USAID
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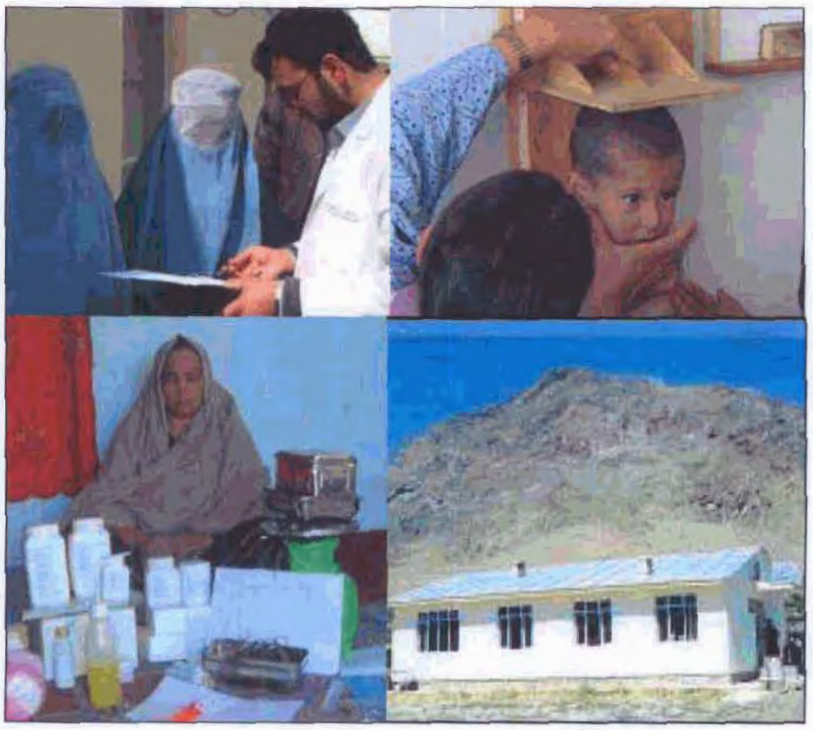
Environmental Assessment

For the

Provincial Clinics Construction Project

A part of the Rehabilitation of Economic Facilities and Services (REFS) Program

Contract 306-C-00-02-00500-00



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LIST OF ACRONYMS/GLOSSARY

A

ACCA	Afghan Assistance Coordination Authority
ACIA	Afghanistan Civil Infrastructure Assessment
AIA	Afghanistan Interim Administration

B

C

CFR	Code of Federal Regulations
COPA	Conditions of Particular Application
CSC	Construction Supervision Consultant

D

E

EA	Environmental Assessment
EIA	Environmental Impacts Assessment

F

G

GC	General Contractor
GCOC	General Conditions of Contract
Gozar	Neighborhood
GoA	Government of Afghanistan

H

Ha	Hectare

I

ICB	International Competitive Bidding
IDA	International Development Association
IEE	Initial Environmental Examination
ISAF	International Security Assistance Forces

J

K

KM	Kilometer

L

LCB	Local Competitive Bidding

M

M	Meters
MIWRE	Ministry of Irrigation Water Resources and Environment
MOIC	Ministry of Information and Culture
msl	Mean Sea Level

N

NGO	Non-Governmental Organization

P

PAP	Project Affected Person
PCF	Post Conflict Fund

R

REFS	Rehabilitation of Economic Facilities and Services

S

SE	Supervising Engineer
Shura	District (typically 15-20 *gozars*)
STD	Sexually Transmitted Disease

T

TOR	Terms of Reference

U

UN	United Nations
UNDP	United Nations Development Fund
UNEP	United Nations Environment Program
UNMAC	United Nations Mine Action Center
USAID	United States Agency for International Development
USAID/GC	USAID General Contractor
UXO	Unexploded Ordnance

V

W

X

Y

Z

ENVIRONMENTAL ASSESSMENT

Of The:

PROVINCIAL CLINICS CONSTRUCTION PROJECT (PCCP)

Proposed As Part Of The

REHABILITATION OF ECONOMIC FACILITIES AND SERVICES (REFS) PROGRAM

With Funding Provided By

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

Contract 306-C-00-02-00500-00

Summary of Findings

Proposed Action. The United States Agency for International Development (USAID) proposes to fund the Provincial Clinics Construction Project (PCCP) as a part of its Afghanistan Rehabilitation of Economic Facilities (REFS) Program. The PCCP proposes to construct sixty eight single story health clinics and one training center in the Provinces of Badakshan, Kunduz, Paktya, Ghazni, Kandahar and Helmand.

Examination Methodology. Pursuant to Environmental Procedures established by Title 22 of the U.S. Code of Federal Regulations, Part 216 (22 CFR 216), USAID made a *Positive Determination* for REFS Component 1 (the Component of with the proposed Project is a part), i.e., a determination that environmental documentation will be required on a project-by-project basis. The USAID Mission in Kabul has determined that an EA is warranted for this project. In accordance with the recommended EA format, the initial section of the EA (the section in hand) presents a Summary of Findings pursuant to 22 CFR 216.6 (c) (1) 22 which states (in its entirety) that the initial section of the EA shall be a summary and that "*the summary shall stress the major conclusions, areas of controversy, if any, and the issues to be resolved*". Accordingly, the Summary of Findings is organized to present:

- **Major Conclusions** (Item 1);
- **Areas of Controversy** (Item 2); and
- **Issues to be Resolved** (Item 3).

1. MAJOR CONCLUSIONS

The Environmental Assessment finds that:

- No significant adverse impacts are likely to result from the proposed Project, provided that the actions to avoid or otherwise mitigate potential adverse impacts are incorporated in the Project as specified herein. Specific environmental provisions for the Project's contractual Conditions of Particular Application (COPA) are provided by **Appendix A**.

2. AREAS OF CONTROVERSY

The phrase "Areas of Controversy" in this context is taken to mean areas of disagreement emerging from public comment and participation in the definition of the Project and the

Proposed Action. No such areas of controversy have emerged.

3. ISSUES TO BE RESOLVED

No environmental issues are to be resolved.

1.0 INTRODUCTION

1.1 PURPOSE OF THE EA

This document presents an Environmental Assessment (EA) of the Provincial Clinics Construction Project (PCCP) proposed for funding by the United States Agency for International Development (USAID) as part of its Afghanistan Rehabilitation of Economic Facilities and Services (REFS) Program. The purpose of the EA is to ensure that environmental issues have been foreseen in its development and implementation plans. The administrative and strategic context provided by the REFS Program is explained in **Item 1.2** below. Details of the proposed Project are provided by **Section 2.0**, Project Description.

To ensure that environmental issues associated with projects such as the PSCP are adequately foreseen, all projects identified for funding by USAID are subject to the Environmental Procedures established by Title 22 of the U.S. Code of Federal Regulations, Part 216 (22 CFR 216). The USAID Mission in Kabul has recommended that the PCCP requires an EA.

1.2 ADMINISTRATIVE & STRATEGIC CONTEXT

The REFS Program of which the PCCP is a part was developed on the basis of an Afghanistan Civil Infrastructure Assessment (ACIA) for which field investigations were undertaken in the period from 13 June to 18 July 2002 and documented by a Final Report to USAID/Afghanistan on 20 August 2002. The purpose of the ACIA was to identify and prioritize Afghanistan's civil infrastructure and its reconstruction, repair and rehabilitation needs and the need for agricultural market centers. The ACIA recommended a prioritized program for:

- Labor-intensive inter-provincial road rehabilitation projects;
- Development of rural market centers ;
- Major roads and bridge projects;
- A National Secondary Roads Program; and
- A National Primary Roads Program.

The REFS Program was developed on the basis of the ACIA specifically "*to promote economic recovery and political stability in Afghanistan by repairing selected infrastructure needed to lower transportation cost, improve the provision of water and sanitation services, increase access to education, health and local government facilities, restore electrical transmission and distribution systems, and repair/reconstruct irrigation systems, dams/diversions and canals critical to the reactivation of the agricultural sector, the dominant means of livelihood in the country.*"[1]

To achieve these goals, the REFS Program consists of three components:

1 REFS Contract, page C-2.

- Rehabilitation and Construction Projects (Component 1);
- Institutional strengthening of selected public services (Component 2); and
- Purchase, importation and distribution of construction materials and supplies not otherwise available in Afghanistan (Component 3).

In accordance with its internal procedures and in accordance with the regulations as outlined above, USAID made a Positive Determination for REFS Component 1, i.e., a determination that environmental documentation will be required on a project-by-project basis for projects involving civil works. The EA herewith provides that documentation for the PCCP that forms part of Component 1.

1.3 ORGANIZATION OF THE EA

The EA is organized as follows:

- **Section 1.0: Introduction.** The section in hand provides introductory information.

- **Section 2.0: Project Description.** Section 2.0 presents details of the proposed Project and a description of the existing environmental policies and procedures in Afghanistan.

- **Section 3.0: Environmental Screening.** Section 3.0 presents the relevant environmental criteria as identified based on USAID regulations, and additional environmental considerations and issues associated with construction projects and the specifics of the PCCP. The discussions of the criteria present statements of:

  - Existing Conditions;
  - Potential Impacts and Anticipated Design Avoidance/Mitigation Actions; and
  - Additional Recommendations.

- **Section 4.0: Environmental Guidelines.** The Environmental Guidelines presented in Section 4.0 present:

  - A Recommended Checklist - Completion of the Checklist is recommended as a part of final Project design.

- **Section 5.0: Conclusions and Recommendations.**

2.0 PROJECT DESCRIPTION

2.1 OVERVIEW

The PCCP forms part of the overarching Rehabilitation of Economic Facilities and Services (REFS) Program within Afghanistan. The scope of works for this portion of the program includes the construction of sixty eight clinics in six provinces of Afghanistan including Badakshan, Kunduz, Ghazni, Paktya, Kandahar and Helmand. Also included in this clinic program is the Ministry of Public Health Training Center (MOPH TC). **Exhibit 2-1** illustrates the location of the clinics within the context of Afghanistan, **Appendix B** indicates the clinics location within the six afore mentioned Provinces. Details of the existing conditions in the potentially affected area are provided item-by-item under the headings of the relevant environmental criteria in **Section 3.0**.

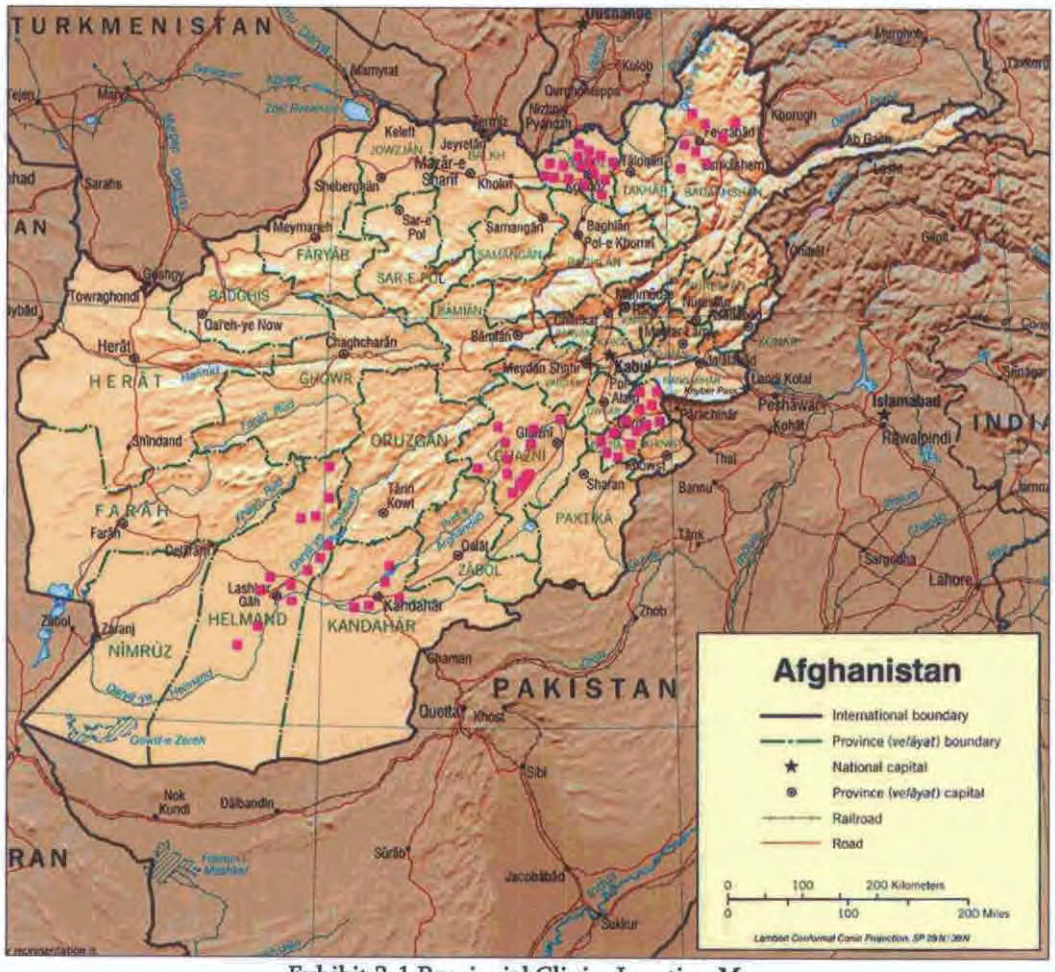


Exhibit 2-1.Provincial Clinics Location Map

After years of civil war and drought, especially in the south, Afghans have scant means to support themselves. Chronic malnutrition is said to be widespread; major causes of mortality among children include diarrhoea, respiratory infections and malaria. Iodine deficiency is common in women, resulting in low birth weight and deafness in newborn babies, indeed, President Karzai said no other nation in the world had as poor a health care system as Afghanistan.

In rural areas, the supply of trained health personnel is nonexistent. In 24 of 31 provinces, for example, there are no hospitals or medical staff. For every 10,000 people in the country, there is an average of 1.8 physicians. Because three-quarters of the physician population is in or near Kabul, most provinces have less than one physician for every 10,000 people. The greatest need is for primary care physicians in pediatrics, women's health, internal medicine and ob-gyn. Afghanistan also has one of the highest mortality rates for mothers, infants and children, so better care for women and children is an urgent need.

