

**APPENDIX (Section E)**

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**IRRIGATION SCHEDULES  
EXPLANATIONS AND INSTRUCTIONS**

CONFIDENTIAL CENSUS REPORT: Your report is required by Act of Congress. This Act also makes it unlawful for the Bureau to disclose any facts, including statistical information concerning the Nation's population, resources, and business activities. Your

DEPARTMENT OF COMMERCE—BUREAU OF THE CENSUS
WASHINGTON
SIXTEENTH CENSUS
OF THE
UNITED STATES: 1940
IRRIGATION—1

This schedule is to be used ONLY for irrigation enterprises serving LESS than FIVE farms, in the following States:

- Arizona Idaho Nevada South Dakota
Arkansas Kansas New Mexico Texas
California Louisiana North Dakota Utah
Colorado Montana Oklahoma Washington
Florida Nebraska Oregon Wyoming

I.—MANAGEMENT AND LOCATION OF ENTERPRISE

1. Name of this canal or irrigation enterprise
2. Individual, partnership, or company controlling this enterprise:
Post-office address
3. Location:
(a) Lands of this State
(b) Head of main canal; well; spring; reservoir; or other source:
4. Person furnishing information:
Name Title
Address

II.—SOURCE OF WATER SUPPLY

5. Indicate type by X (if more than one type, mark each):
Stream Pumped well Flowing well Spring
Stored storm water Lake City water Sewage
6. Name of stream or other source
7. Drainage basin
(Give name of river system which drains the region in which enterprise is located.)

III.—WATER RIGHTS

8. Indicate type by X (if more than one type, mark each):
(a) Riparian rights
(b) Appropriation rights
(c) All other rights
(Specify, as "underground water," etc.)

IV.—TYPE OF ENTERPRISE

9. Indicate type of enterprise at the present time by X:
Individual Partnership Cooperative

V.—LANDS

10. (a) Are any lands in this enterprise irrigated with water supplied by any other enterprise?
(b) If answer to Question 10(a) is "Yes," give name of other enterprise, show acreage of this enterprise irrigated by such other water:
NAME OF OTHER ENTERPRISE ACREAGE TOTAL ACREAGE
(c) Does this enterprise supply water to other enterprises?
(d) If answer to Question 10(c) is "Yes," give name of other enterprise receiving the water:
NAME OF OTHER ENTERPRISE
11. Farms supplied with water by this enterprise in 1939.
12. Total irrigable acreage this project will cover when completed.

V.—LANDS—Continued

13. Area to which existing works are capable of supplying water in 1940.
14. (a) Area actually irrigated in 1939.
(b) Irrigated land from which crops were harvested in 1939.
(c) Irrigated area upon which crops failed in 1939 and no other crops were planted for harvest in 1939.
(d) Irrigated land used only for grazing or pasture in 1939.

VI.—DRAINAGE OF IRRIGATED LANDS

15. Area for which drains or drainage pumps have been installed.
16. Additional area in need of drainage.

VII.—DESCRIPTION OF WORKS

17. Diversion dams: (a) Number (b) Material
18. Storage dams: (a) Number (b) Material
19. Canals (main and laterals, not including farm ditches):
(a) Capacity at main canal heading. Cu. ft. per sec.
(b) Earth canals, length. Miles
(c) Concrete-lined canals (including flumes), length. Miles (nearest tenth)
(d) Other materials-lined canals (Specify material). Miles (nearest tenth)
20. Pipe lines, including siphons and farm pipe distribution lines. Report lengths to nearest tenth of mile:
MATERIAL DIAMETER IN INCHES
1-12 inches 13-24 inches Over 24 inches
Miles Miles Miles
(a) Concrete
(b) Metal (iron, steel, etc.)
(c) Wood-stave
(d) Other (Specify material)

21. Reservoirs: (a) Number (b) Total capacity (ac.-ft.)
If reservoir is jointly owned, list below the name of reservoir, names of participating enterprises, and share of each in acre-feet.

