

***City of McKinney
Historic Town Center
Parking Study***



October 21, 2009

FINAL

Gateway
Planning Group



5750 Genesis Court, Suite 200
Frisco, Texas 75034

Phone: (972) 335-3580
Fax: (972) 335-3779

This page left blank intentionally

TABLE OF CONTENTS

INTRODUCTION

Project Overview	1
Study Area	1
Definitions	1

SECTION 1

PARKING SUPPLY AND DEMAND

Approach	3
Existing Parking Supply	3
Existing Parking Occupancy.....	7
Future Parking Demand.....	10
Conclusions	15
Considerations for Addressing Parking Needs in the Historic Town Center	16

SECTION 2

PARKING MANAGEMENT STRATEGIES

Approach	17
Management Strategies.....	17

SECTION 3

FINANCING

Approach	25
Market Study to Determine User Fee Capacity.....	25
Parking Costs.....	26
Financing Strategies	27
Financing Sources	27
Conclusions	29
Next Steps	29

APPENDICES

<i>Parking Model – Existing Calibration.....</i>	<i>Appendix A</i>
<i>Parking Model – Future Buildout (Scenario 1 and Scenario 2).....</i>	<i>Appendix B</i>
<i>Structured Parking Site Feasibility Analysis.....</i>	<i>Appendix C</i>
<i>Parking Occupancy Trends and Data 2004, 2005, 2006, and 2009.....</i>	<i>Appendix D</i>

LIST OF FIGURES

Figure 1 - Parking Study Area.....	4
Figure 2 – Parking Study Area by Zone	5
Figure 3 – Parking Study Area by Ring	6
Figure 4 – Future Land Use Study Area.....	12
Figure 5 – Minimum Required Parking Example.....	18
Figure 6 – Minimum Shared Parking Example	18

LIST OF TABLES

Table 1 - Summary of Existing On-Street and Off-Street Parking Supply	4
Table 2 – Summary of Existing On-Street and Off-Street Parking Supply by Zone	5
Table 3 – Summary of Existing On-Street and Off-Street Parking Supply by Ring.....	6
Table 4 – Existing On-Street and Off-Street Parking Occupancy for Entire Study Area	7
Table 5 – Existing On-Street and Off-Street Parking Occupancy by Zone –Weekday Condition.....	8
Table 6 – Existing On-Street and Off-Street Parking Occupancy by Zone –Saturday Condition.....	8
Table 7 –Existing On-Street and Off-Street Parking Occupancy by Ring – Weekday Condition	9
Table 8 – Existing On-Street and Off-Street Parking Occupancy by Ring – Saturday Condition	9
Table 9 – Existing Land Use Types and Square Footages.....	10
Table 10 – Adjusted Parking Demand Generation Rates for Weekday and Weekend	11
Table 11– Comparison of Parking Model Calibration Results with Observed Parking Occupancy	12
Table 12– Estimated Future Land Use Types and Square Footages.....	13
Table 13 – Existing On-Street and Off-Street Parking Supply by Zone – Future Land Use Study Area	14

INTRODUCTION

Project Overview

The McKinney Historic Town Center contains neighborhoods and commercial districts that are well established, stable, eclectic, and historic. These places collectively form the core of the City. This area includes the oldest developments in McKinney and is characterized by development patterns that occurred over the first 150 years of the community, well before the advent of the automobile.

The City of McKinney recognizes that parking is a foundational element of the Town Center's economic vitality and quality of life. The total amount of parking available, its location, and how it is managed play important roles in promoting Town Center businesses, attracting visitors, and accommodating commuters and residents. However, balancing walkability and pedestrian orientation with vehicular accessibility will be a challenge in establishing and managing a successful downtown parking program. With these important factors in mind, the City of McKinney desires to gain a thorough understanding of the parking dynamics in the Town Center and how they will evolve over time.

The purpose of this Parking Study is to more accurately quantify the existing parking supply and demand as well as the future parking needs associated with implementing key components of the vision for the Town Center (also known as the Town Center Master Plan). More specifically, this report documents both existing and future parking supply and demand, considers long term parking management and funding strategies, and evaluates potential sites for the construction of structured parking.

Study Area

The study area for the Historic Town Center Parking Study is generally bounded by Benge Street to the West, Logan Street to the North, State Highway 5 (SH 5) to the East, and Anthony Street to the South (generally following the same boundary identified in the 2004 Downtown McKinney Parking Study). The study area is commonly referred to as the Historic Downtown or the Historic Town Center. For the purposes of evaluation, the study area has been subdivided into Zones and Rings (to be discussed in a later section of this report).

Definitions

Noncaptive Ratio: The estimated percentage of parkers who are not already counted as being parked at another location within the study area. In other words, it is the percentage of parkers who are on site for a single use only.

Parking Demand: The *number of parked vehicles expected* of a specific type and amount of land use during the peak period of a typical weekday or weekend. Parking demand is estimated using "rates" indicating the number of parked vehicles per independent variable of land use such as thousands of square feet (similar to trip generation). Parking demand is independent of parking supply.

Parking Occupancy: The *number of actual vehicles parked* during the peak period of a typical weekday or weekend. Parking occupancy is summarized in terms of the percentage of parking spaces that are occupied at any given time of day. Generally, there is a single peak period on a typical weekday or weekend that contains the highest number of accumulated parked vehicles.

Parking Ratios/Standards: The *regulations that determine parking supply* for each individual building and type of land use. It is described as the number of required parking spaces per unit of development (e.g., per dwelling unit or per 1,000 square feet of commercial building space). The City's Municipal Code is the guiding document for these standards.

Parking Supply: The *number of parking spaces provided* on a development block, on-street, or in common facilities. Parking supply in new development is governed by the parking standards in the City's Municipal

Code.

Parking Turnover: The average number of vehicles using a given parking space over a specified period of time. The rate equals the total number of parked vehicles divided by the number of parking spaces. *Turnover is a measure of parking duration* and indicates whether a parking space is predominantly used by long-term parkers (more than 4 hours) or short-term parkers (less than 4 hours).

Practical Capacity: The practical capacity for parking is defined as 85 percent to 90 percent utilization of parking spaces. Keeping about 10 percent to 15 percent of the spaces vacant provides a cushion in excess of necessary parking spaces to allow for the dynamics of parking (e.g. people circulating in search of a space and moving in and out of a parking space). When occupancy exceeds the practical capacity, drivers will experience delays while searching for a parking space and will contribute to area traffic congestion while circling the block looking for parking.

Shared Parking: The concept of using a parking space to serve two or more land uses without conflict. Conventional regulations require that each development or land use type provide enough parking to serve its own peak demand, leaving unused parking spaces during the off-peak periods. Shared parking allows multiple complementary land uses, whose peak parking demands do not coincide, to share the same pool of parking spaces, resulting in a more efficient use of those spaces.

“Three-for-Free” Parking Program: Current City of McKinney program that designates certain areas or portions of public parking as free three-hour parking spaces between the hours of 8:00 a.m. and 5:00 p.m., excluding Saturdays, Sundays and all legal holidays. The “Three-for-Free” Parking Program was implemented following the 2004 Parking Study to manage parking turnover on and close to the Town Square.

SECTION 1 PARKING SUPPLY AND DEMAND

Approach

In general, parking standards for new development/redevelopment in town centers should be based on balancing available land for development and needed parking. Unlike suburban environments where parking ratios are used because of the availability of land, more nuanced parking strategies are required in town centers.

The primary objectives of the supply and demand analyses are to assess the current parking supply and demand under existing conditions and project future potential parking needs based on implementation of the Town Center Master Plan. Therefore, the future scenario evaluated as part of this study assumes implementation of the Town Center Master Plan and provides a future parking demand analysis for that area.

Existing Parking Supply

On-Street Parking Supply

Most streets within the study area have on-street, parallel parking spaces. In the Square Proper (along Louisiana Street, Tennessee Street, Kentucky Street, and Virginia Street), some angled on-street parking is provided. Some of the on-street spaces included in the “Three-for-Free” Program are delineated with pavement markings and signage, but most streets have no parking space delineation. Existing on-street space counts have been derived from information compiled during the 2004 Downtown McKinney Parking Study and incorporate known modifications since that time.¹

Off-Street Parking Supply

Within the study area, there are a total of eleven (11) off-street public parking surface lots. All of the public lots within the study area are paved and have marked spaces. In addition, a recommendation resulting from the 2004 Parking Study was the implementation of a “*unified signage program to increase the awareness of existing public parking*,” known as the Wayfinding Program. As a result, wayfinding signage that directs drivers to the locations of public parking lots has also been installed in various locations in and around downtown since the completion of the 2004 Study. Off-street private parking lots which allow parking only for the patrons of private businesses and not for the general public have also been included in the analysis.

Total Parking Supply

There are a total of 2,503 on- and off-street parking spaces within the parking study area (Figure 1). Of that, 50% (1,262 spaces) are provided by off-street public parking spaces (Table 1).

In addition to looking at parking supply for the Historic Downtown as a whole, supply by Zone (Figure 2) and by Ring (Figure 3) has also been evaluated. This more nuanced tabulation helps to more clearly identify specific conditions and potential areas of need/opportunity within the study area. Table 2 reveals that parking supply by Zone is fairly balanced (total supply for most Zones is between 27%-29%), with only Zone C providing less than 20% of the total supply. Table 3 tabulates the amount of parking in the study area by Ring and shows that supply steadily increases as one moves away from the Square Proper. This is not necessarily uncommon in downtown settings. Ring 1 provides 10% of the total supply. Because of the physical constraints present in Ring 1 (built out environment, historic structures, small lots, existing private business parking, etc.), no off-street public parking exists. Ring 2 provides 34% of the total supply, most of which is in the form of off-street parking. Over half of the total parking supply in the study area is provided in Ring 3 (56%), predominately in the form of off-street public parking.

¹ In addition to minor changes in supply, significant changes in parking supply since 2004 include: the addition of 24 on-street parking spaces on the Square Proper on Kentucky Street, Louisiana Street, Virginia Street, and Tennessee Street (along the portions of blocks 1, 2, 4, 6, and 8 fronting the McKinney Performing Arts Center (MPAC)); the addition of 38 private off-street spaces on block 34; the conversion of 478 off-street spaces from private to public as a result of the City’s acquisition of the old Collin County Courthouse site on block 31; and the addition of 108 public off-street spaces on block 50.

Figure 1 - Parking Study Area

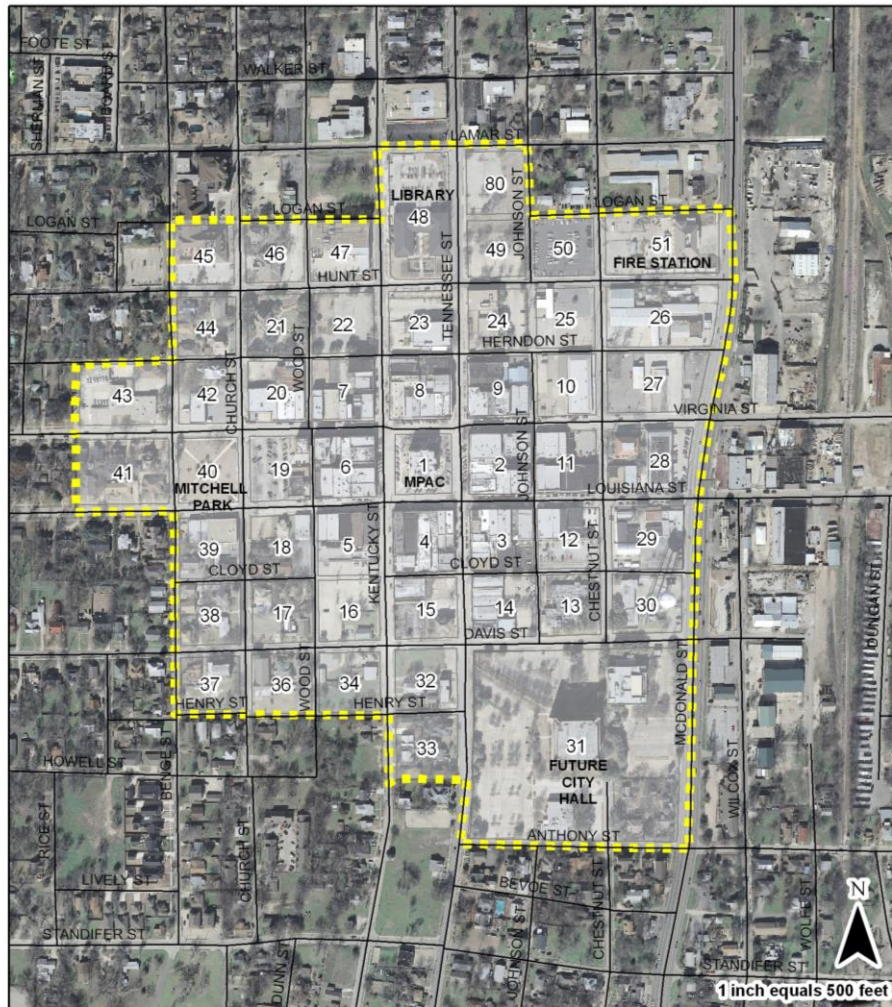


Table 1 - Summary of Existing On-Street and Off-Street Parking Supply

Off-Street Public Parking Supply	Off-Street Private Parking Supply	On-Street Parking Supply
1,262 (50%)	780 (31%)	461 (19%)
Total Spaces 2,503		

Figure 2 – Parking Study Area by Zone

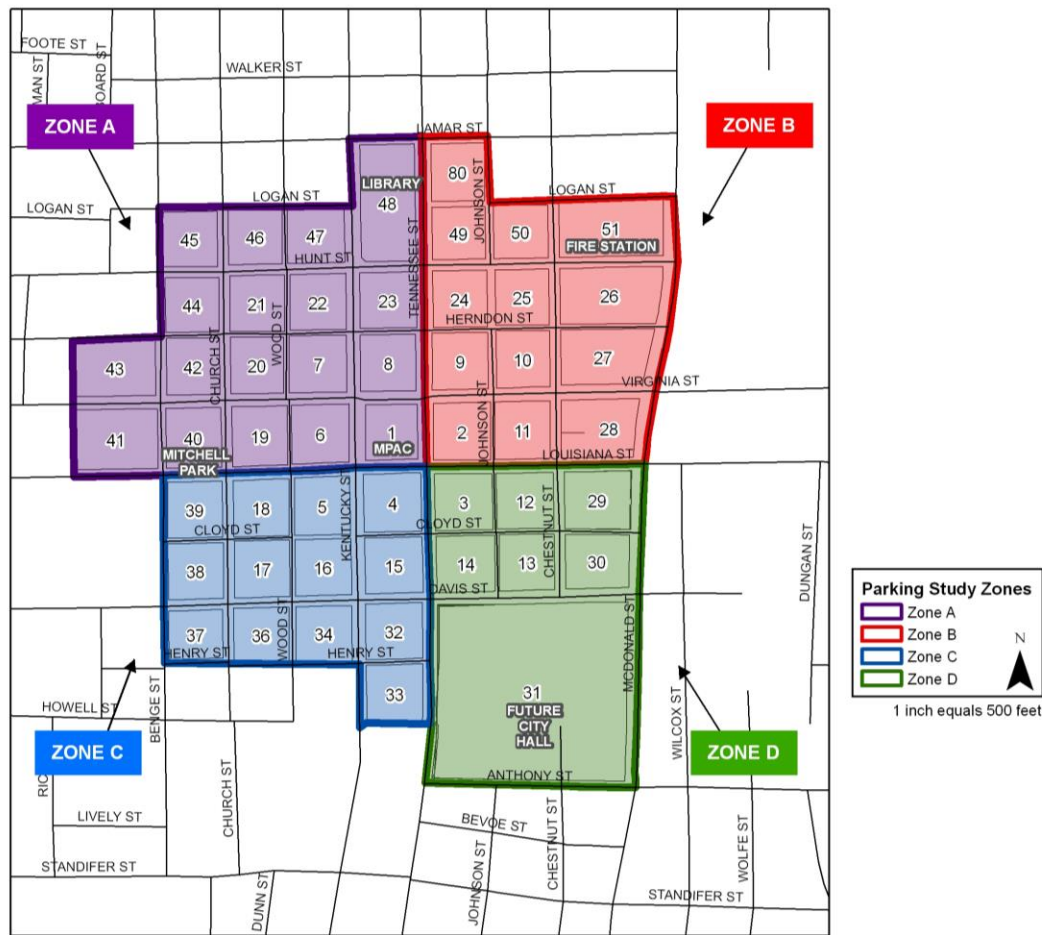


Table 2 – Summary of Existing On-Street and Off-Street Parking Supply by Zone

Zone	Off-Street Public Parking Supply	Off-Street Private Parking Supply	On-Street Parking Supply	Total Existing Supply
A	267	210	193	670 (27%)
B	301	274	99	674 (27%)
C	90	251	99	440 (17%)
D	604	45	70	719 (29%)
	1,262	780	461	
			Total Spaces	2,503

Figure 3 – Parking Study Area by Ring

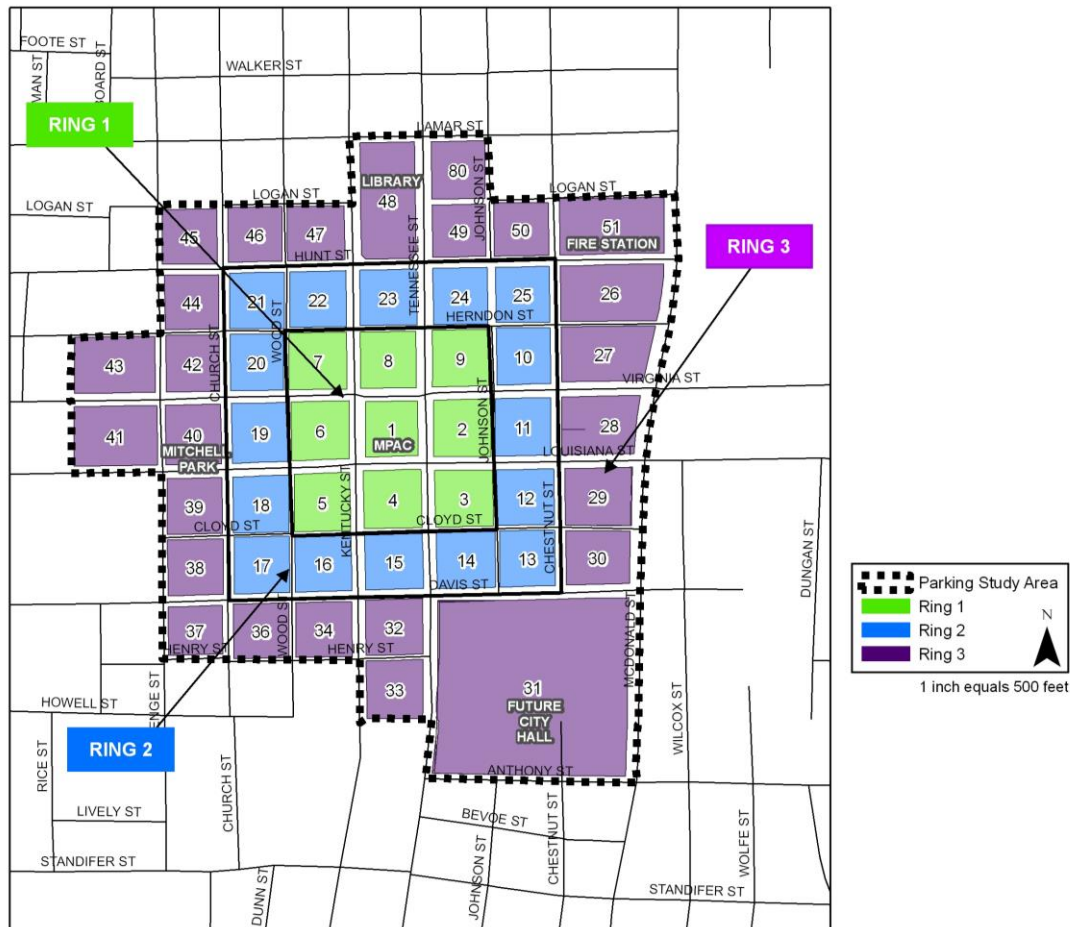


Table 3 – Summary of Existing On-Street and Off-Street Parking Supply by Ring

Ring	Off-Street Public Parking Supply	Off-Street Private Parking Supply	On-Street Parking Supply	Total Existing Supply
1	0	62	199	261 (10%)
2	396	332	120	848 (34%)
3	866	386	142	1,394 (56%)
	1,262	780	461	
			Total Spaces	2,503

Existing Parking Occupancy

Parking occupancy is shown as the percentage of parking spaces that are occupied at a given time of day (see definition, “*Parking Occupancy*”). Because the demand for parking in the downtown area fluctuates throughout the day based on the operating hours of different businesses, the occupancy counts observed as part of this study were taken during four different time intervals: morning, mid-day, afternoon, and evening. **The single peak occupancy over any of these given times was recorded and evaluated. In other words, if the observed parking occupancy was 31% in the morning, 33% at mid-day, 52% in the afternoon, and 44% in the evening, only the peak occupancy of these figures (52%) was recorded for evaluation. By doing this, the true greatest parking need can accurately be captured.** Generally speaking, lots are typically considered full at 85% occupancy.

Parking Occupancy Overall

Table 4 below reveals that overall parking occupancy in the study area is just over 50% at its peak. Of this, the most heavily utilized parking spaces are seen on-street (72% weekday, 74% Saturday), with peak occupancies for off-street parking ranging from 43%-51% during weekday and Saturday time periods.

Table 4 – Existing On-Street and Off-Street Parking Occupancy for Entire Study Area

	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Overall Parking Occupancy*
Weekday	51%	46%	72%	53%
Saturday	46%	43%	74%	50%
Note: Parking occupancy data gathered July 2009 * <i>weighted average</i>				

In addition to evaluating parking occupancy for the study area as a whole, occupancy counts were also evaluated by Zone and by Ring. This more nuanced approach to evaluating occupancy helps to more clearly identify specific conditions and potential areas of need/opportunity within McKinney’s Historic Downtown.

Parking Occupancy by Zone

Table 5 is a summary of on-street and off-street parking occupancies by Zone under weekday conditions. Whereas, the overall parking occupancy for each Zone ranges from 30% to 66%, the *type* (on-street v. off-street) of parking being utilized is also important to recognize. In all weekday cases, on-street parking is some of the most heavily occupied (ranging between 63%-79% per Zone). It’s important to note, however, that Zone A and Zone C also see a heavy utilization of off-street public parking (85% occupancy in Zone A and 72% occupancy in Zone C). Areas that see lower occupancies include off-street public parking in Zone B (34%) and Zone D (21%) as well as off-street private parking in Zone A (40%), Zone B (32%), and Zone C (31%).

Curiously, Zone A and Zone C have higher off-street occupancies (85% and 72% respectively) than on-street occupancies (68% and 63% respectively), suggesting that the large number of on-street spaces on Tennessee, Kentucky, and Church Streets north and south of downtown are not being used as much because the spaces lack adequate striping and signage.

Table 5 – Existing On-Street and Off-Street Parking Occupancy by Zone –Weekday Condition

Zone	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Overall Parking Occupancy*
A	85%	40%	68%	66%
B	34%	32%	75%	39%
C	72%	31%	63%	46%
D	21%	73%	79%	30%
Overall Occupancy				53%
Note: Parking occupancy data gathered July 2009 * <i>weighted average</i>				

Table 6 is a summary of on-street and off-street parking occupancies by Zone under Saturday conditions. In looking at Table 6, the overall parking occupancy under Saturday conditions ranges from 21% to 66%, which is only slightly different than the weekday overall occupancy conditions. However, there are some notable changes in the *type* of parking being utilized. From the weekday to Saturday condition in Zone C, off-street public parking jumps from 72% occupancy (weekday) to 94% occupancy (Saturday), well exceeding the 85% “fully occupied” threshold. A similar jump is also seen in on-street parking in Zone B, going from 75% occupancy (weekday) to 90% occupancy (Saturday). Areas of lower occupancies include off-street public parking in Zone B (34% weekday, 22% Saturday) and Zone D (21% weekday, 15% Saturday), which are seemingly underutilized.

Table 6 – Existing On-Street and Off-Street Parking Occupancy by Zone –Saturday Condition

Zone	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Overall Parking Occupancy*
A	70%	46%	81%	66%
B	22%	44%	90%	41%
C	94%	36%	63%	54%
D	15%	42%	59%	21%
Overall Occupancy				50%
Note: Parking occupancy data gathered July 2009 * <i>weighted average</i>				

Overall, analysis of parking occupancy by Zone reveals three (3) localized issues where the peak occupancy meets or exceeds the “fully occupied” threshold:

- Weekday: Off-street public parking in Zone A (peak occupancy 85%)
- Saturday: On-street parking in Zone B (peak occupancy 90%) and off-street public parking in Zone C (peak occupancy 94%)

Parking Occupancy by Ring

Table 7 is a summary of on-street and off-street parking occupancies by Ring under weekday conditions. Evaluation at this level reveals that parking in Ring 1 is heavily utilized. Not surprisingly, on-street parking is 93% occupied and the overall occupancy in Ring 1 is 86%. Ring 2 sees an overall parking occupancy of 63%, with off-street private parking only 41% utilized. Off-street public parking occupancy in Ring 2 is 79%, very near the 85% threshold for practical capacity. Ring 3 is being vastly underutilized by parkers, with an overall parking occupancy of only 26%.

Table 7 – Existing On-Street and Off-Street Parking Occupancy by Ring – Weekday Condition

Ring	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Overall Parking Occupancy*
1	n/a	65%	93%	86%
2	79%	41%	70%	63%
3	24%	26%	33%	26%

Note: Parking occupancy data gathered from July 2009
* *weighted average*

Table 8 is a summary of on-street and off-street parking occupancies by Ring under Saturday conditions. Most notably under this condition is the on-street parking occupancy in Ring 1 (99%). Although on-street parking conditions in Ring 1 far exceed the 85% threshold, off-street private parking occupancy actually decreases from 65% (weekday) to 52% (Saturday). Additionally, off-street public parking occupancies (66%) and off-street private occupancies (33%) in Ring 2 also decline from weekday to Saturday conditions. In Ring 3, off-street public parking occupancy declines from 24% under weekday conditions to 15% under Saturday conditions.

Table 8 – Existing On-Street and Off-Street Parking Occupancy by Ring – Saturday Condition

Ring	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Overall Parking Occupancy*
1	n/a	52%	99%	88%
2	66%	33%	74%	55%
3	15%	47%	44%	29%

Note: Parking occupancy data gathered from July 2009
* *weighted average*

Overall, analysis of parking occupancy by Ring reveals two (2) localized issues where the peak occupancy meets or exceeds the “fully occupied” threshold:

- Weekday: On-street parking in Ring 1 (peak occupancy 93%)
- Saturday: On-street parking in Ring 1 (peak occupancy 99%)

Future Parking Demand

The first step towards determining future parking demand is to develop and validate a parking model that accurately predicts/mimics existing conditions. The steps involved in developing and validating the parking model include:

1. Identify existing land uses that rely on publicly available parking within the study area. The model excludes existing land uses which provide private parking exclusively for their patrons on site (i.e. churches, single family residential, warehouses, townhomes, fire stations, etc.).
2. Use parking generation rates to establish un-calibrated rates. Un-calibrated parking generation rates come from the Institute of Transportation Engineers’ (ITE) Parking Generation, 3rd Edition, 2004 and Urban Land Institute (ULI) Shared Parking, 2nd Edition.
3. Adjust base parking generation rates to reflect specific conditions in the Historic Town Center study area and to reflect a certain amount of transit, bicycle, walk, and captive trips.
4. Use the model to predict existing peak parking demand based on the adjusted rates and existing land uses.
5. Compare the model-predicted peak parking demand and time-of-day hourly parking profile with the peak parking demand and time-of-day hourly profile observed in the 2009 data counts. Adjust (calibrate) parking generation rates, time-of-day profiles, and/or other factors as necessary, and repeat in an iterative manner.

Because the analysis of existing supply and demand generally indicated a supply surplus, it can be assumed that the study area does not currently experience spillover parking into surrounding neighborhoods (which would typically result from a parking supply deficit during typical weekdays and Saturdays). Therefore, the future parking demand analysis focuses on the study area and does not include surrounding neighborhoods.

Existing Land Uses

The existing land use information used to calibrate the parking model was compiled by the City of McKinney in February of 2009. For the purpose of this analysis, land uses are grouped into general categories based on similarities. Table 9 below shows each existing land use category and the square footages by Zone. Private land uses which provide parking exclusively for their patrons are excluded from the parking model (i.e. churches, single family residential, warehouses, townhomes, fire stations, etc.).

Table 9 – Existing Land Use Types and Square Footages

Land Use Type	Existing Land Uses and Square Footages				
	Zone A	Zone B	Zone C	Zone D	All Zones
Hotel (rooms)	46				46
City Park (acres)	1.22				1.22
Theater (seats)	427				427
Auditorium	12,200				12,200
Community Center	7,189				7,189
Museum		4,600		7,128	11,728
Library	33,000				33,000
Office	139,623	84,076	78,855	213,732	516,286
Retail	75,280	133,707	58,588	41,383	308,958
Restaurant	34,997	23,590	13,751	12,708	85,046

Parking Generation Demand Rates

Parking demand is estimated based on parking generation rates published by the Institute of Transportation Engineers’ (ITE) *Parking Generation, 3rd Edition, 2004* and the Urban Land Institute’s (ULI) *Shared Parking, 2nd Edition*. Because the ITE and ULI rates are developed from isolated suburban land uses poorly served by transit, they do not represent the true parking demand generated by uses located in walkable, mixed-use districts such as Historic Downtown McKinney. Therefore, the rates have been adjusted to reflect 1) the unique parking generation characteristics of McKinney, 2) linked trips whereas people park once in a public parking space and walk to multiple locations, 3) internal non-auto trips whereas people who reside in or near downtown walk or bike to commercial establishments, 4) a reasonable level of transit use, and 5) shared parking.

The adjusted parking demand generation rates for a typical weekday and weekend are summarized in Table 10 and include the following adjustment factors:

- Zero (0) percent reduction for transit trips
- One (1) percent reduction for bicycle trips
- Five (5) percent reduction for walk trips
- Ninety-eight (98) percent noncaptive ratio
- Shared parking

Upon implementing the parking model calibration procedure described previously (a summary of which can be found in Appendix A), the following parking accumulation rates were identified.

Table 10 – Adjusted Parking Demand Generation Rates for Weekday and Weekend

Land Use	Parking Accumulation	Units
Hotel (rooms)	1.00	Spaces per Guest Room
City Park (acres)	2.00	Spaces per Acre
Theater (seats)	0.25	Spaces per Seat
Auditorium	3.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Community Center	1.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Museum	1.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Library	0.50	Spaces per 1,000 sq.ft. (Gross Floor Area)
Office	2.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Retail	2.50	Spaces per 1,000 sq.ft. (Gross Floor Area)
Restaurant	5.00	Spaces per 1,000 sq.ft. (Gross Floor Area)

Parking Model Validation

The parking model is validated if the difference between the model-predicted peak parking demand and observed peak parking demand is within ± 10 percent. Validation is also achieved when the model-predicted time-of-day hourly profile closely matches observed profiles. Once validated for existing conditions, the parking model is then used to project future parking demand.

The results of the model-predicted demand were compared to the observed parking occupancy for existing land uses and are summarized in Table 11 below. With a percent difference of 1.9%, the parking model is validated.

Table 11– Comparison of Parking Model Calibration Results with Observed Parking Occupancy

	Model Prediction of Demand	Observed Demand	Percent Difference
Existing Peak Parking Demand	1,352 spaces	1,327 spaces	1.9%
Note: Observed parking demand was calculated using counts from July 2009 as follows: 53% peak occupancy x 2,503 spaces = 1,327 spaces demanded.			

Future Land Uses

As illustrated in the Town Center Master Plan, the dense development currently seen in the core of downtown is envisioned to expand northward and southward into areas that are outside of the delineated 2009 parking study area (Figure 1). In order to better evaluate the potential demand that this growth will have on parking, the land uses included as part of the future demand analysis incorporate additional blocks that are outside the 2009 parking study area. An illustration of the future land use area can be seen below in Figure 4.

Figure 4 – Future Land Use Study Area



Blocks added as part of the future condition demand analysis include block 35, blocks 57 thru 79, block 81, and block 82.

The future land use information was provided by the City of McKinney in conjunction with Gateway Planning Group. Future land uses were estimated by using an iterative process of numerically quantifying the Town Center Master Plan based on the preferred land use patterns, building types and building scales outlined in the Town Center vision. Similar to existing land uses, future land use types were also grouped by general category based on similarities. Table 12 below shows each future land use category and the estimated square footages for each by Zone. Private land uses which provide parking exclusively for their patrons are excluded from the parking model (i.e. churches, single family residential, warehouses, townhomes, fire stations, etc.).

Table 12– Estimated Future Land Use Types and Square Footages

Land Use Type	Estimated Future Land Uses and Square Footages				
	Zone A	Zone B	Zone C	Zone D	All Zones
Hotel (rooms)	46				46
City Park (acres)	1.27		0.31	0.15	1.73
Theater (seats)	427				427
Auditorium	12,200				12,200
Community Center	7,189			4,058	11,247
Museum		4,600		7,128	11,728
Library	33,000				33,000
Office	221,087	335,516	115,385	352,796	1,024,784
Retail	106,704	401,352	93,859	69,268	671,183
Restaurant	49,613	104,686	21,304	24,788	200,391

Future Parking Generation Demand Rate Assumptions

Again, because the ITE and ULI rates are developed using isolated suburban land uses poorly served by transit, they do not represent the true parking demand generated by uses located in walkable, mixed-use districts such as Historic Downtown McKinney. Therefore, the rates have been adjusted. Because the buildout condition assumes that rail transit will be in place and that there will be a greater residential component in the Historic Town Center, the future parking demand from the land uses indicated in Table 12 include additional adjustment factors as follows:

- Five (5) percent reduction for transit trips
- Five (5) percent reduction for bicycle trips
- Ten (10) percent reduction for walk trips
- Ninety-two (92) percent noncaptive ratio
- Shared parking

Future Supply Assumptions

Before future supply assumptions can be made, existing parking supply for the expanded future land use study area (Figure 4) must be tabulated. A summary of the existing parking supply for the future land use study area is summarized below in Table 13.

Table 13 – Existing On-Street and Off-Street Parking Supply by Zone – Future Land Use Study Area

Zone	Off-Street Public Parking Supply	Off-Street Private Parking Supply	On-Street Parking Supply	Total Existing Supply
A	267	422	244	933 (29%)
B	361	285	124	770 (24%)
C	90	429	154	673 (21%)
D	604	88	124	816 (26%)
	1,322 (41%)	1,224 (38%)	646 (21%)	
Total Spaces				3,192

To accurately predict future parking needs, some assumptions regarding future parking supply had to be made. As such, future supply was analyzed using two different scenarios.

Scenario 1. The first scenario assumes that the future land uses from Table 12 are present at buildout, much of the off-street parking supply (existing today) is eliminated, and no additional off-street or on-street parking is added. In other words, this scenario assumes that redevelopment happens on existing off-street parking lots, leaving only a small number of off-street spaces (195) and on-street parking present at buildout. This level of analysis helps to identify the greatest possible future parking need in the Town Center under buildout conditions.

Scenario 2. The second scenario was used to identify the projected parking deficiency with future land uses from Table 12 and reasonably assumes that, at the very least, two parking structures (as identified in the Town Center vision) will exist in the study area at buildout. The first parking structure is assumed on Site 3 from the site feasibility analysis and would provide 629 additional spaces (see Appendix C TR106). The second parking structure is assumed to be constructed as part of the municipal center site and is assumed to provide 500 additional spaces. It is important to note that discussion at this level of analysis acknowledges that the Town Center Master Plan envisions additional parking supply in the Town Center beyond the two parking structures mentioned. However, given the variables and unknowns associated with where and how this additional supply will be provided, it was not included for this analysis.

Conclusions

Based on the land uses anticipated as part of implementation of the Town Center Master Plan and the calibrated existing supply and demand parking model, a future supply and demand parking model was generated (a summary of which can be found in Appendix B). **Using this model, the future net deficit of parking spaces within the Town Center, accounting for practical capacity², is projected to be up to 2,500 spaces under Scenario 1 and up to 1,400 spaces under Scenario 2.** These deficits are largely concentrated in Zone B. These deficits seem reasonable for future buildout conditions and could be accommodated with additional structured parking facilities as outlined in the Town Center Master Plan.

