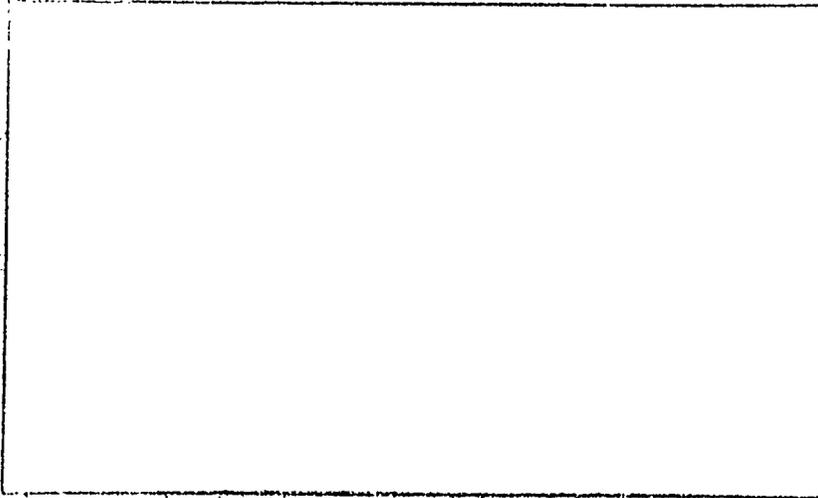


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PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL



STRUCTURAL REFORM OF THE NIS

HOUSING AND URBAN SECTORS



Working Paper Series

Prepared for the Office of Housing and Urban Programs (A.I.D.)

FINAL REPORT

CONCEPT PLAN FOR AN EKATERINBURG HOUSING, INFRASTRUCTURE AND LAND DEVELOPMENT PROJECT

Working Paper No. 4

Prepared for:

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Agency for International Development
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CCS-0008-C-00-2057-00, T.O. 8

March 1993

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EXECUTIVE SUMMARY

Context

Economic dislocation resulting from the transition toward a market-oriented economy in the central Russian city of Ekaterinburg is accompanied by legal, administrative, and institutional barriers to development of a market-based housing delivery system. The resulting housing crisis in the city is alarming: more than 140,000 families are waiting for apartments, and the city is increasingly insolvent, incapable of building new units and unable to manage and maintain the housing stock now under its control. The situation requires a rapid and direct approach that will allow housing to be built as a private market gradually develops.

By now, most city officials recognize that the sale of land is the key to shifting housing into the private sector. However, they have not yet discovered how to finance the related infrastructure; how to leverage land in a financially sound and institutionally reliable way; and how to warehouse mortgages until inflation is squeezed out of the economy so that mortgages can be offered on a commercial basis.

Recommendations

This report recommends that long-term advisors develop and support a housing and urban development demonstration project. The proposed Ekaterinburg Housing, Infrastructure and Land Development Project (hereafter referred to as "the Project") is the outcome of a two-month assignment in Ekaterinburg during which the consultants investigated potential areas of assistance to city officials in Ekaterinburg.

The objectives of the Project are:

- to begin an emergency shelter program that would redeem sunk investments in uncompleted apartment buildings;
- to shift housing supply from the public to the private sector by selling land (leasehold interests);
- to utilize alternative sources of financing infrastructure: selling leaseholds; increasing user charges with the long-term objective of full cost recovery; long-term project financing from international and domestic sources; and laying the basis for the eventual issuance of investment grade paper;
- to expand residential mortgage financing and create new mortgage instruments.

The Project would consist of the following components:

- an emergency program to complete 5,600 apartment units in 1993 that are standing uncompleted because of lack of funds;

- the sale of an estimated 5,000 to 7,500 long-term leasehold plots per year in the city and oblast, suitable for single family houses or duplex units to be built by the private sector;
- the sale of long-term leaseholds—a minimum of 250 hectares per year for the next five years—starting at a minimum of 5 hectare blocks—that are suitable for low rise apartment buildings to be developed by the private sector;
- the financial intermediation of infrastructure—particularly water supply, sewerage and district heating.

The basic purpose of the proposed Project is to create a market-based housing delivery system. It is proposed that an autonomous development corporation, the Ekaterinburg Urban and Regional Development Corporation, be established to undertake the proposed Project.

The Development Corporation would receive funding contributions as follows:

- an equity contribution of 1 Billion rubles from the Russian Republic;
- an equity contribution of 10,000 hectares from Sverdlovsk Oblast;
- an equity contribution of 5,000 hectares from the City of Ekaterinburg;
- equity subscriptions of 2 Billion rubles from local and regional enterprises and financial institutions, some of them private financial institutions or to-be privatized enterprises;
- a subordinated loan of 1 Billion from the Russian Federation.

The Development Corporation would be implemented and managed by private sector entities to the maximum extent possible. Autonomous and professional management of the Corporation will be one of the key conditions for the Project's success. Publicly-owned land would constitute the main equity base for the proposed Corporation. The Corporation would be responsible for the sale of land and the proper application of funds, particularly for financing of infrastructure and housing construction until other construction lending sources develop, as well as for the warehousing of mortgages until market conditions permit mortgage lending by the private sector. It is important to note that the Corporation will contract on a fully competitive basis, and that, as a result of emerging market forces and the operating procedures of the Corporation, its contractors, suppliers and clients will increasingly come from the private sector as Russia's economy gradually transforms.

The long-term advisors should concentrate on continuing to refine the proposed Project. Concurrently, the advisors should prepare and help to implement a one-year Action Plan that begins with the completion of existing apartment buildings. In the context of the Project and the Action Plan, the advisors should identify the highest priority feasibility studies for water supplies and district heating. They should also continue discussions of the capital investment and budgeting approach to planning. Finally, the long-term advisors should prepare a detailed two-year training program, parts of which have been discussed with the Fund for Municipal Development, and which might include a selection of the following activities:

- familiarization tour of US financial institutions;
- A.I.D. supported seminar in Ekaterinburg on cadastral surveys;

- one-month course in Ekaterinburg on financial analysis and project appraisal for 30 staff selected from City Administration, Fund, Council, Oblast and local banks;
- selection of half-a-dozen candidates for one-year training abroad in long-term project financing;
- seminar for 30 staff in Ekaterinburg on mortgage financing;
- study tour abroad of financial institutions and development authorities for upper management in city administration and oblast;
- two-week seminar in Ekaterinburg on capital planning and budgeting;
- long-term scholarships for half-a-dozen candidates dealing with financial planning and analysis, budgeting or local government taxation;
- participation by well-selected candidates in IMF Institute and World Bank's EDI programs;
- A.I.D. Urals Housing Conference, proposed for early 1993;
- A.I.D. Resident Advisor's Conference for April/May 1993 with attendance by City Administration and Council from participating cities along with participants from the Russian Federation and Ukraine.

This Report presents the principal findings and results of a challenging assignment during July and August 1992 as consultants to the Ekaterinburg City Council, the City Administration, and a newly created Fund for City Development. The consultancy was financed by the Agency for International Development through the U.S. firm, PADCO. The consultants participating in the work were William McCulloch, III, and Alexander Levitsky.

CONCEPT PLAN FOR AN EKATERINBURG HOUSING, INFRASTRUCTURE AND LAND DEVELOPMENT PROJECT

1 INTRODUCTION

The housing crisis in Russia is alarming. Many donors would like to help but do not yet know how. By now, most recognize that the sale of land is the key to shifting housing into the private sector. However, they have not yet discovered how to finance the related infrastructure; how to leverage land in a financially sound and institutionally reliable way; and how to warehouse mortgages until inflation is squeezed out of the economy so that mortgages can be offered on a commercial basis. The proposed Ekaterinburg Housing, Infrastructure and Land Development Project shows the way. The Project was developed in conjunction with city officials to identify alternative sources of funding for the financing of infrastructure and new mechanisms for increasing mortgage lending.

Considerable political support for the Project is developing in the Ekaterinburg City Council, the City Administration, the Sverdlovsk Oblast, the Ministry of Construction (now reconstituted into two Committees), the Supreme Soviet and other quarters. If the Project succeeds, A.I.D. will have played a leading role in showing international and bilateral lending agencies how to finance housing and urban infrastructure under the difficult economic circumstances prevailing in Russia today.

The author greatly appreciates the thoughtfulness and commitment of his colleagues in Ekaterinburg.

2 BACKGROUND - EKATERINBURG HOUSING SECTOR

In addressing issues of housing finance, one must first look at the overall housing system. In the Russian Federation, 75% of the population of 150 million live in cities with the following total housing stock, as of January 1992:

HOUSING STOCK	NATIONAL HOUSING	URBAN HOUSING
Total (million sq. meters of usable space)	2,137.7	1,506.9
State Owned	1,373.8	1,167.9
Local Government	488.7	476.3
Enterprises (own budget)	842.2	657.4
Enterprises (central budget)	42.9	34.3

HOUSING STOCK	NATIONAL HOUSING	URBAN HOUSING
Cooperative owned		
Building Coops (new units)	78.9	78.6
Collectives: Kolkhoz, Sovkhoz (unit transfers)	54.8	7.1
Privately Owned	628.4	252.2

Although 75% of the population is urban, only 40% of the 628 million square meters of privately owned housing are located in urban settings.

The statistical picture of housing in Ekaterinburg, as of January, 1992, is as follows:

a.	Housing stock (all forms of property)	
	Total space (sq. meters)	21,523,160
	Living space	13,460,700
	This includes communal quarters	
	Total space	1,270,600
	Living space	747,600
	Number of permanent residents (this includes communal inhabitants)	1,257,021 105,533
b.	Number of apartments (not including communal quarters)	418,411
	Total space	20,169,300
	Living space	12,653,800
	Number of permanent residents	1,144,244
	Number of communal quarter units	27,154
	Total space	1,553,100
	Living space	920,800
	Permanent residents	101,228
c.	Condemned houses	
	Total space	247,800
	Persons occupying this space	13,715
d.	Number of houses constituting private property	17,267
	Total space	2,871,200
e.	Number of families on waiting list for improved housing	144,744

Housing information provided by the City Administration and the Fund did not yield the financial and land-related information desired, but generally demonstrated the institutionally rigid, oligopolistic and material-intensive approach to housing caused by the local master plan and dictatorial design solutions from Moscow. Only a small percentage of units were financed by "mortgages", approximately 15%. These were provided for housing cooperatives, where 30% of each apartment unit's cost was paid in cash by coop members and the remaining 70% was paid over 25 years at a 0.5% annual interest rate. The funds were provided for decades by the Zhilsotsbank (an abbreviation for Housing Social Bank). Then funding shifted to the Sberkasse (savings account) of Gosbank (the central government Bank) and finally to the nation-wide savings bank system, Sberbank, approximately two years ago. While many outside experts think that Sberbank is the obvious candidate as a vehicle for mortgage financing, the institution should be approached with some skepticism. Sberbank has had management problems in the past, and has suffered a loss of credibility with the general public because of the arbitrary manner in which savings accounts were frozen last year to help soak up the country's monetary overhang.

