

City of Fargo

Downtown Parking Study

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Presented to:

City of Fargo
Department of Planning and Development
200 3rd Street North
Fargo, ND 58102

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TABLE OF CONTENTS

I. EXECUTIVE SUMMARY 1

 1.0 Introduction..... 1

 1.1 Existing Parking Conditions..... 1

 1.2 Future Parking Conditions 2

 1.3 Parking Development Sites 4

 1.4 Recommended Sites 4

 1.5 Parking Ramp Options..... 6

 1.6 Financial Feasibility..... 6

 1.7 Additional Revenue Sources 7

II. INTRODUCTION 9

 2.0 Study Purpose and Approach..... 9

 2.1 Downtown Study Area 9

III. EXISTING DOWNTOWN PARKING CONDITIONS.. 11

 3.0 Parking Inventory..... 11

 3.1 Parking Occupancy..... 12

 3.2 Design-Day Parking Conditions 20

 3.3 Effective Parking Supply 20

 3.4 Parking Demand 21

 3.5 Land Use Analysis 23

 3.6 Current Parking Adequacy..... 27

IV. FUTURE DOWNTOWN PARKING CONDITIONS 32

 4.0 Development Projects..... 32

 4.1 Future Parking Adequacy 36

V. PARKING DEVELOPMENT SITES 39

 5.0 Parking Development Sites 39

 5.1 Recommended Parking Sites 44

TABLE OF CONTENTS (cont'd)

VI. PARKING RAMP OPTIONS 51
 6.0 Block 8 Parking Ramp 51
 6.1 Block 16 Parking Ramp 53

VII. FINANCIAL FEASIBILITY 54
 7.0 Project Cost and Debt Service 54
 7.1 Operating and Maintenance Expenses 55
 7.2 Estimated Parking Revenue 57
 7.3 Summary of Revenues and Expenses 58
 7.4 Sources of Additional Funds 59

APPENDIX A: PARKING RAMP PLANS 62

LIST OF TABLES

1.	Current Parking Inventory By Block.....	11
2.	Public Off-Street Parking.....	12
3.	On-Street Parking Occupancy Wednesday, October 23.....	13
4.	On-Street Parking Occupancy Thursday, October 24.....	14
5.	Off-Street Parking Occupancy Wednesday, October 23.....	15
6.	Off-Street Parking Occupancy Thursday, October 24.....	16
7.	On- and Off-Street Parking Occupancy Wednesday, October 23.....	17
8.	On- and Off-Street Parking Occupancy Thursday, October 24.....	18
9.	Summary of Peak-Hour Parking Occupancy Wednesday, October 23.....	19
10.	Land Uses by Block.....	23
11.	Occupied Space by Land-Use Category and Block..	24
12.	Parking Demand Ratios.....	25
13.	Parking Demand by Block and Land-Use Category...	26
14.	Current Parking Adequacy by Block.....	27
15.	Current Parking Adequacy by Type of Parking.....	30
16.	Future Downtown Development.....	35
17.	Broadway Streetscape Improvements.....	36
18.	Future Parking Adequacy.....	37
19.	Future Parking Adequacy by Type of Parking.....	38
20.	Parking Adequacy by Primary Capture Area.....	44
21.	Estimated Annual Debt Service.....	54
22.	Estimated First-Year Operating and Maintenance Expenses.....	56
23.	Estimated Parking Revenue.....	57
24.	Pro Forma Statement of Revenues and Expenses, Years 1 –10.....	58

LIST OF FIGURES

1.	Downtown Fargo Study Area.....	10
2.	Current Parking Adequacy by Block.....	29
3.	Parking Development Sites.....	39
4.	Block 5 Primary Capture Area.....	41
5.	Blocks 5/10 Primary Capture Area.....	41
6.	Block 8 Primary Capture Area.....	42
7.	Block 11 Primary Capture Area.....	42
8.	Block 16 Primary Capture Area.....	43
9.	Block 8 Parking Ramp Plans (Appendix A).....	62
10.	Block 16 Parking Ramp Plans (Appendix A).....	62

I. EXECUTIVE SUMMARY

1.0 Introduction

The primary purpose of the study is to develop a parking program to assist in planning for future development in downtown Fargo. The study first assesses current parking conditions by documenting the parking inventory and conducting parking occupancy surveys. Future downtown development projects are then identified and their impact on parking supply and demand determined. Two preferred sites for proposed parking ramps are identified and concept plans developed for each site. Finally, construction, development, and operating costs are developed, as part of a financial feasibility analysis, for the highest prioritized parking ramp site.

1.1 Existing Parking Conditions

The study area consists of 18 blocks in the central downtown area (refer to **Figure 1** on page 10). There are an estimated 3,522 parking spaces within the downtown study area. Approximately 22% of the parking supply (769 spaces) is defined as "on-street" and 78% of the parking supply (2,753 spaces) is located in "off-street" parking facilities.

The 3,522 parking spaces within the study area were included in surveys of parking occupancy on Wednesday, October 23, and Thursday, October 24, 2002. Hourly occupancy counts were conducted from 9:00 a.m. through 4:00 p.m. The peak hour parking occupancy occurred between 2:00 and 3:00 PM on Wednesday, October 23, 2002 when 2,171 of 3,522 parking spaces were occupied (61.6% occupancy level). The on-street

spaces were 55.3% occupied and the off-street spaces were 63.4% occupied. The busiest blocks overall were 8 (US Bank and ramp), 9 (Radisson Hotel and ramp), and 14 (Dakota Center lot).

The downtown parking system is evaluated from the perspective of its "effective" parking capacity. A parking system is considered at optimum efficiency when occupancy is at 85% to 90% of capacity. For this study, an effective parking supply of 85% of the actual supply is recommended for the private off-street parking and 90% is recommended for the public on- and off-street parking.

The demand for 2,171 parking spaces is distributed by block within the study area based on occupied land uses. This indicates where the demand for parking is generated rather than where patrons are parking. Parking demand is compared to the effective supply and surpluses and deficits are calculated for each block. There is an overall parking surplus of 913 spaces within the study area presently. Although there are estimated parking deficits in seven of the 18 blocks (Blocks 4, 6, 10, 11, 12, 14 and 18), there is adequate parking overall because unmet parking demand can be reallocated to nearby blocks with excess parking capacity (refer to **Figure 2** on page 29).

1.2 **Future Parking Conditions**

The Renaissance Zone Program and other economic development incentives have spurred private development activity in downtown Fargo. The City is also investing in downtown with streetscape improvements on Broadway. The rebuilding of Broadway is encouraging additional downtown development. Current and planned development, combined

with the deterioration of the existing US Bank ramp on Block 8, is prompting the City to study the development of additional parking downtown.

Several planned and proposed downtown development projects have been identified including:

- Great Northern Development on Block 3
- Renaissance Center on Block 8
- Donaldson Hotel on Block 11
- 52 Broadway on Block 13
- Cinema Grill on Block 13
- Old Northern School Supply Building on Block 16
- Broadway Park on Block 16

The listed projects are estimated to generate the demand for 797 parking spaces, approximately 80% of which is expected to be long-term parking demand (637 spaces). It is estimated that 920 existing off-street parking spaces will be displaced by future development and 559 parking spaces will be added.

There is an estimated future short-term parking surplus of 236 spaces within the study area. By comparison, there is a future long-term parking deficit of 275 spaces. Eleven of the 18 blocks have parking deficits. The surpluses in the remaining blocks are not sufficient to satisfy parking needs and additional parking is required.

1.3 Parking Development Sites

Five sites have been identified within the study area for future parking ramps. The sites, located on Blocks 5, 8, 10, 11 and 16, are shown in **Figure 3** on page 39. Primary capture areas have been established for each site and include the subject blocks (5, 8, 10, 11 and 16) plus the blocks immediately surrounding them (one block in each direction). Primary capture areas are indicated in **Figures 4 – 8** on pages 41 to 43. The off-street parking surpluses and deficits on the blocks served by each of the five sites are added together to determine parking adequacy. The on-street deficits have been added to the Block 8 and Block 16 totals, as these are the only two blocks with projected short-term parking deficits. This analysis not only aids in the selection of parking sites but also helps determine the size of proposed parking ramps. The parking deficits by primary capture area range from 163 to 546 spaces.

Because Blocks 5, 8 and 11 are so close together, only one of the three sites should be considered at this time for the development of a parking ramp. The Block 5 and Block 8 sites are preferred over the Block 11 site, the Gate City lot, as the long-term parking deficit within the Block 11 capture area is only 163 spaces. In addition, it is understood that Gate City is opposed to the development of a multi-level parking facility on their lot.

1.4 Recommended Sites

It is recommended to develop a parking ramp on Block 8. The Block 8 site is preferred over the Block 5 sites largely for one reason. The Block 8 parking deficit already includes the existing parking spaces lost to the development of a ramp. The capacity of a ramp developed on Block 5

would be substantially larger in order to satisfy parking needs and to replace the spaces lost to the development of a ramp. In other words, a smaller and less expensive ramp can be built on Block 8 that serves downtown Fargo as well or even better than a ramp on Block 5. Approximately 400 spaces are recommended on Block 8. A new ramp at this location would be a significant improvement over the existing ramp with respect to the parking layout, circulation, efficiency and safety.

Additional advantages of the Block 8 site include:

1. Significant development is proposed on Block 8 and it is preferable to provide parking on the same block if possible.
2. More central location within the downtown study area.
3. US Bank is willing to work with the City on the development of a new ramp.

Additional parking will be required downtown and the Block 16 site is the recommended location for another parking ramp. There is a significant amount of development planned for the block and a ramp at this location would serve the lower portion of the study area and not compete with a ramp on Block 8. The ramp can also be built entirely on public property. The existing parking lost to the development of a ramp will need to be replaced in the facility, which will require, once the lots are reconfigured, the development of approximately 400 spaces.

It is recommended, if possible, to develop the ramp on Block 8 before Block 16 as near-term parking needs will be more severe in the vicinity of Block 8.

1.5 Parking Ramp Options

Figures 9.0 to 9.5, which can be found in Appendix A, depict a four-level, 358-space parking ramp and a 30-space parking lot on Block 8. The proposed parking ramp and lot replace the existing US Bank lot and ramp. It is a two- and three-bay, single-threaded helix design with two-way traffic flow and ninety-degree parking. The two lowest levels are two bays wide to accommodate the bank parking lot and drive-up facility. The upper two levels are three bays wide and abut the existing skyway. The parking ramp is connected to the skyway system by a proposed elevated walkway in the southeast corner of the ramp on the second level.

Figures 10.0 to 10.5 depict a three-level, 406-space parking ramp on Block 16 (refer to Appendix A). It is a three-bay, single-threaded helix design with two-way traffic flow and ninety-degree parking in the center bay and one-way traffic flow and angled parking on the outside bays. The site available for the proposed ramp is 180 feet wide, which necessitates this three-bay design combining one-way and two-way traffic flow.

1.6 Financial Feasibility

A financial feasibility analysis has been completed for the Block 8 ramp. The ramp is estimated to represent a construction cost of approximately \$4.7 million. The total project cost, including soft and financing costs, is just over \$6.2 million. Anticipating financing can be obtained at 3% interest and amortized over 20 years, annual debt service is \$419,762.

First-year operating and maintenance expenses for the Block 8 ramp are estimated to be \$155,379 for 358 spaces, or \$434 per parking space. It is

presently anticipated the ramp will be staffed with a full-time cashier, maintenance personnel, and a part-time bookkeeper.

Monthly income is expected to represent the vast majority of the parking revenue for the ramp. It is anticipated that 90% of the spaces will be for monthly patrons. Given an oversell factor of 1.2 and a monthly rate of \$50, monthly revenue is estimated to total \$231,600. Transient revenue of \$18,000 anticipates 10% of the parking is for short-term users, a \$2.00 average rate (for a two-hour stay) and 250 days per year. Total annual revenue is \$249,600, or approximately \$697 per space for 358 spaces.

Total operating income (parking revenue plus interest on the reserve fund) for the proposed ramp will exceed operating and maintenance expenses by only \$89,346. This is the estimated amount available to cover debt service the first year. With a debt service payment of \$419,762, the proposed ramp is projected to lose \$330,416 the first year and have a debt service coverage ratio of only 0.21. Given 3.5% annual increases in revenues and expenses, the parking ramp by Year 10 is expected to produce a net loss of \$296,437. Cumulative losses over the ten-year period are approximately \$3.1 million.

1.7 Additional Revenue Sources

Most municipal parking ramps are not self-supporting and are subsidized by other funds. When net revenues are insufficient to fully cover bond debt, the public sector has many options to subsidize a parking ramp. One possibility is an upfront capital appropriation to reduce debt service. Losses could also be covered each year with revenues from other sources such as parking system revenues (revenues from other facilities and fines),

sales taxes, grants, or other public sources. The private sector could also help pay for the ramp with in-lieu fees or a special assessment tax.

It may also be preferable from a financial perspective to develop some of the parking now and expand the Block 8 ramp vertically sometime in the future when money is available to do so. It would be most practical to provide three levels of parking initially. The 244 spaces on three levels would represent a construction cost of approximately \$3.4 million.

In short, parking is an essential service that will not always be provided by the private sector, generally because it is not financially viable. The public sector has access to financing methods and rates that are more conducive to the development of parking. There is no doubt that the provision of parking by the public sector has contributed to downtown development activities in Fargo in recent years; and it is equally clear that economic conditions in downtown Fargo will not show continued improvement without ongoing assistance from the public sector.

II. INTRODUCTION

2.0 Study Purpose and Approach

The primary purpose of the study is to develop a parking program to assist in planning for future development in downtown Fargo. The parking study initially evaluates existing parking conditions, determined by documenting the current parking inventory and conducting parking occupancy counts. Interviews with key downtown business leaders and City officials are completed to determine planned development projects within the study area. The development information, in combination with a land use analysis, provides the basis for projecting future parking needs within the study area.

Two preferred sites for parking ramps are identified and concept plans developed for each site. The parking ramp projects are prioritized and construction, development, and operating costs developed as part of a financial feasibility analysis for the highest prioritized parking ramp.

2.1 Downtown Study Area

The downtown study area, as shown in **Figure 1** on the following page, is roughly bounded by the railroad tracks and 5th Avenue N. on the north, 4th Street N. and 6th Street S. on the east, NP Avenue and Main Avenue (including ½ block south of Main between 6th and 8th Streets) on the south, and 7th Street N., Roberts Street, and 8th Street S. on the west. This area encompasses 18 blocks, each of which has been assigned a number for identification purposes.

Figure 1. Downtown Fargo Study Area



III. EXISTING DOWNTOWN PARKING CONDITIONS

3.0 Parking Inventory

The parking supply within the study area was inventoried in October of 2002. The results of the inventory are summarized below by block in **Table 1**. There are an estimated 3,522 parking spaces within the study area. Approximately 22% of the parking supply (769 spaces) is defined as "on-street" parking that consists of both marked and unmarked curbside spaces. The remaining 78% of the parking supply (2,753 spaces) is located in "off-street" parking facilities.

