OVERALL IRRIGATION SYSTEM PLANNING

This section of the Irrigation Guide provides guidelines to be used in overall irrigation system planning. Some of the major items that should be considered by the landowner and the SCS employee in planning any irrigation system are:

1. Irrigation Water Quantity - How much water is available for irrigation and when is it available?

2. Irrigation Water Quality - Is the quality of the existing irrigation water adequate for the proposed cropping system and method of irrigation?

3. Consumptive Use Rates of Proposed Crops - Is there adequate water to meet the demand of cropping system?

4. Proposed Irrigation Methods - Is the proposed irrigation system adapted to the water quality and water quantity available?

Forms NM-CONS-213A, B, have been revised to record this information in a hopefully, logical sequence.

NM-CONS-213A is adapted to irrigated areas having surface water resources, such as irrigation companies, conservancy districts, and community irrigation systems.

NM-CONS-213B is adapted to irrigated areas in which wells are the primary source of irrigation water.

NM-ENG-125 is being created to assist in the design of a surface system and will cover such items as length of run, time of set, etc. Guidelines for the use of this form will be provided in the revised Surface Sizing Chapter of the Irrigation Guide.

EXPLANATION AND SOURCES OF DATA FOR USE OF NM-CONS-213A "OVERALL IRRIGATION SYSTEM PLANNING SHEET" - "SURFACE WATER RESOURCES W/WO SUPPLEMENTAL WELL"

A. Water Resources Inventory

1. Source of Irrigation Water

Name sources of irrigation water, including supplemental wells.

2. Usual flow and/or volume available

Show CFS and/or AC-FT.

3. How was flow measured?

Show method used to measure flow using methods outlined in the Water Measurement Chapter of the Irrigation Guide.

4. Is irrigation water available on demand?

Yes or no

5. Is irrigation water available on a rotation basis?

Yes or no. If yes, show rotation time.

6-7. Conductance and/or SAR of irrigation water

These items are only needed where water quality presents a problem. Consult the Water Quality Chapter of the Irrigation Guide for guidelines.

8. Is irrigation water quality suitable for:

Show suitability of irrigation water for surface sprinkler, or drip irrigation, based on Irrigation Guide recommendations.

9. Proposed method of irrigation

Show farmer's proposed method of irrigation.

B. Adequacy of Existing Water Resources to Meet Peak Crop Irrigation Requirements

1. Estimated seasonal efficiency of irrigation systems

On surface systems use 30-50% for steep mountain slopes and 60-70% for closed end surface systems. Use 65% for sprinklers and 90% for drip systems. These efficiencies are seasonal values and not the peak efficiency. If seasonal efficiencies other than these are used, show location of local documentation.

2. Total hours of irrigation, per rotation, during peak use period

Obtain hours from landowner.

This can vary from system to system and farm to farm. On some delivery systems, this time may be a total time per rotation on the entire cropping system; such as 12 days of 24 hour watering to cover 60 acres of corn and 50 acres of alfalfa. This type of rotation is prevalent on systems with small CFS, constant flow systems.

On other systems, the irrigation time may be separated for the various crops in the cropping system; such as 15 hours to cover 30 acres of cotton, 10 hours to cover 20 acres of chile, and 30 hours to cover 60 acres of alfalfa. This type of rotation reflects a demand system with large CFS, short duration deliveries.

3. Days between irrigations during peak use period

Obtain from landowner. Be careful that this interval does not exceed the moisture holding capacity of the soil profile. On acequias, this period might deplete the entire soil profile.

4. Gross AC-FT and CFS needed:

By using the formulas and attached example, the gross AC-FT and CFS are calculated for the proposed cropping system. AC-FT is usually critical on conservancy districts and irrigation companies, while CFS may be a limiting factor on some community ditch systems.

The critical month index (CMI) method used on NM-CONS-213B is not promoted for surface water systems, since those systems which have CFS problems usually do not have a diverse cropping system that would benefit from the CMI concept.

If the total hours of irrigation per rotation is for an entire cropping system, the gross CFS can be obtained by calculating a weighted "/day rate for the entire cropping system to be watered at once. On acequias with very long rotation times, the "/day value used should reflect an average value over the long rotation period. This value might be less than the peak value.

