

SCOPING REPORT

1923



LANDER FLOOD PROTECTION PROJECT

*Lander, Wyoming
January 2006*



*Prepared For:
City of Lander
Popo Agie Conservation District
Fremont County Commissioners*

*Prepared By:
Natural Resources
Conservation Service*



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1. Introduction

1.1. Background

The Natural Resources Conservation Service (NRCS) in Casper, Wyoming, received a request, dated October 7, 1996, to assist the Popo Agie Conservation District, the City of Lander and the Fremont County Commissioners (the project sponsors) in the development of a flood control planning effort. This request was due to the history of flooding in Lander, including a recent flood event in the city. The request listed the following concerns: flood prevention (the highest priority concern), watershed protection, agricultural water management, water quality, and water quantity. Riparian restoration and stabilization were included as additional concerns.

The project area has been subject to occasional damaging flood flows from snowmelt, rainfall, and a combination of rainfall on snow. There are currently no flood control reservoirs or other measures upstream of the city. The proximity of Lander to the nearby Wind River Mountains and snow pack areas leaves little stream distance for flood flows to dissipate before they enter the city limits.

NRCS initiated a preliminary investigation into the feasibility of a flood protection and stream restoration project. Three public meetings were held prior to 2001 in Lander related to the Middle Fork of the Popo Agie River and other resource concerns. The highest ranking priority was flooding along the Middle Fork of the Popo Agie River.

A Preliminary Investigation Report (PIR) was completed December 20, 2001, and presented to the project sponsors, who then requested the NRCS initiate project planning under the Watershed Protection and Flood Prevention Act, Public Law 83-566. This report can be found on the Wyoming NRCS web site:

<http://www.wy.nrcs.usda.gov/programs/wywatershed.html>

A Public Scoping meeting was held January 8, 2003, in Lander where the PIR was presented to the public. The suggested alternatives identified in the PIR were also presented to those in attendance.

Detailed hydrological analysis of the 100-year flood predicts flooding through the city, damaging houses, buildings, infrastructure, the downtown area, and posing a serious threat to human safety. Flood flows as low as 2,000 cubic feet per second (cfs) may cause out-of-bank damages. The peak flow predicted for the 100-year flood event is approximately 5,500 cfs.

The stream channel through Lander (Fig. 1) has become entrenched to a point where the stream has abandoned its floodplain and changed stream types. A Rosgen Level III stream assessment, completed by a consultant for NRCS, indicated that the channel adjustment process is still underway and will continue to degrade the channel in a "no action scenario." The stream channel has been altered by urban



Figure 1. Middle Fork of the Popo Agie River, Lander Wyoming

development resulting in a loss of aquatic habitat through sections of the stream. The planning team is evaluating the potential for improving the form and function (stream restoration) of the Middle Fork of the Popo Agie River through Lander.

1.2. Project Purpose and Need

The project purpose and needs are defined in a "Purpose and Needs Statement" to provide focus on the project objectives and the project area (Fig. 2). It also provides a basis for alternative development and analysis, and establishes a basis for moving forward with an action.

Through the scoping process the planning team was advised by cooperating agencies and National Environmental Policy Act (NEPA) Specialists to limit the scope of the project to the flooding resource concern in order to better evaluate alternatives as they affect the stream and the environment. As a result, stream stabilization practices, while not a purpose, remain as components of the various flood protection alternatives to protect the stream from effects of the alternatives and to reduce degradation of the stream.

1.2.1. Purpose and Needs Statement

Purpose: The purpose of the Lander Flood Protection Project is to reduce the threat to life and property within the 100-year flood delineation of the Middle Fork of the Popo Agie River through the City of Lander, Wyoming, and along the river from the confluence with Sawmill Creek to the confluence with Baldwin Creek.

Needs: Present periodic flooding of the Popo Agie River poses a serious threat to public safety and property. The following concerns/deficiencies define the need for implementing flood control measures:

1. Flooding history – The City of Lander has been subject to periodic damaging floods. There is currently no flood control infrastructure to prevent flooding events. Hydrologic analysis of a 100-year flood event predicts a peak flow of 5,500 cfs that would flood the project area damaging buildings and infrastructure inducing approximately \$9,640,000 in damages and posing a threat to public safety. Based on flood modeling, the area inundated by a 100-year flood event is depicted in Figure 3.
2. Development has encroached on the stream channel and floodplain, exacerbating the flooding problem and associated safety concerns.

2. Public Scoping Activities

The public scoping process is the initial step in the preparation of an Environmental Impact Statement (EIS). The scoping process identifies:

- Range of actions;
- Alternatives, including those to be explored and evaluated, and those that may be eliminated; and
- Range of environmental impacts.

