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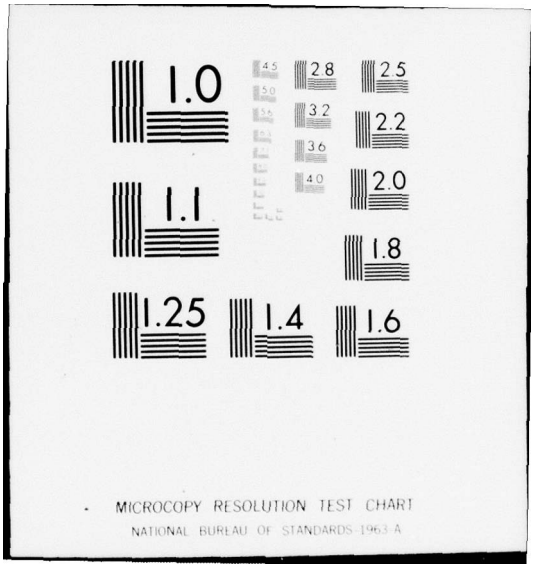
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COMMENTS APPENDIX

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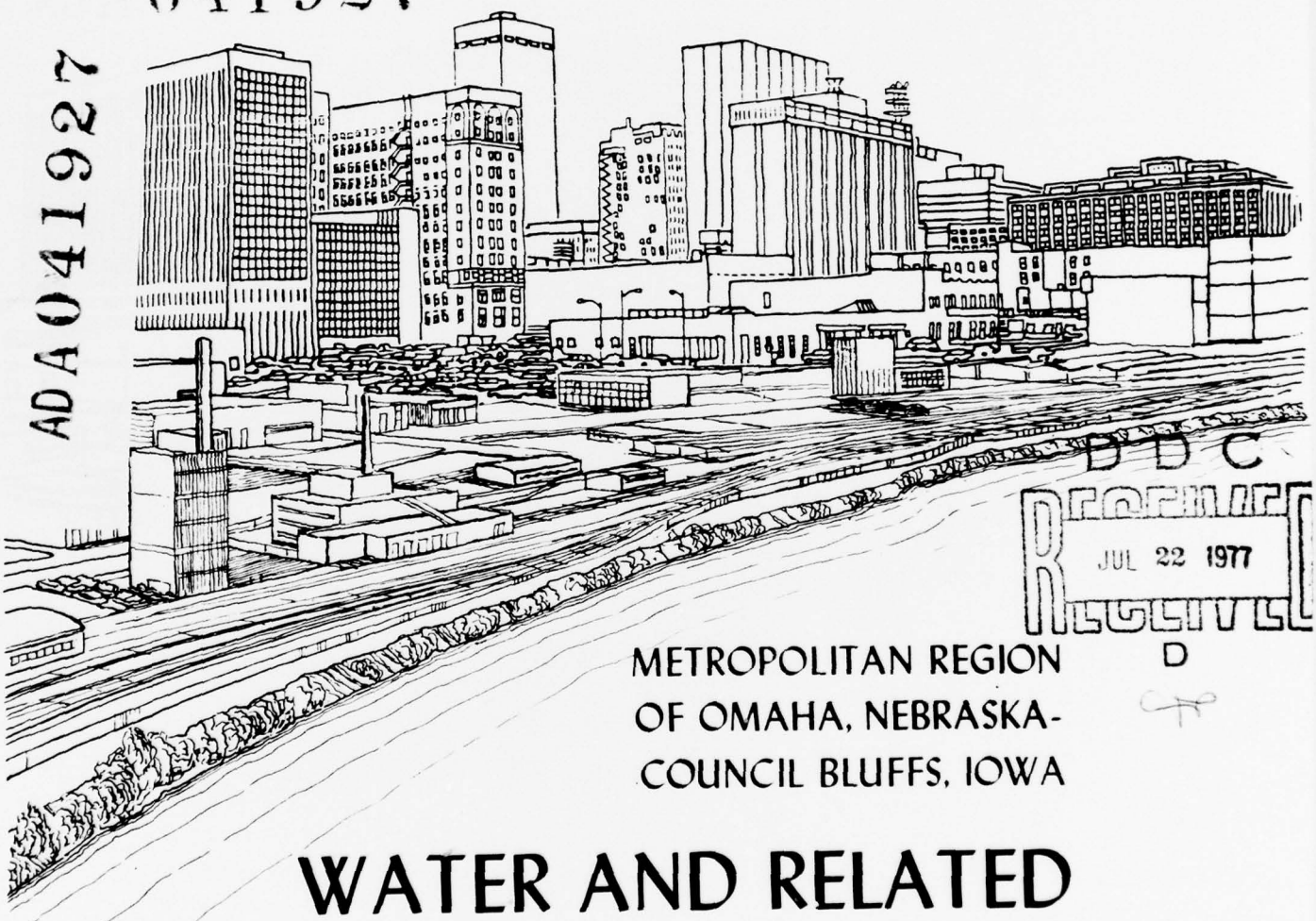

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COUNCIL BLUFFS, IOWA

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WATER AND RELATED LAND RESOURCES MANAGEMENT STUDY.

Volume IV. Comments Appendix.

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REVIEW REPORT FOR
METROPOLITAN OMAHA, NEBRASKA
COUNCIL BLUFFS, IOWA
WATER AND RELATED LAND
RESOURCES MANAGEMENT STUDY

Volume IV Comments

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SECTION B	SUMMARY OF COMMENTS
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PREPARED BY THE

OMAHA DISTRICT CORPS OF ENGINEERS

DEPARTMENT OF THE ARMY

SECTION A

INTRODUCTION

INTRODUCTION

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SECTION A

INTRODUCTION

1. Agencies at all levels of government were involved in the Metropolitan Omaha, Nebraska-Council Bluffs, Iowa Water and Related Land Resources Management Study throughout the entire study period. As study material became available in printed form, copies were submitted to appropriate interested agencies for review and comment. This appendix summarizes the comments made by these agencies as they reviewed the input to the study.

2. The material reviewed makes up a major portion of the Supporting Technical Reports Appendix. Also reviewed were information-type volumes printed to inform the agencies and the general public of study progress and findings.

3. The following section of this appendix presents brief summaries of the comments from many of the agencies involved in reviewing the study effort. Comments that were addressed in subsequent work on the study are included in the summaries of the letters received from the agencies commenting on the study.

4. Excellent comments were received from all submitting agencies. The Corps of Engineers gratefully acknowledges the contributions made by the participating agencies.

SECTION B

SUMMARY OF COMMENTS

SUMMARY OF COMMENTS

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SECTION B

SUMMARY OF COMMENTS

Federal Agencies

ENVIRONMENTAL PROTECTION AGENCY (EPA)

1. Coordination has been maintained with EPA throughout the study effort. The EPA was a member of the Interagency Coordinating Committee and provided guidance on the wastewater management studies. Correspondence with EPA is presented in exhibits C-1 through C-7. Following is a summary of some of the letters.

EXHIBIT C-1 DATED 3 DECEMBER 1973

2. EPA stated that the revised wastewater management annex and wastewater study approach are satisfactory to that agency. The agency also made several comments regarding study procedures for the Omaha infiltration/inflow analysis. These comments were accepted. The EPA indicated a willingness to work with the Corps on the wastewater problems in the Omaha Metropolitan area.

EXHIBIT C-2 DATED 26 FEBRUARY 1974

3. The EPA indicated that it had reviewed the scopes of work for the two wastewater management studies. The agency indicated that the studies would assist the Metropolitan Omaha - Council Bluffs area in conforming to the goals and objectives of PL 92-500, particularly Sections 201, 208, and 301.

EXHIBIT C-3 DATED 25 JUNE 1974

4. The EPA reviewed the Phase I report - Alternative Plans for Abatement of Pollution from Combined Sewer Overflows - Omaha which was prepared by Harza Engineering Company. The agency noted that the report outlined several viable alternatives for eliminating the overflows. The agency desired some work on environmental evaluation. This comment was accepted and responded to in later study efforts. The agency felt that one of the alternatives, system attenuation, would not meet the requirements when used alone. The EPA expressed concern about public involvement aspects.

EXHIBIT C-4 DATED 9 DECEMBER 1974

5. The EPA reviewed the final report by Harza Engineering Company and restated its concern about the environmental evaluation. The evaluation was being performed at that time by the regional wastewater management consultant and the Omaha District staff. The EPA stated its position on the degree of treatment required for the overflows. This position was based on EPA's Water Quality Strategy Paper dated 15 March 1974. The agency stated that it anticipates the recommended treatment level would require only the minimal treatment necessary to meet water quality standards in the receiving stream. This comment was accepted and was addressed in the water quality modeling work by the regional wastewater management consultant. An additional alternative, labeled New Alternative 1, was added to evaluate this minimum degree of treatment objective.

EXHIBIT C-5 DATED 8 JANUARY 1975

6. EPA reviewed the Phase I report on regional wastewater management prepared by Havens and Emerson, Ltd. The agency recommended that in Phase II, additional work should be focused on evaluating potential environmental impacts of the alternatives. This comment was incorporated by altering the Phase II scope of work and by including efforts of the Omaha District staff. The EPA also felt that the report was weak on institutional arrangements. This comment was acknowledged and subsequent work was done by the Omaha District staff to expand that portion of the wastewater management studies. (See Volume III - Annex B and Volume VIII).

7. Of the alternative plans presented in the Phase I report, EPA favored Plans I, II, VII, and VIII for further evaluation in Phase II. Plans I, II, and VII were retained. Plan VII was also combined with Plan VIII to form an all-land treatment plan.

8. To determine the effectiveness of the land treatment alternatives, EPA suggested evaluation of the water quality of the Missouri River to determine the effects of the discharges from the major treatment facilities on the river. This comment was accepted and included in the revised Phase II scope of work. EPA concurred with the consultant's conclusion that it is more cost-effective to handle stormwater treatment near the points of origin rather than to convey the stormwater to central locations for treatment and discharge. All reviewing agencies did not favor the conveyance approach and, consequently, this alternative was rejected.

9. All agencies on the coordination team were asked to respond to a series of planning questions. These planning questions are presented as exhibit D-1. The responses of EPA are contained in the 8 January 1975 letter.

EXHIBIT C-6 DATED 10 FEBRUARY 1975

10. This letter was in response to a letter from the Corps to EPA asking for input on what additional work would be required on the Corps' study in order to bring it up to Section 208 requirements. Also, guidance was requested in the Corps' letter on the requirements for facilities planning (Sec. 201) for the Omaha-Missouri River sewage treatment plant. The comments received from EPA were addressed in subsequent study by the Corps.

EXHIBIT C-7 DATED 2 APRIL 1975

11. EPA provided comments and guidance on the regional water supply study prepared by Henningson, Durham & Richardson, Inc. The main comment provided was an opinion that EPA would be able to authorize the partial or total discharge of unaltered silt-type sludges, thus indicating that the national policy does not constitute an absolute prohibition of this type of sludge return to the receiving stream, but a matter of regional determination. The water supply studies include costs for lagooning or diverting these sludges. The above EPA comments, if applicable, would cause some reduction in plan costs and would make surface water preferable to ground water for some supplies developed along the Missouri River. Sludges from treatment processes must meet effluent limitations of 30-45 mg/l for suspended solids according to EPA comment. The costs for these facilities have been included in the water supply plan costs.

BUREAU OF OUTDOOR RECREATION (BOR)

12. The Bureau of Outdoor Recreation took an active part in the Omaha Urban Study. Through an interagency agreement, the BOR prepared one volume of the Supporting Technical Reports Appendix entitled Single-Purpose Leisure-Time Activities. The purpose of the BOR's study was to coordinate and integrate the outdoor leisure-time plans and projects of Federal, State, regional, county, and city governments within the urban study area.

EXHIBIT C-8 DATED 20 FEBRUARY 1975

13. In this letter, BOR commented on the January 1975 Information Booklet. BOR commented that a statement made in the booklet referring to an over-use definition when recreation visits exceed 500 per acre per year was too general. According to BOR, over-use should be defined on the basis of specific activities. This comment was accepted and the general numerical designation for over-use was excluded from further reports.

14. In response to public involvement questions at the end of the booklet, BOR stated that streams and rivers should not be used as part of the sewage treatment process and that the possibility of using recycled waters from waste treatment facilities for recreation enhancement should be explored. Because of the lack of an apparent need for this high level of treatment to protect water quality, this comment was given only partial consideration.

15. BOR suggested that flowing streams and natural areas should be set aside so they are not lost for future development. The agency also noted that flood plains in or near the metropolitan area could serve as the focal point for open space, green belts,

and other recreation areas. The above areas are included in the Platte-Elkhorn, Missouri River, and Papillion Creek recreation plans incorporated into the Omaha Study.

U. S. FISH AND WILDLIFE SERVICE

16. The Corps of Engineers requested that the U. S. Fish and Wildlife Service conduct some special work to assess fish and wildlife implications of the Omaha Urban Study. The Fish and Wildlife Service chose to present its findings in a letter to the Corps dated 1 May 1975.

EXHIBIT C-9 DATED 1 MAY 1975

17. Although the Fish and Wildlife Service did not perform all of the tasks that were requested of them by the Corps of Engineers, they did provide information which was useful in the Corps' analysis of the impacts of various plans on fish and wildlife. The majority of the comments were acknowledged and used in the effect assessment studies.

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE (USDA-SCS)

18. The USDA-SCS was on the mailing list to receive copies of the Plan of Study, Phase I Summary - Phase II Program, and the January 1975 Information Booklet for review. The Corps received letters from the Nebraska and Iowa offices of the USDA-SCS and they are reproduced as exhibits C-10 and C-11. Both offices noted that the Phase I Summary - Phase II Program report was well written and to the best of their knowledge covered the areas of land and

water resources for the study area very well. There were a few minor comments from the office in Des Moines, Iowa which were acknowledged in the Phase II studies.

State Agencies

STATE OF NEBRASKA - NATURAL RESOURCES COMMISSION (NRC)

19. The Natural Resources Commission was a member of the Interagency Coordinating Committee and was also one of the agencies selected to review urban study reports that were released for comment. Exhibits C-12 through C-20 are reproductions of the Natural Resources Commission correspondence.

EXHIBIT C-12 DATED 4 JANUARY 1974

20. The Nebraska NRC commented on the Phase I Summary - Phase II Program report. The agency complimented the Corps on its comprehensive approach to water related concerns. Concern was expressed, however, that the Corps' planning efforts showed a tendency to confirm existing development patterns rather than examining alternative patterns of development. The NRC suggested that at least two growth alternatives should be considered: (1) a continuation of the existing development and (2) a growth pattern which puts emphasis on maximization of services and life quality for the residents of the planning area. The agency felt that once these alternatives were identified, a comparison of the costs and benefits between the two development alternatives would allow an informed

public to make rational decisions on the planning alternatives. The use of alternative futures in the Omaha study responds to the above comments.

EXHIBIT C-13 DATED 18 JANUARY 1974

21. The NRC reviewed the scope of work for Formulation of Alternative Regional Wastewater Management Systems, Formulation of Alternatives Within the Omaha - Missouri River Sewerage System, and Scope of Work for Consideration of Land Disposal. The agency observed that too much emphasis was being placed on treatment methods and felt that more emphasis should be placed in exploring the levels of treatment; i.e., primary, secondary, tertiary (suitable for reuse), or no discharge. This comment was accepted and incorporated into the consultant's work efforts. The NRC also noted that the scope of work for consideration of the land disposal alternative was excellent.

EXHIBIT C-14 DATED 14 NOVEMBER 1974

22. The Nebraska NRC reviewed Phase I of the regional wastewater management studies. Comments were mainly of a minor or technical nature and were accounted for with minor corrections. The agency commented that the Corps had developed a fine approach to integrating alternative plans with different growth possibilities and with different effluent requirements. The NRC agreed that Phase II efforts should be directed to some immediate waste management problems as well as to refining selected Phase I alternatives.

EXHIBIT C-16 DATED 5 DECEMBER 1974

23. The NRC reviewed the Interim Report on Regional Water Supply. No specific comments were made but interest was expressed in the data on water conservation, water pricing, and dual water systems.

EXHIBIT C-17 DATED 12 DECEMBER 1974

24. The Nebraska NRC responded to planning questions which were sent to all members of the Interagency Coordinating Committee. The questions were drafted in order to obtain the thoughts and opinions of each of the members. The questions are presented as exhibit D-1.

EXHIBIT C-18 DATED 5 FEBRUARY 1975

25. The NRC reviewed the January 1975 Information Booklet. Several minor comments involved proper terminology. These were accepted and corrected in subsequent reports. The agency indicated that the discussion of rural water supply systems should include the additional generation of wastewater. Treatment of the wastewaters (water treatment sludges) from the water treatment plants is included and costed in the water supply plans.

26. The NRC indicated that one of the higher density growth patterns (Concept B or C) should be the goal; however, the agency favored regionalization of the sewerage system shown in Plan I. The agency also stated that the water and sewer system should be used to control growth but that such systems alone could not control growth. The NRC went on to state that water supply demands should be reduced and flood plains zoned. These comments were accepted as part of the public involvement preference for study alternatives.

EXHIBIT C-19 DATED 12 JUNE 1975

27. This letter from the Natural Resources Commission stated that the Commission had decided to "consult all aspects of the concept of land application of wastewater effluents, promote awareness of

the concept throughout the state, and cooperate fully with the Corps of Engineers and others interested in this concept".

EXHIBIT C-20 DATED 3 SEPTEMBER 1975

28. The NRC reviewed the alternatives for the Big Papillion Creek portion of the Papillion Creek and Tributaries Lakes, Nebraska Project. Although the Commission did not choose among the alternatives, the executive secretary stated he hoped the project could move ahead and that Dam 3-A could become a reality.

STATE OF NEBRASKA - DEPARTMENT OF ENVIRONMENTAL CONTROL (DEC)

29. The Department of Environmental Control is a member of the Interagency Coordinating Committee. The DEC also received copies of various planning reports for review and comment. Comments received from the DEC are reproduced as exhibits C-21 through C-25.

EXHIBIT C-21 DATED 2 NOVEMBER 1973

30. The DEC reviewed the Phase I Summary - Phase II Program report. The agency provided some guidance on PL 92-500, particularly relating to cost-effectiveness, noting a lack of such discussion in the report. The DEC suggested consideration of altering the rate structure as a method to reduce water supply demands.

31. The agency felt that the report's comments (page 70) relating the impact of water resources planning to solving other community needs did not do justice to the role of conservation of water and water resources planning. The DEC stated that water resource planning related to: (1) housing -- flood plain zoning, planned

communities, floods; (2) transportation -- community location (water oriented) and mass transit systems to reduce energy consumption; (3) air quality -- industrial situation, reduction of automobile fumes through mass transit; (4) economic development -- based on community location and resource utilization; and (5) community services -- planned communities would or could circumvent express uses of water sources and energy. The comments were addressed by expanding the role of alternative futures in the plan formulation process.

EXHIBIT C-22 DATED 23 JANUARY 1974

32. The Nebraska DEC reviewed the scope of work for the regional wastewater management and the Omaha - Missouri River sewerage system studies. The comments were mainly of a technical and informational assistance nature. All comments were accommodated in the wastewater management studies.

EXHIBIT C-23 DATED 15 JULY 1974

33. The DEC reviewed the report, Alternative Plans for Abatement of Pollution from Combined Sewer Overflows. The agency stated that Alternatives 2, 4A, and 4B appeared most feasible from a cost-effective aspect.

EXHIBIT C-24 DATED 7 AUGUST 1974

34. The Nebraska DEC reviewed the Interim Report on Regional Water Supply. The agency felt the report to be comprehensive in scope and depth and that it should be very beneficial for the Omaha, Lincoln, and Council Bluffs areas.

EXHIBIT C-25 DATED 13 FEBRUARY 1975

35. The Nebraska DEC commented on the January 1975 Information Booklet. The agency considered the rural water systems to be excellent in concept but cautioned that management of the system would have to be strict to avoid urban sprawl implications. This fact was recognized in the evaluation of the water supply plans. Several other comments were made, mainly of an informational type. The majority of these comments were integrated into the draft study report.

36. In response to public involvement questions at the back of the Information Booklet, the agency favored:

- Alternative Growth Concept B.

- Use of the water, sewer, and other utility systems to guide a desirable growth pattern.

- Concentrated efforts to reduce water supply demands.

- Expansion of recreation facilities on the flood plains and steep bluffs with more nature study facilities with emphasis on relaxation.

- State control of flood plain activities with delegation of responsibility to local entities of government.

STATE OF IOWA - DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)

37. The Iowa DEQ was a member of the Interagency Coordinating Committee. The DEQ also received copies of various planning reports. Exhibit C-26 is a copy of the letter received from the Iowa DEQ which requested that the Corps coordinate with the State agencies responsible for planning, funding, and enforcing wastewater management programs within the State. The inclusion of the Iowa DEQ in the Interagency Coordinating Committee provided an opportunity for this coordination.

Regional Agencies

METROPOLITAN AREA PLANNING AGENCY (MAPA)

38. MAPA was quite involved in planning in the urban study area since six of the seven counties are members of MAPA. This agency provided input to the study through reports it had previously prepared, as a member of the Interagency Coordinating Committee, and through the review of reports. Exhibits C-27 and C-29 are reproductions of letters received from MAPA.

EXHIBIT C-27 DATED 24 DECEMBER 1974

39. MAPA reviewed the Harza Engineering Company report, Abatement of Pollution from Combined Sewer Overflows. The agency agreed

to the elimination of sewer separation as a viable alternative. In this letter, MAPA strongly expressed the need for treatment of stormwater. Retention of stormwater treatment in the final plans responds to MAPA's concerns.

40. The agency favored Alternatives 2, 4A, and 4B as those deserving most serious consideration. MAPA commented that the construction of deep tunnels in the Mississippi limestones and dolomites warrants a thorough geological investigation to properly assess potential construction and aquifer contamination hazards. This was also commented on by in-house forces and is included in the effect assessment of the alternatives.

41. MAPA also responded to the planning questions in the letter dated 24 December 1974.

EXHIBIT C-28 DATED 24 DECEMBER 1974

42. MAPA reviewed the Interim Report, Regional Water Supply Study. The agency commented on the lack of discussion relating to the political and legal structure of water service to Iowa counties. This comment was addressed in the institutional analysis studies. MAPA noted that the report was quite comprehensive and that it revealed a number of surprising facts which are critical to future water supply planning.

EXHIBIT C-29 DATED 29 APRIL 1975

43. MAPA wanted to become more involved with the Corps' wastewater management study since it was considering seeking Section 208 (PL 92-500) designation for a portion or all of the urban study area. In the 29 April 1975 letter, MAPA requested assistance from

the Corps to help pursue this action and to coordinate any future work. Also inclosed with the letter was an outline of the steps MAPA would follow in applying for Section 208 designation.

44. During the Interagency Committee meeting of 11 June 1975, the subject of designating an agency to do Section 208 work was discussed. It was decided at that time that no agency would seek designation; consequently MAPA deferred its plans to apply for designation.

PAPIO NATURAL RESOURCES DISTRICT

45. The Papio Natural Resources District (Papio NRD) was a member of the Interagency Coordinating Committee. The Papio NRD was also on the mailing list to receive and review output from the study. The comments received from the Papio NRD are reproduced as exhibits C-30 through C-32.

EXHIBIT C-31 DATED 27 NOVEMBER 1973

46. The Papio NRD reviewed the Phase I Summary - Phase II Program Report. Most of the comments were of an informational nature. The agency requested that the urban study develop flood plain information data along the Missouri, Platte, and Elkhorn Rivers. The Corps of Engineers was performing a floodway study along the Missouri River, and such information would be made available to the NRD. Flood plain information studies cannot be performed with urban study money and hence could not be accomplished for the Platte and Elkhorn Rivers as per the District's request.

EXHIBIT C-32 DATED 6 DECEMBER 1974

47. The Papio NRD reviewed the Interim Report on Regional Water Supply. The agency requested a comparison of 1973 and 1974 water usage figures to illustrate the effect of the 1974 drought. This was performed in the consultant's final report. The NRD suggested that more discussion be given to the establishment of Improvement Project Areas by the Districts that are empowered to develop and manage rural water systems. This discussion was provided in the institutional analysis study and in the implementation discussion in the Water Supply Plan Formulation Annex.

UPPER BIG BLUE NATURAL RESOURCES DISTRICT

48. The Upper Big Blue Natural Resources District became interested in the wastewater management portion of the urban study when the land treatment of wastewater in the Big Blue River basin was considered for Omaha wastewater. Exhibit C-33 is a letter from the District sent 5 June 1975 after District representatives attended some of the public meetings and investigated the land treatment of wastewater.

49. In the 5 July 1975 letter, the District formally recognized the apparent merits of the concept of land irrigation with treated wastewater and accordingly endorsed the Corps' study. The District stated it would encourage more detailed investigation into applying such a technique in the Upper Big Blue River basin and in all other areas where land treatment is technically and economically feasible. The District supported the idea of demonstration projects in its area. These comments are recognized in the draft study report.

METROPOLITAN UTILITIES DISTRICT (MUD)

50. The Metropolitan Utilities District was a member of the Interagency Coordinating Committee. The District's main input to the study was in water supply planning since MUD is the main purveyor of water in the Omaha metropolitan area. A letter dated 13 March 1975 with comments on the water supply study is reproduced as exhibit C-34.

51. MUD reviewed the final report on Regional Water Supply. The District disagreed with the consultant's contention that industrial water costs are partially subsidized by nonindustrial customers. According to the District's studies, this contention cannot be supported. Further discussion of inequities in pricing was excluded from the final draft study report. MUD also felt that individual metering in apartments and mobile home parks would not produce any reduction in water usage and that plumbing repairs are probably more apt to be made if the management is responsible for the water bills than if the tenants pay the bills. Individual metering was excluded as a viable water reduction measure. MUD also commented on water price elasticity stating that a 25-percent rate increase in 1969 failed to produce a change in water usage. The consultant suggested a 50-percent price increase; however, this was excluded because of adverse effects on real income.

52. Selective industrial development promotion was not endorsed by MUD as a means to reduce regional water use. The District stated that agri-business is predominant in Nebraska and that its goal should be to support it in every way possible. Industrail development promotion was not given additional consideration because of the above comment and other potential adverse public reaction.

County Agencies

SARPY COUNTY BOARD OF COMMISSIONERS

53. The Sarpy County Board of Commissioners became involved in the flood control portion of the study pertaining to the Papillion Creek and Tributaries project. Sarpy County would be directly affected by any flooding of the Papillion Creek system since all of the branches eventually flow through the county. Exhibits C-35 and C-36 are two letters the Corps received from the Board with comments on the findings of the flood control studies. These two letters are in favor of the Papio dams. Many other letters, pro and con, from interested agencies and individuals were received during the study.

HARRISON COUNTY SOIL CONSERVATION DISTRICT

54. The Harrison County Soil Conservation District Commissioners apparently learned of the Corps' Urban Study by attending a public meeting held in Missouri Valley early in the study. Exhibit C-37 is a letter expressing the District's interest in the study.

Local Agencies

CITY OF OMAHA, NEBRASKA

55. The city of Omaha was a member of the Interagency Coordinating Committee. The city of Omaha Public Works Department also worked with the Corps of Engineers on the infiltration/inflow analysis for the Omaha-Missouri River sewerage system. Reproductions of comments received from the city of Omaha are presented as exhibits C-38 through C-40.

EXHIBIT C-38 DATED 1 JULY 1974

56. The city reviewed the Phase I Report - Alternative Plans for Abatement of Pollution. The city expressed concern over open storage of the overflow, citing adverse public reaction. The potential for odor is acknowledged in the evaluation of the alternatives. The city suggested that the deep tunnel be made wider and used for in-line storage, thereby indicating its support of a below-ground alternative such as Alternative 5A. The remainder of the comments pertained to specific questions or study activities.

EXHIBIT C-39 DATED 30 DECEMBER 1974

57. The city of Omaha responded to planning questions developed by the Corps. The questions are reproduced as exhibit D-1.

EXHIBIT C-40 DATED 4 APRIL 1974

58. This letter contains comments from the city of Omaha which are in response to a review of the infiltration/inflow analysis report prepared by the Corps. Appropriate changes were made in the report.

CITY OF COUNCIL BLUFFS, IOWA

59. The city of Council Bluffs was a member of the Interagency Coordinating Committee. Comments were received from the city of Council Bluffs and are reproduced as exhibit C-41. The city reviewed Alternative Plans for Abatement of Pollution from Combined Sewer Overflows for the city of Omaha. The comments were written by the mayor in which she found alternatives 4A and 4B completely unacceptable based on potential odor problems. This comment is acknowledged in the evaluation of the alternatives.

CITY OF BELLEVUE, NEBRASKA

60. The city of Bellevue was a member of the Interagency Coordinating Committee. The city responded to the planning questions developed by the Corps. The questions are reproduced as exhibit D-1 and the letter is reproduced as exhibit C-42.

VILLAGE OF BOYS TOWN, NEBRASKA

61. The wastewater management study conducted as part of the urban study recommended that a demonstration project for land treatment be undertaken. Exhibit C-43 is a letter from Boys Town requesting the Corps of Engineers to study its property for such a project. The final report by the wastewater management consultant included the recommendation for such a project at a Boys Town site.

OTHER MUNICIPALITIES AND INTERESTED CITIZENS

62. Comments from interested citizens, as well as governmental agencies, were received on the Papillion Creek and Tributaries

Project. Since this was a controversial topic in Washington, Douglas, and Sarpy Counties, many comments were received which were either for or against the construction of the dams proposed. Due to the large number of letters received, they have not been reproduced as part of this appendix. Copies of the letters are retained with the transcript of the 25 June 1975 public meeting on the Papillion Creek and Tributaries Project, which is on file at the Omaha District Office of the Corps of Engineers.

SECTION C

PERTINENT CORRESPONDENCE

PERTINENT CORRESPONDENCE

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE - ROOM 249
KANSAS CITY, MISSOURI 64108

December 3, 1973

Colonel Alfred L. Griebling
District Engineer, Omaha District
U.S. Army Corps of Engineers
215 North 17th Street
Omaha, Nebraska 68102

Dear Colonel Griebling:

We have reviewed the revised Wastewater Management Annex to the Plan of Study for the Metropolitan Omaha, Nebraska-Council Bluffs, Iowa Study, dated November 13, 1973, and feel the approach being taken on this study is satisfactory to the Environmental Protection Agency. The respective cities should be responsible for submittal of their 201 Facility Plans as this insures participation in the planning of the wastewater treatment facility which the local government will construct and operate.

