

PADCO

PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL, INC.

What is Urban Land Worth in Ukraine?

Analysis of the 1994 Land Rights Auctions

Prepared by

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1025 Thomas Jefferson Street, NW

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Washington, DC 20007-5209

under sponsorship of

United States Agency for International Development

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Introduction.

In the process of preparing for the first land rights auctions in cities in Ukraine, a team of American and Ukrainian real property experts had the first opportunity to apply both Western methods of real property appraisal as well as the "official" normative valuation methodology to a reasonably large sample of urban land parcels in Ukraine.

The results of these analyses tend to confirm what was already suspected about Ukrainian land in cities: that values will follow the same spatial pattern as values in cities elsewhere in Western and Eastern Europe; that the values will be affected by general economic and political conditions as these influence the perceptions of potential investors; and that a mechanistic formula based upon "objective" factors thought to be inherent in land will have little meaning in making estimations about the potential price that can be gained in an open market for land and real property.

1. The process of preparation for the land rights auctions,

Between January, 1994 and February 1995, there were seven land rights auctions conducted in four cities in Ukraine. Kharkiv had the distinction of holding the first land rights auction (on January 21, 1994), the most auctions (4), and the most successful auction from the point of view of monetary return (\$350,000 from the sale of seven parcels on October 13, 1994). Lviv, Odessa and Chernihiv all conducted their first successful auctions of land rights, with varying results in terms of numbers of properties sold and amounts of money earned. (See Appendix I),

The number of properties sold and the monetary results were less important factors in these first auctions than the process leading to the auctions, because their main purpose was to demonstrate how this new form of land allocation -- competitive payment for land -- would work in Ukraine. Each auction was an experiment in which it was necessary to work out the various questions of legal interpretation, administrative organization, land appraisal, formation of investor interest, formation of public opinion and clarification of local political support. Each auction was also an experiment which was designed to show that investors and the public generally can benefit from a land allocation procedure that is fully open to public and press review. Such an auction insures that the value of the land transferred is arrived at by market competition and the money which changes hands goes directly into the city treasury where it can be used for projects that are of benefit to the city as a whole.

As the best measure of the success of the first auctions, each of the four cities is now planning subsequent auctions and each is committed to make land rights auctions a routine part of its procedures for the allocation of lands for productive development in the city.

An important part of the planning for the auctions involved the process of gathering existing information about land and real property prices in each city; analyzing the potential market prices of the land parcels which were chosen to be sold; and setting the starting prices which would be announced to prospective investors. These appraisal tasks were carried out by three American appraisers who each spent time working with Ukrainian officials and experts in each city. As a way of comparing the different approaches to land valuation, there was also

prepared for the Chernihiv auction a report on the valuation of land in that city using the methodology for determining “normative values” which has been designed to carry out the Law on the Payment for Land.

2. The Types of Land Parcels Chosen for Auction and the Legal Rights Offered.

The parcels chosen for auction in each of the four cities were similar because, based on experience from cities around the world, it is “routine” properties which are normally sold by the auction method. Not generally sold at auction are parcels that are large and able to accommodate multiple-building complexes; parcels that require complicated engineering or design solutions for construction; parcels with unusual features such as location on the waterfront or next to historic monuments; and parcels with existing uses, existing occupants or existing legal claims. These parcels are generally sold by negotiated sales or competitive tenders in which questions about the feasibility of use and construction and the type of design proposed are considered along with the offered price. Similarly, the most important or prestigious sites in a city are generally reserved for competitive tender, allowing the city to insure that they are not only sold to the highest bidder, but are also developed in a way that enhances the business activity of the central city and that insures a high quality design.

Based on these considerations, the four cities chose a mix of different sites located in various areas -- central districts, outlying districts, industrial, residential and business districts. With two exceptions in Odessa, the parcels were all vacant land, free of any complicating engineering or design problems and free of any potential legal claims from former users. Almost all of the sites were smaller than one hectare. Those located in central districts of the city tended to be particularly small and were offered for residential or office use. Some larger sites which were suitable for warehouse, industrial or parking garage uses were located in the outlying districts of each city. Chernihiv offered two sites suitable for gasoline service.

For each of these sites the legal rights which were offered were the rights to lease and to develop the land. In each case the winning bidder was given, by contract, the right to claim the allocation of the parcel under the usual legal procedure, to take a lease for up to fifty years (50) with a right to renew for another fifty (50) years, and to develop the land with a use or uses within the category specified. The bidder had the responsibility to properly prepare the land with infrastructure as necessary or to pay the city a fixed sum of money for the infrastructure preparation.

Rights to claim allocation with ownership were offered in two cases. In Kharkiv, the city offered to sell the rights to several single family house lots which, under the Land Code, can be allocated into full private ownership. There were no bidders for these parcels, however.

3. Application of Western Appraisal Procedures in the Ukrainian Cities.

Real property appraisers in Western Europe, Japan and the United States use three methodologies to make estimates about the potential value of land. These are called (1) comparative sales approach, (2) cost approach and (3) income, or development, approach.

Each of these methods is intended to model, using indirect sources of data, the process of reasoning that a “willing” seller and a “willing” buyer would undertake in a free market purchase/sale of the parcel of land. These approaches differ significantly from the methodology which fixes a “normative” value of land, because this methodology attempts to

analyze "objective" factors related to the land parcel alone, ignoring the crucial factor in the marketplace that is played by the expectations of the buyer and the seller.

An investor is willing to purchase land at a certain price not only because the land contains a appropriate series of factors which make it suitable for his proposed use, but, most importantly, because the buyer has the expectation that he will earn sufficient profit -- sustainable over a number of years -- to justify the level of capital it will be necessary to spend today to acquire the land. The expected level of profitability of different potential uses changes constantly with various external market factors -- particularly interest rates on borrowed capital; trends in the national and local economy; and the possibility that future technological change will render the proposed use obsolete. Therefore, the prices that different investors will be willing to pay for the same land will vary from week to week, and the potential value of a land parcel will only be realized at a single point when the series of expectations of both the buyer and the seller coincide.

Generally, Western real property appraisers use the "comparative sales approach" as the best way to estimate the value of vacant land. Simply stated, the approach involves the analysis of the recent record of sales of other land parcels that are similar to the parcel in question and the assumption that the same trend shown in these sales will affect the expectations of the buyer and seller for the individual parcel being appraised. In most Western European, American and Japanese cities, it is easy to apply the comparative sales approach, because data on recent sales, including accurate record of the prices, is kept and made available by networks of real property professionals. (It should be noted that similar data kept by governments is seldom up to date and is much less accurate. This is because owners and investors are usually willing to tell the true financial information to their brokers and accountants, but not to the government.)

Obviously, in Ukraine, it was not possible to apply the "comparative sales approach" in the same way, because there was no available data about vacant land parcels. However, it was possible to assemble data about several other types of transactions -- sales and auctions of apartments, sales and auctions of small enterprises in which the right to occupy buildings and land was included, other lease and rental data; negotiated allocations of unfinished building sites; other similar "deals" involving existing buildings and sites negotiated by city officials; and "grey market" transactions involving single family house parcels and dacha sites.

There was sufficient data available in each of the four cities to begin to indicate patterns of prices in various areas of the city which tended to mirror the common pattern seen in almost all other European cities. With this basic assumption, it was possible then to look more closely at certain sites which were somewhat similar to the sites being offered; to estimate a land component out of the total real property price for those transactions which involved buildings and enterprises; and then to adjust this land price up or down for the land parcel in question. These adjustments were made depending upon whether the parcel was somewhat larger or smaller than the parcel it was compared to, somewhat better or less well located for its proposed use; and somewhat better or less well served by existing infrastructure and transportation lines.

All of the sites evaluated in all of the cities were done under this comparative sales approach, as adjusted for the Ukrainian context. None of the sites was directly evaluated using the "cost approach" because this method uses the replacement cost of buildings and

improvements already on the land as a way to estimate value. Since all the parcels were vacant, obviously, this approach was not applicable.

However, elements of the cost approach were used in analyzing some of the data with respect to earlier sales of real properties and small enterprises, in order to extract the "land" component for comparison. For example, in Chernihiv, there had been an earlier negotiated sale of an unfinished bank building site for 5 billion kbv. The cost approach was applied to estimate that the type of work already done on the site for foundations would cost 4 billion kbv. to replicate (including the cost of materials, construction work and preparatory design and engineering. Subtracting this value from the total price left 1 billion kbv., which was estimated to be the price of the land. This price could then be compared to the vacant office/retail site being offered for auction, which was located in the same central area of the city.

The third approach, called the "income" or "development" approach is the model that is most close to the reasoning process of a potential investor in land, because it attempts to estimate the future income (minus costs of development and maintenance) which will be gained by using the land for a specific use. Of course, this method is most appropriate when valuing a site which is likely to be used for one specific use. The gasoline service station sites were appropriate for this appraisal technique.

In Chernihiv, the use of the approach was as follows. The appraiser knew from discussions with local gasoline retailers that the cost of installing necessary equipment (pumps, kiosks, etc.) would be \$15,000 to \$20,000. They also learned that at the proposed site on the busy St. Petersburg highway a gasoline retailer would be likely to sell enough to have a gross profit of about \$40,000 per year (over the cost of gasoline supply). Since in the prevailing inflationary climate a yearly interest or profit rate of 80 to 100 percent on capital investment is expected, the total cost of the project could not exceed \$20,000 to \$24,000. Since the equipment cost is known at \$15,000 to \$20,000, the price of the land is automatically calculated at \$5,000. This, of course, is what the parcel actually sold for at the auction.

4. The Normative Price Approach.

As a way of comparing the approaches and demonstrating how the normative cost approach could be applied in an auction, an analysis was conducted in Chernihiv. Data was gathered from a number of sources in various offices of the city and the oblast administrations, and the model of coefficients by which the data is to be adjusted in the geographic regions of the city was set forth. However, it proved impossible to draw any meaningful conclusions from the data. In some cases the data had not been kept in a form by which it could be applied on a parcel by parcel basis, and the model had no assumptions or methodology for extrapolating an individual parcel figure from a general statistic. In other cases, the nature of the data which the model required could not be transformed into a cost figure. For example, information about the length of streets and length of sewer and water lines serving the sites was collected. Although it is presumed that the distance required to serve a land parcel with infrastructure would increase the necessary cost to develop it (and thereby depress its price), there was simply no way to transform the distance data into a cost per linear meter and then assign some percentage of that cost to the individual parcel -- taking into account the fact that there were other parcels on the same street that were served by the same infrastructure lines.

Finally, the process of collecting some of the data revealed that certain assumptions in the model are at variance with reality. For example, the appraiser found that the data on

Industrial sites did not sell because in all the cities, the traditional industries are very weak and new activities are still not large or profitable enough to warrant new construction. Single family house parcels also did not sell, both because of the continued availability of free allocation of these parcels and the "grey" market trading for the most desirable of them. Individuals who would be willing to acquire such parcels were not willing to publicly bid on them because they would thereby reveal wealth or income to the tax authorities or to their neighbors.

b. What was the Pattern of Variation among the Prices Gained for Land within the Cities.

Only in Kharkiv have enough rights to land parcels been sold to begin to plot a geographic pattern of prices based upon auction sites alone. However, in the other cities it has been possible to create a geographic distribution by combining the land parcel auction prices with the prices gained in small enterprise auctions, apartment auctions and other negotiated sales. These analyses have yielded the expected pattern which is seen generally in European cities. With the exception of sites for a few specialized uses, such as a gasoline service site on a busy highway; the highest prices are gained for sites in the center of the city where transportation lines converge, allowing many people -- workers, clients, shoppers -- to use the offices and retail activities. Prices drop sharply for land which is just outside the main central area and they gradually continue to fall as one moves further from the center. There are normally "wrinkles" in this pattern where nodes of activity occur, such as around the railroad and bus stations, and on busy central market street in a large, though outlying, residential area. When residential prices are at issue, prices rise and fall between areas based upon the "prestige" assigned to them by the local population, and whether they have certain features of scenic beauty, historic or architectural distinction, or recreational opportunities. These same patterns are emerging in the auction results and in the "grey" market reports of prices.

c. What is the significance of the differing results in different cities?

In two cities, the results of the first auction were relatively weak. In Kharkiv, leases to only two parcels out of 16 were successfully sold in January, 1994. In Lviv, 2 parcels out of 10 were sold in December. These results were not read as particularly disappointing, however, because the first auction was considered to be experimental. The city officials and potential investors took part with some hesitancy; there was political opposition expressed, and the advertising campaigns were conducted without particular skill in "targeting" the investors.

As expected the second and third auctions in Kharkiv showed progressively greater interest, larger numbers of bidders and higher prices. This appeared to reflect the greater understanding by both the city officials and the investors in the auction procedure, and the fact that the city had declared a clear policy that it would no longer make industrial and commercial development parcels available without payment.

In Odessa, at the December auction, four sites were sold out of ten offered, including two sites with unfinished buildings for which full ownership can be claimed by the winning bidders. The city officials, particularly the mayor, made clear their strong support for the auction process and the investing public was not unfamiliar with either the auction procedure nor the need to pay for land allocation. The city has concluded a number of negotiated payment deals for other development and rehabilitation projects in the city, and it, in fact, had attempted to sell two unfinished buildings at previous auctions in the spring of 1994.

apartment sales revealed that prices were uniform for apartments of the same size and type throughout the city, except for some variance that could be attributed to the factor of perceived “prestige” of certain areas. This finding was not consistent with the underlying model of weight coefficients which has divided Chernihiv into four valuation zones based on distance from the center, as well as 305 smaller areas based on homogeneity of uses and geographic features. Distance from the center was presumed to be a major factor affecting value and values were expected to fluctuate in areas with better or worse environmental conditions; however, with respect to apartments in Chernihiv, both factors appeared to be irrelevant.

Application of the normative value approach failed to suggest any potential prices for the auction sites.

5. Setting the Starting Prices.

The appraisals of the land parcels represented the best estimated by the real property experts about the probable outcome of a market sale of the land. Since, however, it was the purpose of the cities in setting the starting prices to attract investors to come and bid, the city officials were advised to set the starting prices at a fairly low level -- 25 to 35 percent of the estimated market prices. This advice was given because the concept of a land auction has been to draw as many potential bidders as possible into the auction room. Like the gasoline service station investors, every bidder comes to the auction with a fairly clear idea of the maximum price which he is able to offer. By having more bidders with several different ideas about how the site can be used and how profitable the use will be, the more likely it is that there will be lively competition among the bidders and the price will rise to a level that represents the highest estimated price of the person who believes his use will be the most profitable.

By setting the starting prices low, more bidders are drawn in because some of them will hope to get a “bargain” for the land. Sometimes at an auction, lively bidding by many participants will create a competitive “psychology” -- that is, some of the bidders will begin to adjust upward their original expectations about the value and profitability of the land when they see their colleagues and competitors willing to compete against them for the land.

6. The Results of the Auctions.

In the charts in Appendix I are shown the full record of the parcels offered, the appraisers estimates (where available), the starting prices, and the final prices of those parcels that sold. Parcels were removed from auction if less than three bidders registered to bid on them.

a. What sold and what did not sell?

The record of the types of properties that sold is not surprising given the structure of today’s economy in Ukraine. The most lively bidding took place on those sites that were suitable for the most profitable uses -- gasoline stations, warehouses/garages, and the best central city residential or office developments. There was less interest by bidders in the sites in outlying areas, particularly commercial sites offered in micro-rayons away from the city centers. Apparently it is too costly to construct new buildings in order to gain the rather low profits that are available today from the sale of household goods or the provision of local neighborhood services.

In Chernihiv, the success of the first auction -- five of five parcels sold -- was probably the result of several factors, particularly the skilful organization of the auction and clear commitment of the city leadership to make it a success. As the last auction in the series, Chernihiv was able to watch the other cities and proceed carefully. Also, as a smaller city, its investment community was easily reached through personal contacts by city officials and their policy and procedures were clearly communicated. In addition, Chernihiv followed the lead of Kharkiv and set its starting prices at a very modest level.

Both Lviv and Odessa chose to set higher starting prices and in both cities, the public officials later expressed disappointment that the resulting prices were considerably below their expectations. There were different reasons for this problem in each city, however, it appears that in both cities, expectations were unrealistic -- both in the expectation that many investors would step forward and in the expectation that land in these cities should have a value that approaches the level of prices in other areas of Europe.

In Lviv the preparedness of the investment community appeared to have been hindered by the process in which the auction was undertaken. For a considerable period of time while the preparation was under way, the Mayor was out of the city and solid policy direction from his office was lacking. Unlike the other three cities, the Lviv City Council failed to turn over the responsibility for the auction to its Executive Committee and itself tried to play an active role. This resulted in an administrative and political process with too many actors, divided responsibilities and mixed signals from auction proponents and opponents within the City Council. It left investors somewhat confused and somewhat hesitant.

The expectation of land prices as expressed by some public officials in Lviv appeared to have been based on comparisons of Lviv with other Eastern European cities such as Cracow, Warsaw or Bratislava, where in recent years a fairly high level of market activity has taken place. Such comparisons, while they offer an optimistic hope for Lviv, simply cannot be used to predict the current value of land in the city. In Poland, Hungary, the Czech republic and Slovakia, legal reforms moving toward a market economy have been under way for a longer time and have been more pronounced than in Ukraine. Foreign investment is being felt in those cities and the general national economic situation is far better than that of Ukraine. Further, those cities are beginning to address the problems of their infrastructure, with some significant public investments already underway to improve water supply, sewage and sanitation, and public transportation. Until such tangible actions begin to happen in Ukraine and in the Lviv area, the public officials hope that land in Lviv is worth an average of \$30 a square meter will simply be a dream.

In Odessa, expectations about the prices that bidders would be willing to pay had been based upon the record of several negotiated deals and reports of several "offers" made by foreign investors in which substantial prices were discussed. These types of deals and potential deals, however, did not involve the routine types of sites which were put up for auction. They involved "prime" sites which were needed or wanted by firms linked to the city's port and trading industries. In such deals, the investors have few alternative choices, because they must be closely linked to the center of the business activity; thus, they are subject to the municipality's monopoly bargaining power. It has complete discretion to offer or refuse a site and can set a price which is out of proportion to that which would emerge in a truly competitive situation. The relatively unique position of Odessa, as the leading international port makes it possible for a few such deals to occur. (It must be noted that there have been

only a few such deals). They do not define the general market and are more closely analogous to the situation of a city like Kiev, where small segments of the housing and office markets are highly distorted by the presence of foreign diplomats and business consultants who are able to pay world level prices for accommodations that are far below a world standard.

In an auction in which domestic investors are bidding against each other, rather than against the monopoly power of the city, the prices are understandably more modest, given today's economic situation.

Conclusion.

What is urban land in Ukraine worth today? It is possible to draw three conclusions from the results of the auctions and the appraisals. First, in the short-term, most land in urban areas has very little or no value. At even very modest starting prices, investors were unwilling to come forward to bid on many of the land parcels. This is quite understandable because in today's economy, the possibilities for profitable development and use of land are very few. When investors calculate the value of land, they add the land price to the costs of project design and approvals, construction, marketing and the eventual maintenance and operation of the buildings and other activities on the land. If the total of these is higher than the expected return to be gained from the development and use of the land, then these costs must be diminished to the point at which they balance with the returns. In most such equations today, the liabilities of acquiring land significantly outweigh the potential benefits. Thus, the land can be said to have a negative value. Only in a few sectors -- cottage housing, some small scale commercial development, some business office activities, gas stations, garages and warehouses -- does there appear to be a reasonable calculation of sufficient return to justify acquisition of land.

Second, in the long-term, urban land should have a significant value, because the general economy and infrastructure of Ukraine has the need and potential for enormous growth. All kinds of new technologies and new services are being introduced. If they grow and prosper their needs for new and renovated buildings will be very great. Similarly, the deficit of housing and the need within a few years to renovate and redevelop most of the existing housing stock will create another great demand for urban land. The potential value will only be realized as changes in fundamental laws, the structure of enterprises and the mechanisms of finance and transactions are made.

Third, in the realm of theory, urban land may be said to have relative, or normative, value based upon a number of characteristics that indicate its suitability (or unsuitability) for use and development. The calculation of such values can be very useful for certain purposes -- securing a level of equitable distribution of assets in a broad privatization program and securing a similar equity in setting land tax rates. Over time, as predictors or regulators of market value the imposition of such calculations is of no usefulness, and may, indeed, have the effect of discouraging some necessary transactions and useful investments.

The value of land will emerge, as it does throughout the world, in the actual transactions of people who need to use and develop the land. The rules and regulations which govern those legal and economic relations may serve to invigorate the market and help it to function in an open manner -- in which case the evolution of values can be fairly accurately monitored and economic and legal adjustments made; or the rules and regulations will drive the

actual transactions into a "grey market," from which accurate monitoring and planning will become very difficult, as it is today.

Appendix I: Land Parcels Offered and Sold

Харків, Січень 94

STARTING SALE P

	м2	Оцінка APPRAISAL	Стартова ціна PRICE	Ціна PRICE продажу	Ціна за м2 PRICE PER MET
Вул. Карла Маркса (комерційна)	500	\$25000	\$6394	\$21000	\$40
Вул. Свердлова (комерційна)	1000	\$58000	\$5194	\$19000	\$19
Вул. Гвардійців Широнівців	1800	\$31000			
Вул. Гвардійців Широнівців	1500	\$10000			
Вул. Революції 1905 року	1500	\$58000			
Вул. Грицевця	1800	\$10000			
Московський проспект	2500	\$9000			

Харків, Червень 94

	м2	Оцінка	Стартова ціна	Ціна продажу	Ціна за м2
Вул. Культури (комерційна)	1000		5000	8050	\$ 8,05
Вул. Даниленко (житло)	9000		4250	27250	\$ 3
Вул. Маріська	3600		1375	3550	\$1

Харків, Жовтень 94

	м2	Оцінка	Стартова ціна	Ціна продажу	Ціна за м2
Вул. Широніна	3000	\$11700	\$1918	\$12824	\$4,25
Вул. Московська	2600	\$12500	\$2294	\$11588	\$5,10
Вул. Кооперативна	870	\$13500	\$2941	\$69412	\$80
Вул. Митрофанівська	780	\$4100	\$823	\$155294	\$200
Вул. Роганська	3000	\$5000	\$906	\$19059	\$6,25
Вул. Маріська	4000	\$3900	\$741	\$71882	\$18
Вул. Свердлова	4000	\$27000	\$2700		
Вул. Лісопаркова	2450	\$10300	\$1500		
Вул. Клочковська	4500	\$23300	\$2400		

Харків, Лютий 95

	м2	Оцінка	Стартова ціна	Ціна продажу	Ціна за м2
Вул. Культури	870		\$4700	\$10000	\$12, 60
Вул. Клочковська	2000		\$5600	\$25000	\$12,50
Вул. Грицевця	3000 (759)		\$1400	\$1650	\$2,00
Вул. Клочковська	2000		710000000 крб.		