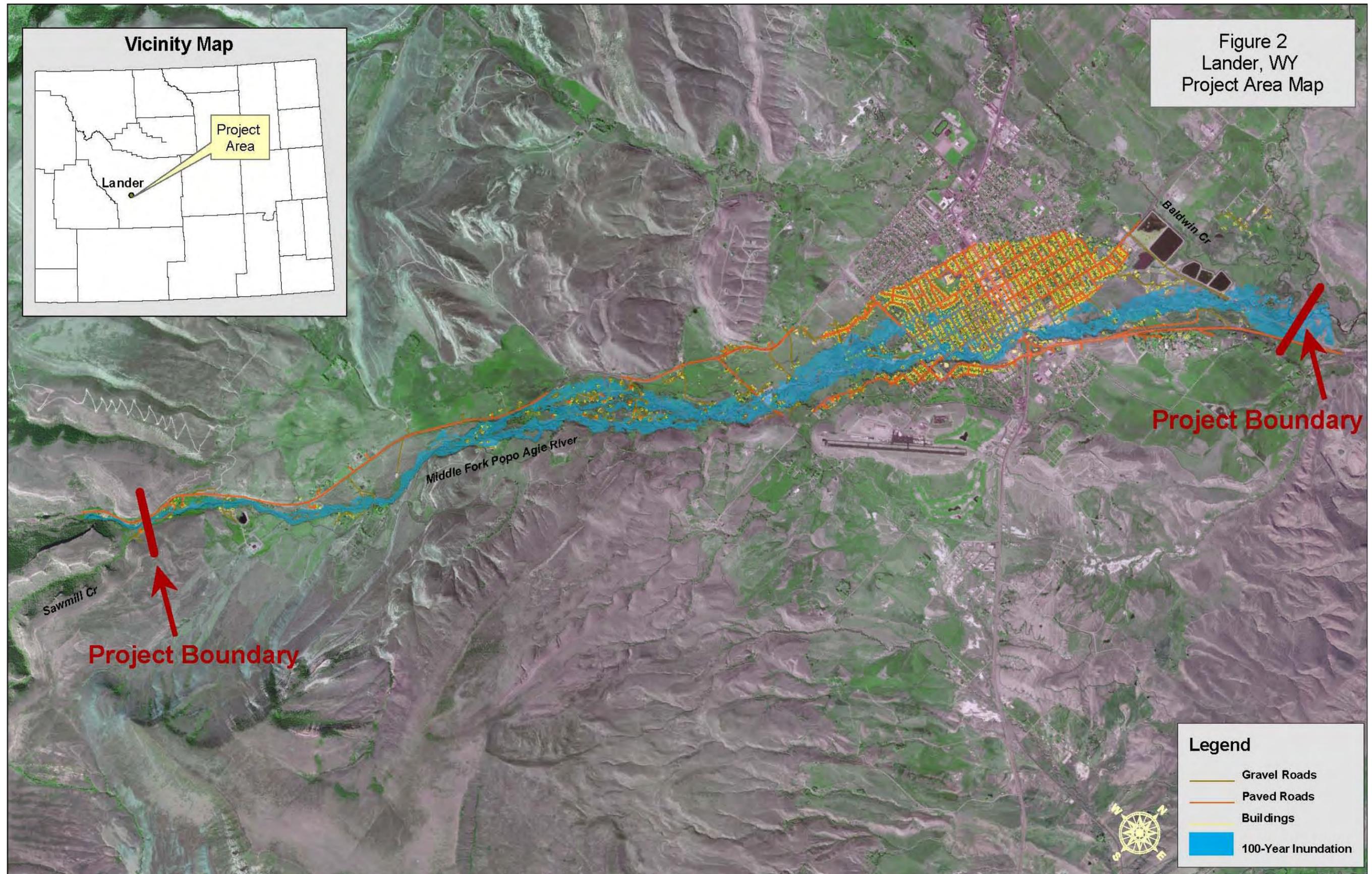


Figure 2. Project Area Map



Figure 3. Lander 100-Year Flood Map

Informational and/or outreach materials used as part of the scoping process for this project are listed below:

- Microsoft® PowerPoint presentation
- Information packets and CD's made available upon request from the Popo Agie Conservation District or the NRCS
- Eight newspaper articles and 3 public service announcements (notification of survey work)
- Preliminary Investigation Report, December 2001 (completed by the NRCS)

As a part of the scoping process, formal announced scoping meetings are held to provide the opportunity for Federal, state and local agencies as well as the interested public to provide comments on the proposed actions.

2.1. Public Information Meetings

There were three public information meetings held (Table 1) on the Lander Flood Protection Project. These meetings provided the project sponsors and NRCS feedback from the community as to their resource concerns and priorities. These concerns and priorities confirmed the interest from the public and the sponsors that there was an interest in a project to protect the city from flooding (and to improve the health of the Middle Fork of the Popo Agie River.)

Table 1. Lander Flood Protection Project – Public Information Meetings	
Date:	Meeting:
August 20, 1996	General information meeting in Lander by the Popo Agie Conservation District
December 11, 1996	Public Meeting to identify resource concerns
February 26, 1997	Public Meeting- Resource concerns identified and prioritized

2.2. Notice of Intent

The Notice of Intent to prepare an Environmental Impact Statement (Appendix A) was published in the Federal Register November 26, 2002, (Volume 67, Number 2281) covering the flooding and stream rehabilitation in the Middle Fork of the Popo Agie River through the City of Lander, Wyoming.

2.3. Scoping Announcements

A Legal Notice was published in the Lander Journal on December 18, 2002, (Appendix B) announcing a public scoping meeting.

2.4. Public Scoping Meetings

A public scoping meeting was scheduled, publicized, and held on January 8, 2003, at The Inn at Lander - Best Western in Lander, Wyoming. The public scoping meeting had many representatives (Appendix C) from a large variety of organizations, private citizens, and government agencies.

2.4.1. Scoping Meeting Format

The scoping meeting started with everyone in a large group for introductions, project explanation, and history of the project to date. The Preliminary Investigation Report was presented and the preliminary alternatives discussed. A short question and answer session followed. The meeting was then divided into small focus groups with a facilitator and recorder with each group. The issues, concerns and any additional alternatives were then randomly generated by the participants. Each concern was recorded on a flipchart. Each group then prioritized the concerns. All participants reassembled and a representative from each group reviewed their group's top ten concerns. The concerns were then compiled by NRCS. A thirty-day written comment period was observed following the meeting to ensure all comments were received. The agenda from the scoping meeting is attached as Appendix D.