The Wastewater Management Annex now includes all items which are currently under consideration as requirements by EPA. Some supplemental work may be needed, in addition to your study as currently planned, if the final regulations adopted by EPA change from the proposed regulations under consideration.

Our review comments with respect to the Wastewater Annex are as follows:

1. Consideration should be given to including State Pollution Control agency representation on the coordination team for the project as outlined in Paragraph b, Page A-14, since the States have responsibility for Water Quality Standards.

2. On Page A-4, Item 2, wording of this paragraph should be changed to indicate the City of Omaha will submit the 201 Facility Plan necessary to meet requirements of secondary treatment by the 1975 date. The infiltration-inflow analysis data, compiled as part of your study, can be used as part of the City's 201 Facility Plan. This point was clearly stated in your letter of November 13, 1973.

3. On Page A-8, Paragraph (g), this study should go to the depth necessary to identify the design parameters for each facility proposed and clearly define the type of treatment plant to be designed. It should be of the same level of detail as the

EXHIBIT C-1

preliminary engineering reports currently submitted to us by most consulting engineering firms as part of a construction grant application (Step 1 grant output).

We have also reviewed the Detailed Description - Scope of Work for compliance with infiltration-inflow analysis requirements. It appears this scope generally satisfies the requirements of an infiltration-inflow analysis with the following exceptions (numbers refer to Detailed Description - Scope of Work):

1. It should be clarified that the analysis will contain a general discussion of each sewer system including age, length, size, type, materials of construction and known physical condition. Appropriate maps which show the limits of each system, areas served by combined and separate sewers, all bypasses and overflows, any known major sources of inflow and areas subject to sewer system surcharging, should be included.

2. Part I, A.3. and A.10. The total flow rate in the sewer system would be the total flow to the treatment plant plus the total of flows from bypasses and overflows. Likewise, the total flow for a portion of the system would equal measured flows at key points plus flow from bypasses and overflows above the key point. Each bypass and overflow should be identified by location, cause, duration, frequency, flow rate, and method of discharge from the system.

3. It was noted that the proposed economic analysis would be made using 50-year planning periods. This is satisfactory when each alternative has an expected life of about 50 years. However, when considering sewage treatment, it would seem to be more appropriate to use a period approximating the expected life of the treatment facilities. EPA proposed guidelines for cost-effectiveness analysis (for treatment works) specify that the planning period for an analysis shall be 20 years.

4. Part I, B. In the economic analysis, the cost for eliminating infiltration/inflow should include the cost of the sewer system evaluation survey. The cost of treating infiltration/inflow should include the increased initial cost of providing additional transport and treatment capacity plus the present worth of the additional operation and maintenance costs during the study period.

5. Part I, E. Where costs of correcting existing sewer system malfunctions or deficiencies can be reduced if infiltration/inflow is reduced, the savings should be considered in the economic analysis.

6. Part II, A.6.a. Total flows should include flows from all overflows and bypasses in addition to flows to the treatment plant; refer to comment 2.

7. Part II, A.6.g. and A.6.h. The procedure outlined here would not be an acceptable method for determining quantities of bypassed flows and overflows. This would essentially involve solving for two unknowns with one equation. Flow from overflows and bypasses is part of the "total flow" and should be estimated or measured.

8. Part II, B.4. Should this not be "high" rather than "low" groundwater conditions?

9. Part II, C.7. Refer to comments 3 and 4.

10. Previous comments concerning the method of determining total flows and economics apply to Part III when appropriate.

We will work with you on this study which will be a first step in solving the long-term water pollution problems in the Omaha Metropolitan area. Please contact us if further questions arise regarding this study.

Very truly yours,

Jerome H. Svore

Jerome H. Svore
Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE – ROOM 249
KANSAS CITY, MISSOURI 64108

February 26, 1974

Alfred L. Griebling
Colonel, Corps of Engineers
District Engineer
Department of the Army
6014 U.S. Post Office and Court House
Omaha, Nebraska 68102

Dear Colonel Griebling:

We have reviewed the two draft scopes of work for the wastewater management portion of the Metropolitan Omaha, Nebraska-Council Bluffs, Iowa study submitted with your letter dated January 31, 1974.

These studies will assist the Metropolitan Omaha-Council Bluffs area in conforming to the goals and objectives of The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), particularly elements contained in Sections 201, 208 and 301. We have no further comments at this time.

Very truly yours,

for Charles V. Wright
Jerome H. Svore
Regional Administrator

EXHIBIT C-2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE – ROOM 249
KANSAS CITY, MISSOURI 64108

June 25, 1974

Mr. C. F. Thomas, Chief
Planning Division
Omaha District, Corps of Engineers
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102

Re: Omaha-Council Bluffs Urban Study

Dear Mr. Thomas:

We have reviewed the Phase I Report - Alternative Plans for Abatement of Pollution from Combined Sewer Overflows - Omaha, Nebraska developed by Harza Engineering. The report is well written and outlines several viable alternatives which will meet the objectives of eliminating combined sewerage by-passing to the Missouri River.

Our comments on the report for your consideration are:

1. We would suggest more work be done on an environmental evaluation of each alternative. Chapters 11 and 13 of the Draft Guidelines for Areawide Waste Treatment Management can be used as a guide for added items which may be considered. A copy is enclosed for your use.

2. Page 3 of the summary letter comments that industrial developments be required to provide their own treatment facilities. EPA does not agree with this, and we encourage industries to discharge their wastes to municipal systems. It would also be more practical for the city to regulate the land use or encourage industry to use water conservation techniques which would be within the capacity of the sewerage system.

3. We do not believe that system attenuation alone will meet the requirements. This could be used as part of another concept to reduce some of the peak flows and, as such, to reduce the size of other needed facilities.

4. There should be some mention in the report of the fact the combined sewer problems of Council Bluffs could fit into a single overall regional program.

EXHIBIT C-3

5. We are quite concerned about the public involvement aspects of the program. It is our understanding the Harza report will be used by the City of Omaha as part of the facilities plan which will be submitted to EPA to obtain funds to construct the necessary treatment facilities. This should be discussed with the City of Omaha so the public involvement aspects would meet the EPA 201 requirements.

Sincerely yours,

Charles H. Hajinian, Chief
Program Planning and Analysis Branch

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE – ROOM 249
KANSAS CITY, MISSOURI 64108

December 9, 1974

Mr. C. F. Thomas, Chief
Planning Division, Omaha District
Corps of Engineers
6014 U.S. Post Office & Courthouse
Omaha, Nebraska 68102

Attn: Mr. Don Kisicki

Dear Mr. Thomas:

We have reviewed the report entitled "Alternative Plans for Abatement of Pollution from Combined Sewer Overflows, Omaha, Nebraska" which was developed by Harza Engineering as part of the Omaha Urban Studies Program. This report is weak in that the alternatives discussed did not go into much greater detail than the preliminary report which was prepared earlier.

The report is deficient as it did not provide an environmental evaluation of the alternatives. The environmental evaluation should consist of:

1. An evaluation of the environmental effects of the combined sewage overflow on the Missouri River.

2. An assessment of surface excavation and ground level storage reservoirs with respect to green belt areas, wetlands, flooding problems, further restrictions of the Missouri River, and recreational effects.

3. An assessment of ground water contamination from subsurface excavation and deep tunnel storage of the combined sewer overflows.

If the public is to participate in the planning process, this type of information should be available as part of the decision making as well as the engineering data that is presented.

EXHIBIT C-4

The question of the degree of treatment for the combined sewer overflows prior to discharge to the Missouri River has been discussed. EPA policy on this matter is outlined in pages 45,46,47 of the Water Quality Strategy Paper, Second Edition, dated March 15, 1974. The strategy paper states that correction of overflow problems will be defined in terms of applicable water quality standards of 1977 and the fishable/swimmable standards of 1983. It states further that discharge permits will require the municipalities to monitor overflows, and within one to two years, develop a plan for their correction to meet water quality standards. Therefore, we would anticipate that the recommended treatment level should be based on the quality of the combined overflows and require only the minimal treatment necessary to meet the water quality standards in the receiving stream.

We agree with the conclusion of the consultant that the water quality impacts of the combined sewer overflows on the Missouri River must be determined and then treatment alternatives developed which would provide the necessary level of treatment to meet quality standards.

Thank you for allowing us to review this report and we hope these comments are helpful to you in your planning efforts.

Sincerely yours,

for Carl V. Blomgren
Director, Water Programs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE – ROOM 249
KANSAS CITY, MISSOURI 64108

January 8, 1975

Mr. C. F. Thomas, Chief
Planning Division
Omaha District, Corps of Engineers
Department of the Army
6014 U.S. Post Office & Courthouse
Omaha, Nebraska 68102

Dear Mr. Thomas:

We have reviewed the Phase I report of the Regional Wastewater Management Study prepared by Havens and Emerson. This report shows that considerable effort has been expended in outlining physical alternatives which could be applied toward solving wastewater problems. In Phase II, additional effort should be focused on evaluating potential environmental impacts of the various concepts and on how these concepts would be implemented.

We found the report very weak on institutional arrangements (Attachment D). This item will be very important, especially if land treatment alternatives are used, as management will be a key element in applying wastewaters to large areas of land. Specific institutional arrangements will be required to implement any land treatment scheme of the magnitude discussed in the report. We also note that the Environmental Protection Agency was not mentioned as one of the existing Federal agencies involved in wastewater management, Page D-3, even though this Agency has major programs in this field.

After reviewing the various alternatives presented, it appears that Plans I, II, VII, and VIII should be further evaluated in Phase II of the Study. To determine whether land treatment is cost effective, evaluations should also be made of the water quality of the Missouri River to determine the effects of the discharges from major treatment facilities on the River. Additional treatment beyond BPT may not be necessary to meet water quality standards.

We concur that the cost analysis indicates it is more cost effective to handle storm water treatment near the points of origin within the watershed rather than to convey this water to central locations for treatment and discharge.

EXHIBIT C-5

We note that the population projections used correlate closely with the MAPA 3(c) study. These figures are considerably higher than the OBERS series "E" projections published recently. Consequently, the waste projections and industrial projections may be too high.

In Attachment "B" of Volume III, Page B-6, reference is made to Federal actions which have resulted in plant closings or phase-outs in the areas of plastic and glue products, chemical compounds, and foundries. These actions should be documented as we have no records of this occurring in the Omaha metropolitan area due to water quality control activities.

Our response to the planning questions of your December 5, 1974, memorandum is as follows:

1. Treatment Levels

a. All publicly owned treatment works are required to have secondary treatment by 1977. Other point sources are required to provide the best practicable control technology currently available.

b. The 1983 Best Practicable Treatment will be technology based standards which will be developed and published by EPA for the various categories of industrial wastes.

c. EPA has not reached a decision on the 1985 "zero discharges" goal. It is anticipated that the National Study Commission established under Section 315 of the Federal Water Pollution Control Act will made recommendations on this item to Congress for consideration.

d. Our comments on the Harza Report were sent to you in a letter dated December 9, 1974; this letter also answers the questions posed.

e. Water quality standards cover all flows in the stream regardless of origin. Specific treatment levels have not been established but should be based on providing necessary treatment, where practicable, to meet water quality standards. On the basis of the results of the modeling presented in the report, indications are that treatment of the one year storm is sufficient, in most cases, to maintain the dissolved oxygen levels above the minimum of 5 ppm established in the standards.

2. Treatment Technology

a. Land treatment is practical application for wastewater treatment in some cases, but we would question its practicality in the Omaha area due to the complex management and large amounts of land

required. All aspects of land treatment must be explored before any recommendation on use of land treatment is made. Public acceptability will be achieved only after a detailed management scheme and environmental evaluations have been presented for review and discussion by the people involved. It is difficult to predict the reaction of citizens until all the facts have been presented to those affected by such a plan.

b. The values for irrigation water for the various areas should be based on costs of obtaining water from alternative sources. Farmers tend to be conservative in what they are willing to pay for water. In the past, Nebraska farmers have had access to water at inexpensive rates compared with other areas of the United States.

c. Based on the cost figures developed, it would be more cost effective to apply land treatment to minor plants, since land would probably be more readily available in required amounts near the waste generation sources.

d. We would not give consideration to including Lincoln at this time.

e. Treatment and discharge in winter and irrigation in summer are not considered a viable alternative as dual capital expenditures would be required to build both systems. The only advantage of this alternative would be to reduce storage, which would reduce the land requirements of the system.

3. Regionalization

a. Based on the cost figures in the report, Plan I is more cost effective. The difference between Plan I and Plan II is very small and, as a result, more detailed evaluation which considers environmental evaluations, operation and maintenance, and other factors must be made prior to a decision on which is the more desirable plan. The construction of the interceptors would have an impact on land use, especially in the West Papillian Creek area. There would be a need for implementation of land use controls by the affected local governments if growth adjacent to Highway I-80 toward Gretna is to be controlled.

b. A detailed study is currently being made by the City of Bellevue to determine whether retention of the Bellevue #1 Plant is cost effective. If Plan IV were adopted, it would provide Bellevue with ready access to the regional interceptor and, in that case, Bellevue #1 could be abandoned.

c. Under our present policies, we would favor the most cost effective alternative.

d. It would be advantageous for the smaller treatment plants to pool their resources to provide for the operation of several treatment facilities with the same qualified personnel. The end result would be better operation of the individual treatment plants.

Political acceptability of such a proposal would be possible if it could be shown that operation of the plan on a joint basis is also cost effective.

We thank you for the opportunity of commenting on and participating in the planning effort.

Sincerely yours,

for Carl V. Blomgren
Director, Water Programs Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE
KANSAS CITY, MISSOURI – 64108

February 10, 1975

Mr. C. F. Thomas, Chief
Planning Division, Omaha District
Corps of Engineers, Department of Army
6014 U.S. Post Office & Courthouse
Omaha, Nebraska 68102

Dear Mr. Thomas:

This is in response to your letter of January 16, 1975, requesting added guidance on planning requirements pursuant to PL 92-500.

Facilities Planning -

Enclosed are the Regulations for Construction Grants for Waste Water Treatment Works. Section 35.917-1 of the regulations spells out the requirements of the contents of the facilities plan. We are also including a copy of the Guidance for Facilities Planning which may be of assistance to you.

Section 35.917-6 points out that the local governmental unit must give assurances of plan implementation. The City of Omaha should make contact with the Nebraska Department of Environmental Control and discuss with them what the State requires as a facilities plan because the State must certify the plan prior to submittal to EPA. We prefer that the city work through the State on this matter.

208 Planning -

As stated in our comment letter to you on January 8, 1975, we feel the Havens and Emerson report is deficient in several areas:

1. Environmental assessment - There should be an environmental evaluation of each alternative so that environmental considerations can be a part of the final plan selection. This is explained further in Chapter 11 of the Draft Guidelines for Areawide Waste Treatment Management.

2. Institutional arrangements - Under 208 planning, management of the areawide system is a key concern. Alternatives should be developed which would point out options as to who should be responsible for the planning, operation, financing, etc. of the various program elements of the point sources and non-point sources of pollution.

EXHIBIT C-6

3. Financial arrangements - A 208 study should include financing alternatives which should explore how the construction, operation, and management of the various elements of a waste treatment management plan.

We feel the Havens and Emerson report covered the point source and non-point source technical planning but the efforts on management planning were very weak and should be strengthened. Inclusion of items mentioned in Chapters 7, 8,.9 & 10 of the Draft Guidelines for Areawide Waste Treatment Management would provide the information the citizens can use to evaluate and select a final plan which can then be implemented.

If you have further questions, feel free to contact Mr. Victor Ziegler of our planning staff. He has been designated to serve as our staff coordinator on matters relating to your study.

Sincerely yours,

for Carl V. Blomgren
Director, Water Division

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
1735 BALTIMORE
KANSAS CITY, MISSOURI – 64108

April 2, 1975

Mr. C. F. Thomas, Chief
Planning Branch, Omaha District
Corps of Engineers
6014 U.S. Post Office and
Courthouse
Omaha, Nebraska 68102

Dear Mr. Thomas:

Regional Water Supply Report
Omaha-Council Bluffs Urban Study

In response to your letter of March 6, we have made a review of the regional water supply report and offer the following comments:

1) Page II-8: There is no esthetic and health divisions in the Interim Primary Drinking Water Standards. The levels given in these standards are the maximum contaminant levels (MCL). Also, these limits are the same as the USPHS 1962 Standards, with the exception of fluoride. For example, the arsenic MCL is 0.05 mg/l, not 0.1 mg/l. Only the maximum levels of fluoride allowed is given in the new primary standards (see page 11995, section 141.11). There is no optimum level or upper and lower limits given.

2) Page II-9: The radiologic table has been eliminated in the published primary standards. The pesticide MCL have changed also. See 141.13, page 11995 of the new primary standards.

Enclosed is a copy of the Interim Primary Drinking Water Standards as published in the Federal Register on March 14, 1975. Also enclosed is a 2 page summary of the maximum contaminant level (MCL) contained in the Interim Primary Drinking Water Standards.

Guidance has been provided for water treatment plant sludges. Sludges from water treatment plants may be divided into two categories:

1) Silt removed from raw water in presedimentation basins.
2) Sludges containing chemicals from the treatment processes (lime, aluminum, ferric sulfate).

EXHIBIT C-7

In the first situation because the silt is indigenous to the Missouri and Mississippi River Waters, we would be able to authorize in most instances the partial or total discharge of unaltered silt type sludges.

This should be done on a case by case basis taking into consideration the receiving water quality, the rate of discharge and any accumulation of solids from the discharge that might impede navigation of the stream.

The rationale behind allowing unadulterated silt to be returned to the stream is because this silt generally has been accumulated from non-point source discharges and because the cost benefits realized from its removal and disposal may not be justified.

Thus the national policy is not absolute prohibition of this type of sludge return, to the receiving stream, but a matter of regional determination.

In the last situation, sludges from the treatment processes including water treatment sludges consisting of lime, alum, ferric sulfate may not be discharged except to the extent controlled by total suspended solids limitation on treated effluent. In this case 30 - 45 mg/l.

Effluent guidelines for water treatment plant sludges are currently being developed. It is anticipated that proposed effluent guidelines will be completed and published in the Federal Register in about November 1975.

Sincerely,

Carl Blomgren

Carl Blomgren
Director, Water Division

Enclosure

federal register

FRIDAY, MARCH 14, 1975

WASHINGTON, D.C.

Volume 40 ■ Number 51

PART II

THE NATIONAL ARCHIVES OF THE UNITED STATES • 1934 •

ENVIRONMENTAL PROTECTION AGENCY

■

INTERIM PRIMARY DRINKING WATER STANDARDS

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 141]

[FRL 343-8]

PRIMARY DRINKING WATER

Proposed Interim Standards

Notice is hereby given that pursuant to sections 1412, 1414, 1415 and 1450 of the Safe Drinking Water Act ("the Act," Pub. L. 93-523) the Administrator of the Environmental Protection Agency (EPA) proposes to issue a new 40 CFR Part 141 setting forth interim primary drinking water standards (Subpart A) and regulations governing the granting of variances and exemptions from those standards (Subpart B). The proposed regulations set forth below cover only the interim primary standards. Proposed regulations dealing with the granting of variances and exemptions will be published shortly.

The Act was signed by the President on December 16, 1974. It is the first Federal Act dealing in depth with providing safe drinking water for public use. The standards proposed today are the first regulations to be published as part of EPA's implementation of this new major environmental legislation. Under section 1412(a)(1) of the Act, EPA is obligated to publish proposed standards within 90 days after enactment, and promulgation of final standards is required 180 days after enactment. Those standards become effective 18 months after the date of their promulgation.

The Act clearly contemplates that the States, rather than the Federal government, will have primary responsibilities for carrying out the purposes of the legislation. Thus, when a State demonstrates that it has the authority and capability to carry on a program consistent with the Act, the Federal government will recognize the State's primary enforcement responsibilities and will thereafter play largely a passive role in assuring safe drinking water in that State. Under section 1413(a)(1) of the Act a State has primary enforcement responsibility if the Administrator has determined that such State—

(1) Has adopted drinking water regulations which

(A) In the case of the period beginning on the date the National Interim Primary Drinking Water Regulations are promulgated under section 1412 and ending on the date such regulations take effect are no less stringent than such regulations, and

(B) In the case of the period after such effective date are no less stringent than the interim and revised national primary drinking water regulations in effect under such section;

(2) Has adopted and is implementing adequate procedures for the enforcement of such State regulations, including conducting such monitoring and making such inspections as the Administrator may require by regulation;

(3) Will keep such records and make such reports with respect to its activities under paragraphs (1) and (2) as the Administrator may require by regulation;

(4) If it permits variances or exemptions, or both, from the requirements of its drinking water regulations which meet the requirements of paragraph (1), permits such variances and exemptions under conditions and in a manner which is not less stringent than the conditions under, and the manner in, which variances and exemptions may be granted under sections 1415 and 1416; and

(5) Has adopted and can implement an adequate plan for the provision of safe drinking water under emergency circumstances.

The Administrator shall, by regulation (proposed within 120 days of the date of the enactment of the Act, prescribe the manner in which a State may apply to the Administrator for a determination that the requirements of paragraphs (1), (2), (3), and (4) of subsection (a) of section 1413 of the Act are satisfied with respect to the State, the manner in which the determination is made, the period for which the determination will be effective, and the manner in which the Administrator may determine that such requirements are no longer met. Such regulations shall require that before a determination of the Administrator that such requirements are met or are no longer met with respect to a State may become effective, the Administrator shall notify such State of the determination and the reasons therefor and shall provide an opportunity for public hearing on the determination. Such regulations shall be promulgated (with such modifications as the Administrator deems appropriate) within 90 days of the publication of the proposed regulations in the FEDERAL REGISTER. The Administrator shall promptly notify in writing the chief executive officer of each State of the promulgation of regulations under this paragraph. Such notice shall contain a copy of the regulations and shall specify a State's authority under this title when it is determined to have primary enforcement responsibility for public water systems.

(2) When an application is submitted in accordance with the Administrator's regulations, the Administrator shall within 90 days of the date on which such application is submitted

(A) Make the determination applied for, or

(B) Deny the application and notify the applicant in writing of the reasons for his denial.

Within 180 days after enactment EPA is required to propose regulations which prescribe the manner in which a State may apply to the Administrator for a determination that it has met the criteria for operation of a safe drinking water program.

A principal concern of EPA in determining the scope, stringency, and timing of the proposed interim drinking water regulations is the burden they will impose and its implications for the workability of the regulations. The Act assigns a predominant role to the States. EPA recognizes that decisions to implement these regulations on the part of most States must be a reasonable probability. The willing cooperation of subordinate levels of government, public utilities and others is also necessary. In this regard, commenters are urged to keep in mind the levels of dollar resources and other assistance that can be expected from EPA to support States, local government and other participants in carrying out the Act. EPA's budget request for grants to States for public water system supervision programs in FY 1976 is $7,500,000. EPA personnel resources and other financial resources will be made available, particularly to assist the States in setting up and operating programs, to the extent possible, but this support will necessarily be limited and the States and utilities will need to allocate funds to implement the program.

EPA has provided for phasing in the testing requirements in the presently proposed regulations. In its regulations governing the requirements for State programs to qualify for primary enforcement responsibility EPA will allow considerable leeway in the time-phasing of programs, and will permit considerable variation and flexibility in State approaches to enforcement. Even so, many impacts and duties will fall upon the States as soon as these regulations are effective eighteen months after promulgation. Enforcement requests and citizens suits must be anticipated to commence then. Calls for State assistance to localities and utilities, including extensive laboratory services and approval of laboratories, assistance in upgrading performance and other services, will escalate. Violations of the regulations by suppliers of water will become immediately apparent with the operation of section 1414(c) of the Act and § 141.32 of the regulations as to public notification. A flow of applications for variances and exemptions will begin.

With these considerations in mind, yet recognizing the overriding consideration of improving protection of public health through assuring compliance with the standards set forth in these regulations, EPA must fix the maximum contaminant levels and other requirements called for in the interim regulations. On the many aspects of this most important issue involving the appropriate balance of health protection and realistic implementation of the program, EPA requests public analysis and comment.

The Interim Primary Drinking Water Standards proposed today protect health to the extent feasible, taking costs into consideration, using technology, treatment techniques and other means generally available. The Act in section 1401 requires that for each primary drinking water contaminant the Administrator specify either a maximum contaminant level if it is feasible to ascertain that level in water, or, a treatment technique which leads to a sufficient reduction in the level of such contaminant if it is not feasible to ascertain that level. Based on past monitoring experience for these levels, the Administrator has determined that it is economically and technologically feasible to monitor drinking water for contaminants at the maximum contami-

C-7

nant levels. Therefore, required treatment techniques will not be a part of these interim primary standards. However, EPA welcomes comment on this issue and if public comment justifies it, EPA will consider issuing treatment techniques in lieu of maximum contaminant levels for one or more of the contaminants covered in the regulations.

The interim primary standards proposed today are based largely on the 1962 Public Health Service Drinking Water Standards and the review of those standards accomplished by the EPA Advisory Committee Report on the Revision and Application of the Drinking Water Standards, as recommended to the Administrator, on September 20, 1973.

The Act in section 1412(b) provides that revised primary drinking water standards are to be proposed (and promulgated within 180 days thereafter) 180 days following the date of the report on the study to be conducted by the National Academy of Sciences on recommended health-based maximum contaminant levels. This report is due no later than December 16, 1976. In turn, the revised primary regulations will be effective 18 months following the date of their promulgation. While it is anticipated that changes will be made in some of the maximum contaminant levels of the interim primary standards, that there will be contaminants added to the list of regulated substances, and that broad groupings of contaminants (such as organics) will be further defined, the revised standards will not automatically supersede the interim standards. Only if the revised regulations expressly revoke the interim standards will the latter no longer be effective. In determining whether the revised regulations will supersede, the Administrator will consider the length of time they have been in effect, and the compatibility of the compliance strategies and techniques for meeting interim and revised regulations. If all or part of the interim regulations remain in effect, the water supplier will be required to meet both sets of standards sequentially.

Definitions and coverage. To determine whether these standards apply to a particular system, reference must be made to both §§ 141.2 and 141.3 of the regulations. The term "public water system" is defined in § 141.2(c) to mean a system which serves at least fifteen service connections or at least twenty-five individuals on a regular basis. Public water systems which otherwise would be covered by the Act are not required to meet these standards if they serve 25 or more people but only for less than three months out of the year. The intent is to cover campgrounds and resort facilities which may serve for at least three months a substantial population. Although a supplier of drinking water must comply with all requirements of the Act when he is providing water, he need not monitor, make reports, etc., while the system is not operating or when it is regularly providing water to fewer than twenty-five individuals.

For a public water system to be excluded from coverage by these regulations it must meet all four criteria set out by § 141.3.

The broad definition of "State" in § 141.2(d) is intended to make clear that the State government is the primary enforcement authority if the State has assumed this authority under section 1413 of the Act; if not, the Regional Administrator of EPA is the primary enforcement authority. The only exception is found in § 141.31 (Reporting Requirements), where the Federal Agencies are required to report results of analyses to the Regional Administrator even when the State has assumed primary enforcement responsibility.

Maximum contaminant levels. The maximum contaminant levels for Arsenic, Barium, Cadmium, Chromium, Cyanide, Fluoride, Lead, Selenium and Silver are identical to the 1962 Drinking Water Standards (section 5.22). With the exception of nitrates, all of the maximum contaminant levels for inorganic chemicals are based upon data addressed to possible health effects that may occur after a lifetime of exposure, and the standards have been reviewed in light of substantial information generated since the publication of the 1962 Standards. More complete summaries of the bases for these standards are contained in the Statement of Basis and Purpose.

Special attention is invited to the cadmium standard. Recent evidence has established that cigarette smoking may contribute as much or more cadmium to the body burden as does the ingestion of cadmium with food. The standard for cadmium proposed today does not take into account the additive effect of cadmium ingestion from smoking. EPA invites comments as to the question whether the cadmium standard should be directed specifically toward protection of smokers as well as non-smokers.

Only a small fraction of the mercury in drinking water is in the alkyl form, which is considered more toxic than other forms of mercury. Alkyl mercury has only been detected in water in the nanogram per liter range. However, the proposed standard for mercury is derived on the assumption that all mercury in water is methyl mercury. Public comment is solicited as to whether or not this procedure is reasonable. Possible alternatives include:

a. Setting the standard on the assumption that all the mercury in the water is methyl mercury, but requiring that the total mercury concentration be below the specified level,

b. Leaving the standard at the present level to protect against the toxic effects of methyl mercury, but specify that the standard applies only to that form, or

c. Establishing two standards—one for organic and one for inorganic mercury.

The maximum contaminant level for organic chemicals (§ 141.12) is determined by the Carbon Chloroform Extract (CCE) procedure employing the low flow Carbon Adsorption Method (CAM-low flow) sampler. The present interim primary standard (0.7mg/l-CAM-low flow) is substantively equivalent to the 1962 Standard (0.2 mg/l-CAM-high flow). The low flow CAM sampler provides longer contact time between the water sample and the activated carbon and therefore, has 3½ times greater extraction efficiency.

EPA is conducting several monitoring surveys (including the National Reconnaissance Survey of drinking water supplies mandated by the Act) to determine the extent of the incidence of organic chemicals in drinking water and associated toxicity of those substances. Revised standards will reflect the results of those studies.

The pesticide contaminants listed in the proposed regulations issued today were not contained in the 1962 Standards. The maximum contaminant levels for these substances have been derived from the recent data on effects of acute and chronic exposure to both organochlorine and chlorophenoxy pesticides.

The list of pesticide contaminants does not include Aldrin/Dieldrin and DDT because the Agency is presently conducting an intensive nationwide survey to determine the extent of the contamination of the drinking water by these persistent pesticides. This program is to be completed within the next few months, and subsequently the Agency will propose interim primary drinking water standards for Aldrin/Dieldrin and DDT. Almost all uses of DDT were cancelled under the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. 136 et seq., on March 18, 1971, and the Agency has suspended the major uses of Aldrin/Dieldrin (October 1, 1974, 39 FR 37272). (This suspension is presently on appeal to the United Statese Court of Appeals for the District of Columbia Circuit, Nos. 74-1924, 74-2113, and 74-2114). A factor in both actions was evidence that those pesticides are potential carcinogens. The interim primary drinking water standards for these chemicals will take this evidence of carcinogenicity into account.

The Administrator has also issued a notice of intent to cancel many of the major uses of heptachlor and chlordane, which are included in these standards. Heptachlor epoxide, though not a product directly applied as a pesticide, results from the use of heptachlor or chlordane. Preparations are underway for presentation at an adjudicatory hearing the evidence relating to the carcinogenic risks associated with the use of heptachlor and chlordane. It is anticipated that the maximum contaminant levels for heptachlor, chlordane, and heptachlor epoxide—which are based on chronic human toxicity other than carcinogenicity—will be reviewed within the next several months and may be revised to reflect the cancer risk which may be inherent in their presence in drinking water.