Given the above scenario, it has been determined by USAID that construction of basic health facilities is of primary importance throughout the country.

2.2 DETAILS OF THE PROPOSED ACTION

The project proposes to construct sixty six single storey health clinics. Each clinic will be comprised of a main clinic building, a latrine block and a guard room/gate structure. The latrine block and the guard room/gate are not connected to the main clinic. For the MOPH TC, this structure is an office building with a large training room/library. Where the local water table allows and where there is a favorable geotechnical condition; a shallow well with both a heavy duty hand pump and electric submersible pump shall be constructed. Design drawing are included as **Appendix C**.

Typical materials to be used during construction include the following:

- Reinforced concrete foundation, grade and ring beams and columns
- Reinforced brick or concrete block masonry wall panels
- Plain cement plaster on exterior and interior walls and sidewalks, and ADA compliant wheelchair ramps
- Wooden doors / windows and frames
- Dry stone retaining walls on site as needed
- Glass glazing on all clinic windows
- Ceramic floor tiles
- Paint
- Steel, wood and composite steel/wood roof truss systems
- Galvanized iron sheet roof panels with plywood or planking sheathing
- Plywood ceilings
- Fiberglass ceiling insulation
- Indoor water and wastewater plumbing systems
- PVC water tanks (1-250 gallon tank for a BHC, and 2-250 gallon tanks for a CHC)
- Submersible water pump and heavy duty hand pump
- An electric generator set

Site selection was undertaken by LBG, MOPH staff, and USAID officials in 2002 in coordination with local government officials. Most of the sites selected are located within agricultural land and as such compensation was paid to the relevant landowners.

2.3 AFGHAN ENVIRONMENTAL POLICIES AND PROCEDURES

2.3.1 General

In June 2002, for the first time in the history of Afghanistan, an authority for environmental management was mandated in the newly formed government – The Ministry of Irrigation, Water Resources and Environment (MIWRE). Since 2002 several ministerial changes have occurred, MIWRE is now defunct and has been replaced by the Ministry of Energy and Water (MoEW). Of most relevance to this report is the creation of the new National Environmental Protection Agency (NEPA), whom, with the aid of UNEP have produced draft environmental legislation shortly to be enacted.

2.3.2 Legislative Framework

The proposed Environmental Management Act (EMA) drafted by NEPA focuses on several areas including:

- Integrated Environmental Management
    - Environmental Impact Assessment
    - Integration of Environmental Issues into Development Planning
- Integrated Pollution Control
    - Pollution Prevention Control (including licensing)
    - Waste Management (duty of care, waste management licenses etc)
- Water Resource Conservation and Management
- Biodiversity and Natural Resource Conservation and Management
    - National Biodiversity Strategy
    - Protected Areas Management
    - Sustainable Use and Conservation of Species
    - Species Trade
    - Access to Genetic Resources
- Compliance and Enforcement

As mentioned, the Act is currently in Draft form and is likely to be enacted by the turn of the year. Accordingly, this report conforms to the regulations stipulated by Title 22 of the U.S. Code of Federal Regulations, Part 216 (22 CFR 216). Future reports prepared under the REFS programme will however adhere to both 22 CFR 216 regulations and the new EMA. In addition to the EMA several other environmental related laws currently exist as illustrated by the table below.

Afghan Environmental Law	Date
Water Law	1981
The Forestry Law	2000
Law for Land Ownership	2000
Nature Protection Law	1986/2000
Hunting and Wildlife Protection Law	2000
Range Management Law	2000
Agriculture Cooperative Development Law	2000
Charter for the Development of Fertilizer and Agro-chemicals	2000

2.3.3 Afghan Environmental Assessment Procedures

Prior to 2005 no formal EIA process has been practiced in Afghanistan. As a result many projects, such as deep-well drilling or large-scale irrigation projects were conducted without considering the environmental consequences of such activities. Additionally, there wasn't, and in some circumstances, still isn't any consistent application of EIA amongst donor agencies and international organizations currently working in the country.

Specific guidelines have now been produced as part of the Draft Environmental Management Act to deal with Environmental Impact Assessment. In theory there are several key stages in the assessment procedure as follows:

1. Any project, plan or policy of significant size or scope (no screening list defined as yet) shall submit to NEPA a brief containing enough information to enable NEPA to determine the potential adverse effects and positive impacts of the project, plan or policy.

2. After reviewing the brief and acting on behalf of the EIA Board of Experts (yet to be established) NEPA will either:
    a. Recommend the project proceeds without further environmental assessment; or
    b. Submit an environmental assessment / comprehensive mitigation plan

3. The outline of the EIA is roughly similar to that contained herewith, however, alternatives should also be considered, e.g. alternative design, technologies, routes etc.

4. Once the EIA has been approved by the Executive Secretary General (acting on the advice of the EIA Board of Experts) a permit is granted allowing continuation of the proposed project, plan or policy. If the permit is refused for whatever reason an appeal can be submitted within 60 days of the refusal.

The draft regulations also state that Public Participation should also be part of the EIA process. Public participation in this sense includes distributing copies of the EIA to affected persons and undertaking public hearings.

3.0 ENVIRONMENTAL SCREENING

As noted in **Section 1.2**, USAID has determined that REFS Component 1 activities require an environmental screening to identify the appropriate level of documentation for infrastructure activities. This section of the EA provides the necessary screening for the Provincial Clinics Construction Project.

3.1 SCREENING METHODOLOGY

Introduction. To establish the context for the environmental screening, the following:

- Reviews the definition of environmental criteria as established by the applicable USAID regulations and other considerations;
- Defines the Project Area for the purpose of the screening;
- Explains the screening process used to identify:
  - Potential impacts based on the proposed actions and the sensitivity of the environment in which they will occur;
  - Provisions to avoid or otherwise mitigate actions incorporated in the Project; and
  - Additional recommendations.

A matrix of the screening process is presented by **Exhibit 3-1**. Application of the screening process is documented in **Items 3.2** through **Item 3.4**.

Potential Impact Identification Methodology. Potential impacts have been identified on the basis of experience on similar projects and in similar circumstances; and, insofar as possible, a "scoping process" incorporating consultations with local stakeholders with intimate knowledge of the Project Area. Persons beyond the immediate Project Area having expertise relevant to the environmental aspects of the proposed action have consulted in the process, including representatives of the Afghan and local host governments, public and private institutions, the USAID Mission staff and the staff of other concerned agencies such as the UNEP. A list of organizations and individuals contacted is provided by **Appendix C**.

Environmental Criteria. The environmental criteria applied in the screening process have been determined on the basis of applicable USAID regulations and other considerations as follows:

- **Applicable USAID Regulations**. Paragraph 216.1 (c) (10) of the Agency Environmental Procedures states that the "*term environment, as used in these procedures with respect to effects occurring outside the United States, means the natural and physical environment*". Accordingly, the screening addresses:

  Item 3.2 (Physical Resources). Physical resources are generally defined to include topographic, soil, geological and related attributes. Sub-headings in this section are:
  - Topography (Item 3.2.1);
  - Soils (Item 3.2.2);

- Seismic & Geological Characteristics (Item 3.2.3);
- Hydrology (Item 3.2.4);
- Air Quality & Climate (Item 3.2.5); and
- Mines and Unexploded Ordnance (Item 3.2.6).

Exhibit 3-1. Impacts Matrix
Badakshan and Paktya Provinces

		Clinics																			
		Badakshan								Paktya											
		Hafez Mughul	Sharhi Safa	Sakar Lab	Farghambull	Joe Baar	Sar-e-Maiden	Samar Qandi	District No. 3	Melan	Ebrahimkhel	Shwoak	Dre Kholeh	Prozeh	Tashnak	Dam Gundai	Kosin	Mirzakah Mangal	Mamuzi Jani Khail	Surki	Arma
Physical	Topography	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Soils	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Seismic / Geological	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Hydrology	●	●	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Air Quality / Climate	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Mines / UXO	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Biological	Flora	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fauna	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Aquatic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Protected Areas	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Other Environmental	Land Use	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Historic / Cultural Resources	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Health / Safety	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Infrastructure	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Noise	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

X – Potential Negative Impacts
● - No Impacts Identified
√ - Positive Impact

Exhibit 3-2. Impacts Matrix
Kunduz and Kandahar Provinces

		Clinics																				
		Kunduz																Kandahar				
		Qarya-e Madrasa	Arbab Ramazani	Boin	Nek Pai	Aqtash	Aqtash Jan qatagan	Kanom	Ashqolan	Mir Yr Shiakh	Jama Bazar	Ghor Tepa	Char Sari	Angor Bagh	Lar Khabi	Tapa-e-Boreda	Imam Sahib	Ghualaman	Baboor	Nahre Rabat	Panjawali	Talkhan
Physical	Topography	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Soils	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Seismic / Geology	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	●	●	●	●	●
	Hydro	●	●	●	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Air Quality / Climate	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Mines / UXO	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Biological	Flora	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fauna	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Aquatic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Protected Areas	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Other Environmental	Land Use	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Historic / Cultural	x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Health / Safety	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Infrastructure	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Noise	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

X – Potential Negative Impacts
● - No Impacts Identified
√ - Positive Impact

Exhibit 3-3. Impacts Matrix
Ghazni and Helmand Provinces

		Clinics																							
		Ghazni											Helmand												
		Ajirstan	Tamaki	Askar Kot	Kawar Qul	Jaka Pashti	Almaitoo	Tormai	Rasana	Dahani	Sangasi	Turmai	Malgir	Musa Qala	Bagran	Teznai	Naminzai	Tangi Bazar	Ainak	Khushkaba	Mir Mandao	Said Abad	Loy Manda	Barraka	Kanisheen
Physical	Topography	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Soils	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Seismic / Geology	x	x	x	x	x	x	x	x	x	x	x	●	●	●	●	●	●	●	●	●	●	●	●	●
	Hydro	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	x	x	x	●	●	●
	Air Quality / Climate	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Mines / UXO	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Biological	Flora	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fauna	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Aquatic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Protected Areas	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Other	Land Use	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Historic / Cultural	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Health / Safety	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Infrastructure	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Noise	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

X – Potential Negative Impacts
● - No Impacts Identified
√ - Positive Impact

Item 3.3 (Natural/Biological Resources) - the natural/biological aspects of the potentially affected environment. These are discussed under the sub-headings of:

- Flora (Plant Species) (Item 3.3.1) ;
- Fauna (Wildlife) (Item 3.3.2);
- Aquatic Environment (Item 3.3.3); and
- Protected Areas (Item 3.3.4)

Item 3.4 (Other Environmental Concerns) describes these aspects of the /environment under the following sub-headings:

- Land Use and Development Policies & Controls (3.4.1);
- Historic and Cultural Resources (3.4.2);
- Health and Safety Impacts (3.4.3);
- Infrastructure (3.4.4); and
- Noise (3.4.5)

Definition of the Project Area. The potentially impacted area of a given project (generally referred to as the Project Area) is defined by the nature of the proposed action and the sensitivity and circumstances of the environment in which it will occur.

Potential direct impacts of the clinic construction projects will be largely confined to the Project's construction limits and immediately adjacent environs. The conceptual limits of the Project Area must be expanded, however, to include the potential impacts of network improvements and other indirect and cumulative impacts in accordance with the circumstances of the particular environmental characteristic under discussion.

If an action affects an area stream, for example, any significant down-stream impacts must be taken into account – even if they occur in distant locations. The boundaries of the project area must, therefore be conceptually adjusted to take such potential circumstances into account. Generally, however, given the limited nature of the actions included in the Project the potential for direct impact is contained within the immediate environs of the clinic.

Types of Impacts Considered. Environmental consequences resulting from the impacts of construction projects include:

- Direct Impacts - i.e., those directly due to the Project itself such as the conversion of land previously used for agriculture. Direct impacts also include the impact of construction expenditures in the local economy.
- Indirect Impacts - i.e., those resulting from activities prompted by the Project, but not directly attributable to it. The use of rock or crushed brick for project works, for example, has an indirect impact of increasing the demand for these materials.
- Cumulative Impacts - i.e., impacts in conjunction with other activities.

Impacts in all three categories may be either:

- Short-term – i.e., impacts which occur during construction and affect land use, air quality and other factors. Many of these impacts, however, will be short-lived and without long-lasting effects. Even the effects of some relatively significant impacts may be eventually erased if appropriate mitigation actions are taken. Many potential short-term negative impacts can be avoided or otherwise mitigated through proper engineering designs and by requiring Sub-Contractors to apply environmentally appropriate construction methods. Or;
- Long-term – Long-term negative impacts can result from the loss of agricultural land to other land uses and air and water pollution.

Both short-term and long-term impacts may be either beneficial or adverse. Short-term positive impacts will include, for example, the generation of employment opportunities during the construction period. Long-term benefits will include improvements to the health and well-being of the local population.

Determination of the Scope & Significance of Issues. To determine the scope and significance of issues to be analyzed, including direct and indirect effects of the Project on the environment, the following examines each environmental criterion identified above and presents:

- Existing Conditions. The current statement of existing conditions is drawn primarily from site observations in 2005.
- Potential Impacts and Avoidance/Mitigation Measures. Potential impacts and measures incorporated in the Project to avoid or otherwise mitigate the potential impacts are identified. These include measures incorporated in contracting procedures and the Project design. Cognizance of the Project's design and contracting provisions is deemed to be an important means of "*narrowing the discussion of these issues to a brief presentation of why they will not have a significant impact on the environment*" in accordance with the 22 CFR 216 Procedures.
- Additional Recommendations. The examination also identifies the issues for which mitigation beyond that already incorporated in the Project design and standard contracting procedures are considered warranted, including recommendations beyond the scope of the PCCP, but within the scope of REFS.

3.2 PHYSICAL RESOURCES

3.2.1 Topography

Existing Conditions. Afghanistan's topography is dominated by Hindu Kush Mountains which run northeast to southwest through the central portion of the country dividing the northern provinces from the remainder of the country. The southwest is occupied by desert plateau. The lowest point in the country is at Amu Darya at 258 meters above mean sea level (msl). The highest point is at Nowshak 7,485 meters above msl. The southern and western parts of the country are covered by deserts at elevations ranging from 500 to 1,000 meters above msl.[1] The following table indicates the generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
No significant impacts to topographical conditions anticipated.	Provisions incorporated in the design, contracting process and provisions for contract supervision are such that the potential for adverse impacts to topography is obviated.	None required

Site Specific Issues. No site specific issues have been identified.

