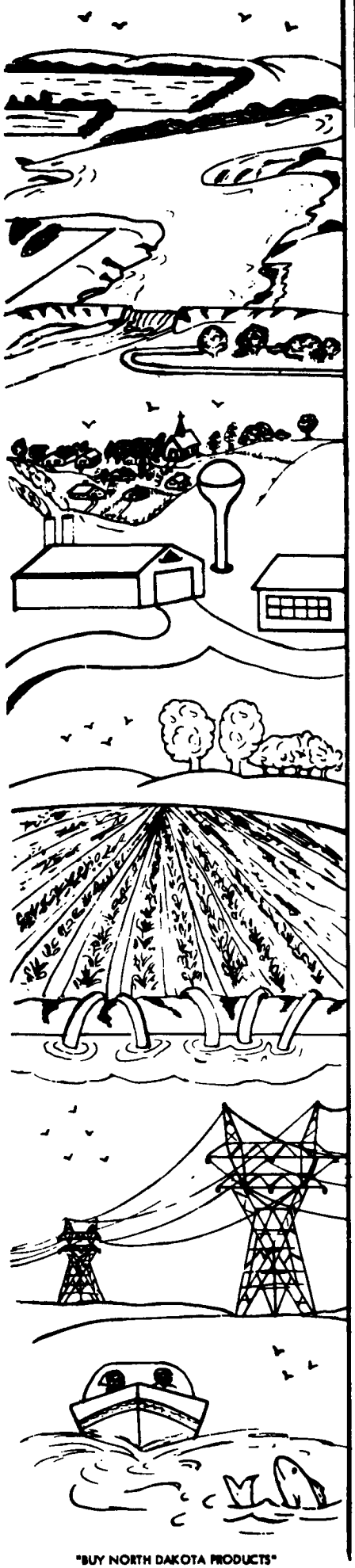

REPORT OF

North Dakota State Water Commission

900 Boulevard

BISMARCK, NORTH DAKOTA 58501

Interim North Dakota State Water Resources Development Plan

SWC Project No. 322

☆

Appendix A

An Inventory of Water Storage and Retention Structures in North Dakota

☆

Appendix B

A State Wide Analysis of Soil Types by Major Drainage Basins

and

An Estimate of Irrigable Land in North Dakota

☆

Appendix C

An Inventory of Legal Drains in North Dakota

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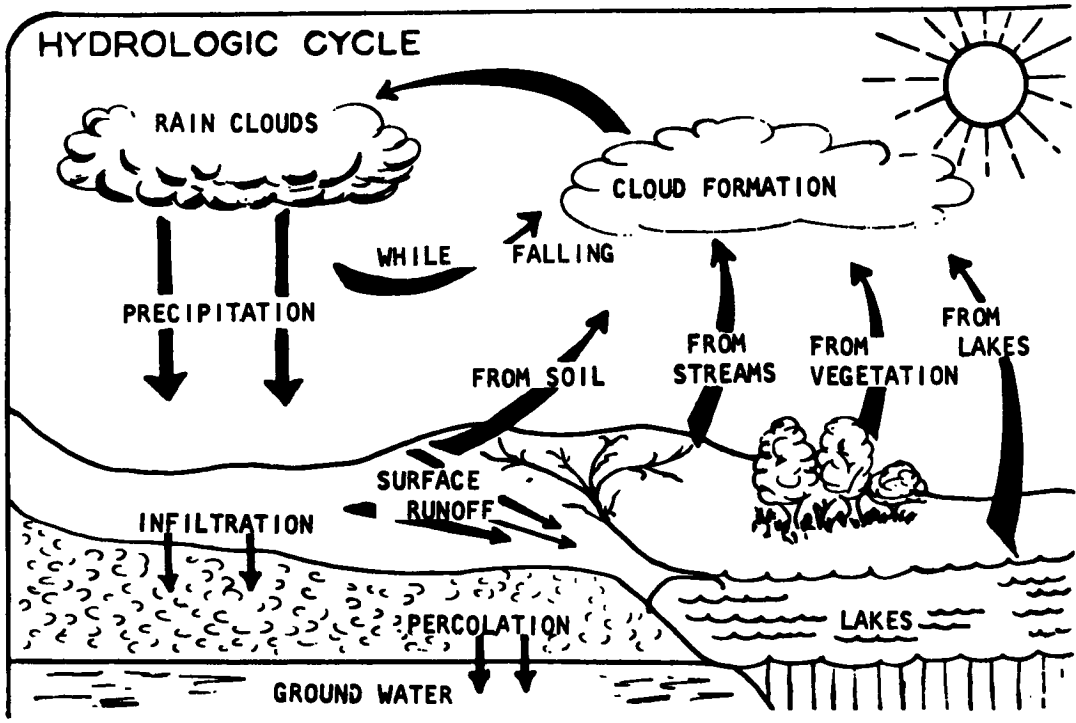
JUNE, 1968



Financial assistance for the preparation of this Appendix, in the form of matching funds, was received from the Water Resources Council under the provisions of Title III, Public Law 89-80, "The Water Resources Planning Act," July, 1965.

APPENDIX A

Interim North Dakota
State Water Resources Development Plan
SWC Project #322

AN INVENTORY OF WATER STORAGE AND RETENTION STRUCTURES IN NORTH DAKOTA

North Dakota State Water Commission,
State Office Building
900 Boulevard
Bismarck, North Dakota 58501

June, 1968

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APPENDIX A

GENERAL

DRAINAGE BASINS

APPENDIX A

AN INVENTORY OF WATER STORAGE AND RETENTION STRUCTURES IN NORTH DAKOTA

Purpose and Scope

Appendix A to the 1968 Interim State Water Resources Development Plan, as prepared by the planning staff of the State Water Commission, reflects the results of a survey recently conducted by the Commission to determine the extent and nature of water retention and storage structures found throughout the state. In assessing and projecting future water requirements, an inventory and analysis of the current supply is essential. To be useful, an inventory must answer three questions: (1) How much water (acre-feet) is being stored? (2) What is its surface area? and, (3) Where is it being stored? In analyzing the current supply, it is necessary also to determine how the water is being used and by whom. Appendix A, though primarily an inventory,does provide some insight into the matter of which types of water resource developments have been emphasized in past construction efforts.

Appendix A does not present a complete picture of all water retention and storage structures built in the state over the past years because of restrictions on the amount of time which could be devoted to field surveys and because of the sheer number of dams involved. As a result, only those structures with storage or retention capacities of 50 acre-feet or more are included. Many small dams - dams which function primarily

as sources of stockwater and as fish and wildlife habitat - are not included. The capacity and surface area of stockwater impoundments constructed under the provisions of the Soil Conservation Service small dams and dugouts program are included in Table 1 of the appendix, but individual dams and dugouts are not reported in the inventory itself.

In addition to the field surveys conducted by the Commission staff, an extensive search of available records was made. These records, as indicated by the number of blank spaces found in the inventory, were often incomplete. It is the intention of the Commission to update the inventory periodically as new structures are built and as more information pertaining to older dams becomes available.

It should be noted that the storage figures found in the summary table represent only storage capacity. Actual storage will vary from year to year according to runoff and use.

Format

Dams are reported in this appendix by name (when available), major drainage basin, subbasin, and by section-township-range. When the name of a dam is unknown or when a dam has never been named, it is identified by section-township-range only.

Abbreviations

The following abbreviations appear within the text of this appendix:

FWL/Rec	Recreation, Game Refuges, Wildlife and Fish Habitat
Irrig.	Irrigation
Muni.	Municipal
Ind.	Industrial
FC	Flood Control
StkWtr	Stockwater

E	Estimated
A.F.	Acre-Feet
A.	Acres
CCC	Civilian Conservation Corps
WPA	Works Progress Administration
BS	Biological Survey
SCS	Soil Conservation Service
CMP	Corrugated Metal Pipe
RCP	Reinforced Concrete Pipe
WSP	Welded Steel Pipe
O.D.	Outside Dimension
w/	With

TABLE 1. SUMMARY OF RESERVOIR STORAGE IN NORTH DAKOTA BY FUNCTION

DRAINAGE BASIN	MUNICIPAL AND DOMESTIC		STOCKWATER		IRRIGATION		INDUSTRIAL AND MINING		QUALITY CONTROL		FLOOD CONTROL		RECREATION	
	ACRES	ACRE-FEET	ACRES	ACRE-FEET	ACRES	ACRE-FEET	ACRES	ACRE-FEET	ACRES	ACRE-FEET	ACRES	ACRE-FEET	ACRES	ACRE-FEET
MISSOURI	134	57,998	13,012	77,869	-	3,267,560	7	10,250,100	-	11,030	-	6,052,000	113,517	378,344
Yellowstone	-	-	(310)	(1,857)	-	-	-	-	-	-	-	-	(100)	(517)
Little Missouri	(9)	(50)	(1,714)	(10,259)	-	-	-	-	-	-	-	-	(476)	(3,936)
Knife	-	-	(1,236)	(9,367)	-	-	-	-	-	-	-	-	(1,659)	(9,254)
Heart	-	(3,520)	(2,197)	(13,177)	-	(27,100)	(7)	(28,100)	-	(11,030)	-	(150,000)	(5,081)	(18,712)
Cannonball	-	-	(1,767)	(10,539)	-	-	-	-	-	-	-	-	(1,481)	(9,459)
Grand	-	(3,000)	(257)	(1,539)	-	-	-	(22,000)	-	-	-	(102,000)	(326)	(2,235)
Western Tribs.	-	-	(763)	(7,149)	-	-	-	-	-	-	-	-	(511)	(4,239)
Eastern Tribs.	(125)	(1,428)	(4,768)	(23,982)	-	-	-	-	-	-	-	-	(19,283)	(76,192)
Mainstem	-	(50,000)	-	-	-	(3,240,460)	-	(10,200,000)	-	-	-	(5,800,000)	(84,600)	(253,800)
JAMES	319	4,980	2,188	11,938	-	18,195	-	-	-	-	-	200,000	11,500	51,573
SOURIS	125	634	2,833	15,163	-	2,385	-	-	-	-	-	-	34,208	238,563
DEVILS LAKE	10	100	593	3,296	-	-	-	-	-	-	-	-	6,619	26,307
RED	515	72,188	2,606	14,882	-	-	-	3,672	-	-	-	143,833	13,148	69,277
Wild Rice	-	-	(229)	(1,316)	-	-	-	-	-	-	-	(2,665)	(1,522)	(7,550)
Sheyenne	(167)	(66,560)	(1,305)	(7,536)	-	-	-	(3,672)	-	-	-	(101,670)	(7,792)	(33,965)
Elm	-	-	(7)	(42)	-	-	-	-	-	-	-	(7,523)	(276)	(996)
Goose	(20)	(360)	(213)	(1,141)	-	-	-	-	-	-	-	-	(958)	(10,940)
Turtle	(19)	(96)	(79)	(471)	-	-	-	-	-	-	-	-	(291)	(758)
Forest	-	-	(100)	(600)	-	-	-	-	-	-	-	(18,380)	(1,541)	(7,937)
Park	(70)	(2,998)	(296)	(1,582)	-	-	-	-	-	-	-	-	(256)	(861)
Pembina	(72)	(1,174)	(246)	(1,370)	-	-	-	-	-	-	-	(13,607)	(512)	(6,265)
Minor Tribs.	(167)	(1,000)	(131)	(788)	-	-	-	-	-	-	-	-	-	-
TOTALS	1,103	135,900	21,232	123,148	-	3,288,140	7	10,253,772	-	11,030	-	6,395,833	178,992	764,064

TABLE 2. Soil Conservation Service Dugouts and Small Dams for Livestock Use

Drainage Basin	Surface Acres	Acre-Feet
MISSOURI RIVER		
Yellowstone River	310	1,857
Little Missouri River	1,692	10,151
Knife River	1,216	9,284
Heart River	2,143	12,858
Cannonball River	1,663	9,979
Grand River	257	1,539
Western Tributaries	740	7,033
Eastern Tributaries	3,453	18,428
JAMES RIVER	1,344	8,066
SOURIS (MOUSE) RIVER	2,237	13,423
DEVILS LAKE	489	2,936
RED RIVER		
Wild Rice River	209	1,256
Sheyenne River	972	5,833
Elm River	7	42
Goose River	143	860
Turtle River	79	471
Forest	100	600
Park River	225	1,351
Pembina River	193	1,158
Minor Tributaries	131	788
TOTALS	17,603	107,913

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	YELLOWSTONE RIVER SUBBASIN																			
	Charbonneau Creek	Yellow-stone	27-150-101	McKenzie	68	FWL/Rec	12					10 E	6.8E							
253	Jackson	Yellow-stone	26-151-103	McKenzie	449	FWL/Rec	200					90	5							
	LITTLE MISSOURI SUBBASIN																			
388	Spring Lake	Little Missouri	30-132-104	Bowman	145	FWL/Rec	17.3		2959.03		17.5	25 E	5.8E				Ogee		17.5	84
	Coyote Creek	Little Missouri	25-132-105	Bowman	145	FWL/Rec						25 E	5.8E							
	Steward Lake	Little Missouri	12-133-102	Slope	802	FWL/Rec						100 E	8 E							
401	Bacon Creek	Little Missouri	27-133-105	Slope	80	FWL/Rec	34					20 E	4 E							
332	Sand	Little Missouri	31-135-101	Slope	160	FWL/Rec						30 E	5 E							
574	Sentinel Butte	Little Missouri	16-140-103	Golden Valley	50	Muni						9	5.5							
1382	Camel Butte	Little Missouri	16-140-104	Golden Valley	760	FWL/Rec			2704.			60	12.6							
	(29-140-104)	Little Missouri	29-140-104	Golden Valley																
	Little Beaver Creek	Little Missouri	26-140-106	Golden Valley	93	FWL/Rec						20 E	4.7E							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						MISSOURI RIVER BASIN														
	LITTLE MISSOURI SUBBASIN (Cont.)																			
394	Odland	Little Missouri	8-141-105	Golden Valley	860	FWL/Rec	95					30	28.6						22	100
	(22-146-91)	Little Missouri	22-146-91	Dunn																
	(7-146-96)	Little Missouri	7-146-96	Dunn																
	(8-147-97)	Little Missouri	8-147-97	Dunn																
	Buell (Bear Den)	Little Missouri	22-149-95	McKenzie	90	StkWtr FWL/Rec						14	6.4							
	Coulee Den	Little Missouri	2-149-96	McKenzie	76	StkWtr FWL/Rec						20 E	3.8E							
	Buchanen	Little Missouri	7-149-98	McKenzie	50	StkWtr FWL/Rec						9	5.5							
231	Johnson Dam	Little Missouri	30-149-98	McKenzie	90	FWL/Rec	18					22 E	4.1E							
311	Siverston	Little Missouri	24-150-97	McKenzie	70	FWL/Rec	23					10	7						12	
	Cherry Creek	Little Missouri	4-150-98	McKenzie	200	FWL/Rec	191					40 E	5 E							
	Cherry Creek	Little Missouri	11-150-98	McKenzie	101	FWL/Rec						12	9.4							
440	Watford City	Little Missouri	18-150-98	McKenzie	82	FWL/Rec	150					20	4							

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	LITTLE MISSOURI SUBBASIN (Cont.)																			
	(21-150-98)	Little Missouri	21-150-98	McKenzie																
613	Arnegard	Little Missouri	4-150-100	McKenzie	240	FWL/Rec	20		2174.	2176.		40	8			3:1-2:1	Pipe Spillway	75	12	N/A
	KNIFE RIVER SUBBASIN																			
434	Walth	Knife	3-131-91	Stark																
	(3-140-91)	Knife	3-140-91	Dunn	72	FWL/Rec						20	3.6E							
433	Assumption Abbey	Knife	32-140-92	Stark	54	FWL/Rec	2				22.5	12	4.5	600		1:1	Sod		14	60
	(5-141-86)	Knife	5-141-86	Oliver																
	(6-141-86)	Knife	6-141-86	Oliver																
	(14-141-86)	Knife	14-141-86	Oliver																
	(29-141-86)	Knife	29-141-86	Oliver																
	(31-141-86)	Knife	31-141-86	Oliver																
	(32-141-86)	Knife	32-141-86	Oliver																
	(32-141-86)	Knife	32-141-86	Oliver																
	(9-141-87)	Knife	9-141-87	Oliver																
	(10-141-87)	Knife	10-141-87	Oliver																
	(23-141-87)	Knife	23-141-87	Oliver																
	(24-141-87)	Knife	24-141-87	Oliver																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	KNIFE RIVER SUBBASIN (Cont.)																			
	(31-141-90)	Knife	31-141-90	Mercer																
201	Schaffner Creek	Knife	10-142-90	Dunn	165	StkWtr FWL/Rec	19					40	4.1		58,000		Rubble Masonry	2200		
	Myron Slough	Knife	142-93	Dunn	300	FWL/Rec						80	3.7							
	(5-142-96)	Knife	5-142-96	Dunn																
	(22-142-96)	Knife	22-142-96	Dunn																
	(26-142-96)	Knife	26-142-96	Dunn																
	(6-143-89)	Knife	6-143-89	Mercer																
	(20-143-90)	Knife	20-143-90	Mercer																
	(30-143-90)	Knife	30-143-90	Mercer																
	(24-143-91)	Knife	24-143-91	Dunn																
	(6-144-84)	Knife	6-144-84	Mercer	650	FWL/Rec	2400					100E	6.5E							
245	Soland	Knife	32-144-86	Stark	99	FWL/Rec	35					36	2.7							
246	Antelope Creek	Knife	3-144-87	Mercer	600	FWL/Rec					22.5	80	7.5				Reinforced Con.		22.5	
1349	Colt	Knife	36-144-88	Mercer	100	FWL/Rec	2150		1761.5		12.5	25	4				Reinforced Con.	12000	12.5	170
	Knudsen	Knife	33-144-98	Billings	147	FWL/Rec						30E	5.2E							
	(29-145-87)	Knife	29-145-87	Mercer																
	(7-145-88)	Knife	7-145-88	Mercer																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	KNIFE RIVER SUBBASIN (Cont.)																			
	(18-145-88)	Knife	18-145-88	Mercer																
	(20-145-91)	Knife	20-145-91	Dunn																
373	Halliday	Knife	24-145-92	Dunn	50	FWL/Rec	232					16	3.1							
	Lake Ilo	Knife	27-145-94	Dunn	7100	FWL/Rec	167					1240	5.7							
	Timber Creek	Knife	33-145-94	Dunn																
	HEART RIVER SUBBASIN																			
	Hafner	Heart	24-134-88	Grant	66	StkWtr FWL/Rec	8					12	5.5							
	Henry Knoll	Heart	15-136-82	Morton	55	StkWtr FWL/Rec						10	5.5							
261	Heart Butte	Heart	13-136-89	Grant	225,500 (Perm. 75,000)	FWL/Rec FC (150,000) Irrig	1810	2124.	2094.5	None	142	3400	66.3	1850	1,140,000		Glory Hole	5700	118	
	Otter Creek	Heart	26-136-91	Hettinger	50	StkWtr FWL/Rec	12					9	5.5							
	(17-137-80)	Heart	17-137-80	Morton	77	StkWtr						10 E	7.7E							
	(9-137-82)	Heart	9-137-82	Morton																
	Ruby	Heart	8-137-99	Stark	265	FWL/Rec						50 E	5.3E							
	Scab Creek	Heart	23-138-87	Morton	63	StkWtr FWL/Rec	10					11	5.7							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	HEART RIVER SUBBASIN (Cont.)																			
	(26-138-87)	Heart	26-138-87	Morton																
	(34-138-87)	Heart	34-138-87	Morton																
427	Lindstrom	Heart	22-138-88	Morton																
	Hermes	Heart	22-138-89	Morton																
	(17-138-91)	Heart	17-138-91	Stark																
	Springvale	Heart	18-138-91	Stark	152	FWL/Rec						31	5							
	Frenzel	Heart	13-138-96	Stark	50	StkWtr FWL/Rec						10 E	5 E							
	Joseph Lystad	Heart	3-138-98	Stark	70	StkWtr FWL/Rec						15	4.6							
870	Crown Butte	Heart	7-139-82	Morton	410	FWL/Rec	6		1941.		32.5	38	10.7			3:1-3:1	Tube 84"			
642	Sweetbriar Creek	Heart	10-139-84	Morton	3300	FWL/Rec	154	1953.0	1940	None	40	315	10.5	1200		3:1-3:1	Four Barrel Box Drop	7850	40	
	(33-139-85)	Heart	33-139-85	Morton																
	(19-139-87)	Heart	19-139-87	Morton																
	(30-139-87)	Heart	30-139-87	Morton																
	(1-139-88)	Heart	1-139-88	Morton																
673	Glen Ullin R.R.	Heart	30-139-88	Morton	111	FWL/Rec	73					20 E	5.5 E							8