Table 1.
Current Parking Inventory by Block

Block #	Number of Parking Spaces		
	On-Street	Off-Street	Total
1	8	97	105
2	21	56	77
3	48	276	324
4	12	190	202
5	77	276	353
6	48	40	88
7	63	148	211
8	35	213	248
9	40	290	330
10	75	106	181
11	57	70	127
12	50	10	60
13	40	232	272
14	37	59	96
15	57	247	304
16	40	370	410
17	12	54	66
18	49	19	68
TOTAL	769 22%	2,753 78%	3,522 100%

The on-street parking within the study area consists of time-restricted (90-minute and 2-hour parking) and accessible spaces. The vast majority of the on-street spaces have 90-minute time limits and are intended for short-term use.

Of the 2,753 off-street spaces, 1,747 (63.5%) can be classified as private. These parking spaces are owned or leased by private businesses/building tenants for their exclusive use. The remaining 1,006 spaces (36.5%) are available to the general public in both private and City-owned facilities. Of the 1,006 public spaces listed below in **Table 2**, the City of Fargo owns and operates 741. The City owns the two ramps (403 spaces) and the 2nd Avenue, Elm Street and NP Avenue lots (338 spaces).

Table 2.
Public Off-Street Parking

Block #	Parking Map Designation	Name	Spaces
5	B	2nd Avenue Lot	95
8	D	US Bank Lot & Ramp	213
9	E	Radisson Ramp	250
10	C	Elm Street Lot	58
11	N	Gate City Lot	60
13	F	Cinema Grill Lot	104
14	L	Dakota Center Lot	41
16	G	NP Avenue Lot	185
TOTAL			1,006

3.1 Parking Occupancy

The on-street and off-street parking spaces within the study area were included in surveys of parking occupancy on Wednesday, October 23,

and Thursday, October 24, 2002. Hourly occupancy counts were conducted from 9:00 a.m. through 4:00 p.m. The results of these counts follow in Tables 3 - 8. The peak hour for parking occupancy is highlighted in yellow on each table.

As indicated in **Table 3**, of the 769 on-street parking spaces surveyed, 437 (56.8%) were occupied at the peak hour of 3:00 to 4:00 p.m. on Wednesday, October 23.

Table 3.
On-Street Parking Occupancy, Wednesday, October 23, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	8	5	6	6	3	5	4	3	1
2	21	8	12	13	18	9	10	8	14
3	48	16	17	17	22	25	27	18	16
4	12	5	4	6	4	6	8	8	6
5	77	29	36	39	42	41	26	52	44
6	48	13	17	29	29	36	28	31	30
7	63	19	25	26	16	31	34	30	29
8	35	12	12	13	19	16	18	22	20
9	40	23	22	22	25	20	19	22	24
10	75	47	41	51	61	59	57	55	60
11	57	30	22	26	34	29	30	33	30
12	50	36	27	33	35	31	38	34	46
13	40	24	23	29	41	35	39	42	29
14	37	33	29	29	30	32	35	27	25
15	57	12	15	16	8	14	15	19	19
16	40	13	14	16	21	13	20	19	13
17	12	5	6	10	8	8	6	4	3
18	49	8	11	12	12	9	11	10	8
TOTAL	769	338 44.0%	339 44.1%	393 51.1%	428 55.7%	419 54.5%	425 55.3%	437 56.8%	417 54.2%

As indicated in **Table 4**, there were 449 on-street spaces (58.4%) occupied between 3:00 and 4:00 p.m. on Thursday, October 24, the overall peak period for on-street parking occupancy.

Table 4.
On-Street Parking Occupancy, Thursday, October 24, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	8	0	0	3	4	4	6	5	5
2	21	11	11	13	16	16	15	16	11
3	48	13	16	18	17	28	21	22	15
4	12	5	6	9	7	5	2	5	10
5	77	28	29	30	36	36	30	49	47
6	48	19	18	17	25	30	35	30	26
7	63	26	20	19	19	29	31	27	35
8	35	9	9	13	20	19	22	27	25
9	40	16	26	29	22	24	28	23	26
10	75	46	51	53	64	50	59	71	60
11	57	28	21	21	19	29	29	28	27
12	50	33	31	39	33	31	37	33	40
13	40	24	25	38	30	35	36	38	37
14	37	25	30	32	25	28	31	23	27
15	57	13	15	17	12	14	18	21	23
16	40	17	22	24	22	17	18	15	13
17	12	4	4	7	5	6	6	5	5
18	49	8	11	12	13	8	12	11	10
TOTAL	769	325 42.3%	345 44.9%	394 51.2%	389 50.6%	409 53.2%	436 56.7%	449 58.4%	442 57.5%

As indicated in **Table 5**, of the 2,753 off-street spaces, 1,791 (65.1%) were occupied between 10:00 and 11:00 a.m. on Wednesday, October 23, the overall peak period for off-street parking occupancy.

Table 5.
Off-Street Parking Occupancy, Wednesday, October 23, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	97	40	38	37	37	34	37	30	34
2	56	10	9	10	10	5	9	9	11
3	276	140	143	139	133	144	142	137	134
4	190	101	94	96	102	97	119	110	93
5	276	146	169	170	159	165	158	146	134
6	40	19	20	21	20	25	21	20	22
7	148	68	79	67	54	85	79	72	63
8	213	182	191	178	182	184	180	158	158
9	290	253	262	259	250	237	251	248	203
10	106	71	74	72	65	73	74	68	48
11	70	50	53	46	40	45	48	51	44
12	10	2	1	1	0	3	3	2	1
13	232	110	114	110	102	107	111	114	109
14	59	43	54	48	40	46	53	54	53
15	247	191	204	209	176	172	183	193	185
16	370	225	239	242	232	239	237	221	190
17	54	35	36	34	26	38	31	31	38
18	19	11	11	10	9	12	10	14	11
TOTAL	2,753	1,697 61.6%	1,791 65.1%	1,749 63.5%	1,637 59.5%	1,711 62.2%	1,746 63.4%	1,678 61.0%	1,531 55.6%

As indicated in **Table 6**, there were 1,754 off-street spaces (63.7%) occupied between 10:00 and 11:00 a.m. on Thursday, October 24.

Table 6.
Off-Street Parking Occupancy, Thursday, October 24, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	97	41	36	36	34	37	36	34	35
2	56	5	6	6	6	7	9	9	9
3	276	152	157	148	136	152	151	135	133
4	190	105	104	99	90	81	85	86	76
5	276	146	161	164	160	158	160	143	139
6	40	19	20	22	15	17	21	17	22
7	148	77	80	82	62	80	78	70	81
8	213	176	182	183	158	155	160	161	134
9	290	222	240	222	190	221	229	229	208
10	106	64	72	75	67	68	69	68	59
11	70	56	47	42	36	40	41	41	37
12	10	2	2	3	1	2	2	2	2
13	232	107	111	118	97	112	111	112	101
14	59	41	46	55	42	44	47	54	46
15	247	189	200	197	170	192	199	189	169
16	370	231	243	248	205	219	217	209	189
17	54	37	38	36	20	32	40	34	36
18	19	7	9	11	8	11	9	13	13
TOTAL	2,753	1,677 60.9%	1,754 63.7%	1,747 63.5%	1,497 54.4%	1,628 59.1%	1,664 60.4%	1,606 58.3%	1,489 54.1%

As indicated in **Table 7**, there were 2,171 vehicles parked in 3,522 on- and off-street spaces (61.6%) between 2:00 and 3:00 PM on Wednesday, October 23, the overall peak period for the total parking supply.

Table 7.
On- and Off-Street Parking Occupancy, Wednesday, October 23, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	105	45	44	43	40	39	41	33	35
2	77	18	21	23	28	14	19	17	25
3	324	156	160	156	155	169	169	155	150
4	202	106	98	102	106	103	127	118	99
5	353	175	205	209	201	206	184	198	178
6	88	32	37	50	49	61	49	51	52
7	211	87	104	93	70	116	113	102	92
8	248	194	203	191	201	200	198	180	178
9	330	256	284	281	275	257	270	270	227
10	181	118	115	123	126	132	131	123	108
11	127	80	75	72	74	74	78	84	74
12	60	38	28	34	35	34	41	36	47
13	272	134	137	139	143	142	150	156	138
14	96	76	83	77	70	78	88	81	78
15	304	203	219	225	184	186	198	212	204
16	410	238	253	258	253	252	257	240	203
17	66	40	42	44	34	46	37	35	41
18	68	19	22	22	21	21	21	24	19
TOTAL	3,522	2,015 57.2%	2,130 60.5%	2,142 60.8%	2,065 58.6%	2,130 60.5%	2,171 61.6%	2,115 60.1%	1,948 55.3%

As indicated in **Table 8**, there were 2,141 vehicles parked (60.8%) at the peak hour of 11:00 a.m. to 12:00 noon on Thursday, October 24.

Table 8.
On- and Off-Street Parking Occupancy, Thursday, October 24, 2002

Block #	Capacity	Occupied Spaces							
		9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.
1	105	41	36	39	38	41	42	39	40
2	77	16	17	19	22	23	24	25	20
3	324	165	173	166	153	180	173	157	148
4	202	110	110	108	97	86	87	91	86
5	353	174	190	194	196	194	190	192	186
6	88	38	38	39	40	47	56	47	48
7	211	103	100	101	81	109	109	97	116
8	248	185	191	196	178	174	182	188	159
9	330	238	266	251	212	245	257	252	234
10	181	110	123	128	131	118	128	139	119
11	127	84	68	63	55	69	70	69	64
12	60	35	33	42	34	33	39	35	42
13	272	131	136	156	127	147	147	150	138
14	96	66	76	87	67	72	78	77	73
15	304	202	215	214	182	206	217	210	192
16	410	248	265	272	227	236	235	224	202
17	66	41	42	43	25	38	46	39	41
18	68	15	20	23	21	19	21	24	23
TOTAL	3,522	2,002 56.8%	2,099 59.6%	2,141 60.8%	1,886 53.5%	2,037 57.8%	2,101 59.7%	2,055 58.3%	1,931 54.8%

Parking occupancy in most downtown areas peaks between 10:00 a.m. and 12:00 noon, as was the case on Thursday, October 24 in downtown Fargo. Significantly higher on-street demand in the afternoon hours on Wednesday, October 23 resulted in a later peak hour (2:00 to 3:00 p.m.) Some of the additional on-street parking demand in the late afternoon appeared to have originated from off-street parking areas where drivers were taking advantage of closer on-street parking.

Table 9 summarizes total peak-hour parking occupancy (which occurred between 2:00 and 3:00 p.m. on Wednesday October 23). The busiest blocks for on-street parking on the peak day (with 75% or greater occupancy levels) were 10, 12, 13, and 14. The busiest blocks for off-street parking on the peak day (with 75% or greater occupancy levels) were 8 (US Bank Building and Ramp), 9 (Radisson Hotel and Ramp), and 14 (Dakota Center Lot). The busiest blocks overall were 8, 9 and 14.

Table 9.
Summary of Peak-Hour (2:00 to 3:00 p.m.) Parking Occupancy
Wednesday, October 23, 2002

Block #	On-Street Parking			Off-Street Parking			Total Parking		
	Capacity	Occupied	Percent Occupied	Capacity	Occupied	Percent Occupied	Capacity	Occupied	Percent Occupied
1	8	4	50.0%	97	37	38.1%	105	41	39.0%
2	21	10	47.6%	56	9	16.1%	77	19	24.7%
3	48	27	56.3%	276	142	51.4%	324	169	52.2%
4	12	8	66.7%	190	119	62.6%	202	127	62.9%
5	77	26	33.8%	276	158	57.2%	353	184	52.1%
6	48	28	58.3%	40	21	52.5%	88	49	55.7%
7	63	34	54.0%	148	79	53.4%	211	113	53.6%
8	35	18	51.4%	213	180	84.5%	248	198	79.8%
9	40	19	47.5%	290	251	86.6%	330	270	81.8%
10	75	57	76.0%	106	74	69.8%	181	131	72.4%
11	57	30	52.6%	70	48	68.6%	127	78	61.4%
12	50	38	76.0%	10	3	30.0%	60	41	68.3%
13	40	39	97.5%	232	111	47.8%	272	150	55.1%
14	37	35	94.6%	59	53	89.8%	96	88	91.7%
15	57	15	26.3%	247	183	74.1%	304	198	65.1%
16	40	20	50.0%	370	237	64.1%	410	257	62.7%
17	12	6	50.0%	54	31	57.4%	66	37	56.1%
18	49	11	22.4%	19	10	52.6%	68	21	30.9%
TOTAL	769	425	55.3%	2,753	1,746	63.4%	3,522	2,171	61.6%

3.2 Design-Day Parking Conditions

Design-day parking conditions represent typical peak activity that may be exceeded only occasionally during the year. It is neither practical nor economical to design for the absolute peak day of activity. After consulting with City staff, it was determined that the level of parking activity on the peak survey day represented typical parking conditions in downtown Fargo. That is, the observed peak parking occupancy represents design-day parking conditions and will not be increased to reflect a busier period.

3.3 Effective Parking Supply

The central downtown parking system should also be evaluated from the perspective of its "effective" capacity. A parking system is considered at optimum efficiency when occupancy is at 85% to 90% of capacity. The 10% to 15% excess supply keeps the time required to find a parking space within reason and promotes a perception of adequate parking. This is important to attracting business to the downtown area. When parking occupancy exceeds these levels, there may be delays and frustration in finding a space, parkers may be forced to use a space that is too far from their destination or does not offer a comfortable walking environment. This margin also allows for: (1) the activity of vehicles moving in and out of parking stalls during busy periods; (2) surges in short-term parking activity; (3) the unavailability of private parking and reserved spaces to the general public; and (4) the temporary loss of spaces due to improperly parked vehicles, the piling of snow, construction activity, etc.

For the above reasons, it is industry practice to size the parking supply 10% to 15% over actual parking demand. This cushion of parking is obtained by comparing parking demand with an effective parking supply instead of the actual parking supply. For this study, an effective parking supply of 85% of the actual supply is recommended for the private off-street parking and 90% is recommended for the public on- and off-street parking.

3.4 Parking Demand

Parking Demand is defined as the peak accumulation of parked vehicles generated by each building within the area being studied. Historical experience with peak parking accumulation for different land uses has been utilized to develop indicators for calculating parking demand. For most land uses, the size of the building (total floor area) is used to compute peak parking demand. Parking ratios, determined by dividing peak parking accumulation by the floor area, have been developed by the Urban Land Institute, Eno Foundation for Transportation, Institute of Transportation Engineers, and National Parking Association. Local zoning administrators often use these sources to establish parking ratios for various land uses in local ordinances.

Parking ratios developed by local agencies for single, stand-alone land uses are generally account for the maximum level of parking demand per unit that is likely to occur. Many factors can influence the demand for parking at a particular location, including type and intensity of the land use, availability of space for parking, parking fees, availability and convenience of alternate modes of transportation, the shared-use of spaces, and income levels of the population.

Parking demand in a Central Business District (CBD) can be significantly overstated if each land use must provide parking in accordance with a local ordinance. This occurs for three primary reasons:

1. Different activity patterns of adjacent or nearby land uses result in variations of peak accumulation by time of day, day of week, or season of the year.
2. People often patronize two or more land uses in close proximity to each other in a single trip. This is referred to as the "Captive Market Effect."
3. The density of development and availability of mass transit or other modes of transportation (buses, carpooling, walking, bicycles, etc.) in CBD's reduces the reliance on the use of the automobile, particularly among commuting employees.