3.2.2 Soils

Existing Conditions. Within the country as a whole, the soils are characterized as high mountains serozems, desert steppe or meadow steppe. Loess is found in the north. The river valley soils are

1 National Atlas of the Democratic Republic of Afghanistan, Organization for Surveying and Cartography and GEOKART Poland, 1995.

generally alluvial or meadow alluvial. Serozems and brown desert soils cover large portions of the country in the north and southwest.[2] Overgrazing, deforestation, desertification, degradation of watersheds and erosion have been identified as significant environmental issues contributing to soil degradation and reduced soil productivity throughout Afghanistan. The following table indicates generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
Loss of Soil for Agricultural Production	Small areas of agricultural land will be lost due to construction of the clinics. No other significant loss of agricultural land is anticipated to result from Project activities.	None required
Erosion & Scour	Project works are not expected to induce any erosion or scour impacts in the Project Area.	

Site Specific Issues. No site specific issues have been identified.

3.2.3 Seismic & Geological Characteristics

General Conditions.[3] Afghanistan's geological circumstances are complex and generally described in terms of plate tectonics. The mountain chains comprised of the Hindu Kush, Pamir, Karakoram and Himalayan Ranges are believed to have been the result of a collision of the Indian Plate and Asia Plate which began approximately 50 million years ago and continues to the present day. Much of the country is known to be seismically active. The following table indicates generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
Clinics in Ghazni, Badakshan, Paktya and Kunduz provinces are with potentially devastating earthquake regions	Clinic buildings have been designed in accordance with 1997 UBC Seismic Level 4 design and construction criteria and generally speaking to withstand earthquakes of up to 7.5 on the Richter Scale.	None warranted.

Site Specific Issues. No site specific issues have been identified.

3.2.4 Hydrology

General Conditions. The sources of most of Afghanistan's rivers are in the mountains. Water levels in the rivers vary greatly with the highest levels in spring and early summer. In the remaining seasons the rivers may change into small streams or entirely disappear. Three watershed systems can be differentiated in Afghanistan:

2 National Atlas of the Democratic Republic of Afghanistan, Organization for Surveying and Cartography and GEOKART Poland, 1995, page VII.

3 Geological resources such as coal and gem stones are discussed as part of **Item 3.3.3**, Use of Natural and Depletable Resources.

- The Eastern Basin (Indus). The Eastern Basin includes the Kabul and Logar Rivers and their tributaries which drain the eastern part of the country. The rivers within the eastern basin flow generally to the east and eventually join the Indus River and the Arabian Sea.

- The Southern Basin (Sistan-Hilmand). The rivers of the Southern Basin flow generally to the southwest to the Lake of Sistan on the Afghanistan-Iran border and include the Helmand, the country's longest river, the Farahrod and the Khashrod.

- The Northern Basin (Amu Darya). The rivers in the northern part of the country flow northward to the Amu Darya River on the country's northern boundary (and eventually to the Aral Sea) or disappear in the desert sands.

The following table indicates generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
Impacts to Surface and subsurface Hydrology	Discharge or deposit of any matter arising from the execution of the Work into any waters except with the permission of the regulatory authorities concerned will be strictly prohibited. Existing stream courses and drains must be kept safe and free from any debris and any materials.	None.

Site Specific Issues. Khushkaba, Mir Mandao, Said Abad, Nek Pai and Sar-e-Maiden Clinics are located close to surface water courses. Contract provisions stipulated above will ensure that no significant impacts will arise.

3.2.5 Air Quality and Climate

Existing Conditions. The climate of Afghanistan is continental in nature, with cold winters and hot summers. Most of the country is arid or semi arid, with low amounts of precipitation and high variability between years. The following table indicates generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
Rehabilitation Stage	Minor impacts to local air quality during rehabilitation can be anticipated due to fugitive dust generation in and around rehabilitation activities and related activities. The generation of dust due to rehabilitation activities will be mitigated through avoidance strategies and monitoring as follows: 1/ Sub-Contractors will be required to spray excavation and rehabilitation sites to keep them moist for dust control. 2/ Trucks carrying earth, sand or stone will be covered with tarps to avoid spilling. 3/ Open burning will be prohibited in populated areas and requirements for spraying and related dust control measures	None Warranted

	and the proper use of solvents and volatile materials will be in incorporated in the contract provisions.	
Operation Stage	No operation impacts affecting climate or air quality are anticipated during the operational phase of the Project.	

Site Specific Issues. No site specific issues have been identified.

3.2.6 Mines and Unexploded Ordnance

General Conditions. Special provisions have been made by USAID for the clearance of mines and UXO by the United Nations Mine Action Center (UNMAC).[4] A certificate has been received from UNMAC that there are no mines or UXO in the Project Area. No potential impacts have been identified relating to UXO that require mitigation.

Site Specific Issues. No site specific issues have been identified.

3.3 NATURAL/BIOLOGICAL RESOURCES

3.3.1 Flora

General Conditions. Located at the confluence of two biogeographic realms – the Palaeoarctic and Indo-Malayan – Afghanistan has the unique distinction of being the original home of a very large number of plant and animal species, a majority of which are endemic. Afghanistan was renowned for its rich wildlife and with its diversity of habitats and still retains a wide variety of fauna. However, most of the country is subject to some degree of land degradation, notably that resulting from some 20 years of war, deforestation and desertification. The following table indicates generic impacts and proposed mitigation measures for all clinics.

No potentially significant impacts to flora have been identified. Impacts to plant life and agricultural crops during project works will be mitigated through the appropriate construction supervision activities to ensure that ancillary features are properly sited.

Site Specific Issues. No site specific issues have been identified.

3.3.2 Fauna

General Conditions. Afghanistan is home to 119 species of mammals, 460 species of birds, four species of reptiles, and hundreds of species of insects and fish[5]. Thirty five species of animals have been listed as either vulnerable or endangered on the ICUN Red List, however, the number of threatened species may be higher as essentially no wildlife research has been undertaken in Afghanistan for many years. The following table indicates generic impacts and proposed mitigation measures for all clinics.

4 REFS Contract, page C-8.
3 www.icimod.org.np/focus/biodiversity/afgbio.htm

Potential Impacts	Mitigation Measures	Additional Recommendations
Habitat Loss	No significant terrestrial habitat loss is anticipated due to direct or indirect impacts.	None warranted.
Wildlife Migrations	No evidence has come to light indicating that the proposed Project interrupts wildlife migration corridors. The Project will not interrupt any migratory patterns of wildlife species.	

Site Specific Issues. No site specific issues have been identified.

3.3.3 Aquatic Environment

The fresh-water fish of Afghanistan have been little studied, but many are believed to be endemic. The total fish production in Afghanistan was estimated to be 1300 tons in 1995, but no concrete statistical data exist for the country for over 10 years. Therefore the true figure may be considerably different from the estimate. No significant impacts to the aquatic environment have been identified resulting from project activities.

Site Specific Issues. No site specific issues have been identified.

3.3.4 Protected Areas

General Conditions. Six protected areas have been identified in the country:

- Ab-I-Estada Waterfowl Sanctuary.
- Ajar Valley Wildlife Reserve.
- Bande Amir National Park.
- Dashte Nawar Waterfowl Sanctuary.
- Pamir Buzurg Wildlife Sanctuary.
- Kole Hashmat Khan Waterfowl Sanctuary

None of the clinics are located within the six protected areas, and as such will not impact upon these environments.

Site Specific Issues. No site specific issues have been identified.

3.4 OTHER ENVIRONMENTAL CONCERNS

As noted in the introductory remarks, issues addressed in this section are discussed under the following headings:

- Historic and Cultural Resources (3.4.1)
- Noise (3.4.2)
- Public Health and Safety (3.4.3)
- Other Infrastructure Issues (3.4.4)

3.4.1 Historic and Cultural Resources

General Conditions. Historic and cultural resources include monuments, structures, works of art, the sites of outstanding universal value from historical, aesthetic, scientific ethnological and/or anthropological points of view, including unrecorded graveyards and burial sites. Afghanistan is rich in historic and cultural resources. The responsibility for preservation, maintenance and assessment of historical and cultural monuments in Afghanistan rests with the Archaeological Committee under the Ministry of Information and Culture (MOIC).

No significant cultural resources have been identified within the vicinity of most of the clinics. However, In the event of unanticipated discoveries of cultural or historic artefacts (movable or immovable) in the course of the work, the Sub-Contractor shall take all necessary measures to protect the findings and shall notify the Contractor and provincial-level representatives of the Archaeological Committee and the Ministry of Information and Culture. If continuation of the work would endanger the finding, project work shall be suspended until a solution for preservation of the artefacts is agreed upon

Site Specific Issues. A graveyard is located next to the Qarya-e Madrasa clinic on its eastern boundary. Contract provisions will ensure that construction works do not interfere with the graveyard and that no dumping of waste materials on the graveyard will occur.

3.4.2 Noise

General Conditions. Ambient noise levels within the vicinity of all the clinics are low to moderate. None of the clinics are located near to major highways or any other source of elevated noise levels. However, during construction activities short term elevated noise levels are predicted. The following table indicates generic impacts and proposed mitigation measures for all clinics.

Potential Impacts	Mitigation Measures	Additional Recommendations
Construction Impacts	It is recommended that Project bid documents specify that noise and vibration impacts during the construction phase will be mitigated through the use of: ***Source Controls***, i.e., requirements that all exhaust systems will be maintained in good working order; properly designed engine enclosures and intake silencers will be employed; and regular equipment maintenance will be undertaken. ***Site Controls***, i.e., requirements that stationary equipment will be placed as far from sensitive land uses as practical; selected to minimize objectionable noise impacts; and provided with shielding mechanisms where possible. ***Time and Activity Constraints***, i.e., operations will be scheduled to coincide with periods when people would	None warranted.

	least likely be affected; work hours and workdays will be limited to less noise-sensitive times. Hours-of-work will be approved by the Site Engineer with due regard for possible noise disturbance. Construction activities will be strictly prohibited between 10 PM and 6 AM in the residential areas.	

Site Specific Issues. No site specific issues have been identified.

3.4.3 Public Health and Safety

General Conditions. Public health facilities and services in Afghanistan suffered due to civil unrest and severe economic problems. Population per health facility In many districts can be as high as 1-50,000. The project will have significant benefits to public health within the six PCCP provinces, as such no mitigation actions are warranted.

3.4.4 Other Infrastructure Systems

General Conditions. It is anticipated that piped water supply and wastewater collection systems exist only in the urban areas. Irrigation systems and other infrastructure may exist in the rural areas in the form of electrical power lines and pipelines. The formal infrastructure sector in Afghanistan is largely owned and operated through centralized ministries with some operational and production functions delegated to government enterprises. The reach of formal services, however, is very limited. In the urban water supply and sanitation sectors there is reported to be substantial private participation in service deliveries mainly through communities, NGOs and UN agencies. In rural areas NGOs and communities have been and are likely to remain the core providers of infrastructure services. Details of the known situation are as follows.

Water Supply Systems. Piped water supply systems exist only in urban areas and are in need of urgent repair. Coverage is poor. Less than 20 percent of Kabul's population has access to piped water and many provincial and secondary towns have no networked services.[6]

Wastewater Collection Systems. Virtually no rural areas and few residential or public buildings in Afghan cities have networked wastewater collection sewerage facilities and those that do discharge their wastewater directly into rivers without treatment. The World Bank reports that in 1997, sanitation coverage was estimated to be 23 percent of the urban population (versus eight percent of the rural population).[7]

Electrical Systems. No above ground electrical connections are evident within settlement areas.

Construction of the clinics is unlikely to have any significant impacts to infrastructure within the Provinces. All of the clinics will be provided with a generator which will provide the clinic with spot electricity. For most clinics ,water will be supplied through a new drilled well that will have

6 World Bank, Technical Annex for a Proposed Grant... to Afghanistan for an Emergency Infrastructure Reconstruction Project, May 2002, paragraph 7, page 2.

7 World Bank, Technical Annex for a Proposed Grant... to Afghanistan for an Emergency Infrastructure Reconstruction Project, May 2002, paragraph 7, page 2.

a submersible pump installed and a heavy duty hand pump as well. In these cases, very little ground water will be used and no impact on existing uses of this water will result. For some few clinics, where there is no access to ground water (water is too deep or rock strata prevent drilling) a small above ground water tank will be constructed to feed the internal plumbing system. This tank must be filled from a water truck. Two internal bathrooms will be equipped with flush toilets and a small septic tank system will receive their waste water and that water from sinks in examination rooms as well. The amount of wastewater generated will be small. These septic systems will have no discernable impact on ground water quality. .

Site Specific Issues. No site specific issues have been identified.

4.0 ENVIRONMENTAL GUIDELINES

For projects such as the PCCP Project the REFS TOR states that *"the Contractor shall prepare **environmental guidelines** that will be used to minimize and mitigate potential environmental impacts. Included in the guidelines will be an **environmental mitigation checklist** to be completed as a part of final design for each project. Where the analysis indicates that negative environmental effects could occur, the project will be designed to avoid or mitigate those effects. The guidelines will also describe procedures for **monitoring rehabilitation activities** to assure that identified mitigation measures have been implemented as planned"* (Emphasis added). Accordingly, the following presents the examination's findings in regard to the environmental mitigation final design checklist (**Item 4.1**) and monitoring (**Item 4.2**). Additional recommendations for environmental actions beyond the scope of the Project, but within the scope of REFS, are presented in **Item 4.3**.

4.1 Environmental Mitigation Final Design Checklist

The preferred form of mitigation is avoidance of impacts through the adoption of enforceable measures and precautions rather than amelioration after the fact. This preferred form of mitigation has been incorporated in the recommended contract provisions attached hereto as **Appendix A.** An environmental and final design checklist is provided by **Exhibit 4-1**.

EXHIBIT 4-1
ENVIRONMENTAL MITIGATION FINAL DESIGN CHECKLIST
For Air Quality, Soils, Water and Noise.