Example

Total hours of irrigation per rotation at peak use
= 12 days = 12 (24) = 288 HRS

60 AC Corn - Peak Rate = .28 "/Day CU
50 AC Alfalfa - Peak Rate = .30 "/Day CU
110 AC Total

$$\text{Weighted "/Day} = \frac{.28 \times 60}{110} + \frac{.30 \times 50}{110} = .29 \text{ "/Day}$$

Days between Irrigation = 14
Seasonal Efficiency = 60%

$$\text{Gross CFS} = \frac{\frac{\text{"/Day}}{\text{EFF.}} \times \text{Acres} \times \text{Days between Irrigations}}{\text{Total HRS of IRR/Rotation}}$$

$$\text{Gross CFS} = \frac{\frac{.29}{.60} \times 110 \times 14}{288} = 2.6 \text{ CFS}$$

If the total hours of irrigation per rotation is different for each crop, the days between irrigation is also usually different for each crop. In this case, the Gross CFS is calculated for each crop.

Example

30 AC - Cotton - Peak Rate = .21 "/Day (ACIR)
20 AC - Chile - Peak Rate = .27 "/Day (ACIR)
60 AC - Alfalfa - Peak Rate = .28 "/Day (ACIR)
110 AC Total - Seasonal Efficiency = 70%

HRS. OF IRRIGATION PER ROTATION

Cotton - 15 HRS (2 AC/HR)
Chile - 10 HRS Obtained from Landowner
Alfalfa - 30 HRS

DAYS BETWEEN IRRIGATIONS AT PEAK PERIOD

Cotton - 20 Days
Chile - 7 Days Obtained from Landowner
Alfalfa - 14 Days

NOTE: Because of long duration between cotton irrigations, adjust cotton design rate to .18 "/Day

$$\text{Gross CFS} = \frac{\frac{\text{"/Day}}{\text{EFF.}} \times \text{Acres} \times \text{Days between Irrigations}}{\text{Total HRS of IRR/Rotation}}$$

Cotton - Gross CFS = $\frac{\frac{.18}{.70} \times \frac{30 \times 20}{15}}{}$ = 10.3 CFS

Chile - Gross CFS = $\frac{\frac{.27}{.70} \times \frac{20 \times 7}{10}}{}$ = 5.4 CFS

Alfalfa - Gross CFS = $\frac{\frac{.28}{.70} \times \frac{60 \times 14}{30}}{}$ = 11.2 CFS

Because of the short duration of irrigation hours, it is dubious if all 3 crops would be at peak use rate at the same time during the peak month. Therefore, 11.2 CFS would probably be the maximum demand rate at any one time.

5. Is adequate irrigation water available from the surface water source for the proposed cropping system?

Compare water needs shown in Item 4 with available water resources. Show planned adjustments or alternatives.

6. Are crops adapted to present water quality?

Compare finalized cropping system to water quality shown under Water Resources Inventory. Consult the Water Quality Chapter of the Irrigation Guide for guidelines.

7. Calculate proposed pumping hours of supplemental well

If a supplemental well is available, compute pumping hours as per attached example.

EXPLANATION AND SOURCES OF DATA FOR USE OF NM-CONS-213B "OVERALL IRRIGATION SYSTEM PLANNING SHEET" - "IRRIGATION WELLS AS PRIMARY WATER SOURCE"

A. Water Resources Inventory

1. Number of wells

Obtain from landowner.

2. Measured flow per well and/or volume available

Show GPM and/or AC-FT. Volume is usually only needed in the Pecos Valley where wells are metered.

3. How was flow measured?

Show method used to measure flow using methods outlined in the Water Measurement Chapter of the Irrigation Guide.

4-5. Conductivity and SAR of Irrigation Water

Needed only where water quality is a problem. In many areas chloride content should be shown instead of SAR.

6. Is irrigation water suitable for:

Show suitability of irrigation water for surface, sprinkler, or drip irrigation based on the guidelines of the Water Quality Chapter of the Irrigation Guide.

7. Proposed method of irrigation

Show farmer's proposed and existing methods of irrigation.

B. Proposed Cropping System and Water Requirements

The table shown on Page 2, NM-CONS-213B, should be filled out for the proposed cropping system. CU, ACIR, and AC-FT values are obtained from the Consumptive Use Chapter of the Irrigation Guide.

CMI (Critical Monthly Index) is a method of determining the critical month to which the system should be sized. By using the critical month concept, it is not always necessary to size the entire irrigation to meet the peak use rate of every crop. See attached example.