Most housing (95% comprising apartments) has been financed by government or government-owned enterprises, with occupiers entitled to a guaranteed level of free maintenance. This right is, of course, evaporating under budgetary pressures and it seems inevitable that maintenance will shift to private companies paid by owners or occupiers. This fundamental change will be induced, but slowly, as the privatization process accelerates (currently only 6,500 units out of Ekaterinburg's total of some 420,000 apartments have been privatized).

"Free" housing has always been an integral part of the Soviet Union's low wage economy. Less than 3% of household expenditures have traditionally been spent on housing. This pattern will change dramatically, not so much as a result of the privatization of the housing stock which, as a matter of political necessity, is being given away, but as a result of the emerging housing market characterized by an interest in owning a piece of land and obtaining better housing than the inadequate and poorly maintained high-rises provided by the state in the past.

Only 17% of housing is privately owned in Russia, with another 6% owned by coops. Of the 77% that is state-owned nationwide, more than 60% is owned by enterprises. In Ekaterinburg, this figure is closer to 70% because of the prominent role played by large military-industrial enterprises in the local economy.

UKS (Directorate of Capital Construction) has long been the dominant housing developer in Ekaterinburg (perhaps half of total housing construction—put out on a negotiated rather than tendered basis). It was an integral part of the City Administration until the end of 1991 and now is a subordinate agency. It is losing its immense powers because grant funding has dried up. Over the past five years, UKS developed the shelter shown in the table below, which also shows the large drop in construction and rapid escalation in costs in 1992:

	1988	1989	1990	1991	1992
Single family houses	53	29	46	30	15
Apartments	5,919	3,126	5,334	3,263	1,509
General space (sq.m.)	335,793	173,925	201,518	176,675	76,221
General cost (1000 rubles)	96,908	38,775	69,180	107,155	671,635
Average cost per sq.m.	286	223	343	607	8,812

3 OVERVIEW OF CITY'S FINANCIAL SITUATION

In general, it should be understood that much of the financial data that was to be collected for the city did not fit the information available and that there was little interest on the part of the city officials in working up such information. For example, grants, subsidies or transfers from the central government, the oblast and the districts are not earmarked for specific expenditures. Historically, they were provided to set overall city budget levels or fill budget gaps; in the future, such grants will all but disappear under pressure from the IMF and the central government. Funding from Moscow for major capital works such as district heating or the Metro do not appear in the city's budget.

To illustrate further, transfers from the oblast and the city districts are shown at 590 million rubles in the 1992 budget below, without showing the uses of those funds. As to the 130 million ruble grant for the Afghan veterans' housing program, 30 million rubles came off the top for "subsidies", 20 million rubles went as partial compensation to those on the waiting lists for the occupied apartments, and 80 million rubles is expected to go for outright purchases at 1 million rubles per apartment. However, claims to the use of these funds for recurrent expenditures have also been put forward and the final use of the grant is not known.

Although city budget figures distinguish between recurrent and capital expenditures, the latter category refers almost entirely to apartment construction. Capital investments in infrastructure are off-budget. These figures could not be reconstructed at other agencies without more time and technical support, i.e. expatriate and local water engineers and heating engineers.

3.1 Budget Revenues and Expenditures

The 1992 budget, as presented in the mid-year budget review, is as follows:

1992 Budget (Rs Thousands) Revenues

1. Company Profit Tax	2,056,217
2. Property Tax on Companies & organizations	31,433
3. Personal Income Tax	1,408,260

4.	Revenues from External Economic Activities	247
5.	Timber Revenues	830
6.	Water Charges (industrial enterprises using open water systems)	442
7.	Payment for Temporary Use of Land	282
8.	Land Tax	376,834
9.	Receipts from Sales, Auctions, Liquidation of Government and Municipal Property	83,580
10.	Sales Tax	12,190
11.	Value Added Tax	166,400
12.	Tax on Enterprise Revenues	2,245
13.	Rents on Non-Residential Premises	140
14.	Various Non-Tax Revenues	48,483
15.	Local Taxes	32,332
16.	Funds Transferred from Regional and District Budgets	589,339

4,809,246

Expenditures

I.	City Affairs	
1.	Maintenance	18,700
2.	Tram and Trolley Operation	546,599
3.	Metro	128,651
4.	Production and Auto Transport Operation (free transport for retirees)	32,000
5.	State Farm (Flowers of the Urals)	250
6.	Enterprises Providing Daily Services	5,350
7.	Bath and Laundry Services	28,028
8.	Production Association—Park/Forest Services	46,830
9.	Production Association—Social Services 609,756	
10.	GAI	33,386
11.	City Heat Supply	49,922
12.	Municipal Enterprise Phoenix	1,000
13.	Animal Husbandry	3,009
14.	Stadium—Capital Repairs	5,000
15.	Milk Products	137,747
	Sub-Total	<u>1,646,228</u>
II.	Social-Cultural Measures	
1.	Education	124,510
	(recurrent)	(87,872)
	(equipment & capital repairs)	(36,647)
2.	Culture	126,655
	(recurrent)	(119,258)
	(equipment & capital repairs)	(7,397)

3. Basic Services (Kindergarten, etc.)	73,728
(recurrent)	(67,115)
(equipment & capital repairs)	(6,613)
4. Health 1,255,121 (recurrent) (998,476) (equipment & capital repairs) (256,645)	
5. Physical Culture 5,730	
6. Tele-Radio Company "Studio-City"	
(radio)	1,022
(television)	3,144
III. Oversight & Administration	78,360
(oversight)	(15,013)
(administration)	(61,300)
(deputies activities)	(2,047)
IV. Capital Construction	2,330,000
(of which, Afghan vets)	(126,000)
V. Indexation for Budget Entities	83,879
VI. Compensation for Clothes & Food for Children older than 6 years	2,000
VII. Services in addition to those in Item III	65,666
(protection of social order)	(40,900)
(social support)	(18,700)
(glasnost)	(4,740)
(land reform)	(100)
(organization working with youth)	(1,226)
VIII. Activities related to Land Surveys, Cadastre, Land Planning & Engineering	376,834
IX. Reserve Fund	12,000
X. Subsidies (Ordzhonikidzevsky District)	16,251
Total Expenditures	<hr/> 6,201,137
of which: (recurrent)	(3,547,127)
(development budget)	(2,654,010)
Deficit (rounded in constant 1992 rubles)	1.4 billion

Some details of the budget are intriguing in their disproportions, for example 137 million rubles for milk products and subsidies contrasted with only 100,000 rubles for land reform.

Detailed discussions on how to cover the looming 4 billion current ruble deficit should be undertaken immediately upon start-up of the long-term consultancy. It will be necessary for the city to secure some combination of grants and loans, or divert funds from land sales into recurrent expenditures, in order to cover the deficit. The latter will be a tempting "painless" solution but would be financially unsound if done on a large scale for a long period of time. Nevertheless, it is likely that the City Administration would sell between 1,000 and 2,000

hectares to help cover the 1992 budget deficit and prepare for anticipated shortfalls in 1993. The long-term advisors should be involved in this issue.

It is questionable whether there is any value in trying to reconstruct historic capital investment figures as an abstract exercise either at separate agencies or in the municipal department called "Amalgamation Water Supply and Sewerage." Past sectoral investments are no guide for the future because of the inadequate level of infrastructure investments in absolute terms and because of raging inflation. With respect to capital investment for apartments, the old oligopolistic and inefficient construction system is dying out as central government and enterprise grants dry up. Nevertheless, a considerable amount of information on the old construction system was collected and is provided in Annex G. The emerging system of housing finance and construction will gradually shift to the private sector as the economy becomes more private sector-oriented. The Project proposed later in this report would support this shift and help stimulate the economy.

It would only make sense to reconstruct capital investment figures in the context of a project to expand or rehabilitate water supply, sewerage or heating where one basic project objective would be to structure a rate base for long-term, full-cost recovery. It would be relatively easy to formulate a lending program, design a project or prioritize studies for the water sewerage or heating sectors. The memo to Chairman Samarin in Annex B illustrates this for water and sewerage.

The breakdown by recurrent and capital expenditures shows what goes into apartment construction and tells little about infrastructure. Thus, the 2.65 billion constant rubles for capital expenditure in the 1992 budget primarily covers the 2.33 billion rubles budgeted for apartment construction. This constitutes the main reason for the budget deficit (other than inflation, where costs have been rising faster than sources of revenue) because of the disappearance of central grants. This aspect of the budget should be self-correcting in the longer term to the extent that housing construction moves into the private sector, provided a sensible approach is adopted on sales of land to private owners.

3.2 Debt

The city does not make use of debt financing and in July the City Council voted not to incur any debt. This decision could best be reversed by addressing it in the context of a specific capital investment that would demonstrate debt repayment capacity on the basis of long-term cost recovery. The Chairman of the Council was very upset with this vote, which he attributed to the ill-informed views of deputies and the lack of professionally trained officials. He would like to re-visit the issue when a solid investment program is ready to be presented. Long-term project financing is one of the four major new sources of infrastructure financing identified during the short-term consultancy, particularly with the unencumbered balance sheet that the city has showing no debt. The other three sources mentioned in the report are: land sales, user charges and land taxes. The latter were already in place and will show considerable buoyancy as land sales proceed.

