Gas Chromatography/Mass Spectrometry (GC/MS)

Analyst : Rich King
Data File : WE3111704

Date of Report : 11-28-93
Supervisors Initials : G. K. Bn

Regulated Compounds

EPA Code #	Compound Name	* MCL (µg/L)	**Amount (µg/L)
2976	VINYL CHLORIDE	2	0.0
2977	1,1-DICHLOROETHYLENE	7	0.0
2981	1,1,1-TRICHLOROETHANE	200	0.0
2982	CARBON TETRACHLORIDE	5	0.0
2990	BENZENE	5	0.0
2980	1,2-DICHLOROETHANE	5	0.0
2984	TRICHLOROETHYLENE	5	0.0
2969	P-DICHLOROBENZENE	75	0.0

* Maximum Contaminant Level

** NOTE: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

cc: Jim Bylenga

12-3-93

ESULTS OF ANALYSIS BY EPA METHOD **524.2** (continued)

ab Number : 10911705
File : WE3111705

Unregulated Compounds
Monitoring Required

PA Code #	Compound Name	*Amount (µg/L)
2210	CHLOROMETHANE	0.0
2214	BROMOMETHANE	0.0
2216	CHLOROETHANE	0.0
2964	METHYLENE CHLORIDE	0.0
2979	T-1,2-DICHLOROETHYLENE	0.0
2978	1,1-DICHLOROETHANE	0.0
2416	2,2-DICHLOROPROPANE	0.0
2380	CIS-1,2-DICHLOROETHYLENE	0.0
2410	1,1-DICHLOROPROPENE	0.0
2983	1,2-DICHLOROPROPANE	0.0
2408	DIBROMOMETHANE	0.0
2991	TOLUENE	0.0
2985	1,1,2-TRICHLOROETHANE	0.0
2987	TETRACHLOROETHYLENE	0.0
12	1,3-DICHLOROPROPANE	0.0
2989	CHLOROBENZENE	0.0
2986	1,1,1,2-TETRACHLOROETHANE	0.0
2992	ETHYL BENZENE	0.0
2995	M/P-XYLENE	0.0
2997	O-XYLENE	0.0
2996	STYRENE	0.0
2993	BROMOBENZENE	0.0
2414	1,2,3-TRICHLOROPROPANE	0.0
2988	1,1,2,2-TETRACHLOROETHANE	0.0
2965	O-CHLOROTOLUENE	0.0
2966	P-CHLOROTOLUENE	0.0
2967	M-DICHLOROBENZENE	0.0
2968	O-DICHLOROBENZENE	0.0
2224	T-1,3-DICHLOROPROPENE	0.0
2228	CIS-1,3-DICHLOROPROPENE	0.0

: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

RESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

Lab Number : 10911704
D . File : WE3111704

Unregulated Compounds
Monitoring Required

EPA Code #	Compound Name	*Amount (µg/L)
2212	DICHLORODIFLUOROMETHANE (FREON 12)	0.0
2218	TRICHLOROFLUOROMETHANE (FREON 11)	0.0
2430	BROMOCHLOROMETHANE	0.0
2994	ISOPROPYLBENZENE	0.0
2998	N-PROPYLBENZENE	0.0
2424	1,3,5-TRIMETHYLBENZENE	0.0
2426	TERT-BUTYLBENZENE	0.0
2418	1,2,4-TRIMETHYLBENZENE	0.0
2428	SEC-BUTYLBENZENE	0.0
2030	P-ISOPROPYLTOLUENE	0.0
2422	N-BUTYLBENZENE	0.0
2378	1,2,4-TRICHLOROBENZENE	0.0
2248	NAPHTHALENE	0.0
2246	HEXACHLOROBUTADIENE	0.0
2420	1,2,3-TRICHLOROBENZENE	0.0
2946	*ETHYLENE DIBROMIDE (EDB)†*	*0.0*
2931	*1,2-DIBROMO-3-CHLOROPROPANE (DBCP)†*	*0.0*
	Trihalomethanes (THM)	
2941	CHLOROFORM	0.0
2943	BROMODICHLOROMETHANE	0.0
2944	CHLORODIBROMOMETHANE	0.0
2942	BROMOFORM	0.0

NOTE: An amount of 0.0 µg/L indicates that the true concentration is less than the method detection limit of 0.5 µg/L.

EDB & DBCP included for screening purposes only. Compliance samples must be done by EPA Method 504 (microextraction with hexane & GC/ECD) to reach the ultra-trace detection limits.

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

Laboratory Number:
109-11711

Date Received:
11-17-93

1. Date Collected:
11-16-93

2. System Name
LAKE LIMERICK COUNTRY CLUB

3. System Id #:
44150T

4. Group(A or B)

5. County:
MASON

6. Source Type:
- [ ] Surface
- [ ] Spring
- [X] Well
- [ ] Purchase

7. Sample Taken
- [ ] Before Treatment
- [ ] After Treatment

8. Source Number:
SO5

9. Source Name:
L.1

10. Collected by:
JOHN BYKONEN
Phone 206-426-3581

11. If taken after treatment, list treatment as:
- [ ] Fluoridation
- [ ] Chlorination
- [ ] Filtration
- [ ] Water Softener
- [ ] Type:
- [ ] Other:

12. If taken from distribution, indicate address:

13. Party to pay for testing:

Signature:

Name: LAKE LIMERICK C.C.

Address: E. 790 St. ANDREWS

Phone #: 206-426-3581

14. Remarks:
SHELTON, WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic [P]	As	0.05			mg/L			
Barium [P]	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium [P]	Cd	0.005			mg/L			
Chromium [P]	Cr	0.1			mg/L			
Copper	Cu	1.0[2]			mg/L			
Iron	Fe	0.3			mg/L			
Lead [P]	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury [P]	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium [P]	Se	0.05			mg/L			
Silver [P]	Ag	0.1			mg/L			
Sodium [P]	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity [P]		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride [P]	F	2.0			mg/L			
Nitrate [P]	as N	10.0		0.12	mg/L	X		DD
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge:	Laboratory Supervisor:	Date of Report:
$20.00	Gary Miller	12/06/93

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper, [P] = Primary Standard, TDS = Total Dissolved Solids

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

Laboratory Number:
109-11709

Date Received:
11-17-93

. Date Collected:
11-16-93

2. System Name
LAKE LIMERICK COUNTRY CLUB

3. System Id #:
44150T

4. Group(A or B)

5. County:
MASON

6. Source Type:
[ ] Surface [X] Well
[ ] Spring [ ] Purchase

7. Sample Taken
[ ] Before Treatment [ ] After Treatment

8. Source Number:
SO2

9. Source Name:
#2

10. Collected by:
JOHN BYKONEN
Phone 206-426-3581

11. If taken after treatment, list treatment as:
[ ] Fluoridation
[ ] Chlorination
[ ] Filtration
[ ] Water Softener
[ ] Type:
[ ] Other:

12. If taken from distribution, indicate address:

13. Party to pay for testing:

Signature:
Name: LAKE LIMERICK C.C.
Address: E. 790 St. ANDREWS
Phone #: 206-426-3581

14. Remarks:
SHELTON, WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic P	As	0.05			mg/L			
Barium P	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium P	Cd	0.005			mg/L			
Chromium P	Cr	0.1			mg/L			
Copper	Cu	1.0[2]			mg/L			
Iron	Fe	0.3			mg/L			
Lead P	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury P	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium P	Se	0.05			mg/L			
Silver P	Ag	0.1			mg/L			
Sodium P	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity P		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride P	F	2.0			mg/L			
Nitrate P	as N	10.0		0.08	mg/L	X		DD
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge:	Laboratory Supervisor:	Date of Report:
$20.00	Gary Miller G.R.M.	12/06/93

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper, P = Primary Standard, TDS = Total Dissolved Solids

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

1. Laboratory Number:
109-11706

2. Date Received:
11-17-93

3. Date Collected:
1-16-93

4. System Name
LAKE LIMERICK COUNTRY CLUB

5. System Id #:
4150T

6. Group(A or B)

7. County:
MASON

8. Source Type:
[ ] Surface [X] Well
[ ] Spring [ ] Purchase

9. Sample Taken
[ ] Before Treatment [ ] After Treatment

10. Source Number:
SO3

11. Source Name:
WELL 3A

12. Collected by:
JOHN BYKONEN
Phone 206-426-3581

13. If taken after treatment, list treatment as:
[ ] Fluoridation
[ ] Chlorination
[ ] Filtration
[ ] Water Softener
[ ] Type:
[ ] Other:

14. If taken from distribution, indicate address:

15. Party to pay for testing:

Signature:

Name: LAKE LIMERICK C.C.

Address: E. 790 St. ANDREWS

Phone #: 206-426-3581

16. Remarks:
SHELTON, WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic P	As	0.05			mg/L			
Barium P	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium P	Cd	0.005			mg/L			
Chromium P	Cr	0.1			mg/L			
Copper	Cu	1.0[2]			mg/L			
Iron	Fe	0.3			mg/L			
Lead P	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury P	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium P	Se	0.05			mg/L			
Silver P	Ag	0.1			mg/L			
Sodium P	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity P		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride P	F	2.0			mg/L			
Nitrate P	as N	10.0		0.17	mg/L	X		DD
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge:	Laboratory Supervisor:	Date of Report:
$20.00	Gary Miller	12/06/93

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. P = Primary Standard. TDS = Total Dissolved Solids

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

1. aboratory Number:
09-11707

2. ate Received:
1-17-93

Date Collected:
1-16-93

System Name
AKE LIMERICK COUNTRY CLUB

System Id #:
4150T

4. Group(A or B)

County:
IASON

Source Type:
[ ] Surface [X] Well
[ ] Spring [ ] Purchase

Sample Taken
[ ] Before Treatment [ ] After Treatment

Source Number:
O6

Source Name:
/E(3B

ollected by:
OHN BYKONEN
none 206-426-3581

. If taken after treatment, list treatment as:
[ ] Fluoridation
[ ] Chlorination
[ ] Filtration
[ ] Water Softener
[ ] Type:
[ ] Other:

. If taken from distribution, indicate address:

. Party to pay for testing:

gnature:
me: LAKE LIMERICK C.C.
dress: E. 790 St. ANDREWS
one #: 206-426-3581

Remarks:
ELTON. WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic P	As	0.05			mg/L			
Barium P	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium P	Cd	0.005			mg/L			
Chromium P	Cr	0.1			mg/L			
Copper	Cu	1.0[2]			mg/L			
Iron	Fe	0.3			mg/L			
Lead P	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury P	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium P	Se	0.05			mg/L			
Silver P	Ag	0.1			mg/L			
Sodium P	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity P		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride P	F	2.0			mg/L			
Nitrate P	as N	10.0		0.27	mg/L	X		DD
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge:	Laboratory Supervisor:	Date of Report:
$20.00	Gary Miller G.R.M.	12/06/93

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. P = Primary Standard, TDS = Total Dissolved Solids

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

Laboratory Number: 109-11710

Date Received: 11-17-93

1. Date Collected: 11-16-93

2. System Name: LAKE LIMERICK COUNTRY CLUB

3. System Id #: 44150T

4. Group(A or B):

5. County: MASON

6. Source Type:
- [ ] Surface
- [ ] Spring
- [X] Well
- [ ] Purchase

7. Sample Taken
- [ ] Before Treatment
- [ ] After Treatment

8. Source Number: SO4

9. Source Name: WELL 4

Collected by: JOHN BYKONEN
Phone 206-426-3581

11. If taken after treatment, list treatment as:
- [ ] Fluoridation
- [ ] Chlorination
- [ ] Filtration
- [ ] Water Softener
- [ ] Type:
- [ ] Other:

12. If taken from distribution, indicate address:

13. Party to pay for testing:

Signature:
Name: LAKE LIMERICK C.C.
Address: E. 790 St. ANDREWS
Phone #: 206-426-3581

14. Remarks: SHELTON, WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic [P]	As	0.05			mg/L			
Barium [P]	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium [P]	Cd	0.005			mg/L			
Chromium [P]	Cr	0.1			mg/L			
Copper	Cu	1.0[4]			mg/L			
Iron	Fe	0.3			mg/L			
Lead [P]	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury [P]	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium [P]	Se	0.05			mg/L			
Silver [P]	Ag	0.1			mg/L			
Sodium [P]	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity [P]		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride [P]	F	2.0			mg/L			
Nitrate [P]	as N	10.0		0.56	mg/L	X		DC
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge: $20.00

Laboratory Supervisor: Gary Miller

Date of Report: 12/06/93

[1]MCL = Maximum Contamination Level, [4]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper, [P] = Primary Standard, TDS = Total Dissolved Solids

National Chem Lab

103 12th Ave S.W. , Ephrata, Wa 98823
(509)754-5725

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

Fill out boxes numbered 1 thru 14.

aboratory Number:
09-11708

ate Received:
1-17-93

. Date Collected:
1-16-93

. System Name
AKE LIMERICK COUNTRY CLUB

. System Id #:
4150T

4. Group(A or B)

. County:
MASON

. Source Type:
☐ Surface ☒ Well
☐ Spring ☐ Purchase

. Sample Taken
☐ Before Treatment ☐ After Treatment

. Source Number:
07

. Source Name:
5

Collected by:
OHN BYKONEN
hone 206-426-3581

1. If taken after treatment, list treatment as:
☐ Fluoridation
☐ Chlorination
☐ Filtration
☐ Water Softener
☐ Type:
☐ Other:

2. If taken from distribution, indicate address:

3. Party to pay for testing:

gnature:
ame: LAKE LIMERICK C.C.
ddress: E. 790 St. ANDREWS
hone #: 206-426-3581

. Remarks:
HELTON, WA 98584

Laboratory Report

TESTS		MCL[1]	Less Than <	Results	Units	Compliance Yes	Compliance No	Chemist Initials
Antimony	Sb	0.006			mg/L			
Arsenic [P]	As	0.05			mg/L			
Barium [P]	Ba	2.0			mg/L			
Beryllium	Be	0.004			mg/L			
Cadmium [P]	Cd	0.005			mg/L			
Chromium [P]	Cr	0.1			mg/L			
Copper	Cu	1.0[2]			mg/L			
Iron	Fe	0.3			mg/L			
Lead [P]	Pb	0.015			mg/L			
Manganese	Mn	0.05			mg/L			
Mercury [P]	Hg	0.002			mg/L			
Nickel	Ni	0.1			mg/L			
Selenium [P]	Se	0.05			mg/L			
Silver [P]	Ag	0.1			mg/L			
Sodium [P]	Na				mg/L			
Thallium	Tl	0.002			mg/L			
Zinc	Zn	5.0			mg/L			
Hardness					mg/L as $CaCO_3$			
Conductivity		700			µmhos/cm @25°C			
Turbidity [P]		1.0			NTU			
Color		15.0			Color Units			
Chloride	Cl	250			mg/L			
Cyanide	CN	0.2			mg/L			
Fluoride [P]	F	2.0			mg/L			
Nitrate [P]	as N	10.0		0.38	mg/L	X		DD
Nitrite	as N	1.0			mg/L			
Sulfate	SO_4	250			mg/L			
TDS		500			mg/L			

Laboratory Comments:

Charge: $20.00

Laboratory Supervisor: Gary Miller

Date of Report: 12/06/93

[1]MCL = Maximum Contamination Level, [2]This is the State MCL, Federal Action Levels are 0.015 mg/L for Lead and 1.3 mg/L for Copper. [P] = Primary Standard, TDS = Total Dissolved Solids

State of Washington
DEPARTMENT OF HEALTH
Public Health Laboratories
1610 N.E. 150th St., Seattle, WA 98155
(206)361-2898

VOLATILE ORGANIC CHEMICAL REPORT

Cost - $200.00

Customer	: Lake Limerick Country Club		
Address	: E 790 St Andrews Dr	Bill to:same	
City	: Shelton	Address:	
State ZIP	: WA, 98584	City,St:	
County	: Mason	Zip :	

WATER SAMPLE INFORMATION FOR VOLATILE ORGANIC CHEMICAL ANALYSIS
COMPOSITED

System Name	: Lake Limerick Country Club		
System ID Number	: 44150T	Lab Number	: 5405776-ABC
DOH Source Number	: S03,S07,S06	Date Collected	: 3-30-92
Source Type	: wells	Date Tested	: 3-31-92
County	: Mason	EPA Method	: 524.2

RESULTS OF ANALYSIS BY EPA METHOD 524.2
Measurement of Purgeable Organic Compounds in Water by Capillary Column
Gas Chromatography/Mass Spectrometry

Analyst	: Nancy	Date of Report	: 4/13/92
Data File	: >3C31L	Supervisor's Initials	: CD

Regulated Compounds

EPA Code #	Compound Name	* MCL(µg/l)	**Amount (µg/l)
2976	VINYL CHLORIDE	2	ND
2977	1,1-DICHLOROETHYLENE	7	ND
2981	1,1,1-TRICHLOROETHANE	200	ND
2982	CARBON TETRACHLORIDE	5	ND
2990	BENZENE	5	ND
2980	1,2-DICHLOROETHANE	5	ND
2984	TRICHLOROETHYLENE	5	ND
2969	P-DICHLOROBENZENE	75	ND

* Maximum Contaminant Level

** NOTE: An amount of ND µg/l indicates that the true concentration is less than the method detection limit of 0.5 µg/l.

RESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

Lab Number : 5405776-ABC
Data File : >3C31L

Unregulated Compounds
Monitoring Required

EPA Code #	Compound Name	*Amount (µg/l)
2210	CHLOROMETHANE	ND
2214	BROMOMETHANE	ND
2216	CHLOROETHANE	ND
2964	METHYLENE CHLORIDE	ND
2979	T-1,2-DICHLOROETHYLENE	ND
2978	1,1-DICHLOROETHANE	ND
2416	2,2-DICHLOROPROPANE	ND
2380	CIS-1,2-DICHLOROETHYLENE	ND
2410	1,1-DICHLOROPROPENE	ND
2983	1,2-DICHLOROPROPANE	ND
2408	DIBROMOMETHANE	ND
2991	TOLUENE	ND
2985	1,1,2-TRICHLOROETHANE	ND
2987	TETRACHLOROETHYLENE	ND
2412	1,3-DICHLOROPROPANE	ND
2989	CHLOROBENZENE	ND
2986	1,1,1,2-TETRACHLOROETHANE	ND
2992	ETHYL BENZENE	ND
2995	M/P-XYLENE	ND
2997	O-XYLENE	ND
2996	STYRENE	ND
2993	BROMOBENZENE	ND
2414	1,2,3-TRICHLOROPROPANE	ND
2988	1,1,2,2-TETRACHLOROETHANE	ND
2965	O-CHLOROTOLUENE	ND
2966	P-CHLOROTOLUENE	ND
2967	M-DICHLOROBENZENE	ND
2968	O-DICHLOROBENZENE	ND

* NOTE: An amount of ND µg/l indicates that the true concentration is less than the method detection limit of 0.5 µg/l.

RESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

Lab Number : 5405776-ABC
Data File : >3C31L

Unregulated Compounds
Monitoring Required

EPA Code #	Compound Name	*Amount (µg/l)
2212	DICHLORODIFLUOROMETHANE	ND
2218	TRICHLOROFLUOROMETHANE	ND
2430	BROMOCHLOROMETHANE	ND
2994	ISOPROPYLBENZENE	ND
2998	N-PROPYLBENZENE	ND
2424	1,3,5-TRIMETHYLBENZENE	ND
2426	TERT-BUTYLBENZENE	ND
2418	1,2,4-TRIMETHYLBENZENE	ND
2428	SEC-BUTYLBENZENE	ND
2030	P-ISOPROPYLTOLUENE	ND
2422	N-BUTYLBENZENE	ND
2378	1,2,4-TRICHLOROBENZENE	ND
2248	NAPHTHALENE	ND
2246	HEXACHLOROBUTADIENE	ND
2420	1,2,3-TRICHLOROBENZENE	ND
	Trihalomethanes (THM)	
2941	CHLOROFORM	ND
2943	BROMODICHLOROMETHANE	ND
2944	CHLORODIBROMOMETHANE	ND
2942	BROMOFORM	ND

* NOTE: An amount of ND µg/l indicates that the true concentration is less than the method detection limit of 0.5 µg/l.

cc Gene S. Howard Dave : water dept. health

State of Washington
DEPARTMENT OF HEALTH
Public Health Laboratories
1610 N.E. 150th St., Seattle, WA 98155
(206)361-2898

L.L.C.C.
OCT 11 1991
RECEIVED

Customer	: Lk Limerick Country Club		
Address	: E 790 ST.Andrews Dr	Lab Number	: 5404802-ABC
City	: Shelton	Date Collected	: 10-1-91
State ZIP	: WA, 98584	Date Received	: 10-4-91
County	: Mason	Date Tested	: 10-4-91

WATER SAMPLE INFORMATION FOR VOLATILE ORGANIC CHEMICAL ANALYSIS
COMPOSITED

System Name : Lake Limerick Country Club
System ID Number : 44150T
DOH Source Number : S03,S06,S07
Source Name : wells #3A,3B,well #5
Source Type : wells

RESULTS OF ANALYSIS BY EPA METHOD 524.2
Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry

Analyst : Nancy
Data File : >3J04M

Date of Report : 10/9/91
Supervisor's Initials : RYN

Regulated Compounds charge: $250.00

EPA Code #	Compound Name	MCL(ug/l)	*Amount (ug/l)	Compliance
2976	VINYL CHLORIDE	2	0.0	YES
2977	1,1-DICHLOROETHYLENE	7	0.0	YES
2981	1,1,1-TRICHLOROETHANE	200	0.0	YES
2982	CARBON TETRACHLORIDE	5	0.0	YES
2990	BENZENE	5	0.0	YES
2980	1,2-DICHLOROETHANE	5	0.0	YES
2984	TRICHLORETHYLENE	5	0.0	YES
2969	P-DICHLOROBENZENE	75	0.0	YES

* NOTE: An amount of 0.0 ug/l indicates that the true concentration is less than the method detection limit of 0.5 ug/l.

RESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

Lab Number : 5404802-ABC
Data File : >3J04M

Unregulated Compounds
Monitoring Required

EPA Code #	Compound Name	*Amount (ug/l)
2210	CHLOROMETHANE	0.0
2214	BROMOMETHANE	0.0
2216	CHLOROETHANE	0.0
2964	METHYLENE CHLORIDE	0.0
2979	T-1,2-DICHLOROETHYLENE	0.0
2978	1,1-DICHLOROETHANE	0.0
2416	2,2-DICHLOROPROPANE	0.0
2380	CIS-1,2-DICHLOROETHYLENE	0.0
2941	CHLOROFORM (THM)	0.0
2410	1,1-DICHLOROPROPENE	0.0
2983	1,2-DICHLOROPROPANE	0.0
2408	DIBROMOMETHANE	0.0
2943	BROMODICHLOROMETHANE (THM)	0.0
2991	TOLUENE	0.0
2985	1,1,2-TRICHLOROETHANE	0.0
2987	TETRACHLOROETHYLENE	0.0
2412	1,3-DICHLOROPROPANE	0.0
2944	CHLORODIBROMOMETHANE (THM)	0.0
2989	CHLOROBENZENE	0.0
2986	1,1,1,2-TETRACHLOROETHANE	0.0
2992	ETHYL BENZENE	0.0
2995	M/P-XYLENE	0.0
2997	O-XYLENE	0.0
2996	STYRENE	0.0
2942	BROMOFORM (THM)	0.0
2993	BROMOBENZENE	0.0
2414	1,2,3-TRICHLOROPROPANE	0.0
2988	1,1,2,2-TETRACHLOROETHANE	0.0
2965	O-CHLOROTOLUENE	0.0
2966	P-CHLOROTOLUENE	0.0
2967	M-DICHLOROBENZENE	0.0
2968	O-DICHLOROBENZENE	0.0

* NOTE: An amount of 0.0 ug/l indicates that the true concentration is less than the method detection limit of 0.5 ug/l.

RESULTS OF ANALYSIS BY EPA METHOD 524.2 (continued)

Lab Number : 5404802-ABC
Data File : >3J04M

Unregulated Compounds
Discretionary

EPA Code #	Compound Name	*Amount (ug/l)
2212	DICHLORODIFLUOROMETHANE	0.0
2218	TRICHLOROFLUOROMETHANE	0.0
2430	BROMOCHLOROMETHANE	0.0
2994	ISOPROPYLBENZENE	0.0
2998	N-PROPYLBENZENE	0.0
2424	1,3,5-TRIMETHYLBENZENE	0.0
2426	TERT-BUTYLBENZENE	0.0
2418	1,2,4-TRIMETHYLBENZENE	0.0
2428	SEC-BUTYLBENZENE	0.0
2030	P-ISOPROPYLTOLUENE	0.0
2422	N-BUTYLBENZENE	0.0
2378	1,2,4-TRICHLOROBENZENE	0.0
2248	NAPHTHALENE	0.0
2246	HEXACHLOROBUTADIENE	0.0
2420	1,2,3-TRICHLOROBENZENE	0.0

* NOTE: An amount of 0.0 ug/l indicates that the true concentration is less than the method detection limit of 0.5 ug/l.

ise Print Plainly
HEAVY PENCIL
NOT WRITE IN SHADED AREAS

State of Washington
Department of Health
DIVISION OF LABORATORIES
1610 N.E. 150th St., Seattle WA 98155-7224
(206) 361-2898

SEE BACK
FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

B. NUMBER	DATE RECEIVED	DATE COLLECTED	COLLECTED BY: Telephone:
51 1 2934	12,05,90	12, 4, 90	Howard Berk 206 464-4563

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
441506T	Lake Limerick Country Club	(1) 2 3 4	Mason

SOURCE TYPE: 1. Surface X 3. Well 2. Spring 4. Purchase
SOURCE NO (Well No.): 1
IF SOURCE IS LAKE OR STREAM ENTER NAME

SAMPLE WAS TAKEN: X Before Treatment ___ After Treatment
IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (Address)

IF TAKEN AFTER TREATMENT WAS IT ___ FILTERED ___ FLUORIDATED ___ CHLORINATED ___ WATER SOFTENER: TYPE USED ___

REMARKS: (Water quality problems, address for additiional copies, etc.)
Location: Mason County
Sec. 17 Twp 21
Range 3W

FEES ARE CHARGED FOR CHEMICAL TESTING
A fee schedule is available from this department.

PARTY TO PAY FOR FEE FOR SERVICE TESTING
Howard Berk Sup't.
Signature (Required) (Print Full Name & Address)
Lake Limerick Country Club
Name
E. 790 St. Andrews Dr.
Street
Shelton WA. 98584
City Zip Code
Telephone: (206) 426-4563
Area Code

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

TS	MCL	LESS THAN <	RESULTS	UNITS	Compliance YES	Compliance NO	CHEMIST INITIALS
	0.05	<	0.010	mg/l	✓		KK
Ba	1.0	<	0.25	mg/l	✓		PO
m Cd	0.01	<	0.002	mg/l	✓		PO/DWD
um Cr	0.05	<	0.010	mg/l	✓		PO
Fe	0.3		0.11	mg/l	✓		PO
Pb	0.05	<	0.002	mg/l	✓		PO
ese Mn	0.05	<	0.010	mg/l	✓		PO
Hg	0.002	<	.0005	mg/l	✓		KK
Se	0.01	<	0.005	mg/l	✓		PO
Ag	0.05	<	0.010	mg/l	✓		PO
Na		<	5	mg/l			PO
S			50	mg/l AS CaCO3			PO
ivity	700		100	Micromhos/cm 25° C	✓		mu
y	1.0		0.6	NTU	✓		mu
	15.0	<	5.0	Color Units	✓		mu
F	2.0	<	0.2	mg/l	✓		KK
as N	10.0	<	0.2	mg/l	✓		CRW
	250	<	5	mg/l	✓		CRW
SO_4	250			mg/l			
	500			mg/l			
Ca	1.0	<	0.25	mg/l	✓		PO
Zn	5.0	<	0.25	mg/l	✓		PO

DATE OF FINAL REPORT: 1/8/91

LABORATORY SUPERVISOR (Name or Initials)

CHARGE: $195.00

REMARKS: CRW

mu

3

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AVY PENCIL
WRITE IN SHADED AREAS

State of Washington
Department of Health
DIVISION OF LABORATORIES
1610 N.E. 150th St., Seattle WA 98155-7224
(206) 361-2898

SEE BACK FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

NUMBER	DATE RECEIVED	DATE COLLECTED	COLLECTED BY
5 11 2935	12 05 90	12 4 90	HOWARD BRELL Telephone 426 4563

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
44150T	LAKE LIMERICK COUNTRY CLUB	(1) 2 3 4	MASON

SOURCE TYPE: Surface; Spring; X 3. Well; 4. Purchase
SOURCE NO (Well No.): 2
IF SOURCE IS LAKE OR STREAM ENTER NAME:

SAMPLE WAS TAKEN: Before Treatment / After Treatment
IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (Address)

IF SAMPLE WAS TAKEN AFTER TREATMENT WAS IT ____ FILTERED ____ FLUORIDATED
CHLORINATED ____ WATER SOFTENER: TYPE USED ____

REMARKS: (Water quality problems, address for additiional copies, etc.)
LOCATION: MASON COUNTY
SEC. 27 TWP 21
RANGE 3-W

FEES ARE CHARGED FOR CHEMICAL TESTING
A fee schedule is available from this department.