3.5 Land Use Analysis

A land-use survey has been completed for the study area and square footage by land-use category is indicated by block in **Table 10**. There is currently approximately 2.5 million square feet of space within the study area. The largest land-use category is office/bank with 782,407 square feet of space (31% of the total). Office/bank is followed by residential with 780,254 square feet (31%), retail/service with 365,807 square feet (15%), "other" with 130,797 square feet (5%), industrial/warehouse with 128,719 square feet (5%), and hotel/motel with 112,394 square feet (4%). The remaining 9% of the square footage is divided between government, social/religious, eating and drinking, and automotive.

Table 10.
Land Uses by Block

Block Number	Office/ Bank	Government	Retail/ Service	Eating & Drinking	Automotive	Residential	Social/ Religious	Industrial/ Warehouse	Hotel/ Motel	Other	Total
1	14,126		23,400			30,506		16,380			84,412
2			17,942			95,913					113,855
3	5,006		17,112	8,952	9,420	17,112		7,821			65,423
4		90,000				104,184	15,066			9,652	218,902
5	27,475		35,420	7,000		71,945	13,286	38,104		8,757	201,987
6	62,087		38,500			68,037	8,480	24,042		6,228	207,374
7	60,425		20,250			17,000					97,675
8	26,774										26,774
9	133,892								108,962	30,858	273,712
10	138,213		85,696	32,023		140,045		2,500			398,477
11	58,240		58,240			98,732					215,212
12	75,148					27,812					102,960
13	8,735		21,700	23,532		25,986		17,752	3,432	14,598	115,735
14	109,266		8,120			3,584					120,970
15			5,860			1,640		16,800			24,300
16	37,475			7,056						60,704	105,235
17	17,320		5,938			12,898					36,156
18	8,225		27,629			64,860		5,320			106,034
TOTAL SPACE	782,407	90,000	365,807	78,563	9,420	780,254	36,832	128,719	112,394	130,797	2,515,193
VACANT SPACE	267,197	0	29,630	0	0	15,605	0	0	0	0	312,433
OCCUPIED SPACE	515,210	90,000	336,177	78,563	9,420	764,649	36,832	128,719	112,394	130,797	2,202,760
% OF TOTAL	23%	4%	15%	4%	0%	35%	2%	6%	5%	6%	100%

Of the 2.5 million square feet of space, City officials have estimated 312,433 square feet of vacant space (12.4% vacancy rate) in the office, retail, and residential categories only. There is approximately 2.2 million square feet of occupied space within the study area. Because the estimated vacant space is only available by land-use category and not by block, it is necessary to distribute the vacant space proportionally to the amount of square footage in each block. Occupied square footage by block, based on the described method of distributing the vacant space, is indicated in **Table 11**.

Table 11.
Occupied Space by Land-Use Category and Block

Block Number	Office/ Bank	Government	Retail/ Service	Eating & Drinking	Automotive	Residential	Social/ Religious	Industrial/ Warehouse	Hotel/ Motel	Other	Total
1	9,302		21,505			29,896		16,380			77,082
2			16,489			93,995					110,483
3	3,296		15,726	8,952	9,420	16,770		7,821			61,985
4		90,000				102,100	15,066			9,652	216,818
5	18,092		32,551	7,000		70,506	13,286	38,104		8,757	188,296
6	40,884		35,382			66,676	8,480	24,042		6,228	181,692
7	39,789		18,610			16,660					75,059
8	17,631										17,631
9	88,167								108,962	30,858	227,987
10	91,012		78,755	32,023		137,244		2,500			341,534
11	38,351		53,523			96,757					188,631
12	49,484					27,256					76,740
13	5,752		19,942	23,532		25,466		17,752	3,432	14,598	110,475
14	71,951		7,462			3,512					82,926
15			5,385			1,607		16,800			23,793
16	24,677			7,056						60,704	92,437
17	11,405		5,457			12,640					29,502
18	5,416		25,391			63,563		5,320			99,690
TOTAL	515,210	90,000	336,177	78,563	9,420	764,649	36,832	128,719	112,394	130,797	2,202,760
% OF TOTAL	23%	4%	0	4%	0%	35%	2%	6%	5%	6%	100%

Table 12 lists average (suburban) parking demand ratios by land-use category, the downtown range of demand ratios from other **Carl Walker, Inc.** studies, average downtown demand ratios, and recommended parking demand ratios for downtown Fargo based on the land-use information provided.

The overall parking demand ratio for downtown Fargo is 0.99 space per 1,000 square feet of occupied space (2,171 spaces occupied ÷ 2,202.76 = demand ratio of 0.986). This is a relatively low ratio for a downtown area and is thought to be primarily due to the possible underestimation of the amount of vacant space within the study area. The low ratio can also be attributed to study area employees, customers and visitors parking just outside of the boundaries of the 18-block area. Another contributing factor is the large amount of residential space within the study area.

**Table 12.
 Parking Demand Ratios**

Land Use Category	Average Parking Demand Ratio (Per 1,000 Sq. Ft.)	Downtown Range	Downtown Average	Downtown Fargo Parking Demand Ratio
Office/Bank	3.60	1.00 - 3.50	2.20	1.50
Government	4.00	1.50 - 4.00	2.60	1.70
Retail/Service	3.30	0.50 - 4.00	1.80	1.20
Eating & Drinking	20.0	0.50 - 20.0	5.70	2.20
Automotive	2.50	1.00 - 2.00	1.80	1.20
Residential	1.50	0.40 - 1.50	0.80	0.50
Social/Religious	Varies	0.10 - 0.80	0.50	0.40
Industrial/Warehouse	1.50	0.50 - 1.00	0.80	0.70
Hotel/Motel	1.70	0.40 - 1.70	0.90	0.60
Other	n/a	0.80 - 2.00	1.30	0.80

Table 13 distributes parking demand by block based on the occupied square footage and demand ratios presented in previous tables. Office/bank is the largest estimated generator of parking demand in downtown Fargo at 773 spaces (36%). Retail/service is the next largest generator of parking demand at 403 spaces (19%). Retail/service demand is followed by residential at 382 spaces (18%), eating and drinking at 173 spaces (8%), and government at 153 spaces (7%). The remaining 12% of the demand, or 287 spaces, is generated by a combination of the remaining land uses. Parking demand by block ranges from a low of 19 spaces in Block 15 to a high of 371 spaces in Block 10.

Table 13.
Parking Demand by Block and Land-Use Category

Block Number	Office/ Bank	Government	Retail/ Service	Eating & Drinking	Automotive	Residential	Social/ Religious	Industrial/ Warehouse	Hotel/ Motel	Other	Total
1	14	0	26	0	0	15	0	11	0	0	66
2	0	0	20	0	0	47	0	0	0	0	67
3	5	0	19	20	11	8	0	5	0	0	69
4	0	153	0	0	0	51	6	0	0	8	218
5	27	0	39	15	0	35	5	27	0	7	156
6	61	0	42	0	0	33	3	17	0	5	162
7	60	0	22	0	0	8	0	0	0	0	90
8	26	0	0	0	0	0	0	0	0	0	26
9	132	0	0	0	0	0	0	0	65	25	222
10	137	0	95	70	0	69	0	2	0	0	371
11	58	0	64	0	0	48	0	0	0	0	170
12	74	0	0	0	0	14	0	0	0	0	88
13	9	0	24	52	0	13	0	12	2	12	123
14	108	0	9	0	0	2	0	0	0	0	119
15	0	0	6	0	0	1	0	12	0	0	19
16	37	0	0	16	0	0	0	0	0	48	100
17	17	0	7	0	0	6	0	0	0	0	30
18	8	0	30	0	0	32	0	4	0	0	74
TOTAL	773	153	403	173	11	382	15	90	67	104	2,171
% OF TOTAL	36%	7%	19%	8%	1%	18%	1%	4%	3%	5%	100%

3.6 Current Parking Adequacy

Table 14 presents current parking adequacy by block. The distribution of parking demand by block is based on land uses rather than parking occupancy. In other words, this table indicates where the demand is generated rather than where people are parking. Parking demand is compared to the effective parking supply and surpluses and deficits are calculated for each block and for the study area overall.

**Table 14.
 Current Parking Adequacy**

Block #	Parking Demand	Parking Supply	Effective Supply	Surplus/Deficit
1	66	105	89	23
2	67	77	67	0
3	69	324	278	209
4	218	202	173	-45
5	156	353	308	152
6	162	88	77	-85
7	90	211	183	93
8	26	248	224	198
9	222	330	295	73
10	371	181	161	-210
11	170	127	114	-56
12	88	60	54	-34
13	123	272	238	115
14	119	96	85	-34
15	19	304	261	242
16	101	410	360	259
17	30	66	57	27
18	74	68	60	-14
TOTAL	2,171	3,522	3,084	913

While this information is very useful, it can be somewhat misleading. A large surplus on a block can mean that much of the block is taken for a parking ramp or a large lot with little or no other land uses on the block to

generate parking demand. Conversely, an adjacent block with a large office building and no or little off-street parking will show a large deficit, reflecting that parking demand is not satisfied within that block.

There is an overall parking surplus of 913 spaces within the study area presently. However, parking deficits totaling 478 spaces are indicated in seven of the 18 blocks (Blocks 4, 6, 10, 11, 12, 14 and 18). Despite these deficits, there is currently adequate parking within the study area as the 11 remaining blocks have parking surpluses totaling 1,319 spaces. The surpluses range from a low of 23 spaces in Block 1 to a high of 259 spaces in Block 16. There is adequate parking overall because unmet parking demand can be reallocated to nearby blocks with excess parking capacity.

As indicated in **Figure 2**, it is possible to reallocate unmet demand in each block with a parking deficit to immediately adjacent blocks with parking surpluses. The blocks indicated in blue have parking surpluses and the blocks in red have parking deficits. Block 2 is neither blue nor red as parking demand is equal to the effective parking capacity on the block.

Figure 2. Current Parking Adequacy by Block

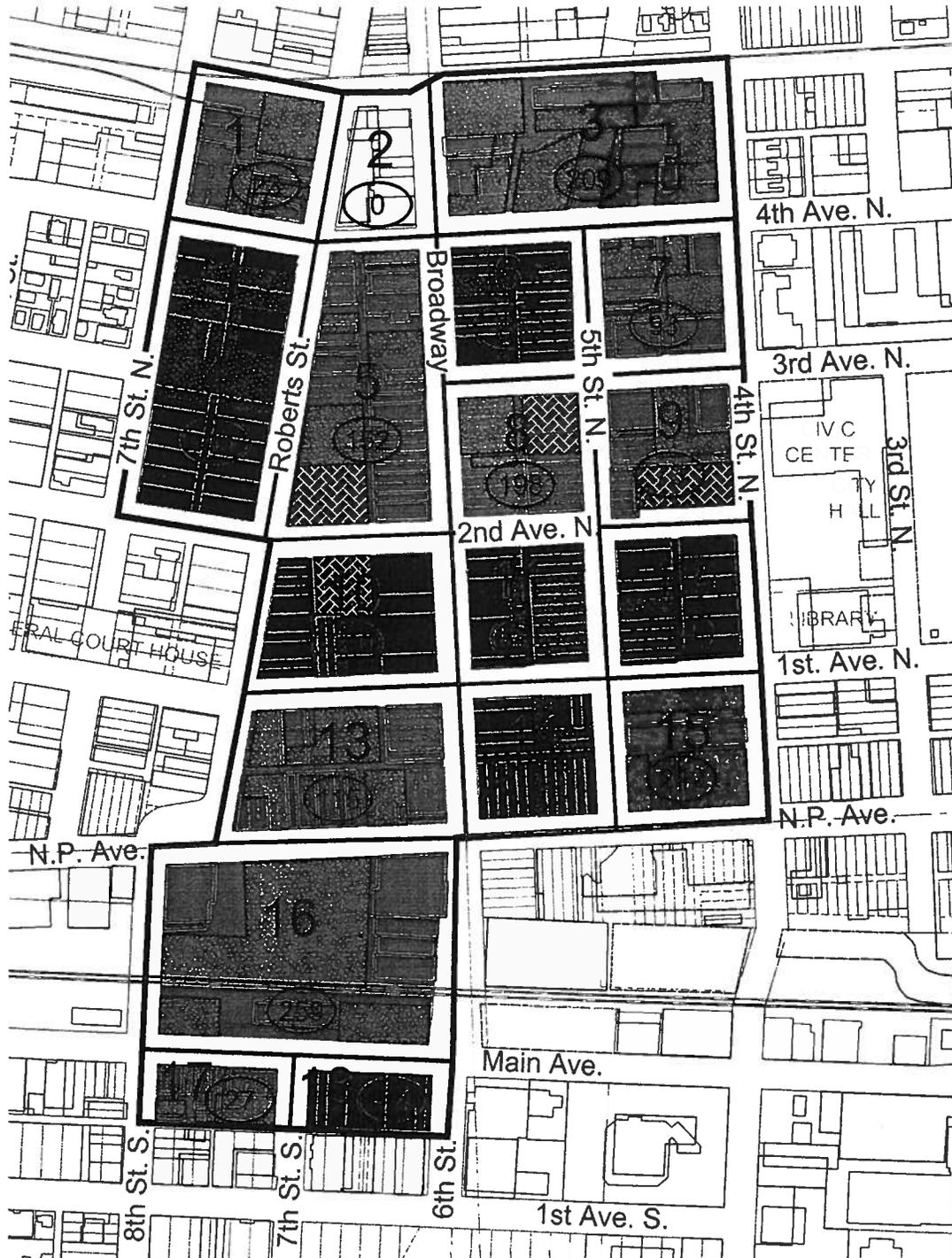


Table 15 provides an estimate of current parking adequacy by type of parking (short-term vs. long-term). Because there is ample on-street parking within the study area, short-term demand is simply the on-street parking occupancy. It is reasonable to assume that customers, visitors and other short-term patrons are parking at the most convenient locations for free (on-street) rather than parking at less convenient locations for a fee (off-street). Long-term demand is determined by subtracting short-term occupancy (demand) from total parking demand.

**Table 15.
 Current Parking Adequacy by Type of Parking**

Block #	Short-Term Parking			Long-Term Parking		
	Demand	Effective Supply	Surplus/Deficit	Demand	Effective Supply	Surplus/Deficit
1	4	7	3	62	82	20
2	10	19	9	57	48	-9
3	27	43	16	42	235	193
4	8	11	3	210	162	-48
5	26	69	43	130	239	109
6	28	43	15	134	34	-100
7	34	57	23	56	126	70
8	18	32	14	8	192	184
9	19	36	17	203	259	56
10	57	68	11	314	93	-221
11	30	51	21	140	63	-77
12	38	45	7	50	9	-41
13	39	36	-3	84	202	118
14	35	33	-2	84	52	-32
15	15	51	36	4	210	206
16	20	36	16	81	324	243
17	6	11	5	24	46	22
18	11	44	33	63	16	-47
TOTAL	425	692	267	1,746	2,392	646

There is an overall short-term parking surplus of 267 spaces. Block 13 has a three-space deficit and Block 14 a two-space deficit. The remaining 16 blocks have surpluses ranging from three to 43 spaces.

There are eight blocks with long-term parking deficits totaling 575 spaces. The remaining ten blocks have surpluses ranging from 20 to 243 spaces. There is an overall long-term parking surplus of 646 spaces.