3.3 Municipal Services and Cost Recovery

Rates have been raised between three- and five-fold in 1992, but from a base close to zero. While rates and taxes are two of the best long-term sources of revenue, for the short term they do not achieve much because of the depressed economy and low income levels. The rate increases thus far make up for less than half of the increase in inflation in 1992.

Monthly 1991 housing payments in rubles are shown in the table below:

Rent	4.20
Heating	2.85
Hot water	1.79
Cold water	1.06
Electricity	3.93
Gas	0.84
Telephone	0.88
Radio fees	0.49
Total Monthly Bill	16.00

* Source: Building Association of Ekaterinburg & SCIC-Gestion Ile de France-CDC (Sverdlovsk), *Housing Maintenance and Rehabilitation Plan for the Municipal Stock*, Paris: 1992.

3.4 Administrative Aspects

The quality of personnel at City Hall is generally good but could benefit from on-the-job training, familiarization trips and—for a small percentage of staff participating in on-the-job training—long-term training abroad. As to technical capabilities, the standard of engineering ability has been judged by international experts to be well above average and equivalent to western countries. The constraints on development are financing, institutional structures, dictatorial design solutions (e.g. “open” rather than “closed” heat supply system) and the “dead hand” of the master plan, rather than staff shortcomings. The organization charts, key officials and staffing levels are shown in Annex C for the Administration and Annex D for the Council. The city government did not seem overstaffed, as is usually the case in former Soviet Union institutions. Indeed, there is supposed to be a shortfall of approximately 40% from the approved staffing levels. This situation is fortunate, given the looming budget deficit.

4 FINDINGS AND CONCLUSIONS

The short-term consultancy was successful and laid the groundwork for a long-term engagement primarily because:

- a. the Chairman of the City Council, Yuri Evgenievich Samarin, was interested in utilizing the advisors' skills and comparative experience and was strongly attracted by two ideas that should be the heart of the long-term consultancy:
 - i. a substantial housing and infrastructure project that is coupled with major institutional and policy reforms, in particular, the sale of land; and
 - ii. a one-year action program that leads into long-term capital planning and budgeting.
- b. the principal counterpart, the Financial Director of the City Development Fund, Sergei Nikolaevich Ermilov, was capable and motivated;
- c. the advisors had a wide range of experience, particularly in the private sector, and spoke Russian;
- d. the housing advisor had a legal background, including familiarity with Russian law, and was able to deal with legal questions that frequently arose;
- e. the initial hostility of the City Administration was quietly deflected so as not to interfere with the preparation of a work program for the long-term consultancy;
- f. the city is insolvent and desperate for financial solutions, thus amenable to new approaches; in this context, it is important to note that the material-intensive, high-rise, multi-family housing construction industry is collapsing and that almost the entire housing construction industry will shift into the private sector if appropriate policies, programs and institutional reforms are undertaken;
- g. the forced occupancy by Afghan veterans of several partially completed multi-family buildings initiated a series of action-oriented discussions that evolved into the proposed **Housing, Infrastructure and Land Development Project**, which immediately received strong support from the Fund and the Council; since leaving the field, reports have been received from the City Development Fund showing support for the Project by the City Administration, the Oblast, central government ministries and the national parliament.

Leading figures in the City Council and the Municipal Development Fund provide a good base for the long-term effectiveness of A.I.D.'s work in Ekaterinburg but it will take time, effort and incentives to get an acceptable level of cooperation from the Administration. Some progress on this point was made at the wrap-up meeting on August 28, when Mayor Chernetsky said he would like to see a closer working relationship between the advisors and the City Administration (see memo, Annex A). Both the mayor and the advisors are committed to an effective working relationship with the City Administration, while maintaining the advisors' strong link to the Council and the Fund.

The absence of sufficient technical and logistical support from the City Administration during the short-term consultancy highlights the need for the long-term contract, or supplementary sources, to provide sufficient funding for equipment, training, short-term expatriate and local consultants and other logistical support. These comments are offered to facilitate start-up operations that might take place in other cities at a later time, as well as trying to create a suitable workplace for the long-term consultants and their local counterparts and staff in Ekaterinburg.

Information was hard to come by. Initial requests were met with a sense of annoyance by Administration officials; follow-up requests were met with suspicion. While budget figures for past years were made available (after five weeks), most capital investments—other than housing construction—occur off-budget through other entities.

Reconstructing these figures and trying to get a sense of how to begin to structure a rate base aimed at long-term cost recovery will require short-term engineering/cost estimating inputs by expatriate and local experts, particularly for water supply, sanitation and district heating.

The short-term consultancy yielded an understanding of the explosive growth in the city budget due to inflation and a rough estimate of the size of the impending deficit, both in constant and in nominal rubles. Projected expenditures in the 1992 budget in constant beginning-of-the-year rubles total 6.2 billion rubles. Of this, 3.55 billion rubles is for recurrent expenditures and 2.65 billion rubles is for the development budget. Most of the latter is for apartment construction—2.33 billion rubles is budgeted as of mid-1992. However, only 830 million rubles was spent on construction in the first two quarters and it is likely that less than half of the second half-year figure of 1.5 billion rubles will be spent.

Revenues for 1992, again in constant rubles, are projected at 4.8 billion rubles. The mid-year review showed a 1.4 billion-ruble deficit, which could be managed if apartment construction dropped further (now at 20% to 30% of previous year levels and likely to drop close to zero in 1993) and part of the proceeds of land sales were used to cover recurrent expenditures. However, this expedient would be financially unsound for the long-term.

Inflation and a collapsing economy are taking a high toll. Uncertainty runs high and projections are unreliable. Inflation for the first quarter of 1992 was 500% following the liberalization of 80% of wholesale prices and 90% of consumer prices on January 2, 1992. Inflation for the year is expected by the World Bank to be in the range of 2200%, unless there are radical changes in monetary policy and the provision of subsidized credit to enterprises is curtailed.

People at City Hall, as elsewhere, are primarily concerned with whether they will be drawing a paycheck and eating next winter. The characterization of the budget in previous reporting was erroneous. Those figures were supplied in constant beginning-of-1992 rubles before inflation struck. Informal comments on the likely deficit in current rubles run upwards

of 4 billion rubles. That level of deficit is insurmountable without grants from Moscow, perhaps supported by external assistance with major policy content such as initiating land sales, privatizing the housing construction industry, and achieving more buoyancy in cost recovery. These brief comments on the budget are intended to illustrate an understanding of the budgetary situation; more detailed budget information is given in the section on **Overview of City's Financial Situation.**

There is no municipal or regional capital investment program and no studies are underway that would set investment targets or provide a basis for estimating capital costs and projecting recurrent costs in different sectors. There are no projections on user charges, although there has been a three to five-fold increase thus far in 1992 in the close-to-zero rates that were being charged. The long-term consultants should closely monitor increases that will continue to be made. There is no analysis of sources of financing infrastructure.

There is a preliminary World Bank analysis of urgent studies, rehabilitation and additional investments in the water and heating sectors but this information has not been communicated to Ekaterinburg. It could be used as a starting point for formulating the one-year action plan and longer term capital planning and budgeting model, which are recommended below as priority activities for the long-term consultants.

The main achievements of the short-term consultancy were:

- a. establishing a very effective working relationship with the City Council and the Fund for City Development;
- b. breaking the ice with the City Administration;
- c. understanding the city budget and its limitations;
- d. understanding the structure and quality of staff of the Council, the Administration and the Fund;
- e. generating a keen interest in the long-term consultancy;
- f. showing an alternative to the stifling master planning process, i.e. capital budgeting;
- g. providing ad hoc advice, such as how to apply a 130 million ruble grant obtained from the central government; how to structure and apply a 2 billion ruble grant from Moscow that the Council is pursuing; or how to pursue World Bank-financed "critical imports" (see Annex A);
- h. providing direct access to the international development community for a city that has been sealed off for fifty years;
- i. beginning to provide external donors with a more informed view at the local government level, e.g. the need to incorporate the oblast into a sound approach to the sale and development of urban and suburban land; and
- j. conceptualizing an approach to housing and infrastructure financing (the basic objective of the assignment) that would shift housing construction into the private sector; promote the sale of land to private owners; shift away from material-intensive high rise construction into labor-intensive low and medium rise construction; finance infrastructure through the sale of land; introduce long-term project financing;

introduce competitive tendering to replace negotiated contracts; and begin structuring a rate base that would lead to long-term full cost recovery for municipal services.

5 CONCEPT PLAN: EKATERINBURG HOUSING, INFRA-STRUCTURE AND LAND DEVELOPMENT PROJECT

5.1 Concept Plan

Land is the one substantial, unencumbered asset available to the city of Ekaterinburg. Land is plentiful, including: infill plots and buildings for rehabilitation in and near the city center; large tracts such as Northern Shartash located six kilometers from the center; large, partially developed areas such as the Academic Center (effectively abandoned for lack of funds); and vast quantities of land in the adjacent oblast which would be suitable for residential development, either adjacent to built-up urban areas or as satellite suburban developments. Monetization of this asset through a substantial, market-based, fair and transparent land sales program is the financial base of the proposed Housing, Infrastructure and Land Development Project. It should be closely linked to the introduction of long-term project financing for the provision of badly needed infrastructure rehabilitation and expansion. This, in turn, becomes the vehicle for structuring a rate base that leads gradually to long-term full cost recovery.

The basic purpose of the proposed Project is to create a market-based housing delivery system. The concept proposal is receiving strong support from the city, the oblast, local enterprises and the central government. The Project is estimated to be capable of delivering upwards of 10,000 shelter units per year when inflation is brought under control. Until then, the Project's activities will be limited to the amount of land that can be sold to satisfy pent up demand. If this is only 10% of Ekaterinburg's existing apartment dwellers, that would mean some 44,000 plots—at least a five-year sales program. This would seem to be a conservative estimate, given the 145,000 families waiting for new or improved apartments. In its first year of operation, the Project could already deliver more than five thousand apartments that are standing vacant because of the lack of funds to complete construction.

While the Project is not aimed in the first instance at new shelter that is affordable to the lowest income groups, it will have this effect to a considerable degree because a large volume of the existing housing stock will be recycled as apartment dwellers decide to invest in single family houses, duplexes or low-rise apartments of better quality construction. In order to afford this, many families would have to sell their existing unit. Furthermore, the Project would shift housing away from the unaffordable public burden that it has become into the private sector, thus freeing up public resources that can be aimed more directly at housing the poor.