PARTY TO PAY FOR FEE FOR SERVICE TESTING
Howard Brell Supt
Signature (Required) (Print Full Name & Address)
LAKE LIMERICK COUNTRY CLUB
Name
E 790 St. ANDREWS DR
Street
SHELTON WA. 98584
City Zip Code
Telephone: (206) 426-4563
Area Code

LABORATORY REPORT

(DO NOT WRITE BELOW THIS LINE)

	MCL	LESS THAN <	RESULTS	UNITS	Compliance YES	Compliance NO	CHEMIST INITIALS
	0.05	<	0.010	mg/l	✓		
Ba	1.0	<	0.25	mg/l	✓		PO
Cd	0.01	<	0.002	mg/l	✓		PT/PAO
Cr	0.05	<	0.010	mg/l	✓		PO
Fe	0.3	<	0.10	mg/l	✓		PO
Pb	0.05	<	0.002	mg/l	✓		PO
Mn	0.05		0.027	mg/l	✓		PO
Hg	0.002	<	.0005	mg/l	✓		KK
	0.01	<	0.005	mg/l	✓		PO
Ag	0.05	<	0.010	mg/l	✓		PO
Na		<	5	mg/l			PO
			40	mg/l AS CaCo3			PO
	700		90	Micromhos/cm 25° C	✓		JDU
	1.0		0.5	NTU	✓		JDU
	15.0	<	5.0	Color Units	✓		JDU
F	2.0	<	0.2	mg/l	✓		KK
as N	10.0	<	0.2	mg/l	✓		CRW
	250	<	5	mg/l	✓		CRW
SO_4	250			mg/l			
	500			mg/l			
Cu	1.0	<	0.25	mg/l	✓		PO
Zn	5.0	<	0.25	mg/l	✓		PO

DATE OF FINAL REPORT: 1/8/91

LABORATORY SUPERVISOR (Name or Initials)

CHARGE: $195.00

REMARKS: vCRW

Maximum Contaminant Level Allowed ... Standard ...

int Plainly
VY PENCIL
WRITE IN SHADED AREAS

State of Washington
Department of Health
DIVISION OF LABORATORIES
1610 N.E. 150th St., Seattle WA 98155-7224
(206) 361-2898

SEE BACK
FOR INSTRUCTIONS

ATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

A MBER	DATE RECEIVED	DATE COLLECTED	COLLECTED BY: Telephone:
51 12938	12.05.90	12.4.90	HOWARD DOLL 426-4563

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
WH150T	LAKE LINERICK COUNTRY CLUB	1 2 3 4	MASON

TYPE
Surface ___3. Well
pring ___4. Purchase

SOURCE NO (Well No.) 3H

IF SOURCE IS LAKE OR STREAM ENTER NAME

MPLE WAS TAKEN
Before Treatment
After Treatment

IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM
IT WAS COLLECTED FROM SYSTEM AT: (Address)

AFTER TREATMENT WAS IT ____FILTERED ____FLUORIDATED
HLORINATED ____WATER SOFTENER: TYPE USED ____

S: (Water quality problems, address for additional copies, etc.)

ATTN: MASON COUNTY
SEC. 27 TWP 21
RANGE 3-W

FEES ARE CHARGED FOR CHEMICAL TESTING
A fee schedule is available from this department.

PARTY TO PAY FOR FEE FOR SERVICE TESTING

Howard Doll Supt.
Signature (Required) (Print Full Name & Address)

LAKE LINERICK COUNTRY CLUB
Name

E. 700 ST. ANDREWS DR
Street

SHELTON WA. 98584
City Zip Code

Telephone: (206) 426-4563
Area Code

LABORATORY REPORT

(DO NOT WRITE BELOW THIS LINE)

	MCL	LESS THAN <	RESULTS	UNITS	Compliance YES	Compliance NO	CHEMIST INITIALS
	0.05	<	0.010	mg/l	✓		A
Ba	1.0	<	0.25	mg/l	✓		PO
Cd	0.01	<	0.002	mg/l	✓		DT/RWD
Cr	0.05	<	0.010	mg/l	✓		PO
Fe	0.3	<	0.10	mg/l	✓		PO
Pb	0.05	<	0.002	mg/l	✓		PO
Mn	0.05	<	0.010	mg/l	✓		PO
Hg	0.002	<	.0005	mg/l	✓		KK
Se	0.01	<	0.005	mg/l	✓		PO
Ag	0.05	<	0.010	mg/l	✓		PO
Na		<	5	mg/l			PO
			40	mg/l AS CaCo3			PO
	700		80	Micromhos/cm 25° C	✓		MM
	1.0		0.1	NTU	✓		MM
	15.0	<	5.0	Color Units	✓		MM
F	2.0	<	0.2	mg/l	✓		KK
	10.0	<	0.2	mg/l	✓		CRW
	250	<	5	mg/l	✓		CRW
SO4	250			mg/l			
	500			mg/l			
Cu	1.0	<	0.25	mg/l	✓		PO.
Zn	5.0	<	0.25	mg/l	✓		PO

DATE OF FINAL REPORT: 1/10/91

LABORATORY SUPERVISOR: (Name or Initials) DT

CHARGE: $195.00

REMARKS: VIA CRW

MM

* Maximum Contaminant Level Allowed * Primary Standard

3

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State of Washington
Department of Health
DIVISION OF LABORATORIES
1610 N.E. 150th St., Seattle WA 98155-7224
(206) 361-2898

SEE BACK FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

NUMBER	DATE RECEIVED	DATE COLLECTED	COLLECTED BY:
511 293 9	12 05 90	12 4 90	HOWARD [illegible] Telephone: 206 426-4565

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
44150T	Lake Limerick Country Club	1 2 3 4	MASON

CE TYPE: 1. Surface ✓ 3. Well 2. Spring 4. Purchase
SOURCE NO. (Well No.): 4
IF SOURCE IS LAKE OR STREAM ENTER NAME:

SAMPLE WAS TAKEN: Before Treatment / After Treatment
IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (Address)

EN AFTER TREATMENT WAS IT ____ FILTERED ____ FLUORIDATED
CHLORINATED ____ WATER SOFTENER: TYPE USED ____
RKS: (Water quality problems, address for additional copies, etc.)
Location: Mason County
SEC. 27 TWP 21
RANGE 3-W

FEES ARE CHARGED FOR CHEMICAL TESTING
A fee schedule is available from this department.

PARTY TO PAY FOR FEE FOR SERVICE TESTING
Howard [illegible] Supt.
Signature (Required) (Print Full Name & Address)
Lake Limerick Country Club
Name
E. [illegible] St Andrews Dr
Street
Shelton WA. 98584
City Zip Code
Telephone: (206) 426-4565
Area Code

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

S	MCL	LESS THAN	RESULTS	UNITS	Compliance YES	NO	CHEMIST INITIALS
	0.05 P	<	0.010	mg/l	✓		M
Ba	1.0 P	<	0.25	mg/l	✓		PO
Cd	0.01 P	<	0.002	mg/l	✓		PT/RMW
Cr	0.05 P	<	0.010	mg/l	✓		PO
Fe	0.3	<	0.10	mg/l	✓		PO
Pb	0.05 P	<	0.002	mg/l	✓		PO
Mn	0.05	<	0.010	mg/l	✓		PO
Hg	0.002 P	<	.0005	mg/l	✓		KK
Se	~~0.01 P~~	~~<~~	~~0.005~~	~~mg/l~~	✓		PO
Ag	0.05 P	<	0.010	mg/l	✓		PO
Na		<	5	mg/l			PO
			40	mg/l AS CaCo3			PO
ty	700		90	Micromhos/cm 25° C	✓		MU
	1.0 P		0.1	NTU	✓		MU
	15.0	<	5.0	Color Units	✓		MU
F	2.0 P	<	0.2	mg/l	✓		KK
as N	10.0 P	<	0.2	mg/l	✓		CRW
	250	<	1.5	mg/l	✓		CRW
SO4	250			mg/l			
	500			mg/l			
Cu	1.0	<	0.25	mg/l	✓		PO
Zn	5.0	<	0.25	mg/l	✓		PO

DATE OF FINAL REPORT: 1/10/91

LABORATORY SUPERVISOR (Name or Initials): M

CHARGE: $195.00

REMARKS: vcrw

Maximum Contaminant Level Allowed P Primary Standard

ase Print Plainly
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State of Washington
Department of Social and Health Services
Division of Health
PUBLIC HEALTH LABORATORIES
1610 N.E. 150th St., Seattle WA 98155

SEE BACK
FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

USE THIS FORM FOR THE COMPLETE CHEMICAL ANALYSIS ONLY

LAB. NUMBER	DATE RECEIVED	DATE COLLECTED	COLLECTED BY:
5 19953	07.29.87	7.28.87	Telephone:

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
WA 1505 T	Lake Limerick Country Club	1 2 3 4	Mason

SOURCE TYPE
__1. Surface __3. Well
__2. Spring __4. Purchase

SOURCE NO (Well No.): 5

IF SOURCE IS LAKE OR STREAM ENTER NAME

SAMPLE WAS TAKEN
__ Before Treatment
__ After Treatment

IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (Address)

TAKEN AFTER TREATMENT WAS IT ____FILTERED ____FLUORIDATED
____CHLORINATED ____WATER SOFTENER: TYPE USED ____

REMARKS: (Water quality problems, address for additional copies, etc.)

FEES ARE CHARGED FOR CHEMICAL TESTING
A fee schedule is available from this department.

PARTY TO PAY FOR FEE FOR SERVICE TESTING

Signature (Required) (Print Full Name & Address)

Name

Street

City WA. Zip Code

Telephone: (Area Code)

LABORATORY REPORT

(DO NOT WRITE BELOW THIS LINE)

TS	MCL	LESS THAN <	RESULTS	UNITS	Compliance YES	Compliance NO	CHEMIST INITIALS
	0.05*	<	0.010	mg/l	✓		
Se	1.0*	<	0.25	mg/l	✓		
n Cd	0.01*	<	0.002	mg/l	✓		
m Cr	0.05*	<	0.010	mg/l	✓		
Fe	0.3		0.29	mg/l	✓		
Pb	0.05*	<	0.010	mg/l	✓		
ese Mn	0.05		0.011	mg/l	✓		
Hg	0.002*	<	.0005	mg/l	✓		
Se	0.01*	<	0.005	mg/l	✓		
Ag	0.05*	<	0.010	mg/l	✓		
Na		<	5	mg/l			
s			50	mg/l AS CaCo3			
vity	700		91	Micromhos/cm 25° C	✓		
	1.0*		0.9	NTU	✓		
	15.0	<	5	Color Units	✓		
	2.0	<	0.2	mg/l	✓		
	10.0			mg/l			
	250			mg/l			
	500			mg/l			
				mg/l			

DATE OF FINAL REPORT: 9/15/87

LABORATORY SUPERVISOR
(Name or Initials)

CHARGE: #185.00

REMARKS:

LABORATORY NAME

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SEE BACK FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

CO | CITY | DATE RECEIVED | DATE COLLECTED | COLLECTED BY

Telephone

Is a follow-up of a previous out of compliance sample? Yes No

If yes, what was the laboratory number of the previous sample? ___ ___ ___

I.D. NO. | SYSTEM NAME | SYSTEM CLASS 1 2 3 4 | COUNTY

LOCATION | THIS SAMPLE TAKEN BEFORE TREATMENT | AFTER | IF TAKEN *AFTER* TREATMENT WAS IT ___ FILTERED ___ FLUORIDATED ___ CHLORINATED ___ WATER SOFTENER, TYPE USED ______

SOURCE: ___ 1. SURFACE ___ 3. WELL ___ 2. SPRING ___ 4. PURCHASE | SOURCE NO. | IF SOURCE IS LAKE OR STREAM, ENTER NAME | IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM, IT WAS COLLECTED FROM SYSTEM AT (ADDRESS)

DATE OF FINAL REPORT: [illegible]/[illegible]/85

SEND REPORT TO: (PRINT FULL NAME & ADDRESS)

City | Zip Code

Telephone

REMARKS:

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

ELEMENTS		MCL	Less Than <	RESULTS		Compliance YES	Compliance No	Chemist Initials	Laboratory Number (If different than above)
[illegible]	As	0.05		C	mg/l				
[illegible]	Ba	1.0		C	mg/l				
[illegible]	Cd	0.01		C	mg/l				
[illegible]	Cr	0.05		C	mg/l				
[illegible]	Fe	0.3		[illegible]	mg/l	[illegible]			
[illegible]	Pb	0.05		C	mg/l				
[illegible]	Mn	0.05		[illegible]	mg/l		[illegible]		
[illegible]	Hg	0.002		C	mg/l				
[illegible]	Se	0.01		C	mg/l				
[illegible]	Ag	0.05		C	mg/l				
[illegible]	[illegible]				mg/l				
[illegible]					mg/l as CaCO3				
[illegible]		700			[illegible]				
[illegible]		1.0		C	NTU				
[illegible]		15.0		C	[illegible]				
[illegible]		2.0		C	mg/l				
[illegible]		10.0		C	[illegible]				
[illegible]		250			[illegible]				
[illegible]		250			[illegible]				

MCL: Maximum Contaminant Level
Standard

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LABORATORY NAME: WMA Lab - Tacoma

SEE BACK FOR INSTRUCTIONS

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

[redacted]

DATE COLLECTED: __/__/__

COLLECTED BY: Telephone: 206-426-3581

is a follow up of a previous out of compliance sample? Yes ☐ No ☐

s, what was the laboratory number of the previous sample? _____

EM I.D. NO.	SYSTEM NAME:	SYSTEM CLASS (circle one) 1 2 3 4	COUNTY
X X X X	Lake Limmerick C.C.		Mason

E LOCATION	THIS SAMPLE TAKEN BEFORE TREATMENT ☐ U AFTER ☑ T	IF TAKEN *AFTER* TREATMENT WAS IT ___FILTERED ___FLUORIDATED ___CHLORINATED ___WATER SOFTENER: TYPE USED
1	2	

CE	SOURCE NO.	IF SOURCE IS LAKE OR STREAM, ENTER NAME	IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (ADDRESS)
3 (1. SURFACE ✓ 2. SPRING 3. WELL 4. PURCHASE)			

[redacted]

ARKS: Engineering report

SEND REPORT TO: (PRINT FULL NAME & ADDRESS)
Soehnlein - LK Limmerick C.C.
Name
E. 740 Road of Tralee
Street
Shelton WA 98584
CITY ZIP CODE
Telephone: (206) 426-3581
Area Code

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

STS	*MCL	Less Than	RESULTS		Compliance YES	Compliance NO	Chemist Initials	Laboratory Number (If different than above)
lic As	0.05 P			mg/l				
m Ba	1.0 P			mg/l				
ium Cd	0.01 P			mg/l				
mium Cr	0.05 P			mg/l				
Fe	0.3		0.006	mg/l	✓		JTV	
Pb	0.05 P			mg/l				
anese Mn	0.05		0.058	mg/l		✓	JTV	
ry Hg	0.002 P			mg/l				
um Se	0.01 P			mg/l				
Ag	0.05 P			mg/l				
m Na				mg/l				
ess				mg/l As CaCO3				
ctivity	700			Micromhos/cm @ 25° C				
ity	1.0 P			NTU				
	15.0			Color Units				
de	2.0 P			mg/l				
as N	10.0 P			mg/l				
de Cl	250			mg/l				
SO_4	250			mg/l				

is the Maximum Contaminant Level Allowed.

Laboratory Supervisor

Please Print Plainly WMA LAB - Tacoma
USE HEAVY PENCIL
DO NOT WRITE IN SHADED AREAS

State of Washington
Department of Social and Health Services
Health Services Division
PUBLIC HEALTH LABORATORIES
1409 Smith Tower, B17-9, Seattle, Washington 98104

WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

LAB. NUMBER	CO.	CITY	DATE RECEIVED	DATE COLLECTED	COLLECTED BY:
12220	23		12/15/82	12/15/82	E. FRANKENFIELD Telephone: 426-3581

Is this a follow up of a previous out of compliance sample? Yes ☐ No ☒

If yes, what was the laboratory number of the previous sample? _____

SYSTEM I.D. NO.	SYSTEM NAME	SYSTEM CLASS (circle one)	COUNTY
41501	LAKE LIMERICK COUNTRY CLUB	① 2 3 4	MASON

SAMPLE LOCATION: #4 - WELL

THIS SAMPLE TAKEN BEFORE ☒ (U) AFTER ☐ (T) TREATMENT
CHECK ONE OF THE ABOVE BOXES

IF TAKEN *AFTER* TREATMENT WAS IT ___FILTERED ___FLUORIDATED ___CHLORINATED ___WATER SOFTENER: TYPE USED _____

SOURCE TYPE: 3 (1. SURFACE, 2. SPRING, X 3. WELL, 4. PURCHASE)

SOURCE NO.: 4

IF SOURCE IS LAKE OR STREAM, ENTER NAME

IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT: (ADDRESS)

DATE OF FINAL REPORT: 12/24/82

REMARKS:

SEND REPORT TO: (PRINT FULL NAME & ADDRESS)

LAKE LIMERICK COUNTRY CLUB
Name
E-790 - ST-ANDREWS DRIVE
Street
SHELTON WA. 98584
City Zip Code
Telephone: (426) 3581
Area Code

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

TESTS	*MCL	LESS THAN <	RESULTS	UNITS	Compliance YES	Compliance NO	Chemist Initials
Arsenic As	0.05 P		0.010	mg/l	✓		KLC
Barium Ba	1.0 P		0.25	mg/l	✓		KLC
Cadmium Cd	0.01 P		0.002	mg/l	✓		KLC
Chromium Cr	0.05 P		0.010	mg/l	✓		KLC
Iron Fe	0.3		0.03	mg/l	✓		KLC
Lead Pb	0.05 P		0.010	mg/l	✓		KLC
Manganese Mn	0.05		0.013	mg/l	✓		KLC
Mercury Hg	0.002 P		.0010	mg/l	✓		DLA
Selenium Se	0.01 P		0.005	mg/l	✓		KLC
Silver Ag	0.05 P		0.010	mg/l	✓		KLC
Sodium Na			0.010	mg/l	✓		KLC
Hardness			044	mg/l AS CaCo3	✓		DLA
Conductivity	700		072	Micromhos/cm 25° C	✓		DLA
Turbidity	1.0 P		0.4	NTU	✓		DLA
Color	15.0		5.	Color Units	✓		DLA
Fluoride F	2.0 P		0.3	mg/l	✓		DLA
Nitrate as N	10.0 P		0.2	mg/l	✓		DLA
Chloride Cl	250			mg/l			
Sulfate SO_4	250			mg/l			

LABORATORY SUPERVISOR (Name or Initials)
Don Anderson

CHARGE:

REMARKS:

*MCL is the Maximum Contaminant Level Allowed
P Primary Standard

Seattle Engineer Office Copy

State of Washington
Department of Social and Health Services
Health Services Division
PUBLIC HEALTH LABORATORIES
1409 Smith Tower, Bldg. Seattle, Washington 98104

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WATER SAMPLE INFORMATION FOR INORGANIC CHEMICAL ANALYSES

NUMBER	CO.	CITY	DATE RECEIVED	DATE COLLECTED	COLLECTED BY
[illegible]			___/___/___	12/15/[illegible]	[illegible] Telephone [illegible]

Is this a follow up of a previous out of compliance sample? Yes ☐ No ☑

If yes, what was the laboratory number of the previous sample? ______

FIELD ID NO.	SYSTEM NAME	SYSTEM CLASS (circle one) 1 2 3 4	COUNTY
[illegible]	[illegible]		[illegible]

SAMPLE LOCATION	THIS SAMPLE TAKEN BEFORE ☐ AFTER ☐ TREATMENT. CHECK ONE OF THE ABOVE BOXES	IF TAKEN AFTER TREATMENT WAS IT ___ FILTERED ___ FLUORIDATED ___ CHLORINATED ___ WATER SOFTENER TYPE USED
[illegible]		

SOURCE TYPE: 1. SURFACE 3. WELL 2. SPRING 4. PURCHASE	SOURCE NO.	IF SOURCE IS LAKE OR STREAM, ENTER NAME	IF SAMPLE WAS DRAWN FROM DISTRIBUTION SYSTEM IT WAS COLLECTED FROM SYSTEM AT (ADDRESS)
[illegible]	[illegible]		

DATE OF FINAL REPORT [illegible]

SEND REPORT TO: (PRINT FULL NAME & ADDRESS)

[illegible]
Name
[illegible]
Street
[illegible]
City Zip Code
Telephone [illegible]
Area Code

REMARKS:

LABORATORY REPORT
(DO NOT WRITE BELOW THIS LINE)

TEST	MCL	LESS THAN	RESULTS	UNITS	Compliance YES	Compliance NO	Chemist Initials
[illegible]enic As	0.05		< [illegible]	mg/l			[illegible]
[illegible]ium Ba	1.0		< [illegible]	mg/l			[illegible]
[illegible]mium Cd	0.01		< [illegible]	mg/l			
[illegible]omium Cr	0.05		< [illegible]	mg/l			
[illegible]	0.3		< [illegible]	mg/l			
[illegible]d Pb	0.05		< [illegible]	mg/l			
[illegible]ganese Mn	0.05		< [illegible]	mg/l			
[illegible]cury Hg	0.002		< [illegible]	mg/l			[illegible]
[illegible]nium Se	[illegible]		< [illegible]	mg/l			
[illegible] Ag	0.05		< [illegible]	mg/l			
[illegible]ium Na			[illegible]	mg/l			
[illegible]dness			[illegible]	mg/l as $CaCO_3$			
[illegible]ductivity	700		[illegible]	Micromhos/cm 25°C			
[illegible]bidity	1.0		< [illegible]	NTU			
[illegible]	15		< [illegible]	Color Units			
[illegible]	[illegible]		< [illegible]	mg/l			
[illegible]	[illegible]		< [illegible]	mg/l			
[illegible]	250		[illegible]	mg/l			
[illegible]	250		[illegible]	mg/l			

LABORATORY SUPERVISOR
(Name or Initials)

CHARGE

REMARKS:

[illegible]

[illegible]

TABLE 26: WATER SYSTEM OPERATIONS SCHEDULING

OPERATION	STAFF	DAILY	WEEKLY	MONTHLY	QUARTERLY	ANNUALLY	5 YEAR
STORAGE:							
Check locks, bird screens, vents	Water Department Manager I, Assistant I					X	
Drain-Inspect-Clean & Disinfect Reservoirs	Water Department Manager I, Assistant I						3 years
Check water level in reservoirs	Water Department Manager I, Assistant I	X					
DISTRIBUTION:	Water Department Manager I, Assistant I						
Flush lines (as required)	Water Department Manager I, Assistant I				X		
Check system valves Clean valve boxes	Water Department Manager I, Assistant I					X	
Check fire hydrant operation	Water Department Manager I, Assistant I				X		
Repair or replace fire hydrant (as required)	Water Department Manager I, Assistant I						when needed
Repair or replace line valves (as required)	Water Department Manager I, Assistant I						when needed
Read meters and inspect service	Water Department Manager I, Assistant I			X			
Inspect backflow prevention devices	No employee qualified at this time				X		
MONITORING:	Water Department Manager I, Assistant I						
Coliform bacteria samples	Water Department Manager I, Assistant I			X			
Lead and Copper Samples (10 locations)	Water Department Manager I, Assistant I						3 years
Nitrates & Nitrites SO2,3,4,5,6,&,7	Water Department Manager I, Assistant I						3 years
Asbestos - sample from system 1995	Water Department Manager I, Assistant I						3 years
S.O.C. sample @ SO2,3, 4,5,6,&,7	Water Department Manager I, Assistant I						3yr waiver
V.O.C. sample @ SO1,2,3,&,4	Water Department Manager I, Assistant I						3 years
Inorganic samples SO1,2,3,&4,	Water Department Manager I, Assistant I						3 years

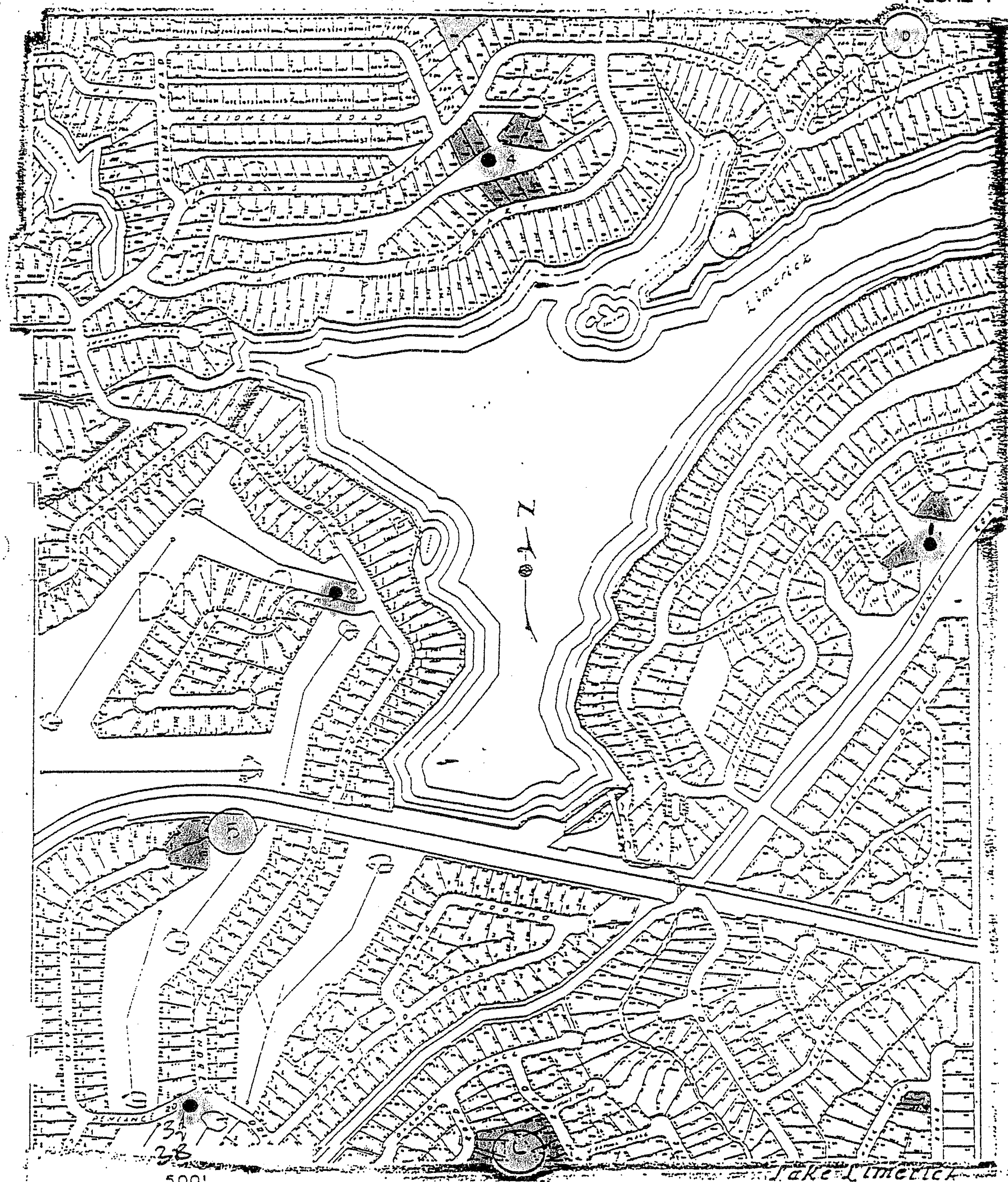
WELL SITE

RESIDENTIAL LOTS W/ "NO Pollution Easement"

POTENTIAL WELL SITES

VICINITY MAP

FIGURE 1



December 14, 1994

Well Site # 1 and 110,000 gallon storage tank
Division 1 Lot 203 - Greenbelt
Mason Lake Road - county road
Lot 176 * Residential lot with no pollution easement
Lot 185 * Residential lot with no pollution easement

Well Site # 2
Division 2 Lot 001-A EX DOR # 043510- Golf Course
Golf Course
St. Andrews Drive - county road
Shamrock Drive - county road

Well Site # 3 & 3A and 150,000 gallon storage tank
Division 2 Lot 005 Golf Course
Golf Course
St Andrews Dr - county road
Penzance Road - county road