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						MISSOURI RIVER BASIN														
	HEART RIVER SUBBASIN (Cont.)																			
271	Meissner	Heart	24-139-88	Morton	83	FWL/Rec	5.5					18	4.6				Rubble Masonry		10	75
263	Dickinson	Heart	8-139-96	Stark	7000	FWL/Rec Muni & Ind Irrig	405	2434.	2416.5		62	860	10.2	2275	324,000		Uncontrolled Concrete Crest	33,500	44	200
	Queen City	Heart	8-139-96	Stark	175	FWL/Rec	3.8	2412.	2405.	2410.	14.5	22	8.9	800			Pipe 48"	273	21	4
	Schnell	Heart	12-139-96	Stark	50	StkWtr FWL/Rec						10	5							
	Belfield	Heart	5-139-99	Stark	63	FWL/Rec						15	4.2							
256	Strand	Heart	28-139-100	Stark		FWL/Rec														
	(18-140-83)	Heart	18-140-83	Morton																
	(20-140-83) SW¼	Heart	20-140-83	Morton																
	(20-140-83) NW¼	Heart	20-140-83	Morton																
	(13-140-84) NW¼	Heart	13-140-84	Morton																
	(13-140-84) SE¼	Heart	13-140-84	Morton																
	Kuether	Heart	16-140-84	Morton	80	StkWtr FWL/Rec						20	4.							
	(18-140-86)	Heart	18-140-86	Morton																
	(29-140-86)	Heart	29-140-86	Morton																
	(17-140-87)	Heart	17-140-87	Morton																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	HEART RIVER SUBBASIN (Cont.)																			
	(26-140-87)	Heart	26-140-87	Morton																
	(27-140-95)	Heart	27-140-95	Stark	150	FWL/Rec						30	5.							
	(20-140-95)	Heart	20-140-95	Stark																
257	Green River	Heart	27-140-95	Stark	60	FWL/Rec Ind						15 E	4 E							
	Danzig	Heart	36-140-87	Morton	700	FWL/Rec	40				28	152	4.6	800		3:1-2:1	Reinforced Concrete Weir Drop	4000	20	60
	(10-140-97)	Heart	10-140-97	Stark																
	(30-141-85)	Heart	30-141-85	Oliver																
	(34-141-85)	Heart	34-141-85	Oliver																
	Green River	Heart	16-141-98	Oliver	250	FWL/Rec	28					73	3.4				Rubble Chute		8	50
	(32-142-84)	Heart	32-142-84	Oliver																
	CANNONBALL RIVER SUBBASIN																			
182	Perkins	Cannon-ball	6-129-86	Sioux																
180	Palmer	Cannon-ball	10-129-88	Sioux																
179	Knoke	Cannon-ball	3-129-89	Sioux																
220	Westphal	Cannon-ball	5-129-89	Sioux																

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	CANNONBALL RIVER SUBBASIN (Cont.)																			
	Orange	Cannon-ball	22-129-91	Adams	150	FWL/Rec	6					40E	3.7E				Rubble Masonry			
	Duck Creek	Cannon-ball	1-129-94	Adams	200	FWL/Rec						50	4.							
	Lightning (ccc)	Cannon-ball	4-129-98	Adams	734	FWL/Rec	76					150E	4.9E				Paved			
	Si's	Cannon-ball	36-130-84	Sioux			6													
50	Panko	Cannon-ball	8-130-85	Sioux																
268	Halvorson	Cannon-ball	28-130-86	Sioux																
178	Johnel	Cannon-ball	29-130-90	Sioux																
	Ireland	Cannon-ball	14-131-85	Grant	87	FWL/Rec						20E	4.3E							
	Howard	Cannon-ball	16-131-88	Grant	181	FWL/Rec	13					45E	4.0E							
	Goplin	Cannon-ball	7-131-95	Adams	370	FWL/Rec	23					70E	5.3							
	Tanous	Cannon-ball	35-131-96	Adams	54	StkWtr	43					10E	5 E							
359	Wolf Butte	Cannon-ball	12-131-97	Adams	200	FWL/Rec						50	4							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	CANNONBALL RIVER SUBBASIN (Cont.)																			
	Lemon Ranch	Cannon-ball	2-131-98	Adams	92	FWL/Rec StkWtr						15 E	6.1E							
	Carlson	Cannon-ball	2-132-83	Grant	104	FWL/Rec	8					20	5.2							
	Carlson Coulee	Cannon-ball	19-132-89	Grant	50	StkWtr						7	7							
	Pretty Rock	Cannon-ball	16-132-90	Grant	989	FWL/Rec						201	4.9							
	(21-132-95)	Cannon-ball	21-132-95	Adams																
	(15-132-98)	Cannon-ball	15-132-98	Adams																
	(25-132-99)	Cannon-ball	25-132-99	Bowman																
	(1-132-100)	Cannon-ball	1-132-100	Bowman																
	(22-133-81)	Cannon-ball	22-133-81	Sioux																
507	Raleigh	Cannon-ball	9-133-85	Grant																
	(10-133-89)	Cannon-ball	10-133-89	Grant	217	FWL/Rec	1200					43 E	5 E							
	Sheep Creek	Cannon-ball	15-133-89	Grant	50	StkWtr	25					10	5							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	CANNONBALL RIVER SUBBASIN (Cont.)																			
577	Fietz	Cannon-ball	24-133-89	Grant																
224	Odessa	Cannon-ball	5-133-90	Grant																
	Shanta Peta	Cannon-ball	24-133-97	Hettinger	65	StkWtr	59					12E	5.4E							
353	Cedar Lake	Cannon-ball	35-133-98	Slope	2750	FWL/Rec	224					176	31	15			Ogee weir		15	80
387	Solen Township Road	Cannon-ball	34-134-81	Sioux																
	(3-134-84)	Cannon-ball	3-134-84	Morton	82	StkWtr	31					15E	5.3E							
	(23-134-84)	Cannon-ball	23-134-84	Morton																
383	Charles Lake	Cannon-ball	29-134-93	Hettinger		FWL/Rec														
350	Regent	Cannon-ball	8-134-94	Hettinger	1167	FWL/Rec	35					90E	13 E							
417	Squaw Creek	Cannon-ball	27-134-95	Hettinger	87	FWL/Rec	27					15	6							
352	Jung	Cannon-ball	14-134-97	Hettinger	182	FWL/Rec						30E	6.1E				Gravity			
658	DeSart	Cannon-ball	36-134-98	Slope		FWL/Rec														

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						MISSOURI RIVER BASIN														
	CANNONBALL RIVER SUBBASIN (Cont.)																			
498	Lake Patricia	Cannon-ball	36-135-84	Morton	906	FWL/Rec						278	3.6							
	(3-135-100)	Cannon-ball	3-135-100	Slope																
	White Lake	Cannon-ball	26-135-100	Slope	760	FWL/Rec						150E	5. E							
449	Homelvig	Cannon-ball	31-135-101	Slope	160	StkWtr FWL/Rec						30	5.3						16	
	Monke	Cannon-ball	17-136-95	Hettinger	64	StkWtr						10E	6.4E							
1453	Karey	Cannon-ball	32-136-97	Hettinger	72	FWL/Rec						10E	7.2E				Rubble Concrete Weir			
421	E-6	Cannon-ball	16-136-98	Slope	123	FWL/Rec						10	12.3							
	(19-136-100)	Cannon-ball	19-136-100	Slope																
	Hanson	Cannon-ball	27-137-99	Stark	58	StkWtr						12E	4.8E							
	(32-137-99)	Cannon-ball	32-137-99	Stark	65	StkWtr						15E	4.3E							

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	GRAND RIVER SUBBASIN																			
420	Mirror Lake	Grand	13-129-96	Adams	100	FWL/Rec			2659.85		16	20 E	5. E				Reinforced Concrete		16	140
	Buffalo Creek	Grand	4-129-98	Adams	74	FWL/Rec			2659.0			10	7.4							
216	Bowman-Haley	Grand	24-129-101	Bowman	128,000	FWL/Rec Muni & Ind FC (102,000)	446		2755		79	1740	15	5980	2.1 Mil		Morning Glory	7860		
	(7-130-98)	Grand	7-130-98	Adams																
	(18-130-98)	Grand	18-130-98	Adams																
	(24-130-98)	Grand	24-130-98	Adams																
314	Gascoyne	Grand	16-130-99	Bowman	127	FWL/Rec	7					26.9	5							
313	Boyesen	Grand	15-130-101	Bowman	457	FWL/Rec	12					77	17							
397	Armor Township	Grand	16-130-103	Bowman	85	FWL/Rec	7					21	4							
557	Gascoyne Lake	Grand	32-131-99	Bowman	1300	FWL/Rec	58					160	8							
	Buffalo Springs	Grand	17-131-100	Bowman	92	FWL/Rec						15 E	6.1E							
	WESTERN MISSOURI MAINSTEM TRIBUTARIES																			
	(24-129-80)	Western Mainstem Tribs. (Missouri)	24-129-80	Sioux																

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)																			
	Oak Creek	Western Mainstem Tribs. (Missouri)	21-129-82	Sioux	600	FWL/Rec	26					100E	6 E							
	(20-130-81)	Western Mainstem Tribs. (Missouri)	20-130-81	Sioux																
	Running Bear	Western Mainstem Tribs. (Missouri)	21-131-80	Sioux			16													
	(29-131-80)	Western Mainstem Tribs. (Missouri)	29-131-80	Sioux																
	(19-131-81)	Western Mainstem Tribs. (Missouri)	19-131-81	Sioux																
	(30-131-81)	Western Mainstem Tribs. (Missouri)	30-131-81	Sioux																
627	Froelich	Western Mainstem Tribs. (Missouri)	18-131-82	Sioux	2200	FWL/Rec	6.4	1984.	1975.	1978.8	39	170	12.94	820	110,500	3:1 2:1	Glory hole		45.0	

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)																			
	(32-132-81)	Western Mainstem Tribs. (Missouri)	32-132-81	Sioux																
	(27-132-82)	Western Mainstem Tribs. (Missouri)	27-132-82	Sioux																
	(20-133-79)	Western Mainstem Tribs. (Missouri)	20-133-79	Sioux																
410	Kottsick	Western Mainstem Tribs. (Missouri)	7-137-81	Grant	88	StkWtr FWL/Rec						20E	4.4E							
	(6-140-81)	Western Mainstem Tribs. (Missouri)	6-140-81	Morton																
	(17-140-81)	Western Mainstem Tribs. (Missouri)	17-140-81	Morton	144	StkWtr FWL/Rec						25E	4.7							
	(16-140-82)	Western Mainstem Tribs. (Missouri)	16-140-82	Morton																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)																			
	(2-141-83)	Western Mainstem Tribs. (Sq. Butte)	2-141-83	Oliver																
422	Nanny	Western Mainstem Tribs. (Sq. Butte)	4-141-83	Oliver																
	(8-141-83)	Western Mainstem Tribs. (Sq. Butte)	8-141-83	Oliver																
	(28-141-84)	Western Mainstem Tribs. (Sq. Butte)	28-141-84	Oliver																
	(31-141-84)	Western Mainstem Tribs. (Sq. Butte)	31-141-84	Oliver																
372	Oliver Lake	Western Mainstem Tribs. (Sq. Butte)	36-141-85	Morton	409	FWL/Rec								100E	4. E					
	(10-142-82)	Western Mainstem Tribs. (Missouri)	10-142-82	Oliver																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)

MISSOURI RIVER BASIN

WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)

	(14-142-83)	Western Mainstem Tribs. (Sq. Butte)	14-142-83	Oliver
	(18-142-84)	Western Mainstem Tribs. (Sq. Butte)	18-142-84	Oliver
	Klingenstein	Western Mainstem Tribs. (Sq. Butte)	21-142-84	Oliver
370	Johnson	Western Mainstem Tribs. (Missouri)	34-144-84	Mercer
	(18-145-84)	Western Mainstem Tribs. (Missouri)	18-145-84	Mercer
	(9-146-85)	Western Mainstem Tribs. (Missouri)	9-146-85	Mercer
	(26-146-86)	Western Mainstem Tribs. (Missouri)	26-146-86	Mercer

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)

MISSOURI RIVER BASIN

WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)

	(3-146-88)	Western Mainstem Tribs. (Missouri)	3-146-88	Mercer																
	(28-147-85)	Western Mainstem Tribs. (Missouri)	28-147-85	Mercer																
	(20-147-89)	Western Mainstem Tribs. (Missouri)	20-147-89	Mercer																
598	James	Western Mainstem Tribs. (Missouri)	33-150-101	McKenzie	53	FWL/Rec						15	3.5							
436	Skavanger	Western Mainstem Tribs. (Missouri)	6-151-96	McKenzie	90	FWL/Rec	75					15	6							
606	Dimmick Lake	Western Mainstem Tribs. (Missouri)	15-151-97	McKenzie																
323	Shirk	Western Mainstem Tribs. (Missouri)	4-151-98	McKenzie																

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)																			
	Tobacco Garden	Western Mainstem Tribs. (Missouri)	21-151-99	McKenzie	94	FWL/Rec						15	6.2							
613	Timber Creek (Arnegard)	Western Mainstem Tribs. (Missouri)	27-151-100 ($SE\frac{1}{4}$)	McKenzie	320	FWL/Rec						21	15							
483	Skedsvold	Western Mainstem Tribs. (Missouri)	27-151-100	McKenzie	68	FWL/Rec	12					15	4.5						13	
	(31-152-96)	Western Mainstem Tribs. (Missouri)	31-152-96	McKenzie	62	FWL/Rec						10E	6.2E							
	(8-152-97)	Western Mainstem Tribs. (Missouri)	8-152-97	McKenzie	177	FWL/Rec						30	5.9							
	Dinwoodie Dam	Western Mainstem Tribs. (Missouri)	36-153-94	McKenzie	50	FWL/Rec						12	4.2							
332	Sand Creek	Western Mainstem Tribs. (Missouri)	4-153-96	McKenzie																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	WESTERN MISSOURI MAINSTEM TRIBUTARIES (Cont.)																			
277	Birdhead	Western Mainstem Tribs. (Missouri)		McKenzie																
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN																			
	(5-129-71)	Eastern Missouri	5-129-71	McIntosh																
	(9-129-71)	Eastern Missouri	9-129-71	McIntosh																
242	Jund	Eastern Missouri	19-129-72	McIntosh	75	FWL/Rec StkWtr	31.5	2001.5	2000.2	None	20	12.9	5.8	600		3:1-2:1	Rubble Masonry Cap; Clay Core		13	115
	(7-129-74)	Eastern Missouri	7-129-74	Emmons																
	(22-129-74)	Eastern Missouri	22-129-74	Emmons																
	Haig	Eastern Missouri	27-129-75	Emmons	500	StkWtr	69					95	5.3			3:1-3:1	Rubble Masonry Cap; Clay Core		24	100
	(14-130-71)	Eastern Missouri	14-130-71	McIntosh																
	(33-130-71)	Eastern Missouri	33-130-71	McIntosh																
	(9-130-72)	Eastern Missouri	9-130-72	McIntosh																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	Little Beaver Creek	Eastern Missouri	5-130-73	McIntosh	86	StkWtr						15	5.8							
	(27-130-73)	Eastern Missouri	27-130-73	McIntosh																
	(35-130-73)	Eastern Missouri	35-130-73	McIntosh																
	Klein	Eastern Missouri	3-130-76	Emmons																
348	Westfield	Eastern Missouri	31-130-77	Emmons	265	StkWtr FWL/Rec	15				7.6	48	5.5	400		3:1-2:1	Rubble Masonry Cap; Clay Core		16.5	75
381	Schlenker	Eastern Missouri	32-131-67	McIntosh	50	StkWtr	5				32.5	5	10	355		3:1-3:1	Reinforced Concrete Clay Core		23	45
	Giedt	Eastern Missouri	25-131-71	McIntosh	213	FWL/Rec	17				23	67	3.2			3:1-2:1	Rubble Masonry Cap; Clay Core		17	50
	(25-131-73)	Eastern Missouri	25-131-73	McIntosh	65	StkWtr	30					10	6.5				Rubble Masonry Cap; Clay Core			
	(33-131-73)	Eastern Missouri	33-131-73	McIntosh	53	StkWtr	40					10E	5.3E				Rubble Masonry Cap; Clay Core			
	(32-131-77)	Eastern Missouri	32-131-77	Emmons																

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
400	Welk	Eastern Missouri	33-131-77	Emmons	165	FWL/Rec	11		1839.9			28.2	5.9				Ogee		22	42
	(12-132-69)	Eastern Missouri	12-132-69	McIntosh																
	(17-132-72)	Eastern Missouri	17-132-72	McIntosh																
	(21-132-73)	Eastern Missouri	21-132-73	McIntosh	125	StkWtr	6					20 E	6 E				Rubble Masonry Cap; Clay Core			
	(2-132-74)	Eastern Missouri	2-132-74	Emmons																
	Flickertail	Eastern Missouri	17-132-74	Emmons	180	FWL/Rec						40	4.5							
395	Weisser	Eastern Missouri	36-132-74	Emmons	65	StkWtr	6					15 E	4.3E	313		3:1-3:1	Rubble Masonry Cap; Clay Core		16.5	50
	(32-133-70)	Eastern Missouri	32-133-70	Logan	77	StkWtr	6					15 E	5.1E							
	Hildebrand	Eastern Missouri	21-133-71	Logan	110	FWL/Rec StkWtr	10					20	5.5			3:1-3:1	Reinforced Concrete		13	50
	(21-133-72)	Eastern Missouri	21-133-72	Logan																
	(3-133-73)	Eastern Missouri	3-133-73	Logan	66	StkWtr	2					15 E	4.3				Rubble Masonry Cap; Clay Core			

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	Markus Wold	Eastern Missouri	21-133-73	Logan	85	StkWtr	8					13.3	6.5			3:1-3:1	Reinforced Concrete		11	45
	S. Wald	Eastern Missouri	28-133-73	Logan			135										Rubble Masonry Cap; Clay Core		9.5	75
	Spring Water Lake	Eastern Missouri	33-133-75	Emmons	80	StkWtr						20	4							
441	Temvik Dam	Eastern Missouri	5-133-76	Emmons	126	StkWtr	10	1891.5	1889.1	None	38.8	32	4			3:1-2:1	Rubble Masonry Cap; Clay Core		8.2	60
487	Meinhover	Eastern Missouri	6-133-76	Emmons	50	StkWtr	12				7	18.9	2.6	330		3:1-3:1	Rubble Masonry Cap; Clay Core		9	50
	Forderer	Eastern Missouri	10-133-76	Emmons																
	Stedman	Eastern Missouri	1-133-77	Emmons	123	StkWtr FWL/Rec	19					16.5	7.5			3:1-3:1	Rubble Masonry Cap; Clay Core			60
	Sunburst	Eastern Missouri	4-133-78	Emmons	252	FWL/Rec						60	1.2							
	(32-134-70)	Eastern Missouri	32-134-70	Logan	55	StkWtr FWL/Rec						10	5.5				Rubble Masonry Cap; Clay Core			
390	Beaver Lake	Eastern Missouri	33-134-71	Logan	2000	FWL/Rec	180	1965.5	1961.5		8	840	2.4	300	1756	4:1-2:1	Rubble Masonry Cap; Clay Core		4	140

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	(8-134-72)	Eastern Missouri	8-134-72	Logan																
	(32-134-73)	Eastern Missouri	32-134-73	Logan																
	Appert	Eastern Missouri	3-134-76	Emmons	340	FWL/Rec	10					60 E	5.7E							
	Spilloway	Eastern Missouri	30-135-68	Logan	50	StkWtr	7					12.4	4			3:1- 2.5:1	Rubble Masonry Cap; Clay Core		6	40
264	Braddock	Eastern Missouri	4-135-75	Emmons	261	StkWtr	57	1865.7	1860.3	None	18.2	72	3.6	300		3:1- 2.5:1	Rubble Masonry Cap; Clay Core		128	175
	Hazelton	Eastern Missouri	19-135-76	Emmons																
	Livona	Eastern Missouri	19-135-78	Emmons																
	(5-136-73)	Eastern Missouri	5-136-73	Logan																
	Little Lake	Eastern Missouri	33-136-76	Emmons	84	StkWtr						20	4.2							
	Long Lake	Eastern Missouri	16-137-76	Burleigh	45,377	FWL/Rec						13,700	3.							
	Railroad Reservoir	Eastern Missouri	5-138-76	Burleigh	340	Muni						60 E	5.7E							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	Yegen	Eastern Missouri	3-138-79	Burleigh		FWL/Rec StkWtr														
	(24-138-80)	Eastern Missouri	24-138-80	Burleigh	62	StkWtr						12	5.1							
	(22-139-77)	Eastern Missouri	22-139-77	Burleigh	111	Muni						20	5.5							
	(14-139-78)	Eastern Missouri	14-139-78	Burleigh	69	StkWtr						15	4.6							
511	Irwin Reed	Eastern Missouri	36-139-79	Burleigh		FWL/Rec StkWtr											Rubble Masonry Cap; Clay Core		8	75
	Schaubert	Eastern Missouri	7-140-70	Kidder	50	StkWtr	4					10	5							
	(24-140-78)	Eastern Missouri	24-140-78	Burleigh																
	Wildfang	Eastern Missouri	25-140-78	Burleigh																70
	Schultz	Eastern Missouri	10-140-80	Burleigh	110	StkWtr	91.6				24.5	19.4	4.7		10,586	3:1-2.5:1	Rubble Masonry Cap; Clay Core		16.5	87.5
	Chase Lake	Eastern Missouri	33-141-69	Stutsman	2556	FWL/Rec						852 E	3. E			2:1-2:1	Natural Sod		5	200
	Weiser Township	Eastern Missouri	29-141-70	Kidder	50	StkWtr	6					15.2	3.3			3:1-3:1	Rubble Masonry Cap; Clay Core		11	50