The overall conclusions of the supply and demand analysis result in the following:

- At present, the Historic Downtown has a surplus parking supply. However, demand for on-street and off-street public parking in some locations is currently at a level that meets or exceeds the professionally accepted threshold for occupancy. Because of this, there is a general perception that there is a supply shortage. Consideration should be given to implementing management strategies and/or constructing additional parking supply to address the real and perceived parking pressures in highly utilized areas.
- Management strategies should aim to improve the convenience and desirability of existing underutilized parking locations as well as to reduce the improper use of existing overutilized locations that result in poor turnover and reduced parking availability.
- The anticipated demand on parking at buildout results in a potential deficit of as many as 1,400 to 2,500 spaces. These deficits are largely concentrated in Zone B. Therefore, the construction of any additional parking should aim to create a balanced supply and minimize the deficit in Zone B.
- Because the lot sizes and development patterns of Historic Downtown McKinney were established prior to the advent of the automobile, the opportunities for individual sites to provide on-site parking are severely constrained. In order to preserve the historic structures and ambiance of Historic Downtown McKinney, future modifications to parking standards should consider treating reuse/redevelopment projects in this area differently than new development projects, so that parking standards can better serve to adequately accommodate the nuances associated with these two different types of development.

The parking model is a tool that results in two “bookends” of analysis. The first “bookend” is the informed projection of parking demand at buildout (assuming implementation of the Town Center Master Plan); the second is the net resulting gap in parking supply. The model, therefore, serves as a useful tool for the City to determine the appropriate balance between the feasible level of redevelopment in the Town Center (in terms of parking demand) and the capacity for providing additional parking supply to accommodate this change.

² The practical capacity for parking is defined at 85-90 percent utilization of parking spaces.

Considerations for Addressing Parking Needs in the Historic Town Center

Although there is currently a surplus of parking in the Historic Town Center, the existing supply will not adequately support the anticipated needs as the Town Center Master Plan is realized over time. **To that end, the City of McKinney must determine how and at what time additional parking supply should be created and managed.** In other words, the City must decide if additional parking supply (i.e. structured parking) should be constructed either:

- to respond to existing parking deficiencies (or perceived deficiencies)

and/or

- to help spur future development

As a part of this study, seven (7) potential sites for structured parking were identified and evaluated. The site feasibility analysis for these sites, including financial considerations, can be found in Appendix C.

In addition to simply adding parking supply, a number of potential strategies for long-term management of parking need to be explored and should accommodate the multiple users of the Historic Town Center. The mixed-use nature of the Town Center dictates that the users include residents, residential visitors, future rail transit users and commuters, customers (non-residential visitors, shoppers, diners), employees, delivery and public services (police, fire, refuse, etc.), special event visitors, and residents of the surrounding neighborhoods. Each of these user groups have their own specific needs, most significantly distinguished by the duration of their parking demand. Any selected parking strategies, in cumulative, should address each of the multiple Town Center users' needs.

Several other general considerations should guide decisions regarding parking in Historic Downtown McKinney. These considerations include:

- Provide an optimal amount parking that is balanced and does not overburden one area at the expense of another.
- Provide a simple, easily understood parking environment with adequate striping and signage.
- Maximize the provision of on-street parking as a primary source of short-term customer parking, and enforce time restrictions.
- Evaluate the feasibility of implementing pricing as a parking management strategy to reduce long-term parking in the downtown core, balance the level of utilization between on- and off-street parking, and recover the costs of operating and maintaining parking facilities.
- Provide options for long-term parking within the core controlled by pricing and free or low-cost long-term in the periphery of the core.
- Improve the walkability of the downtown and create high quality pedestrian connections that encourage employees to park farther from the downtown core.
- Protect surrounding residential neighborhoods from spillover parking.

SECTION 2 PARKING MANAGEMENT STRATEGIES

Approach

As identified previously, although there is currently a surplus of parking in the McKinney Town Center, the existing supply will not adequately support anticipated parking needs as the Town Center Master Plan is realized. **As such, the overall objective for managing parking in the Historic Town Center should revolve around the principle that the City is a stakeholder in the development of adequate parking supply for the Town Center. This adequate parking should be acknowledged to be a compromise of both structured and other off-street surface parking facilities as well as targeted parking management strategies over the long-term (20+ years).**

Management Strategies

The implementation of parking management strategies is intended to facilitate a more efficient use of limited parking resources. A number of parking management strategies could be implemented within the Historic Town Center to address the existing and future parking conditions. Potential parking management strategies are discussed below.

1. Establish Private Development Parking Standards that Consider the Vision of the McKinney Town Center

Existing parking standards for development that require one parking space per full time employee is difficult to enforce and administer as a business grows or matures. The use of a particular development affects the number of employees and therefore the amount of parking that should be provided under the current standards. Ultimately, parking standards should allow buildings to transition between uses seamlessly without being non-compliant with parking standards. **To that end, parking standards based on use are not recommended in downtown.** Parking standards should be carefully considered based on development context (redevelopment or new development), location and adjacencies, lot sizes, scale of the project, and availability of on-street parking. The standards for parking should balance the city's desire to ensure adequate availability of on- and off-street parking with the market's tendency to minimize the development cost incurred by any parking requirements. Modifications to parking standards could include:

- a. Shared Parking: Since different land uses have peak parking demands at different times, expanded utilization of the concept of shared parking should be considered. With this strategy, land uses can effectively "share" a common pool of parking spaces as long as the highest demand of the day can be accommodated. For example, office uses in the Town Center generate their peak parking demand in the mid-morning and early afternoon timeframes, whereas restaurants generate their peak demand midday and in the evenings. These two land uses can effectively share a lower total number of parking spaces than if each individual use is required to provide for its own peak period. This "sharing" of parking supply is in contrast to typical suburban parking requirements where each building is required to provide parking on-site for its own users, but rarely fully utilizes its own supply. According to the Urban Land Institute's Shared Parking (Second Edition) "...shared parking has been a fundamental principle of downtown planning from the earliest days of the automobile." In addition to increasing the efficiency of a limited parking supply, the concept of shared parking reduces the overall cost of providing parking. In downtown areas where development intensity and floor area ratios are high, blocks and individual parcels are small, and land uses are predominantly small businesses, it can be prohibitively expensive to provide parking which satisfies conventional suburban zoning code requirements, particularly if structured or underground parking is required. Typical downtown areas have the advantage of being able to combine resources to fund and maintain a common pool of parking for all users. It

is important to note, however, that shared parking can only be achieved when the different uses are located within close proximity (within ¼ mile) to each other and streets are designed to provide direct, pedestrian-friendly routes between destinations and parking. For the supply and demand analyses previously discussed, a shared parking benefit of 15%-30% was observed and has been incorporated into the analysis.

The following figures (Figure 5 and Figure 6) illustrate the concept of shared parking. Figure 5 is an example of the amount of parking provided based on minimum parking requirements or standards. This approach is based on providing each land use a minimum number of parking spaces as if it were an isolated use. Figure 4 illustrates the actual utilization of the parking spaces for each land use by time of day.

Figure 5 – Minimum Required Parking Example

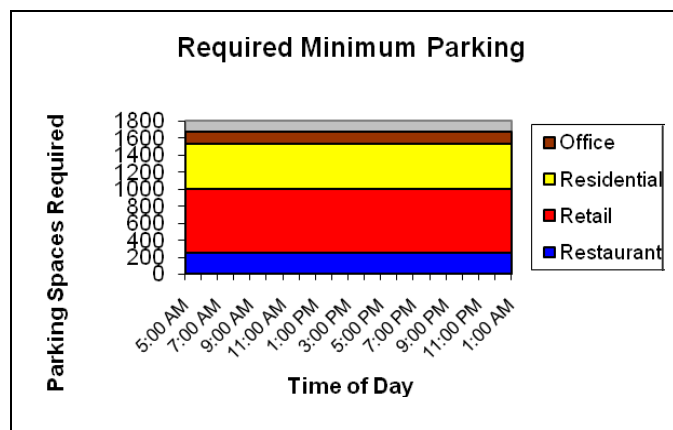
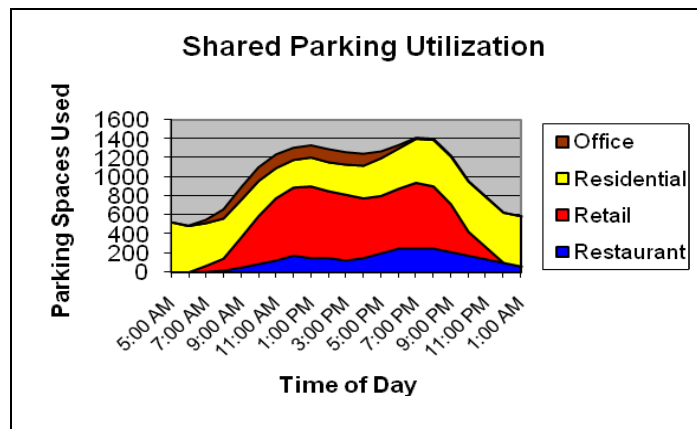


Figure 6 – Minimum Shared Parking Example



Next Steps: To implement this parking management strategy, a more detailed study of suitable parking standards should be evaluated and accordingly incorporated into the zoning ordinance. As part of Phase 2 of the Town Center Study Initiative, a review and analysis of existing development regulations (i.e. parking standards) is currently underway and, at completion, is anticipated to incorporate suitable parking standards based on this management strategy.

- b. **In-Lieu Parking Fees:** Parking for development sites where providing on-site parking is difficult or expensive typically relies upon on-street parking. Increased on-street parking demand has the tendency to discourage customers from visiting. As a long-term parking strategy, the City could establish and implement in-lieu parking fees. Under this strategy, developers would be allowed to pay a fee in-lieu of providing on-site parking spaces traditionally required by zoning. Alternatively, a developer may provide some parking on-site and provide the balance required through payment of the in-lieu fee. Revenue from this program could be used to fund additional parking programs or to finance public parking spaces.

The payment in-lieu program may be implemented for new development projects as well as for redevelopment of existing structures when such redevelopment redefines the intended use of the structure. The payment-in-lieu fee may be structured as a one-time fee, an annual fee, or as a monthly fee. This approach is highly applicable in downtown areas where development opportunity sites are small and providing on-site parking is difficult and often expensive. The timing of the in-lieu parking fee could coincide with the City's decision (if it so chooses) to adopt new parking standards within the Town Center.

Next Steps: To implement in-lieu parking fees, a more detailed study of appropriate in-lieu fees should be evaluated. This study should include an analysis of programs implemented by other cities, their effectiveness, rate structures, and overall program. In addition to other financing options for parking, the study should also consider the market rates for construction of parking facilities in order to correlate the proposed in-lieu fees to a tangible cost. The result of this study would be to recommend a viable program that could be implemented by appropriately incorporating it into the City's zoning ordinance.

2. ***Establish a Public Parking Phasing Threshold Plan***

Typically, the construction of any new parking supply begins when the parking demand reaches 85% of the parking supply or when a policy decision is made by the City to provide an incentive for development. The current overall parking demand in the Historic Town Center is 53%, which is well below the professionally-established threshold for demand (85%). However, it is important to note that demand in some parking locations in the Town Center exceeds the 85% threshold.

Next Steps: Determining the best approach for the phasing and financing of additional parking supply is dependent on the role that the City intends to play over time (relative to providing parking as the need arises or to spur future development). Upon determining the role the City wishes to play, an appropriate Public Parking Phasing Threshold Plan could be implemented.

3. ***Establish Additional On-Street Parking***

One approach to increasing the public parking supply is to establish angled parking spaces on appropriate existing streets and parallel parking where there is none. The minimum street width to accommodate angled parking on one side of the street and parallel parking on the other side is 53-feet for 60-degree angled parking, and 50-feet for 45-degree angled parking. These street widths allow for a wider lane adjacent to the angled parking so that vehicles backing out of the parking spaces do not encroach into the opposing travel lane. A minimum curb to curb width of 50-feet is needed for streets to have angled parking.

Next Steps: To implement this parking management strategy, City Staff would need to identify streets within the Town Center where angled parking/parallel parking could be established and to determine the number of potential new spaces that could be added through the implementation of this strategy is needed.

4. *Implement and Enforce On-Street Parking Management Strategies*

On-street parking is used by employees, customers, and visitors of the Town Center. Proper on-street parking management will increase its efficiency by making sure that adequate parking is available to accommodate short-term peak parking demand. Shoppers, diners, and commercial visitors will comprise the majority of peak period parking demands and this group of users has short-term parking needs (3 hours or less). The time restrictions discussed below serve this group of users.

Time Restrictions

Time restrictions are intended to maximize parking turnover of the most convenient and, therefore, the most valuable spaces in the Town Center. The objective of this strategy is to reserve on-street parking spaces in proximity of retail land uses for customers, while providing unrestricted parking in the periphery for employees. Improvement, expansion and more detailed implementation of the “Three for Free” program may be warranted. Potential improvements to the program could be implementation on Saturdays, Sundays and holidays and development of an enforcement strategy that reduces the potential for employees to simply “move” their cars every three hours to another space in the area.

Criteria/Guidelines for Time Restrictions

- Maintain and enforce consistent time restrictions within the Town Center. Avoid piecemeal time restrictions unless there are compelling reasons to change. Time restrictions serving the commercial core should continue to be limited to 3 hours (the average time parking in downtowns nationally is 90 minutes).
- Property owners may petition for time restrictions less than 3 hours on the streets which their property is located, but the change should be applied to the entire street. The majority of property owners fronting the street (at least 51 percent) must agree to the change in restriction. The City may require a parking turnover survey to support changes to the time restriction.
- 30-minute time restrictions may be used for streets serving very high intensity retail activity where rapid turnover is required (e.g., post office, banks, ATMs, dry cleaners, etc.).
- Long-term parking (no time restriction except standard 72 hour limit) should not be signed. Designation of unrestricted parking should be based on whether or not:
 - a. the parking area is conducive to employee parking outside of the core of the Town Center;
 - b. there is adequate on-street parking capacity (85 percent or less occupied); and
 - c. the current adjacent uses on either side of the street do not require high turnover parking.
- Unrestricted long term parking should be provided adjacent to residential development (not mixed use) and in the periphery of the Historic Town Center based on the above criteria.
- There is a need to coordinate with and educate business owners and merchants to develop a feasible and enforceable plan. Public relation issues will be critical when implementing such a plan.

Next Steps: In the near term, no change to the 3-hour parking restriction is needed. However, improved and consistent enforcement of time restrictions is recommended to maintain adherence and to acclimate downtown parkers to the notion that enforcement is being consistently applied. Parking tickets which only give a warning to vehicles parked longer than the time allowed may be issued

during the acclimation period.

In the long-term and as the development intensifies within the Town Center, it is recommended that all on-street parking within the commercial core be limited to 2 hours and parking tickets (appropriate amount to be decided by the City) be issued to vehicles violating the time limits.

5. *Establish On-Street and Off-Street Pricing Strategies*

Currently within the Town Center, parking is provided free of charge. There is minimal parking enforcement and, therefore, a limited source of revenue for the City. Parking spaces represent an extremely valuable asset to the City. It should be noted that the timing and phasing of paid parking implementation could, and likely would, be different for on-street and off-street parking.

On-Street Pricing Strategies

The installation of paid parking within the Town Center may be problematic due to the installation and maintenance costs as well as the potential diversion of funds away from other more beneficial improvements. It is also speculated that implementation of paid parking could drive customers away from the Historic Downtown to other nearby shopping centers that do not charge for parking. Generally for this area of the Metroplex, parking is a “perceived right” and is viewed as free of charge.

While the perception of deterring patrons away from the Town Center may be true for the near-term, it may play less of a role for future conditions. The Town Center can accommodate significant future commercial development in addition to the already planned or approved projects. The future development of the Town Center is likely to attract more customers, but a lack of available on-street parking and no parking enforcement could discourage them from visiting.

In the long-term, the City should consider implementing paid parking for on-street parking spaces on streets where the recommended two-hour parking restriction is implemented. The City should continue to explore the feasibility of creating either a full-time parking enforcement position, or enlisting volunteer agencies to perform parking enforcement. The revenue generated from parking fees could fund the parking enforcement officer.

In conjunction with the implementation of paid parking, a partnership between the City and the private sector should also be considered in order to establish a public improvement district and/or business improvement district. Doing so would create a parking benefit area within the Town Center that would be managed by a member-controlled board and funded, in part, by revenues collected through paid parking. Revenues collected could be used to implement parking programs that coordinate shared parking agreements, advise on regulation and enforcement policies, administer shuttle services and other special public transit programs, monitor parking problems, and promote public parking, among other things. Special assessments may also be levied against real property located within the improvement district to help fund capital parking improvements.

Implementation of paid parking should be gradual and start with streets serving retail/restaurant uses which require short-term parking. Also, strict parking enforcement should be performed for effective utilization of on-street parking spaces. As development intensifies within the Town Center, paid parking could be implemented on additional streets.

Instead of individual space parking meters, the City should consider installing newer multi-space parking pay stations which can accommodate various payment methods (coins, bills, credit and debit cards, and by cellular telephone or Internet), charge only for time parked, incorporate multiple rates, and have the flexibility to vary rates by time of the day. Typically, one pay station is installed for every ten to twelve parking spaces. One pay station could be installed on each street block face for all on-street parking spaces on that street block face, thereby reducing street clutter associated with single-

space meters. Multi-space pay stations may be configured to provide either pay-by-space or pay-and-display services. There are advantages and disadvantages associated with either system. However, with the pay-and-display system, the customer buys a parking permit from the machine for the time parked and displays this parking permit on the dashboard of the vehicle for verification by the parking enforcement officer. The pay-by-space system requires the customer to identify in which specific space their car is parked and is typically easier for the parking enforcement officer to identify violators. These newer parking machines also produce receipts and record data for auditing, thus preventing fraud, and also record parking utilization data for planning purposes. Implementation of parking meters should follow the new requirements of the payment card industry by meeting the PCI-DSS requirements for accepting, storing, and processing credit cards.

Next Steps: To implement this parking management strategy, a detailed parking market rate and feasibility study is needed to identify streets within the Town Center where paid parking should be implemented and at what point in time the paid parking could be implemented. Integral to this study is an analysis of the various types of parking revenue control systems that would be required for implementation as well as administrative and operational requirements for processing and reporting revenue. This study would include a financial analysis including the cost (capital, operating, and maintenance) of the revenue devices, a schedule for phased implementation, identifications of city ordinances that will require modifications, and projections of future revenues.

Off-Street Pricing Strategies

All existing public off-street parking lots within the Town Center have no time limit on parking and are currently provided free of charge. In the future, charging a parking fee based on the number of hours parked will provide options for employees, commuters, and visitors who need to park for a longer duration. The parking fee charged will provide revenue which can be used for the operation and maintenance of the off-street parking facilities.

In the long-term, the City should consider instituting parking charges based on the number of hours parked. Also, during the construction of any City owned parking structure, the City should identify off-street parking lots within the vicinity of the Town Center to be used as over-flow parking in the event that parking spaces within the Town Center are fully utilized. Any parking fees for off-street parking lots would need to be implemented after on-street parking fees are implemented, and the rates for off-street parking will need to be less than those for on-street parking. To do otherwise removes the incentive to use off-street parking for longer durations, resulting in continued crowding of on-street parking and vehicles repetitively cruising while looking for on-street spaces.

Next Steps: To implement this parking management strategy, a detailed parking market rate and feasibility study is needed to identify off-street parking areas within the Town Center where paid parking should be implemented and at what point in time the paid parking could be implemented. This study should include an analysis of the types of revenue control systems that could be implemented for these facilities that would capture revenue but require minimal enforcement and operational costs.

6. Establish Parking Demand Reduction Strategies

This strategy is aimed at reducing parking demand within the Town Center. This approach could be accomplished by encouraging alternate modes of travel (transit, bicycle, and walk) by providing shuttle services that connect remote parking locations and guarantee rides home. Other potential reduction methods could include:

Transit Incentives: Once rail is in place, encourage use of rail transit by subsidizing transit fares and allowing flexible work schedules.

Remote Parking with Shuttle: Introduce an off-site location for employee parking and provide a safe and convenient shuttle system that can displace long-term parked vehicles out of the Town Center and open up more space for visitors. This can be done on a regular basis or during special events, but may require employee incentives to encourage its use.

Improving Walk and Bicycle Access: A consistent network of safe bicycle and pedestrian connections can promote non-motorized transportation use, freeing up additional parking for customers. A first step at improving walk and bicycle access could include that addition of bicycle racks in strategic locations.

This page left blank intentionally

SECTION 3 FINANCING

Approach

The ability for the City of McKinney to fund and finance a functional parking program, as well as additional supply, depends on several factors. Some of those factors the City controls, such as the overall parking management environment in downtown, and some are dependent on other considerations such as market-demand for parking (i.e. the willingness of patrons to pay and at what rate).

Around the country and within the State of Texas, a number of strategies have been used successfully to finance parking programs (which include facility capital projects). Common financing methods include federal grants, tax-increment financing, taxes from business improvement districts or parking tax districts, net revenues from other facilities and municipal lease-purchase or sale-leaseback financing, as well as certificates of participation developed through a third party developer.

To determine the best approach and combination of revenue/financing sources, the City must determine the role it intends to play in downtown parking over time. On the one hand, the City can view itself strictly as a means to finance additional parking supply as a matter of public policy (*i.e.*, that additional available parking is needed, regardless of the potential subsidy required given the level of current demand). On the other hand, the City may choose to construct additional parking supply only at the point in time when an established parking threshold is met (typically this threshold is when parking demand reaches 85% of parking supply). Current parking demand in the Historic Town Center is 53%. When demand is less than these typical thresholds, the financing gap may be significantly larger but may be justified, given other special public policy considerations such as maintaining the momentum of the Historic Square as an emerging regional entertainment center.

In addition to public financing support for added supply, the City may also consider pursuing a parking finance approach tied to a joint-development opportunity. In such a case, the added supply may be associated with a particular proprietary project that may provide additional revenue opportunities, as the demand for that particular project could also provide a way to structure a financing package tied to the planning and construction of another project.

The City of McKinney is not unique in its objective to provide efficient parking without yet knowing how all of the costs will be paid. And like many cities, effectively managing parking and creating additional supply (including parking structures) is seen as a catalyst to development and redevelopment activities. However, most parking programs are not self-supporting. Even when operating revenues are being generated, these revenues are often insufficient to cover operating expenses and debt service. Therefore, it is generally not possible for an owner to obtain 100 percent financing on a parking project; it will likely require subsidies at some level. Because of this, added parking supply should only be one of many solutions considered in a holistic plan for addressing parking in the Town Center. Implementation of select parking management strategies discussed previously should also be considered.

Market Study to Determine User Fee Capacity

To determine the most appropriate means of financing a functional parking program for the City of McKinney, a market and financial analysis study should be undertaken that measures the market's acceptance for paid parking as well as the price customers are willing to pay and under what conditions (in terms of reasons for parking, time of day, etc). The determination of the market capacity for user fees requires the analysis of the projected demand and potential revenues of a proposed parking facility, focusing on the extent to which the user fees will cover the operating expenses and debt service. This analysis then facilitates the definition and quantification of the necessary level of public participation in the financing of the parking costs.

Parking Costs

Parking costs are divided into two categories – capital costs for construction of parking infrastructure, and operations and maintenance costs that are typically combined. Both kinds of cost need to be considered for funding, and each may require separate funding sources because of the timing of when the financing is needed.

Capital costs are infrequent but are substantial. Operations and maintenance costs are regular (typically budgeted for annually), smaller costs. Capital (or development) costs and operating/maintenance costs vary widely. Land acquisition costs, construction costs, soft costs, and operating expenses are types of costs that must be meshed to best associate them with needed financing. This study has provided the initial estimates of probable costs, but those costs must be refined to ensure a credible financing program.

Land Acquisition Costs

Land costs are difficult to estimate but are critical to a project's economic analysis. Should the City decide to construct additional parking supply, the determination of a cost basis pre-acquisition will need to be discussed in the context of a protected real estate acquisition process.

Construction Costs

The most significant variable impacting construction or "hard" costs is the type of parking improvement. Surface parking lots can be constructed for as little as \$1,000 per space or less for a basic paving and striping project and as much as \$3,000 or more per space for a grander project featuring an elaborate drainage systems, premium light fixtures, signage and graphics, and landscaping.

Structured parking costs represent comparatively higher costs per space than surface parking and typically range anywhere from \$9,000 to \$30,000 or more per space, depending on the project particulars.

Soft Costs

To derive a total project cost, other costs must be added to the construction and land costs. These additional costs are referred to as "soft" costs, and may include items such as a construction contingency, architectural/engineering fees, soils and materials testing, debt service reserve funds, legal fees, and financing costs. Soft costs can vary significantly but typically fall within 15 to 35 percent of construction costs.

Operating Expenses

Operating expenses of parking facilities and programs also vary dramatically. Variations are due to geographical location, size of facility, staffing patterns, method of operation, and local legal requirements. These expenses include enforcement, the cost of utilities, supplies, daily maintenance, lighting, cashiering, management and accounting services, on-site security, structural maintenance, landscaping and insurance. Multi-story structures may require additional costs for fire control equipment and elevators, and underground parking may require mechanical ventilation. Public parking facilities typically do not pay taxes. Annual operating and maintenance (O&M) costs for a parking structure are dependent upon several variables, including whether or not the garage is free or for pay (which may require personnel), whether or not there are restrooms, how large the structure is, and how many levels of parking it provides. Types of insurance coverage include comprehensive liability, the garage operator's legal liability, fire and extended coverage, workers' compensation, equipment coverage, money and security coverage (theft occurring on the premises), blanket honest coverage (employee theft), and rent and business interruption coverage, (structural damage resulting from natural phenomena). Annual operating expenses for structured parking facilities typically range from \$200 to more than \$800 per space. These figures exclude parking, property, and sales taxes.

Financing Strategies

The decision-making process for financing should begin with a general agreement regarding basic principles and end with a more detailed approach for resolving funding, management, and cost allocation issues. A consensus among the City's leadership on general principles will help guide and resolve financing-related issues as they arise throughout the implementation process.

Guiding Principles

The City's financing strategy should be guided by the following principles:

- The improvement program that is ultimately adopted must be financially feasible, i.e., funding sources must be identified and quantified to match programmed expenditures. In addition, maintenance, operations and depreciation must be considered prior to project development. Given the significant cost associated with construction of parking facilities, it will be important to develop a strategic approach to project financing and prioritization of investments.
- Innovative ways of covering project costs should be pursued based on a concerted public-private partnership and leveraging the diverse spectrum of potential sources available. The large cost of meeting the parking needs suggests that existing sources and standard techniques will need to be leveraged and expanded in a number of ways. Private funding through fees and assessments will also be required based on a market study. The support of local stakeholders and the McKinney community will be critical for success. Given general fiscal realities and the likely reduced market at this time for the ability to charge significant user fees, it is anticipated that the financing program will be based on a concerted public-private partnership.
- The costs associated with parking facilities should be allocated in a proportional and equitable manner and, to the extent possible, across a range of potential beneficiaries and user groups associated with the facilities. No single financing mechanism is expected to cover the full cost of construction and operating a parking program. Rather, a combination of sources will be required in order to provide adequate funding and allocate costs among different groups. The section below outlines several financing scenarios developed to illustrate the range of financial responsibilities that could be assigned to various entities and provides further detail on the nature and potential applicability of various funding mechanisms.

Financing Sources

Federal Grants

At least two potential funding sources are available at the federal level. Location, intended use of the facility, and availability of grant money are the variables that typically govern whether a project receives federal grant money. The U.S. Department of Transportation offers two types of grants that may be applicable to a parking project: Federal Transit Capital Investment Grants and Federal Transit Formula Grants. Both the capital and formula grants can be applied to virtually any infrastructure improvement pertaining to the establishment or improvement of mass transit systems. Qualified applicants include: public agencies, states, municipalities, public corporations, boards and commissions, and private agencies through contractual agreements with a public agency grantee. Qualifying parties must submit an application with detailed requirements and approval of the project by the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA).

Tax Increment Financing

Implementation of a tax increment finance ("TIF") district is a common financing mechanism employed by municipalities. Tax increment financing is a way to use tax revenue growth produced by an increase in the tax base of a specified area to fund improvements. A TIF is an increasingly viable solution to funding the development of needed infrastructure, including structured parking. Projects are funded through an anticipated increase in the area's property tax revenues. TIF districts do not generate tax revenues by increasing tax rates.

Rather, the TIF district generates revenues by permitting the municipality to temporarily capture the tax revenues generated by the enhanced valuation of properties resulting from various redevelopment projects in a defined area.

In-Lieu Fees

In-lieu fees are charged to development “in-lieu” of parking that developers would otherwise be required to construct on site. Such fees are generally optional, apply to new development as well as redevelopment, and are typically collected when building permits are issued. Alternative payment options have been implemented by other municipalities and should be considered for this program. As one of several sources, this fee may make sense as a significant number of new construction projects may not have sufficient available land for surface parking. This fee, however, should be analyzed in the context of not dissuading new development or substantial redevelopment downtown. This approach assumes that residential development typically constructs its own on-site parking.

Business Improvement District / Parking District / Special Assessments

Special assessments are charges to real property based upon a benefit conferred by a public improvement (in this instance, parking). In order to collect special assessments from downtown property owners, the City would need to establish a Parking District. A special assessment would require the support of the owners of a majority of the proposed district. Alternatively, the City could generate similar revenues through an increase in the business license tax without voter approval. It is assumed that, in either case, residential development would be excluded from this fee.

Certificates of Participation

A Certificate of Participation (COP) allows the public to purchase a share of the lease revenues paid by a municipal entity for the acquisition or construction of specific equipment, land, or facilities. COP proceeds are then used to fund the project or acquisition. The technique provides long-term financing that does not constitute indebtedness under the state constitutional debt limit and does not require voter approval. Repayment of COPs can come from a variety of sources, including general fund revenues or earmarked funds in the general fund such as special tax proceeds or fees. Potential revenues from tax increases and parking meter fees are discussed below. These sources could also be used to cover operations and maintenance costs. COPs may also be utilized by private development companies wishing to construct the facility with a revenue stream developed from a municipal lease-purchase program.

Meters, Fees, and Enforcement Fines

Many jurisdictions have been able to partially finance construction of parking structures using bonds funded through on-street parking meter revenues and fines. However, McKinney would likely not be able to generate enough revenue for this approach to be feasible for some time. Nevertheless, beginning to advance this policy early would enable that revenue stream to be captured over time so that it is available and dedicated for parking capital needs as one more source of total revenue available for financing a comprehensive parking program downtown. Meters also become an important parking management tool to encourage turnover and control employee parking. Ultimately, the ability to generate net revenues from meters (after accounting for enforcement and capital costs) depends upon local parking demand and supply dynamics as well as public policy objectives.

Revenue Generated by Surface Lots

In addition to revenue generated by charging for on-street parking, the City could implement a paid parking program for surface lots that are owned and operated by the City. The lots currently allow for free parking. Revenues generated by these facilities could be used to pay for maintenance of the facilities as well as be placed in a general parking fund for use in other parking programs such as the design and construction of additional parking facilities. Implementation of this program would secure near term revenue stream that could be accumulated over time to assist in advancing and funding the City’s overall parking program.

Private Funding

In rare cases, private developers may build parking facilities. This generally occurs in dense urban areas, where parking is at a premium and operators are able to charge extremely high parking fees. Given McKinney's size and relatively low level of parking demand, it is unlikely that private developers would pursue construction of a parking structure in the downtown area entirely on their own without some financial participation through municipal lease-purchasing financing or other City financial participation. Potentially, City-owned land could be provided to a developer with the requirement that development of the property include a parking facility. However, this option could limit the City's control and flexibility. Selling City-owned land and using the revenues to cover a portion of parking structure costs would produce similar results while allowing the City greater involvement in project implementation.

Conclusions

There is no such thing as "free parking." Even if parking is provided free of charge to users, someone pays for the land, construction, and maintenance of parking facilities and spaces. McKinney currently provides free parking for users in the Historic Town Center with ongoing operations, maintenance and enforcement coming out of departmental budgets. A follow up market study is needed to provide the City with a framework within which it can begin to advance a user fee system, while balancing the need for the potential of free parking during some periods of the day (such as in the evening when it is desirable to encourage the patronage of restaurants, etc).

Once a market study is completed and matched against a comparison of likely revenues and costs and once the determination is made whether the financing of parking should be pursued through a public-private partnership or not, a specific financing package can then be crafted to meet both the general public policy goals sought through a downtown parking policy and the specific needs of an initial parking structure. It should be noted that there is typically not a single "silver bullet" solution to financing (meaning no single option described previously will suffice); rather, implementation typically involves a phased combination of differing viable strategies as redevelopment occurs.

The strategy for implementation of the parking program should be developed to meet the long-term goals of the City (specifically, how the parking program can facilitate the sustained economic growth and vitality of the downtown historic district). A comprehensive parking program, consisting of numerous individual initiatives, should be a well thought-out and developed program that enjoys the buy-in and coordination of all stakeholders within the downtown historic district. The parking program should enhance the parking experience, provide better access to local businesses and generate sufficient revenue to be self sufficient.

Next Steps

The City of McKinney must determine how parking should be managed and at what time additional supply should be created. In other words, the City must decide if they will simply manage existing parking facilities and operations as has previously been done (providing a minimal amount of new parking in the Town Center and expecting the market to provide additional supply as redevelopment occurs). Conversely, the decision must be made as to whether or not a more proactive approach should be taken, implementing sound parking management strategies and providing additional parking supply (i.e. structured parking) in response to existing deficiencies (or perceived deficiencies) or to help spur future development.

This decision will determine the direction and scope of next steps necessary to enact a sound parking management strategy and direction for consideration of what role parking will play in redevelopment plans of the Town Center.

Parking Demand Model - Data Output Sheet (Weekday Analysis)

Scenario	Shared Parking? ^A	Period	Hourly Analysis	Event
Existing	Yes	Weekday	Peak	Normal

Zone	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	428	670	242	0	670	242
Zone B	346	674	328	0	674	328
Zone C	212	440	228	0	440	228
Zone D	366	719	353	0	719	353
Totals	1,352	2,503	1,151	0	2,503	1,151

Projected Number of Parking Spaces Needed: 0

Peak Period: 2:00 PM
 Scenario: Existing
 Event: Normal operating conditions

Modify Inputs

Output to GIS

Notes:

A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.

B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.

C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.

D = Parking supply minus peak parking demand.

E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.

F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).

G = Adjusted parking supply minus peak parking demand.

**Parking Demand Model
City of McKinney, Texas
Historic Town Center
Summary of Land Uses & Intensities by Parking Analysis Zone**

Zone A				
Description	ITE Code	Existing	Future	Units
Hotel	310	46	0	rooms
City Park	411	1.22	0.00	acres
Performing Arts Theater	441	427	0	seats
Auditorium	595	12,200	0	s.f.
Community Center	495	7,189	0	s.f.
Museum	580	0	0	s.f.
Library	590	33,000	0	s.f.
General Office	701	139,623	0	s.f.
General Retail	820	75,280	0	s.f.
Restaurant	931	34,997	0	s.f.

Zone B				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.00	0.00	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	4,600	0	s.f.
Library	590	0	0	s.f.
General Office	701	84,076	0	s.f.
General Retail	820	133,707	0	s.f.
Restaurant	931	23,590	0	s.f.

Zone C				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.00	0.00	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	0	0	s.f.
Library	590	0	0	s.f.
General Office	701	78,855	0	s.f.
General Retail	820	58,588	0	s.f.
Restaurant	931	13,751	0	s.f.

Zone D				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.00	0.00	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	7,128	0	s.f.
Library	590	0	0	s.f.
General Office	701	213,732	0	s.f.
General Retail	820	41,383	0	s.f.
Restaurant	931	12,708	0	s.f.