In planning new or expanded water supply systems in the next few months, owners should be aware that the National Academy of Sciences, and National Academy of Engineering in "Water Quality Criteria," 1972, have recommended that the following concentra-

tions not be exceeded in sources of water to be used for drinking water:..

Aldrin	0.001 mg/l
DDT	0.05 mg/l
Dieldrin	0.001 mg/l

It is unlikely that EPA will issue interim primary drinking water standards which permit concentrations in finished water in excess of these values.

Organophosphate insecticides have been considered for inclusion in these standards. However, there are not sufficient data related to their occurrence in drinking water or raw water sources to warrant setting standards at this time. Although these substances are widely used in agriculture, they are not usually intentionally added to watercourses; the possible pathways to water supplies are indirect, such as through percolation, runoff from treated lands, and accidental spills. Many organophosphate insecticides are almost completely degraded within days in water partially explaining the fact that the intact organophosphates are seldom detected in water.

It must be emphasized, however, that most organophosphate insecticides are Class I poisons. Therefore, authorities should be cautioned that accidental spills or misuse of these substances might demand immediate attention similar to that required with any type of acute acting contaminant that enters our nation's water. The use of section 1431 of the Act, or State law modeled upon it, may also be appropriate in such situations. A guidance manual entitled "Policies and Procedures for Review and Evaluation of Toxicity in Drinking Water of Chemicals other than Coagulant Aids" is available for use in these situations from the Water Supply Research Laboratory, National Environmental Research Center, U.S. Environmental Protection Agency, 4676 Columbia Parkway, Cincinnati, Ohio 45268.

The interim primary drinking water standards proposed today have a limit for turbidity (§ 141.14) because turbidity in water interferes with disinfection efficiency and because high turbidity often signals the presence of other health hazards. The growth of microorganisms in a distribution system is often stimulated if excessive particulate or organic matter is present. The supplier is allowed to have no greater than five turbidity units in the water (rather than one) when he can show that an effective disinfectant agent is present in the system in sufficient concentrations to protect the water users.

The standards for microbiological contaminants are contained in § 141.15. The maximum levels are in terms of the surrogate coliform bacteria, although the purpose of the standard is to protect against disease-causing bacteria, viruses, protozoa, worms and fungi. The analytical procedures for direct detection of these microorganisms are not well enough developed nor practicable for widespread application at this time. Total coliform counts have been used for nearly 100 years as indicators because the organisms are present in large quantity in the intestinal tracts of humans and other warm blooded animals, thus the number remaining in a water supply provides a good correlation with sanitary significance.

To ease the economic burden on the smaller systems, these standards provide in § 141.16 that chlorine residual concentrations may be measured and substituted for a portion of the bacteriological samples. This alternative is based on the assumption that chlorine in proper concentrations will destroy those organisms which are indirectly being measured by the coliform test. Small systems (serving 4900 or fewer people) may make a total substitution, but it should be noted that several chlorine samples are required for each substituted microbiological sample, and a higher chlorine residual must be maintained in the system.

Interim Primary Drinking Water Standards for radiological substances are not included in the regulations proposed today. The Agency intends to publish proposed radiological maximum contaminant levels and analytical and sampling requirements in the near future.

Almost all of the maximum contaminant levels are based on an assumed consumption of two liters of water per day. The question arises, however, as to whether or not it is reasonable to derive the drinking water standards on the basis of the average amount of water consumed by any large segment of the population (in the case of these standards, young adult American males) since a large portion of the members of that class consume more.

EPA solicits information as to whether or not the present approach is reasonable, and whether there is any available information regarding the distribution of water consumption levels by significant segments of the American public.

Sampling and analytical requirements. Sections 141.21–141.24 set out the sampling and analytical requirements to be followed in determining whether there is compliance with the maximum contaminant levels. Section 141.21 establishes the monitoring frequency for the microbiological contaminants. When there is an apparent violation noted, the supplier is directed to accelerate the sampling from the same monitoring point until the results indicate that the maximum contaminant level is no longer exceeded. The requirement to step up the monitoring is not in lieu of the reporting and notification responsibilities which arise when there is a violation. Also, the "check samples" required by § 141.21(c)(1)–(c)(3) are not to be included in the calculations of the total samples taken each month for the purposes of determining compliance with § 141.21(b).

A violation of § 141.16 is deemed to occur when a second properly conducted test, which must be run within one hour of the first test, shows that the chlorine concentration is below the specified level. The required sample for coliform analysis must be taken at the point where the violation in the chlorine residual was detected.

The sampling frequency for turbidity determination (§ 141.22) differs for supplies drawing water from underground sources and for surface water supplies. It is presumed that the likelihood of high turbidity in water from underground sources is relatively small.

Section 141.23 sets forth the requirements for inorganic chemical sampling and analyses. Within one year from the effective date of this subpart the supplier must make one analysis for inorganic chemicals; subsequent analyses must be performed yearly if the system does not primarily serve transients. Less frequent analyses are required for suppliers drawing water from underground sources. If this level of an inorganic chemical is greater than 75 percent of the maximum contaminant level, the supplier is directed to re-analyze monthly.

The sampling frequencies for the inorganic chemicals, organic chemicals and pesticides allows considerable time within which the supplier may take the first sample, due to the limited number of laboratories capable of making the often difficult analyses. Public water suppliers are encouraged to begin monitoring for these substances even before the effective date of this subpart. Any analyses made in accordance with the analytical procedures set forth in this subpart but before the effective date can be considered when determining compliance with §§ 141.23 and 141.24.

To assure confidence in analytical results, which in many cases the public water suppliers will contract for, a section has been added to provide for laboratory certification (§ 141.27).

Reporting requirements. A key provision of these proposed standards is the reporting requirement (§ 141.31). Within 40 days following an analysis required by subpart A, the results must be reported to either the State or the Regional Administrator, depending on who has primary enforcement responsibility.

Federal Agencies will at all times report to the Regional Administrator, although they must follow State agency substantive standards if the State agency has assumed primary enforcement responsibility.

If a standard is based upon averaging of samples, the report must be filed within 40 days of the first sample used in the averaging. If there is a violation, whether based on averaging or a single analysis with one check analysis, the report must be received within 36 hours of the finding of violation. The reports of violations of the standards include reports of instances where the monitoring requirements have not been followed.

One of the basic assumptions embodied in the Safe Drinking Water Act is that if the public is aware that the drinking water being provided is below Federal Standards, they will request the local officials to remedy the situation. Thus § 141.32 of these Standards is intended to carry out the statutory directive that the public served by the public water system be adequately informed of the quality of the water they are receiving. The supplier must give notice of

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failure to meet the requirements of § 141.32 by publication in a newspaper or newspapers, by prompt giving a copy of the notice to the TV and radio stations serving the area, and by inclusion of the notice in the water bills. Failure to follow the required monitoring requirements is deemed a violation equal to failure to meet a maximum contaminant level.

Public water suppliers are allowed as part of the notice to the public to give fair explanation of the public health significance of any violation, or of any variance or exemption, which the supplier must report as required by subsection (b) of § 141.31.

The Agency anticipates that additions may be made to the public notification provision to differentiate between the type of notice required in the case of emergencies and that provided for in § 141.31.

Siting requirements. The siting requirements of § 141.41 are designed to assure that, to the extent practicable, the location of the intake and other elements of new or expanded water supply systems will be such that the public water systems will be able to provide a continuous supply of healthful drinking water. To the extent practicable, facilities should be located in areas not subject to floods, earthquakes, fires, or other disasters. Section 141.41 is not intended to give EPA veto authority over new public water systems, although State agencies may have this power. In all cases there must be notification of the State or Regional Administrator that construction of a new or expanded system is contemplated.

Economic, energy, and chemical considerations. Economic, energy, and chemical factors have been considered in the development of the Proposed Interim National Primary Drinking Water Standards. In establishing the phased monitoring schedule, the maximum contaminant levels themselves, and the notification requirements, every effort has been made to identify costs and to keep them within the bounds contemplated by Congress.

The estimates contained herein are based on data currently available and should be considered preliminary. The data include the 1969 Community Water Supply Study published by the U.S. Public Health Service in July 1970. In addition, EPA has also conducted several pilot studies of water supplies of several Federal agencies, i.e., U.S. Forest Service, Corps of Engineers, Bureau of Reclamation, National Park Service, and Interstate Highways to evaluate the status and condition of supplies serving the traveling public. Until EPA's inventory of community water supplies is completed and adequate data are obtained on the capability of each system, the full impact of these proposed interim regulations will not be known. EPA is undertaking a more comprehensive analysis of the overall impact of the proposed standards and does expect to have more definitive estimates to present when it promulgates the interim standards. EPA expects and invites comments on the economic impact of these regulations in order that the final regulations presented are both reasonable and practical.

The preliminary cost estimates do not appear excessive or inflationary. The estimated replacement value of the 40,000 community (resident) water systems is $125 billion; annual monitoring costs for the community water systems would be less than 0.02 percent of this value and capital costs to bring the systems up to compliance levels would be about 1 percent of this value.

Estimated costs are based on the needs of 40,000 systems serving resident populations and 200,000 supplies serving non-resident populations. These costs, however, relate only to the construction and operation of facilities to enable water supply systems to meet the health related constituent limits that are established in these Interim Primary Regulations. This excludes any costs to provide for growth of population served and to provide for the removal of taste and/or odor problems or any other aesthetic desires. The monitoring costs for all community supplies are estimated to be $20 million the first year and to increase to $30 million after 5 years. Costs during intervening and subsequent years will vary slightly due to phasing and annual frequency of monitoring requirements. Capital costs for upgrading these systems are estimated to be about $1,400 million, which will result in an annual cost of $365 million.

For the supplies serving non-resident populations, monitoring costs will vary from $45 million the first year to $60 million the fifth year. The capital cost for upgrading these systems will be approximately $6 million. It should be noted that the other (non-resident) capital costs relate only to those pertaining to meeting only the proposed bacteriological limits. Most of the chemical limits in the proposed regulations were set with a view to chronic effects resulting from lifetime exposures. Since these systems serve a transient population, the need to attain the proposed chemical limits may be questionable. The economic consequences could impose severe hardship on these small systems and the granting of variances and exemptions by the States may be justified. No effort was made to calculate the annual cost related to these systems, since operating and maintenance costs are not known at this time.

The implementation costs are summerized in the following table:

[Dollars in millions]

Annual monitoring	Community (resident)	Other (Non-residential)	Total
Costs			
1st year	$20	$45	$65
5th year	30	60	90
Upgrading costs			
Capital costs	1,400	6	
Annual costs	[1] 365		

[1] Includes operation and maintenance.

Health costs have not been included in these estimates, although improved water quality will undoubtedly have a beneficial effect on health costs. Studies are underway to determine these costs, and they will be integrated as soon as possible.

It should be noted that the total annual monitoring costs do give credit to the bacteriological monitoring that is being performed today. For example, 700 of the estimated 40,000 community water systems are currently subject to Federal purview, under the Interstate quarantine regulations of the Public Health Service Act. These systems, which include many of the major cities in the country, serve a resident population of 85 million, or more than half of the population served by community systems. For these systems bacteriological monitoring is now adequate and in fact some chemical monitoring is also being performed.

A potential major cost-reducing factor not included in these figures is expanded control by EPA over effluents of the listed contaminants. EPA is currently examining the implications of controlling pollutants at the source of discharge into the water. In effect, by controlling the pollutants at their source, EPA will be reducing the direct economic burden on the public sector.

The energy requirements to operate the added facilities and to produce the chemicals for clarification (alum, lime, etc.) constituent removal (sulfuric acid, activated carbon, etc.) and disinfection are estimated at 21 billion BTU's annually or .025 percent of the current estimate for the 1975 national energy consumption of 80 quadrillion BTU's.

The chemical requirements related to the additional treatment required by the proposed standards are summarized below:

Chemical requirements

Chemical	Pounds (10)	Percent of annual production
Filter grade alum	370	16 (1973)
Activated carbon	7	4 (1973)
Lime	421	1 (1973)
Chlorine gas	167	0.8 (1973)
Sulphuric acid	473	0.8 (1973)
Sodium hydroxide	77	0.4 (1973)

Alum and activated carbon will apparently require significant portions of current total production. These chemicals are used in large part for water treatment and the raw materials are abundant. Therefore it is not believed that significant problems will be involved in increasing their production in the long term.

Impact on State Programs. With particular regard to the potential impact of the proposed regulations on State programs, EPA is anxious to have comprehensive comments and data on costs and administrative burden generally, as well as on feasibility of State program implementation in light of dates scheduled for the effectiveness of the regulations. Specifically, EPA requests data to show

the costs to the States that will follow from the testing requirements imposed by these regulations on public water systems, from the requirement that public water systems report test results to the States, and from the requirement that tests must be conducted by laboratories approved by the States. EPA will consider such cost information as is supplied prior to promulgating final Interim Primary Drinking Water Standards as well as considering such data and information in the development of proposed State Program regulations, section 1421, which is scheduled for issuance in mid June 1975.

Comments and public hearings. EPA presented draft Interim Primary Drinking Water Standards to the National Drinking Water Advisory Council established pursuant to section 1446 of the Act. At a meeting held February 26 and 27, 1975, the Council made recommendations with respect to these standards and to the extent deemed appropriate, changes have been made in view of these recommendations.

Interested persons may participate in this rulemaking process by submitting written comments in triplicate to the Water Supply Division (WH-450), Environmental Protection Agency, Washington, D.C. 20460, Attention: Comment Clerk, Interim Primary Drinking Water Standards.

Comments on all aspects of the proposed regulations are solicited. All comments received on or before May 16, 1975, will be considered. If the comments are criticisms of the adequacy of data relied upon by EPA, the comments should identify and, if possible, provide additional data from published literature and the individual should indicate why and how this information should be used.

Copies of the Statement of Basis and Purpose for these Proposed Interim Primary Standards and other relevant documents will be available after March 16, 1975, from the EPA Freedom of Information Center, Room 206, West Tower, Waterside Mall, 401 M Street, SW, Washington, D.C. 20460, Attention: Rubye Mullins. A copy of all public comments and transcripts of the public hearings will be available for inspection and copying from the EPA Freedom of Information Center. For public review and copying, the EPA *Information Regulation* (40 CFR Part 2) provides that a reasonable fee may be charged for the copying service.

In addition to considering public comments sent to EPA, the Agency will hold public hearings at the following locations, to receive comments and statements. Persons who wish to make statements at these sessions are urged to submit written copies of their remarks in triplicate at the time they are presented for inclusion in the record. Persons wishing to attend are also urged to confirm by telephone the exact location of the hearing.

April 15, 1975 9:30 a.m.	EPA Region I John F. Kennedy Federal Building Boston, Mass. 02203 Telephone: (617) 223-6486
April 17, 1975 9:30 a.m.	EPA Region V 230 S. Dearborn St. Chicago, Illinois Telephone: (312) 353-7739
April 22, 1975 9:30 a.m.	EPA Region IX 100 California St. San Francisco, California 94111 Telephone: (415) 556-2005
April 25, 1975 9:30 a.m.	Washington, D.C. EPA Headquarters Waterside Mall 401 M Street SW Washington, D.C. 20460 Telephone: (202) 426-8817

Dated: March 10, 1975.

RUSSELL E. TRAIN,
Administrator.

SUBCHAPTER D—WATER PROGRAMS

PART 141—NATIONAL INTERIM PRIMARY DRINKING WATER STANDARDS

Sec.

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141.21 Microbiological contaminant sampling and analytical requirements.
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141.27 Laboratory certification.
141.31 *Reporting requirements.*
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141.41 Siting requirements.
141.51 Effective date.

AUTHORITY: Secs. 1412, 1414, 1415, 1450 of Pub L. 93-523.

§ 141.1 Applicability.

This subpart sets forth the interim primary drinking water standards required by section 1412 of the Safe Drinking Water Act (Pub. L. 93-523).

§ 141.2 Definitions.

As used in this subpart the term:

(a) "Act" means the Safe Drinking Water Act, Pub. L. 93-523.

(b) "Community water system" means a public water system which serves a population of which 70 percent or greater are residents.

(c) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(d) "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system.

(e) "Person" means an individual, corporation, company, association, partnership, State, municipality, or Federal agency.

(f) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least three months out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(g) "State" means the agency of the State government which has jurisdiction over public water systems. During any period when a State does not have primary enforcement responsibility, the term "State" means the Regional Administrator, Environmental Protection Agency.

(h) "Supplier of water" means any person who owns or operates a public water system.

§ 141.3 Coverage.

The interim primary drinking water standards under this subpart shall apply to each public water system in a State, except that such standards shall not apply to a public water system which—

(a) Consists only of distribution and storage facilities (and does not have any collection and treatment facilities);

(b) Obtains all of its water from, but is not owned or operated by, a public water system to which such regulations apply;

(c) Does not sell water to any person; and

(d) Is not a carrier which conveys passengers in interstate commerce.

§ 141.11 Maximum contaminant levels for inorganic chemicals.

(a) The following are the maximum contaminant levels for inorganic chemicals:

Contaminant:	Level (mg/l)
Arsenic	0.05
Barium	1
Cadmium	0.010
Chromium	0.05
Cyanide	0.2
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05

(b) When the annual average of the maximum daily air temperatures for the location in which the public water system is situated is the following, the con-

responding concentration of fluoride shall not be exceeded:

Temperature (in F°)	(C°)	Level (mg/l)
53.0 to 53.7	16.0 to 17.0	2.4
53.8 to 58.3	12.1 to 14.6	2.2
58.4 to 63.8	14.7 to 17.6	2.0
63.9 to 70.6	17.7 to 21.4	1.8
70.7 to 79.2	21.5 to 26.2	1.6
79.3 to 90.5	26.3 to 32.5	1.4

The requirements of this paragraph (b) do not apply to public water supplies serving only educational institutions.

§ 141.12 Maximum contaminant levels for organic chemicals.

The maximum contaminant level for the total concentration of organic chemicals, as determined by the carbon chloroform extract method set forth in § 141.24(b), is 0.7 mg/l.

§ 141.13 Maximum contaminant levels for pesticides.

The following are the maximum contaminant levels for pesticides:

(a) Chlorinated Hydrocarbons:

	Level mg/l
Chlordane (cis and trans) (1,2,4,5,-6,7,8,8 - Octachloro - 3a,4,5,7a-tetrahydro-4;7-methanoindan)	0.003
Endrin (1,2,3,4,10,10 - Hexachloro-6,7 - epoxy - 1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano naphthalene)	0.0002
Heptachlor (1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro 4,7-methanoindene)	0.0001
Heptochlor Epoxide (1,4,5,6,7,8,8-Heptachloro - 2,3-epoxy-3a,4,7,7a-tetrahydro-4,7-methanoindan)	0.0001
Lindane (1,2,3,4,5,6-Hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis [p-methoxyphenyl] ethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_8$—Technical chlorinated camphene, 67-69% chlorine)	0.005

(b) Chlorophenoxys:

2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.01

§ 141.14 Maximum contaminant level of turbidity.

The maximum contaminant level of turbidity in the drinking water at a representative entry point(s) to the distribution system is one turbidity unit (TU), as determined pursuant to § 141.22, except that five or fewer turbidity units may be allowed if the supplier of water can demonstrate to the State that the higher turbidity does not:

(a) Interfere with disinfection;

(b) Prevent maintenance of an effective disinfectant agent throughout the distribution system; and

(c) Interfere with microbiological determinations.

§ 141.15 Maximum microbiological contaminant levels.

(a) The supplier of water may employ one of two methods to determine compliance with the coliform maximum contaminant levels.

(1) When the supplier of water employs the membrane filter technique pursuant to § 141.21(a) the coliform densities shall not exceed one per 100 milliliters as the arithmetic mean of all samples examined per month; and either

(i) Four per 100 milliliters in more than one standard sample when less than 20 are examined per month; or

(ii) Four per 100 milliliters in more than five percent of the standard samples when 20 or more are examined per month.

(2) (i) When the supplier of water employs the fermentation tube method and 10 milliliter standard portions pursuant to § 141.21, coliforms shall not be present in more than 10 percent of the portions in any month; and either

(A) Three or more portions in one sample when less than 20 samples are examined per month; or

(B) Three or more portions in more than five percent of the samples if 20 or more samples are examined per month.

(ii) When the supplier of water employs the fermentation tube method and 100 milliliter standard portions pursuant to § 141.21(a) coliforms shall not be present in more than 60 percent of the portions in any month; and either

(A) Five or more portions in more than one sample when less than five samples are examined; or

(B) Five or more portions in more than 20 percent of the samples when five samples or more are examined.

(b) The supplier of water shall provide water in which there shall be no greater than 500 organisms per one milliliter as determined by the standard bacterial plate count provided in § 141.21(f).

§ 141.16 Substitution of residual chlorine measurement for total coliform measurement.

(a) The supplier of water may, with the approval of the State, substitute the use of chlorine residual monitoring for not more than 75 percent of the samples required to be taken by § 141.21(b), provided that the supplier of water takes chlorine residual samples at points which are representative of the conditions within the distribution system at the frequency of at least four for each substituted microbiological sample. There shall be at least daily determinations of chlorine residual. Measurements shall be made in accordance with "Standard Methods," 13th Ed., pp 129-132. When the supplier of water exercises the option provided in this paragraph (a), he shall maintain no less than 0.2 mg/l free chlorine in the public water distribution system.

(b) For public water systems serving 4900 or fewer persons, the supplier may, with the approval of the State, make a total substitution of chlorine residual measurement for the samples required to be taken by § 141.21(b): *Provided*, That the supplier of water takes chlorine residual samples at points which are representative of the conditions within the distribution system at the rate of one per day for each microbiological sample required to be taken per month under § 141.21. When the supplier of water exercises the option provided by this paragraph (b) he shall maintain no less than 0.3 mg/l free chlorine in the public water distribution system. Measurements shall be made in accordance with "Standard Methods," 13th Ed., pp 129-132.

§ 141.21 Microbiological contaminant sampling and analytical requirements.

(a) The supplier of water shall make coliform density measurements, for the purpose of determining compliance with § 141.15, in accordance with the analytical recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp 662-668, except that only a 100 milliliter sample size shall be employed in the membrane filter technique. The samples shall be taken at points which are representative of the conditions within the distribution system.

(b) The supplier of water shall take coliform density samples at regular intervals throughout the month, and in number proportionate to the population served by the public water system. In no event shall the frequency be less than as set forth below:

Population served:	*Minimum number of samples per month*
25 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 9,400	10
9,401 to 10,300	11
10,301 to 11,100	12
11,101 to 12,000	13
12,001 to 12,900	14
12,901 to 13,700	15
13,701 to 14,600	16
14,601 to 15,500	17
15,501 to 16,300	18
16,301 to 17,200	19
17,201 to 18,100	20
18,101 to 18,900	21
18,901 to 19,800	22
19,801 to 20,700	23
20,701 to 21,500	24
21,501 to 22,300	25
22,301 to 23,200	26
23,201 to 24,000	27
24,001 to 24,900	28
24,901 to 25,600	29
25,001 to 28,000	30
28,001 to 33,000	35
33,001 to 37,000	40
37,001 to 41,000	45
41,001 to 46,000	50
46,001 to 50,000	55
50,001 to 54,000	60
54,001 to 59,000	65
59,001 to 64,000	70
64,001 to 70,000	75
70,001 to 76,000	80
76,001 to 83,000	85
83,001 to 90,000	90
90,001 to 96,000	95
96,001 to 111,000	100
111,001 to 130,000	110
130,001 to 160,000	120
160,001 to 190,000	130
190,001 to 220,000	140
220,001 to 250,000	150
250,001 to 290,000	160
290,001 to 320,000	170

Population served:	Minimum number of samples per month
320,001 to 360,000	180
360,001 to 410,000	190
410,001 to 450,000	200
450,001 to 500,000	210
500,001 to 550,000	220
550,001 to 600,000	230
600,001 to 660,000	240
660,001 to 720,000	250
720,001 to 780,000	260
780,000 to 840,000	270
840,001 to 910,000	280
910,001 to 970,000	290
970,001 to 1,050,000	300
1,050,001 to 1,140,000	310
1,140,001 to 1,230,000	320
1,230,001 to 1,320,000	330
1,320,001 to 1,420,000	340
1,420,001 to 1,520,000	350
1,520,001 to 1,630,000	360
1,630,001 to 1,730,000	370
1,730,001 to 1,850,000	380
1,850,001 to 1,970,000	390
1,970,001 to 2,060,000	400
2,060,001 to 2,270,000	410
2,270,001 to 2,510,000	420
2,510,001 to 2,750,000	430
2,750,001 to 3,020,000	440
3,020,001 to 3,320,000	450
3,320,001 to 3,620,000	460
3,620,001 to 3,960,000	470
3,960,001 to 4,310,000	480
4,310,001 to 4,690,000	490
≥4,690,000	500

(c) (1) When the coliform colonies in a single standard sample exceed four per 100 milliliters (§ 141.15(a)(1)), daily samples shall be collected and examined from the same sampling point until the results obtained from at least two consecutive samples show less than one coliform per 100 milliliters.

(2) When organisms of the coliform group occur in three or more 10 ml portions of a single standard sample (§ 141.15(a)(2)(i)), daily samples shall be collected and examined from the same sampling point until the results obtained from at least two consecutive samples show no positive tubes.

(3) When organisms of the coliform group occur in all five of the 100 ml portions of a single standard sample (§ 141.15(a)(2)(ii)), daily samples shall be collected and examined from the same sampling point until the results obtained from at least two consecutive samples show no positive tubes.

(4) The location at which the check sample was taken pursuant to paragraphs (c) (1), (2) or (3) of this section must not be eliminated from future sampling because of a history of questionable water quality. Check samples shall not be included in calculating the total number of samples taken each month to determine compliance with § 141.15.

(d) When a particular sampling point has been confirmed, by the first check sample examined as directed in paragraphs (c) (1), (2), or (3) of this section, to be in non-compliance with the maximum contaminant levels set forth in § 141.15, the supplier of water shall notify the State as prescribed in § 141.31.

(e) When the maximum contaminant levels set forth in paragraphs (a) (1) or (2) of § 141.15 are exceeded as confirmed by check samples taken pursuant to paragraphs (c) (1), (2), or (3) of this section, the supplier of water shall report as directed in § 141.32(a).

(f) When a particular sampling point has been shown to be in non-compliance with the requirements of § 141.15, water from that location shall be retested within one hour. If the non-compliance is confirmed, the State shall be notified as prescribed in § 141.31. Also, if the non-compliance is confirmed, a sample for coliform analysis must be immediately collected from that sampling point and the results of such analysis reported to the State.

(g) Standard bacteria plate count samples shall be analyzed in accordance with the recommendation set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp 660-662. Samples taken for the purpose of plate count analysis shall be collected at points which are representative of conditions within the distribution system at a frequency at least equal to 10 percent of the frequency for coliform analysis as directed in paragraph (b) of this section with the exception that at least one sample shall be collected and analyzed monthly.

§ 141.22 Turbidity sampling and analytical requirements.

(a) Samples shall be taken at a representative entry point(s) to the water distribution system at least once per day (at least once per month for supplies using water obtained from underground sources) for the purpose of making turbidity measurements to determine compliance with § 141.14. The measurement shall be made in accordance with the recommendations set forth in "Standard Methods for the Examination of Water and Wastewater," American Public Health Association, 13th Edition, pp. 350-353 (Nephelometric Method).

(b) In the event that such measurement indicates that the maximum allowable limit has been exceeded, the sampling and measurement shall be repeated within one hour. The results of the two measurements shall be averaged, and if the average confirms that the maximum allowable limit has been exceeded, this average shall be reported as directed in § 141.31. If the monthly average of all samples exceeds the maximum allowable limit, this fact shall be reported as directed in § 141.32(a).

(c) The requirements of this § 141.22 shall not apply to public water systems other than community water systems which use water obtained from underground sources.

§ 141.23 Inorganic chemical sampling and analytical requirements.

(a) (1) To establish an initial record of water quality, an analysis of substances for the purpose of determining compliance with § 141.11 shall be completed for all community water systems utilizing surface water sources within one year following the effective date of this subpart. This analysis shall be repeated at yearly intervals.

(2) An analysis for community water systems utilizing ground water sources shall be completed within two years following the effective date of this subpart. This analysis shall be repeated at three year intervals.

(3) Analyses for public water systems other than community water systems, whether supplied by surface or ground water sources, shall be completed within six years following the effective date of this subpart. These analyses shall be repeated at five-year intervals.

(b) If the supplier of water determines or has been informed by the State that the level of any contaminant is 75 percent or more of the maximum contaminant level, he shall analyze for the presence and quantity of that contaminant at least once per month following the initial analysis or information and after conducting monthly testing for a period of at least one year, the supplier of water demonstrates to the satisfaction of the State that the level of such contaminant is stable and due to a natural condition of the water source, he may reduce the frequency of analysis for that contaminant consistent with the requirements of paragraph (a) of this section.

(c) If the supplier of water determines or has been informed by the State that the level of any contaminant listed in § 141.11 exceeds the maximum contaminant level for the substance, he shall confirm such determination or information by repeating the analysis within 24 hours following the initial analysis or information, and then at least at weekly intervals during the period of time the maximum contaminant level for the substance has been exceeded, or until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective. The results of such repetitive testing shall be averaged and reported as prescribed in paragraph (d) of this section.

(d) To judge the compliance of a public water system with the maximum contaminant levels listed in § 141.11, averages of data shall be used and shall be rounded to the same number of significant figures as the maximum contaminant level for the substance in question. Each average shall be calculated on a past 12-month moving average basis (or less than twelve samples per year are analyzed, and on a past three month moving average basis if twelve or more samples per year are analyzed. In cases where the maximum contaminant level has been exceeded in any one sample, the average concentration shall be calculated on a one-month moving average basis and reported pursuant to § 141. If the mean of the samples comprising the one month moving average exceeds the maximum contaminant level, the supplier of water shall give public notice pursuant to § 141.32(a).

(e) The provisions of paragraphs (c) and (d) of this section notwithstanding, compliance with the maximum contaminant level for nitrate shall be determined on the basis of individual analyses rather than by averages. When a level exceeding the maximum contaminant level for nitrate is found, the analysis shall be repeated within 24 hours, and the mean of the two analyses exceeds

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maximum contaminant level, the supplier of water shall report his findings pursuant to §§ 141.31 and 141.32(a).