Well Site # 4 and 70,000 gallon storage tank
Division 3 Lot 506 - Greenbelt
Lot 402 + Residential lot with no pollution easement
Lot 403 * Residential lot with no pollution easement
Lot 404 * Residential lot with no pollution easement
Lot 422 * Residential lot with no pollution easement
Lot 423 * Residential lot with no pollution easement
Lot 424 * Residential lot with no pollution easement
Lot 425 + Residential lot with no pollution easement

Well Site # 5
Division 2 Lot 003
Lot 136 * Residential lot with no pollution easement
Lot 137 * Residential lot with no pollution easement

Well Site # 6 standby emergency
Division 4 Lot 75
Lot 041 + Residential lot with no pollution easement
Lot 042 + Residential lot with no pollution easement
Lot 043 + Residential lot with no pollution easement
Lot 052 * Residential lot with no pollution easement
Lot 053 + Residential lot with no pollution easement
Lot 054 * Residential lot with no pollution easement
Lot 074 + Residential lot with no pollution easement
Lot 076 * Residential lot with no pollution easement

Property defined as potential well sites:
Division 3 Lot 508
Division 3 Lot 509
Division 3 Lot 511
Division 5 Lot 094

+ = no water valve
* = water valve

5/14/96

LAKE LIMERICK WATER DEPARTMENT																							
LONG RANGE CAPITAL PROJECTIONS/YEAR																							
	ACTUAL	ESTIMATED																					
PROJECT	COST:	COST:	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Pickup Share	$1,366.67	$1,500.00	o					o							o							o	
Fence Well #1	$2,263.26		o																				
#3A Well pump Replace	$1,493.59	$5,000.00	o												o								
Meters		50m/3 years			o	o	o																
Pipe Detector		$1,500.00		o																			
Generator		$20,000.00		o																			
#3B Well Pump Replace		$3,000.00			o												o						
Leak Detector		$2,000.00			o																		
Paint Tank #1		$7,000.00			o																		
Computer Upgrade		$5,000.00			o																		
#1 Well-Clonakilty Loop		$8,000.00				o																	
#3A Booster pump Replace		$3,000.00				o																	
#3B Booster pump Replace		$3,000.00				o																	
Activate Well #6		$100,000.00				o																	
#1 New Booster Pump Replace		$3,000.00					o																
#4 New Booster Pump Replace		$3,000.00					o																
Sleaford-Peebles Loop Lines		$12,000.00					o																
Texture Tank #3		$5,000.00					o																
#2 Well Pump Replacement		$3,000.00					o													o			
Olde Lyme-Peebles Loop Lines		$10,000.00						o															
#4 Well Pump Replacement		$3,000.00							o														
Fence Well #4		$3,000.00								o													
Fence Well #6		$3,000.00								o													
Texture Tank #4		$5,000.00								o													
#5 Well Pump Replacement		$3,000.00									o												
Well-Computer Radio Link		$10,000.00										o											
Water Treatment													o	o	o	o	o	o	o	o			
Connemara Way-Bleinhem loop Lines		$6,000.00											o										
#1 Well Pump Replacement		$3,000.00											o										
Stand Pipe		$150,000.00													o								
Fence Well #3		$3,000.00																					o
Fence Well #5		$3,000.00															o						
Shamrock Dr-St Andrews Loop Lines		$6,000.00														o							
Angus Ct-Errigal Pl Loop Lines		$6,000.00																o					
Storage Tank @#5		$125,000.00																	o				
Replace 4" Lines															o	o	o	o	o				
New Building		$10,000.00									o												
		ESTIMATED																					
		COST:	$10	$12	$17	$14	$26	$12	$103	$11	$13	$10	$9	$150	$7	$6	$6	$6	$128	$3	$3	$2	$3

5/14/96

LAKE LIMERICK WATER DEPARTMENT
LONG RANGE CAPITAL PROJECTIONS/YEAR

PROJECT	ACTUAL COST:	ESTIMATED COST:	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Pickup Share	$1,366.67	$1,500.00	o					o							o							o	
Fence Well #1	$2,263.26		o																				
#3A Well pump Replace	$1,493.59	$5,000.00	o												o								
Meters		50m/3 years			o	o	o																
Pipe Detector		$1,500.00		o																			
Generator		$20,000.00		o																			
#3B Well Pump Replace		$3,000.00			o												o						
Leak Detector		$2,000.00			o																		
Paint Tank #1		$7,000.00			o																		
Computer Upgrade		$5,000.00			o																		
#1 Well-Clonakilly Loop		$8,000.00				o																	
#3A Booster pump Replace		$3,000.00				o																	
#3B Booster pump Replace		$3,000.00				o																	
Activate Well #6		$100,000.00				o																	
#1 New Booster Pump Replace		$3,000.00					o																
#4 New Booster Pump Replace		$3,000.00					o																
Sleaford-Peebles Loop Lines		$12,000.00					o																
Texture Tank #3		$5,000.00					o																
#2 Well Pump Replacement		$3,000.00					o													o			
Olde Lyme-Peebles Loop Lines		$10,000.00						o															
#4 Well Pump Replacement		$3,000.00							o														
Fence Well #4		$3,000.00								o													
Fence Well #6		$3,000.00								o													
Texture Tank #4		$5,000.00								o													
#5 Well Pump Replacement		$3,000.00									o												
Well-Computer Radio Link		$10,000.00										o											
Water Treatment													o	o	o	o	o	o	o	o			
Connemara Way-Bleinhem loop Lines		$6,000.00											o										
#1 Well Pump Replacement		$3,000.00											o										
Stand Pipe		$150,000.00													o								
Fence Well #3		$3,000.00																					o
Fence Well #5		$3,000.00															o						
Shamrock Dr-St Andrews Loop Lines		$6,000.00														o							
Angus Ct-Errigal Pl Loop Lines		$6,000.00																o					
Storage Tank @#5		$125,000.00																	o				
Replace 4" Lines															o	o	o	o	o				
New Building		$10,000.00									o												
		ESTIMATED COST:	$10	$12	$17	$14	$26	$12	$103	$11	$13	$10	$9	$150	$7	$6	$6	$6	$128	$3	$3	$2	$3

Monday, November 20, 1995

WATER BOARD COMMITTEE MEMBERS

The following list of items are the things we (the committee) have indicated be done by Water Maintenance.

I am calling the list:

"ACTION ITEMS"

NO.ITEM:	ON GOING:	DATE TO BE DONE:	COMPLETED:
1.a Well #6 fix			July 1995
1.b Well #1b (old) close out	Arcadia #1		In Works
2. Well #1 fence			April 24, 1995
3. Booster pump study (new additions)			April 4, 1995
4. Tags for customer alert			Mar 27, 1995
5. Pipe detection purchase		$2,006.56	Purchased 11/10/95
6. Leak detector purchase		1997 Capital	Investigation of available equipment
7. Water meter bridge yoke/duel service (Including valve & backflow prevention)			Completed Immediate Implementation
8. Emergency Generator		1996 Capital Expense Getting Costs	

Kirk Osborne, Water Committee Chairperson

Monday March 11, 1996

WATER BOARD COMMITTEE MEMBERS

...ollowing list of items are the things we (the committee) have indicated be done by Water Maintenance.

"ACTION ITEMS"

NO. ITEM:	DATE TO BE DONE:	COMPLETED:
1. Well #1b (old) close out	Arcadia #1	In Works
2. Leak detector purchase	1997 Capital	Investigation of available equipment
3. Water meter bridge yoke/duel service (Including valve & backflow prevention)	on going	immediate implementation
4. Emergency Generator	1996 Capital Expense getting costs	
5. Water System Plan	first submittal - Spring 1996	
6. Well #5 Diversion Plan	May 1996	

...Osborne, Water Committee Chairperson

CAPITAL IMPRO EMENTS July96

FLAT FEE EXPENSE FORECAST ANALYSIS BY YEAR

OPERATING EXPENSES BY DEPT:	1996	1997	1998	1999	2000	2001	2002	2003
WATER DEPT 95								
CAPITAL BUDGET IMPROVEMENTS								
TRUCK REPLACMENT					$ 1,500.00			
#3A WELL PUMP REPLACE								
METERS		$ 50,000.00	$ 50,000.00	$ 50,000.00				
PIPE DETECTOR	$ 2,000.00							
GENERATOR	$ 20,000.00							
#3B WELL PUMP REPLACE		$ 3,000.00						
LEAK DETECTOR		$ 2,000.00						
PAINT TANK #1		$ 7,000.00						
COMPUTER UPGRADE		$ 5,000.00						
#1 WELL-CLONAKILTY LOOP			$ 8,000.00					
#3A BOOSTER PUMP REPLACE			$ 3,000.00					
#3B BOOSTER PUMP REPLACE			$ 3,000.00					
ACTIVATE WELL #6			$ 100,000.00					
#1 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
#4 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
SLEAFOR-PEEBLES LOOP LINES				$ 12,000.00				
TEXTURE TANK #3				$ 5,000.00				
#2 WELL PUMP REPLACEMENT				$ 3,000.00				
OLDE LYME-PEEBLES LOOP LINES					$ 10,000.00			
#4 WELL PUMP REPLACEMENT						$ 3,000.00		
FENCE WELL #4							$ 3,000.00	
FENCE WELL #6							$ 3,000.00	
TEXTURE TANK #3							$ 5,000.00	
#5 WELL PUMP REPLACEMENT								$ 3,000.00
WELL-COMPUTER RADIO LINK								
WATER TREATMENT								
CONNEMARA WAY-BLEINHEM LOOP LINES								
#1 WELL PUMP REPLACEMTN								
NEW BUILDING								$ 10,000.00
	$ 22,000.00	$ 67,000.00	$ 164,000.00	$ 76,000.00	$ 11,500.00	$ 3,000.00	$ 11,000.00	$ 13,000.00

Lake Limerick water distribution system is on one pressure zone. The system is charged directly by wells, and pressure pumps drawing from (3) storage tanks.

SOURCE: (6) active wells and (1) emergency well

Well #1 SO5-- 75 G.P.M.--Storage capacity--84,500 gal.
Well #2 SO2--200 G.P.M.--No storage (emergency generator)
Well #3a SO3--146 G.P.M.--} Storage capacity
Well #3b SO6--210 G.P.M.--} 169,300 gal.

Well #4 SO4-- 92 G.P.M.--Storage capacity--76,650
Well #5 SO7--200 G.P.M.--No storage

Well #6 SO8--140 G.P.M.--Emergency well no storage

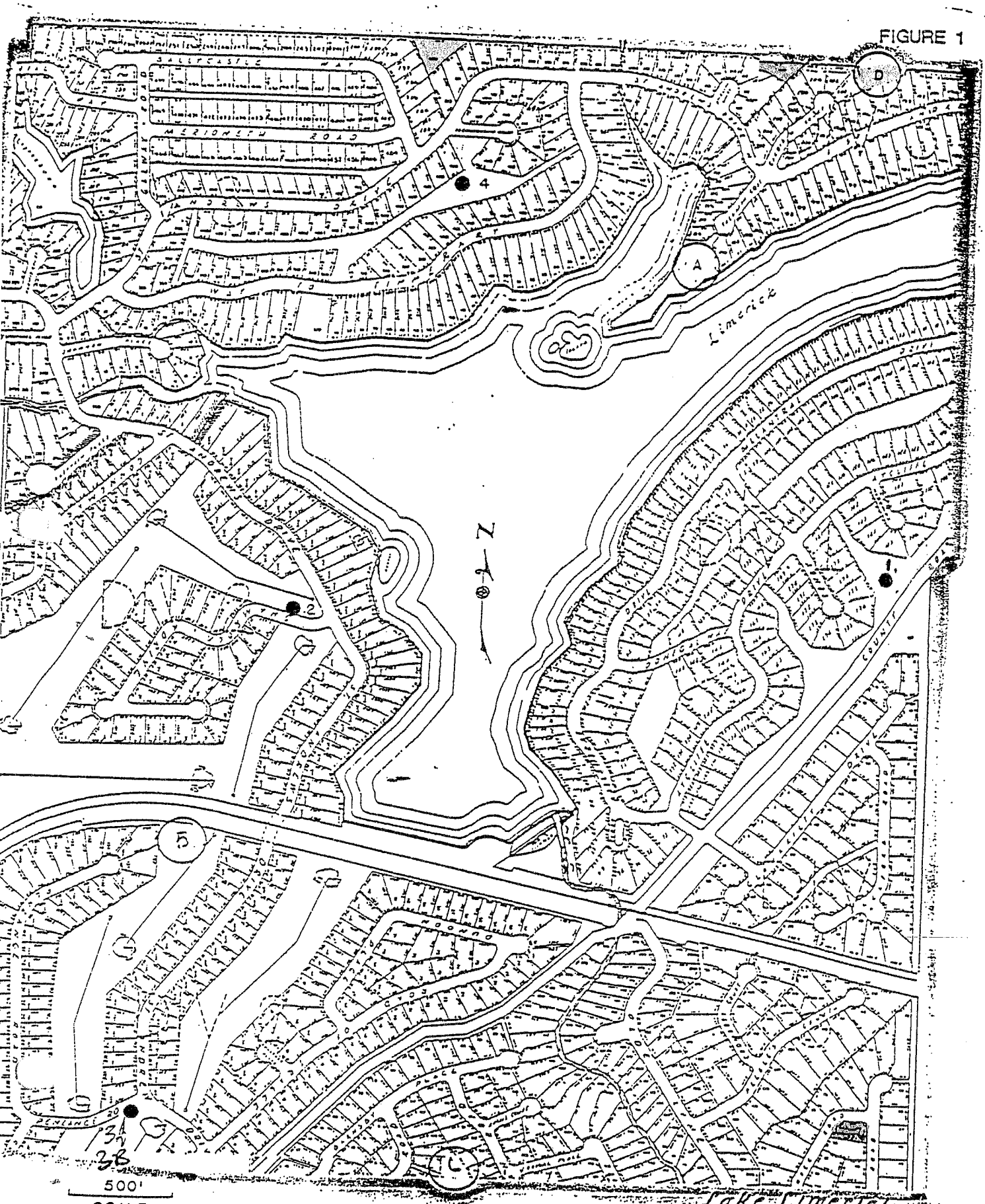
The system is primarily a loop system consisting of (4) and (6) inch asbestos-cement lines with (1) 1" poly service line connection per (2) lots.

The wells and pressure pumps are operated by computer, there is a base computer that sends and receives transmissions to a small computer in each well house via audio tone over phone lines. The wells function by pressure fluctuation (low on high off) and timers. These settings are entered in the main computer according to demand.

VICINITY MAP

Proposed Facilities

FIGURE 1



APPROVED 1995

9/1/95

LAKE LIMERICK WATER SYSTEM 6 YEAR BUDGET

OPTION NUMBER -4-
INCOME OPTION: VALVE @$115.00 & NO VALVE @$38.00
INCOME INCREASE @ 2% FOR 6 YEARS
EXPENSE INCREASE @ 6% FOR 6 YEARS

VALVE
NO VALVE

ACTUAL RATES: $85.00 $28.00

BUDGET RATES: $115.00 $38.00 VALVE NO VALVE

INCOME USE 2% INCREASE

GL NUMBER	YEAR SOURCE INCOME:	1986 INCOME	1987 INCOME	1988 INCOME	1989 INCOME	1990 INCOME	ACTUAL COST 1991 INCOME	ACTUAL COST 1992 INCOME	ACTUAL COST 1993 INCOME	ACTUAL COST 1994 INCOME	ACTUAL 1995 INCOME	POSTED BUDGET 1996 INCOME	BUDGET 1997 INCOME	BUDGET 1998 INCOME	BUDGET 1999 INCOME	BUDGET 2000 INCOME	BUDGET 2001 INCOME
5910-09	WATER INCOME	$53,691.00	$55,203.00	$53,087.00	$55,872.00	$55,658.00	$57,768.77	$60,009.21	$61,055.20	$90,155.70	$92,406.72	$127,236.00	$129,780.72	$132,376.33	$135,023.86	$137,724.34	$140,478.
5920-09	WATER VALVE/SPIGOT HOOKUP	$540.00	$225.00	$585.00	$585.00	$1,125.00	$1,510.00	$3,940.00	$3,297.37	$5,945.00	$3,550.00	$3,510.00	$3,580.20	$3,651.80	$3,724.84	$3,799.34	$3,875.
5930-09	W/VALVE DISCONNECT	$75.00	$240.00	$45.00	$30.00	$60.00	$60.00	$35.00	$70.00	$349.90	$40.00	$100.00	$102.00	$104.04	$106.12	$108.24	$110.
	MISCELLANEOUS	$1,465.00	$0.00	$0.00	$13.00	$0.00	$0.00	$0.00	$25,839.54	($462.73)	$608.23	$500.00	$510.00	$520.20	$530.60	$541.22	$552.
5935-09	SERVICE CHARGES	$800.00	$1,949.00	$1,372.00	$2,075.00	$2,193.00	$1,813.12	$2,026.20	$1,219.71	$1,468.43	$1,499.11	$1,500.00	$2,530.00	$1,560.60	$1,591.81	$1,623.65	$1,656.
8004-09	INTEREST BANK	$697.00	$583.00	$1,044.00	$1,541.00	$1,694.00	$4,368.16	$2,528.60	$221.60	$216.54	$488.68	$500.00	$510.00	$520.20	$530.60	$541.22	$552.
	TOTAL INCOME:	$57,268.00	$58,200.00	$56,133.00	$60,116.00	$59,730.00	$65,520.05	$68,539.01	$91,703.42	$97,672.84	$98,594.74	$133,346.00	$136,012.92	$138,733.18	$141,507.84	$144,338.00	$147,224.

GL NUMBER	YEAR SOURCE EXPENSE:	1986 EXPENSE	1987 EXPENSE	1988 EXPENSE	1989 EXPENSE	ACTUAL COST 1990 EXPENSE	ACTUAL COST 1991 EXPENSE	ACTUAL COST 1992 EXPENSE	ACTUAL COST 1993 EXPENSE	ACTUAL COST 1994 EXPENSE	USED BUDGET 1995 EXPENSE	POSTED BUDGET 1996 EXPENSE	EXPENSE USE 6%INCREASE 1997 EXPENSE	1998 EXPENSE	1999 EXPENSE	2000 EXPENSE	2001 EXPENSE
7070-09	SALARIES	$13,082.00	$15,328.00	$14,626.00	$16,793.00	$17,247.00	$17,477.20	$23,344.60	$20,622.10	$26,696.30	$21,000.00	$27,000.00	$28,620.00	$30,337.20	$32,157.43	$34,086.88	$36,132.
	ACCOUNTING						$1,100.00		$0.00	$35.00	$0.00						
7100-09	AUTO & TRUCK						$333.05	$597.36	$606.73	$781.03	$1,000.00	$1,000.00	$1,060.00	$1,123.60	$1,191.02	$1,262.48	$1,338.
7200-09	BAD DEBTS						$120.00	$261.26	$169.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.
7220-09	BANK S/C	$95.00	$93.00	$112.00	$132.00	$132.00	$152.00	$240.53	$150.42	$49.75	$200.00	$200.00	$212.00	$224.72	$238.20	$252.50	$267.
7340-09	EMP. HEALTH INSURANCE						$1,326.05	$1,680.52	$1,622.71	$1,695.28	$2,200.00	$1,622.00	$1,728.92	$1,833.72	$1,943.74	$2,060.36	$2,183.
7355-09	ENGINEERING SERVICES						$4,140.00	$7,225.70	$0.00	$0.00	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.
7365-09	EQUIPMENT RENT							$50.62	$182.31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.
7450-09	INSURANCE							$2,275.73	$1,968.35	$2,044.75	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.
7500-09	LICENSES & PERMITS						$35.00	$110.00	$1,526.50	$1,820.20	$1,700.00	$5,200.00	$5,512.00	$5,842.72	$6,193.28	$6,564.88	$6,958.
7510-09	MAINT/REPAIR	$2,093.00	$9,428.00	$2,715.00	$2,507.00	$3,474.00	$5,970.42	$9,090.78	$5,073.01	$8,039.82	$8,000.00	$8,000.00	$8,480.00	$8,988.80	$9,528.13	$10,099.82	$10,705.
7520-09	MISCELLANEOUS	$143.00	$138.00	$0.00	$85.00	$0.00	$0.00	$0.00	$0.00	$135.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.
7530-09	OFFICE EXPENSE	$2,029.00	$2,147.00	$2,887.00	$3,278.00	$4,378.00	$1,352.66	$1,553.32	$1,522.79	$1,544.68	$1,600.00	$1,600.00	$1,696.00	$1,797.76	$1,905.63	$2,019.96	$2,141.
7580-09	POSTAGE						$1,888.96	$603.75	$600.00	$426.60	$650.00	$650.00	$689.00	$730.34	$774.16	$820.61	$869.
7600-09	PROVISIONAL FIT	$1,300.00	$1,200.00	$1,200.00	$1,200.00	$1,200.00	$0.00	$0.00	$4,895.00	$0.00	$9,066.00	$5,000.00	$9,540.00	$10,112.40	$10,719.14	$11,362.29	$12,044.
	RENT						$1,200.00		$0.00	$0.00							
7660-09	SERVICES CONTRACT	$11,585.00	$523.00	$156.00	$130.00	$120.00	$900.00	$0.00	$0.00	$705.73	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.
7370-09	SUPPLIES	$627.00	$1,479.00	$869.00	$2,988.00	$3,111.00	$1,418.59	$5,361.22	$4,914.43	$4,757.12	$5,000.00	$7,000.00	$7,420.00	$7,865.20	$8,337.11	$8,837.34	$9,367.
7730-09	TAXES PAYROLL	$1,587.00	$1,971.00	$2,088.00	$2,706.00	$2,243.00	$2,368.24	$3,169.98	$2,854.47	$3,413.83	$3,100.00	$3,780.00	$4,006.80	$4,247.21	$4,502.04	$4,772.16	$5,058.
7743-09	TAXES EXCISE	$2,782.00	$2,880.00	$2,645.00	$3,258.00	$2,516.00	$3,046.92	$3,064.69	$3,257.07	$4,619.29	$5,200.00	$5,000.00	$5,300.00	$5,618.00	$5,955.08	$6,312.38	$6,691.
7800-09	TELEPHONE						$834.60	$696.10	$836.04	$836.60	$2,200.00	$1,200.00	$1,272.00	$1,348.32	$1,429.22	$1,514.97	$1,605.
7630-09	UTILITIES	$7,937.00	$9,248.00	$8,061.00	$8,006.00	$7,456.00	$6,596.12	$8,425.93	$9,408.56	$11,389.71	$13,200.00	$14,700.00	$15,582.00	$16,516.92	$17,507.94	$18,558.41	$19,671.
	WATER MASTER	$900.00	$900.00	$900.00	$900.00	$900.00	$0.00	$375.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.
7840-09	WATER TESTING	$1,927.00	$918.00	$1,500.00	$1,311.00	$1,143.00	$2,022.90	$2,022.90	$2,046.06	$1,793.00	$2,000.00	$4,000.00	$4,240.00	$4,494.40	$4,764.06	$5,049.91	$5,352.
	OPERATING EXPENSE:	$46,087.00	$46,253.00	$37,759.00	$43,294.00	$43,920.00	$52,282.69	$70,150.39	$61,443.09	$70,753.69	$75,116.00	$93,962.00	$99,599.72	$105,575.70	$111,910.25	$118,624.86	$125,742.
	NET INCOME:	$11,181.00	$11,947.00	$18,374.00	$16,822.00	$15,810.00	$13,237.36	($1,611.38)	$30,260.33	$26,919.15	$19,478.74	$39,384.00	$36,413.20	$33,157.48	$29,597.60	$25,713.14	$21,482.
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	RESERVES ACCUMULATED:											$39,384.00	$75,797.20	$108,954.68	$138,552.27	$164,265.41	$185,747.

APPROVED 1995

9/1/95

LAKE LIMERICK WATER SYSTEM 6 YEAR BUDGET

OPTION NUMBER -4-
INCOME OPTION: VALVE @$115.00 & NO VALVE @$38.00
INCOME INCREASE @ 2% FOR 6 YEARS
EXPENSE INCREASE @ 6% FOR 6 YEARS

								VALVE NO VALVE	ACTUAL RATES: $85.00 $28.00			BUDGET RATES:	INCOME USE 2% INCREASE			
										$115.00 $38.00 POSTED	VALVE NO VALVE					
YEAR	1986	1987	1988	1989	1990	ACTUAL COST 1991	ACTUAL COST 1992	ACTUAL COST 1993	ACTUAL COST 1994	ACTUAL 1995	BUDGET 1996	BUDGET 1997	BUDGET 1998	BUDGET 1999	BUDGET 2000	BUDGET 2001
SOURCE INCOME:	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME
WATER INCOME	$53,691.00	$55,203.00	$53,087.00	$55,872.00	$55,858.00	$57,768.77	$60,009.21	$61,055.20	$90,155.70	$92,408.72	$127,236.00	$129,780.72	$132,376.33	$135,023.86	$137,724.34	$140,478.83
WATER VALVE/SPIGOT HOOKUP	$540.00	$225.00	$585.00	$585.00	$1,125.00	$1,510.00	$3,940.00	$3,297.37	$5,945.00	$3,550.00	$3,510.00	$3,580.20	$3,651.80	$3,724.84	$3,799.34	$3,875.32
W/VALVE DISCONNECT	$75.00	$240.00	$45.00	$30.00	$60.00	$60.00	$35.00	$70.00	$349.90	$40.00	$100.00	$102.00	$104.04	$106.12	$108.24	$110.41
MISCELLANEOUS	$1,465.00	$0.00	$0.00	$13.00	$0.00	$0.00	$0.00	$25,839.54	($462.73)	$608.23	$500.00	$510.00	$520.20	$530.60	$541.22	$552.04
SERVICE CHARGES	$800.00	$1,949.00	$1,372.00	$2,075.00	$1,193.00	$1,813.12	$2,026.20	$1,219.71	$1,468.43	$1,499.11	$1,500.00	$1,530.00	$1,560.60	$1,591.81	$1,623.65	$1,656.12
INTEREST BANK	$697.00	$583.00	$1,044.00	$1,541.00	$1,694.00	$4,368.16	$2,528.60	$221.60	$216.54	$488.68	$500.00	$510.00	$520.20	$530.60	$541.22	$552.04
TOTAL INCOME:	$57,268.00	$58,200.00	$56,133.00	$60,116.00	$59,730.00	$65,520.05	$68,539.01	$91,703.42	$97,672.84	$98,594.74	$133,346.00	$136,012.92	$138,733.18	$141,507.84	$144,338.00	$147,224.76

					ACTUAL COST	ACTUAL COST	ACTUAL COST	ACTUAL COST	ACTUAL COST	USED BUDGET	POSTED BUDGET	EXPENSE USE 6%INCREASE				
YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
SOURCE EXPENSE:	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE
SALARIES	$13,082.00	$15,328.00	$14,626.00	$16,793.00	$17,247.00	$17,477.20	$23,344.60	$20,822.10	$26,896.30	$21,000.00	$27,000.00	$28,620.00	$30,337.20	$32,157.43	$34,086.88	$36,132.09
ACCOUNTING						$1,100.00		$0.00	$35.00	$0.00						
AUTO & TRUCK						$333.03	$597.36	$606.73	$781.03	$1,000.00	$1,000.00	$1,060.00	$1,123.60	$1,191.02	$1,262.48	$1,338.23
BAD DEBTS						$120.00	$261.26	$169.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BANK S/C	$95.00	$93.00	$112.00	$132.00	$132.00	$152.00	$240.53	$150.42	$49.75	$200.00	$200.00	$212.00	$224.72	$238.20	$252.50	$267.65
EMP. HEALTH INSURANCE						$1,326.05	$1,680.92	$1,622.71	$1,695.28	$2,200.00	$1,622.00	$1,719.32	$1,822.48	$1,931.83	$2,047.74	$2,170.61
ENGINEERING SERVICES						$4,140.00	$7,225.70	$0.00	$0.00	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.45
EQUIPMENT RENT							$50.62	$182.31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
INSURANCE							$2,275.73	$1,965.39	$2,044.75	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.45
LICENSES & PERMITS						$35.00	$110.00	$1,526.50	$1,820.20	$1,700.00	$5,200.00	$5,512.00	$5,842.72	$6,193.28	$6,564.88	$6,958.77
MAINT/REPAIR	$2,093.00	$9,428.00	$2,715.00	$2,507.00	$3,474.00	$5,970.42	$9,090.76	$5,073.01	$8,039.82	$8,000.00	$8,000.00	$8,480.00	$8,988.80	$9,528.13	$10,099.82	$10,705.80
MISCELLANEOUS	$143.00	$138.00	$0.00	$85.00	$0.00	$0.00	$0.00	$0.00	$135.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
OFFICE EXPENSE	$2,029.00	$2,147.00	$2,887.00	$3,278.00	$4,378.00	$1,352.66	$1,553.32	$1,522.79	$2,544.68	$1,600.00	$1,600.00	$1,696.00	$1,797.76	$1,905.63	$2,019.96	$2,141.16
POSTAGE						$1,888.96	$603.75	$600.00	$426.60	$650.00	$650.00	$689.00	$730.34	$774.16	$820.61	$869.85
PROVISIONAL FIT	$1,300.00	$1,200.00	$1,200.00	$1,200.00	$1,200.00	$0.00	$0.00	$4,895.00	$0.00	$9,066.00	$9,000.00	$9,540.00	$10,112.40	$10,719.14	$11,362.29	$12,044.03
RENT						$1,200.00		$0.00	$0.00							
SERVICES CONTRACT	$11,585.00	$523.00	$156.00	$130.00	$120.00	$900.00	$0.00	$0.00	$705.73	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
SUPPLIES	$627.00	$1,479.00	$869.00	$2,988.00	$3,111.00	$1,418.59	$5,361.22	$4,914.43	$4,757.12	$5,000.00	$7,000.00	$7,420.00	$7,865.20	$8,337.11	$8,837.34	$9,367.58
TAXES PAYROLL	$1,587.00	$1,971.00	$2,088.00	$2,706.00	$2,243.00	$2,368.24	$3,169.98	$2,854.47	$3,413.83	$3,100.00	$3,780.00	$4,006.80	$4,247.21	$4,502.04	$4,772.16	$5,058.49
TAXES EXCESS	$2,782.00	$2,880.00	$2,645.00	$3,258.00	$2,516.00	$3,046.92	$3,064.69	$3,257.07	$4,519.29	$5,200.00	$5,000.00	$5,300.00	$5,618.00	$5,955.08	$6,312.38	$6,691.13
TELEPHONE						$834.60	$696.10	$836.04	$836.60	$1,200.00	$1,200.00	$1,272.00	$1,348.32	$1,429.22	$1,514.97	$1,605.87
UTILITIES	$7,937.00	$9,248.00	$8,061.00	$8,006.00	$7,456.00	$6,596.12	$8,425.93	$9,408.56	$11,359.71	$13,200.00	$14,700.00	$15,582.00	$16,516.92	$17,507.94	$18,558.41	$19,671.92
WATER MASTER	$900.00	$900.00	$900.00	$900.00	$900.00	$0.00	$375.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
WATER TESTING	$1,927.00	$918.00	$1,500.00	$1,311.00	$1,143.00	$2,022.90	$2,022.90	$1,046.06	$1,793.00	$2,000.00	$4,000.00	$4,240.00	$4,494.40	$4,764.06	$5,049.91	$5,352.90
OPERATING EXPENSE:	$46,087.00	$46,253.00	$37,759.00	$43,294.00	$43,920.00	$52,282.69	$70,150.39	$61,443.09	$70,753.69	$79,116.00	$93,962.00	$99,599.72	$105,575.70	$111,910.25	$118,624.86	$125,742.35
NET INCOME:	$11,181.00	$11,947.00	$18,374.00	$16,822.00	$15,810.00	$13,237.36	($1,611.38)	$30,260.33	$26,919.15	$19,478.74	$39,384.00	$36,413.20	$33,157.48	$29,597.60	$25,713.14	$21,482.41
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
RESERVES ACCUMULATED:											$39,384.00	$75,797.20	$108,954.68	$138,552.27	$164,265.41	$185,747.82

perform all other duties of the President which are incidental to his office.