IV. FUTURE DOWNTOWN PARKING CONDITIONS

4.0 Development Projects

The Renaissance Zone Program and other economic development incentives have spurred private development activity in downtown Fargo. The City is also investing in downtown with streetscape improvements on Broadway. The rebuilding of Broadway is encouraging additional downtown development. Current and planned development, combined with the deterioration of the existing US Bank ramp on Block 8, is prompting the City to study the development of additional parking downtown.

Several planned and proposed downtown development projects have been identified and the City has asked **Carl Walker, Inc.** to review the impact of development activity on parking supply and demand, and to determine the preferred locations for and sizes of two future parking ramps.

Development projects have been identified on Blocks 3, 8, 11, 13 and 16. The Block 3 project is currently referred to as the "Great Northern Development" and is focused around the Train Depot. The development concept currently entails approximately 9,000 square feet of street-level retail space along Broadway, a 56-unit apartment complex, and a 64-unit senior housing component. The project provides 180 parking spaces below the residential development and in a surface lot in the center of the complex. The only building preserved on the block will be the Depot building and it will become a shared support services/community building

for the complex. All of the existing off-street parking will be displaced by the development (276 spaces).

Envisioned for Block 8 is the "Renaissance Center" with 90,000 to 180,000 square feet of first-level retail space and three supported levels of office space that would front onto Broadway. Preliminary site plans developed for the project also incorporate a parking ramp to support the new development and to replace the loss of supply associated with the removal of the US Bank ramp and lot. The current site of the US Bank ramp is a prime location for parking and is a leading site for a future municipal parking ramp.

The Donaldson Hotel on Block 11, which contains 24 rooms and a 7,000 square foot restaurant, recently opened. A new 24,800 square foot office building called 52 Broadway is planned for a vacant parcel on block 13 that is currently being used as parking. The developers of the project are anticipating providing up to 18 parking spaces below the building. Also on Block 13 is the vacant Cinema Grill building and parking lot containing 104 parking spaces. A mixed-use development with retail and office space and residential units is anticipated at this location by 2005. Although specifics are currently not available on the proposed project, the developers anticipate providing parking only for the residential component of the project and all of the existing surface parking spaces will be displaced.

The Old Northern School Supply building on Block 16 was donated to North Dakota State University (NDSU). Plans are moving forward to renovate the building to house the Arts and Architecture programs. The

NDSU Downtown Campus, as the development is known, is planned for the fall semester 2004. The renovated building will occupy 68,000 square feet of classroom, office and other space that is projected to accommodate 400 students and at least 25 faculty and staff members. Sixty surface parking spaces will be provided to serve the building.

Broadway Park is currently under construction and will provide additional retail, office, residential, and restaurant space on Block 16 along Broadway. The existing parking behind the development will be reconfigured and there will be a moderate loss of spaces.

Table 16 summarizes the likely development projects and provides estimates of parking demand for each project, with the exception of the Cinema Grill project. The parking demand ratios identified for downtown Fargo in Table 12 for the residential, retail, office, and restaurant uses have been increased 25% to assure that the future development projects will have adequate parking. As previously mentioned, the ratios used to distribute current parking demand by block (Table 13) were somewhat low compared to other cities. This was thought to be primarily due to the underestimation of vacant space within the study area, and study area patrons parking just outside of the 18-block area.

The parking demand ratios for the hotel and NDSU project are from previous **Carl Walker, Inc.** studies. The developers of Broadway Park on Block 16 provided the estimate of additional future parking demand for the project.

Table 16.
Future Downtown Development

Block #	Description	Parking Demand Ratio	Estimated Parking Demand			Parking Supply		
			Short-Term	Long-Term	Total	Lost	Provided	Gain/Loss
3	120 housing units	0.63 space per unit	12	64	76			
3	9,000 square feet retail	1.50 spaces per 1,000 s.f.	11	3	14			
Subtotal			23	66	90	276	180	-96
8	22,500 square feet retail	1.50 spaces per 1,000 s.f.	27	7	34			
8	67,500 square feet office	1.88 spaces per 1,000 s.f.	13	114	127			
Subtotal			40	121	161	213	0	-213
11	24 hotel rooms	0.40 space per room	9	1	10			
11	7,000 square feet restaurant	2.75 spaces per 1,000 s.f.	13	6	19			
Subtotal			22	7	29	0	0	0
13	24,800 square feet office	1.88 spaces per 1,000 s.f.	5	42	47	30	18	-12
13	Cinema Grill	TBD				104		-104
Subtotal			5	42	47	134	18	-116
16	400 students	0.50 space per student	30	170	200	0	60	60
16	Additional retail, office, residential, restaurant	N/A	40	230	270	297	231	-66
n/a	City parking lot (Just outside of the study area)						70	
Subtotal			70	400	470	297	361	-6
TOTAL			160	637	797	920	559	-361

The listed projects are estimated to generate the demand for 797 parking spaces, approximately 80% of which is expected to be long-term demand (637 spaces). It is estimated that 920 existing off-street parking spaces will be displaced by future development and 559 parking spaces will be provided. This results in a net loss of 361 spaces. The parking demand estimate for Block 8 anticipates that the existing bank building remains and 90,000 square feet of retail and office space is built along the Broadway frontage.

As presented in **Table 17**, the streetscape improvements along Broadway will increase the on-street parking supply within the study area by 111 spaces. This is accomplished by converting parallel parking spaces to diagonal parking.

Table 17.
Broadway Streetscape Improvements

Block Face	On-Street Parking Supply		
	Current	Future	Increase
2E	11	25	14
3W	10	11	1
5E	24	49	25
6W	10	24	14
8W	10	24	14
10E	14	23	9
11W	8	23	15
13E	10	25	15
14W	13	17	4
TOTAL	110	221	111

4.1 Future Parking Adequacy

Table 18 presents future parking adequacy by block. The estimated future parking demand is compared to the effective parking supply and surpluses and deficiencies are calculated by block. There is an overall parking deficit of 39 spaces. Parking deficits totaling 792 spaces are indicated for ten of the eighteen blocks (4, 6, 8, 10, 11, 12, 13, 14, 16 and 18). The largest deficit is indicated on Block 10 (-202 spaces), which is followed by Blocks 16 and 8. The remaining eight blocks have surpluses totaling 753 spaces. The largest surplus of parking is on Block 15 (242 spaces).

**Table 18.
Future Parking Adequacy**

Block #	Parking Demand	Parking Supply	Effective Supply	Surplus/ Deficit
1	66	105	89	23
2	67	91	80	13
3	90	229	197	107
4	218	202	173	-45
5	156	378	331	175
6	162	102	90	-72
7	90	211	183	93
8	187	49	44	-143
9	222	330	295	73
10	371	190	169	-202
11	199	142	128	-71
12	88	60	54	-34
13	170	171	149	-21
14	119	100	89	-30
15	19	304	261	242
16	571	474	411	-160
17	30	66	57	27
18	74	68	60	-14
TOTAL	2,899	3,272	2,860	-39

Table 19 provides estimates of future parking adequacy by type of parking (short-term vs. long-term). There is an estimated short-term parking surplus of 236 spaces overall, and only two of the 18 blocks have deficits. Block 8 has a 14-space deficit and Block 16 a 54-space deficit.

By comparison, there is an overall long-term parking deficit of 275 spaces. Eleven of the 18 blocks have parking deficits. The surpluses in the remaining blocks are not sufficient to satisfy parking needs and additional parking is required.

Table 19.
Future Parking Adequacy by Type of Parking

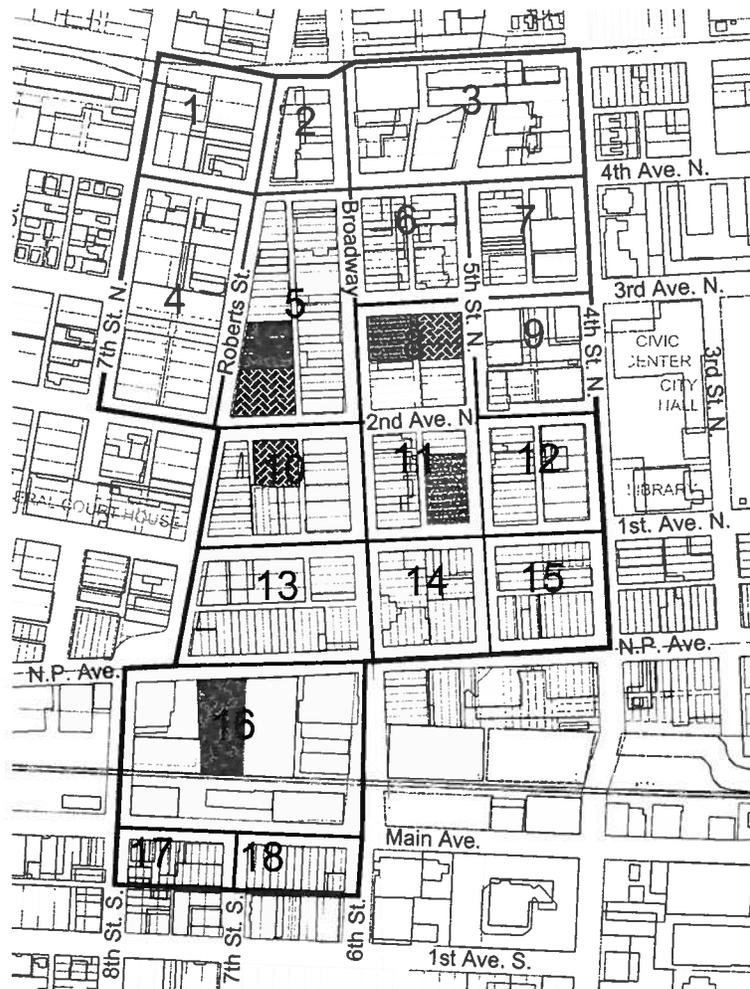
Block #	Short-Term Parking			Long-Term Parking		
	Demand	Effective Supply	Surplus/ Deficit	Demand	Effective Supply	Surplus/ Deficit
1	4	7	3	62	82	20
2	10	32	22	57	48	-9
3	23	44	21	66	153	87
4	8	11	3	210	162	-48
5	26	92	66	130	239	109
6	28	56	28	134	34	-100
7	34	57	23	56	126	70
8	58	44	-14	129	0	-129
9	19	36	17	203	259	56
10	57	76	19	314	93	-221
11	52	65	13	147	63	-84
12	38	45	7	50	9	-41
13	44	50	6	126	99	-27
14	35	37	2	84	52	-32
15	15	51	36	4	210	206
16	90	36	-54	481	375	-106
17	6	11	5	24	46	22
18	11	44	33	63	16	-47
TOTAL	558	794	236	2,341	2,066	-275

V. PARKING DEVELOPMENT SITES

5.0 Parking Development Sites

Five sites have been identified within the study area for future parking ramps. The sites, located on Blocks 5, 8, 10, 11 and 16, are shown below in **Figure 3.**

Figure 3. Parking Development Sites



The Block 5 site consists of two parking lots, one publicly owned and the other privately owned. The public parking lot on Block 10 is not a viable site for a parking ramp by itself but could be used in conjunction with the public lot on Block 5 by spanning 2nd Avenue N. The site on Block 8 consists of the existing US Bank ramp and adjacent parking lot. The Block 11 site is a private parking lot owned by Gate City Bank. The Block 16 site is a municipal parking lot.

Because the sites on Blocks 5, 8 and 11 are so close together, only one of the three sites should be considered at this time for the development of a parking ramp. Any one of the parking sites could effectively serve the same area of downtown Fargo. This point is further illustrated in **Figures 4 - 8**, which indicate the Primary "Capture" Areas for the ramp sites. The primary capture areas include the subject blocks (5, 8, 10, 11 and 16) and the blocks immediately surrounding them (one block in each direction). Because Block 5 is double the size of a regular downtown block and the ramp site is located on the bottom half of the block, blocks 1, 2 and 3 are not included in the primary capture area for the Block 5 site. The blocks within the primary capture area for each site are listed below:

- Block 5: Blocks 4, 5, 6, 8, 10 and 11
- Blocks 5/10: Blocks 4, 5, 6, 8, 10, 11, 13 and 14
- Block 8: Blocks 5, 6, 7, 8, 9, 10, 11, and 12
- Block 11: Blocks 5, 8, 9, 10, 11, 12, 13, 14 and 15
- Block 16: Blocks 13, 14, 16, 17 and 18

