The Value of Underground Rights – A Study of Tieback Transactions, Seattle, WA

Description of Tieback Acquisitions

The Seattle area is an active development environment, resulting in new construction of substantial structures. Many of the new buildings have subterranean parking below the buildings, requiring excavation below ground prior to foundation and structure construction. This subsurface excavation requires shoring of the typically vertical basement walls. The shoring is normally accomplished with a combination of soldier piles (vertical steel piles) and tieback anchors, which extend underground somewhat perpendicular to the shoring walls at a downward angle. The tieback anchors hold back the basement walls under tension for a period of time, and are detensioned and abandoned after the subterranean floors are constructed (which then hold out the walls by compression from the inside of the completed structure). The tieback anchors are constructed by drilling holes out from the basement wall into the surrounding soil, then inserting steel and grout to create an anchor affixed to the wall.

Since these commercial properties are normally built out to the property line boundaries, the soldier piles and tieback anchors are often situated on or underneath adjacent properties, thus requiring the acquisition of underground easements or licenses from adjacent property owners. The resulting market transactions of underground interests form the basis for the sale comparison approach for the subject properties.

We have identified a wide range of recent transactions of subterranean interests in properties in the Seattle area. Please refer to the preceding list of these transactions, and to the attached map and photographs for our representation of this comparison data. These direct transactions provide evidence of value for underground interests.

Transaction Comparisons

57 transactions between 1994 and 2007 are summarized in the table below. For each transaction, we have attempted to obtain the publicly-recorded documents, and to speak with knowledgeable parties who were familiar with the transaction. The following discussion of Transaction No. 1-A is illustrative of the data we gathered on each transaction, the issues surrounding similar transactions, and the units of comparison and analysis that was performed.

T. Jones Inc., an experienced multifamily developer, proposed to build a 26 story multi-family tower with 8 underground parking levels at 1420 Terry Avenue in Seattle. In order to construct the underground portion of the property in a cost efficient manner, the developer desired to use adjacent properties, on a temporary basis, for the purpose of installing vertical soldier piles and subterranean tieback anchors to shore up the basement walls during construction. The property adjacent to the east is the Avanti Apartments, a 6-story 93-unit condominium/apartment property located at 1401 Boren Avenue.

In early 2000, T. Jones (grantee) negotiated with Avanti Apartments LLC (grantor) for acquisition of the interest. After negotiation, the terms and conditions of the transaction were finalized, and an agreement was signed and notarized on April 21, 2000. The agreement is titled a "License Agreement for Construction Purposes". The rights granted include temporary use for underpinning, including soldier piles and shoring tiebacks, to be abandoned in-place after construction, and temporary airspace for a crane overswing. The grantee is to maintain a commercial general liability insurance policy with limits of $1 million per occurrence and $2 million in aggregate. The grantee agrees to pay $50,000 within three years of execution of the agreement, with the license to remain in effect until the earlier of the completion of construction, or three years from the commencement of construction, but not later than 10 years from execution. Because of the potential for damage during construction, the grantee agrees to pay for an inspection of the grantor's property in advance of construction, with a mutually agreed-upon professional inspector. Subsequently, the grantee is to promptly repair any damage to the grantor's property that is caused or exacerbated by construction work. Following completion of construction the exterior on the Avanti condominiums were to be professionally cleaned at grantee's expense.

The Avanti condominiums were assessed at that time for nearly $6 million, and had a market value that may have been about double that figure. The $50,000 payment for the partial interest in the property represented about 0.84% of assessed value, and less than 0.5% of market value. Alternatively, the land is zoned HR at a size of nearly 28,000 square feet (sf), and recent transactions at that time indicated value in excess of $100/sf, so the transaction may indicate about 1% of land value. Alternatively, we calculate the volume of subterranean land encompassed by the tieback anchors at about 400,000 cubic feet, with a transaction indication of about $.13/cf. The length of the property boundary and of the shoring system is about 103 lineal feet, indicating about $485/lf. The projected aerial extent of the underground tieback area is about 10,500 sf, with an indication of $4.75/sf.

In this instance, the tieback anchors were fairly close to existing foundation elements, and there was presumably some potential for damage. Neither party expects damage, and the agreement specifies the grantee is completely responsible for damage, without limitation, and with adequate insurance. The provision for cleaning the building is presumably related to the potential for dust during construction, and does not appear relevant to the analysis of the subject properties. Likewise, the airspace easement for the crane is not required for the subject properties, and may have impacted the amount of monetary payment for this and some of the other transactions. In any case, it is clear that both parties were knowledgeable, well-informed, and negotiated a market transaction price for the overall interest transacted. The other comparisons were similarly researched and analyzed.

Conclusions

In summary, the 57 transactions provide a basis for characterization of value and damages for underground property interests. We have considered all of the listed factors in our analysis of this complex data set. It appears clear that these market transactions have both fixed and variable components and the actual amount of consideration is highly variable and related to many different factors. Relative to our appraisal definitions, we have considered the group indications of mode, median, and average in the context of interpreting "most probable". Many transactions have no payment, while some transactions appear anomalously high, and there is significant noise in the data. Certainly, the grantees are usually knowledgeable, and their alternatives to acquiring interests on adjacent properties are sometimes limited or costly (internal bracing, upsizing soldier piles, smaller excavations, etc.), so some buyers are highly motivated.