2.4.2. Meeting Summaries - Issues / Concerns / Opportunities

An extensive list of issues, concerns, and opportunities was produced at the January 8, 2003, scoping meeting. The list was consolidated into categories and the complete list can be seen in Appendix E. The categories are:

Aesthetics	Floodplain Management (Zoning)
Benefits	General
Costs	Land Rights
Downstream Effects	Recreation
Environment	Relocation/Buyout
Fisheries	Safety
Flood Event Concerns	Water
Flood Insurance	Wildlife

3. Agency Consultation/Coordination

3.1. Lead Agency, Cooperating, and Other Interested Agencies

The NRCS is the lead agency for the EIS and the Watershed Plan. The following organizations are providing assistance to the EIS process with full Cooperating Agency Status: U.S. Fish and Wildlife Service, Army Corps of Engineers, City of Lander, Fremont County Commissioners, and the Popo Agie Conservation District.

Other interested agencies contributing are: Wyoming Department of Transportation, Wyoming Game and Fish, Wyoming Water Development Commission, U.S. Forest Service, Bureau of Land Management, and Bureau of Reclamation.

3.2. Agency Scoping Meeting Summary

An interagency planning meeting was held in Lander December 1, 2003, to inform agencies of the proposed project, discuss hydrology investigations, and any other agency projects or plans affecting the proposed project area. A roster of interagency personnel who attended the planning meeting can be found in Appendix F.

4. Native American Tribes

Several members of the Shoshone and Northern Arapahoe Tribes have attended the public meetings. The Tribal Water Engineer has also attended several of the public meetings.

4.1. Tribal Consultation - Executive Order (EO) 13084

Attendance at the public meetings by tribal representatives does not satisfy the Tribal Consultation requirements of 36 Code of Federal Regulations (CFR) 800. When a preferred alternative is selected, if any potentially sensitive sites are threatened, appropriate tribal consultation will be initiated in accordance with NRCS state and national policies.

5. Cultural Resources

A file search of the Wyoming State Historic Preservation Office records shows the City of Lander has two listings in the National Register of Historic Places. The U.S. Post Office and Courthouse at 177 North Third Street was listed in the register in 1987. The Lander Downtown Historic District, which is Main Street between Second and Fourth streets, was also listed in 1987. Three historic roads or trails are also in and near Lander, the Rawlins-Ft. Washakie Road, Lander-Lost Cabin Road, and the Ft. Thompson Road. The grade of the now abandoned Chicago and NW railroad is classified as eligible for the register.

Known cultural resources will be taken into consideration during the planning process. If additional sites or structures are identified that may be impacted or altered by project action, work will be stopped immediately until the applicable provisions of Federal and State laws dealing with archaeological and historical site preservation have been addressed. When an alternative is selected, the NCRS Cultural Resource Specialist will evaluate the sites of any ground disturbing activities, in accordance with NRCS state and national policies and the agreements with the Wyoming State Historic Preservation Office and the National Advisory Council on Historic Preservation.

A copy of the Preliminary Investigation Report on the Middle Fork Popo Agie River through Lander was sent to the State Historic Preservation Officer on April 11, 2003.

6. Scoping Results

6.1. Alternatives resulting from the preliminary investigation and public scoping meetings

Alternatives formulated during the preliminary investigation and suggested alternatives from the February 26, 1997, public scoping meeting were combined and consolidated by an interdisciplinary team as required by the NRCS planning process. These alternatives were then evaluated by the interdisciplinary team and project sponsors as a "first look" at the resource problems/opportunities with a brief economic analysis of benefit versus costs for each of these alternatives.

6.1.1. Alternatives Advanced to Planning and Evaluation

A. No Action – this alternative reflects a "future without project" scenario

- Floods will continue to pose a serious threat to property and public safety
- Development will continue to encroach on the stream channel and floodplain, exacerbating the flooding problem and associated safety concerns
- Flood damage estimates approximately \$9,640,000 for a 100-year flood event

B. Floodplain/Stream Restoration

- Dikes constructed along the channel to contain the selected frequency flood flow
- Constructed channel with two-stage design (Fig. 4), one for base flow and the second for carrying the flood design capacities