AIR QUALITY

Potential Impact Source	Mitigation Objective	Mitigation Measure	Implementation Mechanism & Responsibility
Material Transport	Minimization of dust during transport of fill and construction material	Rock, sand and other dust producing material will be sprayed prior to transport. Trucks must be covered with tarps. Only approved transport routes will be used.	Required by Project Contracts. Enforced by the Supervising Engineer (SE).
Emissions from Construction Equipment.	Avoidance of excessive emissions due to poorly maintained equipment.	Contract stipulations require all construction equipment to meet acceptable standards and to be properly maintained.	Required by Project Contracts. Enforced by SE.
On-Site Burning.	Avoidance of smoke and gases which may constitute a nuisance.	On-site burning to be banned in populated areas	Required by Project Contracts. Enforced by SE.

WATER QUALITY

Potential	Mitigation Objective	Mitigation Measure	Implementation

Impact Source			Mechanism & Responsibility
Pollution of surface and subsurface hydrology	Prevent any interference with the supply to, or abstraction from, water resources and the pollution of water resources as a result of the execution of the Works.	Contracts stipulate that the Sub-Contractor shall not discharge or deposit any matter arising from the execution of the Work into any waters except with the permission of the regulatory authorities concerned. Existing stream courses and drains must be kept safe and free from any debris and any materials.	Required by Project Contracts. Enforced by SE.

SOILS

Potential Impact Source	Mitigation Objective	Mitigation Measure	Implementation Mechanism & Responsibility
Loss of Agricultural Land	Minimize use of farmland for road improvement purposes.	Loss of agricultural land has been avoided as much as possible. Use of corridors already dedicated to agricultural use minimizes the need for additional agricultural land.	Avoidance of agricultural land has been incorporated in the decision-making process.

NOISE

Potential Impact Source	Mitigation Objective	Mitigation Measure	Implementation Mechanism & Responsibility
Other Construction Activities.	Minimize high noise levels and times of occurrence.	Limit construction hours in sensitive areas. Use of properly maintained equipment.	Required by Project Contracts. Enforced by SE.

4.2 Recommended Actions Beyond the Scope of the Project

No actions are beyond the scope of the project are recommended.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Project works are not anticipated to induce any significant impacts on the environmental or social characteristics of the Project Area. However, minor impacts will result from some rehabilitation activities as noted in **Section 3.0**. Notwithstanding the above, all of the identified impacts can be appropriately managed or mitigated by the measures outlined in **Sections 3.0 & 4.0** and provided as Recommended Contract Provisions as **Appendix A**.

APPENDIX A
CONDITIONS OF PARTICULAR APPLICATION
ENVIRONMENTAL PROVISIONS

The following has been extracted from the Conditions of Particular Application (COPA) prepared for use in the PCCP.

4.0 ENVIRONMENTAL

4.1 General Provisions and Precautions

The Sub-Contractor shall take all necessary measures and precautions and otherwise ensure that the execution of the Works and all associated operations on the Work Sites or off-site are carried out in conformity with statutory and regulatory environmental requirements of Afghanistan including those established by local governments. The Sub-Contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the Work. This shall, wherever possible, be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated. In the event of any spoil or debris or silt from the Work Sites being deposited on any adjacent land, the Sub-Contractor shall immediately remove all such spoil debris or silt and restore the affected area to its original state to the satisfaction of the responsible authorities.

4.2 Water Quality

The following conditions shall apply to avoid adverse impacts to water quality:

- The Sub-Contractor shall prevent any interference with the supply to, or abstraction from, water resources and the pollution of water resources (including underground percolating water) as a result of the execution of the Works.

4.3 Air Quality

The following conditions shall apply to avoid adverse impacts to air quality:

- Open burning will be prohibited.
- Stockpiles of materials shall be sited in sheltered areas or within hoarding, away from sensitive areas. Stockpiles of friable material shall be covered with clean tarpaulins, with application of sprayed water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement whenever warranted.
- Vehicle with an open load-carrying area used for transporting potentially dust- producing material shall have properly fitting side and tailboards. Materials having the potential to produce dust shall not be loaded to a level higher than the side and tail boards, and shall be covered with a clean tarpaulin in good condition. The tarpaulin shall be properly secured and extend over the edges of the side and tailboards.

4.4 Noise

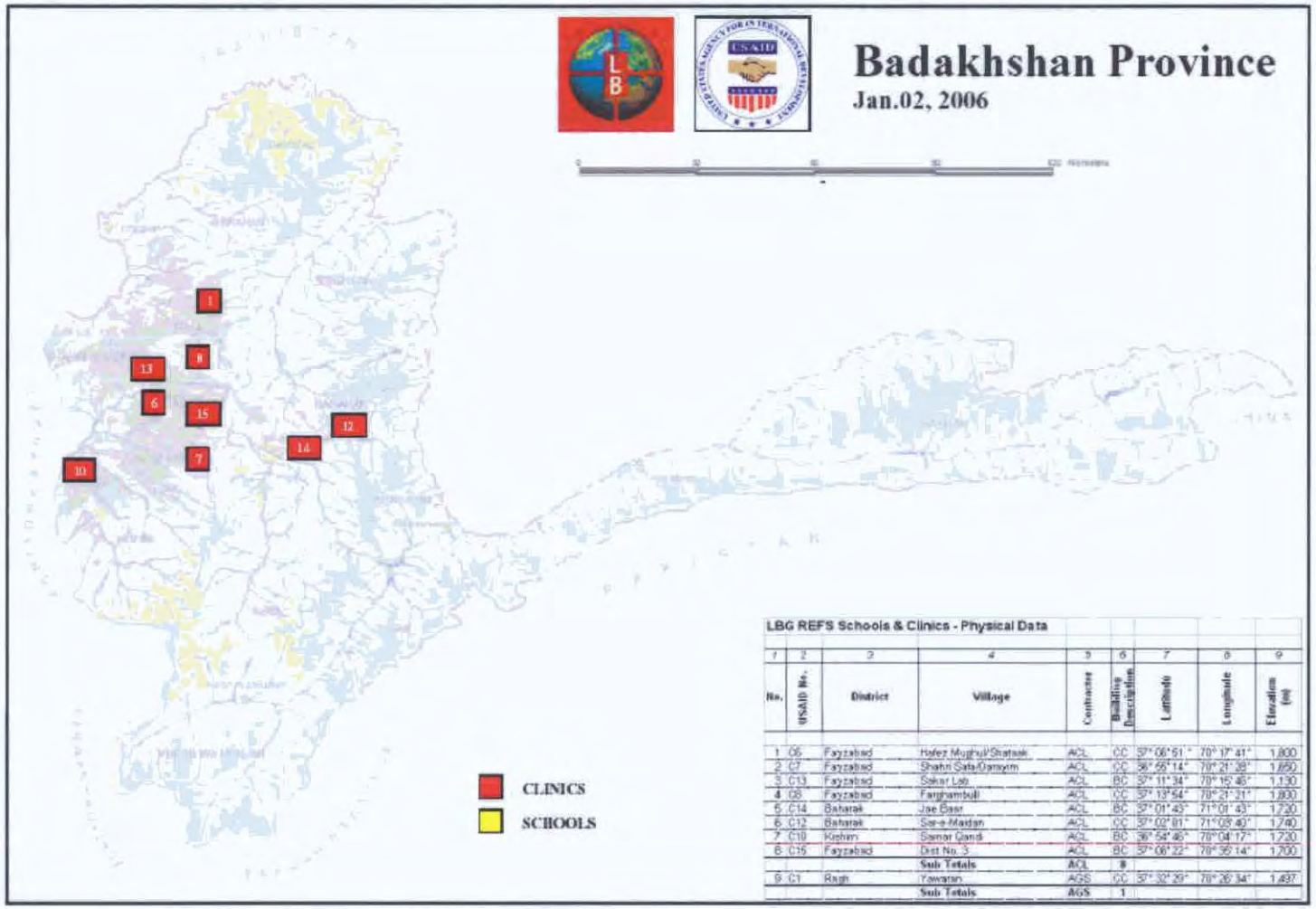
To avoid adverse impacts due to noise, the Sub-Contractor shall:

- Take all necessary measures to ensure that the operation of all mechanical equipment and construction processes on and off the Site shall not cause any unnecessary or excessive noise, taking into account applicable environmental requirements.
- Schedule operations to coincide with periods when people would least likely be affected and limit work hours and work days to less noise-sensitive times. Hours-of-work will be approved by the Contractor having due regard for possible noise disturbance to the local residents or other activities. Construction activities will be strictly prohibited between 10 PM and 6 AM in the residential areas. When operating close to sensitive areas such as residential, nursery, or medical facilities, the Sub-Contractor's hours of working shall be limited to 8 AM to 6 PM.

4.5 Protection of Historic and Cultural Resources

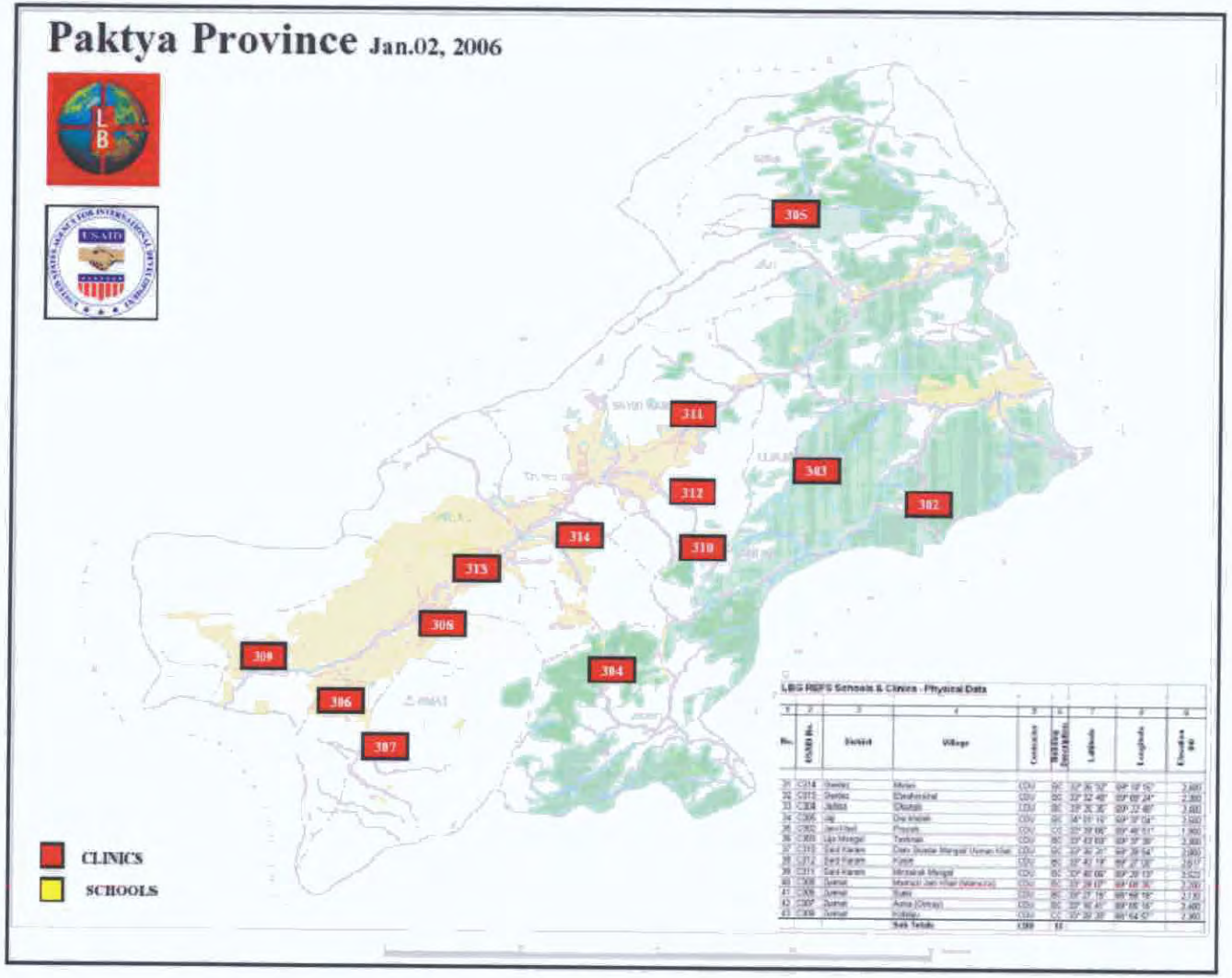
To avoid potential adverse impacts to historic and cultural resources, the Sub-Contractor shall:

- In the event of unanticipated discoveries of cultural or historic artifacts (movable or immovable) in the course of the work, the Sub-Contractor shall take all necessary measures to protect the findings and shall notify the Contractor and provincial-level representatives of the Archaeological Committee under the Ministry of Information and Culture. If continuation of the work would endanger the finding, project work shall be suspended until a solution for preservation of the artifacts is agreed upon.