(f) Analyses conducted to determine compliance with § 141.11 shall be made in accordance with the following methods:

(1) Arsenic—Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 95–96, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(2) Barium—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 97–98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(3) Cadmium—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 101–103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(4) Chromium—Atomic Absorption Method, "Standard Methods for the Examination of water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 105–106, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(5) Cyanide—Titration or Colorimetric Methods, "Methods for Chemical Analysis of Water and Wastes," pp. 40–48, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(6) Lead—Atomic Absorption Method, "Standards Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," pp. 112–113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(7) Mercury—Flameless Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 118–126, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(8) Nitrate—Brucine Colorimetric Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 461–464, or Cadmium Reduction Method, "Methods for Chemical Analysis of Water and Wastes," pp. 201–206, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(9) Selenium—Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," p. 145, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(10) Silver—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 210–215, or "Methods for Chemical Analysis of Water and Wastes," p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(11) Fluoride—Electrode Method, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 172–174, or "Methods for Chemical Analysis of Water and Wastes," pp. 65–67, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974, or Colorimetric Method with Preliminary Distillation, "Standard Methods for the Examination of Water and Wastewater," 13th Edition, pp. 171–172 and 174–176, or "Methods for Chemical Analysis of Water and Wastes," pp. 59–60, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

§ 141.21 Pesticide and organic chemicals sampling and analytical requirements.

(a) (1) To establish an initial record of water quality, an analysis of substances for the purpose of determining compliance with §§ 141.12 and 141.13 shall be completed for all community water systems utilizing surface water sources within one year following the effective date of this subpart. This analysis shall be repeated at yearly intervals.

(2) An analysis for community water systems utilizing ground water sources shall be completed within two years following the effective date of this subpart. This analysis shall be repeated at three-year intervals.

(3) Analyses for public water systems other than community water systems, whether supplied by surface or ground water sources, shall be completed within six years following the effective date of this subpart. These analyses shall be repeated at five-year intervals.

(b) If the supplier of water determines or has been informed by the State that the level of any contaminant is 75 percent or more of the maximum contaminant level, he shall analyze for the presence and quantity of that contaminant at least once per month following the initial analysis or information. If, after conducting monthly testing for a period of at least one year, the supplier of water demonstrates to the satisfaction of the State that the level of such contaminant is stable and due to a natural condition of the water source, he may reduce the frequency of analysis for that contaminant consistent with the requirements of paragraph (a) of this section.

(c) If the supplier of water determines or has been informed by the State that the level of contaminants set forth in § 141.12 exceeds the maximum contaminant level, he shall confirm such determination or information by repeating the analyses within two weeks following the initial analysis or information. The average of the two analyses, if in excess of the maximum contaminant level, shall be reported as directed in §§ 141.31 and 141.32(a).

(d) If the supplier of water determines or has been informed by the State that the level of any contaminant listed in § 141.13 exceeds the maximum contaminant level for the substance, he shall confirm such determination or information by repeating the analysis within 24 hours following the initial analysis or information, and then at least at weekly intervals during the period of time the maximum contaminant level for that substance has been exceeded, or until a monitoring schedule as a condition to variance, exemption or enforcement action shall become effective. The results of such repetative testing shall be averaged and reported as prescribed in paragraph (e) of this section.

(e) To judge the compliance of a public water system with the maximum contaminant levels listed in § 141.13, averages of data shall be used and shall be rounded to the same number of significant figures as the maximum contaminant level for the substance in question. Each average shall be calculated on a past 12-month moving average basis if less than twelve samples per year are analyzed, and on a past three month moving average basis if twelve or more samples per year are analyzed. In cases where the maximum contaminant levels of § 141.13 have been exceeded in any one sample, the average concentration shall be calculated on a one-month moving average basis and reported pursuant to § 141.31. If the mean of the samples comprising the one month moving average exceeds the maximum contaminant level, the supplier of water shall give public notice pursuant to § 141.32(a).

(f) Sampling and analyses made to determine compliance with § 141.12 shall be made in accordance with "An Improved Method for Determining Organics in Water by Activated Carbon Absorption and Solvent Extraction," Parts 1 and 2, Buelow, et al., Journal of American Water Works Association, 65: 57, 197 (1973).

(g) Analyses made to determine compliance with § 141.13(a) shall be made in accordance with "Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973.

(h) Analyses made to determine compliance with § 141.13(b) shall be conducted in accordance with "Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," MDQARL, Cincinnati, Ohio, November 23, 1973.

§ 141.27 Laboratory certification.

For the purposes of determining compliance with §§ 141.21 through 141.24, samples may be considered only if they have been analyzed by a laboratory approved by the State. The approval shall be contingent upon maintenance of proper laboratory methods and technical competence and upon the retention for inspection at reasonable times of analytical results. Approved laboratories shall make periodic reports as required by the State.

§ 141.31 Reporting requirements.

The supplier of water shall report within 40 days following a test, measurement or analysis required to be made by this

subpart, the results of that test, measurement or analysis: *Provided, That the supplier of water shall report within 36 hours* the failure to meet any standards (including failure to comply with monitoring requirements) set forth in this subpart. Reports required to be made by this § 141.31 shall be communicated to the State, except that Federal Agencies shall report to the Regional Administrator.

§ 141.32 Public notification of variances, exemptions and noncompliance with standards.

(a) The supplier of water shall give notice to the persons served by the public water system of any failure on the part of the system to comply with the requirements (*including monitoring* requirements) of this subpart. The supplier of water shall give the notice required by this § 141.32 not less than once every three months during the life of the noncompliance:

(1) By publication on not less than three consecutive days in a newspaper or newspapers of general circulation serving the area served by such public water system, which newspaper or newspapers shall be approved by the State. With respect to the public water systems operated by Federal Agencies, the newspapers cited in this paragraph shall be approved by the Regional Administrator;

(2) By furnishing a copy thereof to the radio and television stations serving such area as soon as practicable but not later than 36 hours after confirmation of the noncompliance with respect to which the notice is required; and

(3) By inclusion with the water bills of the public water system at least once every three months if the water bills are issued at least once every three months, and with every water bill if they are issued less often. If water bills are not issued, other means of notification acceptable to the State may be used. The notice required by this § 141.32 shall state at least that the public water system fails to monitor, operate the system or provide water which meets all the requirements of this subpart and shall state with particularity those requirements for which there is noncompliance. If a quantitive limitation has been exceeded, the notice shall state what the Federal or State limitation is, and at what level of performance the water supply system has been operating.

(b) The supplier of water shall give notice pursuant to the procedures set forth in paragraph (a) of this section—

(1) When his system has received a variance under section 1415(a)(1) or 1415(a)(2) of the Act, and shall continue the notification process at no less than three month intervals during the life of the variance;

(2) When his system has received an exemption under section 1416 and shall continue the notification process at no less than three month intervals during the life of the exemption; or

(3) When his system has failed to comply with any schedule or control measure prescribed pursuant to a variance or exemption and shall continue the notification process at no less than the three month intervals during the life of the variance and exemption.

§ 141.41 Siting requirements.

Before a person may enter into a financial commitment for or initiate construction of a new public water system or increase the capacity of an existing public water system, he shall—

(a) To the extent practicable, avoid locating part or all of the new or expanded facility at a site which:

(1) Is subject to earthquakes, floods, fires or other man-made disasters which could cause breakdown of the public water system or a portion thereof; and

(2) Is within the floodplain of a 100 year flood;

(b) Notify the State.

§ 141.51 Effective date.

The standards set forth in this subpart shall take effect 18 months after the date of promulgation.

[FR Doc.75-6603 Filed 3-13-75,8:45 am]

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PROPOSED NATIONAL INTERIM PRIMARY DRINKING WATER STANDARDS

I. Maximum Contaminant Levels for Inorganic Chemicals

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Contaminant	Level (mg/l)
Arsenic	0.05
Barium	1.
Cadmium	0.010
Chromium	0.05
Cyanide	0.2
Lead	0.05
Mercury	0.002
Nitrate	10.
Selenium	0.01
Silver	0.05

Fluorides

When the annual average of the maximum daily air temperatures for the location in which the public water system is situated is the following, the corresponding concentration of fluoride shall not be exceeded:

Temperature (in degrees F)	(degrees C)	Level (mg/l)
50.0 - 53.7	10.0-12.0	2.4
53.8 - 58.3	12.1-14.6	2.2
58.4 - 63.8	14.7-17.6	2.0
63.9 - 70.6	17.7-21.4	1.8
70.7 - 79.2	21.5-26.2	1.6
79.3 - 90.5	26.3-32.5	1.4

II. Maximum Contaminant levels for Organic Chemicals

The maximum contaminant level for the total concentration of organic chemicals, is 0.7 mg/l.

III. Maximum Contaminant Levels for Pesticides

Chlorinated Hydrocarbons	Level mg/l
Chlordane	0.003
Endrin	0.0002
Heptachlor	0.0001
Heptachlor Epoxide	0.0001
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
Chlorophenoxys	
2,4-D	0.1
2,4,5-TP Silvex	0.01

Radiation Standards excluded C-7

IV. Maximum Microbiological Contaminant Levels

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Two methods may be used to comply with levels.

(1) When membrane filter technique used (a) coliform densities shall not exceed one per 100 milliliters as arithmetic mean of all samples examined per month; and either

(i) Four per 100 milliliters in more than one standard sample when less than 20 are examined per month; or

(ii) Four per 100 milliliters in more than five percent of the standard samples when 20 or more are examined per month.

(2)(i) When fermentation tube method used and 10 milliliter standard portions, coliforms shall not be present in more than 10 per cent of the portions in any month; and either

(A) Three or more portions in one sample when less than 20 sampl are examined per month; or

(B) Three or more portions in more than five percent of the samples if 20 or more samples are examined per month.

(ii) When fermentation tube method used and 100 milliliter stand ard portions (a) coliforms shall not be present in more than 60 per- cent of the portions in any month; and either

(A) Five or more portions in more than one sample when less than five samples are examined; or

(B) Five or more portions in more than 20 percent of samples when five samples or more are examined.

Supplier of water shall provide water in which there shall be no greater than 500 organisms per one milliliter as determined by the standard bacterial plate count.

V. Maximum Contaminant Level of Turbidity

The level at representative entry point(s) to the distribution system is one turbidity unit (TU) except that five or fewer turbidity units may be allowed if supplier can demonstrate to State that higher turbidity does not:

(a) Interfere with disinfection;

(b) Prevent maintenance of an effective disinfectant agent through the distribution system; and

(c) Interfere with microbiological determinations.

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
MID-CONTINENT REGION

IN REPLY REFER TO:

MAILING ADDRESS:
Post Office Box 25387
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION:
603 Miller Court
Lakewood, Colorado
Telephone 234-2634

FEB 28 1975

Mr. C. F. Thomas
Chief, Planning Division
Omaha District
U. S. Army Corps of Engineers
6014 U.S. Post Office
Omaha, Nebraska 68102

Attention: John Velehradsky

Dear Mr. Thomas,

We have reviewed the informational booklet on the Omaha, Nebraska-Council Bluffs, Iowa study as requested in your letter of February 4, 1975. The informational booklet is well prepared and provides a good source of information on the water and related land resource problems in the study as it has progressed to this date.

We offer the following specific comments to the informational booklet for your consideration.

The first paragraph on Page 74, following Table 15, is difficult to follow. This paragraph draws the conclusion that demand for outdoor recreation is greater in the Nebraska portion of the study than the Iowa portion, based on information provided in Tables 14 and 15. Table 14 identifies deficiencies in areas for six water-related activities, whereas Table 15 identifies most and least desired facilities. These tables do not necessarily indicate greater demand in Nebraska, however, they do provide a comparison of recreational preferences and average demands for a number of related activities in the two states.

The last paragraph on Page 74, third sentence, states that "Currently, overuse of existing major recreation areas is defined when recreation visits exceed 500 per-acre-per-year." This statement is too general. Some sites may exceed 500 recreation visits per-acre-per-year without overuse. This would be dependent upon the activities these sites support.

On Page 76, last paragraph, we suggest the following statement regarding the Platte Level B Study be reworded as follows:

EXHIBIT C-8

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

Platte Level B Recreation Technical Paper. The Outdoor Recreation Technical Paper for the Platte Level B Study is a report on recreation aspects of a broad comprehensive water resources study covering the Platte River Basin through Nebraska. When completed, this technical paper will present conceptual proposals for recreation development of major drainages of the Platte River through Nebraska, including the Lower Platte and Elkhorn Rivers, which should be considered in the Omaha-Council Bluffs Metropolitan Study.

The summary, beginning on Page 103, poses a number of concerns to which the following comments are directed:

Page 103, fourth paragraph. Due to the limited availability of water resources, every possible alternative to protect or improve water quality should be implemented. Streams and rivers should not be utilized to accomplish the sewage treatment process. These potential and existing recreation resources are limited in the study area. Rather than utilizing rivers and streams for the sewage treatment process, we should explore the possibility of utilizing recycled waters from waste treatment facilities for recreation enhancement.

Page 103, last paragraph. Recreational opportunities should be expanded to meet the needs of the citizens of the study area. Those areas that provide unique or specialized recreation opportunities, such as flowing streams and natural areas, should be set aside so they are not lost for future recreational use.

Our present analysis of needs for the metropolitan study area indicates a deficiency of approximately 16,000 acres of regional parks, general parks and recreation areas. This need is based on the existing supply as measured against the standards shown in the Nebraska and Iowa State Comprehensive Outdoor Recreation Plans. Most of these deficits occur in Douglas and Sarpy Counties, Nebraska. The 1974 University of Nebraska at Omaha recreation participation survey revealed activity preferences in the following order of priority: (1) playing games and sports, (this included badminton, soccer, football, baseball, softball, volleyball, field hockey, trap shooting, track, horseshoes, and playground activities); (2) visiting zoos, fairs, and amusement parks; (3) picnicking; and (4) driving for pleasure. Recreational opportunities, to support these activities, should be located as near the population centers as possible. However, those special or unique areas must be developed where they exist.

Page 104, second paragraph. Non-structural alternatives for the flood plains should be given a high priority where such alternatives still exist. Flood plains, especially in

or near the metropolitan areas, can serve as the focal points for open space, green belts and other recreation areas. Local governments should have the major role in developing and implementing flood plain zoning regulations within the overall regional plan.

Sincerely,

George W. Hollt

for Albert G. Baldwin
Assistant Regional Director
Resource Planning Services

UNITED STATES
DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
~~BUREAU OF SPORT FISHERIES AND WILDLIFE~~
Ecological Services
P.O. Box 159
Grand Island, Nebraska 68801

May 1, 1975

Mr. C. F. Thomas, Chief
Planning Division, Omaha District
Corps of Engineers
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102

Attention: Mr. Don Kisicki

Dear Sir:

As requested in your December 5, 1974, and February 12, 1975, letters, we are enclosing the following information to aid you in your Metropolitan Omaha - Council Bluffs Urban Study.

(a) General Comments

(b) Existing Wildlife Resources

(c) Existing Fisheries Resources

(d) Answers to specific questions from your February 12, 1975, letter.

Information regarding the recreational aspects of the study will be forthcoming after we have had an opportunity to review the latest information booklet that we understand is to be mailed out from your office within the next ten days.

If there are additional questions, please feel free to contact our office.

Sincerely yours,

Bruce Hiseman
for Eugene D. Miller
Acting Supervisor

Enclosures

EDM:RBW:rn

EXHIBIT C-9

ANSWERS TO QUESTIONS

I. Combined Sewer Overflows

The question of determining impacts on the aquatic environment resulting from shock-loading conditions is an extremely difficult one to answer. Very little quantitative data has been gathered within the Metro Study Area on standing fish populations or on the macroinvertebrate environment in the Missouri River.

Naturally, the entire food chain in the river is adversely affected when pollutants are discharged into the river. All organisms have different tolerance levels to each and every pollutant. It has been shown that fish species are extremely sensitive to changes in dissolved oxygen. Rough fish species, such as carp, sucker, buffalo, and some minnow species are more tolerant to lower D.O. levels than fish species such as walleye and sauger. The abundance of the rough fish in the Missouri River adjacent to the study area is probably an indication of the present water quality of that stretch of river.

To do nothing to alleviate the shock-loading conditions caused by the combined sewer overflows would mean a continual degradation of the entire downstream Missouri River ecosystem. Your modeling studies assumed that the entire width of the river would be available to assimilate the waste loads. This would not be true as you pointed out; rather, the pollutants would be confined to a narrow band along the river's edge for many miles downstream. Therefore, the impacts upon the aquatic environment would be much more severe for that portion of the river, and the assimilation of the pollutants would take a much longer period of time and many more miles would be affected downstream from the point sources than what has been shown in the modeling studies.

The five alternatives being considered as possible solutions to the overflow problem would reduce or eliminate the discharge of raw sewage into the Missour River. Safeguards would be needed for alternatives 4A and 4B, to assure that the tunnels across the Missouri River to the storage lagoons in Iowa were free from deficiencies. The diked storage areas along the existing levee should be located to eliminate the possibility of flooding.

Before we could offer any specific comments relative to EPA's concern of the impacts the lagoons might have on wetland areas, we would first need to know exactly where these lagoons would be located and then we could evaluate each site on an individual basis. It appears, however, that there would be few problems as most of the land is in agricultural production at this time. Effects these lagoons might have on the adjacent lands would be minimal and, in fact, could increase the amount and quality of vegetation surrounding them. This could be beneficial to numerous wildlife species, particularly the smaller birds and mammals.

If one of the alternatives is chosen that utilizes lagoons or diked storage areas, both the U.S. Fish and Wildlife Service and the Nebraska Game

and Parks Commission should be consulted to aid in recommending sites that would have the least adverse effects upon fish and wildlife resources.

We recommend that prior to any final plan implementation monitoring studies be conducted to determine at least the following:

(1) Quality of overflows and the shock-loading conditions as they are confined to the band along the banks of the river.

(2) Effects the overflows, to include low D.O., have on the aquatic communities downstream from the point sources.

The aesthetics and quality of life that people are in search of and that is in short supply in the Metropolitan area should give impetus to at least these two studies.

After the studies have been completed, the Water Quality Standards prescribed for the Missouri River, as Class A waters, should be met. This would insure that the dissolved oxygen content would at no time be lower than the allowable 5 mg/l, which, in turn, would positively affect fish, other aquatic life, and all wildlife species dependent upon the riverine ecosystem.

II. Regional Wastewater Management Study

Provided that there are assurances that underground aquifers are not contaminated and that discharges into the Missouri River meet State water quality standards, either alternative 1, buried storage reservoirs, or alternative 5A, mined storage, would have the least impact upon fish and wildlife resources. Alternatives 4A and 4B would be recommended over alternative 2 because there would be a greater possibility of contaminating the river with five storage areas, particularly situated immediately adjacent to the river as they are. The overall aesthetics would be a major consideration also. Comparatively, alternatives 4A and 4B are relatively equal.

The major difference is that with alternative 4A all of the combined sewer overflows for Omaha would be tunneled across the Missouri River to one storage area, while with alternative 4B, there are two small storage areas on the Nebraska side of the river and only part of the overflows would be tunneled to the Iowa side to the storage area there. Should the tunnel rupture or crack, there would be less contamination of the river with alternative 4B.

The land irrigation system which will utilize treated municipal effluents appears to be an excellent way of converting a pollutant into a resource.

Effects upon fish and wildlife are not fully known as this technique is relatively new. Discussed below are possible effects on fish and wildlife.

A. Aquatic Resource

The primary impacts on the aquatic resource would result from irrigation return flows and their effect upon water quality. Increases in flows, total dissolved solids, silts, nutrients, temperature, pesticides, and herbicides in adjacent streams will all greatly affect the biota of these streams.

Of utmost concern are changes in the stream bottom habitats. Fish and other aquatic vertebrates are partially dependent upon bottom organisms for food. Elimination of productive areas in affected streams through deposition of fine textured materials would greatly reduce the production of benthic and aufwuch organisms. In reducing the quality of habitats, there is a tendency towards a more uniform community and a shorter and less complex food chain, therefore, less species diversity.

Possible solutions for reducing the rate of runoff would be to (1) define the exact limits of the capability of the land itself and (2) provide buffer zones between the agricultural lands and the receiving streams. Planting grasses, shrubs, and trees would increase both the percolation and evapotranspiration rates and would aid in reducing soil erosion.

By diverting the treated effluent and utilizing it on a land treatment area, there will be an alteration of the Missouri River flow regimes. This will affect its current physical and biological characteristics as well as the adjacent riparian lands. The degree of effects will be dependent upon the total acre-feet that will be diverted that normally would be discharged into the Missouri. The parameters of this problem should be identified.

B. Wildlife Resource

Impacts upon the wildlife resource could generally be favorable. The storage lagoons could provide habitat for a host of water birds, including waterfowl. The placement of the lagoons should be coordinated with the U.S. Fish and Wildlife Service and Nebraska Game and Parks Commission to assure that there will be no destruction of existing wildlife habitat, particularly wetlands. Assuming that the land areas to be irrigated with treated effluent are already under cultivation, there will be no direct losses of wildlife habitat. If this is not the case, special attention should be given toward preserving wildlife habitat. Within land treatment areas 1 and 2, there are a few remaining important small wetland areas. These marsh areas are the most critical factor in maintaining or enlarging duck populations as they are used heavily as breeding areas. They are also vital to a host of other species associated with this habitat type. They receive heavy spring use by all waterbirds, particularly ducks and geese, and provide hunting opportunities in the fall when water is present. Every effort should be taken to preserve the few that remain.

Because of the mobility of waterfowl and the great distances they travel, a wide distribution of habitat types is needed and each state has a responsibility to contribute to these needs. Because of Nebraska's geographical location and the importance of the wetland habitat found within

its boundaries, it could play an extremely important role in the lives of all migratory waterfowl. Yet, by 1972, due to (1) lack of knowledge of the worth of natural wetlands, (2) an alleged profit resulting from draining wetlands for farm ground, and, (3) failure to recognize and exercise one's responsibility to the natural resources, in Butler, Polk, Seward, and York counties, about 1,229 wetland areas had been destroyed. Only 7.1%, 14.5%, 6.7%, and 15.8%, respectively, of the original wetlands remained.

Buffer zones around the storage and treatment lagoons would benefit wildlife species and would be a welcomed addition to the sparsely located wildlife niches found in the areas.

The application rate of 15 inches per acre per year is more compatible with the present on-going farming operations in the treatment areas. A rate of 30 inches per acre per year would only lead to increased run-off. When a final site is chosen, it is recommended, as mentioned earlier, that the exact infiltration rates, permeability, plant requirements, and so forth, be determined and then that total be used for the application rate. This would mimimize adverse effects to the aquatic resource. Additional lands should be irrigated as the amount of waste water increases in future years rather than increasing application rates.

The 90-inch transmission line from Omaha to the treatment sites would have short-term adverse effects upon resident wildlife species. We recommend that the pipe be buried for general environmental and aesthetic considerations. Direct losses to wildlife habitat would occur, but would probably be minimal with the exception of crossing the Platte River floodplain, assuming priority areas 1 or 2 were chosen. There are also numerous small creeks and drainages that will be crossed and temporarily disrupted. For example, if priority area number 2, the Blue River Basin, were chosen, as many as 15 rivers and creeks would be crossed.

Loss of habitat should be replaced after construction is completed and is highly recommended. The entire right-of-way for the transmission line could provide habitat for small upland game and non-game species if basic management practices were carried out. The Nebraska Game and Parks Commission should be contacted for professional expertise on this matter. The linear configuration of the pipeline route lends itself to an ideal situation, where, with plantings of native grasses and woody plant species, many miles of "edge" habitat could be provided. "Edge" habitat provides an interface with other habitat types, a condition which is highly beneficial to maintaining diverse wildlife populations. We recommend that a long-term easement be sought for the transmission line and that it be fenced to maximize wildlife benefits.

The Platte River is an annual spring and fall migration stopover for waterfowl species. It is recommended that construction of the pipeline to priority areas 1 or 2 across the river and its associated floodplain be carried out between May and September to lessen the disturbance factor upon them.

There should be built-in safeguards to prevent the possibility of the pipeline breaking or plugging, resulting in an "effluent spill", particularly across the Platte River and other drainages that will be bisected.

III. Water Supply Study

In 1968, Congress passed Public Law 90-542, the National Wild and Scenic Rivers Act, which provides ample evidence that there is a concern for the protection of free-flowing streams. Nebraska's State Water Plan recognizes the value of a protected river system also. More importantly, the people of Nebraska, in recent surveys, have made it clear that they, too, want water left in the rivers and streams for recreational, fish, and wildlife uses. In two separate surveys, one conducted in the Platte River Level "B" study area and the other over the entire state, 65% and 62% of the people, respectively, said they wanted at least half of the water left in the streams and rivers every day throughout the year for those uses mentioned above. We have absolutely no reason to believe that the people answering the questionaires meant that they wanted all of the flow for one-half of the year and zero flow for the other half. Most would like to see water in our streams and rivers all the time.

The Platte River has many features which should be preserved. Continued water withdrawals directly by diversion and possibly indirectly through wells drawing water from aquifers that feed the river has resulted in decreased flows. To avoid future disastrous losses of unique and irreplaceable fish, wildlife, and environmental resources of the Platte River Valley through overdevelopment of our water resources, we have recommended that a percentage of the water be left in the river. As a guideline, both the Fish and Wildlife Task Force for the Level "B" study and the U.S. Fish and Wildlife Service recommend at least the 60% exceedance probability of mean daily discharge on a monthly basis for the Platte. If the flow would naturally be less than this amount, run-of-the-river is recommended.

In explanation, this flow can be roughly determined by taking that flow which is exceeded 60% of the time on a daily basis, over a span of years, and then averaging these average daily 60% exceedance flows for each month. The actual 60% exceedance flow is contained in a U.S. Geological Survey print-out entitled "Exceedance Probabilities of Mean Daily Discharges". This print-out is on file at our Grand Island Field Office.

We understand a large well field located very close to the river would, for all practical purposes, be using water from the Platte River. Further upstream demands for irrigation and municipal and industrial uses might decrease flows in the Platte. To develop another well field along its course for the Omaha Metro area would compound a possible problem further. Therefore, we recommend that the Missouri River source be used rather than the Valley, Nebraska, site. Because of the higher flows in the Missouri River, less environmental degradation would occur if the water was extracted from the Missouri River. Significant reduction of flow in any river results in pronounced physical and biological effects

of direct loss of habitat and loss of habitat diversity. The end result is fewer kinds and numbers of fish and all aquatic flora and fauna. Other wildlife are affected also. Reduced flows enhance invasion of trees and other woody vegetation in the streambed, restricting the channel of the stream. The stream is then not capable of handling flows as large as it once did and flooding problems result at much lower flows than what historically occurred.

Riparian woodlands are lost in many instances when flows are reduced and regulated because development often occurs up to the streambank after the land has been cleared. However, by destroying the natural vegetation, the banks are then very susceptible to erosion, so landowners can, and often do, lose in the long run.

There would be a loss of a significant but undeterminable number of consumptive recreation days associated with squirrels, rabbits, waterfowl, furbearers, bait minnows, fish, big game, quail, and pheasants if flows are reduced. The magnitude would be dependent upon the reduction of flows. Non-consumptive uses would decrease also, and areas of general esthetic value would be lost.

The 60% exceedance flows recommended for the lower Platte are shown below. The North Bend site is above the confluence of the Elkhorn and Platte, while the South Bend site is below it and therefore shows the effects of the Elkhorn flows and additional tributaries.

Stream Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Lower Platte N. Bend	2560	3250	2690	2680	3920	5150	4180	3960	3680	1860	1330	1670
Lower Platte S. Bend	3620	4320	3190	3520	5220	6870	6900	4590	6370	2850	2220	3210

When flows exceed these figures, water could be extracted from the river.

Concerning the problem of storm runoff and domestic wastes degrading the quality of the Papillion Basin waters, the effects to the aquatic resources would be similar to those in the Missouri River, as described earlier. However, the shock-loading conditions would be much more severe and of a longer duration because the assimilative capacity is not as great as in the Missouri River.

The potential for upgrading the fisheries resource in the entire Papillion drainage system is possible, but somewhat limited. Channelization practices have reduced diversity of habitats to a great extent and therefore it is doubtful if a significant fisheries resource could be established. However, more fish species could be supported if the water

quality was upgraded. Historically, Papillion Creek recorded species such as black buffalo, bigmouth buffalo, bluegill, and creek chub, all of which are intolerant to pollutants. A stream survey in 1972 revealed none of these species, and for the most part, only species with high tolerance levels were recorded. These included goldfish, sand shiner, bigmouth shiner, and flathead minnow. Only one black bullhead and one largemouth bass was recorded.

Water quality standards should be met not only for the fish and wildlife resources, but for the general populace in the Metro area, as well. All possible steps should be taken to enhance the recreational and aesthetic enjoyment of Papillion Creek and its tributaries. Depending upon which alternative growth pattern is followed, the creeks could pass through extensive residential areas and could be used as open space areas.

The Federal Water Pollution Control Act Amendments (P.L. 92-500) set a zero discharge goal of pollutants into any waters of the United States. Although state water quality standards might be met with 80% treatment and each individual project area treats to this level before discharging into waterways, the accumulative effects upon the ecosystems could still be quite significant. The carcinogenic carrying substances recently found towards the lower end of the Mississippi River is one example. We cannot continue to pollute our waterways and hope that there will be no ill effects; therefore, we recommend that the zero discharge goal be strived for in your wastewater management studies. The land irrigation option appears to be an effective way of reaching this goal and at the same time, it could provide a source of irrigaiton water, nitrogen, and phosphorous for farming activities.

IV. ALTERNATIVE GROWTH POTENTIALS

Of the four alternative growth patterns, both concept "A" and "D" require in excess of 70,000 additional acres by the year 2020. This would not only result in a loss of the remaining wildlife habitat in that area, but also a loss of highly productive agricultural lands. The natural resources and energy used in construction costs for residences, streets, and utility services, and the amount of water, gas, and electircity used in both concepts is nearly equal.

Concepts "B" and "C" require 30,000 and 43,000 additional acres, respectively, while the total amount of other natural resources consumed by each is nearly identical. The environmental effects such as those involving air, water, and noise pollution are confined to a smaller area in concepts "B" and "C". Because concept "B" requires 13,000 fewer acres than concept "C", and because all other factors are nearly equal, concept "B" appears to be more compatible to the fish and wildlife and other environmental resources.

Concepts "A" and "D", being nearly equal in all facets, but requiring over 70,000 additional acres, appear to be the least desirable from our viewpoint.

General Comments

Historically, fish and wildlife resources have suffered because they have been given relatively little, if any, consideration in the development of this country. This is especially true in Nebraska, where less than one percent of the state's acreage is devoted primarily to fish and wildlife purposes.