The objectives of the Project are:

- to begin an emergency shelter program that would redeem sunk investments in uncompleted apartment buildings
- to shift housing supply from the public to the private sector by selling land (leasehold interests) to utilize alternative sources of financing infrastructure: selling leaseholds; increasing user charges with the long-term objective of full cost recovery; long-term project financing from international and domestic sources; and laying the basis for the eventual issuance of investment grade paper
- to expand residential mortgage financing and create new mortgage instruments.

The Project comprises the following components:

- an emergency program to complete 5,600 apartment units in 1993 that are standing uncompleted because of lack of funds;
- the sale of an estimated 5,000 to 7,500 long-term leasehold plots per year in the city and oblast, suitable for single family houses or duplex units to be built by the private sector;
- the sale of long-term leaseholds—a minimum of 250 hectares per year for the next five years—in blocks of hectares, starting at a minimum size of 5 hectares that are suitable for low rise apartment buildings to be developed by the private sector
- the financial intermediation of infrastructure—particularly water supply, sewerage and district heating.

An autonomous development corporation, called the Ekaterinburg Urban and Regional Development Corporation, will be established and funded as follows:

- an equity contribution of 1 billion rubles from the Russian Republic
- an equity contribution of 10,000 hectares from Sverdlovsk Oblast
- an equity contribution of 5,000 hectares from the City of Ekaterinburg
- equity subscriptions of 2 billion rubles from local and regional enterprises and financial institutions, some of them private financial institutions or to-be-privatized enterprises
- a subordinated loan of 1 billion rubles from the Russian Federation

Other institutional alternatives were considered during the formulation of the project concept paper, for example land sales directly by the city or by the oblast. However, it seemed much more desirable to design a new quasi-public institution, with private sector participation, able to embrace and counter-balance the various strong equity participants, including the city government, oblast, large enterprises, private financial institutions and the central government. The Development Corporation would be autonomous and managed professionally on a commercial basis. There is no purely private sector institutional alternative. The main asset that constitutes the equity base is publicly-owned land. Some public or quasi-public entity will have to be responsible for the sale and the proper application of the funds, e.g. financing infrastructure, housing construction financing until other construction lending sources develop, and warehousing mortgages until market

conditions permit the issuance of mortgages by the private sector. It is important to note that the Corporation will contract on a competitive basis and that, as a result of emerging market forces and the operating procedures of the Development Corporation, contractors, suppliers and clients of the Corporation will increasingly come from the private sector as the Russian economy gradually transforms.

The staff of the Fund for City Development (a contingent of only eight people, though highly motivated and capable) would be able to prepare the proposed Project, calling on internal resources such as UKS (Directorate of Capital Construction) and local consultants. But very high quality external inputs—probably not exceeding four to six man-months—will be needed for technical, financial and institutional issues.

The Project can be implemented under existing laws, in the opinion of independent legal counsel from the prestigious Sverdlovsk Juridical Institute. The relevant laws, currently in effect, are:

- Law on Property in the RSFSR
- Law on Enterprises and Entrepreneurial Activity
- Tax Law, and
- Civil Code of the Russian Federation

Long-term leaseholds (probably a 99-year leasehold), which are alienable and devisable, will carry the right to convert to fee simple, when this is subsequently clarified under the laws of the Russian Republic. The difference of opinion on the right to hold land in fee simple is therefore not an obstacle to implementing the Project.

The first task is to complete preparation of a realistic proposal for financing the unfinished multi-story brick and panel apartment buildings throughout the city. For initial planning purposes the following calculations and assumptions were applied:

- one meter of living space currently costs 25,000 rubles to construct
- the 5600 units inspected are 68%-73% complete
- a one-room unit is approximately 35 sq.m.
- a two-room unit is approximately 55 sq.m.
- a three-room unit is approximately 65 sq.m.
- a four-room unit is approximately 75 sq.m.
- the housing costs-to-completion, including utilities and taxes should not exceed 33% of household income.
- monthly mortgage payments would range from 850 rubles per month for the lowest income families occupying the smallest units to 5,000 rubles per month for the largest units.

The following table represents payments based on a 30-year 10% fixed rate mortgage.

Number of rooms per apartment	Required monthly household income in rubles		Monthly mortgage payment in rubles		Cost of completed construction	
	73%	68%	73%	68%	73%	68%
1 Room (+ bath and kitchen)	6,680	7,900	1,557	1,840	225,100	267,100
2 Room	10,440	12,360	2,430	2,880	351,000	416,000
3 Room	12,300	14,580	2,870	3,400	418,000	496,000
4 Room	14,230	16,850	3,300	3,900	482,400	572,400

The mortgages will be warehoused by the Development Corporation for a period of up to five years, when the level of inflation, which is currently estimated at some 2200% for 1992, should be reduced to single digits. At that time, the mortgages will be re-written by one or more of the new mortgage financing sources that should be available by then. More technical information is contained in Annex G. Completion of the Project proposal should be the primary, initial activity of the long-term A.I.D. advisors when they return to the field. This should be supported by expatriate and local technical inputs.

Considerable political support has been shown for the Project at the concept stage. Even if the Project were not implemented for lack of political support or further collapse of the economy due to hyperinflation, the A.I.D. effort would not be wasted. Other alternatives for financing housing and infrastructure would have to be developed and the information being worked up for the proposed Project would be applicable to the alternatives. If the Project is successfully launched and secures the type of external financing anticipated from obvious potential sources such as the World Bank, then the proposed Project is likely to become a model for other cities in the former Soviet Union and A.I.D. will have played a seminal role in providing the financial and institutional solution.

5.2 Work Program for Initial Six Months of Long-Term Assistance

Alternative sources for infrastructure finance have been identified, e.g. land sales, long-term project lending and user charges. New mechanisms for increasing mortgage lending have been identified, e.g. treating incomplete apartment buildings that are standing idle as sunk costs and financing the remainder as adjustable or indexed mortgages. If inflation declines to single digits in the next 2 or 3 years (the Gaidar administration had targeted this for the end of 1992), mortgage financing on a commercial basis should be feasible. Meanwhile, mortgages could be warehoused by the proposed Development Corporation; this would be financed by the equity base of the Development Corporation, most of which is composed of monetized land holdings.

1. The long-term advisors should concentrate primarily on continuing preparation of the **Ekaterinburg Housing Infrastructure and Land Development Project**. The concept paper that was circulated in Ekaterinburg, Sverdlovsk Oblast and Moscow is presented in Annex E and the timetable for further work in Annex F. Additional technical inputs

should be specified as soon as the long-term advisors take up their post. In addition to the efforts of the two long-term advisors, technical inputs from short-term expatriate and local experts will be required.

2. Concurrently, the advisors should prepare and help to implement a one-year Action Plan that begins with the completion of existing apartment buildings. There is some overlap of the Action Plan and the proposed Project. The Action Plan would include other obvious items from other multi- or bilateral sources that have already been identified, ranging from completion of a water treatment plant to accessing spare parts for buses and trams (about a third of the rolling stock is out of commission due to lack of spares).
3. In the context of the Land and Housing Project and the Action Plan, the advisors should identify the highest priority feasibility studies for water supply and district heating and oversee the preparation of Terms of Reference by technical experts. They should also continue discussions of the capital investment and budgeting approach to planning that were begun with the translation, distribution and preliminary discussion of Chapter 2 of Volume II of A.I.D.'s publication on Infrastructure Finance, entitled **Capital Planning and Budgeting**.
4. The housing advisor should review and advise on the final adjustments in the 1992 budget and the planned 1993 budget.
5. Finally, the long-term advisors should prepare a detailed two-year training program, parts of which have been discussed with the Fund for Municipal Development, which might include a selection of the following activities:
 - familiarization tour of U.S. financial institutions and direct discussions with A.I.D. by the President and the Financial Director of the Fund for City Development
 - A.I.D. supported seminar in Ekaterinburg on cadastral survey
 - one-month course in Ekaterinburg on financial analysis and project appraisal for 30 staff selected from City Administration, Fund, Council, Oblast and local bank
 - selection of half-a-dozen candidates for one-year training abroad in long-term project financing, particularly with reference to water supply, heating systems, and roads
 - seminar for 30 staff in Ekaterinburg on mortgage financing
 - study tour abroad of financial institutions and development authorities for upper management in city administration and oblast
 - two-week seminar in Ekaterinburg on capital planning and budgeting
 - long-term scholarships for half-a-dozen candidates dealing with financial planning and analysis, budgeting or local government taxation participation by well-selected candidates in the IMF Institute and in the World Bank's EDI programs
 - A.I.D. Urals Housing Conference, proposed for March 1993

- **A.I.D. Resident Advisors Conference for April/May 1993 with attendance by City Administration and Council from participating cities (Ekaterinburg, Novosibirsk and Kharkov) plus attendees from Russian Federation and Ukraine.**

WILLIAM P. MCCULLOCH III

Annex A-1

3215 STEPHENSON PLACE, N.W
WASHINGTON, D.C. 20015
(202) 363-4721 FAX 363-3859

August 28, 1992

To: Mayor A.M. Chernetsky
From: W.P. McCulloch (consultant)

Thank you for the meeting today. The concept plan on a new, private sector approach to housing is attached along with a paper on Capital Planning and Budgeting. As discussed, the PADCO short-term consultancy has been very successful but the long-term consultancy would benefit from a closer working relationship with the City Administration.

As we launch the Sverdlovsk - Ekaterinburg Urban and Regional Housing and Land Project, however, it is very important that the PADCO consultants be connected primarily to the Municipal Development Fund, while also providing advice and services to the Administration and City Council.

The proposed Project is a powerful approach to financing infrastructure and housing. It would create a market-based housing delivery system that would be much more efficient than the old oligopolistic system that is slowly dying as the result of emerging market forces.

I am personally certain -- based on thirty years of development experience in more than twenty-five countries -- that very substantial international resources will be available to support this approach. Almost all of the international lending sources that I am familiar with would like to help Russia solve its truly frightening housing problems. They just do not know how to do it. This would be a step toward showing them how and the key is to leverage external support with the best asset available -- land -- until your restructured economy can begin to mobilize other domestic resources.