LBG REFS Schools & Clinics - Physical Data

1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation (m)
1	C6	Fayzabad	Hafez Mughul/Shatawk	ACL	CC	37° 06' 51"	70° 17' 41"	1,800
2	C7	Fayzabad	Shahri Sata/Qamyim	ACL	CC	36° 55' 14"	70° 21' 28"	1,850
3	C13	Fayzabad	Sakar Lab	ACL	BC	37° 11' 34"	70° 15' 45"	1,130
4	C8	Fayzabad	Farghambull	ACL	CC	37° 13' 54"	70° 21' 31"	1,800
5	C14	Baharak	Jae Basr	ACL	BC	37° 01' 43"	71° 01' 43"	1,720
6	C12	Baharak	Sar-e-Maidan	ACL	CC	37° 02' 01"	71° 03' 40"	1,740
7	C10	Kishim	Samar Qand	ACL	BC	36° 54' 46"	70° 04' 17"	1,720
8	C15	Fayzabad	Dist No. 3	ACL	BC	37° 06' 22"	70° 35' 14"	1,700
			Sub Totals	**ACL**	**8**			
9	C1	Rugh	Tawaran	AGS	CC	37° 32' 29"	70° 26' 34"	1,497
			Sub Totals	**AGS**	**1**			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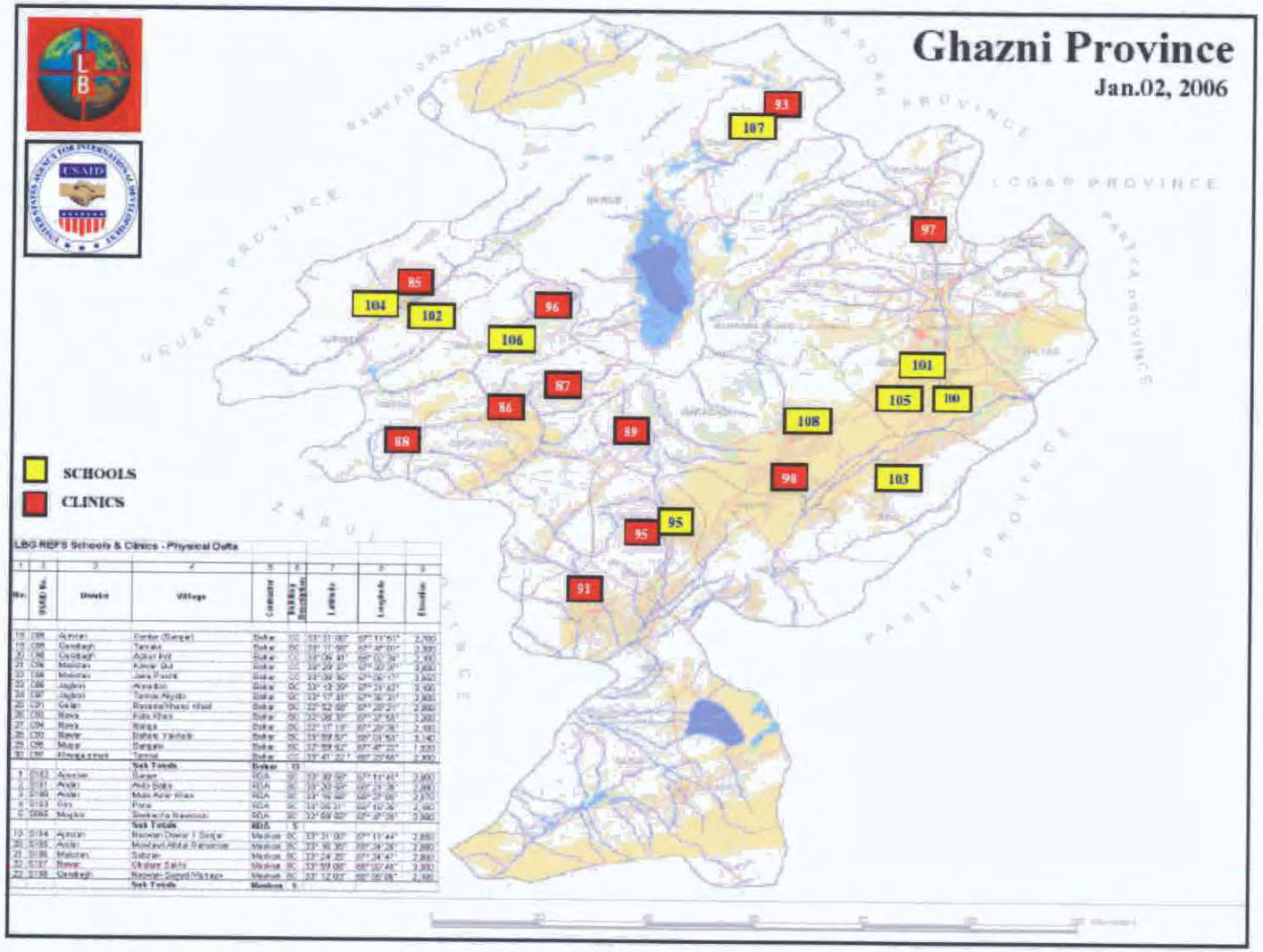
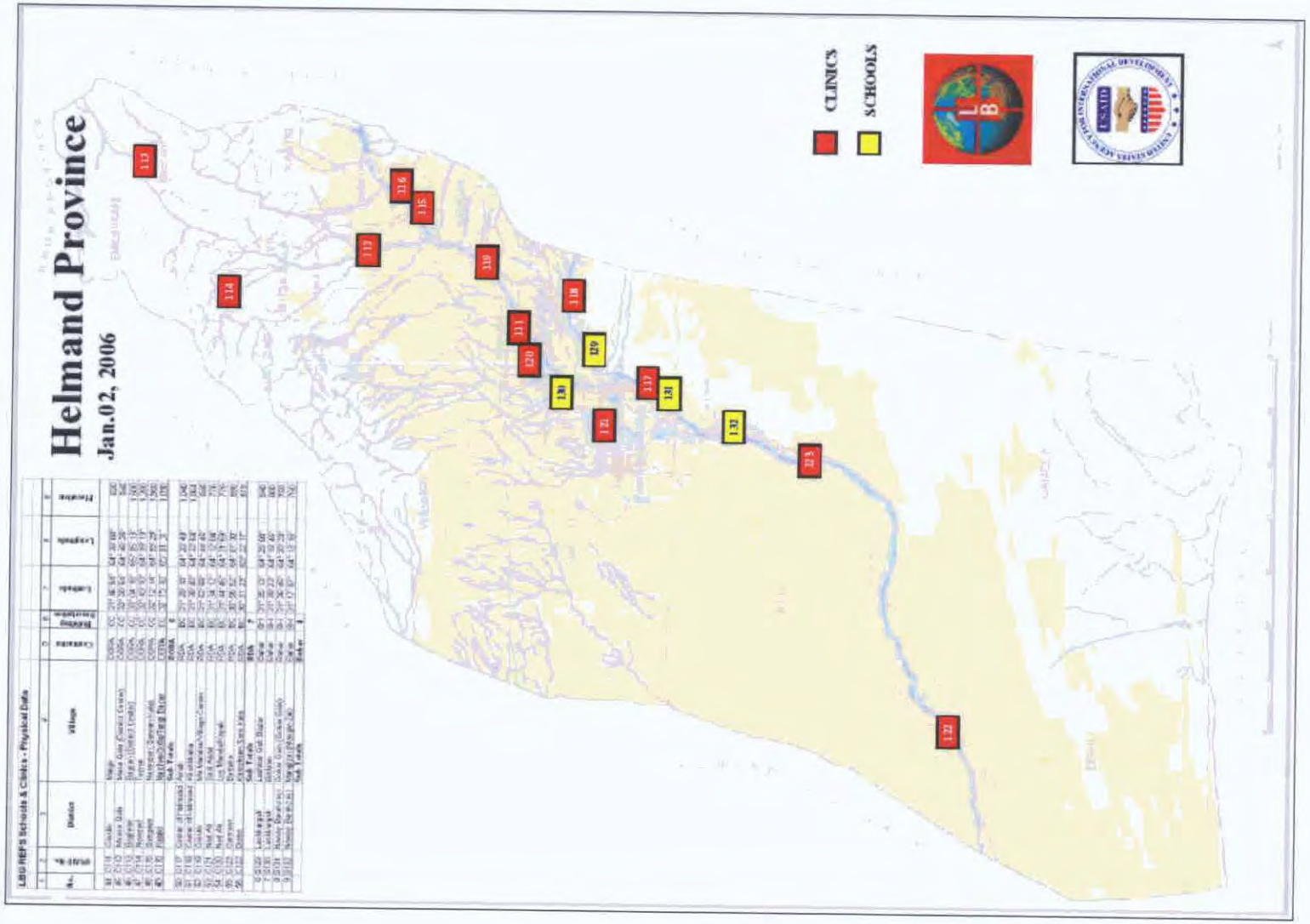
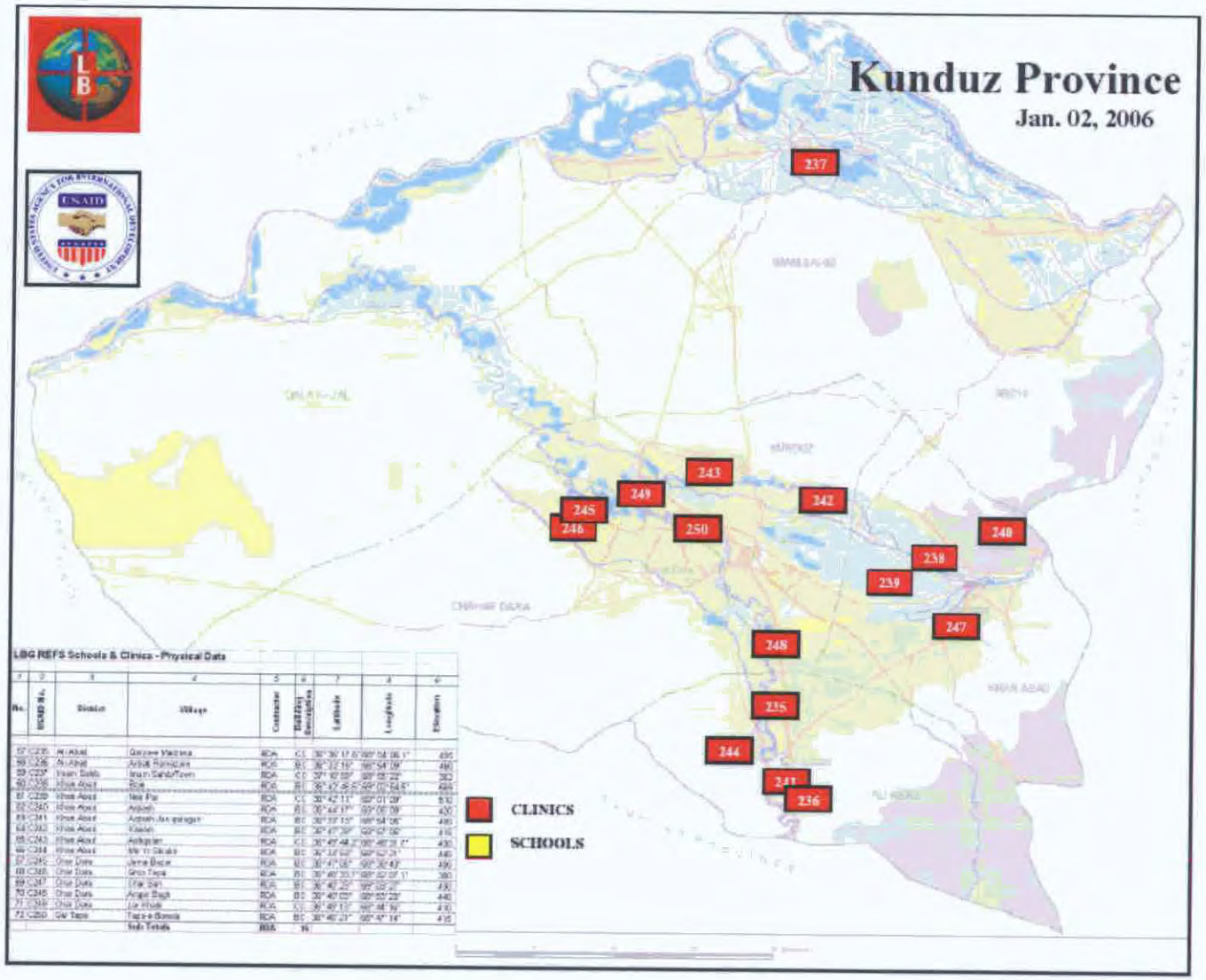
CLINICS
SCHOOLS
LBG REFS Schools & Clinics - Physical Data