Вул. Котлова	1390		685000000		
Вул. Революції	1500		206000000		
Вул.Єлізарова	1000		209000000		
Вул. Лісопаркова	2450		332000000		
Сім ділянок під приватні будинки	780--1000 м2		206000000-- 302000000		

Львів, Грудень 94

	м2	Оцінка	Стартова ціна	Ціна продажу	Ціна за м2
Вул. Наукова	5200	\$8370	\$2548	\$4199	\$ 0,80
Вул. Миколайчука	4000	\$3120	\$800	\$977	\$ 0,26
Вул. Наукова	2700	\$8370	\$1701		
Вул. Рінгалова	9725	\$18234	\$4668		
Вул. Шкурата	4400		\$2860		
Вул. Шевченко	325	\$6000	\$1950		
Вул. Лесі Українки	120	\$2160	\$1080		
Вул. Панча	4200	\$10500	\$2520		
Вул. Лісунецька	1950	\$4662	\$1053		

	м2	Оцінка	Стартова ціна	Ціна продажу	Ціна за м2
Вул. Калініна	1600	\$19000	\$18868	\$28181	\$18
Вул. Доброзольско го	5970	\$17300	\$33919	\$36363	6,10
Вул.Марінес ко	2670	\$42000	\$38000	\$41895	15,50
Вул. Королева	970	\$15500	\$18000	\$20837	21
Вул. Толстого	990	\$107663	\$79000		
Вул. Держинсько го	760	\$50400	\$25000		
Вул. Тираспільська	6590	\$65600	\$27000		
Вул. Петрова	1350	\$25488	\$27000		
Вул. Московська	1680	\$83160	\$34000		

Чернігів

	м2	Оцінка	Стартова ціна	Ціна продажу	За м2
Провулок Спортивний (бензозаправка)	1900	5500--7100	923	4923	\$2,50
Проспект Жовтневої Революції (магазин/офіс)	1600	18000--22000	2692	15651	\$9,80
Вул. Леніна (бензозаправка)	2800	7000--10000	1077	19230	\$6,80
Вул. Інструменталь на (гараж)	2600	5000--6300	1938	4076	\$1,00
Вул. Інструменталь на (гараж)	4100	11000--14000	769	5310	\$1,20

Appendix II: The Kharkiv Auctions

Chernihiv	December 24, 1994	FIVE LONG-TERM LEASES	42.154
TOTAL			\$615,456

AUCTION 1: CITY OF KHARKIV, JANUARY 21, 1994

Highlight: First auction of its kind ever in Ukraine.

Results: Two long-term leases sold out of 16 lots offered.

The auction offered the right to long-term transferable leases (50 years plus 50-year renewal) to eight land parcels to build commercial projects, as well as the right to develop eight land parcels with private homes, with subsequent allocation of the land parcels into private ownership.

Address	Type of Right Sold	Uses Allowed	Land Size (m2)	Starting Price (\$)	Selling Price (\$)
Karl Marx St., 8	long-term lease	commercial	500	6,394	21,000
Sverdlova St. (Holodna Gora)	long-term lease	commercial	1,000	5,194	19,000
			TOTALS:	\$11,588	\$40,000

AUCTION 2: CITY OF KHARKIV, JUNE 24, 1994

Highlight: City sells right to lease large parcel of land, almost one hectare in size.

Results: Three long-term leases sold out of nine lots offered.

The auction offered the right to long-term transferable leases (50 years plus 50-year renewal) to seven land parcels to build commercial, residential, and garage parcels, as well as the right to develop two land parcels with private homes with subsequent allocation of land parcel into private ownership.

Address	Type of Right Sold	Uses Allowed	Land Size (m2)	Starting Price \$	Selling Price \$
Kultura St., 25	long-term lease	commercial	1,000	5,000	8,050
Danilevskogo St., 26	long-term lease	residential	9,000	4,250	27,250
Marynskaya St.	long-term lease	garage	3,600	1,375	3,550
			TOTALS:	\$10,625	\$38,850

AUCTION 3: CITY OF KHARKIV, OCTOBER 15, 1994

Highlight: City raises \$355,000 in active bidding; winning bid for one parcel is 187 times above starting price.

Results: Seven of nine long-term leases sold.

The auction offered long-term transferable leases (50 years plus 50-year renewal) to nine parcels to build commercial, residential, and parking lot projects.

Address	Type of Right Sold	Uses Allowed	Land Size (m ²)	Starting Price (\$)	Selling Price (\$)
Gvardevitsev Shironitsev St., 14	long-term lease	commercial	3,000	1,918	12,824
Moskovsky and Dobrohotov	long-term lease	commercial	2,600	2,294	11,588
Kooperativna St., 1a	long-term lease	commercial	870	2,941	69,412
Elyzarova and Sverdlova Sts.	long-term lease	residential	4,000	2,706	14,941
Myronosytska St., 22	long-term lease	residential	780	823	155,294
Rohanska St.	long-term lease	parking	3,000	906	19,059
Marynska St.	long-term lease	parking	4,000	741	71,882
			TOTALS:	\$12,329	\$355,000

MEMORANDUM

To: Lyubov Nikolayevna Pogulyaeva, Chairperson of Land Auction Working Group Under the Memorandum of Cooperation for the Land Auction in the City of Kharkiv

From: Barry Abramson
Real Estate Valuation and Appraisal and Marketing Expert Consultant, Member of USAID/PADCO Consultant Team for Kharkiv Land Auction

Subject: Recommended Starting Prices for Kharkiv Land Auction

Date: December 11, 1993, Revised December 14, 1993

As part of its assistance under the Memorandum of Cooperation for the Kharkiv Land Auction, and at the request of the Working Group on the Land Auction, the USAID/PADCO consulting team has prepared recommended starting prices for the land parcels to be auctioned at the Land Auction to be held on January 21, 1994.

These recommended starting prices have been prepared based upon the following factors: the consulting team's extensive experience with real estate valuation and auctions; the experience derived from real estate auctions in other countries throughout the world, and with auctions of enterprises in Ukraine and the NIS; a valuation analysis of the subject land parcels in the context of the local real estate market and development framework; the strategic and policy considerations of the City in attracting bidder participation and achieving fair prices for the land parcels.

It is important to note that based on these considerations, the starting prices have been set at levels that are below the levels that are estimated to constitute the market values and potential winning bid prices of the parcels at the auction.

These recommended starting prices are presented on the following page.

Recommended Starting Land Price for Kharkiv Land Auction

Commercial/Apartment Parcels

1	\$6,000
2	\$8,000
3	\$2,500
4	\$4,300
5	\$14,500
6	\$2,500
7	\$2,300

Single Family House Parcels

1.1A	\$600
1.1B	\$600
1.1C	\$600
1.2A	\$600
1.2B	\$600
1.2C	\$600
2.A	\$700
2.B	\$700
2.C	\$700
3.A	\$800
3.B	\$800
3.C	\$800
3.D	\$800
3.E	\$800
3.F	\$800
4	\$1,000
5	\$1,200

1 Kharkiv Land Auction
 2 Estimation of Value, Starting Price for Single House Lots via Allocation Method
 3
 4 Market Summary
 5
 6 House Prices: primary range
 7 total m² \$10,000 \$50,000
 8 Indicated Price/m² 50 300
 9 Avg Indicated Price/m² \$200 \$167
 10 Estimated target house size \$183
 11 150
 12 \$27,500 \$27,500
 13 Allocation for land and
 14 technical conditions 30% \$8,250 40% \$11,000
 15
 16 if technical conditions = 25% \$6,875 25% \$6,875
 17 indicated land value \$1,375 \$4,125
 18
 19 if technical conditions = 30% \$8,250 30% \$8,250
 20 indicated land value \$0 \$2,750
 21
 22 Indicated Range of land value: \$0 \$4,125
 23
 24 Indicated Average \$2,100
 25
 26 Say average starting price at average of range multiplied by 40% \$830
 27

28 Indicated value and starting price per lot

Site	Adj for location	Indicated Value	Indicated Start Price
1	70%	\$1,500	\$600
2	80%	\$1,800	\$700
3	95%	\$2,000	\$800
4	125%	\$2,500	\$1,000
5	140%	\$3,000	\$1,200

38 Allocation is a method of land valuation often used for single family home land valuation
 39 Range for land price and exactions for public infrastructure are typically in range of
 40 between 25% and 40%

	Site:	1	2	3	4	5	6	7	Total
3									
4									
5									
6	Current Market (1)								
7	Apartments								
8	2 rms	avg m^2							
9		45	\$11,500	\$8,500	\$7,900	\$7,900	\$9,500	\$9,500	\$9,500
10	3 rms		\$256	\$189	\$176	\$176	\$211	\$211	\$211
11		65	\$15,500	\$13,000	\$10,500	\$10,500	\$14,000	\$14,000	\$14,000
12	avg price/m^2		\$238	\$200	\$162	\$162	\$215	\$215	\$215
13	Premium-new, price escalation (2)	1.35	\$247	\$194	\$169	\$169	\$213	\$213	\$213
14			\$333	\$263	\$228	\$228	\$288	\$288	\$288
15	Office								
16	Hotel								
17	Retail								
18									
19	M^2								
20	Total Gross Building Area		1,500	3,800	2,000	3,500	3,200	1,500	1,200
21	loss factor (3)	12%	12%	12%	12%	12%	12%	12%	12%
22	Total Usable		1,320	3,344	1,760	3,080	2,816	1,320	1,056
23	# floors		4	3	3	3	5	4	3
24	Apartments		990	2,229	1,173	2,053	2,253	990	704
25	Office								
26	Hotel								
27	Retail								
28			330	1,115	587	1,027	553	330	352
29	Hectares		0.06	0.50	0.30	0.25	0.50	0.15	0.20
30									
31	Sale Price/Rent/M^2								
32	Apartments		\$333	\$263	\$228	\$228	\$258	\$288	\$288
33	Office								
34	Hotel								
35	Retail	rent/mo	\$3.00	\$2.50	\$2.00	\$2.00	\$4.00	\$2.25	\$2.25
36	less vacncy/exp allowance (4)	15%	\$2.55	\$2.13	\$1.70	\$1.70	\$3.40	\$1.91	\$1.91
37	Annual net retail revenues		\$30.60	\$25.50	\$20.40	\$20.40	\$40.60	\$22.65	\$22.65
38									
39	Gross Sale Revs/Annual Rent								
40	Apartments		\$330,127	\$585,200	\$266,978	\$467,212	\$645,546	\$285,006	\$202,671
41	Office								
42	Hotel								
43	Retail		\$10,098	\$28,424	\$11,968	\$20,944	\$22,979	\$7,574	\$8,078
44	Total Commercial (office/hotel/retail)		\$10,098	\$28,424	\$11,968	\$20,944	\$22,979	\$7,574	\$8,078
45	Value of Commercial capped @ (5)	10.00%	\$100,980	\$284,240	\$119,680	\$209,440	\$229,786	\$75,735	\$80,784
46	Total		\$431,107	\$869,440	\$386,658	\$676,652	\$875,332	\$360,741	\$283,455
47									
48	Less % Allocated to City (5)								
49	Apartments	26%	(\$85,833)	(\$152,152)	(\$69,414)	(\$121,475)	(\$168,622)	(\$74,102)	(\$52,694)
50	Commercial	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
51									
52	Net Revenue/Value of Building to Developer								
53	Apartments		\$244,294	\$433,048	\$197,564	\$345,737	\$479,924	\$210,904	\$149,976
54	Commercial		\$100,980	\$284,240	\$119,680	\$209,440	\$229,786	\$75,735	\$80,784
55	Total		\$345,274	\$717,288	\$317,244	\$555,177	\$709,710	\$286,639	\$230,760
56									
57	Construction Costs (7)	\$/M^2	\$135	\$125	\$110	\$110	\$125	\$130	\$130
58	Apartments		\$151,875	\$316,667	\$146,667	\$255,657	\$320,000	\$146,250	\$104,000
59	Office		\$0	\$0	\$0	\$0	\$0	\$0	\$0
60	Hotel		\$0	\$0	\$0	\$0	\$0	\$0	\$0
61	Retail		\$0	\$0	\$0	\$0	\$0	\$0	\$0
62	Total		\$50,625	\$158,333	\$73,333	\$128,333	\$60,000	\$48,750	\$52,000
63			\$202,500	\$475,000	\$220,000	\$385,000	\$400,000	\$195,000	\$155,000
64	Other (as % of Construction cost)	0.00%	\$0	\$0	\$0	\$0	\$0	\$0	\$0
65									
66	Total Construction & Other Costs		\$202,500	\$475,000	\$220,000	\$385,000	\$400,000	\$195,000	\$155,000
67									
68	Profit on construction & other costs	30%	\$60,750	\$142,500	\$66,000	\$115,500	\$120,000	\$58,500	\$46,800
69									
70	Subtotal Construction, Other Costs & Profit (8)		\$263,250	\$617,500	\$286,000	\$500,500	\$520,000	\$253,500	\$202,800
71									
72	Residual remaining for land & profit on land		\$82,024	\$99,788	\$31,244	\$54,677	\$189,710	\$33,139	\$27,560
73	less Profit on Land Price	30%	\$18,948	\$23,051	\$7,217	\$12,530	\$43,823	\$7,655	\$6,459
74	Preliminary Indicated Residual Land Value (9)		\$63,076	\$76,737	\$24,027	\$42,047	\$145,887	\$25,484	\$21,502
75	Indicated Residual Land Value (10)		\$63,100	\$76,700	\$24,000	\$42,000	\$145,900	\$25,500	\$21,500
76									
77	Estimated Market Value of Land (11)		\$25,000	\$31,000	\$10,000	\$17,000	\$53,000	\$10,000	\$9,000
78									\$160,000
79	Indicated Value/M^2 Building (GBA)		\$17	\$8	\$5	\$5	\$18	\$7	\$8
80	Indicated Price/Hectare		\$417,000	\$62,000	\$33,000	\$68,000	\$116,000	\$67,000	\$45,000
81	Indicated Price/M^2 Land		\$42	\$6	\$3	\$7	\$12	\$7	\$5
82									
83	Recommended Starting Price (12)	25%	\$6,300	\$7,800	\$2,500	\$4,300	\$14,500	\$2,500	\$2,300

PARCEL INFORMATION SUMMARY - SINGLE FAMILY HOUSE LOTS

Parcel Designation	Location Address Rajon	Site Area (m ²)	Maximum # Floors	Maximum Size (m ²)	Required Technical Conditions	Minimum Price
H-1.1A	N-34 Sharikovaya St, Rogane	750				
H-1.1B	34-A Sharikovaya St, Rogane	750				
H-1.1C	36-A Sharikovaya St, Rogane	750				\$600
H-1.2A	N37-A Mokhnachanskay St, Rogane	750				\$600
H-1.2B	59 Mokhnachanskay St, Rogane	750				\$600
H-1.2C	59-A Mokhnachanskay St, Rogane	750				\$600
H-2.A	Frunze, Ordgonikidjevsky	800				\$600
H-2.B	Frunze, Ordgonikidjevsky	800				\$600
H-2.C	Frunze, Ordgonikidjevsky	800				\$700
H-3.A	Pogarskova St, Frunjensky	750				\$700
H-3.B	Pogarskova St, Frunjensky	750				\$700
H-3.C	Pogarskova St, Frunjensky	750				\$800
H-3.D	Pogarskova St, Frunjensky	750				\$800
H-3.E	Pogarskova St, Frunjensky	750				\$800
H-3.F	Pogarskova St, Frunjensky	750				\$800
H-4	Relyefinaya St, Leninsky	1,000				\$800
H-5	Elbrusky St, Kievsky	950				\$800
						\$1000
						\$1200

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TECHNICAL APPENDIX

The recommended starting prices for the land parcels have been established as a percentage of estimated market value for these parcels. The recommended starting prices of the commercial/apartment parcels have been set at approximately 25% of the estimated market values of these parcels. The recommended starting prices of the single family house parcels have been set at approximately 40% of estimated market value.

The methodology used for estimating market values for the parcels is summarized below. It is important to note that a sales comparison approach to valuation, in which sales of comparable land parcels are analyzed, was not performed, as there was a lack of reliable information on individual transactions of property rights for comparable parcels.

Valuation of Commercial/Apartment Parcels

The valuation process for the commercial/apartment parcels was based primarily on a residual (development) approach. This approach replicates the thought process of a potential bidder for an investment property. First, the value of a finished building that could be developed on the land parcel (the most economically productive use or mix of uses that are allowed) is estimated.

For uses such as "for sale" apartments, this value is derived by estimating potential sales revenues. For uses that are rental income producing in nature, likely attainable rents are estimated, and reasonable allowance for vacancy and owner's operating expenses are deducted, resulting in estimated annual income. This annual income may be capitalized at an appropriate rate to estimate the present value of the income stream to the owner (or the price that a potential third party investor would be anticipated to pay the owner for this ongoing income stream).

A number of potential uses were evaluated. Our analysis of the local real estate market indicated that the one firmly established market for investment and development is the "for sale" residential apartment sector. We conducted an analysis of this market which indicated typical selling prices for renovated apartments in different neighborhoods of the city. Based on this, we were able to estimate sale prices that could be reasonably anticipated to be commanded for newly constructed apartments at the different parcels.

A less well established market, but one for which some

market data was available, is the retail sector. A survey of retailers and other real estate sources resulted in estimates of potential retail rents at the different sites.

While office and hotel uses possibly could be marketable for some of the parcels, our analysis indicated that there is little evidence of established private real estate markets in these sectors, and virtually none in the context of new development generated by private investment. We also believe that the nature of the sites - outside the core of the City center, would limit marketability and investment potential for development of office and hotel uses. Finally, the nature of the germinal private investment real estate markets is based on "for sale" properties which allow a relatively quick return of invested capital and profit, as opposed to ongoing income property investments.

The above factors do not rule out potential development of office or hotel uses on the parcels. Certainly office uses could be developed on a "for sale" basis or could be developed by an owner-user. However, the market factors discussed above indicate that the largest potential market, and the one that potential bidder/developers could feel that they could rely upon would be the "for sale" apartment market. We believe that, assuming this to be an allowed use, competitive bid pricing likely would be based upon this market strategy; and bidders intending other uses such as owner-occupied office development would therefore be forced to bid up to and above the levels indicated for investment apartment development if they were to be the winning bidder.

We have supplemented the assumption of a primary use for apartments with the assumption that the first floor of all parcels could be devoted to retail use. Our analysis indicates that this use provides at least a competitive return versus first floor residential apartment use.

The valuation therefore takes as an assumption that these uses (apartments and retail) are allowed on all parcels and are not unduly restricted. For example, residential apartments would be an allowed use for all parcels, and the winning bidder would have complete freedom to select retail, restaurant, or service uses based on market conditions. This assumption follows upon conversations with the Working Group at which the AID consulting team strongly recommended such flexibility as most conducive to the success of the auction and also conducive to provision of retail, restaurant, and services for which sufficient demand

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exists. To the extent that apartment use is not allowed for any of the parcels, or that first floor use is excessively directed, the values indicated in this analysis would be reduced.

Once the estimated value of the most economically productive building that could be developed upon the parcel has been estimated, the construction and other development costs, including reasonable minimum required profit on invested capital, are then estimated. These estimated costs required to put the building in place are then subtracted from the estimated value of the finished building to indicate a residual value of the land (i.e. the maximum price a bidder could pay for the land parcel based on the economics of development and investment).

It is important to note that bidders base their pricing upon the estimates of the revenues and costs that they are able to make at the time of the bid. To the extent that costs are subject to significant variation, developers and investors typically will estimate that these costs may be at the high end of anticipated ranges, which would tend to lower the price that could be paid. A major factor in development costs are the amount of technical conditions. Based on input by the Working Group chairperson, we are given to understand that the technical conditions will be set and made known prior to the auction. Our valuation takes this as an assumption and we have further assumed an estimate for technical conditions of 40% of construction costs, based on recent experience reported by members of the Working Group. To the extent that either of these assumptions are deviated from, estimated market value will be effected.

This analysis and key assumptions are presented in the attached exhibit. A final step in estimating market values for the parcels (also presented in the exhibit) is a major adjustment that is made to the value indicated by the residual value analysis to account for relevant market conditions, as discussed below:

A sales comparison approach to valuation in which sales of comparable land parcels are analyzed was not performed, as there was a lack of reliable information on individual transactions of property rights for comparable parcels. However, generally, it is recognized that the market context within which the land auction will take place is one in which some developers are granted permanent use rights for parcels at actual costs that are relatively low. The continued availability of land parcels under this form may be anticipated to lower market pricing from the maximums

indicated by the residual analysis. Further, the unfamiliarity of the market with the property rights being conveyed and with the land auction process can be anticipated to limit market pricing, as will the currently unstable economic situation in the country.

Based on all of these factors, a discount of 60% has been applied to the values indicated by the residual analysis to determine final estimated market values for the parcels.

The estimated market values for the parcels range from a high of \$58,000 to a low of \$9,000, with price per square meter of allowed building area ranging from a high of \$18 per square meter to a low of \$5 per square meter. These are considered to be reasonable within the context of the local real estate market and economy. The estimated market values for each of the parcels are as follows:

Parcel	Estimated Market Value	Estimated Market Value/M ²
1	\$25,000	\$17
2	\$31,000	\$8
3	\$10,000	\$5
4	\$17,000	\$5
5	\$58,000	\$18
6	\$10,000	\$7
7	\$9,000	\$8

Valuation of Single Family House Parcels

The primary method of valuation used for the single family house parcels is the allocation method. This is a method that is often used for the valuation of land for single family house development. In this approach the values of completed houses, including the lots upon which they are situated, are estimated and a percentage that could reasonably be allocated to land is estimated.

A survey of the limited market of house sales indicated a primary range in districts such as those in which the land parcels to be auctioned are located of between \$10,000 and \$50,000. The average of \$27,500 is considered to be a reasonable estimate of the average value of single family houses that might be developed at the parcels.

In the consultant's experience, an allocation of 30% and 40% of total house price to land and exactions for public infrastructure is reasonable. For the purpose of

this analysis, technical conditions for public infrastructure is estimated at between 25% and 30%, resulting in a range available for land of between 0% and 15%. The average, 7.5%, multiplied by the average estimated house price, \$27,500, results in an average of approximately \$2,100. This average is adjusted for the relative attractiveness of the locations of the land parcels, resulting in indicated values ranging between \$1,500 and \$3,000.

Reliance solely upon this approach is cause for caution. While only limited information concerning black market transactions of land for single family houses was available, this limited information appears to confirm that the estimated market values arrived at through the above process are in a reasonable range. Further, individuals generally familiar with the local real estate market consider this range to be reasonable.

Therefore, the estimated market values for each of the parcels are as follows:

Parcel	Estimated Market Value
1.1A	\$1,500
1.1B	\$1,500
1.1C	\$1,500
1.2A	\$1,500
1.2B	\$1,500
1.2C	\$1,500
2A	\$1,800
2B	\$1,800
2C	\$1,800
3A	\$2,000
3B	\$2,000
3C	\$2,000
3D	\$2,000
3E	\$2,000
3F	\$2,000
4	\$2,500
5	\$3,000

MEMORANDUM

To: Lyubov Nikolayena Pogulyaeva, Chairperson of Land Auction Working Group Under the Memorandum of Cooperation for the Land Auction in the City of Kharkov.

From: Eric Stotz, Real Estate Valuation and Appraisal Expert Consultant, Member of USAID/PADCO Consultant Team for the Kharkov Land Auction.

Subject: Recommended Starting Prices for Kharkov Land Auction

Date: September 15, 1994

As part of its assistance under the memorandum of Cooperation for the Kharkov Land Auction, and at the request of the Working Group on the Land Auction, the USAID/PADCO consulting team has prepared recommended starting prices for the land parcels at the Land Auction to be held on October 15, 1994.

These recommended starting prices have been prepared based on the following factors: the consulting team's extensive experience with real estate valuation and auctions; the experience derived from real estate auctions in other countries throughout the world, and the experiences from the previous auctions held in Kharkov in January, 1994 and June, 1994; a valuation analysis of the land parcels in the context of the local real estate market and development framework; and the strategic and policy considerations of the City in attracting bidder participation and achieving fair prices for the land parcels.

An overview of the analysis used is discussed in the technical appendix attached to this memorandum, as well as various technical analyses. It must be noted that the estimates made were made based on the information provided and I have made several assumptions regarding this information, which is detailed in the appendix. To the extent that the information provided is inaccurate, the analysis and resulting estimates are likely to be inaccurate. A summary of the parcels, their estimated market value, and their recommended starting prices are presented on the following page.

Summary of Parcels

Parcel #	Address/Location	Proposed Use	Estimated Value		Suggested Starting Price (c) (mln. kzb)
			U.S. \$ (a)	USS/Su. M. (b)	
1	Corner of Klochnevskaya & Novgorodskaya Sts.	Apartments	\$23,300	\$2.94	330
2	Corner of Lesoparkovaya & Shishkovskaya Sts.	Apartments	\$10,300	\$2.11	110
3	Corner of Narimanov & Sverdlova Sts.	Apartments	\$27,000	\$2.49	290
4	Mironositskaya St. (Middle Parcel)	Apartments	\$4,100	\$3.15	70
5	Kooperativnaya St. (Middle Parcel)	Office	\$13,500	\$13.00	260
6	Kairura St., 20a	Office	\$13,300	\$12.00	250
7	Roganskaya St. (near fire brigade station)	Parking Garage	\$5,000	n/a	70
8	Marynskaya St. (near Embankment)	Parking Lot	\$3,900	n/a	55
9	Corner of Moskovsky Prospekt & Dobrohotov St.	Office	\$12,500	\$6.75	170
10	Gvarus Shironintsev St., #14	Office	\$11,700	\$7.00	160

Notes: (a). Rounded to nearest \$100.