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	(2-142-76)	Eastern Missouri	2-142-76	Burleigh	1000	FWL/Rec						330 E	3 E							
	(11-142-76)	Eastern Missouri	11-142-76	Burleigh																
	(28-142-79)	Eastern Missouri	28-142-79	Burleigh		StkWtr														
	Flemmer	Eastern Missouri	14-143-70	Kidder	98	StkWtr	3					28	3.5			3:1-3:1	Rubble Masonry Cap; Clay Core			35
	(16-143-73)	Eastern Missouri	16-143-73	Kidder	67	StkWtr	3					9	7.4			3:1-3:1	Rubble Masonry Cap; Clay Core			50
	Lake Josephine	Eastern Missouri	23-143-74	Kidder	5540	FWL/Rec						650 E	8.5							
	Kickapoo Township	Eastern Missouri	26-143-74	Kidder	87	StkWtr	5					25.5	3.4			3:1-3:1	Rubble Masonry Cap; Clay Core		11	75
	Canfield Lake	Eastern Missouri	20-143-77	Burleigh	872	FWL/Rec						200 E	4.3							
364	Yanktoni	Eastern Missouri	30-143-80	McLean	600	StkWtr FWL/Rec	12	1832.5	1826.5		16.8	200	3			4:1-2:1	Rubble Masonry Cap; Clay Core		12.5	60
488	Benzi	Eastern Missouri	4-143-81	McLean	80	StkWtr	200				8.5	15 E	5.3E				Rubble Masonry Cap; Clay Core		5	70

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	MISSOURI RIVER BASIN																			
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	(9-143-81)	Eastern Missouri	9-143-81	McLean																
	Schaubert	Eastern Missouri	7-144-70	Kidder								9.7				3:1-3:1			10	40
	Gaub	Eastern Missouri	19-144-72	Kidder																
	Florence Lake	Eastern Missouri	16-144-76	Burleigh	500	FWL/Rec						50 E	10 E							
260	Olson Dam	Eastern Missouri	31-144-78	Burleigh	250	FWL/Rec	57				20	46	5.4	550		3:1-3:1	Rubble Masonry Cap; Clay Core		14	110
	(34-144-81)	Eastern Missouri	34-144-81	McLean		StkWtr Irrig														
	Lost Lake	Eastern Missouri	36-144-81	McLean	86	FWL/Rec						40 E	2.						6	30
	Sperry	Eastern Missouri	7-145-75	Sheridan	162	FWL/Rec	2				27	6	27.			3:1-3:1	Rubble Masonry Cap; Clay Core		20	36
	Denhoff #2	Eastern Missouri	15-146-75	Sheridan	63	FWL/Rec	3					11.5	5.5			3:1-3:1	Natural Sod		8	32
	(36-146-80)	Eastern Missouri	36-146-80	McLean												1.5:1-1.5:1	Flat cut in fill		7.5	50
472	Underwood	Eastern Missouri	35-146-84	McLean	67	StkWtr	14				10	35	1.9	1000	12,850		Rubble Masonry Cap; Clay Core			60

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																				
Lake Margaret		Eastern Missouri	15-147-80	McLean	140	StkWtr						78	2			3:1-3:1	Rubble Masonry Cap; Clay Core		6	25
(1-147-85)		Eastern Missouri	1-147-85	McLean	225	StkWtr						50	4.5							
Douglas Creek		Eastern Missouri	8-147-85	McLean	83	StkWtr	28					20	4				Rubble Masonry Cap; Clay Core		10	50
(12-147-88)		Eastern Missouri	12-147-88	McLean																
Lindell		Eastern Missouri	30-148-79	McLean																
Lake Nettie		Eastern Missouri	21-148-81	McLean	2268	StkWtr FWL/Rec						420	5.4				Natural Sod			
(9-148-88)		Eastern Missouri	9-148-88	McLean																
(23-148-88)		Eastern Missouri	23-148-88	McLean																
(34-148-88)		Eastern Missouri	34-148-88	McLean																
(19-148-89)		Eastern Missouri	19-148-89	McLean																
(28-148-89)		Eastern Missouri	28-148-89	McLean																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							MISSOURI RIVER BASIN													
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	(35-148-89)	Eastern Missouri	35-148-89	McLean																
431	Strawberry Lake	Eastern Missouri	2-149-80	McLean	1460	FWL/Rec					10.5	140	10.4				Buttress Supported Concrete Wall		5.5	40
	Hager	Eastern Missouri	25-149-85	McLean	223	StkWtr	9					62	3.6				Rubble Masonry Cap; Clay Core		9	
	(7-149-88)	Eastern Missouri	7-149-88	McLean																
	Deepwater Creek	Eastern Missouri	9-149-89	McLean																
407	Raub	Eastern Missouri	19-149-89	McLean	60	StkWtr	7				15	17.3	3.4	530		3:1-2.5:1	Rubble Masonry Cap; Clay Core		8	28
	Camp Lake Project	Eastern Missouri	36-150-80	McLean	500	FWL/Rec						200	2.5							
	Camp Lake Dam	Eastern Missouri	36-150-80	McLean	706	FWL/Rec						60	11.7							
	Douglas Creek	Eastern Missouri	34-150-85	McLean	100	StkWtr	28					28	3.6			3:1-2.5:1	Rubble Masonry Cap; Clay Core		6	25
	Peterson	Eastern Missouri	1-150-89	McLean	50	StkWtr	5					10E	5 E			3:1-3:1			5	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	(4-150-90)	Eastern Missouri	4-150-90	McLean																
	(17-150-90)	Eastern Missouri	17-150-90	McLean																
	(8-150-92)	Eastern Missouri	8-150-92	Mountrail																
	(10-150-92)	Eastern Missouri	10-150-92	Mountrail																
	Hiddenwood	Eastern Missouri	34-151-87	Ward																
	(25-151-89)	Eastern Missouri	25-151-89	Mountrail																
	(20-151-90)	Eastern Missouri	20-151-90	Mountrail																
	(7-152-88)	Eastern Missouri	7-152-88	Mountrail																
	Plaza Township	Eastern Missouri	16-152-88	Mountrail	50	FWL/Rec	5				15	17	3			3:1-2:1	Rubble Masonry Cap; Clay Core		11	25
	(12-152-89)	Eastern Missouri	12-152-89	Mountrail																
250	Paulson	Eastern Missouri	13-152-89	Mountrail	50	FWL/Rec StkWtr	5					12	4.1	300		3:1-2:1	Rubble Masonry Cap; Clay Core		7	40

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																				
Parshall	Eastern Missouri	25-152-90	Mountrail																	
Parshall	Eastern Missouri	36-152-90	Mountrail				100													
(14-152-91)	Eastern Missouri	14-152-91	Mountrail	50	StkWtr							10	5							
Spring Coulee	Eastern Missouri	8-153-88	Mountrail	136	FWL/Rec StkWtr		10				14.7	53.5	2.5			3:1- 3:1	Reinforced Concrete		10.7	40
(9-153-88)	Eastern Missouri	9-153-88	Mountrail																	
(18-153-89)	Eastern Missouri	18-153-89	Mountrail																	
(9-153-90)	Eastern Missouri	9-153-90	Mountrail																	
(14-153-90)	Eastern Missouri	14-153-90	Mountrail																	
(18-153-90)	Eastern Missouri	18-153-90	Mountrail																	
Shell Lake	Eastern Missouri	3-154-89	Mountrail	1500	FWL/Rec							480	E 3.1E							
(25-154-90)	Eastern Missouri	25-154-90	Mountrail																	
(27-154-90)	Eastern Missouri	27-154-90	Mountrail																	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
								MISSOURI RIVER BASIN												
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	Chocolate Drop	Eastern Missouri	16-154-91	Mountrail	875	FWL/Rec	30					300 E	2.6E				Rubble Masonry Cap; Clay Core			
	(34-154-92)	Eastern Missouri	34-154-92	Mountrail																
	(3-154-93)	Eastern Missouri	3-154-93	Mountrail																
	(35-154-94)	Eastern Missouri	35-154-94	Mountrail																
	(21-154-103)	Eastern Missouri	21-154-103	Williams	55	StkWtr						10	5.5							
	(23-155-90)	Eastern Missouri	23-155-90	Mountrail																
	(18-155-91)	Eastern Missouri	18-155-91	Mountrail																
	Bean	Eastern Missouri	28-155-98	Williams	50	StkWtr	7.5					16.8	3			3:1-2:1	Reinforced Concrete and Clay Core			
346	Epping	Eastern Missouri	9/16-155-99	Williams	2700	FWL/Rec	72				45	125	21.6	1000			Rubble Masonry Cap; Clay Core		34	
	Ellingson	Eastern Missouri	12-155-99	Williams	50	StkWtr						10	5							
	(20-155-102)	Eastern Missouri	20-155-102	Williams	55	StkWtr						10	5.5							

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
	EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																			
	Lee	Eastern Missouri	15-155-103	Williams	76	StkWtr						15	5			3:1- 2:1	Rubble Masonry Cap; Clay Core			25
	Palermo Township	Eastern Missouri	3-156-90	Mountrail																
	(21-156-91)	Eastern Missouri	21-156-91	Mountrail																
	Idaho	Eastern Missouri	25-156-91	Mountrail	50	StkWtr						10 E	5 E							
	(32-156-91)	Eastern Missouri	32-156-91	Mountrail																
	(27-156-101)	Eastern Missouri	27-156-101	Williams	80	StkWtr						15	5.3							
	(24-156-103)	Eastern Missouri	24-156-103	Williams	50	StkWtr						10	5							
	Clearwater	Eastern Missouri	22-157-90	Mountrail	403	FWL/Rec						120	3.3							
	(25-157-91)	Eastern Missouri	25-157-91	Mountrail																
	(7-157-94)	Eastern Missouri	7-157-94	Mountrail																
	(10-157-94)	Eastern Missouri	10-157-94	Mountrail																
561	Tioga Dam	Eastern Missouri	30-157-94	Mountrail	620	FWL/Rec Muni	19	2290	2278	2287.	28	72	8.6	2200	125,000	3:1 2:1	Drop Inlet Pipe Outlet		28.5	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
EASTERN MISSOURI DIRECT TRIBUTARIES SUBBASIN (Cont.)																				
Nelson Dam	Eastern Missouri	30-157-99	Williams	52	StkWtr	21					10	5.2								
Athens Dam	Eastern Missouri	16-157-100	Williams	130	StkWtr						15	8.6								
Blacktail	Eastern Missouri	10/15-157-101	Williams	2640	FWL/Rec	27	2095	2079	2088	55	160	16.5	2000	222,777	3:1 2:1	Trickle Tube			
(21-158-91)	Eastern Missouri	21-158-91	Mountrail																	
(16-158-94)	Eastern Missouri	16-158-94	Mountrail																	
(28-158-94)	Eastern Missouri	28-158-94	Mountrail																	
(30-158-94)	Eastern Missouri	30-158-94	Mountrail																	
Bicker Township	Eastern Missouri	33-158-94	Mountrail	50		19				16.5	15.4	3.2			3:1-3:1	Reinforced Concrete		12.5	75	
Bioler	Eastern Missouri	15-158-99	Williams	80	StkWtr						15	5.3								
Ellisville	Eastern Missouri	16-158-99	Williams	70	StkWtr						15	4.6								
Lake Zahl	Eastern Missouri	36-159-101	Williams	3000	FWL/Rec						900 E	3.3E								
Fertile Valley	Eastern Missouri	16-160-102	Divide	73	StkWtr	18				11	16	4.6	450			Natural Sod				

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								MISSOURI RIVER BASIN												
MISSOURI RIVER MAINSTEM																				
	Garrison Dam	Missouri	465-146-84 31&32-147-84	McLean and Mercer	24 Mil 400,000	Irrig FWL/Rec Muni Navig (1,500,000 FC) Power Prod.	181,400	1875.	1825		180	368,000	66.3	11,300	66,500,000		Vertical Lift Gates (28)	827,000		1336
	Oahe	Missouri	South Dakota		23.6 Mil	Multi-Purpose (1,100,000) Exclusive FC	243,500	1660.	1596.5		245	358,000 (55,000 in North Dakota)	65.8	9,300	55,000,000		Vertical Lift Gates (8)	304,000		453

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
											JAMES RIVER BASIN									
312	Dakota Lake Project	James	34-129-60	Dickey	3200	FWL/Rec						1600	2							
556	Hyatt Slough	James	35-129-60	Dickey	1800E	FWL/Rec						450	4 E		17,500		3 ea. 22"x36" arch pipes with gates			
	Ludden	James	35-129-60	Dickey		FWL/Rec	5000	1264.1	1261.1	None	8				1,340	1.5:1-1.5:1	Gravity section Reinforced Concrete		5	105
344	State Line (Pollock)	James (Maple)	33-129-62	Stutsman	450	StkWtr FWL/Rec	640					20	22	135		3:1-2:1	Rubble Masonry Cap; Clay Core		8	110
	Ellendale Township	James (Klonker Coulee)	22-129-63	Dickey	52	StkWtr	11				16	19	2.2			3:1-3:1	Rubble Masonry Cap; Clay Core		8.5	30
	(27-129-63)	James (Klonker Coulee)	27-129-63	Dickey																
501	Elm River	James	10-129-64	Dickey	1530	FWL/Rec Muni	100	1495.0	1486.	None	270	235	6.5	1670	94,400	3:1-2:1	Box inlet & culvert	2700	19	14'x17"
615	Ellendale Water Supply	James	24-129-64	Dickey	375	Muni	28	1419.0	1413.	1415.	14	146	2.6	1380	18,000	3:1-3:1	Pipe Drop Inlet 8"x10"	500	7	8
	Handleman	James	30-129-64	Dickey	52	StkWtr	8				14.3	11.3	4.6			3:1-3:1	Reinforced Concrete Cap; Clay Core		6.7	60
	Maple River Project	James (Maple)	24-130-62	Dickey	409	FWL/Rec	325				15	81 E	5.1E	320	5,035	3:1-2.5:1	Rubble Masonry		9	175

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							JAMES RIVER BASIN													
	Kentner	James (Maple)	35-130-62	Dickey	230	FWL/Rec	400				15	45	5.1				Reinforced Concrete		9	100
	(22-130-64)	James (Elm)	22-130-64	Dickey																
	(26-130-64)	James (Elm)	26-130-64	Dickey																
585	Mallack (wpa)	James (Maple)	24-130-66	Dickey																
	Maple River Overflow	James (Maple)	7-131-62	Dickey	70	StkWtr FWL/Rec	212				10	21	3.3				Reinforced Concrete; Clay Core		7	125
386	Monango	James (Maple)	20-131-63	Dickey	130	StkWtr FWL/Rec	92					39	3.3			3:1-3:1	Rubble Masonry		10	90
1455	Wilson	James (Maple)	7-131-64	Dickey	341.4	FWL/Rec	5	1622	1616	1618	19	58.6	5.8	1550	16,500	3:1 2:1	Box drop inlet with 48" lateral pipe through emb.		19	N/A
	Maple River	James (Maple)	13-131-64	Dickey	75	StkWtr	100				11.5	25	4			3:1-3:1	Reinforced Concrete Cap; Clay Core			90
	(17-131-65)	James	17-131-65	Dickey																
	(35-132-60)	James	35-132-60	Dickey	1940	FWL/Rec	4300				9.6	561	3.3				Rubble Masonry Cap; Rock-filled gravity section		6	150

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								JAMES RIVER BASIN												
	(36-132-60)	James	36-132-60	Dickey																
411	Potsdam	James	16-132-64	Dickey	87	StkWtr	35					21	4	400		3:1-3:1			11	70
258	Verona	James (Bear Creek)	6-133-58	Ransom			50													105
432	Magill (ccc)	James (Bear Creek)	24-133-59	LaMoure	170	StkWtr FWL/Rec	85				11	55	3.	200		3:1-2:1	Paved Overflow; earth-fill core		6.5	6.2
485	LaMoure (ccc)	James	11-133-61	LaMoure	104	StkWtr FWL/Rec	2900					22 E	6.5E				Gravity section		8	100
	(18-133-61)	James (Cotton-wood)	18-133-61	LaMoure	50	StkWtr						7.7E	6.5E			2:1-	Natural Sod		7	
	Dean Township	James (Bear Creek)	21-133-61	LaMoure	81	StkWtr	1550				15.5	25	2.4			3:1-2.5:1	Natural Sod			
	(35-133-61)	James (Cotton-wood)	35-133-61	LaMoure																
614	Cottonwood Lake	James	35-133-62	LaMoure	900 E	FWL/Rec			1297.0			180	5.0E							
	(18-133-64) (ccc)	James (Bear Creek)	18-133-64	LaMoure	62	FWL/Rec StkWtr	17					13 E	4.0E			2:1-2:1			10	75
	East View	James	2-133-65	LaMoure	61	FWL/Rec StkWtr	8				16.4	12	5				Natural Sod			

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								JAMES RIVER BASIN												
	(22-134-58)	James (Bear Creek)	22-134-58	Ransom																
	(24-134-59)	James (Dry Run)	24-134-59	LaMoure	250	FWL/Rec	100					50	5.0E				Rubble Masonry Cap; Clay Core		9	115
	Twin Lakes (wpa)	James	18-134-60	LaMoure																
	Henrietta Township	James (Cotton-wood)	27-134-62	LaMoure	51.5	StkWtr	60				15	21	2.5			3:1-3:1	Natural Sod		6	
	(1-134-63)	James (Cotton-wood)	1-134-63	LaMoure																
343	Nora Township (wpa)	James (Wilson Creek)	30-134-64	LaMoure	50	StkWtr	13				17	11	4.5	400		3:1-3:1	Rubble Masonry Cap; Clay Core		9	45
	Ray Township (wpa)	James (Dry Coulee)	10-134-65	LaMoure	70	StkWtr	21				22	35	2		9,100	3:1-3:1	Reinforced Concrete Cap; Clay Core			60
	Swede (wpa)	James (Dry Coulee)	33-134-66	LaMoure	127	StkWtr	7				13.1	31	4.			3:1-3:1	Natural Sod			
	(18-135-58)	James (Bear Creek)	18-135-58	Ransom																
	Black Loam Township	James	27-135-59	LaMoure	79	StkWtr	44				12.7	30	2.6			3:1-3:1	Rubble Masonry Cap; Clay Core		5	35

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							JAMES RIVER BASIN													
470	Guttormson	James (Bear Creek)	36-135-59	LaMoure	150	StkWtr	55					10	15			3:1-2:1	Paved Overflow; Earth Core		6	60
393	Memorial Park	James	32-135-61	LaMoure	69	FWL/Rec	4000	1305.6	1301.6		5.6	153E	4.5E	108			Paved Overflow; Timber Crib		1.2	86
	(16-135-62)	James (Bone Hill Creek)	16-135-62	LaMoure		StkWtr										2.5:1-2:1	Natural Sod		12	
	(18-136-58)	James (Bear Creek)	18-136-58	Ransom	48	StkWtr						12	4							
611	Marian (Anderson)	James (Anderson Creek)	23-136-62	LaMoure										550			Rubble Masonry		9	40
1339	Bone Hill Creek	James	33-136-65	LaMoure	140	FWL/Rec						36E	4.0E			2:1-2:1	Natural Sod		10	200
649	Ypsilanti	James	12-138-63	Stutsman	85	FWL/Rec	3400	1360.6	1358	None	7	20	4.25	134			Rock fill - Rubble Masonry		4.8	80
510	Crystal Springs	James	6-139-69	Stutsman	1200	FWL/Rec						172	7							
832	Jamestown	James	24-140-64	Stutsman	230,000	FC (200,000) FWL/Rec Muni & Irrig.	1245	1471.0	1454.		110	2095	14	1418	963,000		Glory hole	2930		24' Dia.
	Jamestown City	James	25-140-64	Stutsman	100	FWL/Rec StkWtr						20E	5 E							

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							JAMES RIVER BASIN													
	Frederick (wpa)	James	11-141-66	Stutsman	90	StkWtr FWL/Rec	6				15	18	5			3:1- 3:1	Rubble Masonry Cap; Clay Core		9	93
461	Spiritwood Lake	James	31-142-62	Stutsman	4300	FWL/Rec	10					430	10 E			3:1-	Concrete Overflow		10	140
692	Jim Lake (Depuy)	James	3-142-64	Stutsman																
	(3-142-64) (SW¼)	James	3-142-64	Stutsman		FWL/Rec														
	(3-142-64) (SE¼)	James	3-142-64	Stutsman		FWL/Rec														
	(4-142-64)	James	4-142-64	Stutsman		FWL/Rec														
	(4-142-64)	James	4-142-64	Stutsman		FWL/Rec														
	(6-143-64)	James	6-143-64	Stutsman		FWL/Rec														
	Rider Channel Plug	James	19-143-64	Stutsman		FWL/Rec														
	(28-143-64)	James	28-143-64	Stutsman		FWL/Rec														
	(28-143-64)	James	28-143-64	Stutsman		FWL/Rec														
	(30-143-64)	James	30-143-64	Stutsman		FWL/Rec														
	Jim Lake	James	33-143-64	Stutsman	6780	FWL/Rec						1356 E	5 E							
	(12-143-65)	James	12-143-65	Stutsman		FWL/Rec														
	(13-143-65)	James	13-143-65	Stutsman		FWL/Rec														
	(8-144-64) (B. Sur.)	James	8-144-64	Stutsman	¼,000	FWL/Rec						2800 E	5 E							