Figure 4. Block 5 Primary Capture Area

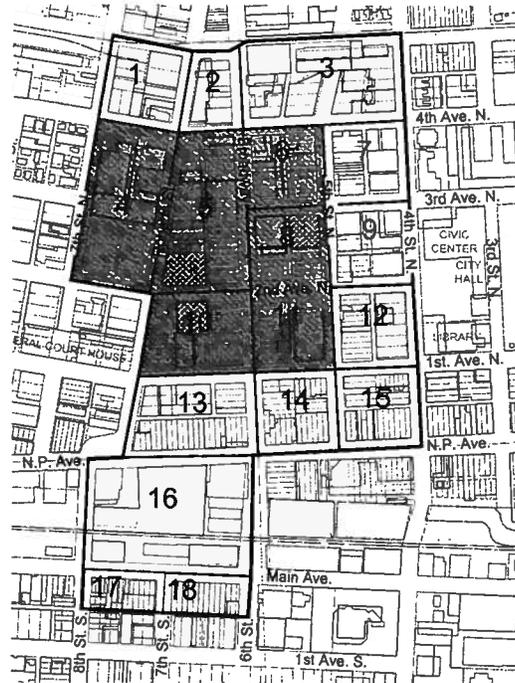


Figure 5. Blocks 5 and 10 Primary Capture Area

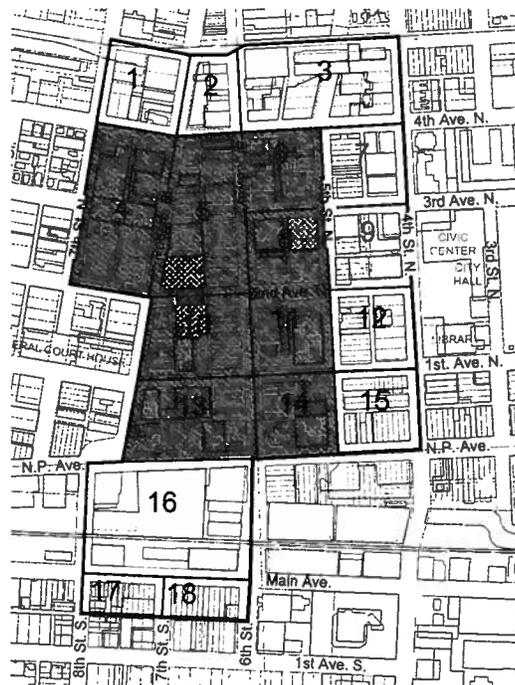


Figure 6. Block 8 Primary Capture Area

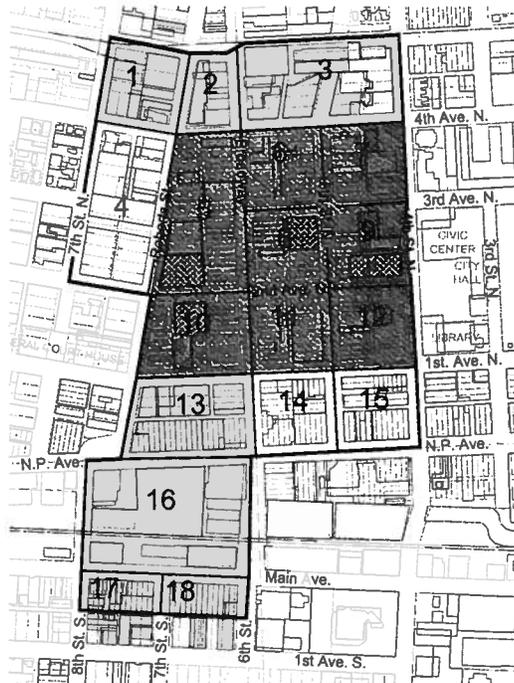


Figure 7. Block 11 Primary Capture Area

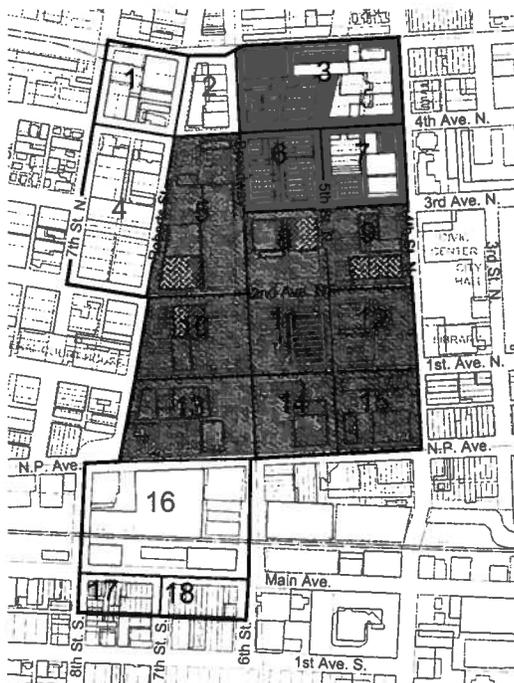


Figure 8. Block 16 Primary Capture Area

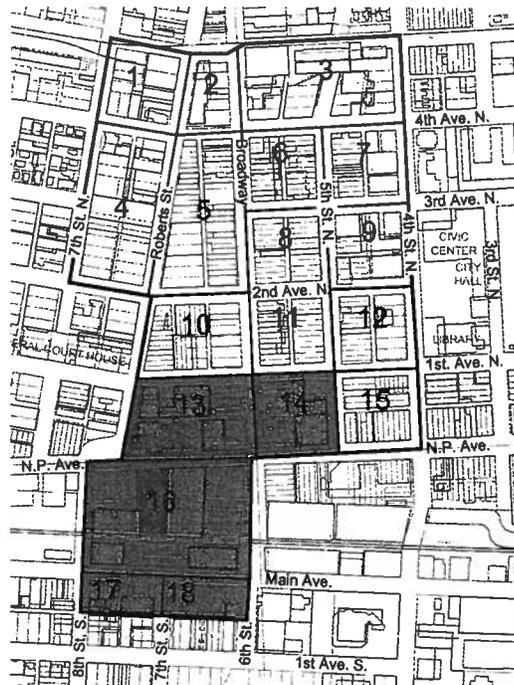


Table 20 indicates future parking adequacy by primary capture area for each of the five sites. The off-street parking surpluses and deficits on the blocks served by each site are added together to determine parking adequacy. The on-street deficits have been added to the Block 8 and Block 16 totals. Block 8 (-14) and Block 16 (-54) are the only two blocks with projected short-term parking deficits. The data in the table not only aids in the selection of parking sites but also helps determine the size of proposed parking ramps. The parking deficits by primary capture area range from 163 to 546 spaces.

Table 20.
Parking Adequacy by Primary Capture Area

Block/ Site #	Additional Blocks Served (Adjacent Blocks)	Surplus/ Deficit
5	4, 6, 8, 10, 11	-487
5/10	4, 6, 8, 11, 13, 14	-546
8	5, 6, 7, 9, 10, 11, 12	-354
11	5, 8, 9, 10, 12, 13, 14, 15	-163
16	13, 14, 17, 18	-244

5.1 Recommended Parking Sites

As previously mentioned, because Blocks 5, 8 and 11 are so close together, only one of the three sites should be considered at this time for the development of a parking ramp. The Block 5 and Block 8 sites are preferred over the Block 11 site as the long-term parking deficit within the Block 11 capture area is only 163 spaces. In addition, it is understood that Gate City is opposed to the development of a multi-level parking facility on their lot. The development of a parking ramp on the block would also require the acquisition of private property by the City.

A ramp on Block 5 could be provided only on the existing public lot, span 2nd Avenue and be built on two public lots, or preferably be built entirely on Block 5 on a combination of private and public property.

In order to develop a reasonably efficient freestanding ramp, the minimum dimensions needed are about 122 feet in width by 155 feet in length. A width of 122 feet allows for a two-module facility with two-way traffic flow and 90-degree parking. A structure with two-way traffic and a five-foot rise along each module requires approximately 155 feet in

length. It is possible to develop a ramp about this size on the public lot only on Block 5. It would provide 65 to 70 spaces per level. However, if the parcels making up the private lot next to the public lot on Block 5 could be acquired by the City, a two-bay ramp with a footprint of approximately 122' in width by 270' in length with approximately 110 spaces per level could be provided at that location. The parking bay next to Roberts Avenue could be flat (ramping would be on the alley side only) and the length of the site will allow end-bay parking on both ends and a more efficient layout.

It is anticipated that the site on Block 8 for a new ramp is approximately the same location as the existing US Bank ramp. It is a relatively small site that will require much of the parking to be provided on sloping floors. The smaller site also does not allow for the most efficient parking layout. However, a new ramp at this location would be a significant improvement over the existing ramp with respect to the parking layout, circulation, efficiency and safety.

Following are the pros and cons of the Block 5 and Block 8 sites:

Block 5

Pros

1. If the City acquires the private lots, it is a larger site accommodating and a more user friendly and efficient parking layout.
2. There is large projected parking deficit within its primary capture area.

3. Block 5 is closer to the Federal Building where there is potential additional parking demand.
4. A ramp can be built in Block 5 before the ramp on Block 8 is demolished.

Cons

1. The acquisition of private property from multiple owners is required for the most viable parking layout.
2. A less practical and more expensive ramp is required if spanning the street.
3. A larger and more expensive ramp is required on Block 5 to satisfy parking needs and replace existing surface spaces.
4. Less central location within the downtown study area.

Block 8

Pros

1. A smaller and less expensive ramp will satisfy parking needs and replace the spaces in the existing ramp to be demolished.
2. Significant development is proposed on Block 8 and it is preferable to provide parking on the same block if possible.
3. More central location within the downtown study area.
4. US Bank is willing to work with the City on the development of a new ramp.

Cons

1. The parking layout will not be as user friendly and efficient because of the relatively small site (compared to Block 5 if the private parcels are acquired by the City).
2. The City is required to acquire private property to develop a ramp at this location.
3. The City will be required to work with others (US Bank) to develop a ramp.
4. A ramp cannot be built in Block 5 before the ramp on Block 8 is demolished.

It is recommended to develop a parking ramp on Block 8. The Block 8 site is preferred over the Block 5 sites largely for one reason. The Block 8 parking deficit already includes the existing parking spaces lost to the development of a ramp. The capacity of a ramp developed on Block 5 would be substantially larger in order to satisfy parking needs and to replace the spaces lost to the development of a ramp. In other words, a smaller and less expensive ramp can be built on Block 8 that serves downtown Fargo as well or even better than a ramp on Block 5.

The Block 5 and Block 8 sites have four blocks in common with off-street parking deficits (Blocks 6, 8, 10 and 11). The Block 4 long-term deficit of 48 spaces, which is within the Block 5 site capture area, can be accommodated on Block 5 as it has a 109-space surplus. Since the parking surplus on Block 5 is reduced by 48 spaces, from 109 to 61 spaces, the capacity of a ramp on Block 8 should be increased by 48 spaces. Therefore, approximately 400 spaces (354 + 48) should be provided on Block 8.

Similarly, Blocks 5/10 and Block 8 also have the same four blocks with off-street parking deficits in common (6, 8, 10 and 11). Blocks 5/10 have three remaining blocks within their expanded capture area with deficits (4, 13 and 14). The Block 4 deficit can again be accommodated on Block 5 and the Block 13 and 14 deficits can be accommodated on Block 15.

A ramp on Block 5 would also require the acquisition of private property from multiple owners unless it spans 2nd Avenue N. A ramp that spans the street could be built on two public parking lots, but it is not practical to span a street with a parking ramp because of clearance requirements and the additional costs associated with spanning the roadway.

There is additional potential parking demand for a ramp on Block 8, provided downtown employees are willing to walk two or more blocks. There are an estimated 100 federal building employees parking for free in the residential neighborhoods surrounding the central downtown area. A residential permit program being proposed by the City could force them out of the residential neighborhoods and into paid parking. A ramp on Block 8 could also help address the loss of existing parking on Block 3. Downtown businesses, including Merit Care on Block 7, currently rely on Block 3 spaces to meet their parking needs.

The Block 8 site is also preferred because of its central location and the size of its service area. It is also recommended, if possible, to provide parking downtown on the same block as new development projects, and significant development activity is anticipated on Block 8. Although private property will have to be acquired to develop an efficient parking

ramp on Block 8, US Bank is willing to work with the City on the development of a parking ramp.

Additional parking will be required downtown and the Block 16 site is the recommended location for another parking ramp. There is a significant amount of development planned for the block and a ramp at this location would serve the lower portion of the study area and not compete with a ramp on Block 8. The ramp can also be built entirely on public property. The existing parking lost to the development of a ramp will need to be replaced in the facility, which will require, once the lots are reconfigured, the development of approximately 400 spaces.

The parking lot next to the Alerus Building at 15 Broadway, which is just outside the boundaries of the study area, is a prime development site that may be developed in the future. This represents potential additional demand for a parking ramp on Block 16.

Both sites (Blocks 8 and 16) are suitable for the development of a parking ramp and parking layouts are provided for each. It is recommended, if possible, to develop the ramp on Block 8 before Block 16 as near-term parking needs will be more severe in the vicinity of Block 8. The Island Park ramp is located outside of the study area approximately two blocks from the future generators of parking demand on Block 16. The Island Park ramp is presently underutilized and is potentially a good source of parking for students, who are generally willing to walk farther than employees from parking to primary destinations.

It will be imperative for the City of Fargo to develop a parking ramp in the near future. If anything stands in the way or delays the development of parking on Block 8, the City should proceed with the development of a ramp on Block 5 or Block 16 first. The City should explore the feasibility of acquiring the parcels making up the private lot on Block 5 in case the Block 8 does not work out. The Block 5 site is only recommended if the City obtains the private lot.

VI. PARKING RAMP OPTIONS

6.0 Block 8 Parking Ramp

Figures 9.0 to 9.5, which can be found in Appendix A, depict a four-level, 358-space parking ramp and a 30-space parking lot on Block 8 in downtown Fargo. The proposed parking ramp and lot replace the existing US Bank lot and ramp. It is a two- and three-bay, single-threaded helix design with two-way traffic flow and ninety-degree parking. A single-threaded helix is a user-friendly design that provides sufficient flow capacity for expected traffic volumes, and is the preferred design for a parking structure of this size. The two lowest levels are two bays wide to accommodate the bank parking lot and drive-up facility. The upper two levels are three bays wide and abut the existing skyway. The parking ramp is connected to the skyway system by a proposed elevated walkway in the southeast corner of the ramp on the second level.

The parking structure site is of sufficient length to accommodate end-bay parking, increasing the overall efficiency of the ramp. The provision of 358 spaces in the 113,715 square foot facility results in overall parking efficiency of 318 square feet per parking space. Parking stalls are 8'-6" in width by 18'-0" in length and drive aisles are 24'-0" wide. The end-bay drive aisles are wider for a more comfortable turning bay radius. Small-car-only (SCO) spaces have also been placed at the ends of parking rows for better turning maneuverability. Only 6% of the parking stalls in the ramp are for compact vehicles.

The parking bays are sloped at 5.1% for vertical vehicle circulation. The minimum vertical clearance will be 7'-2" on all covered levels. Vertical clearance over the bank lot will be minimum 15'-9". An elevator is shown in the southeast corner of the two-bay structure, and stairs are located next to the elevator and in the northwest corner. The elevator will open on two sides to accommodate a ½-level stop between the ground and first supported level. The parking ramp will be entirely above grade and designed as an open parking facility.

The ramp is accessed on the north side from 3rd Avenue North (main entry/exit) and from the south side from the adjacent parking lot and 5th Street North (secondary entry/exit). There is one entry lane and one exit lane separated by a concrete island with parking access and revenue control equipment at each entry location. The entry/exits have the capacity to attain a high level of service (LOS) rating for 358 cars for both entry and exit. The 30-space parking lot is accessed from 5th Street North and is not access controlled.

Eight accessible parking spaces are provided in the ramp and the surface lot, and one of the eight accessible spaces is van accessible (8'-0" wide stalls with an adjacent 8'-0" wide access aisle). Indicated on the plans are two accessible spaces in the parking lot, including the van accessible space where there is adequate vertical clearance, and six accessible spaces are located in the ramp. The eight accessible spaces are based on the total number of spaces in the lot and ramp combined.

6.1 Block 16 Parking Ramp

Figures 10.0 to 10.5 depict a three-level, 406-space parking ramp on Block 16 in downtown Fargo (refer to Appendix A). It is a three-bay, single-threaded helix design with two-way traffic flow and ninety-degree parking in the center bay and one-way traffic flow and angled parking on the outside bays. The site available for the proposed ramp is 180 feet wide, which necessitates this three-bay design combining one-way and two-way traffic flow. The parking structure site is of sufficient length to accommodate end-bay parking, increasing the overall efficiency of the ramp. The provision of 406 spaces in the 126,420 square foot facility results in overall parking efficiency of 311 square feet per parking space. Parking stalls are 8'-6" in width by 18'-0" in length.

An elevator is shown in the northwest corner, and stairs are located next to the elevator and in the northeast and southeast corners. The parking ramp will be entirely above grade and designed as an open parking facility.

The ramp is accessed from N.P. Avenue. There is one entry lane, one reversible lane, and one exit lane, each separated by a concrete island with parking access and revenue control equipment. Although no accessible spaces are indicated on the plans, the ramp, based on its capacity, would require nine accessible parking spaces. Two of the nine accessible spaces would need to be van accessible.

VII. FINANCIAL FEASIBILITY

7.0 Project Cost and Debt Service

Table 21 presents development and financing costs for the 358-space parking ramp on Block 8.