Section 3. Secretary. The Secretary shall issue all notices and shall attend and keep the minutes of all meetings; he shall have charge of all corporate books, records and papers; he shall be the custodian of the corporate seal, shall attest his signature and impress with the corporate seal all written contracts of the corporation, and shall perform all such other duties as are incidental to his office.

Section 4. Treasurer. The Treasurer shall keep safely all moneys and securites of the corporation and disburse the same under the direction of the Board of Trustees. He shall cause to be deposited all funds of the corporation in a bank selected by the trustees. At each annual meeting of the members, and at any time directed by the trustees, he shall issue and present a full statement showing in detail the condition of the affairs of the corporation.

Section 5. The executive secretary and/or assistant secretary and/or assistant treasurer, if apointed by the Board of Trustees, shall perform such duties as may be designated by it.

Section 6. Any officer, other than the President, may occupy two offices concurrently if the Board of Trustees so directs.

ARTICLE VIII
ASSESSMENTS

Section 1. Annual Assessments. The Board of Trustees shall impose, and the members of the corporation and the lots or tracts of land in which they hold an interest shall be responsible for and pay, an annual assessment for the purpose of providing funds for the operation, maintenance, repair, replacement and/or protection of existing real and personal property of the corporation; as well as for providing funds in amounts not to exceed five thousand dollars for the purchase or other acquisition, development, construction, building, expansion or improvement of existing or new real or personal property of the corporation; said limit not to apply to purposes of water supply as set forth in Article I, Sec. 9 of the Articles of Incorporation.

The amount of said annual assessment shall be a base of $135.00 per lot based upon the value of the dollar on September 1, 1987.

To determine future changes, the United States cost of living index for the year ending preceding the annual meeting will be used as the multiplying factor.

Articles of Incorporation

8. To exercise such powers of control, interpretation, construction, consent, decision, determination, modification, amendment, cancellation, annulment and/or enforcement of covenants, reservations, restrictions, liens and charges imposed upon said property, and as may be vested in, delegated to, or assigned to said corporation and such duties with respect thereto as may be assigned to and assumed by said corporation.

9. To appropriate, purchase, divert, acquire, and store water from streams, water courses, wells or any other source, and to distribute the water so appropriated and acquired to its members for use upon the lands of said members and for domestic purposes; to acquire, own, construct, hold, possess, use and maintain such pumping plants, tanks, pipe lines, reservoirs, ditches, buildings, roads, trails and appliances, and such other property, including water rights and shares of stock in other corporations as said corporation may from time to time desire to acquire or purchase for furnishing and supplying water to its members; provided that this corporation shall not use or dispose of such water as a public utility, but solely for the use and benefit of its members and for the irrigation of lands and domestic and other useful and beneficial purposes.

10. To fix, establish, levy and collect annually such charges and/or assessments as may be necessary in the judgment of the board of trustees, to carry out any or all of the purposes for which this corporation is formed, but not in excess of the maximum from time to time fixed by the By-Laws.

11. To expend the moneys collected by said corporation from assessments and charges and other sums received for the payment and discharge of costs, expenses and obligations incurred by said corporation in carrying out any or all of the purposes for which said corporation is formed.

12. Generally, to do any and all lawful things which may be advisable, proper, authorized and/or permitted to be done by said corporation under or by virtue of any restrictions, conditions, and/or covenants or laws affecting said property, or any portions thereof (including areas now or hereafter dedicated

CAPITAL IMPROVEMENTS July96

FLAT FEE EXPENSE FORECAST ANALYSIS BY YEAR

OPERATING EXPENSES BY DEPT:	1996	1997	1998	1999	2000	2001	2002	2003
WATER DEPT 95								
CAPITAL BUDGET IMPROVEMENTS								
TRUCK REPLACMENT					$ 1,500.00			
#3A WELL PUMP REPLACE								
METERS		$ 50,000.00	$ 50,000.00	$ 50,000.00				
PIPE DETECTOR	$ 2,000.00							
GENERATOR	$ 20,000.00							
#3B WELL PUMP REPLACE		$ 3,000.00						
LEAK DETECTOR		$ 2,000.00						
PAINT TANK #1		$ 7,000.00						
COMPUTER UPGRADE		$ 5,000.00						
#1 WELL-CLONAKILTY LOOP			$ 8,000.00					
#3A BOOSTER PUMP REPLACE			$ 3,000.00					
#3B BOOSTER PUMP REPLACE			$ 3,000.00					
ACTIVATE WELL #6			$ 100,000.00					
#1 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
#4 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
SLEAFOR-PEEBLES LOOP LINES				$ 12,000.00				
TEXTURE TANK #3				$ 5,000.00				
#2 WELL PUMP REPLACEMENT				$ 3,000.00				
OLDE LYME-PEEBLES LOOP LINES					$ 10,000.00			
#4 WELL PUMP REPLACEMENT						$ 3,000.00		
FENCE WELL #4							$ 3,000.00	
FENCE WELL #6							$ 3,000.00	
TEXTURE TANK #3							$ 5,000.00	
#5 WELL PUMP REPLACEMENT								$ 3,000.00
WELL-COMPUTER RADIO LINK								
WATER TREATMENT								
CONNEMARA WAY-BLEINHEM LOOP LINES								
#1 WELL PUMP REPLACEMTN								
NEW BUILDING								$ 10,000.00
	$ 22,000.00	$ 67,000.00	$ 164,000.00	$ 76,000.00	$ 11,500.00	$ 3,000.00	$ 11,000.00	$ 13,000.00

9/1/95

LAKE LIMERICK WATER SYSTEM 6 YEAR BUDGET

OPTION NUMBER -4-
INCOME OPTION: VALVE @$115.00 & NO VALVE @$38.00
INCOME INCREASE @ 2% FOR 6 YEARS
EXPENSE INCREASE @ 6% FOR 6 YEARS

										VALVE	ACTUAL RATES: $85.00		BUDGET RATES:	IN
										NO VALVE	$28.00			US
												$115.00	VALVE	
												$38.00	NO VALVE	
												POSTED		
	YEAR	1986	1987	1988	1989	1990	ACTUAL COST 1991	ACTUAL COST 1992	ACTUAL COST 1993	ACTUAL COST 1994	ACTUAL 1995	BUDGET 1996	BUDGET 1997	
UMBER	SOURCE INCOME:	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	
0-09	WATER INCOME	$53,691.00	$55,203.00	$53,087.00	$55,872.00	$55,658.00	$57,768.77	$60,009.21	$61,055.20	$90,155.70	$92,408.72	$127,236.00	$129,780.72	$
0-09	WATER VALVE/SPIGOT HOOKUP	$540.00	$225.00	$585.00	$585.00	$1,125.00	$1,510.00	$3,940.00	$3,297.37	$5,945.00	$3,550.00	$3,510.00	$3,580.20	
0-09	W/VALVE DISCONNECT	$75.00	$240.00	$45.00	$30.00	$60.00	$60.00	$35.00	$70.00	$349.90	$40.00	$100.00	$102.00	
	MISCELLANEOUS	$1,465.00	$0.00	$0.00	$13.00	$0.00	$0.00	$0.00	$25,839.54	($462.73)	$608.23	$500.00	$510.00	
5-09	SERVICE CHARGES	$800.00	$1,949.00	$1,372.00	$2,075.00	$1,193.00	$1,813.12	$2,026.20	$1,219.71	$1,468.43	$1,499.11	$1,500.00	$1,530.00	
4-09	INTEREST BANK	$697.00	$583.00	$1,044.00	$1,541.00	$1,694.00	$4,368.16	$2,528.60	$221.60	$216.54	$488.68	$500.00	$510.00	
	TOTAL INCOME:	$57,268.00	$58,200.00	$56,133.00	$60,116.00	$59,730.00	$65,520.05	$68,539.01	$91,703.42	$97,672.84	$98,594.74	$133,346.00	$136,012.92	$

UMBER	YEAR SOURCE EXPENSE:	1986 EXPENSE	1987 EXPENSE	1988 EXPENSE	1989 EXPENSE	ACTUAL COST 1990 EXPENSE	ACTUAL COST 1991 EXPENSE	ACTUAL COST 1992 EXPENSE	ACTUAL COST 1993 EXPENSE	ACTUAL COST 1994 EXPENSE	USED BUDGET 1995 EXPENSE	POSTED BUDGET 1996 EXPENSE	EXPENSE USE 6%INCREASE 1997 EXPENSE	
0-09	SALARIES	$13,082.00	$15,328.00	$14,626.00	$16,795.00	$17,247.00	$17,477.20	$23,344.60	$20,822.10	$26,696.30	$21,000.00	$27,000.00	$28,620.00	
	ACCOUNTING						$1,100.00		$0.00	$35.00	$0.00			
0-09	AUTO & TRUCK						$333.03	$597.36	$606.73	$781.03	$1,000.00	$1,000.00	$1,060.00	
0-09	BAD DEBTS						$120.00	$261.26	$169.50	$0.00	$0.00	$0.00	$0.00	
0-09	BANK S/C	$95.00	$93.00	$112.00	$132.00	$132.00	$152.00	$240.53	$150.42	$49.75	$200.00	$200.00	$212.00	
0-09	EMP. HEALTH INSURANCE						$1,326.05	$1,680.92	$1,612.71	$1,695.28	$2,200.00	$1,632.00	$1,729.92	
5-09	ENGINEERING SERVICES						$4,140.00	$7,225.70	$0.00	$0.00	$2,000.00	$2,000.00	$2,120.00	
5-09	EQUIPMENT RENT							$50.62	$182.31	$0.00	$0.00	$0.00	$0.00	
0-09	INSURANCE							$2,275.73	$1,965.39	$2,044.75	$2,000.00	$2,000.00	$2,120.00	
0-09	LICENSES & PERMITS						$35.00	$110.00	$1,526.50	$1,820.20	$1,700.00	$5,200.00	$5,512.00	
0-09	MAINT/REPAIR	$2,093.00	$9,428.00	$2,715.00	$2,507.00	$3,474.00	$5,970.42	$9,090.78	$5,073.01	$8,039.82	$8,000.00	$8,000.00	$8,480.00	
0-09	MISCELLANEOUS	$143.00	$138.00	$0.00	$85.00	$0.00	$0.00	$0.00	$0.00	$135.00	$0.00	$0.00	$0.00	
0-09	OFFICE EXPENSE	$2,029.00	$2,147.00	$2,887.00	$3,278.00	$4,378.00	$1,352.66	$1,553.32	$1,522.79	$1,544.68	$1,600.00	$1,600.00	$1,696.00	
0-09	POSTAGE						$1,888.96	$603.75	$600.00	$426.60	$650.00	$650.00	$689.00	
0-09	PROVISIONAL FIT	$1,300.00	$1,200.00	$1,200.00	$1,200.00	$1,200.00	$0.00	$0.00	$4,895.00	$0.00	$9,066.00	$9,000.00	$9,540.00	
	RENT						$1,200.00		$0.00	$0.00				
0-09	SERVICES CONTRACT	$11,585.00	$523.00	$156.00	$130.00	$120.00	$900.00	$0.00	$0.00	$705.73	$0.00	$0.00	$0.00	
0-09	SUPPLIES	$627.00	$1,479.00	$869.00	$2,988.00	$3,111.00	$1,418.59	$5,361.22	$4,914.43	$4,757.12	$5,000.00	$7,000.00	$7,420.00	
0-09	TAXES PAYROLL	$1,587.00	$1,971.00	$2,088.00	$2,706.00	$2,243.00	$2,368.24	$3,169.98	$2,854.47	$3,413.83	$3,100.00	$3,780.00	$4,006.80	
3-09	TAXES EXCISE	$2,782.00	$2,880.00	$2,645.00	$3,258.00	$2,516.00	$3,046.92	$3,064.69	$3,257.07	$4,619.29	$5,200.00	$5,000.00	$5,300.00	
0-09	TELEPHONE						$834.60	$696.10	$836.04	$836.60	$1,200.00	$1,200.00	$1,272.00	
0-09	UTILITIES	$7,937.00	$9,248.00	$8,061.00	$8,006.00	$7,456.00	$6,596.12	$8,425.93	$9,408.56	$11,359.71	$13,200.00	$14,700.00	$15,582.00	
	WATER MASTER	$900.00	$900.00	$900.00	$900.00	$900.00	$0.00	$375.00	$0.00	$0.00	$0.00	$0.00	$0.00	
0-09	WATER TESTING	$1,927.00	$918.00	$1,500.00	$1,311.00	$1,143.00	$2,022.90	$2,022.90	$1,046.06	$1,793.00	$2,000.00	$4,000.00	$4,240.00	
	OPERATING EXPENSE:	$46,087.00	$46,253.00	$37,759.00	$43,294.00	$43,920.00	$52,282.69	$70,150.39	$61,443.09	$70,753.69	$79,116.00	$93,962.00	$99,599.72	$
	NET INCOME:	$11,181.00	$11,947.00	$18,374.00	$16,822.00	$15,810.00	$13,237.36	($1,611.38)	$30,260.33	$26,919.15	$19,478.74	$39,384.00	$36,413.20	
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
		*	*	*	*	*	*	*	*	*	*	*	*	
												$39,384.00	$75,797.20	$

RESERVES ACCUMULATED:

Monday March 11, 1996

WATER BOARD COMMITTEE MEMBERS

Following list of items are the things we (the committee) have indicated be done by Water Maintenance.

"ACTION ITEMS"

NO. ITEM:	DATE TO BE DONE:	COMPLETED:
1. Well #1b (old) close out	Arcadia #1	In Works
2. Leak detector purchase	1997 Capital	Investigation of available equipment
3. Water meter bridge yoke/duel service (Including valve & backflow prevention)	on going	immediate implementation
4. Emergency Generator	1996 Capital Expense getting costs	
5. Water System Plan	first submittal - Spring 1996	
6. Well #5 Diversion Plan	May 1996	

Osborne, Water Committee Chairperson.

Monday, November 20, 1995

WATER BOARD COMMITTEE MEMBERS

The following list of items are the things we (the committee) have indicated be done by Water Maintenance.

I am calling the list:

"ACTION ITEMS"

NO.ITEM:	ON GOING:	DATE TO BE DONE:	COMPLETED:
1.a Well #6 fix			July 1995
1.b Well #1b (old) close out	Arcadia #1		In Works
2. Well #1 fence			April 24, 1995
3. Booster pump study (new additions)			April 4, 1995
4. Tags for customer alert			Mar 27, 1995
5. Pipe detection purchase		$2,006.56	Purchased 11/10/95
6. Leak detector purchase		1997 Capital	Investigation of available equipment
7. Water meter bridge yoke/duel service (Including valve & backflow prevention)			Completed Immediate Implementation
8. Emergency Generator		1996 Capital Expense	Getting Costs

Kirk Osborne, Water Committee Chairperson

LAKE LIMERICK COUNTRY CLUB
Income Statement
(Department # 95: Water Committee)

	10 Months Ended Jun/96	10 Months Ended Jun/96 ===Budget===	Variance Fav/<Unf>	% Var
Income				
Gross Revenue Sales				
Water Department Income	$124,073.50	$127,236.00	($3,162.50)	-2.5%
Water Spigot Hook Up	120.00	400.00	(280.00)	-70.0%
Water Valve Disconnect	40.00	83.33	(43.33)	-52.0%
Water Valve Hook Up	1,964.80	2,525.00	(560.20)	-22.2%
TOTAL Gross Revenue Sales	126,198.30	130,244.33	(4,046.03)	-3.1%
TOTAL Income	126,198.30	130,244.33	(4,046.03)	-3.1%
Adjustments				
Sales Adj. Water Dept.	(7,520.27)	0.00	(7,520.27)	
TOTAL Adjustments	(7,520.27)	0.00	(7,520.27)	
NET REVENUE	118,678.03	130,244.33	(11,566.30)	-8.9%
GROSS PROFIT	118,678.03	130,244.33	(11,566.30)	-8.9%
Expenses				
Salaries & Wages Water	23,743.39	23,700.00	(43.39)	-0.2%
Payroll Tax Expense Water	2,557.49	2,646.67	89.18	3.4%
L&I Insurance Water	354.25	503.33	149.08	29.6%
Health Insurance	1,174.61	1,360.00	185.39	13.6%
Washington Excise Tax Water	5,898.53	5,000.00	(898.53)	-18.0%
Bank Service Charges	0.00	166.67	166.67	100.0%
Engineering Services	0.00	1,666.67	1,666.67	100.0%
Equipment Rent	238.34	0.00	(238.34)	
Insurance	1,500.00	1,666.67	166.67	10.0%
Licenses & Permits	1,301.75	4,333.33	3,031.58	70.0%
Newsletter Expense	281.80	0.00	(281.80)	
Office Expense	1,346.06	1,333.33	(12.73)	-1.0%
Postage	400.00	650.00	250.00	38.5%
Repair & Maintenance	2,593.60	0.00	(2,593.60)	

LAKE LIMERICK COUNTRY CLUB
Income Statement
(Department # 95: Water Committee)

	10 Months Ended Jun/96	10 Months Ended Jun/96 ===Budget===	Variance Fav/<Unf>	% Var
Income				
Gross Revenue Sales				
Water Department Income	$124,073.50	$127,236.00	($3,162.50)	-2.5%
Water Spigot Hook Up	120.00	400.00	(280.00)	-70.0%
Water Valve Disconnect	40.00	83.33	(43.33)	-52.0%
Water Valve Hook Up	1,964.80	2,525.00	(560.20)	-22.2%
TOTAL Gross Revenue Sales	126,198.30	130,244.33	(4,046.03)	-3.1%
TOTAL Income	126,198.30	130,244.33	(4,046.03)	-3.1%
Adjustments				
Sales Adj. Water Dept.	(7,520.27)	0.00	(7,520.27)	
TOTAL Adjustments	(7,520.27)	0.00	(7,520.27)	
NET REVENUE	118,678.03	130,244.33	(11,566.30)	-8.9%
GROSS PROFIT	118,678.03	130,244.33	(11,566.30)	-8.9%
Expenses				
Salaries & Wages Water	23,743.39	23,700.00	(43.39)	-0.2%
Payroll Tax Expense Water	2,557.49	2,646.67	89.18	3.4%
L&I Insurance Water	354.25	503.33	149.08	29.6%
Health Insurance	1,174.61	1,360.00	185.39	13.6%
Washington Excise Tax Water	5,898.53	5,000.00	(898.53)	-18.0%
Bank Service Charges	0.00	166.67	166.67	100.0%
Engineering Services	0.00	1,666.67	1,666.67	100.0%
Equipment Rent	238.34	0.00	(238.34)	
Insurance	1,500.00	1,666.67	166.67	10.0%
Licenses & Permits	1,301.75	4,333.33	3,031.58	70.0%
Newsletter Expense	281.80	0.00	(281.80)	
Office Expense	1,346.06	1,333.33	(12.73)	-1.0%
Postage	400.00	650.00	250.00	38.5%
Repair & Maintenance	2,593.60	0.00	(2,593.60)	

LAKE LIMERICK COUNTRY CLUB
Income Statement
(Department # 95: Water Committee)

	10 Months Ended Jun/96	10 Months Ended Jun/96 ===Budget===	Variance Fav/<Unf>	% Var
Repair & Maintenance Equip	1,657.38	6,666.67	5,009.29	75.1%
Service Contract	233.28	0.00	(233.28)	
Supplies	5,920.84	5,833.33	(87.51)	-1.5%
Telephone	697.40	1,000.00	302.60	30.3%
Utilities	11,745.96	12,250.00	504.04	4.1%
Vehicle Expense	741.04	833.33	92.29	11.1%
Water Test	255.00	3,333.33	3,078.33	92.3%
TOTAL Expenses	62,640.72	72,943.33	10,302.61	14.1%
OPERATING PROFIT	56,037.31	57,301.00	(1,263.69)	-2.2%
Other Income & Expenses				
Service Charges Water Dept	2,222.52	1,250.00	972.52	77.8%
Interest Income Water Dept	1,254.37	416.67	837.70	201.0%
Miscellaneous Income	760.42	416.67	343.75	82.5%
Miscellaneous Expense	(260.00)	0.00	(260.00)	
Reserves Water 1995-1996	(39,384.00)	(39,384.00)	0.00	0.0%
TOTAL Other Income & Expenses	(35,406.69)	(37,300.66)	1,893.97	5.1%
PROFIT BEFORE TAXES	20,630.62	20,000.34	630.28	3.2%
NET PROFIT	$20,630.62	$20,000.34	$630.28	3.2%

APPROVED 1995

9/1/95

LAKE LIMERICK WATER SYSTEM 6 YEAR BUDGET

OPTION NUMBER -4-
INCOME OPTION: VALVE @$115.00 & NO VALVE @$38.00
INCOME INCREASE @ 2% FOR 6 YEARS
EXPENSE INCREASE @ 6% FOR 6 YEARS

ACTUAL RATES: VALVE $85.00, NO VALVE $26.00
BUDGET RATES: $115.00 VALVE, $38.00 NO VALVE, INCOME USE 2% INCREASE

L NUMBER	YEAR / SOURCE INCOME:	1986 INCOME	1987 INCOME	1988 INCOME	1989 INCOME	1990 INCOME	ACTUAL COST 1991 INCOME	ACTUAL COST 1992 INCOME	ACTUAL COST 1993 INCOME	ACTUAL COST 1994 INCOME	ACTUAL 1995 INCOME	POSTED BUDGET 1996 INCOME	BUDGET 1997 INCOME	BUDGET 1998 INCOME	BUDGET 1999 INCOME	BUDGET 2000 INCOME	BUDGET 2001 INCOME
5910-09	WATER INCOME	$53,691.00	$55,203.00	$53,087.00	$55,872.00	$55,658.00	$57,768.77	$60,009.21	$61,055.20	$90,155.70	$92,408.72	$127,236.00	$129,780.72	$132,376.33	$135,023.86	$137,724.34	$140,478.83
5920-09	WATER VALVE/SPIGOT HOOKUP	$540.00	$225.00	$585.00	$585.00	$1,125.00	$1,510.00	$3,940.00	$3,297.37	$5,945.00	$3,550.00	$3,510.00	$3,580.20	$3,651.80	$3,724.84	$3,799.34	$3,875.32
5930-09	W/VALVE DISCONNECT	$75.00	$240.00	$45.00	$30.00	$60.00	$60.00	$35.00	$70.00	$349.90	$40.00	$100.00	$102.00	$104.04	$106.12	$108.24	$110.41
	MISCELLANEOUS	$1,465.00	$0.00	$0.00	$13.00	$0.00	$0.00	$0.00	$25,839.54	($462.73)	$608.23	$500.00	$510.00	$520.20	$530.60	$541.22	$552.04
5925-09	SERVICE CHARGES	$800.00	$1,949.00	$1,372.00	$2,075.00	$1,193.00	$1,813.12	$2,026.20	$1,219.71	$1,468.43	$1,499.11	$1,500.00	$1,530.00	$1,560.60	$1,591.81	$1,623.65	$1,656.12
8004-09	INTEREST BANK	$697.00	$583.00	$1,044.00	$1,541.00	$1,694.00	$4,368.16	$2,528.60	$221.60	$216.54	$488.68	$500.00	$510.00	$520.20	$530.60	$541.22	$552.04
	TOTAL INCOME:	$57,268.00	$58,200.00	$56,133.00	$60,116.00	$59,730.00	$65,520.05	$68,539.01	$91,703.42	$97,672.84	$98,594.74	$133,346.00	$136,012.92	$138,733.18	$141,507.84	$144,338.00	$147,224.76