LBG-REFS Schools & Clinics - Physical Data

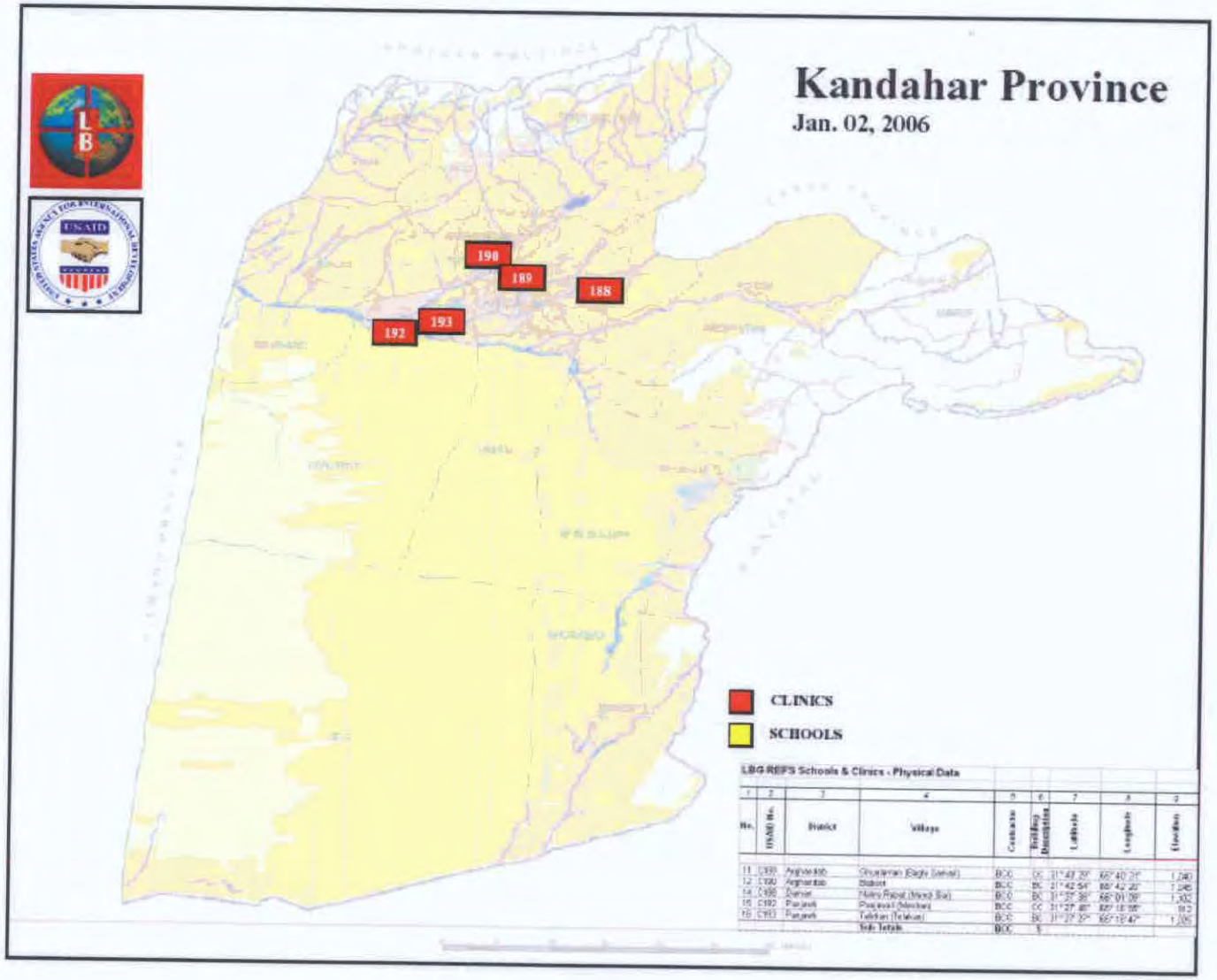
1	2	3	4	5	6	7	8	9
No.	Study No.	District	Village	Category	Building Description	Latitude	Longitude	Elevation
19	0186	Ajristan	Center (Sangar)	School	SC	33° 31' 00"	68° 11' 53"	2,700
19	0186	Qarabagh	Tanwa	School	SC	33° 11' 50"	67° 47' 00"	2,300
20	0186	Qarabagh	Ashur Ind	School	CC	33° 06' 41"	68° 02' 38"	2,400
21	0186	Malistan	Kuwar Qul	School	CC	33° 29' 37"	67° 32' 37"	2,600
22	0186	Malistan	Jaba Pasht	School	CC	33° 24' 30"	67° 32' 17"	2,600
23	0186	Jaghori	Ainakdin	School	SC	33° 13' 39"	67° 31' 43"	2,400
24	0187	Jaghori	Tanna Alyato	School	SC	33° 17' 41"	67° 36' 21"	2,800
25	0191	Gelan	Rosaqa/Khasi Khail	School	SC	33° 32' 50"	68° 28' 21"	2,800
26	0193	Nawa	Kala Khan	School	SC	33° 08' 37"	68° 37' 53"	2,200
27	0194	Rawa	Ratga	School	SC	33° 17' 19"	67° 20' 36"	2,400
28	0193	Nawa	Dahana Yakhdak	School	SC	33° 09' 57"	68° 01' 50"	2,140
29	0195	Muqur	Dangala	School	SC	32° 59' 57"	67° 45' 22"	1,800
30	0197	Khogyanai	Tanna	School	CC	33° 41' 32"	68° 22' 50"	2,300
			Sub Totals	**School**	**15**			
1	0183	Ajristan	Sangar	RDA	SC	33° 30' 50"	68° 11' 41"	2,900
2	0181	Andar	Arbi Sokh	RDA	SC	33° 33' 00"	68° 23' 38"	2,900
3	0189	Andar	Mula Ashir Khan	RDA	SC	33° 16' 00"	68° 27' 00"	2,370
4	0183	Gizab	Pana	RDA	SC	33° 05' 31"	68° 02' 26"	2,400
5	0066	Moqur	Sokhe Ha Rawaqa	RDA	SC	32° 59' 00"	67° 47' 00"	2,300
			Sub Totals	**RDA**	**5**			
19	0194	Ajristan	Nawan Dawar I Sogar	Medical	SC	33° 31' 00"	68° 11' 44"	2,800
20	0186	Andar	Mordand Abdul Rahmanai	Medical	SC	33° 30' 30"	68° 24' 26"	2,800
21	0186	Malistan	Sabzak	Medical	SC	33° 24' 20"	67° 24' 47"	2,800
22	0187	Nawa	Ghaiam Sakhi	Medical	SC	33° 59' 00"	68° 00' 48"	3,000
23	0188	Qarabagh	Nawan Sagad Nikzao	Medical	SC	33° 12' 00"	68° 06' 08"	2,100
			Sub Totals	**Medical**	**5**			


Helmand Province
Jan.02, 2006
CLINICS
SCHOOLS
LBG REFS Schools & Clinics - Physical Data



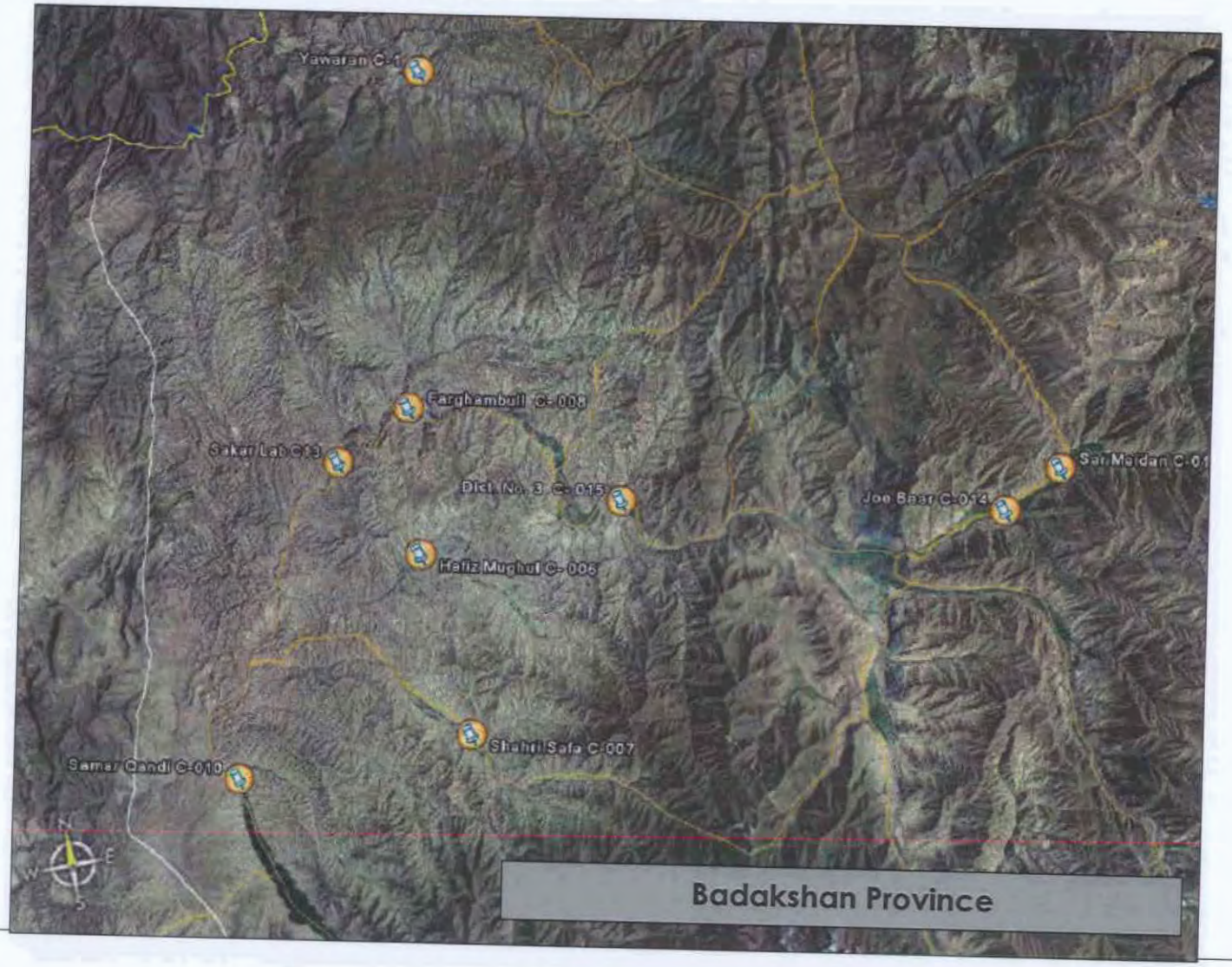
LBG REFS Schools & Clinics - Physical Data

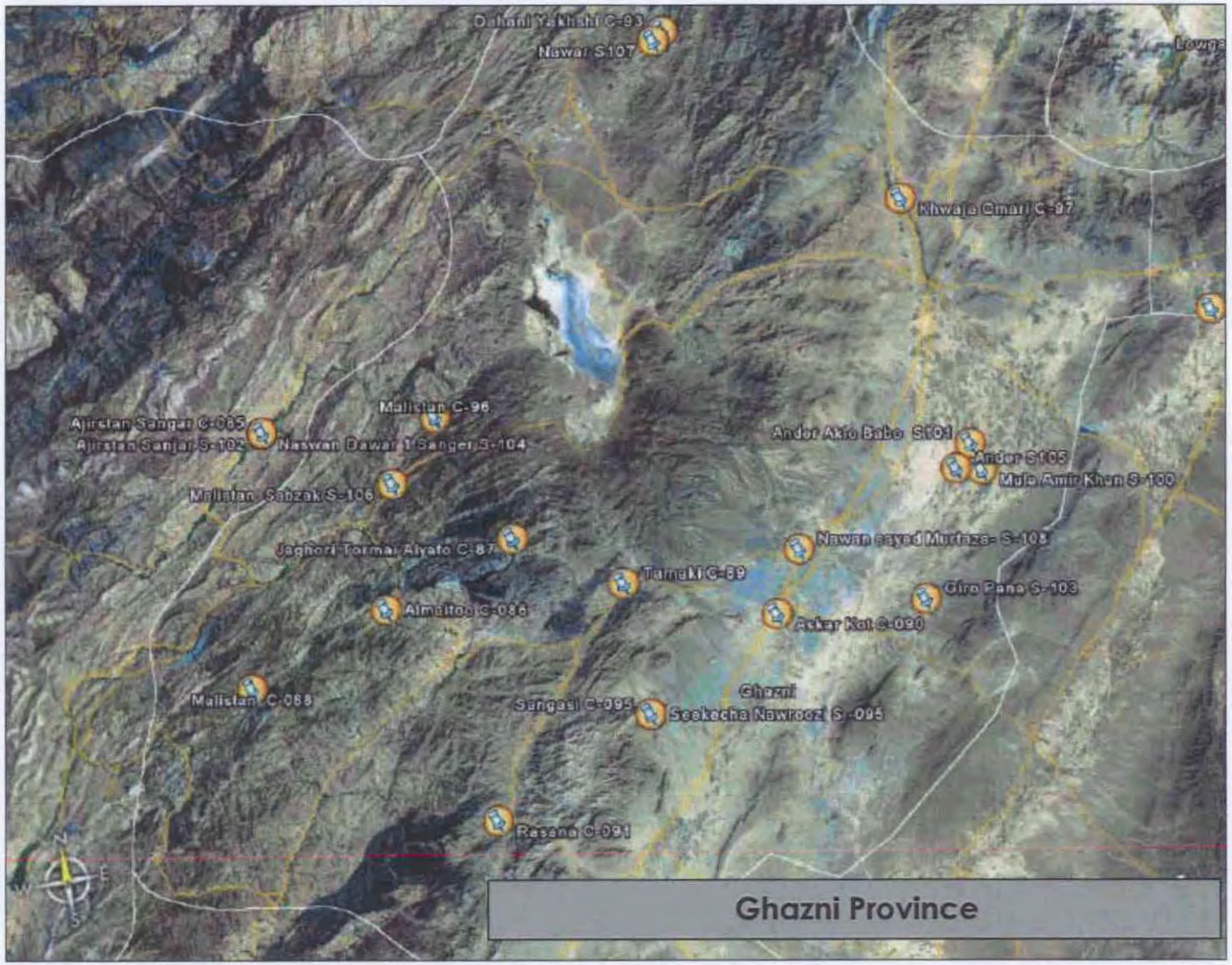
1	2	3	4	5	6	7	8	9
No.	BCID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation
57	C235	Al Abad	Qazaw Madrasa	RCA	CL	36° 36' 17.0"	68° 54' 06.1"	495
58	C236	Al Abad	Arbab Ramazan	RCA	BC	36° 22' 15"	68° 54' 09"	490
59	C237	Imam Sahib	Imam Sahib Town	RCA	CL	37° 10' 55"	68° 55' 22"	282
60	C238	Khas Abad	Bola	RCA	BC	36° 42' 36.25"	68° 01' 54.81"	484
61	C239	Khas Abad	New Pul	RCA	CL	36° 42' 11"	68° 01' 09"	510
62	C240	Khas Abad	Arbab	RCA	BC	36° 44' 17"	68° 00' 09"	430
63	C241	Khas Abad	Arbab Ali Jangal	RCA	BC	36° 37' 15"	68° 54' 06"	490
64	C242	Khas Abad	Kaam	RCA	BC	36° 47' 39"	68° 57' 06"	410
65	C243	Khas Abad	Aqtapan	RCA	CL	36° 45' 48.2"	68° 48' 31.1"	430
66	C244	Khas Abad	Mir Yi Sikala	RCA	BC	36° 33' 53"	68° 52' 21"	440
67	C245	Char Dara	Jerre Bazar	RCA	BC	36° 47' 06"	68° 30' 43"	490
68	C246	Char Dara	Sirco Tepa	RCA	BC	36° 48' 33.1"	68° 32' 07.11"	380
69	C247	Char Dara	Char Dah	RCA	BC	36° 40' 20"	68° 32' 20"	430
70	C248	Char Dara	Angar Bagh	RCA	BC	36° 40' 00"	68° 55' 28"	440
71	C249	Char Dara	Ca Khak	RCA	CL	36° 48' 13"	68° 44' 39"	410
72	C250	Qal Tepa	Tepa-e Bonda	RCA	BC	36° 46' 21"	68° 4' 14"	415
			Sub Totals	RCA	16			