. B

WILLIAM P. MCCULLOCH III

Annex A-2

1215 STEPHENSON PLACE, N.W.
WASHINGTON, D.C. 20015
(202) 363-4721 FAX 363-3859

To: Mayor A.M. Chernetsky
From : W.P. McCulloch (consultant)

Re: Critical Imports financed by the World Bank

As you know, Russia recently became a full member of both the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (World Bank). Public attention has tended to focus on the IMF, rather than on the World Bank, because that is where the macro-economic policy debate and negotiations took place; also the main formal requirement for becoming a member of the World Bank is that a country must first become a member of the IMF.

Very substantial loans will be forthcoming from both of these two international institutions, which are owned by more than 150 countries (with the U.S. holding the largest shareholding of some 18%). Again, attention has tended to focus on the IMF because of the release of the first \$1 Billion credit to Russia at the recent Munich session of the G-7.

However, Russia's sectoral and micro-economic problems, infrastructure needs, investment requirements at the enterprise level, conversion of military industries and privatization of enterprises are all development issues in which the World Bank -- rather than the IMF -- will play a leading role.

World Bank staff and consultants are in the final stages of preparing the following major loans:

- \$500 Million for Critical Imports in Agriculture
- \$500 Million for Critical Imports in the Oil and Gas Sectors
- \$500 Million for Critical Imports in Other Sectors (this probably includes some heavy industries and could possibly include municipal infrastructure items)
- \$100 Million for Privatization

The economic opportunities that these credits present are primarily the importation of goods or equipment that will be itemized on "approved lists" that are to be negotiated. However, there could also be indirect opportunities in the form of upstream or downstream financing by your larger local or regional banks. There will also be technical assistance in the case of privatization.

I do not know the contents of the draft approved lists of imports. But I do know that formal negotiations will be held soon, probably in September, and that these loans are intended to be fast disbursing.

In order to make sure that the Urals Region, the Sverdlovsk Oblast and the City of Ekaterinburg have a full and fair opportunity to participate in and benefit from these major economic interventions, I recommend that you send a fax (draft attached) to the World Bank's Resident Representative in Moscow, seeking more detailed information.

If these loans for imports, or the privatization project, prove to be of interest to the city and the region you may want to visit the World Bank in Washington in September in order to stay abreast of the latest details. This would also provide the opportunity to visit the Agency for International Development (AID) and discuss other potential technical assistance for Ekaterinburg, e.g. cadastral survey, staff training, international familiarization trips, etc.

If I can be of further service to you on these matters, please let me know.

To: Y.E.Samarin
Chairman of the City Council

From: W.P.McCulloch (consultant) نس ١٣٩٢

Re: ACTIONPLAN: Water Supply and Sanitation; and Comprehensive Study of the Urals Economic Region

August 13, 1992

The water supply and sewerage works in Ekaterinburg need extensive rehabilitation and some expansion. According to a highly experienced international expert, Peter Ware, who led a World Bank mission to Ekaterinburg in March, 1992, the following works are urgently needed in order to improve the capacity of the system:

- duplication of the transmission mains linking the water treatment plants with the city;
- completion of a 200,000 cubic meter per day treatment plant, where construction is delayed due to lack of funds;
- total rehabilitation of the old water treatment plant (capacity 170,000 cubic meters per day);
- improvement of water quality by modifying the treatment processes in the larger plant (capacity 400,000 cubic meters per day);
- a study to optimize the operation of the four water sources by development of operating rules;
- a study of the distribution system to identify the sizes and locations of additional mains needed to improve distribution pressures in areas of water shortage.

The question of improving the quality of potable water should also be investigated. A different type of disinfection might be necessary, e.g. ozone instead of chlorine, because of industrial wastes in the rivers. A fuller excerpt from Mr. Ware's report on these matters is available, in Russian, for interested technical parties.

The following materials and equipment are in short supply:

- chemicals for water and sewerage treatment
- polyelectrolyses and plants for their production
- air compressors

- submersible pumps for water and sewerage
- circulation pumps for heating systems
- porous plastic aerators for activated sludge treatment, and
- filter presses for sludge drying.

These materials and equipment are normally manufactured in Russia or in neighboring countries. They could also probably be obtained from converted military production facilities, as could a wide range of other equipment and materials in short supply.

With respect to such supply and demand, a comprehensive study of the Urals Economic Region -- as well as individual feasibility studies of specific plants and products that prima facie could satisfy existing demand -- should be undertaken as a matter of the highest priority. Technical assistance for this could readily be obtained from a number of sources, e.g. World Bank (IBRD), European Bank for Reconstruction and Development (EBRD), or various bilateral agencies such as the U.S. Agency for International Development (AID) or the German Gesellschaft fuer Zusammenarbeit (GTZ).

It is unfortunate that there was not an early follow up on the World Bank urban reconnaissance mission. The proposed studies and investments are critical to the well being and future growth of Ekaterinburg. Much time is being lost in carrying out the necessary studies, as well as urgent studies in other sectors such as district heating. Because AID is already advising on urban growth and development in Ekaterinburg through the presence of PADCO's two short term advisors and the probability of a long term resident advisory program, it is recommended that PADCO be contacted in the first instance regarding any external technical assistance that would be required.

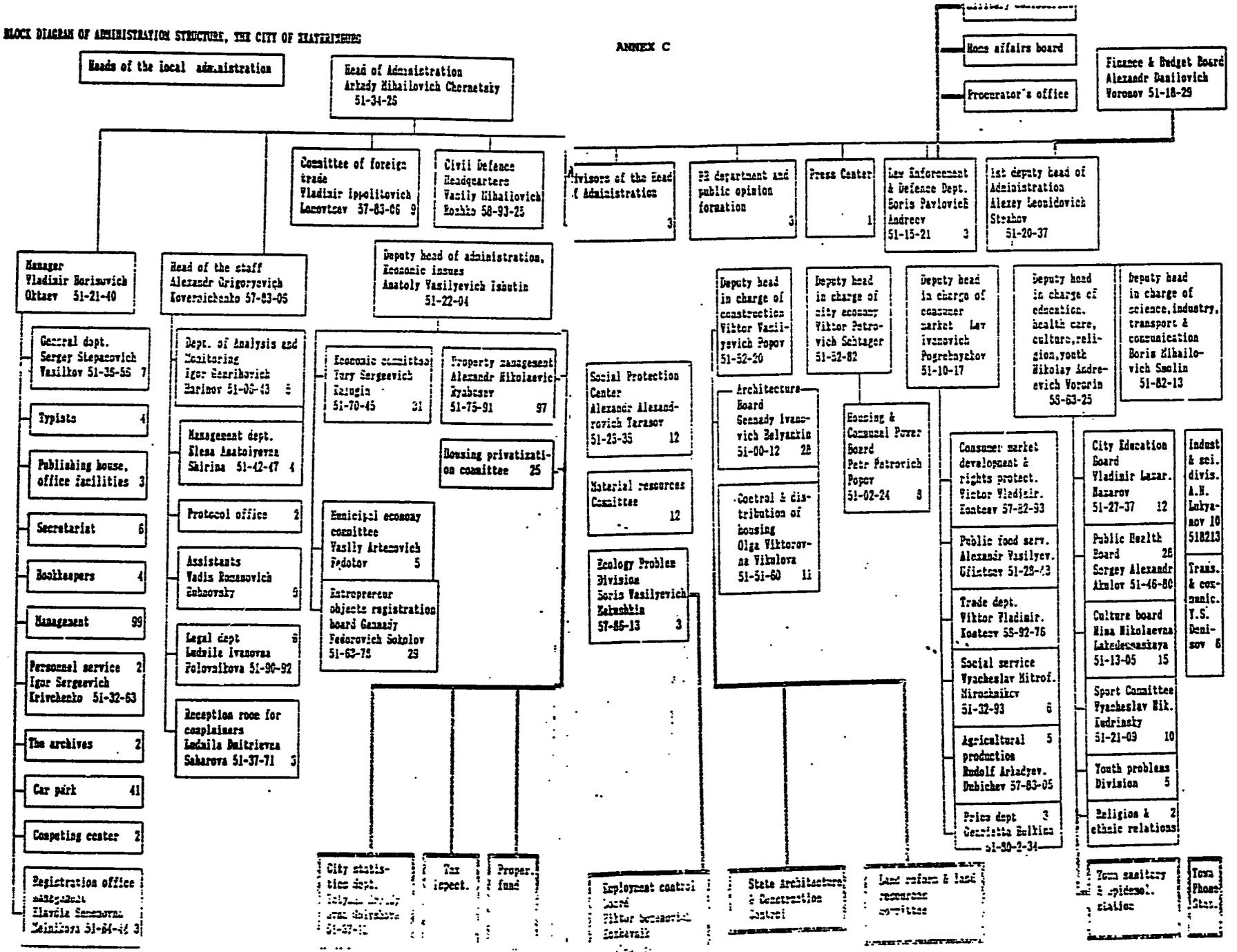
It is important to get preliminary estimates of the scale and timing of such studies and investments if the City Council and the Administration intend to prepare a rolling Capital Budget Model and develop the capacity to modify it as conditions change.