L NUMBER	YEAR / SOURCE EXPENSE:	1986 EXPENSE	1987 EXPENSE	1988 EXPENSE	1989 EXPENSE	ACTUAL COST 1990 EXPENSE	ACTUAL COST 1991 EXPENSE	ACTUAL COST 1992 EXPENSE	ACTUAL COST 1993 EXPENSE	ACTUAL COST 1994 EXPENSE	USED BUDGET 1995 EXPENSE	POSTED BUDGET 1996 EXPENSE	EXPENSE USE 6%INCREASE 1997 EXPENSE	1998 EXPENSE	1999 EXPENSE	2000 EXPENSE	2001 EXPENSE
7070-09	SALARIES	$13,082.00	$15,328.00	$14,626.00	$16,795.00	$17,247.00	$17,477.20	$23,344.60	$20,822.10	$26,696.30	$22,000.00	$27,000.00	$28,620.00	$30,337.20	$32,157.43	$34,086.88	$36,132.09
	ACCOUNTING						$1,100.00		$0.00	$35.00	$0.00						
7100-09	AUTO & TRUCK						$333.03	$597.36	$606.73	$781.03	$1,000.00	$1,000.00	$1,060.00	$1,123.60	$1,191.02	$1,262.48	$1,338.23
7200-09	BAD DEBTS						$120.00	$261.26	$169.50	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7220-09	BANK S/C	$95.00	$93.00	$112.00	$132.00	$132.00	$152.00	$240.53	$150.42	$49.75	$200.00	$200.00	$212.00	$224.72	$238.20	$252.50	$267.65
7340-09	EMP. HEALTH INSURANCE						$1,326.05	$1,680.92	$1,612.71	$1,695.28	$2,200.00	$2,632.00	$1,729.92	$1,833.72	$1,943.74	$2,060.36	$2,183.98
7355-09	ENGINEERING SERVICES						$4,140.00	$7,225.70	$0.00	$0.00	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.45
7365-09	EQUIPMENT RENT							$50.62	$162.31	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7450-09	INSURANCE							$2,275.73	$1,965.39	$2,044.75	$2,000.00	$2,000.00	$2,120.00	$2,247.20	$2,382.03	$2,524.95	$2,676.45
7500-09	LICENSES & PERMITS						$35.00	$110.00	$1,526.50	$1,820.20	$1,700.00	$5,200.00	$5,512.00	$5,842.72	$6,193.28	$6,564.88	$6,958.77
7510-09	MAINT/REPAIR	$2,093.00	$9,428.00	$2,715.00	$2,507.00	$3,474.00	$5,970.42	$9,090.76	$5,073.01	$8,039.82	$8,000.00	$8,000.00	$8,480.00	$8,988.80	$9,528.13	$10,099.82	$10,705.80
7520-09	MISCELLANEOUS	$143.00	$138.00	$0.00	$85.00	$0.00	$0.00	$0.00	$0.00	$135.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7530-09	OFFICE EXPENSE	$2,029.00	$2,147.00	$2,887.00	$3,278.00	$4,378.00	$1,352.66	$1,553.32	$1,522.79	$1,544.68	$1,600.00	$1,600.00	$1,696.00	$1,797.76	$1,905.63	$2,019.96	$2,141.16
7580-09	POSTAGE						$1,888.96	$603.75	$600.00	$426.60	$650.00	$650.00	$689.00	$730.34	$774.16	$820.61	$869.85
7600-09	PROVISIONAL FIT	$1,300.00	$1,200.00	$1,200.00	$1,200.00	$1,200.00	$0.00	$0.00	$4,895.00	$0.00	$9,066.00	$9,000.00	$9,540.00	$10,112.40	$10,719.14	$11,362.29	$12,044.03
	RENT						$1,200.00		$0.00	$0.00							
7660-09	SERVICES CONTRACT	$11,585.00	$523.00	$156.00	$130.00	$120.00	$900.00	$0.00	$0.00	$705.73	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7670-09	SUPPLIES	$627.00	$1,479.00	$869.00	$2,988.00	$3,111.00	$1,418.59	$5,361.22	$4,914.43	$4,757.12	$5,000.00	$7,000.00	$7,420.00	$7,865.20	$8,337.11	$8,837.34	$9,367.58
7730-09	TAXES PAYROLL	$1,587.00	$1,971.00	$2,088.00	$2,706.00	$2,243.00	$2,368.24	$3,169.98	$2,854.47	$3,413.83	$3,100.00	$3,780.00	$4,006.80	$4,247.21	$4,502.04	$4,772.16	$5,058.49
7743-09	TAXES EXCISE	$2,782.00	$2,880.00	$2,645.00	$3,258.00	$2,516.00	$3,046.92	$3,064.69	$3,257.07	$4,619.29	$5,200.00	$5,000.00	$5,300.00	$5,618.00	$5,955.08	$6,312.38	$6,691.12
7800-09	TELEPHONE						$834.60	$696.10	$836.04	$836.60	$1,200.00	$1,200.00	$1,272.00	$1,348.32	$1,429.22	$1,514.97	$1,605.87
7830-09	UTILITIES	$7,937.00	$9,248.00	$8,061.00	$8,006.00	$7,456.00	$6,596.12	$8,425.93	$9,408.56	$11,359.71	$13,200.00	$14,700.00	$15,582.00	$16,516.92	$17,507.94	$18,558.41	$19,671.92
	WATER MASTER	$900.00	$900.00	$900.00	$900.00	$900.00	$0.00	$375.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7840-09	WATER TESTING	$1,927.00	$916.00	$1,500.00	$1,311.00	$1,143.00	$2,022.90	$2,022.90	$1,046.06	$1,793.00	$2,000.00	$4,000.00	$4,240.00	$4,494.40	$4,764.06	$5,049.91	$5,352.90
	OPERATING EXPENSE:	$46,087.00	$46,253.00	$37,759.00	$43,294.00	$43,920.00	$52,282.69	$70,150.39	$61,443.09	$70,753.69	$75,116.00	$93,962.00	$99,599.72	$105,575.70	$111,910.25	$118,624.86	$125,742.35
	NET INCOME:	$11,181.00	$11,947.00	$18,374.00	$16,822.00	$15,810.00	$13,237.36	($1,611.38)	$30,260.33	$26,919.15	$19,478.74	$39,384.00	$36,413.20	$33,157.48	$29,597.60	$25,713.14	$21,482.41
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	RESERVES ACCUMULATED:											$39,384.00	$75,797.20	$108,954.68	$138,552.27	$164,265.41	$185,747.82

FLAT FEE EXPENSE FORECAST ANALYSIS BY YEAR

OPERATING EXPENSES BY DEPT:	1996	1997	1998	1999	2000	2001	2002	2003
WATER DEPT 95								
CAPITAL BUDGET IMPROVEMENTS								
TRUCK REPLACMENT					$ 1,500.00			
#3A WELL PUMP REPLACE								
METERS		$ 50,000.00	$ 50,000.00	$ 50,000.00				
PIPE DETECTOR	$ 2,000.00							
GENERATOR	$ 20,000.00							
#3B WELL PUMP REPLACE		$ 3,000.00						
LEAK DETECTOR		$ 2,000.00						
PAINT TANK #1		$ 7,000.00						
COMPUTER UPGRADE		$ 5,000.00						
#1 WELL-CLONAKILTY LOOP			$ 8,000.00					
#3A BOOSTER PUMP REPLACE			$ 3,000.00					
#3B BOOSTER PUMP REPLACE			$ 3,000.00					
ACTIVATE WELL #6			$ 100,000.00					
#1 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
#4 NEW BOOSTER PUMP REPLACE				$ 3,000.00				
SLEAFOR-PEEBLES LOOP LINES				$ 12,000.00				
TEXTURE TANK #3				$ 5,000.00				
#2 WELL PUMP REPLACEMENT				$ 3,000.00				
OLDE LYME-PEEBLES LOOP LINES					$ 10,000.00			
#4 WELL PUMP REPLACEMENT						$ 3,000.00		
FENCE WELL #4							$ 3,000.00	
FENCE WELL #6							$ 3,000.00	
TEXTURE TANK #3							$ 5,000.00	
#5 WELL PUMP REPLACEMENT								$ 3,000.00
WELL-COMPUTER RADIO LINK								
WATER TREATMENT								
CONNEMARA WAY-BLEINHEM LOOP LINES								
#1 WELL PUMP REPLACEMTN								
NEW BUILDING								$ 10,000.00
	$ 22,000.00	$ 67,000.00	$ 164,000.00	$ 76,000.00	$ 11,500.00	$ 3,000.00	$ 11,000.00	$ 13,000.00

9/1/95

LAKE LIMERICK WATER SYSTEM 6 YEAR BUDGET

OPTION NUMBER -4-
INCOME OPTION: VALVE @$115.00 & NO VALVE @$38.00
INCOME INCREASE @ 2% FOR 6 YEARS
EXPENSE INCREASE @ 6% FOR 6 YEARS

											ACTUAL RATES:		BUDGET RATES:	INCO USE
										VALVE	$85.00			
										NO VALVE	$28.00			
												$115.00	VALVE	
												$38.00	NO VALVE	
												POSTED		
	YEAR	1986	1987	1988	1989	1990	ACTUAL COST 1991	ACTUAL COST 1992	ACTUAL COST 1993	ACTUAL COST 1994	ACTUAL 1995	BUDGET 1996	BUDGET 1997	B
BER	SOURCE INCOME:	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	INCOME	I
09	WATER INCOME	$53,691.00	$55,203.00	$53,087.00	$55,872.00	$55,658.00	$57,768.77	$60,009.21	$61,055.20	$90,155.70	$92,408.72	$127,236.00	$129,780.72	$13
09	WATER VALVE/SPIGOT HOOKUP	$540.00	$225.00	$585.00	$585.00	$1,125.00	$1,510.00	$3,940.00	$3,297.37	$5,945.00	$3,550.00	$3,510.00	$3,580.20	$
09	W/VALVE DISCONNECT	$75.00	$240.00	$45.00	$30.00	$60.00	$60.00	$35.00	$70.00	$349.90	$40.00	$100.00	$102.00	
	MISCELLANEOUS	$2 .00	$0.00	$0.00	$13.00	$0.00	$0.00	$0.00	$25,839.54	($462.73)	$608.23	$500.00	$510.00	
09	SERVICE CHARGES	.00	$1,949.00	$1,372.00	$2,075.00	$1,193.00	$1,813.12	$2,026.20	$1,219.71	$1,468.43	$1,499.11	$1,500.00	$1,530.00	$
09	INTEREST BANK		$583.00	$1,044.00	$1,541.00	$1,694.00	$4,368.16	$2,528.60	$221.60	$216.54	$488.68	$500.00	$510.00	
	TOTAL INCOME:	$,266.00	$58,200.00	$56,133.00	$60,116.00	$59,730.00	$65,520.05	$68,539.01	$91,703.42	$97,672.84	$98,594.74	$133,346.00	$136,012.92	$13

											USED BUDGET	POSTED BUDGET	EXPENSE USE 6%INCREASE	
	YEAR	1986	1987	1988	1989	ACTUAL COST 1990	ACTUAL COST 1991	ACTUAL COST 1992	ACTUAL COST 1993	ACTUAL COST 1994	1995	1996	1997	
BER	SOURCE EXPENSE:	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	EXPENSE	E
09	SALARIES	$13,082.00	$15,328.00	$14,626.00	$16,793.00	$17,247.00	$17,477.20	$23,344.60	$20,822.10	$26,696.30	$21,000.00	$27,000.00	$28,620.00	$3
	ACCOUNTING						$1,100.00		$0.00	$35.00	$0.00			
09	AUTO & TRUCK						$333.03	$597.36	$606.73	$781.03	$1,000.00	$1,000.00	$1,060.00	$
09	BAD DEBTS						$120.00	$261.26	$169.50	$0.00	$0.00	$0.00	$0.00	
09	BANK S/C	$95.00	$93.00	$112.00	$132.00	$132.00	$152.00	$240.53	$150.42	$49.75	$200.00	$200.00	$212.00	
09	EMP. HEALTH INSURANCE						$1,326.05	$1,680.92	$1,612.71	$1,695.28	$2,200.00	$1,632.00	$1,729.92	$
09	ENGINEERING SERVICES						$4,140.00	$7,225.70	$0.00	$0.00	$2,000.00	$2,000.00	$2,120.00	$
09	EQUIPMENT RENT							$50.62	$182.31	$0.00	$0.00	$0.00	$0.00	
09	INSURANCE							$2,275.73	$1,965.39	$2,044.75	$2,000.00	$2,000.00	$2,120.00	$
09	LICENSES & PERMITS						$35.00	$110.00	$1,526.50	$1,820.20	$1,700.00	$5,200.00	$5,512.00	$
09	MAINT/REPAIR	$2,093.00	$9,428.00	$2,715.00	$2,507.00	$3,474.00	$5,970.42	$9,090.78	$5,073.01	$8,039.82	$8,000.00	$8,000.00	$8,480.00	$
09	MISCELLANEOUS	$143.00	$138.00	$0.00	$85.00	$0.00	$0.00	$0.00	$0.00	$135.00	$0.00	$0.00	$0.00	
09	OFFICE EXPENSE	$2,029.00	$2,147.00	$2,887.00	$3,278.00	$4,378.00	$1,352.66	$1,553.32	$1,522.79	$1,544.68	$1,600.00	$1,600.00	$1,696.00	$
09	POSTAGE						$1,888.96	$603.75	$600.00	$426.60	$650.00	$650.00	$689.00	
09	PROVISIONAL FIT	$1,300.00	$1,200.00	$1,200.00	$1,200.00	$1,200.00	$0.00	$0.00	$4,895.00	$0.00	$9,066.00	$9,000.00	$9,540.00	$1
	RENT						$1,200.00		$0.00	$0.00				
09	SERVICES CONTRACT	$11,585.00	$523.00	$156.00	$130.00	$120.00	$900.00	$0.00	$0.00	$705.73	$0.00	$0.00	$0.00	
09	SUPPLIES	$627.00	$1,479.00	$869.00	$2,988.00	$3,111.00	$1,418.59	$5,361.22	$4,914.43	$4,757.12	$5,000.00	$7,000.00	$7,420.00	$
09	TAXES PAYROLL	$1,587.00	$1,971.00	$2,088.00	$2,706.00	$2,243.00	$2,368.24	$3,169.98	$2,854.47	$3,413.83	$3,100.00	$3,780.00	$4,006.80	$
09	TAXES EXCISE	$2,782.00	$2,880.00	$2,645.00	$3,258.00	$2,516.00	$3,046.92	$3,064.69	$3,257.07	$4,619.29	$5,200.00	$5,000.00	$5,300.00	$
09	TELEPHONE						$834.60	$696.10	$836.04	$836.60	$1,200.00	$1,200.00	$1,272.00	$
09	UTILITIES	$7,937.00	$9,248.00	$8,061.00	$8,006.00	$7,456.00	$6,596.12	$8,425.93	$9,408.56	$11,359.71	$13,200.00	$14,700.00	$15,582.00	$1
	WATER MASTER	$900.00	$900.00	$900.00	$900.00	$900.00	$0.00	$375.00	$0.00	$0.00	$0.00	$0.00	$0.00	
09	WATER TESTING	$1,927.00	$918.00	$1,500.00	$1,311.00	$1,143.00	$2,022.90	$2,022.90	$1,046.06	$1,793.00	$2,000.00	$4,000.00	$4,240.00	$
	OPERATING EXPENSE:	$46,087.00	$46,253.00	$37,759.00	$43,294.00	$43,920.00	$52,282.69	$70,150.39	$61,443.09	$70,753.69	$79,116.00	$93,962.00	$99,599.72	$10
	NET INCOME:	$11,181.00	$11,947.00	$18,374.00	$16,822.00	$15,810.00	$13,237.36	($1,611.38)	$30,260.33	$26,919.15	$19,478.74	$39,384.00	$36,413.20	$3
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
		*	*	*	*	*	*	*	*	*	*	*	*	
												$39,384.00	$75,797.20	$10

RESERVES ACCUMULATED:

LAKE LIMERICK COUNTRY CLUB, INC.
LAKE LIMERICK WATER SYSTEM
E 790 ST. ANDREWS DRIVE
SHELTON, WA 98584
(360) 426-3581

L.L.C.C. FISCAL YEAR 1995 - 1996

THE FOLLOWING IS A BREAKDOWN OF CHARGES DUE TO LAKE LIMERICK EACH YEAR.

ANNUAL MEMBERSHIP FEES - ANNUAL - BILLED 09/01 thru 08/31:
COUPLE.....30.00
SINGLE.....15.00
THESE FEES WILL SUPPORT THE MAINTENANCE AND OPERATION OF THE CLUB HOUSE, IN WHICH YOU WILL BE AN AUTOMATIC MEMBER UPON PURCHASE OF YOUR LOT.

ASSESSMENTS - BILLED QUARTERLY - $228.00 / LOT PER YEAR
SEPTEMBER 1, 1995.....$57.00
DECEMBER 1, 1995.....$57.00
MARCH 1, 1996.....$57.00
JUNE 1, 1996.....$57.00
THESE FEES WILL SUPPORT THE GENERAL MAINTENANCE AND OPERATION OF LAKE LIMERICK COUNTRY CLUB.

SPECIAL ASSESSMENT- $78.00/LOT (Dam/Valve Repair)
SEPTEMBER 1, 1995.....$78.00
SEPTEMBER 1, 1996.....$78.00
THESE FEES (voted in by the Membership 7/29/95) WILL BE USED TO REPAY OUR DEBT OF $95,000.00 WITH KEY BANK AND TO REPLENISH THE CAPITAL RESERVES OF $40,000.00 USED TO REPAIR THE LAKE LIMERICK DAM VALVE.

WATER CHARGES - BILLED ANNUALLY - JANUARY 1, OF EACH YEAR
BASIC WATER CHARGES - NO VALVE HOOK UP.....$ 38.00
WATER CHARGES - WITH VALVE HOOKED UP.....$115.00
VALVE HOOK UP (1 TIME CHARGE).....$135.00
INSTALL SPIGOT (1 TIME CHARGE).....$ 40.00
REPLACE VALVE (1 TIME CHARGE).....$ 40.00
DISCONNECT VALVE (1 TIME CHARGE).....$ 40.00
EMERGENCY SHUT OFF AND RECONNECT.....$40.00
^ (you will receive prior notice before this billing is sent to you.)

IF YOU HAVE ANY FURTHER QUESTIONS PLEASE FEEL FREE TO CALL THE LAKE LIMERICK OFFICE DURING BUSINESS HOURS, 8:30 A.M. TO 5:00 P.M.

Monday March 11, 1996

WATER BOARD COMMITTEE MEMBERS

Following list of items are the things we (the committee) have indicated be done by Water Maintenance.

ACTION ITEMS"

NO. ITEM:	DATE TO BE DONE:	COMPLETED:
. Well #1b (old) close out	Arcadia #1	In Works
.. Leak detector purchase	1997 Capital	Investigation of available equipment
. Water meter bridge yoke/duel service (Including valve & backflow prevention)	on going	immediate implementation
. Emergency Generator	1996 Capital Expense getting costs	
. Water System Plan	first submittal - Spring 1996	
. Well #5 Diversion Plan	May 1996	

Osborne, Water Committee Chairperson

Monday, November 20, 1995

WATER BOARD COMMITTEE MEMBERS

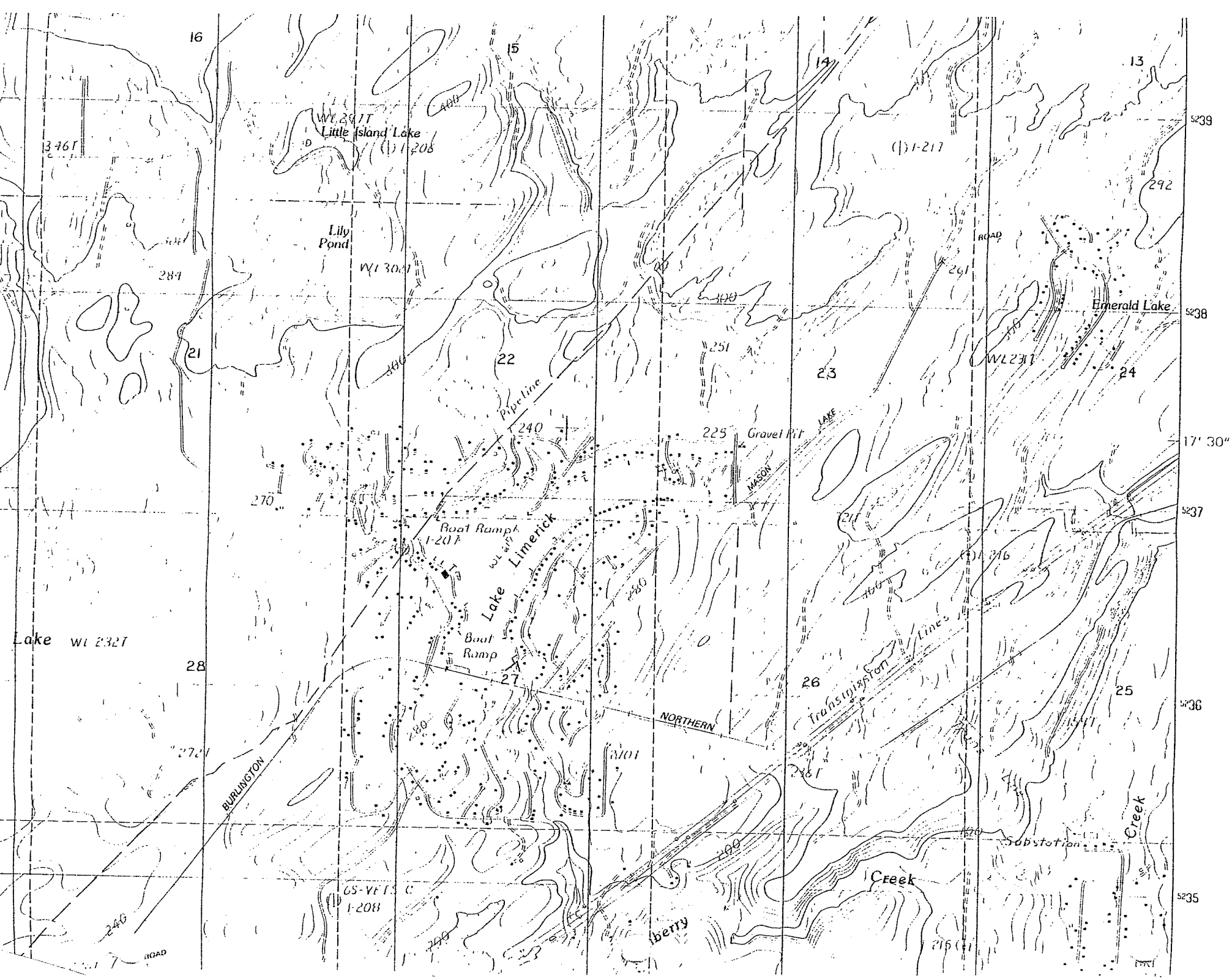
The following list of items are the things we (the committee) have indicated be done by Water Maintenance.

I am calling the list:

"ACTION ITEMS"

NO. ITEM:	ON GOING:	DATE TO BE DONE:	COMPLETED:
1.a Well #6 fix			July 1995
1.b Well #1b (old) close out	Arcadia #1		In Works
2. Well #1 fence			April 24, 1995
3. Booster pump study (new additions)			April 4, 1995
4. Tags for customer alert			Mar 27, 1995
5. Pipe detection purchase		$2,006.56	Purchased 11/10/95
6. Leak detector purchase		1997 Capital	Investigation of available equipment
7. Water meter bridge yoke/duel service (Including valve & backflow prevention)			Completed Immediate Implementation
8. Emergency Generator		1996 Capital Expense	Getting Costs

Kirk Osborne, Water Committee Chairperson


16
15
14
13
Little Island Lake
Lily Pond
Emerald Lake
Lake Limerick
Boat Ramp
Boat Ramp
Pipeline
Gravel Pit
MASON
Transmission Lines
NORTHERN
BURLINGTON
Substation
Creek
Creek
ROAD
ROAD
Lake
5239
5238
17' 30"
5237
5236
5235

WATER PERSONNEL RESPONSIBILITIES

Responsible for day to day operation of water system. To physically inspect well houses, record well meter readings, and make any adjustments necessary.

To perform valve installations, disconnects, and repairs to residential service lines as well as any main system breaks. The system is primarily a loop system but does have some dead ends and is systematically blown off by a series of stand pipes and hydrants to alleviate stagnant water dirt particles and any trapped air. And perform inspections and routinely disinfect storage tanks, as well as maintenance and repairs to system facilities.

In accordance with State laws collect water samples for bacteriological analysis as well as volatile, organic, and inorganic and deliver to Thurston Co. Health Dept. In the instance that a bacteria sample exceeds standards testing is done as per State regulation requirements.

Tuesday, May 14, 1996

LAKE LIMERICK WATER SYSTEM
EMERGENCY CALL LIST

First call: the Maintenance Department

Maintenance Office
Phone: 426-4563
Normal Hours: Monday to Friday
6:00 am to 3:30 p.m.

EXTREME EMERGENCY (AFTER HOURS AND WEEKENDS)

Ken Douglas
Phone: 426-0775 (Home)
Pager: 956-8967

Ryan Chaney
Phone: (360) 956-9229 (Home)
Pager: 534-4558

Gerry Woodruff
Phone: (360) 426-3356 (Message)(Home)

Second call: the Water Committee

Kirk Osborne
Phone: 426-0325 (Home)

Jerry Soehnlein
Phone: 426-0703 (Home)
Phone: 426-3381 ext.. 4738 (Business)

Bob Braget
Phone: 427-7422 (Home)

Dan Robinson
Phone: 426-7908 (Home)

Last call: a Contractor

Arcadia Drilling
Phone: 426-3395

Hawkes Electric
Phone: 426-9955 (Business)

Note: Call only for: 1. Little or no water pressure in an area.
2. Broken Main.
3. Fire at well house.

DO NOT CALL IF IT CAN WAIT FOR NORMAL WORKING HOURS OR IF IT IS A SINGLE RESIDENCE PROBLEM. (L.L.C.C.'s responsibility ends at the lot owners shut off valve, if it is a broken line that can not be shut off at the valve box, use your discretion.)

Tuesday, May 14, 1996

To: Inn Manager
Bartenders

RE: Lake Limerick Water System Emergency Call List

Attached please find the confidential call list to be used only as described herein.

In the event a water system emergency arises only you should make the appropriate calls and coordinate notification.

Before calling get all the pertinent information about the emergency: What? Where? and Who? is calling.

Please advise if you have any questions.

Thanking you in advance for your help.

Sincerely,
LAKE LIMERICK COUNTRY CLUB, INC.

Jerry Soehnlien
Treasurer, Water Committee

CROSS CONNECTION CONTROL

Lake Limerick's Maintenance Supervisor, Kenneth Douglas, is our on site WDM-1, for the Water Department.

The Water Committee has made a commitment to finance educational opportunities for all Water Department Employees.

Mr. Douglas will be attending the Cross Connection Control Program Management Course as soon as space is available for his attendance. He is now scheduled to participate in the next available class and upon completion will be certified for Cross Control Management.

Lake Limerick Water Department's second man, Ryan Chaney, has completed his WDM-1 classes and is a certified WDM-1. In the future he also will be given the opportunity to certify for Cross Control.

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
DIVISION OF DRINKING WATER
Airdustrial Center, Bldg. 3 • P.O. Box 47822 • Olympia, Washington 98504-7822
TDD Relay 1-800-833-6388

cc Jerry Steve Kenneth file file book

July 26, 1995

Lake Limerick Country Club, Inc.
East 7980 St. Andrews Drive
Shelton WA 98584

Gentlemen:

As you know, Lake Limerick Country Club, Inc. is required to have a certified waterworks operator in responsible charge of the active daily technical operation of the water system. Based upon the information that you supplied this department, the specific position which must be filled by a certified operator has been identified.

The position required to be filled by a certified operator, the required classification, and the individual presently employed is as follows:

POSITION	CLASSIFICATION	EMPLOYEE
Water Master	WDM 1	Kenneth Douglas

As long as the individual listed for this position remains with your utility and your system's classification remains the same (Group 1, Population Served Less Than 1,500) your system is in compliance with the Mandatory Water Works Certification Law. However, if the individual listed should leave your employment or your system's classification should change, then it is your responsibility to notify this department of that change.

If you have any questions concerning the waterworks certification program, please feel free to call (206) 753-7433 or Toll Free 1-800-525-2536.

Sincerely,

CHERYL L. BERGENER
Program Manager
Water Works Certification Board

cc: Rich Hoey, Department of Health

cc Jerry
Steve
Ken
file
file back

STATE OF WASHINGTON

DEPARTMENT OF HEALTH

DIVISION OF DRINKING WATER

Airdustrial Center, Bldg. 3 • P.O. Box 47822 • Olympia, Washington 98504-7822

TDD Relay 1-800-833-6388

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Sincerely,

CHERYL L. BERGENER
Program Manager
Water Works Certification Board

JUL 29 1995
L.L.C.C.

cc: Rich Hoey, Department of Health

Health

Water Works Operator Certification
Renewal Notice

CERTIFICATE NUMBER: 6766
(T NOTICE ORIGINAL NOTICE MUST BE RETURNED

Water Works Operator:

DOUGLAS,KENNETH J.
EAST 5181 AGATE ROAD

SHELTON WA 98584

Renewal Fee: $ 25.00

Payment Due: JANUARY 20, 1996

RENEWAL PAYMENTS NOT POST-MARKED BY JANUARY 20, 1996 WILL BE SUBJECT TO THE LATE FEE OF $25.00.

PHONE: (360)426-775

Classifications:

WDM 1

RENEWALS PROCESSED PRIOR TO JANUARY 20, 1996 WILL RECEIVE VALIDATION CARD FEBRUARY 1, 1996

Employer:

4[50T * LAKE LIMERICK WATER

Employer Phone No.:

(360)426-4563

a4erry kirk C

PAID 11-10-95 2618

cc file

Please Review All Information For Accuracy and Make Appropriate Changes

DOH 331-032 (9/93)

(Do Not Detach)

Make check/money order payable to Department of Health and mail to:

Department of Health
P.O. Box 1099
Olympia, WA 98507-1099

TOLL FREE WASHINGTON 1-800-525-2536

DOUGLAS,KENNETH J.

6766

00CA10420246000 DW000067660012196000002500

Washington State Department of Health

Water Works Operator Certification
Renewal Notice

CERTIFICATE NUMBER: 6766
NOTICE ORIGINAL NOTICE MUST BE RETURNED

Water Works Operator:

DOUGLAS,KENNETH J.
EAST 5181 AGATE ROAD

SHELTON WA 98584

PHONE: (360)426-775

Classifications:

WDM 1

Renewal Fee: $ 25.00

Payment Due: JANUARY 20, 1996

RENEWAL PAYMENTS NOT POST-MARKED BY JANUARY 20, 1996 WILL BE SUBJECT TO THE LATE FEE OF $25.00.