Source: City of McKinney GIS Data (Existing) and City of McKinney Planning Department (Future)

**Comprehensive Parking Study
City of McKinney, Texas
Historic Town Center
Summary of Parking Supply by Parking Analysis Zone**

Zone A		
Description	Existing	Future
Public Surface Lots	267	
Private Surface Lots	210	
On-Street Parking	193	
Total Number of Spaces	670	

Zone B		
Description	Existing	Future
Public Surface Lots	301	
Private Surface Lots	274	
On-Street Parking	99	
Total Number of Spaces	674	

Zone C		
Description	Existing	Future
Public Surface Lots	90	
Private Surface Lots	251	
On-Street Parking	99	
Total Number of Spaces	440	

Zone D		
Description	Existing	Future
Public Surface Lots	604	
Private Surface Lots	45	
On-Street Parking	70	
Total Number of Spaces	719	

Source: City of McKinney 2004 Parking Study Supplemented with 2009 Counts and Known Modifications

Parking Demand Model - Zonal Summary Sheet

	Zone A	Zone B	Zone C	Zone D
Development Summary				
Hotel	46 rooms	0 rooms	0 rooms	0 rooms
City Park	1 acres	0 acres	0 acres	0 acres
Performing Arts Theater	427 seats	0 seats	0 seats	0 seats
Auditorium	12,200 s.f.	0 s.f.	0 s.f.	0 s.f.
Community Center	7,169 s.f.	0 s.f.	0 s.f.	0 s.f.
Museum	0 s.f.	4,600 s.f.	0 s.f.	7,123 s.f.
Library	33,000 s.f.	0 s.f.	0 s.f.	0 s.f.
General Office	139,623 s.f.	84,076 s.f.	78,855 s.f.	213,732 s.f.
General Retail	75,280 s.f.	133,707 s.f.	58,588 s.f.	41,383 s.f.
Restaurant	34,997 s.f.	23,590 s.f.	13,751 s.f.	12,708 s.f.
Alternative Modes				
Transit Usage	0%	0%	0%	0%
Bicycle Usage	1%	1%	1%	1%
Noncaptve Ratio	98%	98%	98%	98%
Walking Trips	5%	5%	5%	5%
Assume Shared Use Parking? (Y/N)				
Parking Supply Information				
Public Surface Lots	267	301	90	604
Private Surface Lots	210	274	251	45
On-Street Parking	193	99	99	70
Total Number of Spaces	670	674	440	719

Parking Demand Model - Data Output Sheet (Weekday Analysis) - Scenario 1

Scenario	Shared Parking? ^A	Period	Hourly Analysis	Event
Future	Yes	Weekday	Peak	Normal

Zone	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	724	244	-480	0	244	-480
Zone B	1,503	124	-1,379	0	124	-1,379
Zone C	398	288	-110	0	288	-110
Zone D	716	185	-531	0	185	-531
Totals	3,341	841	-2,500	0	841	-2,500

Projected Number of Parking Spaces Needed: 2,500

Peak Period: 2:00 PM
 Scenario: Future
 Event: Normal operating conditions

Modify Inputs

Output to GIS

Notes:

A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.

B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.

C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.

D = Parking supply minus peak parking demand.

E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.

F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).

G = Adjusted parking supply minus peak parking demand.

**Parking Demand Model
City of McKinney, Texas
Historic Town Center**

Summary of Land Uses & Intensities by Parking Analysis Zone - Scenario 1

Zone A				
Description	ITE Code	Existing	Future	Units
Hotel	310	46	46	rooms
City Park	411	1.27	1.27	acres
Performing Arts Theater	441	427	427	seats
Auditorium	595	12,200	12,200	s.f.
Community Center	495	7,189	7,189	s.f.
Museum	580	0	0	s.f.
Library	590	33,000	33,000	s.f.
General Office	701	221,087	221,087	s.f.
General Retail	820	106,704	106,704	s.f.
Restaurant	931	49,613	49,613	s.f.

Zone B				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.00	0.00	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	4,600	4,600	s.f.
Library	590	0	0	s.f.
General Office	701	335,516	335,516	s.f.
General Retail	820	401,352	401,352	s.f.
Restaurant	931	104,686	104,686	s.f.

Zone C				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.31	0.31	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	0	0	s.f.
Library	590	0	0	s.f.
General Office	701	115,385	115,385	s.f.
General Retail	820	93,859	93,859	s.f.
Restaurant	931	21,304	21,304	s.f.

Zone D				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.15	0.15	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	4,058	4,058	s.f.
Museum	580	7,128	7,128	s.f.
Library	590	0	0	s.f.
General Office	701	352,796	352,796	s.f.
General Retail	820	69,268	69,268	s.f.
Restaurant	931	24,788	24,788	s.f.

Source: City of McKinney GIS Data (Existing) and City of McKinney Planning Department (Future)

**Comprehensive Parking Study
 City of McKinney, Texas
 Historic Town Center
 Summary of Parking Supply by Parking Analysis Zone - Scenario 1**

Zone A		
Description	Existing	Future
Public Surface Lots	267	0
Structured Parking	0	0
Private Surface Lots	422	0
On-Street Parking	244	244
Total Number of Spaces	933	244

Zone B		
Description	Existing	Future
Public Surface Lots	361	0
Structured Parking	0	0
Private Surface Lots	285	0
On-Street Parking	124	124
Total Number of Spaces	770	124

Zone C		
Description	Existing	Future
Public Surface Lots	90	0
Structured Parking	0	0
Private Surface Lots	429	134
On-Street Parking	154	154
Total Number of Spaces	673	288

Zone D		
Description	Existing	Future
Public Surface Lots	604	0
Structured Parking	0	0
Private Surface Lots	88	61
On-Street Parking	124	124
Total Number of Spaces	816	185

Source: City of McKinney 2004 Parking Study

Parking Demand Model - Zonal Summary Sheet - Scenario 1

Zone A		Zone B		Zone C		Zone D	
Development Summary		Development Summary		Development Summary		Development Summary	
Hotel	46 rooms	Hotel	0 rooms	Hotel	0 rooms	Hotel	0 rooms
City Park	1.27 acres	City Park	0 acres	City Park	0 acres	City Park	0 acres
Performing Arts Theater	427 seats	Performing Arts Theater	0 seats	Performing Arts Theater	0 seats	Performing Arts Theater	0 seats
Auditorium	12,200 s.f.	Auditorium	0 s.f.	Auditorium	0 s.f.	Auditorium	0 s.f.
Community Center	7,169 s.f.	Community Center	0 s.f.	Community Center	0 s.f.	Community Center	4,059 s.f.
Museum	0 s.f.	Museum	4,600 s.f.	Museum	0 s.f.	Museum	7,123 s.f.
Library	33,000 s.f.	Library	0 s.f.	Library	0 s.f.	Library	0 s.f.
General Office	221,087 s.f.	General Office	335,516 s.f.	General Office	115,385 s.f.	General Office	352,796 s.f.
General Retail	106,704 s.f.	Grove Retail	401,352 s.f.	Grove Retail	93,859 s.f.	Grove Retail	69,268 s.f.
Restaurant	49,613 s.f.	Restaurant	104,686 s.f.	Restaurant	21,304 s.f.	Restaurant	24,788 s.f.
Alternative Modes		Alternative Modes		Alternative Modes		Alternative Modes	
Transit Usage	5%	Transit Usage	5%	Transit Usage	5%	Transit Usage	5%
Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%
Noncaptve Ratio	92%	Noncaptve Ratio	92%	Noncaptve Ratio	92%	Noncaptve Ratio	92%
Walking Trips	10%	Walking Trips	10%	Walking Trips	10%	Walking Trips	10%
Assume Shared Use Parking? (Y/N)		Assume Shared Use Parking? (Y/N)		Assume Shared Use Parking? (Y/N)		Assume Shared Use Parking? (Y/N)	
Parking Supply Information		Parking Supply Information		Parking Supply Information		Parking Supply Information	
Public Surface Lots	0	Public Surface Lots	0	Public Surface Lots	0	Public Surface Lots	0
Structured Parking	0	Structured Parking	0	Structured Parking	0	Structured Parking	0
Private Surface Lots	0	Private Surface Lots	0	Private Surface Lots	134	Private Surface Lots	61
On-Street Parking	244	On-Street Parking	124	On-Street Parking	154	On-Street Parking	124
Total Number of Spaces	244	Total Number of Spaces	124	Total Number of Spaces	288	Total Number of Spaces	185

Peak Parking Accumulation - All Zones - Scenario 1

1. Development Program Summary

Zone A		Zone B		Zone C		Zone D	
Use	Occ Rate	Use	Occ Rate	Use	Occ Rate	Use	Occ Rate
Hotel	100%	Hotel	100%	Hotel	100%	Hotel	100%
City Park	100%	City Park	100%	City Park	100%	City Park	100%
Performing Arts Theater	100%	Performing Arts Theater	100%	Performing Arts Theater	100%	Performing Arts Theater	100%
Auditorium	100%	Auditorium	100%	Auditorium	100%	Auditorium	100%
Community Center	100%	Community Center	100%	Community Center	100%	Community Center	100%
Church	100%	Church	100%	Church	100%	Church	100%
Museum	100%	Museum	100%	Museum	100%	Museum	100%
Library	100%	Library	100%	Library	100%	Library	100%
General Office	100%	General Office	100%	General Office	100%	General Office	100%
General Retail	100%	General Retail	100%	General Retail	100%	General Retail	100%
Restaurant	100%	Restaurant	100%	Restaurant	100%	Restaurant	100%
	46 rooms		0 rooms		0 rooms		0 rooms
	1 acres		0 acres		0 acres		0 acres
	427 seats		0 seats		0 seats		0 seats
	12,200 s.f.		0 s.f.		0 s.f.		0 s.f.
	7,189 s.f.		0 s.f.		0 s.f.		4,068 s.f.
	0 s.f.		0 s.f.		0 s.f.		0 s.f.
	0 s.f.		4,600 s.f.		0 s.f.		7,128 s.f.
	33,000 s.f.		0 s.f.		0 s.f.		0 s.f.
	221,097 s.f.		335,516 s.f.		115,385 s.f.		352,796 s.f.
	108,734 s.f.		401,353 s.f.		93,859 s.f.		69,263 s.f.
	49,613 s.f.		104,656 s.f.		21,304 s.f.		24,788 s.f.

2. Peak Parking Accumulation Factors

Zone A		Zone B		Zone C		Zone D	
Use	Factor	Use	Factor	Use	Factor	Use	Factor
Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room
City Park	2.00 per acre	City Park	2.00 per acre	City Park	2.00 per acre	City Park	2.00 per acre
Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat
Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat
Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA
Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA
Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA
Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA
Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA
General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA
General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA
General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA
Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA
Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA

3. Alternative Travel Modes

Zone A		Zone B		Zone C		Zone D	
Mode	Usage	Mode	Usage	Mode	Usage	Mode	Usage
Transit Usage	5%	Transit Usage	5%	Transit Usage	5%	Transit Usage	5%
Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%
Noncaptve Ratio	92%	Noncaptve Ratio	92%	Noncaptve Ratio	92%	Noncaptve Ratio	92%
Walking Trips	10%	Walking Trips	10%	Walking Trips	10%	Walking Trips	10%

4. Peak Parking Accumulation (Single Use Methodology)

Zone A		Zone B		Zone C		Zone D	
Use	Spaces	Use	Spaces	Use	Spaces	Use	Spaces
Hotel (Guest)	34 spaces	Hotel (Guest)	0 spaces	Hotel (Guest)	0 spaces	Hotel (Guest)	0 spaces
City Park	2 spaces	City Park	0 spaces	City Park	0 spaces	City Park	0 spaces
Performing Arts Theater (Patron)	83 spaces	Performing Arts Theater (Patron)	0 spaces	Performing Arts Theater (Patron)	0 spaces	Performing Arts Theater (Patron)	0 spaces
Performing Arts Theater (Employee)	16 spaces	Performing Arts Theater (Employee)	0 spaces	Performing Arts Theater (Employee)	0 spaces	Performing Arts Theater (Employee)	0 spaces
Auditorium (Patron)	22 spaces	Auditorium (Patron)	0 spaces	Auditorium (Patron)	0 spaces	Auditorium (Patron)	0 spaces
Auditorium (Employee)	4 spaces	Auditorium (Employee)	0 spaces	Auditorium (Employee)	0 spaces	Auditorium (Employee)	0 spaces
Community Center	5 spaces	Community Center	0 spaces	Community Center	0 spaces	Community Center	3 spaces
Museum	0 spaces	Museum	3 spaces	Museum	0 spaces	Museum	5 spaces
Library	12 spaces	Library	0 spaces	Library	0 spaces	Library	0 spaces
General Office (Guest)	41 spaces	General Office (Guest)	62 spaces	General Office (Guest)	23 spaces	General Office (Guest)	65 spaces
General Office (Employee)	285 spaces	General Office (Employee)	432 spaces	General Office (Employee)	149 spaces	General Office (Employee)	454 spaces
General Retail	196 spaces	General Retail	738 spaces	General Retail	173 spaces	General Retail	127 spaces
Restaurant (Patron)	146 spaces	Restaurant (Patron)	308 spaces	Restaurant (Patron)	63 spaces	Restaurant (Patron)	73 spaces
Restaurant (Employee)	37 spaces	Restaurant (Employee)	77 spaces	Restaurant (Employee)	16 spaces	Restaurant (Employee)	18 spaces
Total	883 spaces	Total	1,620 spaces	Total	422 spaces	Total	745 spaces

5. Peak Parking Accumulation (Shared Use Parking Methodology)

Zone A	Zone B	Zone C	Zone D	
Parking Demand (Total Spaces)	724 spaces	1,503 spaces	398 spaces	716 spaces

Parking Demand Model - Data Output Sheet (Weekday Analysis) - Scenario 2

Scenario	Shared Parking? ^A	Period	Hourly Analysis	Event
Future	Yes	Weekday	Peak	Normal

Zone	Peak Parking Demand ^B	Parking Supply ^C	Parking Supply Surplus ^D	Available Proximity Parking ^E	Adjusted Parking Supply ^F	Net Parking Surplus/Deficit ^G
Zone A	724	244	-480	0	244	-480
Zone B	1,503	753	-750	0	753	-750
Zone C	398	288	-110	0	288	-110
Zone D	716	685	-31	0	685	-31
Totals	3,341	1,970	-1,371	0	1,970	-1,371

Projected Number of Parking Spaces Needed: 1,400

Peak Period: 2:00 PM
 Scenario: Future
 Event: Normal operating conditions

Modify Inputs

Output to GIS

Notes:

A = Shared Parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment.

B = Peak parking demand represents the total number of parking spaces required to meet peak parking accumulation with an effective parking supply. The effective parking supply allows a small cushion of spaces (10%) over the peak parking accumulation to provide for operation fluctuations, misparked vehicles, snow cover, vehicle maneuvers, and vacancies created by reserving spaces for specific users, such as disabled parking. The cushion reduces the need to search the entire system for the last few parking spaces, thus reducing patron frustration. The 85th percentile of observed peak hour accumulations is employed by the Urban Land Institute and the Institute of Transportation Engineers for determining the parking ratios used in this analysis.

C = Parking supply includes all available parking spaces identified within the zone, whether provided in parking decks, on-street parking spaces, or surface lots.

D = Parking supply minus peak parking demand.

E = Available Proximity Parking shows the amount of donated spaces that each zone can receive, up to the zone's total need.

F = Adjusted parking supply accounts for proximity parking spaces donated from adjacent zones (if available).

G = Adjusted parking supply minus peak parking demand.

**Parking Demand Model
City of McKinney, Texas
Historic Town Center**

Summary of Land Uses & Intensities by Parking Analysis Zone - Scenario 2

Zone A				
Description	ITE Code	Existing	Future	Units
Hotel	310	46	46	rooms
City Park	411	1.27	1.27	acres
Performing Arts Theater	441	427	427	seats
Auditorium	595	12,200	12,200	s.f.
Community Center	495	7,189	7,189	s.f.
Museum	580	0	0	s.f.
Library	590	33,000	33,000	s.f.
General Office	701	221,087	221,087	s.f.
General Retail	820	106,704	106,704	s.f.
Restaurant	931	49,613	49,613	s.f.

Zone B				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.00	0.00	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	4,600	4,600	s.f.
Library	590	0	0	s.f.
General Office	701	335,516	335,516	s.f.
General Retail	820	401,352	401,352	s.f.
Restaurant	931	104,686	104,686	s.f.

Zone C				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.31	0.31	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	0	0	s.f.
Museum	580	0	0	s.f.
Library	590	0	0	s.f.
General Office	701	115,385	115,385	s.f.
General Retail	820	93,859	93,859	s.f.
Restaurant	931	21,304	21,304	s.f.

Zone D				
Description	ITE Code	Existing	Future	Units
Hotel	310	0	0	rooms
City Park	411	0.15	0.15	acres
Performing Arts Theater	441	0	0	seats
Auditorium	595	0	0	s.f.
Community Center	495	4,058	4,058	s.f.
Museum	580	7,128	7,128	s.f.
Library	590	0	0	s.f.
General Office	701	352,796	352,796	s.f.
General Retail	820	69,268	69,268	s.f.
Restaurant	931	24,788	24,788	s.f.

Source: City of McKinney GIS Data (Existing) and City of McKinney Planning Department (Future)

**Comprehensive Parking Study
 City of McKinney, Texas
 Historic Town Center
 Summary of Parking Supply by Parking Analysis Zone - Scenario 2**

Zone A		
Description	Existing	Future
Public Surface Lots	267	0
Structured Parking	0	0
Private Surface Lots	422	0
On-Street Parking	244	244
Total Number of Spaces	933	244

Zone B		
Description	Existing	Future
Public Surface Lots	361	0
Structured Parking	0	629
Private Surface Lots	285	0
On-Street Parking	124	124
Total Number of Spaces	770	753

Zone C		
Description	Existing	Future
Public Surface Lots	90	0
Structured Parking	0	0
Private Surface Lots	429	134
On-Street Parking	154	154
Total Number of Spaces	673	288

Zone D		
Description	Existing	Future
Public Surface Lots	604	0
Structured Parking	0	500
Private Surface Lots	88	61
On-Street Parking	124	124
Total Number of Spaces	816	685

Source: City of McKinney 2004 Parking Study

Parking Demand Model - Zonal Summary Sheet - Scenario 2

	Zone A		Zone B		Zone C		Zone D	
Development Summary			Development Summary		Development Summary		Development Summary	
Hotel	46 rooms		Hotel	0 rooms	Hotel	0 rooms	Hotel	0 rooms
City Park	1.27 acres		City Park	0.00 acres	City Park	0.31 acres	City Park	0.15 acres
Performing Arts Theater	427 seats		Performing Arts Theater	0 seats	Performing Arts Theater	0 seats	Performing Arts Theater	0 seats
Auditorium	12,200 s.f.		Auditorium	0 s.f.	Auditorium	0 s.f.	Auditorium	0 s.f.
Community Center	7,169 s.f.		Community Center	0 s.f.	Community Center	0 s.f.	Community Center	4,059 s.f.
Museum	0 s.f.		Museum	4,600 s.f.	Museum	0 s.f.	Museum	7,123 s.f.
Library	33,000 s.f.		Library	0 s.f.	Library	0 s.f.	Library	0 s.f.
General Office	221,087 s.f.		General Office	335,516 s.f.	General Office	115,385 s.f.	General Office	352,796 s.f.
General Retail	106,704 s.f.		Grove Retail	401,352 s.f.	Grove Retail	93,859 s.f.	Grove Retail	69,268 s.f.
Restaurant	49,613 s.f.		Restaurant	104,686 s.f.	Restaurant	21,304 s.f.	Restaurant	24,788 s.f.
Alternative Modes			Alternative Modes		Alternative Modes		Alternative Modes	
Transit Usage	5%		Transit Usage	5%	Transit Usage	5%	Transit Usage	5%
Bicycle Usage	5%		Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%
Noncaptve Ratio	92%		Noncaptve Ratio	92%	Noncaptve Ratio	92%	Noncaptve Ratio	92%
Walking Trips	10%		Walking Trips	10%	Walking Trips	10%	Walking Trips	10%
Assume Shared Use Parking? (Y/N)			Assume Shared Use Parking? (Y/N)		Assume Shared Use Parking? (Y/N)		Assume Shared Use Parking? (Y/N)	
Parking Supply Information			Parking Supply Information		Parking Supply Information		Parking Supply Information	
Public Surface Lots	0		Public Surface Lots	0	Public Surface Lots	0	Public Surface Lots	0
Structured Parking	0		Structured Parking	629	Structured Parking	0	Structured Parking	500
Private Surface Lots	0		Private Surface Lots	0	Private Surface Lots	134	Private Surface Lots	61
On-Street Parking	244		On-Street Parking	124	On-Street Parking	154	On-Street Parking	124
Total Number of Spaces	244		Total Number of Spaces	753	Total Number of Spaces	288	Total Number of Spaces	685

Peak Parking Accumulation - All Zones - Scenario 2

1. Development Program Summary

Zone A		Zone B		Zone C		Zone D	
Use	Occ Rate	Use	Occ Rate	Use	Occ Rate	Use	Occ Rate
Hotel	100% 46 rooms	Hotel	100% 0 rooms	Hotel	100% 0 rooms	Hotel	100% 0 rooms
City Park	100% 1.27 acres	City Park	100% 0.00 acres	City Park	100% 0.31 acres	City Park	100% 0.15 acres
Performing Arts Theater	100% 427 seats	Performing Arts Theater	100% 0 seats	Performing Arts Theater	100% 0 seats	Performing Arts Theater	100% 0 seats
Auditorium	100% 12,200 s.f.	Auditorium	100% 0 s.f.	Auditorium	100% 0 s.f.	Auditorium	100% 0 s.f.
Community Center	100% 7,188 s.f.	Community Center	100% 0 s.f.	Community Center	100% 0 s.f.	Community Center	100% 4,658 s.f.
Museum	100% 0 s.f.	Museum	100% 4,600 s.f.	Museum	100% 0 s.f.	Museum	100% 7,128 s.f.
Library	100% 33,000 s.f.	Library	100% 0 s.f.	Library	100% 0 s.f.	Library	100% 0 s.f.
General Office	100% 221,087 s.f.	General Office	100% 335,518 s.f.	General Office	100% 115,385 s.f.	General Office	100% 352,796 s.f.
General Retail	100% 106,704 s.f.	General Retail	100% 401,352 s.f.	General Retail	100% 93,850 s.f.	General Retail	100% 69,258 s.f.
Restaurant	100% 49,613 s.f.	Restaurant	100% 104,680 s.f.	Restaurant	100% 21,304 s.f.	Restaurant	100% 24,799 s.f.

2. Peak Parking Accumulation Factors

Zone A		Zone B		Zone C		Zone D	
Use	Factor	Use	Factor	Use	Factor	Use	Factor
Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room	Hotel (Guest)	1.00 per room
City Park	2.00 per acre	City Park	2.00 per acre	City Park	2.00 per acre	City Park	2.00 per acre
Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat	Performing Arts Theater (Patron)	0.20 per seat
Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat	Performing Arts Theater (Employee)	0.05 per seat
Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA	Auditorium (Patron)	2.50 per 1,000 GFA
Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA	Auditorium (Employee)	0.50 per 1,000 GFA
Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA	Community Center	1.00 per 1,000 GFA
Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA	Museum	1.00 per 1,000 GFA
Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA	Library	0.50 per 1,000 GFA
General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA	General Office (Guest)	0.25 per 1,000 GFA
General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA	General Office (Employee)	1.75 per 1,000 GFA
General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA	General Retail	2.50 per 1,000 GFA
Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA	Restaurant (Patron)	4.00 per 1,000 GFA
Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA	Restaurant (Employee)	1.00 per 1,000 GFA

3. Alternative Travel Modes

Zone A		Zone B		Zone C		Zone D	
Mode	Percentage	Mode	Percentage	Mode	Percentage	Mode	Percentage
Transit Usage	5%	Transit Usage	5%	Transit Usage	5%	Transit Usage	5%
Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%	Bicycle Usage	5%
Noncapative Ratio	92%	Noncapative Ratio	92%	Noncapative Ratio	92%	Noncapative Ratio	92%
Walking Trips	10%	Walking Trips	10%	Walking Trips	10%	Walking Trips	10%

4. Peak Parking Accumulation (Single Use Methodology)

Zone A		Zone B		Zone C		Zone D	
Use	Spaces	Use	Spaces	Use	Spaces	Use	Spaces
Hotel (Guest)	34 spaces	Hotel (Guest)	0 spaces	Hotel (Guest)	0 spaces	Hotel (Guest)	0 spaces
City Park	2 spaces	City Park	0 spaces	City Park	0 spaces	City Park	0 spaces
Performing Arts Theater (Patron)	83 spaces	Performing Arts Theater (Patron)	0 spaces	Performing Arts Theater (Patron)	0 spaces	Performing Arts Theater (Patron)	0 spaces
Performing Arts Theater (Employee)	16 spaces	Performing Arts Theater (Employee)	0 spaces	Performing Arts Theater (Employee)	0 spaces	Performing Arts Theater (Employee)	0 spaces
Auditorium (Patron)	22 spaces	Auditorium (Patron)	0 spaces	Auditorium (Patron)	0 spaces	Auditorium (Patron)	0 spaces
Auditorium (Employee)	4 spaces	Auditorium (Employee)	0 spaces	Auditorium (Employee)	0 spaces	Auditorium (Employee)	0 spaces
Community Center	5 spaces	Community Center	0 spaces	Community Center	0 spaces	Community Center	3 spaces
Museum	0 spaces	Museum	3 spaces	Museum	0 spaces	Museum	5 spaces
Library	12 spaces	Library	0 spaces	Library	0 spaces	Library	0 spaces
General Office (Guest)	41 spaces	General Office (Guest)	62 spaces	General Office (Guest)	21 spaces	General Office (Guest)	65 spaces
General Office (Employee)	285 spaces	General Office (Employee)	432 spaces	General Office (Employee)	148 spaces	General Office (Employee)	454 spaces
General Retail	196 spaces	General Retail	739 spaces	General Retail	173 spaces	General Retail	127 spaces
Restaurant (Patron)	146 spaces	Restaurant (Patron)	308 spaces	Restaurant (Patron)	63 spaces	Restaurant (Patron)	73 spaces
Restaurant (Employee)	37 spaces	Restaurant (Employee)	77 spaces	Restaurant (Employee)	16 spaces	Restaurant (Employee)	16 spaces
Total	863 spaces	Total	1,620 spaces	Total	422 spaces	Total	745 spaces

5. Peak Parking Accumulation (Shared Use Parking Methodology)

Zone A		Zone B		Zone C		Zone D	
Category	Spaces	Category	Spaces	Category	Spaces	Category	Spaces
Parking Demand (Total Spaces)	724 spaces	Parking Demand (Total Spaces)	1,503 spaces	Parking Demand (Total Spaces)	398 spaces	Parking Demand (Total Spaces)	716 spaces

Appendix C:

Structured Parking Site Feasibility Analysis

DRAFT

This page left blank intentionally

DRAFT

Assessment of Potential Sites

As part of the Town Center Study Phase 1 Report (approved by McKinney City Council in March 2008), specific physical component improvements were identified for future study as follows:

“Public Improvements: The City owns and controls a significant amount of property in the Town Center, including not only buildings, parks and parking lots but also street rights-of-way. Therefore, any changes the City makes to the public realm can have a tremendous impact on the physical look, feel, and function of the Town Center. One of the primary strategies for revitalizing the Town Center will likely be for the City to continue to provide targeted capital improvements (upgrades to roads, sidewalks, water systems, wastewater systems, drainage systems, parks, municipal buildings, parking facilities, etc.). Implementation of the vision will also depend on continued and targeted public improvements in streetscapes, pedestrian plazas, pocket parks, gateway features, and wayfinding signage to enhance aesthetics, transit access, and the pedestrian experience.”
Source: Town Center Study Phase 1 Report, Section 5, March 2008.

As the team began to explore implementation strategies as part of Phase 2 of the Town Center Study Initiative, seven (7) potential sites for the construction of structured parking were identified. Parking structure sites were identified based on availability of adequate land size, proximity to parking generators, potential to spur future economic development and their ability to implement the Town Center Master Plan vision.

Site 1 (TR101 and TR102)

This site is generally described as the existing surface parking lot (City Lot 2) adjacent to Church Street and bounded by Virginia Street to the north and Louisiana Street to the south. Access would likely be provided from Louisiana Street.

Site 2 (TR103 and TR104)

This site is generally described as the existing surface parking lot (City Lot 4) and remote police annex north of Davis Street and bounded by Wood Street to the west and Kentucky Street to the east. Access would likely be provided from Davis Street.

Site 3 (Site 3a (Phase 1) and 3b (Phase 1+2)) (TR105-TR110)

This site is generally described as the parcels currently occupied by an office building, bank drive-thru, and privately-owned surface parking lot located west of Chestnut Street, between Virginia Street to the south and Hunt Street to the north. Access would likely be provided from Virginia Street and/or Chestnut Street.

Because of its location, Site 3 has been evaluated in 2 ways. The base site 3 proposes construction of the entire two-block structure in one initial phase. Options 3a and 3b propose construction of the structure in two phases - an initial phase utilizing one block (3a) and then horizontally expanding into the second block at a later date (3b).

Site 4 (Site 4a (Phase 1) and 4b (Phase 1+2)) (TR111-TR116)

This site is generally described as part of the existing surface parking lots (City Lot 1) located immediately north of Hunt Street between Tennessee Street to the west and Johnson Street to the east. Access would likely be provided from Hunt Street or Tennessee Street.

Because of its location, Site 4 has been evaluated in 2 ways. The base site 4 proposes construction of the entire two-block structure in one initial phase. Options 4a and 4b propose construction of the structure in two phases - an initial phase (4a) and then expanding at a later date (4b). Future expansion would utilize

the rest of the City-owned parking lot to the north (City Lot 1).

Site 5 (Site 5a (Phase 1) and 5b (Phase 1+2)) (TR117-TR122)

This site is generally described as part of the existing surface parking lots (City Lot 1) located immediately north of Hunt Street between Tennessee Street to the west and Johnson Street to the east and also includes the adjacent City-owned surface parking lot between Johnson Street and Chestnut Street. Access would likely be provided from Hunt Street or Tennessee Street.

Because of its location, Site 5 has been evaluated in 2 ways. The base site 5 proposes construction of the entire two-block structure in one initial phase. Options 5a and 5b propose construction of the structure in two phases - an initial phase (5a) and then horizontally expanding at a later date (5b). Future expansion would utilize the rest of the City-owned parking lot to the east.

Site 6 (TR123 and TR124)

This site is generally described as the existing surface parking lot (City Lot 3) and City-owned park (Central Park) located south of Hunt Street between Wood Street to the west and Kentucky Street to the east. Access would likely be provided from Kentucky Street.

Site 7 (TR123 and TR124)

This site is generally described as the parcels currently occupied by a privately owned surface parking lot (owned by First United Methodist Church) located south of Lamar Street between Wood Street to the west and Kentucky Street to the east. Access would likely be provided from Kentucky Street.

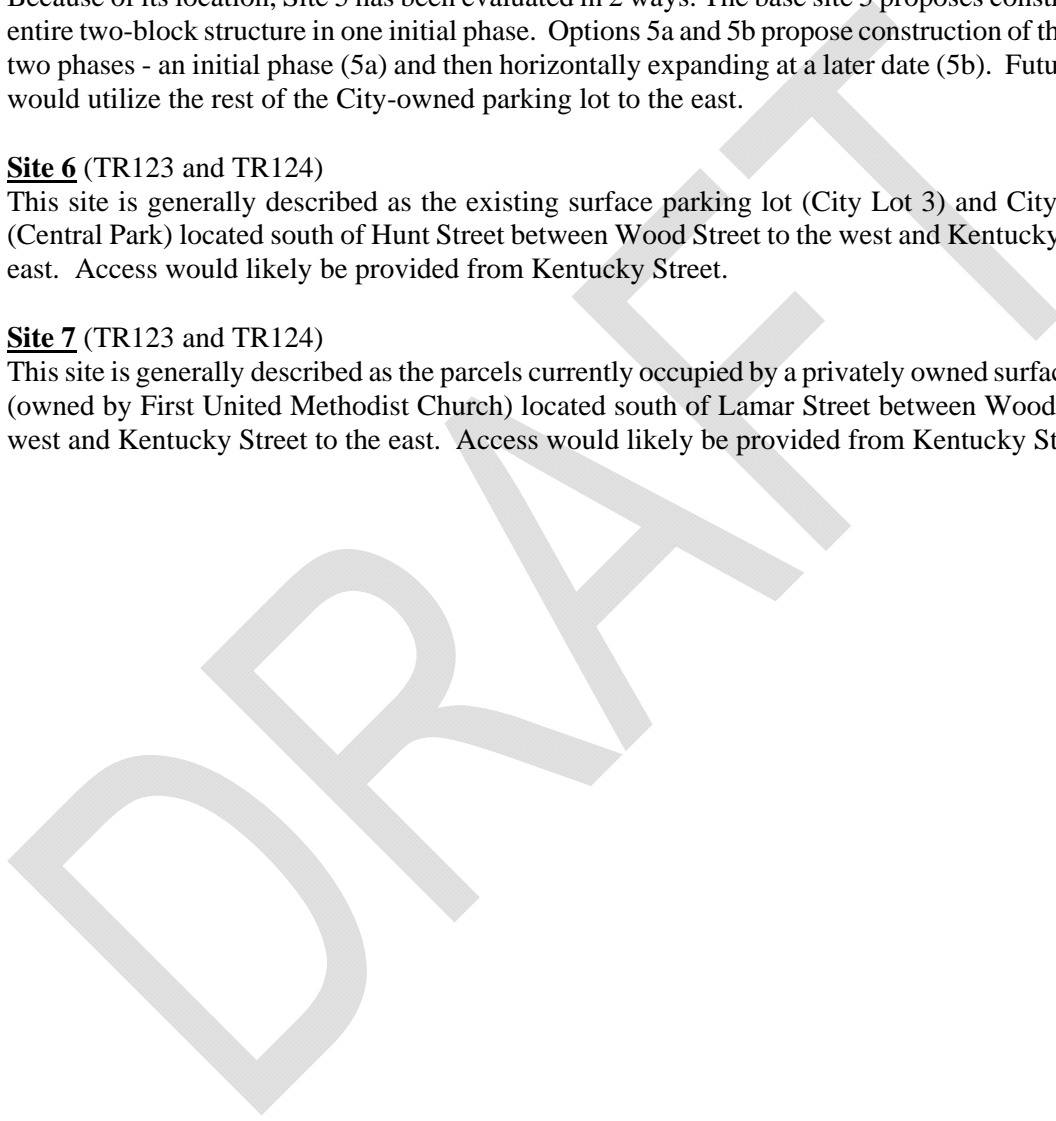
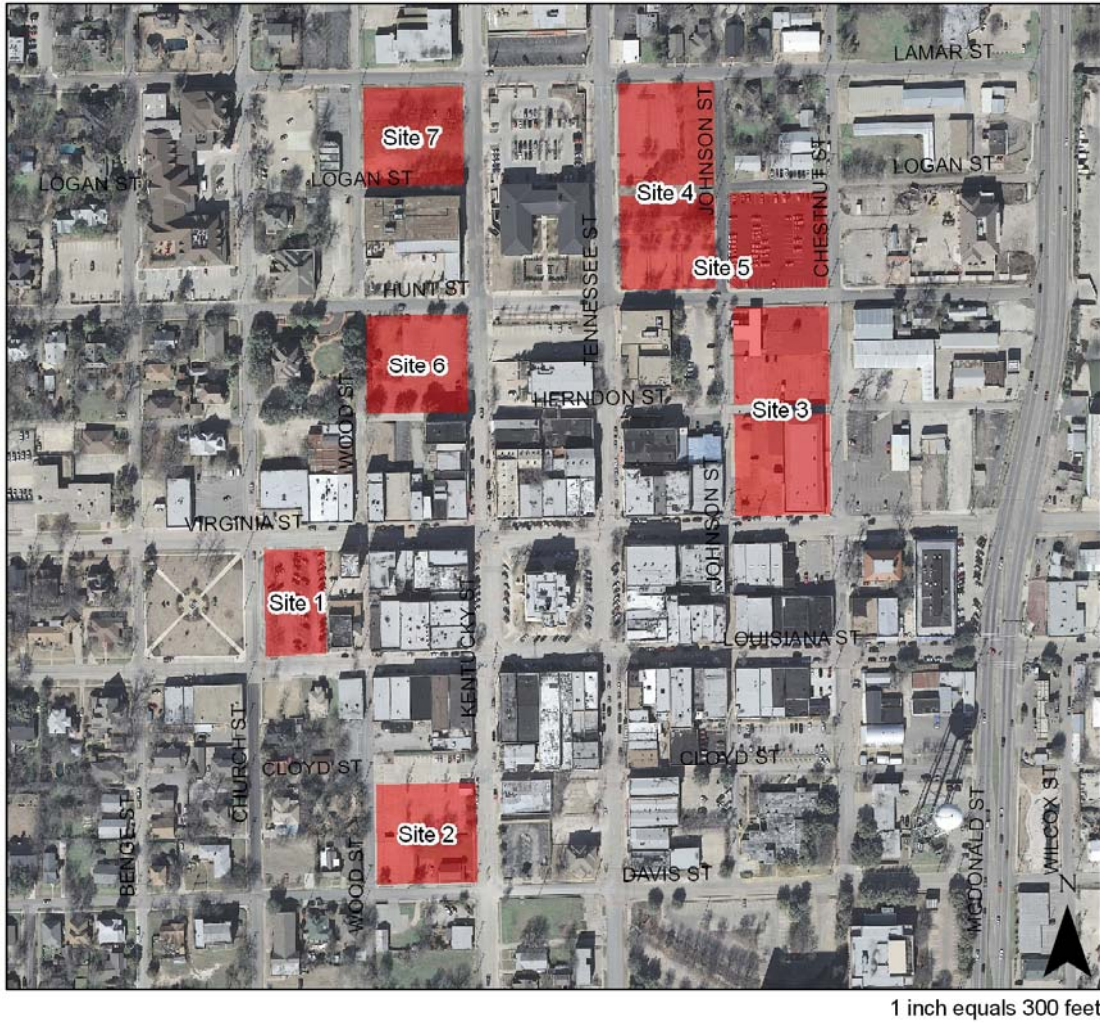


Figure 7 – Potential Parking Structure Sites



Common Design Features for Alternative Concepts

While each of the parking structure layouts is unique, common design elements were assumed during the development of the conceptual layouts. The following list provides a summary of the common design elements used in the functional layouts for each parking structure alternative.