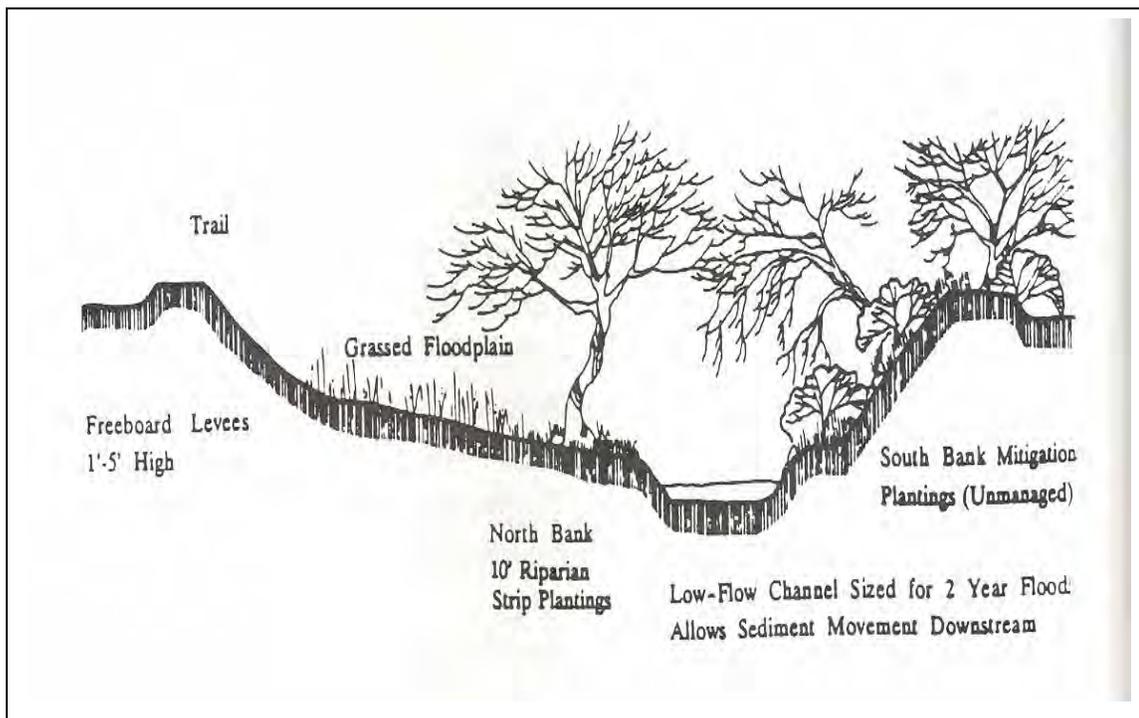


Figure 4. Example of a “two-stage” flood-control channel with a meandering bankfull channel and floodplain (Riley, pg 180).

- Floodwall construction along the river where available channel right-of-way is limited
- Channel improvements and stability, stream restoration and riparian habitat
- Floodplain management to discontinue the practice of building in the designated 100-year floodplain
- Relocation of existing structures located in the 100-year floodplain
- Buyout of specific properties that are located within the 100-year floodplain, and acquisition of land easements for the floodway
- Flood proofing of structures that will not be relocated or removed from the floodway
- Mitigation (as needed)

C. By-pass channel around the City of Lander

- Dikes constructed along the channel to contain the selected frequency flood flow
- Diversion structure on the Middle Fork to channel water around the city
- Existing channel improved to carry a reduced flow of floodwater

- Floodplain management to discontinue the practice of building in the designated 100-year floodplain
- Road crossings (culverts) and grade control structures as needed as part of the diversion channel
- Diversion channel constructed to carry flood flows (example shown in Fig. 5)



Figure 5. Constructed Diversion Channel

- Relocation of existing structures located in path of diversion channel
- Mitigation (as needed)

D. Flood Storage (example in Fig. 6) or Multi-Purpose Reservoir / On-Channel Structure



Figure 6. Storage Reservoir

- Dam
- Spillway Structure
- Outlet works
- Channel improvements (as needed)
- Floodplain management
- Mitigation (as needed)

E. Flood Storage / Off-Channel Structure

- Diversion structure
- Open channel from off-stream dam to the river
- Road crossings and grade control structures in the open channel
- Buyouts
- Dam
- Channel improvements (as needed)
- Floodplain management
- Relocation at dam site and/or along the route of the open channel
- Mitigation (as needed)

6.1.2. Alternatives Not Advanced Into Planning and Evaluation

All alternatives brought forward through the scoping process were analyzed against the following five criteria: 1) satisfaction of purpose and needs statement, 2) relative costs, 3) technological feasibility, 4) logistics, and 5) environmental consequences. Alternatives that failed to meet the above criteria were eliminated from further study. Those alternatives not advanced into planning and evaluation will be referenced in the draft EIS.

6.2. Existing Studies and Plans

The following is a list of studies, plans, and documents that were reviewed for pertinent information and data relative to the project area and the objectives of the project. This information was incorporated into the planning process along with any issues, concerns, and objectives.

- Lander 20/20
- Wyoming Water Development Commission (WWDC) – Worthen Meadows Study
- WWDC-Popo Agie Watershed Assessment.
- Popo Agie River Commission Minutes
- County Emergency Flooding Management Plan
- City Emergency Management Flooding Plan
- 1978 Lander Flood Insurance Study
- Wyoming Emergency Management Agency – Plans and Documents
- Forest Service Management Plan
- Bureau of Land Management (BLM) Area Resource Plan and Allotment Management Plans
- Past Emergency Watershed Protection projects
- Wyoming Department of Transportation – Hydrology and Bridge designs
- University of Wyoming Study Review
- Fremont County Land Use Plan

6.3. Methods for Comment Collection and Analysis

Comment Collection

- Comments were taken at the facilitated public scoping meeting (verbal and written) on January 8, 2003.
- Written comments were accepted for a thirty-day comment period by letter, fax, and e-mail. Twenty-seven written comments were received.

Comment Analysis

- All comments were analyzed by an interdisciplinary team, which included project sponsor representation.

