MANAGEMENT SYSTEM TEMPLATE

A. BENCHMARK SYSTEM WORKSHEET

1.	STATE	OK
2.	FIELD OFFICE	Ardmore, Sulphur, Tishomingo
3.	MLRA	85B - Arbuckle Mountains
4.	COMMON RESOURCE AREA (CRA)	085B.40.001
5.	RESOURCE INTERPRETATIONS	
5.1	SOIL	
5.2	WATER	
5.3	AIR	
5.4	PLANT	
5.5	ANIMAL	
5.6	HUMAN	
6.	HYDROLOGIC UNIT	
7.	SYSTEM TEMPLATE LABEL	LAAZ0
8.	SYSTEM NAME	Arbuckle Mountains Crop
9.	PLANNING PHASE	Benchmark
10.	PLANNING LEVEL	N/A
11.	NRCS LANDUSE	Crop
12.	EXISTING CONSERVATION PRACTICES	

1. 412 - Grassed Waterway
2. 600 - Terrace
3. 607 - Surface Drainage - Field Ditch

13. SYSTEM NARRATIVE

Most cropland is found on landscapes which range from deep, nearly level, poorly drained soils along river and creek bottoms through gently sloping to moderately steep slopes on upland areas. The needed field ditches to address drainage problems on level fields have been installed in the past. Most sloping fields on the uplands that require terracing, have had terraces constructed on them in the past. Maintenance of the terrace systems is a widespread concern. Also, mass quantities of the steeper cropland areas have been planted to introduced permanent vegetation. Some of the most common crops grown include corn, cotton, forage sorghum, grain sorghum, mungbeans, soybeans, peanuts, small grains, and a few specialty crops grown either continuously or in various rotations. Generally, approximately 500 pounds per acre of residue is left on the surface at planting time on slopes over 2 percent. Because of intensive farming methods, management for erosion control is required. Another major concern involves proper tilth of the soil due to wetness and compaction. Farm programs, markets, and economics have prompted changes in crops and rotations in the past.

14.	RESOURCE CONCERNS	MAGNITUDE/EFFECTS
	1. Soil Erosion - Sheet and Rill	1. 13 Tons/Acre/Year; Lack of residue management, high percentages of continuous row crops, and low amounts of winter cover plantings are major contributors.
	2. Soil Erosion - Concentrated Flow Ephemeral Gully	2. 3 Tons/Acre/Year; 20 Acres/160 Acres; Farming steeper sloping land and lack of terrace maintenance are the major source of the problem.
	3. Soil Erosion - Scoured Areas	3. 50 Tons/Acre/Year; This problem is a concern on bottomlands in close proximity to creeks and rivers. The problem is intensified with the lack of timbered buffers zones between the farmland and the creek or river channel, the lack of suitable vegetation, and low soil organic matter levels.
	4. Soil Condition - Soil Tilth	4. Soil Condition Indices range from -2.5 to 0.0; This problem tends to be worse on soils with a higher clay content. Intensification of the problem occurs when fertility levels are low (resulting in decreased levels of organic matter), the number of tillage trips become excessive, and a general overuse of the land becomes apparent. Runoff tends to increase contributing to the sheet and rill and ephemeral gully erosion concerns.

14.	RESOURCE CONCERNS	MAGNITUDE/EFFECTS
	5. Soil Condition - Compaction	5. Excessive tillage operations often creates plow pans and compacted layers. Use of heavy equipment, poor management of crop residues, and lack of soil organic matter intensifies the problem.
	6. Soil Deposition - Damage-Onsite	6. High erosion levels intensified by low soil organic matter, low amounts of plant residues, excessive tillage operations, and the lack of winter cover crops, causes sediment deposition and on-site damage to growing crops.
	7. Water Quantity - Excess Amounts Runoff/Flooding	7. This concern occurs primarily on the flat topography in the bottomlands where overhead water accumulates and creates drainage and flooding problems. Failure to maintain existing drainage systems escalates the problem.
	8. Water Quality - Surface Water Contaminates - Pesticides	8. This concern relates directly to soil erosion because the pesticides tend to be bound to the soil particles. The higher the erosion rates, the greater the risk for increased contamination of surface waters from runoff. Lack of soil organic matter, lack of crop residues, and lack of or improper maintenance of terraces will provoke the problem due to increased erosion rates. Improper techniques used during application of the pesticides will also increase the surface water contamination risk.
	9. Water Quality - Surface Water Contaminates - Nutrients and Organics	9. This concern relates directly to soil erosion because the nutrients and organics tend to be bound to the soil particles. The higher the erosion rates, the greater the risk for increased contamination of surface waters from runoff. Lack of soil organic matter, lack of crop residues, and lack of or improper maintenance of terraces will provoke the problem due to increased erosion rates. Improper techniques used during application of applied plant nutrients will also increase the surface water contamination risk.
	10. Plants Management - Establishment, Growth, Harvest	10. Poor conditions exist for establishment and growth due to inappropriate application techniques of nutrients and pesticides. With lower plant vigor, the quantity and quality of production and harvest is reduced.
	11. Plants Management - Nutrient Management	11. Plant nutrient needs are not being met due to the lack of fertility and/or the improper techniques and timing used during the application of plant nutrients.
	12. Plants Management - Pest (Brush, Weeds, Insects, Etc.)	12. Pests are not being managed at their economic thresholds and/or incorrect timing and techniques during application of the pesticides are the primary concerns.
	13. Human - Economics - Profitability	13. The foremost concern here is whether improvements to the current system will be cost effective.