RENEWALS PROCESSED PRIOR TO JANUARY 20, 1996 WILL RECEIVE VALIDATION CARD FEBRUARY 1, 1996

Employer:

47[illegible]0T * LAKE LIMERICK WATER

Employer Phone No.:

(360)426-4563

attorney kept C

PAID
11-10-95
21618

ccfile

Please Review All Information For Accuracy and Make Appropriate Changes

DOH 331-032 (9/93) **(Do Not Detach)**

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Department of Health
P.O. Box 1099
Olympia, WA 98507-1099

TOLL FREE WASHINGTON 1-800-525-2536

DOUGLAS,KENNETH J.

6766

00CA10420246000 DW0000676600121960000250O

LAKE LIMERICK WATER SYSTEM 3025

Vendor ID: GREENRIVERCC Vendor name: Green River CC, MS-WW 3025

Invoice No.	Reference	Date	Inv Amt	Amt Paid	Disc Taken	Net Amt
CrossConnect	Ken Douglas	04/16/96	245.00	245.00	0.00	245.00
				Net Check Amount		245.00

LAKE LIMERICK WATER SYSTEM
PH. 360-426-3581
E. 790 ST. ANDREWS DR.
SHELTON, WA 98584

KEY BANK OF WASHINGTON
SHELTON, WA 98584
34-7/1251

3025

3025

********** Two Hundred Forty Five & 00/100 Dollars

DATE	AMOUNT
04/16/96	*******245.00

Green River CC, MS-WW
12401 SE 320th St
98092

AUTHORIZED SIGNATURE

⑈003025⑈ ⑆125100076⑆00272748021⑈

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

LAKE LIMERICK WATER SYSTEM 3025

Vendor ID: GREENRIVERCC Vendor name: Green River CC, MS-WW 3025

Invoice No.	Reference	Date	Inv Amt	Amt Paid	Disc Taken	Net Amt
CrossConnect	Ken Douglas	04/16/96	245.00	245.00	0.00	245.00
				Net Check Amount		245.00

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
DIVISION OF DRINKING WATER
Airdustrial Center, Bldg. 8 • P.O. Box 47829 • Olympia, Washington 98504-7829
TDD Relay 1-800-833-6388

June 18, 1996

Lake Limerick County Club
E. 790 St. Andrews Drive
Shelton WA 98584

Gentlemen:

It is with pleasure that the Washington State Water and Wastewater Operator Certification Board of Examiners announces that a Certificate of Competency is being issued to Ryan W. Chaney as a Water Distribution Manager 1.

The purpose of this program is to aid in the improvement of the ability of persons employed in waterworks operation, thereby promoting efficient operation and reduction of hazards to public health incident to furnishing water to the public. It provides a system whereby persons in the waterworks profession may be examined and rated by qualified individuals in their own field; and it establishes a standard of proficiency for those occupying the position of public trust involved in the operation of public water supplies.

This gentleman has successfully passed the examination which, together with his experience and education, has qualified him for this rating. He should be congratulated for his interest in the program and for his service to your community.

Sincerely,

CHERYL L. BERGENER
Program Manager
Waterworks Certification Board

CLB:jj

cc: Ryan W. Chaney

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
DIVISION OF DRINKING WATER
Airdustrial Center, Bldg. 8 • P.O. Box 47829 • Olympia, Washington 98504-7829
TDD Relay 1-800-833-6388

June 18, 1996

Ryan W. Cheney
1414 8th Avenue SW
Olympia WA 98502

Dear Mr. Cheney:

The Washington State Water Operator Certification Program proudly issues your Certificate of Competency for fulfilling all the qualifications in education, experience, and written examination as a Water Distribution Manager 1.

Sincerely,

Cheryl L. Bergener
Program Manager
Water Works Certification Program

CLB:jj
Enclosure

The State of Washington

Department of Health

Certificate of Competency

The Department of Health, Water Works Operator Certification Program for the State of Washington
Hereby Recognizes

Ryan W. Chaney

as a

Water Distribution Manager 1

and certifies that this individual has met the established qualifications and has passed the above water works operator certification examination.

Witnessed under my hand this 18th day
of JUNE, 19 96

Cheryl L. Bergener

CERTIFICATE NO. 7194

Cheryl L. Bergener
Water Works Operator Certification Program Manager

This certificate shall be in full force and effect when accompanied by an annual renewal card.

DOH 331-007 (Rev 12/95)

The Washington Environmental Training Center

at

Green River Community College

Awards This

Certificate of Completion

To

RYAN CHANEY

for successfully completing

WATER CERTIFICATION EXAM REVIEW

on 5/21/96 - 5/23/96 *Earning 2.1 CEUs*

WETRC

Washington Environmental Training Center
Green River Community College • 12401 SE 320th St. • Auburn, WA 98002-3699 • (206) 833-9111, Ext. 369
Federal I.D. Number 91-081-4013G

REQUEST FOR PAYMENT

Dated 5/7/96

Payment or Purchase Order Number for the class listed below is requested by 5/21/96 to hold your registration. Please return the bottom portion of this request with your check to our office. **Please make your check payable to GRCC/WW.**

Registration for:	LAKE LIMERICK COUNTRY CLUB Ryan Chaney E. 790 St. Andrews Drive Shelton, Wa 98584
Class Name:	WATER CERTIFICATION EXAM REVIEW
Locator Number:	0000000109
Date:	05/21/96 - 5/23/96
Total Fee:	$ 245.00

Cancellations must be made at least 7 days prior to the scheduled class or a $ 98.00 fee will be charged. Students who fail to appear for any or all of the workshop will be billed for the full fee.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT

Registration for:	RYAN CHANEY WATER CERTIFICATION EXAM REVIEW 0000000109 TACOMA, WA 5/21/96 - 5/23/96
Total Amount Due:	$ 245.00

paid 5-14-96

Board of Trustees Members Selection Keys: BOT

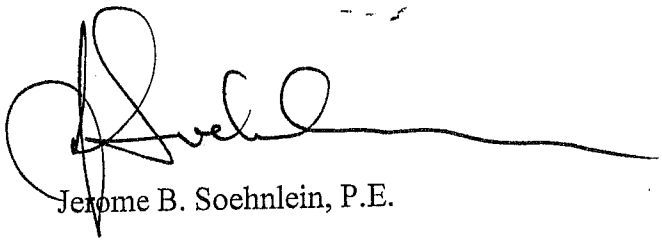
ID	Name/Address/Telephone	Comments	Add/Edit /Labels
-015	ROBINSON, DANIEL ROBINSON, CLARA E 721 BALLANTRAE DR SHELTON, WA 98584 (360) 426-7908	President	07/10/96 07/10/96
-044	BUFF, WILLIAM BUFF, GLENNA SE 361 BALLANTRAE DR SHELTON, WA 98584 (360) 427-5356	Treasurer	07/10/96 07/10/96
-047	AYERS, GARY AYERS, BONA E 331 BALLANTRAE DR SHELTON, WA 98584 (360) 426-6640	Secretary	07/10/96 07/10/96
123	REICHNER, SHIRLEY E 511 AYCLIFFE DR SHELTON, WA 98584 (360) 426-4677		07/10/96 07/10/96
-128	JOHANNESEN, CHRIS JOHANNESEN, ESTHER 333 S 124 SEATTLE, WA 98168 (800) 562-8254		07/10/96 07/10/96
-304	SOEHNLEIN, JEROME SOEHNLEIN, CAROLYN E 960 ST ANDREWS DR SHELTON, WA 98584 (360) 426-0703	Vice President	07/10/96 07/10/96
-076	WILCOX, DOYLE WILCOX, GAYLE E 1970 ST. ANDREWS DR. SHELTON, WA 98584 (360) 426-5174		07/10/96 07/10/96

	Name/Address/Telephone	Comments	Add/Edit /Labels
-137	FAIRBANKS, GERALD B. FAIRBANKS, MARTHA E 2590 ST ANDREWS DR SHELTON, WA 98584 (360) 426-2146		07/10/96 07/10/96
-515	BRAGET/MALLOY ROBERT BRAGET/MALLOY BETTY E1121 ST ANDREWS DR SHELTON, WA 98584 (360) 427-7422		07/10/96 07/10/96
-120	MASON, TED MASON, ELLADENE E 60 ERRIGAL PLACE SHELTON, WA 98584 (360) 426-1316		07/10/96 07/10/96
175A	PARADISE, PATRICK E 2150 MASON LAKE RD SHELTON, WA 98584 (360) 426-7870		07/10/96 07/10/96

Reference: Water Rights Well 3B

The present well 3B was installed in mid 1981 and brought on line late that year. Until recently it was thought by the community that water rights had been granted, but searching our files and those available at the state, rights have not been found.

Contact with DOE has been made and an "Application for Water Right" is in progress and is expected to be submitted by mid August 1996.



Jerome B. Soehnlein, P.E.

Well #1 (Div. 1) REEL 331 FR. 119

No. 7301—OS - 8-00.

CERTIFICATE RECORD NO. 12 PAGE NO. 5566-A

STATE OF WASHINGTON, COUNTY OF Mason

Certificate of Ground Water

Issued in accordance with the provisions of Chapter 263, Laws of Washington, rules and regulations of the State Supervisor of Water Resources thereunder.

THIS IS TO CERTIFY *That* LAKE LIMERICK CORPORATION AND

of Seattle, Washington

to the satisfaction of the State Supervisor of Water Resources of

the ground waters of a well

located within Plat of Lake Limerick Division No. 1, NE¼NE¼

Sec. 27, *Twp.* 21 *N., R.* 3 W. *W. M.,*

for the purpose of community domestic supply

under and subject to provisions contained in Ground Water Permit No. 7551 *issued by the State Supervisor of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume* 12 *at page* 5566-A;

that the right hereby confirmed dates from April 19, 1966; *that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 100 gallons per minute; 117 acre-feet per year, for community domestic supply.

33 ... 119

Special provisions required by the Supervisor of Water Resources: Ruth E. Boysen

16 ... 9 37

A description of the lands to which such ground water right is appurtenant: State of Washington Dept of Conservation 335 General Adm. Bldg. Olympia, Wn

Plat of Lake Limerick, Division No. 1, within Secs. 22 & 27, T. 21 N., R. 3 W.W.M.

Mail To Lake Limerick Corp. 2125 - 25th Ave N.E. Seattle Wash.

Recorded ______

Compared ______

Paged ______

WN. REAL ESTATE EXCISE TAX
PAID
NOV 18 1966
JOHN B. COLE
Treas., Mason County

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this 16th *day of* November, 19 66

State Supervisor of Water Resources.

Well No. 2 (Div 2)

REEL 12 FR. 601

CERTIFICATE RECORD NO. 12 PAGE NO. 5887-A

STATE OF WASHINGTON, COUNTY OF Mason

239984

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

THIS IS TO CERTIFY That LAKE LIMERICK COUNTRY CLUB, INC.

of Seattle, Washington, has made proof to the satisfaction of the Department of Water Resources of Washington, of a right to the use of the ground waters of a well (#2)

located within Lot 1, Plat of Lake Limerick Division No. 2 (SE¼NW¼)

Sec. 27, Twp. 21 N., R. 3 W. W.M.

for the purpose of community domestic supply

under and subject to provisions contained in Ground Water Permit No. 8164 issued by the Department of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Water Resources of Washington and entered of record in Volume 12 at page 5887-A; that the right hereby confirmed dates from June 30, 1967; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 200 gallons per minute; 166 acre-feet per year, for community domestic supply for 2000 persons as of 1970

Special provisions required by the Department of Water Resources:

A description of the lands to which such ground water right is appurtenant:

Sec. 27, LESS that part of the easterly 630 feet thereof located southerly of the Mason Lake Road; the S½S½ of Sec. 22; the south 200 feet of the N½S½ of Sec. 22; the SE¼SE¼ of Sec. 21; that portion of the SW¼SW¼ of Sec. 23 lying northerly of the southerly right-of-way line of Mason Lake Road; AND the southerly 200 feet of the NW¼SW¼ of Sec. 23; All in T. 21 N., R. 3 W.W.M., LESS rights of way.

Indexed J. T.
Recorded
Compared
Proofed

RECORDED 2 FILED
REEL 12 FRAME 601
RECORDS OF MASON COUNTY
Ruth E. Bowser
'67 DEC 7 AM 9:44

REQUEST OF Lake Limerick Country Club

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in Section 18, Chapter 233, Laws of 1967.

WITNESS the seal and signature of the Assistant Director, Division of Water Management, Department of Water Resources affixed this 5th day of December, 19 67

Mail to: Lake Limerick Country Club, Inc.
5125 - 35th Ave. N.E.
Seattle, Wn. 98105

Assistant Director
Division of Water Management
Department of Water Resources

Well No. 3 (Div 2)

REEL 42 FR. 602

CERTIFICATE RECORD No. 12 PAGE No. 5888-A

STATE OF WASHINGTON, COUNTY OF Mason

230985

Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Water Resources thereunder.

THIS IS TO CERTIFY *That* LAKE LIMERICK COUNTRY CLUB, INC.

of Seattle, Washington, *has made proof to the satisfaction of the Department of Water Resources of Washington, of a right to the use of the ground waters of a* well (#3)

located within Lot 5, Plat of Lake Limerick Division No. 2 (SW¼SW¼)

Sec. 27, *Twp.* 21 *N., R.* 3 W. *W.M.*

for the purpose of community domestic supply

under and subject to provisions contained in Ground Water Permit No. 8165 *issued by the Department of Water Resources and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Water Resources of Washington and entered of record in Volume* 12 *at page* 5888-A; *that the right hereby confirmed dates from* June 30, 1967; *that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed* 100 gallons per minute; 84 acre-feet per year, continuously each year for community domestic supply for 2000 persons as of 1970

Special provisions required by the Department of Water Resources:

A description of the lands to which such ground water right is appurtenant:

Sec. 27, LESS that part of the easterly 630 feet thereof located southerly of the Mason Lake Road; the S½S½ of Sec. 22; the south 200 feet of the N½S½ of Sec. 22; the SE¼SE¼ of Sec. 21; that portion of the SW¼SW¼ of Sec. 23 lying northerly of the southerly right-of-way line of Mason Lake Road; AND the southerly 200 feet of the NW¼SW¼ of Sec. 23; All in T. 21 N., R. 3 W.W.M., LESS rights-of-way.

Indexed 21 D
Recorded 22 D
Compared 22 D
Paged 22 D

RECORDED 2 FILED
REEL 42 FRAME 602
AUDITOR MASON COUNTY
'67 DEC 7 AM 9:48
REQUEST OF Dept. of Water Resources

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in Section 18, Chapter 233, Laws of 1967.

WITNESS the seal and signature of the Assistant Director, Division of Water Management, Department of Water Resources affixed this 5th *day of* December 19 67

Mail: Lake Limerick Country Club Inc.
Seattle, Wn 98105

Assistant Director
Division of Water Management
Department of Water Resources

Well #4 - (Div. No. 5)

2542772

REEL 72 FR. 968

CERTIFICATE RECORD NO. 15, PAGE NO. 7012-A

STATE OF WASHINGTON, COUNTY OF Mason

CERTIFICATE OF GROUND WATER RIGHT

(Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology thereunder.)

THIS IS TO CERTIFY THAT LAKE LIMERICK COUNTRY CLUB ESTATES of Seattle, Washington, has made proof to the satisfaction of the Department of Ecology of a right to the use of the public ground waters of the State of Washington from a well located within Lot 506, of the Plat of Lake Limerick Division No. 3 Sec. 22, Twp. 21 N., R. 3 W. W.M., for the purpose(s) of community domestic supply under and specifically subject to provisions contained in Ground Water Permit No. 9218 issued by the Department of Ecology and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the Department of Ecology and entered of record in Volume 15 at page 7012-A that the priority of the right hereby confirmed dates from November 19, 1968; that the quantity of ground water under the right hereby confirmed for the aforesaid purposes, is limited to an amount actually beneficially used for said purposes, and shall not exceed 100 gallons per minute, 79 acre-feet per year for community domestic supply during entire year.

A description of the lands to which such ground water right is appurtenant is as follows:

Plat of Lake Limerick, Division No. 3 located in Secs. 21, 22, 23 and 27, T. 21 N., R. 3 W.W.M.

RECORDED 2 - FILED
REEL 72 FRAME 968
AUDITOR MASON COUNTY
RUTH E. BOYSEN

'70 SEP 30 AM 10:32

REQUEST OF
Dept of Ecology

Indexed
Recorded
Compared
Mailed

The right to use of water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390 and 90.44.020.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and seal of this office at Olympia, Washington, this 29th day of September, 1970.

JOHN A. BIGGS, Director
Department of Ecology

mail to -
Gleason - Kors
901 Tacoma Ave S.
Tacoma WA 98402

by [signature]
Glen H. Fiedler

Engineering Data
OK. [initials]

well #5

560615

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REEL 55 TR 025

CERTIFICATE OF WATER RIGHT

☐ Surface Water (issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
November 17, 1987	G2-27215	G2-27215 P	G2-27215 C

NAME
Lake Limerick Community

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
East 790 St. Andrew Drive	Shelton	Washington	98584

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	190	152

QUANTITY, TYPE OF USE, PERIOD OF USE		
152 acre-feet per year (supplemental)	Communtity domestic supply	Year-round, as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION–WITHDRAWAL
150 feet north and 1,200 feet east of the west quarter corner of Section 27.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
S½ NW¼	27	21	3W	14	Mason

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by the Lake Limerick Community Water System.

Dept of Ecology
REQUEST OF:
93 MAR -2 AM 10: 27
RECORDED ___ PLAT
REEL 55 TRAY 025-026
AUDITOR MASON COUNTY
[illegible]

well #6

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

CERTIFICATE OF WATER RIGHT

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendatory thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendatory thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 26, 1988	G2-27443	G2-27443 P	G2-27443 C

NAME
Lake Lemerick Country Club

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
E. 790 St. Andrews Drive	Shelton	Washington	98584

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well (No. 6).

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	200	160

QUANTITY, TYPE OF USE, PERIOD OF USE		
160 acre-feet per year	Community domestic supply	Year-round, as needed

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION/WITHDRAWAL
850 feet north and 350 feet west of the south quarter corner of Section 27.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SE¼ SW¼	27	21	3W	14	Mason

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Area served by the Lake Lemerick community water system.

TABLE 6.5 WATER QUALITY MONITORING COSTS							
		Number of Samples Required			Monitoring Laboratory Costs		
Parameter	Approximate Cost per Sample	1995	1996	1997	1995	1996	1997
Coliform	$22	24	24	24	$528	$528	$528
Inorganics	$360	0	5	0	$0	$1,800	$0
Nitrate	$65	5	0	5	$325	$0	$325
VOCs*	$270	5	0	0	$1,350	$0	$0
SOCs*	$880	5	0	0	$4,400	$0	$0
Lead & Copper	$11	40	20	20	$440	$220	$220
Total Laboratory Analysis Cost					$7,043	$2,548	$1,073

* Cost estimate includes regulated and unregulated compounds.

** These costs are for testing services only. The cost of collecting samples and transporting samples to the testing lab have not been calculated.

The Department of Health can allow waivers to limit system monitoring and thereby reduce costs incurred by the system. Consideration of these waivers are based upon system vulnerability. Susceptibility waivers may be given if the water source(s) is protected from infiltration of contaminants. Use waivers are available and may be given if the water source is within a watershed area in which contaminants which are monitored are not in use. Health's departmental guideline titled *Source Vulnerability and Monitoring Waivers* is available to the City for guidance on how to obtain these waivers.

6.5 EMERGENCY RESPONSE

The objective of emergency response is to provide safe water, avoid system contamination and prevent a health threat. Planning for emergency response helps establish procedures which may be applied in a given situation to reduce risk. An emergency response contact list follows

TABLE 6.4
WATER QUALITY MONITORING REQUIREMENTS

Contaminant	Sample Location	Sample Frequency if Standards Not Exceeded	Consequence of Exceeding Standards
Coliform (Existing State Law)	Distribution System	Twice per Month	3 Repeat Samples, 5 Samples Following Month
Inorganics (Existing State Law, Phase II, Phase V)	Each Source Before Treatment	Every 3 Years	Quarterly Sampling
Nitrate (Phase II)	Each Source	Annually	Quarterly Sampling
Nitrite (Phase II)	Each Source	Every 3 Years	Quarterly Sampling For One Year
VOCs (Existing State Law Phase II, Phase V)	Each Source After Treatment	Every 3 Years	Quarterly Sampling For One Year
SOCs (Phase II, Phase V)	Each Source After Treatment	Annually	Quarterly Sampling
Unregulated Compounds (Phase II, V; VOCs, SOCs and Sulfate)	Each Source After Treatment	4 Consecutive Quarters	Quarterly Sampling
Asbestos (Phase II)	Distribution System	One Sample	Quarterly Sampling
Lead and Copper (Lead & Copper Rule)	20 Distribution Sites	2nd Round by 7/1/95	Corrosion Control Study
Chlorine Residual (Existing State Law)	Distribution System	Daily	Chlorination Process Improvement

TABLE IV-10
WATER QUALITY MONITORING SCHEDULE

Parameter	Sample Location	Frequency	Notes
Inorganics (IOC)	After Treatment	Every Three Years	Sample required in 1997 and 2000
Nitrate	After Treatment	Quarterly in 1995	Nitrate is included in an inorganic analysis
Nitrite	After Treatment	Every 3 Years	Sample required in 1997 and 2000
VOCs	After Treatment	One sample in 1995 then annually.	Per DOH instructions, April 1995. Confirm 1996-2000 schedule with DOH for sampling.
SOCs	After Treatment	None Required	Area waiver received. Confirm 1996-2000 schedule with DOH.
stos	Distribution System	One Sample in 1995	From area served by AC pipe.
Lead/Copper	Distribution System	Not Required	No samples required until after corrosion control treatment is installed.
Radionuclides	Source	Every 4 Years	Await DOH instructions before sampling.

The City currently collects two routine coliform samples per month, and the City's Coliform Monitoring Plan is included in the Appendix of this report. Based on the population projections presented in Chapter II of this report, starting in 1997 the City will need to collect three routine coliform samples per month. The City's Coliform Monitoring Plan should be updated when the additional sample is required.

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). Due to this requirement, either early mornings or evenings upon returning from work are the best times for collecting samples. The collection procedure is described in more detail below.

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample kit delivery and pick-up by water department staff.
2. A minimum 6-hour period during which there is no water use throughout the house must be achieved prior to sampling. The water department recommends that either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist.
3. A kitchen or bathroom cold-water faucet is to be used for sampling. Place the sample bottle (open) below the faucet and gently open the cold water tap. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. IF ANY PLUMBING REPAIRS OR REPLACEMENT HAS BEEN DONE IN THE HOME SINCE THE PREVIOUS SAMPLING EVENT, NOTE THIS INFORMATION ON THE LABEL AS PROVIDED.
6. Place the sample kit outside of the residence in the location of the kit's delivery so that department staff may pick up the sample kit.
7. Results from this monitoring effort will be provided to participating customers when reports are generated for the State unless excessive lead and/or copper levels are found. In those cases, immediate notification will be provided (usually 10 working days from the time of sample collection).

Call Kirk Osborne at 426-0325 if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT

Water was last used: Time_____ Date_____

Sample was collected: Time_____ Date_____

I have read the above directions and have taken a tap sample in accordance with these directions.

_____ Date_____

Signature

CASCADE ANALYTICAL SERVICE
3640 S. Cedar - Suite O
Tacoma, Washington 98409

(206) 472-6909

August 8, 1995

Report To: Lake Limerick Country Club
E 790th St Andrews Dr.
Shelton, WA 98584

ATTN: Kirk Osborne

On July 31, 1995 ten samples of water were received in the laboratory from the Lake Limerick Country Club. The results of analyses are as follows:

LOCATION	LEAD (µg/L)	COPPER (mg/L)
B	<1.00	0.050
C	<1.00	0.027
D	<1.00	0.030
E	<1.00	0.042
F	<1.00	0.041
G	<1.00	0.055
I	<1.00	0.049
J	<1.00	<0.01
K	<1.00	0.056
L	<1.00	0.065

MCL LEAD= 50 µg/L
COPPER= 1.00 mg/L

AUG 9 [illegible]
L.L.C.

Juin TeVrucht
Technical Supervisor

orm 141-A

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

System's Name: LAKE LIMERICK COUNTRY CLUB, INC. Type: ☒ CWS ☐ NTNCWS

Address:
E 790 ST ANDREWS DR
SHELTON WA 98584

Size:
- ☐ >100,000
- ☐ 10,001 to 100,000
- ☐ 3,301 to 10,000
- ☒ 501 to 3,300
- ☐ 101 to 500
- ☐ ≤100

Telephone number: (360) 426-3581

System ID #: 44150T

Contact Person: STEVE MORLEY, WDMI, KIRK OSBORNE

DATE: September 13, 1995

CERTIFICATION OF SAMPLING SITES

LEAD SOLDER SITES

# of single-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	25
# of multi-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	-0-
# of buildings containing copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 2)	-0-
# of sites that contain copper pipes with lead solder installed before 1983 (to be used only if other conditions have been exhausted) (Tier 3)	-0-
TOTAL	25

The following sources have been explored to determine the number of structures which have interior lead pipe or copper pipe with lead solder.

- X — Plumbing and/or building codes
- X — Plumbing and/or building permits
- X — Contacts within the building department, municipal clerk's office, or state regulatory agencies for historical documentation of the service area development
- X — Water Quality Data

Other Resources Which PWS May Utilize

- X — Interviews with building inspectors
- X — Survey of service area plumbers about when and where lead solder was used from 1982 to present
- X — Survey residents in sections of the service area where lead pipe and/or copper pipe with lead solder is suspected to exist
- X — Interviews with local contractors and developers

Explanation of Tier 2 and Tier 3 sites (attach additional pages if necessary)

orm 141-A (continued)

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

CERTIFICATION OF SAMPLING SITES

LEAD SERVICE LINE SITES

of samples required to be drawn from lead service line sites: -0-

# of samples actually drawn from lead service line sites: -0-

Difference (explain differences other than zero) Distsribution System contains no Lead Servic Line

The following sources have been explored to determine the number of lead service lines in the distribution system.

X	Distribution system maps and record drawings
	Information collected for the presence of lead and copper as required under §141.42 of the Code of Federal Regulations
X	Capital improvement plans and/or master plans for distribution system development
X	Current and historical standard operating procedures and/or operation and maintenance (O&M) manuals for the type of materials used for service connections
X	Utility records including meter installation records, customer complaint investigations and all historical documentation which indicate and/or confirm the location of lead service connections
X	Existing water quality data for indications of 'troubled areas'

Other Sources Which PWS Utilized

X	Interviews with senior personnel
N/A	Conduct service line sampling where lead service lines are suspected to exist but their presence is not confirmed
X	Review of permit files
X	Community survey
	Review of USGS maps and records
	Interviews with pipe suppliers, contractors, and/or developers

Explanation of fewer than 50% LSL sites identified (attach additional pages if necessary):
Distribution System contains no lead service lines.

CERTIFICATION OF COLLECTION METHODS

I certify that:

Each first draw tap sample for lead and copper is one liter in volume and has stood motionless in the plumbing system of each sampling site for at least six hours.

Each first draw sample collected from a single-family residence has been collected from the cold water kitchen tap or bathroom sink tap.

Each first draw sample collected from a non-residential building has been collected at an interior tap from which water is typically drawn for consumption.

Each first-draw sample collected during an annual or triennial monitoring period has been collected in the months of June, July, August or September.

Each resident who volunteered to collect tap water samples from his or her home has been properly instructed by [insert water system's name] Lake Limerick Country Club, Inc. the proper methods for collecting lead and copper samples. I do not challenge the accuracy of those sampling results. Enclosed is a copy of the material distributed to residents explaining the proper collection methods,(and a list of the residents who performed sampling.) *

*Note- Per conversation10/6/93, with Rich Hoey DOH, Lake Limerick Countr Club wishes for the residents who performed sampling to remain anonymous per residents and Board Members

tm 141-A (continued)

SAMPLE SITE IDENTIFICATION AND CERTIFICATION

RESULTS OF MONITORING

THE RESULTS OF LEAD AND COPPER TAP WATER SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required 10 **# of samples submitted** 10 **90th Percentile Pb** <1.00ug/L
90th Percentile Cu .056mg/L

THE RESULTS OF WATER QUALITY PARAMETER SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required N/A **# of tap samples submitted** N/A
# of entry point samples required N/A **# of entry point samples submitted** N/A

CHANGE OF SAMPLING SITES

Original site address:

New site address:

Distance between sites (approximately):

Targeting Criteria: NEW: OLD:

Reason for change (attach additional pages if necessary):

SIGNATURE Stephen Morley WDMI 6786 Kirk W. Osborne

Stephen Morley, WDMI / Kirk Osborne, LLWB Chairman 9/ /95

NAME TITLE DATE

CASCADE ANALYTICAL SERVICE
3640 S. Cedar - Suite O
Tacoma, Washington 98409

(206) 472-6909

August 8, 1995

Report To: Lake Limerick Country Club
E 790th St Andrews Dr.
Shelton, WA 98584

ATTN: Kirk Osborne

On July 31, 1995 ten samples of water were received in the laboratory from the Lake Limerick Country Club. The results of analyses are as follows:

LOCATION	LEAD (µg/L)	COPPER (mg/L)
B	<1.00	0.050
C	<1.00	0.027
D	<1.00	0.030
E	<1.00	0.042
F	<1.00	0.041
G	<1.00	0.055
I	<1.00	0.049
J	<1.00	<0.01
K	<1.00	0.056
L	<1.00	0.065

MCL LEAD= 50 µg/L
COPPER= 1.00 mg/L

Juin TeVrucht
Technical Supervisor

AUG 9 [illegible]
L.L.C.