- **Parking Efficiency:** Target parking efficiencies for multi-level and multi-bay parking structures are between 325 to 375 square feet per space. With long span construction and parking on the ramps, this target efficiency is within the industry standards and provides a quantitative measure on how effectively the built square footage is utilized.
- **Parking Orientation:** All alternatives utilize two-way drive aisles and 90-degree parking bays.
- **Stall Size:** Parking stalls are 9'-0" wide and 18'-0" long based on City of McKinney Design Guidelines. This equates to parking Level of Service A design criteria.
- **Parking Bay Dimensions:** All alternatives utilize 62-ft wide parking bays which include a 24-ft drive aisle.
- **Entrance/Exit Conditions:** Accommodation of future revenue control equipment has not been considered in the geometrics of entry/exit lanes.
- **Accessible Parking:** Each of the alternatives includes accessible parking stalls distributed throughout the parking structure. Van accessible spaces are provided on ground level only. Each alternative has been allocated the required number of accessible spaces to meet current code requirements considering the structure as a standalone parking facility. Refer to TR101-TR124 in this appendix for a more detailed breakdown of parking stalls per level.
- **Ramp Slopes:** Parking ramp slopes were maximized at 6% to remain within industry standards.
- **Floor-to-Floor Heights:** In each alternative, the floor-to-floor heights were maintained at 12'-0" (non-commercial condition) for the first floor height and 11'-0" for all other floors. The options that include ground level commercial space as an option have a first floor height of 14'-0." These heights allow for an 8'-2" clearance at the ground floor for van accessible parking and 7'-0" clearance on other floors with a maximum structural depth of 36 inches.
- **Stair/Elevator Towers:** Locations for stairs and elevators are shown for each alternative. The location and design of these elements must provide efficient circulation and access to all floors of the facility, as well as complement the location of vehicle entrances and exits to provide proper sight distance and safety for pedestrians.
- **Above Grade Parking:** All parking is placed above ground and all levels are assumed to have an open perimeter.
- **Framing System:** Conceptual layouts are based on cast-in-place post-tensioned concrete construction. The parking structure overall dimensions are sized to maximize the efficiency of this construction method.
- **Commercial Space:** An alternative condition including ground level commercial space has been included for each of the alternatives studied.

Evaluation Criteria and Matrix

In order to evaluate and provide a meaningful relative comparison of the seven (7) potential parking structure sites, four (4) evaluation criteria were identified; the results of which are summarized in Table 14.

1. Meets Parking Needs

- a. What is the total net number of spaces added (gross garage spaces minus the number of spaces displaced by the proposed structure)?
- b. Does the total number of net spaces added contribute toward lessening the future parking deficit as defined by the parking study?
- c. Does the proposed structure have a potential for shared parking among different user groups?
- d. Is the proposed structure expandable to provide additional parking supply as demand increases?

2. Site Accessibility/Location

- a. Is the proposed structure located near Town Center generators and localized parking deficits, and is it visible to arriving patrons?
- b. Does the proposed structure adequately serve current destinations?
- c. Does the proposed structure adequately serve future destinations as identified in the Town Center Master Plan?
- d. What is the effect on traffic and pedestrian circulation?

3. Implements Town Center Master Plan Vision

- a. Does the proposed structure provide for mixed-use opportunities and incorporate urban design characteristics consistent with the Town Center Master Plan?
- b. Does the proposed structure serve as a catalyst for development/redevelopment?
- c. Does the proposed structure provide opportunity for public/private partnerships and redevelopment goals per the Town Center Master Plan?
- d. Does the proposed structure block, isolate, hinder, or negatively affect a particular area or areas from implementation of the Town Center Master Plan based on its location, size, context, etc.?

4. Cost Considerations

- a. Does the proposed structure incur construction costs consistent with current market conditions?
- b. What is the parking efficiency (SF/space)?
 - i. Parking efficiency is defined as total parking area divided by total number of parking spaces and is typically defined per level and for the structure as a whole. A lower parking efficiency results in a more economical use of the structure and is typically more economical to construct.
- c. Are there land acquisition issues looking at current costs and future opportunity costs?
- d. Is the proposed structure expandable to provide for the opportunity of phased construction over time?

Table 14 – Parking Structure Site Evaluation Matrix

Evaluation Criteria	Alternative Locations													
	Site 1 Structure	Site 1 With Commercial	Site 2 Structure	Site 2 With Commercial	Site 3 Structure	Site 3 With Commercial	Site 4 Structure	Site 4 With Commercial	Site 5 Structure	Site 5 With Commercial	Site 6 Structure	Site 6 With Commercial	Site 7 Structure	Site 7 With Commercial
Number of Garage Spaces /Net Number of Spaces Added	241 / 186	228 / 153	400 / 306	341 / 247	696 / 561	629 / 505	629 / 523	669 / 463	627 / 471	666 / 409	266/201	262 / 168	266/249	262 / 216
Square Footage of Commercial (Gross)	-	5,000	-	14,700	-	15,900	-	14,000	-	14,000	-	7,900	-	7,900
Parking Efficiency (S/F/Car)	317	312	334	348	324	328	334	344	335	347	341	355	341	355
Meets Parking Needs														
Site Accessibility/Location														
Implements Town Center Master Plan														
Cost Considerations														
<i>Identified as viable site for potential parking structure development</i>														
<input type="radio"/> Poorly/Addresses Criteria														
<input type="radio"/> Moderately/Addresses Criteria														
<input type="radio"/> Addresses Criteria														
<input type="radio"/> Effectively/Addresses Criteria														
<input type="radio"/> Best/Addresses Criteria														

Information for Sites 3, 4, and 5 consider the full buildout of the site constructed in a single phase.

The following summary provides a general description of each alternative. Refer to the attached schematic design plans at the end of this Appendix for more comprehensive illustrations.

Site 1 Structure (without commercial space) (TR101)

241 spaces, 317 sf/space, 3- level, 2-bay Parking Structure

Site 1 Structure (with commercial space) (TR102)

228 spaces, 312 sf/space, 3- level, 2-bay Parking Structure with 5,000 GSF of commercial space

Summary of Site 1 Structure:

- Two elevated parking levels above surface parking below
- Two 62-ft wide parking bays (double loaded)
- Single entry / exit from Louisiana Street
- Parking on the ramps with flat end bay parking
- Replaces 75 existing public parking spaces (City Lot 2)

“Pros” of Site 1 Structure:

- Close access to Downtown Square (located in Ring 2)
- Highly visible access from US 75 via Louisiana Street
- Utilizes existing City-owned property

“Cons” of Site 1 Structure:

- Provides least amount of additional parking supply
- Limited ground level commercial opportunities
- Inconsistent with Town Center Master Plan

Site 2 Structure (without commercial space) (TR103)

400 spaces, 334 sf/space, 3- level, 3-bay Parking Structure

Site 2 Structure (with commercial space) (TR104)

341 spaces, 348 sf/space, 3-level, 3-bay Parking Structure with 14,700 GSF of commercial space

Summary of Site 2 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Single entry / exit from Davis Street
- Parking on the single interior ramp with flat end bay parking and perimeter parking
- Replaces 90 existing public parking spaces (City Lot 4), 4 existing private parking spaces, and a 1,000 square foot office building

“Pros” of Site 2 Structure:

- Close access to Downtown Square (located in Ring 1 and Ring 2)
- Good access from US 75 via Louisiana Street
- Good ground level commercial opportunities along Kentucky Street
- Most of site currently owned by the McKinney Economic Development Corporation (MEDC), providing an opportunity for possible partnership
- Provides a high amount of additional parking supply relative to other options

- Flat façade is easier to treat architecturally

“Cons” of Site 2 Structure:

- Massing and design of building would need to consider adjacent historic jail
- Massing and scale of structure may be incompatible with existing land uses to the west and south
- Located on south side of Downtown Square where public parking supply is already concentrated. This area is also expected to gain additional public parking supply associated with the redevelopment of the Municipal Complex.
- Some land acquisition and demolition is required

Site 3 Structure (without commercial space) (TR105)

685 spaces, 324 sf/space, 3-level, 3-bay Parking Structure

Site 3 Structure (with commercial space) (TR106)

629 spaces, 328 sf/space, 3-level, 3-bay Parking Structure with 15,800 GSF of commercial space

Summary of Site 3 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Dual entry / exits from Virginia Street and Chestnut Street
- Parking on the single interior ramp with flat end bay parking and perimeter parking
- Replaces 124 private parking spaces, one 18,000 square foot office building, and one 450 square foot bank drive-thru building

“Pros” of Site 3 Structure:

- Maximizes supply potential
- Close access to Downtown Square (located in Ring 2)
- Opportunity for structure to be constructed in phases
- Optimal ground level commercial to activate Chestnut Street
- Highly visible access from SH 5 via Virginia Street
- Most likely to support redevelopment opportunities identified in the Town Center Master Plan
- Establishes viable pedestrian connection between downtown and future rail transit station (fills in critical block face along Virginia Street)
- Efficient structure based on relative parking efficiency
- Flat façade is easier to treat architecturally

“Cons” of Site 3 Structure:

- Land acquisition and some demolition is required
- Closing of Herndon Street is required between Johnson Street and Chestnut Street (an asphalt street in generally poor condition that is 20’ right-of-way width and 17’ asphalt pavement width)
- Cost of larger structure and/or phasing may be more difficult to finance

Site 4 Structure (without commercial space) (TR111)

629 spaces, 334 sf/space, 3-level, 3-bay Parking Structure

Site 4 Structure (with commercial space) (TR112)

569 spaces, 344 sf/space, 3-level, 3-bay Parking Structure with 14,000 GSF of commercial space

Summary of Site 4 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Entry / exits from Hunt Street and Tennessee Street
- Parking on the ramps with flat end bay parking
- Replaces 106 existing public parking spaces (City Lot 1)

“Pros” of Site 4 Structure:

- Utilizes existing City-owned property
- Opportunity for structure to be constructed in phases
- High supply potential relative to other sites
- Efficient structure based on relative parking efficiency
- Leverages redevelopment opportunities as illustrated in the Town Center Master Plan
- Flat façade is easier to treat architecturally

“Cons” of Site 4 Structure:

- Lacks close proximity to Downtown Square (located in Ring 3)
- Cost of larger structure and/or phasing may be more difficult to finance

Site 5 Structure (without commercial space) (TR117)

627 spaces, 335 sf/space, 3-level, 3-bay Parking Structure

Site 5 Structure (with commercial space) (TR118)

565 spaces, 347 sf/space, 3-level, 3-bay Parking Structure with 14,000 GSF of commercial space

Summary of Site 5 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Entry / exits from Hunt Street and Tennessee Street
- Parking on the ramps with flat end bay parking
- Replaces 156 existing public parking spaces

“Pros” of Site 5 Structure:

- Utilizes existing City-owned property
- Opportunity for structure to be constructed in phases
- High supply potential relative to other sites
- Efficient structure based on relative parking efficiency
- Leverages redevelopment opportunities as illustrated in the Town Center Master Plan
- Flat façade is easier to treat architecturally

“Cons” of Site 5 Structure:

- Lacks close proximity to Downtown Square (located in Ring 3)
- Cost of larger structure and/or phasing may be more difficult to finance

Site 6 Structure (without commercial space) (TR123)

285 spaces, 341 sf/space, 3-level, 3-bay Parking Structure

Site 6 Structure (with commercial space) (TR124)

252 spaces, 355 sf/space, 3-level, 3-bay Parking Structure with 7,900 GSF of commercial space

Summary of Site 6 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Single entry / exit from Kentucky Street
- Parking on the ramps with flat end bay parking
- Replaces 84 existing public parking spaces (City Lot 3) and approximately one-quarter of an acre of park space (Central Park)

“Pros” of Site 6 Structure:

- Utilizes existing City-owned property
- Close access to Downtown Square (located in Ring 2)

“Cons” of Site 6 Structure:

- Inefficient structure based on relative parking efficiency
- Requires removal of existing City-owned park (Central Park)
- Provides smaller amount of additional parking supply relative to other sites
- Limited ground level commercial opportunities
- Massing and scale of structure may be incompatible with existing land uses to the west and northwest
- Difficult to direct vehicles to site based on existing one-way street configurations

Site 7 Structure (without commercial space) (TR123)

285 spaces, 341 sf/space, 3-level, 3-bay Parking Structure

Site 7 Structure (with commercial space) (TR124)

252 spaces, 355 sf/space, 3-level, 3-bay Parking Structure with 7,900 GSF of commercial space

Summary of Site 7 Structure:

- Two elevated parking levels above surface parking below
- Three 62-ft wide parking bays (double loaded)
- Single entry / exit from Kentucky Street
- Parking on the ramps with flat end bay parking
- Replaces 36 existing private parking spaces

“Pros” of Site 7 Structure:

- Possible shared use partnership with First United Methodist Church

“Cons” of Site 7 Structure:

- Inefficient structure based on relative parking efficiency
- Provides smaller amount of additional parking supply relative to other sites
- Limited ground level commercial opportunities
- Site not currently owned by the City
- Lacks close proximity to Downtown Square (located beyond Ring 3)

Conceptual Opinion of Probable Construction Cost

Estimating the cost of constructing a new parking structure is dependent upon several variables, including the number of spaces needed, the number of parking structure levels, the size/dimensions of the site, the architectural features for the structure, and whether the garage will have ground floor commercial uses. Other variables that affect parking structure costs include the type of flow system (one-way or two-way drive aisles), and the number of access lanes.

Based on our knowledge of the sites and the alternatives presented herein, a conceptual opinion of probable construction cost for each alternative was developed. ***These costs represent a basis upon which to compare the various alternatives but do not attempt to capture or detail the total project cost at this early conceptual design phase.*** The anticipated construction costs for each alternative are for comparison purposes only and were developed based on gross square footage for each alternative. These anticipated construction costs can then be used to compare the alternatives relative to each other and to confirm the anticipated cost per space, thereby assisting with the selection of a preferred alternative.

This construction cost comparative analysis is based on the following assumptions:

1. All costs are based on a square foot cost. The square foot costs used are based on similar recent parking structure projects in the North Texas region. The opinion of cost given represents both hard and soft costs associated with the project.
2. No additional project-specific construction costs were evaluated. Costs not specifically accounted for include: over-excavation and backfill, roadway improvements, utility relocation, stormwater mitigation and permitting. These costs are anticipated to be relatively equal with each of the alternatives; therefore, the comparative cost estimates do not explicitly include these items.

Please note that while these estimates have been prepared based on recent regional information as well as our knowledge of the parking structure construction industry, we have no control over the cost of labor, materials, equipment, contractor's methods of determining prices, or competitive bidding or market conditions. Opinions of probable construction costs are based on known information at the time of this report and represent our judgment as design professionals familiar with the construction industry. Therefore, we cannot and will not guarantee that proposals, bids, or actual construction costs will not vary from the opinions of probable cost contained in these estimates.

Based on the above information, the order of magnitude construction cost, the capacity and cost per space for each parking structure is outlined below in Table 15.

Table 15 – Opinions of Probable Construction Costs

	Parking Capacity	Probable Project Cost* (including any land acquisition)	Cost per Space* (including any land acquisition)	Probable Project Cost* (land acquisition not included)	Cost per Space* (land acquisition not included)
Site 1 Structure	241 spaces	\$3,293,174	\$13,665	-	-
Site 1 Structure (with commercial)	228 spaces	\$3,212,095	\$14,088	-	-
Site 2 Structure	400 spaces	\$5,942,828	\$14,857	\$5,768,298	\$14,421
Site 2 Structure (with commercial)	341 spaces	\$6,153,405	\$18,045	\$5,978,875	\$17,533
Site 3 Structure	685 spaces	\$10,928,770	\$15,954	\$9,577,774	\$13,982
Site 3 Structure (with commercial)	629 spaces	\$11,155,105	\$17,735	\$9,804,109	\$15,587
Site 4 Structure	629 spaces	\$9,049,819	\$14,388	-	-
Site 4 Structure (with commercial)	569 spaces	\$9,250,369	\$16,257	-	-
Site 5 Structure	627 spaces	\$9,049,819	\$14,434	-	-
Site 5 Structure (with commercial)	565 spaces	\$9,250,369	\$16,372	-	-
Site 6 Structure	285 spaces	\$4,200,778	\$14,740	-	-
Site 6 Structure (with commercial)	252 spaces	\$4,539,879	\$18,015	-	-
Site 7 Structure	285 spaces	\$4,200,778	\$14,740	-	-
Site 7 Structure (with commercial)	252 spaces	\$4,539,879	\$18,015	-	-

Note: Information indicated for Sites 3, 4 and 5 consider the full buildout of the site constructed in a single phase.

* For Sites not currently owned by the City of McKinney (Sites 2 and 3), some land acquisition may be required. To better compare the true construction costs for each Site, probable project costs for Sites 2 and 3 have been provided with and without land acquisition considerations. All other Sites (Sites 1, 4, 5, 6, and 7) are currently owned by the City of McKinney and would not require land acquisition.

A more detailed analysis of the opinion of probable costs can be found at the end of this Appendix.

Recommendations

Based on an evaluation of seven (7) potential parking structure sites, **structured parking (with ground floor commercial) on Site 3 was identified to best satisfy** the established evaluation criteria for the addition of parking supply in the Town Center.

A summary of the key highlights for the Site 3 Structure (with ground floor commercial) includes:

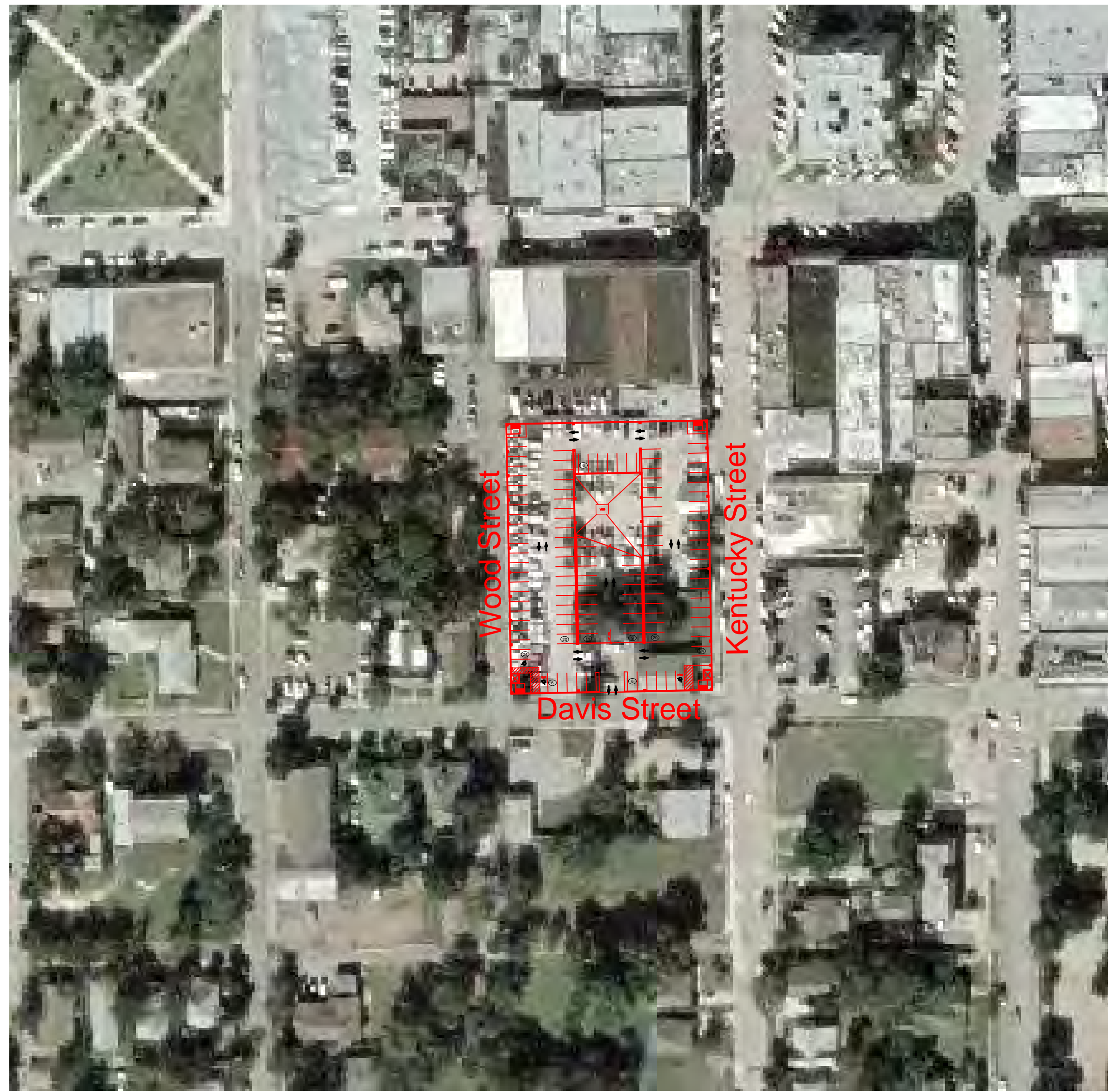
- Adds the most number of net parking spaces relative to other sites with ground floor commercial (505 spaces)
- Schematic design concept has a high parking efficiency (328 SF/car)
- Opportunity for structure to be constructed in phases
 - Phase 1 (390 spaces): \$7.5M estimated cost
 - Phase 2 (227 spaces): \$3.6M estimated cost
- Location is well-positioned between existing parking generators and areas of future growth
- Excellent proximity to the Downtown Square, future rail transit station, and future Entertainment District
- Potential for excellent parking identification signage and access from SH 5
- Inclusion of commercial space will serve to activate Chestnut Street and the surrounding area
- Most likely to support immediate redevelopment opportunities identified in the Town Center Master Plan
- Establishes viable pedestrian connection between downtown and future rail transit station (fills in critical block face along Virginia Street)

Structured parking (with ground floor commercial) on Sites 4 and 5 also scored highly under the evaluation matrix. A summary of the key highlights for these Sites include:

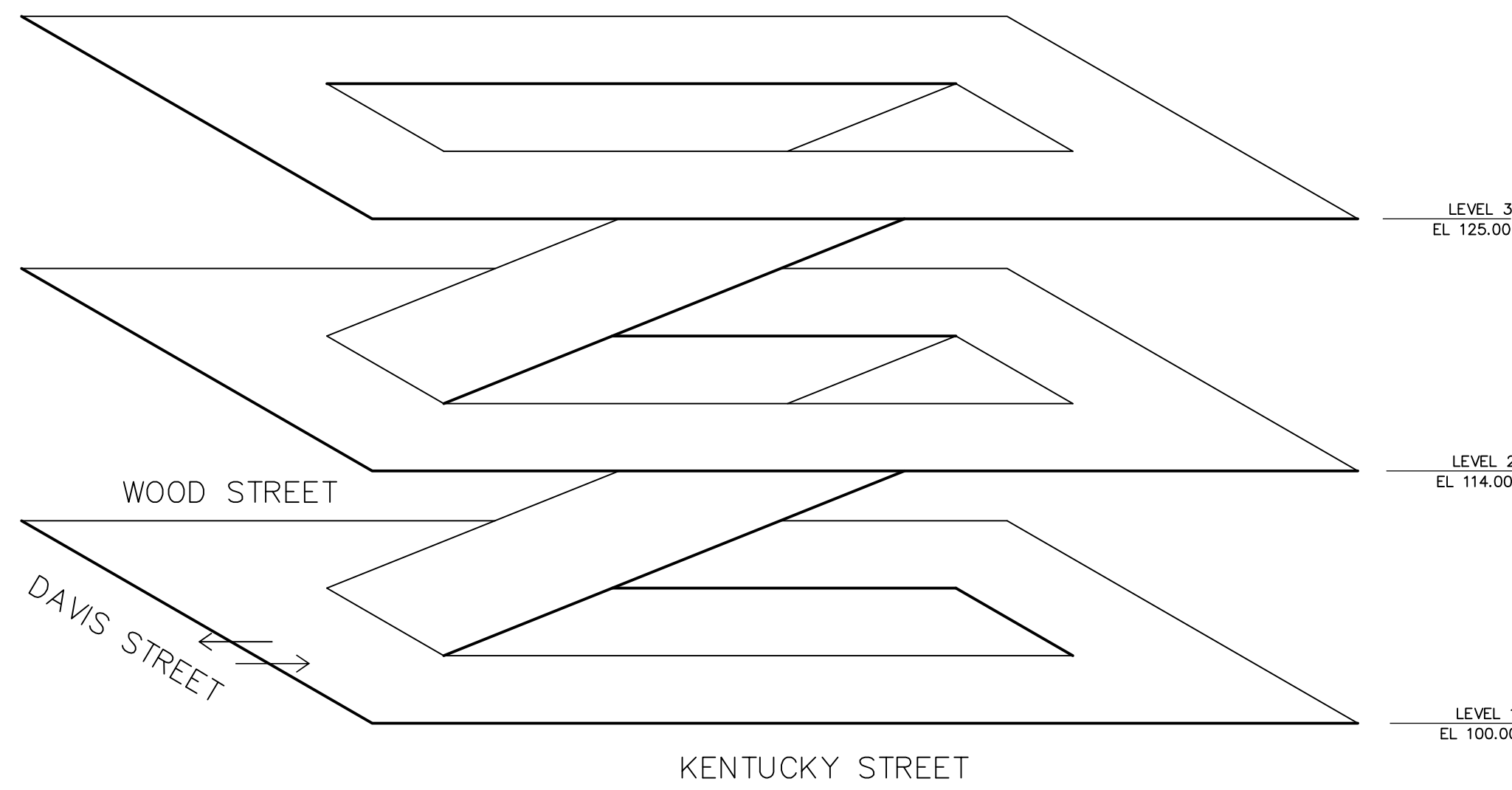
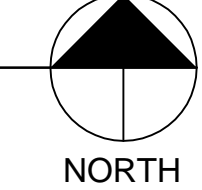
- Utilizes existing City-owned property
- Opportunity for structure to be constructed in phases

<u>Site 4</u>	<u>Site 5</u>
Phase 1 (395 spaces): \$6.3M estimated cost	Phase 1 (398 spaces): \$6.5M estimated cost
Phase 2 (174 spaces): \$2.8M estimated cost	Phase 2 (167 spaces): \$2.7M estimated cost
- High supply potential
- Schematic designs have high parking efficiency
- Well-positioned to respond to future anticipated parking needs
- Supports redevelopment opportunities identified in the Town Center Master Plan

Structured parking (with ground floor commercial) on Site 2 scored highly under the evaluation matrix. However, because of its close proximity to the future City Municipal Complex (which is anticipated to include a significant amount of future parking supply) and its location in Zone C (an area not anticipated to have significant future parking demand), Site 2 does not appear to be a viable option for the construction of structured parking.



4 SITE 2 AERIAL PLAN
SCALE: NTS

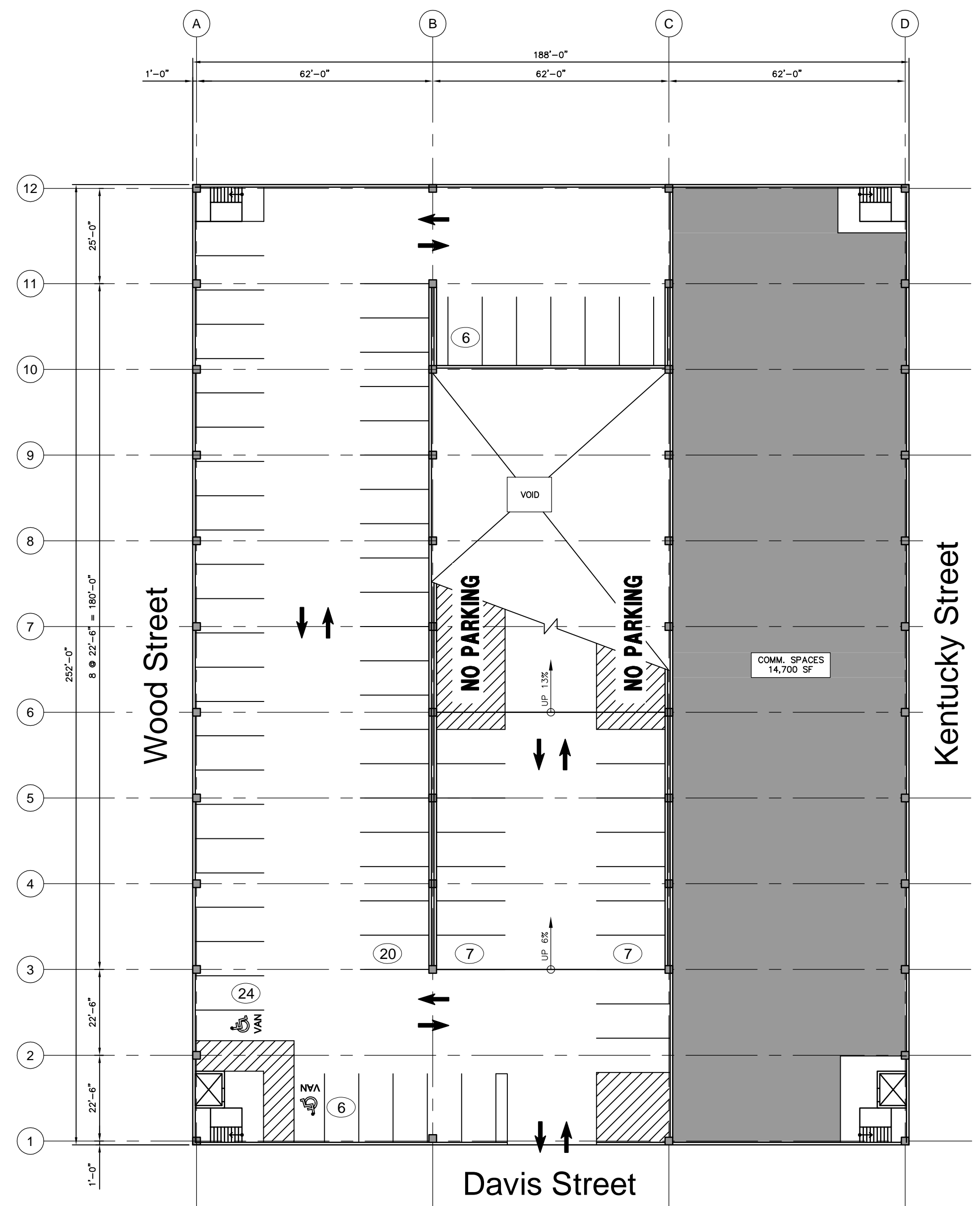


5 ISOMETRIC
SCALE: NTS

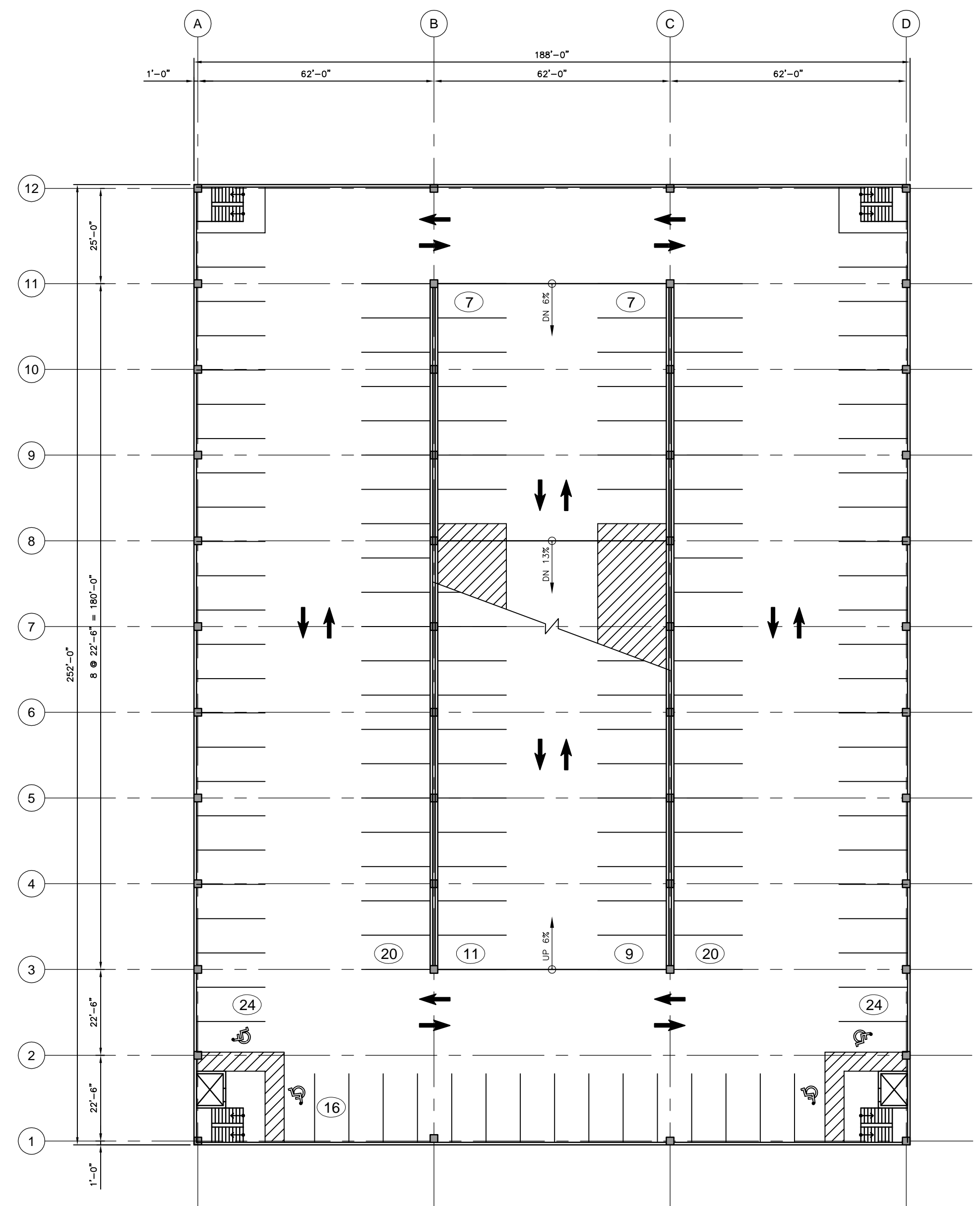
PARKING SPACE TABULATION CHART

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	71		2	73	28,365
2	134	4	-	138	47,376
3	128	2	-	130	43,065
TOTAL	333	6	2	341	118,806

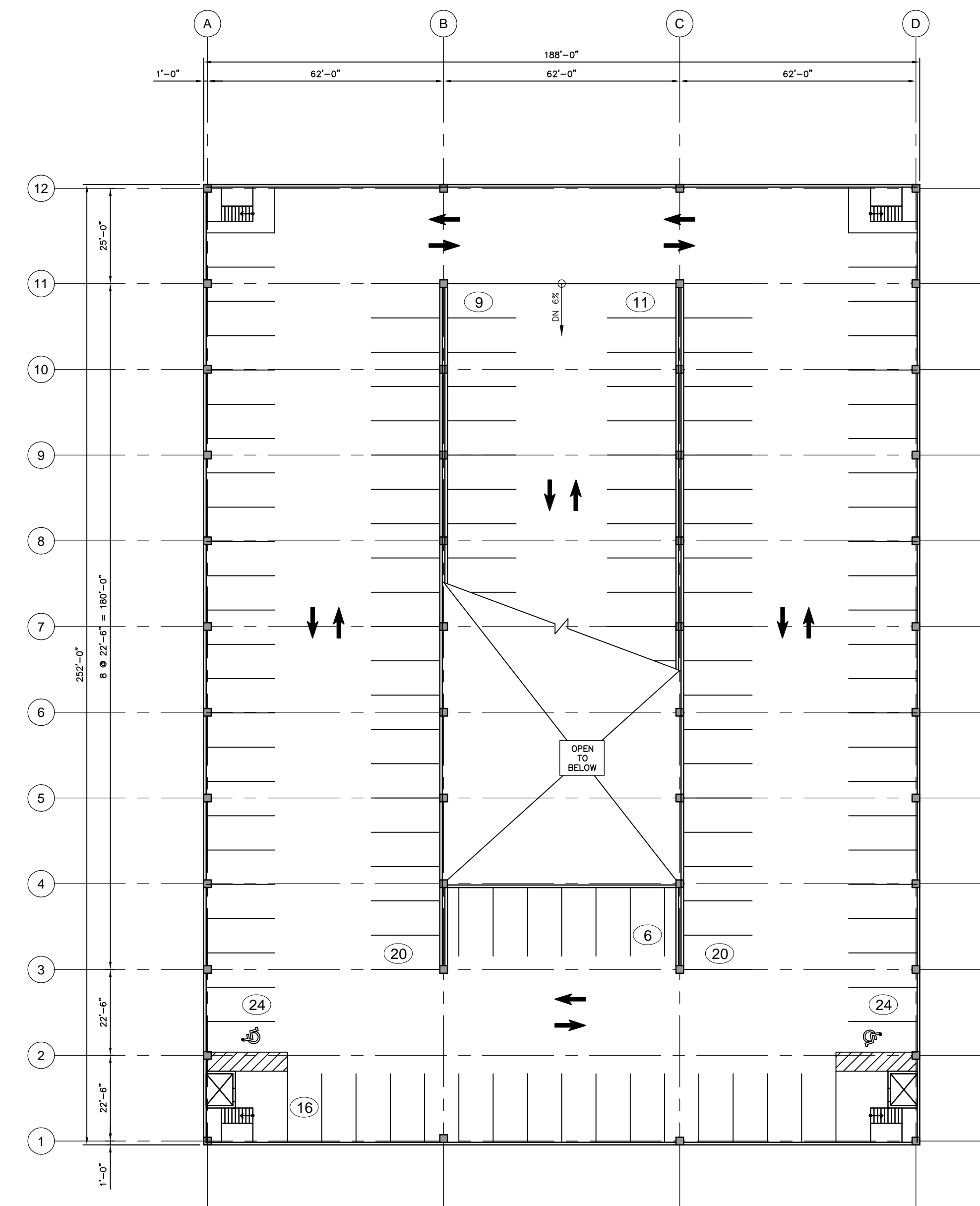
PARKING EFFICIENCY = 348 SQ FT/SPACE



1 LEVEL 1 PLAN
SCALE: NTS



2 LEVEL 2 PLAN
SCALE: NTS



3 LEVEL 3 PLAN
SCALE: NTS

K:\FRL_Civil\64122003\DWG\TR104.dwg Oct 22, 2009 10:43am by: blakehodge



**Kimley-Horn
and Associates, Inc.**
Certificate of Authorization #28 2009 ©
SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034
PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

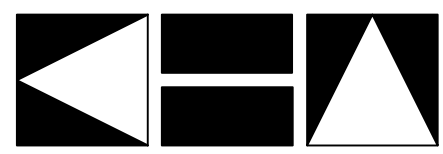
CLIENT PROJECT INFO

NO.	DATE	DRAWING	ISSUE DESCRIPTION

DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR103.DWG

SITE 2
STRUCTURE
WITH
COMMERCIAL
SCHEMATIC DOCUMENTS

TR104



Kimley-Horn
and Associates, Inc.