(b). Price per square meter of allowable building area.

(c). At exchange rate of 55,000 kzb to \$1 US.

Parcel # 1 Sales Comparison

	Subject #1) Kochkovskaya/ Novogorodskaya	1 Dantievskogo St. #25
	Date of sale:	15-Oct-94
	Price (US\$):	\$20,333
	Gross Allowable Floor Area (m ²)	3,530
Units .avg.	50 m ² in size, 85% efficiency)	146
	Price per Sq. M. of buildable space	\$2.31
	Price per buildable unit	\$136
Adjustments		
Conditions of Sale	Typical Adjustment	Non-Arm's Length
Adjusted Value - Per Sq. Meter	-	25.0%
Adjusted Value - Per Unit	-	\$2.89
		\$170
Time (Market Conditions)		
Annually 10.0% , or monthly adjustment of	0.33%	0.33%
	= of Months since sale	3.72
Adjusted Value - Per Sq. Meter	-	\$2.98
Adjusted Value - Per Unit	-	\$176
Location (Rayon, Micro-rayon, ref. rating sheet)	1D	1B
Rating (by estimated apt. unit sales prices)	9,500	11,300
	Adjustment	-9.0%
Physical characteristics (corner, topography, etc.)	Corner, high vis.	Inferior
	Adjustment	5.0%
Surrounding Uses	Apartments, Tran	Sl. Inferior
	Adjustment	2.5%
Governmental Regulations	Typical Adjustment	0.0%
Net Adjustments		-1.5%
Indicated Value - Per Sq. Meter		\$2.34
Indicated Value - Per Unit		\$173
	\$/Sq. M	\$/Unit
Low	\$2.34	\$173
High	\$2.34	\$173
Median	\$2.34	\$173
Mean	\$2.34	\$173
Estimate	\$2.34	\$147
	\$25,212	\$21,431
On	\$20,333	\$2.72
Starting Price Ratio	10%	
Starting Price	\$2,033	
	134.3: Starting Price in Million for #	\$5,000.00

Parcel #1 Sales Comparison

	Subject (#2) Lesoparkovaya/ Shishkovskaya	i Danilevsego St. #26
	Date of sale: 15-Oct-94	24-Jun-94
	Price (USS): -	\$20,333
Units (avg.)	Gross Allowable Floor Area (m ²) 50 m ² in size, 35% efficiency:	9,000 153
	Price per Sq. M. of buildable space	\$2.31
Adjustments	Price per buildable unit	\$136
Conditions of Sale	Typical Adjustment	Non-Arm's Length
Adjusted Value - Per Sq. Meter	-	25.0%
Adjusted Value - Per Unit	-	\$2.89 \$170
Time (Market Conditions):		
Annually 10.0% , or monthly adjustment of	0.33%	0.33%
	= of Months since sale	3.72
Adjusted Value - Per Sq. Meter	-	\$2.98
Adjusted Value - Per Unit	-	\$176
Location (Rayon, Micro-rayon, ref. rating sheet):	2C	1B
Rating (by estimated apt. unit sales prices):	5,750	11,300
	Adjustment	-24.2%
Physical characteristics (corner, topography, etc.):	Corner, low vis/ten	Similar
	Adjustment	0.0%
Surrounding Uses	Apts., Agri./priv.	Superior
	Adjustment	-5.0%
Governmental Regulations	Typical	
	Adjustment	0.0%
Net Adjustments		-29.2%
Indicated Value - Per Sq. Meter		\$2.11
Indicated Value - Per Unit		\$124
	\$/Sq. M	\$/Unit
Low	\$2.11	\$124
High	\$2.11	\$124
Median	\$2.11	\$124
Mean	\$2.11	\$124
Estimate	\$2.11	\$106
	\$11,150	\$9,460
Or	\$10,295	\$1,26
Starting Price Ratio	100%	
Starting Price	\$2,359	
	10.25 Starting Price in Million per #	\$5,300.00

Parcel #3 Sales Comparison

	Subject #3)	1
	Narmanov	Daniilovscogo St.
	Sverdlova St.	#26
	Date of sale:	15-Oct-94
	Price (US\$):	24-Jun-94
	Gross Allowable Floor Area (m ²)	11,700
Units (avg.)	50 m ² in size, 35% efficiency:	199
	Price per Sq. M. of buildable space	-
	Price per buildable unit	-
Adjustments		\$20,333
		9,000
		153
		\$2.31
		\$136
Conditions of Sale	Typical	Non-Arm's Length
Adjusted Value - Per Sq. Meter	Adjustment	25.0%
Adjusted Value - Per Unit	-	\$2.89
	-	\$170
Time (Market Conditions):		
Annually 10.0% , or monthly adjustment of	0.83%	0.33%
	= of Months since sale	3.72
Adjusted Value - Per Sq. Meter	-	\$2.98
Adjusted Value - Per Unit	-	\$176
Location Rayon, Micro-rayon, ref. rating sheet:	4C	1B
Rating by estimated apt. unit sales prices:	8,200	11,300
	Adjustment	-16.5%
Physical characteristics (corner, topography, etc.):	Corner, hi vis/traf	Inferior
	Adjustment	5.0%
Surrounding Uses	Apts., Mlii. Res.	Superior
	Adjustment	-5.0%
Governmental Regulations	Typical	
	Adjustment	0.0%
Net Adjustments		-16.5%
Indicated Value - Per Sq. Meter		\$2.49
Indicated Value - Per Unit		\$147
	S. Sq. M	S/Unit
Low	\$2.49	\$147
High	\$2.49	\$147
Median	\$2.49	\$147
Mean	\$2.49	\$147
Estimate	\$2.49	\$125
	\$29,167	\$24,792
DN	\$23,372	\$2,211
Starting Price Ratio	20%	
Starting Price	\$4,674	
	\$6.77	Starting Price in Million Rub #
		\$5,000.00

Parcel #8 Land Residual

Parcel	8	
Location	Marynskaya St. (near Embankment)	
Daily Rental/Space (USS)	\$0.75	
No. of Spaces Allowed	180.00	
Gross Potential Sales Revenue	\$49,275	
Less Vacancy	(\$12,319)	25%
Effective Gross Income	\$36,956	
Less Operating Expenses		
Labor (Security)	\$12,000	24%
Management	\$7,391	15%
Maintenance	\$4,928	10%
Other	\$4,928	10%
	\$29,246	59%
Net Operating Income (NOI)	\$7,710	16%
Cap Rate	15%	
Value as Improved	\$51,400	
Improvement Costs		
Sitework	\$33,750	15 sq. m. per pkg. space @
Fencing	\$3,500	
Const. Profit	\$7,710	15% of value of improvements.
Contingency	\$2,570	5% of est. value.
	\$47,530	
Net Value	\$3,370	\$22 /space
Amount/Space	\$21.50	
Starting Price	\$968	at 25% of est. market value.
Converted to million krb	\$3.21 @ rate of	55000 /USS

Technical Appendix

The estimates of market value for the various parcels were made in terms of U.S. Dollars, as market evidence indicated that this is the accepted method of payment. The estimates of starting prices were translated to Ukrainian krb at an exchange rate of 55,000 to \$1 U.S., based on an informal survey of the current exchange rate.

The recommended starting prices for the land parcels have been established as a percentage of estimated market value for these parcels. The recommended starting prices of the parcels have been set at between 20 and 35% of the estimated market values of these parcels. The range was used to make less desirable parcels more affordable and to attract more potential bidders, while the highly desirable parcels were set at the higher end of the range.

The methodology used for estimating market values for the parcels is summarized below. It is important to note that only the sales comparison approach to valuation was performed for the apartment and office sites. After consideration of other factors, explained in more detail below, it was apparent that the land residual approach to valuing vacant land was not applicable in the current situation. Also, for the 2 parking sites (1 garage and 1 open lot), only the land residual approach was employed, as there were no previous sales of vacant land for these uses.

Value Estimate of the Apartment and Office Vacant Land Sites

The valuation process for the office and apartment parcels was based primarily on a sales comparison approach. This approach compares the property being appraised with sales of comparable properties. In the past, this method was impossible to use in Kharkov due to the lack of sales. However, due to four sales that occurred at the previous two auctions, there existed sufficient information to utilize this approach. It should be noted that ideally, a number of sales are used to value one parcel, sometimes up to 7 or 8 sales. However, in this case, only one sale of an apartment site was used to compare to a number of different sites slated for apartment use. While this weakens the analysis, there existed sufficient information to make reasonable estimates.

To perform the sales comparison approach, the subject site being appraised and the selected comparable sales; are arrayed on a grid form. The grid is used to make various comparisons of certain aspects of the comparable sales; to the subject. Ideally, these

adjustments are based on evidence demonstrated by direct comparisons of the sales used within the analysis, but, due to the low number of sales available, and the varying nature of these sales, direct evidence was not available.

One assumption made is that all the sales and the sites currently up for auction are "sales" of similar use rights, that is, the purchaser is buying the right to lease the site for a 50 year period, with an option period of an additional 50 years. Also, no adjustment for differences in financing terms was made or shown on the grids, due to the lack of any information on this aspect of the sales. According to sources in the market, due to the inflationary nature of the economy, loans are typically only 3 to 6 months in duration at extremely high interest rates. We have therefore made the assumption that all sales would be in terms of cash. The following paragraphs describe the various methods and adjustments made to the sales as shown on the grids in order from top to bottom. The grids themselves are attached to this memo.

Gross Allowable Floor Area: This number is derived by taking the gross floor area as provided by the City and applying to it an "efficiency" factor. The gross floor area provided was calculated by multiplying the number floors allowed by the estimated footprint of the building (one floor's area). The adjusted building area was used in our analysis because this is the area that rent (or sales) is typically collected on. The efficiency factor accounts for unrentable space such as lobbies, corridors, elevator or mechanical shafts, and other infrastructure space. The efficiency ratio used ranged from 65% for the apartment sites to 85% for the office sites. The lower ratio was based primarily on the coefficient used by the city (1.6 from net to gross, or the reciprocal of $1/1.6 = .625$, the gross to net). The 85% used for the office sites is, according to my experience, a more typical efficiency ratio.

Unit Calculation: The unit calculation was calculated by assuming that a typical unit is 50 square meters in size, with a further reduction in efficiency to account for within-unit vertical penetrations of space.

Condition of Sale Adjustment: Under accepted appraisal practice, the conditions under which a sale occurred must be considered. Various factors that are typically considered here may include forced sale (due to financial difficulties of the owner), liquidation sale, estate sale (due to death of owner with no direct heirs), foreclosure sale (by bank of non-performing borrower), and other influences. When examining the sales that occurred at the auctions, it was evident that the sale of one apartment site and one office site, sold to the same buyer, was sold at lower prices than one other sale which was considered to be comparable, in overall factors. This was discussed at our meeting and the impact was estimated to be between 10% and 30%. These two sales are adjusted upwards by 25% to account for the non-arm's length conditions associated with the transaction.

Time Market Conditions: This adjustment factor adjusts the various sales for the time difference between the sales and the auction date. The sales used occurred in January.

1994 and June, 1994. While there has been a very high level of inflation in the krb., U.S. dollars have remained somewhat stable. However, it was the general consensus that the markets for these types of uses has firmed up and that prices have risen since the previous auctions. An annual increase of 10%, resulting in a monthly increase of 0.83%, was used to adjust the sales to the current auction date.

Location: The location adjustment takes into many considerations such as proximity to services, employment, transportation, as well as more intangible features such as prestige and status of one neighborhood (micro-rayon) vs. another. To make a location adjustment, a survey of apartment rents and sales, and office sales was employed to make relative adjustments between properties located in different rayons and micro-rayons. This survey is also attached to this document. The sales prices for the different uses in the different rayons were compared, and the difference in percent was calculated, then adjusted to 60% of the difference based on the assumption that differences in sales prices would be reduced somewhat to a potential buyer through expenses.

Physical Characteristics: The physical characteristics of the site were considered. Typically, corner sites are considered superior to mid-block sites and steeply sloped sites are considered inferior to level sites. Other potential factors include soil condition, wetlands, water frontage, and the presence of ledge. The adjustment in this and the following categories was not based on any market derived evidence, nor were there any other sources of direct evidence to base adjustments on. Rather, the adjustments made were based on approximations of potential additional development costs, or on judgments made by the appraiser. These judgments are based on experience gained in other appraisal situations, various interviews with developers, and other various sources.

Surrounding Uses: The surrounding uses of the sites were considered. A site generally has a higher value when a proposed use for the site will have support from its surrounding uses as well as be in conformance with the general character of the neighborhood in which it is developed. To the extent that the surrounding uses were complimentary and supportive, adjustments were made to the comparable sales. Again, these adjustments were not based on direct market evidence due to the low number of sales that have occurred.

Governmental Regulations: This category was included in the analysis, and was intended to account for the varying cost of site infrastructure (technical conditions) between the subject sites to be valued and the sales that have occurred. However, this information was not available, and therefore this analysis assumes that this cost will not vary greatly between sites. To the extent that this is inaccurate, this analysis will also vary.

Appraisal methodology requires that the first four adjustments made (property rights, conditions of sale, financing, and time/market conditions) be made in sequence and applied to the unit price for each individual adjustment. The balance of the adjustments are combined and applied to the unit price. The resulting unit price (\$/sq. meter) is then multiplied by the allowable floor area to arrive at the total estimated value. Additionally, the price per unit was also examined, and considered. From the resulting estimated value of the parcel, a ratio of between 20% and 35% was applied to estimate starting prices.

The range was used to make the apparent less desirable parcels more affordable, with the intention of attracting a higher number of bidders. The more attractive parcels (generally more centrally located), were priced at higher ratios under the assumption that the locations themselves will attract bidders.

Value Estimate of the Parking Land Sites

The valuation process for the two parking parcels was based primarily on a residual (development) approach. This approach attempts to replicate the thought process of a potential bidder for an investment property. First, the value of the improved real estate that could be developed on the land parcel is estimated.

For the parking structure (#7 - Roganskaya St.), this value is derived by estimating potential sales revenues of "garage units". For the parking lot (#8 - Marynskaya St.), likely attainable rents are estimated, and reasonable allowance for vacancy and owner's operating expenses are deducted, resulting in estimated annual income. This annual income is capitalized at an appropriate rate to estimate the present value of the income stream to the owner (or the price that a potential third party investor would be anticipated to pay the owner for this ongoing income stream).

Once the estimated value of the improved parcel has been estimated, the construction and other development costs, including reasonable minimum required profit on invested capital, are then estimated. These estimated costs are then subtracted from the estimated value of the improved parcel to indicate a residual value of the land (i.e. the maximum price a bidder could pay for the land parcel based on the economics of development and investment).

It is important to note that bidders base their pricing upon the estimates of the revenues and costs that they are able to make at the time of the bid. To the extent that costs are subject to significant variation, developers and investors typically will estimate that these costs may be at the high end of anticipated ranges, which would tend to lower the price that could be paid. A major factor in development costs are the amount of technical conditions. The construction cost estimates made include allowances for these technical conditions (minimal on both uses due to the limited nature of the improvements). To the extent that either of these assumptions are deviated from, estimated market value will be affected. These analyses and key assumptions are presented in the exhibits attached to this memorandum.

Appendix III: The Lviv Auction

AUCTION 4: CITY OF L'VIV, DECEMBER 3, 1994

Highlight: Lease for development of substantial parking facility outside central L'viv is sold.

Results: Two of 10 long-term leases sold.

The auction offered the rights to long-term leases (50 years) to 10 parcels to build commercial, residential, and garage projects.

Address	Type of Right Sold	Uses Allowed	Land Size (m2)	Starting Price (\$)	Selling Price (\$)
Naukova St., 35a	long-term lease	supermarket, offices	5,200	2,548	4,199
Mykolajchuka St. at Pivnichny, 42	long-term lease	multi-storey parking	4,000	800	977
			TOTALS:	\$3,348	\$5,176

MEMORANDUM

To: Angela McCormick, Resident Advisor, USAID/PADCO-L'Viv and Pavlov Kachur, Deputy Mayor, L'Viv Land Auction Working Committee

From: Erich Jacobs, Real Estate Valuation and Appraisal Expert Consultant, Member of USAID/PADCO Consultant Team for the L'Viv Land Auction.

Subject: Recommended Starting Prices for L'Viv Land Auction

Date: October 12, 1994

As part of its assistance under the memorandum of Cooperation for the L'Viv Land Auction, and at the request of the Working Group on the Land Auction, the USAID/PADCO consulting team has prepared recommended starting prices for the land parcels at the Land Auction to be held at the end of November.

These recommended starting prices have been prepared based on the following factors: the consulting team's extensive experience with real estate valuation and auctions; the experience derived from real estate auctions in other countries throughout the world, recent commercial sales which have occurred in L'Viv and the experiences from the previous auctions held in Kharkov in January, 1994 and June, 1994; a valuation analysis of the land parcels in the context of the local real estate market and development framework; and the strategic and policy considerations of the City in attracting bidder participation and achieving fair prices for the land parcels. Acknowledgement is also given to the extensive information and analysis on real estate in Ukraine and L'Viv provided by Dr. Volodymyr Dourmanov of L'Viv Polytechnic Institute. His information and analysis are incorporated throughout this report.

An overview of the analysis used is discussed in the technical appendix attached to this memorandum, as well as various technical analyses. It must be noted that the estimates made were made based on the information provided and I have made several assumptions regarding this information, which is detailed in the appendix. To the extent that the information provided is inaccurate, the analysis and resulting estimates are likely to be inaccurate. A summary of the parcels, their estimated market value, and their recommended starting prices are presented on the following page.

Summary of Predicted Prices and Suggested Starting Prices

Parcel #	Square Meters	Predicted Price	Predicted Price Per Sq. Meter	Starting Price Ratio	Suggested Starting Price	Suggested Starting Price Per Sq. Meter
1	11.500	\$25.875	\$2,25	30%	7.763	\$0,68
2	2.700	\$8.370	\$3,10	30%	\$2.511	\$0,93
3	4.200	\$10.500	\$2,50	30%	\$3.150	\$0,75
4	9.725	\$18.234	\$1,87	30%	\$5.470	\$0,56
5	4.000	\$3.120	\$0,78	30%	\$936	\$0,23
6	720	\$1.620	\$2,25	30%	\$486	\$0,68
7	487	\$1.315	\$2,70	30%	\$395	\$0,81
8	1.950	\$4.662	\$2,39	30%	\$1.399	\$0,72
9	375	\$6.000	\$16,00	50%	\$3.000	\$8,00
10	120	\$2.160	\$18,00	50%	\$1.080	\$9,00
Total	35.777	\$81.856	\$2,29	32%	\$26.189	\$0,73

Due to the inflationary nature of the current Ukrainian currency and the fact that the auction date is unknown, all prices are listed in terms of U.S. dollars.

Technical Appendix

The estimates of market value for the various parcels were made in terms of U.S. Dollars, as market evidence indicated that this is the accepted method of payment. The recommended starting prices for the land parcels have been established as a percentage of estimated market value for these parcels. The recommended starting prices of the parcels have been set at between 30 and 50% of the estimated market values of these parcels. The range was used to make less desirable parcels more affordable and to attract more potential bidders, while the highly desirable parcels were set at the higher end of the range.

The methodology used for estimating market values for the parcels is summarized below. It is important to note that only the sales comparison approach to valuation was performed for the sites. After consideration of other factors, explained in more detail below, it was apparent that the land residual approach to valuing vacant land was not applicable in the current situation. A major limitation on the analysis is the fact that no previous sales have occurred in L'Viv. In addition, lack of reliable construction cost data makes development of a land residual approach impossible.

Value Estimate of the Land Sites

The valuation process for the parcels was based primarily on a sales comparison approach. This approach compares the property being appraised with sales of comparable properties. In the past, this method was impossible to use in Ukraine due to the lack of sales. However, due to sales that occurred at two previous auctions in Harkiv, there existed sufficient information to utilize this approach. It should be noted that ideally, a number of sales are used to value one parcel, sometimes up to 7 or 8 sales. In addition, it is preferable that the sales occur in the same city. However, in this case, all of the sales occurred in Harkiv, and only one sale of an apartment site was used to compare to a number of different sites slated for apartment use. While this weakens the analysis, there was sufficient information to make reasonable estimates.

To perform the sales comparison approach, the subject site being appraised and the selected comparable sale(s) are arrayed on a grid form. The grid is used to make various comparisons of certain aspects of the comparable sale(s) to the subject. Ideally, these adjustments are based on evidence demonstrated by direct comparisons of the sales used

within the analysis, but, due to the low number of sales available, and the varying nature of these sales, direct evidence was not available.

One assumption made is that all the sales and the sites currently up for auction are "sales" of similar use rights, that is, the purchaser is buying the right to lease the site for a 50 year period, with an option period of an additional 50 years. Also, no adjustment for differences in financing terms was made or shown on the grids, due to the lack of any information on this aspect of the sales. According to sources in the market, due to the inflationary nature of the economy, loans are typically only 3 to 6 months in duration at extremely high interest rates. We have therefore made the assumption that all sales would be in terms of cash. The following paragraphs describe the various methods and adjustments made to the sales as shown on the grids in order from top to bottom. The grids themselves are attached to this memo.

Maximum # of Stories: This number was based upon the specifications outlined in the document entitled "Technical and Economic Indices of the parcels offered for the land auction" If no such number was specified for a particular parcel, then an estimate was made based upon the specified functional purpose and surrounding uses. For example, the maximum # of stories was not specified for Parcels #1 and #2. However, their functional purpose was specified as retail, trade, bank branches, and other commercial uses. The maximum height of the surrounding structures ranged from 8 to 10 stories. Therefore, the maximum allowable floor area was assumed to be 8 stories for these parcels.

Maximum Lot Coverage: This number was based upon estimates provided by the City. This figure refers to the maximum amount of land that can be covered by the building. It typically ranges from 70% for shorter structures and 30% for taller structures. For structures higher than 8 stories the 30% figure was applied, with 70% applied to all shorter structures.

Maximum Allowable Floor Area: This figure is estimated by multiplying the land area by the maximum number of stories and the maximum lot coverage ratio. It is the maximum amount of building which can be put on the site given the current legal restrictions.

Likely Floor Area: This is an estimate of the actual floor area which would likely be constructed on the site. For example, the maximum story height for Parcel #3 was estimated at 16 stories by the City. However, the maximum height of the existing buildings near this parcel is approximately 8 to 10 stories. It is our opinion that it is very unlikely a buyer would build a structure that is much higher than the surrounding buildings, and the floor area for Parcel #3 was adjusted downward by 50% to account for the shorter actual building height.

Units: This is the calculation of the number of units which could be built on the apartment and parking sites. For the apartments, it was assumed that a typical apartment is 50 square meters in size. In addition, based upon current construction standards, it was assumed that only 80% of a typical apartment building is usable, with the remainder consisting of

hallways, stairwells, and elevators. An efficiency ratio of 100% was assumed for parking spaces on Parcel 5, with an average unit size of 22 square meters.

Condition of Sale Adjustment: Under accepted appraisal practice, the conditions under which a sale occurred must be considered. Various factors that are typically considered here may include forced sale (due to financial difficulties of the owner), liquidation sale, estate sale (due to death of owner with no direct heirs), foreclosure sale (by bank of non-performing borrower), and other influences. When examining the sales that occurred at the auctions, it was evident that the sale of one apartment site and one office site, sold to the same buyer, was sold at lower prices than one other sale which was considered to be comparable, in overall factors. The impact was estimated to be between 20% and 30%. These office sale used in this analysis was adjusted upwards by 25% to account for the non-arm's length conditions associated with the transaction.