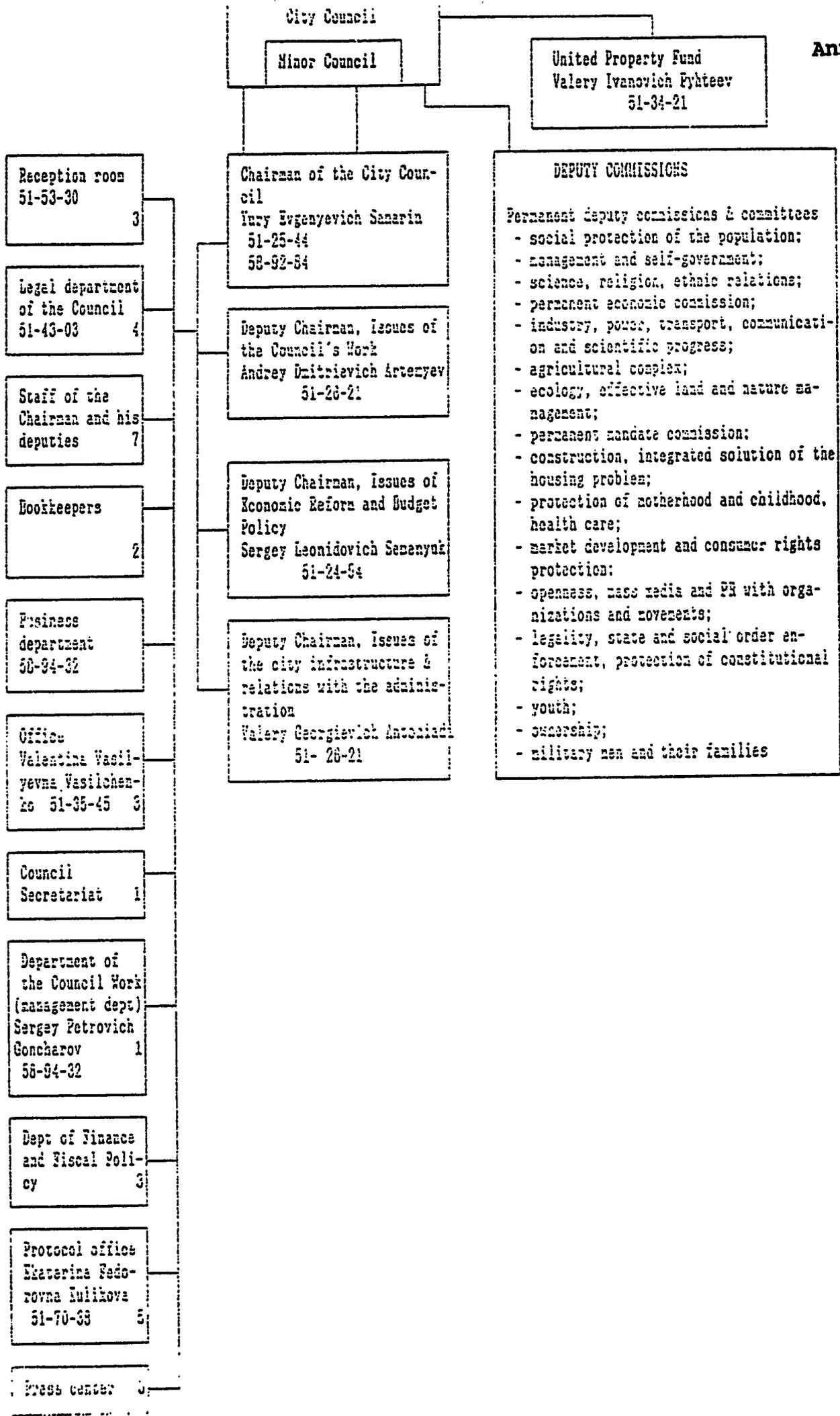
It is very important to note that additional investments in water supply and sewerage should be undertaken on the basis of full cost recovery. This will require considerable buoyancy in the short term and, for the long term, development of a sound rate base structure aimed at full cost pricing.

BLOCK DIAGRAM OF ADMINISTRATION STRUCTURE, THE CITY OF ZHATEMBERG

ANNEX C

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ANNEX E

Concept Paper

Ekaterinburg Urban and Regional Housing and Land Project

Introduction

The fundamental purpose of the proposed Project is to create a market-based housing delivery system. If it receives the necessary political support from the city, the oblast, local enterprises and the central government—and is soundly capitalized and managed autonomously on a commercial basis—the Project is capable of delivering upwards of 10,000 shelter units per year on a self-financing basis and could achieve this level in less than five years. In its first year of operation, it could already deliver 5,600 apartments that are standing vacant because of the lack of funds to complete construction.

While the Project is not aimed in the first instance at making shelter affordable to the lowest income groups, it will have this effect to a considerable degree because a large volume of the existing housing stock will be recycled as apartment dwellers decide to invest in single family houses or higher quality duplexes or low-rise apartments. Furthermore, the Project would shift housing away from the unaffordable public burden that it has become into the private sector, thus freeing up public resources that can be aimed directly at housing the poor.

Other institutions will follow in the wake of the Ekaterinburg Urban and Regional Development Authority. These include private mortgage banks or mortgage facilities in existing banks; a restructuring of existing, scattered activities into a model Housing Authority to care for lower-income groups; housing management and other services that will be provided primarily by the private sector companies; and an infrastructure bank with high-caliber staff and concentrated resources to service the Urals Region or, possibly, the entire Russian Republic.

These downstream events are separate activities that were discussed during the two-month U.S. A.I.D.-financed International Resident Advisor Program in Ekaterinburg. They would complement the proposed Project but are not essential to its realization. The mortgage banking facilities are somewhat different in that they would be expected to emerge naturally as part of the Russian capital market as inflation subsides and the private sector production of housing picks up pace.

Ekaterinburg Urban and Regional Housing and Land Project

The Project comprises the following components:

- an emergency program to complete 5,600 apartment units in 1993 that are standing uncompleted because of lack of funds
- the sale of an estimated 5,000 to 7,500 long-term leasehold plots per year in the city and oblast, suitable for single family houses or duplex units, beginning in 1993
- the sale of long-term leaseholds—a minimum of 250 hectares per year for the next five years—in blocks of hectares, starting at a minimum size of 5 hectares that are suitable for low rise apartment buildings to be developed by the private sector
- the financing of infrastructure—particularly water supply, sewerage and district heating—initially from international lending sources to inculcate the practice of sound long-term project lending and full cost recovery.

Objectives

The objectives of the Project are:

- to begin an emergency shelter program that would redeem sunk investments in uncompleted apartment buildings
- to shift housing supply from the public to the private sector by selling land (leasehold interests) and providing finance for infrastructure
- to utilize alternative sources of financing infrastructure: selling leaseholds; increasing user charges with the long-term objective of full cost recovery; long-term project financing from international and domestic sources; and laying the basis for the eventual issuance of investment grade paper
- to expand residential mortgage financing and create new mortgage instruments.

Development Corporation

An autonomous development corporation, called the Ekaterinburg Urban and Regional Development Corporation, will be established and funded as follows:

- an equity contribution of 1 billion rubles from the Russian Republic
- an equity contribution of 10,000 hectares from Sverdlovsk oblast
- an equity contribution of 5,000 hectares from the City of Ekaterinburg
- equity subscriptions of 2 billion rubles from local and regional enterprises and financial institutions
- a subordinated loan of 1 billion rubles from the Russian Federation

Financing

The Corporation shall have the authority to issue shares and to borrow in its own name, both domestically and internationally, both with and without government guarantees. In particular, it shall have the right to borrow US Agency for International Development housing guarantee funds, long-term loans from the International Bank for Reconstruction and Development, the European Bank for Reconstruction and Development and the European Investment Bank, as well as loans or equity from the International Finance Corporation and other appropriate sources. It may also accept grants for feasibility studies and other purposes from international sources, including A.I.D., UNDP, GTZ, JICA, DANIDA and others.

Legal Issues

The Project can be implemented under existing laws in the opinion of independent legal counsel. The relevant laws, currently in effect, are:

- Law on Property in the RSFSR
- Law on Enterprises and Entrepreneurial Activity
- Tax Law, and
- Civil Code of the Russian Federation

Long-term leaseholds (probably a 99-year leasehold), which are alienable and devisable, will carry the right to convert to fee simple, when this is subsequently clarified under the laws of the Russian Republic.

Project Team

The feasibility of the Project could be evaluated in approximately four months at a cost of \$100,000 to \$150,000, including foreign and local costs in addition to the project preparation currently being done by the Ekaterinburg Municipal Development Fund and PADCO, an American consulting firm specializing in housing. Other participants in the feasibility study would be a group of local engineers, outside local counsel, a major international engineering and planning firm and an international investment bank or international accounting/consulting firm. If all parties agree, the Project Team could comprise:

1. Ekaterinburg Municipal Development Fund
2. PADCO (U.S. consultants)
3. International engineering firm
4. Ekaterinburg Engineering Group
5. Sverdlovsk Juridical Institute
6. International investment bank or accounting/consulting firm

Emergency Shelter Program

The first task will be to complete preparation of a realistic proposal for financing unfinished multi-story brick and panel apartment buildings throughout the city.

For initial planning purposes the following calculations and assumptions were applied:

- one meter of living space costs 25,000 rubles to construct
- the 5600 units inspected are 68%-73% complete
- a one room unit is approximately 35 sq.m.
- a two room unit is approximately 55 sq.m.
- a three room unit is approximately 65 sq.m.
- a four room unit is approximately 75 sq.m.
- the housing costs-to-completion, including utilities and taxes should not exceed 33% of household income
- monthly mortgage payments would range from 850 rubles per month for the lowest income families occupying the smallest units to 5,000 rubles per month for the largest units.

The following table represents payments based on a 30 year 10% fixed rate mortgage:

Number of rooms per apartment	Required monthly household income in rubles		Monthly mortgage payment in rubles		Cost of completed construction	
	73%	68%	73%	68%	73%	68%
1 Room (+ bath and kitchen)	6,680	7,900	1,557	1,840	225,100	267,100
2 Room	10,440	12,360	2,430	2,880	351,000	416,000
3 Room	12,300	14,580	2,870	3,400	418,000	496,000
4 Room	14,230	16,850	3,300	3,900	482,400	572,400

The mortgages will be warehoused by the Development Corporation for a period of five years, when the level of inflation, which is currently estimated to be 2200% annually, should be reduced to single digits. At that time, the mortgages will be re-written by one of the new mortgage financing sources that should be available by then.