Table 21.
Block 8 Parking Ramp
Estimated Annual Debt Service

Number of parking spaces	358	
Square footage	113,715	
Parking efficiency (s.f. per space)	318	
Construction cost (1)		\$ 4,393,740
Land acquisition		<u>\$ 300,000</u>
TOTAL CONSTRUCTION COST		\$ 4,693,740
Professional Services, including architecture/engineering, survey, soil report and testing, P.E. inspection, legal services (2)		<u>\$ 375,499</u>
TOTAL DEVELOPMENT COST		\$ 5,069,239
FINANCING COSTS		
Issue and other fees (3)		\$ 249,666
Debt service reserves (4)		\$ 567,423
Net interest during construction (less interest earned) (5)		<u>\$ 355,329</u>
Subtotal		<u>\$ 1,172,418</u>
TOTAL PROJECT COST		\$ 6,241,657
BOND ISSUE		\$ 6,245,000
LOAN CALCULATION		
Principal		\$ 6,245,000
Interest rate	3.0%	
Term (years)	20	
Annual Debt Service		\$ 419,762

Notes:

- (1) Construction cost estimate includes demolition.
- (2) 8% of construction cost.
- (3) 4% of total project cost.
- (4) 10% of total project cost (less reserve fund).
- (5) First year interest (debt service) less interest earned on the construction budget during periodic drawdowns (12 mo. construction period and 2% investment rate).

Added to the construction estimate and land cost of approximately \$4.7 million are professional services for a total development cost of approximately \$5.0 million. Financing costs are outlined next and total approximately \$1.2 million. The costs of financing include fees, a debt service reserve fund, and net interest during construction (less interest earned). The total project cost is \$6,241,657 and the bond issue is \$6,245,000 (as bonds are sold in \$5,000 increments). Anticipating financing can be obtained at 3% interest and amortized over 20 years, annual debt service is \$419,762.

7.1 Operating and Maintenance Expenses

Parking ramp operating and maintenance expenses vary widely based on such factors as type of operation, staffing levels, size of facility, location, and climate. It is anticipated this ramp is operated by the City of Fargo and is a cashiered system. Transient patrons will be issued a parking ticket as they enter and pay a variable rate based on the length of stay to exit. Monthly patrons will use proximity cards to both enter and exit the ramp.

First-year operating and maintenance expenses for the Block 8 ramp are detailed in **Table 22** on the following page and are estimated to be \$155,379 for 358 spaces, or \$434 per parking space. It is presently anticipated the ramp will be staffed with a full-time cashier, maintenance personnel, and a part-time bookkeeper. Labor expenses, including employee salaries and benefits, are \$75,079, which represents approximately 48% of the total cost to operate and maintain the ramp. Maintenance expenses are detailed next and total \$80,300. Included in

the maintenance total is a long-term maintenance reserve fund of \$15,400, which is a frequent requirement with bond financing.

Table 22.
Block 8 Parking Ramp
Estimated First-Year Operating & Maintenance Expenses

<i>Labor Expenses</i>					
Position	Staff Hours	Pay Rate	Cost per Day	Number of Days	Annual Cost
Bookkeeper	4 Hrs/Day	\$12.50	\$50.00	250	\$12,500
Maintenance Staff	12 Hrs/Day	\$8.00	\$96.00	365	\$35,040
Cashiers	8 Hrs/Day	\$7.00	\$56.00	250	\$14,000
Total Wages & Salaries					\$61,540
Benefits @ 22%					\$13,539
TOTAL LABOR EXPENSES					\$75,079
<i>Indirect Expenses</i>					
Annual Scrub/Restripe					\$3,600
Armored Car					\$1,100
Equip./Elev. Maintenance					\$10,700
Liability Insurance					\$3,600
Maintenance Reserve Fund					\$15,400
Monthly Billing					\$1,600
Postage					\$1,200
Signage/Misc.					\$400
Snow Removal					\$2,700
Striping					\$1,800
Supplies					\$4,300
Surety Bond					\$1,800
Sweeping					\$12,900
Telephone					\$1,300
Utilities					\$17,900
TOTAL INDIRECT EXPENSES					\$80,300
TOTAL OPERATING & MAINTENANCE EXPENSES					\$155,379
NUMBER OF SPACES					358
COST PER PARKING SPACE					\$434

7.2 Estimated Parking Revenue

Estimated first-year parking revenue is presented below in **Table 23**.

Monthly income is expected to represent the vast majority of the parking revenue for the ramp. It is anticipated that 90% of the spaces will be for monthly patrons. Given an oversell factor of 1.2 and a monthly rate of \$50, monthly revenue is estimated to total \$231,600. Transient revenue of \$18,000 anticipates 10% of the parking is for short-term users, a \$2.00 average rate (for a two-hour stay) and 250 days per year. Total annual revenue is \$249,600, or approximately \$697 per space for 358 spaces.

**Table 23.
 Block 8 Parking Ramp
 Estimated First-Year Parking Revenue**

Number of Parking Spaces	358
 <i>Monthly</i>	
Percent of Spaces	90%
Number of Spaces	322
Oversell Factor	1.2
Monthly Patrons	386
Rate (per month)	\$50
Number of Months	12
MONTHLY REVENUE	\$231,600
 <i>Transient</i>	
Percent of Spaces	10%
Number of Spaces	36
Average Rate (2 hrs.)	\$2.00
Turnover Factor	1.0
Number of Days	250
TRANSIENT REVENUE	\$18,000
 <hr/>	
TOTAL REVENUE	\$249,600

7.3 Summary of Revenues and Expenses

Table 24 is a pro forma statement of project revenues, expenses and debt service over a ten-year period for the proposed Block 8 ramp. Adding the interest paid on the reserve fund to parking revenue results in total operating income of \$260,948. Given total operating expenses of \$171,603, there will be an estimated \$89,346 to cover debt service the first year. With a debt service payment of \$419,762, the proposed ramp is projected to lose \$330,416 the first year and have a debt service coverage ratio of only 0.21. Given 3.5% annual increases in revenues and expenses, the parking ramp by Year 10 is expected to produce a net loss of \$296,437. Cumulative losses over the ten-year period are approximately \$3.1 million.

Table 24.
Block 8 Parking Ramp
Pro Forma Statement of Revenue and Expenses, Years 1 - 10

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Parking Income (1)	\$249,600	\$258,336	\$267,378	\$276,736	\$286,422	\$296,447	\$306,822	\$317,561	\$328,676	\$340,179
Interest on Reserve Fund (2)	\$11,348	\$11,348	\$11,348	\$11,348	\$11,348	\$17,023	\$17,023	\$17,023	\$17,023	\$17,023
TOTAL OPERATING INCOME	\$260,948	\$269,684	\$278,726	\$288,084	\$297,770	\$313,469	\$323,845	\$334,584	\$345,698	\$357,202
Operating/Maintenance Expenses (3)	\$155,379	\$160,817	\$166,446	\$172,271	\$178,301	\$184,541	\$191,000	\$197,685	\$204,604	\$211,765
Sales Tax (6.5%)	\$16,224	\$16,792	\$17,380	\$17,988	\$18,617	\$19,269	\$19,943	\$20,641	\$21,364	\$22,112
TOTAL OPERATING EXPENSES	\$171,603	\$177,609	\$183,825	\$190,259	\$196,918	\$203,810	\$210,944	\$218,327	\$225,968	\$233,877
NET INCOME	\$89,346	\$92,076	\$94,901	\$97,825	\$100,852	\$109,659	\$112,901	\$116,257	\$119,730	\$123,325
DEBT SERVICE (4)	\$419,762									
TOTAL NET INCOME	(\$330,416)	(\$327,687)	(\$324,861)	(\$321,937)	(\$318,910)	(\$310,103)	(\$306,861)	(\$303,505)	(\$300,032)	(\$296,437)
DEBT SERVICE COVERAGE RATIO	0.21	0.22	0.23	0.23	0.24	0.26	0.27	0.28	0.29	0.29

Notes:

- (1) Refer to Table 23; 3.5% annual increase.
- (2) 2% interest for the first five years; 3% interest for the second five years.
- (3) Refer to Table 22; 3.5% annual increase.
- (4) Refer to Table 21.

7.4 Sources of Additional Funds

Most municipal parking ramps are not self-supporting and are subsidized by other funds. The proposed Block 8 parking ramp is no exception. When net revenues are insufficient to fully cover bond debt, the public sector has many options to subsidize a parking ramp. One possibility is an upfront capital appropriation to reduce debt service. Losses could also be covered each year with revenues from other sources such as parking system revenues (revenues from other facilities and fines), sales taxes, grants, or other public sources. The private sector could also possibly help pay for the ramp with in-lieu fees or a special assessment tax.

Bonds are often secured by a pledge of net revenues generated by the entire parking system. Because the parking system is the sole source of repayment, there is no pledge of ad valorem taxes. Investors view revenue bonds as an inherently risky investment. Pledging system revenues rather than revenues from a single facility decreases this risk. For this reason and because multi-level parking facilities are expensive, most parking revenue bonds are "system" rather than "stand-alone facility" bonds. Issuers sometimes further diversify and stabilize the pledged revenue stream by pledging an unrelated revenue source such as tax increment revenues, special assessments, sales taxes, or other taxes.

The City of Fargo might have the ability to use "in lieu" fees as means of generating additional revenues from the private sector to fund the construction of parking. It will need to be determined if such authority exists under state statutes for the City to collect fees in this manner. In lieu fees would establish code requirements for the provision of parking. When new development occurred, the developer would have the option of

either meeting code requirements for parking or paying the City to build the code-required spaces. Similarly, it would also need to be determined if the City of Fargo has the ability to issue special-assessment bonds. A special-assessment bond is payable primarily from a special assessment levied within a specific benefit district.

It may also be preferable from a financial perspective to develop some of the parking now and expand the Block 8 ramp vertically sometime in the future when money is available to do so. It would be most practical to provide three levels of parking initially. The 244 spaces on three levels would represent a construction cost of approximately \$3.4 million. Annual debt service would be approximately \$302,000, if fully financed. Operating and maintenance expenses for 244 spaces would increase on a per space basis because of the fixed cost of labor. Expenses are estimated to total \$129,600, or about \$531 per parking space.

There are disadvantages associated with vertical expansion and circumstances where it can be equally or more expensive to expand vertically than to build an entirely new facility. The method of construction and height of the facility may dictate the use of more expensive construction equipment to complete the expansion. Similarly, it can also be difficult to find adequate room for erection cranes. Settling and shifting of the existing structure during its service life can result in additional design and construction modifications to accommodate the expansion. Much or all of the existing parking will have to be closed during the construction period. Many ramps that are designed for future vertical expansion are never expanded due to these factors.

In short, parking is an essential service that cannot, or will not, always be provided by the private sector, generally because it is not financially viable. The public sector has access to financing methods and rates that are more conducive to the development of parking. There is no doubt that the provision of parking by the public sector has contributed to downtown development activities in Fargo in recent years; and it is equally clear that economic conditions in downtown Fargo will not show continued improvement without ongoing assistance from the public sector.

APPENDIX A: PARKING RAMP PLANS

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**Downtown
 Fargo
 Parking Study**
 Fargo,
 North Dakota

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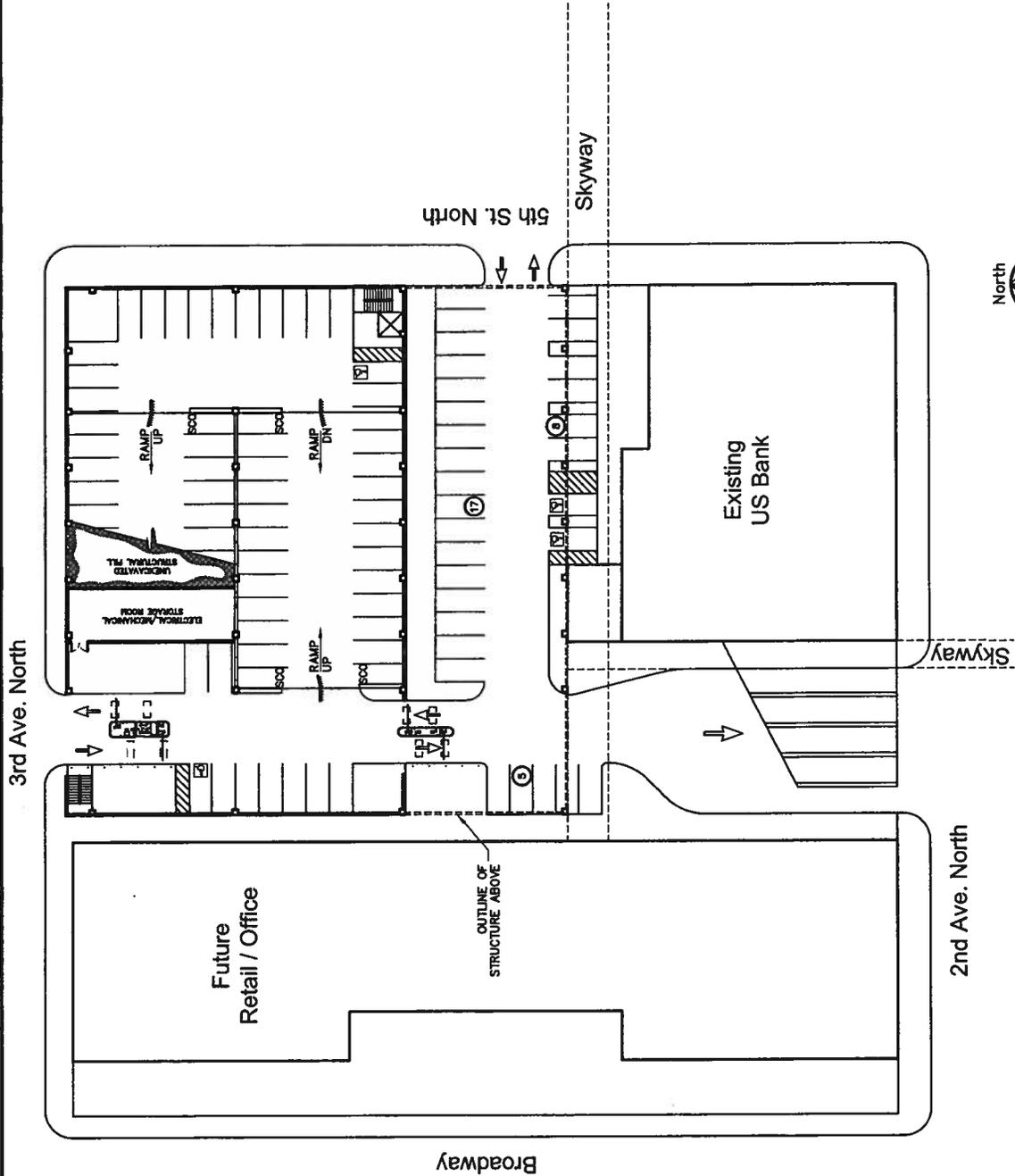
PROJECT MGR. _____ SDM
 DESIGN ENG. _____ SDM
 DRAWN BY _____ V/S

DATE 07-22-03
 DESCRIPTION PRELIMINARY

DRAWING TITLE
SITE PLAN
**BLOCK 8
 PARKING RAMP**

PROJECT NO.
05-2002-069

DRAWING NO.
F9.0



SITE PLAN
 SCALE: 1"=40'