Time (Market Conditions): This adjustment factor adjusts the various sales for the time difference between the sales and the auction date. The sales used occurred in January, 1994 and June, 1994. While there has been a very high level of inflation in the krb., U.S. dollars have remained somewhat stable. It is the general consensus that the markets for these types of uses in L' Viv is unproven, and that there is no reasonable basis for adjusting the prices for time.

Location: The location adjustment takes into many considerations such as proximity to services, employment, transportation, as well as more intangible features such as prestige and status of one neighborhood (micro-rayon) vs. another. To make a location adjustment, a survey of apartment rents and sales, and business sales was employed to make relative adjustments between properties located in different rayons and micro-rayons. The sales prices for the different uses in the different rayons were compared with the sales in Harkiv, and the difference in percent was calculated, then adjusted to 60-70% of the difference based on the assumption that differences in sales prices would be reduced somewhat to a potential buyer through expenses.

Physical Characteristics: The physical characteristics of the site were considered. Typically, corner sites are considered superior to mid-block sites and steeply sloped sites are considered inferior to level sites. Other potential factors include soil condition, wetlands, water frontage, and the presence of ledge. The adjustment in this and the following categories was not based on any market derived evidence, nor were there any other sources of direct evidence to base adjustments on. Rather, the adjustments made were based on approximations of potential additional development costs, or on judgments made by the appraiser. These judgments are based on experience gained in other appraisal situations, various interviews with developers, and other various sources.

Surrounding Uses: The surrounding uses of the sites were considered. A site generally has a higher value when a proposed use for the site will have support from its surrounding uses as well as be in conformance with the general character of the neighborhood in which it is developed. To the extent that the surrounding uses were complimentary and supportive, adjustments were made to the comparable sales. Again, these adjustments were not based on direct market evidence due to the low number of sales that have occurred.

Governmental Regulations: This category was included in the analysis, and was intended to account for the varying cost of site infrastructure (technical conditions) between the subject sites to be valued and the sales that have occurred. However, this information was not available, and therefore this analysis assumes that this cost will not vary greatly between sites. To the extent that this is inaccurate, this analysis will also vary.

Size: Although larger properties tend to sell for more money, the amount paid per square meter tends to fall as the size increases. Based upon an examination of the previous sale of public objects in L' Viv, the change in price paid per square meter tends to fall at an exponential rate as the size of the object increases. A similar function was applied to the comparable sales in this analysis.

Appraisal methodology requires that the first adjustments made (property rights, conditions of sale, financing, and time/market conditions) be made in sequence and applied to the unit price for each individual adjustment. The balance of the adjustments are combined and applied to the unit price. The resulting unit price (\$/sq. meter) is then multiplied by the size of the property to arrive at the total estimated value. Additionally, the price per unit and likely floor area was also examined, and considered. From the resulting estimated value of the parcel, a ratio of between 30% and 50% was applied to estimate starting prices. The range was used to make the less desirable parcels more affordable, with the intention of attracting a higher number of bidders. The more attractive parcels (generally more centrally located), were priced at higher ratios under the assumption that the locations themselves will attract bidders.

It should be noted that these prices assumed typical technical conditions, and that the technical conditions in L' Viv are not materially different than those found in Harkiv. To the extent that the technical conditions are different, it could affect the price. In addition, alternative valuation approaches were not possible due to lack of reliable data. To the extent that more construction cost and market data is made available in the future, it could affect the estimated value. A copy of the typical appraisal methods employed in a fully active market is attached.

Parcel #1 Sales Comparison

Property	Subject	1	2	3
Property Location	Naukova	Kultura St.	Karl Marx St.	Sverdlov
Date of sale:	Kniahyni Olhy	#25	#8	Elizarova :
Price (US\$):	15-Oct-94	24-Jun-94	21-Jan-94	21-Jan-94
Land Area (Sq. Meters)	Unknown	\$6,729	\$21,000	\$19,000
Price Per Sq. Meter of Land	11.500	1.400	1.500	2.500
Maximum # of Stories	Unknown	\$4,81	\$14,00	\$7,00
Maximum Lot Coverage	8			
Maximum Allowable Floor Area (sq. meters)	70%			
Likely Floor Area (sq. meters)	64.400	7.840	8.400	14.000
Price per Sq. M. of buildable space	32.200	3.920	4.200	7.000
	Unknown	\$1,72	\$5,00	\$2,00
Adjustments				
Conditions of Sale	Typical	Non-Arm's Lgth.	Typical	Typical
Adjusted Value - Per Sq. Meter of Building	Adjustment	25,0%	0,0%	0,0%
Adjusted Value - Per Sq. Meter of Land	-	\$2,15	\$5,00	\$2,71
	-	\$6,01	\$14,00	\$7,60
Time (Market Conditions)				
Annually	0,0%			
# of Months since sale		0,00%	0,00%	0,00%
Adjusted Value - Per Sq. Meter of Building		3,72	8,78	8,78
Adjusted Value - Per Sq. Meter of Land	-	\$2,15	\$5,00	\$2,71
		\$6,01	\$14,00	\$7,60
Location (Raion, Micro-raion, district)	4	1B	4A	4C
Rating (by estimated office unit sales prices)	5	8	8	7
	Adjustment	-24%	-20%	-14%
Physical characteristics (corner, topography, etc.)	Mid-block, level	Similar	Similar	Sl. Superior
	Adjustment	0%	0%	-3%
Surrounding Uses	Mixed Commer.	Superior	Superior	Superior
	Adjustment	-5%	-10%	-5%
Governmental Regulations	Typical			
	Adjustment	0,0%	0,0%	0,0%
Size	- -	Smaller	Smaller	Smaller
	Adjustment	-50%	-49%	-46%
Net Adjustments		-79%	-79%	-68%
Indicated Value - Per Sq. Meter of Building		\$0,46	\$1,03	\$0,87
Indicated Value - Per Sq. Meter of Land		\$1,29	\$2,89	\$2,44
	\$/Sq. M Land			
Low	\$1,29			
High	\$2,89			
Median	\$2,44			
Mean	\$2,21			
Estimate	\$2,25			
	Total \$ Value			
Total	\$25,375			
Starting Price Ratio	30%			
Starting Price	\$7,763			
Per Sq. M Land	\$0,68			

Parcel #2 Sales Comparison

Property	Subject	1	2	3
Property Location	Naukova Puliuja	Kultura St. #25	Karl Marx St. #8	Sverdlova/Elizarova Sts.
Date of sale:	15-Oct-94	24-Jun-94	21-Jan-94	21-Jan-94
Price (US\$):	Unknown	\$6,729	\$21,000	\$19,000
Land Area (Sq. Meters)	2,700	1,400	1,500	2,500
Price Per Sq. Meter of Land	Unknown	\$4,81	\$14,00	\$7,60
Maximum # of Stories	8			
Maximum Lot Coverage	70%			
Maximum Allowable Floor Area (sq. meters)	15,120	7,840	8,400	14,000
Likely Floor Area (sq. meters)	7,560	3,920	4,200	7,000
Price per Sq. M. of buildable space	Unknown	\$1,72	\$5,00	\$2,71
Adjustments				
Conditions of Sale	Typical Adjustment	Non-Arm's Lgth.	Typical	Typical
Adjusted Value - Per Sq. Meter of Building	-	25,0%	0,0%	0,0%
Adjusted Value - Per Sq. Meter of Land	-	\$2,15	\$5,00	\$2,71
		\$5,01	\$14,00	\$7,60
Time (Market Conditions)				
Annually	0,0%			
# of Months since sale		0,00%	0,00%	0,00%
		3,72	8,78	8,78
Adjusted Value - Per Sq. Meter of Building	-	\$2,15	\$5,00	\$2,71
Adjusted Value - Per Sq. Meter of Land		\$6,01	\$14,00	\$7,60
Location (Rayon, Micro-rayon, etc)				
Rating (by estimated unit sales prices)	4	1B	4A	4C
	5	8	8	7
	Adjustment	-24%	-20%	-14%
Physical characteristics (corner, topography, etc.)				
	Sloping Adjustment	Superior	Superior	Superior
		-5%	-5%	-8%
Surrounding Uses				
	Mixed Commer. Adjustment	Superior	Superior	Superior
		-5%	-10%	-5%
Governmental Regulations				
	Typical Adjustment	0,0%	0,0%	0,0%
Size				
	- - Adjustment	Smaller	Smaller	Smaller
		-38%	-37%	-28%
Net Adjustments				
		-72%	-72%	-55%
Indicated Value - Per Sq. Meter of Building		\$0,61	\$1,41	\$1,21
Indicated Value - Per Sq. Meter of Land		\$1,71	\$3,95	\$3,40
\$/Sq. M Land				
Low	\$1,71			
High	\$3,95			
Median	\$3,40			
Mean	\$3,02			
Estimate	\$3,10			
Total \$ Value				
Total	\$8,370			
Starting Price Ratio	30%			
Starting Price	\$2,500			
Per Sq. M Land	\$0,93			

48.

Parcel #3 Sales Comparison

Property Location	Parcel 3 700-ritchhia Lvova Pancha	Comparable 1 Danilevscogo St. #26
Date of sale:	15-Oct-94	24-Jun-94
Price (US\$):	-	\$20.833
Land Area (Sq. Meters)	4.200	6.000
Maximum # of Stories	16	
Maximum Lot Coverage	30%	
Maximum Allowable Floor Area	20.160	
Likely Floor Area	10.080	12.000
Units (avg 50 Sq. M size, 80% efficiency)	161	192
Price per Sq. M. of buildable space	-	\$1,74
Price per buildable unit	-	\$109
Price per Sq. M of Land	-	\$3,47
Adjustments		
Ownership Interest	50 yrs.+50 yrs.	0,0%
Adjusted Value - Per Sq. Meter Building	-	\$1,74
Adjusted Value - Per Apartment Unit	-	\$109
Adjusted Value - Per Sq. Meter Land	-	\$3,47
Time (Market Conditions)		
Annually @ 0%		0,00%
# of Months since sale		3,7
Adjusted Value - Per Sq. Meter Building	-	\$1,74
Adjusted Value - Per Apartment Unit	-	\$109
Adjusted Value - Per Sq. Meter Land		\$3,47
Location (Rayon, Micro-rayon, etc.)	4	1B
Rating (by estimated unit sales prices)	5	10
	Adjustment	-35,0%
Physical characteristics (corner, topography, etc.)	Fair Visibility	Superior
	Adjustment	-10,0%
Surrounding Uses	Mixed Commercial	Similar
	Adjustment	0,0%
Governmental Regulations	Typical	
	Adjustment	0,0%
Size	4.200	Larger
	Adjustment	5,0%
Net Adjustments		-40,0%
Indicated Value - Per Sq. Meter of Building		\$1,04
Indicated Value - Per Potential Apartment Unit		\$65
Indicated Value - Per Sq. Meter of Land		\$2,50

	<u>\$/Sq. M Bldg</u>	<u>\$/Unit</u>	<u>\$/Sq. M Land</u>
Low	\$1,04	\$65	\$2,50
High	\$1,04	\$65	\$2,50
Median	\$1,04	\$65	\$2,50
Mean	\$1,04	\$65	\$2,50
Estimate	\$1,00	\$56	\$2,50

<u>Total \$ Value</u>	
Total	\$10.500
Starting Price Ratio	30%
Starting Price	\$3.150
Starting Price/Sq. M Land	\$0,75

Parcel #4 Sales Comparison

Property Location	Parcel 4 700-ritchia Lvova Pancha	Comparable 1 Danilevscogo S #26
Date of sale:	15-Oct-94	24-Jun-94
Price (US\$):	-	\$20.833
Land Area (Sq. Meters)	9.725	6.000
Maximum # of Stories	16	
Maximum Lot Coverage	30%	
Maximum Allowable Floor Area	46.680	
Likely Floor Area	23.340	
Units (avg 50 Sq. M size, 80% efficiency)	373	12,000
Price per Sq. M. of buildable space	-	192
Price per buildable unit	-	\$1,74
Price per Sq. M of Land	-	\$109
		\$3,47
Adjustments		
Ownership Interest	50 yrs.+50 yrs.	0,0%
Adjusted Value - Per Sq. Meter Building	-	\$1,74
Adjusted Value - Per Apartment Unit	-	\$109
Adjusted Value - Per Sq. Meter Land	-	\$3,47
Time (Market Conditions)		
Annually @ 0%		
# of Months since sale		0,00%
Adjusted Value - Per Sq. Meter Building		3,7
Adjusted Value - Per Apartment Unit	-	\$1,74
Adjusted Value - Per Sq. Meter Land	-	\$109
		\$3,47
Location (Rayon, Micro-rayon, ref. rating sheet)	4	1B
Rating (by estimated unit sales prices)	5	10
	Adjustment	-35,0%
Physical characteristics (corner, topography, etc.)	Fair Visibility	Superior
	Adjustment	-10,0%
Surrounding Uses	Mixed Commercial	Similar
	Adjustment	0,0%
Governmental Regulations	Typical	
	Adjustment	0,0%
Size	9.725	Smaller
	Adjustment	-10,0%
Net Adjustments		-55,0%
Indicated Value - Per Sq. Meter of Building		\$0,78
Indicated Value - Per Potential Apartment Unit		\$49
Indicated Value - Per Sq. Meter of Land		\$1,87

	<u>\$/Sq. M Bldg</u>	<u>\$/Unit</u>	<u>\$/Sq. M Land</u>
Low	\$0,78	\$49	\$1,87
High	\$0,78	\$49	\$1,87
Median	\$0,78	\$49	\$1,87
Mean	\$0,78	\$49	\$1,87
Estimate	\$0,78	\$49	\$1,87

<u>Total \$ Value</u>	
Total	\$18.234
Starting Price Ratio	30%
Starting Price	\$5.470
Starting Price/Sq. M Land	\$0,56

Parcel #5 Sales Comparison

Property Location	Parcel 5 Mykolajchuka	Comparable 1 Danilevscogo St. #26
Date of sale:	15-Oct-94	24-Jun-94
Price (US\$):	-	\$3.302
Land Area (Sq. Meters)	4.000	4.000
Maximum # of Stories	1	
Maximum Lot Coverage	100%	
Maximum Allowable Floor Area	4.000	
Likely Floor Area	4.000	4.000
Units (avg 22 Sq. M size, 100% efficiency)	182	182
Price per Sq. M. of buildable space	-	\$0,83
Price per buildable unit	-	\$18
Price per Sq. M of Land	-	\$0,83
Adjustments		
Ownership Interest	50 yrs.+50 yrs.	0,0%
Adjusted Value - Per Sq. Meter Building	-	\$0,83
Adjusted Value - Per Apartment Unit	-	\$18
Adjusted Value - Per Sq. Meter Land	-	\$0,83
Time (Market Conditions)		
Annually @ 0%		0,00%
# of Months since sale		3,7
Adjusted Value - Per Sq. Meter Building	-	\$0,83
Adjusted Value - Per Apartment Unit	-	\$18
Adjusted Value - Per Sq. Meter Land		\$0,83
Location (Rayon, Micro-rayon, etc.)	5	
Rating (by estimated unit sales prices)	3 Adjustment	3 0,0%
Physical characteristics (corner, topography, etc.)	Rolling Adjustment	Superior -5,0%
Surrounding Uses	Mixed Commercial Adjustment	Similar 0,0%
Governmental Regulations	Typical Adjustment	0,0%
Size	4.000 Adjustment	Similar 0,0%
Net Adjustments		-5,0%
Indicated Value - Per Sq. Meter of Building		\$0,78
Indicated Value - Per Space		\$17
Indicated Value - Per Sq. Meter of Land		\$0,78

	\$/Sq. M Bldg	\$/Unit	\$/Sq. M Land
Low	\$0,78	\$17	\$0,78
High	\$0,78	\$17	\$0,78
Median	\$0,78	\$17	\$0,78
Mean	\$0,78	\$17	\$0,78
Estimate	\$0,78	\$17	\$0,78

<u>Total \$ Value</u>	
Total	\$3.120
Starting Price Ratio	30%
Starting Price	\$936
Starting Price/Sq. M Land	\$0,23

Appendix IV: The Odessa Auction

AUCTION 5: CITY OF ODESA, DECEMBER 10, 1994

Highlight: Land parcels sold into private ownership
Results: Four of 10 lots sold.
 * Two land parcels sold into private ownership.
 * Two long-term leases sold.

The auction offered private ownership of three land parcels with unfinished construction objects upon them, and the rights to long-term transferable leases (50 years plus 50-year renewable term) to seven land parcels to build commercial and residential projects.

Address	Type of Right Sold	Uses Allowed	Land Size (m2)	Starting Price (\$)	Selling Price (\$)
Kalinin St., 42	ownership	one-storey fruit/vegetable store	1,600	18,868	28,181
Dobrovolskiy prospekt, construct No.27	ownership	no noxious uses	5,970	33,919	36,363
Marinesko Lane. 12	long-term lease	non-industrial	2,670	38,000	41,895
Koroleva St., 102, construct. No.27	long-term lease	commercial	970	18,000	20,837
			TOTALS:	\$108,787	\$127,276



PADCO
Odessa
Одеса

Odessa Land Office
1 Nekrasova Street
270100 Odessa
UKRAINE

TEL: 7-0482-23-63-60
FAX: 7-0482-23-63-60

Одеський Земельний Офіс
вул. Некрасова 1
270100 Одеса
УКРАЇНА

To: Erich Jacobs
From: Tanya Kosistkaya
Date: 13 October 1994
Re: Odessa Market Info

Please find included in this package the following market and parcel information:

- 1) Parcel list including address, raion, possible use and size. Please note that we are working with 13 potential parcels, of which only 5 to 7 will be used for the first auction (in addition, the Privatization Committee is giving us 3 vacant sites to sell as unfinished construction). As you will see, 5 of the listed parcels are in close proximity to each other in Kievsky raion, so they can be treated somewhat similarly.
- 2) Parcel list including planned (i.e., General Plan projected) use, planned technical conditions and corresponding costs. Please note that these costs are only a reference as the actual construction will depend on the winning bidder. It is anticipated that the city will guarantee that the maximum amount of money that the technical conditions will cost will equal 50 percent of the construction cost using an average per m² construction cost value.
- 3) Map of Odessa with the parcels designated.
- 4) Spreadsheet of apartment sales (\$) (1, 2, 3, and 4 room) by street and raion.
- 5) Spreadsheet of Privatization Committee sales for the past year. This includes both constructed objects (cafes and restaurants) as well as unfinished constructions. Please note that in reality, these "unfinished constructions" are vacant lands.

I have not been able to get complete information regarding construction costs for each raion of the city nor municipal rental rates, but I hope to do so before next week.

I look forward to meeting you in Kharkiv and continuing our work next week in Odessa.

PROPERTIES FOR LAND AUCTION

<u>PADCO No</u>	<u>Address</u>	<u>Raion</u>	<u>Possible use</u>	<u>Size</u>
1	Tolstoy 20	Central	housing and mixed	0.09 ha
2	Dzerzhinsky 39	Central	approved: 5 storey housing	0.08 ha
3	Marinesko 12	Central	6-7 storey building	0.32 ha
4	Dzerzhinsky 59	Central	3 storey office building with juice bar	0.1 ha
5	Tiraspolskoye Chausee between 2d and 3d Stantsionnaya Str	Ilyichevsky	non-residential	0.9 ha
6	* Ilf and Petrov 49 constr.#27a	Kiyevskiy	food shop	0.18 ha
7	Ilf and Petrov 51 constr.#68	Kiyevskiy	garage	0.36 ha
8	* Architectsorskaya 20 constr.#71	Kiyevskiy	underground garage	0.38 ha
9	Koroleva 104 constr.#76, 77	Kiyevskiy	canteen and public service centre	0.30 ha
10	Williams 66 constr.#58	Kiyevskiy	public sentre	0.25 ha
11	Moskovskaya 57	Leninsky	non-residential	0.17 ha
12	Ovidiopol shausee	Malinovskiy	non-residential	
13	Dobrovolsky pr. constr.#41	Suvorovskiy	attached shop	0.8 - 1.2 ha

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#	Address	Proposed construction	Proposed Use	Utility	Amount	Price (roubles, 1987)*1
1	Dzerzhinsky 59	3 story building	Mixed use, office, shop, bar	1. Water 2. Sewage 3. Gas 4. Telephone 5. Electricity	3.2 m3/day 3.2 m3/day 1 line 12.9 kW	10 000
2	Dzerzhinsky 39	5 story house	residential, 28 apartments	1. Water 2. Sewage 3. Gas 4. Telephone 5. Electricity	27.0 m3/day 27.0 m3/day 7.5 m3/day 30 lines 40 kW	20 400
3	Marinesko 12	7-9 story 3-section building	residential, 24 apartments	1. Water 2. Sewage 3. Gas 4. Telephone 5. Electricity	160 m3/day 160 m3/day 37 m3/hour 60 lines 120 kW	108 000 800 000 100 604 (karbovanets. 1993)*2
4	Moskovsky 57	2 story building	shop, offices	1. Water 2. Sewage 3. Telephone 4. Electricity 5. Heating	1.0 m3/day 1.0 m3/day 20 lines 80 kW 0.2 Gkkal/hour	445 000 (krb, 1994)*3 926 100 mln krb 1994
5	Tiraspolskoye shausee between 2d Station and 3d Station streets	3 hall building	cinema	1. Water 2. Sewage 3. Telephone 4. Electricity 5. Heating	13.7 m3/day 13.7 m3/day 1 line 87.5 kW heating center to be built	18 100 (1991) 43 900 (1991)*4
6	Tiraspolskoye shausee	1-2 story building	automatic telephone center	1. Water 2. Sewage 3. Telephone 4. Electricity 5. Heating	0.02 m3/day 0.02 m3/day 1 line 35 kW 0.02 Gkkal/hour	39 roubles (1990)*5 99 roubles (1990)

Exchange rate at that time was:

*1 - 1 rouble to 1 USD

*2 - 24 000 karbovanets to 1 USD

*3 - 38 000 karbovanets to 1 USD

*4 - 1 rouble to 1 USD

*5 - 1 rouble to 1 USD

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#	District	1-room	2-room	3-room	4-roomed	flats of extra square and private houses
1	Central	Chicherina and Zaslavskogo S=24\33 \$10 000	Mechnikova and Didrichsona S=32/39 \$12 000	Schepkina and Korolenko S=45/60 \$50 000	Ekaterininskaya S=84/116 \$45 000	For office per. Onilovoi S=170/340 \$50 000(without repairs) -150 000
2	Central	Chicherina and Pushkinskaya S=29/60 \$19 000	Franza Meringa S=40/48 \$11 000	Liapunova S=48/65 \$27 000	Pushkinskaya S=66/100 \$30 000	Deribasovskaya S=90/250 \$100 000
3	Central	Nechiporenko S=19/50 \$13 000	Sovetskoi milicii S=22/50 \$18 000	Baranova and Sechenova S=52/72 \$25 000	Liapunova and Pastera S=62/87 \$30 000	Franza Meringa S=48/65 \$11 000
4	Central		Podbelskogo S=38(multi-family flat) \$10 000	Kuibysheva and Sovetskoi Armii S=67/80 \$19 000	Franza Meringa and Torgovaya S=56/76 \$22 000	Petra Velikogo S=57/73 \$22 500
5	Central		Ostrovidova and Tolstogo S=50/80 \$22 000	Ekaterinins. and Chizhikova S=75/95 \$28 000	Pastera and Pavlova S=92/136 \$46 000	per.Onilovoi S=160 \$45 000(without repairing) - 80 000
6	Central	\$min = 10 000 \$avg = 14 000 \$max = 19 000	\$min = 10 000 \$avg = 14 500 \$max = 22 000	\$min = 19 000 \$avg = 25 000 \$max = 50 000	\$min = 22 000 \$avg = 35 600 \$max = 46 000	\$min = 11 000 \$avg = 70 000 \$max = 150 000