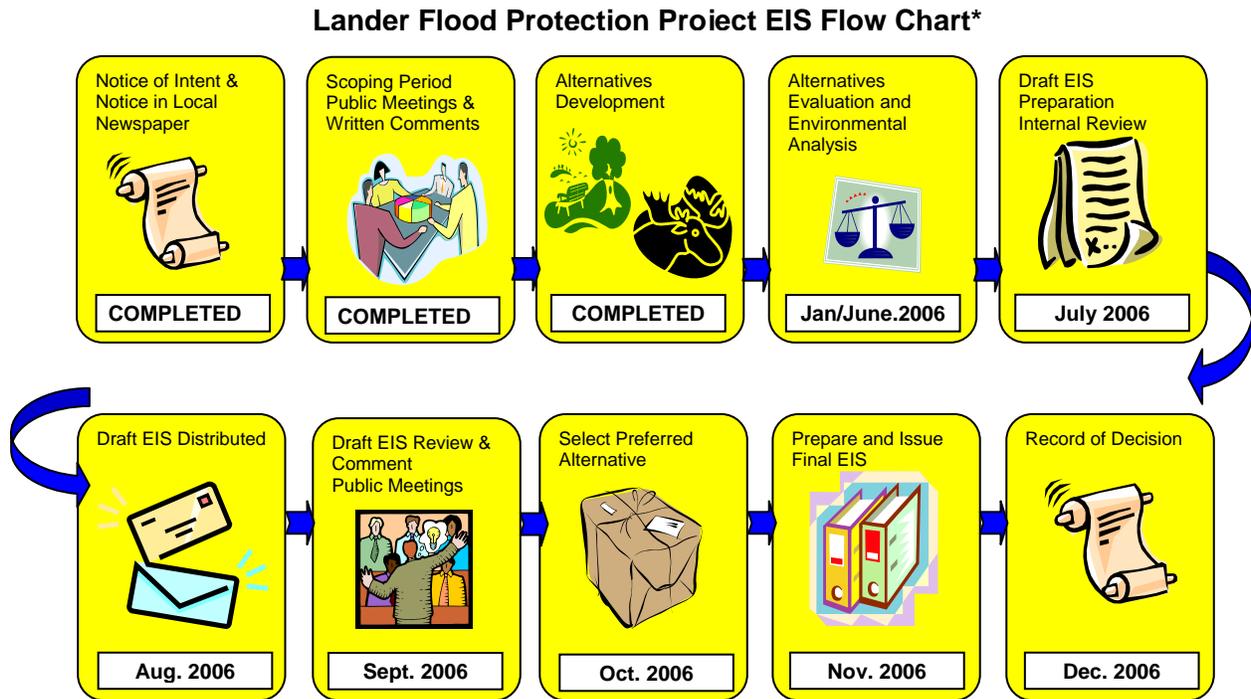
6.4. Summary of Scoping Comments (See Appendix E)

There has been a high degree of interest in this project to protect the City of Lander from future flooding. Potentially affected landowners have participated, as well as the community at large. Protection from flooding, as well as improving the aesthetics and function of the stream passing through Lander are concerns that have been expressed throughout the scoping process. Landowners upstream and downstream from Lander and municipalities downstream from Lander are interested and concerned how the results of the project may affect them.

7. Interdisciplinary Planning Team

NAME	AGENCY	TITLE
Edie Bennett	NRCS	State Economist
Nick Biltoft	NRCS	District Conservationist
George W. Cleek IV	NRCS	Assistant State Conservationist
Dave Dufek	Wyoming Game and Fish	Biologist
Steve Dutcher	Popo Agie Conservation District	Supervisor
Don Gaddie	NRCS	Team Resource Conservationist
Lee Hackleman	NRCS	Civil Engineer/Water Supply Specialist
Mark Hogan	U.S. Fish and Wildlife Service	Biologist
Kirk Hoover	NRCS	Engineer
Rory Karhu	NRCS	Biologist
Evan Murray	NRCS	Resource Conservationist
Mark Opitz	NRCS	State Conservation Engineer
Chandler Peter	U.S. Army Corps of Engineers	Senior Project Manager
Ray Price	Fremont County	County Planner
Dan Shatto	City of Lander	Emergency Management Coordinator
Jeri Trebelcock	Popo Agie Conservation District	District Manager
Randy Wiggins	NRCS	State GIS Coordinator

8. Project Environmental Impact Statement (EIS) Tentative Schedule



* This diagram depicts the steps and projected timelines for the EIS process

9. Decision Makers defined

The decision maker for this document EIS will be the NRCS State Conservationist who is also the Responsible Federal Official (RFO). Project sponsors are consulted on the document and alternatives, but the final decision rests with the RFO.

Project sponsors are the requesting entities who ask for assistance from the NRCS for their resource problems. In this EIS, the sponsors are the Popo Agie Conservation District, the City of Lander, and the Fremont County Commissioners. Periodic meetings are held with the sponsors and the planning team to keep the sponsors informed on the direction and timetable of the EIS, and to receive input from the sponsor bodies.