Certificate of Authorization #928 2009 , ©

SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034

PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Gateway
Planning Group



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

CLIENT PROJECT INFO

NO.	DATE	DRAWING	ISSUE DESCRIPTION

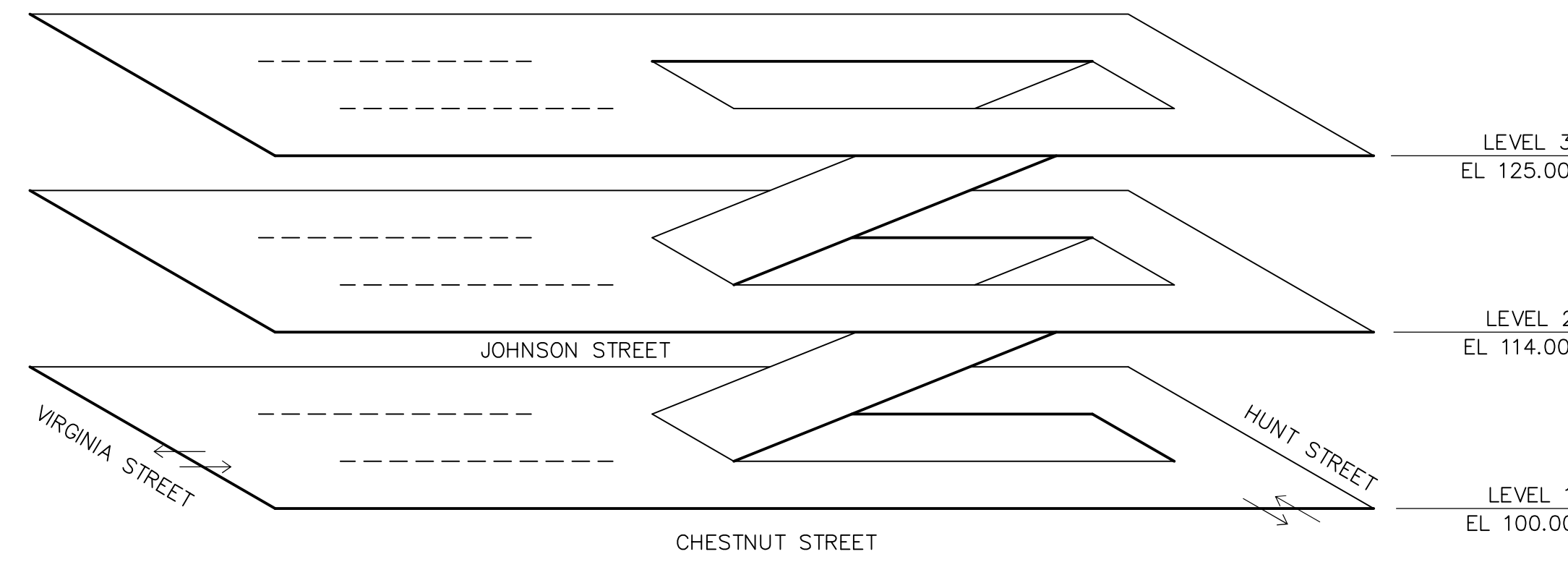
DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR105.DWG

**SITE 3
STRUCTURE
WITH
COMMERCIAL**
SCHEMATIC DOCUMENTS

TR106



4 SITE 3 AERIAL PLAN
SCALE: NTS

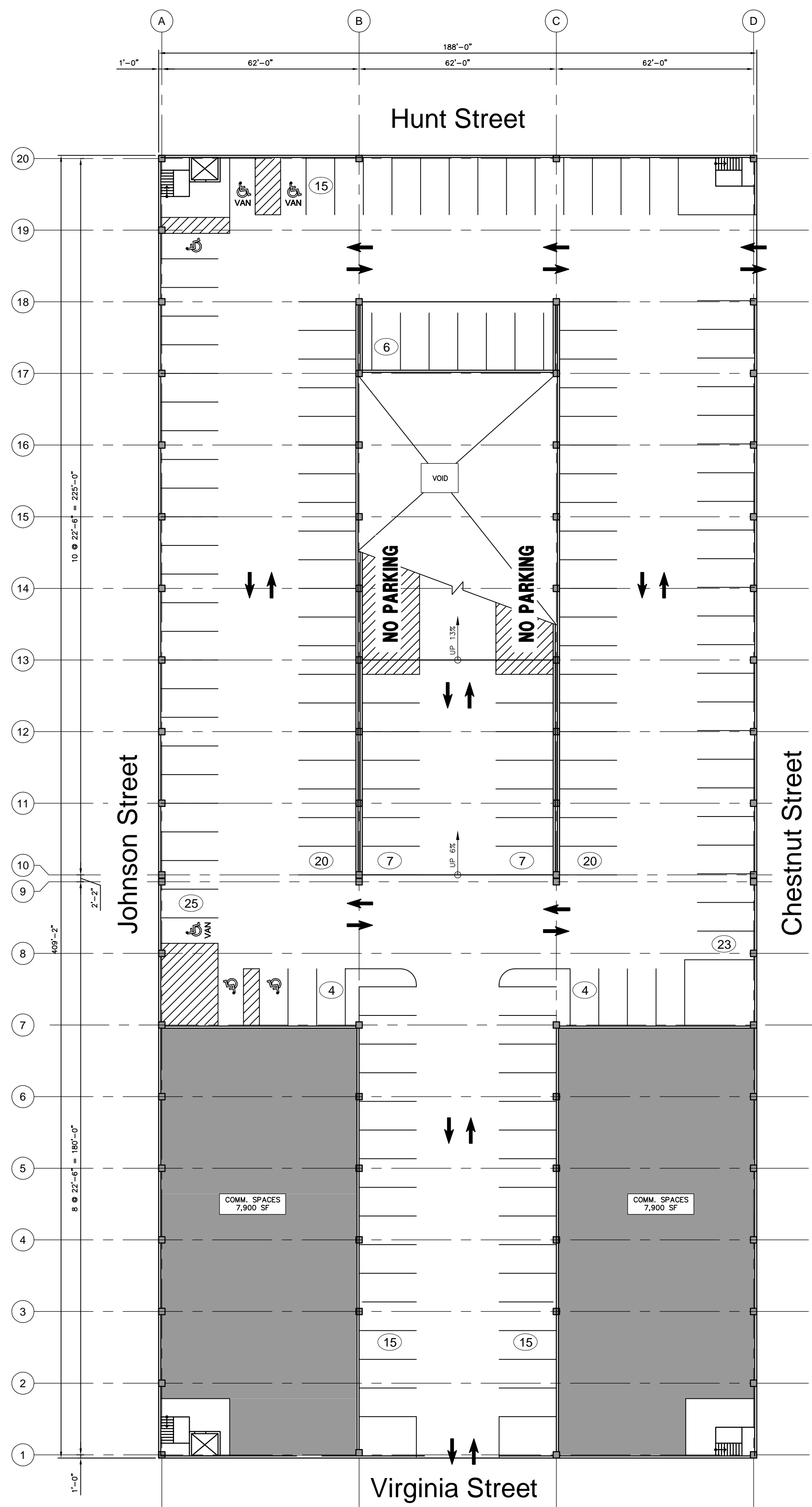


5 ISOMETRIC
SCALE: NTS

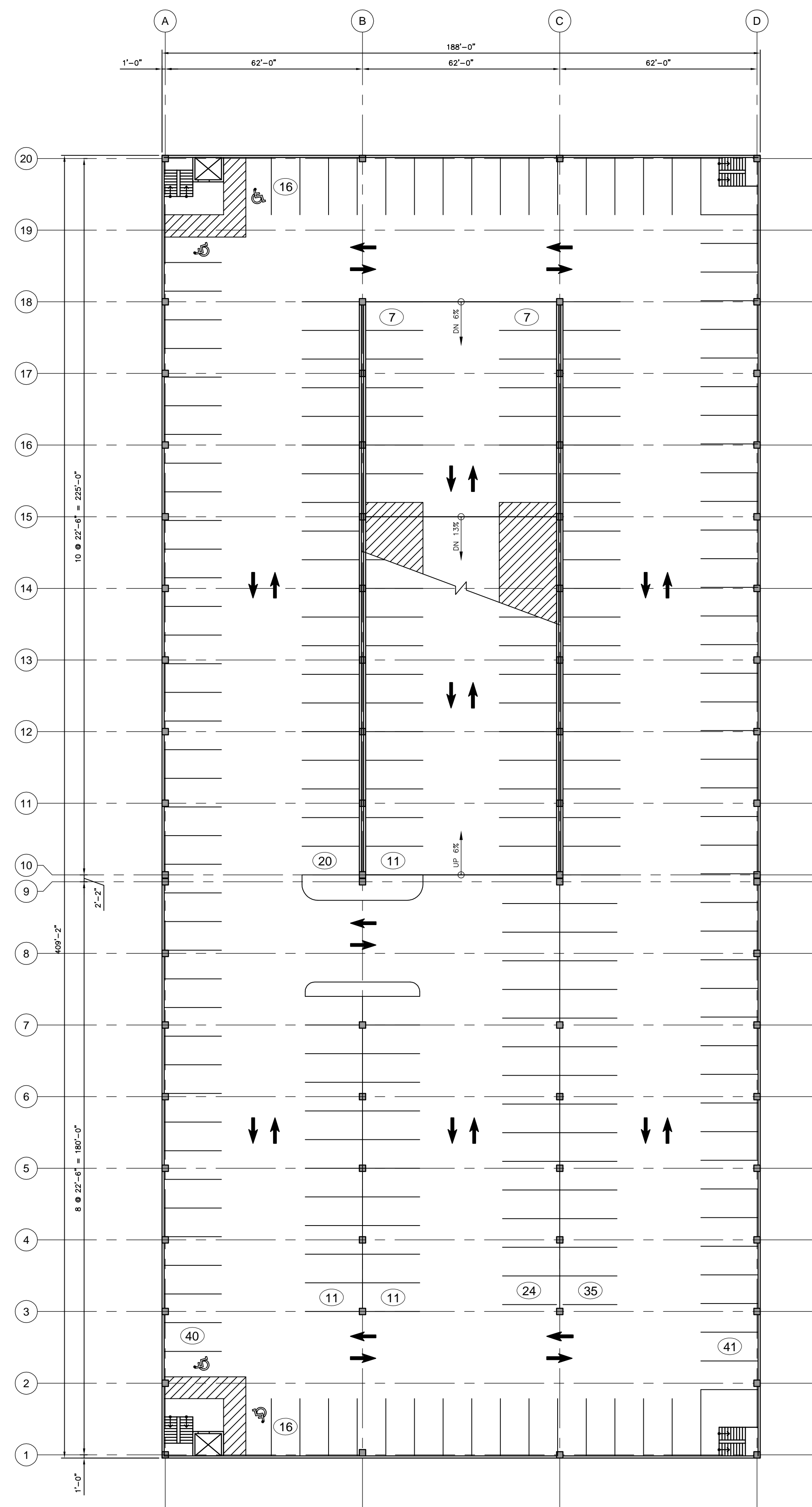
PARKING SPACE TABULATION CHART

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	155	3	3	161	56,813
2	235	4	-	239	76,924
3	225	4	-	229	72,613
TOTAL	615	11	3	629	206,350

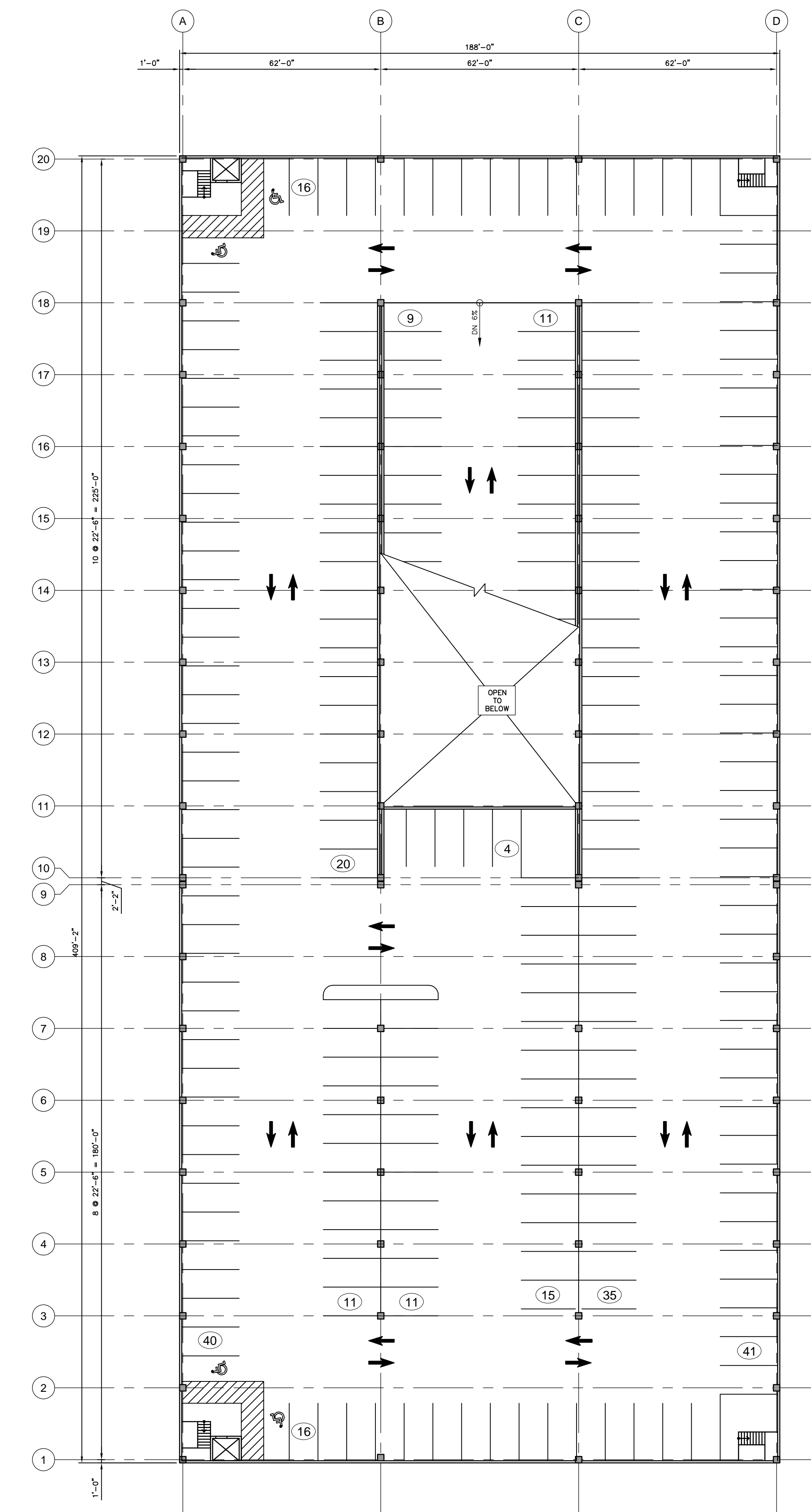
PARKING EFFICIENCY = 328 SQ FT/SPACE



1 LEVEL 1 PLAN
SCALE: NTS



2 LEVEL 2 PLAN
SCALE: NTS

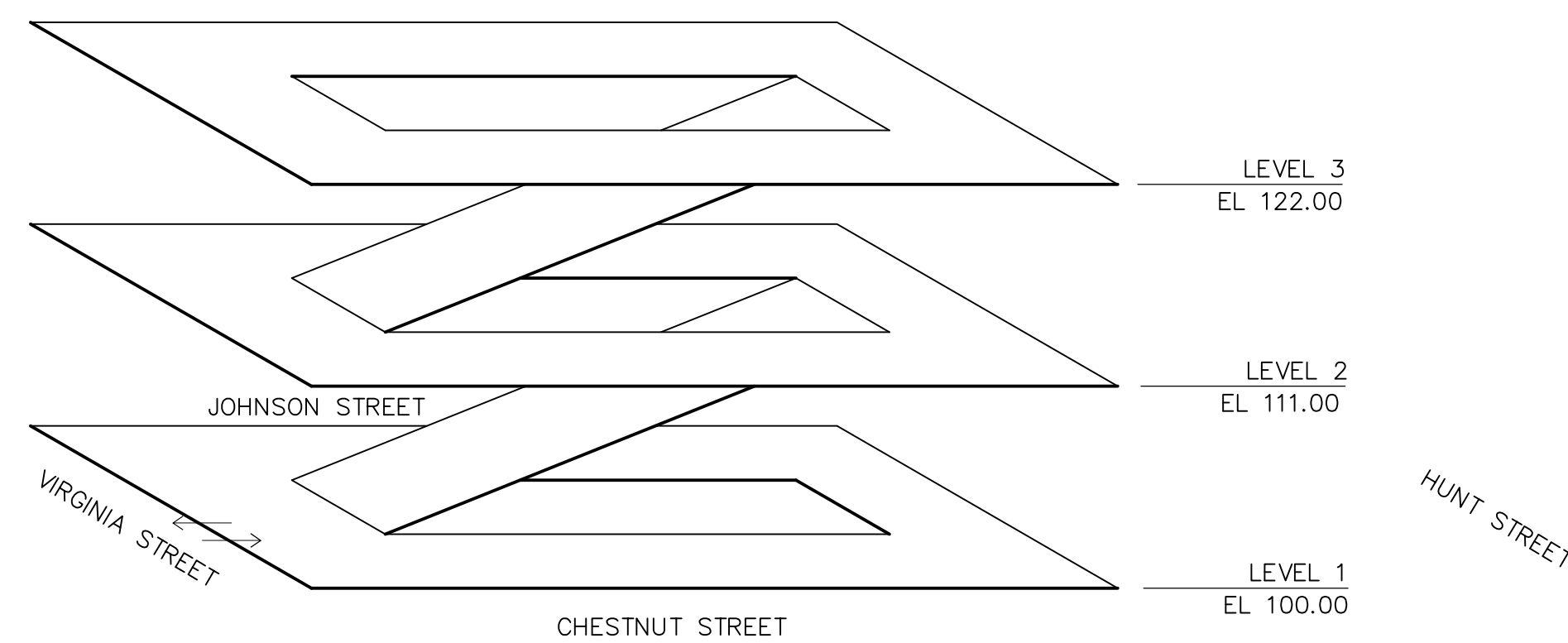


3 LEVEL 3 PLAN
SCALE: NTS

K:\FRL_Civil\64122003\DWG\TR105.dwg TR106 Oct 22, 2009 10:44am by: blakehodge



4 SITE 3 AERIAL PLAN
SCALE: NTS

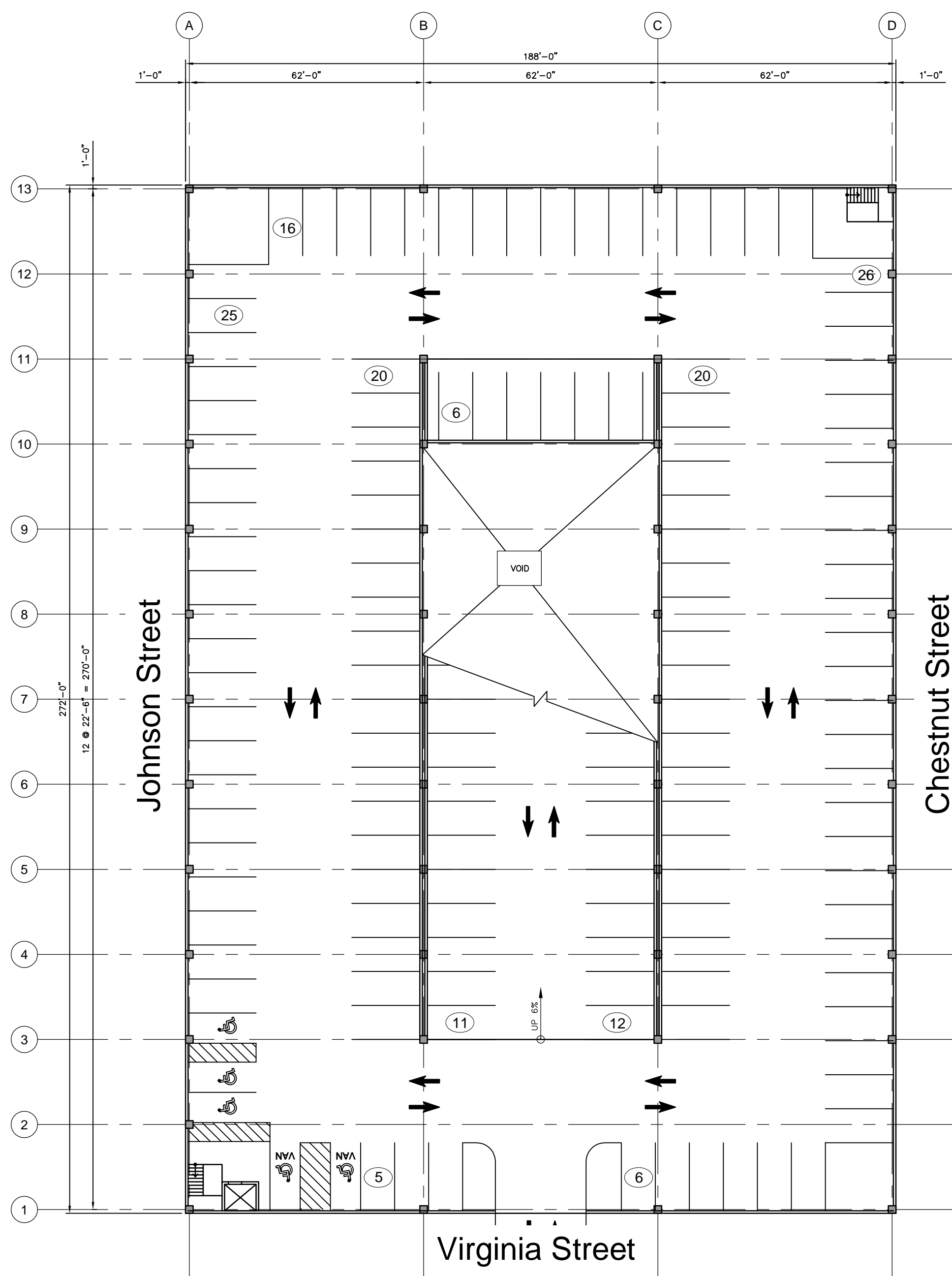


5 ISOMETRIC
SCALE: NTS

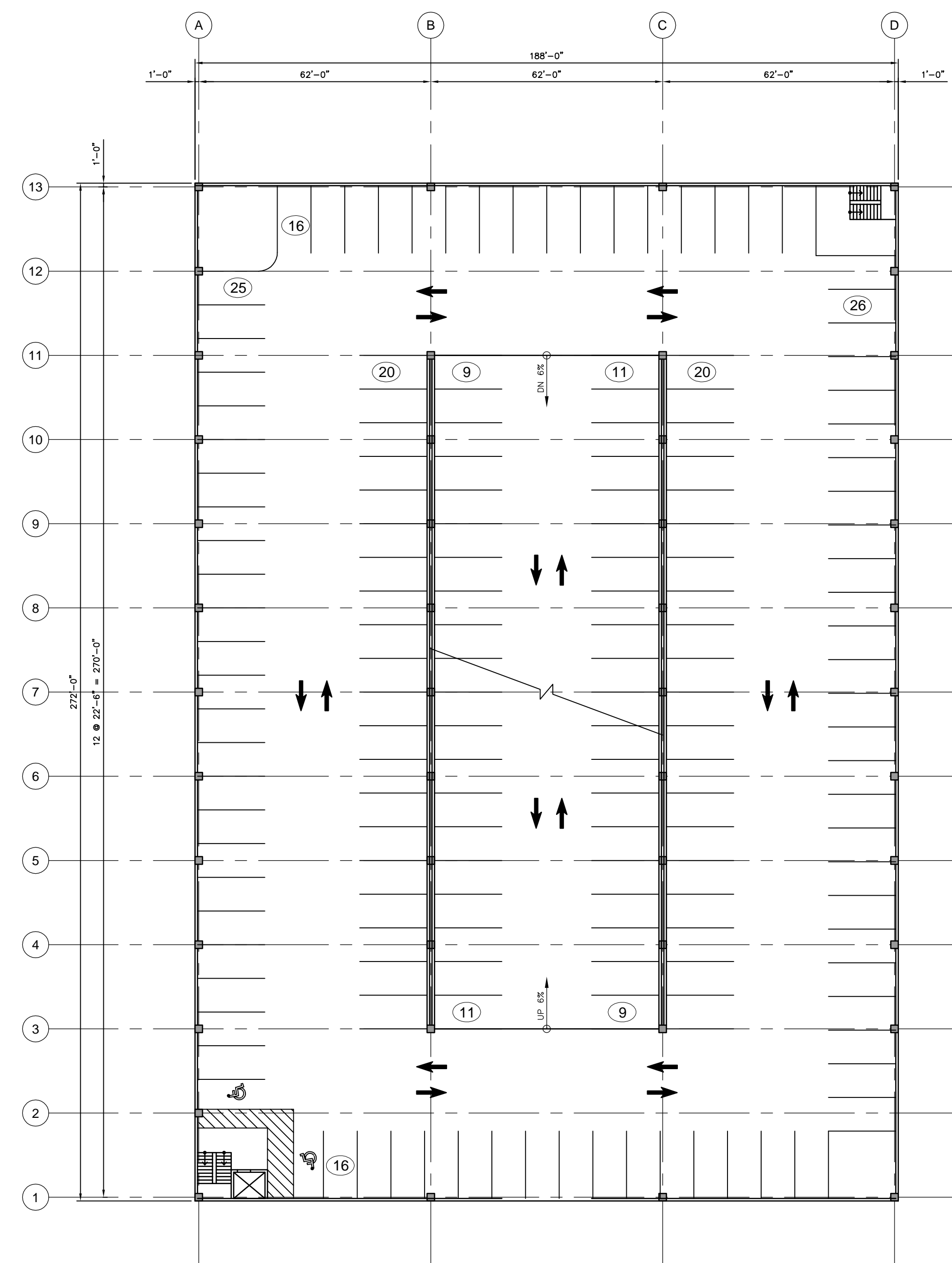
PARKING SPACE TABULATION CHART
PHASE 1

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	139	3	2	144	47,000
2	161	2	-	163	51,100
3	147	2	-	149	47,000
TOTAL	447	7	2	456	145,100

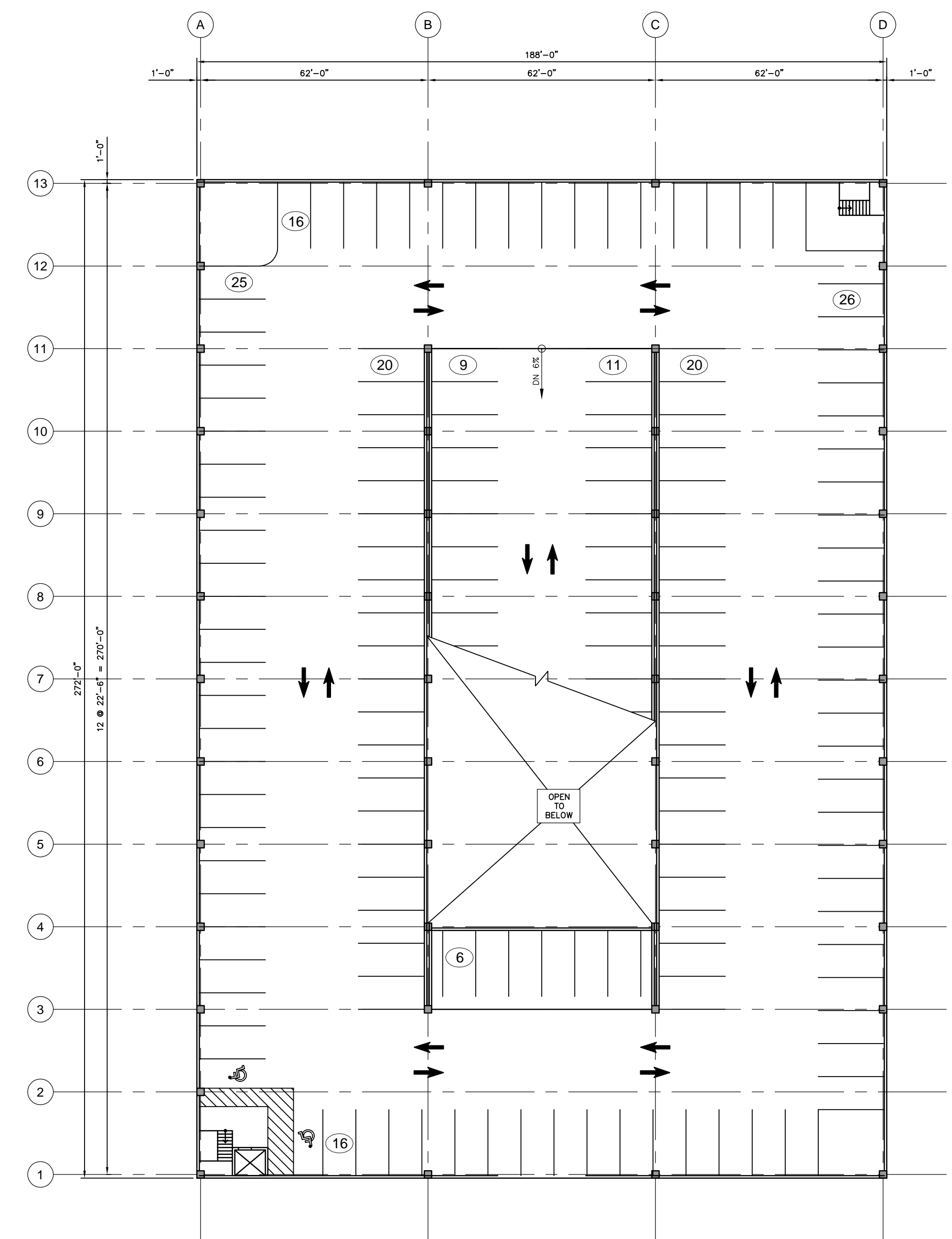
PARKING EFFICIENCY = 318 SQ FT/SPACE



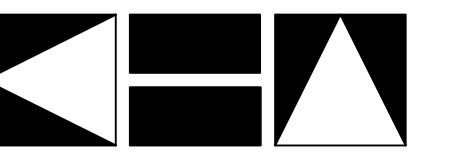
1 LEVEL 1 PLAN
SCALE: NTS



2 LEVEL 2 PLAN
SCALE: NTS



3 LEVEL 3 PLAN
SCALE: NTS



Kimley-Horn
and Associates, Inc.