However, recent years have brought an increasing recognition of the broad spectrum of fish, wildlife, and other environmental values. These include aesthetic, historical, recreational, educational, scientific, economic, and ecological values. Man's impact on the interrelations of all components of the natural environment, particularly the influences of population growth, high density urbanization, industrial expansion, and resource exploitation has been profound. Congress recognized this and in 1969 adopted the National Environmental Policy Act. This Act encouraged productive and enjoyable harmony between man and his environment and promoted efforts which would help prevent or eliminate damage to the environment. We recommend that during all planning phases of the Metro Study, this Act be referred to frequently and that environmental values be given equal consideration in decision-making, along with economic and technical considerations. It is in these initial planning steps that the natural resources are normally overlooked, and when the implementation process begins, it is often too late to adequately give them equal consideration.

The demand for land is not only in quantity, but also in quality. In establishing an orderly development of land and related water resources, the needs of the increasing population must be provided for. But, at the same time, the environment must be protected. This would include existing fish and wildlife populations and their habitats, along with other facets of the environment which influence health and/or have concrete or aesthetic values.

Existing Wildlife Resources

Agricultural lands account for over 80% of the total land acreage in the study area in Nebraska. Cultivation has removed not only the native prairie grasses of the region, but also many acres of woodlands. The latter accounts for only two to three percent of the study area. These remaining natural woodland stands are dominated by cottonwood, elm, and oak. Shelterbelts and windbreaks account for most of the coniferous species that are present.

The greatest extent of woodlands is confined to major waterways or in areas where terrain is unfavorable for row crops. The bluffs along the Missouri, the Missouri floodplain, and the Platte River floodplain account for most of the acreage.

Many wildlife species found in the study area depend primarily on woodlands for their existence. White-tailed deer, squirrel, bobwhite quail, and a host of songbirds and non-game species are particularly dependent upon woodlands for escape cover, nesting areas, and food supply.

Other environmental benefits which these woodland areas provide include a setting for several outdoor activities such as wildlife/wildlands appreciation, photography, birdwatching, hiking, and hunting. They also aid in preventing soil erosion and offer a visual relief from the predominant cropland/city landscape.

The waterways and adjacent floodplains are important to the above listed species and also to furbearers such as mink and muskrats, and waterbirds, including ducks, geese, herons, and numerous shorebird species. Being situated along the Central Flyway, thousands of migratory ducks and geese pass through Nebraska and Iowa annually. Traditionally, both the Platte and Missouri Rivers have been heavily used. Within the study area, the Dodge-Saunders Refuge located on the Platte River, the Plattsmouth Waterfowl Management Area at the confluence of the Platte and Missouri rivers, and the DeSoto National Wildlife Refuge adjacent the Missouri River all support significant populations during fall and spring migrations. To maintain quality waterfowl habitat, existing water, marsh and wetland areas should be preserved and the development of new water areas encouraged, except when inter-species trade-offs are involved.

Relative abundance of upland-game species throughout the study area is considered to be scarce to low for pheasant and bobwhite quail and low to moderate for cottontail rabbit. White-tailed deer, restricted primarily to the woodlands along the bluffs and stream courses, are found in moderate to high numbers in those areas. Considerable importance should be placed on the retention of the timbered tracts to provide for deer habitat. Hunting of these game species is probably now at capacity within the study area.

Existing Fisheries Resources

I. STREAM

Significant fishery areas within the study area were placed in one of the following six classes. The criteria used for this classification included aesthetics, availability, productivity, and use, and was patterned after that used in the Comprehensive Framework Studies, Missouri River Basin.

Class 1 - Waters of National Significance
Class 2 - Waters of Statewide Significance
Class 3 - Waters of Regional Significance
Class 4 - Waters of Local Significance
Class 5 - Degraded Water Areas
Class 6 - Non-Productive Water Areas

There were no Class 1 or 2 waters within the study area. Class 3 waters occurring in the area included the Missouri, Platte, and a portion of the Elkhorn along the western boundardy of Washington County. Class 3 waters are generally categorized as having adequate size and water volume to support a significant fishery resource and thus draw people from a wide area. The significant fishery is often the result of the generally large size of Class 3 waters having a greater diversity of habitat which can, in turn, support a greater diversity and abundance of species.

Class 4 waters offer fishing opportunity to the immediate area in which they occur. Their smaller size and irregular flows generally result in lower production and diversity than is available in Class 3 waters.

Access to many Class 3 and 4 water areas is poor because of private ownership of lands bordering them.

Class 5 waters are represented throughout the study area and are categorized as degraded, of low water quality, and capable of supporting only the less desirable fish species. They may also be subjected to severe dewatering during at least a portion of the year by man-induced factors. Class 5 waters could support a more desirable fish population if the water quality was improved and the flows stabilized.

Non-productive waters, Class 6, are incapable of supporting a sustained fishery. They are characterized by intermittent flows and are dry during extended periods of the year.

The table on the following page lists the distribution of warm-water streams and rivers within the study area (Nebraska only).

Nebraska streams within the metropolitan area are subject to severe degradation of water quality. Sedimentation, flooding, municipal and industrial wastes, feedlot wastes, and agricultural runoff containing excessive concentration of chemicals are the major pollutants. Some pesticides and herbicide applications have probably been detrimental to fish and wildlife populations.

II. ARTIFICIAL WATERS

Small public and private waters found in the study area do contain a diversity of fish populations depending upon the quality of habitat and feasibility and degree of management. Problems associated with these waters, which include farm ponds, pools formed by some grade stabilization and floodwater retarding structures, and gravel pits, include flooding, siltation, depth, livestock use, and agricultural runoff. Owner interest and participation is also important on the private waters.

Such waters are too numerous to list; however, it should be pointed out that they do offer fishing opportunity. Landowner permission is required on most private waters.

DISTRIBUTION OF WARM WATER STREAMS AND RIVERS WITHIN THE STUDY AREA

NEBRASKA	Class 3		Class 4		Class 5		Class 6			
COUNTY	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres[1]	Drainage Basin	Overall Fishing Quality
Washington	41	2,507	38	46	-	-	117	-	Missouri, Elkhorn	Fair to Moderate
Douglas	22	801	61	35	18	349	63	-	Missouri, Elkhorn, Lower Platte	Fair to Moderate
Sarpy	44	2,125	19	9	30	162	38	-	Missouri, Lower Platte	Fair
Cass	29	988	90	25	23	73	183	-	Lower Platte Nemaha	Poor to Fair
Sub-Totals	136	6,421	208	115	71	584	401	-		
Land Treatment Area #1[2]										
Saunders	50	3,636	153	89	16	50	170	-	Lower Platte	Fair
Land Treatment Area #2[3]										
Butler	-	-	32	34	-	-	38	-	Big Blue	Poor
Polk	-	-	46	45	-	-	39	-	Big Blue	Poor
Seward	-	-	128	97	-	-	89	-	Big Blue	Poor
York	-	-	24	84	13	13	126	-	Big Blue	Poor
Totals	186	10,057	591	464	100	647	863	-		

1/ Not calculated.
2/ Includes Platte River due to close proximity to treatment area.
3/ Does not include Platte River or some of the smaller streams lying outside treatment area.

Save Energy and You Serve America!

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
134 South 12th Street, Room 604, Lincoln, Nebraska 68508

November 6, 1973

C. F. Thomas, Chief
Planning Division
Department of The Army
Omaha District
Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

As per your notice of October 1973, we have reviewed the Summary Report of the Metropolitan Omaha, Nebraska, Council Bluffs, Iowa water study.

The report appears to be comprehensive and well written and we have no comments or recommendations for change.

Sincerely,

W. J. Parker
for State Conservationist

Enclosures (2)

EXHIBIT C-10

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
823 Federal Building, Des Moines, Iowa 50309

November 7, 1973

Mr. C. F. Thomas
Chief, Planning Division
Omaha District, Corps of Engineers
6014 U. S. Post Office & Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

Members of my staff have reviewed the Phase I: Summary, and Phase II: Program report for the Metropolitan Omaha, Nebraska - Council Bluffs, Iowa Water Study. We feel the report is well written and to the best of our knowledge covers the areas of land and water resources for the area very well.

We would like to make the following comments and suggestions for consideration in preparation of the Phase II Program Report:

1. Page 2, Table 1, footnote 4. In Iowa, the correct name of agency is "Office for Planning and Programming".

2. Page 4. Population projections. Is the range in average population density for future development of from 6.5 to 30 persons per acre the result of three different groups making projections, or is it the difference in densities based on different geographic locations? The answer to this question should be included in the Phase II Report.

3. Pages 36 and 38. Page 36 indicates that the cost for treating Missouri River surface water is $15.50 per mg. Page 38 indicates that treatment of groundwater from Missouri River floodplain would cost $22.00 per mg. Why does groundwater treatment cost more than surface water treatment? Is it the high quantity of dissolved solids and salts? This should be answered in the Phase II Report.

4. Pages 50 and 51. Indian Creek - No mention is made of the Indian Creek Watershed Project (PL-566). Our studies indicate that the system of structures proposed will provide some downstream protection.

Sincerely,

Wilson T. Moon

Wilson T. Moon
State Conservationist

EXHIBIT C-11

PROGRAMS

SOIL & WATER CONSERVATION
WATERSHED PROTECTION
COMPREHENSIVE PLANNING
FLOOD PLAIN MANAGEMENT
DATA BANK
WATER QUALITY PLANNING

STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

P. O. Box 94725
State House Station
Lincoln, Nebraska 68509

Office Location: Room 358
State Capitol Building

January 4, 1974

Mr. C. F. Thomas
Chief, Planning Division
Omaha District, Corps of Engineers
U.S. Post Office & Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

SUBJECT: Review of Phase I Summary and Phase II Program for the Metropolitan Omaha, Nebraska - Council Bluffs, Iowa Study

The Nebraska Natural Resources Commission is the State agency responsible for 303(e) Basin Water Quality Management Planning. Our agency was assigned the task of basin planning in April of 1971 by Governor Exon. We are very interested in water quality plans being developed in Nebraska. Our agency worked closely with MAPA during the development of the Comprehensive Water Pollution Control Plan for the area. We welcome this opportunity to review your plan.

Any plan dealing with water must necessarily deal with land use, wastewater management, water quality, water supply, recreation, fish and wildlife, and environmental concerns. No single item can be changed without having an interaction affecting the other parts. Therefore, any water quality management plan must be a comprehensive plan. The Corps is to be complimented on its comprehensive approach to water related problems in the Omaha-Council Bluffs Area. The Plan of Study completed in October, 1972 brings all these issues together. This process helps illustrate inter-agency planning needs which focus on the total system and the inter-relationship of its parts.

During review of the plan, one specific comment repeated itself: the tendency to plan for confirmation of existing development patterns rather than examining alternate patterns of development. This theme can be seen in the statement made on page 4, "Urban development in the study area will likely continue to spread horizontally as opposed to major redevelopment or vertical growth".

EXHIBIT C-12

COMMISSION MEMBERS

JIM COOK VINCE DREESZEN E. F. FROLIK WESLEY HERBOLDSHEIMER ALBERT JAMBOR
EMMETT LEE WILLIAM R. MAYBEN DEMPSEY MCNIEL WARREN PATEFIELD

In a preceding paragraph, however, the following statement is made, "Concern is directed toward determining the optimum size of the metropolitan area that would be required to maintain the wholesome quality of life for future generations". On page ten another statement is made, "Planning must recognize the real possibility of policy changes in the future". These statements are very true, but the plan makes no provision to handle these problems.

We feel that the plan must, in order to be viable, present alternates to the existing pattern of development. The alternates as dealt with in the plan will provide solutions to problems which have resulted due to continuation of the existing development pattern. We feel at least two growth alternates should be considered: (1) a continuation of the existing development pattern, and (2) a growth pattern which puts emphasis on maximization of services and life quality for the people of the planning area. Once these alternates are identified, a comparison of the costs and benefits between the two development alternates would allow an informed public to make rational decisions on true planning alternates, not merely solutions to status quo problems.

The Corps approach to public involvement in the plan is excellent and should be a real aid in obtaining public support for and input to the plan. However, it is important to distinguish between commercial interests and interests of the general public when developing the plan. Another extremely important item is the "Implementation Study". Without the necessary institutional and legal implementation mechanisms, the best of plans is worthless. Specific recommendations should be made in the final plan.

This type of plan is of the utmost importance to the Omaha area. With a few changes, it can provide a sound basis for making the decisions of tomorrow with prior knowledge of their effects. It also allows for advance preparation to handle these effects, especially water quality.

If our agency can be of assistance, please contact us.

Very truly yours,

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:CT:cd
cc: Major Brueggeman

ROGRAMS:

SOIL & WATER CONSERVATION
WATERSHED PROTECTION
COMPREHENSIVE PLANNING
FLOOD PLAIN MANAGEMENT
DATA BANK
WATER QUALITY PLANNING

STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

P. O. Box 94725
State House Station
Lincoln, Nebraska 68509

Office Location: Room 358
State Capitol Building

January 18, 1974

Mr. Don Kisiciki
Planning Division
District Office, Corps of Engineers
U.S. Post Office and Court House
Omaha, Nebraska 68102

Dear Mr. Kisiciki:

Thank you for the opportunity to review the "Formulation of Alternative Regional Wastewater Management Systems", "Formulation of Alternatives within the Omaha-Missouri River Sewerage System", and "Scope of Work for Consideration of Land Disposal". Our comments follow.

(1) We feel that too much emphasis is put on the alternatives of treatment methods: biological, physical-chemical, and land disposal. The most significant alternatives to explore are the levels of treatment; i.e., primary, secondary, tertiary (suitable for reuse), or no discharge (land disposal). The location of discharges, which was addressed in the MAPA plan, is the next most important consideration. Hopefully Plan C would be followed. The time frames for achieving certain levels of treatment and discharge locations should then be considered, along with alternative methods of treatment including biological, physical-chemical, and land disposal.

(2) The outline for consideration of the land disposal alternative is excellent.

(3) We hope that the process of estimating the costs of all these alternatives will receive much attention, as the cost estimates will greatly influence the final recommendations.

Very truly yours,

Gayle H. Lewis

Gayle H. Lewis, P.E.
Chief, Planning Division

EXHIBIT C-13

GHL:SH:cd

COMMISSION MEMBERS

JOHN ADAMS — ROBERT W. BELL — JIM COOK — VINCE DREESZEN — E. F. FROLIK — WESLEY HERBOLDSHEIMER — ALBERT JAMBOR
TED JOHNSON — DAN S. JONES, JR. — EMMETT LEE — WILLIAM R. MAYBEN — DEMPSEY MCNIEL — WARREN PATEFIELD

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DEVELOPMENT FUND

STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

November 14, 1974

Mr. C. F. Thomas
Chief, Planning Division
Omaha District, Corps of Engineers
6014 U. S. Post Office
Omaha, Nebraska 68102

Dear Mr. Thomas:

We have reviewed the Phase I report on regional wastewater management in the Omaha area and have the following comments to offer.

Page B-33. The assumption that 25 percent of feedlot waste reaches a stream seems excessive. We use a figure of 2 percent in the water quality plans, as found in research by Butchbaker (Evaluation of Beef Cattle Feedlot Waste Management Alternatives, EPA, 1971), Madden and Dornbush (Livestock Waste Management and Pollution Abatement Proceedings of International Symposium, ASAE, 1971), and McCalla. The 2 percent figure has been debated and seems well accepted by the people who review our water quality plans.

Plate B-6 and All Maps. West Papillion Creek and Papillion Creek are not labeled correctly according to USGS 7½-minute quadrangle maps. We use the USGS as a final authority on stream names, and they say that Papillion Creek begins at the confluence of West Papillion Creek and South Papillion Creek. Big Papillion Creek then flows into Papillion Creek.

Part C. We feel that you have developed a fine approach to the problem in working out alternative plans with different growth possibilities and different effluent requirements.

Plate C-1. Are the black dots located at existing treatment plants (where stormwater treatment and discharge might occur) or at major storm sewer outfalls?

Plate C-3 and C-5. What is the dotted line parallel to the Missouri River Interceptor? Is it a potential separate storm runoff interceptor?

EXHIBIT C-14

Table C-18. There should be a table of the data or assumptions that went into this table. Apparently waste loads from land runoff were used.

We agree that Phase II efforts should be directed toward the areas mentioned in your memo, as well as toward refining some alternatives. Thank you for the opportunity to review this material.

Very truly yours,

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:SH:cd

MROPD-R 27 November 1974

Mr. Gayle H. Lewis, P.E.
Chief, Planning Division
Nebraska Natural Resources Commission
Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

Dear Mr. Lewis:

Thank you for reviewing our Phase I report on regional wastewater management in the Omaha area. Our response to your 14 November 1974 comments are as follows:

a. Page B-33. We are currently checking our assumptions made regarding feedlot runoff delivery ratio. Our 25 percent ratio was meant to apply only to the 10 percent of the wastes that leave the feedlot. In comparison to your figures, our actual delivery ratio would then be 2.5 percent.

b. Plate B-6 and all Maps. Concur.

c. Plate C-1. Black dots were located at existing treatment plant sites, existing major storm sewer outfalls, and potential outfall points. It was initially contemplated to use the existing domestic plants for stormwater treatment. However, most plants appear to be too small based on an optimization of storage and treatment sizing. The one exception is possibly the old Papillion Creek treatment plant.

d. Plates C-3 and C-5. The dotted line represents a tunnel to convey combined sewer overflows in the Omaha-Missouri River sewerage system. This tunnel was among recommendations (5A or B) of the Harza study.

EXHIBIT C-15

27 November 1974

e. Table C-18. Concur.

Thank you again for your comments. If you have further comments, please do not hesitate to contact us.

Sincerely yours,

C. F. THOMAS
Chief, Planning Division

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STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

December 5, 1974

Mr. C. F. Thomas
Chief, Planning Division
Omaha District, Corps of Engineers
6014 U. S. Post Office
Omaha, Nebraska 68102

Dear Mr. Thomas:

Thank you for the opportunity to review the interim report on Regional Water Supply. We have no specific comments but were interested in the data on water conservation, water pricing, and possible separate systems for potable and nonpotable uses. Also I feel the report might be better presented if its size were reduced.

Very truly yours,

Gayle H. Lewis

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:SH:cd

EXHIBIT C-16

COMMISSION MEMBERS

JOHN ADAMS - ROBERT W. BELL - JIM COOK - VINCE DREESZEN - HOWARD OTTOSON - WESLEY HERBOLDSHEIMER - ALBERT JAMBOR
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STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

December 12, 1974

Mr. Chuck Thomas
Omaha District
Corps of Engineers
6014 U. S. Post Office
Omaha, Nebraska 68102

Dear Mr. Thomas:

Thank you for the opportunity to respond to the planning questions in your December 5 letter. I have no easy answers to these questions, so I have responded according to what I think should be considered in the Omaha metro water resources plan.

1(a) What waste sources should be placed under the 1977 secondary treatment requirements?

Ans. The 1977 secondary treatment requirements apply to all point sources of pollution including combined sewers and storm sewers.

1(b) Should the 1983 Best Practicable Treatment standards be based on technology or on water quality standards?

Ans. The 1983 standards should be based on available technology and should at least provide for meeting water quality standards.

1(c) Should planning efforts be directed to achieve the 1985 goal of "zero discharge" or is this goal not valid for the region at least for the next fifty years? In other words, should our water resources continue to be used as part of the sewage treatment process?

Ans. Planning efforts should be directed to achieve the 1985 goal of zero discharge of pollutants. We need to know the cost of meeting this goal and the cost of various alternatives to meeting this goal.

1(d) (Harza Study) - For combined overflows discharging into the Missouri River, what should be the minimum treatment and storm recurrence level acceptable? Should the 1977 domestic standards be applied? Should a lesser standard be applied? If a water quality standard were applied which constituents should be considered? Would screening and chlorination with some expected stream degradation be acceptable?

Ans. Secondary treatment should be applied to combined overflows. Lesser degrees of treatment and their costs should also be explored.

EXHIBIT C-17

COMMISSION MEMBERS

JOHN ADAMS · ROBERT W. BELL · JIM COOK · VINCE DREESZEN · HOWARD OTTOSON · WESLEY HERBOLDSHEIMER · ALBERT JAMBOR
TED JOHNSON · DAN S. JONES, JR. · EMMETT LEE · WILLIAM R. MAYBEN · DEMPSEY MCNIEL · WARREN PATEFIELD
CLINTON VON SEGGERN

ADVISORS · WILLARD BARBEE · THOMAS DOYLE · THOMAS EASON · PAUL HARLEY · J. E. HIGGINS · GUS KARAFAT

1(e) Should urban storm runoff be exempted from state water quality standards? If not, what storm recurrence interval and treatment level should be considered? If treatment of stormwater was required, what method of handling is preferred; upstream treatment discharge or conveyance to a central point.

Ans. Urban storm runoff should not be exempted from water quality standards. Secondary treatment would probably be required if water quality standards are to be met. A recurrence interval of one year might be appropriate. I would consider upstream chemical treatment and discharge to be one of the more viable alternatives.

2(a) Would a land irrigation plan be implementable if economical? Who might manage the system. Would it be publicly acceptable?

Ans. A land irrigation system probably could be implemented. It might be managed by a district or corporation formed for the purpose. I think it would be publicly acceptable, but I wouldn't rely on selling all the water to present farm owners and operators. A contract to assure disposal of the water would be needed.

2(b) What value for irrigation water could be assumed in priority areas 1, 2, and 3.

Ans. Surface water irrigators receive water at $5 per acre-foot but this subsidized price is not the true cost of delivering the water. The cost of pumping groundwater from 100 feet deep in York County is rapidly approaching $20 per acre-foot. Over $10 of this is for energy and the rest represents equipment depreciation. $20 per acre-foot would be cheap for treated sewage delivered to the site, especially considering the fertilizer value of the effluent. Perhaps the value should be increased to reflect the nutrients available in the water.

2(c) Would the land alternative be more viable for the minor urban and rural communities than for the major urban treatment plants?

Ans. Yes.

2(d) Would Lincoln's wastewater be practical to interconnect with Omaha's if priority areas 1 or 2 were selected?

Ans. Yes.

2(e) Would treatment and discharge in the winter months and treatment and irrigation in the summer months represent a viable land irrigation option to consider?

Ans. Yes.

2(f) Any general opinions on the land irrigation concept would be appreciated.

Ans. I feel the land irrigation concept is an important alternative for the Omaha area. To implement it, though, Omaha won't be able to just "sell water". I feel a separate organization would have to go into the farming business with the first priority being wastewater disposal and the second crop production.

3(a) Interceptor configurations (difference indicated in Plans I and II). Should the Papio interceptors ultimately be extended to serve Gretna, Elkhorn, and Bennington or should they maintain their own treatment facilities. Important considerations are that these communities may need more than secondary treatment if individual treatment is continued. At the same time, extension of the Papio interceptors would promote urban sprawl. Should interceptor implementation be used as a "control growth" tool? Which interceptor configuration is preferred (Plan I or II)?

Ans. The interceptor should eventually be extended to serve Gretna, Elkhorn, and Bennington. Urban sprawl has not been prevented in the past by a lack of community sewerage facilities and I doubt if these facilities will be a controlling factor in the future in Omaha.

3(b) Plan II retains the Bellevue No. 1 treatment plant. Should this plant be retained or connected to the Papillion Creek treatment plant?

Ans. The Bellevue No. 1 treatment plant should be connected to the new Papillion Creek treatment plant.

3(c) The only difference between Plan I and IV is in the retention of the Omaha - Missouri River treatment plant. Optimization of capacity and costs indicates Plan IV is 2.5 percent more expensive than Plan I. This plant is currently under design and is a high priority item for implementation. Should Plan IV be eliminated in favor of Plan I?

Ans. Secondary treatment should be added to the Omaha Missouri River treatment plant, and Omaha should have two major plants.

3(d) Several of the smaller treatment plants in the study area lack adequate operation and maintenance. Would regional operation and maintenance (by an organization similar to an N.R.D.) be politically acceptable?

Ans. Yes.

Very truly yours,

Gayle H. Lewis

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:SH:cd

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STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

February 5, 1975

Mr. Chuck Thomas
Chief, Planning Division
Omaha District, Corps of Engineers
215 North 17th Street
Omaha, Nebraska 68102

Dear Mr. Thomas:

Thank you for the opportunity to comment on your January 1975 Information Booklet. This publication is a valuable summary of the Omaha study so far. Our comments follow.

Pages 50 and 54. The year of the drought and fish kill was 1974, not 1973.

Page 46. In the chapter entitled, "Water Supply", reference is made several times to "rural water districts". As "rural water districts" can no longer be organized (section 46-1001.01 R.R.S. 1943) it would seem that preferable terminology would be "rural water supply areas" or "rural water supply regions". The authority for supplying water for rural domestic use lies now with natural resources districts, and this should be clearly stated somewhere in the Water Supply Chapter.

Pages 60 and 69. The discussion of rural water districts should include the handling of the additional wastewater which would be generated.

Page 103, summary questions. We feel one of the higher density growth patterns should be the goal, but favor regionalization of the sewerage system as in Plan I. Certainly water and sewer systems should be used to guide growth, but they cannot control it alone. We do feel that demands on the water supply should be reduced, and that flood plains should be zoned.

Very truly yours,

Gayle H. Lewis

EXHIBIT C-18

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:SH:cd

COMMISSION MEMBERS

JOHN ADAMS - ROBERT W. BELL - JIM COOK - VINCE DREESZEN - HOWARD OTTOSON - WESLEY HERBOLDSHEIMER - ALBERT JAMBOR
TED JOHNSON - DAN S. JONES, JR. - EMMETT LEE - WILLIAM R. MAYBEN - DEMPSEY MCNIEL - WARREN PATEFIELD
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STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

June 12, 1975

Mr. Chuck Thomas
Omaha District
Corps of Engineers
U.S. Post Office & Court House
Omaha, Nebraska 68101

Dear Mr. Thomas:

Enclosed for your information are the minutes of our March 27, 1975 Comprehensive Planning Committee and March 27 Natural Resources Commission meetings. These meetings followed Don Kisicki's presentation regarding land irrigation with wastewater. The Commission decided to "consider all aspects of the concept of land application of wastewater effluents, promote awareness of the concept throughout the state, and cooperate fully with the Corps of Engineers and others interested in this concept."

Very truly yours,

Gayle H. Lewis, P.E.
Chief, Planning Division

GHL:SH:cd
Enclosures

EXHIBIT C-19

MINUTES OF
COMPREHENSIVE PLANNING COMMITTEE MEETING
March 27, 1975

The Comprehensive Planning Committee meeting was held March 27, 1975 in the Commission conference room. Gayle Lewis opened discussion in absence of the chairman and vice-chairman at approximately 8:30 a.m. Those present were:

Albert Jacobs	Bruce Anderson	Dayle Williamson
Alvin Marjes	Les Sheffield	Gayle Lewis
Dan Drain	Gus Karabatsos	Jerry Wallin
Vince Dreessen	Marion Ball	Sue Hoppel
Emmett Lee	Dempsey McNiel	Keith Sheets

The first item of business was a request by the staff for Commission approval of the South Platte River Basin Water Quality Management Plan. A discussion covered a brief history of the plan development and a resume of comments on the final draft and verbal comments presented at the hearing. A change to this and subsequent plans will include requirement for a biennial report on the implementation of the plan. This addition will require the Commission, Department of Environmental Control, and involved NRD's to review the activities in the basin pursuant to the plan. The motion was made and seconded that the Committee recommend approval of the water quality plan to the Commission. The motion carried.

Approval of the Long Branch Watershed Policy Statement was the next item considered. Comments of the official review were discussed and the Committee moved to approve the policy statement and to refer to the Commission for approval.

Lewis reported on a presentation made by the Corps of Engineers to interested agencies which included a proposal for wastewater transfer from the Omaha-Metropolitan area to the Blue River Basin to be used for irrigation. It was requested that Lewis discuss this report at the Commission meeting. It was suggested that the Committee recommend that the Commission consider all aspects of using secondary wastewater for land treatment and to consider studies in other areas of the State.

As a result of a suggestion made by Bob Bell at the last Commission meeting, prioritization became an item of discussion. Lewis reported that the Commission has not received guidelines from MRBC for the next fiscal period, but that it is highly probable that implementation studies and implementation projects must be considered. A summary of what the prioritization committee has done in the past and an example of procedure was submitted for the Commission's consideration.

Lewis reported that the Old West Regional Commission is considering a $250,000 grant for a recharge research project to extend over a period of four years. If an agreement can be reached with the State of Nebraska, the grant would finance a pilot study in the Blue River Basin designated to be relevant to the other states in the Old West Region. He indicated that the Commission basin studies would be tied in closely with this research project. It is not yet determined how this project will be administered and through what agency.

Gayle Lewis discussed the status reports of the sections. Copies were made available to the Commission members. Meeting adjourned.

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WATER AND RELATED LAND RESOURCES MANAGEMENT STUDY. VOLUME IV. C--ETC(U)
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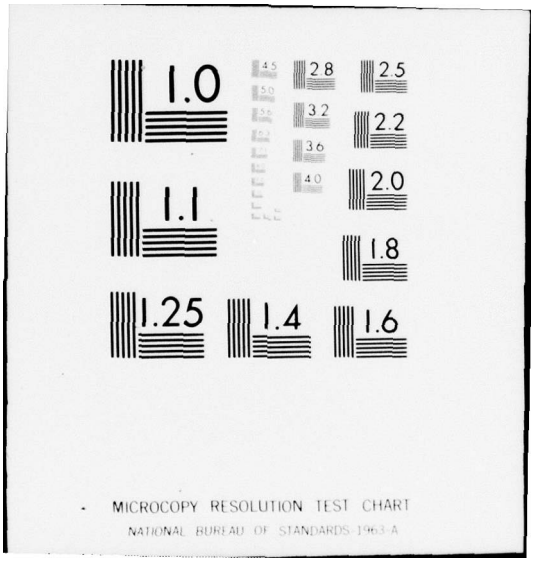
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12. Long Branch Watershed Project Policy Statement Draft
13. Nebraska Resources Development Fund Status Report
14. 12-D Cub Creek Land Rights Acquisition

MINUTES

Motion was made by Lee and seconded by Narjes to approve the minutes of the February 20, 1975 Commission meeting as distributed. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Kokes, Bell

EXPENDITURES

Expenditures for the month of February 1975 were briefly reviewed by Gayle Starr. Motion was made by Cook and seconded by McNiel to approve the expenditure report as distributed. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Kokes, Bell

EXECUTIVE SECRETARY'S REPORT

Dayle Williamson announced that Ray Hartung, who is now employed by the Department of Environmental Control, has been hired to replace Dave Mazour as Administrator of the Resources Development Fund effective May 1. He also indicated that an engineer had been hired for the Comprehensive Planning Section and that as of this time, all authorized positions are now filled.