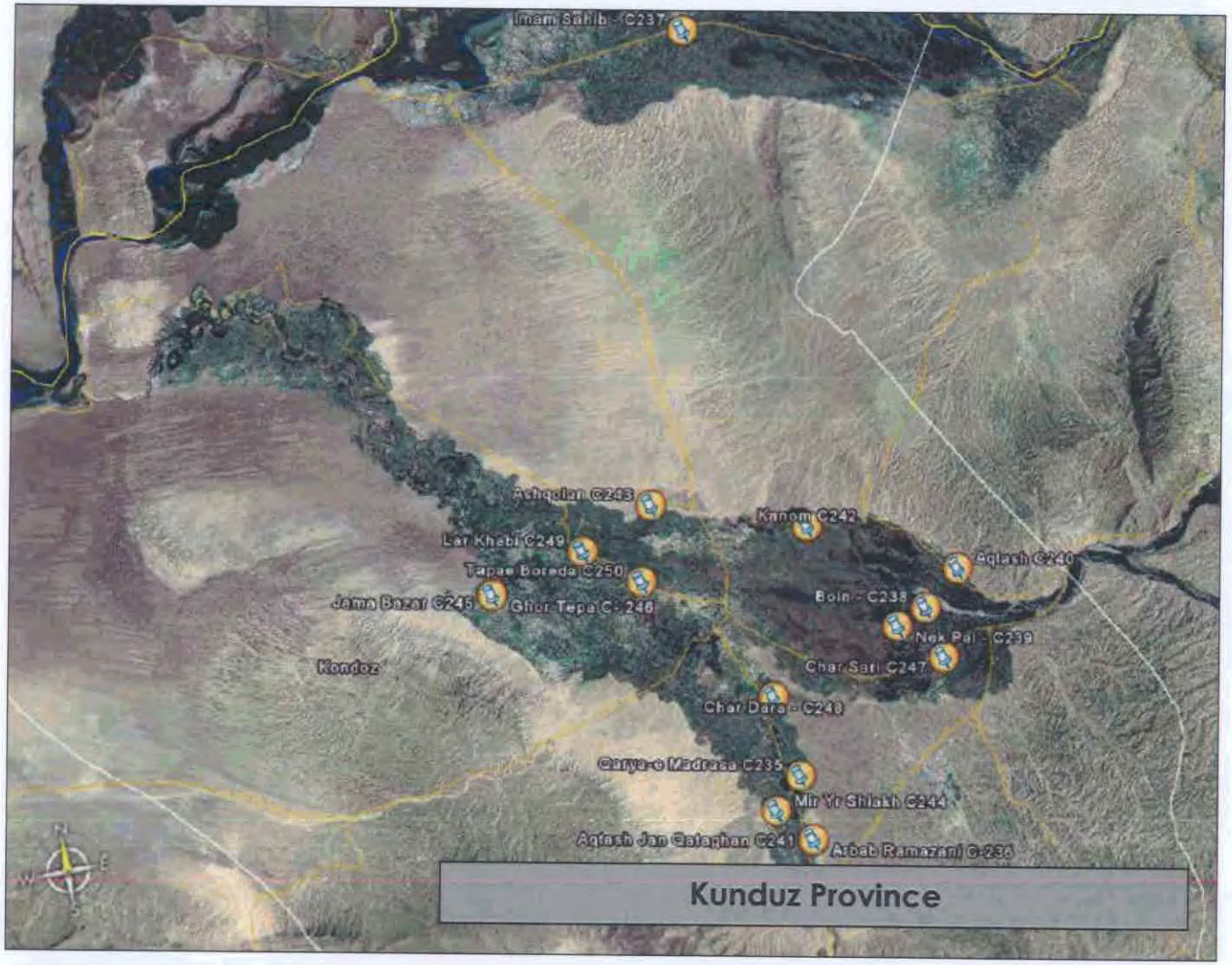


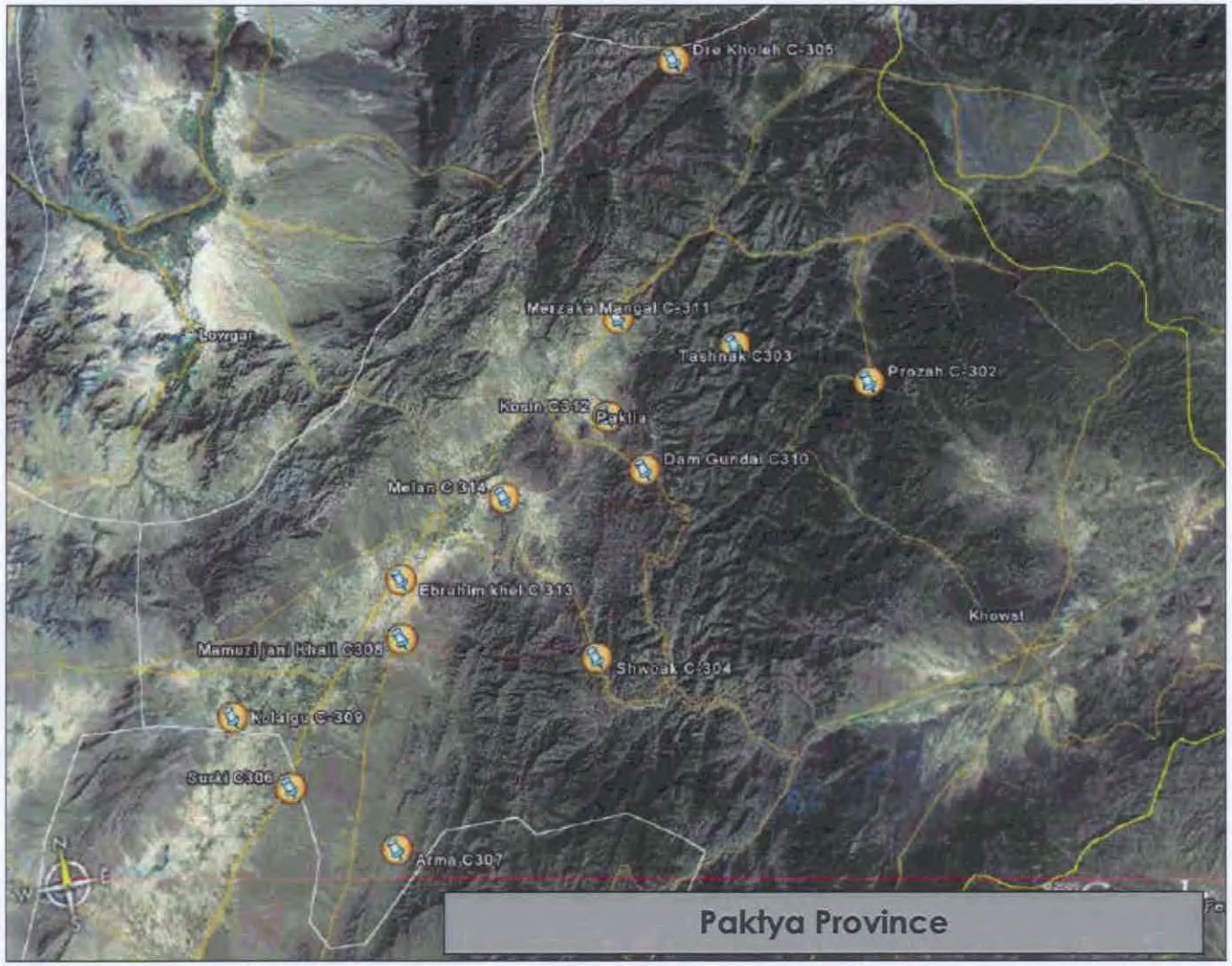
1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation
11	C190	Arghandab	Ghulamani (Eagle Sarwal)	BCC	CC	31° 43' 29"	66° 40' 21"	1,040
12	C190	Arghandab	Bidkoot	BCC	BC	31° 42' 54"	66° 42' 20"	1,045
14	C190	Dahrai	Hatro Rabat (Mandi Sar)	BCC	BC	31° 37' 38"	66° 01' 09"	1,102
15	C192	Panjawi	Panjawi (Mandan)	BCC	CC	31° 27' 46"	66° 18' 55"	913
16	C193	Panjawi	Tahtian (Telakan)	BCC	BC	31° 27' 27"	66° 18' 47"	1,005
			Sub Totals	BCC	5			