C. Water Resources to Meet Crop Demand

Fill in table on Page 3 of NM-CONS-213B using values computed on critical month and not necessarily the peak use rate.

1. Method - If a change in irrigation method is proposed, show computations for current and proposed methods.

2. Estimated Efficiency - On surface systems use 30-50% for steep mountain slopes and 60-70% for closed end surface systems. Use 65% for sprinklers and 90% for drip systems. These efficiencies are seasonal values and not the peak efficiency. If seasonal efficiencies other than these are used, show location of documentation.

3. GPM/AC - Taken from enclosed chart using critical month use rate value and seasonal efficiency.

4. Total GPM - Multiply acres times GPM/AC.

5. Gross AC-FT Required - Multiply AC-FT value from Page 2 times seasonal efficiency.

The total GPM and/or AC-FT values are compared with the available water resources to determine the adequacy of the proposed cropping system.

GPM/ACRE REQUIREMENT

Conditions	CU OR ACIR INCHES/DAY .15	.16	.17	.18	.19	.20	.21	.22	.23	.24	.25	.26	.27	.28	.29	.30	.31	.32	.33	.34	.35	.36	.37	.38	.39	.40
50% Eff. Irrigating 20 Hr/Day	6.8	7.3	7.7	8.2	8.6	9.1	9.5	10.0	10.4	10.9	11.3	11.8	12.2	12.7	13.1	13.6	14.0	14.5	15.0	15.4	15.9	16.3	16.8	17.2	17.7	18.1
50% Eff. Irrigating 22 Hr/Day	6.2	6.6	7.0	7.4	7.8	8.2	8.7	9.1	9.5	9.9	10.3	10.7	11.1	11.5	11.9	12.4	12.8	13.2	13.6	14.0	14.4	14.8	15.2	15.7	16.1	16.5
50% Eff. Irrigating 24 Hr/Day	5.7	6.0	6.4	6.8	7.2	7.6	7.9	8.3	8.7	9.1	9.4	9.8	10.2	10.6	11.0	11.3	11.7	12.1	12.5	12.8	13.2	13.6	14.0	14.4	14.7	15.1
65% Eff. Irrigating 20 Hr/Day	5.2	5.6	5.9	6.3	6.6	7.0	7.3	7.7	8.0	8.4	8.7	9.1	9.4	9.8	10.1	10.5	10.8	11.2	11.5	11.9	12.2	12.5	12.9	13.2	13.6	13.9
65% Eff. Irrigating 22 Hr/Day	4.8	5.1	5.4	5.7	6.0	6.3	6.7	7.0	7.3	7.6	7.9	8.2	8.6	8.9	9.2	9.5	9.8	10.1	10.5	10.8	11.1	11.4	11.7	12.0	12.4	12.7
65% Eff. Irrigating 24 Hr/Day	4.4	4.7	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.8	8.1	8.4	8.7	9.0	9.3	9.6	9.9	10.2	10.5	10.7	11.0	11.3	11.6
90% Eff. Irrigating 8 Hr/Day	9.4	10.1	10.7	11.3	12.0	12.6	13.2	13.8	14.5	15.1	15.7	16.4	17.0	17.6	18.3	18.9	19.5	20.1	20.8	21.4	22.0	22.7	23.3	23.9	24.5	25.2
90% Eff. Irrigating 10 Hr/Day	7.6	8.1	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.1	16.6	17.1	17.6	18.1	18.6	19.9	19.6	20.1
90% Eff. Irrigating 12 Hr/Day	6.3	6.7	7.1	7.6	8.0	8.4	8.8	9.2	9.7	10.1	10.5	10.9	11.3	11.7	12.2	12.6	13.0	13.4	13.8	14.3	14.7	15.1	15.5	15.9	16.4	16.8
90% Eff. Irrigating 15 Hr/Day	5.0	5.4	5.7	6.0	6.4	6.7	7.1	7.4	7.7	8.1	8.4	8.7	9.1	9.4	9.7	10.1	10.4	10.7	11.1	11.4	11.7	12.1	12.4	12.8	13.1	13.4
90% Eff. 18 Hr/Day	4.2	4.4	4.8	5.0	5.3	5.6	5.9	6.2	6.4	6.7	7.0	7.3	7.6	7.8	8.1	8.4	8.7	9.0	9.2	9.2	9.8	10.1	10.4	10.6	10.9	11.2