10. Requirements of Principles and Guidelines (P&G)

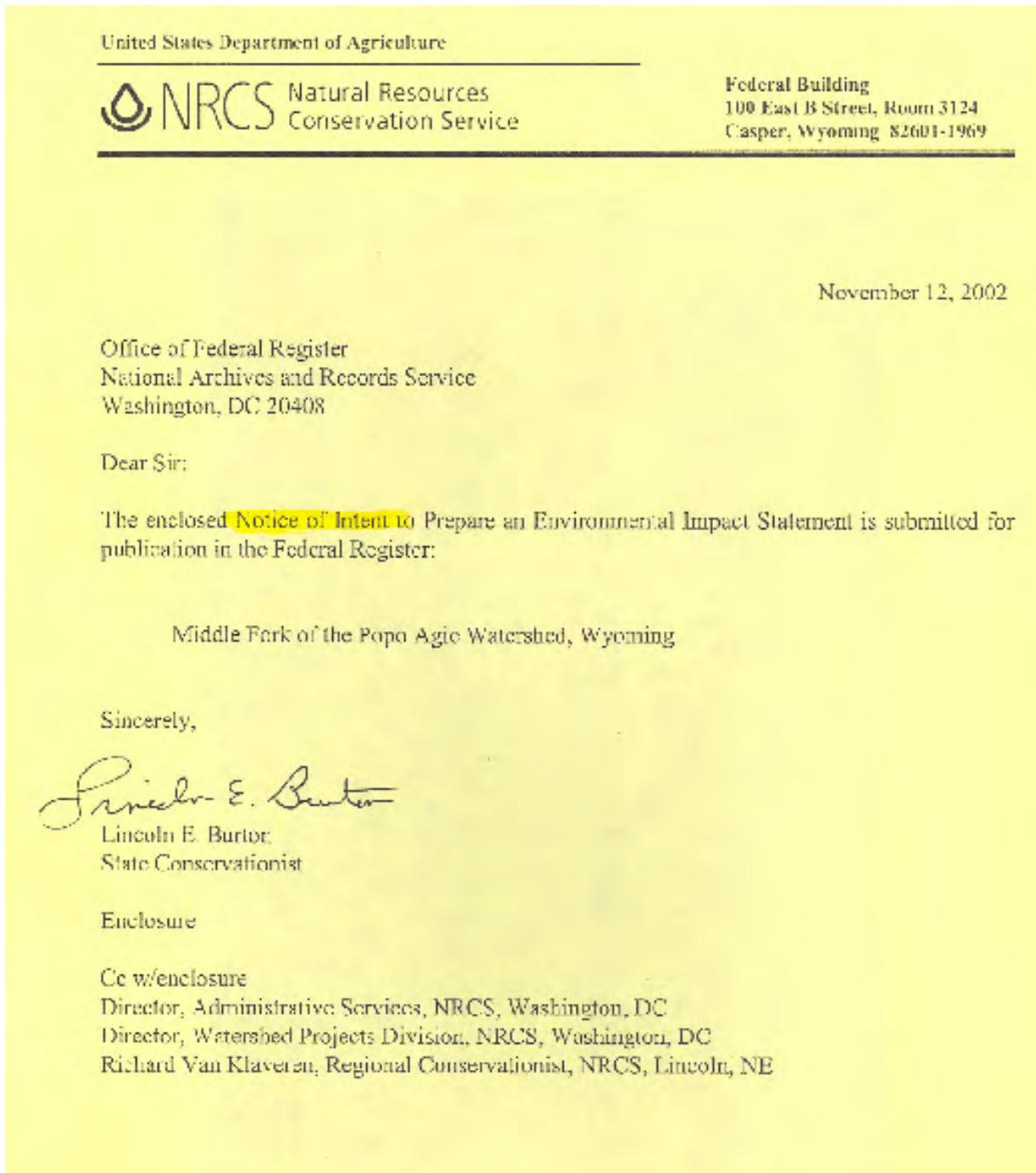
Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, or "P&G" were developed to guide the formulation and evaluation of studies. They were adopted in 1982 in accordance with Section 103 of the Waters Resources Planning Act (42 U.S.C. 1962a-2) and approved by the President in Executive Order 11747 (38 FRR 30993, November 7, 1973).

Each alternative plan is to be formulated in consideration of four criteria: completeness, effectiveness, efficiency, and acceptability. Appropriate mitigation of adverse effects is to be an integral part of each alternative plan.

Four categories of benefits referred to as accounts are established to facilitate evaluation and the display of effects for alternative plans.

- A. The National Economic Development (NED) account displays changes in the economic value of the national output of goods and services.
- B. The Environmental Quality (EQ) account displays non-monetary effects on significant natural and cultural resources.
- C. The Regional Economic Development (RED) account registers changes in the distribution of regional economic activity that result from each alternative plan.
- D. The Other Social Effects (OSE) account registers plan effects from perspectives that are relevant to the planning process, but are not reflected in the other three accounts.

Appendix A Notice of Intent to prepare an Environmental Impact Statement – Middle Fork of the Popo Agie Watershed, Wyoming



Published in the Federal Register November 26, 2002, (Volume 67, Number 2281)

Billing Code: 3210-16
Department of Agriculture
Natural Resources Conservation Service

Middle Fork of the Popo Agie Watershed, Fremont County, Wyoming

AGENCY: Natural Resources Conservation Service

ACTION: Notice of Intent to Prepare an Environmental Impact Statement

SUMMARY: Pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969; the Council of Environmental Quality Guidelines (40 CFR Part 1500); and the Natural Resources Conservation Service Guidelines (7 CFR Part 650); the Natural Resources Conservation Service, U.S. Department of Agriculture, gives notice that an environmental impact statement is being prepared for The Middle Fork of the Popo Agie Watershed, Fremont County, Wyoming.

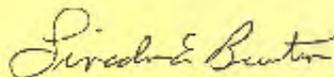
FOR FURTHER INFORMATION CONTACT: Lincoln E. Burton, State Conservationist, Natural Resources Conservation Service, 100 East B Street, Room 3124, Casper, Wyoming 82601, telephone: 307-261-6453.

SUPPLEMENTAL INFORMATION: The environmental assessment of this federally assisted action indicates that the project may cause significant local, regional, or national impacts on the environment. As a result of these findings, Lincoln E. Burton, State Conservationist, has determined that the preparation and review of an environmental impact statement is needed for this project.

The project concerns flood prevention and stream channel restoration of the Middle Fork of the Popo Agie through Lander, Wyoming to the confluence of the North Fork of the Popo Agie. Alternatives under consideration:

1. Diversion through or around town with channel restoration.
2. Flood wall and channel restoration.
3. Upstream Storage and channel restoration.

A draft environmental impact statement will be prepared and circulated for review by agencies and the public. The Natural Resources Conservation Service invites participation and consultation of agencies and individuals that have special expertise, legal jurisdiction, or interest in the preparation of the draft environmental impact statement. Meeting will be held in Lander, Wyoming on Wednesday, January 8, 2003 at Lun at Lander Best Western from 7pm until 9pm. To determine the scope of the evaluation of the proposed action. Further information on the proposed action or the scoping meeting may be obtained from Lincoln E. Burton, State Conservationist, at the above address or telephone.



