

TABLE OF CONTENTS

1.0	INTRODUCTION	1-1
	Riparian Corridor Study and Management Plan Goals	
	Study Area	
	Importance and Functions of Riparian Corridors	
	Habitat for Mammals, Birds, and Fish	
	Shading and Water-Temperature Control	
	Aesthetics	
	Recreation and Open Space	
	Floodplain Storage and Flood Damage Reduction	
	Travel Corridors and Connectivity	
	Organic Matter Inputs	
	Filtration of Sediment and Pollutants	
	Streambank Stability	
	Storm Water Conveyance	
	Public Outreach and Involvement	
	Public Workshops	
	Riparian Corridor Study Subcommittee Meetings	
	Interactive Web Page	
	Management Plan Approach	1-9
2.0	BASELINE ASSESSMENT METHODS	2-1
	Study Reaches	
	Stream Condition Assessment	
	Field Data Collection	2-3
	Analyses Using Digital Data	2-4
	Vegetation Assessment	2-5
	Field Mapping	2-5
	Vegetation Community Classifications	
	Data Analysis	2-7
	Watershed and Historical Information	2-8
3.0	BASELINE ASSESSMENT RESULTS	3-1
0.0	Watershed Conditions	
	Size and Land Use	
	Hydrology	
	Water Quality	
	Geology and Soils	
	Fish, Birds, and Wildlife	
	Historical Conditions and Current Trends	
	City Creek History	
	Alterations to the Riparian Corridor	
	Recent and Anticipated Future Trends	



	Stream and Vegetation Conditions	. 3-10
	Stream Channel Characteristics	
	Vegetation Characteristics	
	Issues Affecting Riparian Functions	
	Aesthetics	
	Wildlife Habitat and Connectivity	
	Nutrient Filtration and Sediment Trapping	
	Stream Stability	
4.0	RECOMMENDED IMPROVEMENT PROJECTS	11
4.0	Overview of Project Types	
	General Projects	
	Stream Cleanup	
	Stream Adoption	
	· · · · · · · · · · · · · · · · · · ·	
	Revegetation with Native Plants	
	Establishment of No-Mow Buffers	
	Biotechnical Slope Stabilization	
	Local-Scale Projects	
	Stream Crossings and Utility Culvert Replacement	
	Stream Daylighting	
	Bank Protection Retrofitting	
	Wet Utility Crossing Hazard Assessment	
	Reach-Scale Projects	
	Grade Control and Streambed Structural Protection	
	Bank Stabilization	
	Access Control and Trail Stabilization	
	Watershed-Scale Projects	
	Manage and Reduce Impervious Surfaces	
	Increase Public Awareness	
	Permitting Requirements	
	State Stream Alteration	
	County Flood Control	
	City Riparian Protection	
	Relative Costs of Improvement Projects	
	Maintenance and Monitoring Considerations	
	Grant Resources for Funding Improvement Projects	. 4-25
5.0	RIPARIAN CORRIDOR VISION	5-1
	Summary of Stakeholder Input	5-1
	Public Workshop 1	
	Public Workshop 2	
	Meeting with City and County Management Entities	
	City Creek Riparian Corridor Vision Statement	5-4