Please refer to the following analysis of the transactions. The entire sample is analyzed on the basis of total, mode, median and average for the most relevant indications and units of comparison. These analysis units of comparison are total consideration value, value per lineal foot, and consideration as a percent of assessed value. In addition, several sub classifications of the sample have been individually analyzed using the average statistic. Some of the properties are near downtown, and some are not. Some of the transactions involve interests or tiebacks that are underneath buildings, while some do not. While the assessed value and other property characteristics of these sub samples are more similar, the total consideration paid for tiebacks underneath buildings is higher on average. This appears to be likely related to a perception of greater risk of damage for subterranean construction underneath structures. Since the tiebacks are typically in very close proximity to the foundation buildings, and since there is some history of problems or risk associated with tiebacks construction, it appears likely that buyers and sellers recognize the higher perceived potential risk by transacting a higher average consideration. Finally, the properties have been sub classified as commercial buildings, multiple residential buildings, single-family residential and vacant land. Because of the nature of the properties requiring tieback easements (typically larger midrise construction requiring substantial subterranean parking), there are fewer transactions indicating consideration for lower intensity zoning or properties. Nevertheless, there appears to be a clear relationship, with lower intensity uses indicating less consideration value. The one single family residential transaction indicates consideration of $3,000, or about 1.2% of assessed value of $242,000, and the vacant land transactions also averaged lower monetary amounts but about 1.5% of the average assessed value of about $1,300,000.

The consideration for the tiebacks often included monetary and other consideration (with our analysis estimating monetary equivalence for non-monetary items), and several had no consideration, while the acquisition value and damages estimated for the subject easements is monetary only. Other rights were often acquired in conjunction with the tieback easements (including notably limited surface rights and crane airswing rights), while the subject easement acquisition is fee but includes no additional rights. In many instances the tieback transactions were associated with building construction that could block views or add shadows (providing a negative reaction from the sellers although the construction was legal under zoning and therefore not under seller's direct control). The grantees always take financial responsibility for monitoring and repairing any damage that may occur, with insurance or bonding typically required.

In summary, the data indicates several significant relationships. The total consideration appears to be most strongly related to the total value of the grantor's property. Lower value properties tend to have a lower total consideration, but a higher percentage of value. Properties with greater perceived risk indicate higher consideration than properties with little or no risk to existing structures, suggesting that the value of the acquisition is small, and that "damages" associated with uncertainty, potential risk, and reduced marketability may be significant factors. Properties in downtown locations have higher consideration than properties are not downtown. Properties with higher height allowed under the zoning have higher consideration than properties with lower height. Commercial properties have higher average and percentage consideration than residential properties.

Two transactions are anomalously $250,000 and over $1 million, while 21 transactions are $1 or less and one other is $500. These indications appear to be outliers, not as indicative of the typical price for will informed buyers and sellers who are willing but not obligated to transact. The analysis of both data sets is summarized below.

Results – All Transactions

Classification	*Average Lineal Feet (lf)*	*Average Date*	*Average Assessed Value*	*Max. Zoning Height*	*No. of Sales*	*Est. Total Consideration Value*	*Value/ Assd. Value*
All Transactions	119	10/20/01	$4,271,519	151	**57**	$47,544	**1.1%**
Downtown Location	116	06/09/02	$6,362,383	241	**27**	$88,275	**1.4%**
Not Downtown	122	03/24/01	$2,389,742	70	**30**	$10,886	**0.5%**
Under-Building Tieback	121	03/01/02	$4,770,332	165	**42**	$59,988	**1.3%**
Not Under Building	114	10/13/00	$2,874,843	112	**15**	$11,906	**0.4%**
Commercial Building	118	02/14/02	$5,177,615	164	**30**	$68,049	**1.3%**
Multiple Residential Building	116	04/05/00	$4,753,150	141	**16**	$23,750	**0.5%**
Single Family Residential	120	08/15/97	$242,000	30	**1**	$3,000	**1.2%**
Major Institution	108	03/21/07	$241,000	65	**1**	$45,000	**18.7%**
Vacant Land	129	04/30/03	$1,290,528	152	**9**	$19,167	**1.5%**

Results – Excluding Outliers

Classification	*Average Lineal Feet (lf)*	*Average Date*	*Average Assessed Value*	*Max. Zoning Height*	*No. of Sales*	*Est. Total Consideration Value*	*Value/ Assd. Value*
All Transactions	117	07/25/01	$4,888,941	130	**33**	$37,684	**0.8%**
Downtown Location	126	05/09/02	$7,486,693	220	**14**	$65,536	**0.9%**
Not Downtown	110	12/25/00	$2,974,808	63	**19**	$17,162	**0.6%**
Under-Building Tieback	118	11/28/01	$6,160,792	139	**24**	$43,878	**0.7%**
Not Under Building	113	08/24/00	$1,497,339	104	**9**	$21,167	**1.4%**
Commercial Building	120	09/04/01	$7,182,650	144	**16**	$40,192	**0.6%**
Multiple Residential Building	113	06/08/00	$4,512,967	123	**9**	$42,222	**0.9%**
Single Family Residential	120	08/15/97	$242,000	30	**1**	$3,000	**1.2%**
Major Institution	108	03/21/07	$241,000	65	**1**	$45,000	**18.7%**
Vacant Land	113	09/05/02	$885,492	129	**6**	$28,750	**3.2%**