Lincoln E. Burton
State Conservationist
November 12, 2002

Appendix B Legal Notice announcing public scoping meeting

LANDER
JOURNAL

Wednesday, December 18, 2002

Recycling Center
/// • M-F 8:30 - 3:30

Legal Notice

**The Popo Agie Conservation District and the City of Lander
and the Fremont County Commissioners
and the USDA Natural Resources Conservation Service
are holding a Public Scoping Meeting regarding**

A Public Scoping meeting to identify the concerns of the local citizens regarding the proposed flood prevention and stream channel restoration of the Middle Fork of the Popo Agie through Lander. The meeting is scheduled for January 8, 2003, at the Inn of Lander Best Western, 260 Grand Avenue, Lander, WY from 7:00 to 9:00 P.M.

A resource assessment is in progress in this area and District and NRCS personnel will be available to discuss this information and to respond to questions from the local residents. The local residents will have the opportunity to express any resource related concerns they may have. Concerns expressed in this process will be considered in the planning stages and the Environmental Impact Statement for this project.

To obtain an information packet, please contact Jeri Trebelcock at the Popo Agie Conservation District Office, 201 Main, Lander, or by calling 307-332-3114.

Please contact George Cleek, Natural Resources Conservation Service, 100 East B Street, Room 3124, Casper, WY, 82601 at 307-261-6457 with questions regarding this public scoping meeting. Written comments regarding the scoping for the flood prevention and stream channel restoration (not provided at the public meeting) should be directed to George Cleek, at the above address prior to February 12, 2003.

PUB: Lander Journal
December 18, 2002 and January 1, 2003

Published in the Lander Journal on December 18, 2002.

Appendix C Agencies, Business and Interest Groups Invited to or Represented at Public Scoping Meetings

Audubon Council of Wyoming	The Nature Conservancy
Browall, Sam	Tribal Water Engineer
Bureau of Land Management	Trout Unlimited - Wyoming
City of Lander	U.S. D.A. Farm Services Agency
Congressional Delegation	U.S. D.A. Forest Service
Department of Health and Human Services	U.S. D.A. Rural Development
Department of Environmental Quality	U.S. D.I. Bureau of Reclamation
Ditch Companies	U.S. Department of Commerce
Ducks Unlimited	U.S. Environmental Protection Agency
Eastern Shoshone & Northern Arapaho Joint Business Council	U.S. Fish and Wildlife Service
Federal Emergency Management Agency	U.S. Geological Survey
Fremont County Association of Governments	UW Cooperative Extension Service
Fremont County Cattlewomen	Wind River Backcountry Horsemen
Fremont County Commissioners	Wyoming Association of Conservation Districts
Fremont County Director of Planning	Wyoming Association of Municipalities
Fremont County Multi-Use Association	Wyoming Chapter, Sierra Club
Fremont County School District #1	Wyoming Department of Agriculture
Governors Planning Office - Wyoming	Wyoming Department of Transportation
Hovendick, Stan	Wyoming Economic & Community Development
Lander 2020 Ag Partnerships	Wyoming Emergency Management Agency
Lander 2020 Water Planning Committee	Wyoming Farm Bureau
Lander Area Chamber of Commerce	Wyoming Farmers Union
Lander Valley 2020	Wyoming Game and Fish Department
Lander Valley Sportsmen	Wyoming Outdoor Council
League of Women Voters	Wyoming Riparian Association
Legislative Delegation	Wyoming State Engineer's Office
National Outdoor Leadership School	Wyoming State Training School
National Wildlife Federation	Wyoming Stock Growers
One Shot Antelope Foundation	Wyoming Water Development Commission
Popo Agie Anglers	Wyoming Water Resources Center
Popo Agie Conservation District	Wyoming Weed & Pest Control District
Sinks Canyon State Park	Wyoming Wheat Growers Association
State Historic Preservation Officer	Wyoming Wildlife Federation
Table Mountain Ranch	Wyoming Wool Growers

Appendix D Public Scoping Meeting (January 8, 2003) – Agenda

**LANDER FLOOD PROTECTION
AND STREAM RESTORATION PROJECT
SCOPING MEETING**

JANUARY 8, 2003

7:00 PM

THE INN AT LANDER BEST WESTERN, 260 GRAND AVENUE, LANDER, WY

AGENDA

Welcome	Mickey Wolf, Mayor, City of Lander
Introductions	Milt Green, Vice-Chairman, Popo Agie Conservation District
Meeting Purpose and Direction	Dennis Sun, Meeting Moderator, Wyoming Dept. of Agriculture
Background	Jeri Trebelcock, District Manager, Popo Agie Conservation District
Program and Project Overview	George Cleek, Assistant State Conservationist, USDA Natural Resources Conservation Service
Public Comment Process	Moderator (Sun)
	<i>(Break Out to Groups- members voice issues and concerns on project, preliminary alternatives, and other viable alternatives)</i>
Prioritize Identified Concerns (led by Break Out Group Facilitators)	Break Out Groups
	<i>(Reassemble to single group)</i>
Review Top 10 Issues (from each group)	Break Out Group Facilitators
Summarize Meeting Activities/Results	Moderator (Sun)
Next Step	George Cleek
Adjournment/Thank You	Doug Thomson? Fremont County Commissioner

Appendix E Public Scoping Meeting (January 8, 2003) – Categorized Issues / Concerns / Opportunities