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								JAMES RIVER BASIN												
	Stoney Brook (B. Sur.)	James	32-144-64	Stutsman		FWL/Rec														
691	Arrowwood Lake	James	25-144-65	Stutsman		FWL/Rec														
601	Bucephalia	James (Kelly Creek)	4-145-64	Foster	236	FWL/Rec	130	1481.6	1475.1	None	20	32	7.4	500		2.5:1	Rubble Masonry Cap; Clay Core		13.5	74.5
492	Lake George	James	4-145-65	Foster																
	Dry Lake	James	13-145-65	Foster																
	Melville (fera)	James (L. Pipestem)	33-145-66	Foster	50	FWL/Rec StkWtr						10E	5 E							
	Russell Lake	James	13-145-67	Foster																
	Longview #1	James (L. Pipestem)	17-145-67	Foster	54	StkWtr						11E	5 E			2.5:1-2.5:1			9	
1314	Johnson (wpa)	James	10-145-69	Wells	76	StkWtr	5				12.8	19	4			3:1-2.5:1	Rubble Masonry Cap; Clay Core		5	80
357	Kelly Creek (wpa)	James	23-146-65	Foster	243	StkWtr						40	6	250		2:1-2:1	Rubble Masonry Cap; Clay Core		4	65
467	Wyard (Kiwanis) (ccc)	James (Pipestem)	19-146-67	Foster	370	FWL/Rec	78	1574.5	1570.	None	13.1	229	1.6	400		3:1-3:1	Rubble Masonry, Gravity Section		8	100
	Wyard Township	James (Pipestem)	32-146-67	Foster	122	StkWtr	75				15	41	3			3:1-3:1	Rubble Masonry Cap; Clay Core		8	100

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							JAMES RIVER BASIN													
450	Sykeston	James (Pipestem)	12-146-69	Wells	813	Muni FWL/Rec	128	1628.0	1622.0	1626.0	26	104	8	750	14,515	3:1-2:1	Concrete Drop	1260	20	40
	(23-146-69)(wpa)	James (Pipestem)	23-146-69	Wells	341	FWL/Rec						51 E	6 E							
	(8-147-62)(wpa)	James (Baldhill)	8-147-62	Foster	50	StkWtr FWL/Rec						10 E	5 E							
	McHenry #2 (wpa)	James (Baldhill)	26-147-62	Foster		StkWtr										3:1-3:1	Rubble Masonry Cap; Clay Core		6	100
	McHenry #1 (wpa)	James (Baldhill)	34-147-62	Foster	294	StkWtr	6					59 E	5 E			2:1			4	125
443	Lake Juanita	James	7/8-147-63	Foster	3168	FWL/Rec	66		1455.6			602	5.2							
	Stony Lake	James	15-147-63	Foster																
	Blue Cloud Lake	James	13-147-64	Foster																
	Nordmore (wpa)	James	9-147-65	Foster	81	StkWtr						16 E	5 E			2.5:1	Rubble Masonry Cap; Clay Core		7	80
1314	Cathay	James	13-147-69	Wells	195	StkWtr						39 E	5 E				Rock fill; Concrete Cap			
1314	Delzer	James	17-147-72	Wells	538	FWL/Rec	18				8.8	128	4.2				Rubble Masonry Cap; Clay Core		2.8	60

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							JAMES RIVER BASIN													
376	Crystal Lake	James	27-147-73	Wells	232	StkWtr	9				4	48 E	5 E	190			Rubble Masonry Cap; Clay Core		4	60
	(28-147-73)	James	28-147-73	Wells																
	(28-148-62)	James	28-148-62	Eddy																
	South Twin Lake	James	4-148-63	Eddy																
	9-Mile Lake	James	5-148-63	Eddy																
	Cherry Lake	James	14-148-63	Eddy																
1276	Outet (Round Lake)	James	33-148-63	Eddy	312	StkWtr FWL/Rec						62 E	5 E							
1276	Pleasant Prairie	James	29-148-65	Eddy	400	StkWtr FWL/Rec	50					80 E	5 E				Rubble Masonry Overflow			
1276	Natural Lake	James	25-148-67	Eddy	50	FWL/Rec						10 E	5 E							
	(33-148-67)	James	33-148-67	Eddy	100	StkWtr					15	20 E	5 E				Rubble Masonry Cap; Clay Core		10	80
656	New Rockford Rwy.	James	30-149-66	Eddy	57	FWL/Rec	596				9	30	1.6				Box Drops			
	(18-149-68)(wpa)	James	18-149-68	Eddy	100	StkWtr						20 E	5 E							
	(22-149-68) (ccc)	James	22-149-68	Wells	91	StkWtr						14 E	5 E							
437	Sellie Dam (wpa)	James	35-149-69	Wells	360	StkWtr FWL/Rec	70				18	72	5			3:1-3:1	Reinforced Concrete Overflow		14	75

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
											JAMES RIVER BASIN									
389	Fessenden	James	27-149-70	Wells	430	FWL/Rec Muni	7310				10	86 E	5 E				Rubble Masonry Cap; Clay Core		4	170
1314	Manfred (fera)	James	27-149-71	Wells	101	FWL/Rec StkWtr	258					20 E	5 E				Rubble Masonry Cap; Clay Core		3	30
1314	(13-149-73) (ccc)	James	13-149-73	Wells	50	StkWtr						10 E	5 E							
1314	(18-150-71) (ccc)	James	18-150-71	Wells	132	StkWtr	2010					26 E	5 E				Natural Spillway			

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								SOURIS (MOUSE) RIVER BASIN												
	Cottonwood Lake	Souris	20-151-78	McHenry	750	FWL/Rec					10	150	5	1300			Bridge		3	10
362	Balta	Souris	16-154-73	Pierce	737	FWL/Rec	18	1530.0	1523.8	None	16	108	6.82			3:1-3:1	Reinforced Concrete Weir		16	30
	Schofield	Souris	32-154-83	Ward	100	FWL/Rec					8.5	40	2.5	1700		3:1-3:1	Rubble Masonry Cap; Clay Core		5	50
	Eaton	Souris	6-155-76	McHenry	1900	Irrig						430 E	4.4E	1200		4:1-4:1	Gates on Pipe		2	
	Valker	Souris	19-155-82	Ward	280	FWL/Rec					7	56 E	5 E	70					10	70
	(7-155-83)	Souris	7-155-83	Ward	88	StkWtr					7.5	20	4.4	78			Rubble Masonry Cap; Clay Core		6	70
	(7-155-83)	Souris	7-155-83	Ward	48	StkWtr					4.5	15	3	70			Rubble Masonry Cap; Clay Core		4.5	70
	Great Northern Channel	Souris	24-155-83	Ward	115	Muni					5.5	18	6.4	120			Overflow		5.5	120
	(24-155-83)	Souris	24-155-83	Ward	46	FWL/Rec					20.5	5	9	124					11.5	85
	(11-155-85)	Souris	11-155-85	Ward	183	StkWtr						56.5E	5 E	500		3:1-2:1	Concrete Box and Slope		10	78
	Buffalo Lodge Lake	Souris	13-156-79	McHenry	5000E	FWL/Rec					5.5	1000	5 E	195			48" C.M. Pipe		5.5	
	Buffalo Creek	Souris	33-156-79	McHenry	95	StkWtr	26				7.5	20	4.8	1025		3:1-2:1	Rubble Masonry Cap; Clay Core		4	90

SWC Project #	Name	Sub-basin	Location Sec. - Twp. - Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								SOURIS (MOUSE) RIVER BASIN												
	Burlington #2	Souris	32-156-84	Ward	175	Irrig					27	35	5	1200		2:1-3:1	Rubble Masonry Cap; Clay Core		20.5	70
	Burlington #1	Souris	34-156-84	Ward	200	Irrig					23	20	16.	140		3:1-4:1	Rubble Masonry Cap; Clay Core		18	70
	Burlington #3	Souris	36-156-84	Ward	50	Irrig						20	2.5				Drop with Flashboards		6	80
	Vesheim	Souris	35-156-86	Ward	50	StkWtr					24	15	3			3:1-3:1	Natural Overflow			
	Little Deep Creek (Deering)	Souris	27-157-80	McHenry	62	StkWtr						15 E	4 E							
	Pace	Souris	5-157-81	Ward	50	StkWtr FWL/Rec	100				9	22	2.3	1500		3:1-2:1	Rubble Masonry Cap; Clay Core		3.5	100
	Upper Souris #87	Souris	8-157-84	Ward	1235	FWL/Rec						247 E	5 E							
	Upper Souris #96	Souris	34-157-84	Ward	2365	FWL/Rec						473 E	5 E							
	Upper Souris #83 (Lake Darling)	Souris	1-157-85	Ward	112,000	FWL/Rec						11,000	10							
	Carpio	Souris	7-157-85	Ward	60	Muni					12	10.7	3.4			3:1-2:1	Masonry Rubble		6.5	140
1477	Plain	Souris	5-158-85	Renville	60	StkWtr	6.4					12.5	5	300		2:1-3:1	Pipe		10	36

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
												SOURIS (MOUSE) RIVER BASIN								
	(15-159-77)	Souris	15-159-77	McHenry	150	FWL/Rec					5.5	100	1.5	70			Rock Concrete		5	50
	Lower Souris #320	Souris	17-159-77	McHenry	8300	FWL/Rec						700	11.8							
	Westford	Souris	23-159-77	McHenry	100	FWL/Rec						50	2 E				Rock Concrete			100
	Lower Souris #326	Souris	3-159-78	McHenry	5748	FWL/Rec						1150 E	5 E							
	Callahan #2	Souris	30-159-85	Renville	50	StkWtr						10 E	5 E							
	U.S. Fish and Wildlife #6	Souris	3-159-88	Ward	422	FWL/Rec						84 E	5 E							
	U.S. Fish and Wildlife #5	Souris	4-159-88	Ward	135	FWL/Rec						27 E	5 E							
	U.S. Fish and Wildlife #7 & 7A	Souris	14-159-88	Ward	3734	FWL/Rec						749 E	5 E							
	U.S. Fish and Wildlife #8	Souris	14-159-88	Ward	348	FWL/Rec						69 E								
	(28-159-89)	Souris	28-159-89	Ward	45	StkWtr					9	8	5	381			Natural Sod Overflow		7	100
	(15-160-75)	Souris	15-160-75	Bottineau	45	StkWtr					12	15	3	270					8	20
	Lower Souris	Souris	19-160-78	Bottineau	5240	FWL/Rec						1048 E	5 E							
	U.S. Fish and Wildlife #2	Souris	7-160-88	Ward	55,000	FWL/Rec						11,000 E	5 E							
	(19-160-88)	Souris	19-160-88	Ward	369	FWL/Rec Muni						74 E	5 E			4:1-4:1	Rubble Masonry Cap; Clay Core		2.5	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Height Above Streambed (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
	SOURIS (MOUSE) RIVER BASIN																			
	Fish and Wildlife #4 & 4A	Souris	28-160-88	Ward	4950	FWL/Rec						990 E	5 E							
341	Lower Souris	Souris	14-161-79	Bottineau	5837	FWL/Rec						1167 E	5 E							
	Brandon Township #1	Souris	28-161-84	Renville	242	StkWtr	10				7.5	200	1.2	150		3:1-2:1			3.5	63
	(25-161-86)	Souris	25-161-86	Renville							6			175		3:1-3:1	Box type plus flashboards		5	12
	Loraine (wpa)	Souris	8-162-84	Renville	53	StkWtr					6	10 E	5 E	200		3:1-2:1	Rubble Masonry Cap; Clay Core		5	200
	Hamerly	Souris	16-162-85	Renville	59	StkWtr					7	10 E	6 E	486		3:1-3:1	Earth fill		6	20
554	DesLacs Lake	Souris	32-162-88	Burke	65,000	FWL/Rec	445					2900	22							
	Noonan Park	Souris	16-162-95	Divide	140	StkWtr					15	23 E	6 E	233		2.5:1-2.5:1	Rubble Masonry Cap; Clay Core		10	33
360	Willow Lake	Souris	30-163-73	Rolette	7200	FWL/Rec					16	1200	6	120					1	16
330	Lake Metigoshe	Souris	3-163-75	Bottineau	9120	FWL/Rec		2141.8	2138.8	None	3	1520	6				Reinforced Concrete Weir		3	50
330	Sharpe Lake	Souris	10- 1-22 Canada	Manitoba	7765	FWL/Rec		2168.0	2165.0	None	10	1118	6.94				Reinforced Concrete Weir		10'	15.5
632	Antler Creek	Souris	34-163-82	Bottineau	80	Muni FWL/Rec	1000	1531.0	1518.0	None	9.5	22.8	3.5			3:1-2:1	Concrete box drop inlet & sectional Plate Pipe		9.5	45

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							SOURIS (MOUSE) RIVER BASIN													
593	Sherwood	Souris	4-163-84	Renville																
	Holte	Souris	4-163-84	Renville	140	StkWtr					8	14	10	210		3:1-2:1			5	40
	Peterman	Souris	28-163-86	Renville	140	StkWtr					9	60	2.3	60					5	
	North Star	Souris	15-163-89	Burke	90	StkWtr					11	45	2	720		3:1-3:1	Rubble Masonry Cap; Clay Core		5.5	60
612	Rosenquist	Souris	3-163-96	Divide	145	FWL/Rec StkWtr	221				10	35	4.1	200			Rubble Masonry Cap; Clay Core		10	100
334	Long Creek	Souris	5-163-97	Divide	112	Irrig FWL/Rec					17	27	4.1	153			Concrete Cap Gravity Section Rock fill		12.5	125
	Brown - Olson	Souris	9-163-98	Divide	50	FWL/Rec StkWtr					18	11.8	4	600		2:1-3:1	Tube		12	20
339	Charbonneau	Souris	27-164-70	Rolette																
	International Peace Garden	Souris	25-164-73	Rolette	50	FWL/Rec					30	10	5	333					25	10
586	Short Creek	Souris	31-164-93	Burke	1800	FWL/Rec	54	1896	1887.0	None	40	113	16	600	43,000	3:1-2:1	Channel By-Pass with Concrete Chute	2000	30	40

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								DEVILS LAKE BASIN												
	(10-152-61)	Devils Lake	10-152-61	Nelson	70	StkWtr					8	40	1.7E	300		3:1 2.5:1-3:1	Rubble Masonry		1.5	45
631	Ziebaugh	Devils Lake	23/30-153-65	Benson & Ramsey	120	StkWtr					7	30	4 E	1200		2:1-2:1	10 - 5'x5 Wood Box Culverts			50
	Round Lake	Devils Lake	35-153-67	Benson	340	StkWtr						68	5 E							
	Silver Lake	Devils Lake	2-154-67	Benson	1540	FWL/Rec						355	4.3							
	Lac Aux Mortes	Devils Lake	21-156-66	Towner & Ramsey	13,608	FWL/Rec						3420	4							
	(21-156-66)	Devils Lake	21-156-66	Ramsey	10,000	StkWtr FWL/Rec						2500 E	4 E	6500		2:1-2:1				
363	Iverson	Devils Lake	24-156-69	Benson	564	FWL/Rec	10					150	3.7				Rubble Masonry Under Bridge		10	22
927	Edmore Municipal Water Supply	Devils Lake	13-157-61	Ramsey	100	Muni	105	1518.0	1511.0	1511.2		10	10	300	3000	3:1-2:1	Reinforced Concrete with gate (radial)			16
	(15-159-61) (USBS)	Devils Lake	15-159-61	Cavalier	400	FWL/Rec														
566	Snyder Lake	Devils Lake	18-160-66	Towner	564	FWL/Rec														
	Bruma	Devils Lake	31-161-66	Towner	325	FWL/Rec					5	150	2.2E				Concrete with gates (wood)		3	10

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
								RED RIVER BASIN												
	WILD RICE SUBBASIN																			
848	Tewaukon	Wild Rice	17-129-53	Sargent	203	FWL/Rec	9.1	1296.6	1287.	1291.	13	29	7	500		3:1-3:1	Earthfill - Glory Hole	22		
848	Tewaukon WS Dam T-2	Wild Rice	8-129-54	Sargent	1338	FC (1190)	9.0	1268	1244	1263	40	30.15	4.9	1856	286,404	3½:1 2½:1	30" R.C. Pipe	109	12.0	
848	Tewaukon WS Dam T-7	Wild Rice	19-129-54	Sargent	280	FC (255)	1.8	1296.6	1270	1291	40	4.92	6	460	62,107	3:1 2½:1	16" O.D. W.S. Pipe	22	13.94	
848	Tewaukon WS Dam T-1-A	Wild Rice	35-129-55	Sargent	1380	FC (1210)	11.7	1351.3	1327	1346	38	31.47	5.4	2780	267,810	3:1 2½:1	30" R.C. Pipe	115	15.26	
	Lake Elsie	Wild Rice	35-130-50	Richland	4480	FWL/Rec						896 E	5 E							
	(35-130-54)	Wild Rice	35-130-54	Sargent	1850	FWL/Rec						370 E	5 E							
391	Silver Lake	Wild Rice	33-130-55	Sargent	354	FWL/Rec		1127.27	1123.77		5.5	118	3.0			3:1 2:1	Reinforced Concrete Weir		5.5	70
	Hanson	Wild Rice	3-132-48	Richland	60	StkWtr						20 E	3 E				Concrete - Gravity Section		5	70
	Dwight	Wild Rice	28-133-48	Richland		FWL/Rec														
544	Horse Shoe Mirror Pool	Wild Rice	1-135-53	Richland	175	FWL/Rec						13	13.5							
	(2-137-49)	Wild Rice	2-137-49	Cass	175	FWL/Rec						35	5 E							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
	RED RIVER BASIN																			
	SHEYENNE SUBBASIN																			
	(19-133-55)	Sheyenne	19-133-55	Ransom																
258	Verona	Sheyenne	6-133-58	Ransom			55				6			500			Reinforced Concrete		8	105
316	Lisbon	Sheyenne	2-134-56	Ransom	110E	FWL/Rec Muni			1081.4		14	11 E	10 E	95		3:1-3:1	Reinforced Concrete		14	100
521	Soldiers' Home	Sheyenne	12-134-56	Ransom	110E	Irrig						11 E	10 E				Reinforced Concrete		3.5	90
	(34-134-56)	Sheyenne	34-134-56	Ransom	60	StkWtr						15 E	4 E							
275	Fort Ransom	Sheyenne	11-135-58	Ransom	110E	FWL/Rec	4500				4.5	11 E	10 E						14	100
580	Enderlin Park	Sheyenne	4-136-55	Ransom													Rubble Masonry Cap; Clay Core		4	50
	(18-136-58)	Sheyenne	18-136-58	Ransom																
	Johnson	Sheyenne	29-136-58	Ransom																
399	Kathryn	Sheyenne	13-137-58	Barnes	259	FWL/Rec	773	1162.5	1155.7			26 E	10 E				Rubble Masonry Cap; Clay Core	2634	8.8	55
1378	Clausen Springs	Sheyenne	18-137-58	Barnes	597	FWL/Rec	12	1349	1336	1345	49	42	11.8	690	74,000	3:1-2:1	Reinforced Concrete Box Drop	262	38	
	(11-137-59)	Sheyenne	11-137-59	Barnes	60E	StkWtr						20	3 E	400		3:1-3:1				

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														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						RED RIVER BASIN														
	SHEYENNE SUBBASIN (Cont.)																			
	Melanson (wpa)	Sheyenne	32-137-61	Barnes	60E	StkWtr					10	20	3 E	350		3:1-3:1	Rubble Masonry Cap; Clay Core		2	30
	(24-138-49)	Sheyenne	24-138-49	Cass	150E	FWL/Rec						50	3 E				Wood Crib		8	80
459	Brown	Sheyenne	34-138-58	Barnes		FWL/Rec											Rubble Masonry Gravity Section		11	60
365	Berckerley	Sheyenne	3-138-59	Barnes	127	StkWtr	2					80	1.6	400		2:1-2:1	Rubble Masonry Cap; Clay Core		14	25
1384	Brownlee	Sheyenne (Maple)	10-139-51	Cass	276	FWL/Rec	47					55 E	5 E				Rubble Masonry Gravity Section		6	41
847	Swan-Buffalo #5, (Maple River W.S.)	Sheyenne (Maple)	6-139-53	Cass	1857	FC (1670)	30.4	1056	1033	1051.4	35	30.78	6.	1071.5	139,184	$3\frac{1}{2}$:1 $2\frac{1}{2}$:1	36" R.C. Pipe	191	16.48	
	(17-139-53)	Sheyenne (Maple)	17-139-53	Cass																
588	Cuba	Sheyenne	36-139-57	Barnes	100	FWL/Rec					11	10 E	10 E	300		2:1-3:1	Rubble Masonry Cap; Clay Core		8	40
	(13-139-58)	Sheyenne	13-139-58	Barnes	200E	FWL/Rec	2				36	20	10 E	300		3:1-2:1	Rubble Masonry Cap; Clay Core		20	
342	Hansen	Sheyenne	30-139-58	Barnes	76	StkWtr	4					8	9.5				Concrete Buttress		14	38

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								RED RIVER BASIN												
	SHEYENNE SUBBASIN (Cont.)																			
514	Mark Andrews	Sheyenne (Maple)	21-140-50	Cass			1500							100	560			3200		
	(24-140-50)	Sheyenne (Maple)	24-140-50	Cass	94	StkWtr						19 E	5 E				Rubble Masonry Cap; Clay Core		10	60
300	Baldhill	Sheyenne	18-140-58	Barnes	116,500	FC FWL/Rec Muni & Ind	4138	1278.5	1273.2			5430	21.5	1650	300,000	4:1-4:1				
315	Valley City	Sheyenne	28-140-58	Barnes	900	FWL/Rec Muni						90	10 E				Rubble Masonry Gravity Section		10	60
477	Valley City	Sheyenne	28-140-58	Barnes	103	FWL/Rec Muni			1215.0		14.0	20E	5 E				Concrete Weir with radial gate	3000	14	90
418	Amenia	Sheyenne (Rush)	22-141-52	Cass	240	FWL/Rec StkWtr	86					22	11	190			Rubble Masonry Cap; Clay Core	920	10	90
	(15-141-59)	Sheyenne	15-141-59	Barnes	100E	FWL/Rec						20	5 E	150		3:1-3:1	Rubble Masonry Cap; Clay Core		10	40
	(6-142-58) (fera)	Sheyenne	6-142-58	Barnes	90	StkWtr	320					18	5				Rock fill; Concrete Cap Gravity Section		7	130
505	Tomahawk	Sheyenne	32-142-59	Barnes	500	FWL/Rec						50	10			3:1-3:1	Washed Out			

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
							RED RIVER BASIN													
	SHEYENNE SUBBASIN (Cont.)																			
619	Hunter	Sheyenne	23-143-52	Cass	390	Muni	16	986.0	979.0	None	14.0	65	6.0	424		3:1-2:1	Reinforced Concrete Weir		14	40
	(19-143-58)	Sheyenne	19-143-58	Barnes	345	FWL/Rec StkWtr	9				12	80	4.3	100		3:1-3:1	Reinforced Concrete		6	40
462	Hanson	Sheyenne	10-143-59	Barnes	180	FWL/Rec StkWtr	6.5					26.4	6.8	450	19,220		Rubble Masonry Cap; Clay Core		12	75
	Baldhill Creek	Sheyenne	36-143-59	Barnes	215	StkWtr						43 E	5 E			2:1-3:1	Rubble Masonry Concrete Cap		11	
499	Lake Ensign	Sheyenne	1-143-60	Barnes	1200	FWL/Rec	16					300	4 E				Pipe through fill			
	(5-146-57)	Sheyenne	5-146-57	Steele	141	StkWtr						45	3.1						18	
	(12-146-58)	Sheyenne	12-146-58	Griggs	200	StkWtr FWL/Rec	1550					41	5				Concrete Overflow		6	10
	Washburn Township	Sheyenne	24-146-58	Griggs	47E	StkWtr FWL/Rec	11					2.6	18	500		3:1-3:1	Rubble Masonry Cap; Clay Core		11	40
460	Ueland	Sheyenne	26-146-58	Griggs	164	StkWtr	3024					33E	5 E	50			Rubble Masonry Cap; Clay Core		9	150
	(36-147-53)	Sheyenne	36-147-53	Traill	360	FWL/Rec						20.5	17	58						
	Lake Sibley	Sheyenne	29-147-60	Griggs	500	FWL/Rec						50 E	10 E							
	(26-147-62)	Sheyenne	26-147-62	Foster		StkWtr										3:1-	Rubble Masonry Cap; Clay Core		6	100

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
								RED RIVER BASIN												
	SHEYENNE SUBBASIN (Cont.)																			
	(34-147-62)	Sheyenne	34-147-62	Foster												2:1-	Rubble Masonry Cap; Clay Core		4	125
1425	Hatton #2	Sheyenne	20-148-54	Steele																
1425	Hatton #1	Sheyenne	21-148-54	Steele																
670	Tobiason	Sheyenne	11-148-55	Steele	214	StkWtr FWL/Rec						31 E	6 E							
497	Knutson	Sheyenne	18-148-59	Griggs			18										Rubble Masonry		10	40
	Lone Tree Lake	Sheyenne	7-148-64	Sheridan																
	(2-149-59)	Sheyenne	2-149-59	Nelson																
1356	Red Willow Lake	Sheyenne	8-149-59	Griggs																
	Sheyenne Lake	Sheyenne	30-149-74	Sheridan	1200	FWL/Rec						240 E	5 E	750		3:1-3:1	9-30" CMP			
384	Coal Mine Lake	Sheyenne	33-149-74	Sheridan	1945	FC FWL/Rec	890 E					178	5 E				Masonry Rock Paved		3	70
616	McVille Railroad	Sheyenne	35-150-59	Nelson	357	Muni FWL/Rec	10	1467.6	1440.0	None		52.6	6.8	640	71,190		Drop Inlet, 15 Sq. Ft.	1150		
266	Tolna #1	Sheyenne	18-150-60	Nelson	1369	FWL/Rec	143		1393.9		12.6	143	9.5			3:1-2.5:1	Rubble Masonry Cap; Clay Core	6	75	
240	Warwick	Sheyenne	15-150-63	Eddy	597	FWL/Rec	1800				7	99 E	6 E	105			Rubble Masonry Overflow		5.5	58

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
								RED RIVER BASIN												
	SHEYENNE SUBBASIN (Cont.)																			
668	Warsing	Sheyenne	4-150-66	Eddy	410	FWL/Rec	20	1455.	1451	None	33	56	7	640	49,966	3:1-2:1	Concrete Chute	980	28.4	20
518	Sheyenne	Sheyenne	5-150-66	Eddy	597	FWL/Rec	2630				10	100 E	6 E	150		2:1-2:1	Rubble Masonry Concrete Face		5	120
671	Harvey	Sheyenne	31-150-72	Wells	2197	FWL/Rec	562	1550.0	1538.7	None	15	282	8		17,000		Drop Inlet (Gated) with Pipe Outlet			
531	Bouret (Twin Tree)	Sheyenne	21-151-65	Benson	334	StkWtr	1350					73	4.5	650			Rubble Masonry		5.5	100
565	Buffalo Lake	Sheyenne	12-152-72	Pierce	3125	FWL/Rec						312 E	10 E							
542	Selz	Sheyenne	29-152-72	Pierce							20			200		3:1-3:1	Rubble Masonry		9	19
	ELM RIVER SUBBASIN																			
839	Elm River W.S. #3	Elm	1-142-54	Cass	81 505	FC (424)	7.3	1165.3	1153	1160	20	27.7	3.	1760	48,015	3:1 2½:1	24" C.M. Pipe	32	6.0	
839	Elm River W.S. #2	Elm	11-144-53	Traill	4927	FC (4459)	74.5	1046.8	1026	1042	36	106.67	4.4	1435	79,034	3:1 2½:1	4'7" x 4'6" Box	563	19.29	
839	Elm River W.S. #1	Elm	12-144-54	Steele	3087	FC (2640)	41.7	1132.3	1119.6	1127	20	141.77	3.2	2729.7	67,584	3:1 2½:1	30" R.C. Pipe	63	6.4	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							RED RIVER BASIN													
	GOOSE RIVER SUBBASIN																			
273	Fuller Lake	Goose	(1/12)-144-55	Steele																
482	Hillsboro	Goose	5-145-50	Traill	190	FWL/Rec	720	886.8	881.6	None	15.2	44.5	4.0				Rubble Masonry Cap; Clay Core		10	100
1323	Blabon (fera)	Goose	2-145-56	Steele	122	FWL/Rec StkWtr						30 E	4 E							
247	Finley	Goose	8-146-56	Steele	140	FWL/Rec						35 E	4 E							
409	Portland	Goose	36-147-53	Traill	360	Muni	740					20.5	17	58			Reinforced Concrete Buttress		19	58
475	Golden Lake Complex	Goose	17-147-55	Steele	8645	FWL/Rec						600 E	14.4E							
	(35-148-54)	Goose	35-148-54	Steele													Rubble Masonry Cap; Clay Core		10	
	(14-148-55)	Goose	14-148-55	Steele	214	FWL/Rec						53 E	4 E							
	(14-148-55)	Goose	14-148-55	Steele	200	FWL/Rec						50 E	4 E							
	(6-150-56)	Goose	6-150-56	Grand Forks	220	StkWtr					5	55 E	4 E			3:1-3:1				
265	Logan Center	Goose	21-150-56	Grand Forks	990	FWL/Rec						90	11			3:1-3:1	Triple 4'x10' Box Culvert		17	
	Lambs Lake	Goose	34-152-58	Nelson	500	FWL/Rec						100 E	5 E							

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
								RED RIVER BASIN												
	TURTLE RIVER SUBBASIN																			
527	Kelly's Slough	Turtle	14-152-52	Grand Forks	390	FWL/Rec						195 E	3 E							
688	Larimore	Turtle	36-152-55	Grand Forks	100	FWL/Rec						20 E	5 E							
	(3-152-56)	Turtle	3-152-56	Grand Forks																
464	Niagara	Turtle	8-152-56	Grand Forks	96	Muni						19 E	5 E			3:1 2:1	Pipe Drop			
	(10-152-56)	Turtle	10-152-56	Grand Forks																
	(14-152-56)	Turtle	14-152-56	Grand Forks																
	Manvel	Turtle	10-153-51	Grand Forks	48	FWL/Rec	523					32	1.5			3:1 3:1	Rubble Masonry Cap; Clay Core			
469	Glass Dam	Turtle	31-154-54	Grand Forks																
291	Sarnia Dam	Turtle	15-154-58	Nelson	220	FWL/Rec						44 E	5 E							
	FOREST RIVER SUBBASIN																			
929	Middle South Branch, Forest River W.S. #6	Forest	½-154-58	Nelson	6378	FC FWL/Rec (5022)	109	1517	1493	1511.8	49	143.38	9.4	820	138,199	3:1 2½:1	36" R.C. Pipe	186	17.26	

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						RED RIVER BASIN														
	FOREST RIVER SUBBASIN (Cont.)																			
1433	Whitman Dam	Forest	3-154-58	Nelson		FWL/Rec													4.5	100
308	Ardock Lake	Forest	14-155-52	Walsh	2875	FWL/Rec						1150	2.5							
929	North Branch Forest River W.S. #6	Forest	11-155-57	Walsh	915	FC (849)	5.9	1420.7	1395.7	1415.7	40	11.66	5.5	2831	154,141	3½:1 2½:1	16" O.D. W.S. Pipe	23	13.7	
929	Middle South Branch, Forest River W.S. #1	Forest	23/24-155-57	Walsh	10,278	FC FWL/Rec (7539)	45.9	1366	1334.8	1360.8	60	134.81	20.4	1174	520,803	3½:1 2½:1	4'7" x 4'6" Box	655	55.35	
448	Minto Dam	Forest	31-156-52	Walsh	58	FWL/Rec						14 E	4 E							
929	North Branch Forest River W.S. #1	Forest	5/6-156-57	Walsh	5226	FC (4518) FWL/Rec	22.1	1522.2	1489	1517	57	59.9	11	760	314,883	3:1 2½:1	30" R.C. Pipe	137	26.5	
929	North Branch Forest River W.S. #5	Forest	33-156-57	Walsh	502	FC (452)	3.3	1489.3	1477	1484	16	32.65	1.5	212	7,097	3:1 2½:1	18" R. C. Pipe	12	3.5	
534	Dougherty Dam	Forest	31-157-57	Walsh	135	FWL/Rec						27 E	5 E							
	PARK RIVER SUBBASIN																			
564	Vigness	Park	18-157-52	Walsh	133	Muni						12	11						8	50
660	Grafton	Park	13-157-53	Walsh	166	Muni	50					33 E	5 E				Overflow		8	80
828	Homme	Park	19-157-55	Walsh	6700	Muni FC (3150)	265	1099	1080	1093	67	194	19	865	331,900		Overflow			150

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						RED RIVER BASIN														
	PARK RIVER SUBBASIN (Cont.)																			
	(12-158-54)	Park	12-158-54	Walsh	55	StkWtr						18 E	3 E							
641	Paulson	Park	28-158-54	Walsh	50	FWL/Rec						12 E	4							
	Silverstar	Park	28-158-58	Walsh																
600	Crystal Municipal Water Supply	Park	13-159-54	Pembina	250	Muni FWL/Rec	83	912	908.5		12.5	49	5				Concrete Weir & radial gate		12.5	30
	(31-159-57)	Park	31-159-57	Cavalier	52	FWL/Rec						13 E	4 E							
	(31-160-57)	Park	31-160-57	Cavalier	52	FWL/Rec						13 E	4 E							
	PEMBINA RIVER SUBBASIN																			
640	Cavalier	Pembina	4-161-54	Pembina	56	StkWtr						14 E	4 E							
849	Tongue River W.S. T8-1	Pembina (Tongue)	8-161-55	Pembina	757	FC (656)	5.6	1002.5	986.0	997.0	27	24. (Perm)	4.2	328	24,880	3:1-2:1	Extra Strength 24" R.C. Pipe	27	10.41	N/A
849	Tongue River W.S. M-4	Pembina (Tongue)	10-161-55	Pembina	6025	FC Muni (1225)	44	989.0	970.0	982.5	35	204 (Perm)	6.0	1360	359,270	4:1-4:1	6'x6' R. C. Box	1020	30.15	N/A
849	Tongue River W.S. T2-4	Pembina (Tongue)	4-161-56	Pembina	1968	FC (1870)	9.6	1137.6	1113.0	1132.0	35	20 (Perm)	4.1	1238	128,150	3.5:1-3:1	24" R.C. Pipe	56	8	N/A
849	Tongue River W.S. T3-6	Pembina (Tongue)	20-161-56	Pembina	1329	FC (1250)	7.4	1182.25	1154.0	1176.0	38	19 (Perm)	4.2	772	124,459	3.5:1-2.5:1	Extra Strength 30" R.C. Pipe	70	9.8	N/A
849	Tongue River W.S. T7-1	Pembina (Tongue)	31-161-56	Pembina	870	FC (800)	5.9	1315.0	1270.0	1310.0	65	7 (Perm)	9	719	224,309	3.5:1-2.5:1	Extra Strength 24" R.C. Pipe	30	21.5	N/A

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							RED RIVER BASIN													
	PEMBINA RIVER SUBBASIN (Cont.)																			
267	Bathgate	Pembina (Tongue)	3-161-57	Pembina	138	FWL/Rec						27 E	5 E							
849	Tongue River W.S. T3-2	Pembina (Tongue)	10-161-57	Cavalier	708	FC (676)	3.3	1469.0	1423.0	1463.0	67	4.22 (Perm)	7.	350	134,565	3.5:1-2.5:1	Extra Strength 24" R.C. Pipe	23	19.92	N/A
849	Tongue River W.S. T3-1	Pembina (Tongue)	11-161-57	Cavalier	708	FC (676)	6.6	1327.2	1278.0	1321.0	63	9.3 (Perm)	3.4	984	233,146	3.5:1-2.5:1	Extra Strength 24" R.C. Pipe	34	19.0	
849	Tongue River W.S. M-3	Pembina (Tongue)	21-161-57	Cavalier	5052	FC (4750)	53.8	1447.0	1386.7	1441.0	85	31.20	9.7	430	690,960	4:1-2.5:1	6'x5' R.C. Box	976	30.7	N/A
849	Tongue River W.S. T3-5	Pembina (Tongue)	24-161-57	Cavalier	212	FC (178)	1.1	1302.	1264.	1296.	58	1.9	1.7	700	81,792	3:1-2:1	Extra Strength 30" R.C. Pipe	70	9.8	N/A
849	Tongue River W.S. T2-2	Pembina (Tongue)	29-162-56	Pembina	2317	FC (2200)	9.7	1163.	1137.	1158	40	25.3	4.7	665	100,270	3.5:1-3:1	24" R.C. Pipe	61	11.39	N/A
665	Armourdale	Pembina	2-162-68	Towner	1330	FWL/Rec	14	1665.	1654.	None	45.5	95	14	650	63,000	3:1-2:1	Concrete Chute Spillway		39	28
299	Pembina City	Pembina	4-163-51	Pembina	74	Muni	3660					22.3	3.3							
463	Rush Lake	Pembina	163-62	Cavalier																
	(3-163-70)	Pembina	3-163-70	Rolette	156	StkWtr						39 E	4 E							
319	Wakopa	Pembina	32-164-71	Rolette	330	FWL/Rec					16.0	110	3							
274	Neche	Pembina	31-164-53	Pembina								7.3					Rubble Masonry Cap; Clay Core		8	60

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
						RED RIVER BASIN														
	PEMBINA RIVER SUBBASIN (Cont.)																			
267	Bathgate	Pembina (Tongue)	3-161-57	Pembina	138	FWL/Rec						27 E	5 E							
849	Tongue River W.S. T3-2	Pembina (Tongue)	10-161-57	Cavalier	708	FC (676)	3.3	1469.0	1423.0	1463.0	67	4.22 (Perm)	7.	350	134,565	3.5:1-2.5:1	Extra Strength 24" R.C. Pipe	23	19.92	N/A
849	Tongue River W.S. T3-1	Pembina (Tongue)	11-161-57	Cavalier	708	FC (676)	6.6	1327.2	1278.0	1321.0	63	9.3 (Perm)	3.4	984	233,146	3.5:1-2.5:1	Extra Strength 24" R.C. Pipe	34	19.0	
849	Tongue River W.S. M-3	Pembina (Tongue)	21-161-57	Cavalier	5052	FC (4750)	53.8	1447.0	1386.7	1441.0	85	31.20	9.7	430	690,960	4:1-2.5:1	6'x5' R.C. Box	976	30.7	N/A
849	Tongue River W.S. T3-5	Pembina (Tongue)	24-161-57	Cavalier	212	FC (178)	1.1	1302.	1264.	1296.	58	1.9	1.7	700	81,792	3:1-2:1	Extra Strength 30" R.C. Pipe	70	9.8	N/A
849	Tongue River W.S. T2-2	Pembina (Tongue)	29-162-56	Pembina	2317	FC (2200)	9.7	1163.	1137.	1158	40	25.3	4.7	665	100,270	3.5:1-3:1	24" R.C. Pipe	61	11.39	N/A
665	Armourdale	Pembina	2-162-68	Towner	1330	FWL/Rec	14	1665.	1654.	None	45.5	95	14	650	63,000	3:1-2:1	Concrete Chute Spillway		39	28
299	Pembina City	Pembina	4-163-51	Pembina	74	Muni	3660					22.3	3.3							
463	Rush Lake	Pembina	163-62	Cavalier																
	(3-163-70)	Pembina	3-163-70	Rolette	156	StkWtr						39 E	4 E							
319	Wakopa	Pembina	32-164-71	Rolette	330	FWL/Rec					16.0	110	3							
274	Neche	Pembina	31-164-53	Pembina								7.3					Rubble Masonry Cap; Clay Core		8	60

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data: Length	Embankment Data: Quantity of Earth in Cubic Yards	Embankment Data: Side Slopes	Spillway Data: Type	Spillway Data: Capacity (CFS)	Spillway Data: Drop (Ft.)	Spillway Data: Width (Ft.)
	RED RIVER BASIN																			
	MAINSTEM AND MINOR TRIBUTARIES																			
646	Christine	Red River	18-136-48	Richland	350	Muni						50 E	7 E							
645	Fargo Dam #3	Red River	19-137-48	Cass	356	Muni			888			51 E	7 E				Rubble Masonry; Gravity Section	10		100
644	Fargo Dam #2	Red River	30-139-48	Cass	150	Muni						25 E	6 E				Structural Sheet Piling	7		104
591	Fargo 12th Ave.	Red River	32-140-48	Cass	147	Muni						25 E	6 E				Timber Piling, Plank-Faced			
538	Fargo 4th St. So.	Red River		Cass		Muni														
	(16&17-148-49) (wpa)	Red River	16&17-148-49	Traill																
	(20-148-49) (wpa)	Red River	20-148-49	Traill																
	(6-149-49) (wpa)	Red River	6-149-49	Grand Forks																
	(29-149-51) (wpa)	Red River	29-149-51	Grand Forks																
	(2-149-52) (wpa)	Red River	2-149-52	Grand Forks																
	(2-150-50) (wpa)	Red River	2-150-50	Grand Forks																

SWC Project #	Name	Sub-basin	Location Sec.-Twp.-Rge.	County	Acre Feet of Storage	Purpose	Drainage Area (Square Miles)	Crest of Embankment Elevation (M.S.L.)	Spillway Crest (M.S.L.)	Emergency Spillway Crest Elev. (M.S.L.)	Above Streambed Height (Ft.)	Reservoir Area At Spillway Crest Elevation (Acres)	Average Reservoir Depth (Ft.)	Embankment Data			Spillway Data			
														Length	Quantity of Earth in Cubic Yards	Side Slopes	Type	Capacity (CFS)	Drop (Ft.)	Width (Ft.)
							RED RIVER BASIN													
	MAINSTEM AND MINOR TRIBUTARIES (Cont.)																			
	(23-150-50) (wpa)	Red River	23-150-50	Grand Forks																
	(25-150-50) NE¼	Red River	25-150-50	Grand Forks																
	(25-150-50)	Red River	25-150-50	Grand Forks																
	(26-150-50)	Red River	26-150-50	Grand Forks																
	(31-150-50) (wpa)	Red River	31-150-50	Grand Forks	60	FWL/Rec						20 E	3 E							
	(36-150-50) NW¼	Red River	36-150-50	Grand Forks																
	(6-150-51)	Red River	6-150-51	Grand Forks																
	(8-151-50)	Red River	8-151-50	Grand Forks																
	(32-152-50) (wpa)	Red River	32-152-50	Grand Forks																
520	Grand Forks Park	Red River	33-152-50	Grand Forks							12			210			Rock fill; Concrete Cap		12	210
681	Drayton	Red River	13-159-51	Pembina	4500	Muni & Ind		776.	763.	None		750 E	6 E				Reinforced Concrete Overflow		12	160
	(1-161-51)	Red River	1-161-51	Pembina																

Financial assistance for the preparation of this Appendix was provided by the Water Resources Council, in the form of matching funds, under the provisions of Title III, Public Law 89-80, "The Water Resources Planning Act," July, 1965.

NOTE: Areal data used in preparing this appendix are preliminary and subject to revision.

APPENDIX B

Interim North Dakota
State Water Resources Development Plan
SWC Project #322

A STATE-WIDE ANALYSIS OF SOIL TYPES BY MAJOR DRAINAGE BASINS

by

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and

AN ESTIMATE OF IRRIGABLE LAND IN NORTH DAKOTA

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June, 1968

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APPENDIX B

A STATE-WIDE ANALYSIS OF SOIL TYPES BY MAJOR DRAINAGE BASINS

Preface

This Appendix presents an analysis of the area and acreage of different soil types within North Dakota on a major drainage basin basis. North Dakota soils consist of 73 different soil types.

For purposes of this report, the area which constitutes the State of North Dakota was divided into five major drainage basins, namely the Missouri (Eastern and Western Tributaries) River, James River, Souris (Mouse) River, Devils Lake, and Red River. Each of these basin boundaries was superimposed on a soils map of North Dakota. The map used was produced by the North Dakota Agricultural Experiment Station at Fargo, North Dakota, in cooperation with the United States Soil Conservation Service. A compensating polar planimeter was then used to determine the area in square miles of each soil type within the drainage basin. Multiplying each of these areas times 640 produced the acreage of each soil type. These areas and acreages were then tabulated by drainage basin to indicate the various soil types and the area and acreage of each soil type within the drainage basin.

The main body or tabulated portion of this report is divided into seven sections as follows:

Section I - Soil Identification Chart and State Soil Map

Section II - Missouri River Basin (Western Tributaries)

Section III - Missouri River Basin (Eastern Tributaries)

Section IV - James River Basin

Section V - Souris (Mouse) River Basin

Section VI - Devils Lake Basin

Section VII - Red River Basin

Section I consists of the state soils map used in preparing this report and the map legend listing the various soil types in the state.

Section II is divided into nine different tables. Tables 1 and 2 are of the same type as found in Sections III - VII. Tables 3 - 9 consist of the area and acreage by soil type for the various subbasins within the Missouri River Basin Western Tributaries as follows:

Table 3 - Yellowstone River Subbasin

Table 4 - Little Missouri River Subbasin

Table 5 - Knife River Subbasin

Table 6 - Heart River Subbasin

Table 7 - Cannonball River Subbasin

Table 8 - Grand River Subbasin

Table 9 - Mainstem Drainage (Missouri)

Sections III - VII consist of two basic tables each. The first table in each section (Tables 10, 12, 14, 16 and 18) presents in summary form the area and acreage by soil type of each basin. The second table in each section (Tables 11, 13, 15, 17 and 19) summarizes the area and acreage of each soil located in the basin by county.

S E C T I O N I

SOILS IDENTIFICATION CHART

BLACK SOILS OF SUBHUMID GRASSLAND:

Nearly level to gently rolling soils with thick black surface layer (Chernozem) and associated soils with very limey subsoil (Calcium Carbonate Solonchak), with claypan subsoil (Solonetz), or wet soils (Humic Gley and Planosol):

Loams and Clay Loams

1. Barnes
2. Barnes - Glyndon
3. Barnes - Hamerly
4. Barnes - Svea
5. Forman - Aastad
6. Gardena - Aberdeen
7. Gardena - Glyndon
8. Houdek - Cresbard
9. Overly - Bearden
10. Svea - Hamerly
11. Walsh - Brantford

Sandy Loams and Loams with Sandy Substrata

12. Embden - Glyndon
13. Embden - Tiffany
14. Embden - Ulen
15. Hecla - Hamar
16. Maddock - Barnes

Sandy Loams and Loams with Sandy and Gravelly Substrata

17. Brantford

18. Renshaw

19. Renshaw - Divide

20. Renshaw - Hecla

Rolling soils with thick black surface layer (Chernozem) and associated steeply sloping soils with thin surface layer (Regosol).

Loams

21. Barnes - Buse

DARK BROWN SOILS OF SEMIARID GRASSLAND:

Nearly level to gently rolling soils with thick dark brown surface layer (Chestnut) and associated soils with claypan subsoil (Solonetz) or steeply sloping soils with thin surface layer (Regosol and Lithosol).

Loams and Clay Loams

22. Agar

23. Agar - Raber

24. Agar - Williams - Zahl

25. Chama - Morton - Bainville

26. Morton

27. Morton - Regent

28. Morton - Rhoades

29. Morton - Williams

30. Raber

31. Roseglen

32. Savage - Wade - Farland

33. Williams

34. Williams - Cresbard

Sandy Loams and Loams

35. Parshall - Lihen

36. Vebar

37. Vebar - Williams

Sandy Loams and Loams with Sandy and Gravelly Substrata

38. Oahe - Roseglen

39. Oahe - Sioux

Rolling soils with thick dark brown surface layer (Chestnut) and associated steeply sloping soils with thin surface layer (Regosol).

Loams

40. Williams - Zahl

SOILS OF SUBHUMID WOODLAND:

Undulating to rolling soils with gray surface layer (Gray Wooded) and associated soils with thick black surface layer (Chernozem).

Clay Loams and Clay

41. Kelvin - Bottineau

42. Rolla - Kelvin

CLAY SOILS OF GLACIAL LAKE PLAINS:

Nearly level soils with thick black surface layer (Grumusol).

43. Fargo

44. Fargo - Bearden

45. Hegne - Fargo

VERY LIMEY SOILS OF SUBHUMID GRASSLAND:

Nearly level to undulating soils with very limey subsoil (Calcium

Carbonate Solonchak) and associated soils with thick black surface layer (Chernozem), wet soils (Planosol), or saline soils (Solonchak).

Loams and Clay Loams

46. Bearden

47. Glyndon

48. Glyndon - Renshaw

49. Glyndon - Vallers

50. Hamerly - Barnes - Tetonka

51. Hamerly - Svea - Tetonka

Sandy Loams

52. Ulen - Hecla

53. Ulen - Stirum

Saline Clay Loams and Loams

54. Bearden, Saline

ALKALI SOILS:

Nearly level alkali soils with claypan subsoil (Solonetz) and associated nonalkali soils with thick surface layer (Chestnut and Chernozem).

Loams and Clay Loams

55. Cresbard - Barnes - Cavour

56. Cresbard - Cavour

57. Cresbard - Edgeley

58. Exline - Aberdeen

59. Rhoades - Morton

SOILS OF STREAM VALLEYS:

Nearly level soils on bottomlands (Alluvial) gently sloping soils on alluvial fans (Alluvial and Chernozem) and steeply sloping soils (Regosol).

60. Houre - Banks

Loams and Clay Loams

61. Walsh - Edgeley - Buse

SOILS ON STEEP SLOPES:

Hilly and steeply sloping soils with thin surface layer (Regosol and Lithosol) and associated soils with thick surface layer (Chernozem and Chestnut) or with claypan subsoil (Solonetz).

Rough Broken Land

62. Badlands - Bainville

Hilly and Steep Land

63. Bainville - Flasher - Agar

64. Bainville - Morton

65. Bainville - Rhoades

66. Bainville - Zahl

67. Buse - Barnes

Hilly and Steep Land

68. Flasher - Bainville - Rhoades

69. Flasher - Vebar

70. Lismas

71. Shaly Colluvial Land

72. Zahl - Williams

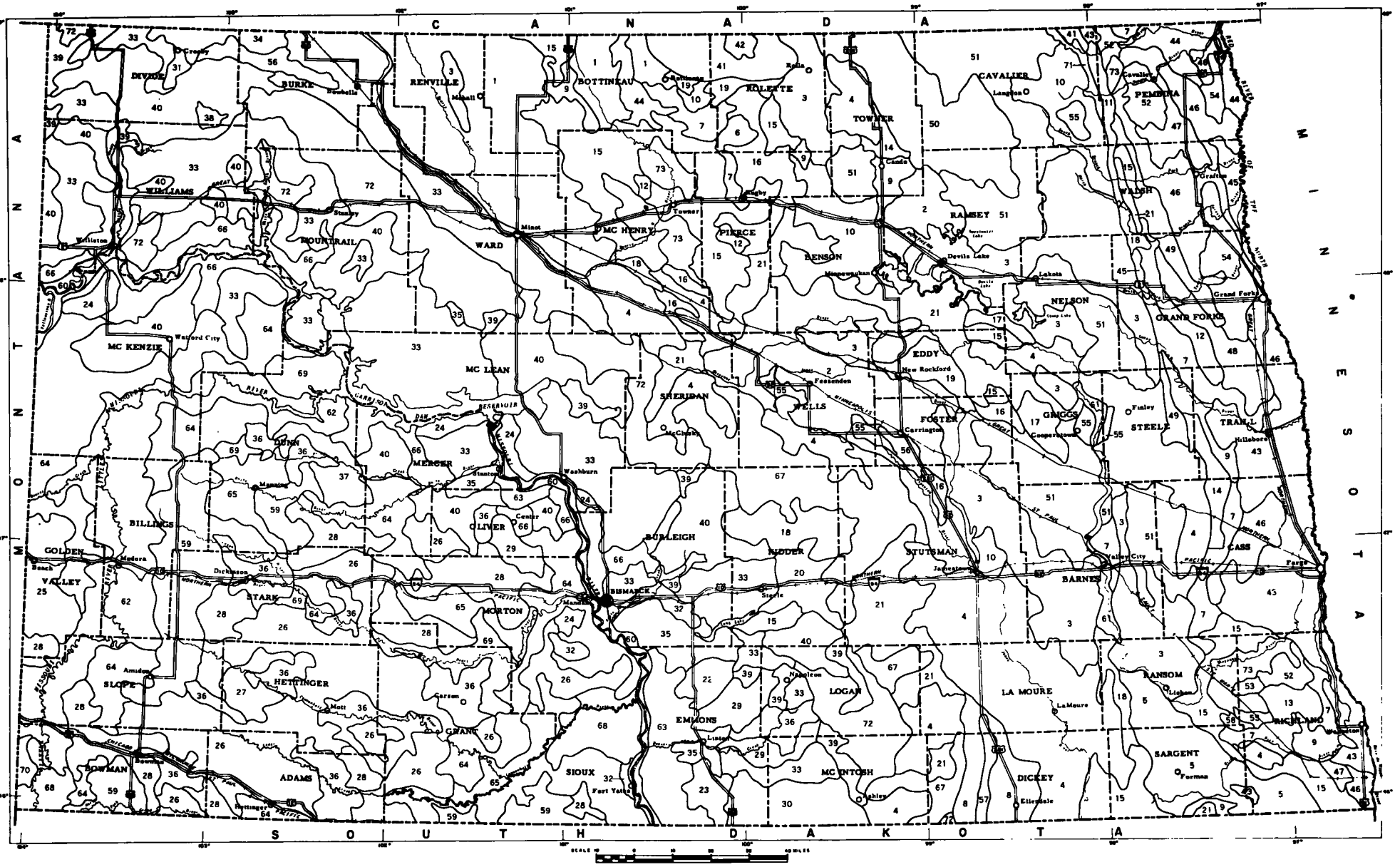
SOILS OF SAND HILLS:

Hilly, hummocky and nearly level sandy soils (Regosol) and associated wet soils (Humic Gley).

Sands and Loamy Sands

73. Valentine - Hecla - Hamar

GENERAL SOIL MAP
NORTH DAKOTA



SECTION II

TABLE 1. Missouri River Basin (Western Tributaries) - Area and Acreage by Soil Type 1/

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
24	205.8	131,712
25	368.0	235,520
26	3,071.6	1,965,824
27	180.0	115,200
28	1,748.5	1,119,040
29	124.8	79,872
32	67.0	42,880
33	392.0	250,880
35	59.2	37,888
36	1,441.3	922,432
37	250.9	160,576
40	901.4	576,896
59	1,625.7	1,040,448
60	289.4	185,216
62	1,798.2	1,150,848
63	71.5	45,760
64	3,695.8	2,365,312
65	1,280.9	819,776
66	593.0	379,520
68	590.5	377,920
69	545.1	348,864
70	48.4	30,976
TOTALS	19,349.0	12,383,360

1/ Figures contained in this table include area and acreage data for the western Missouri Mainstem drainage as given in Table 9.

TABLE 2. Missouri River Basin (Western Tributaries) - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Adams	26	511.4	327,296
	28	130.8	83,712
	36	246.2	157,568
	64	98.6	63,104
Billings	59	415.0	265,600
	62	685.4	438,656
	64	59.2	37,888
	65	7.4	4,736
Bowman	26	199.4	127,616
	28	296.6	189,824
	36	66.9	42,816
	59	202.9	129,856
	62	119.6	76,544
	64	60.4	38,656
	68	170.8	109,312
	70	48.4	30,976
Dunn	28	143.1	91,584
	36	157.9	101,056
	37	241.5	154,560
	40	4.9	3,136
	59	320.7	205,248
	62	315.4	201,856
	64	338.4	216,576
	65	287.9	184,256
	66	51.8	32,832
	69	218.4	139,776
Golden Valley	25	365.0	233,600
	28	61.8	39,552
	62	242.7	155,328
	64	315.5	201,920
Grant	26	599.0	383,360
	28	116.0	74,240
	36	315.7	202,048
	64	181.6	116,224
	65	222.9	142,656
	68	2.0	1,280
	69	226.8	145,152

TABLE 2. Missouri River Basin (Western Tributaries) - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Hettinger	26	639.6	409,344
	27	177.5	113,600
	28	7.4	4,736
	36	289.5	185,280
McKenzie	24	96.1	61,504
	33	207.1	132,544
	40	451.2	288,768
	59	5.0	3,200
	60	127.7	81,728
	62	420.3	268,992
	64	1,132.7	724,928
	66	313.1	200,384
	69	14.8	9,472
Mercer	24	73.9	47,296
	26	78.8	50,432
	28	32.0	20,480
	33	184.9	118,336
	35	49.3	31,552
	37	9.4	6,016
	40	202.2	129,408
	60	21.7	13,888
	63	12.3	7,872
	64	258.8	165,632
	66	167.7	107,328
Morton	24	35.8	22,912
	26	274.3	175,552
	28	604.9	387,136
	29	45.9	29,376
	32	45.9	29,376
	60	50.8	32,512
	64	419.2	268,288
	65	338.6	216,704
	68	77.7	49,728
	69	56.9	36,416
Oliver	26	64.1	41,024
	28	29.6	18,944
	29	78.9	50,496

TABLE 2. Missouri River Basin (Western Tributaries) - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Oliver (Cont.)	35	9.9	6,336
	36	49.3	31,552
	40	243.1	155,584
	60	46.8	29,952
	63	59.2	37,888
	64	88.7	56,768
	66	60.4	38,656
Sioux	26	32.8	20,992
	28	46.9	30,016
	32	21.1	13,504
	59	216.6	138,624
	60	42.4	27,136
	65	419.2	268,288
	68	340.0	217,600
Slope	25	3.0	1,920
	26	249.0	159,360
	27	2.5	1,600
	28	58.2	37,248
	36	41.9	26,816
	59	174.6	111,744
	62	14.8	9,472
	64	655.0	419,200
Stark	26	423.2	270,848
	28	221.2	141,568
	36	273.9	175,296
	59	290.9	186,176
	64	87.7	57,408
	65	4.9	3,136
	69	28.2	18,048

TABLE 3. Yellowstone River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
24	39.4	25,216
40	64.2	41,088
60	103.0	65,920
64	534.0	341,760
66	7.4	4,736
TOTALS	748.0	478,720

TABLE 4. Little Missouri River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
25	368.0	235,520
26	29.6	18,944
28	201.8	129,152
36	39.4	25,216
37	51.7	33,088
40	305.7	195,648
59	102.6	65,664
62	1,679.4	1,074,816
64	1,532.4	980,736
65	2.0	1,280
66	21.6	13,824
68	226.8	145,152
69	136.6	87,424
70	48.4	30,976
TOTALS	4,746.0	3,037,440

TABLE 5. Knife River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
26	243.3	155,712
28	224.0	143,360
33	106.0	67,840
35	59.2	37,888
36	103.5	66,240
37	199.2	127,488
40	340.9	218,176
59	372.4	238,336
60	2.0	1,280
64	423.7	271,168
65	298.2	190,848
66	99.6	63,744
69	35.0	22,400
TOTALS	2,507.0	1,604.480

TABLE 6. Heart River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
26	725.9	464,576
28	879.3	562,752
36	429.3	274,752
40	4.9	3,136
59	440.5	281,920
60	17.9	11,456
62	40.7	26,048
64	270.8	173,312
65	272.1	174,144
69	261.6	167,424
TOTALS	3,343.0	2,139,520

TABLE 7. Cannonball River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
26	1,818.3	1,163,712
27	180.0	115,200
28	116.8	74,752
36	683.8	437,632
59	276.5	176,960
60	5.0	3,200
62	72.2	46,208
64	388.0	248,320
65	476.1	304,704
68	243.0	155,520
69	50.3	32,192
TOTALS	4,310.0	2,758,400

TABLE 8. Grand River Subbasin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
26	190.6	121,984
28	262.4	167,936
36	136.0	87,040
59	233.5	149,440
64	71.5	45,760
TOTALS	894.0	572,160

TABLE 9. Mainstem Drainage (Western Missouri) - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACREAGE
24	166.4	106,496
26	63.9	40,896
28	64.2	41,088
29	124.8	79,872
32	67.0	42,880
33	286.0	183,040
36	49.3	31,552
40	185.7	118,848
59	200.2	128,128
60	161.5	103,360
62	5.9	3,776
63	71.5	45,760
64	475.4	304,256
65	232.5	148,800
66	464.4	297,216
68	120.7	77,248
69	61.6	39,424
TOTALS	2,801.0	1,792,640

SECTION III

TABLE 10. Missouri River Basin (Eastern Tributaries) - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACRES
4	187.3	119,872
15	76.4	48,896
18	386.5	247,360
20	241.6	154,624
21	202.6	129,664
22	133.1	85,184
23	133.1	85,184
24	106.0	67,840
29	325.4	208,256
30	404.3	258,752
32	94.9	60,736
33	4,612.5	2,952,000
35	409.7	262,208
36	156.3	100,032
38	37.0	23,680
39	612.2	391,808
40	2,301.1	1,472,704
60	248.2	158,848
63	517.7	331,328
66	704.4	450,816
67	667.5	427,200
72	1,995.2	1,276,928
TOTALS	14,553.0	9,313,920

TABLE 11. Missouri River Basin (Eastern Tributaries) - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Burke	33	149.2	95,488
	72	133.6	85,504
Burleigh	18	4.0	2,560
	32	94.9	60,736
	33	613.3	392,512
	35	224.8	143,872
	39	74.7	47,808
	40	354.6	226,944
	60	75.0	48,000
	66	202.3	129,472
	67	3.0	1,920
	72	7.4	4,736
Divide	33	148.1	94,784
	38	32.0	20,480
	39	19.8	12,672
	40	148.0	94,720
	72	2.5	1,600
Emmons	22	133.1	85,184
	23	133.1	85,184
	29	231.7	148,288
	30	133.1	85,184
	33	113.6	72,704
	35	157.7	100,928
	36	35.5	22,720
	39	27.5	17,600
	60	74.0	47,360
	63	517.7	331,328
Kidder	15	76.4	48,896
	18	312.7	200,128
	20	241.6	154,624
	21	4.9	3,136
	33	192.5	123,200
	35	9.9	6,336
	39	7.4	4,736
	40	241.7	154,688
	67	212.0	135,680

TABLE 11. Missouri River Basin (Eastern Tributaries) - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Logan	21	17.3	11,072
	29	49.3	31,552
	33	96.2	61,568
	36	101.1	64,704
	39	138.1	88,384
	40	101.2	64,768
	67	39.4	25,216
	72	291.0	186,240
McIntosh	4	39.4	25,216
	29	44.4	28,416
	30	271.2	173,568
	33	133.3	85,312
	36	19.7	12,608
	39	81.3	52,032
	67	34.5	22,080
	72	157.9	101,056
McLean	24	106.0	67,840
	33	1,276.7	817,088
	39	77.0	49,280
	40	486.8	311,552
	60	66.6	42,624
	66	7.4	4,736
	72	202.6	129,664
Mountrail	33	808.7	517,568
	40	329.2	210,688
	66	169.7	108,608
	72	554.0	354,560
Sheridan	4	147.9	94,656
	21	44.4	28,416
	33	17.3	11,072
	39	4.9	3,136
	40	22.2	14,208
	67	145.3	92,992
	72	246.5	157,760

TABLE 11. Missouri River Basin (Eastern Tributaries) - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Stutsman	18	69.8	44,672
	21	136.0	87,040
	39	3.5	2,240
	67	142.1	90,944
Ward	33	120.8	77,312
	35	17.3	11,072
	39	24.7	15,808
	40	41.9	26,816
	72	253.9	162,496
Wells	67	91.2	58,368
Williams	33	942.8	603,392
	38	5.0	3,200
	39	153.3	98,112
	40	575.5	368,320
	60	32.6	20,864
	66	325.0	208,000
	72	145.8	93,312

TABLE 12. James River Basin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACRES
2	838.4	536,576
3	852.1	545,344
4	2,397.4	1,534,336
8	427.3	273,472
10	276.8	177,152
15	167.7	107,328
16	49.3	31,552
18	51.6	33,024
19	55.5	35,520
21	513.8	328,832
51	127.5	81,600
55	83.9	53,696
56	69.0	44,160
57	69.4	44,416
61	39.6	25,344
67	839.7	537,408
72	51.0	32,640
TOTALS	6,910.0	4,422,400

TABLE 13. James River Basin - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Barnes	3	384.9	246,336
	4	48.0	30,720
	18	9.9	6,336
	51	58.0	37,120
	61	24.8	15,872
Dickey	4	420.7	269,248
	8	368.1	235,584
	15	111.0	71,040
	21	55.4	35,456
	57	57.1	36,544
	67	108.4	69,376
	72	12.3	7,872
Eddy	2	106.3	68,032
	3	7.4	4,736
	19	53.5	34,240
Foster	2	278.5	178,240
	3	108.7	69,568
	19	2.0	1,280
	51	9.9	6,336
	55	17.3	11,072
	56	54.2	34,688
	67	7.4	4,736
Griggs	51	4.9	3,136
Kidder	4	12.3	7,872
	18	2.5	1,600
	67	113.1	72,384
LaMoure	3	66.6	42,624
	4	895.8	573,312
	8	59.2	37,888
	21	71.5	45,760
	57	12.3	7,872
	61	14.8	9,472
	67	15.8	10,112

TABLE 13. James River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Logan	4	32.0	24,480
	21	61.5	39,360
	67	60.0	38,400
	72	23.9	15,296
McIntosh	4	125.3	80,192
	67	54.2	34,688
	72	14.8	9,472
Ransom	4	12.3	7,872
	18	39.2	25,088
Sargent	4	34.7	22,208
	15	56.7	36,288
Stutsman	2	22.2	14,208
	3	232.7	148,928
	4	619.0	396,160
	10	276.8	177,152
	16	49.3	31,552
	21	325.4	208,256
	51	54.7	35,008
	56	14.8	9,472
	67	332.8	212,992
Wells	2	431.4	276,096
	3	51.8	33,152
	4	197.3	126,272
	55	66.6	42,624
	67	148.0	94,720

SECTION V

TABLE 14. Souris River Basin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACRES
1	2,417.0	1,546,880
3	204.0	130,560
4	385.1	246,464
6	60.8	38,912
7	196.1	125,504
9	99.7	63,808
10	42.4	27,136
12	55.1	35,264
15	1,291.9	826,816
16	316.8	202,752
18	41.0	26,240
19	104.6	66,944
21	45.8	29,312
31	32.0	20,480
33	1,408.4	901,376
34	175.0	112,000
38	0.2	128
39	93.6	59,904
40	596.7	381,888
41	321.7	205,888
42	48.1	30,784
44	141.7	90,688
56	150.2	96,128
72	729.6	466,944
73	363.5	232,640
TOTALS	9,321.0	5,965,440

TABLE 15. Souris River Basin - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Bottineau	1	813.4	520,576
	6	2.5	1,600
	7	121.5	77,760
	9	97.2	62,208
	10	40.4	25,856
	15	298.5	191,040
	19	36.1	23,104
	41	159.4	102,016
	44	141.7	90,688
	73	1.3	832
Burke	1	37.0	23,608
	33	397.1	254,144
	34	61.6	39,424
	40	69.0	44,160
	56	103.4	66,176
	72	192.1	122,944
Divide	31	32.0	20,480
	33	138.0	88,320
	34	113.4	72,576
	38	0.2	128
	39	88.7	56,768
	40	463.6	296,704
	56	46.8	29,952
	72	78.9	50,496
McHenry	1	251.0	160,640
	4	328.7	210,368
	9	2.5	1,600
	12	23.1	14,784
	15	700.0	448,000
	16	71.9	46,016
	18	41.0	26,240
	33	105.2	67,328
	72	20.5	13,120
	73	355.7	227,648
McLean	4	14.8	9,472
	72	64.1	41,024

TABLE 15. Souris River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Mountrail	33	25.4	16,256
	72	61.0	39,040
Pierce	7	49.3	31,552
	12	32.0	20,480
	15	227.5	145,600
	16	133.2	85,248
	21	4.0	2,560
	73	6.5	4,160
Renville	1	812.3	519,872
	3	79.7	51,008
	33	10.0	6,400
Rolette	3	124.3	79,552
	6	58.3	37,312
	7	25.3	16,192
	10	2.0	1,280
	15	65.9	42,176
	16	99.4	63,616
	19	68.5	43,840
	41	162.3	103,872
	42	48.1	30,784
Sheridan	4	41.6	26,624
	16	12.3	7,872
	21	41.8	26,752
	72	24.6	15,744
Ward	1	503.3	322,112
	33	732.7	468,928
	39	4.9	3,136
	40	64.1	41,024
	72	288.4	184,576

SECTION VI

TABLE 16. Devils Lake Basin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACRES
2	451.0	288,640
3	866.2	554,368
4	272.7	174,528
9	151.1	96,704
10	529.0	338,560
12	1.5	960
14	56.2	35,968
15	173.6	111,104
16	149.5	95,680
17	30.3	19,392
21	531.6	340,224
50	636.5	407,360
51	860.8	550,912
TOTALS	4,710.0	3,014,400

TABLE 17. Devils Lake Basin - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Benson	2	72.2	46,208
	3	35.7	22,848
	9	14.8	9,472
	10	400.1	256,064
	15	8.4	5,376
	16	36.1	23,104
	17	28.3	18,112
	21	397.6	254,464
	51	12.3	7,872
Cavalier	50	242.3	155,072
	51	27.8	17,792
Eddy	21	22.2	14,208
McHenry	4	35.9	22,976
	16	2.5	1,600
Nelson	3	198.2	126,848
	4	1.0	640
	17	2.0	1,280
	51	193.2	123,648
Pierce	2	29.6	18,944
	3	19.7	12,608
	4	17.3	11,072
	9	17.3	11,072
	10	71.5	45,760
	12	1.5	960
	15	157.8	100,992
	16	106.0	67,840
	21	101.0	64,640
	51	12.3	7,872
Ramsey	2	232.2	148,608
	3	352.0	225,280
	9	12.3	7,872
	10	54.9	35,136
	50	225.1	144,064
	51	439.5	281,280

TABLE 17. Devils Lake Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Rolette	3	127.4	81,536
	4	12.3	7,872
	9	17.3	11,072
	15	7.4	4,736
	16	4.9	3,136
	50	2.0	1,280
Sheridan	2	49.3	31,552
	4	27.1	17,344
	21	5.9	3,676
Towner	2	35.7	22,848
	3	40.4	25,856
	4	176.6	113,024
	9	89.4	57,216
	10	2.5	1,600
	14	56.2	35,968
	50	167.1	106,944
	51	145.6	93,184
Walsh	3	92.8	59,392
	51	30.1	19,264
Wells	2	32.0	20,480
	4	2.5	1,600
	21	4.9	3,136

SECTION VII

TABLE 18. Red River Basin - Area and Acreage by Soil Type

SOIL TYPE	AREA (SQ. MI.)	ACRES
2	627.0	401,280
3	1,568.6	1,003,904
4	1,255.9	803,776
5	793.2	507,648
6	43.0	27,520
7	739.2	473,088
9	272.5	174,400
10	492.2	315,008
11	117.0	74,880
12	183.9	117,696
13	124.8	79,872
14	162.6	104,064
15	746.8	477,952
16	39.9	25,536
17	158.5	101,440
18	127.2	81,408
19	150.0	96,000
21	427.7	273,728
41	82.2	52,608
43	1,381.1	883,904
44	276.1	176,704
45	143.0	91,520
46	1,273.6	815,104
47	285.3	182,592
48	313.2	200,448
49	305.5	195,520
50	421.3	269,632
51	1,992.8	1,275,392
52	297.9	190,656
53	64.7	41,408
54	407.6	260,864
55	82.4	52,736
58	27.7	17,728
61	69.6	44,544
67	39.4	25,216
71	51.4	32,896
72	7.4	4,736
73	269.8	172,672
TOTALS	15,822.0	10,126,080

TABLE 19. Red River Basin - Area and Acreage by Soil Type and County

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Barnes	3	280.6	179,584
	4	46.2	29,568
	7	76.4	48,896
	18	2.5	1,600
	51	537.5	344,000
	61	59.2	37,888
Benson	2	350.8	224,512
	3	27.8	17,792
	10	54.1	34,624
	15	4.9	3,136
	17	4.9	3,136
	21	4.0	2,560
Cavalier	10	350.3	224,192
	11	25.3	16,192
	41	25.3	16,192
	43	12.3	7,872
	50	133.6	85,504
	51	592.8	379,392
	52	1.0	640
	55	47.9	30,656
	71	50.4	32,256
Cass	3	91.4	58,496
	4	213.3	136,512
	7	179.9	115,136
	9	2.5	1,600
	14	78.8	54,032
	15	61.0	39,040
	43	746.6	477,824
	46	241.5	154,560
	51	178.0	113,920
Eddy	2	19.8	12,672
	3	12.3	7,872
	4	59.3	37,952
	15	49.3	31,552
	19	132.7	84,928
	21	179.2	114,688

TABLE 19. Red River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Foster	3	37.0	23,680
	15	9.9	6,336
	16	27.6	17,664
	19	17.3	11,072
	21	14.8	9,472
	51	61.4	39,296
Grand Forks	3	204.9	131,136
	7	116.3	74,432
	9	7.4	4,736
	12	154.3	98,752
	18	22.7	14,528
	45	35.2	22,528
	46	243.2	155,648
	48	199.8	127,872
	49	113.7	72,768
	51	70.2	44,928
	54	278.3	178,112
Griggs	3	66.8	42,752
	4	99.7	63,808
	6	43.0	27,520
	16	12.3	7,872
	17	121.7	77,888
	21	81.1	51,904
	51	280.6	179,584
	55	4.9	3,136
Nelson	3	242.0	154,880
	4	135.5	86,720
	15	17.6	11,264
	17	31.9	20,416
	21	9.9	6,336
	51	175.7	112,448
Pembina	7	19.7	12,608
	10	5.0	3,200
	11	61.6	39,424
	43	2.5	1,600
	44	276.1	176,704
	45	4.9	3,136
	46	263.8	168,832

TABLE 19. Red River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Pembina (Cont.)	47	170.1	108,864
	49	24.7	15,808
	52	204.6	130,944
	54	69.0	44,160
	71	1.0	640
	73	39.0	24,960
Pierce	2	51.8	33,152
	15	12.3	7,872
	21	39.4	25,216
Ransom	3	239.7	153,408
	4	47.0	30,080
	5	167.6	107,264
	7	22.0	14,208
	15	147.9	94,656
	18	56.7	36,288
	53	12.3	7,872
	58	12.3	7,872
	61	3.0	1,920
	73	101.0	64,640
Richland	4	49.9	31,936
	5	159.7	102,208
	7	167.1	106,944
	9	107.3	68,672
	13	124.8	79,872
	15	204.7	131,008
	43	281.7	180,288
	46	47.4	30,336
	47	34.9	22,336
	52	92.3	59,072
	53	52.4	33,536
	58	8.0	5,120
	73	129.8	83,072
Rolette	3	60.8	38,912
	41	56.9	36,416
	50	9.9	6,336

TABLE 19. Red River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Sargent	4	7.4	4,736
	5	465.9	298,176
	7	29.6	18,944
	9	24.7	15,808
	15	197.2	126,208
	18	20.2	12,928
	21	14.8	9,472
	43	7.4	4,736
	58	7.4	4,736
Sheridan	2	22.2	14,208
	4	66.9	42,816
	21	44.4	28,416
	67	32.0	20,480
	72	7.4	4,736
Steele	3	14.8	9,472
	4	480.7	307,648
	7	12.3	7,872
	9	54.2	34,688
	14	22.2	14,208
	49	66.7	42,688
	51	39.4	25,216
	55	17.3	11,072
	61	7.4	4,736
Stutsman	51	9.9	6,336
Towner	4	32.7	20,928
	50	277.8	177,792
	51	30.0	19,200
Traill	4	17.3	11,072
	7	115.9	74,176
	9	76.4	48,896
	12	22.2	14,208
	14	61.6	39,424
	43	330.6	211,584
	46	130.6	83,584
	48	113.4	72,576

TABLE 19. Red River Basin - Area and Acreage by Soil Type and County (Cont.)

COUNTY	SOIL TYPE	AREA (SQ. MI.)	ACREAGE
Walsh	3	231.3	148,032
	10	82.8	52,992
	11	30.1	19,264
	12	7.4	4,736
	15	42.0	26,880
	18	25.1	16,064
	21	40.1	25,664
	45	102.9	65,856
	46	347.1	222,144
	47	80.3	51,392
	49	100.4	64,256
	51	17.3	11,072
	54	60.3	38,592
Wells	2	182.4	116,736
	3	59.2	37,888
	55	12.3	7,872
	67	7.4	4,736

ESTIMATE OF IRRIGABLE LAND IN NORTH DAKOTA

Preface

The estimated acreage of irrigable land in North Dakota was prepared at the request of the North Dakota State Water Commission.

The river basins on which estimates are presented were selected by the State Water Commission. The river basin boundaries were plotted on the General Soil Map of North Dakota (North Dakota Agric. Experiment Station, 1961). The area of each soil association within each river basin was measured and reported in square miles and acres by the State Water Commission.

The following procedure was used in determining the acreage of irrigable land within each river basin.

1. Townships within each soil association on the state map were selected as representative samples of the association.
2. The acreage of the various soils in the sample townships were compiled from acreage measurements of soil associations in these townships from the county general soil maps.
3. The acreage of irrigable soils in the sample townships was determined and calculated as a percentage of the total area of the sample townships.
4. The area of the state soil associations within each river basin was then multiplied by the percentage figure for each association to obtain the total irrigable acreage for each river basin.

The total irrigable acreage was then reduced on the basis of the experience gained in making detailed soil surveys of areas proposed for

irrigation and because of the general nature of the data used to arrive at the irrigable acreage.

In making these estimates it was assumed that water was available and the location and size of the soil areas were satisfactory.

One additional factor deserves consideration. The sample townships were selected as representative of the soil association on the state map. Thus, the sample townships which are representative of the soil association on the state map are also assumed to be representative of the parts of the soil association in the respective drainage basins.

TABLE 20. Irrigable Acres in North Dakota by Drainage Basin

DRAINAGE BASIN	IRRIGABLE LANDS (ACRES)
MISSOURI RIVER (WESTERN TRIBUTARIES)	532,564
Yellowstone River	(34,836)
Little Missouri River	(157,336)
Knife River	(54,858)
Heart River	(59,796)
Cannonball River	(94,410)
Grand River	(15,636)
Mainstem	(115,692)
MISSOURI RIVER (EASTERN TRIBUTARIES)	638,832
JAMES RIVER	203,682
SOURIS (MOUSE) RIVER	739,146
DEVILS LAKE	210,210
RED RIVER	1,578,570
TOTAL	3,903,004

Financial assistance for the preparation of this Appendix, in the form of matching funds, was received from the Water Resources Council under the provisions of Title III, Public Law 89-80, "The Water Resources Planning Act," July, 1965.

APPENDIX C

Interim North Dakota
State Water Resources Development Plan
SWC Project #322

AN INVENTORY OF LEGAL DRAINS IN NORTH DAKOTA

North Dakota State Water Commission
State Office Building
900 Boulevard
Bismarck, North Dakota 58501

June, 1968

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APPENDIX C

APPENDIX C

AN INVENTORY OF LEGAL DRAINS IN NORTH DAKOTA

General

In some areas of North Dakota, particularly the Red River Valley, valuable agricultural land is subject to periodic flooding during the spring snow melt and periods of excessive rainfall. As a result, crop production is significantly reduced, and the income of the farmers in the area and the economy of the state are adversely affected. Much of this land is the most highly productive in the state when protected from flooding.

Legal drains, the subject of this appendix, provide a significant element of flood protection. A legal drain is defined as *An improvement of capacity to carry excess runoff within existing natural channels, existing ditches, or wholly new ditches which has been initiated, established, constructed and will be maintained as the statutory responsibility of an accredited sponsoring agency under the applicable requirements of Chapter 61-21 of the North Dakota Century Code.*

The State Water Commission's drainage program was initiated in 1943 when the State Legislature appropriated funds to the Commission to assist in its implementation. Since then, the primary aim of this program has been the construction of floodways that serve *large* areas subject to water damage.

Funds appropriated to the Commission for drainage work are allocated to the various drainage projects qualifying for State assistance in accordance with rules and regulations adopted by the Commission. State assistance to counties for this work is generally 40% of the qualified construction costs. The Commission will cooperate in the construction of drainage works only when such construction is sponsored by some legal entity such as the board of drain commissioners; board of county commissioners; a township board; or a water management district.

Engineering services for the planning and construction of legal drains are provided by the U. S. Soil Conservation Service.

Appendix C is a record of all legal drains located in North Dakota for which the State Water Commission has plans on file. It is subject to revision and will be updated as new drains are completed and as more complete information is made available to the Commission.

Format

In this Appendix, legal drains are recorded by major drainage basin and by subbasin, when applicable. Since no legal drains have been reported to this office as existing in the Missouri River or Devils Lake drainage basins, these two basins are not included in this report. The following information is presented for individual drains:

(1) SWC Project Number - This is the file number under which all correspondence and pertinent data, including plans and profiles, are maintained.

(2) Project Name - Each legal drain, in addition to having a project number, has a name. This name is often com-

posed of the name of the county in which the drain is located and a number. *Richland County Drain #39* is an example of this type. *Woodbury Drain #1* and *Falconer Township Drain #1* are examples of drains in which the county designation does not appear.

(3) Subbasin - Except in the Red River drainage basin, where a majority of the legal drains have been constructed, individual drains are designated as being located within a *major drainage basin only*. In the Red River basin, a subbasin designation is also made.

(4) Point of Discharge - The termination point of each drain--the point at which a drain empties into another drain or into another waterway--is identified by section-township-range, county and outlet. The precise location of this point of discharge may be obtained by consulting project plans.

(5) Length - The total length of each drain project. Includes, when applicable, the length of all lateral (feeder) ditches.

(6) Drainage Area - The number of square miles drained by each drain.

(7) Maximum Capacity - Legal drains are designed to accommodate the maximum flow potential of a rural area to be protected, as indicated by runoff and yield data, enough of the time to permit timely seeding and successful harvesting in a high majority of the growing seasons. Present design criterion provides for timely seeding and successful harvesting in about 8 out of 9 years.

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
			RED RIVER BASIN					
Wild Rice River Subbasin								
1220	Sargent County #3	Wild Rice	28-130-53	Sargent	Nat. Dr.	5.0		
1221	Sargent County #9	Wild Rice	8-129-56	Sargent	Wild Rice Creek	5.5	12.	108.
1222	Sargent County #11	Wild Rice		Sargent	Wild Rice River	40.0	117.5	
851	Sargent County Chan. #9, Wild Rice Watershed	Wild Rice	8-129-56	Sargent	Wild Rice River	5.0	7.0	106.8
848	Tewaukon Watershed	Wild Rice	6-129-53	Sargent	Nat. Dr.	2.0	34.0	432.0
1219	Helmrast Drain	Wild Rice	1-132-54	Sargent	Nat. Dr.	2.0	3.0	37.0
1175	Richland County #1	Wild Rice	30-134-48	Richland	Wild Rice River	1.0	2.37	42.26
988	Antelope Creek Junct. Dr. 12 to Mooreton	Wild Rice	32-133-49	Richland	Antelope Cr.	11.5		
1176	Richland County #2	Wild Rice	25-135-49	Richland	Wild Rice River	5.0	15.	198.0
1177	Richland County #3	Wild Rice (Bois de Sioux)	3-129-47	Richland	Bois de Sioux R.	9.1	45	354.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1177	Richland Co. #3, Lat. #1	Wild Rice (Bois de Sioux)	1-129-48	Richland	Drain #3	1.0	3.8	60.0
1178	Richland County #4	Wild Rice (Bois de Sioux)	25-134-49	Richland	Nat. Dr.	2.0		
1179	Richland Co. #5 & 37	Wild Rice	7-139-49	Richland	Wild Rice (#5) River (#37)	5.0 1.0	19. 40.	239.4 72.0
1180	Richland Co. #7	Wild Rice	21-134-50	Richland	Antelope Creek	10.0	21.3	159.3
1181	Richland Co. #9	Wild Rice	12-136-50	Richland				
1182	Richland Co. #12	Wild Rice	6-134-50	Richland	Antelope Creek	9.75	30.	196.0
1183	Richland Co. #15	Wild Rice	6-133-50	Richland	Nat. Dr.	4.5	11.	110.0
1184	Richland Co. #17	Wild Rice	6-135-48	Richland	Nat. Dr.	1.5	3.5	51.5
1185	Richland Co. #18	Wild Rice	3-132-48	Richland	Wild Rice River	9.0	13.5	174.0
1186	Richland Co. #21	Wild Rice	31-131-48	Richland	Trib. of Wild Rice	2.0	4.2	57.1
1187	Richland Co. #23	Wild Rice		Richland				

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1188	Richland Co. #26	Wild Rice	22-130-47	Richland	Bois de Sioux R.	4.0	11.5	159.6
1189	Richland Co. #27	Wild Rice	21-136-49	Richland	Wild Rice River	2.55	6.25	78.0
1190	Richland Co. #28	Wild Rice	1-134-48	Richland	Nat. Dr.	4.0	9.1	92.0
1191	Richland Co. #30	Wild Rice	5-131-48	Richland	Wild Rice River	13.5	35.0	221.0
1192	Richland Co. #32	Wild Rice	12-133-49	Richland	Antelope Creek	7.5	15.	126.0
1193	Richland Co. #33	Wild Rice	12-133-49	Richland	Nat. Dr.	3.5	22.	163.0
1194	Richland Co. #34	Wild Rice	27-130-47	Richland	Bois de Sioux	3.3	4.0	61.0
1195	Richland Co. #35	Wild Rice	33-129-47	Richland	Bois de Sioux	3.5	3.0	68.7
1366	Richland Co. #38	Wild Rice	10-135-59	Richland	Wild Rice River	4.22	19.0	108.0
1197	Richland Co. #39	Wild Rice	16-129-47	Richland	Bois de Sioux R.	3.5	24.0	288.0
1198	Richland Co. #41	Wild Rice	7-132-48	Richland	Nat. Dr.	3.3	7.5	85.0
1199	Richland Co. #55	Wild Rice	4-131-47	Richland	Bois de Sioux R.	12.75	14.5	187.68
1200	Richland Co. #56	Wild Rice	33-136-49	Richland	Wild Rice	5.10	19.0	166.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1201	Richland Co. #57	Wild Rice	8-136-49	Richland	Wild Rice River	5.0	6.75	65.0
1202	Richland Co. #58	Wild Rice (B. de Sioux)	34-130-47	Richland	Bois de Sioux R.	4.54	5.42	128.4
1203	Richland Co. #60	Wild Rice		Richland				
1204	Richland Co. #62	Wild Rice	10-134-49	Richland	Pitcarin Coulee	3.29	5.75	86.0
1205	Richland Co. #63	Wild Rice	33-134-50	Richland	Antelope Creek	4.0	3.4	85.0
1206	Richland Co. #64	Wild Rice	25-136-50	Richland	Drain #5	2.5	8.0	108.96
1207	Richland Co. #65	Wild Rice	23-141-49	Richland	Wild Rice River	8.9	38.0	243.94
1415	Richland Co. #66	Wild Rice	31-133-48	Richland	Antelope Creek	37.0	315.0	2,590.0
1443	Richland Co. #67	Wild Rice	8-133-51	Richland	Trib. to Wild Rice	6.5	20.3	224.0
1196	Richland Co. #37	Wild Rice	7-136-49	Richland	Unnamed Creek	7.5	9.0	110.0
1215	Swanson (Art) Drain	Wild Rice		Richland				
1217	Tri-County Drain	Wild Rice	10-132-52	Richland, Sargent & Ransom	Elk Creek	11.0	64.4	350.

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1214	Rush Lake	Wild Rice	4-131-47	Richland	Bois de Sioux R.	1.0	21.09	162.0
1209	Center-Dwight	Wild Rice	23-133-48	Richland	Wild Rice	6.75	7.0	74.0
1213	Mindeman-McDonald	Wild Rice	31-134-50	Richland	Nat. Dr.	1.30	1.7	67.0
1095	Cass Co. #47	Wild Rice	11-137-59	Cass	Wild Rice	4.75	7.5	89.93
Sheyenne River Subbasin								
562	Barton Drain	Sheyenne	14-158-74	Pierce	Round Lake	1.5	12.25	167.
1055	Barnes Co. #1	Sheyenne	14-138-60	Barnes	Unnamed dry lake bed	2.4	5.0	65.0
1359	Barnes Co. #2	Sheyenne	16-137-55	Barnes & Cass	Maple River	15.0	16.5	114.0
1208	Barie #1	Sheyenne	29-136-51	Richland	Nat. Dr.	.84	2.0	
1064	Cass Co. #2	Sheyenne	32-141-49	Cass	Sheyenne R.	13.0	68.4	519.4
1070	Cass Co. #14	Sheyenne	24-140-49	Cass	Maple R.	14.5	84.75	474.0
1071	Cass Co. #15	Sheyenne	26-138-52	Cass	Maple R.	4.5	30.0	206.20
1075	Cass Co. #21	Sheyenne	19-140-49	Cass	Sheyenne	12.5	48.0	509.29
1082	Cass Co. #30	Sheyenne	10-141-49	Cass	Sheyenne	4.25	5.0	140.3
1085	Cass Co. #34	Sheyenne	30-138-50	Cass	Drain #14	8.0	18.5	138.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1086	Cass Co. #35	Sheyenne	7-137-50	Cass	Drain #34	2.05	6.0	69.0
1087	Cass Co. #36	Sheyenne	31-138-50	Cass	Drain #34	1.50	4.0	59.0
1088	Cass Co. #37	Sheyenne	33-138-51	Cass	Maple R.	12.25	35.0	229.0
1089	Cass Co. #39	Sheyenne	13-138-52	Cass	Maple R.	7.0		
1094	Cass Co. #46	Sheyenne	22-141-55	Cass	Maple R.	13.0	48.0	311.0
1331	Richland Co. #14	Sheyenne	25-136-51	Richland	Sheyenne R.	14.0	32.89	226.4
Elm River Subbasin								
1420	Traill Co. #9	Elm	12-145-52	Traill	Elm River	8.5	16.5	213.0
1236	Traill Co. #17	Elm	30-146-51	Traill	Nat. Dr.	5.5		
1237	Traill Co. #18	Elm	13-146-52	Traill	Nat. Dr.	2.5	6.5	92.0
1241	Traill Co. #23	Elm	-145-52	Traill	Elm River	3.25		
1354	Traill Co. #39	Elm	10-145-52	Traill	Nat. Dr.	4.75	4.0	14.0
1354	Traill Co. #39 A	Elm	10-145-52	Traill	Nat. Dr.	1.5	1.5	32.8
1354	Traill Co. #39 B	Elm	11-145-52	Traill	Nat. Dr.	2.5	3.0	49.7
839	Blanchard Channel Improvement	Elm	10-145-52	Traill	Nat. Dr.	4.5	13.0	165.0
1010	Dickey Road Drain	Elm	35-129-65	Dickey	S. Dak.	5.0	61.0	
1412	Traill Co. #40	Elm	13-145-53	Traill	Trib. of Elm	2.25	3.0	49.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1132	McHough	Elm	19-152-59	Nelson	Nat. Dr.	8.0		
1091	Cass Co. #41	Elm	14-152-51	Cass	Elm R.	3.0	16.3	134.0
1226	Traill Co. #4 & 14	Elm	26-144-49	Traill	Elm R.	5.0	10.0	119.2
Goose River Subbasin								
1229	Traill Co. #7	Goose	21-146-50	Traill	Trib.	5.0	12.0	118.0
1230	Traill Co. #8	Goose	3-147-52	Traill	Trib.	9.0	36.4	241.0
1227	Traill Co. #5	Goose	21-146-50	Traill	Drain #7	1.0		
1238	Traill Co. #19	Goose	3-146-53	Traill	Goose R. Coulee	4.25		
1240	Traill Co. #22	Goose	25-146-50	Traill	Goose R. Trib.	4.5	15.0	127.0
1243	Traill Co. #26	Goose	34-145-50	Traill	Goose	3.0		
1246	Traill Co. #29	Goose	17-146-51	Traill	Goose	9.5	16.0	200.0
1248	Traill Co. #32	Goose	26-148-53	Traill	N. Branch Goose R.	4.0	4.0	79.4
1250	Traill Co. #35	Goose	26-148-53	Traill	N. Branch Goose R.	3.75	7.5	108.0
1334	Traill Co. #38	Goose	22-146-51	Traill	Goose	3.25	4.0	56.4

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1417	Traill Co. #44	Goose	20-147-52	Traill	Goose	2.0	8.1	116.0
1113	Grand Forks #14	Goose	11-150-55	G. Forks	Trib. to Goose R.	4.50	33.0	
Turtle River Subbasin								
1353	Grand Forks #3	Turtle	23-154-51	G. Forks	Turtle R.	4.0	5.0	62.58
1106	Grand Forks #1 & 2	Turtle	34-154-51	G. Forks	Turtle R.	8.0	26.8	190.2
1112	Grand Forks #13	Turtle	11-154-51	G. Forks	Turtle R.	8.75	12.0	84.8
1445	Grand Forks #32	Turtle	10-153-51	G. Forks	Turtle R.	5.25	5.75	72.5
Forest River Subbasin								
1260	Ops Twp. Drain #1	Forest	5-155-54	Walsh	Nat. Dr.	2.5	26.0	121.0
1261	Prairie Center	Forest	15-156-54	Walsh	Nat. Dr.	.5	1.0	1.35
1258	Walsh Co. #27	Forest	11-156-51	Walsh	Forest R.	4.0	5.0	52.0
1419	Walsh Co. #28 (Ditch #1)	Forest	34-155-51	Walsh	Morais R.	2.75	5.0	75.0
1419	Walsh Co. #28 (Ditch #3)	Forest	27-155-51	Walsh	Morais R.	4.75	10.0	132.0
1128	Strawbane #1	Forest	7-154-54	G. Forks	Forest R.	.26	9.0	100.0
929	Walsh Co. Channel Improv. Reach 1 & 2	Forest	2-156-51	Walsh	Channel Imp.	12.0		2326.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
929	Walsh Co. Channel Improv. Reach 3	Forest	32-156-52	Walsh	Forest R.	10.5	27.8	335.2
Park River Subbasin								
1139	Pembina Co. #10	Park	19-159-52	Pembina	Willow Cr.	6.0	18.5	78.7
1150	Pembina Co. #28	Park	19-160-55	Pembina	Cart Cr.	4.03	14.0	130.0
1154	Pembina Co. #38	Park	27-159-55	Pembina	Park River	3.0	47.0	870.0
1160	Pembina Co. #52	Park	10-160-56	Pembina	Cart Cr.		17.0	
1252	St. Andrews Drain (No. 1 A)	Park River	4-157-51	Walsh	Park River	1.75	3.0	40.0
1252	St. Andrews Drain (No. 1 B)	Park River	4-157-51	Walsh	Drain 1-A	1.5	3.5	28.0
1252	St. Andrews Drain (No. 1 C)	Park River	32-157-51	Walsh	Drain 1-D	2.5	.75	28.0
1252	St. Andrews Drain (No. 1 D)	Park River	31-157-51	Walsh	Nat. Dr.	2.0	3.5	28.0
463	Rush Lake Drain	Park River	15-163-62	Cavalier	Snow Flake Creek	18.0	288.0	
1259	Walsh-Pembina #50	Park River	36-158-52	Pembina & Walsh	Dry lake bed	9.0	168.09	907.0
1167	Park Township Drain	Park River	24-160-56	Pembina	Cart Creek	1.25	.31	81.2

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1158	Pembina Co. #50	Park River	19-158-51	Pembina	Park River (Rwy Ditch)	5.0	168.0	900.0
1254	Walsh Co. #6	Park River		Walsh				
1255	Walsh Co. #10	Park River	-157-53	Walsh				
1256	Walsh Co. #25	Park River	29-157-55	Walsh	Park River	1.71	4.1	128.0
1257	Walsh Co. #26	Park River	20-158-51	Walsh		1.51		
1099	Cavalier Co. #1	Park River	35-161-60	Cavalier	Nat. Dr.	2.5	3.0	46.0
Pembina River Subbasin								
1439	Cypress Creek Drain	Pembina						
1135	Pembina Co. #4	Pembina	28-162-53	Pembina	Rosebud Coulee	8.0	31.0	193.6
1138	Pembina Co. #8	Pembina	30-163-52	Pembina	Nat. Dr.	2.0	10.0	102.0
1140	Pembina Co. #11	Pembina	15-163-52	Pembina	Pembina R.	1.0	7.0	98.34
1142	Pembina Co. #16	Pembina	33-162-52	Pembina	Tongue R.	6.0	29.0	192.0
1143	Pembina Co. #17			Pembina				
1144	Pembina Co. #18	Pembina	3-163-54	Pembina	Tongue R.	5.0	64.0	444.0
1146	Pembina Co. #22	Pembina	24-163-54	Pembina	Drain #18	6.0	31.5	204.8
1147	Pembina Co. #23	Pembina	9-162-53	Pembina	Tongue R.	2.75	12.0	238.56

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1148	Pembina Co. #24	Pembina		Pembina				
1149	Pembina Co. #27	Pembina		Pembina	Drains 18 and 4		3.5	
1153	Pembina Co. #34	Pembina	18-163-51	Pembina	Tongue R.	7.25	25.0	129.0
1155	Pembina Co. #42	Pembina	23-163-53	Pembina	Tongue R.	10.0	23.5	160.0
1157	Pembina Co. #47	Pembina	20-163-55	Pembina	Pembina R.	3.0	5.0	98.4
1159	Pembina Co. #51	Pembina	15-163-56	Pembina	Pembina R.	5.5	7.4	356.5
1162	Pembina Co. #60	Pembina	36-163-56	Pembina	Dry lake bed	2.0	3.0	
1168	Peplow Drain #1	Pembina	5-161-54	Pembina	Tongue R.			
1169	Pembina Co. #62	Pembina	30-164-62	Pembina	Mauvais Coulee	8.0	13.6	139.0
1401	International Bound.	Pembina	30-164-53	Pembina	Canada	9.0	13.3	139.0
1165	Leroy Drain #3	Pembina		Pembina	Pembina R.			
849	Tongue River WS Floodway B	Pembina	23-163-52	Pembina	Tongue R.	8.5	23.0	158.0
849	Tongue River WS (Reach 1)	Pembina	13-163-52	Pembina	Pembina R.	5.0	303.0	2092.0
849	Tongue River WS (Reach 2)	Pembina	34-163-52	Pembina	Reach 1 - Tongue WS	5.0	Included in Reach 1	1227.0
1100	Roseau Lake	Pembina	33-161-58	Cavalier	Tongue R.	5.98	18.5	78.7

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
Red River Mainstem								
1216	Wahpeton City Drain	Red River	5-132-48	Richland	Red River	2.0	1.5	50.0
1211	Jensen-Dinger Drain	Red River	4-132-52	Richland	Tri-County Drain 6	1.2	8.0	99.2
1177	Richland Co. #1	Red River	26-134-48	Richland	Nat. Dr.	1.5	1.87	89.51
1065	Cass Co. #3	Red River	26-140-49	Cass	Cass Drain #10	4.0	3.1	230.0
1066	Cass Co. #9	Red River	36-141-49	Cass	Red River	1.5	4.0	60.0
1067	Cass Co. #10	Red River	13-140-49	Cass	Red River	6.0	4.7	233.28
1068	Cass Co. #12	Red River	21-141-49	Cass	Trib. to Red River	6.0	30.0	244.35
1069	Cass Co. #13	Red River	11-142-49	Cass	Red River	11.0	89.5	470.0
1072	Cass Co. #16	Red River	3-143-49	Cass	Drain #42	7.0	9.0	127.0
1073	Cass Co. #18	Red River	14-134-49	Cass	Nat. Dr.	8.30	8.5	108.0
1074	Cass Co. #19	Red River	26-143-49	Cass	Drain #32	8.0	9.25	279.0
1076	Cass Co. #22	Red River	35-143-49	Cass	Red River	4.75	12.0	116.0
1328	Cass Co. #23	Red River	11-142-49	Cass	Red River	11.0	18.0	222.21
1077	Cass Co. #24	Red River	15-142-49	Cass	Drain #13	4.0	14.0	122.0
1078	Cass Co. #25	Red River	22-142-49	Cass	Drain #13	6.0	13.0	122.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1079	Cass Co. #26	Red River	27-142-49	Cass	Drain #13	3.75	11.5	111.0
1080	Cass Co. #27	Red River	26-139-49	Cass	Ross Coulee	5.0	36.0	272.0
1081	Cass Co. #29	Red River	1-141-49	Cass	Red River	5.25	15.2	142.4
1083	Cass Co. #31	Red River	14-143-49	Cass	Drain #18	8.0	8.0	125.0
1084	Cass Co. #32	Red River	27-143-49	Cass	Red. R. Trib.	8.0	11.5	116.0
1090	Cass Co. #40	Red River	34-141-49	Cass	Harwood Coulee	9.31	29.15	204.80
1092	Cass Co. #42	Red River	3-143-49	Cass	Nat. Dr.	5.5	17.0	208.0
1093	Cass Co. #45	Red River	32-139-49	Cass	Harwood Coulee	3.5	11.0	107.0
1096	Cass Co. #49	Red River	19-140-48	Cass	Nat. Dr.	0.3	.78	145.55
1225	Traill Co. #2	Red River	2-145-49	Traill	Nat. Dr.	5.0	4.75	70.5
1249	Traill Co. #34	Red River	23-145-49	Traill	Red River	9.0	22.0	181.0
1251	Traill Co. #42	Red River	2-143-49	Traill	Red River	5.5	4.0	208.0
1239	Traill Co. #20	Red River	11-145-49	Traill	Red River Tributary	7.75	10.5	128.2
839	Kelso Floodway	Red River	19-144-49	Traill	Red River	5.5	12.0	133.0
1228	Traill Co. #6	Red River	14-147-49	Traill	Red River	2.5		
1231	Traill Co. #10	Red River	35-148-49	Traill	Red River	5.75	6.0	76.2

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1232	Traill Co. #13	Red River	1-146-49	Traill	Red River	3.0	8.5	87.0
1234	Traill Co. #15			Traill				
1235	Traill Co. #16			Traill				
1242	Traill Co. #24	Red River	1-147-49	Traill	Red River	4.2		105.8
1244	Traill Co. #27	Red River	26-147-49	Traill	Red River	3.3		
1245	Traill Co. #28 (North Branch)	Red River	28-145-49	Traill	Nat. Dr.	4.0		
1245	Traill Co. #28 (South Branch)	Red River	34-145-49	Traill	Nat. Dr.	4.0		
1247	Traill Co. #30	Red River	11-147-49	Traill	Red River	4.3	6.5	76.0
1107	Grand Forks Co. #4	Red River	2-150-50	G. Forks	Nat. Dr.	8.5	40.0	456.0
1108	Grand Forks Co. #9	Red River	17-151-50	G. Forks	English Coulee	5.0	23.0	172.0
1109	Grand Forks Co. #10	Red River	3-149-50	G. Forks	Nat. Dr.	4.94	29.0	157.0
1110	Grand Forks Co. #11	Red River	13-153-51	G. Forks	Nat. Dr.	13.5	24.5	193.0
1111	Grand Forks Co. #12	Red River	15-154-52	G. Forks	Nat. Dr.	7.25	131.0	734.0
1114	Grand Forks Co. #18							
1115	Grand Forks Co. #19	Red River	21-154-52	G. Forks	Drain #12	4.75	34.0	231.0

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1116	Grand Forks #23	Red River	3-151-51	G. Forks	Drain #18	2.82	10.6	106.0
1117	Grand Forks #27	Red River	4-149-50	G. Forks	Cole Creek	3.5	19.0	1545.0
1118	Grand Forks Co. #28	Red River	30-149-51	G. Forks	Cole Creek	7.0	30.0	364.0
1119	Grand Forks Co. #30	Red River	35-150-51	G. Forks	Nat. Dr.	1.5	6.0	105.0
1146	Grand Forks Co. #33	Red River	-149-51	G. Forks	Cole Creek	3.0	1.7	48.0
1120	Falconer Twp. #2	Red River	29-152-50	G. Forks	Ditch Hwy. 81	1.5	1.6	21.5
1121	Falconer Twp. #3	Red River	30-152-50	G. Forks	Rwy. drain to Red River	1.0	.5	19.5
1122	Falconer Twp. #4 & 5	Red River	5-152-50 7 & 8-152-50	G. Forks	Red River (4) (5)	2.0 5.0	2.0 2.0	30.5 52.0
1124	Michigan Twp. #1	Red River	6-149-51	G. Forks	Nat. Dr.	5.0		
1125	Rye Twp. #1	Red River	29-152-51	G. Forks	Saltwater Coulee	1.5	3.0	52.0
1126	Rye Twp. #2	Red River	25-152-51	G. Forks	Saltwater Coulee	1.0	1.0	31.0
1127	Rye Twp. #3	Red River	33-152-51	G. Forks	Nat. Dr.	.5	.50	19.0
1161	Pembina Co. #55	Red River	36-159-51	Pembina	Red River	4.5	12.0	115.0
1163	Pembina Co. #61	Red River	28-159-51	Pembina	Drain #55	2.96	4.5	

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1164	Pembina Co. #64	Red River	1-161-51	Pembina	Red River	7.4	2.5	46.6
1165	Brodeur Drain	Red River	1-161-51	Pembina	Red River	3.4	7.3	91.38
1330	Pembina Co. #5	Red River	32-161-50	Pembina	Red River	4.75	6.0	170.6
1134	Pembina Co. #3	Red River	6-161-51	Pembina	Drain #43	3.75	3.6	74.5
1136	Pembina Co. #6	Red River	30-161-50	Pembina	Red River	7.0	8.0	87.0
1137	Pembina Co. #7	Red River	19-161-50	Pembina	Red River	6.5	7.0	84.0
1141	Pembina Co. #13	Red River	12-159-51	Pembina	Red River	12.5	37.0	366.6
1145	Pembina Co. #20	Red River	6-160-50	Pembina	Red River	10.78	50.0	328.0
1151	Pembina Co. #29	Red River		Pembina				
1152	Pembina Co. #30	Red River		Pembina				
1156	Pembina Co. #43	Red River	32-161-50	Pembina	Red River Coulee	5.5	68.0	359.7
1368	St. Thomas-Lodema Watershed	Red River	7-160-51	Pembina	Red River	12.5	106.0	1080.0
1253	Walsh Co. #4	Red River	13-158-51	Walsh	Red River	6.0	8.5	92.0
1252	Walshville Drainage Ditch 4	Red River	22-155-51	Walsh	Morais R.	2.2	10.0	104.0
1252	Walshville Drainage Ditch 5	Red River	15-155-51	Walsh	Morais R.	1.75	3.0	38.3

SWC #	NAME	SUBBASIN	POINT OF DISCHARGE SEC. TWP. RGE.	COUNTY	OUTLET	LENGTH	DRAINAGE AREA (SQ.MI.)	MAXIMUM CAPACITY (CFS)
1252	Walshville Drainage Ditch 6	Red River	10-155-51	Walsh	Morais R.	2.0	4.0	57.60
1252	Walshville Drainage Ditch 7	Red River	2-155-51	Walsh	Morais R.	1.5	4.0	52.3