S= - Living square/General square

#	District	1-room	2-room	3-room	4-roomed	flats of extra square and private houses
1	Primorsky	Shevchenko S=17/32 \$10 000	Gvozdichny per S=30/50 \$25 000	Srednefontanskaya S=78/128 \$70 000	Perekopskoi Divisii S=62/90 \$31 500	Franzuzskij bulv. S=84/135 \$65 000
2	Primorsky	Posmitnogo S=18/32 \$12 000	Gagarina S=37/56 \$25 000	Pushkinskaya S=100 \$60 000	Gamarnika S=160 \$60 000	Gamarnika S=130/184 \$70 000
3	Primorsky	Dimitrova S=12/20 \$6 000	Gagarina and Shevchenko S=29/70 \$26 000	Shevchenko S=56/76 \$50 000	Chizhikova S=89/132 \$70 000	Chizhikova and Belinskogo S=104/130 \$70 000
4	Primorsky	Leitenanta Schmidta S=15/27 \$7 000	Gamarnika and Svetlova S=48/68 \$33 000	Segedskaya S=44/60 \$22 000	Schmidta S=70/113 \$50 000	Otradnaya S=115/170 \$65 000
5	Primorsky	Segedskaya S=18/31 \$11 000	Posmitnogo S=27,5/41 \$15 000	Shevchenko S=42/56 \$23 500	Perekopskoi div. S=45/62 \$25 000	Private house 0,17 ha \$75 000
6		\$min = 6 000 \$avg = 9 500 \$max = 12 000	\$min = 15 000 \$avg = 21 500 \$max = 33 000	\$min = 22 000 \$avg = 25 000 \$max = 70 000	\$min = 25 000 \$avg = 42 000 \$max = 70 000	\$min = 65 000 \$mid = 70 500 \$max = 75 000

S= - Living square/General square

#	District	1-room	2-room	3-room	4-roomed	flats of extra square and private houses
1	Zhovtnevuy	Deribasovskaya S=21/43 \$18 000	Vorovskogo S=34/52 \$27 000	Gogolia S=74/99 \$35 000	Cheluskindsev S=68/98 \$48 000	per. Chaikovskogo S=145/205 \$90 000
2	Zhovtnevuy	Chkalova S=25/41 \$18 000	Kirova and Ekaterininskaya S=32/50 \$25 000	Nekrasova S=50/90 \$50 000	Engelsa S=125/170 \$250 000	Osipova and Chicherina S=133 \$66 000
3	Zhovtnevuy	Bebelia S=18/35 \$14 000	Troitskaya and Pushkinskaya S=38/52 \$26 000	Sverdlova and Grecheskaya S=40/69 \$15 000	Bebelya S=47/62 \$20 000	Lenina and Deribasovskaya S=177/216 \$70 000
4	Zhovtnevuy	Sverdlova S=16/43 \$20 000	Zhukovskogo and Sovetskoi Armii S=30/50 \$12 500	Ekaterininskaya and Chizhikova S=75/95 \$28 000	Yekaterininskaya S=76/104 \$25 000	Voronzovsky per. S=160/210 \$63 000
5	Zhovtnevuy	Deribasovskaya S=20/31 10 000	Krasnyi per. and Policeiskaya S=50/80 \$35 000	Chizhikova and Belinskogo S=104/130 \$67 000	Pushkinskaya S=54/93 \$45 000	per. Chaikovskogo S=217 \$130 000
		\$min = 10 000 \$avg = 17 500 \$max = 20 000	\$min = 12 500 \$avg = 25 000 \$max = 35 000	\$min = 15 000 \$avg = 39 000 \$max = 67 000	\$min = 20 000 \$avg = \$max =	\$min = 63 000 \$avg = 83 000 \$max = 130 000

S = - Living square/General square

#	District	1-room	2-room	3-room	4-roomed	flats of extra square and private houses
1	Suvorovsky	Dobrovolskogo S=17/31 \$7 500	Dobrovolskogo S=31/52 \$10 000	Dobrovolskogo S=37/57 \$11 000		Dobrovolskogo S=61/92 \$20 000
2	Suvorovsky		Bocharova S=30/52 \$10 500	Zatonskogo S=38/57 \$12 500		
3	Suvorovsky		Dnepropetrovskoi dor. S=29/43 \$10 500	Bocharova S=40/59 \$12 000		
4	Suvorovsky		Dnepropetrovskoi S=28/50 \$10 000			
5	Suvorovsky		Marselskaya S=30/51 \$10 500			
6			<i>S_{min} - 10 S_{avg} - 10,200 S_{max} - 10500</i>	<i>S_{min} - S_{avg} - S_{max} -</i>		

S= - Living square/General square

#	District	1-room	2-room	3-room	4-roomed	flats of extra square and private houses
1	Ilyichevsky	Bogdana Hmel'nitskogo and Zaporozhcev S=35-44 \$13 500	Dneprovskaya S=31/52 \$12 000	Marcel'skaya S=27/40 \$12 500		Frunze S=65/100 \$28 000
2	Ilyichevsky		Lopatto S=30/54 \$14 000	Geroev Stalingrada S=41/60 \$11 000		
3	Ilyichevsky		Lopatto and Lasareva S=31/43 \$8 000	Bogdana Chmel'nitskogo S=31/49 \$20 000		
4			Bogdana Chmel'nitskogo S=25/53 \$15 000	Misikevicha S=53/70 \$18 000		
5			Jubileynaya S=27/48 \$11 500			
6		\$min = \$avg = \$max =	\$min = 11500 \$avg = 900 \$max = 15000	\$min = 11000 \$avg = \$max = 20000	\$min = \$avg = \$max =	\$min = \$avg = \$max =

S= - Living square/General square

BONZ & COMPANY, Inc.
REAL ESTATE ADVISORS
Real Estate Counseling and Valuation

October 30, 1994

Alex Gamota
 Odessa Land Office
 1 Nekrasova Street
 270100 Odessa
 UKRAINE

Alex:

Here is my first stab at the start prices for the parcels you sent to me last week. Because I have no idea what the build-out would be, I assumed a 1-to-1 lot size building size ratio for all parcels except Marinesko, which I assumed to be 6 stories at 30% buildout. Specifics are as follows:

<u>Parcel</u>	<u>Size (Sq. M)</u>	<u>BuildOut (Sq. M)</u>	<u>Value (\$)</u>	<u>Start Price (\$)</u>
Dobrovolsky	1.150	1.150	\$17.300	\$1.730
Ilf/Petrov 27a	1.800	1.800	\$26.000	\$7.800
Kalinin	1.100	1.100	\$19.000	\$5.700
Ilf/Petrov 56	1.700	1.700	\$23.800	\$7.140
Koroleva 102	750	750	\$12.000	\$4.000
Marinesko 12	3.200	5.760*	\$97,920	\$29.376

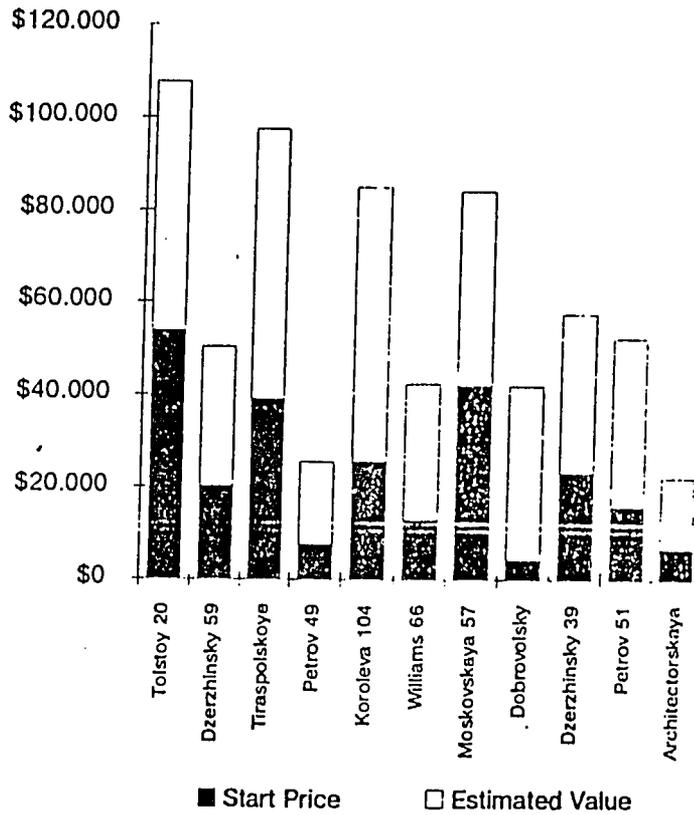
Start prices generally range from between 10% and 30%, and I have assumed an increase in the value of the unfinished constructions of 90% of the cost of documents, assuming a 95,000 coupon/dollar exchange rate. Hope this helps, but also hope you can provide build-out estimates so that I can provide more meaningful values.

Final docs and auction education package to be finished by the end of Tuesday (day after tomorrow) and I will e-mail you the text. Please note that I can only issue one set of final docs for this particular project, so if you want me to hold off until you have finalized your sites, please let me know. Hope all is well. I'll be in the office all day Monday and Tuesday. Happy Halloween.

Sincerely,


 Erich K. Jacobs
 Vice President

Starting Prices and Values: Odessa Land Auction



<u>Parcel</u>	<u>Start Price</u>	<u>Estimated Value</u>
Tolstoy 20	\$53.831	\$107.663
Dzerzhinsky 59	\$20.160	\$50.400
Tiraspol'skoye	\$39.000	\$97.500
Petrov 49	\$7.646	\$25.488
Koroleva 104	\$25.500	\$85.000
Williams 66	\$12.750	\$42.500
Moskovskaya 57	\$42.075	\$84.150
Dobrovolsky	\$4.200	\$42.000
Dzerzhinsky 39	\$23.040	\$57.600
Petrov 51	\$15.750	\$52.500
Architectorskaya	\$6.642	\$22.140

Starting Price and Valuation Statistics: Odessa Land Auction

Address	Use	Value Per Square Meter of Building					Building Size	Total Value	Starting Price Ratio	Estimated Starting Price	Estimated Start Price @85,000	Land Size	Value Per SM of Land	Value of Land to Bldg Val	Rating
		Low	High	Median	Mean	Estimate									
20	Comm	\$33,36	\$273,68	\$40,82	\$133,18	\$87,00	1.238	\$107,663	50%	\$53,831	4.576	990	\$108,75	9%	50.000
insky 59	Comm	\$13,71	\$115,03	\$19,07	\$36,16	\$28,00	1.800	\$50,400	40%	\$20,160	1.714	1.000	\$50,40	7%	20.000
olskoye	Comm	\$5,26	\$51,89	\$9,50	\$16,52	\$13,00	7.500	\$97,500	40%	\$39,000	3.315	3.000	\$32,50	5%	12.000
49	Comm	\$8,98	\$75,36	\$12,94	\$23,90	\$18,00	1.416	\$25,488	30%	\$7,646	650	1.800	\$14,16	7%	12.500
va 104	Comm	\$7,77	\$67,65	\$11,66	\$21,39	\$17,00	5.000	\$85,000	30%	\$25,500	2.168	3.000	\$28,33	7%	12.500
s 66	Comm	\$8,61	\$71,51	\$12,08	\$22,60	\$17,00	2.500	\$42,500	30%	\$12,750	1.084	2.500	\$17,00	7%	12.500
vszkaya 57	Comm	\$16,70	\$137,53	\$23,01	\$43,33	\$33,00	2.550	\$84,150	50%	\$42,075	3.576	1.700	\$49,50	20%	25.000
olsky	Comm	\$2,57	\$26,44	\$4,93	\$8,48	\$7,00	6.000	\$42,000	10%	\$4,200	357	10.000	\$4,20	5%	5.000
insky 39	Apt	\$2,10	\$120,81	\$5,22	\$42,71	\$24,00	2.400	\$57,600	40%	\$23,040	1.958	800	\$72,00	11%	20.000
51	Parking	\$19,18	\$312,82	\$178,94	\$170,31	\$175,00	300	\$52,500	30%	\$15,750	1.339	3.600	\$14,58	-	25
ctorskaya	Parking	\$21,09	\$379,38	\$207,53	\$202,67	\$205,00	108	\$22,140	30%	\$6,642	565	3.800	\$5,83	-	25

	Part 1	Part 2	Starting Less Costs	Value Less Costs
Tolstoy 20	\$35.600		\$18.231	\$72.063
Dzerzhinsky 59	\$9.600	\$52.200	(\$41.640)	(\$11.400)
Tiraspolskoye	\$7.200	\$65.250	(\$33.450)	\$25.050
Petrov 49	\$8.600	\$30.798	(\$31.752)	(\$13.910)
Koroleva 104	\$14.400	\$108.750	(\$97.650)	(\$38.150)
Williams 66	\$12.000	\$0	\$750	\$30.500
Moskovskaya 57	\$8.160	\$55.462	(\$21.547)	\$20.528
Dobrovolsky	\$28.800	\$156.600	(\$181.200)	(\$143.400)
Dzerzhinsky 39	\$9.600	\$52.200	(\$38.760)	(\$4.200)
Petrov 51	\$17.280	\$96.991	(\$98.521)	(\$61.771)
Architectorskaya	\$18.240	\$34.800	(\$46.398)	(\$30.900)

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Monday, October 31, 1994

To: Alex Gamota, Land Advisor for PADCO/Odessa and Odessa Land Auction

From: Erich Jacobs, Real Estate Consultant for Odessa Land Auction

RE: Auction Information and Starting Prices for Odessa Land Auction

Dear Mr. Gamota:

As part of its assistance under the memorandum of Cooperation for the Odessa Land Auction, and at the request of the Working Group on the Land Auction, the USAID/PADCO consulting team has prepared recommended starting prices for the land parcels at the Land Auction to be held in December.

At your request, I have prepared a valuation analysis of the 7 parcels which have been selected as potential sites for the upcoming land auction in Odessa, as well as for 3 additional sites of unfinished construction. This document outlines the logic used in preparing the starting prices, as well as provides some general information regarding auction theory and the role starting prices play in successful real estate auctions.

By definition, an auction is a public sale in which an object is sold to the highest bidder. The goal of an auction is to obtain the highest price possible for a particular item by assembling a large group of knowledgeable potential buyers for the item, and having them compete for the same item on the basis of price. If handled correctly, the price paid for a particular object at an auction will meet or exceed the highest price which could be gained from alternative allocation methods.

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There are currently several types of auctions in use in various markets worldwide.

These include:

- Open Auctions
- Sealed Bid Auctions
- Contract Bidding

Open Auctions

These are auctions in which a group of qualified bidders is gathered, an item is presented, and the auctioneer begins the bidding at an established "start price." A bidder can then indicate his acceptance of the current bid, and the bid price rises until only one bidder remains willing to accept to current bid price. A major advantage of an open auction is the fact that a "snowballing" effect can occur, whereby the price rises much higher than the expected value due to bidders becoming "emotionally attached" to a particular property and being unwilling to give up the property.

For example, two bidders (Yuri and Oleg) may arrive at the auction expecting to pay no more than \$100,000 for a particular property. A large number of bidders may initially bid for the property. However, when the bidding reaches \$100,000, only Yuri and Oleg remain. At this point, it is likely that Yuri will adjust his initial \$100,000 value conclusion upward and bid slightly higher, say \$105,000, for the property. Oleg may then also adjust his initial valuation conclusion higher as a result of Yuri's bid, and bid \$110,000. At this point, the final price paid for a property becomes an issue of how much the bidder *can* pay as opposed to how much he may have *wanted to pay*, and the price continues to escalate. Historically, the disadvantage of an open auction was that the bidders had to reveal themselves. Today, the use of proxies and economic entities has largely bypassed this problem.

Open auctions are the most common type of auction employed for real estate worldwide for reasons which are outlined below.

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Sealed Bid Auctions

In an auction based on sealed bids, bidders must submit independent closed bids on or before an appointed time to a specific agency or institution. These types of auctions are common when an agency or institution requires the delivery of a good or service from the bidders such as the construction of a school. Each of the bids are confidential, and no bidder knows what other bidders are willing to pay. The bids are then opened and compared, and the item or job is awarded according some previously specified convention, usually the lowest price. In other words, the bidder who is willing to construct the school for the least amount of money will win the sealed bid auction. The advantage of a sealed bid auction is its confidentiality, as bidders do not have to reveal themselves in public. The disadvantage is that the emotional effect of public bidding is lost, and there are no "snowball" effects.

Contract Bidding

This is a situation whereby an agency requires the procurement of a specialized and expensive item. The typical example is military procurement. For example, a federal government may want a specialized aircraft carrier, and there are only two or three shipyards that are qualified to build it. In this instance, the focus is on the quality of the product provided by the bidder, as well as the cost to the agency. For these reasons, the agency will likely engage a limited number qualified shipyards to provide a proposal for services, and after initially rejecting any inferior proposals, enter into negotiations with the remaining successful bidders. Eventually, one firm is selected based upon both product and price. After awarding the project to the winning firm, a final round of price negotiations typically occurs.

Successful Real Estate Auctions

The goal of a real estate auction in a new market is to maximize sales revenue while at the same time providing for a impartial and objective allocation of real estate. Open Auctions have proven to be particularly effective at generating superior sales prices for land, and at the same time allow for a large number of participants. Sealed Bid Auctions and Contract Bidding are generally not appropriate, as they generally result in lower prices or limit the number of participants.

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Experience has shown that, above all else, increasing the number of bidders will increase the chances of a successful auction. Increasing the number of bidders generally increases the perception of demand for a property, as well as increases the chance that a larger number of bidders will be present when the bid price for a property rises to higher levels. Thus, prior to any auction, the efforts of the seller typically focuses on increasing the number of bidders. Several factors influence the number of bidders, and some of these factors also will also directly increase the likely final bid price. These factors include:

- Effective Marketing
- Low Starting Prices
- Availability of Information Regarding The Parcels

Effective Marketing:

In order to have a large number of bidders, it is necessary for potential participants to be made aware of the auction. Marketing is typically accomplished through radio, television, and newspaper advertising.

Low Starting Prices:

In most real estate auctions, setting starting prices at a low level increases the perception of affordability, increasing the number of the bidders. In a sense, low starting prices are a marketing tool. Even if the majority of the bidders which have been enticed by the low starting prices drop out of the bidding in the early stages, the perception of high demand for the property in the early stages of bidding increases the chance that a bidder will become "emotionally attached" to the property as the bid price rises, as in the example above. In some auctions, start prices of only 5% to 10% of the estimated value of the property are common.

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It should be noted that from the bidder's perspective, once the auction begins the bidders are not competing with the seller, they are competing with each other. Fewer competitors means that the investors who choose to bid hold more of a monopolistic position. High starting prices therefore have the opposite effect of low starting prices. If high starting prices are employed, potential buyers can become discouraged, and the overall number of participants in the auction declines. As the number of participants declines, the level of competition declines, and the overall result is lower final prices.

Starting prices should be recognized as the point at which the bidding *begins* as properties almost always sell for substantially above their starting price. Starting prices are generally estimated by first determining the likely value of the property through traditional real estate appraisal methods described later in this document. Next, an assessment of the relative attractiveness of the property to potential investors is performed, based upon location relative to other auction parcels, and the amount of information available about the parcel. The relative level of technical conditions that will be paid, as well as the benefits of savings resulting from the shift of development from the public to the private sector, are also considered.

In order to ensure that the seller of the property receives a minimum price for the property, a *reserve pricing* strategy is sometimes employed. A reserve price is the minimum price that the seller is willing to accept, and is therefore typically above the starting price. In many instances the actual reserve price is not revealed prior to the bidding, although the existence of a reserve price generally is known. If the bidding during the auction fails to rise above the reserve price, the bidding is stopped and the property is withdrawn from the auction. Use of a reserve pricing strategy involves significant risk, and should not be used for unusual property types or real estate in a relatively new market. Implementation of reserve prices can erode the confidence of new investors, particularly for new and emerging real estate markets which do not have an established track record of transfer through real estate auctions.

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Information:

With respect to real estate, the more information which is available regarding legal and physical constraints which will be placed on a property, as well as the amount of likely technical conditions costs, the less risk that will be perceived by the bidders. Less risk always translates into higher perceived values on the part of the bidders and therefore higher final sales prices. Reducing the risk associated with a property also encourages investors who otherwise would not be interested in bidding. This was evident in the previous Kharkiv auctions. Properties which were clearly defined generated a large number of bidders and resulted in higher than anticipated prices. Properties which were poorly defined sold for lower prices or did not generate enough interest among the bidders to allow them to be auctioned. In addition, the implementation of a "bidder's conference" prior to the June auction in Kharkiv is thought to have substantially increased the level of information available to the bidders and therefore raised the final prices.

For the purposes of this analysis, we have assumed that the successful techniques used in Kharkiv will also be used in Odessa. The valuation conclusions contained in this memorandum are predicated on that assumption being correct.

Derivation of Starting Prices In Odessa

These recommended starting prices have been prepared based on the following factors: the consulting team's extensive experience with real estate valuation and auctions; the experience derived from real estate auctions in other countries throughout the world, recent commercial sales which have occurred in Odessa and the experiences from the previous auctions held in Kharkiv in January, June, and October of 1994; an analysis of rental and sales rates for residential and commercial units in various raions of the City as prepared by Tanya Kosistkaya of the PADCO/Odessa Land Office; and the strategic and policy considerations of the City in attracting bidder participation and achieving fair prices for the land parcels.

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An overview of the analysis used is discussed in the technical appendix attached to this memorandum, as well as various technical analyses. It must be noted that the estimates made were made based on the information provided and I have made several assumptions regarding this information, which is detailed in the appendix. To the extent that the information provided is inaccurate, the analysis and resulting estimates are likely to be inaccurate. A summary of the parcels, their estimated market value, and their recommended starting prices are presented on the following page.

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Technical Appendix

The estimates of market value for the various parcels were made in terms of U.S. Dollars, as market evidence indicated that this is the accepted method of payment. The recommended starting prices for the land parcels have been established as a percentage of estimated market value for these parcels. The recommended starting prices of the parcels have been set at between 10 and 50% of the estimated market values of these parcels. The range was used to make less desirable parcels more affordable and to attract more potential bidders, while the highly desirable parcels were set at the higher end of the range.

The methodology used for estimating market values for the parcels is summarized below. It is important to note that only the sales comparison approach to valuation was performed for the sites. After consideration of other factors, explained in more detail below, it was apparent that the land residual approach to valuing vacant land was not applicable in the current situation. A major limitation on the analysis is the fact that no previous directly comparable sales of vacant land have occurred in Odessa. In addition, lack of reliable construction cost data makes development of a land residual approach impossible.

Value Estimate of the Land Sites

The valuation process for the parcels was based primarily on a sales comparison approach. This approach compares the property being appraised with sales of comparable properties. In the past, this method was impossible to use in Ukraine due to the lack of sales. However, due to sales that occurred at two previous auctions in Kharkiv, there existed sufficient information to utilize this approach. It should be noted that ideally, a number of local sales are used to value one parcel, sometimes up to 7 or 8 sales. In addition, it is preferable that the sales occur in the same city. However, in this case, all of the sales occurred in Kharkiv, and only three sales of apartment sites were used to compare to a number of different sites slated for apartment use. While this weakens the analysis, there was sufficient information to make reasonable estimates.

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To perform the sales comparison approach, the subject site being appraised and the selected comparable sale(s) are arrayed on a grid form. The grid is used to make various comparisons of certain aspects of the comparable sale(s) to the subject. Ideally, these adjustments are based on evidence demonstrated by direct comparisons of the sales used within the analysis, but, due to the low number of sales available, and the varying nature of these sales, direct evidence was not available.

One assumption made is that all the sales and the sites currently up for auction are "sales" of similar use rights, that is, the purchaser is buying the right to lease the site for a 50 year period, with an option period of an additional 50 years. Also, no adjustment for differences in financing terms was made or shown on the grids, due to the lack of any information on this aspect of the sales. According to sources in the market, due to the inflationary nature of the economy, loans are typically only 3 to 6 months in duration at extremely high interest rates. We have therefore made the assumption that all sales would be in terms of cash. The following paragraphs describe the various methods and adjustments made to the sales as shown on the sample grid in order from top to bottom. A sample grid for the first sale is attached to this memo.