22. Pumping equipment:
Table with columns: KIND OF MOTOR OR ENGINE, NUMBER, TOTAL HORSE-POWER, NUMBER OF HOURS OPERATED IN 1939
Table with columns: KIND OF PUMP, NUMBER, TOTAL CAPACITY (gals. per min.), AVERAGE LIFT (feet)

23. Pumped wells: (a) Number (b) Total yield (g.p.m.)
24. Flowing wells: (a) Number (b) Total yield (g.p.m.)

SCHEDULE No. (1)
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CODES
Source of Supply Code (2)
Drainage Basin Code (3)
Water Rights Code (4)
Type Code (5)

# SCHEDULES

names or identity, from your census reports. Only sworn census employees will see your statements. Data collected will be used solely for preparing Census Reports Cannot Be Used for Purposes of Taxation, Regulation, or Investigation.

VIII.—CAPITAL INVESTED IN ENTERPRISE	Code	ENUMERATOR'S RECORD
25. Cost of irrigation works and equipment to December 31, 1939..... \$..... <span style="float: right;">(Omit cents)</span>	A-12 D-5	State ..... County ..... E. D. No. ....
26. If works were not completed December 31, 1939, estimate additional investment required for completion..... \$..... <span style="float: right;">(Omit cents)</span>	D-6 XX	Visitation numbers of corresponding farm schedules .....
27. Amount actually expended for water rights.... \$..... <span style="float: right;">(Omit cents)</span>	D-9 X out	Enumerated by me on ....., 1940.  ....., Enumerator.
IX.—MAINTENANCE AND OPERATION		
28. Cost of maintenance and operation in 1939..... \$..... <span style="float: right;">(Omit cents)</span> <small>If work was done by owner or operator, estimate cost of labor and material. Expenditures made in 1939 for enlargements and improvements are not to be included here, but under Question 25. Also see Instructions below.</small>	A-13 E-5 XX XX	<b>SECTION III.</b> —These questions relate to the rights of the enterprise to take water from the stream or other source from which it is obtained. Some enterprises have several rights, each of which should be shown; and many rights will fall in more than one of the classes named. In each instance the right should be reported in the class in which it stands at the time of the enumeration.
X.—QUANTITY OF WATER USED IN 1939 (Gravity and pumped)		
29. Total quantity of water delivered to irrigators during season of 1939..... Acre-feet.....	E-10 XX	<b>SECTION IV.</b> —"Individual" or "Partnership" enterprises are those belonging to individual farmers or groups of farmers associated without formal organization. "Cooperative" enterprises are controlled by the water users combined in some organized form of cooperation under State laws, the most common form being the stock company, the stock of which is owned by the water users.
EXPLANATIONS AND INSTRUCTIONS		
<p><b>LEGAL REQUIREMENT.</b>—A report of every irrigation enterprise in the United States is required by the Decennial Census Act of the Congress, approved June 18, 1929.</p> <p><b>DEFINITION OF AN IRRIGATION ENTERPRISE.</b>—An irrigation enterprise, for the purpose of the census, is a canal or other water conduit system, pumping plant, or a reservoir supplying water for irrigation, or any combination of these operated under a single management by either an individual, a partnership, a company, or other organization.</p> <p>Land should be classed as irrigated which has water supplied to it for agricultural purposes by artificial means or by seepage from canals, reservoirs, or irrigated lands, but land which has natural ground water sufficiently near the surface to support plant life should not be classed as irrigated. Land which is flooded during high-water periods should be classed as irrigated if water is caused to flow over it by dams, canals, or other works, but should not be classed as irrigated if the overflow is due to natural causes alone.</p> <p>This schedule is to be used by enumerators to report irrigation enterprises serving less than five farms.—Reports for larger enterprises will be secured by enumerators only when they are specifically instructed by their supervisors to do so, and enumerators will then use schedule Irrigation—2. However, enumerators are cautioned to return reports for all pumping plants, wells, canals, or reservoirs operated by individuals or groups of four or less who also obtain water from enterprises serving more than four farms.</p> <p>If the Farm and Ranch Schedule (Questions 31 and 32) shows that the farm was irrigated, the enumerator should ask whether the irrigation enterprise reported under Question 33 serves less than five farms in all; if the answer is "Yes," he should obtain the names of all the farmers involved, and, from one of them (or other reliable source), obtain the information needed to fill out this Irrigation Schedule, unless, upon further inquiry, he is told that an Irrigation Schedule has already been received from the Bureau of the Census. If such a schedule has been received, he should ask whether it has been filled out and returned. If the answer to this question is "Yes," the enumerator should make an entry to that effect on his daily report. The enumerator should satisfy himself, however, that it was actually a United States Census Irrigation Schedule, and not some other form of schedule, which was received and filled out, and that the irrigation enterprise it described was none other than the one about which he is inquiring.</p> <p>If the enterprise has received an Irrigation Schedule by mail and has not filled it out, or has filled it out but has not returned it, the enumerator should obtain it. Only a few schedules will have been received by mail by enterprises serving less than five farms, these being individuals or partnerships in isolated sections, or enterprises whose size was not definitely known by the Bureau of the Census.</p> <p><b>ALL QUESTIONS ARE TO BE ANSWERED.