Lander Flood Protection Project Issues / Concerns / Opportunities	
Aesthetics	Aesthetics of community overall
	Aesthetics of river i.e. river wall and the channel
Benefits	Evaluate combination of benefits with storage and floodwall
	Will it work
	Keeping big picture in perspective
Costs	Maintenance responsibility on project sponsors-cost? New equipment?
	Cost to city
	Do we increase taxes to pay city's share
	Cost of maintenance per alternative
	Costs to downstream landowners
	Property costs with a diversion around the city
	Social and economic impacts with a diversion around the city
Downstream Effects	Look at effects downstream from upstream storage
	Downstream impacts channel, water quality
	Study Impacts downstream
	Study impacts of downstream as a result of alternatives
	Increased velocity downstream
	Moving problem downstream.
	What about downstream folks?
	Impacts to downstream, landowners where alternative
	Damage prevention downstream
	Increased velocity downstream – impact on tribes
	Plan that incorporates flood mitigation in Hudson (accelerated exit of water from Lander)
	Impacts to the community of Hudson
Environment	Re-vegetate disturbed areas with native species
	Stability of native vegetative species
	Build into all alternatives habitat enrichment that helps absorb flood energy
	Use native riparian vegetation to stabilize banks
	Incorporate the green way plan into this plan
	Concern the velocity of flow in floodwall alternative will cause stream channel and adjacent riparian damage
Fisheries	Impacts to fisheries
	Impacts upstream and downstream to fisheries
	How energy would be dissipated by flood with, rock wear and fish habitat

Lander Flood Protection Project Issues / Concerns / Opportunities	
Flood Event Concerns	Type of flood = 100-year storm, vs. ice, vs. dam failure
	In the event of a dam failure, what are the contingencies?
	Bridge capacity for flood flow
	Life-span of each alternative
	Need more alternatives / more study of alternatives and combinations
	Look at alternatives from other towns (Missoula, MT) / demonstrations
	Economic development will contribute or not?
	Flooding caused by ice jams
	Assumption of channel capacity below main street bridge
	South 2 nd Street bridge capacity
Flood Insurance	Affects to people next to open channel that would be rerouted. Health and safety, insurance, valuation of property.
	Financial alternatives with insurance Coop to financially cover damages
Floodplain Management (Zoning)	Planning integrated community (don't build in the floodplain)
	Address development in floodplain
	Continued development within the floodplain
	Saturation of soils
General	Vandalism
	Health concerns
	Maintenance
Land rights	Private property rights-property values
	Damage to farms and ranch land property
	Sinks canyon Ranches being flooded
	Property condemnation by alternatives
Recreation	Recreational uses and instream flow
Relocation/Buyout	Elevate Jack's Ranch
	Residential relocation
	City's responsibility for land rights – buying out properties along river
	Emotions are involved in buying properties – business and homes
	Need good explanations RE: Buyouts/values of properties (cost of replacement)
Safety	General safety issues
	People have to be informed
	Emergency plan and warning system
	Affects to people next to open channel that would be rerouted. Health and safety, insurance, valuation of property.
	Safety of the alternatives

Lander Flood Protection Project Issues / Concerns / Opportunities	
Water	Drainage – how does the water get out (back to river)
	Diversion around the city
	Potential plugging of diversion structure
	Existing water rights
	Water control
	Force of water coming out of pipe
	Consider effects of Baldwin and Squaw Creek, Dick Creek impacts with Middle Fork
	Address flood issues on other streams
	Do more research on natural course of river
	What would happen to the water channeled around the city
	Need to consider upstream storage to get additional benefits Ag. Stream flow, water quality, etc.
	Capacity
	Study upstream impacts
	Storage area for low flow years
	Erosion occurring around pipe
Could existing ditches in the city be expanded?	
Wildlife	Wildlife Impacts
	Impacts upstream and downstream to wildlife

Appendix F Roster from Interagency Meeting, Lander, Wyoming (December 1, 2003)

NAME	AGENCY	PHONE	E-MAIL
Kevin Johnson	WGFD	332-2688	kevin.johnson@wgf.state.wy.us
Dan Hahn	Lander City Council	332-5774	
Ken Stroh	Lander City Council	332-3307	
Lee Hackleman	NRCS	261-6447	lee.hackleman@wy.usda.gov
Mark Opitz	NRCS	261-6462	mark.opitz@wy.usda.gov
Kirk Hoover	NRCS	367-2854	kirk.hoover@wy.usda.gov
Dan C. Shatto	City of Lander	332-3958	shadow@wyoming.com
Buddy Spriggs	Lander City Council	332-6308	
Evan Murray	NRCS	261-6480	evan.murray@wy.usda.gov
Jim Haverkamp	NRCS	332-3114	jim.haverkamp@wy.usda.gov
Steve Dutcher	Popo Agie Conservation District	332-3114	
Jeri Trebelcock	Popo Agie Conservation District	332-3114	jerit@wyoming.com
Clifford Spoonemoore	WYDOT	777-3889	cliff.spoonemoore@dot.state.wy.us
Tim Stark	WYDOT	777-4379	timothy.stark@dot.state.wy.us
Bill Bailey	WYDOT	777-4045	william.bailey@dot.state.wy.us
Gregg Fredrick	WYDOT	777-4427	gregg.fredrick@dot.state.wy.us
Pat Collins	WYDOT	777-4484	pat.collins@dot.state.wy.us
Chandler Peter	Army Corps of Eng.	772-2300	chandler.j.peter@usace.army.mil
George W. Cleek IV	NRCS	261-6457	george.cleek@wy.usda.gov
Nancy Webber	City of Lander	332-4394 332-2870	
John (Mick) Wolfe, Mayor	City of Lander	332-2870	
Edie Bennett	NRCS	261-6465	edie.bennett@wy.usda.gov
Douglas L. Thompson, Chairman	Fremont County Commission	332-1119	commission@wy.com
Don Gaddie	NRCS	856-7524	don.gaddie@wy.usda.gov