Maximum # of Stories: This number was based upon the specifications outlined in the document entitled "Technical and Economic Indices of the parcels offered for the land auction" If no such number was specified for a particular parcel, then an estimate was made based upon the specified functional purpose and surrounding uses. For example, the maximum # of stories was not specified for some parcels. However, their functional purpose was usually specified as retail, trade, bank branches, and other commercial uses. In these instances, an estimate of the height of the building that would likely be constructed on the site was made, based upon the building's fit within the immediate neighborhood.

Maximum Lot Coverage: This number was based upon estimates provided by the City. This figure refers to the maximum amount of land that can be covered by the building. It typically ranges from 70% for shorter structures and 30% for taller structures. When no lot coverage figure was available, it was assumed that the maximum lot coverage would be approximately 50%.

Gross Allowable Floor Area: This figure is estimated by multiplying the land area by the maximum number of stories and the maximum lot coverage ratio. It is the maximum amount of building which can be put on the site given the current legal restrictions.

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Units: This is the calculation of the number of units which could be built on the apartment and parking sites. For the apartments, it was assumed that a typical apartment is 50 square meters in size. In addition, based upon current construction standards, it was assumed that only 85% of a typical apartment building is usable, with the remainder consisting of hallways, stairwells, and elevators.

Condition of Sale Adjustment: Under accepted appraisal practice, the conditions under which a sale occurred must be considered. Various factors that are typically considered here may include forced sale (due to financial difficulties of the owner), liquidation sale, estate sale (due to death of owner with no direct heirs), foreclosure sale (by bank of non-performing borrower), and other influences. When examining the sales that occurred at the auctions, it was evident that the sale of one apartment site and one office site, sold to the same buyer, was sold at lower prices than one other sale which was considered to be comparable, in overall factors. The impact was estimated to be between 20% and 30%. These office sale used in this analysis was adjusted upwards by 25% to account for the non-arm's length conditions associated with the transaction.

Time (Market Conditions): This adjustment factor adjusts the various sales for the time difference between the sales and the auction date. The sales used occurred in January, 1994 and October, 1994. While there has been a very high level of inflation in the krb., U.S. dollars have remained somewhat stable. It is the general consensus that the markets for these types of uses in Odessa is unproven, and that there is no reasonable basis for adjusting the prices for time.

Location: The location adjustment takes into many considerations such as proximity to services, employment, transportation, as well as more intangible features such as prestige and status of one neighborhood (micro-rayon) vs. another. To make a location adjustment, a survey of apartment rents and sales, and business sales was employed to make relative adjustments between properties located in different raions and micro-raions. The sales prices for the different uses in the different raions were compared with the sales in Kharkiv, and the difference in percent was calculated, then adjusted to 60-70% of the difference based on the assumption that differences in sales prices would be reduced somewhat to a potential buyer through expenses.

Physical Characteristics: The physical characteristics of the site were considered. Typically, corner sites are considered superior to mid-block sites and steeply sloped sites are considered inferior to level sites. Other potential factors include soil condition, wetlands, water frontage, and the presence of ledge. The adjustment in this and the following categories was not based on any market derived evidence, nor were there any other sources of direct evidence to base adjustments on. Rather, the adjustments made were based on approximations of potential additional development costs, or on judgments made by the appraiser. These judgments are based on experience gained in other appraisal situations, various interviews with developers, and other various sources.

	Subject Tolstoy 20	1 Kultura St. #25 24.6.94	2 Karl Marx St. #8 21.1.94	3 Sverdlova/ Elizarova Sts. 21.1.94	4 Kooperativnaya Street 15.10.94	5 Moskovsky Pros./ Dobrobov St. 15.10.94	6 Guards Shironintsev #14 15.10.94
Date of sale:	30.11.94						
Price (US\$):		\$6,729	\$21,000	\$19,000	\$69,412	\$11,588	\$12,824
Land Size:	990	1,400	1,500	2,500	700	2,600	3,000
Gross Allowable Floor Area (m ²)	1,238	1,000	1,500	3,000	1,500	2,000	1,800
No. of Buildable Units Assuming 50 SqM @ 85% efficiency	21	17	28	51	28	34	31
Price Per Square Meter of Land	-	\$4,81	\$14,00	\$7,60	\$99,18	\$4,46	\$4,27
Price Per Square Meter of Buildable Space	-	\$6,73	\$14,00	\$6,33	\$46,27	\$5,79	\$7,12
Price Per Buildable Unit	-	\$398	\$824	\$373	\$2,722	\$341	\$419
Adjustments							
Ownership Interest	50 yrs.+50 yrs.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Adjusted Value - Per Sq. Meter	-	\$4,81	\$14,00	\$7,60	\$99,18	\$4,46	\$4,27
Adjusted Value - Per Buildable Square Meter	-	\$6,73	\$14,00	\$6,33	\$46,27	\$5,79	\$7,12
Time							
# of Years Since Sale	--	0,44	0,86	0,86	0,13	0,13	0,13
Adjusted @ 0% Per Year	-	0%	0%	0%	0%	0%	0%
Adjusted Value - Per Square Meter	-	\$4,81	\$14,00	\$7,60	\$99,18	\$4,46	\$4,27
Adjusted Value - Per Buildable Square Meter	-	\$6,73	\$14,00	\$6,33	\$46,27	\$5,79	\$7,12
Location	Central	1B	4A	4C	5A	8B	5C
Rating (Based on Unit Sales)	85,000	8,300	7,500	6,500	7,000	5,800	6,000
Adjustment		554,5%	620,0%	724,6%	668,6%	819,3%	790,0%
Physical characteristics (corner, topography, etc.)	Level, Mid-Block	Similar	Similar	Similar	Similar	Similar	Similar
Adjustment		0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Surrounding Uses	Mixed Residential	Similar	Similar	Similar	Similar	Factories	Similar
Adjustment		0,0%	0,0%	0,0%	0,0%	10,0%	0,0%
Governmental Regulations	Typical	Similar	Similar	Similar	Similar	Similar	Similar
Adjustment		0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Size	1,238	1,000	1,500	3,000	1,500	2,000	1,800
Adjustment		Smaller, -12,4%	Similar	Larger 24,2%	Similar	Larger 16,2%	Larger 14,5%
Net Adjustments	--	542,1%	620,0%	748,9%	668,6%	845,5%	804,5%
Adjusted Value - Per Square Meter	--	\$30,88	\$100,80	\$64,51	\$762,12	\$42,14	\$38,67
Adjusted Value - Per Buildable Square Meter	--	\$43,21	\$100,80	\$53,76	\$355,65	\$54,78	\$64,44

	\$/Sq. M Land	\$/Sq. M Bldg
Low	\$30,88	\$43,21
High	\$782,12	\$355,65
Median	\$53,33	\$59,61
Mean	\$173,18	\$112,11
Estimate	\$113,00	\$86,00
Size	990	1,238
Price Estimate	\$111,870	\$106,425

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Surrounding Uses: The surrounding uses of the sites were considered. A site generally has a higher value when a proposed use for the site will have support from its surrounding uses as well as be in conformance with the general character of the neighborhood in which it is developed. To the extent that the surrounding uses were complimentary and supportive, adjustments were made to the comparable sales. Again, these adjustments were not based on direct market evidence due to the low number of sales that have occurred.

Governmental Regulations: This category was included in the analysis, and was intended to account for the varying cost of site infrastructure (technical conditions) between the subject sites to be valued and the sales that have occurred. However, this information was not available, and therefore this analysis assumes that this cost will not vary greatly between sites. To the extent that this is inaccurate, this analysis will also vary.

Size: Although larger properties tend to sell for more money, the amount paid per square meter tends to fall as the size increases. Based upon an examination of the previous sale of public objects in Odessa, the change in price paid per square meter tends to fall at an exponential rate as the size of the object increases. A similar function was applied to the comparable sales in this analysis.

Appraisal methodology requires that the first adjustments made (property rights, conditions of sale, financing, and time/market conditions) be made in sequence and applied to the unit price for each individual adjustment. The balance of the adjustments are combined and applied to the unit price. The resulting unit price (\$/sq. meter) is then multiplied by the size of the property to arrive at the total estimated value. Additionally, the price per unit and likely floor area was also examined, and considered.

For the unfinished constructions, we have assumed an increase in the value of each parcel due to the cost of existing documents, as this would represent a cost savings to a potential purchaser. Because it is unlikely that a potential purchaser would put *exactly* the same structure on the site as referenced in the existing documents, we have assumed that only 90% of the cost of the existing documents (as provided by the City) would be recognized as savings by a potential investor. These figures are included in the estimated value for the unfinished constructions.

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From the resulting estimated value of each parcel, a ratio of between 10% and 50% was applied to estimate starting prices. The range was used to make the less desirable parcels more affordable, with the intention of attracting a higher number of bidders. The more attractive parcels (generally more centrally located), were priced at higher ratios under the assumption that the locations themselves will attract bidders.

It should be noted that these prices assumed typical technical conditions, and that the technical conditions in Odessa are not materially different than those found in Kharkiv. To the extent that the technical conditions are different, it could affect the price. In addition, alternative valuation approaches were not possible due to lack of reliable data. To the extent that more construction cost and market data is made available in the future, it could affect the estimated value.

I sincerely hope this memorandum adequately serves your needs. If you have any questions, please call.

Sincerely,



Erich K. Jacobs
Vice President

attachment: Typical adjustment grid

Appendix V: The Chernihiv Auction and the Chernihiv “official” valuation analysis

AUCTION 6: CITY OF CHERNIHIV, DECEMBER 24, 1994

Highlight: All offered leases sold in active bidding.

Results: Five of five long-term leases sold.

The auction offered the rights to long-term transferable leases (50 years plus 50-year renewable term) to five parcels to build commercial, gas station, and warehouse projects.

Address	Type of Right Sold	Uses Allowed	Land Size (m2)	Starting Price (\$)	Selling Price (\$)
Sports Lane	long-term lease	gas station	1,900	923	4,923
October Revolution Avenue, 114	long-term lease	commercial	1,600	2,692	15,615
Lenin St.	long-term lease	gas station/ parking lot	2,800	1,077	19,230
Instruments St.	long-term lease	warehouse/ garage/office	4,100	1,938	4,076
Instruments St.	long-term lease	warehouse/ garage/office	2,600	769	5,310
			TOTALS:	\$7,399	\$49,154

JSK/jk

Memorandum

To: Deputy Mayor Vergeles
Deputy Mayor Bondarenko
members of the auction working team

From: PADCO

Date: 15 November 1994 *ll*

Subject: land valuation of auction sites

In order to assess the potential value of the sites that will be offered for auction, two analyses were done which represent a modification of the usual method of evaluating "comparables." Under that method, in a market economy, sites of similar size and character which have recently sold are evaluated and their average prices per square meter are calculated, then these similar average prices are applied to the sites in question with adjustment depending on factors of location, surrounding uses, availability of urban services and the potential uses to which the sites may be put.

In Chernihiv there has not been any activity of sales of rights to vacant land for the types of warehousing, garage and gasoline station uses that the auction sites present. The analysis, therefore, has been done using the only market data that is available from four sources:

1. anecdotal evidence of sales of parcels of land for single family houses.
2. the record of sales of the December, 1993, Competition on Privatization of Communal Properties
3. The record of sales of the January, 1993, small enterprise privatization auction and the negotiated sale of the Shevchenko Street unfinished building site.
4. The record of sales of vacant parcels in the Kharkiv land auctions.

Single family house sales

It has been reported that parcels of land for single family houses can be obtained for \$1,500 to \$2,500, or \$1.50-2.50 per m². These parcels are most frequently improved with cottage construction that ranges from \$20,000 to over \$200,000. Land value, therefore, is related to building value in a ratio of 1 to 7.5 percent.

Sales of single family house parcels are not particularly relevant to sales of land parcel rights for objects of market infrastructure or other industrial or service uses, because the valuation of these parcels usually rests upon a calculation by an entrepreneur that, in the given location, he or she can realize a certain level of profit that results from development of the land. Generally, however, it is recognized in market economies that house parcels sell for substantially less than land parcels for commercial uses (perhaps only 10 to 20 percent of the price for commercial land in similar areas of the city). For industrial uses the differences are

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not as great, because generally industrial parcels are of larger size and the profit that is realized from manufacturing or warehousing use, when calculated per square meter, is substantially less than that for commercial sales per square meter. (Industrial and warehouse land prices may be 1.5 to 2.5 times the price of single family house parcels on a per square meter basis.)

Analysis of the privatization competition and auction prices.

The two sales of commercial and industrial space that took place in December 1993 and January 1994, offer a view of how potential investors evaluated commercial opportunities in several parts of the city of Chernihiv. The general results of the auction and competition were somewhat significant because they showed that in a competitive situation (driven by the "demand" side) the resulting prices were significantly higher than the values that were calculated under the "coefficient" system, as mandated by law and regulations. This disparity is not surprising, however, because the coefficients are the result of calculations made from the "supply" side only. That is, they looked at a series of objective factors about the land itself without making any assessment of how and whether profitable activity could be conducted at the site.

The sales involved a range of different kinds of sites, from the standpoint of size, level and type of existing development, and, most importantly, location within the city. As expected, the resulting prices reflect what is known from long experience with urban markets in western cities -- that is, the commercial sites which are located on the busiest streets in the center of the town command the very highest prices, and prices diminish both in relation to distance from the center and in relation to the type of street on which a commercial premises is located.

Since all of the sales recorded were of sites that contain buildings (in varying stages of completion, repair and size in relation to parcel size), it is necessary to consider carefully for each site whether a distinct "land" value can be recognized as part of the value of the site. In a few cases this was relatively easy, because the site has only unfinished buildings on it, or in one case, because the existing building on the site is of poor quality and does not occupy a large part of the land parcel. In other cases, it was easy to determine that land value was not a significant factor because the specific right which was auctioned was the right to occupy storefront floor space in a much larger building occupied by other (usually residential) uses. In such a case, the value of the commercial space would be a contributing factor to the overall value of the land, but a far more sophisticated analysis would have to be done in order to determine its importance.

first analysis: clear land component sites

There were three sites in which the component of land value was fairly easily recognized. These were the glassware building on Furmanova Street, where the building is small, old and not very adaptable to other uses and there is a fairly large portion of the land parcel which is open. Similarly, the "Skaza Tower" site is improved by two unfinished pieces of construction, both of which would need fairly substantial investment to complete. Finally, the unfinished building site on Shevchenko Street had an actual division of its purchase price into a component for the unfinished building 4 billion kbv. and a component for the rights to the land, 1 billion kbv. Although it is unclear how this division was arrived at, it can be

Information of Data on Objects Sold at the Auction
22 January 1994

Name of the object and its address	Object for sale	Data on the building	Starting Price mln. krb.	Sale Price mln. krb.	Value of valuating coefficient
Objekt №2 "Household" Pukhova str. 142	Property and Right for Long Term Lease	Single-storey, attached to multistorey building, total area 614,6 m ² , trade hall area 270,4 m ²	14	500	209/1.031
Objekt №5 "Everyday Goods" Kargin str. 11	Property and Right for Long Term Lease	Inbuild, occupies part of one-storey of building, total area 826,4 m ² , trade hall area 312,6 m ²	6	160	135/1.04
Objekt №10 "Commissionary Shop" Kuzmina str. 55	Property and Right for Long Term Lease	Inbuild, occupies part of one-storey of building, total area 725,8 m ² , trade hall area 486 m ²	22	360	051/1.63
Objekt №29 "Everyday Goods" Pavuchenko str. 36A	Property and building	Separate one-storey building, total area 299 m ² , trade hall area 485,3 m ²	139	520	0.66/2.04
Objekt №30 "Commissionary Shop" Kuzonosa str. 33	Property and Right for Long Term Lease	Inbuild, occupies part of one-storey of building, total area 188 m ² , trade hall area 97,7 m ²	1	1000	013/1.90
Objekt "Woolpaper" Kuznetsov st of May str. 161	Building	Single-storey, attached to multistorey building, total area 205,6 m ² , land parcel 384,8 m ²	99	240	207/1.09
Objekt №125 "Foodstuffs Store" Kuznetsov st of May str. 138	Property and building	Separate one-storey building, total area 127 m ² , trade hall area 40,9 m ² , land parcel 437,5 m ²	27	360	200/1.11
Objekt "Merchandise glassware shop №4" Kuznetsova str. 9A	Property and building	Separate one-storey building, total area 114 m ² , land parcel 374 m ²	5	80	269/0.59
Objekt "Teremok" Kuznetsova str. 1	Property and building	Separate two-storey building, total area 442,07 m ² , land parcel 1064,7 m ²	561	580	228/1.67

**Results of Competition on Privatization of the Objects of Comunal Property
1993**

Part 1

Name of the object	Location of Objects	Type of building	Price of property according to evaluation act	Price of property according to its location	Price --/-- confirmed by competition commission	Selling price of the object of privatization	Value of valuating coefficient	Type of property	Additional information
"Pioneer" ship tower	Central part of the city, Central park	Detached Individual project 1225 sq.m.	601.330	1.022.261	1.022.261	1.100.000	228/1.67	Property	With land parcel in permanent use
Op №45	Muzykalnaya str.7	Detached Single-storey 180 sq.m.	1.052.050	1.783.490	1.788.490	19.100.000	090/0.87	Property	--/--
Property of experimental laboratory (former department of fitted Goods tory)	50-years of Komsomol str. 15	Inbuild Single-storey 157,7 sq.m.	412.681	2.063.405	10.318.000	39.500.000	127/1.04	Long term lease	--/--

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**Results of Contests on Privatization of Communal Property
1993**

Part 2

Name of the Object	Location of Objects	Type of building	Price of property according to evaluation, act mln kbn/\$	Sale Price mln kbn/\$	Value of valuating coefficient Land pcel/ factor	Type of Ownership	Notes
Shop №46	Lenin str. 27	inbuilt, 1-st floor, total area 367.5 sq.m., trade hall area 260 sq. m.	11/275	105/2625	008/2.11	Long-Term Lease	Without a lot
Apartment №68	Odintzov str. 9	Detached Single-storey total area 955 sq.m.	337,7/8040	560/13333	223/1.36	Private	With a lot in permanent use
Factory №1	Instrumentalnaya str. 3A	detached total area 1004 sq.m.	458,5/11463	1000/25000	152/1.31	Private	With a lot in permanent use
Fashion-house	Tekstilschikov str. 5	detached total area 360.2 sq.m.	38,5/963	140/3500	105/0.86	Private	With a lot in permanent use
"Mriya" Dresser's	Oct. Revolution aven. 18	inbuilt total area 232.4 sq.m.	10,5/250	100/2380	027/1.64	Long-Term Lease	Without a lot
Fashion-house №6	Schors str.27	inbuilt total area 483 sq.m.	7,5/167	355/7890	024/1.51	Long-Term Lease	Without a lot
"Detynetz" Bar	Marks str. 18	inbuilt total area 91.9 sq. m.	48,7/1036	310/6596	0.62/2.01	Long-Term Lease	Without a lot

assumed that the unfinished building price represents the amount spent so far on the existing construction. This would be a legitimate method of calculating a land component.

These sites appear fairly easy to view as land value indicators, there is great disparity in their results:

<u>site</u>	<u>parcel size</u>	<u>sale price</u>	<u>price per sq. meter*</u>
Furmanova St.	374 m2	80,000,000	\$8.55
Skaza Tower	1974 m2	1,100,000,000	22.28
Shevchenko St.	410 m2	1,000,000,000	97.00

*note: the conversion of kbv. to dollars was done at the rate of 20,000/\$1 for the December competition and 25,000/\$1 for the January auction and negotiated sale.

Some part of these disparities can be attributed to the location of the sites, because the differences fit the general pattern. The Shevchenko Street site is one of the most desirable in the city, the Skaza Tower site is away from a main street and is a recreation-related site. The Furmanova Street site is far from the center and is on set back from the main street.

second analysis: land with building sites compared to building sites only

Among the 18 commercial sites that were offered in both the competition and the auction, nine were of commercial spaces that were in detached or separate buildings for which rights to the land parcel were made available along with the space lease. In eight other cases space was offered in larger buildings occupied by other uses and no rights to the land were available. Comparison of sites (by per square meter of building area) with and without land rights that are otherwise similar in size and character may yield a differential in per square meter price that could be attributed to the land. The sites are as follow:

<u>sites offered with land rights (\$/m2)</u>	<u>sites offered without land rights</u>
Shop 45 Muzykalna St. (\$52)	Shop 46 Lenin Street (\$14)
Shop 29 Shevchenko St. (\$69)	hairdresser October Rev. 18 (\$40)
Shop 30 Kirponosa St. (\$26)	fashion no.6 Shors St. 27 (\$36)
Shop 125 First of May St (\$113)	bar at Marx St. 18 (\$168)
Teremok Cafe (\$52)	Shop no.2 Pukhova St. (\$32)
Canteen 68 Odintzov St.(\$29)	Komsomol St. 15 (\$12)
Factory 1, Instrumentalnaya St. (\$49)	Shop no. 5, Gagarin St. (\$7.70)
Woolpaper shop, 1st of May St.(\$46)	Shop no. 10 Lenin St. (\$19)
average of sites: \$54.50 per m2	average of sites: \$41.08

The comparison of averages per square meter shows a differential of \$13.42 higher value for the sites with land rights.

When two quite similar individual sites are compared, a larger differential is noted: Shop 29 at Shevchenko Street provides a one story building with total area of 299 m2. It can be compared to the hairdresser shop on October Revolution Street with a total area of 232 m2,

and to the fashion house on 27 Shors Street with a total area of 483 m². The Shevchenko site was sold for \$69/m² of building area including land rights, while the two sites which had no land rights were sold for \$40 and \$36/m² of building area. Some of the \$29 and \$33 differential may be attributed to the value of the land rights that were obtained at the Shevchenko St. site.

third analysis: comparison with the auction prices gained in Kharkov

The most striking feature of the Kharkov land auction in October was the strong difference between the prices gained for the sites in the center of the city compared with those in the outlying areas. The differential between the best, small commercial site in the center city and other commercial sites in outlying areas was up to 50 times. Site 8 sold for approximately \$307 per m² while the lowest priced sites were at \$5.77 and \$6.60 per m². The parking sites also showed disparity. The more central site was priced at \$27.77 per m² and the outlying site at \$9.81.

This is completely consistent with the history of the Chernihiv auction and competition where the best Shevchenko Street unfinished building site had attributed land value of almost \$100 and the Furmanova Street site had value with a building of \$8.55. It also completely consistent with the experience of western cities where large disparities between central city land and outer area land is common. These disparities are more pronounced in larger cities, of course, and is the reason why very tall skyscrapers are a feature of the major world cities. In smaller cities both the differential between center and outlying areas, as well as the basic price per square meter is always substantially smaller than is the case in larger places.

Conclusion

The estimated prices of Chernihiv land parcels has been based on these analyses and on two additional assumptions: (1) This is the first auction of rights to vacant land in the city, and therefore, potential bidders will be cautious. (2) This is a time when, unfortunately, business activity in the city and in the nation as a whole is not strong. Therefore, it is estimated that the values of land in the city are substantially less than those seen in Kharkiv, and are substantially less than would have been the case one year ago.

Memorandum

To: PADCO Auction Team

From: Bill Valletta 

Date: 8 August 1994

Subject: Report on Past Auctions of Chernihiv Real Property Rights

During the year 1993, two auctions of rights to real property were conducted in the City of Chernihiv by the Privatization Department and the city property office. These auctions were organized and conducted by the Chernihiv city officials without any foreign assistance. However, their format was suggested to the local officials after reading about a similar program conducted in the City of Lviv with assistance from a USAID program conducted by the International Finance Corporation. That program is described in the IFC publication of 1993: Mala Privatizatsia B Ukraina, Lvivska Model.

The first auction conducted in September 1993 placed the rights to six apartments, all located in the same building in the Macani rayon, a new apartment complex located on the extreme northwest of the city. The second auction placed the rights to lease 10 commercial spaces and buildings. All the items placed for auction were sold. The apartments brought fairly modest prices, because of the distance of the Macani rayon from the center of town and its poor transportation links. The commercial lease rights brought much better returns to the city. Their prices reflect the obvious pattern one would expect given the locations and characters of the spaces (see below).

For the auction of commercial objects, planning began with the appointment of a 7-member committee consisting of representatives from:

- the communal property fund
- the district council
- the city council
- the city executive committee
- a financial expert
- a lawyer
- a privatization expert.