Suggested Directions for Homeowner Tap Sample Collection Procedures

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your state, and is being accomplished through the cooperation of homeowners and residents.

A sample is to be collected after water has been sitting in the pipes for an extended period of time (i.e., no water use during this period). Due to this requirement, either early mornings or evenings upon returning from work are the best times for collecting samples. The collection procedure is described in more detail below.

1. Prior arrangements will be made with the customer to coordinate the sample collection event. Dates will be set for sample kit delivery and pick-up by water department staff.
2. A minimum 6-hour period during which there is no water use throughout the house must be achieved prior to sampling. The water department recommends that either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist.
3. A kitchen or bathroom cold-water faucet is to be used for sampling. Place the sample bottle (open) below the faucet and gently open the cold water tap. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. IF ANY PLUMBING REPAIRS OR REPLACEMENT HAS BEEN DONE IN THE HOME SINCE THE PREVIOUS SAMPLING EVENT, NOTE THIS INFORMATION ON THE LABEL AS PROVIDED.
6. Place the sample kit outside of the residence in the location of the kit's delivery so that department staff may pick up the sample kit.
7. Results from this monitoring effort will be provided to participating customers when reports are generated for the State unless excessive lead and/or copper levels are found. In those cases, immediate notification will be provided (usually 10 working days from the time of sample collection).

Call Kirk Osborne at 426-0325 if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT

Water was last used: Time_____ Date_____

Sample was collected: Time_____ Date_____

I have read the above directions and have taken a tap sample in accordance with these directions.

_____ Date_____

Signature

WHITE EARTH ANALYTICAL

P.O. BOX 635 EPHRATA, WA 98823 PHONE: (509)754-5725 FAX: (509)754-4239

INVOICE #	W5080810
CUSTOMER #	1570

INVOICE INVOICE INVOICE

BILL TO

LAKE LIMERICK WATER
E. 790 ST. ANDREWS DR.
SHELTON, WA. 98584

DATE	P.O.#	TERMS
08/08/95		NET 30 DAYS

QUANTITY	ITEM NUMBER/DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	INORGANIC COMPOUNDS	235.00	235.00
		Shipping Credit	(3.48)

RECEIVED AUG 1 2 1995

WE5071901

TERMS: Net 30 days, 1.5% per month charged on past due accounts.

PLEASE PAY BY INVOICE
STATEMENT WILL NOT BE SENT

INVOICE TOTAL	231.52
FREIGHT	0.00
TAX - 7.5%	0.00
BALANCE DUE	231.52

NATIONAL CHEM LAB
103 12TH AVE SW EPHRATA WA 98823 PHONE (509)754-5725 FAX: (509)754-4229

INVOICE #	W12082
CUSTOMER #	1570

INVOICE INVOICE INVOICE

BILL TO:

LAKE LIMERICK COUNTRY CLUB, INC. attn: WATER DEPT.
E. 790 St. ANDREWS DRIVE
SHELTON, WA 98584

DATE	P.O.#	TERMS
12-08-93		NET 30 DAYS

QUANTITY	ITEM NUMBER/DESCRIPTION	UNIT PRICE	EXTENDED PRICE
2	VOC ANALYSIS	125.00	250.00
6	NITRATE ANALYSIS	20.00	120.00

DEC 10 199
L.L.C.C.

PLEASE PAY BY INVOICE
STATEMENT WILL NOT BE SENT

INVOICE TOTAL	370.00
FREIGHT	
TAX - 7.5%	
BALANCE DUE	370.00

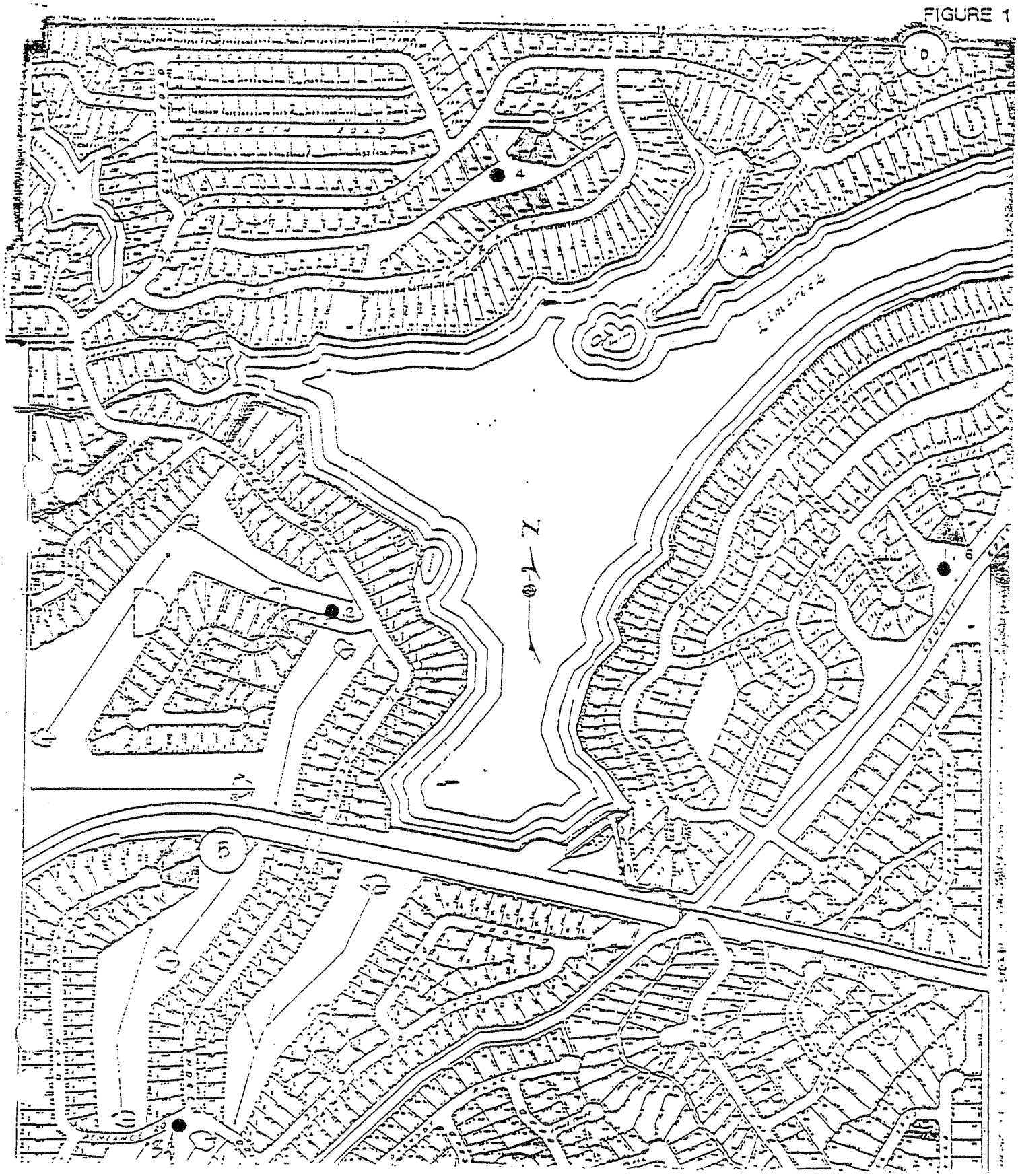
TABLE 26: WATER SYSTEM OPERATIONS SCHEDULING

OPERATION	STAFF	DAILY	WEEKLY	MONTHLY	QUARTERLY	ANNUALLY	5 YEAR
STORAGE:							
Check locks, bird screens, vents	Water Department Manager I, Assistant I					X	
Drain-Inspect-Clean & Disinfect Reservoirs	Water Department Manager I, Assistant I						3 years
Check water level in reservoirs	Water Department Manager I, Assistant I	X					
DISTRIBUTION:	Water Department Manager I, Assistant I						
Flush lines (as required)	Water Department Manager I, Assistant I				X		
Check system valves Clean valve boxes	Water Department Manager I, Assistant I					X	
Check fire hydrant operation	Water Department Manager I, Assistant I				X		
Repair or replace fire hydrant (as required)	Water Department Manager I, Assistant I						when needed
Repair or replace line valves (as required)	Water Department Manager I, Assistant I						when needed
Read meters and inspect service	Water Department Manager I, Assistant I			X			
Inspect backflow prevention devices	No employee qualified at this time				X		
MONITORING:	Water Department Manager I, Assistant I						
Coliform bacteria samples	Water Department Manager I, Assistant I			X			
Lead and Copper Samples (10 locations)	Water Department Manager I, Assistant I						3 years
Nitrates & Nitrites SO2,3,4,5,6,&,7	Water Department Manager I, Assistant I						3 years
Asbestos - sample from system 1995	Water Department Manager I, Assistant I						3 years
S.O.C. sample @ SO2,3, 4,5,6,&,7	Water Department Manager I, Assistant I						3yr waiver
V.O.C. sample @ SO1,2,3,&,4	Water Department Manager I, Assistant I						3 years
norganic samples SO1,2,3,&4,	Water Department Manager I, Assistant I						3 years

ELL SITE
ESIDENTIAL LOTS W/NO Pollution Easements
ENTIAL WELL SITES

VICINITY MAP

FIGURE 1



December 14, 1994

Well Site # 1 and 110,000 gallon storage tank
Division 1 Lot 203 - Greenbelt
Mason Lake Road - county road
Lot 176 * Residential lot with no pollution easement
Lot 185 * Residential lot with no pollution easement

Well Site # 2
Division 2 Lot 001-A EX DOR # 043510- Golf Course
Golf Course
St. Andrews Drive - county road
Shamrock Drive - county road

Well Site # 3 & 3A and 150,000 gallon storage tank
Division 2 Lot 005 Golf Course
Golf Course
St Andrews Dr - county road
Penzance Road - county road

Well Site # 4 and 70,000 gallon storage tank
Division 3 Lot 506 - Greenbelt
Lot 402 + Residential lot with no pollution easement
Lot 403 * Residential lot with no pollution easement
Lot 404 * Residential lot with no pollution easement
Lot 422 * Residential lot with no pollution easement
Lot 423 * Residential lot with no pollution easement
Lot 424 * Residential lot with no pollution easement
Lot 425 + Residential lot with no pollution easement

Well Site # 5
Division 2 Lot 003
Lot 136 * Residential lot with no pollution easement
Lot 137 * Residential lot with no pollution easement

Well Site # 6 standby emergency
Division 4 Lot 75
Lot 041 + Residential lot with no pollution easement
Lot 042 + Residential lot with no pollution easement
Lot 043 + Residential lot with no pollution easement
Lot 052 * Residential lot with no pollution easement
Lot 053 + Residential lot with no pollution easement
Lot 054 * Residential lot with no pollution easement
Lot 074 + Residential lot with no pollution easement
Lot 076 * Residential lot with no pollution easement

Property defined as potential well sites:
Division 3 Lot 508
Division 3 Lot 509
Division 3 Lot 511
Division 5 Lot 094

+ = no water valve
* = water valve

WATER RIGHTS EVALUATION

SOURCE STATUS		DOE FILE NO.	DATE	EXISTING WATER RIGHTS ANNUAL AVERAGE USE (ACRE FT/YR)	EXISTING WATER RIGHTS INSTANTANEOUS USE (GPM OR CFS)	EXISTING CONSUMPTION ANNUAL AVERAGE USE (ACRE FT/YR)	EXISTING CONSUMPTION PUMPING/INTAKE (GPM OR CFS)	CURRENT WATER RIGHTS STATUS (EXCESS/DEFINCIENCY) ANNUAL AVERAGE USE (ARCE FT/YR)	CURRENT WATER RIGHTS STATUS (EXCESS/DEFINCIENCY) INSTANTANEOUS USE (GPM OR CFS)	PLACE OF USE
CLAIMS*	1									
	2									
	3									
	4									
	5									
	6									
CERTIFICATES	1	7551	11/10/66	117	125	54	44			WELL # 1
	2	8164	12/7/67	166	200	30	120			WELL # 2
	3	8165	12/7/67	84	100	26	100			WELL # 3A
	4	*	*	*	*	86	200			WELL # 3B
	5	9218	9/30/70	79	100	100	45			WELL # 4
	6	G2-27215P	3/2/93	152	190	100	45			WELL # 5
	7	G2-27443P	3/1/93	160	200	*	*			WELL # 6
PERMITS	1									
	2									
	3									
	4									
	5									
	6									
APPLICATIONS	1									
	2									
	3									
	4									
	5									
	6									

DIVISION OF DRINKING WATER
POLICY/PROCEDURE

Title:	Determination of Water Rights Adequacy in Reviewing Construction Documents and Project Reports. Number: C.05
References:	Erik Fairchild
Contact:	Lead Secretary, Division of Drinking Water
Effective Date:	April 15, 1995
Supersedes:	January 1, 1995 Policy
Approved:	*Director, Division of Drinking Water*

PURPOSE STATEMENT

This policy identifies the water rights information necessary for the Washington State Department of Health (DOH) to review and approve construction documents or project reports (CD/PR).

PROCEDURE:

WATER RIGHTS ADEQUACY PARAMETERS

Water system projects for a new source or increased system capacity that require DOH approval must have adequate water rights before they can proceed (WAC 246-290-110, 246-290-120, 246-290-130). Increased system capacity includes any approval that will result in additional water usage by the system. The DOH and Department of Ecology (Ecology) have identified the eight parameters listed below to define limiting factors for water rights. At a minimum, the parameters defined as critical on the next page must be met for a project to be approved.

- The source type should be consistent with each active source (e.g. surface water, groundwater).
- The source location for all points of diversion or withdrawal for all water rights should match or be consistent with the current configuration of the water system.
- The purpose of use should reflect domestic drinking water supply (e.g. group domestic, municipal) for each source.
- The time of use should match the operating conditions for each source of supply.
- The place of use designated on each water right for each source should be consistent with the area currently served and the service area defined by the Water System Plan.

The maximum instantaneous flow rate (Qi) on each water right for each source must match or exceed the installed or proposed pumping capacity, and the withdrawal rate must not exceed established instantaneous limits contained on any water rights.

The maximum annual volume (Qa) on each water right for each source must match or exceed existing and proposed annual withdrawal volumes; i.e. the installed and permitted source capacity should match or exceed projected annual demand, and water use must not exceed established annual limits contained on any water rights.

Provisions or limiting conditions on each water right for each source should be met.

WATER RIGHTS ADEQUACY DETERMINATIONS IN REVIEWING CD/PR

onsistent with WAC 246-290-110 (3) (i), 246-290-130 (2) (a), and 246-290-420 (1) adequate water ghts are necessary for the approval of CD/PR which will expand system capacity (allow additional ater use) or add a new source of supply. Because DOH staff are not authorized to determine the gal extent of a system's water rights, and because Ecology staffing levels preclude its participation the review of all CD/PR reviewed by DOH, systems will be required to conduct a "self-sessment" of the adequacy of their water rights. As part of this "self-assessment", systems will be quired to review the 8 water right adequacy parameters and at a minimum, demonstrate in writing at the critical parameters defined below are consistent with the CD/PR proposals that are being nsidered for approval.

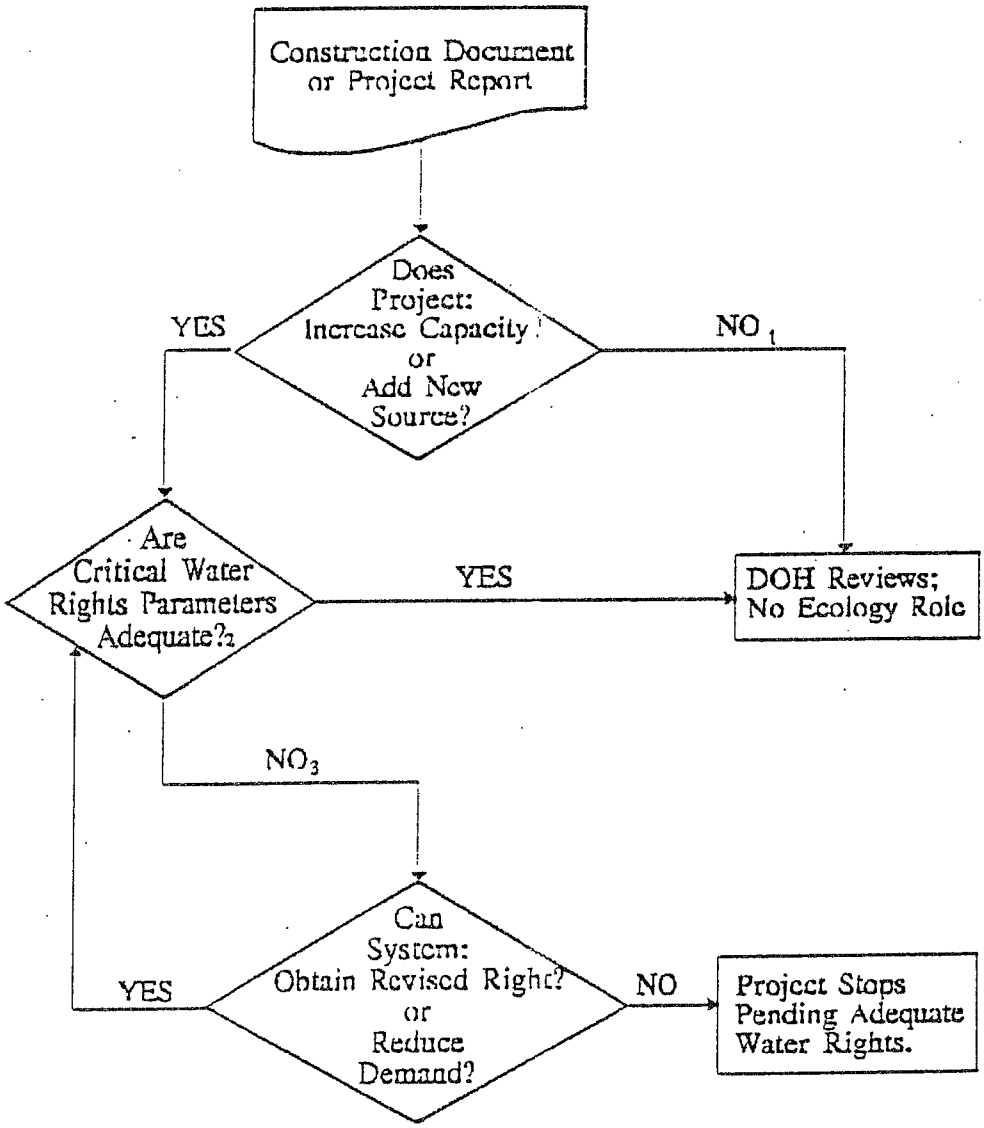
elf-Assessment: Whenever a public water system proposes a project which requires submittal of a which will increase the capacity of the system, the project submittal to DOH must include a elf-assessment" of the adequacy of water rights. Additionally, for all source approvals, copies of e water right documents must also be submitted, per WAC 246-290-130 (2) (a). Public water stems are required to conduct a "self-assessment" using Water Rights Adequacy parameters veloped by DOH and Ecology, determine compliance status, and provide a report to DOH dicating compliance status. This report shall include completion of the self-assessment form ttached), and a transmittal letter signed by the system manager or operator disclosing the status of l eight water right parameters and clearly stating how the proposed project is consistent with the itical water rights parameters defined below. If Ecology has previously provided written notice to OH that a system's water rights are inadequate or DOH staff concludes water right related roblems may exist, or there is mutual agreement between DOH and Ecology regional offices for a ore thorough review by Ecology, the "self-assessment" form will be routed to Ecology for erification of the information presented. If no response is received from Ecology within 30 days of s receipt of the proposal, DOH can proceed with its review of the proposal using the utility's "self-ssessment" for the purposes of determining the adequacy of existing water rights.

ritical Parameters to be Evaluated in the Self-Assessment: Maximum flow rate, and the aximum annual volume are considered to be critical water rights parameters which must be dhered to at all times. If the public water system's "self-assessment" indicates that either of these itical parameters is currently being exceeded or will be exceeded with the proposed improvements, e project will be put on hold until the water right problems are resolved. If compliance with these arameters is not possible for existing system usage, then DOH will immediately notify the utility rective action must be taken, per the "Water Rights Adequacy and Operating Permit Policy".

)ther Parameters to be Evaluated in the Self-Assessment: The remaining water rights ..eters (source type, source location, purpose of use, time of use, place of use, and provisions r limiting conditions) must also be evaluated by the utility in writing. If any of these parameters re determined to be in non-conformance with the utility's operating conditions, the discrepancies ıould be noted as part of the utility's self-assessment. In addition, the public water system must ıbmit an action plan to Ecology to resolve the discrepancies, and appropriately incorporate this ction plan into its water system plan. DOH staff shall review each situation and determine if ompliance with any of these water rights parameters is critical to protect public health. If ompliance with any of these water rights parameters is determined to be critical from a public ealth standpoint then the project will be on hold until the problem is resolved. Corrective actions or these parameters which are determined by DOH to be critical from a public health perspective ill be taken per the "Water Rights Adequacy and Operating Permit Policy", when developed.

)OH Disclaimer: As part of the approval of all CD/PR where the system has conducted a "self-ssessment" and Ecology has not confirmed the status of the system's water rights and made a ormal determination of adequacy in writing, DOH shall include a disclaimer in the approval ıdicating that: "Ecology has not reviewed the system expansions/improvements or the water rights self- assessment" to ensure the accuracy of the water right information presented. DOH is making ıe approval based upon the system's assurances that adequate water rights are secured by the ystem to cover all existing and proposed water uses resulting from approval of the project."

Health/Ecology Coordination Procedures for Construction Document/Project Report Review



Assumes that the public water system has sufficient water rights to cover current operations.

Refer to Water Rights Adequacy Criteria. Whenever a public water system proposes a project which would increase the capacity of the system, or add a new source, the project submitted to DOH must include a "self-assessment" of the adequacy of water rights. The public water system will be required to conduct the "self-assessment" using the Water Rights Adequacy Criteria developed by DOH and Ecology and determine compliance.

A public water system may resolve the problem of inadequate water rights in one of the following ways:

* Apply for and receive new water rights from Ecology.
* Justify a reduction in water demand and submit this justification to Health as a water system plan amendment or project report. If the updated demand forecasts is accepted by Health, it may enable the public water system to remain in compliance with critical water right parameters, and obtain CD/PR approval.

WILL THE PROPOSED PROJECT INCREASE THE CAPACITY OR THE ABILITY TO SERVE ADDITIONAL CUSTOMERS?

NO

ement below and include on transmittal

)ject described in the enclosed documents is
lew source approval nor will it result in additional
e."

_ Signature of system manager or operator

_ Date

YES

Conduct self-assessment of water rights

1. Conduct internal review of all 8 water right parameters.
2. Complete water right self-assessment form for critical water right parameters.
3. Submit transmittal letter that includes:
   - status of all 8 water right parameters (or refer to appropriate sections of current water system plan)
   - completed water rights self-assessment form
   - description of how proposed project is consistent with critical water right parameters

: NOTE: If critical water right parameters are exceeded either with or without the proposed project, the project will be
.(ıtil these critical water right issues are resolved. If non-critical water right parameters are exceeded, the problem
addressed in the transmittal letter and an action plan submitted to Ecology (may be in form of applications for change).
ıon-critical parameters are exceeded, projects will be processed by DOH, but DOH reserves the right to consult with
prior to approving the documents.

Attachment A - Instructions for Completing the

WATER RIGHTS SELF-ASSESSMENT FORM

:r 246-290 WAC requires that a public water system have adequate water rights before a project that will either: 1) expand ı capacity (allow additional water use), or 2) add a new source of supply, can be approved. Whenever a public water ı proposes a project that will either expand system capacity or add a new source of supply, the project submittal to DOH nclude a "self-assessment" of the adequacy of water rights using the Water Rights Adequacy Criteria developed by DOH :ology. This form identifies some of the parameters that must be addressed by a public water systems as part of its project :tal to DOH. If you need additional information or assistance regarding these parameters of your water rights, or the other eters identified in the policy, please contact the appropriate regional office of Ecology.

Part 1 - Water Rights Inventory

the state water code (1917 for surface water and 1945 for ground water), water can only be put to use once a person has ed a water right permit from Ecology (NOTE: some small uses of groundwater are exempted from the permitting process). water has been put to use in accordance with the conditions of the permit, a certificate of water right is issued. The iation requested here should, in most cases, be included on either the permit or certificate.

ermit or Certificate Number: In most cases, this is the number that is assigned by Ecology upon receipt of an application)r a water right permit (it differs on older water rights). It is listed at the very top of the permit or certificate form.

ame of Rightholder: This is generally the name of the person that originally obtained the water right permit or certificate. nless it has been subsequently updated, it may differ from the name of the current rightholder. Use the name listed on the ermit or certificate despite the fact that it may no longer be current.

riority Date: This is the date that is listed at the very top of the permit or certificate form (next to the permit or certificate ber).

ource Name/Number: Many water right permits and certificates have been issued for water from more than one source. any permits or certificates are for multiple sources, please identify the individual sources used (e.g. well #1, well #2, c.), as defined on water right documents. Use a separate line for each individual source. Do not use DOH assigned)urce numbers.

rimary or Supplemental: Use this column to indicate whether a particular source is for primary or supplemental use. his information is generally listed in the "Quantity, Type of Use, Period of Use" section on both permits and certificates. it is not, you will need to understand how your system operates to explain how each source is used in conjunction with the thers.

laximum Instantaneous Flow Rate (Qi): This is the amount of water which can be taken from this source during a period f peak operation. For surface water sources, the flow rate is generally expressed in terms of cubic feet per second (cfs). or groundwater sources, the flow rate is generally expressed in terms of gallons per minute (gpm). One cfs equals 448.8 pm. Please indicate the units you are using for each source. Any situations where the flow rate allowed in the permit will e limited (i.e. limitations established when other sources are utilized) must be noted in the primary/supplemental section.

laximum Annual Quantity (Qa): This is the amount of water which can be taken from this source on an annual basis. It almost always expressed in terms of acre-feet. An acre-foot is the amount of water necessary to submerge an acre of land) a depth of one foot. One acre-foot equals 43,560 cubic feet or 325,851 gallons of water.

Part 2 - Registered Claim Inventory

red Water Right Claims are claims to water rights which existed prior to the state water code (1917 for surface waters and)r groundwater). They were filed in compliance with Chapter 90.14 RCW and, with some limited exceptions, had to be ı or before June 30, 1974. Two forms were used for filing Registered Water Right Claims: a long form which requested rable specific information and a short form which requested only minimal information. If a short form was used to file aim, and the information requested is not on the short form, make a determination based upon as reasonable an estimate as e for each of the parameters. Depending upon which form was used, you may need to do additional research to provide f the information requested here. Please be as accurate as possible. If you need additional information or assistance ng these parameters of your water rights, or the other parameters identified in the policy, please contact the appropriate l office of Ecology.

egistered Claim Number: This is the registration number which is stamped in the lower left hand corner of the claim rm. It was assigned by Ecology upon registration of a claim.

ame of Claimant: This is the name of the person that filed the Registered Water Right Claim. The name on the claim ay differ from the name of the current rightholder. Use the name listed at the top to the Water Right Claim form (line 1 the long form) despite the fact that it may no longer be current.

riority Date: This is the date that the use of the claimed right was initiated. It should be listed on line 4 of the long Water ght Claim form (it was not requested on the short form).

ource Number/Name: Many single registered claims are for water from more than one source. If any claims are for ultiple sources, please identify the individual sources used (e.g. spring #1 or Bubbling spring, spring #2, etc.). Use a parate line for each individual source. Do not use DOH assigned source numbers.

n.. / or Supplemental: Use this column to indicate whether a particular source is for primary or supplemental use. his information was not requested on either Registered Water Right Claim form, so you will need to explain here. This ill require an understanding of how your system operates to explain how each source is used in conjunction with others.

laximum Instantaneous Flow Rate (Qi): This is the amount of water which can be taken from this source during a period peak operation. It should be listed on line 3.A. of the long Water Right Claim form (it was not requested on the short rm). For surface water sources, the flow rate is generally expressed in terms of cubic feet per second (cfs). For oundwater sources, the flow rate is generally expressed in terms gallons per minute (gpm). One cfs equals 448.8 gpm. ease indicate the units you using for each source.

laximum Annual Quantity (Qu): This is the amount of water which can be taken from this source on an annual basis. It ould be listed on line 3.B. of the long Water Right Claim form (it was not requested on the short form). Annual quantity almost always expressed in terms of acre-feet. An acre-foot is the amount of water necessary to submerge an acre of land a depth of one foot. One acre-foot equals 43,560 cubic feet or 325,851 gallons of water.