Williamson commented that at the last Commission meeting, the Commission had directed him to send a letter to the Congressional delegation urging the extension of the authorization for Title III funding from the Water Resources Council. He indicated that such an extension is being considered and that he had recently had contact from Dr. Warren Viessman who is researching this area for Congress.

Williamson also reported that an earlier news item had reported that Congressman McCollister intended to introduce legislation providing that the National Flood Insurance Program be a voluntary program rather than mandatory as at present. He added that he had contacted Congressman McCollister's office in this regard and provided him with information on the program in Nebraska. He added that the mandatory program as it is now operating in Nebraska is satisfactory from the standpoint of participation, but the main problem is that the technical data is not available when needed.

Williamson indicated that Governor Exon had expressed interest in having the state represented at the Congressional hearings on the Nebraska Reclamation Projects. Governor Exon has not made a decision as to who should represent the State, but the Commission may be asked to do this.

Williamson explained that the Missouri River Basin Commission had not had a meeting since the last State Commission meeting and, therefore, there was very little to report. He did indicate that the next meeting would be in Omaha on May 7 and 8.

WATERSHED AND FLOOD CONTROL COMMITTEE

Albert Jambor distributed copies of the minutes of the Watershed and Flood Control Committee meeting held the afternoon of March 26 and discussed a number of topics as follows:

Fund Status - Copies of the Watershed and Flood Control Status Report were distributed and Jambor indicated that approximately $339,000 of cash money was on hand and that $214,000 of appraisals have been approved. He indicated that the staff expects all of the approved appraisals to be finalized in the near future. Gayle Starr indicated that a recent Attorney General's opinion has indicated that the cash fund expenditures for state agencies are limited by the amounts shown in the budget, and that in the Watershed and Flood Control fund, approximately $299,000 have been spent and that the budget bill limitation as the result of the Attorney General's opinion is $385,000. As a result, Starr indicated that an amendment would have to be approved by the Legislature and signed by the Governor to raise that cash fund limitation in order to allow the expenditure of funds for approved appraisals. Williamson indicated that this should not be a problem, but does need to be accomplished in the very near future.

Cub Creek 12-D Lease Arrangement - Jambor explained that the Commission in December approved an appraisal for a 200 acre parcel in the amount of $121,500 involved with structure 12-D of the Cub Creek Watershed in the Lower Big Blue NRD. He added that the funds have not been transferred to the NRD, but they have negotiated an agreement with the landowner with a settlement date for late April. He also explained that since the appraisal was made, it has been determined that the current tenant has a five-year lease on the property for crop years 1974-1978. Jambor indicated that the Committee had discussed a proposed lease arrangement with the current tenant of the 200 acre property with the lease arrangement containing provisions which would compensate the tenant for damages suffered as a result of construction during the term of the lease which he now holds. Ron Fleecs distributed a hand-out outlining the history of negotiations with the owner and tenant. Fleecs explained that in negotiating with the owner, they had agreed to allow the current owner to retain the owner's share of the 1975 crop. Fleecs further explained that in view of the five-year lease held by the tenant, the district felt that the best solution would be to negotiate with the tenant to provide for a cash lease that would satisfy the tenant and compensate him for damages as the result of not being able to farm approximately 56 acres for the final three years of his five-year lease. Fleecs stated that the lease negotiated with the tenant would provide for an annual cash lease of $4,535 for the three years, but that the tenant would not pay any cash lease for crop year 1976 as compensation for the damages. Fleecs explained that the appraisal made for the tenant indicated that the damages for the full three years would be approximately $5,000, therefore, the tenant would in effect be paid $4,535 for his damages as a result of not having to pay the cash lease of that amount in 1976. Fleecs added that he was asking the Commission to approve this lease arrangement as a method of satisfying the damage claim of the tenant.

Albert Jambor indicated that he understood how the negotiation could have resulted in this type of agreement, but that he felt the Commission was under no obligation to approve this lease arrangement which would in effect be an expenditure of $4,535 for damages. Several other Commission members also indicated that they felt the

lease arrangement was understandable, but that they felt this should have been included with the appraisal at the time the Commission considered and approved the appraisal for acquisition of the property. Jim Cook (staff attorney) indicated that it was his opinion that the Commission could legally approve this arrangement without a specific independent appraisal of the damages, and that they could approve the longer term lease as opposed to the normal one-year lease used on these types of lands. Dayle Williamson indicated that he felt there was a need to have this situation well documented so that there would be no misunderstanding as to what took place and that the amount of damages and the annual lease amount be evident. Motion was made by Hardy and seconded by Lee to approve the lease arrangement as presented by the NRD, providing that the Commission would not be paid $4,535 of cash rent for 1976 in lieu of the damages to the tenant. Motion failed.
Aye: Hardy, Narjes, Wylie, Patefield
Nay: Jambor, Wayne Johnson, Kokes
Present Not Voting: Cook, Lee, Anderson, McNiel
Not Present: Ted Johnson, Gifford, Kopf, Bell

Motion was made by Wylie and seconded by Lee to approve a lease arrangement at $3,000 per year for the three years 1976, 1977 and 1978. Amendment to the motion was made by Wylie and seconded by Lee to provide for a $9,000 lease for the three years payable in three equal annual amounts in 1976, 1977 and 1978. Amendment to the motion failed.
Aye: Cook, Lee, Anderson, Wayne Johnson, Wylie, McNiel, Patefield
Nay: Narjes
Present Not Voting: Jambor, Hardy, Kokes
Not Present: Ted Johnson, Gifford, Kopf, Bell

Original motion failed.
Aye: Wylie, Patefield
Nay: Narjes
Present Not Voting: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Kokes McNiel
Not Present: Ted Johnson, Gifford, Kopf, Bell

Motion was made by Kokes and seconded by Narjes to authorize the Executive Secretary to approve a lease providing for an annual cash lease in the amount of $4,535 for 1976, 1977 and 1978. Motion carried.
Aye: Cook, Jambor, Lee, Wayne Johnson, Kokes, Narjes, Wylie, McNiel, Patefield
Nay: None
Present Not Voting: Anderson, Hardy
Not Present: Ted Johnson, Gifford, Kopf, Bell

Wilson Creek 8-H - Albert Jambor introduced Otto Wollensieck, the attorney for the Nemaha NRD for the lawsuit involving the Wilson Creek 8-H land. Wollensieck briefly outlined the history of the situation and indicated it was his opinion that if the Commission would agree to grant access over the property which was purchased with Watershed and Flood Control funds for any eventual purchaser of the land purchased with district funds (both parcels of land being involved with Wilson Creek Structure 8-H) the Attorney General would approve such an arrangement. Wollensieck also indicated that it was his opinion that the Commission had the authority to grant such access and that the high bidder at the auction held in 1973 had no legal interest in the property in view of the injunction issued by the court. Jim Cook (staff attorney) stated that the Attorney General's office has indicated that they would

not approve of the Commission granting access as stated by Mr. Wollensieck, and that it was his opinion that the high bidder at the auction (Mike Henry) does have a legal interest in the property. No action was taken.

Tentative Land Sale Schedule - Jambor indicated the Committee had reviewed the tentative land sale schedule for 1976 and subsequent fiscal years. Kennedy indicated the sponsors of the project lands involved in the 1976 sales had been contacted and the NRD Managers had agreed with the 1976 sales schedule. Motion was made by Jambor and seconded by Anderson to approve the land sale schedule for 1976 and the tentative schedule for subsequent years. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Kokes, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Wayne Johnson, Kopf, Bell

Prioritization of watershed applications - Jambor explained that the Committee had reviewed Policy Statement II, General Planning, relating to the prioritization of watershed applications for planning. He explained that several NRD's would like to have this prioritization done at this time. Jambor also indicated that the Committee recommended that the Chairman of the Commission's Watershed and Flood Control Committee also attend the meetings in an advisory capacity so that he would be aware of the actions and considerations of the Watershed Prioritization group. Motion was made by Lee and seconded by Wylie to amend the policy statement to add the Chairman of the Commission's Watershed and Flood Control Committee to the Watershed Prioritization Committee in an advisory capacity. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Kokes, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Wayne Johnson, Kopf, Bell

Jambor indicated that Bill Parker of the SCS had requested at the Committee meeting that the word will be changed to normally in paragraph III (A-2) of the policy statement. Motion was made by Jambor and seconded by Kokes to change the word will to normally in paragraph III (A-2) of the Watershed Prioritization Policy Statement. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Kokes, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Wayne Johnson, Kopf, Bell

Jambor explained that Bill Parker had discussed a proposed system of prioritization for special projects technical assistance by SCS at the Committee meeting. Parker distributed a draft proposal outlining the system and briefly discussed it.

Special Projects - Jambor indicated that the Committee had reviewed their previous action taken in regard to the North Platte NRD special project request, and had briefly discussed the letter from the NRD Manager withdrawing their application because he felt the Commission had unduly delayed action on the project. He indicated that no further action should be taken by the Commission.

Jambor explained that the Committee had reviewed a special project assistance request from the Upper Elkhorn NRD involving some high water table and water disposal problems in the area of Inman, Nebraska. Dick Kennedy briefly explained the project and indicated that the NRD was requesting preliminary engineering assistance at this time and survey and kelsh assistance, should it be needed. Kennedy added that the preliminary engineering assistance could be provided in the near

future. Motion was made by Jambor and seconded by Wylie to approve the Inman project for special projects assistance with a priority rating. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Kokes, Narjes, Wylie, McNiel, Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Wayne Johnson, Kopf, Bell

Albert Jambor explained that at the January Commission meeting, the South Platte NRD had requested special projects assistance in regard to Oliver Dam and Reservoir west of Kimball, Nebraska. He added that at that time the Committee and the NRD representatives had discussed a number of questions involved with water rights, land acquisition and dissolution of the irrigation district, which has operated the reservoir. He indicated at that time that the Commission had approved the project request, but had not given it a priority rating pending answers to the numerous questions. He explained that the NRD Manager had forwarded a letter to the Commission providing answers to the various questions as they could best be determined at this time, and that he had requested that the Commission proceed to develop a preliminary cost estimate for the rehabilitation of the structure. Dick Kennedy explained that the Department of Water Resources had determined that the dam was unsafe for storage of water as designed, and that the NRD was requesting the Commission staff to develop a preliminary engineering design and estimate for rehabilitation of the dam. He added that this assistance would require about four weeks of survey time to determine the reservoir capacity and related surveys, and he stated that the engineering assistance could be provided in the near future, and that the survey assistance could be provided as soon as it is warm enough to reasonably allow a reservoir survey. Motion was made by Jambor and seconded by Narjes to grant a priority rating to the South Platte NRD request for special projects assistance on the Oliver Dam and Reservoir project. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Kokes, Narjes, Wylie, McNiel. Patefield
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Bell

LEGISLATIVE REPORT

Dempsey McNiel indicated that the Legislative and Budget Committee had met on March 13, 1975 to discuss several bills, but primarily for the purpose of developing testimony for L.B. 577. McNiel indicated that he gave Commission testimony on L.B. 577 at a hearing on that same date. McNiel distributed copies of a legislative report and briefly discussed several current legislative bills which affect the Commission. A copy of the legislative report is attached to the file copy of these minutes.

Dayle Williamson indicated that he had written several letters to Senator Marvel providing information about the Development Fund and the Watershed and Flood Control Fund. He further explained that he had requested a hearing before the Appropriations Committee in regard to those two funds, but that the Committee had not yet indicated whether his request would be granted. He added that Lee Orton, Executive Director of the Nebraska Association of Resources Districts, and Gayle Starr had both appeared before the Appropriations Committee hearing on the Governor's budget bill on March 21 to testify in support of the Development Fund Appropriation.

PLATTE RIVER BASIN STUDY

Ralph Waddington very briefly outlined the background and purpose of the Platte River Basin Level B Study. He also briefly explained the current status of the plans being developed and indicated that a number of public meetings are being held at this time. He added that there was a great deal of work yet to be done, but they still hope to conclude the study by July 1, 1975.

COMPREHENSIVE PLANNING COMMITTEE

Gayle Lewis explained that the hearing for the South Platte River Basin Water Quality Management Plan was held in Sidney and the primary concerns expressed at the hearing related to assurances of minimum stream flow and assurances of implementation of the various aspects of the plan. Motion was made by Jambor and seconded by Narjes to approve the South Platte River Basin Water Quality Management Plan. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Narjes, Wylie, McNiel
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Kokes, Bell, Patefield

Gayle Lewis explained that the Committee had briefly reviewed a Policy Statement endorsing the Long Branch Watershed Work Plan. Motion was made by Anderson, and seconded by Jambor to approve the Policy Statement on the Long Branch Watershed Work Plan. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Narjes, Wylie, McNiel
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Kokes, Bell, Patefield

Lewis explained that the Committee had discussed a proposal for wastewater transfer from the Omaha metropolitan area to the Blue River Basin with water to be used for irrigation. He added that this optional plan is being considered in the Omaha metropolitan area water management study now being conducted by the Corps of Engineers. Motion was made by Anderson and seconded by Narjes that the Commission consider all aspects of the concept of land application of wastewater effluent, promote awareness of the concept throughout the state, and cooperate fully with the Corps of Engineers and others interested in this concept. Motion carried.
Aye: Cook, Jambor, Lee, Anderson, Hardy, Wayne Johnson, Narjes, Wylie, McNiel
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Kokes, Bell, Patefield

Lewis also indicated that the Committee had discussed the prioritization of projects and studies as requested by the Missouri River Basin Commission. He indicated that the prioritization of watershed projects for planning would be forwarded as determined by the Commission as the result of the watershed prioritization process discussed earlier in the Commission meeting.

Lewis explained that the State of Nebraska had obtained a $250,000 grant over a four year period from the Old West Commission for the purpose of recharge research studies. He indicated that the Commission's basin studies would be tied in closely with this research project. He added that Jerry Wallin is serving on a committee that is developing a plan of work for this project. Williamson indicated that it has not yet been determined how this project will be administered and through what agency.

Williamson added that the Commission would be involved in this project and perhaps the Commission would be asked to put some funding into the project by administering the project and providing the project director. He stated that the Executive Committee had met at noon and indicated to him that he should proceed with negotiations on this project and the Commission would be willing to administer the project if the Governor so desires.

Williamson explained that just prior to noon, the Commission members had a conference telephone conversation with representatives of the Cedar Rapids Reclamation Project, and that these representatives had indicated that legislation either has or will be introduced in both houses of Congress to provide for the authorization of the Cedar Rapids Project. Williamson added that the Commission had not taken a specific stand on the Cedar Rapids Project in the form of a policy statement since it has not yet reached the stage where a policy statement is normally adopted, but that the Commission had endorsed the project in the framework study. Motion was made by Lee and seconded by Anderson to support the authorization of the Cedar Rapids Reclamation Project. Motion carried.
Aye: Jambor, Lee, Anderson, Hardy, Johnson, Narjes, McNiel, Cook
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Wylie, Bell, Kokes, Patefield

Lewis explained that the hearing on the Elkhorn Basin Water Quality Management Plan had been held, and that the comments and testimony received at the hearing and since the hearing do not indicate any extensive revisions. He also indicated that the North Platte Basin Water Quality Management Plan has been distributed to the NRD Managers and that the hearing will probably be held on May 20 in Scottsbluff. He added that the Loup Basin Water Quality Management Plan has just now been distributed to the NRD Managers and the tentative date for the hearing is June 11.

DEVELOPMENT FUND

Copies of the status report of the Development Fund were distributed. Gayle Starr explained that three project proposals and one application had been received to date. He also indicated that the Advisory Board has reviewed the four requests and referred them to their Engineering, Economics and Environmental Committees for recommendation. He added that the Economics and Engineering Committees have met and the Environmental Committee will meet on March 31. He stated that the Advisory Board will again meet on April 10 and it will be their responsibility to provide comments on the three project proposals and give the sponsors guidance as to how they should proceed in preparing their application, and that in the case of the one application submitted, they will also need to provide the sponsor guidance in submitting the Engineering and economics information as it becomes available.

COMMISSION MEMBERS' TRAVEL EXPENSES

Dayle Williamson distributed a copy of a memo and indicated that the current Commission budget contained adequate funds for Commission members' travel, but that specific guidance would have to be provided by the Commission as to what types of travel would be funded from Commission funds because funding will probably be limited in the next fiscal year. Williamson indicated that the Commission would need to consider this at their next meeting and whatever decision is made could be incorporated into Policy Statement 1, Administration, concerning Commission operations.

ADVISORS' COMMENTS

Bill Parker, Soil Conservation Service, indicated that he had received a tentative verbal approval of the last draft of the Memorandum of Understanding between the NRD's and the U. S. Department of Agriculture which was discussed at the last Commission meeting. Cliff Summers of the Health Department stated that the Federal Safe Drinking Water Act had been passed and would be administered by EPA unless the State took action to regulate the program. He also indicated some concerns with regard to rural water supply areas and the capacity for growth being built into the systems. Paul Harley, of the Department of Interior, briefly explained the Missouri River Basin Commission prioritization process for this year which is just now being initiated by the Commission's Prioritization Committee. Marion Ball of the Department of Water Resources explained that his agency is working with the Commission's Data Bank personnel to provide the current well registration information to the NRD's.

FEDERAL WATER RIGHTS

Williamson explained that the Interstate Conference on Water Problems had solicited state views on the subject of Federal Water Rights. He further explained that the Interstate Conference on Water Problems had consolidated those comments and distributed them to the States for further comment. Governor Exon has been contacted in this regard, and he is being asked to comment by April 1. Jim Cook (staff attorney) indicated that he had participated in the development of Nebraska's original comments and that he had reviewed the consolidated comments distributed by the Interstate Conference on Water Problems and that he agreed with all of the points being made. He also indicated that Dan Jones, former Director of the Department of Water Resources, and the current Executive Director of the Nebraska Water Resources Association, had indicated that he also agreed on all the points. Lee Orton, Executive Director of the Nebraska Association of Resources Districts, indicated that he had also reviewed the various points and that he also agreed with all of them. Motion was made by Hardy and seconded by Narjes to add the topic of comment on the Interstate Conference on Water Problems questionnaire with regard to Federal Water Rights to the agenda for consideration. Motion carried.
Aye: Jambor, Lee, Anderson, Hardy, Johnson, Narjes, McNiel, Cook
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Wylie, Bell, Kokes, Patefield

Motion was made by Lee and seconded by Hardy to approve the response indicating agreement with all objections expressed by the Interstate Conference on Water Problems. Motion carried.
Aye: Jambor, Lee, Anderson, Hardy, Johnson, Narjes, McNiel, Cook
Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Wylie, Bell, Kokes, Patefield

FUTURE MEETINGS

Williamson explained that the National Water Conference is being held in Washington, D. C. on April 22-24, and that he would recommend that the Commission authorize the Chairman or his designated representative to attend this Conference. Motion was made by Narjes and seconded by Hardy to authorize the Chairman or his designated representative to attend the National Water Conference in Washington, D. C. on April 22-24. Motion carried.
Aye: Jambor, Lee, Anderson, Hardy, Johnson, Narjes, McNiel, Cook

MINUTES OF
NEBRASKA NATURAL RESOURCES COMMISSION MEETING

March 27, 1975

Those Present:

Warren Patefield, Chairman
Jim Cook, Member
Albert Jambor, Member
Emmett Lee, Member
Bruce Anderson, Member
Howard Hardy, Member
Wayne Johnson, Member
Rudolf Kokes, Member
Alvin Narjes, Member
William Wylie, Member
Dempsey McNiel, Member
Bill Parker, Advisor
Gus Karabotsos, Advisor
Paul Harley, Advisor
Dan Drain, Advisor
Les Sheffield, Advisor
Cliff Summers, Advisor
Gerald Chaffin, Advisor
Vince Dreeszen, Advisor
Donis Petersan, Advisor
Marion Ball, Advisor
Deon Axthelm, Ag Extension
Bill Splinter, Inst. of Agriculture
Dick Beran, NRD Manager
Ron Fleecs, NRD Manager
Hal Schroeder, NRD Manager
Lee Orton, NARD
Dayle Williamson, Executive Secretary
Jim Cook, Staff
Gayle Lewis, Staff
Jerry Wallin, Staff
Duane Chamberlain, Staff
Dick Kennedy, Staff
Hazel Jenkins, Staff
Gayle Starr, Staff

CALL TO ORDER

The meeting was called to order by Chairman Warren Patefield at approximately 10:15 a.m.

NOTICE OF MEETING

Notice of the meeting was placed in the Lincoln Star on March 20, 1975 notifying the public of the meeting.

INFORMATIONAL MATERIAL

The following is a listing of the informational material distributed at the meeting, a copy of which is attached to the file copy of these minutes:

1. Commission Expenditures for February 1975
2. Minutes of Watershed and Flood Control Committee
3. Minutes of Legislative and Budget Committee Report
4. Status of Small Watershed and Flood Control Fund
5. Tentative Land Sale Schedule (Small Watershed Flood Control Fund)
6. Per Diem and Travel Expenses Memorandum
7. Minutes of Comprehensive Planning Committee Meeting
8. Status Report of Nebraska's State Water Plan
9. Status Report of Statewide Water Quality Planning
10. Status Report of Data Bank Program
11. ICWP Summary of State Views Questionnaire

C-19

Nay: None
Not Present: Ted Johnson, Gifford, Kopf, Wylie, Bell, Kokes, Patefield

NEXT COMMISSION MEETING

The next meeting of the Commission will be May 22, 1975 in Lincoln.

ADJOURNMENT

The meeting was adjourned at approximately 3:30 p.m.

Chairman

Executive Secretary

C-19

PROGRAMS:
SOIL & WATER CONSERVATION
WATERSHED PROTECTION
COMPREHENSIVE PLANNING
FLOOD PLAIN MANAGEMENT
DATA BANK
WATER QUALITY PLANNING
DEVELOPMENT FUND

STATE OF NEBRASKA

NATURAL RESOURCES COMMISSION

Seventh Floor
Terminal Building
Lincoln, Nebraska 68508

September 3, 1975

Col. Russell A. Glenn
District Engineer
U.S. Corps of Engineers
6014 U.S. Post Office & Court House
Omaha, Nebraska 68102

Dear Col. Glenn:

I appreciate receiving the news that the Corps has recommended dam 3-A in the Papillion Creek and Tributaries Project. The selection of this alternative seems to be a very wise choice.

Our agency did review the alternatives at the last meeting and did not choose among them, but all of our Commission members were quite aware of the fact that the channel improvement alternative would cause tremendous down stream problems.

I would hope at this point that the project will continue to move ahead and dam 3-A can become a reality.

We will also look forward to reviewing the reformulation plan on the west branch of the Papillion Creek Basin. Hopefully a very sound flood control project can be justified in that area.

Sincerely yours,

Dayle E. Williamson
Executive Secretary

DEW:mw

cc: Governor Exon

EXHIBIT C-20

iowa department of environmental quality

AMES EXON
VERNOR

STATE of NEBRASKA

J. L. HIGGINS
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL CONTROL

BOX 94653, STATE HOUSE STATION
LINCOLN, NEBRASKA 68509
(402) 471-2186

November 2, 1973

Mr. C. F. Thomas, Chief
Planning Division
Department of the Army
Corp of Engineers, Omaha District
6014 U.S. Post Office and Court House
Omaha, Nebraska 68102

Re: Phase I Summary -- Phase II Program
Metropolitan Omaha -- Council Bluffs

Dear Mr. Thomas:

The above-noted report has been reviewed by this Department and the following comments are submitted.

The Corp has done an excellent job of preparing this report and meets several issues head-on. However, on pages 22 to 25, narrative, Table 7 and a graph entitled, Total Treatment Cost VS. Quality Levels, address levels of waste treatment. Generally, PL 92-500 states that the Best Practicable Waste Treatment Technology (BPWTT) must be provided as a minimum and further pollutant reductions must be obtained either through higher degree of treatment for dry-weather flows, storage and treatment of combined sewer overflows or a combination of both measures wherever necessary to meet water quality standards. The effluent limitations within water quality segments (Papillion Creek Basin) which requires municipal point source abatement will be based on determinations of maximum allowable loads and waste load allocations developed in Basin Water Quality Management Plans (Section 303(e)).

Section 201 of the Act requires that planned treatment works for FY 1975 or following year grants will provide BPWTT based upon evaluation of technologies which include:

1. Treatment (biological or physical-chemical) and discharge to receiving waters

EXHIBIT C-21

2. Treatment and reuse

3. Spray irrigation or other land disposal methods.

BPWTT includes evaluation of waste treatment management techniques that involve wastewater reuse, recycling of wastewater nutrients, development of integrated (solid, liquid, and thermal) waste facilities, or the enhancement of recreation and open space opportunities. These provisions will allow contributions toward local or regional environmental or water management goals beyond the basic effluent limitation requirements. Facilities aiming at these additional goals would constitute cost-effective, reliable and flexible components of a waste treatment system. Establishment of BPWTT should identify local or regional environmental enhancement goals. These goals should include, but not be limited to:

1. Reuse of wastewater for agricultural, thermal cooling, manufacturing or recreational purposes.

2. Recycling of nutrients for agriculture, forestry or land reclamation.

3. Groundwater recharge for augmenting water supply and/or preventing salt water intrusion (Salt Creek area).

4. Streamflow augmentation for enhancing water supplies downstream, stream fisheries, recreation or aesthetic values.

5. Reuse of wastewater for irrigating municipal parks, golf courses or parkways,

6. Preservation or development of recreation areas, wetlands, or attractive open spaces.

7. Preservation of high quality waters with recreational, fish and wildlife on aesthetic values.

The mandate for cost effectiveness, as it applies to planning of publicly owned treatment works, is set forth by Section 204(a)(5) and 212 (2)(A), (B) and (C) of the Act. Decision makers at all levels must apply the principles of cost effectiveness as described therein. Application will produce the greatest environmental improvement possible for the public dollars allocated to this purpose.

Cost-effectiveness analysis is defined as an analysis featuring systematic comparison of alternatives to identify the solution which will minimize total cost to society over time to reliably meet given goals or objectives. Total costs to society include resources cost plus social and environmental costs.

The foregoing narrative would fit favorably in that section of your report (22-25). You have hit upon several of those points but have not discussed the cost -effective analysis.

Comments on "Increasing Rate of Per Capita Use", Page 43 should include the establishment of an effective program of public education. Water supply companies could do much to reduce the overuse of this natural resource. Instead of giving a reduced price for volume consumption, the opposite should be the case -- increase use, increase cost.

On Page 46 you state (1st paragraph) that "Flood plain zoning is also an opportunity". Would it not be more effective if it were a necessity rather than an opportunity?

The subject "Water Quality" on Page 68 should be viewed in light of cost-effective analysis. It appears that some thought was given to cost-effectiveness but is somewhat negated by the last three sentences. "However, it costs money to preserve and enhance water quality. Dollars for water quality must compete with dollars for other human needs. Trade-offs between the cost and benefits for water quality VS. other concerns is necessary."

The "Miscellaneous" section on Page 70 does not do justice to conservation of water and water resource planning. Water resource planning has a great deal to do "with other significant aspects of man's environment such as transportation, air quality, housing, economic development, community service, etc." If there is no potable water, then we do not worry about these environmental aspects. However, water resource planning relates to housing -- flood plain zoning, planned communities, floods, etc; transportation -- community location (water oriented) and mass transit systems to reduce energy consumption; air quality -- industrial situation, reduction of automobiles fumes through mass transit; economic development -- depends on community location and resource utilization; community services -- planned communities would or could circumvent excess utilization of water sources and other energy uses.

This Department appreciates the opportunity to comment on the study report. We also agree that the key to future planning and efficient resource utilization is through coordination of agency effort and establishment of goals and objectives.

Yours truly,

J. L. Higgins
Director

RH/jem

ES EXON
/ERNOR

STATE of NEBRASKA

J. L. HIGGINS
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL CONTROL

1424 "P" STREET
BOX 94653, STATE HOUSE STATION
LINCOLN, NEBRASKA 68509
(402) 471-2186

January 23, 1974

Mr. C. F. Thomas, Chief
Planning Division
Department of the Army
Omaha District, Corps of Engineers
7410 U.S. Post Office and Courthouse
Omaha, Nebraska 68102

Attention: Mr. Donald Kisicki

Re: Appendix A for Regional and Omaha-Missouri River Systems -- Comments

Dear Sir:

On January 8, 1974 you requested that a review be made of the above-noted appendices. Other items have interfered with the review until this time.

I have asked a few questions which, to me, were not clear. The asking of them does not necessarily require a return letter; rather they are for your consideration. You may have already taken them into account in your outline.

Appendix A

Description of work for formulation of Alternative Regional Wastewater Management Systems.

EXHIBIT C-22

Page 2

Item b. In the last sentence it is stated that cost associated with achieving each quality level is to be developed. Are these costs to be broken down by participating agencies -- such as EPA-Federal Share, DEC-State share, Omaha-local share -- or as a lump sum without this differentiation?

Item d. What are the sources of the alternative future demographic conditions? Are the sources listed in the References?

Page 5

Item b. (1). This item may need substantial revision as Bellevue Wastewater Treatment Plant No. 1 may be funded for Secondary and will also treat the water treatment plant waste.

Page 7

Item 4. A possible reuse of the water could be ground water recharge or percolation and aquifer development.

Page 15

Phase I

If possible, an attitude survey may be of benefit in searching out and identifying land areas within the 100-mile radius. As you know, the federal concern at this time is more public involvement in these base-line decisions. A survey would be a positive gesture for public involvement.

Appendix A

Draft description of work for formulation of alternatives within the Omaha-Missouri River Sewerage System.

Page 2

Phase I, Objective I:

Will this assessment take into consideration the present condition as well as the condition resulting from the establishment of the COE impoundment structures and subsequent SCS (if that is the correct agency) water and sediment retarding structures?

Page 6

Major Tasks, Item (3)

A possible aid in this respect may be the State Remote Sensing Center at Nebraska Hall on the Lincoln Campus. They are presently receiving imagery which may be of aid in this endeavor.

Page 9

Possible addition to these documents may be the following:

1) The Nebraska Fish & Wildlife Plan, Nebraska Wildlife Resource Inventory, 1972 (1973 may be published by now) The Nebraska Game & Parks Commission, Vol. I & II

2) Outdoor Recreation for Nebraska (State Comprehensive Outdoor Recreation Plan - SCORP) 1973, Nebraska Game & Parks Commission.