For conditions not shown on chart:

$$GPM/AC = \frac{Inches/Day \times 453}{Eff. \times Hrs\ Day}$$

US Department of Agriculture
Soil Conservation Service

NM-CONS-213B (9/81)
File Code: CONS-14

EXAMPLE

OVERALL IRRIGATION SYSTEM PLANNING SHEET

*IRRIGATION WELLS AS PRIMARY *WATER SOURCE

Produter T.D. SMITH Location EAST GRAND PLAINS

F.O. ROSWELL Area 3 County CHAVES SWCD CHAVES

Technician J. GONZALES Date 9/1/81

A. Water Resources Inventory

1. Number of wells 2
2. Measured flow per well and/or volume available #1-400 GPM #2-200 GPM 3½ AC-FT LIMIT
   (GPM and/or AC-FT)
3. How was flow measured? METER ON WELLS - FREE FLOW
   (Meter, Flume, etc.)
4. Conductivity of irrigation water (optional) #1- 1800 #2-2000
5. SAR (optional) CHLORIDES - #1- 10 #2-8
6. Is irrigation water suitable for:
   a. Surface irrigation YES
   b. Sprinkler irrigation YES
   c. Drip irrigation YES
7. Proposed method of irrigation
   SURFACE - THINKING ABOUT SPRINKLER IN FUTURE
   (Sprikler, Surface, Drip)

*If all of the irrigated cropland on the farm unit is covered by an overall drip or sprinkler design (NM-ENG-232, 234, 235), the NM-CONS-213B is optional, and can be used to show the effects of various cropping systems on the overall water requirements.

EXAMPLE

B. Proposed Cropping System and Water Requirements

ACRES	PROPOSED CROP	DESIGN USE RATE* - INCHES/DAY														YEARLY VOLUMES*			
		APRIL		MAY		JUNE		JULY		AUG.		SEPT.		OCT.		AC-FT/AC		TOTAL AC-FT	
		CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR	CU	ACIR
20	COTTON	—	—	.01	—	.06	.09	.15	.13	.24	.22	.13	.11	.09	.02	1.55	1.20	31	24
20	CORN	—	—	.11	.10	.23	.21	.29	.26	.25	.23	.08	.06	—	—	2.54	2.28	51	46
40	WINTER SMALL GRAIN	.16	.15	.11	.10	—	—	—	—	—	—	.10	.08	.11	.09	1.79	1.56	72	62
40	ALFALFA	.10	.09	.17	.15	.23	.21	.25	.22	.21	.20	.14	.12	.09	.07	2.95	2.65	118	106
∴ (ACIR) CMI		9.6		12.0		14.4		16.6		17.0		11.4		6.8					

40(.15)+40(.09) ↵ ↳ 20(.1)+40(.1)+40(.15)

* Design Rates and Volumes can be CU ~~and/or CIR~~, ACIR.

CMI = Critical Month Index
= Σ (acres x monthly inch/day rate)

Critical Month = AUGUST

1. Are planned crops suited to present water quality and proposed irrigation method? YES

EXAMPLE

VALUES ARE CALCULATED FOR THE CRITICAL MONTH USING GPM/AC CHART OR FORMULA SHOWN BELOW

C. Water Resources to Meet Crop Demand

Irrigation Method	Estimated Seasonal Efficiency	Hours Irrigation Per Day	Crop	Acres	GPM/AC		Total GPM Required		Gross AC-FT Required	
					CU	ACIR	CU	ACIR	CU	ACIR
SURFACE	60	24	COTTON	20	7.6	6.9	152	138	52	40
↓	↓	↓	CORN	20	7.9	7.2	158	144	85	77
↓	↓	↓	SMALL GRAIN	40	—	—	—	—	120	103
↓	↓	↓	ALF.	40	6.6	6.3	264	252	197	177
				(120 AC)						
						Total	574	534	454	397
									(3.8)	(3.3)

$\frac{397}{120} = 3.3 \frac{AC\text{-}FT}{AC}$ $\frac{454}{120} = 3.8 \frac{AC\text{-}FT}{AC}$

1. Will the available irrigation water satisfy crop demands during the critical month? YES - BUT MUST BE CAREFUL ON VOLUME LIMITATION

   a) If no, what alternatives are available?

$$GPM/AC = \frac{"/DAY \times 453}{EFF. \times HRS/DAY \text{ OF IRRIGATION}}$$

U.S. Department of Agriculture
Soil Conservation Service

NM-CONS-213A (9/81)
File Code: CONS-14

EXAMPLE- IRRIGATION DIST.

