APPENDICES:

Appendix A: Industrial Land Demand Backup Calculations

Appendix B: Industrial Land Inventory and Supply Estimates—Technical Background

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Appendix A:

Industrial Land Demand Backup Calculations

Table A-1
Anchorage Bowl Industrial Land Assessment
Discounted Employment by Industry and Building Space Factors

Land Use Category	Mining	Construction	Manufacturing	Trans & Pub. Utlilties	Wholesale Trade	Retail Trade	FIRE	Services	Government
GENERALLY-APPLIED CATEGORIES									
Industrial Uses									
R&D/Flex Space	0.7%	1.4%	2.1%	0.6%	1.9%	0.5%	0.6%	0.7%	0.3%
Light Manufacturing	13.3%	26.7%	50.3%	22.2%	36.9%	6.8%	4.9%	9.4%	5.6%
Misc. Industrial	5.8%	1.8%	1.4%	2.4%	1.5%	0.4%	0.4%	0.4%	0.5%
Heavy Manufacturing	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Warehouse	0.9%	1.0%	4.8%	4.8%	5.0%	0.8%	0.2%	0.5%	0.3%
	20.7%	**30.9%**	**58.9%**	**30.0%**	**45.3%**	**8.5%**	**6.1%**	**11.0%**	**6.7%**
ANCHORAGE-ADJUSTED VALUES [1]									
R&D/Flex Space	0.5%	1.1%	1.6%	0.5%	1.4%	0.4%	0.5%	0.5%	0.2%
Light Manufacturing	10.0%	20.0%	37.7%	16.7%	27.7%	5.1%	3.7%	7.1%	4.2%
Misc. Industrial	4.4%	1.4%	1.1%	1.8%	1.1%	0.3%	0.3%	0.3%	0.4%
Heavy Manufacturing	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Warehouse	0.7%	0.8%	3.6%	3.6%	3.8%	0.6%	0.2%	0.4%	0.2%
	15.5%	**23.2%**	**44.2%**	**22.5%**	**34.0%**	**6.4%**	**4.5%**	**8.3%**	**5.0%**

"natelson_adjust"

Source: EPS, and SCAG Employment Density Study 2001 by the Natelson Company.

[1] In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors have been adjusted downward 25%.

Table A-2
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Industrial Services/ Assembly/ Manufacturing

Base Scenario:
1.2% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Industrial Services/ Assembly/ Manuf. Space [1]	Number of Employees Using Industrial Services/ Assembly/ Manuf. Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Estimated Gross Space Demand (2010-2030) Acres
Assumptions				*1,000 sq. ft./employee*	*0.25 FAR*
Mining [1]	0	10.0%	0	0	0.0
Construction	3,006	20.0%	602	601,951	55.3
Manufacturing	588	37.7%	222	221,823	20.4
TPU	3,028	16.7%	504	504,162	46.3
Wholesale Trade	964	27.7%	267	266,787	24.5
Retail Trade	4,665	5.1%	238	237,915	21.8
FIRE	2,871	3.7%	106	105,509	9.7
Services	37,304	7.1%	2,630	2,629,932	241.5
Government	5,127	4.2%	215	215,334	19.8
Total Adjusted Market Area (Rounded)	**57,600**		**4,780**	**4,780,000**	**440.0**

"lightmanuf_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.
[2] Note that most Oil & Gas employment is captured in the "Services" category. The "Mining" category is for actual mining jobs within the Municipality of Anchorage.

Source: SCAG, Woods & Poole Economics, and EPS.

Table A-3
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Industrial Services/ Assembly/ Manufacturing

High Growth Scenario: 1.7% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Industrial Services/ Assembly/ Manuf. Space [1]	Number of Employees Using Industrial Services/ Assembly/ Manuf. Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Estimated Gross Space Demand (2010-2030) Acres
Assumptions				*1,000 sq. ft./employee*	*0.25 FAR*
Mining [1]	263	10.0%	26	26,221	2.4
Construction	4,758	20.0%	953	952,771	87.5
Manufacturing	930	37.7%	351	350,876	32.2
TPU	4,700	16.7%	783	782,547	71.9
Wholesale Trade	1,653	27.7%	457	457,445	42.0
Retail Trade	7,475	5.1%	381	381,212	35.0
FIRE	4,799	3.7%	176	176,348	16.2
Services	50,321	7.1%	3,548	3,547,639	325.8
Government	10,207	4.2%	429	428,709	39.4
Total Adjusted Market Area (Rounded)	**85,100**		**7,100**	**7,100,000**	**650.0**

"lightmanuf_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.
[2] Note that most Oil & Gas employment is captured in the "Services" category. The "Mining" category is for actual mining jobs within the Municipality of Anchorage.

Source: SCAG, Woods & Poole Economics, and EPS.

Table A-4
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Misc. Industrial

Base Scenario:
1.2% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Misc. Industrial Space [1]	Number of Employees Using Misc. Industrial Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Estimated Gross Space Demand (2010-2030) Acres
Assumptions				*1,800 sq. ft./employee*	*0.15 FAR*
Mining	0	4.4%	0	0	0.0
Construction	3,006	1.4%	41	73,046	11.2
Manufacturing	588	1.1%	6	11,113	1.7
TPU	3,028	1.8%	55	98,107	15.0
Wholesale Trade	964	1.1%	11	19,521	3.0
Retail Trade	4,665	0.3%	14	25,191	3.9
FIRE	2,871	0.3%	8	13,953	2.1
Services	37,304	0.3%	112	201,442	30.8
Government	5,127	0.4%	19	34,607	5.3
Total Adjusted Market Area (Rounded)	**57,600**		**260**	**480,000**	**70.0**

"miscind_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.