Permit Certificate or Claim #	Name of Rightholder or Claimant	Priority Date	Source Number	Primary or Supplemental	Existing System Capacity - Based on Water Right Limits		Projected Consumption with New Project Approved and On-Line		Projected System Capacity Status (Excess/Deficiency of Water Rights)	
					Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Part 1 Permits/ Certificates										
1. 7551	LLCC	4/66	well#1	primary	125	117	44	54	81	63
2. 8164	LLCC	6/67	well#2	primary	200	166	120	30	80	136
3. 8165	LLCC	6/67	well#3A	primary	100	84	100	26	0	58
4.	LLCC		well#3B	primary			200	86		
5. 9218	LLCC	11/68	well#4	primary	100	79	45	100	55	(21)
6. G2-27215P	LLCC	11/87	well#5	primary	190	152	100	61	90	91
7. G2-27443P	LLCC	10/88	well#6	suplimental	200	160				
Part 2 Claims 1.										
2.										
3.										
4.										
5.										
6.										
7.										
TOTAL	**********	*********	*********	**********						

Will new water usage resulting from approval of this proposal exceed the maximum flow rate (Qi) or annual quantity (Qa) limits specified in any of the rights listed above?

Yes____ No ✓

Kenneth Dyke — System Manager or Operator

Signature

[C.05]

Water personal responsibilities

Responsible for day to day operation of water system. To physically inspect well houses, record readings, and make any adjustments necessary.

To perform valve installations, disconnects, and repairs to residential service lines as well as main line breaks. To systematically blow off system by a series of stand pipes and hydrants, and perform routine inspections and disinfect storage tanks, as well as maintenance and repairs to system facilities.

In accordance with State laws collect water samples for bacteriological analysis and deliver to Thurston Co. Health Dept.

TABLE 26: WATER SYSTEM OPERATIONS SCHEDULING

OPERATION	STAFF	DAILY	WEEKLY	MONTHLY	QUARTERLY	ANNUALLY	5 YEAR
STORAGE:							
Check locks, bird screens, vents	Water Department Manager I, Assistant I					X	
Drain-Inspect-Clean & Disinfect Reservoirs	Water Department Manager I, Assistant I						3 years
Check water level in reservoirs	Water Department Manager I, Assistant I	X					
DISTRIBUTION:	Water Department Manager I, Assistant I						
Flush lines (as required)	Water Department Manager I, Assistant I				X		
Check system valves Clean valve boxes	Water Department Manager I, Assistant I					X	
Check fire hydrant operation	Water Department Manager I, Assistant I				X		
Repair or replace fire hydrant (as required)	Water Department Manager I, Assistant I						when needed
Repair or replace line valves (as required)	Water Department Manager I, Assistant I						when needed
Read meters and inspect service	Water Department Manager I, Assistant I			X			
Inspect backflow prevention devices	No employee qualified at this time				X		
MONITORING:	Water Department Manager I, Assistant I						
Coliform bacteria samples	Water Department Manager I, Assistant I			X			
Lead and Copper Samples (10 locations)	Water Department Manager I, Assistant I						3 years
Nitrates & Nitrites SO2,3,4,5,6,&,7	Water Department Manager I, Assistant I						3 years
Asbestos - sample from system 1995	Water Department Manager I, Assistant I						3 years
S.O.C. sample @ SO2,3, 4,5,6,&,7	Water Department Manager I, Assistant I						3yr waiver
V.O.C. sample @ SO1,2,3,&,4	Water Department Manager I, Assistant I						3 years
Inorganic samples SO1,2,3,&4,	Water Department Manager I, Assistant I						3 years

Tuesday, May 14, 1996

LAKE LIMERICK WATER SYSTEM
EMERGENCY CALL LIST

First call: the Maintenance Department

Maintenance Office
Phone: 426-4563
Normal Hours: Monday to Friday
6:00 am to 3:30 p.m.

EXTREME EMERGENCY (AFTER HOURS AND WEEKENDS)

Ken Douglas
Phone: 426-0775 (Home)
Pager: 956-8967

Ryan Chaney
Phone: (360) 956-9229 (Home)
Pager: 534-4558

Gerry Woodruff
Phone: (360) 426-3356 (Message)(Home)

Second call: the Water Committee

Kirk Osborne
Phone: 426-0325 (Home)

Jerry Soehnlein
Phone: 426-0703 (Home)
Phone: 426-3381 ext.. 4738 (Business)

Bob Braget
Phone: 427-7422 (Home)

Dan Robinson
Phone: 426-7908 (Home)

Last call: a Contractor

Arcadia Drilling
Phone: 426-3395

Hawkes Electric
Phone: 426-9955 (Business)

Note: Call only for: 1. Little or no water pressure in an area.
2. Broken Main.
3. Fire at well house.

DO NOT CALL IF IT CAN WAIT FOR NORMAL WORKING HOURS OR IF IT IS A SINGLE RESIDENCE PROBLEM. (L.L.C.C.'s responsibility ends at the lot owners shut off valve, if it is a broken line that can not be shut off at the valve box, use your discretion.)

Tuesday, May 14, 1996

To: Inn Manager
Bartenders

RE: Lake Limerick Water System Emergency Call List

Attached please find the confidential call list to be used only as described herein.

In the event a water system emergency arises only you should make the appropriate calls and coordinate notification.

Before calling get all the pertinent information about the emergency: What? Where? and Who? is calling.

Please advise if you have any questions.

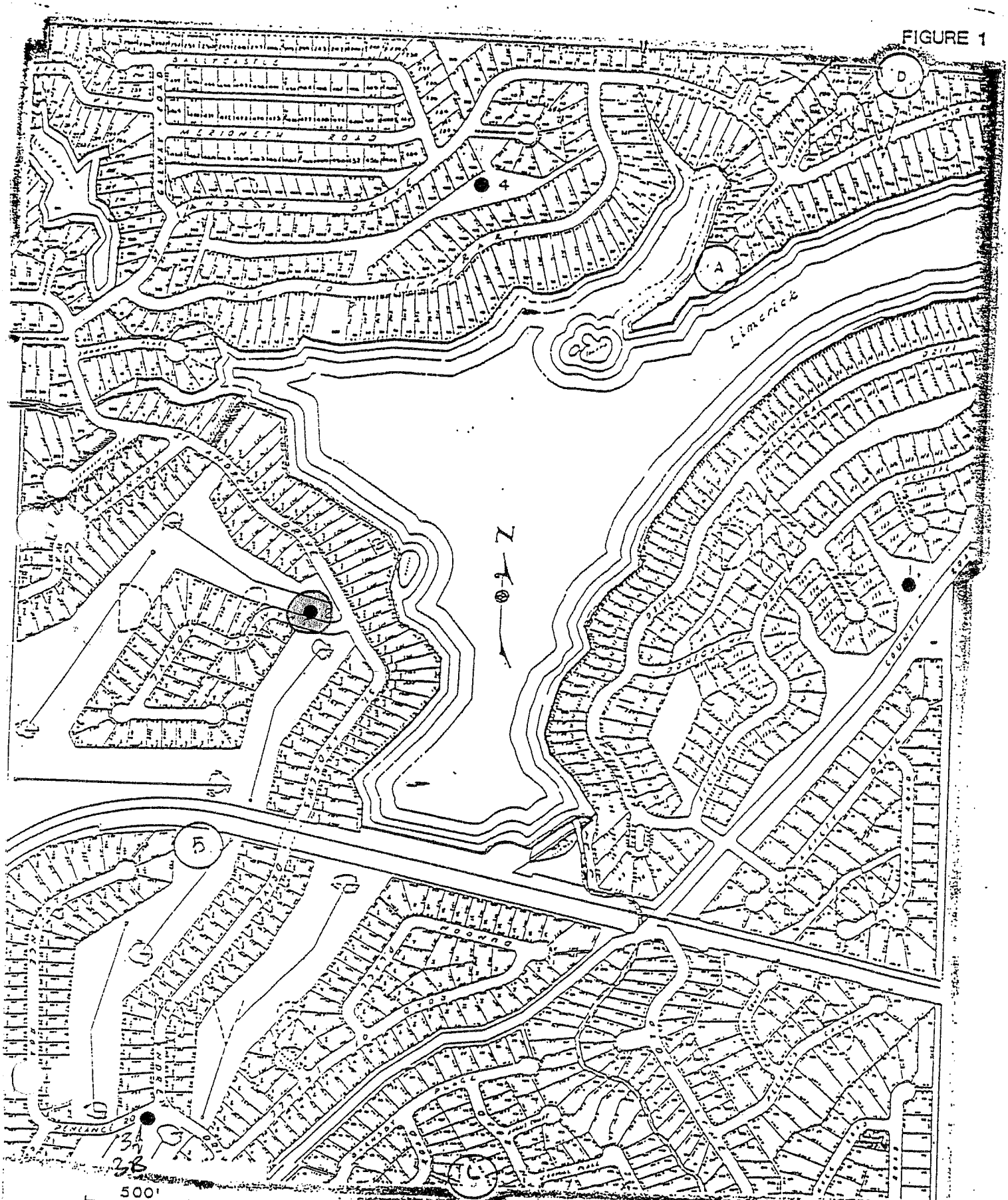
Thanking you in advance for your help.

Sincerely,
LAKE LIMERICK COUNTRY CLUB, INC.

Jerry Soehnlien
Treasurer, Water Committee

VICINITY MAP

FIGURE 1



304 Public Health Building
Olympia, Washington 98501
December 28, 1967

Carl F. Reichhardt, P.E.
Sleavin-Kors, Professional Engineers
901 Tacoma Avenue South
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply

Dear Mr. Reichhardt:

Thank you for summarizing for us the present status of this water supply and also for pointing out that Division #2 had, in fact, been approved by this Department contrary to our previous letter.

It seems obvious that the three wells presently developed will not be adequate to serve the ultimate water demand from Divisions 1, 2 and 3. We would, therefore, be interested in your clarification of future improvements as follows:

1. What is the ultimate peak demand for the entire system including Division #4?

2. How will this demand be satisfied?

3. Are there plans for gravity or pumped storage? Auxillary power?

Since Division #3 represents such a substantial portion of the entire development, we would like to resolve these questions now. We would particularly like to know what additional supply and/or storage facilities will be required to satisfy the ultimate demand from Divisions 3 and 4, when these will be provided and by whom. We assume that the developer would plan to provide a system capable of satisfying the ultimate demand even though this demand may not occur for some years hence.

We would appreciate any information or comments you can provide on these points.

Sincerely,

James C. Plumtree, Head
Sanitary Engineering Section

JCP:bg
cc: Thurston-Mason Health District

Report of Examination on Ground Water

Received date April 19, 1966 Date of exam. July 6, 1966 Appl. No. 8049

Name Lake Limerick Corporation and/ Osberg Construction Company Address 5125-25th Avenue NE, Seattle, Wash.

Nature of works a well Dimensions 10" x 116'

Progress of works Started - well drilled and capped

Quantity applied for 125 g.p.m. acre-feet per year

Lot 203, Proposed Plat of Lake Limerick Division No. 1,

Legal sub NE¼NE¼ Sec. 27 Twp. 21 N. R. 3 W. County Mason

Use community domestic supply

Irrigation-acreage: Present Planned Feasible

Municipal: Population 700 as of 1970

Industrial

Time pump will be operated continuously

Other water rights appurtenant to this land Surface Water Application No. 19276

Proximity to existing works, springs, wells, or streams None

Area Sub-area Zone

RECOMMENDATIONS

Approved for 125 g.p.m. 117 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Applicant is advised that notice of proof of appropriation of water under which the final certificate of water right issues, should not be filed until the permanent withdrawal facilities have been installed together with a distribution system of main line piping capable of furnishing water for domestic supply to all lots which are intended to be supplied under this application.

Use of the waters to be appropriated under this application will be for a public water supply. State Board of Health rules require every owner of a public water supply to obtain written approval from the State Director of Health prior to any new construction or alterations of a public water supply. The applicant is advised to contact the Washington State Department of Health, Fourth Floor, Public Health Building, Olympia, with regard to the need for compliance.

As provided under R.C.W. 43.21.130, 90.03.360 and 90.44.020, a master meter, individual flow meters or other suitable measuring devices shall be installed in this system to measure the total amount of the withdrawal. Records of total monthly withdrawal shall be maintained by an official, responsible for the management and operation of this water system, and after certificate of water right issued, this information shall be reported each year to the Supervisor of the Division of Water Resources. A standard form for reporting such information shall be sent annually to the manager of the water

304 Public Health Building
Olympia, Washington 98501
November 2, 1967

Mr. Carl F. Reichhardt, P.E.
Slemvin-Kors Professional Engrs.
201 Hess Building
901 Tacoma Avenue So.
Tacoma, Washington 98402

Subject: Lake Limerick Water Supply
Division No. 3

Dear Mr. Reichhardt:

Thank you for submitting plans for this proposed water supply project. In view of the two divisions submitted previously and the fact that Division #2 has not yet been approved, it would be appreciated if you would furnish us with an up-to-date summary of the status of this system covering the number of lots developed in each of the divisions, the amount of water developed to date, and the chemical quality of each well. We will also want specifications on the pump installations in well #3. This information does not appear to have been submitted previously. We are still interested in your plans for connecting these three divisions, either through automatic or manual valves.

We shall be pleased to review this additional information when it is available.

Yours very truly,

James C. Pluntze, Head
Sanitary Engineering Section

JCP:bg

cc: Thurston-Mason Health District

SLEAVIN-KORS
Professional Engineers

201 HESS BUILDING
901 TACOMA AVENUE SO.
TACOMA, WASH. 98402
FU 3-4491

October 30, 1967
Job No. 1061-C

Mr. James C. Pluntze
Washington State Department of Health
304 Public Health Building
Olympia, Washington 98501

Dear Mr. Pluntze:

Enclosed is a map of the water system at Lake Limerick showing the proposed water line layout for Division #3. At this time the owners plan to extend the waterlines in Division #3 and provide water from wells #1, 2, and 3 which are existing and are adequate to meet the present demands of Divisions number 1, 2 and 3. Please note that several well sites have been reserved for future water requirements. These areas are shown on the recorded plat and are to be kept free from pollution within a 100 foot radius of the proposed well.

Please contact us regarding any questions you may have.

Cordially,

SLEAVIN-KORS

Carl F. Reichhardt

Carl F. Reichhardt, P. E.

CFR:jc

Enclosure

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam. August 29, 1967 Appli. No. 8834

Name Lake Limerick Country Club, Inc. Address 5125 25th N.E., Seattle, Washington

Type of works a well (33) Dimensions 10" x 148'

Progress of works Started (well drilled and in use for building needs)

Quantity applied for 100 g.p.m. 41 acre-feet per year

Legal sub. / Sec. 27 Twp. 21 N. Rge. 3 W. County Mason

Lot 5, Plat of Lake Limerick Division Number 2, SW¼SW¼

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community
~~Municipal~~ Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8833

Proximity to existing works, springs, wells, or streams None

Area Sub-area Zone

RECOMMENDATIONS

Approved for 100 g.p.m. 84 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 670 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 84 acre-feet.

It is noted that this filing and Ground Water Application 8833 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to [illegible] information to this office as part of his proof of appropriation as to the size and type of equipment installed and the rate at which water is withdrawn in gallons per minute.

(over)

Report of Examination on Ground Water

Received date June 30, 1967 Date of exam August 29, 1967 Appli. No. 8833

Name Lake Limerick Country Club, Inc. Address 5125 25th N.E., Seattle, Washington

Nature of works a well (#2) Dimensions 10" x 121'

Progress of works Started (well drilled)

Quantity applied for 200 g.p.m. 82 acre-feet per year

Legal subdivision Lot 1, Plat of Lake Limerick Division Number 2, SE¼NW¼ Sec. 27 Twp. 21 N. Rge. 3 W. County Mason

Use Community domestic supply

Irrigation-acreage: Present Planned Feasible

Community ~~Municipal~~: Population 2000 as of 1970

Industrial

Time pump will be operated Continuously

Other water rights appurtenant to this land Concurrent Ground Water Application No. 8834

Proximity to existing works, springs, wells, or streams Lake Limerick, 350 feet east

Area Sub-area Zone

RECOMMENDATIONS

Approved for 200 g.p.m. 166 acre-feet per year, subject to existing water rights. (1 acre-foot 325,850 gallons.)

An analysis of water use in Western Washington has shown the average water requirement for domestic needs to be about 90 gallons per person per day. Allowing for an increase in the water requirement, the recommended annual withdrawal for domestic use of this system is based on an average daily requirement per person of 100 gallons. Therefore, for the estimated population of 1330 to be served by this system it is recommended that the annual withdrawal for domestic use be limited to 166 acre-feet.

It is noted that this filing and Ground Water Application 8834 are for the same lands. It appears that the systems are independent and will be serving a specific portion of the described land. Therefore, before certificate issues the applicant will indicate to this office the boundaries of each system within the Plat of Lake Limerick.

The installation of an access port to well as described in attached Ground Water Bulletin No. 1 is recommended.

Prior to issuance of a certificate of water right, the applicant will be required to furnish information to this office as part of his proof of appropriation as to the size

(over)

CROSS CONNECTION CONTROL

Lake Limerick's Maintenance Supervisor, Kenneth Douglas, is our on site WDM-1, for the Water Department.

The Water Committee has made a commitment to finance educational opportunities for all Water Department Employees.

Mr. Douglas will be attending the Cross Connection Control Program Management Course as soon as space is available for his attendance. He is now scheduled to participate in the next available class and upon completion will be certified for Cross Control Management.

Lake Limerick Water Department's second man, Ryan Chaney, has completed his WDM-1 classes and is a certified WDM-1. In the future he also will be given the opportunity to certify for Cross Control.

****

NOTE:

Meter setters include check valves - total installation phased over 1997, 1998 and 1999

LLCC Copy

FINAL

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
DRINKING WATER DIVISION

Kirk Jerry Minutes

CROSS CONNECTION CONTROL PROGRAM OPERATIONS SURVEY

Purpose of Survey:

Cross connections are recognized as one of the principal causes of drinking water contamination. WAC 246-290-490 requires that water purveyors develop and implement a cross-connection control program acceptable to the Department. This survey is intended to provide information so that the Department may better assist the purveyors in development and implementation of their programs.

Instructions for Completing the Survey:

This survey must be completed by each water system with one hundred (100) or more service connections. This survey should be returned even if you do not have a cross connection control program.

1.0 System Identification:

1.1 System Name: LAKE LIMERICK WATER SYSTEM

1.1.1 System ID No: 44150T

1.1.2 County: MASON

1.1.3 Street Address: E. 790 ST. ANDREWS DR.

1.1.4 Mailing Address: _____

1.1.5 City, State, Zip: SHELTON, WA. 98584

1.2 System Owner: LAKE LIMERICK COUNTRY CLUB INC.

1.2.1 Street Address: E. 790 ST. ANDREWS DR.

1.2.2 Mailing Address: SHELTON, WA. 98584

1.2.3 City, State, Zip: _____

1.2.4 Phone: 206 426-3581

1.3 System Contact Person: John Bykonen

1.3.1 Title: Water Distr. Manager

1.3.2 Day Phone: 206 426-5675

1.3.3 Evening Phone: 206 426-5675

2.0 Cross Connection Control Program Description:

2.1 Does your water system have an active cross connection control program?

Yes ____ No ✓

(If no, please complete elements 4.0 and 5.0 of this survey and return to the Department at the address indicated at the end of this survey form. If yes, please continue.)

2.2 Who operates the cross connection control program?
Owner_____ OR Contract Operator_____

Name: _____

Address: _____

Certification Number: _____

Certification Types: _____

Other Qualifications: _____

3.0 Staffing:

3.1 Name those who are responsible for the operation of the cross connection control program.

NAME & TITLE	CERTIFICATION TYPE AND NUMBER	PHONE

4.0 Water System Information:

(This section to be completed by ALL water systems.)

4.1 Approximate size of service area 1 1/2 square miles

4.2 Number of services in your service area:

4.2.1 Residential services 15 OF 2/94	403 HOMES/891 LOTS WITH VALVES
4.2.2 Commercial services	1 GAS CENTER STORE
4.2.3 Residential services	
4.2.4 Fire protection services seperate from domestic service	Ø
4.2.5 Landscape irrigation services	Ø
4.2.6 Agricultural irrigation services	Ø
4.2.7 Other	Ø

4.3 Number of approved backflow assemblies on record in your water service area

4.3.1 Reduced Pressure Backflow Assemblies	Ø
4.3.2 Double Check Valve Assemblies	Ø
4.3.3 Prewssure Vacuum Breaker Assemblies	Ø
4.3.4 Approved Air Gaps	Ø

4.4 Does your water system serve water to the following types of premises?

PREMISES TYPE	YES	NO
4.4.1 Beverage bottling plants		✓
4.4.2 Car washes		✓
4.4.3 Chemical Plants		✓
4.4.4 Food processing plants		✓
4.4.5 Hospitals, medical centers, or clinics		✓
4.4.6 Laboratories		✓
4.4.7 Metal plating facilities		✓
4.4.8 Mortuaries		✓
4.4.9 Nursing homes		✓
4.4.10 Petroleum processing or storage plants		✓
4.4.11 Piers or docks		✓
4.4.12 Radioactive material processing plants		✓
4.4.13 Nuclear plants		✓
4.4.14 Sewer lift stations		✓
4.4.15 Sewage treatment plants		✓
4.4.16 Tall buildings (buildings over 30 feet)		✓
4.4.17 Premises with unapproved auxiliary supply		✓
4.4.18 Others (Specify)		✓

4.5 Does your water system provide a single service to premises with fire sprinkler systems?

TYPE	YES	NO
4.5.1 Commercial		✓
4.5.2 Residential		✓
4.5.3 Single Family		✓
4.5.4 Other (Specify type)		✓

5.0 Administrative authority

(This section to be completed by all water systems with 100 or more connections)

5.1 Does your water system have administrative authority to have a cross connection program? (ordinance power, restrictive covenants, etc.)

Yes ____ No ✓

(If yes, please attach a copy.)

5.2 Does your administrative authority include:

ADMINISTRATIVE AUTHORITY	YES	NO
Reference to WAC 246-290-490 ?		✓
The right to discontinue water service if the customer fails to cooperate in the installation, maintenance, testing, or inspection of backflow assemblies ?		✓
A statement that the installation or maintenance of any cross connection which would endanger the water quality of the public water supply is prohibited ?		✓
The authority to discontinue water service to any premises if an immediate hazard to health is caused by a cross connection ?		✓
A statement that furnishing water service to a premises is contingent upon a customer providing cross connection control approved by the appropriate health agency ?		✓
A statement that the water service to any premises with a private, unapproved water source shall be protected against backflow or the water source discontinued ?		✓

6.0 Cross Connection Control Operations Policy.

6.1 Does your water system have a standard operating policy for the cross connection control program ?

Yes ____ No ____ **If yes, please attach a copy.

6.2 Does your water system cross connection control program have detailed installation standards?

Yes ____ No ____

6.3 Does your water system cross connection control program have a backflow incident plan?

Yes ____ No ____ **If yes, please attach a copy.

7.0 Cross Connection Control Inspection Program

7.1 Does your water system cross connection control program actively inspect for actual or potential cross connections between the public water supply and non-potable substances.

Yes ____ No ____

7.2 Does the inspection program include:

7.2.1 Plan reviews to determine need for backflow protection on:

7.2.1.1 New construction?

Yes ____ No ____

7.2.1.2 Remodels? Yes ____ No ____

7.2.1.3 If yes, please provide information about the person conducting the review

Name _____ Title _____

7.2.2 Site inspections to assure that needed backflow protection is properly installed on:

7.2.2.1 New Construction? Yes ____ No ____

7.2.2.2 Remodels? Yes ____ No ____

7.2.2.3 Name of person conducting the inspection:

_____

Title: _____

Certification Number: _____

Other qualifications: _____

7.3 Does the inspection program include periodic re-inspection of existing high hazard premises?

Yes ____ No ____

8.0 Cross Connection Control Program Records System

8.1 Does the water system cross connection control program have a records system?

Yes ____ No ____

8.1.1 Who maintains the records? _____

8.1.2 Is this person Certified as a CCS 1? YES NO

8.1.3 Where are the records stored? _____

8.2 Does the records system consist of:

8.2.1 Computer files? Yes ____ No ____

8.2.2 Hard copy files? Yes ____ No ____

8.3 Do the files contain:

8.3.1 Correspondence? Yes ____ No ____

8.3.2 Copies of requirements from plan reviews for of backflow protection?

Yes ____ No ____

8.3.3 Backflow assembly information? Yes ____ No ____

9.0 Cross Connection Control Program Testing Requirements

9.1 Does the water system cross connection control program require that backflow assemblies be tested?

9.1.1 Initially after installation? Yes ____ No ____

9.1.2 At least annually? Yes ____ No ____

9.1.3 After each repair? Yes ____ No ____

9.1.4 If "NO" to any of above, please explain:

9.2 Does the water system cross connection control program periodically check on and monitor Backflow Assembly Testers working in the service area?

Yes ____ No ____

9.3 Does the water supply cross connection control program require annual verification of accuracy of testing equipment?

Yes ____ No ____

9.3.1 If "Yes", what is required for verification?

9.4 Does the water system cross connection control program follow up on reported failures of backflow assemblies and require corrective actions?

Yes ____ No ____

9.4.1 If "Yes", is this documented in the records system?

Yes ____ No ____

9.5 Does the water system cross connection control program require annual inspection of water trucks using fire hydrants in the service area?

Yes ____ No ____

Thank you for your cooperation in completing this survey form. If you have any questions concerning this survey, please call Jim Apperson at (206) 664-8096. Please complete this form and return it by April 4, 1994 to:

J.L. Apperson, P. E.
Washington State Department of Health
Drinking Water Division
P.O. Box 47822
Olympia, WA 98504-7822

LAKE LIMERICK COUNTRY CLUB, INC.
E 790 ST. ANDREWS DR.
SHELTON WA 98584

REEL 645 FROUT

597707

WATER USAGE GUIDELINE
Common To All Divisions

Lake Limerick Country Club is obligated to provide an unquestionable supply of water to the community, exclusively. The water system is managed by the Water Board Committee, and maintained by the Maintenance Department.

The intent of these Guidelines is to provide a uniform standard for Lake Limerick Country Club water users. Following these recommended items will reduce consumption and conserve our water.

Water distributed shall be used in the manner set forth in these guidelines.

Specifically:

1. Water should not be allowed to run in a manner that is wasteful. Letting water run unattended for a extended period is considered wasteful. Ponds, waterfalls, fountains should use pumps, recycling the water. Continual supply of fresh water is prohibited. Replenishing evaporated water is acceptable.

Lawns, flower beds, and gardens need short periods of watering, one hour at the most two or three times a week.

2. Water is provided at two designated commercial sites. Water provided to these sites may be metered and appropriate rate charges can be adopted. The Water Board shall have the authority to make a final determination.

3. Residences that are left for an extended period of time, such as weekenders, owners spending extended time away, it would be advisable for you to shut off the water when the house is not occupied. Water shut off could be at your house valve or at the street entry valve. Draining the house piping, and turning off power or gas to the water heater would prevent any damage from failed plumbing, or winter freeze up, when the owners are not present.

4. No owner shall be allowed to install or have a previously installed irrigation system, for garden, lawn, flower beds, with out a back flow protection device, between the irrigation system and the Lake Limerick water distribution system. Not having a back flow prevention device is illegal, (new State Law; "WAC 246-290-490" Drinking Water Regulations). Owners will be subject to inspections, and if not in compliance water service may be refused.

5. Water conservation practices should be used by all owners. Flow reducing shower heads, low flow toilets, etc. Intelligent water usage, in gardens, flower beds and lawns, must be practiced by the community.

Wise usage of our water here at Lake Limerick must be done. Conserving our supply now will insure adequate water for all.

RECORDED 7.00 FILED
REEL 645 FRAME 027
AUDITOR MASON COUNTY
ALLAN T. BROTCHE

Approved by the Water Committee October 5, 1994

Kirk Osborne, Chairperson — Date 10/19/94

94 OCT 27 AM 9:52
REQUEST OF:
LK. Lim

STATE OF WASHINGTON)
County of Mason) ss.

ON THIS 18th day of OCTOBER, 1994, personally appeared KIRK OSBORNE personally known by me to be the Chairman of LAKE LIMERICK COUNTRY CLUB WATER SYSTEM, INC. the corporation that executed the within and foregoing Document and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument.

WITNESS my hand and official seal the day and year first above written.

Suzanne Sirokman 10/19/94
Suzanne Sirokman
NOTARY PUBLIC in and for the State of Washington, residing at Shelton
My commission expires:06/05/98