Certificate of Authorization #928 2009
SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034
PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Gateway
Planning Group



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

CLIENT PROJECT INFO

NO.	DATE	DRAWING	ISSUE DESCRIPTION

DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR107.DWG

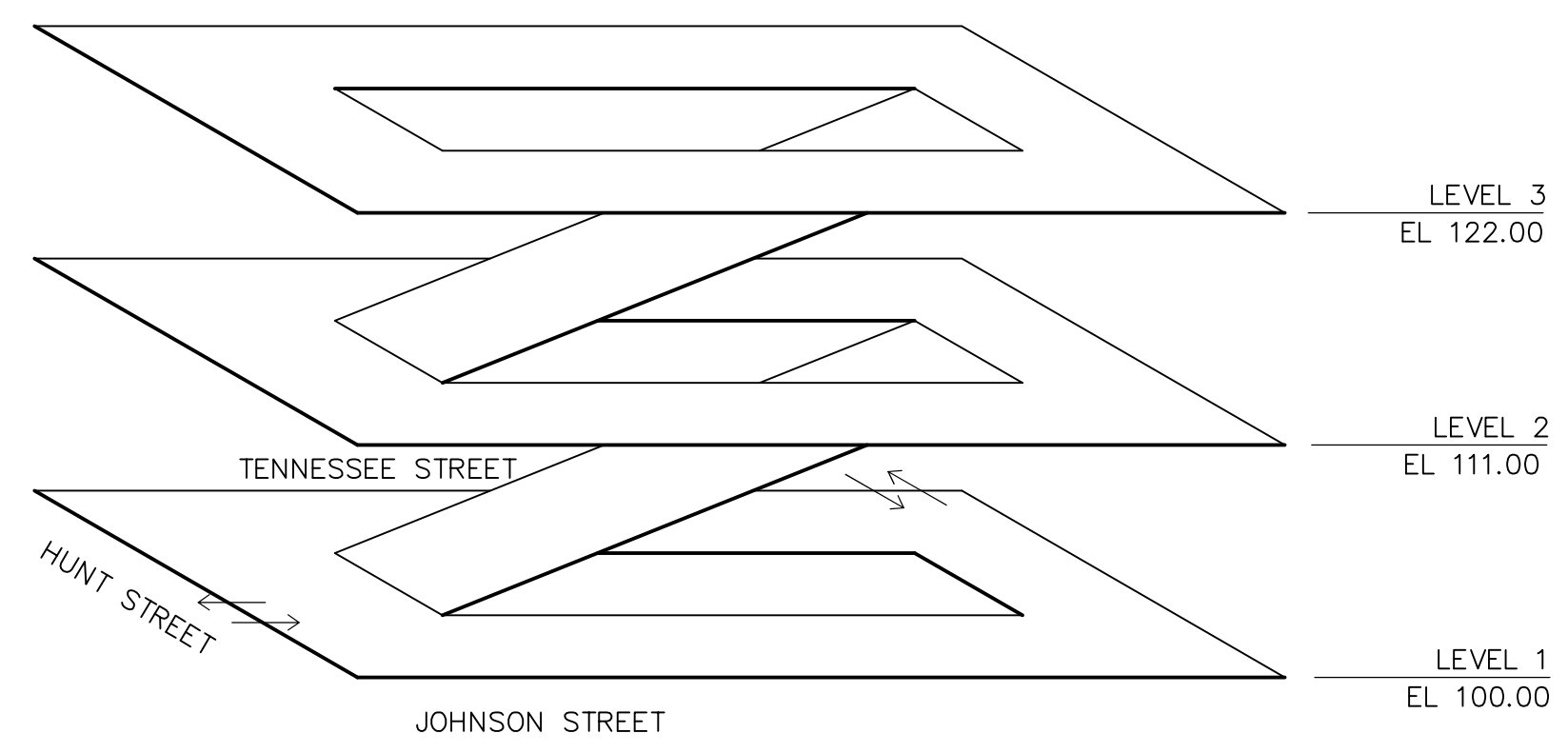
SITE 3a
STRUCTURE
PHASE 1

SCHEMATIC DOCUMENTS

TR107



4 SITE 4 AERIAL PLAN
 TR113 SCALE: NTS

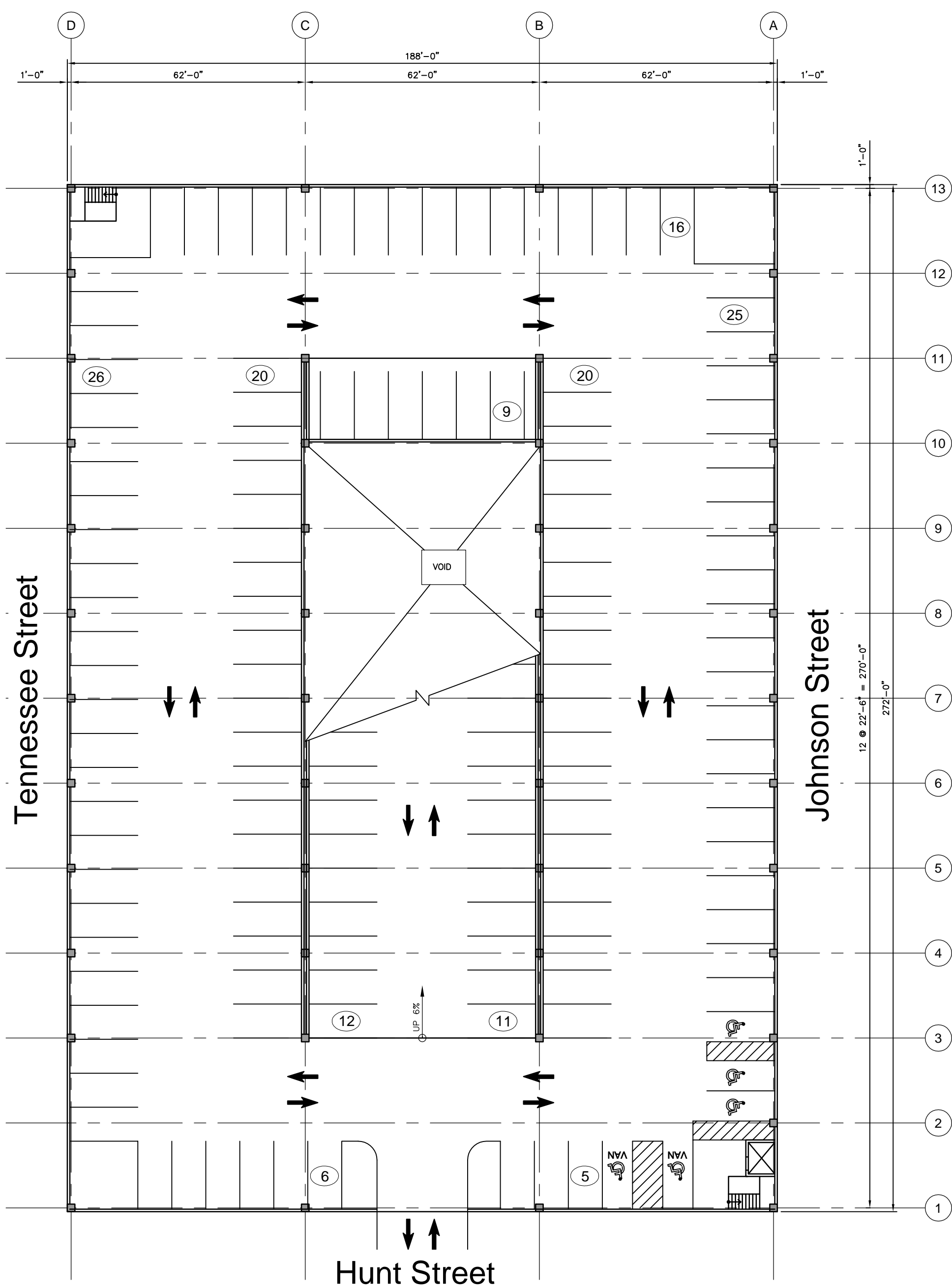


5 ISOMETRIC
 TR113 SCALE: NTS

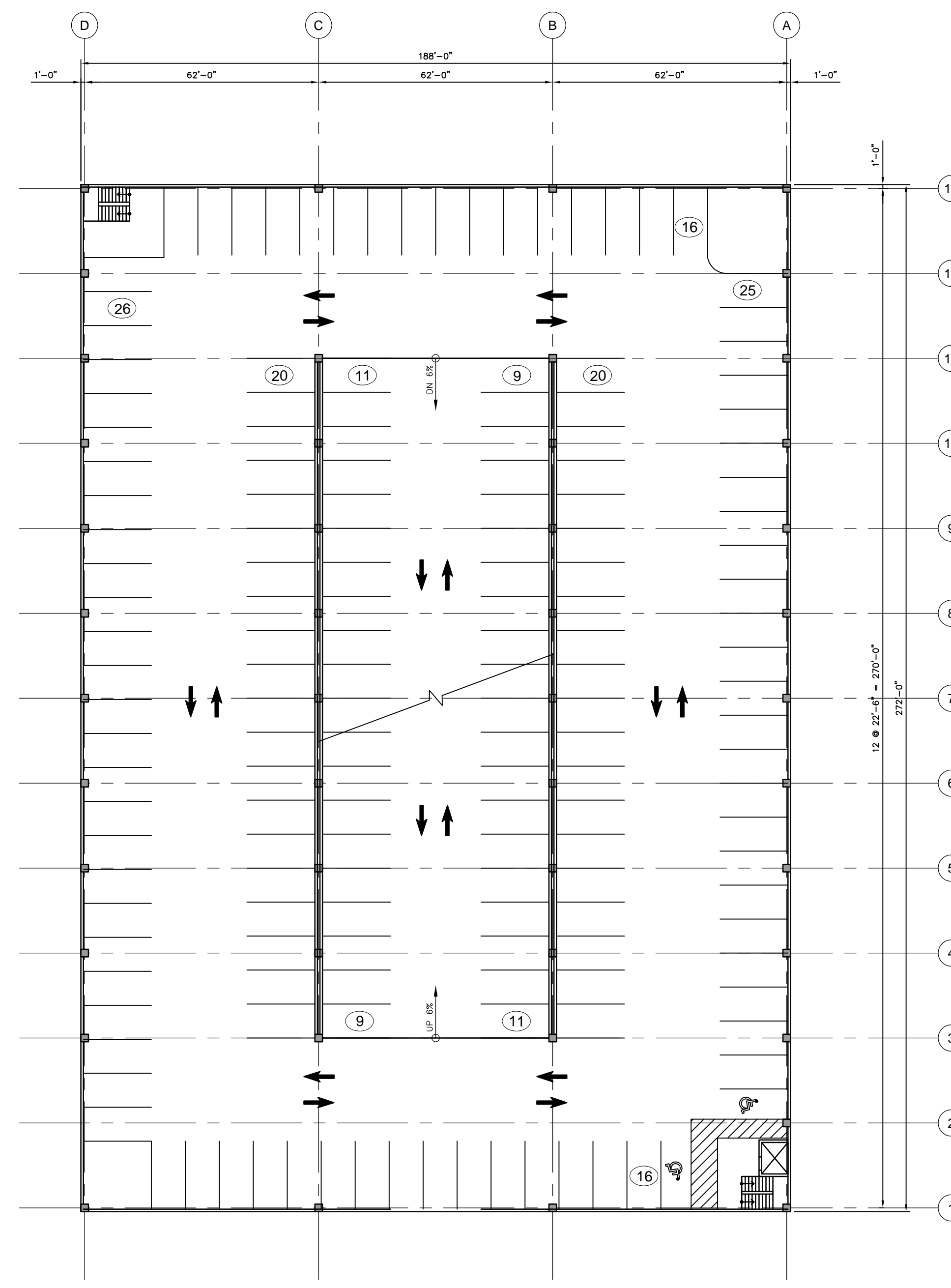
PARKING SPACE TABULATION CHART PHASE 1

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	139	3	2	144	47,000
2	161	2	-	163	51,100
3	147	2	-	149	47,000
TOTAL	447	7	2	456	145,100

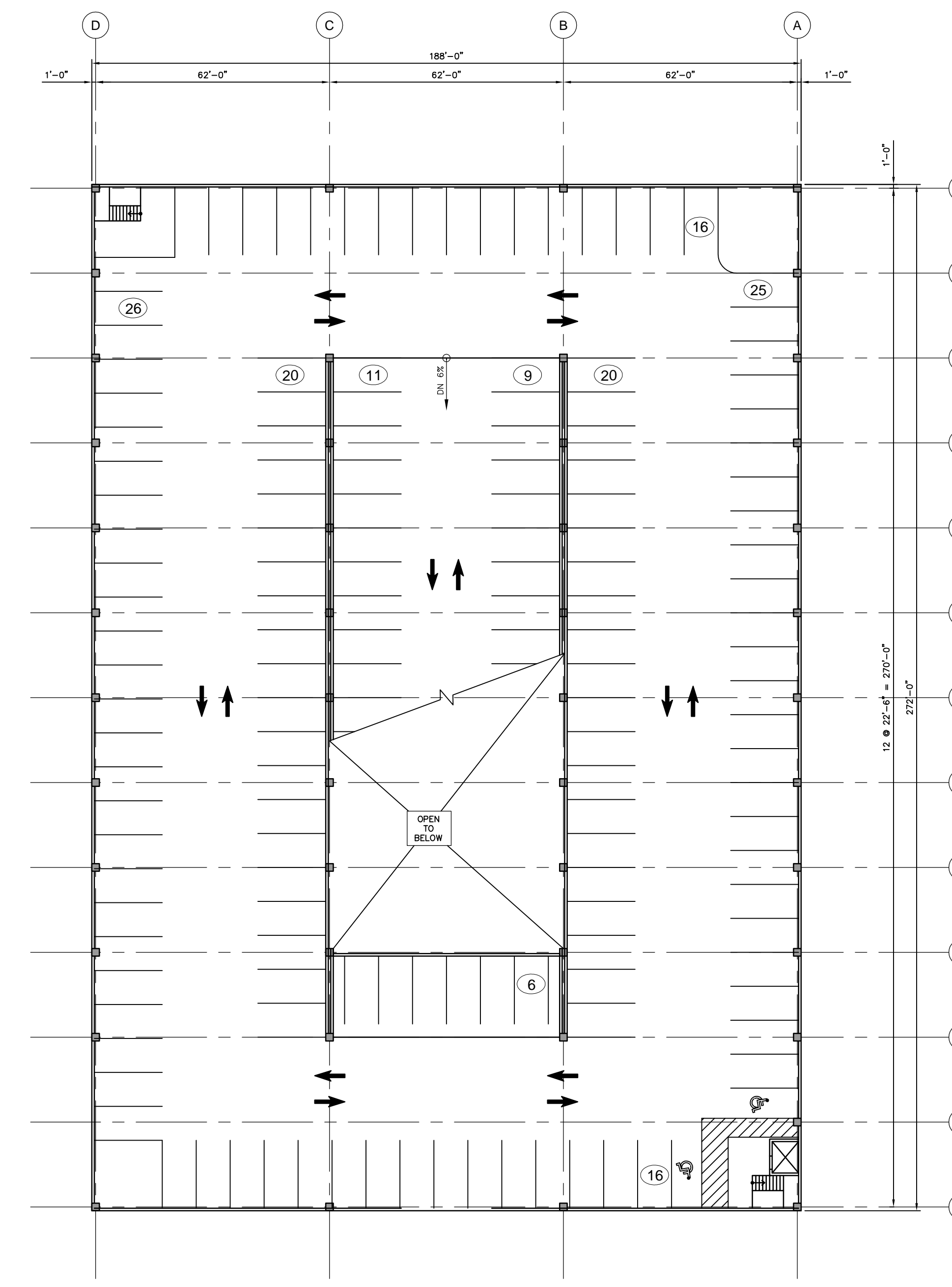
PARKING EFFICIENCY = 318 SQ FT/SPACE



1 LEVEL 1 PLAN
 TR113 SCALE: NTS

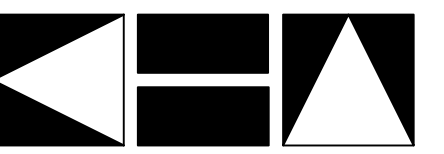


2 LEVEL 2 PLAN
 TR113 SCALE: NTS



3 LEVEL 3 PLAN
 TR113 SCALE: NTS

K:\VRL\Civil\64122003\DWG\TR113.dwg TR113 Oct 22, 2009 10:47am by: Blake.Hodge



Kimley-Horn
 and Associates, Inc.

Certificate of Authorization #928 2009

SUITE 200
 5750 GENESIS COURT
 FRISCO, TX 75034

PHONE: 972.335.3580
 FAX: 972.335.3779

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of any portion of this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SEALS

PRELIMINARY DRAWINGS
 DO NOT USE FOR CONSTRUCTION



City of McKinney
 Historic Town
 Center
 Parking Study

McKinney, Texas

CLIENT PROJECT INFO

NO.	DATE	DRAWING ISSUE DESCRIPTION

DESIGNED BY: RS
 DRAWN BY: RS
 CHECKED BY: JBH
 SCALE: AS NOTED
 DATE: AUGUST 31, 2009
 PROJECT NO: 64122003
 FILENAME: TR111.DWG

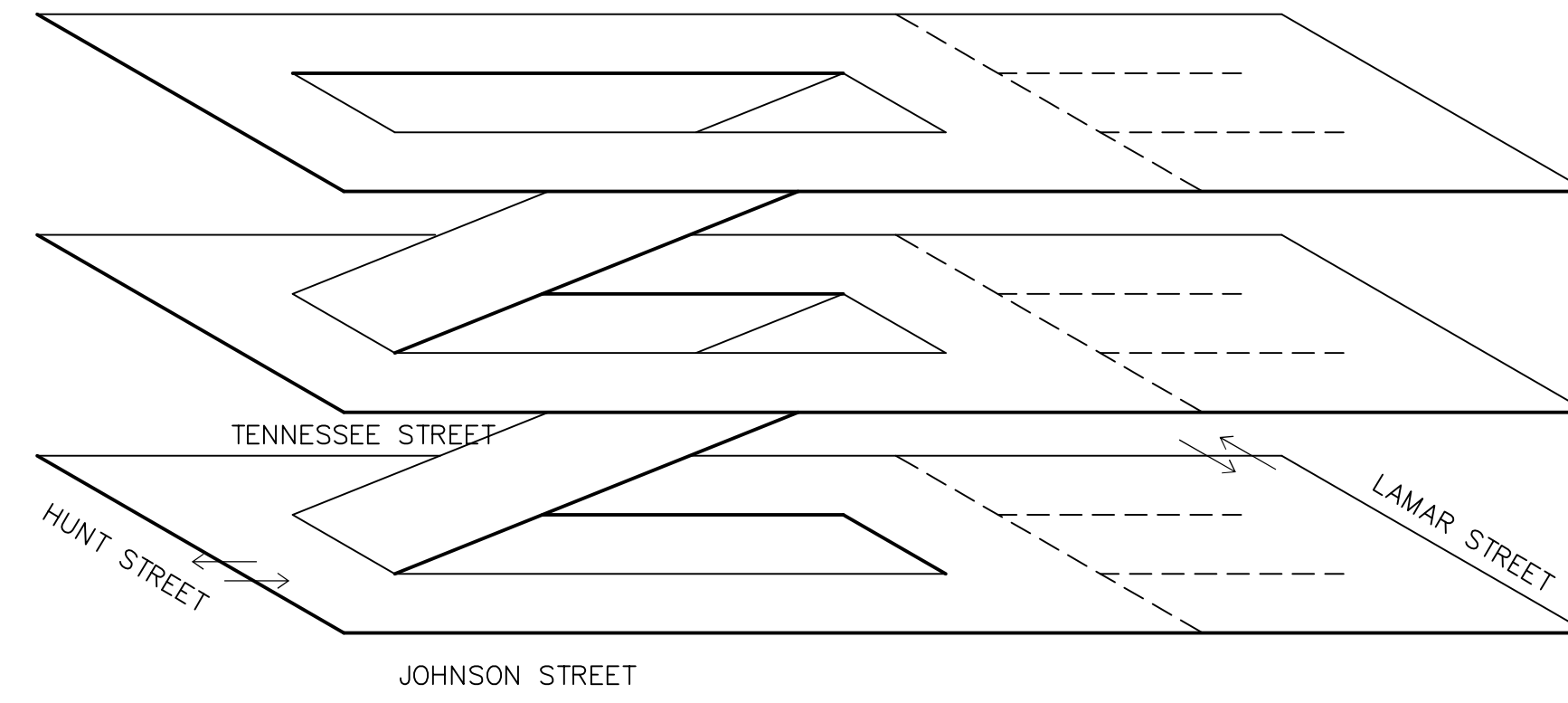
**SITE 4a
 STRUCTURE
 PHASE 1**

SCHEMATIC DOCUMENTS

TR113



4 SITE 4 AERIAL PLAN
TR116 SCALE: NTS

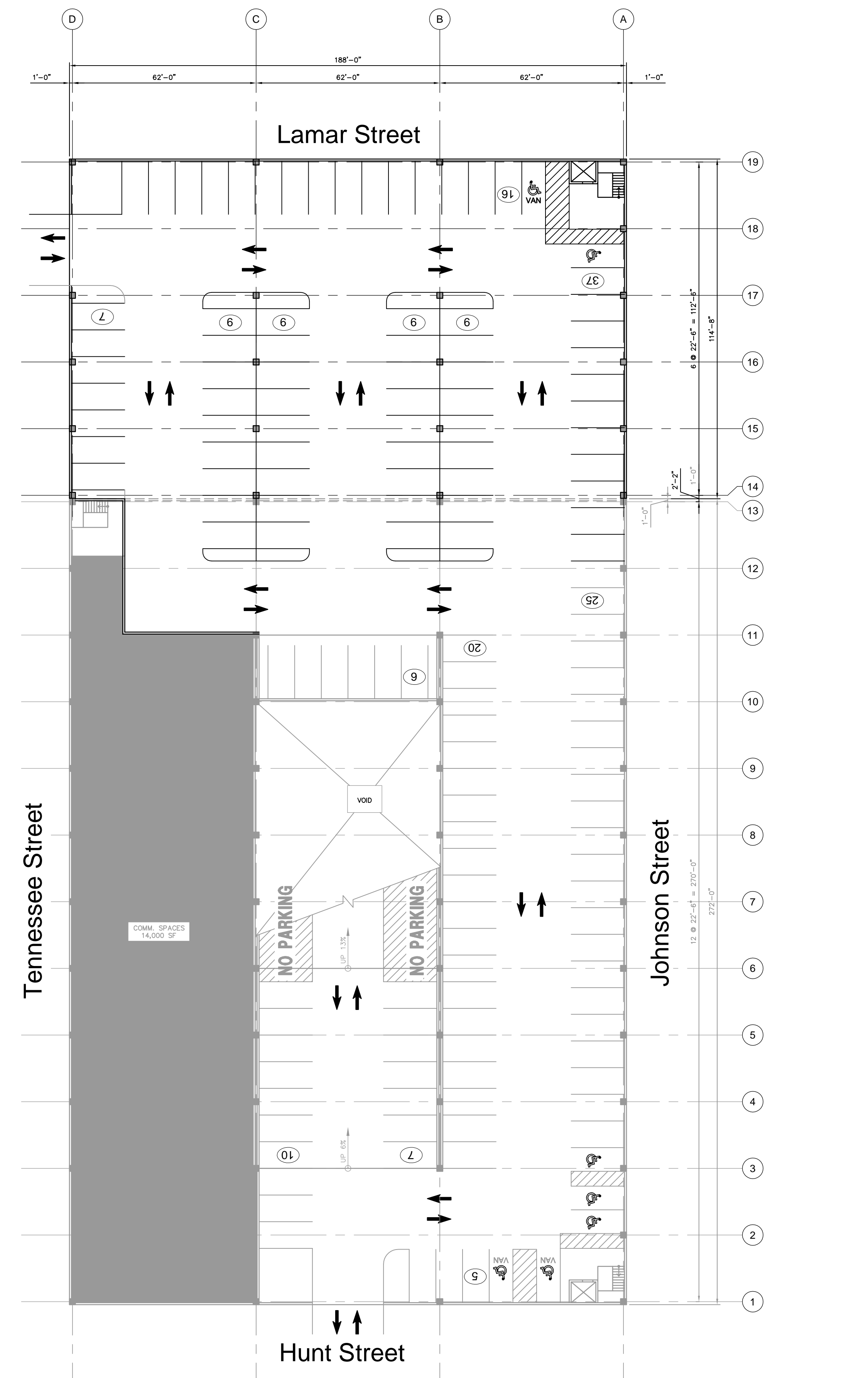


5 ISOMETRIC
TR116 SCALE: NTS

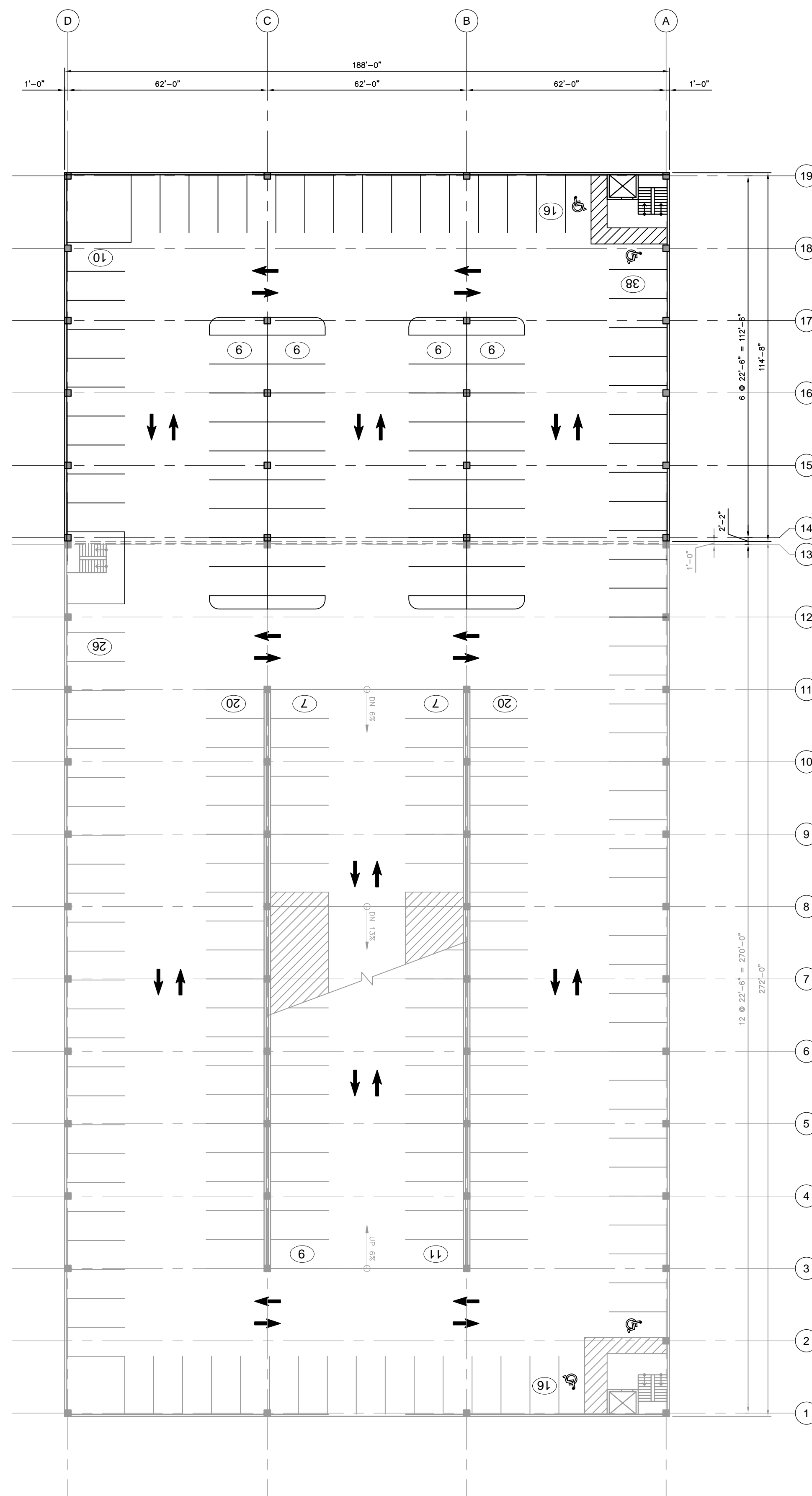
PARKING SPACE TABULATION CHART PHASE 1+ PHASE 2 WITH COMMERCIAL

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	137	4	3	144	54,600
2	213	4	-	217	72,700
3	204	4	-	208	68,600
TOTAL	554	12	3	569	195,900

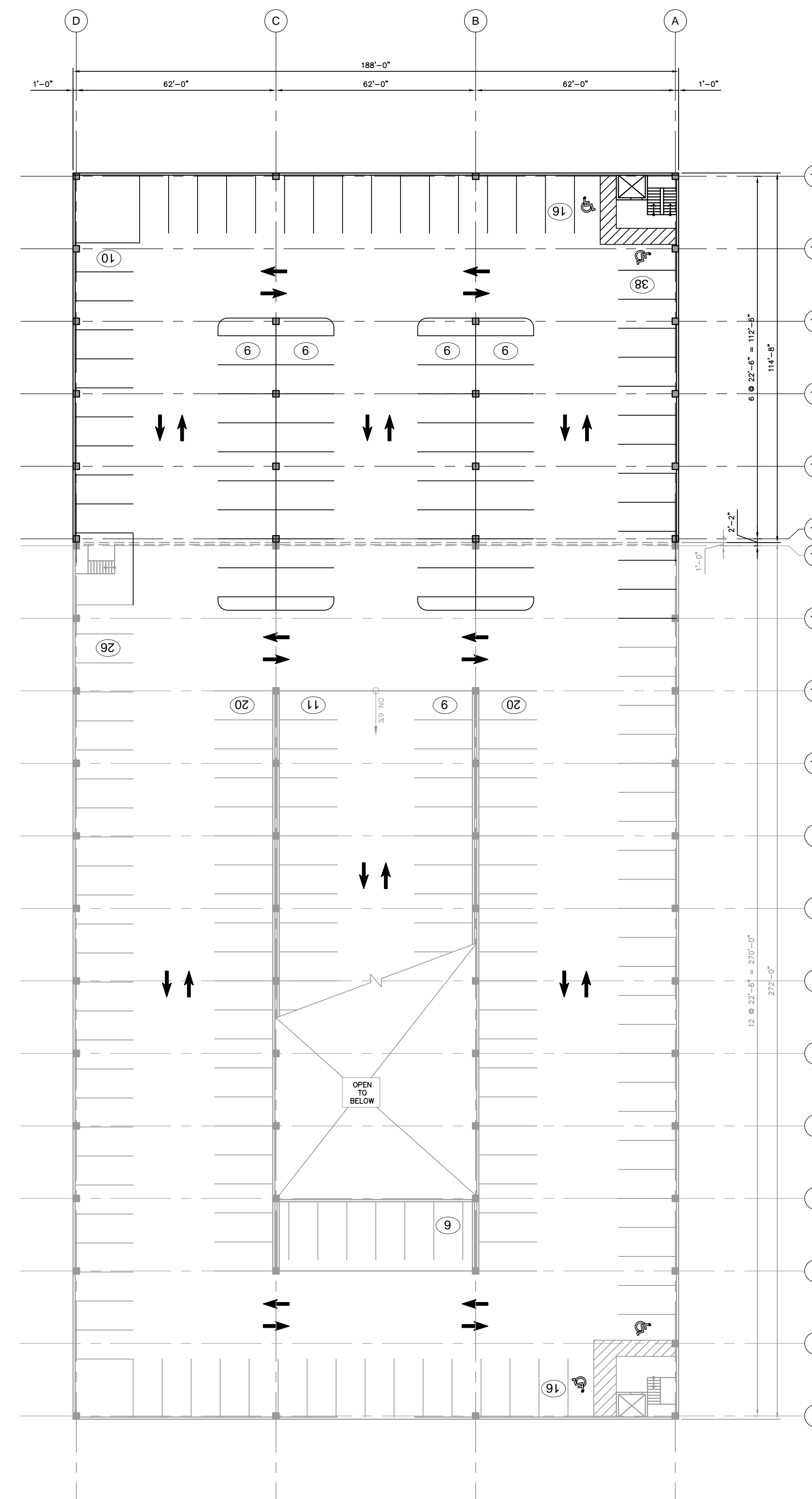
PARKING EFFICIENCY = 344 SQ FT/SPACE



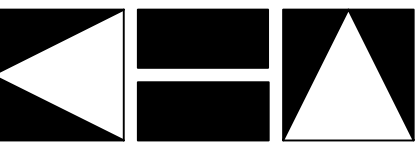
1 LEVEL 1 PLAN
TR116 SCALE: NTS



2 LEVEL 2 PLAN
TR116 SCALE: NTS



3 LEVEL 3 PLAN
TR116 SCALE: NTS



Kimley-Horn
and Associates, Inc.