</b>—If exact information is not available, get the best estimate possible and write "Est." beside the answer. Use the margin or back of this schedule when additional space is necessary to make the answers clear, definite, and complete.</p> <p><b>SECTION I.</b>—If a farm is supplied with water by more than one canal or enterprise, and these canals supply water to not more than three other farms, a schedule should be made out for each canal; but if a farm is supplied with water by more than one canal or enterprise, and these canals supply no other farm or farms, all such canals should be included on a single schedule. The names, if the canals are named, should be written on the blank lines under Question 2.</p> <p><b>SECTION II.</b>—If water is secured from more than one source, each should be marked and the principal source indicated by underscoring. If water is secured from two or more streams or other sources, the name of each should be given.</p> <p>"Stored storm water" refers to reservoirs filled by storing storm water from channels that carry water only during storms and are not classed as streams. When water is obtained from a reservoir filled from a stream, the stream should be given as the source.</p> <p>Under "Drainage basin," the name of the smallest stream that is well known and which is shown on ordinary maps should be given. This inquiry should be answered, even if water is not obtained from a stream.</p>		
<p><b>SECTION V.</b>—The answer to Question 11 must conform to the Census definition of a farm, as shown on the Farm and Ranch Schedule.</p> <p>Under "Total irrigable acreage this project will cover when completed," only the acreage to which it is definitely planned to supply water should be reported. Possible extensions not yet definitely planned should not be included.</p> <p>The answer to Question 13 should include all land to which the enterprise is ready and able to supply water, whether land is farmed or not.</p> <p>The "Area actually irrigated in 1939" should be limited to land to which water was actually applied during that year. It should not include land which is under the system and sometimes irrigated, but which was not watered in 1939, nor land not yet irrigated on farms that are in process of reclamation.</p> <p>The answer to Question 14(a) should be the total of all land irrigated. If the cropland harvested, irrigated pasture, and irrigated area upon which crops failed do not equal the total reported under Question 14(a), write an explanation on the margin or the back of this schedule.</p> <p><b>SECTION VI.</b>—This section relates only to lands which have been irrigated or are to be irrigated by this enterprise. The "Additional area in need of drainage" will necessarily be estimated. Enumerators should make the best estimates possible, based on information furnished by the officials of the enterprise and by others in the community, and on their own observations, but they should not attempt to make extended field observations.</p> <p><b>SECTION VII.</b>—A main canal is any channel conveying water from the source of supply to the tract of land to be irrigated. A lateral canal is a branch of a main canal conveying water from a main canal to one or more farms. Farm ditches, which distribute the water within the boundaries of the individual farm, should not be reported. Farm pipe distribution lines should be reported, using best figures obtainable.</p> <p>If the capacity of a reservoir is not known, it should be estimated by multiplying the area (in acres) of the water surface when reservoir is full, by the average depth (in feet) above the level of the bottom of the outlet. The product will be "acre-feet." Length, width, and depth, in feet, should be given for small farm reservoirs.</p> <p>If yields of either flowing or pumped wells are not known, obtain the best estimates possible.</p> <p>Under "Kind of motor or engine," if windmills are used, for "Capacity" give diameters of wheels rather than horsepower.</p> <p>Under "Kind of pump," if some unusual type of pump or other water-lifting device is used, describe it briefly on the margin or back of this schedule, with suitable reference to the question number.</p> <p>Under "Average lift," give the vertical distance, in feet, between the average level of the water in the source of supply when the pump is running at usual capacity and the average level to which the water is lifted. Do not consider friction and velocity heads or horizontal distances. If more than one pump is reported, give the average lift for each pump separately, with corresponding yield.</p> <p><b>SECTION VIII.</b>—In answering Question 25, include the original cost of the irrigation works plus the cost of extensions and improvements; also the cost of equipment, buildings, and land used for maintenance and operation, but not water rights. If works are not completed, give investment to December 31, 1939. If there are no records of cost, or if the owners have done all or part of the construction, the best estimate of cost obtainable should be reported, including the estimated value of the work done by the owners. If drainage works have been built, do not include their cost in the answer to Question 25.</p> <p>Under "Water rights," include filing and legal fees paid by the enterprise in acquiring them; and, if they were purchased by the enterprise, give the purchase price.</p> <p><b>SECTION IX.</b>—In answering Question 28, report only the costs of maintenance, including ordinary cleaning and repairs; and operation, including fuel or power and attendance.</p> <p><b>SECTION X.</b>—The answer to Question 29, if the total supply is pumped, should be the same as the answer to Question 22(h). If the water supply is obtained from two or more sources, pumped or gravity, the answer to Question 29 should be the total amount of water delivered from all such sources.</p>		