D		
•	an Corridor Priorities	
•	an Enhancement Potential	
-	mentation Approaches	
Otner	Management Guidelines and Efforts	
	City Creek Master Plan (SLCC 1986)	
	Salt Lake City Watershed Management Plan (Bear West 1999)	
	City Creek Shaded Fuel Break Project	
Action	ı Items	
	Goal: Continue Public Outreach and Establish Implementation Working Group 5	
	Goal: Increase Public Awareness	-13
	Goal: Manage and Reduce Impervious Surfaces	-13
	Goal: Improve Riparian Corridor Aesthetics	-13
	Goal: Improve Riparian Habitat through Control of Invasive Plant Species and Restoration	
	of Native Plant Communities	14
	Goal: Improve Riparian Functions through Improvements to Storm Drain and Stream	17
		-14
	Crossing Infrastructure	-14
REFERENCES	Sl	₹-1
GLOSSARY (OF TERMS (3-1
APPENDIX A:	: DATA FORMS	
APPENDIX B	: DETAIL DRAWINGS OF SELECTED IMPROVEMENT TECHNIQUES	
THI LENDING		
APPENDIX C	: REACH MAPS, SUMMARIES, AND RECOMMENDATIONS	
AI I LINDIA C	. MEACH MAI 3, 30 MINIMES, AND MECOMMENDATIONS	
ADDENIDIN D		
APPENDIX D	: COST ESTIMATES FOR STUDY REACHES	
LIST OF I	FIGURES	
Figure 1.1.	Emigration, Red Butte, Parleys, and City Creeks study areas.	1-2
riguic 1.1.	Emigration, flea Batto, Faircys, and Ony Groom study areas.	
Eiguro 1 9	Cahamatia illustration of major interactions among vinarian corridor resources and processes	1 2
Figure 1.2.	Schematic illustration of major interactions among riparian corridor resources and processes	1-3
T: 40		
Figure 1.3.	One hundred-foot Riparian Corridor Overlay Zone ordinance riparian corridor	1-4
Figure 1.4.	Organizational Chart for the Salt Lake City Riparian Corridor Management Plans	-10
Figure 1.5.	Timeline of Salt Lake City Riparian Corridor Studies and Management Plans	-10
3	3	
Figure 2.1.	City Creek reach map	2_1
1 1gaic 2.1.	ony of confound map.	- 1
Figure 9.9	Using digital alayation data to draw the channel conterline	7 1
Figure 2.2.	Using digital elevation data to draw the channel centerline	۷-4
SALTIAKE CI	OCTOBER 20	110



Figure 3.1.	City Creek watershed	.1
Figure 3.2.	Monthly flows at Salt Lake County's gage at Memory Grove	.3
Figure 3.3.	Relationship between impervious cover and surface runoff. Impervious cover in a watershed results in increased surface runoff	.3
Figure 3.4.	A comparison of hydrographs before and after urbanization. The discharge curve is higher and steeper for urban streams than for natural streams	4
Figure 3.5.	City Creek historical timeline	6
Figure 3.6.	Plot of temporal trends in annual stream flow at City Creek gage	.9
Figure 3.7.	Cross-section plots extrapolated from digital elevation data	1
Figure 3.8.	Longitudinal profile plot of City Creek streambed based on 2006 digital elevation data 3-1	3
Figure 4.1.	Schematic illustration of a contributing watershed area draining to an urban riparian corridor	-1
Figure 4.2.	Importance of slope steepness in selecting appropriate revegetation and stabilization measures	.9
Figure 4.3.	Schematic illustration of toe, bank, and upper slope and recommended treatment approaches	.0
Figure 4.4.	Photographs of revegetation and biotechnical slope-stabilization techniques 4-1	.1
Figure 4.5.	Photographs of outlet protection and stream crossing techniques	2
Figure 4.6.	Photographs of grade-control, bank-stabilization, and access-control techniques 4-1	7
LIST OF	TABLES	
Table 2.1.	Reach names	-2
Table 3.1.	Summary of streambed material, channel geometry, and slope data	2
Table 3.2.	Plant species noted during City Creek mapping work	4
Table 3.3.	List of mapped canopy, shrub, and understory plant species found in each assessed stream reach	.6



Table 3.4.	Percent cover and invasive species class for mapped vegetation polygons
Table 3.5.	Bridges and culvert crossings in the study area
Table 3.6.	Existing significant streambed protection structures in the study area
Table 4.1.	List of weeds and invasive species to avoid planting within the riparian corridor. Where these species are present, they should be controlled using appropriate techniques and replaced with native species
Table 4.2.	Recommended native canopy (tree) species for planting efforts within the riparian corridor 4-7
Table 4.3.	Recommended native shrub species for planting efforts within the riparian corridor 4-7
Table 4.4.	Recommended native understory (ground cover) species for planting efforts within the riparian corridor
Table 4.5.	Summary of permit requirements for recommended types of improvement projects 4-20
Table 4.6.	Approximate unit cost information for improvement projects
Table 4.7	Summary of relative project costs and potential riparian function benefits
Table 4.8.	Summary of maintenance and monitoring considerations for various improvement projects 4-26
Table 4.9.	Information on funding programs to support riparian corridor improvement projects 4-27
Table 5.1.	Relative need for various improvement measures by study reach
Table 5.2.	Recommended improvements to stream crossings and streambed protection structures in the study area
Table 5.3.	Factors affecting relative riparian enhancement potential by reach