In addition, for each individual property to be put to auction, a representative from the particular industry council interested in that form of enterprise was consulted.

The consideration of objects to be privatized by auction began with a total list of 80 possible commercial entities that were deemed eligible for privatization. The list was gradually cut down through consideration of existing leases and conditions of the enterprises occupying the spaces. This process involved negotiation with the city Council and led to a vote in the Council in November, 1993, at which 18 sites were approved for

sale at auction. This number was further reduced after it was decided to sell some of them by sealed bid, rather than at the auction.

In accordance with the Law on Privatization, a time period of thirty days was provided during which the public was informed and bidders were able to register. At the start of this period the required information was made public, including:

- location of the commercial spaces,
- conditions of the sale, including the required use of the premises
- starting prices,
- size of associated parcel of land, where applicable,
- number of people employed in the commercial activity.

An extensive media campaign was conducted in the weeks prior to the auction, and there apparently was considerable debate in the city.

Applications by prospective bidders were received up to three days before the auction. Each bidder has to register separately for each specific object on which he intended to bid. The form had to be accompanied by a refundable payment of ten percent of the starting price for the object. The fee was subject to forfeit if the bidder did not attend the auction.

The results of the auction are shown on the attached chart and map. As is evident the most desirable spaces in the heart of the city gained the most interest by bidders and resulted in the highest final prices. One site, a storefront which faces the city's main street on one side and the pedestrian sidewalk leading to the municipal market on the other, was put up with a starting price of only 1 million kbv. After more than twenty rounds of bidding, it sold for a final price of 1 billion kbv. The second most desirable site was also a storefront on the main boulevard, some half-kilometer from the market. This is a somewhat less heavy pedestrian area, thus the final price was more modest.

One site which had a high starting price was a cafe building located in a park about 1-half kilometers from the center of town. This site had received only a small number of interested bidders and received only a single bid at the auction. It sold for only a few thousand kbv. over its starting price.

The deviation among the prices of the other sites appears to reflect the expected factors of location away from the center, size of the space to be rented, and the amount of pedestrian and other traffic that can be expected.

Thus, this commercial auction appears to confirm that there is a competitive market for commercial space in the City of Chernihiv, and that in an open competition, it has behaved rationally.

MEMORANDUM

To: I. Vergeles, Deputy Mayor
T. Mazur, Chief Architect
City of Chernihiv

From: Eric Stotz, Real Estate Valuation Consultant
USAID/PADCO

Subject: Recommended Starting Prices for Chernihiv Land Rights Auction

Date: November 15, 1994

As part of its assistance under the memorandum of cooperation for the Chernihiv Land Rights Auction, the USAID/PADCO consulting team has prepared recommended starting prices for the land parcels at the upcoming land rights auction.

These recommended starting prices have been prepared based on the following factors: the consulting team's extensive experience with real estate valuation and auctions; the experience derived from real estate auctions in other countries throughout the world, and the experiences from the previous auctions held in Kharkiv in January, June and October 1994; a valuation analysis of the land parcels in the context of the local real estate market and development; and the strategic and policy considerations of the City in attracting bidder participation and achieving fair prices for the land parcels.

An overview of the analysis used is discussed in the technical appendix attached to this memorandum as well as various technical analyses. It must be noted that the estimates made were based on the information provided and I have made several assumptions regarding this information, which are detailed in the appendix. To the extent that the information provided is inaccurate, the analysis and resulting estimates are likely to be inaccurate. A summary of the parcels, their estimated market value and their recommended starting prices are presented on the following page.

Summary of Parcels and Estimated Values

SUMMARY OF PARCELS AND ESTIMATED VALUES

TEL No.

Nov 16, 94 15:05 No.005 P.03

Parcel #	Address/Location	Proposed Use	Estimated Value Range				Suggested Starting Price (c) (mln. krb)
			U.S. \$ Total (a)		U.S. \$/ m2 (b)		
			Low	High	Low	High	
1	Unknown Assumed northern district.	Single Family Home Site(s)	\$1,300	\$1,700	\$1.30	\$1.70	31
2	Sportivny Str. Commercial (Gas Station)	Filling Station	\$5,500	\$7,100	\$2.20	\$2.80	1,375
3	Front Parcel (#2) Passage b/t Tychina & Instrumentalnaya Sts.	Offices/Cafe/ Filling Station	\$5,000	\$6,300	\$2.00	\$2.50	1,250
4	Rear Parcel (#1) Passage b/t Tychina & Instrumentalnaya Sts.	Garages/ Storage	\$11,000	\$14,200	\$2.80	\$3.60	2,750
5	Frunze St. #67 Central District	3-4 Story Office Site	\$16,200	\$20,800	\$20.80	\$26.70	4,050

Notes: (a) Rounded to nearest \$100.
 (b) Price per square meter of land area.
 (c) At 25% of "Low" price at an exchange rate of 95,000 krb to \$1 US.

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Technical Appendix

The estimates of market value for the various parcels were made in terms of U.S. Dollars, as market evidence indicated that this is the accepted method of payment. The estimates of starting prices were translated to Ukrainian krb at an exchange rate of 95.000 to \$1 U.S., based on an informal survey of the exchange rate as of the date of this memo.

The recommended starting prices for the land parcels have been established as a percentage of estimated market value for these parcels. The recommended starting prices of the parcels have been set at 25% of the estimated market values of these parcels.

The methodology used for estimating market values for the parcels is summarized below.

Value Estimate for the Single Home Parcels:

The original two locations of the parcels for single family home use were dropped from the auction. Subsequent to my visit, a third area was chosen, reported to be in the northern district of the city.

The single family home sites are envisioned to be 1,000 square meters, equal in size to most sites previously given out by the city for in-town sites. The costs to connect to city services (heat, hot water, water, sewer, etc.) are not known.

In Chernihiv, as in many other cities, "unofficial" home building has occurred in vacant land areas of the cities. Many of the "unofficial" sites built upon by private individuals are reported to be slightly smaller than this, in the 0.04 -0.08 hectare range (400 to 800 square meters).

Reported prices for "unofficial" sites throughout the city are reported to range from \$1,000 to \$2,000 (US). The city doesn't recognize this market as existing, but it is my opinion that in the market for single family home sites, these

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"unofficial" sites provide a choice for potential buyers, and must be considered. Also, due to the lack of any previous official sales of home sites, these sales are the only true market evidence that exists. Once official sales begin, through the auction process, other means, or on the secondary market, these sales will provide better evidence of market value.

There are advantages the "official" subject sites have over the "unofficial" sites including: 1) Official status - this means that there is not the threat that the city or another party would lay a future claim to the sites. 2) The official connection to city services (most private sites are either without or are "unofficially" hooked up). 3) More consistency in neighborhood and conformity to neighborhood - generally, homes in conformity with its neighborhood will command and retain higher values than those not in conformity. Based on these factors, a price somewhat higher than the "unofficial" market would be reasonable for these sites.

According to all sources, the going price for a single family home lot ranges from \$1,000 to \$2,000 range, depending on location. The subject sites are located in the northern fringe area of town. Any locational disadvantage to the unofficial sites is offset by the official status of the subject sites. Based on this, a range of reasonable value is estimated at \$1,300 to \$1,700 (U.S.) per 0.1 hectare site.

Value Estimate of the Commercial Land Sites

Four parcels of commercial land were identified as auction sites. The proposed uses are widely varied, including a small gas station, parking garages, office or cafe, and multi-story office uses. The locations are also widely separated. The most direct method of appraising vacant commercial land is to compare the subject sites with other sales of land for similar uses in similar locations. However, no sales of vacant land have occurred in Chernihiv. However, a number of sites have been auctioned in Kharkiv, a larger city located in eastern Ukraine. In valuing the subject sites, these sales were examined, and, the most comparable sales were adjusted to reflect differences in cities. It should be noted that ideally, a number of sales are used to value one parcel, sometimes up to 7 or 8 sales. However, due to the limited

number of sales that have occurred, we have used fewer than optimal sales for comparison purposes. While this weakens the analysis, there existed sufficient information to make reasonable estimates, which are presented in ranges.

Typically, to perform the sales comparison approach, the subject site being appraised and the selected comparable sale(s) are arrayed on a grid form. The grid is used to make various comparisons of certain aspects of the comparable sale(s) to the subject. Ideally, these adjustments are based on evidence demonstrated by direct comparisons of the sales used within the analysis, but, due to the low number of sales available, and the varying nature of these sales, direct evidence was not available. In lieu of a grid, we have applied adjustments informally, and in general terms on a site by site basis after comparing the auction sites to the most comparable sites in the Kharkiv auction.

One assumption made is that all the sales and the sites currently up for auction are "sales" of similar use rights, that is, the purchaser is buying the right to lease the site for a 50 year period, with an option period of an additional 50 years. Also, no adjustment for differences in financing terms was made, due to the lack of any information on this aspect of the sales. According to sources in the market, due to the inflationary nature of the economy, loans are typically only 3 to 6 months in duration at extremely high interest rates. We have therefore made the assumption that all sales would be in terms of cash. The following paragraphs describe the various sites and the comparables used.

Site 2 (Site 1 is the single family home site discussed above) is a 2,520 square meter site in the northern district of the city with approximately 60 meters of frontage on Sportivny Street. The proposed use is for a gas station. None of the sales in Kharkiv were identified for this use, but a number of the outlying sites would have been acceptable for this use. These sales ranged from \$4.27 to \$6.35 per square meter in price. After adjustments, the estimated price per square meter for this site are in the range \$2.20 to \$2.80 per square meter, or between \$5,500 to \$7,100 (US).

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Site 3 is a 2,520 square meter site in the western area of the city. It is the front portion of a larger parcel that has been subdivided, and is slated for office use. Other appropriate uses could include gas station or cafe use. Office use sites in outlying areas in the Kharkiv auction sold for between \$4.27 and \$4.46 per square meter. This range is slightly lower than found for the above use, but the intended use is generally considered to be a higher intensity use, indicating less of a negative adjustment (from Kharkiv) than for Site 2. Based on this, we have estimated a value for the site of \$5,000 to \$6,300 (US), or between \$2.00 to \$2.50 per square meter.

Site 4 is the rear of the subdivided site between Tychina Street and Instrumentalnaya Street and contains 3,943 square meters. This site is intended for garage or storage uses. There is a demonstrated demand for garage space in the city. A similar site in an outlying area of Kharkiv sold for \$6.35 per square meter. With negative adjustments to reflect the differing sizes and economies between the cities, a range of value of \$2.80 to \$3.60 per square meter was estimated. This results in an overall dollar range of \$11,000 to \$14,200 for this site.

Site 5 is a smaller (780 square meter) site located in the central area of the city (one block from Lenin Street). As illustrated in the Kharkiv auctions, centrally located parcels command an extraordinary premium. For example, while outlying office parcels in Kharkiv sold for between \$4.27 to \$4.46 per square meter, a site near the central part of the city sold for almost \$100 per square meter. The higher priced site in Kharkiv is similar to this site in that it is smaller (700 s.m.), is proposed for office use, and is centrally located. However, the size and economic conditions differences between the two cities require a negative adjustment to this indicator of value. A value range of \$20.80 to \$26.70 per square meter is estimated for this parcel, which results in a total value estimate of between \$16,200 to \$20,800 (US).

The starting price for the parcels are estimated based on a ratio of 25% of the low end of the indicated value ranges. The starting price is translated to Ukrainian currency at an exchange rate of 95,000 to \$1 US.

Chernihiv Land Valuation Study
(using the official methodology for land valuation and taxation)

by Tatyana Kristop
Candidate of Science

1.0 SURVEY OF EXISTING CONDITIONS

To carry out Task 1, the Survey of Existing Conditions, the activities and accompanying documentation of the following organizations has been studied:

1. The City Department of Architecture;
2. The City Department of Land Resources;
3. The Communal Property Fund;
4. The City Administration of Housing-Communal Economy;
5. The Desnjanskiy Rajon Department of Housing-Communal Economy;
6. The City Department of Statistics;
7. The City Department of Environmental Ecology and Economy (Use);
8. The City Sanitary-Epidemiological Station;
9. The City Administration of Environmental Control.

1.1 Existing Land Use Classifications

Review of available statistical data in Chernihiv has given the following information on existing land uses in the City. The City Department of Land Resources annually prepares a land report for the Chernihiv Council of People's Deputies. It includes data concerning total area of land occupied by each land owner and land user, as well as the division of agricultural land into different uses.

The existing land areas in Chernihiv are as follows:

- 1.0 Agricultural Land**
 - 1.1 Arable land
 - 1.2 Perennials
 - 1.2.1 Orchards
 - 1.2.2 Berry fields
 - 1.2.3 Vineyards
 - 1.2.4 Mulberry groves
 - 1.2.5 Hop crops
 - 1.3 Hay meadows
 - 1.4 Pastures
 - 1.5 Land in use for industrial structures and yards
 - 1.6 Land in use for proprietary roads
 - 1.7 Land in reclamation
 - 1.8 Land in fertility restoration
 - 1.9 Land in conservation
- 2.0 Forests and Forested Territories**
 - 2.1 Forested areas
 - 2.2 Patches of forest
 - 2.3 Forest nurseries or forested areas
 - 2.4 Land not covered by forest species
 - 2.5 Forest roads, cuttings or clearings
 - 2.6 Protective plantations
 - 2.7 Bushes
- 3.0 Developed Land**

- 3.1 Residential Land
 - 3.1.1 One- and two-story houses
 - 3.1.2 Three or more story houses
- 3.2 Industrial Land
- 3.3 Open pits, mines, quarries, coal waste heaps, dumps
- 3.4 Peateries
- 3.5 Public structures
- 3.6 Hydrological structures
- 3.7 Thoroughfares, squares and embankments
- 3.8 Transportation and related facilities (railways, roads, navigable waterways, air transportation, pipelines).
- 3.9 Industrial and domestic refuse dumps
- 3.10 Public parkland
- 3.11 Cemeteries

- 4.0 Swamps

- 5.0 Radioactively contaminated agricultural land--not used for agricultural production

- 6.0 Land without vegetative cover (sand, ravines, etc.)

- 7.0 Water
 - 7.1 Rivers and springs
 - 7.2 Channels, collectors and ditches
 - 7.3 Lakes and closed water bodies
 - 7.4 Reservoirs and other man-made water bodies
 - 7.5 Estuaries

1.2 Ownership Information

On the basis of this information, state statistical report 2-zem, "Report on Ownership and Use of Land" (Appendices 2.1 and 2.2) is filed twice a year. Once a year, state statistical report 6-zem, "Report on Availability of Land and its Distribution among Uses, Owners, and Division of Land into Agricultural Uses" (Appendix 3) is filed. The 2-zem form contains information on distribution of land among land owners and land users according to forms of ownership and rights to the land.

In conformance with the existing Ukrainian legislation, the land can be in **state, collective or private ownership**, and in **permanent or temporary use** (including leases).

Land owners and land uses listed in the 2-zem and 6-zem forms are as follows:

- 1.0 **Agricultural Enterprises**
 - 1.1 Collective agricultural enterprises
 - 1.2 Agricultural cooperatives
 - 1.3 Agricultural stock holding companies
 - 1.4.1 Soviet farms
 - 1.4.2 Agricultural research and educational institutions
 - 1.4.3 Subsidiary agricultural enterprises of enterprises, institutions, and organizations
 - 1.4.4 Other agricultural enterprises

- 2.0 **Privately-Owned Land: Citizen-owned land allocated for different uses:**
 - 2.1 Agriculture
 - 2.2 Individual building lots for subsidiary use, construction, and servicing of a house and other economic structures.

- 2.3 Individual or collective horticulture
- 2.4 Construction of dachas or garages
- 2.5 Market gardening
- 2.6 Hayfields and cattle pastures

- 3.0 Housing ("maintenance") organizations

- 4.0 Cultural, scientific, educational, health, social, athletic, trade, and domestic institutions and organizations

- 5.0 Industrial, transportation, communication, and defense organizations and institutions.

- 6.0 Natural conservation, sanitation, recreation, and historic/cultural organizations and institutions.

- 7.0 Forestry enterprises

- 8.0 Water-related enterprises

- 9.0 Enterprises belonging entirely to foreign investors

- 10.0 Joint ventures, international associations, and organizations between Ukrainian and foreign corporations and individuals.

- 11.0 State-owned land not allocated into ownership or use (public land, reserve "fund" of settlements).

Another report filed annually is the state statistical accounting document, "Report of Land Allocated to Enterprises, Organizations, and Establishments for Permanent Use (ownership) for Non-Agricultural Purposes." This report contains data on the allocation of land for various non-agricultural purposes.

1.3 Existing Reports for Use in Land Valuation

A statistical accounting report called the "Method of Determining Land Tax Rates for Different Groups of Soils within Settlements" is prepared annually and contains information on the entire City. According to this report, the urban development value of municipal land depends on the provision of infrastructure, the level of development, and the maintenance conditions of a particular territory. This report contains the following forms:

1. No. 1-zhilfond, "Report on Liquidation of Communal Apartments for 19**";
2. No. 1 - zhkh (winter) "Report on Preparation of Housing/Communal and Social/Domestic Objects for Work under Winter Conditions in 19**";
3. No. 1- vodoprovod, "Report on Work of the Running Water System in 19**";
4. No. 1- kanalizatsija, "Report on Work of Sewage System (Individual Sewage Network) for 19**";
5. No. 1 - gaz, "Report on Work of the Enterprise Managing Use of Network (Liquified) Gas in 19**";
6. No. 1 - tep, "Report of the Enterprise Responsible for Heat Supply";
7. No. 17, "Report on Road-Bridge Economy in 19**."

Together these reports contain information on the floor area of dwelling units, number of apartments, change in the housing stock, availability of services such as running water, sewage,

central heat and gas, the length and capacity of communal networks, and the lengths of all street and road pavements. However, the data gathered in these reports are too generalized for use in evaluation of the land in Chernihiv; departmental statistics are needed.

Data on Residential Conditions: In the individual district Departments of Housing-Communal Economy, the following data on each residential structure are available:

1. Address
2. Month and year of construction
3. Number of stories
4. Wall and roof materials
5. Depreciation rate
6. Condition and amount of depreciation
7. Balance cost
8. Residual cost
9. Gross, net (livable area) and supplementary floor area
10. Number of elevators and refuse chambers
11. Number of apartments; number of rooms and tenants in each
12. Distribution of gross and net floor area by apartment type
13. Communal facilities (running water, sewage, heating, gas, baths, electric stoves, hot water supply, telephone, etc.)

Data on Infrastructure: Consolidated statistical information concerning the engineering (utility infrastructure) of Chernihiv (such as the length and capacity of the networks) is kept by the City Administration of Housing-Communal Economy. More detailed characteristics of the various types of infrastructure and engineering can be obtained from the respective organizations responsible for their operation. Graphic figures at a scale of 1:500 are also kept in the Department of Architecture, and the existing transportation scheme of the city, which effects the development value of any territory, is stored in the transportation and communication department of the Chernihiv Executive Committee.

The organizations responsible for infrastructure and engineering are as follows:

1. "Gordor," the City Road Administration: streets and roads;
2. PUVKH Industrial Administration of the Water-Sewage Economy: running water and sewage networks;
3. "Chernihivteplocommunenergo": heat supply networks;
4. "Chernihivgaz" Industrial Association: gas networks;
5. "Chernihivelectroset" Central Enterprise: electric networks.

For each type of network, these organizations prepare a technical certificate (containing information on the length and width of streets, diameters of pipelines, materials used, slopes, parameters of work, etc.) and executive documentation (executive plans and profiles of the network at a scale of 1:500).

Data on Environment and Ecology: Land evaluation is also affected by the environment and ecology. The following state statistical reports contain quantitative data on atmospheric air, water, and land pollution, but the specific locations of pollution within the City of Chernihiv are not given:

1. No. 1 - okhrana priorodi, "Report on State Control of Environmental Protection and Rational Use of Natural Resources for 19***";
2. No. 2 - TP (vozdukh), "Report on the Protection of Atmospheric Air for 19***";
3. No. 3 - C, "Report on Construction of Water Protection Facilities and Cessation of Polluted Waste Water Discharge in 19**."

In addition, geological and engineering information (topography, hydrology, exogenic processes, and soil types), which affect the cost of construction on any plot, can be obtained from materials of the GIINITIZ Institute of Engineering and Technical Survey.

Local bodies and stations of the "Hydrometeoroservice" and sanitary oversight (at Gorses, the City Sanitary-Epidemiological Station) monitor atmospheric air conditions in Chernihiv.

Hydrometeoroservice has organized surveillance at stationary posts, and Gorses has stationary and mobile posts that determine volumes of harmful substances discharged. Gorses also analyses the state of soils, groundwater and surface water. However, because of the insufficient number of sanitary posts for surveillance of bacteria and chemicals in soils, it is not possible to fully characterize the level of pollution.

All together, the available statistical data is insufficient for determining the ecological condition of the territory of Chernihiv. Special investigations to add more data were carried out in 1990 when developing the comprehensive plan of natural preservation for Chernihiv. On the basis of this data, areas of chemical, radioactive, noise, electromagnetic, and other kinds of air and soil pollution were determined, as well as territories for natural preservation. However, the one-time character of this work does not make it possible to consider it a valuable source for continually updated information on the environmental condition of the territories. At present, a computer system for ecological monitoring is being created for Ukraine. Chernihiv is participating in this work. After this system is ready, it will be possible to get accurate information on pollution of any plot from all kinds of sources.

1.4 Creation of Urban Development Cadaster

Analysis of the existing state and departmental statistical accounts and reports has shown that they cannot ensure complete evaluation of the land in Chernihiv. Thus it is necessary to create and maintain urban development Cadasters in the City.

According to Article 23 of the Law of Ukraine, "On the Basis of Urban Development," an urban development Cadaster is a system of orderly and arranged "...information on territories belonging to respective functional zones, their present and prospective designation, ecological, engineering/geologic conditions, state of development and provision of communal services, characteristics of buildings and structures on land of all forms of ownership," information confirmed by documents. The objects registered in the urban development Cadaster include parcels of land, buildings, structures, communal networks (running water, sewage, heat supply, gas supply, electric supply network), streets and roads, and various territorial zone designations (functional, preservation, and those characterizing the ecological and engineering/geological condition of territories within the City).

A list of data to be stored in the urban development Cadaster is determined in the State Construction Norms B.1-1-93, "Order of Urban Development Cadasters Establishment and Maintenance." It includes legal, metric, technical, functional and price indices, plans or diagrams of objects, and geographic coordinates which make it possible to determine the locations of objects in relation to each other.

The basis for carrying out this kind of work in Chernihiv already exists. The City Department of Architecture maintains a continually updated plan at a scale of 1:2000 on which are marked all changes that take place in the territory of the City. It is assumed that the data on this plan will be entered into a computer. To create an urban development Cadaster, it is necessary to collect information on every object registered in the continually updated plan, and to approve by a decision of the City Soviet of People's Deputies a procedure for updating Cadaster information described above in the aforementioned norms. This information should also include the Cadaster price (appraised cost) of land which, in conformance with the Law of Ukraine "On Payment for Land" is

the basis for determining payment for land. It will make it possible to introduce monitoring of the City's environmental state and to determine the value of land without additional expenses connected with the collection of information.

2.0 ASSESSMENT OF THE POSSIBILITY OF USING THE EXISTING INFORMATIONAL SYSTEM FOR LAND VALUATION

In accordance with Ukrainian Law on the price of land, regulation of land relations is done by fixing and charging a normative land price or land tax whenever land is transferred into ownership or allocated for use. Because the price of land is equal to hundredfolds of its land tax rate, the main task of land valuation in Chernihiv is to determine tax rates for parcels of different uses.