Sverdlovsk - Ekaterinburg
Urban and Regional
Housing and Land Project

Timetable

1992

- Aug. 17-27 Preparation of project concept paper by Fund for City Development and short-term advisors
- Aug. 28 Oral presentation of Project to Mayor Chernetsky by W.P. McCulloch
- Sept. 3 Discussion of housing construction finance and mortgage lending with Promstroibank in Moscow
- Sept. 7 A.I.D. debriefing in Washington, including description of proposed Project
- Sep/Oct. Review of concept by officials in Ekaterinburg, Sverdlovsk Oblast and Moscow
- Nov/Dec. Analysis of institutional issues and review of political support for Project by long-term advisors
- Dec/Jan. Visit to Washington by Sverdlovsk/Ekaterinburg officials
- Dec thru Mar. Feasibility study to be supplemented by local and international consultants and completed by long-term advisors

1993

- March Completion of Feasibility Study, followed by one month review by city, oblast and other shareholders of proposed Sverdlovsk - Ekaterinburg Urban and Regional Development Corporation
- March Urals Housing Conference
- April Decision on establishment of Development Corporation and implementation of Housing and Land Project.

ANNEX G

Physical Planning and Development in Ekaterinburg

A.V. Levitsky

Introduction

This report summarizes information collected as part of a short-term assignment in the City of Ekaterinburg, Oblast of Sverdlovsk, Russia in August 1992. The short-term assignment was financed by the Agency for International Development (USAID) and contracted through PADCO, Inc. (Planning and Development Collaborative International). The advisory team consisted of the author, Alexander V. Levitsky, and William P. McCulloch, III.

The short-term assignment was designed to address five tasks, as specified in the Terms of Reference (TOR). Task 1 of the TOR involved an examination of a proposed program to sell city-controlled land. This land sales program was envisioned to be an extremely important step in the creation of private property rights throughout the Russian Federation. The program also potentially represented a major source of revenue for capital expenditures that the city might undertake in the future. Unfortunately, the land sales program, as ultimately defined in the Decree of June 14, 1992, referred only to land used for business and commerce, not land used for housing. In short, the Decree for the sale of land was directed at granting land for the expansion of private businesses and facilitating the privatization of government and municipal enterprises. Eventually, land will be made available for private housing development; however, this step will require that the Congress of Peoples' Deputies adopt an amendment to the Constitution of the Russian Federation concerning the private ownership of land for housing.

Task 2 of the TOR was designed to examine an Emergency Shelter Program resulting from the city council's receipt of a 130 million ruble grant from the central government. The purpose of this grant was to allow the city to acquire several uncompleted apartment buildings, fund required follow-up construction, and distribute one-half of the finished units to Afghan veterans who, unhappy with their living conditions, illegally occupied 200 newly completed apartments; the remaining units would be sold at market prices in an effort to begin experimenting with cross-subsidization techniques. Unfortunately, this initiative did not go forward because the veterans did not accept the relocation proposal and insisted on remaining in the occupied buildings. The Council proceeded to assign the 130 million rubles to the Fund for City Development, with the understanding that 30 percent would be used for housing the most needy of the families displaced by the Afghan veteran incident, and the remaining funds would be invested in a manner consistent with the original purpose of the grant. The fund decided to purchase any available unoccupied apartments with the

understanding that 30 percent would be directed to relocate displaced families. At an average cost (in August) of 1.3 million rubles, it was hoped that the fund could acquire 100 units by 1) direct purchase of units in existing abandoned buildings, and 2) acquisition of nearly completed buildings from contractors for a discounted rate. Unfortunately, as of October 14, 1992, only five apartment units were actually purchased with the 130 million ruble grant and the remaining funds were deposited in three accounts in separate banks. Although the proposed shelter program did not materialize, extensive information was collected on the uncompleted apartment stock in Ekaterinburg and is presented in Section 2.3 of this report.

Task 3 called for a survey of the city's construction industry and building materials suppliers. Despite the slow emergence of a private sector, on both the supply side and the demand side, the unavailability of building materials, continued monopolistic practices, and high rates of inflation continue to be major problems confronting the construction industry. A more detailed profile of the construction sector and emerging private sector activities is presented in Section 3.0 of this report.

Task 4 involved the review of plans to develop the micro-region of Severny Shartash as well as the small town of Isoplit. In 1980, the Sverdlovsk City Executive Committee adopted a resolution to take the 628-hectare farm from the Ordzhonikidzevsky collective, allocate it for housing, and name the micro-region Severny Shartash. The project originally called for low-rise and multi-story housing. The multi-use areas were to include industrial, public, administrative as well as other uses. The 628-hectare farm was to house more than 250,000 people by the year 2011. The plan also called for 90 new homes to be added to the 130 existing homes in Isoplit.

It was understood that the financing of both of these projects in Severny Shartash and Isoplit would have to be done without the traditional participation of government. As a first step, the Advisors recommended that these territories be assigned to the project being proposed in the Concept. It was recommended that the project be self-financing and that the physical plan be flexible. A new approach was presented that included large tracts of land and only primary utility lines. The initial capital would be used to finance primary infrastructure improvements. The major utility lines would be the responsibility of the Development Corporation, while the secondary system would be financed by individual developers who, in turn, would pass the costs on to home buyers. Nothing is happening to the proposed projects due to the lack of a feasible scheme to finance the requisite infrastructure to serve the region.

Finally, **Task 5** of the TOR called for a review of the outdated Master Plan and the development of recommendations for incorporating physical planning into a capital budgeting approach to planning for the city and the region. Review of the Master Plan revealed the need to address the question of how infrastructure will be provided and financed in an effort to encourage private sector development. The city has taken the initiative to revise portions of the Master Plan, but requires considerable assistance in addressing financial issues, particularly in the area of capital budgeting.

The following two sections of this report expand upon key findings associated with the TOR tasks described above. Specifically, Section 2.0 presents an overview of housing conditions in Ekaterinburg; and Section 3.0 responds to Task 3 of the TOR to provide a more detailed assessment of the Ekaterinburg construction sector. The final section presents recommendations for long-term assistance to the city.

Ekaterinburg Housing Sector

Housing Characteristics

Ekaterinburg is a city of 1.41 million residents that "opened its doors" to the West in 1991. As of January 1992, more than 144,000 families were on the waiting list for better homes, an increase of nearly 10 percent over the past two years. More than 50 percent of the 21.5 million square meters of housing in the city is in poor condition. Of the 462,800 existing units, fewer than 4 percent are single family homes; the majority of remaining units are undersized apartments in five, nine and sixteen story buildings. Table 2.1 presents housing tenure, by family status, in Ekaterinburg.

Housing Type	FAMILY STATUS			
	United Families (%)	Split Families (%)	Singles (%)	Total Population (%)
Detached house	2.9	1.2	3.0	2.9
Semi-detached house	1.2	0.8	1.5	1.2
One family apartment	81.4	20.6	48.3	76.7
Communal hostel	9.0	7.6	18.6	9.6
Apartment in hostel	5.5	69.8	28.6	9.6
Total	100.0	100.0	100.0	100.0

In January 1989, regional authorities estimated that 19.2 percent of all households did not have their own apartments. Additionally, many families live in crowded conditions, with significantly less living area per person than is acceptable by city standards. Table 2.2 presents housing size, by family status, in Ekaterinburg.

Average Area per Person	United Families	Split Families	Singles	Total Population
Living (square meters)	9	10	16	10
Total (square meters)	14	18	27	15

Determining living requirements in terms of square meters rather than in numbers of rooms per family was a practice unique to the former Soviet Union. This policy led to a shortage of three- and four-room apartments and, due to this shortage of large apartments, citizens have remained on waiting lists for larger apartments for years.

The lack of adequate living space in family apartments is reflected in the following statistics: 26.8 percent of two-person households live in one-room apartments; 61.5 percent of three-person households live in two-room apartments; and 44.8 percent of households of five or more persons live in three-room apartments. The over-crowding situation in communal housing is even worse.

Approximately 95 percent of all apartments built in Ekaterinburg consisted of one-, two- and three-bedroom units; units with four or more rooms represent an estimated 5 percent of all available apartment units. The following table reveals that very few apartments with four or more rooms were constructed in Ekaterinburg.

Apartments	1981	1986		1987		1988		% of Total
	# of Apts	% of Total	# of Apts	% of Total	# of Apts	% of Total	# of Apts	
Total in use w/	8,387	100.0	9,805	100.0	12,057	100.0	10,133	100.0
1 room	1,297	15.5	2,019	20.5	3,078	25.6	2,784	27.5
2 rooms	4,422	52.7	4,529	46.2	4,792	39.7	3,697	36.5
3 rooms	2,208	26.3	26.72	27.3	3,448	28.6	3,036	30.0
4 and > rooms	460	5.5	585	6.0	739	6.1	616	6.0

Despite the shortage of apartments with four or more bedrooms, more than 80 percent of all families with four or more members reside in apartments. Table 2.4 illustrates housing occupancy patterns by family size.

Housing Type	FAMILY SIZE				
	2 Members (%)	3 Members (%)	4 Members (%)	5 or More (%)	Total (%)
Detached house	2.8	1.9	2.0	3.9	2.5
Semi-detached house	1.2	1.2	1.2	1.2	1.2
One family apartment	79.7	79.3	82.1	86.9	87.9
Communal apartment	10.6	10.4	8.9	5.5	9.6
Hostel	5.7	7.2	5.8	2.4	5.8
Total	100.0	100.0	100.0	100.01. 2	100.0

Construction Trends

From 1960 to 1970, construction of single family houses in Sverdlovsk was prohibited. This explains why more than 85 percent of the detached housing was built before 1961; in fact, as many as 17.4 percent of the detached homes were constructed before 1941, and 7.4 percent before 1918. Table 2.5 presents construction dates of detached and semi-detached homes.

Construction Date	Detached Homes		Semi-Detached Homes	
	Number	Percent	Number	Percent
Before 1918	1,980	7.4	1,581	10.0
1918—1940	4,044	17.4	4,354	27.7
1941—1950	4,533	16.3	3,321	21.1
1951—1960	16,154	44.5	5,152	33.4
1961—1970	4,804	12.3	1,099	7.0
1971—1980	602	1.4	79	0.5
1981—1988	305	0.7	44	0.3
Total	32,422	100.0	15,727	100.0

As Table 2.6 illustrates, the majority of detached and semi-detached homes are made of timber. However, these homes are typically vacation homes and recent building trends indicate that the majority of new single-family homes are being constructed with bricks.