Thank you for the opportunity to offer these comments on this ambitious project. I look forward to working with the Corp on the Coordination Committee of this study.

Yours truly,

Raymond L. Hartung

Raymond L. Hartung, Chief
Planning & Data Processing Section
Water Pollution Control Division

RLH/jem

State of Nebraska
Department of
Environmental Control

J. James Exon
Governor

Director

Mail, Box 94653 State House Station Office, 1424 "P" Street Lincoln, Nebraska 68509 (402) 471-2186

July 15, 1974

Mr. C. F. Thomas, Chief
Planning Division
Department of the Army
Omaha Dist. Corp of Engineers
6014 U.S. Post Office & Court House
Omaha, Nebraska 68102

Attention: Mr. Don Kisicki

Dear Mr. Thomas:

After a review of the "Alternative Plans for Abatement of Pollution From Combined Sewer Overflows" document, the following comments are made.

Alternatives 2, 4A, and 4B appear to be the most feasible at least from a cost-effective aspect. The reuse aspect of these three alternatives is also greater than the others in relation to energy expenditure. In a plan and system development of this magnitude, the reuse should be a high priority item.

The levee storage and ground level storage will probably be even more economically feasible when the Council Bluffs area has been evaluated.

A comment on the information booklet "Water and Related Land Management Study" 25 April 1974, is forwarded to you for possible consideration. A possible item of study in the Rural-Urban Water Supply, Page 11, is that it would be interesting to determine the rate of urban sprawl if M.U.D. would be required to treat the wastewater generated from their present policy of "give them water". Also a new pricing concept should be looked into: i.e. -- pay more for increased water usage rather than lower the cost per increased unit volume.

Thank you for the opportunity to comment on these items.

Yours truly,

Ray Hartung

Ray Hartung, Chief
Planning & Data Analysis
Water Pollution Control Division

EXHIBIT C-23

RH/jem

State of Nebraska
Department of
Environmental Control

J. James Exon
Governor

Director

Mail Box 94653 State House Station Office, 1424 "E" Street Lincoln, Nebraska 68509 (402) 471-2186

August 7, 1974

Mr. C. F. Thomas, Chief
Planning Division
Omaha District, Corps of Engineers
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102

RE: Regional Water Supply Study

Dear Mr. Thomas:

The study appears to be very comprehensive in both scope and depth over the entire area. The final report should be very beneficial for the Omaha, Lincoln and Council Bluffs areas.

Due to the complete description of the study, I have no further comments; however, I will be looking forward to the final report.

Yours truly,

Ray Hartung, Chief
Planning & Analysis Section
Water Pollution Control Division

RH/jem

EXHIBIT C-24

State of Nebraska
Department of
Environmental Control

J. James Exon
Governor
Dan T. Drain
Director

Mail Box 94653 State House Station Office, 1424 'P' Street Lincoln, Nebraska 68509 (402) 471-2186

February 13, 1975

Mr. C. F. Thomas, Chief
U. S. Army Corps of Engineers
Regional Planning Branch
215 No. 17th Street
Omaha, Nebraska 68102

RE: Water and Related Land Management Study

Dear Don:

The following comments on the above mentioned document are forwarded for your consideration.

Page 26.

PL 92-500, Section 201 (c) states, "To the extent practicable, waste treatment management shall be on an area wide basis."

Page 27.

Technology-with the decrease in flow in the Platte River during the past summer, a possible storage and flow augmentation reservoir could be established to supplement stream flow. Granted, treatment for this purpose could be unnecessarily high, however the concept is not entirely forbidden in the light of a decreased water supply and increased demand.

Page 39.

Water quality planning is now looking at the NPDES in accomplishment of the first goal as you have stated. The NPDES assigns effluent limitations to a wastewater that are designed to enhance the water quality of a receiving stream and preclude of utilization of the stream for a treatment extension.

EXHIBIT C-25

Printed on paper made from reclaimed waste

need to consider this at their next meeting and whatever decision [illegible] incorporated into Policy Statement 1, Administration, concerning Commission operations.

C-19

Page 60. Alternative Concept Plans.

The rural water districts are excellent in concept as they provide high quality water to farmsteads and possibly small towns. However, management of the system would need to be strict as this supply of water and its availability could certainly lead to urban sprawl of an even greater magnitude. With the Papio dams situated in much of this area, the RWD's will be attempting impetus to sprawl conditions.

Page 61.

Would M.U.D. be interested in helping defray the added sewage treatment costs incurred by extension of their systems?

Page 86. Alternatives.

If presently proposed legislative bills are passed, a measure of control will be extended to the Platte River Flood Plain. This may, of need, be a prime consideration in this section.

Page 98 A. Functions of Institutions.

The Department of Environmental Control does have enforcement capabilities which are routinely exercised. The department also is active in the operation and maintenance of sewage treatment facilities through inspections, operator training and federal and State grant assistance.

Summary Questions.

1. A. What alternative growth patterns should be the regions goal for the future?

The Department tends to favor alternative growth concept B. We feel this way for several reasons, the strongest of which is that concept B offers a more complete utilization of the present sewage treatment systems. Concept B, as noted in the text, also utilizes the riverfront development system. Water usage would probably decrease as this type concept favors apartment complex dwellings that do not have the lawn watering characteristics of a more open environment.

In concept B two items are noted that do not appear on the other three. The first is the rather large industrial tract east of Plattsmouth in the potential flood plain. Is this a planning concept or a reality? The second is the location of two rather large residential areas carved out of the wilderness southeast of Fort Calhoun. Do you feel that development of the established satellite cities will be insufficient to handle overflow population from Omaha and are thus advocating new city development?

April 22-24. Motion carried.
Aye: Jambor, Lee, Anderson, Hardy, Johnson, Narjes, McNiel, Cook
C-19

1. B. Should the water and sewer systems be used to guide a desirable growth pattern?

It is our belief that these two criteria along with other utilities are the prime methods whereby growth may be directed. Utilization of these techniques are essential in future development decisions and implementation plans.

2. A. To what extent should we try to protect our water quality?

As you are well aware, 1983 goals call for fishable, swimmable waters where practical. It is and has been the policy of this Department and the Environmental Control Council to protect and enhance the quality of productivity of the State's waters. Municipal wastes require secondary treatment and prescribed bacterial control, plus any additional treatment as is needed to protect water quality criteria. Industrial wastes are to receive the equivalent degree of treatment.

We, therefore, have adopted the attitude that preservation of this natural resource is one of the utmost environmental safeguards, for to protect the water means to protect human life.

2. B. Should our streams and rivers be used to complete the sewage treatment process or should we completely treat our wastes before discharge?

This is a subject upon which volumes have already been written. To address a subject of this magnitude many areas of endeavor must be considered. In taking into account the economics of the problem, complete (to drinking water standards) treatment is normally not feasible. However, secondary treatment limits are designed to take most of these areas of concern into consideration and with other possible necessary tertiary treatment activities will hopefully give spoiled streams new life and maintain high quality streams.

3. If the costs for land irrigation of wastewater effluent could be reduced, would it be acceptable to the public?

We are to look at land treatment of municipal wastes in the 201 facilities plans as a viable alternative. If the economics of this alternative is more in line than others we are, in the interest of Federal, State and local dollars, suppose to choose that alternative waste treatment system. Whether cost is the fly in the public opinion about land irrigation or whether it be some other aspect is indeed a difficult question to answer. Cost may be used as an ends to a means but may not be the prime motive.

4. Should a concentrated effort be made to reduce our demands on water supply?

Yes!

5. A. Should agencies continue to expand recreational opportunities?

Yes.

5. B. What types of activities should be provided?

More nature study types with the emphasis on relaxation, especially as the people/acre density increase.

5. C. Where?

Flood plains are a prime area or are the steep bluffs areas boarding the streams and rivers.

6. What should be the priorities regarding land use? Urban development? Agriculture? Recreation? Preservation?

Hopefully, if a bill introduced in the State legislature will be passed and will initiate a study group to answer the above questions?

7. A. Should all flood plains be zoned to restrict uses that would result in flood damage should a flood occur?

In the interest of economics and good judgement, the flood plain should be left to agriculture and recreation priorities.

7. B. Who should control activities in and along our rivers and streams?

The State with delegation of responsibility to local entities of government.

8. Do the benefits of better resource management outweigh a possible loss of local independence and control?

If done as suggested in question 7, there would not be a loss of local independence and control.

9. If this study determines that management of wastewater treatment and water supply across state and county boundaries is economically attractive, what legal and institutional problems must be overcome before the plans are implemented?

Speaking only for this Department, the problems do not appear to be insurmountable. Federal, State and local dollars are utilized to do most of the construction of these systems. Economic feasibility is a guiding factor.

If you have any questions concerning these comments, please contact me at this address.

Yours truly,

Raymond L. Hartung

Raymond L. Hartung, Head
Water Quality Section
Water Pollution Control Division

RLH/th

iowa department of environmental quality
kenneth m. karch, p.e., executive director

November 19, 1973

Colonel Alfred L. Griebling
District Engineer
Omaha District, U. S. Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

Attention: C. F. Thomas
Chief, Planning Division

Dear Sir:

Representatives from this office attended the Coordination Meeting on August 29, 1973 which was held to discuss wastewater management planning requirements of the Federal Water Pollution Control Act Amendments of 1972. This meeting was also attended by area and local planning agencies. The proposed efforts of the Corps of Engineers in wastewater management planning were also discussed. Since that time, we have also reviewed the Metropolitan Omaha, Nebraska-Council Bluffs, Iowa Water Study Report consisting of the Phase I Summary and the Phase II Program.

As a result of this information, this Department has become aware that the Army Corps of Engineers may have resources available to provide assistance in meeting the goals and requirements of the 1972 Amendments to the Federal Water Pollution Control Act. It was brought out in the August meeting that since one objective of the Metropolitan Water Study is to address the requirements of the 1972 amendments, it might be possible for the Corps of Engineers to provide assistance to the cities and towns within the study area in meeting planning requirements. This would include infiltration/inflow studies as required by the Federal Act.

If such an assistance program were initiated, it would be only reasonable to provide the planning assistance for all municipalities within the study area both in Iowa and Nebraska. Our understanding of the '72 amendments indicates that the Corps of Engineers would be permitted to assist in meeting the goals of the Act. We request that your Department investigate this possibility and give consideration to such planning assistance.

EXHIBIT C-26

3920 Delaware Ave., P.O. Box 3326, Des Moines, Iowa 50316 • 515/265-8134

3. Spray irrigation or other land disposal methods.

Any planning assistance done by the Corps should be coordinated with the State agencies responsible for planning, funding, and enforcing wastewater management programs within the state.

Sincerely,

WATER QUALITY MANAGEMENT DIVISION

Joseph E. Obr

Joseph E. Obr, P.E.
Director

JEO:WF:ad
cc: M. R. Pearce, Director of Public Works
Council Bluffs, Iowa

MAPA
A COUNCIL OF OFFICIALS

December 24, 1974

Mr. C. F. Thomas
Chief, Planning Division
Omaha District
Corps of Engineers
6014 U.S. Post Office and Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

The staff of the Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA) has reviewed the June, 1974 Harza report entitled the Abatement of Pollution from Combined Sewer Overflows and the October, 1974 Havens and Emerson report entitled Regional Waste-Water Management Study.

With regard to the "Planning Questions" which your office forwarded to MAPA December 5, 1974, the MAPA staff has prepared the enclosed list of responses.

The following comments are submitted by our staff regarding the June, 1974 Harza report:

EXHIBIT C-27

SUITE 200 • 7000 WEST CENTER ROAD • OMAHA, NEBRASKA 68106 • (402) 397-0330

1. The solution proposed for the Carter Lake septic tank problems appears to be valid. The alternative of lowering the ground water table would indeed appear unfeasible. Should the provision of a new sanitary system for the North Area and East Omaha fail to be implemented, the placement of any additional septic tanks should be prohibited.

2. The Harza report makes brief mention of the proposed expansion of Eppley Airfield (p. 11-7). Perhaps more study is indicated with regard to existing and potential storm water runoff at the airport. Reference is made to Pages 44-55 and 80 of the Eppley Airfield ALP Revision and Environmental Assessment (Omaha Airport Authority, October, 1974). As stated in this assessment, both the amount and speed of storm water runoff into Carter Lake and the Missouri River will increase upon future construction of impervious surfaces. Moreover, water quality test results show that coliforms are being discharged into Carter Lake from storm water runoff. Additional tests are being conducted to determine whether these pollutants originate at the airport. In any event, the runoff problems associated with future airport expansions warrant further consideration in the proposed collection system near Carter Lake.

3. An assumption is made in the Harza Study that urban storm water runoff would not require treatment and would be acceptable for discharge to the Missouri River (pp. V-9, VI-20, B-9 to B-13). Recent EPA test results and data contained in MAPA's Comprehensive Water Pollution Control Plan, however, suggest exactly the opposite (see enclosed article). Moreover, the "average measurements" of BOD supplied by the Harza Report are inconclusive, in contrast to the first-hour runoff figures expressed in lb/hr by the EPA. The "averages" of BOD and suspended solids indicated by Harza are, therefore, open to question.

   MAPA stongly urges that a) future phases of study recognize the severe degradational effects that storm water runoff has upon receiving waters, and b) any future upgrade of area-wide water quality will have to consider the treatment of urban storm runoff. (This concern would apply to the Havens and Emerson report as well).

   This concern also relates to Item 4b in the minutes of the 18 November 1974 Inter-Agency Meeting on regional wastewater management.

4. The elimination of Alternative 7 is certainly valid, although for different reasons than expressed in the Harza report. The separation of existing combined sewers is more detrimental environmentally than economically, due to the high pollution levels inherent in storm water runoff.

5. Basically, MAPA agrees with the selection of alternatives 2, 4a and 4b as deserving of additional, more detailed study. Alternative 4a, however, may encounter opposition from Iowa regarding the storage reservoir location.

6. The concept of capturing, storing and aerating overflows for subsequent discharge at diminished rates has definite merit from both an environmental and energy conservation standpoint.

7. The construction and use of deep tunnels in Mississippian limestones and dolomites may encounter serious problems, particularly near a structural feature such as the Humbolt Fault. If fracturing of these formations has occurred, groundwater inflow and subsequent decontamination of aquifers from sewage transport may result. A thorough geological investigation should be conducted to properly assess potential construction and aquifer contamination hazards.

   Moreover, it is unclear from the Harza report what surficial construction activities would be associated with underground tunnelling. The environmental impact of any surficial construction damage may be quite severe, particularly if located near Fontenelle Forest as indicated by Alternative B.

We thank you for the opportunity to review and comment on these studies and anticipate future discussions with you and your staff at the interagency meetings.

Sincerely,

Omaha-Council Bluffs Metropolitan Area Planning Agency

Louis C. Violi

Louis C. Violi, Director
Comprehensive and Environmental Planning Department

LCV/WHH/nw

Enclosure

PLANNING QUESTIONS

Answers as Provided by MAPA Staff

1. Treatment Levels

   a. Although it is feasible that sanitary wastes be placed under these requirements, it is doubtful that the separated, urban runoff portion could be placed under secondary treatment within this short time span. Perhaps partial treatment methods for urban runoff could be implemented by 1977, such as the retention and aeration of some urban runoff.

   b. The available technology should be employed until the "zero discharge" level is attained. After this, the standards could be based upon whatever measures are required to maintain this level quality of discharge.

   c. The 1985 goal is, indeed, valid and should be maintained for this region, particularly in light of the fact that procrastination of the zero discharge concept has occurred for too long. Technically, the concept is feasible, but socio-economic and political factors will undoubtedly hinder the achievement of this goal.

   d. The minimum treatment level should be primary. The minimum recurrence level should be once every ten years, especially since a 1-in-10-year storm occurring in the future would result from a lesser amount of rainfall than at present (due to future increases in the amount of impermeable surfaces).

      If a water quality standard were applied, at least the BOD and TSS elements should be considered. Screening and chlorination would not be acceptable, since the former results in only removal of the larger solids, and the latter would reduce the amount of organisms needed for biodegradation of undesirable pollutants.

   e. Urban storm runoff should not be exempt from state water quality standards. A storm recurrence level of once every ten years and a second level of treatment should be considered. For treatment of stormwater, the upstream treatment discharge method is preferred. The concept of detention and aeration of runoff in the upper drainage reaches would allow aerobic reduction of BOD components and the removal of settleable solids. From an energy use standpoint, this method would require far less energy than a force main conveyance system.

2. Treatment Technologies

   a. The land irrigation plan would be implementable, if economical. The plan, however, would require education of the public prior to implementation on a regional scale. To accomplish this, a test site for land disposal could be operated and managed by a group such as M.E.P.A. (Metropolitan Educational Program Agency). Later implementation on a regional scale could be managed by a group or combination of groups such as Douglas County, the Papio N.R.D. and the Iowa Soil and Water Conservation Districts.

      Therefore, implementation of the land disposal system should be carried out initially on a limited trial basis and upon public approval of the concept. In light of recent public awareness of energy and pollution problems, the acceptance of the land disposal method should be relatively straightforward, contingent upon a properly conducted public education program.

   b. Further study will be required to fully answer this question.

   c. At first, the land alternative may be more viable for the minor urban and rural communities so that the concept may be evaluated prior to regional commitment. Then, as the scope of the system expands to major urban areas, the economies of scale could be realized.

   d. MAPA is not sufficiently informed on the processes and problems of Lincoln's wastewater facilities to answer this question fully. The proximity of Lincoln to priority areas 1 and 2, however, would suggest that a connection of Lincoln with Omaha may be feasible, particularly with regard to the economies of scale.

   e. Yes.

   f. The concept is certainly valid and warrants serious consideration.

3. Regionalization

a. The present philosophy in water quality management would suggest that the consolidation of facilities at Gretna, Elkhorn and Bennington into the Papio basin system would result in a more economical, reliable and better controlled system. Such a system, however, would be desireable only if strong land use controls were adopted to restrict urban sprawl. Therefore, Plan I would be preferred if combined with land use controls and restricted hookups.

b. This plant should be discontinued and the collection system connected to the Papillion Creek outflow.

c. The Omaha-Missouri River plant should be retained for several reasons. First, this plant is already practicing the methods required for treatment of industrial waste, unlike the Papillion Creek plant. Secondly, this plant is expandable to secondary treatment. Finally, the re-sewering of the existing collection system to discharge into the Papillion Creek plant would seem to be economically and environmentally unsound.

d. Although regional operation and maintenance would seem to be most favorable, the political acceptance of this action may be doubtful. Again, the role of educating the public would be significant, as in the case of land treatment.

December 24, 1974

MAPA
A COUNCIL OF OFFICIALS

Mr. C. F. Thomas
Chief, Planning Division
Omaha District
Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

The Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA) staff has reviewed the Interim Report, Regional Water Supply, prepared October, 1974 by Henningson, Durham and Richardson and submits the following comments with regard to this report.

Further clarification is needed as to why the report deliberately does not attempt to resolve questions relating to the political and legal structure of water service to Iowa counties. It would appear that political and legal problems of Iowa would have a bearing on water supply plans to Iowa communities.

As you know, the MAPA Water Facilities Preliminary Plan (June, 1973) outlines suggested planning priorities and recommends areas of study leading to the development of a regional water facilities plan. These suggested priorities and areas of study should continue to be addressed during the next phase of the Regional Water Supply study.

The Interim Report appears to be quite comprehensive and reveals a number of surprising facts that are critical to future water supply planning. Moreover, the essence of the planning problems which MAPA and other agencies face is well outlined in Section VIII of the report.

We appreciate the opportunity to review and comment on this report. We are anticipating an interagency meeting in the near future to discuss additional details of the Interim Report.

Sincerely,

Omaha-Council Bluffs Metropolitan Area Planning Agency

Louis C. Violi

Louis C. Violi, Director
Comprehensive and Environmental Planning Department

LCV/WHH/nw

EXHIBIT C-28

SUITE 200 • 7000 WEST CENTER ROAD • OMAHA, NEBRASKA 68106 • (402) 397-0330

MAPA

A COUNCIL OF OFFICIALS

April 29, 1975

Colonel Russell A. Glenn
District Engineer
Department of the Army
Omaha District
Corps of Engineers
6014 U.S. Post Office and Court House
Omaha, Nebraska 68102

Dear Col. Glenn:

In response to your letter of 23 April, 1975 concerning the completion of the Metropolitan Omaha, Nebraska-Council Bluffs, Iowa Study, the Omaha-Council Bluffs Metropolitan Area Planning Agency wishes to pursue further with the Crops of Engineers, Omaha District the development of an agency water quality program to meet the provisions of Section 208 of PL 92-500.

Enclosed are the proposed steps to be undertaken by MAPA in conjunction with staff from the Army Corps of Engineers in developing the application for Area/Agency Designation. We feel that it is very important that we coordinate our efforts with you so that the Corps Study and MAPA's Comprehensive Water Pollution Control Study are not duplicated in any future work program.

We have not included, at this time, any detailed plan of study to be submitted with our Area/Agency Designation Application. However, if you will notice Item 2 includes the development of work program activities and manpower and fiscal requirements along with the role the Corps of Engineers can perform in this endeavor.

We appreciate very much the assistance from your staff that you offer and formally request it. The cooperation that has existed between the Corps and MAPA will continue and increase, hopefully, the expertise in matters of this nature where our agencies interface.

Sincerely,

Omaha-Council Bluffs Metropolitan Area Planning Agency

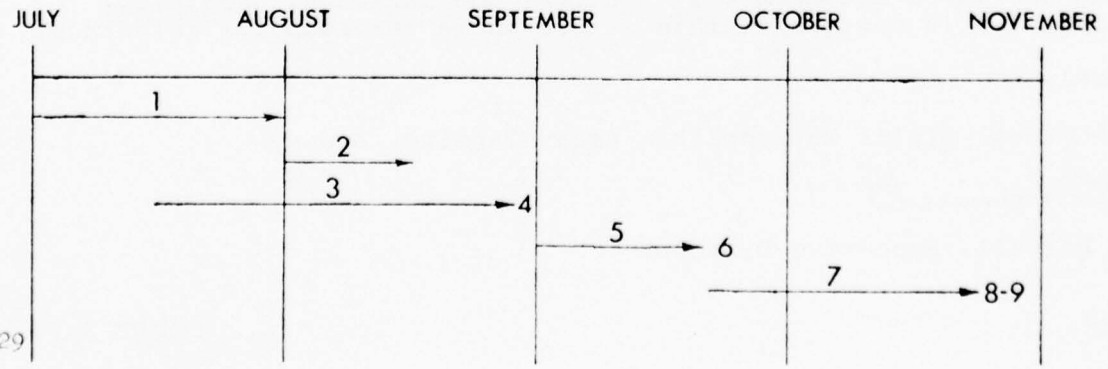
J. G. Harvell, Executive Director

JGH:lk

EXHIBIT C-29

PROPOSED STEPS IN APPLYING FOR EPA SECTION 208 AREA/AGENCY DESIGNATION

June 30	Corps of Engineers
1. July 1-July 31	Review of Corps Urban Study and EPA 208 Requirements. Ascertain deficiencies and duplications as regards the MAPA Comprehensive Water Pollution Study and the Corps of Engineers Urban Study for the Omaha-Council Bluffs Metropolitan Area in relation to EPA 208 planning requirements.
2. August 1-August 15	MAPA's Role in Completing EPA 208 Requirements. Develop work program activities, manpower and fiscal requirements and the role of the Corps of Engineers in attaining certification of the 208 Plan.
3. July 15-August 28	Prepare Area/Agency Designation Application
4. August 28	Present information to MAPA Board of Directors for their review and comment.
5. September 1-September 19	Hold Public Hearing(s)
6. September 25	Present to MAPA Board of Directors the Area/Agency Designation Application and Results of Public Hearing(s) for their action.
7. September 26-October 24	Obtain Resolutions from Jurisdictions
8. October 30	Present to MAPA Council of Officials the Area/Agency Designation Application for their supporting Resolution.
9. October 31	Submit Area/Agency Designation Application to Governors and EPA



3015 MENKE CIRCLE OMAHA, NEBRASKA 68134 -(402)444-6222
PAPIO NATURAL RESOURCES DISTRICT

October 29, 1973

Mr. John Velehradsky,
Regional Planning Branch
U. S. Army Corps of Engineers
Omaha District
215 North 17th Street
Omaha, Nebraska 68102

RE: Omaha Metro Study

Dear John:

This is to confirm our recent telephone conversation regarding a presentation to the Papio Natural Resources District on the results of Phase I, Metropolitan Omaha, Nebraska-Council Bluffs, Iowa study presently being undertaken by the Omaha District, Corps of Engineers.

The Papio Natural Resources District meeting will be held on November 8, 1973 at the District offices, 3015 Menke Circle. Our meeting starts at 8:00 P.M. Approximately 30 minutes will be available on the agenda for your presentation and discussion of the Omaha Metro study. We will plan on furnishing a screen for your use that evening. If you should require any additional equipment, please feel free to ask as we may have some of it available at our office. I am sure that the Board members will be interested in the current status of the study and results of your Phase I work.

I have had an opportunity to review the Phase I Summary Document and the outline of the Phase II Program. Page one of that report indicates that the various sub-element studies were documented in a series of working papers covering each functional area. At the present time, we have one copy of the working paper report for the functional area of agricultural pollutants. I would appreciate receiving one copy of the remaining working papers which were prepared as a part of your study. The material which you have collected will provide a valuable resource to the District in the preparation of their annual one/six year plan. Your assistance in providing a copy of these working papers will be greatly appreciated.

EXHIBIT C-30

In reviewing the Phase I Summary Report, a number of questions came to mind which I would like to discuss with you. I would suggest that we tentatively schedule a meeting for 9:00 A.M. on November 13, 1973. I would plan to come down to your office on that day if the time is agreeable.

Very truly yours,

Jerry R. Wehrspann, P.E.
Director
Project Planning & Engineering

JRW:mm

3015 MENKE CIRCLE OMAHA, NEBRASKA 68134 -(402)444-6222
PAPIO NATURAL RESOURCES DISTRICT

November 27, 1973

Mr. John Velehradsky
Regional Planning Branch
U. S. Army Corps of Engineers
Omaha District
215 North 17th Street
Omaha, Nebraska 68102

Re: Omaha Metro Study

Dear Mr. Velehradsky:

I wish to thank you for the recent presentation by members of your staff to the Papio Natural Resources District on the results of Phase I, Metropolitan Omaha, Nebraska-Council Bluffs, Iowa study presently being undertaken by the Omaha District. Corps of Engineers. Thank you also for furnishing our office copies of the working papers which were prepared in connection with Phase I.

I have had an opportunity to review the Phase I summary and Phase II program document and offer the following comments for your consideration as you enter into the Phase II portion of this study. These were discussed in greater detail with you on November 13, 1973 when we met at your office.

At that time, I left with you a number of publications dealing with natural resources districts in Nebraska. These publications outlined the authorities which the districts have and provide information on the scope of district activities. Recent publications of the Papio Natural Resources District were also left with you. These go into greater detail regarding the activities of the local district. I hope that this material will provide a better prospective on the activities and authorities of the districts which may be involved in future projects.

On pages 21 and 30 you indicated that treatment of domestic waste from pre-urban and non-urban communities is sporadic due to lack of adequate operation and maintenance. I would appreciate receiving information on those non-urban treatment plants in the three-county area covered by the Papio Natural Resources District which you found to be lacking adequate operation and maintenance.

It is also indicated on page 49 that some of the numerous locally constructed levees along the Missouri River provide a low degree of protection or receive

EXHIBIT C-31

inadequate maintenance. I would appreciate knowing the location of any such structures in the three county area of the Papio N.R.D.

I wish to again point out the need for additional flood plain information report data to assist the local communities in the wise use and development of flood plain lands adjacent to many of the streams throughout the area. The information furnished by your office for the Papillion Creek Basin has been an invaluable aid in working on local development proposals within the flood plain areas of the Papillion Creek basin. Similar information is needed for the flood plain areas along the Missouri, Platte, and Elkhorn Rivers and tributaries thereto. I note in your scheduling that you intend to acquire additional information of this type. We would appreciate receiving it at the earliest possible date.

If I can be of any further assistance, please do not hesitate to contact our office. I would appreciate being advised of the results of your Phase II work and any interim recommendations that may be made.

Very truly yours,

Jerry R. Wehrspann, P.E.
Director,
Project Planning & Engineering

JRW:dt

3015 MENKE CIRCLE OMAHA, NEBRASKA 68134 -(402)444-6222
PAPIO NATURAL RESOURCES DISTRICT

December 6, 1974

Mr. C. F. Thomas, Chief
Planning Division
Omaha District, Corps of Engineers
6014 U. S. Post Office & Courthouse
Omaha, Nebraska 68102

Re: Interim Report On Regional Water Supply
Omaha, Nebraska-Council Bluffs, Iowa

Dear Mr. Thomas:

Reference is made to your letter of November 26, 1974, with which you transmitted a copy of the Interim Report covering the Regional Water Supply Component of your Omaha-Council Bluffs Water and Related Land Management Study. We appreciate the opportunity to review the report and offer the following comments for your consideration.

The Papio Natural Resources District Rural Water System Feasibility Study of water supply system in southeast Washington and northeast Douglas Counties has been completed and copies have been furnished your office. We have not furnished copies of the report to your consultant. If you desire an additional copy for their use during Phase II of the metro-study, please advise and I will be glad to furnish them a copy.

First, a general comment regarding the useage figures reported in the Interim Report. It may be advantageous to compare 1973 useage figures with 1974 figures for those systems where detailed data is available. The 1974 figures would illustrate the effect of a prolonged drought period on water useage rates, system capabilities and needs.

The second general comment on the report involves the references to rural water districts for the Nebraska portion of the study area. As reported, rural water districts can no longer be formed in Nebraska. Natural Resources Districts, which began operation on July 1, 1972, currently have authorities similar to those which were previously possessed by rural water districts. These authorities are reflected in the statutes which deal with the operation of Natural Resources Districts. This appears to have been overlooked in law review

EXHIBIT C-32

and discussion in Section III. The Natural Resources District may accomplish this activity by means of an Improvement Project Area. I suggest that additional discussion be given to the establishment of Improvement Project Areas by Natural Resources Districts for the purposes of supplying water. There are two Natural Resources Districts within the study area. These are the Papio Natural Resources District which encompasses all of Washington, Douglas and Sarpy Counties, and the Lower Platte South Natural Resources District which encompasses almost all of Cass County.

The following comments deal with specific items in the report.

1. Page II-40

   The sentence "A majority of these systems are expected to be eliminated upon implementation of planned rural water districts." is unclear. The systems could continue to provide a useable source of water even though an alternate supply were provided.