Carl Walker
 Parking Planning Engineering Restoration

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 www.carlwalker.com

Downtown Fargo Parking Study Fargo, North Dakota

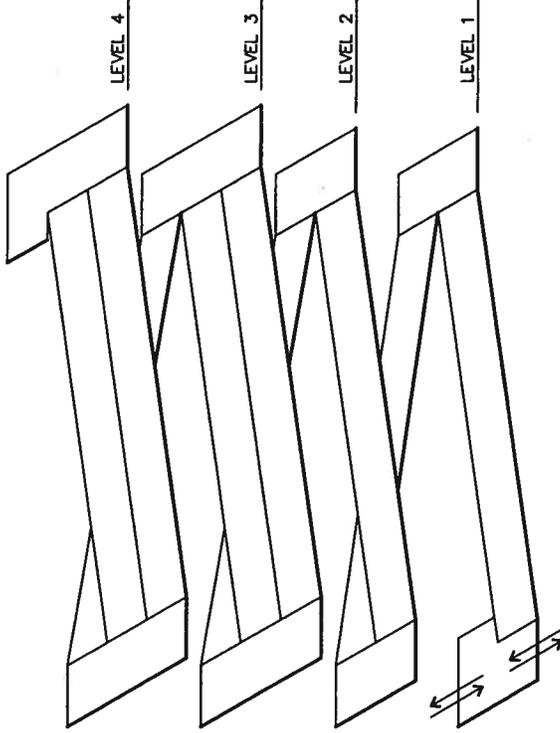
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PROJECT MGR. _____ SDM
 DESIGN ENG. _____ SDM
 DRAWN BY _____ VUG

DATE 07-22-03
 DESCRIPTION PRELIMINARY

DRAWING TITLE
**SPACE TABULATION &
 ISOMETRIC SCHEMATIC
 BLOCK 8
 PARKING RAMP**

PROJECT NO. 05-2002-069
 DRAWING NO. F9.1



ISOMETRIC
 NO SCALE

SPACE TABULATION CHART

LEVEL	STANDARD SPACE	COMPACT SPACE	♿	TOTAL
1	54	4	2	60
2	70	4	3	77
3	105	8	1	114
4	100	7	-	107
SURFACE	28	-	2	30
TOTAL	357	23	8	388

113,715 TOTAL sq. ft. = 318 sq. ft. PER SPACE

**Downtown
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 Parking Study**
 Fargo,
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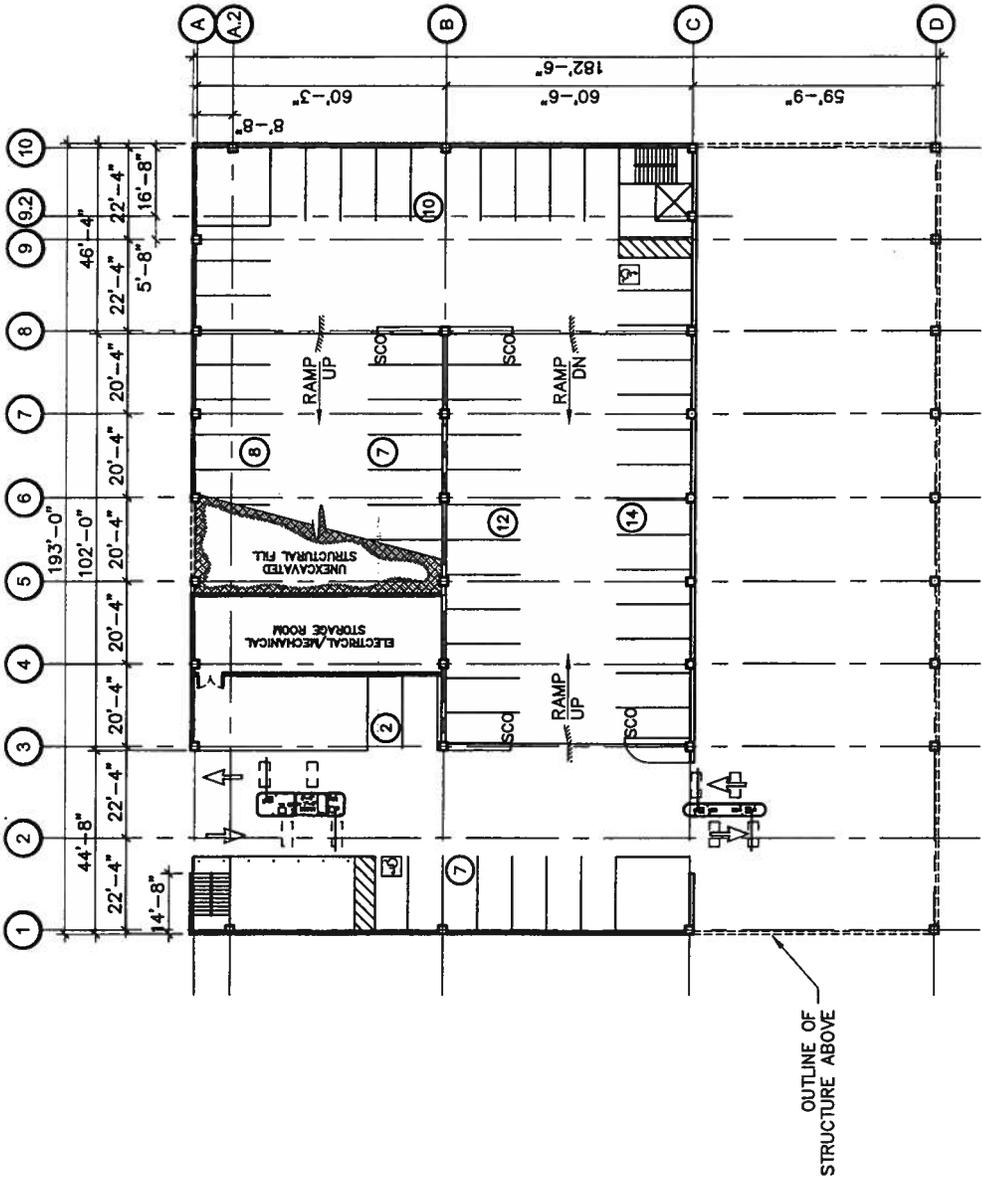
PROJECT MGR. _____ SDM
 DESIGN ENG. _____ SDM
 DRAWN BY _____ V/S

REV. NO.	DATE	DESCRIPTION
07-22-03	07-22-03	PRELIMINARY

DRAWING TITLE
**LEVEL 1
 FUNCTIONAL PLAN
 BLOCK 8
 PARKING RAMP**

PROJECT NO.
05-2002-069

DRAWING NO.
F9.2



LEVEL 1 FUNCTIONAL PLAN

SCALE: 1"=30'
 NOTE: SCC (SMALL CAR ONLY)

OUTLINE OF
 STRUCTURE ABOVE



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PROJECT MGR. SDM
DESIGN ENG. SDM
DRAWN BY V/G

DATE 07-22-03
DESCRIPTION PRELIMINARY

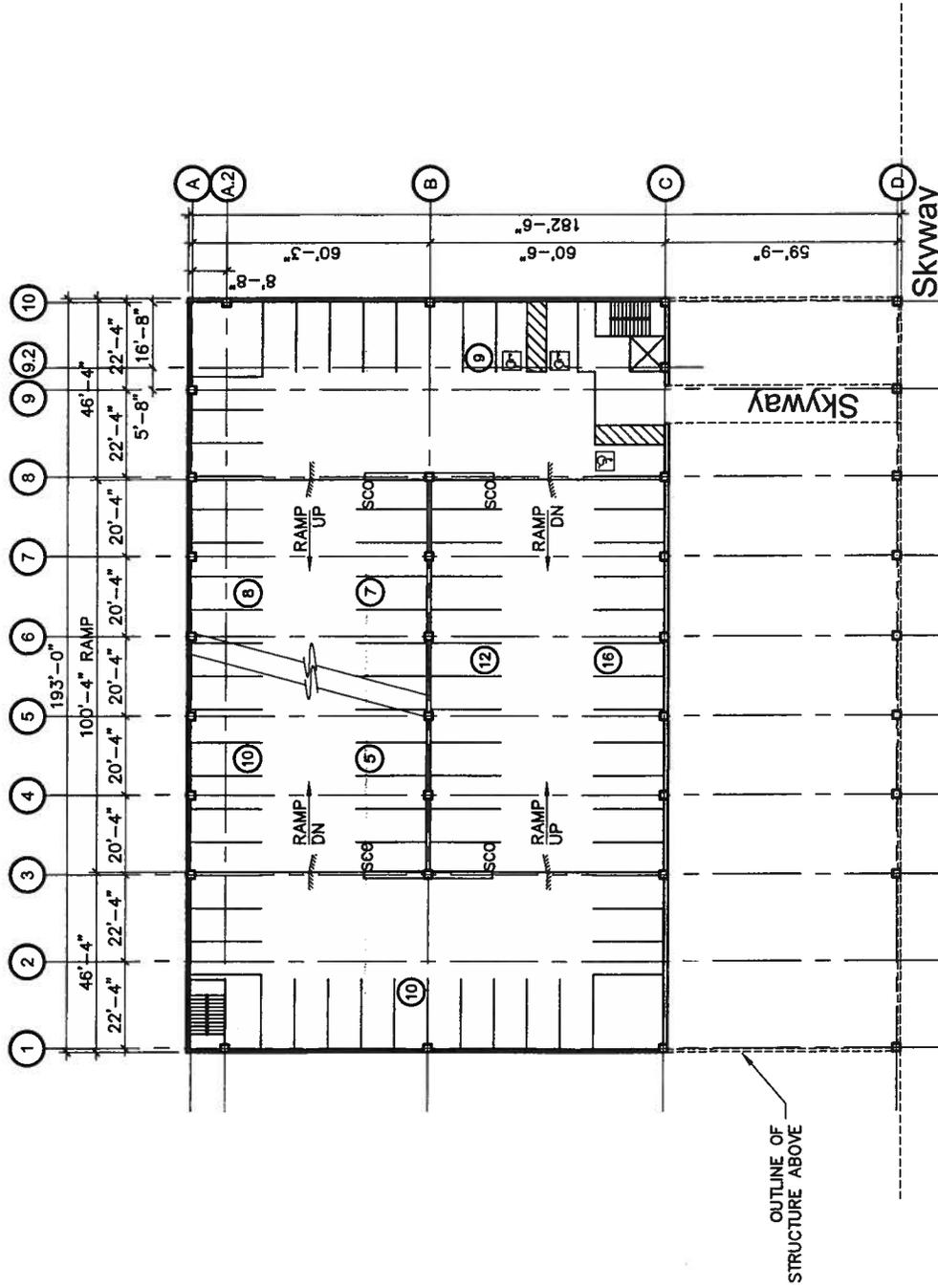
DRAWING TITLE

LEVEL 2
FUNCTIONAL PLAN
BLOCK 8
PARKING RAMP

PROJECT NO.
05-2002-069

DRAWING NO.

F9.3



LEVEL 2 FUNCTIONAL PLAN

SCALE: 1"=30'
NOTE: SCO (SMALL CAR ONLY)

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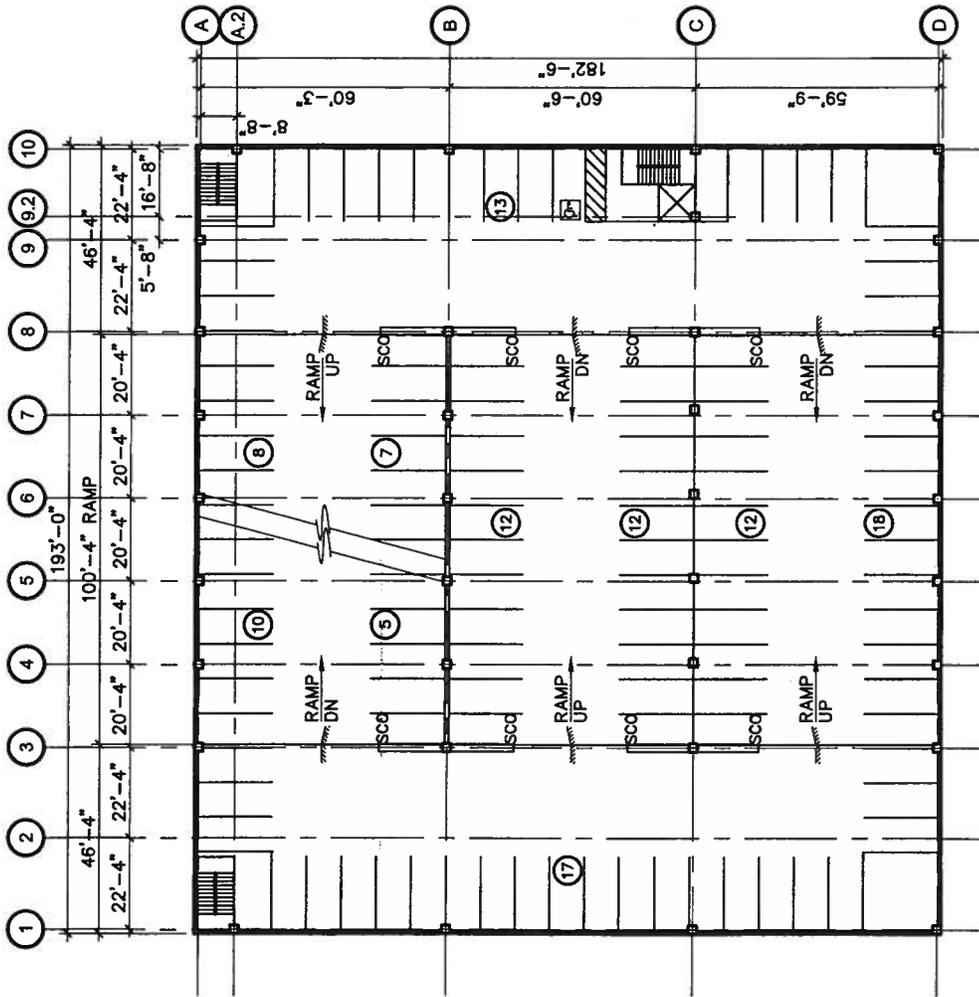
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 DESIGN ENG. _____
 DRAWN BY _____

DATE 07-22-03
 DESCRIPTION PRELIMINARY

DRAWING TITLE
**LEVEL 3
 FUNCTIONAL PLAN
 BLOCK 8
 PARKING RAMP**

PROJECT NO.
 05-2002-069

DRAWING NO.
F9.4



LEVEL 3 FUNCTIONAL PLAN

SCALE: 1"=30'
 NOTE: SCC (SMALL CAR ONLY)