The determination of land tax rates was done in accordance with "Methods of Fixing Land Tax Rates for Different Types of Soils within the Borders of Settlements," approved by the Ukrainian State Committee of Land Resources and coordinated with the Ukrainian Academy of Agriculture. In determining specific land tax rates in Chernihiv, the following factors were taken into consideration:

1. The number of inhabitants of the city;
2. The place of the city in the system of settlement (oblast center);
3. The historical and architectural value of the city;
4. Territorial and planning characteristics (distance to the center, proximity to industrial activities, social services, and recreation, and distance to transportation links);
5. The functional use of a territory;
6. The condition of infrastructure and amenities, (presence of paved streets, centralized water supply, gas and heat supply, and sanitary sewer);
7. The environmental condition of a territory (proximity to sanitary and water preservation zones, level of air and land pollution, level of electromagnetic field voltage, noise, and level of vibration);
8. Presence of historic and cultural monuments, or location within a reserved or regulated zone;
9. Recreational value of a territory;
10. Technical and geological conditions (slopes, bearing capacity and thickness of soils, distance to water table, floodplain characteristics, presence of marshes/wetlands, and areas of ravines/karst).

On the basis of these factors, four valuation zones were demarcated. Within these four zones, another 305 valuation sites were demarcated, based on natural or man-made features (rivers, streets and roads, railways, etc.) and on homogeneity of uses. The value coefficient of the territory was calculated for every zone and site, and have to be used for fixing the land tax rates for each land site.

The results of the calculations are presented in the table below. All results were entered into a computer.

Evaluation zone	Urban Territory Value/Zoning Factor	Administrative District	Evaluation Site	Summary Local Factor

This system created information on the location (coordinates) of the city and valuation sites, as well as valuation factors for every site reflecting the influence of the aforementioned factors on land tax rates. In addition, information on some planning factors that influence the valuation of these sites are also stored in the information system, including information on historic/environmental preservation zones, transportation access to the city center by public roads, and a scheme of the

sanitary conditions of the City. The information system now includes the locations of the borders of the following zones and territories:

1. Preservation territories;
2. Development regulation zones;
3. Historic landscape preservation zones;
4. Cultural layer preservation zones;
5. Archaeological preservation zone;
6. Architectural and historic monuments preservation zone;
7. Areas 15, 35, and 45 minutes from the center of the City;
8. Sanitary protection zones and sites;
9. Air pollution zones;
10. inundated/wetland territories with ground water tables higher than three meters;
11. probability floodplains.

Thus the information prepared at this point is helpful and necessary but not sufficient for complete land valuation in Chernihiv. To provide full information for valuation in this process, it is necessary to create an urban development Cadaster. At present this work is being jointly carried out in Chernihiv by specialists of the Chernihiv City Council of People's Deputies, the "Dipromisto" Institute and the "Topas-Inform" Scientific-Industrial Association.

A graphic database reflecting the functional zoning of the City territory (residential and industrial districts, transportation and engineering infrastructure, medical/sanitation facilities, sport facilities, water bodies, and open space) as well as the territories of adjacent rural settlements, has been created at a scale of 1:10,000. When working with this database, one can identify the location and characteristics of various systems or objects. Certain systems (current networks, electric networks, etc.) are shown with both graphic data and text, giving the quantitative and qualitative characteristics of the system. In order to work with an urban development Cadaster, it will be necessary to enter larger scale maps (1:2,000 and 1:5,000) into the computer and develop a data base for all Cadaster objects and systems as soon as possible.

3.0 MARKET ASSESSMENT

3.1 Trends in Land Tenure and Market Prices

Trends in land prices and land tenure in the Chernihiv region are assessed from the January 1, 1994 land account of the Chernihiv City Rada of People's Deputies.

The total land area within City administrative boundaries is 7,132 hectares, out of which City lands constitute 6,640 hectares and lands beyond the boundaries of the City in the territory of Chernihiv District constitute 141 acres.

Uses of lands within City administrative boundaries include the following:

<u>Use</u>	<u>Hectares</u>
Multistory Buildings	674
Public Buildings	440
Industrial Uses	812
Streets and Squares	273
Common/Public Green/Open Space	470
Individual Subsidiary Plots/In Use by Individuals	1,216
Collective Orchards	272
Home Gardening	54
Forests	60
Shrubs	76
Water Bodies/Inundated Land	334
Wetlands, Swamps, Marshes	75
Roads and Highways	44
Railway Transport	332
Cemeteries	24
Industrial Waste and Refuse	29
Special Territories	235
Other Territories	220

The City Rada of People's Deputies also administrates lands beyond the boundaries of the City in the territory of Chernihiv district. Uses of these 141 hectares are as follows:

<u>Use</u>	<u>Hectares</u>
Town Dump	29
Zarichne	26
Cemetery	34
Astra	38
Bilova Street	9

The land uses in the 492 hectares of Chernihiv district include the following:

<u>Use</u>	<u>Hectares</u>
Agricultural Lands	410
Forests	14
Shrubs	17
Swamps, Marshes, Wetlands	4
Water Bodies/Inundated Land	5
Industrial Uses	40
Other	2

Major changes in land tenure took place between January 1, 1993 and January 1, 1994. According to data supplied by the land resources department of the Chernihiv executive committee, the following amounts were allotted from the land reserve for various uses:

<u>Use</u>	<u>Hectares</u>
Construction of industrial enterprises, transport, defense and communication	10
Expansion and development of the City	49
Collective and individual orchards	6

The total area of arable land increased by 4 hectares in 1993, due to a gain of 5 hectares of land covered by perennial plants and a loss of 1 hectare of arable land.

The realization of land reform has caused changes in the amount of land in various forms of ownership. In accordance with legislation, the change mainly affected the amount of land transferred to individuals for private ownership and use.

Table 1:
Distribution of Lands by Form of Ownership, January 1993-July 1994

<u>Form of Ownership</u>	<u>1/1/93-1/1/94</u>		<u>1/1/94-1/7/94</u>	
	<u>Hectares</u>	<u>% Change</u>	<u>Hectares</u>	<u>% Change</u>
Individual subsidiary plots for housing construction/maintenance:				
For permanent use from state land resources	+5	+0.4%	0	0
For private ownership	+5	+0.4%	-2	-0.2%
For collective ownership	0	0	+2	
Allotted to individuals for construction of dachas and garages:				
For permanent use from state land resources	+3	+7.5%	0	0
For collective ownership	-2	-5.0%	-17	-45.0%
For private ownership	+5		+17	+340%
For collective ownership	0	0	0	0
Allotted to individuals for collective and individual orchards:				
For permanent use from state land resources	-47	-15%	0	0
For collective ownership	-120	-45%	-66	-45%
For private ownership	+67	+126%	+56	+47%
For private ownership	+6		+10	+167%

Table 2:
Distribution of Purposes for which Lands Were Allotted, January 1993- July 1994

<u>Land Use</u>	<u>1/1/93-1/1/94</u>		<u>1/1/94-1/7/94</u>	
	<u>Hectares</u>	<u>% Change</u>	<u>Hectares</u>	<u>% Change</u>
Individual subsidiary plots for housing construction and maintenance	-30	-0.2%	0	0
Construction of dachas and garages	-380	-0.2%	0	0
Collective and individual orchards	-915	-16%	0	0

Table 1 shows that the land privatization process is more active in the current year. The changes that took place in the previous year were mostly in the lands allocated for collective ownership and collective and individual orchards. Table 2 shows that in 1993 there was a process of alienation of land plots in town that were used for home gardening, individual houses, and collective or individual orchards. There was an insignificant increase in the amount of land allotted for subsidiary home gardening and construction and maintenance of houses. This was obviously done by some individual landowners to increase their holdings. There was only a 2% increase in the amount of land received by individuals for construction of dachas and garages.

In 1994, there has been no increase in the number of land owners and land users of the lands under consideration.

Table 1 also shows that in 1994 there has been an increase in the areas of lands allocated to individuals. It is well known that there is an active process of construction of individual houses, garages, and dachas by City residents, and that land plots are being allotted for collective and individual orchards and for individual subsidiary gardening. New plots of land allotted for these purposes are allotted beyond the boundaries of the City, and therefore these are not reflected in state statistics. In Chernihiv itself, a redistribution of available land towards private and collective ownership is occurring.

3.2 Functional Uses of Territory in Chernihiv

Functional uses of lands in Chernihiv depend on the pre-existing structure of the City's territory. According to the concept plan for development of Chernihiv, the planned structure of the territory has the following characteristics:

Residential Areas: The main area of housing construction consists of a network of small blocks, radiating from the main street (Lenin Street) to the north and east. These blocks continue to the periphery of the City to an area of microdistricts in the zones of multi-story housing construction. To the west, residential blocks are mixed with industrial enterprises, especially along the railroad. Here, more of the houses are individual one-story cottages, most of which are located in Leskovitse and in the central part of the City.

Central Area: It is possible to distinguish three residential and industrial districts in the developed part of the City: Central, Eastern, and Western. The central area borders the Strizhen River in the east and the railroad in the west. It is an administrative, historical, cultural and trade center. Housing construction in the historical area is allowed selectively. Large-scale construction goes on in micro-districts along Lenin Street and in central and northern parts of the area. In this district of the City, a reconstruction of the residential area is planned. Plans call for replacing the run-down housing stock and preserving its historic character. A considerable number of industrial uses are concentrated in the northern and western parts of the area. These form industrial "junctions."

Eastern Area: The Eastern Area is separated from the central area by the Strizhen River, and is located along two radial highways (Shevtchenko Street and Gagarin Street) that are joined by Rokosovsky Street. Here there is more multi-story housing construction. Several nine-story houses have already been constructed here, and construction of a new micro-district, "Belovo-Kontsevaya," has begun. There are also plans to develop the micro-district "Shevtchenko-Malinovsky."

The public centers of the Eastern Area are formed in the "Piat Uglov" district and along Rokosovsky Street. In this district are the town park, the "Rayevtchina" forest area, with a system of ponds formed by part of the Desna River with bottom lands. Industrial enterprises do not occupy any significant part of the district's territory. Individual housing construction is carried out in the areas closest to town in the residential districts of Borovitsa and Aleksandrovka.

The planned western section of the Eastern Area borders on the railroad to its east and the Belous river and forest to its west. Its particular feature is its isolation from the center of the City and the large number of industrial and commercial enterprises located within its area.

All of the multi-story housing construction in the Eastern Area is carried out in the Masany residential district. Considerable individual housing construction is occurring in the adjacent villages of Kienka, Radianska Sloboda, and others. Large areas are in use for industrial and communal (public) activities. The largest of these are the "Chimvolokno" industrial association, the worsted wool factory, and the

district heating plant. Further residential development in this area will depend on the elimination of the City dump and the reclamation of this area.

Northern Area: In the Northern Area, there is a territorial reserve for industrial and communal (public) development. Some of these industrial enterprises (including the furniture factory, auto-related uses on Lenin Street, City oil storage, and grain storage) are located in residential areas very close to housing sites. In many cases, there are no provisions for sanitary conditions.

Recreation Zones: The recreation zones of the City are located on the banks of the Desna River, the water reservoir, and the Strizhen River, and in forested areas.

Historic/Cultural Zones: A considerable number of monuments of history and culture of great value limit the conditions for development of City territory. The development zones that need regulation of architecture spread over a vast area, including bottom lands, the central part of the City, and a large part of the industrial territory. The architectural reserve territories include the central architectural complex, Eletsky Monastery, the architectural and historical complex on Boldin Hills, and Piatnitskaya Church. The Monastery and Church are in the central part of the City.

The protected zone of the historical and cultural layer located in the central part of town includes Piat Uglov square to the east, the area south of Schevtchenko Street, and part of the Boldin Hills to the southwest.

Natural Preservation Zones: The next zone of protected land occupies most all of the bottom land on both banks of the Desna River and the adjacent territory of the Strizhen River. This territory has some development in its northern areas. The natural protection zones also include Boldin Hills, Proletarsky Gai, Yalovtchina, the City park, and Magistratsky and Glushetsky forest parks. These are dispersed throughout the City, but are located mostly on the bottom lands of the Desna and Strizhen Rivers. One shortcoming of the City's development is the use of especially valuable territory for construction of dachas in the Proletarsky-Gai district.

Industrial Zone: The industrial zone, which is rather large, extends mainly along the railroad from north to south in the City, extending well into the northern and especially the southern parts of the City. Unfavorable environmental conditions in Chernihiv are connected with the particular industrial uses of these territories. A large area of environmentally harmful chemical and textile production and the district heating plant are located in the southwestern portion of the City. There is also considerable pollution in the northern industrial district and in the center of the City.

Environmental conditions are further affected by the railroad, with its many side-tracks, and the military airfield, which is close to the City and causes noise pollution. The airfield and the T.V. center cause electromagnetic pollution in the districts of Belova Street, Koltsevaya Street, Pukhova Street, and part of the center of the City. In these districts, air pollution is from 5 to 10

With respect to the environmental condition of the soils, these areas can be divided up as follows:

1. **Very contaminated soils:** These soils are close to industrial enterprises in the northern, central and western parts of the town, and around the district heating plant. These occupy 7% of the City's territory;
2. **Moderately contaminated soils:** These are close to other industrial enterprises and occupy 21% of the City's territory;
3. **Lightly contaminated soils:** These occupy approximately 61% of the City's territory.

The most dangerous area with respect to radiation and heavy metal contamination are the northwest and southwest districts of the City, and part of the center of the City. The most dangerous polluted areas are

the City dump in the northwest section of the City and the sedimentation basins and sumps in the western part of the City.

3.3 Future Development Directions

The probable future trends in land use in Chernihiv will likely be categorized as follows:

1. The City should see a transition from spotted, isolated City development to regional, interrelated development with relatively small settlements (15,000-20,000 residents) along the major lines of communication. These settlements should be formed in the manner of the adjacent population points (Mikhailo-Kotsubinskoye, Ivanovka Village, Kolytchovka, and Anisov) and treated as out-of-City settlement of City population.
2. Development of Chernihiv will extend beyond the existing administrative boundaries of the City through construction of small houses and cottages, in the manner of the existing settlements. This development should be done on lands that are not suitable for multi-story buildings. This type of development will also involve creation of public centers outside the City.
3. Preservation and development of open space on the outskirts of Chernihiv will prevent encroachment of the City and adjacent settlements. This especially concerns the western and eastern boundaries of the City.

After consideration of several alternative projects, the following plan for development for Chernihiv was accepted:

1. Approximately 40% of the multi-story construction should be located on sites within the City (Masany, Belova-Koltseva, Malinovsky, Tcheskovitsa, and others). However, most of the new construction projects should be located in areas outside the City. There are plans to create residential areas in "Aerodrom" in the northern area, "Belous" in the western area, and "Bobrovitsa" in the eastern area (see Table 3).
2. From all of the alternative sites for construction of homesteads, the territory in the area of Mikhailo-Kotsubynskoye and the villages of Ivanovka-Kalytchovka and Anisov was selected. 18,300 homesteads are planned for these areas.
3. Development of the territory close to the Villages of Kienka, Stary Belous, and others has already started (see Table 4).

First Development Stage: It is assumed that during the first stage of plan implementation (1994-2005) the available sites within the City and the sites beyond the boundary to the west (extending up to the circuit highway) will be used for residential construction. Construction of individual homes is planned in the territories where this development has already started: Kienka, Stary-Belous, and Mikhailo-Kotsubynsky.

Second Development Stage: From 2005-2015, construction of multi-story residential buildings is planned on the territory of the airfield (provided the airfield is relocated). Alternatively, multi-story buildings would be constructed in the residential areas "Belous" and "Bobrovitsa." Construction of one-story (individual) houses would be started in the Villages of Kolytchovka-Ivanovka and Anisov.

Altogether, the concept suggests that a new City development structure called the “Chernihiv Region” should be formed. The Chernihiv Region would include the following administrative and territorial units:

- Chernihiv district (within the green zone)
- Mikhailo-Kotsubynskoye

Villages:

- Ivanovka
- Kalytchovka
- Anisov

Inhabited Parts of Collective Farms:

- Ukraine
- Progress
- Urozhai
- Novy Shliakh
- Avangard
- Voikova
- Frunze
- Im. Komka
- Gerasimenko

**Table 3:
Proposed Location of Multi-Story Residential Developments in Chernihiv**

Area in Multi-Story Developments in Hectares:

<u>Site</u>	<u>First Stage</u>	<u>Second Stage</u>	
		<u>Version 1</u>	<u>Version 2</u>
Masany	126	-	-
Belova-Koltsova	20	-	-
Malinovsky (radio factory)	16	3	3
Separately located houses	8	5	5
Reconstruction	23	35	35
Leskovitsa	20	-	-
Belous	150	20	255
Bobrovitsa	-	-	65
Aerodrom	-	375	75
TOTAL	363	438	438

**Table 4:
Proposed Locations of One-Story Houses with Subsidiary Plots (Homesteads)**

Area of the territory in homesteads, hectares:

<u>Site</u>	<u>Total</u>	<u>Stage</u>	
		<u>First Stage</u>	<u>Second Stage</u>
Villages of Kienka, Stry-Belous, Radianska Sloboda (Plots allotted)	700	700	-
Mikhailo-Kotsubynskoye	750	250	500
Village of Ivanovka-Kalytchovka	780	180	600
Anisov Village	720	180	540
TOTAL	2950	1310	1640

3.4 Land Valuation Zones

As there is no legal, established land market in Chernihiv, it is impossible to fully evaluate the real market price of land. It is only possible to speak about the relative value of different City territories. It is possible to determine the relative value of these territories by taking into account the groups of soils within the boundaries of the populated areas.

Based on this methodology, four different development valuation zones are distinguished within Chernihiv.

First Value Zone: The first value zone includes the nucleus of the City center: The trading center in the northern area, the everyday service enterprises, and the hospital complex. In the east, it is bordered by Uritsky Street and Karl Marx Street. In the south, the borders are formed by Komsomolskaya Street, and 25 Zhovtnia Street. This zone contains many monuments of architecture and archaeology as well as administrative and trade buildings.

Second Value Zone: The second value zone includes the central part of the town. Its boundaries are drawn to include those areas that are within 15 minutes of the City center. In the north, the border is Gorky Street and Decabristov Street. The eastern borders are Taraschanskaya Street, Telmana Street, and Petrovskogo Street. In the south it spreads over the bottom lands of the Desna River, including the sea station. The border then goes along Leskovetskaya Street up to the intersection with Tolstogo Street. In the west, the zone extends to Decabristov Street and runs along Revutskogo Street and Voksalnaya Street. It includes a block of multi-story buildings on Stchorsa Street, then runs along Suvorova Street up to the intersection with Tolstogo Street.

Third Value Zone: The third value zone is the largest in terms of territory and has the greatest density of industrial enterprises. The northern boundary coincides with the circuit highway and then almost exactly with the City boundary. In the east it includes the radio factory and then runs along Odintsova Street. Near the cemetery it adjoins the aquatory. The northern boundary includes industrial and communal areas located along the railroad and along the following streets: Furmanova, Elevatornaya, Krasnoselskaya, Glebova, Primakova, Dneprovskaya, and Tsialkovskogo. It continues along the southern boundary of the technical fiber combine and the reinforced concrete plant, and then runs along the railroad to the Desna aquatory.

Fourth Value Zone: The fourth value zone includes the peripheral part of the City territory. Its outer boundary is the same as the City boundary. This zone includes the Masany residential area in the northwest; part of the Podusovka district in the west; the Sapadny settlement in the southwest (where environmentally hazardous fuel storage houses are located); industrial enterprises and the district heating plant in the south; in the east and southeast, flooded meadows, pasture, and dachas of City residents; and a rubber factory, microbiology plant, and district of individual housing construction in the northeast; and to the north, the town water supply, dachas, and construction of individual homestead-type residences. The sites for the proposed multi-story housing projects are also within this value zone.

The City territory is divided into 305 smaller value sections. These are divided by use as follows:

<u>Type of Value Section</u>	<u>Number</u>
Residential	148
Industrial	60
Collective orchards	14
Garage construction cooperatives	13
Everyday services	10
Parks, squares, bottom lands	18
Recreation zones	9

Cemeteries	6
Ministry of Defense	4
Other	23
TOTAL	305

Each zone has an established coefficient of value of the territory. If, in general, the local value coefficient differs slightly from zone to zone, the variation of coefficients within zones is considerable. The total coefficient value in the City is estimated as 1.23, with a range from 0.46 to 2.62.

Zone	Coefficient of Zone Value	Number of Value Sections	Range of Local Value Coefficients	Total Coefficient Value of Zone
1	2.2	15	0.86-1.19	2.29
2	1.75	56	0.57-1.31	1.69
3	1.25	164	0.46-1.34	1.15
4	0.87	74	0.52-1.22	0.88

The average total coefficient of the zones occupied mainly by housing is 1.18, ranging from 0.46 to 1.77. The average total coefficient of those occupied by industrial enterprises is 1.31, with a range from 0.82 to 2.02.

The potential market price of land in Chernihiv can be estimated from the results of competitions and auctions for the privatization of state and communal property. In those cases when the "object" of auction/competition was transferred to private ownership, the land plot on which the "object" is located was also transferred for permanent use to the purchaser, and the purchaser was given priority right to redeem the land plot in accordance with Ukrainian law (Article 27 of the Law of Ukraine, "On the Privatization of State Enterprises Property"). Therefore the price of the privatized "object" reflects the interest to the land plot. The Land Code of Ukraine (Articles 6, 52, 57, 62) and the Decree "On Privatization of Land Plots" of February 26, 1992 grants the right to privatize land plots for the following purposes:

1. Subsidiary individual homesteads;
2. Construction of individual houses;
3. Orchards
4. Construction of dachas and garages.

The demand for various categories of land can be characterized by data received from the land resources department of the Chernihiv executive committee. By law, privatization of state housing began in 1993. The number of residents of Chernihiv who have the right to privatize land plots was 34,609 persons in June, 1994. The City Rada of Chernihiv has received 322 applications for allotment of land plots to private ownership, including 36 applications for plots for individual housing construction (a total of 3.1 hectares), and 286 applications for orcharding (19 hectares). The Rada considered 280 applications and decided to allocate 272 plots, including 24 for individual housing construction (2.0 hectares) and 248 for orchards (16.3 hectares). The Rada has issued 272 state Acts granting the right to private land ownership. These land plots were transferred to private ownership free of charge.

Type of Application	Number Received	Total Hectares	Number Granted	Total Hectares
Housing construction	36	3.1	24	2.0
Orchards	286	19	248	16.3
TOTAL	322	22.1	272	18.3

For privatization of unfinished buildings and fueling stations, which by law can be privatized together with the land on which they are located, the price of the privatized building also includes the price of the land plot. However, none of these were privatized in Chernihiv. Thus it is impossible to say what the market price of this sort of land is in the City.

Table 5 gives the data from state statistics on privatization of state housing during 1993 and 1994. However, these data are not sufficient to judge the market price of land because privatization of the normal total area of an apartment (18 square meters per person plus 10 square meters per family) was done free of charge. Excess space was paid for based on the residual value of the living "stock," which does not take into account the location of the residence.

Table 5:
Privatization of the State Housing Stock

Type of Housing	Date	Number of Dwellings	Number of Persons	Total space (square meters)	Initial cost (1000 krb)
Privatized housing stock:	1993	7052	-	327,034.8	163,521.40
One-room apartments		2422			
Two-room apartments		3003			
Three-room apartments		1452			
Four-room apartments		170			
One-apartment house		5			
Number of persons privatizing own housing:			13,184		
Free of charge		6900	1300	319116.8	159562.40
Surcharge		152	184	7918.0	3959.00
Privatized housing stock:	June 1994	4153	-	199276.1	286799.80
One-room apartments		1280			
Two-room apartments		1709			
Three-room apartments		996			
Four-room apartments		167			
One-apartment house		1			
Number of persons privatizing own housing:	8743				
Free of charge	4007	8541		191334.3	272721.40
Surcharge	146	202		7881.5	14048.20

The total number of apartments in the state housing stock in January, 1994 was 64,893.

The housing market has started to be formed in Chernihiv, but deals are not always "legal:" the officially named sale-purchase price which is taxed is very often much lower than the price actually paid when one sells a plot of land, but documents are drawn up as if there is a sale of a house, etc.

It becomes clear that data on market prices that the location of the land plot on which the house is located is of little importance for the formation of housing prices. For example, similar apartments located in different locations in zones of different development value often have the same price. As it has turned out, it is more important to take account of non-formalized factors in estimating the district's development value as "prestigious" or "not prestigious."