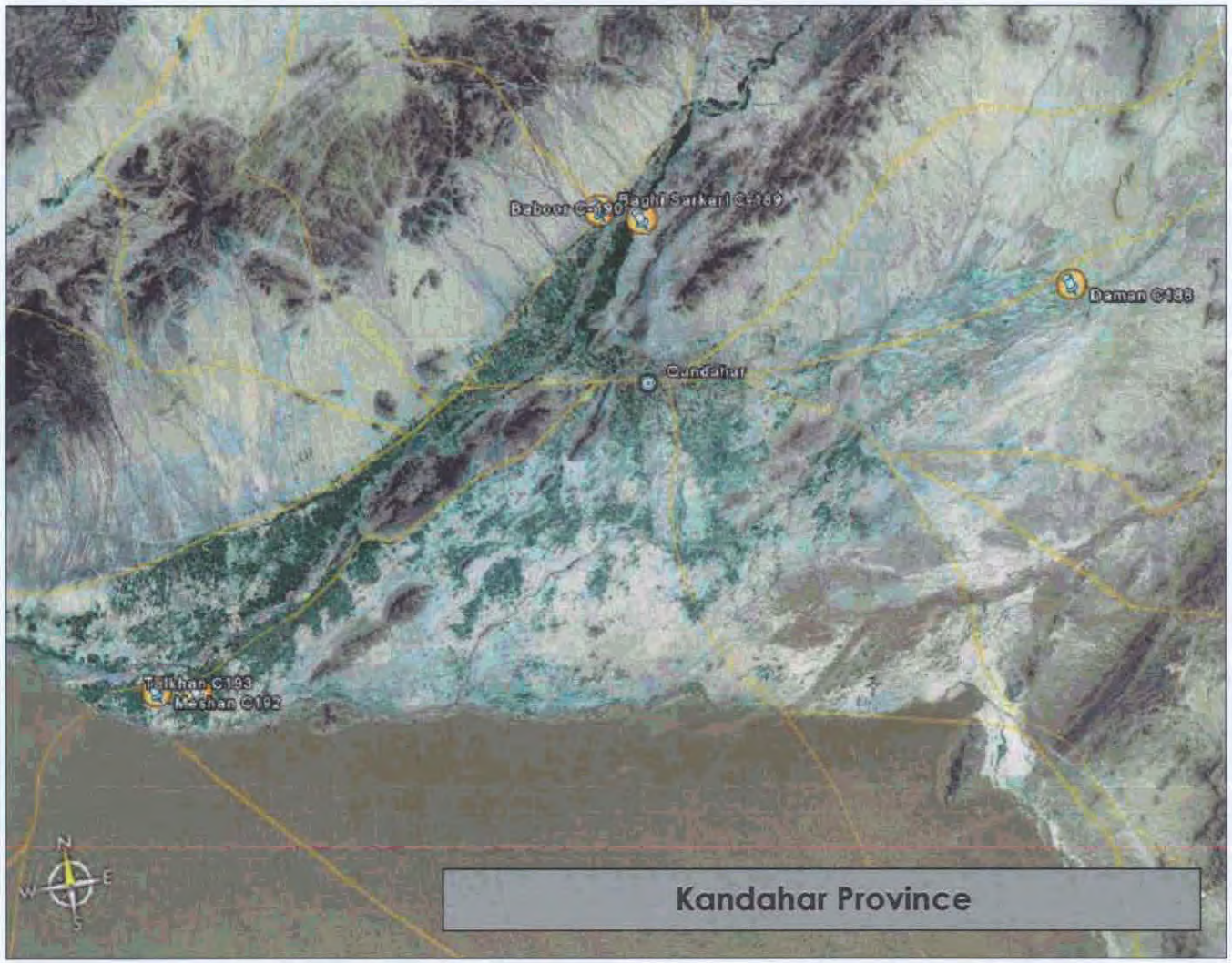
APPENDIX C – SATELLITE IMAGES

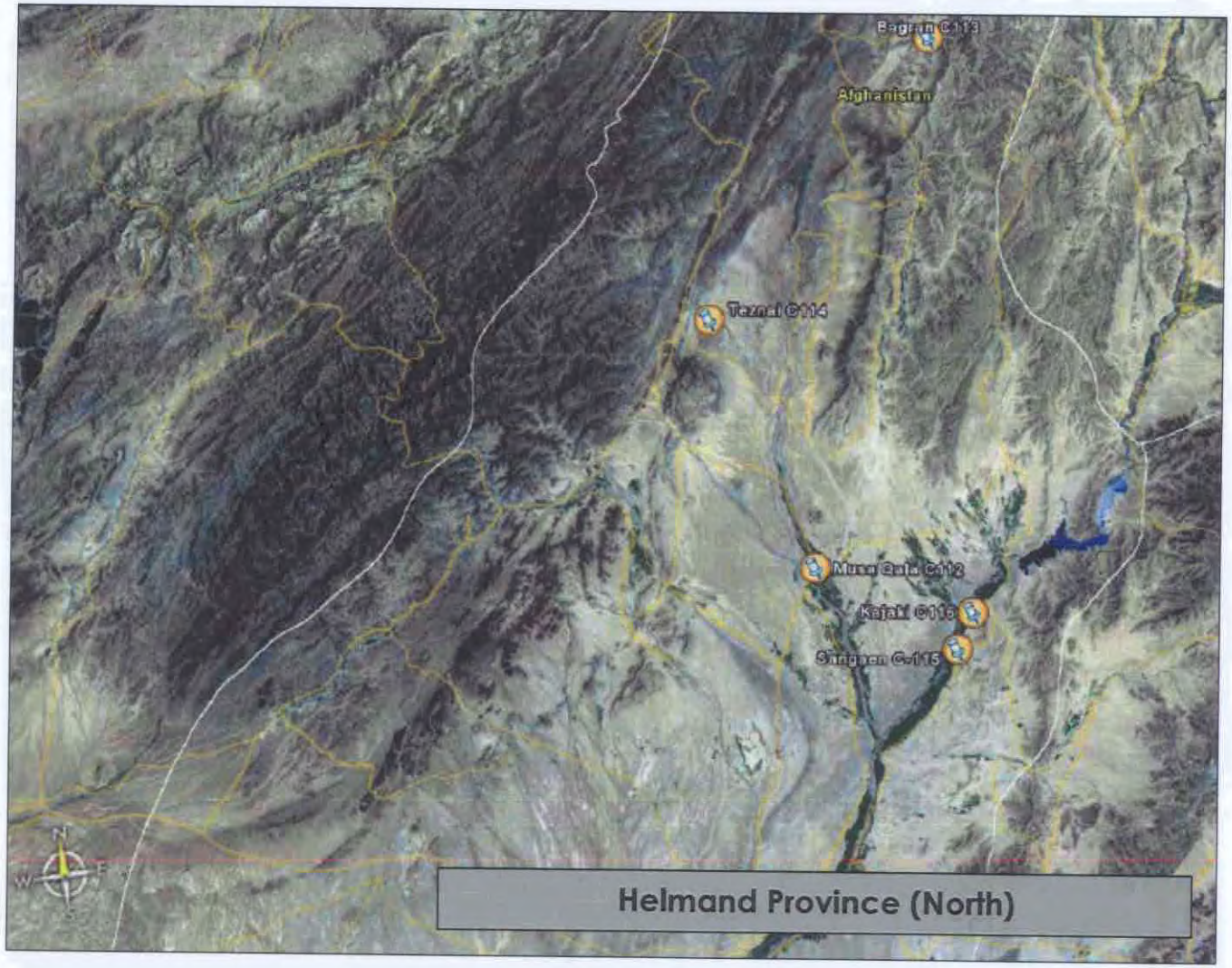


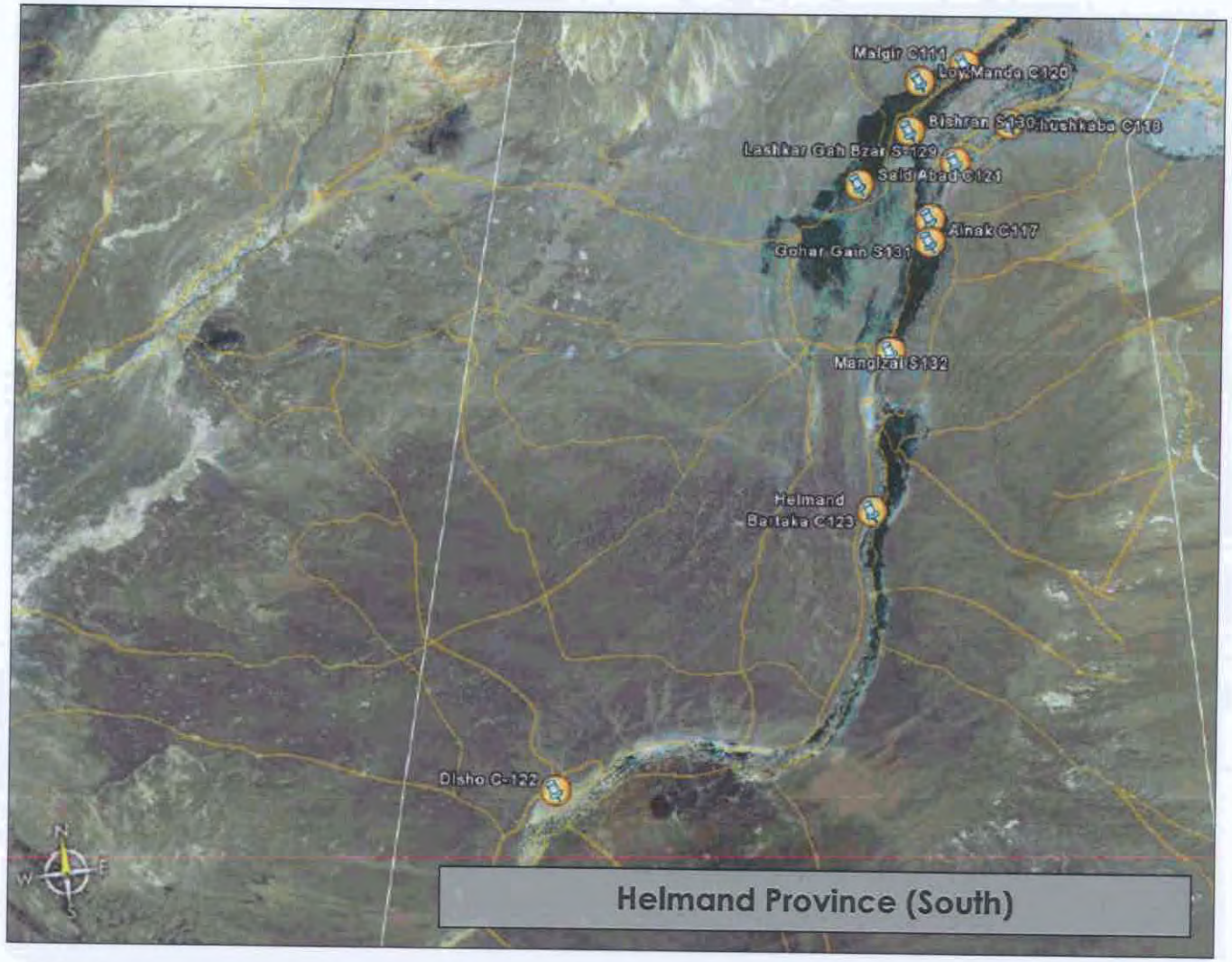

Nawar S107
Khwaja Omari C-97
Malistan C-96
Ajirstan Sanjar C-085
Ajirstan Sanjar S-102
Naswan Dawar 1 Sanger S-104
Malistan Sabzak S-106
Jaghori Tormai Alyato C-87
Almaitoo C-086
Malistan C-088
Ander Akio Babo S101
Ander S105
Mulo Amir Khan S-100
Nawan sayed Murtaza- S-103
Giro Pana S-103
Askar Kot C-090
Ghazni
Sangasi C-095
Seekecha Nawroozi S-095
Rasana C-091
Ghazni Province


Imam Sahib - C237
Ashqulan C243
Kanom C242
Lar Khabi C249
Tapae Boreda C250
Aqlash C240
Jama Bazar C245
Ghor Tepa C: 246
Boin - C238
Nok Pal - C239
Kondoz
Char Sari C247
Char Dara - C248
Qarya-e Madrasa C235
Mir Yr Shlash C244
Aqtash Jan Qalarhan C241
Arbab Ramazani C-236
Kunduz Province


Dre Kholeh C-305
Merzaka Mangal C-311
Tashnak C303
Prozah C-302
Kosin C312
Paktia
Dam Gundai C310
Melan C 314
Ebrahim khel C 313
Mamuzi jani Khali C308
Shwoak C-304
Khowst
Nolaigu C-309
Suski C306
Arma C307
Paktya Province


Baboor C-190
Raghi Sarkari C-189
Daman C188
Candahar
Talkhan C193
Meshan C192
N
E
S
W
Kandahar Province


Bagran C-113
Afghanistan
Taznai C-114
Musa Qala C-112
Kajaki C-116
Sangin C-115
N
W
E
S
Helmand Province (North)


Malgir C111
Loy Manda C120
Bishran S130
Khushkaba C118
Lashkar Gah Bzar S-129
Said Abad C121
Ainak C117
Gohar Gain S131
Mangizai S132
Helmand
Bastaka C123
Dishu C-122
N
W
E
S
Helmand Province (South)

Badakshan Province								
1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation (m)
1	C6	Fayzabad	Hafez Mughul/Shataak	ACL	CC	37° 06' 51."	70° 17' 41"	1,800
2	C7	Fayzabad	Shahri Safa/Darayim	ACL	CC	36° 55' 14"	70° 21' 28"	1,650
3	C13	Fayzabad	Sakar Lab	ACL	BC	37° 11' 34"	70° 15' 46"	1,130
4	C8	Fayzabad	Farghambull	ACL	CC	37° 13' 54"	70° 21' 21"	1,800
5	C14	Baharak	Joe Baar	ACL	BC	37° 01' 43"	71° 01' 43"	1,720
6	C12	Baharak	Sar-e-Maidan	ACL	CC	37° 02' 01"	71° 03' 40"	1,740
7	C10	Kishim	Samar Qandi	ACL	BC	36° 54' 46"	70° 04' 17"	1,720
8	C15	Fayzabad	Dist No. 3	ACL	BC	37° 06' 22"	70° 35' 14"	1,700
			Sub Totals	**ACL**	**8**			
9	C1	Ragh	Yawaran	AGS	CC	37° 32' 29"	70° 26' 34"	1,497
			Sub Totals	**AGS**	**1**			

Kandahar Province								
1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation
11	C189	Arghandab	Ghualaman (Baghi Sarkari)	BCC	CC	31° 43' 29"	65° 40' 31"	1,040
12	C190	Arghandab	Baboor	BCC	BC	31° 42' 54"	65° 42' 20"	1,045
14	C188	Daman	Nahre Rabat (Mandi Sar)	BCC	BC	31° 37' 38"	66° 01' 09"	1,102
15	C192	Panjawli	Panjawali (Meshan)	BCC	CC	31° 27' 46"	65° 16' 55"	912
16	C193	Panjawli	Talkhan (Tolakan)	BCC	BC	31° 27' 27"	65° 18' 47"	1,025
			Sub Totals	**BCC**	**5**			

Ghazni Province								
1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation
18	C85	Ajirstan	Center (Sangar)	Bahar	CC	33° 31' 00"	67° 11' 51"	2,700
19	C89	Qarabagh	Tamaki	Bahar	BC	33° 11' 58"	67° 47' 01"	2,300
20	C90	Qarabagh	Askar Kot	Bahar	CC	33° 06' 41"	68° 02' 34"	2,100
21	C96	Malistan	Kawar Qul	Bahar	CC	33° 29' 37"	67° 30' 37"	3,000
22	C88	Malistan	Jaka Pashti	Bahar	CC	33° 08' 35"	67° 06' 17"	2,950
23	C86	Jaghori	Almaitoo	Bahar	BC	33° 13' 29"	67° 21' 42"	3,100
24	C87	Jaghori	Tormai Alyato	Bahar	BC	33° 17' 41"	67° 36' 31"	2,900
25	C91	Gelan	Rasana/Khano Khail	Bahar	BC	32° 52' 58"	67° 29' 21"	2,000
26	C92	Nawa	Kala Khan	Bahar	BC	32° 08' 37"	67° 27' 55"	2,200
27	C94	Nawa	Nanga	Bahar	BC	32° 17' 19"	67° 29' 30"	2,100
28	C93	Nawar	Dahani Yakhshi	Bahar	BC	33° 59' 57"	68° 01' 53"	3,140
29	C95	Muqur	Sangasi	Bahar	BC	32° 59' 52"	67° 47' 22"	1,920
30	C97	Khwaja omari	Turmai	Bahar	CC	33° 41' 22 "	68° 23' 55"	2,300
			Sub Totals	**Bahar**	**13**			

Ghazni Province

1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Latitude	Longitude	Elevation
1	S102	Ajrestan	Sanjer	RDA	8C	33° 30' 38"	67° 11' 45"	2,800
2	S101	Ander	Aklo Babo	RDA	8C	33° 20' 59"	68° 21' 39"	2,080
3	S100	Ander	Mula Amir Khan	RDA	8C	33° 15' 58"	68° 27' 03"	2,070
4	S103	Giro	Pana	RDA	8C	33° 05 31"	68° 18' 35"	2,180
5	S095	Moghor	Seekecha Nawroozi	RDA	8C	32° 59' 55"	67° 47' 20"	2,080
			Sub Totals	**RDA**	**5**			
19	S104	Ajirstan	Naswan Dawar 1 Sanjar	Maskan	8C	33° 31' 00"	67° 11' 44"	2,850
20	S105	Andar	Mowlawi Abdul Rahaman	Maskan	8C	33° 16' 35"	68° 24' 26"	2,080
21	S106	Malistan	Sabzak	Maskan	8C	33° 24' 25"	67° 24' 47"	2,800
22	S107	Nawar	Ghulam Sakhi	Maskan	8C	33° 59' 08"	68° 00' 48"	3,300
23	S108	Qarabagh	Naswan Sayed Murtaza	Maskan	8C	33° 12' 03"	68° 06' 06"	2,100
			Sub Totals	**Maskan**	**5**			

Paktya Province								
1	2	3	4	5	6	7	8	9
No.	USAID No.	District	Village	Contractor	Building Description	Lattitude	Longitude	Elevation
31	C314	Gardez	Melan	CDU	BC	33° 36 '32"	69° 18' 15"	2,400
32	C313	Gardez	Ebrahimkhel	CDU	BC	33° 32' 46"	69° 09' 24"	2,300
33	C304	Jadran	Shwoak	CDU	BC	33° 25' 35"	69° 22' 40"	2,400
34	C205	Jaji	Dre kholeh	CDU	BC	34° 01' 15"	69° 37' 04"	2,500
35	C302	Jani Khel	Prozah	CDU	CC	33° 39' 06"	69° 46' 51"	1,900
36	C303	Lija Mangal	Tashnak	CDU	BC	33° 43' 03"	69° 37' 39"	2,300
37	C310	Said Karam	Dam Gundai Mangal/ Usman Khel	CDU	BC	33° 36' 31"	69° 28' 54"	2,800
38	C312	Said Karam	Kosin	CDU	BC	33° 40' 19"	69° 27' 00"	2,617
39	C311	Said Karam	Mirzakah Mangal	CDU	BC	33° 46' 06"	69° 29' 13"	2,522
40	C308	Zurmat	Mamuzi Jani Khail (Mamuzai)	CDU	BC	33° 29' 07"	69° 08' 35"	2,200
41	C306	Zurmat	Surki	CDU	BC	33° 21' 15"	68° 58' 18"	2,130
42	C307	Zurmat	Arma (Ormay)	CDU	BC	33° 16' 41"	69° 05' 15"	2,400
43	C309	Zurmat	Kolalgu	CDU	CC	33° 26' 20"	68° 54' 57"	2,350
			Sub Totals	**CDU**	**13**			

Helmand Province								
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
No.	USAID No.	District	Village	Contractor	Building Description	Lattitude	Longitude	Elevation
6	S129	Lashkargah	Lashkar Gah Bazar	Bahar	8H	31° 35' 13"	64° 25' 08"	840
7	S130	Lashkargah	Bishran	Bahar	8H	31° 39' 23"	64° 19' 45"	800
8	S131	Naway Barakzayi	Gohar Gain (Gohar Gain)	Bahar	8H	31° 26' 45"	64° 20' 23"	759
9	S132	Naway Barakzayi	Manglzai (Mangle Zai)	Bahar	8H	31° 17' 07"	64° 13' 16"	760
			Sub Totals	**Bahar**	**4**			

APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTIONS:

CLEARANCE:

Deputy Mission Director
Approval: _____ _____
Carl Abdou Rahmaan Date

Mission Environmental Officer (A)
Approval: _____ May 10, 2007
Rahim Yahya Date

Team Leader
Approval: _____ 10 May 2007
for James Franckiewicz Date

CONCURRENCE:

Bureau Environmental
Officer: _____ _____
John O. Wilson Date

Approved: ☐
Disapproved: ☐

DISTRIBUTION:

Mission Environmental Officer