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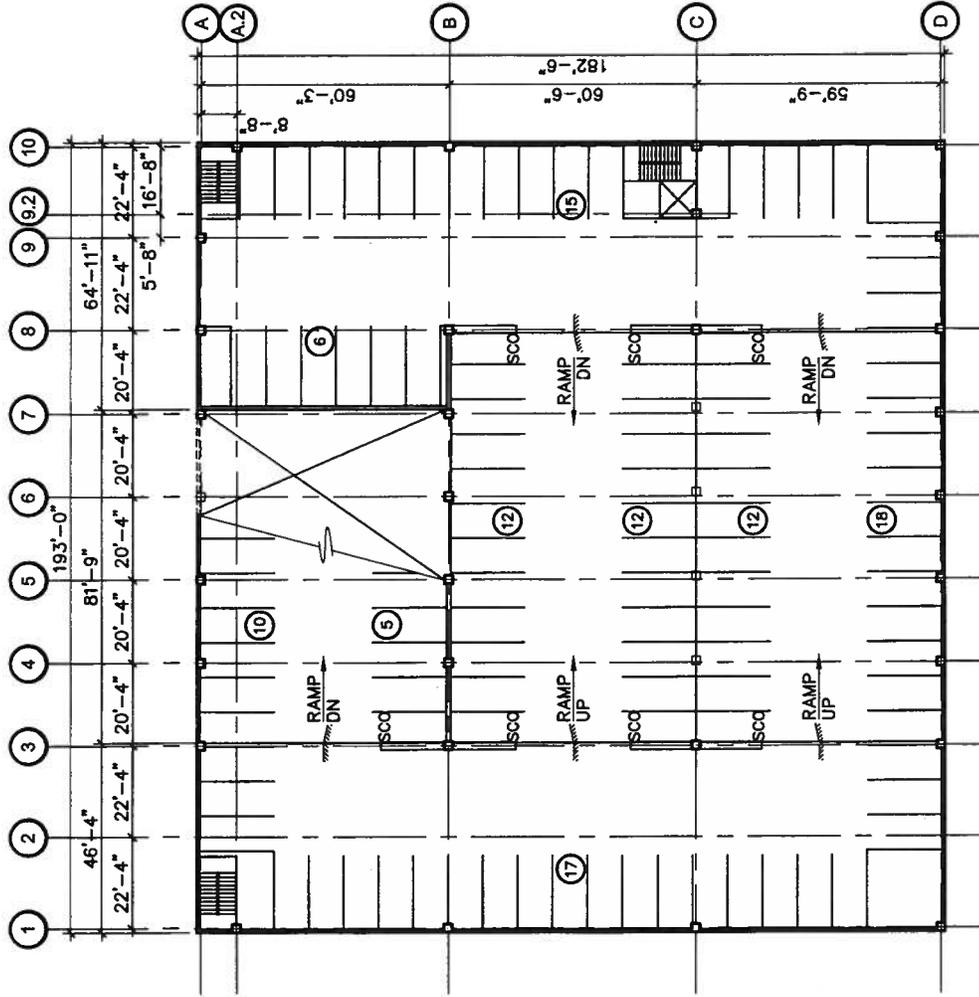
PROJECT MGR. _____ SDM
 DESIGN ENG. _____ SDM
 DRAWN BY _____ V/JG

REVISION	DATE	DESCRIPTION
01	07-22-03	PRELIMINARY

DRAWING TITLE
**LEVEL 4
 FUNCTIONAL PLAN
 BLOCK 8
 PARKING RAMP**

PROJECT NO.
05-2002-069

DRAWING NO.
F9.5



LEVEL 4 FUNCTIONAL PLAN

SCALE: 1"=30'
 NOTE: SCC (SMALL CAR ONLY)



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PROJECT MGR. SDM
DESIGN ENG. SDM
DRAWN BY VJS

DATE 07-22-03
DESCRIPTION PRELIMINARY

DRAWING TITLE
SITE PLAN

BLOCK 16
OPTION 1

PROJECT NO.
05-2002-069
DRAWING NO.

F10.0

N.P. Ave.

Broadway

LOT BY
OTHERS

INDICATED OR
STRUCTURAL FILL

B.N.R.R.

Main Ave.



SITE PLAN

SCALE: 1"=60'



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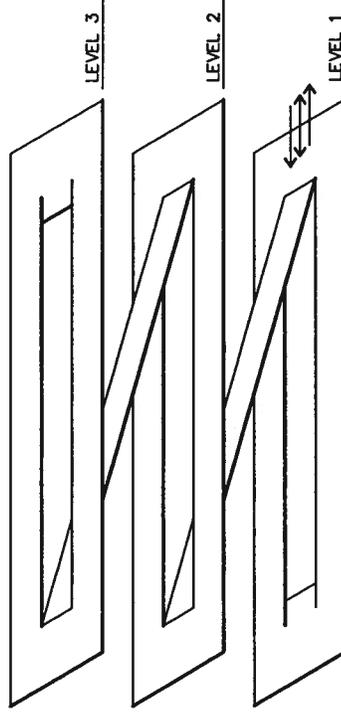
PROJECT MGR. _____
 DESIGN ENG. _____
 DRAWN BY _____

DATE 07-22-08
 DESCRIPTION PRELIMINARY

DRAWING TITLE
 SPACE TABULATION &
 ISOMETRIC SCHEMATIC
 BLOCK 16
 OPTION 1

PROJECT NO.
 05-2002-069

DRAWING NO.
 F10.1



ISOMETRIC
 NO SCALE

SPACE TABULATION CHART

LEVEL	STANDARD SPACE	COMPACT SPACE	♿	TOTAL
1	123	6	-	129
2	143	8	-	151
3	120	6	-	126
TOTAL	386	20	-	406

126,420 TOTAL sq. ft. = 311 sq. ft. PER SPACE



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PROJECT MGR. _____
DESIGN ENG. _____
DRAWN BY _____

SDM _____
SDM _____
V/G _____

DATE 07-22-03

DESCRIPTION PRELIMINARY

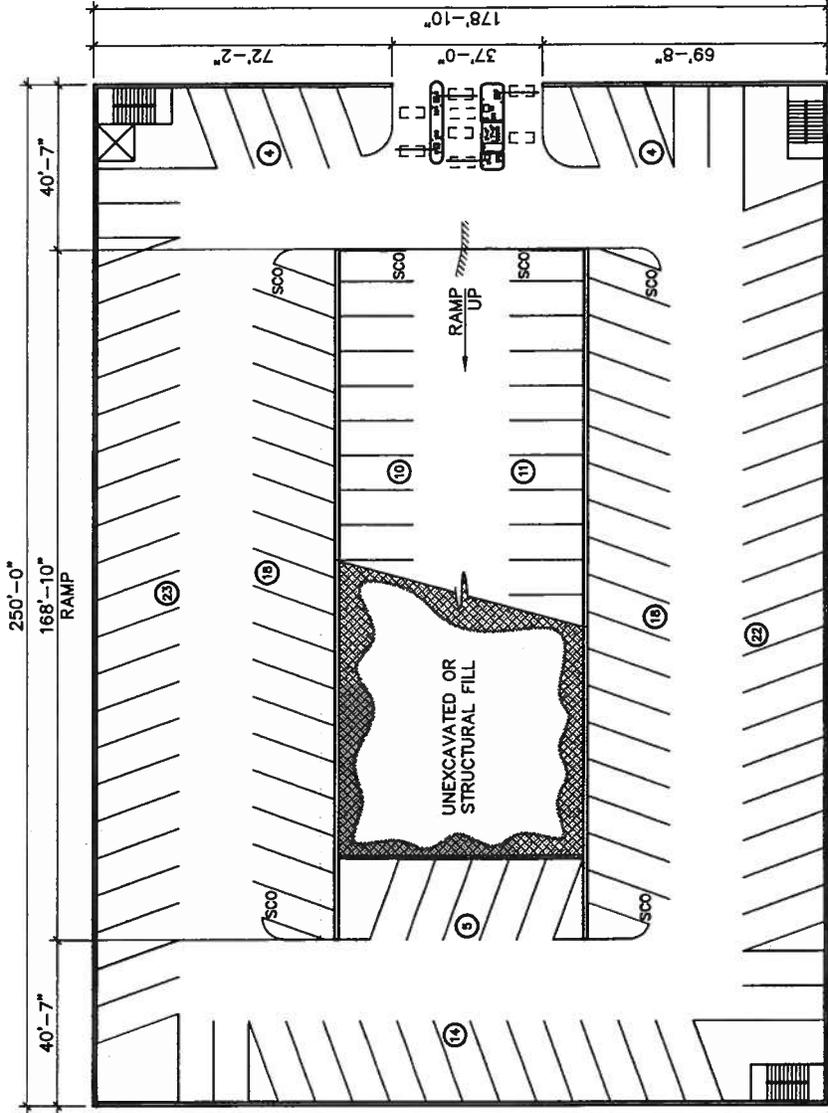
DRAWING TITLE

LEVEL 1
FUNCTIONAL PLAN
BLOCK 16
OPTION 1

PROJECT NO.
05-2002-069

DRAWING NO.

F10.2



LEVEL 1 FUNCTIONAL PLAN

SCALE: 1"=30'
NOTE: SCO (SMALL CAR ONLY)

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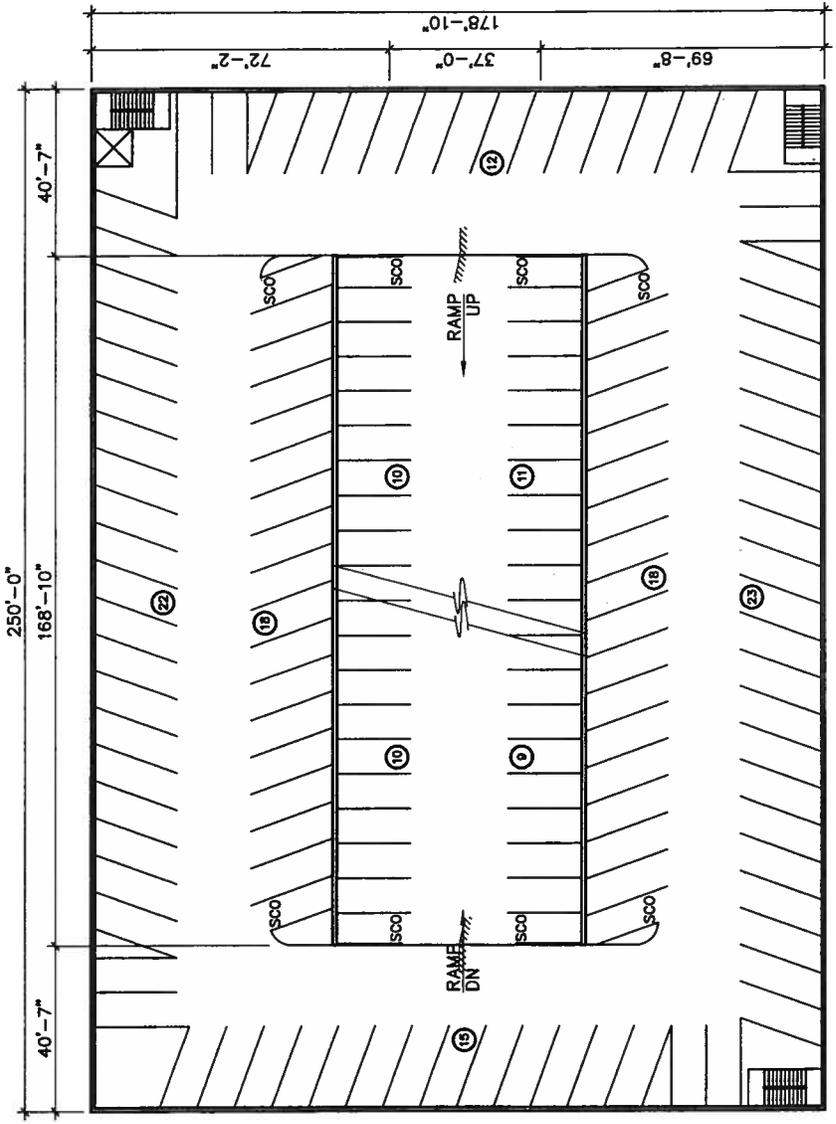
PROJECT MGR. _____ SDM
 DESIGN ENG. _____ SDM
 DRAWN BY _____ V/JG

REVISION NO.	DATE	DESCRIPTION
07-22-03		PRELIMINARY

DRAWING TITLE
**LEVEL 2
 FUNCTIONAL PLAN
 BLOCK 16
 OPTION 1**

PROJECT NO.
05-2002-069

DRAWING NO.
F10.3



LEVEL 2 FUNCTIONAL PLAN

SCALE: 1"=30'
 NOTE: SCO (SMALL CAR ONLY)

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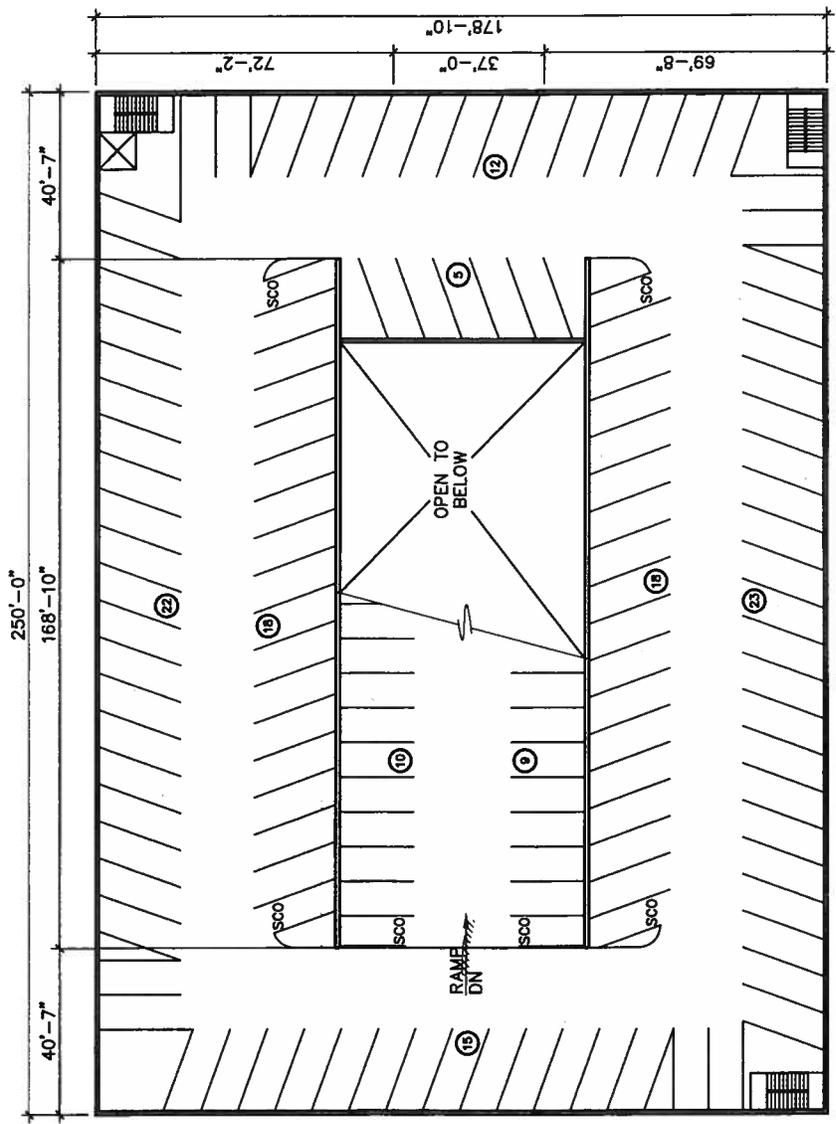
PROJECT MGR. _____ SDM _____
 DESIGN ENG. _____ SDM _____
 DRAWN BY _____ V/JG _____

DATE 07-22-03
 DESCRIPTION PRELIMINARY

DRAWING TITLE
**LEVEL 3
 FUNCTIONAL PLAN
 BLOCK 16
 OPTION 1**

PROJECT NO.
05-2002-069

DRAWING NO.
F10.4



LEVEL 3 FUNCTIONAL PLAN

SCALE: 1"=30'
 NOTE: SC0 (SMALL CAR ONLY)