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DEPARTMENT OF COMMERCE—BUREAU OF THE CENSUS

WASHINGTON

SIXTEENTH CENSUS

OF THE

UNITED STATES: 1940

# IRRIGATION-2

10-217

This schedule is to be used ONLY for irrigation enterprises serving FIVE or MORE farms, in the following States:

Arizona	Kansas	New Mexico	Texas
Arkansas	Louisiana	North Dakota	Utah
California	Montana	Oklahoma	Washington
Colorado	Nebraska	Oregon	Wyoming
Idaho	Nevada	South Dakota	

**I.—MANAGEMENT AND LOCATION OF ENTERPRISE**

1. Name of this canal or irrigation enterprise.....

2. Correct legal or incorporated name of this enterprise:  
.....

Post-office address: { Main office.....  
Local office.....

3. Location:  
(a) Lands of this enterprise: { State.....  
County (or counties).....  
(b) Head of main canal, well, spring, reservoir, or other source:  
Section..... Township..... Range.....  
If located on unsurveyed land, describe by direction and distance from some near-by town.  
.....

4. Person furnishing information:  
Name..... Title.....  
Address.....  
Date.....  
Signature.....

**II.—SOURCE OF WATER SUPPLY**

5. Indicate type by X (if more than one type, mark each):  
Stream  Pumped well  Flowing well  Spring   
Stored storm water  Lake  City water  Sewage

6. Name of stream or other source.....

7. Drainage basin.....  
Give name of river system which drains the region in which enterprise is located.

**III.—WATER RIGHTS**

8. Indicate type by X (if more than one type, mark each):  
NOTE.—Some enterprises have several rights, each of which should be shown; and many rights will fall in more than one of the types named. For instance: A right may have been acquired originally by appropriation and use; later the owner may have filed and posted a notice of his claim; still later the right may have been adjudicated by a court or board; and, finally, a certificate may have been issued by the State. Or a right may have been initiated on a permit from the State and the owner may have received later a certificate from the State. In each instance the right should be reported in the class in which it stands at the time of enumeration.  
(a) Riparian rights.....  
(b) Appropriation rights.....  
(c) All other rights.....  
(Specify, as "underground water," etc.)

**IV.—TYPE OF ENTERPRISE**

NOTE.—The types of enterprises recognized by the census are as follows:  
Individual or partnership enterprises, which belong to individual farmers or to groups of farmers associated without formal organization. It is not always possible to distinguish between partnership and cooperative enterprises, but as the difference is slight this is unimportant.  
Cooperative or mutual enterprises, which are controlled by the water users combined in some organized form of cooperation under State laws. The most common form of organization is the stock company, the stock of which is owned by the water users. In New Mexico many of the cooperative enterprises are operated under laws regulating "community" ditches.  
Irrigation districts, which are public corporations established under State laws and empowered to issue bonds to obtain funds for the purchase or construction of irrigation works, and to levy and collect taxes for the payment of bonds and interest thereon and for the payment of the cost of operation and maintenance. In some States these are called water improvement districts, water conservation districts, water storage districts, etc.  
Carey Act enterprises, established under the Federal law of August 18, 1894, granting each of the States in the arid region 1,000,000 acres of land on condition that the State provide for its irrigation and under amendments to that law granting additional acres to Idaho and Wyoming. Practically all Carey Act projects are now organized as irrigation districts or other cooperative enterprises and should be so reported.  
Commercial enterprises, incorporated or otherwise, and including public utilities regulated by State commissions, which supply water for compensation to farmers who own no interest in the works. Irrigators obtaining water from such enterprises are required to pay annual charges based in some instances on the acreage irrigated and in others on the quantity of water received, and sometimes must pay in addition for the initial right to receive water.  
United States Bureau of Indian Affairs enterprises, established under various acts of the Congress providing for the construction by that Service of works for the irrigation of land in Indian reservations.  
United States Bureau of Reclamation enterprises, established under the Federal law of June 17, 1902, providing for the construction of irrigation works with the receipts from the sale of public lands or other sources.  
State enterprises.—In a few instances the States themselves have carried out irrigation enterprises under special legislation.  
City water or sewage irrigation enterprises.—This type is self-explanatory.

9. Indicate type of enterprise at the present time by X:

Individual.....	Carey Act.....
Partnership.....	U. S. Bureau of Indian Affairs.....
Cooperative { (a) Incorporated.....	U. S. Bureau of Reclamation.....
(b) Unincorporated.....	
Irrigation district.....	State enterprise.....
Commercial { (a) Incorporated.....	City enterprise.....
(b) Unincorporated.....	

Many enterprises were organized under one form and later changed to another form. In such cases, state the facts on the blank lines below:  
.....

**V.—LANDS**

10. (a) Are any lands in this enterprise irrigated with water supplied by any other enterprise? (Yes or No)  
(b) If answer to Question 10(a) is "Yes," give names of other enterprises and show acreage of this enterprise irrigated by such other water:

NAME OF OTHER ENTERPRISE	ACREAGE	TOTAL ACREAGE
.....	.....	X X X X X X
.....	.....	

(c) Does this enterprise supply water to other enterprises? (Yes or No)  
(d) If answer to Question 10(c) is "Yes," give names of the other enterprises receiving the water:

NAME OF OTHER ENTERPRISE	Code
.....	
.....	

11. Farms supplied with water by this enterprise in 1930 (see Explanations and Instructions). Number..... A-1

12. Total irrigable acreage this project will cover when completed..... Acres..... A-2

..... A-3

13. Area to which existing works are capable of supplying water in 1940..... Acres..... A-4  
E-1

**SCHEDULE**

No. (1)

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**CODES**

Source of Supply Code (2)

Drainage Basin Code (3)

Water Rights Code (4)

Type Code (5)

# SCHEDULES

687

names or identity, from your census reports. Only sworn census employees will see your statements. Data collected will be used solely for preparing Census Reports Cannot Be Used for Purposes of Taxation, Regulation, or Investigation.

	Code		Code
<b>V.—LANDS—Continued</b>		<b>VIII.—CAPITAL INVESTED AND FINANCING</b>	
14. (a) Area actually irrigated in 1939. Actual area irrigated, not areas for which water was available nor total holdings of persons entitled to water. Acres <input type="checkbox"/>	A-5 E-2 A-6	25. Cost of irrigation works and equipment to December 31, 1939. \$ (Omit cents)	A-12 D-5
(b) Irrigated land from which crops were harvested in 1939. Do not count land twice, even though two crops were harvested from it. If none, write "None." Acres	A-7 E-3	26. If works were not completed December 31, 1939, estimate additional investment required for completion. \$ (Omit cents)	D-8
(c) Irrigated area upon which crops failed in 1939 and no other crops were planted for harvest in 1939. Acres	A-8	27. Total indebtedness, December 31, 1939. \$ (Omit cents)	D-7
(d) Irrigated land used only for grazing or pasture in 1939. Acres	A-9 E-4	28. Amount of water taxes collected in 1939 (include special assessments). \$ (Omit cents)	D-8
<b>VI.—DRAINAGE OF IRRIGATED LANDS</b>		29. Amount actually invested in water rights to December 31, 1939. \$ (Omit cents)	D-9
NOTE.—These inquiries relate only to lands that have been irrigated or are to be irrigated by this enterprise.		30. Was the enterprise in arrears in payment of principal or interest on bonds or other funded obligations, December 31, 1939? (Yes or No)	
15. Area for which drains or drainage pumps have been installed. Acres	A-10	(a) If "Yes," give total arrearage, December 31, 1939. \$ (Omit cents)	D-10
16. Additional area in need of drainage. Acres	A-11	(b) What was the amount of arrearage, December 31, 1938? \$ (Omit cents)	D-11
<b>VII.—DESCRIPTION OF WORKS</b>		31. Amount expended for construction, etc. (capital expenditures), in 1939. \$ (Omit cents)	D-12
NOTE.—A main canal is any channel conveying water from the source of supply to the tract of land to be irrigated. A lateral canal is a branch of a main canal conveying water from a main canal to one or more farms. Farm ditches, which distribute the water within the boundaries of the individual farm, should not be reported. Types of works not specified below and other helpful information should be given briefly on the back of the schedule, with suitable reference to question numbers.		<b>IX.—MAINTENANCE AND OPERATION</b>	
17. Diversion dams: (a) Number (b) Material <input type="checkbox"/>	B-1, 2	32. Cost of maintenance and operation in 1939. \$ (Omit cents)	A-13 E-5
18. Storage dams: (a) Number (b) Material <input type="checkbox"/>	B-3, 4	NOTE.—Expenditures made in 1939 for enlargements and improvements are not to be included here but under Question 25. (Also see instructions.)	
19. Canals (mains and laterals, not including farm ditches):		33. Area against which annual charges were assessed in 1939. Acres	D-13 E-6
(a) Capacity at main heading. Cu. ft. per sec	B-5	34. Average annual charge per acre in 1939. \$	E-7
(b) Earth canals, length. Miles	B-6	If charge is based on some other than this area, give approximate equivalent charge per acre served. Include assessment for maintenance and operation, and for principal and interest on bonds, notes, and warrants, and for special reasons. (a) <input type="checkbox"/> OFFICE USE ONLY	
Lined canals (including flumes), length:		35. Of the land assessed with the annual charge, what acreage used no water in 1939? Acres	E-8
(c) Concrete. Miles (nearest tenth)	B-7	<b>X.—QUANTITY OF WATER USED IN 1939</b> (Gravity and pumped)	
(d) Other. Miles (nearest tenth)	B-8	36. Was the water measured as it was received by the system? (Yes or No) (Name unit of measure)	
20. Pipe lines, including siphons and farm pipe distribution lines. Report lengths to nearest tenth of mile:		37. Average volume of water entering the system during season of 1939, cubic feet per second.	
MATERIAL	DIAMETER IN INCHES		
	1-12 inches	13-24 inches	Over 24 inches
	Miles	Miles	Miles
(a) Concrete			
(b) Metal (iron, steel, etc.)			
(c) Wood-stave			
(d) Other (Specify material)			
21. Reservoirs: (a) Number (b) Total capacity (ac.-ft.) If reservoir is jointly owned, list below the name of reservoir, names of participating enterprises, and share of each in acre-feet.	B-9 10, 11 B-12 13, 14 B-15 16, 17 B-18 19, 20 B-21, 22	38. Total quantity of water entering the system during season of 1939, acre-feet.	E-9
22. Pumping equipment:		39. Periods during which water was run for irrigation in 1939:	
KIND OF MOTOR OR ENGINE	NUMBER	TOTAL HORSEPOWER	NUMBER OF HOURS OPERATED IN 1939
(a) Electric			
(b) Internal-combustion			
(c) Other (Specify kind)			
KIND OF PUMP	NUMBER	TOTAL CAPACITY (Gals. per min.)	AVERAGE LIFT (Feet)
(d) Centrifugal			
(e) Turbine			
(f) Plunger			
(g) Other (Specify kind)			
(h) Amount of water pumped in 1939, acre-feet	C-1, 2, 3 C-4, 5, 6 C-7, 8, 9 C-10 11, 12 C-13 14, 15 C-16 17, 18 C-19 20, 21 C-22		
23. Pumped wells: (a) Number (b) Total yield (g.p.m.)	D-1, 2		
24. Flowing wells: (a) Number (b) Total yield (g.p.m.)	D-3, 4		
		40. Is water measured as it is delivered to each irrigator? (Yes or No) (Name unit of measure)	
		41. Total quantity of water delivered to irrigators during season of 1939, acre-feet	E-10
		<b>XI.—EMPLOYMENT AND PAY ROLL</b>	
		42. Total amount of wages and salaries paid and payable for 1939. \$ (Omit cents)	E-11
		43. Total number employed during week ending April 29, 1939. Number	E-12

(Reduced facsimile)

### EXPLANATIONS AND INSTRUCTIONS

**Legal requirements.**—A report of every irrigation enterprise in the United States is required by the Decennial Census Act of the Congress, approved June 18, 1929.

Enterprises which mail their reports to the Bureau of the Census will not be visited by field representatives unless the reports are incomplete or have been delayed.

**Definition of an irrigation enterprise.**—An irrigation enterprise, for the purpose of the census, is a canal or other water conduit system, pumping plant, or reservoir supplying water for irrigation, or any combination of these operated under a single management by either an individual, a partnership, a company, or other organization. For classification of enterprises see note under Section IV on the face of the schedule.

Land should be classed as irrigated which has water supplied to it for agricultural purposes by artificial means or by seepage from canals, reservoirs, or irrigated lands, but land which has natural ground water sufficiently near the surface to support plant life should not be classed as irrigated. Land which is flooded during high-water periods should be classed as irrigated if water is caused to flow over the land by dams, canals, or other works, but should not be classed as irrigated if the overflow is due to natural causes alone.

**All questions are to be answered.**—If exact information is not available, give the best estimate possible and write "Est." beside the answer. Use the blank lines following these Explanations and Instructions when additional space is necessary to make the answers clear, definite, and complete.

**Section I.**—Census tabulations are made according to counties. Therefore, if the enterprise includes lands in more than one county, a separate schedule should be prepared for the portions of the lands and system in each county. If more blank schedules and further instructions are needed to make this separation accurately, the situation should be explained to the Bureau and the needed additional blanks and instructions will be supplied.

**Section II.**—If water is secured from more than one source, each should be marked and the principal source indicated by underscoring. If water is secured from two or more streams or other sources, the name of each should be given.

"Stored storm water" refers to reservoirs filled by storing storm water from channels that carry water only during storms and are not classed as streams. When water is obtained from a reservoir filled from a stream, the stream should be given as the source.

Under "Drainage basin," give the name of the main river system to which the "stream or other source" is tributary and which drains the general region where the enterprise is located. If the source or sources of supply are located in drainage basins different from the basin in which the lands served by the enterprise are located, the circumstances should be clearly explained in the space following these Instructions.

**Section III.**—These questions relate to the rights of the enterprise to take water from the "stream or other source." Some enterprises have several rights, each of which should be shown; and many rights will fall in more than one of several classes. In each instance the right should be reported in the class in which it stands on December 31, 1939.

**Section IV.**—While most small partnership enterprises will be reported on the Irrigation—1 schedule by enumerators, this Irrigation—2 schedule should be filled out and returned by the enterprise to which it is sent even though it may include less than 5 farms. The extra copy should be retained in the files of the enterprise for future reference and to show to enumerators who may request a report.

**Section V.**—In answering Question 11, the Census definition for a farm should be observed, as follows:

"A farm, for Census purposes, is all the land on which some agricultural operations are performed by one person, either by his own labor alone or with the assistance of members of his household, or hired employees. The land operated by a partnership is likewise considered a farm. A 'farm' may consist of a single tract of land, or a number of separate tracts, and the several tracts may be held under different tenures, as when one tract is owned by the farmer and another tract is rented by him. When a landowner has one or more tenants, renters, croppers, or managers, the land operated by each is considered a farm. \* \* \* Do not report as a farm any tract of land of less than 3 acres, unless its agricultural products in 1939 were valued at \$250 or more."

Under "Total irrigable acreage the project will cover when completed," only the acreage to which it is definitely planned to supply water should be reported. Possible extensions not yet definitely planned should not be included.

The answer to Question 13 should include all land to which the enterprise is ready and able to supply water, whether the land is farmed or not.

The "Area actually irrigated in 1939" should be limited to land to which water was actually applied during that year. It should not include land which is under the system and sometimes irrigated, but which was not watered in 1939, nor land not yet irrigated on farms that are in process of reclamation.

The answer to Question 14(a) should be the total of all land irrigated. If the cropland harvested, irrigated pasture, and irrigated area upon which crops failed do not equal the total reported under Question 14(a), write an explanation on the blank lines following these Instructions.

**Section VI.**—This section relates only to lands which have been irrigated or are to be irrigated by this enterprise. The "Additional area in need of drainage" will necessarily be estimated. Officials should make the best estimates possible, based on information obtained from the records of the enterprise, from others in the community, and from their own observations, but they should not attempt to make extended field observations.

If water from drainage pumps or other drainage system is used for irrigation, report the name of the drainage enterprise in answering Question 8; include the amount of drainage water thus used in answering Question 41; include the amount of the capital costs of the drainage works which has been charged to irrigation in answering Question 25; and include the amounts of operating and maintenance costs of the drainage pumps or system which are chargeable to irrigation in answering Question 32. Costs and other information should not be duplicated on the Irrigation Schedule and the Drainage Schedule. Explain segregations made between irrigation and drainage items in space following these Instructions.

**Section VII.**—The total length, in miles, of the distribution pipe lines on farms (mains and laterals) for the entire project, should be included in the answer to Question 20, using the best figures or estimates obtainable. These farm pipe lines should be in addition to the pipe lines owned by the enterprise. The cost of farm pipe lines should not be included in the answer to Question 25. Describe the conditions in the space following these Instructions, showing lengths and sizes of the pipe lines owned by the enterprise separately from the lengths and sizes of the farm pipe lines.

If the capacity of a reservoir is not known, it should be estimated by multiplying the area (in acres) of the water surface when reservoir is full, by the average depth (in feet) above the level of the bottom of the outlet. The product will be "acre-feet."

If yields of either flowing or pumped wells are not known, obtain the best estimates possible.

Under "Kind of motor or engine," if windmills are used, for "Capacity" give diameters of wheels rather than horsepower.

Under "Kind of pump," if some unusual type of pump or other water-lifting device is used, describe it briefly on the blank lines following these Instructions.

Under "Average lift," give the vertical distance, in feet, between the average level of the water in the source of supply when the pump is running at usual capacity and the average level to which the water is lifted. Do not consider friction and velocity heads or horizontal distances. If more than one pump is reported, give the average lift for each pump separately, with corresponding yield.

**Section VIII.**—In answering Question 25, include the original cost of the irrigation works plus the cost of extensions and improvements; also the cost of equipment, buildings, and land used for maintenance and operation, but not water rights. If works are not completed, give investment to December 31, 1939. If there are no records of cost, or if the owners have done all or part of the construction, the best estimate of cost obtainable should be reported, including the estimated value of the work done by the owners. Only such costs for drainage works as are chargeable to irrigation should be included. (See Section VI.)

Under "Water rights," include filing and legal fees paid by the enterprise in acquiring them; and, if they were purchased by the enterprise, give the purchase price.

**Section IX.**—In answering Question 32, report only the costs of maintenance, including ordinary cleaning and repairs, and operations, including fuel, electric energy, and attendance.

**Section X.**—In replying to Question 37, if measurements of the water were made in units other than cubic feet per second, indicate the units actually used, such as "Miner's inches," "gallons per minute," etc. If water was not measured, give best estimate possible in answer to Question 38.

The answer to Question 41, if the total supply is pumped, should be the same as the answer to Question 22(h). If the water supply is obtained from two or more sources, pumped or gravity, the answer to Question 41 should be the total amount of water delivered from all sources. If deliveries were not measured, give best estimate possible.

**Section XI.**—In replying to Question 42, show total amount paid to all employees, including officials and members of the management, for services in 1939 on or for the benefit of that portion of the enterprise in the county for which this schedule is made. (See Instructions for Section I.) Do not include payments to a contractor for work done by him or his employees, nor payments to employees working on drainage, power, or on any other occupation not chargeable to irrigation or which has been reported on any other census schedule.

In replying to Question 43, show only the number employed during the week specified, including officials and members of the management on or for the benefit of that area of the enterprise located in the county for which this schedule is made. (See Instructions for Section I.) Do not include employees of a contractor or any others not chargeable to irrigation or reported on other census schedules.

**SUPPLEMENTAL INFORMATION**

A large rectangular area containing 25 horizontal dashed lines, intended for providing supplemental information.