Source: SCAG, Woods & Poole Economics, and EPS.

Table A-5
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Misc. Industrial

High Growth Scenario: 1.7% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Misc. Industrial Space [1]	Number of Employees Using Misc. Industrial Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Acres
Assumptions				*1,800 sq. ft./employee*	*0.15 FAR*
Mining	263	4.4%	11	20,583	3.2
Construction	4,758	1.4%	64	115,617	17.7
Manufacturing	930	1.1%	10	17,579	2.7
TPU	4,700	1.8%	85	152,279	23.3
Wholesale Trade	1,653	1.1%	19	33,472	5.1
Retail Trade	7,475	0.3%	22	40,364	6.2
FIRE	4,799	0.3%	13	23,321	3.6
Services	50,321	0.3%	151	271,734	41.6
Government	10,207	0.4%	38	68,900	10.5
Total Adjusted Market Area (Rounded)	**85,100**		**410**	**740,000**	**110.0**

"miscind_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.

Source: SCAG, Woods & Poole Economics, and EPS.

Table A-6
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Warehouse/Distribution

Base Scenario:
1.2% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Warehouse/Distribution Space [1]	Number of Employees Using Warehouse/Distribution Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Acres
Assumptions				*2,800 sq. ft./employee*	*0.30 FAR*
Mining	0	0.7%	0	0	0.0
Construction	3,006	0.8%	23	63,126	4.8
Manufacturing	588	3.6%	21	59,270	4.5
TPU	3,028	3.6%	109	305,222	23.4
Wholesale Trade	964	3.8%	36	101,220	7.7
Retail Trade	4,665	0.6%	28	78,372	6.0
FIRE	2,871	0.2%	4	12,058	0.9
Services	37,304	0.4%	140	391,692	30.0
Government	5,127	0.2%	12	32,300	2.5
Total Adjusted Market Area (Rounded)	**57,600**		**370**	**1,040,000**	**80.0**

"warehouse_summ"

Source: SCAG, Woods & Poole Economics, and EPS.

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space r equirement factors were adjusted downward 25%.

Table A-7
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Warehouse/Distribution

High Growth Scenario: 1.7% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Warehouse/Distribution Space [1]	Number of Employees Using Warehouse/Distribution Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Estimated Gross Space Demand (2010-2030) Acres
Assumptions				*2,800 sq. ft./employee*	*0.30 FAR*
Mining	263	0.7%	2	4,968	0.4
Construction	4,758	0.8%	36	99,916	7.6
Manufacturing	930	3.6%	33	93,753	7.2
TPU	4,700	3.6%	169	473,758	36.3
Wholesale Trade	1,653	3.8%	62	173,556	13.3
Retail Trade	7,475	0.6%	45	125,576	9.6
FIRE	4,799	0.2%	7	20,154	1.5
Services	50,321	0.4%	189	528,372	40.4
Government	10,207	0.2%	23	64,306	4.9
Total Adjusted Market Area (Rounded)	**85,100**		**570**	**1,580,000**	**120.0**

"warehouse_summ"

Source: SCAG, Woods & Poole Economics, and EPS.

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space r equirement factors were adjusted downward 25%.

Table A-8
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Industrial Flex

Base Scenario:
1.2% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Industrial Flex Space [1]	Number of Employees Using Industrial Flex Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Acres
Assumptions				*500 sq. ft./employee*	*0.30 FAR*
Mining	0	0.5%	0	0	0.0
Construction	3,006	1.1%	32	15,781	1.2
Manufacturing	588	1.6%	9	4,630	0.4
TPU	3,028	0.5%	14	6,813	0.5
Wholesale Trade	964	1.4%	14	6,869	0.5
Retail Trade	4,665	0.4%	17	8,747	0.7
FIRE	2,871	0.5%	13	6,460	0.5
Services	37,304	0.5%	196	97,923	7.5
Government	5,127	0.2%	12	5,768	0.4
Total Adjusted Market Area (Rounded)	**57,600**		**310**	**150,000**	**10.0**

"rdflex_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.

Source: SCAG, Woods & Poole Economics, and EPS.

Table A-9
Anchorage Bowl Industrial Land Assessment
Estimated Space Demand for Market Area 2010-2030: Industrial Flex

High Growth Scenario:
1.7% Avg Annual Growth

Industry	Estimated Total Employment Growth (2010-2030)	Percentage of Employees Using Industrial Flex Space [1]	Number of Employees Using Industrial Flex Space	Estimated Gross Space Demand (2010-2030) Sq. ft.	Acres
Assumptions				*500 sq. ft./employee*	*0.30 FAR*
Mining	263	0.5%	1	690	0.1
Construction	4,758	1.1%	50	24,979	1.9
Manufacturing	930	1.6%	15	7,324	0.6
TPU	4,700	0.5%	21	10,575	0.8
Wholesale Trade	1,653	1.4%	24	11,777	0.9
Retail Trade	7,475	0.4%	28	14,015	1.1
FIRE	4,799	0.5%	22	10,797	0.8
Services	50,321	0.5%	264	132,093	10.1
Government	10,207	0.2%	23	11,483	0.9
Total Adjusted Market Area (Rounded)	**85,100**		**450**	**220,000**	**20.0**

"rdflex_summ"

[1] Factors derived from the Southern California Association of Governments (SCAG) Employment Density Study 2001 by the Natelson Company. In order to reflect employment patterns that more closely resemble those in Anchorage, the SCAG employment space requirement factors were adjusted downward 25%.

Source: SCAG, Woods & Poole Economics, and EPS.