Certificate of Authorization #928 2009

SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034

PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

CLIENT PROJECT INFO

NO.	DATE	DRAWING ISSUE DESCRIPTION

DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR111.DWG

SITE 4b
STRUCTURE
PHASE 1 + 2
WITH COMMERCIAL

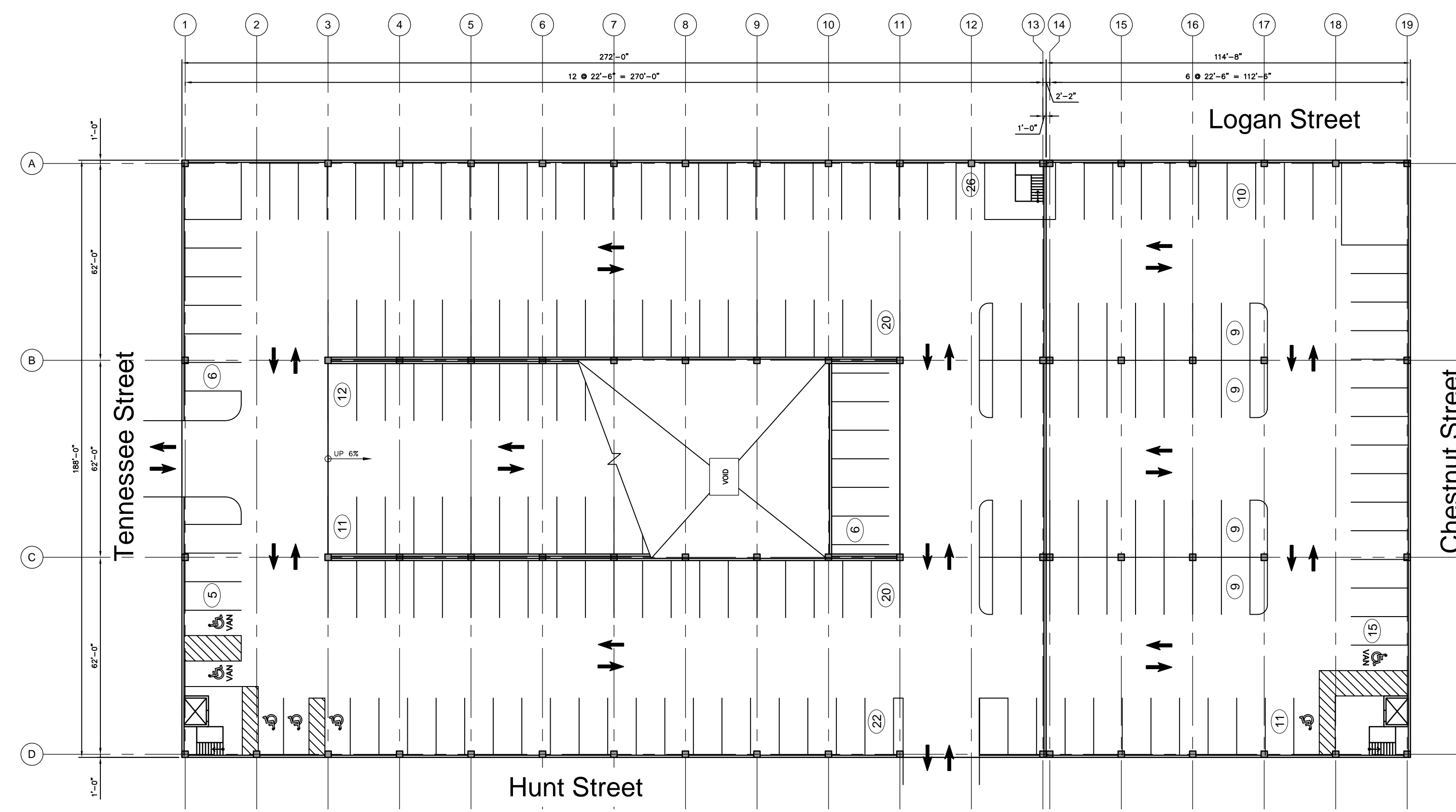
SCHEMATIC DOCUMENTS

TR116

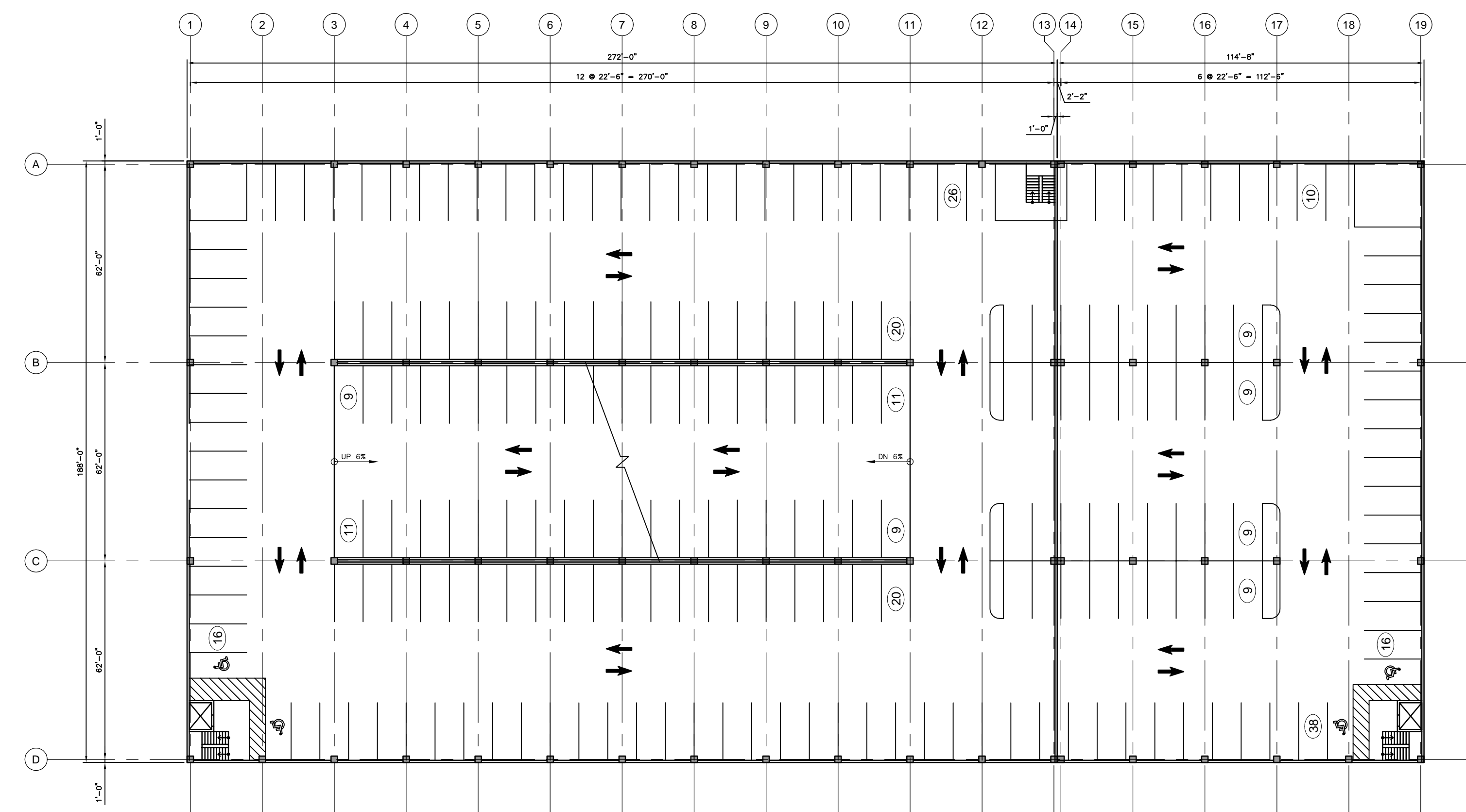
PARKING SPACE TABULATION CHART

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	190	4	3	197	68,600
2	218	4	-	222	72,700
3	204	4	-	208	68,600
TOTAL	612	12	3	627	209,900

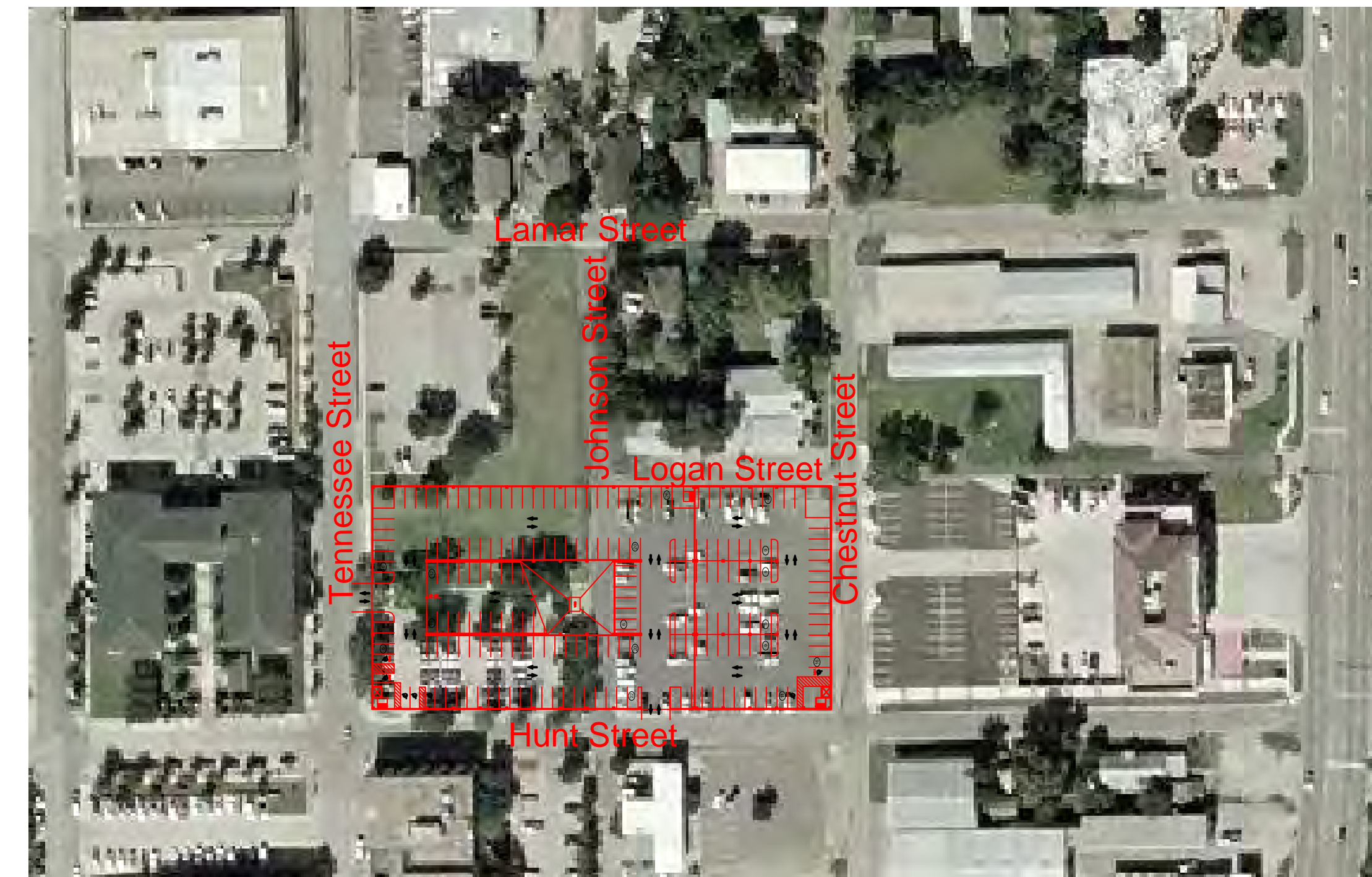
PARKING EFFICIENCY = 335 SQ FT/SPACE



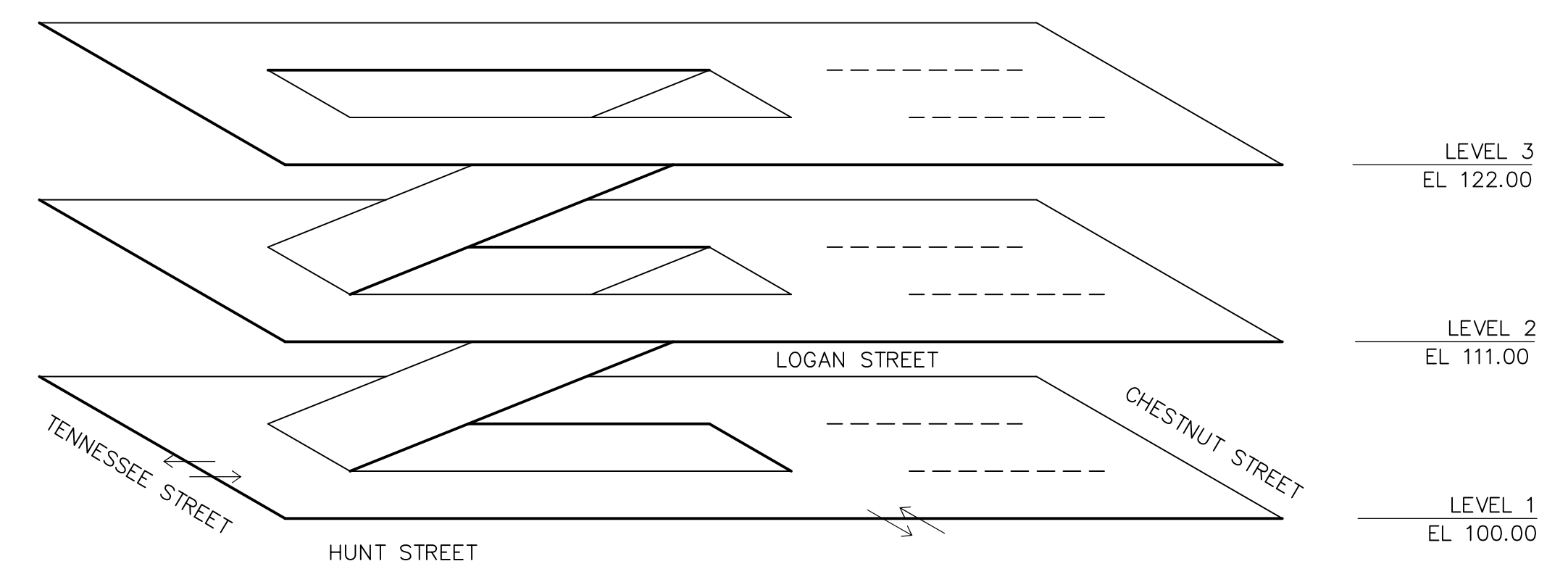
1 LEVEL 1 PLAN
TR117 SCALE: NTS



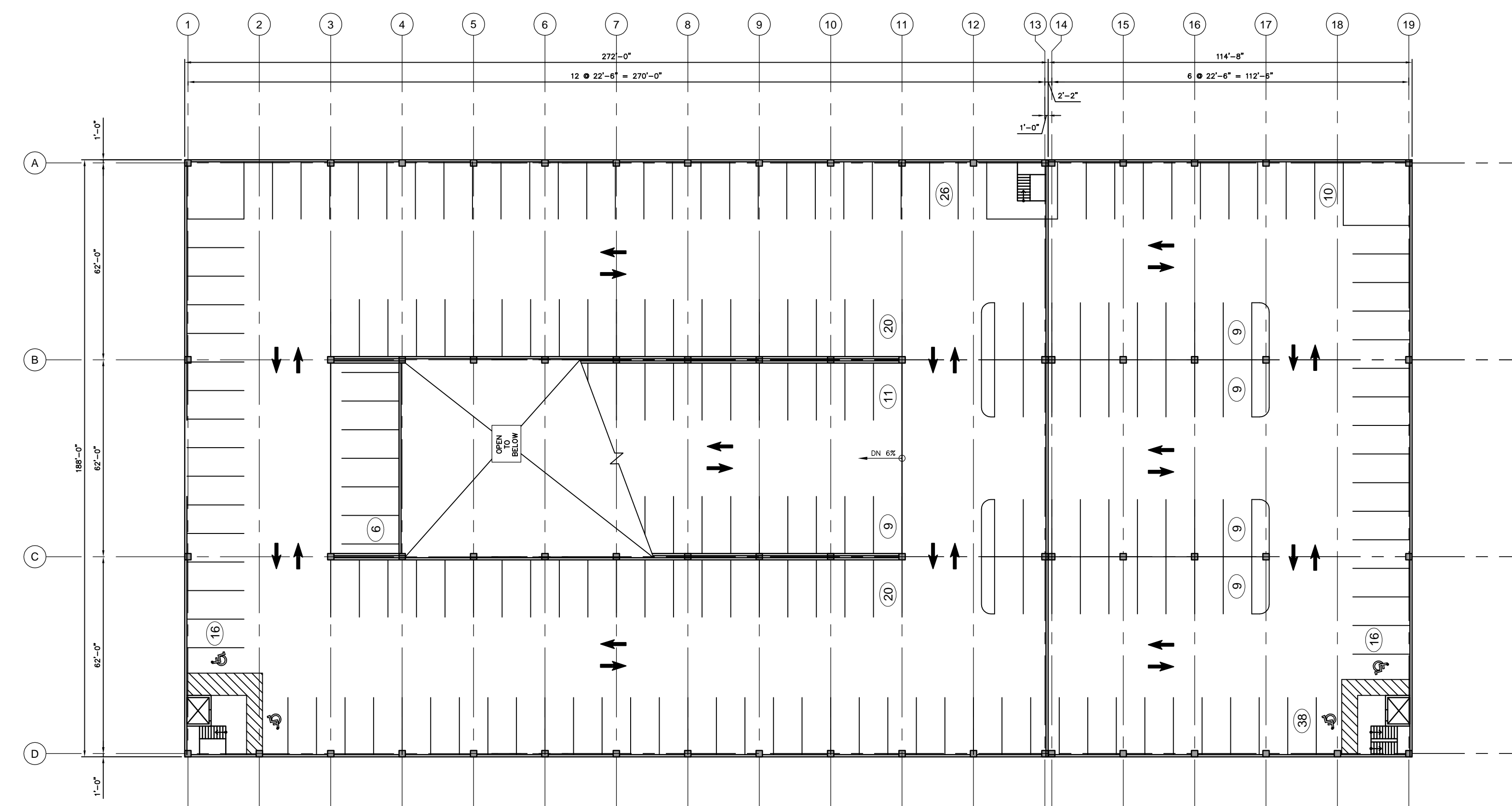
2 LEVEL 2 PLAN
TR117 SCALE: NTS



5 SITE 5 AERIAL PLAN
TR117 SCALE: NTS



4 ISOMETRIC
TR117 SCALE: NTS



3 LEVEL 3 PLAN
TR117 SCALE: NTS



Kimley-Horn
and Associates, Inc.

Certificate of Authorization #928 2009, ©

SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034

PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, is an instrument of service, and is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Gateway
Planning Group



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

CLIENT PROJECT INFO

NO.	DATE	DRAWING	ISSUE DESCRIPTION

DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR117.DWG

SITE 5
STRUCTURE

SCHEMATIC DOCUMENTS

TR117



**Kimley-Horn
and Associates, Inc.**

Certificate of Authorization #928 2009

SUITE 200
5750 GENESIS COURT
FRISCO, TX 75034

PHONE: 972.335.3580
FAX: 972.335.3779

This document, together with the concepts and designs presented herein, is an instrument of service. It is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

**Gateway
Planning Group**



SEALS

PRELIMINARY DRAWINGS
DO NOT USE FOR CONSTRUCTION



City of McKinney
Historic Town
Center
Parking Study

McKinney, Texas

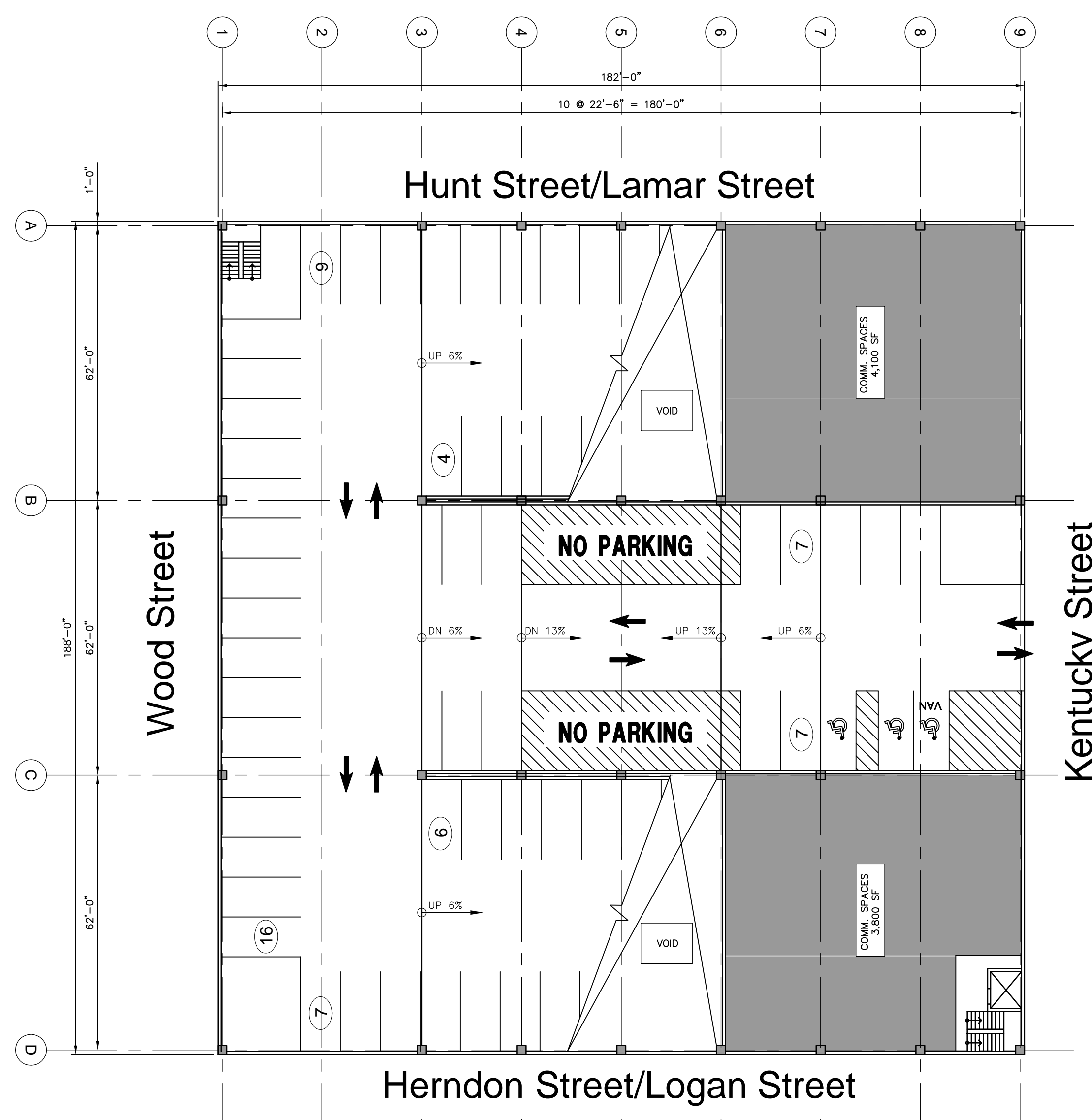
CLIENT PROJECT INFO

NO.	DATE	DRAWING	ISSUE DESCRIPTION

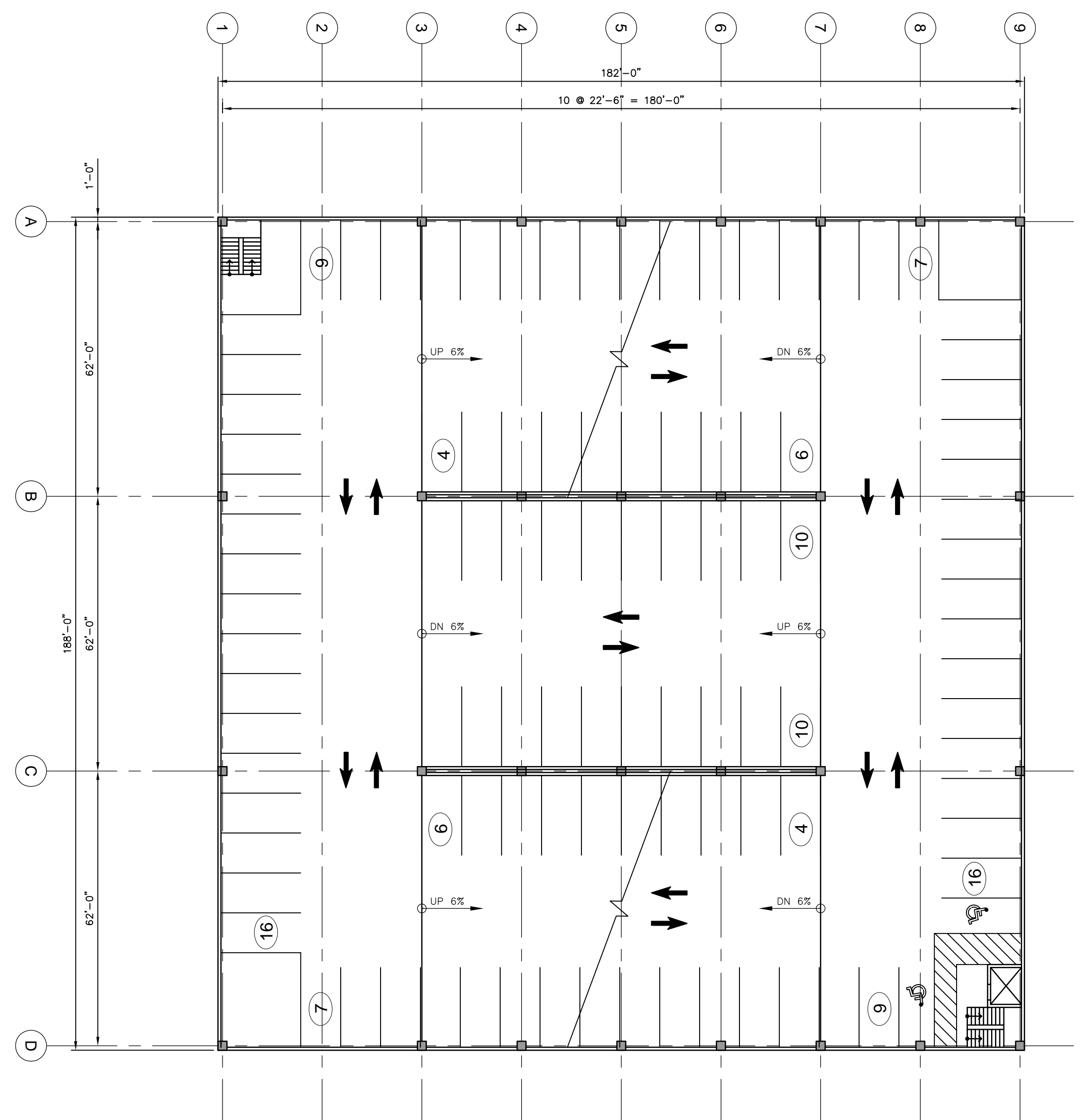
DESIGNED BY: RS
DRAWN BY: RS
CHECKED BY: JBH
SCALE: AS NOTED
DATE: AUGUST 31, 2009
PROJECT NO: 64122003
FILENAME: TR123.DWG

**SITES 6 & 7
STRUCTURES
WITH
COMMERCIAL**
SCHEMATIC DOCUMENTS

TR124



1 LEVEL 1 PLAN
TR124 SCALE: NTS

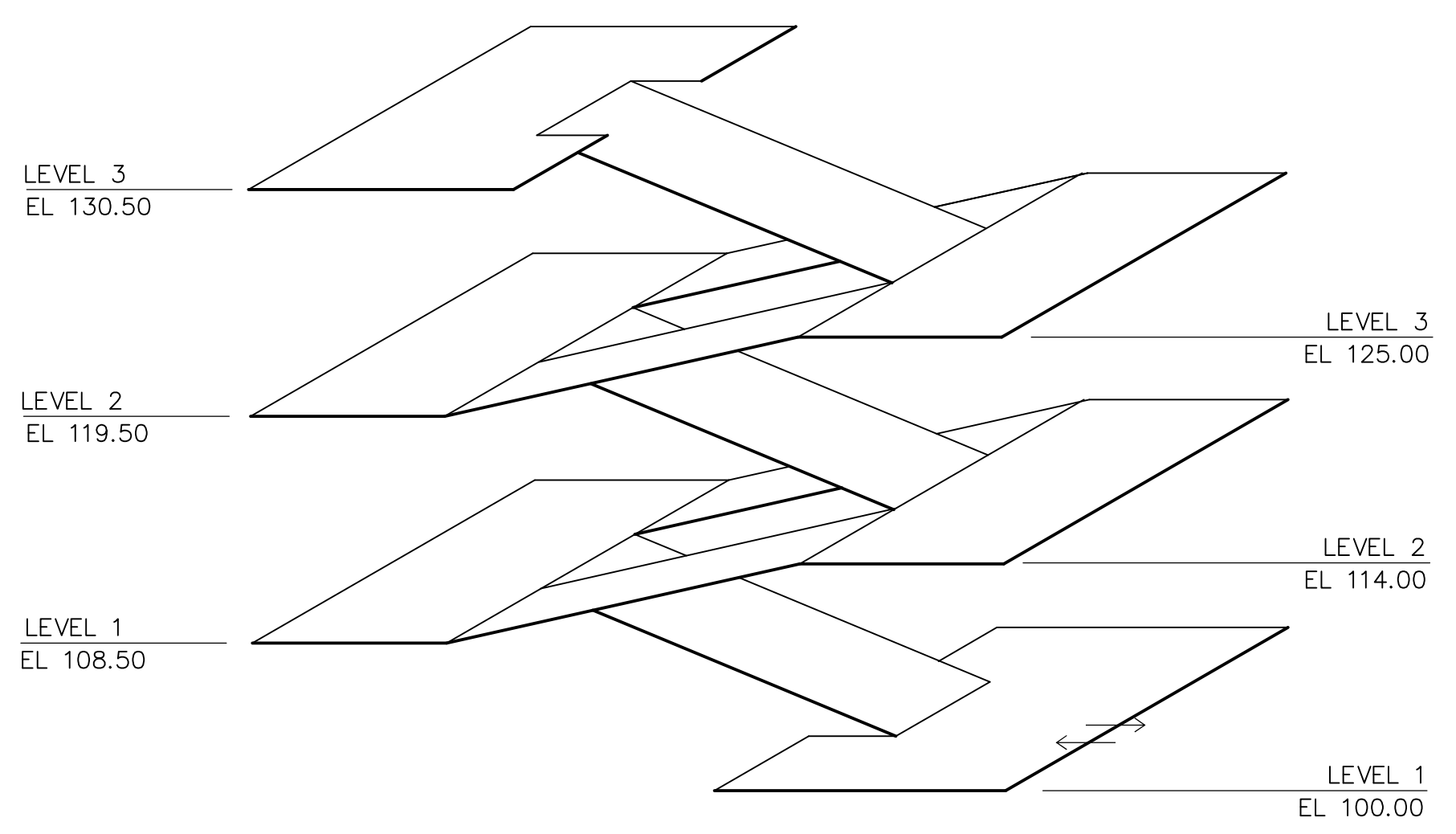


2 LEVEL 2 PLAN
TR124 SCALE: NTS

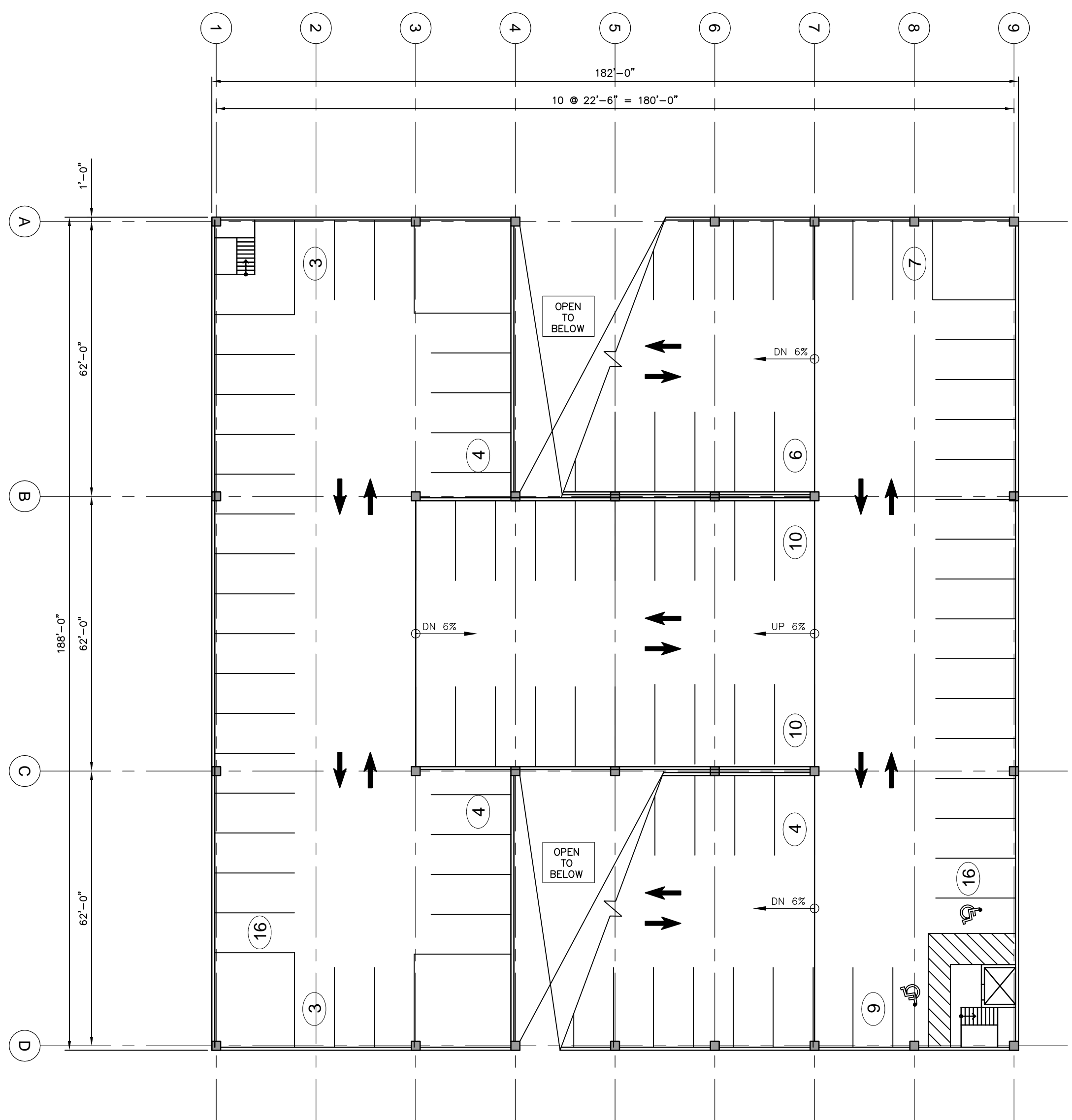
PARKING SPACE TABULATION CHART

LEVEL	STANDARD	ADA	VAN ADA	TOTAL	AREA
1	53	2	1	56	23,644
2	102	2	-	104	34,216
3	90	2	-	92	31,544
TOTAL	245	6	1	252	89,404

PARKING EFFICIENCY = 355 SQ FT/SPACE



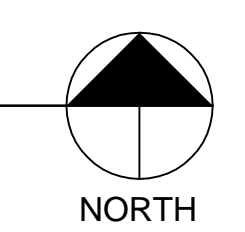
4 ISOMETRIC
TR124 SCALE: NTS



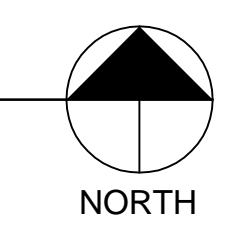
3 LEVEL 3 PLAN
TR124 SCALE: NTS



5 SITE 6 AERIAL PLAN
TR124 SCALE: NTS



6 SITE 7 AERIAL PLAN
TR124 SCALE: NTS



K:\FRL_Civil\64122003\DWG\TR123.dwg TR124 Oct 22, 2009 10:51am by: bblackhodge

City of McKinney Historic Town Center Parking Study

Site Structure 1

PS&E	\$195,407
A/E Design Fees	\$183,912
Materials Testing Fees	\$11,495
Sub-Total PS&E	\$195,407

Construction Cost of Work	\$2,873,625
\$ for Parking	\$2,298,900
Sub-Total Hard Cost of Work	\$2,298,900
Design Contingency	\$344,835
CM Construction Contingency	\$114,945
Escalation	\$114,945
Sub-Total Construction Cost of Work	\$2,873,625

Construction Management	\$114,945
Construction Phase Fee	\$114,945
Sub-Total CM	\$114,945

Administration / Other	\$109,198
Permitting	\$22,989
Owner Reserves	\$86,209
Sub-Total Other	\$109,198

Total Project Cost Projection	\$3,293,174
--------------------------------------	--------------------

<i>Efficiency</i> =	317	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	241	=	\$13,664.62 per Car
<i>Total Square Feet</i> =	76,410	=	\$43.10 per SF

Assumptions:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for At Grade Parking</td> <td style="text-align: center;">\$20</td> </tr> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: center;">\$35</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">A/E Design Fees</td> <td style="text-align: center;">8.0%</td> </tr> <tr> <td style="padding-left: 20px;">Materials Testing</td> <td style="text-align: center;">0.5%</td> </tr> <tr> <td style="padding-left: 20px;">Special Inspections</td> <td style="text-align: center;">1.5%</td> </tr> <tr> <td style="padding-left: 20px;">Construction Manager Construction Phase Fees</td> <td style="text-align: center;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Design Contingency</td> <td style="text-align: center;">15.0%</td> </tr> <tr> <td style="padding-left: 20px;">CM Construction Contingency</td> <td style="text-align: center;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Escalation</td> <td style="text-align: center;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Permitting</td> <td style="text-align: center;">1.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Owner Reserves</td> <td style="text-align: center;">3.0%</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20	Estimated Construction \$/SF for Elevated Parking	\$35			A/E Design Fees	8.0%	Materials Testing	0.5%	Special Inspections	1.5%	Construction Manager Construction Phase Fees	5.0%			Design Contingency	15.0%	CM Construction Contingency	5.0%	Escalation	5.0%			Permitting	1.0%			Owner Reserves	3.0%	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																														
Estimated Construction \$/SF for Elevated Parking	\$35																														
A/E Design Fees	8.0%																														
Materials Testing	0.5%																														
Special Inspections	1.5%																														
Construction Manager Construction Phase Fees	5.0%																														
Design Contingency	15.0%																														
CM Construction Contingency	5.0%																														
Escalation	5.0%																														
Permitting	1.0%																														
Owner Reserves	3.0%																														

City of McKinney Historic Town Center Parking Study

Site Structure 1 with Commercial

PS&E	\$190,596
A/E Design Fees	\$179,384
Materials Testing Fees	\$11,212
Sub-Total PS&E	\$190,596

Construction Cost of Work	\$2,802,875
\$ for Parking	\$2,192,300
\$ for Shell Commercial	\$50,000 (5,000 SF)
Sub-Total Hard Cost of Work	\$2,242,300
Design Contingency	\$336,345
CM Construction Contingency	\$112,115
Escalation	\$112,115
Sub-Total Construction Cost of Work	\$2,802,875

Construction Management	\$112,115
Construction Phase Fee	\$112,115
Sub-Total CM	\$112,115

Administration / Other	\$106,509
Permitting	\$22,423
Owner Reserves	\$84,086
Sub-Total Other	\$106,509

Total Project Cost Projection	\$3,212,095
--------------------------------------	--------------------

<i>Efficiency</i> =	312	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	228	=	\$14,088.13 per Car
<i>Total Square Feet</i> =	76,080	=	\$42.22 per SF

Assumptions:

Estimated Construction \$/SF for At Grade Parking	\$20	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
Estimated Construction \$/SF for Elevated Parking	\$35	
A/E Design Fees	8.0%	of hard construction cost
Materials Testing	0.5%	of hard construction cost
Special Inspections	1.5%	of hard construction cost
Construction Manager Construction Phase Fees	5.0%	of hard construction cost
Design Contingency	15.0%	of hard construction cost
CM Construction Contingency	5.0%	of hard construction cost
Escalation	5.0%	of hard construction cost to mid-2009
Permitting	1.0%	of hard construction cost
Owner Reserves	3.0%	of total construction cost