2. Page VI-4

   Effluent from the 60th and Harrison Street treatment plant is currently being discharged into the Missouri River outfall sewer with the effluent being discharged directly into the Missouri River, not the Papillion Creek.

3. Page VII-3

   The sentence "The distribution system with at least twice maximum day capacity to handle peak hourly flows." is unclear.

We also noted in the apendix that the water useage summary is indicated as being million gallons per day. It is believed that this should refer to thousand gallons per day.

In summarizing our comments, the main point we wish to stress is that the report reflects the fact that rural water districts can no longer be formed in Nebraska. However, the authorities which rural water districts have are now included in the Natural Resources District's authorities. This important item would be contrary to the conclusion that rural water

districts can no longer be formed and that another entity of government is not now capable of carrying on the same functions.

We appreciate the opportunity to review your report. If you have any questions concerning our comments, please feel free to contact our office.

Very truly yours,

PAPIO NATURAL RESOURCES DISTRICT

Jerry R. Wehrspann, P.E.
Director,
Project Planning & Engineering

JRW:mm

UPPER BIG BLUE
NATURAL RESOURCES DISTRICT

RFD 1 - FAIRGROUNDS
YORK, NEBRASKA 68467
(402) 362-6601

"ORGANIZED FOR DEVELOPMENT OF NATURAL RESOURCES IN THE UPPER BIG BLUE RIVER BASIN"

June 5, 1975

PROGRAMS
SOIL CONSERVATION
GROUND AND SURFACE WATER
EROSION PREVENTION
FLOOD CONTROL
POLLUTION CONTROL
DRAINAGE IMPROVEMENT
WATER SUPPLY
FORESTRY AND RANGE
FISH AND WILDLIFE
RECREATION AND PARKS

Colonel Russell A. Glenn, District Engineer
U.S. Army Engineer District, Omaha
ATTN: Regional Planning Branch
6014 U.S. Post Office and Courthouse
Omaha, Nebraska 68102

Dear Colonel Glenn:

Reference is made to comments concerning the water quality - wastewater management portion of the urban study currently being conducted for the Omaha metropolitan area by the Omaha District, Corps of Engineers.

As a result of attending the public meeting held April 16, 1975 to review water quality management alternatives and reviewing additional information related to the concept of land irrigation treatment of sewage effluents, representatives of the Upper Big Blue Natural Resources District (NRD) submit the following comments for consideration in completion of the study.

As a local governmental agency resposible for the development and management of water and land resources in the Upper Big Blue River Basin, the District recognizes the apparent merits of the concept of land irrigation and accordingly endorses this ongoing study and would likewise encourage a more detailed investigation of applying such a technique to this respective area. Since the Upper Big Blue River Basin area has been experiencing a declining groundwater table and could utilize supplemental water for irrigation development, the NRD is especially interested in this technique and source of water and will be considering this as potential project development in the District's comprehensive planning activities. Therefore, we would encourage detailed investigation into utilization of the land irrigation method of treating wastewaters in all areas where technically and economically feasible.

In addition, the District supports a suggested study recommendation that land irrigation demonstration projects be implemented throughout the study area including a demonstational project in the Upper Big Blue River area. Further, the NRD is prepared to assist and cooperate in planning and implementing a land irrigation demonstration project in this area.

We appreciated the presentation made by Don Kisiski at our regular Board of Directors meeting on June 3, 1975. The presentation was most informative and will prove helpful as decisions related to such potential project development become necessary.

EXHIBIT C-33

Your consideration of the above comments is appreciated.

Sincerely,

Raymond A. Burke

Raymond A. Burke
Chairman

RAB/FLM/rw

metropolitan UTILITIES DISTRICT 1723 HARNEY ST / OMAHA NEBR 68102 / 341
An Equal Opportunity Employer

March 13, 1975

Mr. C. F. Thomas, MROPD
Omaha District Corps of Engineers
6014 U. S. Post Office and Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

Mr. Kisiki has provided to MUD a preliminary copy of the Regional Water Supply Final Report with the request that we submit comments.

Our first comment is based on the statements on page IV-13 that "*** industrial water costs are partially subsidized by non-industrial customers" and "*** customers contributing to peak period water use are subsidized by non-peak contributing customers".

During the period since the publication of our Water Master Plan, MUD has devoted considerable time and effort to the study of our rate structure, particularly with respect to (a) possible subsidy of one customer group by another, (b) the allocation of costs to various customer groups, (c) and the adoption of a level or inverted rate either on an annual or seasonal basis. Our study of the problem during 1974, with the assistance of a nationally known rate consultant, failed to produce objective conclusions that a level, inverted, or seasonal rate is required. We shall continue study of the problem and integrate into any rate increase necessary in the future the latest thinking in the water industry on the subject.

The mere fact that industrial customers purchase water at lower unit costs than residential customers does not necessarily mean that the former is subsidized by the latter. Both "econony of scale" and "load factor" must be considered if cost of service is to be the basis for rate making. Industrial customers as a whole have a much higher ratio of average consumption to peak demand than do residential customers. Moreover, in most cases, the peak demands of industrial customers do not coincide with system peaks.

EXHIBIT C-34

There is no question that within the residential customer group some customers have much poorer load factors than others due to the varying amounts of lawn sprinkling; however, under the present District rate structure nearly all residential customers pay the same unit price for lawn sprinkling as for domestic use. Ninety-seven percent of all District residential water sales are for 5000 cubic feet or less per month.

Our second comment pertains to the remarks in the study on pp. IV-17 and IV-18 about the potential benefits of individual customer metering in apartments and mobile home parks. We doubt the applicability of the Boulder experience to the apartment and mobile home problem and believe further verification of the assumptions is in order, perhaps by actual experiment under controlled conditions.

Water sales to apartment dwellers through master meters cannot be considered flat rate water. The apartment management is very much aware of the water bills and can exercise considerable control over water usage outside of the apartment units. Plumbing repairs are probably more apt to be made if the management is responsible for the water bills than if the tenants pay the bills.

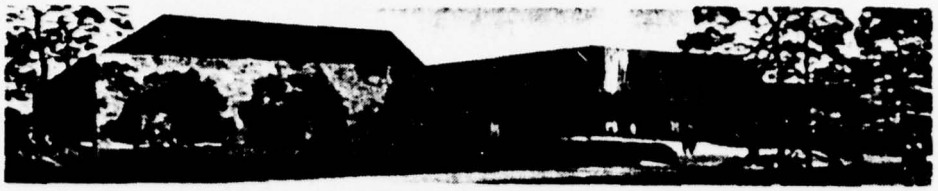
Our third comment pertains to water price elasticity. In the rate increase previous to our last one, the District increased water rates 25% in April 1969. There was no change in water usage that could be attributed to the change in price.

Our fourth comment pertains to the remark on page IV-8 that less emphasis on food and other agriculture product industries would reduce the water demands in the area. We agree, but agri-business is number one in Nebraska and we believe our goal should be to support it in every way we can.

Sincerely,

J. B. Knapp
Planning Director

JBK:bom



NEW HALL OF JUSTICE BUILDING

Phone
402-339-3225

Sarpy County Board of Commissioners

Papillion, Nebraska 68046

June 24, 1975

Col. Russell A. Glenn
District Engineer Omaha District
U. S. Army Corps of Engineers
6014 U. S. Post Office & Courthouse
215 North 17th St.
Omaha, Nebraska 68102

Dear Sir:

To say that the Sarpy County Board of Commissioners is very disappointe with Volume V of your Flood Control-Flood Plain Management booklet would be the understatement of the year. We are not only disappointed, we are angry. We had a moral if not legal contract with the U. S. Government through the Corps of Engineers. The Corps was to build flood retention dams. The County was to straighten and clear channels, build only acceptable bridges, and install flood plain zoning. We have performed!

In fact, we have performed so well that the Corps now says that the dams are no longer financially justified. By exercising flood plain management, we have restricted building, thereby lowering the benefits to cost ratio. The two upstream counties have continued building and developing, thereby running the cost of land acquisition still higher and the additional runoff from the additional rooftops and paving causes our flood plain to continue to broaden. Property which was perfectly safe from the flood waters twenty-five years ago are now vulnerable. In addition, the work we have sponsored on the channels brings the water to us that much faster. The Washington County water is upon us before the central Omaha water can get away.

Your letter of June 17 states that "On the West Branch of Papillion Cr there are no projects that are clearly justified at this time on the basis of flood control,---". For the life of us we cannot understand your rationale! Papillion wss inundated in 1959 and in 1964. Since then there has been much development in the upper reaches of the West Branch and Hell Creek. In fact, another large project has just recent been approved. Because of upstream building, additional stores and homes become endangered by flood each year as the runoff increases.

EXHIBIT C-35

If the United States Government and the Army Corps of Engineers thinks that this Board of Commissioners will stand by while you turn the lower end of our county into a huge flood basin to accommodate the two upstream counties, we assure you that you are quite mistaken. Our tax base is being eroded because we have performed and the Corps is using our performance as justification for reneging. It is small wonder that the United States Government is losing creditability abroad. With this type of dealing, it is losing it here at home.

However, you cannot pull out and leave us. We will be around for many years to come. Colonel Tucker reminded us at least three times at a recent briefing in Papillion that we always have the recourse of going to court. You can be assured that we will exercise that option each and every time our county suffers from a flood that could have been controlled by a dam that should have been built and wasn't.

Sincerely,

N. A. Magnusson

N. A. Magnusson
Chairman, Board of Commissioners

cc: Congressman McCollister
Senator Hruska
Senator Curtis

NEW HALL OF JUSTICE BUILDING

Phone
402-339-3225

Sarpy County Board of Commissioners

Papillion, Nebraska 68046

July 30, 1975

Attn: Col. Russell Glenn
Corps of Engineers
Federal Bldg., 215 No. 17th St.
Omaha, NE. 68102

Ref: House Document No. 349, 90th Congress,
2nd Session

Dear Sir:

In his letter of September 6, 1967, to the Chief of Engineers, Department of the Army, Major General R. G. MacDonnell, Chairman of the Board of Engineers for Rivers and Harbors, writing for the Board, stated that the Board recommended that the plan of improvement for th Papillion Creek basin, consisting of 21 reservoirs for flood control water quality control, recreation and fish and wildlife enhancement, be authorized, provided that prior to construction local interests furnish assurances satisfactory to the Secretary of the Army, that they would:

a. Maintain the Papillion Creek channels downstream from the damsites free of obstructions and available to accommodate reservoir releases and uncontrolled flow.

b. Insure that all new bridge construction, and future modification of existing bridges, downstream from reservoirs of the proposed system, shall have hydralic capacity acceptable to the Chief of Engineers.

c. Provide guidance and leadership in preventing unwise and uneconomical future development of the flood plain areas by encouraging prudent use of flood proofing, land regulation planning, or other flood plain management techniques to reduce flood losses.

d. Hold and save the United States free from all damages arising from water-rights claims resulting from the

construction and operation of the reservoirs.

e. Exercise, to the full extent of their legal capability, control against removal of streamflow made available for water quality control; and

f. In accordance with the Federal Water Project Recreation Act:

(1). Administer project land and water areas for recreation and fish and wildlife enhancement.

(2). Pay, contribute in kind, or repay (which may be through user fees) with interest, one-half of the separable first cost of the project allocated to recreation and fish and wildlife enhancement, the amount involved being currently estimated at $1,866,000; and

(3). Bear all costs of operation, maintenance, and replacement of lands and facilities for recreation and fish and wildlife enhancement and an annual amount currently estimated at $266,300.00.

Subsequent actions by the Corps in setting an annual capability figure, by Congress in making annual appropriations, and by the Corps in supplying a Project Engineer to coordinate Corps activity with local performance, and by sending Corps personnel to negotiate a contract with our County Board whereby the County agreed to sponsor the recreation on certain of the lakes, and by the Corps in site acquisition and the actual construction, and by our County in agreeir to sponsor recreation, by spending local money to fulfill our obligations in channel clearing and straightening, and by building our new bridges (two of them) to the new specifications of height and length, by adopting flood plain zoning and other mutual actions have all served to legitimize Sarpy County's contract with the United States Government. We have also just spent nearly $80,000, for a Comprehensive Plan and an updating of our Zoning Regulations to conform with the new geography of our County with the lakes in. We have spent taxpayer's money unnecessarily of these lakes are not built and will go to court if necessary seeking specific performance.

We further wish to point out that much of the reasoning advanced by "Study V" relative to cost-benefit ratios has only come about because we <u>have</u> cleared the channel, built bridges as recommended and adopted flood plain zoning. This is the first time we have ever hear of one party to a contract citing the results of the other party's performance as a reason for the first party <u>not</u> performing. Had we not performed in good faith, the benefits portion of the ratio would not have been reduced.

The Channelization alternative suggested is impractical for the following reasons:

(1). Local government cannot possible finance such a project.

(2). Channelization will speed up the flow from Washington County and Douglas County, bringing them into Sarpy County much more quickly and much more closely together than in the past. This will result in serious damage to agriculture, businesses, industry, county roads and bridges, the Air Force golf course, utilities and to the sewer treatment plant constructed at the mouth of the Papio to handle the sewage of both Douglas and Sarpy Counties.

(3). The Corps has stated that Sarpy County will become a huge "bathtub" serving as a holding basin for the flood water. Another suggestion advanced had the local government buying easements to store the water on this land. OUR COUNTY CANNOT AFFORD SUCH EXPENDITURE. WE ARE TOO NEAR OUR MILL LEVY CEILING.

(4). To widen the channel through Sarpy County to the Missou would be prohibitive.

(a) Reconstruction of existing bridges to cross the channel would cost approximately $11,475,000. dollars.

(b) The cost of relocating existing utilities, siphon commercial pipelines, the Omaha "big tube" sewer, and the widening of existing levees and the necessary relocation of railroads staggers the imagination and could not be financed by local government.

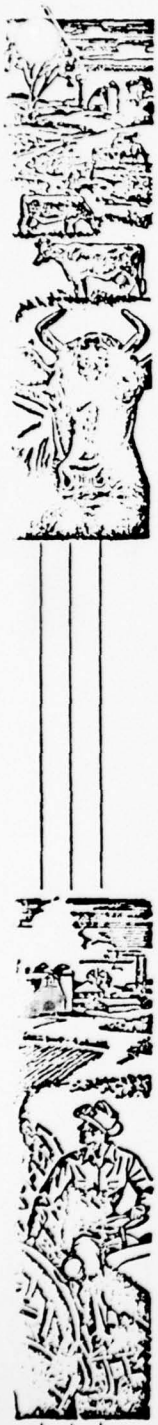
Gentlemen, we, the Board of Commissioners of Sarpy County repres more than 73,000 people of this eighth fastest growing county in the nation and we will, in behalf of these 73,000 persons, take our case to court if necessary. We have heard that an Executive policy has stated that "Bureaucratic Edict shall not prevail over the will of the local people". We do not feel that Bureaucratic Edict can void a contract between the United States Government and a local county.

It is the duty of this County Board to protect the best interests of the 73,000 people we represent.

Sincerely,

N. A. Magnusson

N. A. Magnusson, Chairman
Board of County Commissioners



HARRISON SOIL CONSERVATION DISTRICT

LET'S MAKE ONE THING CLEAR — WATER

Phone 644-2210
LOGAN, IOWA 51546

November 9,1973

Regional Planning Branch
U.S. Army Corps of Engineers
6014 U.S. Post Office and Court House
215 North 17th Street
Omaha, Nebraska 68102

Gentlemen;

The Harrison County Soil Conservation District Commissioners wish to express their interest in you water resources management study. We feel that your slides and booklet prepared and presented to the public provide an excellent means of communicating your data to people. We are vitally concerned that industry and recreation be promoted in your study area, especially along the Boyer and Missouri Rivers.

In doing our job as commissioners we feel that water pollution is primarily caused by soil losses. Sixty percent or greater of water pollutants are derived directly from soil erosion. Of immediate concern is the fact that present governmental policy asks that all-out production be planned. With this type of production demands, marginal and sub-marginal land will be brought back into production without the addition of soil conserving practices. As you are well aware, conservation treatment on farmland has decreased drastically as the result of the decrease in Federal cost-share funding. This decrease has also limited the needed upland treatment in watershed areas, resulting in a slow down of construction in Public Law 566 watershed projects. This decrease in watershed project construction also directly affects your program, especially in local flooding situations. These Public Law 566 projects also have the potential for recreation area development as evidenced by the proposed Allen Steer Creek Watershed. We would hope that a more coordinated effort between the Soil Conservation Service and the Corps of Engineers could be arranged to get projects such as this one into construction.

We would like to see more emphasis on the possibility of obtaining additional funding that may be available from other sources such as Rural Development Act. These funds could include monies for upland treatment, recreation and industrial site development, etc.

As a group we are vitally interested in the Riverfront Development Program and how it will affect the area, especially Harrison County. One of the proposals of particular interest to us is the Riverfront Parkway. To make this parkway more effective, private access and development will be needed in certain areas along the Missouri River. We ask what part the Corps of Engineers can do in helping make these areas a reality?

EXHIBIT C-37

We feel that some of the data supplied to you concerning population figures, industrial development and recreation potential might be more current from local sources than the data you had access to. We are sure you have become aware of this in you meetings with local citizen groups.

We are especially interested in your recommendations for flood protection and flood plain land use. We hope that your report may serve as a basis for local participation and coordinated action on the subjects that you have presented.

Sincerely,

Louis P. Culver

Louis P. Culver
Chairman District Commissioners

CITY OF OMAHA

EDWARD ZORINSKY, Mayor

108 SOUTH 18TH STREET
OMAHA, NEBRASKA 68102
402/341 8122

July 1, 1974

Mr. Donald R. Kisicki
Planning Division
Omaha District,
Corps of Engineers
6014 U. S. Post Office & Court House
Omaha, Nebraska 68102

Re: Omaha-Council Bluffs Urban Study:

Dear Mr. Kisicki:

We have reviewed the Phase I Report - Alternative Plans for Abatement of Pollution from Combined Sewer Overflows - Omaha, Nebraska developed by Harza Engineering. We held a meeting at City Hall on June 19, 1974 to discuss the alternatives presented in the report. The following persons attended the meeting:

Terry Pesek	City of Omaha
Charles Geisler	City of Omaha
Burt Whedon	City of Omaha
Paul Versch	City of Omaha
Joe Berenis	City of Omaha
Don Kisicki	Corps of Engineers
Carl Payne	Corps of Engineers
Richard Krotz	Havens & Emerson, Ltd.

We submit to you the following comments for your consideration:

1. We have and are still receiving much resentment from the public on matters pertaining to odor. Unless there is a change in the publics' opinion, we do not favor any type of surface storage. We suggest that the tunnel be made wider, thereby using the tunnel for in-line storage.

2. There are certain areas of the city in which separation has to be done due to frequent basement back ups. This causes hardship and inconvenience to the property owners involved and considerable maintenance cost. We would therefore like to see this included in the report with estimated cost to separate these areas.

EXHIBIT C-38

FINANCE George D. Richardson HOUSING & COMMUNITY DEVELOPMENT James Swick HUMAN RELATIONS A. B. "Buddy" Hogan
LAW Herbert M. Fitle PARKS, RECREATION & PUBLIC PROPERTY Clarence Shafer PERSONNEL Larry L. Wewel PLANNING Alden Aust
PUBLIC SAFETY Alfred P. Pattavina PUBLIC WORKS Terrance E. Pesek OFFICE OF MANAGEMENT & BUDGET Robert L. Armstrong

CITY OF OMAHA

EDWARD ZORINSKY, Mayor

108 SOUTH 18TH STREET
OMAHA, NEBRASKA 68102
402/341-8122

3. Presently there are only five (5) outlet points on the interceptor sewer that have permanent flow recorders. They are Bridge, Minne Lusa, Burt-Izard, Leavenworth and South Inlet. We would like to have your consultant look into this matter and come up with suggestions of installing permanent recorders at all points that discharge into the interceptor sewer.

4. When the flow in the major sewers reaches a specific level, the gates open up automatically and allow the flow to discharge into the Missouri River. At the end of the storm period, our personnel must manually reset the gates. We would like to see these gates controlled automatically by means of some type of telemetry.

5. Will the area north of the Bridge Street System ever enter our present interceptor sewers and be treated at the Missouri River Plant?

6. Is the Missouri River Watershed to be handled as a regional concept or strictly a City of Omaha problem?

7. What are the chances of the EPA requirements becoming less stringent? If requirements were reduced then some type of system attenuation could be implemented.

Sincerely,

Joe Berenis

JB:cd

Joe Berenis

FINANCE, George D. Richardson HOUSING & COMMUNITY DEVELOPMENT, James Swick HUMAN RELATIONS, A. B. "Buddy" Hogan LAW, Herbert M. Fitle PARKS, RECREATION & PUBLIC PROPERTY, Clarence Shafer PERSONNEL, Larry L. Wewel PLANNING, Alden Aust PUBLIC SAFETY, Alfred P. Pattavina PUBLIC WORKS, Terrance E. Perry OFFICE OF MANAGEMENT & BUDGET, Robert L. Armstrong

CITY OF OMAHA

EDWARD ZORINSKY, Mayor

108 SOUTH 18TH STREET
OMAHA, NEBRASKA 68102
402/341-8122

December 30, 1974

Mr. Donald R. Kisicki
Planning Division
Omaha District
Corps of Engineers
6014 U. S. Post Office & Court House
Omaha, Nebraska 68102

Re: Regional Wastewater Management Study

Dear Mr. Kisicki:

We have reviewed and discussed the planning questions submitted by your department pertaining to the Regional Wastewater Management Study. Our comments on the questions are as follows:

1a. Industrial and domestic waste sources should be placed under the 1977 secondary treatment requirements.
b. The 1983 Best Practicable Treatment Standards should be based on water quality standards.
c. We feel that zero discharge is not economically practical.
d. Level 1 treatment similar to H & E recommendations would be acceptable.
e. We feel that urban storm runoff should be exempted from state water quality standard. Combine overflows should meet state water quality standards. If treatment of stormwater was required, we favor upstream treatment and discharge.

2a. Land irrigation would be implementable if an institution similar to a Water Conservation Board would implement and supervise the operation. At this time, we feel that public acceptance would be minimal.
b. The value for irrigation water could be comparable to the price of drinking water for recharge or the price of fertilizer for irrigation.
c. At this stage, we feel that land alternative would be more viable for the minor urban and rural communities than for the major urban treatment plants.
d. Yes, Lincoln's wastewater would be practical to interconnect with Omaha's.

EXHIBIT C-39

FINANCE George D. Richardson HOUSING & COMMUNITY DEVELOPMENT James Swick HUMAN RELATIONS A. P. Buddy Hogan

CITY OF OMAHA

EDWARD ZORINSKY, Mayor

108 SOUTH 18TH STREET
OMAHA, NEBRASKA 68102
402/341 8122

e. At this time we would recommend that only one process be considered. We do not favor both treatment processes as outlined in the question.

3a. We favor Growth C concept and Plan II of the H & E report. As such, interceptor implementation would be used as a "control growth tool."
b. Whether the Bellevue No. 1 treatment plant should be retained or connected to the Papillion Creek treatment plant should be based upon economics.
c. We favor the retention of the Missouri River treatment plant. Plan IV should be eliminated.
d. It is our opinion that the concept of regional operation and maintenance of the smaller treatment plants is not politically acceptable at this time.

If you have any questions, give me a call.

Sincerely,

Joe Berenis

JB:cd

Joe Berenis

FINANCE George D. Richardson HOUSING & COMMUNITY DEVELOPMENT James Swick HUMAN RELATIONS A. S. Buddy Hogan

CITY OF OMAHA

EDWARD ZORINSKY, Mayor

April 4, 1975

Mr. Don Kasicki
Army Corp. of Engineers
215 North 17th Street
Omaha, Nebraska

Dear Mr. Kasicki:

There are some areas in this report that are somewhat in error. The following pages and paragraphs are referred to:

1. Page C-4 Paragraph 14

   The City of Omaha Sewer Maintenance Dept. does not feel the system is in good condition. Repairs consist of much pipe replacement, approximately one a week in this area.

   In figure C-5 what is meant by Local Flooding and when does it occur?

   Major sewer problems do exist. In the past 3 years we have had close to 300 sewer backups in the area of this study.

2. Page C-11 Paragraph 26

   The Bridge Street service area has had approximately 5 backups in the last 3 years. This is one backup for every 2.8 miles of sewer.

3. Page C-12 Paragraph 27

   The Mormon Street service section has had approximately 4 backups in the last 3 years. This is one backup for every 2.5 miles of sewer.

4. Page C-13 Paragraph 32-39

   The Minne Lusa service section has had approximately 100 sewer backups in the last three years.

EXHIBIT C-40

FINANCE George D. Richardson HOUSING & COMMUNITY DEVELOPMENT James Swick HUMAN RELATIONS A.B. Buddy Hogan
LAW Herbert M. Ellis PARKS, RECREATION & PUBLIC PROPERTY Clarence Shuler PERSONNEL Larry L. Wood PLANNING Alden Aust

5. Page C-15 Paragraph 40

The Grace Street sewer section has had approximately 40 backups in the last 3 years.

6. Page C-17 Paragraph 44-47

The Burt Izard sewer section has had approximately 30 backups in the past 3 years.

7. Page C-18 Paragraph 49-55

The Leavenworth service area has had approximately 30 backups in the past 3 years.

8. Page C-20 Paragraph 56

The Greater Missouri Avenue section has had approximately 10 backups in the past 3 years.

9. Page C-23 Paragraph 68

The South Omaha section has had approximately 20 backups in the past 3 years.

10. Page C-25 Paragraph 74

The Monroe Street section has had approximately 25 backups in the past 3 years.

11. Page C-40 Paragraph 105

We are barely keeping up with the sewer repairs today. Tomorrow we won't be able to without more men and equipment and a preventative maintenance program.

Reference is made to our inventory system. There is a long way to go before it is operational. We presently have no money budgeted for the field work and are using CMP people. When the program is completed we will know what has to be done but it is going to take much more than we have now to do it.

We have plans for a program which will "keep pace with the gradual deterioration of the sewer system" but we do not have such a program now.

Sincerely,

James R. Belina

James R. Belina
Sewer Maintenance Engineer
C-40

The City of Council Bluffs, Iowa

ROM THE OFFICE OF:
The Mayor

PHONE 322-4061

August 29, 1974

C. F. Thomas, Chief
Planning Division
Army Corps of Engineers
6014 U.S. Post Office & Courthouse
Omaha, Nebraska 68102

Dear Mr. Thomas:

Thank you for your letter of August 26 and for the copies of "Alternative Plans for Abatement of Pollution from Combined Sewer Overflows for the City of Omaha".

I find Alternatives 4A and 4B which involve storing sewage either north or south of Council Bluffs completely unacceptable.

We in Council Bluffs have had considerable problems with odor both from Beefland and our own sewage plant. We do not wish to have any more potential odor problems such as would exist with storage of sewage.

At the time Beefland was built our people were promised there would be no odor problem. We have had severe odor problems emanating from this plant.

When our new sewage disposal plant site was being selected, we were assured by the consulting engineers that this plant would cause no odor to the surrounding area. Already, we've had complaints and the plant is only in partial operation (secondary treatment only). We have suffered much noxious odor from our present plant.

We cannot subject our citizenry to any more potential odor problems.

I respectfully request that you eliminate Alternates 4A and 4B from further consideration.

Sincerely,

Dorothy L. Strohbehn
MAYOR

EXHIBIT C-41

sa

CITY OF BELLEVUE
1504 KENNEDY DRIVE • BELLEVUE, NEBRASKA 68005
PHONE (402) 291-0280

December 11, 1974

Re: Havens & Emerson's
Regional Wastewater Management Study

Mr. C. F. Thomas
Chief, Planning Division
Dept. of the Army
Omaha District Corps of Engineers
6014 U.S. Post Office & Court House
Omaha, Nebraska 68102

Dear Mr. Thomas:

We have received your summary of your November 18, 1974 inter-agency meeting on Phase I of the Havens & Emerson's Regional Management Study. We have also received your planning questionaire in regards to this study and welcome the opportunity to respond with our local interest.

I am not sure that all the questions apply to the City of Bellevue or that we can adequately answer all of these questions. I will therefore relate to the questions that I believe will express the interest of the City of Bellevue.

1a. Domestic and industrial waste sources should be placed under the 1977 Secondary Treatment Requirements.

1b. The 1973 Best Practical Treatment Standards should be based on technology rather than water quality standards. This appears to be the most reasonable way to meet standards that can be effectively met.

2f. It is my opinion that returning waste to land is a positive direction to zero pollution. With today's fertilizer shortage and present sludge disposal problems, it appears that land application for sludge disposal would be desirable for whatever nutrient value it would have and the problems it would solve over conventional landfill operations.

EXHIBIT C-42

3b. The study and reports that were completed for the Bellevue No. 1 Treatment Plant show that it is more costs effective to retain and upgrade this plant rather than connect to the Papillion Creek Treatment Plant. The upgrading of Bellevue No. 1 Treatment Plant, rather than connecting to the Papillion Creek Plant, will save our community approximately $60,000 annually.

3d. It is our opinion that adequate training for the smaller treatment plant operators with state monitoring would be more acceptable than regional operation and maintenance.

We would like to thank you for giving us the opportunity to respond to these questions and will be glad to discuss them with you if you desire.

Very truly yours,

CITY OF BELLEVUE

Norman R. Nelson

Norman R. Nelson, P.E.
City Engineer

NRN:mb

THE ORIGINAL BOYS TOWN

FATHER FLANAGAN'S BOYS' HOME

BOYS TOWN, NEBRASKA 68010

November 6, 1974

Mr. Donald Kisicki
U. S. Army Corps of Engineers
215 North 17th Street
Omaha, Nebraska 68102

Dear Mr. Kisicki:

As Chairman of the Village Board of Boys Town and as well as the Executive Director of Father Flanagan's Boys' Home, I would very much like to express the interest of the Village government and the Home in the current U. S. Corps of Engineers' water resources management study.

In particular, we feel that the Home might very well be a natural site for the utilization of wastewater effluent for irrigation which we understand could be studied more in-depth during the second phase of the Havens & Emerson planning study. I would therefore like to request that the Corps of Engineers and Havens & Emerson are welcome to study our property for such an activity and that we welcome your interest in this regard. Please feel free to contact us should there be any need for additional information. Mr. Paul J. Strawhecker should be able to assist you in this regard.

Please be assured of our cooperation in all matters of concern.

Sincerely,

(Rev.) Robert P. Mapp

PJS/fm

cc: William Ramsey
Edwin Hewitt
Paul Strawhecker

EXHIBIT C-43