OVERALL IRRIGATION SYSTEM PLANNING SHEET

SURFACE WATER RESOURCE W/WO SUPPLEMENTAL WELL

Producer J. DENNIS Location MESILLA

F.O. LAS CRUCES Area 2 County DOÑA ANA SWCD —

Technician W. WORRELL Date 9/4/81

A. Water Resources Inventory

1. Source(s) of Irrigation Water EBID CANAL + 1 SUPP. WELL
(Well, Acequia, Canal, etc.)

2. Usual flow and/or volume available to producer WELL-1000 GPM-NO VOL. LIMIT CANAL-12 CFS 2-4AC-FT/
(CFS and/or AC. FT.)

3. How was flow measured? WELL-METER CANAL- WEIR
(Meter, Flume, etc.)

4. Is irrigation water available on demand? YES

5. Is irrigation water available on a rotation basis? NO

6. Conductivity of irrigation water (optional) WELL- 4000

7. SAR (optional) —

8. Is irrigation water quality suitable for:

   a. Surface irrigation YES

   b. Sprinkler irrigation ?

   c. Drip irrigation YES

9. Proposed method of irrigation:

SURFACE
(Surface, Sprinkler, Drip)

EXAMPLE- IRRIGATION DIST.

B. Adequacy of Existing Water Resources to Meet Peak Crop Irrigation Requirements

1. Estimated seasonal efficiency of existing and/or proposed irrigation system 70% - SURFACE

2. Existing total hours of irrigation per rotation during peak use period 2 AC/HR
COTTON - 15 HRS CHILE - 10 HRS ALFALFA - 30 HRS

3. Existing days between irrigations during peak use period COTTON - 20 DAYS
CHILE - 7 DAYS
ALFALFA - 14 DAYS

4. Gross AC-FT and CFS needed:

$$\text{Gross AC-FT} = \frac{\text{(Net AC-FT/ACRE)(ACRES)}}{\text{Efficiency}}$$

$$\text{Gross CFS} = \frac{\frac{\text{Inches/Day}}{\text{Efficiency}} \times \text{(Acres)} \times \text{Days Between Irrigation}}{\text{Total hours of irrigation/rotation}}$$

$12\text{ CFS} = \frac{\frac{.21}{.70} \times 30 \times 2}{15}$

Calculations:

FROM CU TABLES IN IRR. GUIDE

Irrigation Method	Proposed Crop And Acres	Inches/Day CU	Inches/Day ACIR	Net AC-FT/Acre CU	Net AC-FT/Acre ACIR	Gross AC-FT CU	Gross AC-FT ACIR	Gross CFS CU	Gross CFS ACIR
SURFACE	COTTON 30 AC.	.21 *	.18 *	1.64	1.40	70	60	12.0	10.3
	CHILE 20 AC.	.30	.27	1.72	1.50	49	43	6.0	5.4
	ALFALFA 60 AC.	.30	.28	3.17	3.02	272	259	12.0	11.2
	Total					391	362		
						3.6/Ac	3.3/Ac		

(1) BECAUSE OF THE SHORT IRRIGATION SET TIMES, IT IS DOUBTFUL THAT ALL CROPS WILL BE AT PEAK USE RATE AT EXACTLY THE SAME TIME. THEREFORE, 12 CFS IS PROBABLY THE MAXIMUM NEEDED FLOW RATE.

* BECAUSE OF THE 20 DAY IRRIGATION FREQ. ON COTTON, THE 1/10 DAY FOR COTTON HAS BEEN LOWERED TO REFLECT THE AVG. RATE OVER THE 20 DAYS.

EXAMPLE-IRRIGATION DIST.

5. Is adequate irrigation water available from the surface water source for the proposed cropping system? RATE-OK, VOLUME-QUESTION

If no, what adjustments or alternatives are planned?
PROBLEMS WITH ADEQUATE IRRIGATION VOLUME CAN OCCUR IF ANNUAL ALLOTMENT FALLS BELOW 3.3 AC-FT/AC. SUPPLEMENTAL WELL WILL BE USED TO TAKE UP SLACK IN VOLUME REQUIREMENTS.