Construction Materials	Detached Homes		Semi-detached Homes	
	Number	Percent	Number	Percent
brick; stone	1,171	7.4	3,900	12.0
concrete blocks, panels	1,141	7.3	3,900	12.0
timber	12,733	81.0	22,567	69.6
combined materials	563	3.6	1,484	4.6
clay, straw brick	3	-	7	-
other materials	115	0.7	648	2.0
Total	15,727	100.0	32,422	100.0

The types of utilities available in existing detached and semi-detached homes are presented in Table 2.7. As indicated above, many single-family homes are vacation homes, which accounts for their relative absence of utilities. Recently constructed detached homes, for example, would have greater access to utilities than the right-most column of Table 2.7 might suggest.

Utility (%)	All Homes (%)	State Coops (%)	Housing Coops (%)	Private Homes (%)
with electricity	100.0	100.0	100.0	100.0
district heating	95.1	95.2	99.9	12.5
pipel water	95.0	98.1	99.9	11.6
sewage	94.3	97.7	99.7	3.1
hot water	92.6	95.8	99.7	2.1
gas	74.7	74.8	88.9	45.0
electrical stove	19.5	20.9	10.8	1.8
bathroom or shower	89.9	92.8	99.4	1.9

Uncompleted Housing Stock

As part of Task 2 of the TOR, the PADCO-USAID Advisory team conducted an inventory of uncompleted apartment buildings in Ekaterinburg's six Districts. A total of 48 uncompleted apartment buildings ranging from 25 percent to 99 percent completed were surveyed. Based on this survey, it is estimated that 5,600 units in Ekaterinburg are "uncompleted," defined as 40 percent or more completed. Table 2.8 presents the number of uncompleted apartment units in Ekaterinburg, by degree of completion.

Table 2.8 UNCOMPLETED APARTMENT INVENTORY BY STATE OF COMPLETION		
Percent Completed	Absolute Number of Units	Cumulative Number of Units
41-45	433	433
46-50	245	678
51-55	456	1,134
56-60	255	1,389
61-65	246	1,635
66-70	871	2,506
71-75	72	2,578
76-80	1,894	4,472
81-85	145	4,617
86-90	558	5,175
91-95	466	5,641
96-100	n/a	n/a
Total	---	5,641

Table 2.9 reveals the estimated cost of completing uncompleted apartment units. As the table indicates, the estimated cost of completing units that are currently 95 percent or more complete is estimated at 65,000 rubles. As a benchmark, the cost of one unit is estimated at 1.3 million rubles.

Table 2.9 ESTIMATED COST OF COMPLETING UNCOMPLETED APARTMENT UNITS IN EKATERINBURG		
Percentage Construction Remaining	Number of Partially Completed Units	Completion Cost for Average Unit (55m ²) at 24,000 rubles
0-5	500	65,000
6-10	1,000	78,000-130,000
11-15	2,000	143,000-195,000
16-20	3,000	208,000-260,000
21-25	4,000	273,000-325,000
26-30	5,000	338,000-390,000
27-32	5,641	351,000-416,000
100	---	1,300,000

Based on the figures presented above, the estimated cost of completing the 5,600 uncompleted apartment units in Ekaterinburg would exceed 5 billion rubles.

Ekaterinburg Construction Sector

Construction Trends

The construction industry was in the midst of a deep depression in August. Exorbitant inflation rates, uncertainty surrounding the permit approval process, the dismantling of large, state-owned construction companies, and the lack of infrastructure services have all contributed to the depressed condition of the construction industry in Ekaterinburg and elsewhere in Russia. Housing construction activity has continued to decline since 1988, as shown in Table 3.1 below.

	1988	1989	1990	1991	1st Half 1992
Number of buildings	112	106	114	99	40
Number of units	10,513	10,419	9,687	8,732	4,150
Total area (m ²) built	542,421	573,464	556,414	483,468	222,698
Planned	560,200	630,000	740,000	880,000	n/a
Percent (built/planned)	97%	90%	75%	55%	n/a

The private development industry remains in its infancy. In the last five years, only 35 apartment buildings have been built by quasi-private and private enterprises. The five largest state construction firms continue to account for the majority of new housing construction. The five major builders include:

1. DomoStroitelniKombinat (DSK) House Building Combine
2. SverdlovskGrazhdanStroi (SGS) Sverdlovsk Community Builders
3. SverdlovskTransStroi (STS) Sverdlovsk Transportation Builders
4. StroitelnoMontazhnoyaUpravleniya N3 (SMU-3) Builders Systems Department
5. StroitelnoMontazhnoyaUpravleniya-UralAvodayazhologoMashinoStroi (SMU-UZTM) Building Systems Department-Ural Heavy Machinery Builders

New housing construction activity performed by these five builders from 1988 to 1992 is shown in Table 3.2 below.

Table 3.2
HOUSING CONSTRUCTION BY THE FIVE LARGEST STATE BUILDERS
 1988—1992
 (in square meters)

Builder	1988	1989	1990	1991	1st Half 1992
DSK	379,155	255,867	312,470	256,894	94,915
SGS	46,202	24,138	47,210	19,844	10,826
STS	14,341	13,469	20,456	14,072	4,476
SMU	10,165	50,561	29,609	30,381	17,695
SMU UZTM	8,577	16,088	11,543	15,660	5,466
Big 5 Subtotal	458,440	360,123	421,288	336,851	133,378
All Others	83,981	213,341	135,126	116,617	89,320
Total	542,421	573,464	556,414	453,468	222,698

The DSK, the largest building organization in Ekaterinburg, has built more than half of all housing units in the city. As Table 3.2 illustrates, DSK was responsible for nearly 75 percent of all units constructed in 1991.

Construction Costs

Costs for a square meter of construction varied only slightly from 1988 to 1990, largely due to price fixing by the state. Any price variations could be attributed to financing requirements for infrastructure projects. As the price controls were eliminated, construction costs skyrocketed (see Table 3.3).

Table 3.3
ANNUAL CONSTRUCTION COSTS FOR APARTMENT UNITS
 1988—1992

	1988	1989	1990	1991	1st Half 1992
Total unit cost (thousands of rubles)	130,782	135,898	141,614	289,386	1,215,020
Average cost of 1 square meter (rubles)	241	236	254	598	5,449

Price controls were eliminated on January 1, 1992. An examination of quarterly prices reveals that between the first quarter of 1991 and the first quarter of 1992, the construction cost of one square meter increased more than thirteen times. The cost of new construction was estimated to be 24,000 rubles per meter by August 1992; at that time, the exchange rate was 168 rubles to one US dollar.

Table 3.4
QUARTERLY CONSTRUCTION COSTS FOR APARTMENT UNITS
1991—1992

	1991 (quarters)				1992 (quarters)		
	1st	2nd	3rd	4th	1st	2nd	3rd estimated
Total unit cost (thousands of rubles)	27,751	63,327	46,083	152,255	488,- 673	726,347	n/a
Average cost of 1 square meter (rubles)	384	509	551	749	5,292	5,572	12,000

In addition to higher building costs, building organizations began to negotiate a share of the units as part of their contract. This attempt to mitigate the impacts of inflation complicated any refinancing attempts that were made by the enterprises. This rapid escalation of prices precluded many enterprises, especially smaller ones, from completing their building projects.

Building Materials

In August 1992, given the lack of activity on behalf of the large-scale concrete panel builders, the basic building block of Russian housing was brick. However, the output of bricks in the Sverdlovsk region has continued to drop since 1988; output has declined from 550 million bricks in 1988 to less than 500 million in 1992. In recent years, the calculated deficit of bricks has been 300 to 800 million bricks per year. With the sharp reduction in (and possible elimination of) cement-concrete construction, the annual deficit of bricks is expected to rise to 1 billion within the next few years.

Numerous other building supplies are in short supply. Cables, lighting fixtures, metalware, power equipment, hoisting devices and tools are all difficult to acquire. It is also anticipated that a growing amount of building supplies will be lost to stockpiling as well as barter deals with supplies of spare parts and other needed materials.

In short, housing construction in Russia has always been very material-intensive. The heavy reliance upon steel and cement for housing construction is reflected in the following statistic: compared to the United States, Russia consumed two times as much steel and two and a half times as much cement per unit of national income. Russia is in great need of alternative building methods that emphasize the use of less material such as stick-built and composite construction.

Private Sector Activities

Construction by private contractors includes construction for state enterprises and private customers. The state projects involve the completion of 5, 9, and 16 story apartment buildings. These projects range from 60 to 360 units and are built by the larger, established companies. There is only one large, private construction company in Ekaterinburg: Mayak. Since 1988, Mayak completed six apartment projects comprising nearly 900 units and the company also constructed 11 schools, 3 dormitories, and 12 office and industrial projects. Even though most state construction projects in the city had stopped, Mayak has continued to build. The ability to survive is likely due to their vertical control of roofing material suppliers which, in turn, put them in a strong bartering position for other materials as well as equity. Unlike the state-run departments, Mayak seemed to trade its way out of debt.

The private customers that require assistance with smaller construction jobs have their choice of selecting from a state department in a position to negotiate independent work or choosing from a variety of small contractors. Since this market is relatively new, the small contractors have not had sufficient time to establish themselves. Other difficulties encountered by small contractors have included gaining building approvals and construction permits from city officials, acquiring materials from monopolistic suppliers, and finding financing.

Approval of projects is a time-consuming process. Contractors are often required to make deals with the City Architect, the City Historian, the District Architect, the Director of the Water Division, the Director of the Electric Division, the Director of the Gas Division, the Director of the Waste Disposal Division, the Director of the Telephone Division, and so on. It is not uncommon for deals to be negotiated to include additional off-site work or additional compensation. The process of securing the requisite permits and approvals typically takes up to one year, but delays can extend the period to two years.

Most active contractors have relationships with suppliers that are based on hard currency or barter. Even under these arrangements, it is often difficult to acquire material due to continued monopolistic control. The lack of plumbing supplies and other single source products continues to delay construction timetables.

Development proposals by private investor groups were evident throughout the city; however, the lack of financing has frozen these proposals in their initial planning stages. Only one private development group, the Police-Airport Housing Community, seemed to be making progress. It appeared that the Police Association had developed a working relationship with material suppliers, resolved questions of infrastructure by siting their development carefully, and were strong enough not to be intimidated by outside interest groups.