City of McKinney Historic Town Center Parking Study

Site Structure 2

PS&E		\$352,629
A/E Design Fees	\$331,886	
Materials Testing Fees	\$20,743	
Sub-Total PS&E	\$352,629	
Construction Cost of Work		\$5,185,714
\$ for Parking	\$4,026,735	
Land Acquisition	\$121,836	<i>Per Collin County Appraisal District Records</i>
Sub-Total Hard Cost of Work	\$4,148,571	
Design Contingency	\$622,286	
CM Construction Contingency	\$207,429	
Escalation	\$207,429	
Sub-Total Construction Cost of Work	\$5,185,714	
Construction Management		\$207,429
Construction Phase Fee	\$207,429	
Sub-Total CM	\$207,429	
Administration / Other		\$197,057
Permitting	\$41,486	
Owner Reserves	\$155,571	
Sub-Total Other	\$197,057	
Total Project Cost Projection		\$5,942,828

<i>Efficiency</i> =	334	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	400	= \$14,857.07 per Car
<i>Total Square Feet</i> =	133,506	= \$44.51 per SF

Assumptions:

Estimated Construction \$/SF for At Grade Parking	\$20	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
Estimated Construction \$/SF for Elevated Parking	\$35	
A/E Design Fees	8.0%	of hard construction cost
Materials Testing	0.5%	of hard construction cost
Special Inspections	1.5%	of hard construction cost
Construction Manager Construction Phase Fees	5.0%	of hard construction cost
Design Contingency	15.0%	of hard construction cost
CM Construction Contingency	5.0%	of hard construction cost
Escalation	5.0%	of hard construction cost to mid-2009
Permitting	1.0%	of hard construction cost
Owner Reserves	3.0%	of total construction cost

City of McKinney Historic Town Center Parking Study

Site Structure 2 with Commercial

PS&E		\$365,124
	A/E Design Fees	\$343,646
	Materials Testing Fees	\$21,478
	Sub-Total PS&E	\$365,124

Construction Cost of Work		\$5,369,464
	\$ for Parking	\$4,026,735
	Land Acquisition	\$121,836
	\$ for Shell Commercial	\$147,000
	Sub-Total Hard Cost of Work	\$4,295,571
	Design Contingency	\$644,336
	CM Construction Contingency	\$214,779
	Escalation	\$214,779
	Sub-Total Construction Cost of Work	\$5,369,464

*Per Collin County Appraisal District Records
(14,700 SF)*

Construction Management		\$214,779
	Construction Phase Fee	\$214,779
	Sub-Total CM	\$214,779

Administration / Other		\$204,040
	Permitting	\$42,956
	Owner Reserves	\$161,084
	Sub-Total Other	\$204,040

Total Project Cost Projection	\$6,153,405
--------------------------------------	--------------------

Efficiency = 348 SF/Car using 9'-0" Stalls

Total Spaces = 341 = \$18,045.18 per Car

Total Square Feet = 133,506 = \$46.09 per SF

Assumptions:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Estimated Construction \$/SF for At Grade Parking</td> <td style="width: 10%; text-align: right;">\$20</td> <td></td> </tr> <tr> <td>Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: right;">\$35</td> <td></td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>A/E Design Fees</td> <td style="text-align: right;">8.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Materials Testing</td> <td style="text-align: right;">0.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Special Inspections</td> <td style="text-align: right;">1.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Construction Manager Construction Phase Fees</td> <td style="text-align: right;">5.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Design Contingency</td> <td style="text-align: right;">15.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>CM Construction Contingency</td> <td style="text-align: right;">5.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Escalation</td> <td style="text-align: right;">5.0%</td> <td>of hard construction cost to mid-2009</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Permitting</td> <td style="text-align: right;">1.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Owner Reserves</td> <td style="text-align: right;">3.0%</td> <td>of total construction cost</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20		Estimated Construction \$/SF for Elevated Parking	\$35					A/E Design Fees	8.0%	of hard construction cost	Materials Testing	0.5%	of hard construction cost	Special Inspections	1.5%	of hard construction cost	Construction Manager Construction Phase Fees	5.0%	of hard construction cost				Design Contingency	15.0%	of hard construction cost	CM Construction Contingency	5.0%	of hard construction cost	Escalation	5.0%	of hard construction cost to mid-2009				Permitting	1.0%	of hard construction cost				Owner Reserves	3.0%	of total construction cost	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																																													
Estimated Construction \$/SF for Elevated Parking	\$35																																													
A/E Design Fees	8.0%	of hard construction cost																																												
Materials Testing	0.5%	of hard construction cost																																												
Special Inspections	1.5%	of hard construction cost																																												
Construction Manager Construction Phase Fees	5.0%	of hard construction cost																																												
Design Contingency	15.0%	of hard construction cost																																												
CM Construction Contingency	5.0%	of hard construction cost																																												
Escalation	5.0%	of hard construction cost to mid-2009																																												
Permitting	1.0%	of hard construction cost																																												
Owner Reserves	3.0%	of total construction cost																																												

City of McKinney Historic Town Center Parking Study

Site Structure 3

PS&E		\$648,479
A/E Design Fees	\$610,333	
Materials Testing Fees	\$38,146	
Sub-Total PS&E	\$648,479	
Construction Cost of Work		\$9,536,449
\$ for Parking	\$6,686,055	
Land Acquisition	\$943,104	<i>Per Collin County Appraisal District Records</i>
Sub-Total Hard Cost of Work	\$7,629,159	
Design Contingency	\$1,144,374	
CM Construction Contingency	\$381,458	
Escalation	\$381,458	
Sub-Total Construction Cost of Work	\$9,536,449	
Construction Management		\$381,458
Construction Phase Fee	\$381,458	
Sub-Total CM	\$381,458	
Administration / Other		\$362,385
Permitting	\$76,292	
Owner Reserves	\$286,093	
Sub-Total Other	\$362,385	
Total Project Cost Projection		\$10,928,770

<i>Efficiency</i> =	324	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	685	=	\$15,954.41 per Car
<i>Total Square Feet</i> =	222,150	=	\$49.20 per SF

Assumptions:

<table style="width: 100%;"> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for At Grade Parking</td> <td style="text-align: right;">\$20</td> </tr> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: right;">\$35</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">A/E Design Fees</td> <td style="text-align: right;">8.0%</td> </tr> <tr> <td style="padding-left: 20px;">Materials Testing</td> <td style="text-align: right;">0.5%</td> </tr> <tr> <td style="padding-left: 20px;">Special Inspections</td> <td style="text-align: right;">1.5%</td> </tr> <tr> <td style="padding-left: 20px;">Construction Manager Construction Phase Fees</td> <td style="text-align: right;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Design Contingency</td> <td style="text-align: right;">15.0%</td> </tr> <tr> <td style="padding-left: 20px;">CM Construction Contingency</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Escalation</td> <td style="text-align: right;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Permitting</td> <td style="text-align: right;">1.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Owner Reserves</td> <td style="text-align: right;">3.0%</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20	Estimated Construction \$/SF for Elevated Parking	\$35			A/E Design Fees	8.0%	Materials Testing	0.5%	Special Inspections	1.5%	Construction Manager Construction Phase Fees	5.0%			Design Contingency	15.0%	CM Construction Contingency	5.0%	Escalation	5.0%			Permitting	1.0%			Owner Reserves	3.0%	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																														
Estimated Construction \$/SF for Elevated Parking	\$35																														
A/E Design Fees	8.0%																														
Materials Testing	0.5%																														
Special Inspections	1.5%																														
Construction Manager Construction Phase Fees	5.0%																														
Design Contingency	15.0%																														
CM Construction Contingency	5.0%																														
Escalation	5.0%																														
Permitting	1.0%																														
Owner Reserves	3.0%																														

City of McKinney Historic Town Center Parking Study

Site Structure 3 with Commercial

PS&E		\$661,909	
	A/E Design Fees	\$622,973	
	Materials Testing Fees	\$38,936	
	Sub-Total PS&E	\$661,909	
Construction Cost of Work			\$9,733,949
	\$ for Parking	\$6,686,055	
	Land Acquisition	\$943,104	<i>Per Collin County Appraisal District Records (15,800 SF)</i>
	\$ for Shell Commercial	\$158,000	
	Sub-Total Hard Cost of Work	\$7,787,159	
	Design Contingency	\$1,168,074	
	CM Construction Contingency	\$389,358	
	Escalation	\$389,358	
	Sub-Total Construction Cost of Work	\$9,733,949	
Construction Management			\$389,358
	Construction Phase Fee	\$389,358	
	Sub-Total CM	\$389,358	
Administration / Other			\$369,890
	Permitting	\$77,872	
	Owner Reserves	\$292,018	
	Sub-Total Other	\$369,890	
Total Project Cost Projection			\$11,155,105

Efficiency =	328		SF/Car using 9'-0" Stalls
Total Spaces =	629	=	\$17,734.67 per Car
Total Square Feet =	222,150	=	\$50.21 per SF

Assumptions:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Estimated Construction \$/SF for At Grade Parking</td> <td style="width: 10%; text-align: center;">\$20</td> <td></td> </tr> <tr> <td>Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: center;">\$35</td> <td></td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>A/E Design Fees</td> <td style="text-align: center;">8.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Materials Testing</td> <td style="text-align: center;">0.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Special Inspections</td> <td style="text-align: center;">1.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Construction Manager Construction Phase Fees</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Design Contingency</td> <td style="text-align: center;">15.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>CM Construction Contingency</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Escalation</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost to mid-2009</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Permitting</td> <td style="text-align: center;">1.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Owner Reserves</td> <td style="text-align: center;">3.0%</td> <td>of total construction cost</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20		Estimated Construction \$/SF for Elevated Parking	\$35					A/E Design Fees	8.0%	of hard construction cost	Materials Testing	0.5%	of hard construction cost	Special Inspections	1.5%	of hard construction cost	Construction Manager Construction Phase Fees	5.0%	of hard construction cost				Design Contingency	15.0%	of hard construction cost	CM Construction Contingency	5.0%	of hard construction cost	Escalation	5.0%	of hard construction cost to mid-2009				Permitting	1.0%	of hard construction cost				Owner Reserves	3.0%	of total construction cost	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																																													
Estimated Construction \$/SF for Elevated Parking	\$35																																													
A/E Design Fees	8.0%	of hard construction cost																																												
Materials Testing	0.5%	of hard construction cost																																												
Special Inspections	1.5%	of hard construction cost																																												
Construction Manager Construction Phase Fees	5.0%	of hard construction cost																																												
Design Contingency	15.0%	of hard construction cost																																												
CM Construction Contingency	5.0%	of hard construction cost																																												
Escalation	5.0%	of hard construction cost to mid-2009																																												
Permitting	1.0%	of hard construction cost																																												
Owner Reserves	3.0%	of total construction cost																																												

City of McKinney Historic Town Center Parking Study

Site Structure 4

PS&E		\$536,988
A/E Design Fees	\$505,400	
Materials Testing Fees	\$31,588	
Sub-Total PS&E	\$536,988	
Construction Cost of Work		\$7,896,875
\$ for Parking	\$6,317,500	
Sub-Total Hard Cost of Work	\$6,317,500	
Design Contingency	\$947,625	
CM Construction Contingency	\$315,875	
Escalation	\$315,875	
Sub-Total Construction Cost of Work	\$7,896,875	
Construction Management		\$315,875
Construction Phase Fee	\$315,875	
Sub-Total CM	\$315,875	
Administration / Other		\$300,081
Permitting	\$63,175	
Owner Reserves	\$236,906	
Sub-Total Other	\$300,081	
Total Project Cost Projection		\$9,049,819

<i>Efficiency</i> =	334	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	629	=	\$14,387.63 per Car
<i>Total Square Feet</i> =	209,900	=	\$43.11 per SF

Assumptions:

<table style="width: 100%;"> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for At Grade Parking</td> <td style="text-align: right;">\$20</td> </tr> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: right;">\$35</td> </tr> <tr> <td style="padding-left: 20px;">A/E Design Fees</td> <td style="text-align: right;">8.0%</td> </tr> <tr> <td style="padding-left: 20px;">Materials Testing</td> <td style="text-align: right;">0.5%</td> </tr> <tr> <td style="padding-left: 20px;">Special Inspections</td> <td style="text-align: right;">1.5%</td> </tr> <tr> <td style="padding-left: 20px;">Construction Manager Construction Phase Fees</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Design Contingency</td> <td style="text-align: right;">15.0%</td> </tr> <tr> <td style="padding-left: 20px;">CM Construction Contingency</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Escalation</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Permitting</td> <td style="text-align: right;">1.0%</td> </tr> <tr> <td style="padding-left: 20px;">Owner Reserves</td> <td style="text-align: right;">3.0%</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20	Estimated Construction \$/SF for Elevated Parking	\$35	A/E Design Fees	8.0%	Materials Testing	0.5%	Special Inspections	1.5%	Construction Manager Construction Phase Fees	5.0%	Design Contingency	15.0%	CM Construction Contingency	5.0%	Escalation	5.0%	Permitting	1.0%	Owner Reserves	3.0%	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																						
Estimated Construction \$/SF for Elevated Parking	\$35																						
A/E Design Fees	8.0%																						
Materials Testing	0.5%																						
Special Inspections	1.5%																						
Construction Manager Construction Phase Fees	5.0%																						
Design Contingency	15.0%																						
CM Construction Contingency	5.0%																						
Escalation	5.0%																						
Permitting	1.0%																						
Owner Reserves	3.0%																						

City of McKinney Historic Town Center Parking Study

Site Structure 4 with Commercial

PS&E	\$548,888
A/E Design Fees	\$516,600
Materials Testing Fees	\$32,288
Sub-Total PS&E	\$548,888

Construction Cost of Work	\$8,071,875
\$ for Parking	\$6,317,500
\$ for Shell Commercial	\$140,000 (14,000 SF)
Sub-Total Hard Cost of Work	\$6,457,500
Design Contingency	\$968,625
CM Construction Contingency	\$322,875
Escalation	\$322,875
Sub-Total Construction Cost of Work	\$8,071,875

Construction Management	\$322,875
Construction Phase Fee	\$322,875
Sub-Total CM	\$322,875

Administration / Other	\$306,731
Permitting	\$64,575
Owner Reserves	\$242,156
Sub-Total Other	\$306,731

Total Project Cost Projection	\$9,250,369
--------------------------------------	--------------------

<i>Efficiency</i> =	344	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	569	=	\$16,257.24 per Car
<i>Total Square Feet</i> =	209,900	=	\$44.07 per SF

Assumptions:

Estimated Construction \$/SF for At Grade Parking	\$20	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
Estimated Construction \$/SF for Elevated Parking	\$35	
A/E Design Fees	8.0%	of hard construction cost
Materials Testing	0.5%	of hard construction cost
Special Inspections	1.5%	of hard construction cost
Construction Manager Construction Phase Fees	5.0%	of hard construction cost
Design Contingency	15.0%	of hard construction cost
CM Construction Contingency	5.0%	of hard construction cost
Escalation	5.0%	of hard construction cost to mid-2009
Permitting	1.0%	of hard construction cost
Owner Reserves	3.0%	of total construction cost

City of McKinney Historic Town Center Parking Study

Site Structure 5

PS&E		\$536,988
A/E Design Fees	\$505,400	
Materials Testing Fees	\$31,588	
Sub-Total PS&E	\$536,988	
Construction Cost of Work		\$7,896,875
\$ for Parking	\$6,317,500	
Sub-Total Hard Cost of Work	\$6,317,500	
Design Contingency	\$947,625	
CM Construction Contingency	\$315,875	
Escalation	\$315,875	
Sub-Total Construction Cost of Work	\$7,896,875	
Construction Management		\$315,875
Construction Phase Fee	\$315,875	
Sub-Total CM	\$315,875	
Administration / Other		\$300,081
Permitting	\$63,175	
Owner Reserves	\$236,906	
Sub-Total Other	\$300,081	
Total Project Cost Projection		\$9,049,819

<i>Efficiency</i> =	335	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	627	=	\$14,433.52 per Car
<i>Total Square Feet</i> =	209,900	=	\$43.11 per SF

Assumptions:

Estimated Construction \$/SF for At Grade Parking	\$20	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
Estimated Construction \$/SF for Elevated Parking	\$35	
A/E Design Fees	8.0%	of hard construction cost
Materials Testing	0.5%	of hard construction cost
Special Inspections	1.5%	of hard construction cost
Construction Manager Construction Phase Fees	5.0%	of hard construction cost
Design Contingency	15.0%	of hard construction cost
CM Construction Contingency	5.0%	of hard construction cost
Escalation	5.0%	of hard construction cost to mid-2009
Permitting	1.0%	of hard construction cost
Owner Reserves	3.0%	of total construction cost

City of McKinney Historic Town Center Parking Study

Site Structure 5 With Commercial

PS&E	\$548,888
A/E Design Fees	\$516,600
Materials Testing Fees	\$32,288
Sub-Total PS&E	\$548,888

Construction Cost of Work	\$8,071,875
\$ for Parking	\$6,317,500
\$ for Shell Commercial	\$140,000 (14,000 SF)
Sub-Total Hard Cost of Work	\$6,457,500
Design Contingency	\$968,625
CM Construction Contingency	\$322,875
Escalation	\$322,875
Sub-Total Construction Cost of Work	\$8,071,875

Construction Management	\$322,875
Construction Phase Fee	\$322,875
Sub-Total CM	\$322,875

Administration / Other	\$306,731
Permitting	\$64,575
Owner Reserves	\$242,156
Sub-Total Other	\$306,731

Total Project Cost Projection	\$9,250,369
--------------------------------------	--------------------

<i>Efficiency</i> =	347		SF/Car using 9'-0" Stalls	
<i>Total Spaces</i> =	565	=	\$16,372.33	per Car
<i>Total Square Feet</i> =	209,900	=	\$44.07	per SF

Assumptions:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Estimated Construction \$/SF for At Grade Parking</td> <td style="width: 10%; text-align: center;">\$20</td> <td></td> </tr> <tr> <td>Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: center;">\$35</td> <td></td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>A/E Design Fees</td> <td style="text-align: center;">8.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Materials Testing</td> <td style="text-align: center;">0.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Special Inspections</td> <td style="text-align: center;">1.5%</td> <td>of hard construction cost</td> </tr> <tr> <td>Construction Manager Construction Phase Fees</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Design Contingency</td> <td style="text-align: center;">15.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>CM Construction Contingency</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost</td> </tr> <tr> <td>Escalation</td> <td style="text-align: center;">5.0%</td> <td>of hard construction cost to mid-2009</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Permitting</td> <td style="text-align: center;">1.0%</td> <td>of hard construction cost</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>Owner Reserves</td> <td style="text-align: center;">3.0%</td> <td>of total construction cost</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20		Estimated Construction \$/SF for Elevated Parking	\$35					A/E Design Fees	8.0%	of hard construction cost	Materials Testing	0.5%	of hard construction cost	Special Inspections	1.5%	of hard construction cost	Construction Manager Construction Phase Fees	5.0%	of hard construction cost				Design Contingency	15.0%	of hard construction cost	CM Construction Contingency	5.0%	of hard construction cost	Escalation	5.0%	of hard construction cost to mid-2009				Permitting	1.0%	of hard construction cost				Owner Reserves	3.0%	of total construction cost	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																																													
Estimated Construction \$/SF for Elevated Parking	\$35																																													
A/E Design Fees	8.0%	of hard construction cost																																												
Materials Testing	0.5%	of hard construction cost																																												
Special Inspections	1.5%	of hard construction cost																																												
Construction Manager Construction Phase Fees	5.0%	of hard construction cost																																												
Design Contingency	15.0%	of hard construction cost																																												
CM Construction Contingency	5.0%	of hard construction cost																																												
Escalation	5.0%	of hard construction cost to mid-2009																																												
Permitting	1.0%	of hard construction cost																																												
Owner Reserves	3.0%	of total construction cost																																												

City of McKinney Historic Town Center Parking Study

Site Structures 6-7

PS&E		\$249,261
A/E Design Fees	\$234,598	
Materials Testing Fees	\$14,662	
Sub-Total PS&E	\$249,261	
Construction Cost of Work		\$3,665,600
\$ for Parking	\$2,932,480	
Sub-Total Hard Cost of Work	\$2,932,480	
Design Contingency	\$439,872	
CM Construction Contingency	\$146,624	
Escalation	\$146,624	
Sub-Total Construction Cost of Work	\$3,665,600	
Construction Management		\$146,624
Construction Phase Fee	\$146,624	
Sub-Total CM	\$146,624	
Administration / Other		\$139,293
Permitting	\$29,325	
Owner Reserves	\$109,968	
Sub-Total Other	\$139,293	
Total Project Cost Projection		\$4,200,778

<i>Efficiency</i> =	341	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	285	=	\$14,739.57 per Car
<i>Total Square Feet</i> =	97,304	=	\$43.17 per SF

Assumptions:

<table style="width: 100%;"> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for At Grade Parking</td> <td style="text-align: right;">\$20</td> </tr> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: right;">\$35</td> </tr> <tr> <td style="padding-left: 20px;">A/E Design Fees</td> <td style="text-align: right;">8.0%</td> </tr> <tr> <td style="padding-left: 20px;">Materials Testing</td> <td style="text-align: right;">0.5%</td> </tr> <tr> <td style="padding-left: 20px;">Special Inspections</td> <td style="text-align: right;">1.5%</td> </tr> <tr> <td style="padding-left: 20px;">Construction Manager Construction Phase Fees</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Design Contingency</td> <td style="text-align: right;">15.0%</td> </tr> <tr> <td style="padding-left: 20px;">CM Construction Contingency</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Escalation</td> <td style="text-align: right;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Permitting</td> <td style="text-align: right;">1.0%</td> </tr> <tr> <td style="padding-left: 20px;">Owner Reserves</td> <td style="text-align: right;">3.0%</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$20	Estimated Construction \$/SF for Elevated Parking	\$35	A/E Design Fees	8.0%	Materials Testing	0.5%	Special Inspections	1.5%	Construction Manager Construction Phase Fees	5.0%	Design Contingency	15.0%	CM Construction Contingency	5.0%	Escalation	5.0%	Permitting	1.0%	Owner Reserves	3.0%	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$20																						
Estimated Construction \$/SF for Elevated Parking	\$35																						
A/E Design Fees	8.0%																						
Materials Testing	0.5%																						
Special Inspections	1.5%																						
Construction Manager Construction Phase Fees	5.0%																						
Design Contingency	15.0%																						
CM Construction Contingency	5.0%																						
Escalation	5.0%																						
Permitting	1.0%																						
Owner Reserves	3.0%																						

City of McKinney Historic Town Center Parking Study

Site Structures 6-7 with Commercial

PS&E	\$269,382
A/E Design Fees	\$253,536
Materials Testing Fees	\$15,846
Sub-Total PS&E	\$269,382

Construction Cost of Work	\$3,961,500
\$ for Parking	\$3,090,200
\$ for Shell Commercial	\$79,000 (7,900 SF)
Sub-Total Hard Cost of Work	\$3,169,200
Design Contingency	\$475,380
CM Construction Contingency	\$158,460
Escalation	\$158,460
Sub-Total Construction Cost of Work	\$3,961,500

Construction Management	\$158,460
Construction Phase Fee	\$158,460
Sub-Total CM	\$158,460

Administration / Other	\$150,537
Permitting	\$31,692
Owner Reserves	\$118,845
Sub-Total Other	\$150,537

Total Project Cost Projection	\$4,539,879
--------------------------------------	--------------------

<i>Efficiency</i> =	355	=	SF/Car using 9'-0" Stalls
<i>Total Spaces</i> =	252	=	\$18,015.39 per Car
<i>Total Square Feet</i> =	97,304	=	\$46.66 per SF

Assumptions:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for At Grade Parking</td> <td style="text-align: center;">\$25</td> </tr> <tr> <td style="padding-left: 20px;">Estimated Construction \$/SF for Elevated Parking</td> <td style="text-align: center;">\$35</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">A/E Design Fees</td> <td style="text-align: center;">8.0%</td> </tr> <tr> <td style="padding-left: 20px;">Materials Testing</td> <td style="text-align: center;">0.5%</td> </tr> <tr> <td style="padding-left: 20px;">Special Inspections</td> <td style="text-align: center;">1.5%</td> </tr> <tr> <td style="padding-left: 20px;">Construction Manager Construction Phase Fees</td> <td style="text-align: center;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Design Contingency</td> <td style="text-align: center;">15.0%</td> </tr> <tr> <td style="padding-left: 20px;">CM Construction Contingency</td> <td style="text-align: center;">5.0%</td> </tr> <tr> <td style="padding-left: 20px;">Escalation</td> <td style="text-align: center;">5.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Permitting</td> <td style="text-align: center;">1.0%</td> </tr> <tr><td colspan="2"> </td></tr> <tr> <td style="padding-left: 20px;">Owner Reserves</td> <td style="text-align: center;">3.0%</td> </tr> </table>	Estimated Construction \$/SF for At Grade Parking	\$25	Estimated Construction \$/SF for Elevated Parking	\$35			A/E Design Fees	8.0%	Materials Testing	0.5%	Special Inspections	1.5%	Construction Manager Construction Phase Fees	5.0%			Design Contingency	15.0%	CM Construction Contingency	5.0%	Escalation	5.0%			Permitting	1.0%			Owner Reserves	3.0%	<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>
Estimated Construction \$/SF for At Grade Parking	\$25																														
Estimated Construction \$/SF for Elevated Parking	\$35																														
A/E Design Fees	8.0%																														
Materials Testing	0.5%																														
Special Inspections	1.5%																														
Construction Manager Construction Phase Fees	5.0%																														
Design Contingency	15.0%																														
CM Construction Contingency	5.0%																														
Escalation	5.0%																														
Permitting	1.0%																														
Owner Reserves	3.0%																														

Appendix D:

*Parking Occupancy Trends and Data
2004, 2005, 2006, and 2009*

DRAFT

This page left blank intentionally

DRAFT

Table 16 – Trends in Parking Occupancy

	Off-Street Public Parking Occupancy	Off-Street Private Parking Occupancy	On-Street Parking Occupancy	Total Parking Occupancy
2004	60%	51%	63%	56%
2005	72%	62%	63%	64%
2006	67%	61%	64%	63%
2009	51%	46%	74%	53%

Note: Parking occupancy information gathered from existing 2004 Downtown McKinney Parking study and City of McKinney staff parking counts from April 2005, July 2006 and July 2009. Data shown is the maximum value of both weekday and weekend counts.

Table 17 – Trends in Parking Occupancy by Zone

	Zone A	Zone B	Zone C	Zone D
2004	55%	42%	42%	74%
2005	57%	51%	51%	90%
2006	56%	50%	50%	88%
2009	66%	41%	54%	30%

Note: Parking occupancy information gathered from existing 2004 Downtown McKinney Parking study and City of McKinney staff parking counts from April 2005, July 2006 and July 2009. Data shown is the maximum value of both weekday and weekend counts.

Table 18 – Trends in Parking Occupancy by Ring

	Ring 1	Ring 2	Ring 3
2004	75%	54%	53%
2005	75%	61%	63%
2006	85%	57%	60%
2009	88%	63%	29%

Note: Parking occupancy information gathered from existing 2004 Downtown McKinney Parking study and City of McKinney staff parking counts from April 2005, July 2006 and July 2009. Data shown is the maximum value of both weekday and weekend counts.

From 2004 to 2006, total parking occupancy increased from 56% to 63%, but dropped down to 53% in 2009. During this same time, occupancy for on-street parking remained relatively constant at 63%-64%, until jumping to 74% in 2009 following the Downtown Square renovations. The downward trend in total parking occupancy can likely be attributed to the declining economy during the 2009 study period and the decreased occupancy and use of the Collin County Court facilities. This assumption is consistent with the trend analyses by Zone and Ring as seen in Table 17 and Table 18. When analyzed by Zone, the parking occupancy in the area containing the Collin County Court facilities (Zone D) changed from 74% to 88% between 2004 and 2006, then dropped down to 30% in 2009. Similarly, when analyzed by Ring, the parking occupancy in the area containing the Collin County Court facilities (Ring 3) changed from 53%-60% between 2004 and 2006, then down to 29% in 2009. These changes in occupancy are likely attributed to the relocation of Collin County operations in 2008 to a site outside of the parking study area.

Table 19 – Parking Occupancy by Zone – 2004 Data

**PUBLIC
LOTS**

Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	272	123	45.2%	58	21.3%	92	33.8%	33.5%	66.5%
B	135	66	48.9%	57	42.2%	59	43.7%	44.9%	55.1%
C	94	73	77.7%	47	50.0%	61	64.9%	64.2%	35.8%
D	40	7	17.5%	7	17.5%	15	37.5%	24.2%	75.8%

**PRIVATE
LOTS**

Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	203	131	64.5%	136	67.0%	134	66.0%	65.8%	34.2%
B	263	174	66.2%	155	58.9%	151	57.4%	60.8%	39.2%
C	214	123	57.5%	122	57.0%	121	56.5%	57.0%	43.0%
D	552	114	20.7%	148	26.8%	134	24.3%	23.9%	76.1%

**ON-
STREET**

Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	175	87	49.7%	58	33.1%	65	37.1%	40.0%	60.0%
B	97	62	63.9%	37	38.1%	41	42.3%	48.1%	51.9%
C	129	51	39.5%	40	31.0%	47	36.4%	35.7%	64.3%
D	81	31	38.3%	28	34.6%	31	38.3%	37.0%	63.0%

Table 20 – Parking Occupancy by Zone – 2005 Data

PUBLIC LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	272	119	43.8%	72	26.6%	87	31.92%	34.1%	65.9%
B	135	44	32.3%	47	35.1%	46	34.07%	33.8%	66.2%
C	94	50	53.4%	29	30.5%	39	41.31%	41.7%	58.3%
D	40	7	18.3%	8	20.4%	22	54.17%	31.0%	69.0%

PRIVATE LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	203	134	66.1%	142	69.8%	149	73.32%	69.7%	30.3%
B	263	202	76.9%	168	63.9%	185	70.40%	70.4%	29.6%
C	214	147	68.8%	152	71.1%	140	65.34%	68.4%	31.6%
D	552	33	5.9%	36	6.5%	44	8.03%	6.8%	93.2%

ON-STREET									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	175	111	63.6%	76	43.4%	80	45.71%	50.9%	49.1%
B	97	55	56.7%	29	29.4%	33	34.36%	40.1%	59.9%
C	129	61	46.9%	46	35.9%	52	40.43%	41.1%	58.9%
D	81	34	41.8%	27	32.7%	41	50.41%	41.6%	58.4%

Table 21 – Parking Occupancy by Zone – 2006 Data

PUBLIC LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	272	143	52.7%	95	34.9%	84	31.0%	39.5%	60.5%
B	135	39	29.1%	46	34.3%	39	29.1%	30.9%	69.1%
C	94	71	75.9%	44	46.8%	53	56.7%	59.8%	40.2%
D	40	12	30.0%	11	26.7%	15	38.3%	31.7%	68.3%

PRIVATE LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	203	152	74.9%	134	66.0%	144	70.9%	70.6%	29.4%
B	263	216	82.1%	187	71.1%	205	65.9%	73.0%	27.0%
C	214	162	75.7%	142	66.4%	153	59.0%	67.0%	33.0%
D	552	71	12.9%	80	14.5%	46	8.3%	11.9%	88.1%

ON-STREET									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	175	121	69.1%	66	37.7%	75	42.9%	49.9%	50.1%
B	97	76	78.4%	33	34.0%	37	38.1%	50.2%	49.8%
C	129	71	55.0%	49	38.0%	52	40.3%	44.4%	55.6%
D	81	42	51.9%	27	33.3%	30	37.0%	40.7%	59.3%

Table 22 – Parking Occupancy by Zone – 2009 Data

PUBLIC LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	267	101	37.8%	55	20.6%	49	31.9%	30.1%	69.9%
B	301	220	73.1%	214	71.1%	221	34.1%	59.4%	40.6%
C	90	64	71.1%	33	36.7%	38	41.3%	49.7%	50.3%
D	604	494	81.8%	500	82.8%	486	54.2%	72.9%	27.1%

PRIVATE LOTS									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	210	149	71.0%	168	80.0%	154	73.33%	74.8%	25.2%
B	274	223	81.4%	194	70.8%	195	71.17%	74.5%	25.5%
C	251	219	87.3%	207	82.5%	179	71.31%	80.3%	19.7%
D	45	19	42.2%	19	42.2%	18	40.00%	41.5%	58.5%

ON-STREET									
Zone	Total Spaces	A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
		Number Available	% Available	Number Available	% Available	Number Available	% Available		
A	193	108	56.0%	71	36.8%	80	41.5%	44.7%	55.3%
B	99	66	66.7%	29	29.3%	26	26.3%	40.7%	59.3%
C	99	73	73.7%	45	45.5%	50	50.5%	56.6%	43.4%
D	70	33	47.1%	33	47.1%	27	38.6%	44.3%	55.7%

Table 23 – Parking Occupancy by Ring – 2004 Data

PUBLIC LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2	369	176	47.7%	87	23.6%	145	39.3%	36.9%	63.1%
3	172	92	53.5%	82	47.7%	82	47.7%	49.6%	50.4%

PRIVATE LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	62	34	54.8%	29	46.8%	30	48.4%	50.0%	50.0%
2	329	227	69.0%	208	63.2%	205	62.3%	64.8%	35.2%
3	841	361	42.9%	382	45.4%	381	45.3%	44.6%	55.4%

ON-STREET		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	180	62	34.4%	8	4.4%	19	10.6%	16.5%	83.5%
2	154	47	30.5%	35	22.7%	41	26.6%	26.6%	73.4%
3	148	110	74.3%	101	68.2%	107	72.3%	71.6%	28.4%

Table 24 – Parking Occupancy by Ring – 2005 Data

PUBLIC LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2	369	143	38.8%	77	21.0%	107	28.9%	29.5%	70.5%
3	172	77	44.9%	79	46.0%	87	50.5%	47.1%	52.9%

PRIVATE LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	62	33	53.8%	34	55.1%	30	48.9%	52.6%	47.4%
2	329	227	68.8%	221	67.2%	212	64.4%	66.8%	33.2%
3	841	259	30.7%	246	29.2%	276	32.8%	30.9%	69.1%

ON-STREET		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	180	95	53.0%	30	16.4%	41	22.7%	30.7%	69.3%
2	154	58	37.3%	45	29.0%	54	35.2%	33.8%	66.2%
3	148	108	72.9%	103	69.7%	111	75.2%	72.6%	27.4%

Table 25 – Parking Occupancy by Ring – 2006 Data

PUBLIC LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2	369	169	45.9%	122	33.1%	119	32.3%	37.1%	62.9%
3	172	97	56.2%	74	43.0%	73	42.4%	47.2%	52.8%

PRIVATE LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	62	40	64.0%	29	46.2%	31	49.5%	53.2%	46.8%
2	329	251	76.2%	213	64.8%	228	69.4%	70.1%	29.9%
3	841	311	36.9%	302	35.9%	289	34.4%	35.7%	64.3%

ON-STREET		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	180	62	34.4%	8	4.4%	19	10.6%	16.5%	83.5%
2	154	47	30.5%	35	22.7%	41	26.6%	26.6%	73.4%
3	148	110	74.3%	101	68.2%	107	72.3%	71.6%	28.4%

Table 26 – Parking Occupancy by Ring – 2009 Data

PUBLIC LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2	396	180	45.5%	104	26.3%	128	32.3%	34.7%	65.3%
3	866	699	80.7%	697	80.5%	668	77.1%	79.4%	20.6%

PRIVATE LOTS		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	116	75	64.7%	60	51.7%	53	45.7%	54.0%	46.0%
2	278	223	80.2%	210	75.5%	185	66.5%	74.1%	25.9%
3	386	312	80.8%	328	85.0%	316	81.9%	82.6%	17.4%

ON-STREET		A.M.		NOON		P.M.		Avg. % Available	Avg. % Occupied
Ring	Total Spaces	Number Available	% Available	Number Available	% Available	Number Available	% Available		
1	204	111	54.2%	21	10.3%	50	24.5%	29.7%	70.3%
2	115	58	50.4%	49	42.6%	42	36.5%	43.2%	56.8%
3	142	111	78.2%	107	75.4%	100	70.4%	74.6%	25.4%