6. Are crops adapted to present water quality? YES

7. Calculate proposed pumping hours of supplemental well:
SUPPLEMENTAL WELL PUMPS 1000 GPM

$\frac{1000}{450} = 2.2 \frac{\text{AC-IN}}{\text{HR}} = 4.4 \frac{\text{AC-FT}}{\text{DAY}}$

IF 3 AC-FT/AC IS ALLOTED FROM EBID, TOTAL ALLOTMENT IS 110(3)=330 AC-FT

ACIR NEEDS SHOW 362 AC-FT.

$\begin{array}{r} 362 \\ -330 \\ \hline 32 \end{array}$ AC-FT TO BE PUMPED

$\frac{32 \text{ AC-FT}}{4.4 \text{ AC-FT/DAY}} = 7.3$ DAYS OF PUMPING

PUMPING TIME CAN BE RECALCULATED IF ALLOTMENT FROM EBID CHANGES.

U.S. Department of Agriculture
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NM-CONS-213A (9/81)
File Code: CONS-14

EXAMPLE- ACEQUIA

OVERALL IRRIGATION SYSTEM PLANNING SHEET

SURFACE WATER RESOURCE W/WO SUPPLEMENTAL WELL

Producer JUAN BACA Location PECOS

F.O. LAS VEGAS Area 4 County SAN MIGUEL SWCD TyM

Technician E. VEEDER Date 8/11/81

A. Water Resources Inventory

1. Source(s) of Irrigation Water EAST PECOS Comm. DITCH
(Well, Acequia, Canal, etc.)

2. Usual flow and/or volume available to producer 6 CFS
(CFS and/or AC. FT.)

3. How was flow measured? FLOAT METHOD
(Meter, Flume, etc.)

4. Is irrigation water available on demand? NO - NIGHT WATER MAY BE USED IF AVAILABLE.

5. Is irrigation water available on a rotation basis? YES - 2 DAYS OF 12 HR. DAYTIME WATER - EVERY 21 DAY.

6. Conductivity of irrigation water (optional) —

7. SAR (optional) —

8. Is irrigation water quality suitable for:

   a. Surface irrigation YES

   b. Sprinkler irrigation YES

   c. Drip irrigation ? WATER SOMETIMES HIGH IN SEDIMENT

9. Proposed method of irrigation:

SURFACE
(Surface, Sprinkler, Drip)

EXAMPLE- ACEQUIA

B. Adequacy of Existing Water Resources to Meet Peak Crop Irrigation Requirements

1. Estimated seasonal efficiency of existing and/or proposed irrigation system 30%

2. Existing total hours of irrigation per rotation during peak use period 24

3. Existing days between irrigations during peak use period 21

4. Gross AC-FT and CFS needed:

$$\text{Gross AC-FT} = \frac{\text{(Net AC-FT/ACRE)(ACRES)}}{\text{Efficiency}}$$

$$\text{Gross CFS} = \frac{\frac{\text{Inches/Day}}{\text{Efficiency}} \times \text{(Acres)} \times \text{Days Between Irrigation}}{\text{Total hours of irrigation/rotation}}$$

Calculations:

FROM CU TABLES

Irrigation Method	Proposed Crop And Acres	Inches/Day CU	Inches/Day ACIR	Net AC-FT/Acre CU	Net AC-FT/Acre ACIR	Gross AC-FT CU	Gross AC-FT ACIR	Gross CFS CU	Gross CFS ACIR
SURFACE	ALFALFA 4 AC.	CIR .09	.13	VOLUME COMPS NOT NEEDED				CIR	
	IRR. PAST. 5 AC.	.09	.12						
	CORN 1 AC.	.11	.16						
	WEIGHTED 10 AC.	.09	.13					2.6	3.8

WEIGHTED VALUE COMPS.

$CIR = .09(\frac{4}{10}) + .09(\frac{5}{10}) + .11(\frac{1}{10}) = .09$"/DAY Total

$ACIR = .13(\frac{4}{10}) + .12(\frac{5}{10}) + .16(\frac{1}{10}) = .13$"/DAY

$$\text{GROSS CFS (CIR)} = \frac{\frac{.09}{.30} \times 10 \times 21}{24} = 2.6 \text{ CFS}$$

EXAMPLE- ACEQUIA

5. Is adequate irrigation water available from the surface water source for the proposed cropping system? YES

If no, what adjustments or alternatives are planned?

6. Are crops adapted to present water quality? YES

7. Calculate proposed pumping hours of supplemental well: