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BIOLOGICAL DISCUSSION
MISSOURI NATIONAL RECREATIONAL RIVER REHABILITATION
GAVINS POINT DAM TO PONCA STATE PARK, NEBRASKA & SOUTH DAKOTA
June 1992

The Corps of Engineers has received funding for the rehabilitation of the Section 32 erosion control projects along the Missouri National Recreational River (MNRR). The project rehabilitation work is as outlined on the attached construction schedule.

Since the Fish & Wildlife's biological opinion on the Section 32 program dated March 10, 1980, additional species that may occur in the program area have been listed, including the interior least tern, piping plover, the American burying beetle, and the pallid sturgeon.

The American burying beetle is listed as a federally endangered species in South Dakota. Extant populations are known to occur only in Oklahoma and on an island off the coast of New England. The proposed project is on the fringe of the burying beetles' range. No beetles were caught in recent trapping efforts in eastern South Dakota. Two beetles were recently found at the Valentine National Wildlife Refuge. Until then, other efforts in Nebraska to trap the beetles had also been unsuccessful. It is not expected that the project will affect the American burying beetle because it is extremely unlikely that any exist in the vicinity.

The interior least tern is a federally listed endangered species. The piping plover is a federally listed threatened species. The tern and plover have a history of using the Missouri River, and they have nearly the same nesting and brooding requirements. Terns and plovers usually nest in colonies on mid-river sandbars or islands but may occasionally use sandy shorelines. The preferred nest sites are open areas, basically unvegetated, with some short, sparse vegetation available for cover. However, because of channelization and impoundment of the river throughout the great majority of its length, terns and plovers now are commonly found only along the Missouri National Recreational River (MNRR) reach (river miles 810-750) and downstream from Garrison Dam in North Dakota.

1986-1990 tern and plover maps were compared to detailed general plan maps and only one revetment extension was in close proximity to a nesting site. The distance between the extension and the sandbar on which the nesting site is located is 100 feet. The extension is not expected to cause the erosion of the sandbar because the sandbar has formed since the structure to be extended was originally constructed (refer to figure 1). Bids will be let July 9, 1992 and a contract will be offered two to three weeks later. It is likely that actual construction would begin

approximately August 15, 1992. Under natural conditions the nesting and brood-rearing is completed by early August. The only foreseeable impact to the terns and plovers, if they are still in the area at that time, could be annoyance by construction activities and noise. Therefore, the proposed action would not have any serious adverse effect on the least tern or piping plover.

The pallid sturgeon is also listed as a Federal endangered species. Historically, this species resided in the Missouri River from Fort Benton, Montana, to the confluence of the Missouri and Mississippi Rivers. The pallid is a long-lived, slow-growing fish that matures at an unknown but probably advanced age. Pallid sturgeon habitat can be described as "large, turbid, free-flowing riverine habitat with a rocky or sandy substrate." Main channel pools downstream from sandbars are preferred. The species has adapted to turbid rivers, but specific water quality requirements are unknown. Some local scour may occur near the protected banks. The work would be concentrated along the channel edge which would only receive minimal or transient use by any pallid sturgeon in the reach. A resident population, if one exists, would not be affected on a long-term basis. The pallid sturgeon is not expected to be adversely affected by the proposed project.

The western prairie fringed orchid was listed as threatened in 1989. This species is only found west of the Mississippi River. It is known to exist in about 37 populations in 7 states and 1 Canadian province. Prairie fringed orchids require full sunlight and are found in tallgrass calcareous silt loam or sub-irrigated and sand prairies. Their decline can be attributed to the conversion of suitable prairie habitat for farming and ranching activities. The area surrounding the project is mostly croplands, woodlands, and recently acreted river bottomlands. The proposed project area contains no prairie habitat suitable for this species. Therefore, it is not expected that the proposed project would have an adverse impact on the western prairie fringed orchid.

Based on the above discussions, we conclude that the proposed project is not likely to adversely affect the American burying beetle, least tern, piping plover, or pallid sturgeon.

Prepared by: Patricia Freeman
Environmental Resources Spec.
June 1992

Approved by: Richard D. Gorton
Chief, Environmental
Analysis Branch
Planning Division

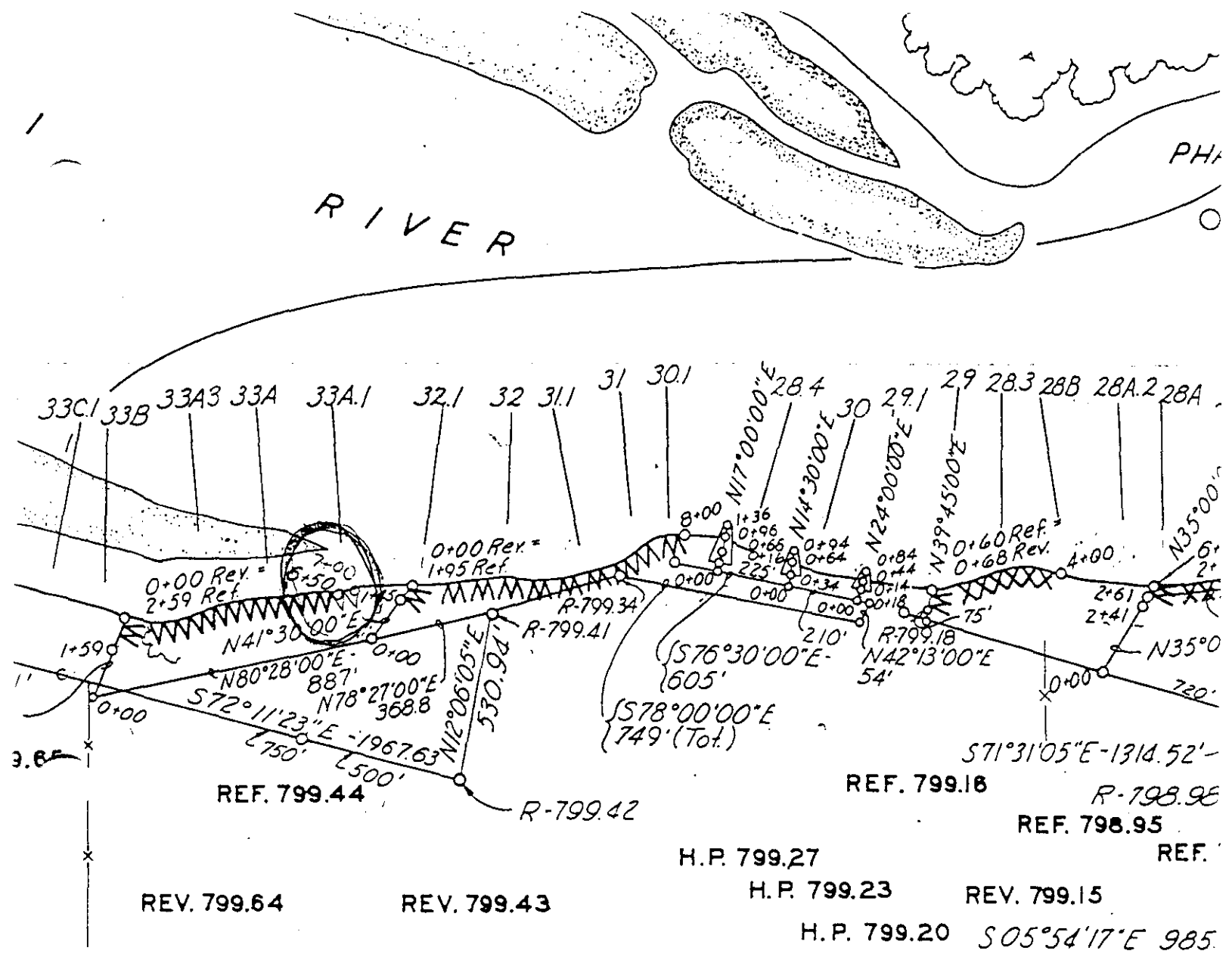

FIGURE 1.

NEBRASK

REHABILITATION OF FEDERAL STREAMBANK STABILIZATION PROJECTS, 1992
Missouri River, Mile 800 to 753 (1960 Mileage)
Nebraska and South Dakota

CONSTRUCTION SCHEDULE

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)
				Cedar County Park Area			
REV 799.64	NE	50	6+50 to 7+00	Revetment Extension	799.5	1151.0	150
REV 798.50	NE	300	2+00 to 5+00	Revetment Rehabilitation	798.5	1150.0	300
				Goat Island Area			
REV 796.2	SD	50	13+00 to 13+50	Revetment Extension	796.1	1147.8	150
REF 795.7	SD	25	8+75 to 9+00	Upstream Bankline Rehab.	795.9	1147.6	75
	SD	50	6+70 to 7+20	Refusal Rehab., US Face	795.9	1147.6	100
				Brooky Bottom Road Area			
HP 786.11	NE	50	1+20 to 1+70	HP Spur Rehab., US Face	786.1	1138.2	150
REV 786.05	NE	75	2+00 to 2+75	Revetment Extension	786.0	1138.1	225
REV 783.20	NE	200	3+95 to 5+95	Revetment Extension	783.3	1134.6	600
	NE	25	21+00 to 21+25	Revetment Rehabilitation	783.0	1134.4	25
	NE	50	22+00 to 22+50	Revetment Extension	783.0	1134.4	150
				Mulberry Bend Area			
REV 775.9	NE	200	12+50 to 14+50	Revetment Extension	775.6	1124.7	600
REV 774.72	NE	250	2+00 to 4+50	Revetment Rehabilitation	774.8	1123.7	250
REV 774.7	NE	100	3+75 to 4+75	Revetment Rehabilitation	774.6	1123.4	100
				Vermillion River Chute Area			
REV 770.1	SD	100	44+65 to 45+65	Revetment Extension	769.4	1116.7	300
REV 769.58	SD	25	3+00 to 3+25	Revetment Extension	769.4	1116.7	75

Construction Schedule: REHAB. OF FED. STREAMBANK STAB. PROJECTS, 1992
Missouri R., Mile 800 to 753 - Nebraska and South Dakota

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)
				Ryan Bend Area			
REV 768.0	NE	250	5+00 to 7+50	Revetment Rehabilitation	767.9	1114.7	500
	NE	50	15+50 to 16+00	Channel Jetty Constr.	767.8	1114.6	400
				Ionia Bend Area			
REV 762.1	NE	100	10+00 to 11+00	Revetment Extension	762.1	1107.8	300
REV 761.85	NE	50	1+90 to 2+40	Revetment Rehabilitation	761.9	1107.5	50
	NE	120	6+80 to 8+00	Revetment Rehabilitation	761.8	1107.4	240
HP 761.7	NE	50	0+67 to 1+17	HP Spur Rehab., US Face	761.8	1107.4	150
HP 761.65	NE	50	0+65 to 1+15	HP Spur Rehab., US Face	761.7	1107.3	150
REV 761.4	NE	100	1+25 to 2+25	Revetment Rehabilitation	761.5	1107.1	200
	NE	50	9+60 to 10+10	Revetment Rehabilitation	761.4	1107.0	100
	NE	25	10+65 to 10+90	Revetment Extension	761.4	1107.0	75
	NE	50	12+00 to 12+50	Revetment Rehabilitation	761.3	1106.9	100
REV 760.9	NE	50	34+00 to 34+50	Revetment Extension	760.3	1105.6	150
REV 760.4	NE	125	19+00 to 20+25	Revetment Extension	759.7	1104.9	375
REF 759.71	NE	75	10+25 to 11+00	Refusal Rehab., US Face	759.5	1104.6	150
REV 759.7	NE	50	0+00 to 0+50	Revetment Rehabilitation	759.5	1104.6	100
	NE	50	3+00 to 3+50	Revetment Rehabilitation	759.4	1104.5	100
				Elk Point Area			
REV 756.28	SD	300	4+00 to 7+00	Revetment Extension	756.3	1101.4	900
REV 755.7	SD	50	7+10 to 7+60	Revetment Rehabilitation	755.7	1100.9	50
	SD	50	11+20 to 11+70	Revetment Rehabilitation	755.7	1100.9	100
REV 754.77	SD	100	5+00 to 6+00	Revetment Extension	754.7	1100.0	300
	SD	25	18+75 to 19+00	Revetment Rehabilitation	754.4	1099.8	50
	SD	30	19+00 to 19+30	Revetment Extension	754.4	1099.8	90
REV 754.30	SD	50	15+00 to 15+50	Channel Jetty Constr.	754.1	1099.5	400
HP 753.70	SD	40	3+75 to 4+15	HP Spur Rehab., DS Face	753.7	1099.2	120

* Stone placement will not require any significant excavation

REHABILITATION OF FEDERAL STREAMBANK STABILIZATION PROJECTS, 1992
Missouri River, Mile 800 to 753 (1960 Mileage)
Nebraska and South Dakota

CONSTRUCTION SCHEDULE

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)	
				Cedar County Park Area				
REV 799.64	NE	50	6+50 to 7+00	Revetment Extension	799.5	1151.0	150	1988-90 ≈ 1000 ft 1 colon
REV 798.50	NE	300	2+00 to 5+00	Revetment Rehabilitation	798.5	1150.0	300	1990 ≈ 1000 ft
				Goat Island Area				
REV 796.2	SD	50	13+00 to 13+50	Revetment Extension	796.1	1147.8	150	1987 ≈ 2000 ft several colons ~~South~~ Southwest
REF 795.7	SD	25	8+75 to 9+00	Upstream Bankline Rehab.	795.9	1147.6	75	
	SD	50	6+70 to 7+20	Refusal Rehab., US Face	795.9	1147.6	100	
				Brooky Bottom Road Area				
HP 786.11	NE	50	1+20 to 1+70	HP Spur Rehab., US Face	786.1	1138.2	150	
REV 786.05	NE	75	2+00 to 2+75	Revetment Extension	786.0	1138.1	225	
REV 783.20	NE	200	3+95 to 5+95	Revetment Extension	783.3	1134.6	600	1986, 1987
	NE	25	21+00 to 21+25	Revetment Rehabilitation	783.0	1134.4	25	≈2000 ft North East
	NE	50	22+00 to 22+50	Revetment Extension	783.0	1134.4	150	
				Mulberry Bend Area				
REV 775.9	NE	200	12+50 to 14+50	Revetment Extension	775.6	1124.7	600	
REV 774.72	NE	250	2+00 to 4+50	Revetment Rehabilitation	774.8	1123.7	250	
REV 774.7	NE	100	3+75 to 4+75	Revetment Rehabilitation	774.6	1123.4	100	1986 ≈ 1000 ft ~~500 ft~~ North
				Vermillion River Chute Area				
REV 770.1	SD	100	44+65 to 45+65	Revetment Extension	769.4	1116.7	300	1986-90 ≈ 2000 ft South
REV 769.58	SD	25	3+00 to 3+25	Revetment Extension	769.4	1116.7	75	

Construction Schedule: REHAB. OF FED. STREAMBANK STAB. PROJECTS, 1992
Missouri R., Mile 800 to 753 - Nebraska and South Dakota

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)	
				Ryan Bend Area				
REV 768.0	NE	250	5+00 to 7+50	Revetment Rehabilitation	767.9	1114.7	500	1987 ≈2500 ft NW
	NE	50	15+50 to 16+00	Channel Jetty Constr.	767.8	1114.6	400	1987
				Ionia Bend Area				
REV 762.1	NE	100	10+00 to 11+00	Revetment Extension	762.1	1107.8	300	1987 ≈ 500 ft NE
REV 761.85	NE	50	1+90 to 2+40	Revetment Rehabilitation	761.9	1107.5	50	1987
	NE	120	6+80 to 8+00	Revetment Rehabilitation	761.8	1107.4	240	1987
HP 761.7	NE	50	0+67 to 1+17	HP Spur Rehab., US Face	761.8	1107.4	150	1987
HP 761.65	NE	50	0+65 to 1+15	HP Spur Rehab., US Face	761.7	1107.3	150	1987
REV 761.4	NE	100	1+25 to 2+25	Revetment Rehabilitation	761.5	1107.1	200	
	NE	50	9+60 to 10+10	Revetment Rehabilitation	761.4	1107.0	100	
	NE	25	10+65 to 10+90	Revetment Extension	761.4	1107.0	75	
	NE	50	12+00 to 12+50	Revetment Rehabilitation	761.3	1106.9	100	
REV 760.9	NE	50	34+00 to 34+50	Revetment Extension	760.3	1105.6	150	
REV 760.4	NE	125	19+00 to 20+25	Revetment Extension	759.7	1104.9	375	1990 2000 ft N
REF 759.71	NE	75	10+25 to 11+00	Refusal Rehab., US Face	759.5	1104.6	150	1988-1990 seasonal colonies
REV 759.7	NE	50	0+00 to 0+50	Revetment Rehabilitation	759.5	1104.6	100	1988-1990
	NE	50	3+00 to 3+50	Revetment Rehabilitation	759.4	1104.5	100	1988-1990
				Elk Point Area				
REV 756.28	SD	300	4+00 to 7+00	Revetment Extension	756.3	1101.4	900	
REV 755.7	SD	50	7+10 to 7+60	Revetment Rehabilitation	755.7	1100.9	50	
	SD	50	11+20 to 11+70	Revetment Rehabilitation	755.7	1100.9	100	
REV 754.77	SD	100	5+00 to 6+00	Revetment Extension	754.7	1100.0	300	
	SD	25	18+75 to 19+00	Revetment Rehabilitation	754.4	1099.8	50	
	SD	30	19+00 to 19+30	Revetment Extension	754.4	1099.8	90	
REV 754.30	SD	50	15+00 to 15+50	Channel Jetty Constr.	754.1	1099.5	400	
HP 753.70	SD	40	3+75 to 4+15	HP Spur Rehab., DS Face	753.7	1099.2	120	

* Stone placement will not require any significant excavation

CONSTR[illegible]ON SCHEDULE

* multiple Colonies

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)	
				Cedar County Park Area				
REV 799.64	NE	50	6+50 to 7+00	Revetment Extension	799.5	1151.0	150	1988-1990 ≈ 1000
REV 798.50	NE	300	2+00 to 5+00	Revetment Rehabilitation	798.5	1150.0	300	1990 ≈ 600ft
				Goat Island Area				
REV 796.2	SD	50	13+00 to 13+50	Revetment Extension	796.1	1147.8	150	* 1987-1990 ≈ ~~400~~ 2000
REF 795.7	SD	25	8+75 to 9+00	Upstream Bankline Rehab.	795.9	1147.6	75	
	SD	50	6+70 to 7+20	Refusal Rehab., US Face	795.9	1147.6	100	
				Brooky Bottom Road Area				
HP 786.11	NE	50	1+20 to 1+70	HP Spur Rehab., US Face	786.1	1138.2	150	
REV 786.05	NE	75	2+00 to 2+75	Revetment Extension	786.0	1138.1	225	
REV 783.20	NE	200	3+95 to 5+95	Revetment Extension	783.3	1134.6	600	
	NE	25	21+00 to 21+25	Revetment Rehabilitation	783.0	1134.4	25 ?	
	NE	50	22+00 to 22+50	Revetment Extension	783.0	1134.4	150	
				Mulberry Bend Area				
REV 775.9	NE	200	12+50 to 14+50	Revetment Extension	775.6	1124.7	600	
REV 774.72	NE	250	2+00 to 4+50	Revetment Rehabilitation	774.8	1123.7	250	1998
REV 774.7	NE	100	3+75 to 4+75	Revetment Rehabilitation	774.6	1123.4	100	
				Vermillion River Chute Area				
REV 770.1	SD	100	44+65 to 45+65	Revetment Extension	769.4	1116.7	300	
REV 769.58	SD	25	3+00 to 3+25	Revetment Extension	769.4	1116.7	75	

Construction Schedule: REHAB. OF FED. STREAMBANK STAB. PROJECTS, 1992
Missouri R., Mile 800 to 753 - Nebraska and South Dakota

STRUCTURE	BANK	LENGTH (ft.)	STATIONS	DESCRIPTION	R. MILE (approx.)	NWS (msl)	STONE* (tons)
				Ryan Bend Area			
REV 768.0	NE	250	5+00 to 7+50	Revetment Rehabilitation	767.9	1114.7	500 1988 & 800ft
	NE	50	15+50 to 16+00	Channel Jetty Constr.	767.8	1114.6	400
				Ionia Bend Area			
REV 762.1	NE	100	10+00 to 11+00	Revetment Extension	762.1	1107.8	300
REV 761.85	NE	50	1+90 to 2+40	Revetment Rehabilitation	761.9	1107.5	50
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HP 761.7	NE	50	0+67 to 1+17	HP Spur Rehab., US Face	761.8	1107.4	150
HP 761.65	NE	50	0+65 to 1+15	HP Spur Rehab., US Face	761.7	1107.3	150
REV 761.4	NE	100	1+25 to 2+25	Revetment Rehabilitation	761.5	1107.1	200
	NE	50	9+60 to 10+10	Revetment Rehabilitation	761.4	1107.0	100
	NE	25	10+65 to 10+90	Revetment Extension	761.4	1107.0	75
	NE	50	12+00 to 12+50	Revetment Rehabilitation	761.3	1106.9	100
REV 760.9	NE	50	34+00 to 34+50	Revetment Extension	760.3	1105.6	150 *1987-1990 & 16ft
REV 760.4	NE	125	19+00 to 20+25	Revetment Extension	759.7	1104.9	375 *1987-1990 & 16ft
REF 759.71	NE	75	10+25 to 11+00	Refusal Rehab., US Face	759.5	1104.6	150 " "
REV 759.7	NE	50	0+00 to 0+50	Revetment Rehabilitation	759.5	1104.6	100 " "
	NE	50	3+00 to 3+50	Revetment Rehabilitation	759.4	1104.5	100 " "
				Elk Point Area			
REV 756.28	SD	300	4+00 to 7+00	Revetment Extension	756.3	1101.4	900
REV 755.7	SD	50	7+10 to 7+60	Revetment Rehabilitation	755.7	1100.9	50
	SD	50	11+20 to 11+70	Revetment Rehabilitation	755.7	1100.9	100
REV 754.77	SD	100	5+00 to 6+00	Revetment Extension	754.7	1100.0	300
	SD	25	18+75 to 19+00	Revetment Rehabilitation	754.4	1099.8	50
	SD	30	19+00 to 19+30	Revetment Extension	754.4	1099.8	90
REV 754.30	SD	50	15+00 to 15+50	Channel Jetty Constr.	754.1	1099.5	400
HP 753.70	SD	40	3+75 to 4+15	HP Spur Rehab., DS Face	753.7	1099.2	120

* Stone placement will not require any significant excavation