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Allentown, PA
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EXECUTIVE SUMMARY

Technical Assignment 2 consists of a Detailed Project Schedule, Site Layout Planning, Assemblies Estimate, Detailed Structural Systems Estimate, and General Conditions Estimate.

The Detailed Project Schedule is included to outline for the reader a more in-depth look at the project and how the phasing of the schedule will take place. In the Site Layout Planning the reader can see the major phases that will occur during steel erection with the movement of the cranes as well as the location of the staging area for the steel and how the deliveries will be made to the site.

An Assemblies Estimate is included in this report to breakdown one of the other major building components in this project. The buildings façade was chosen as the system to be included in the Assemblies Estimate.

The Detailed Structural Systems Estimate is a complete look at the entire structural building system including the foundations, slab on grade, metal deck, elevated concrete deck, and all the structural steel including the columns, beams and girders.

Finally a General Conditions Estimate is also included that outlines all the project and staffing costs included in the project.

ASSEMBLIES ESTIMATE

I created an assemblies estimate for the exterior of the Lehigh Valley Hospital expansion project. I took into consideration the pre-cast concrete panels, as well as the windows and the metal panels that surround the windows. The total area was taken and then each of the components were subtracted from the total in order to get a single square foot estimate that could be used to calculate the costs for each component. Some of the walls of the building do not have the metal panels around the windows and are not included in the estimate where this occurs. All costs were taken from Means Cost Works 2005. The assemblies estimate can be found on the following page titled *Table 1- Building Envelope Estimate*. The Assemblies Estimate totaled \$1,051,205.68 for the pre-cast panels and \$222,300.00 for the windows included in the buildings façade.

Division	Item - Direction of View	Total Area (SF)	Window Area (SF)	Metal Panel (SF)	Pre-cast Panel Area (SF)	Material Cost / SF	Total Material Cost	Labor Cost / SF	Total Labor Cost	Total Cost
4000	Precast Wall Panels - 4' x 8', 4" Thick									
	Section A - South	22,960.00	7,244.60	2,625.50	13,089.90	\$9.50	\$124,354.05	\$9.05	\$118,463.60	\$242,817.65
	Section A - East	7,738.75	1,762.20	0.00	5,976.55	\$9.50	\$56,777.23	\$9.05	\$54,087.78	\$110,865.00
	Section A - North	22,960.00	7,518.72	0.00	15,441.28	\$9.50	\$146,692.16	\$9.05	\$139,743.58	\$286,435.74
	Section B - West	16,666.50	3,054.50	477.36	13,134.64	\$9.50	\$124,779.08	\$9.05	\$118,868.49	\$243,647.57
	Section C - East	12,355.00	3,328.60	0.00	9,026.40	\$9.50	\$85,750.80	\$9.05	\$81,688.92	\$167,439.72
	Totals	82,680.25	22,908.62	3,102.86	56,668.77		\$538,353.32		\$512,852.37	\$1,051,205.68
Division	Item - Direction of View	# of Windows	Window Area (SF)	Metal Panel (SF)	Pre-cast Panel Area (SF)	Material Cost / Unit	Total Material Cost	Labor Cost / Unit	Total Labor Cost	Total Cost
4600	Windows - 8' x 4' opening, standard glazing									
	Section A - South	185.00	7,244.60	2,625.50	13,089.90	\$281.00	\$51,985.00	\$99.00	\$18,315.00	\$70,300.00
	Section A - East	45.00	1,762.20	0.00	5,976.55	\$281.00	\$12,645.00	\$99.00	\$4,455.00	\$17,100.00
	Section A - North	192.00	7,518.72	0.00	15,441.28	\$281.00	\$53,952.00	\$99.00	\$19,008.00	\$72,960.00
	Section B - West	78.00	3,054.50	477.36	13,134.64	\$281.00	\$21,918.00	\$99.00	\$7,722.00	\$29,640.00
	Section C - East	85.00	3,328.60	0.00	3,102.86	\$281.00	\$23,885.00	\$99.00	\$8,415.00	\$32,300.00
	Totals	585.00	22,908.62	3,102.86	50,745.23		\$164,385.00		\$57,915.00	\$222,300.00

Table 1 – Building Envelope Estimate

DETAILED STRUCTURAL SYSTEMS ESTIMATE

On the following page you will find a detailed structural estimate, titled *Table 2 – Detailed Structural Estimate*, that I developed for the entire expansion part of the Lehigh Valley Hospital structural system. Included in the estimate are the concrete footings, foundation wall, slab-on-grade, beams and columns. The costs are broken down into yards of concrete or tons of steel as well as an estimate of the cost of materials, labor and equipment. The total of the complete Structural Systems Estimate was \$3,862,949.21.

Division	Item	Dims	Quantity	Volume (CY)	Material Cost / Unit	Total Material Cost	Labor Cost / Unit	Total Labor Cost	Equip Cost / Unit	Total Equip Cost	Total Cost
3000	Footings										
	F130 - 13' x 13' x 30"		25	15.65	\$84.00	\$1,314.60	\$28.50	\$446.03	\$11.50	\$179.98	\$1,940.60
	F160 - 16' x 16' x 36"		24	28.44	\$84.00	\$2,388.96	\$28.50	\$810.54	\$11.50	\$327.06	\$3,526.56
	F200 - 20' x 20' x 44"		2	54.32	\$84.00	\$4,562.88	\$28.50	\$1,548.12	\$11.50	\$624.68	\$6,735.68
	Foundation Wall										
	1' x 4'	862.50 LF	1	127.78	\$84.00	\$10,733.52	\$28.50	\$3,641.73	\$5.00	\$638.90	\$15,014.15
	SOG 4" over 4" crushed stone		1	547.38	\$84.00	\$45,979.92	\$14.15	\$7,745.43	\$5.80	\$3,174.80	\$56,900.15
	Elevated Deck										
	1st FL 3.25" LW Concrete	55562 sq ft	1	557.33	\$84.00	\$46,815.72	\$13.10	\$7,301.02	\$5.35	\$2,981.72	\$57,098.46
	2nd FL 3.25" LW Concrete	53640 sq ft	1	538.06	\$84.00	\$45,197.04	\$13.10	\$7,048.59	\$5.35	\$2,878.62	\$55,124.25
	3rd FL 3.25" LW Concrete	44893 sq ft	1	450.32	\$84.00	\$37,826.88	\$13.10	\$5,899.19	\$5.35	\$2,409.21	\$46,135.28
	4th FL 3.25" LW Concrete	27107 sq ft	1	271.91	\$84.00	\$22,840.44	\$13.10	\$3,562.02	\$5.35	\$1,454.72	\$27,857.18
	5th FL 3.25" LW Concrete	27107 sq ft	1	271.91	\$84.00	\$22,840.44	\$13.10	\$3,562.02	\$5.35	\$1,454.72	\$27,857.18
	6th FL 3.25" LW Concrete	27107 sq ft	1	271.91	\$84.00	\$22,840.44	\$13.10	\$3,562.02	\$5.35	\$1,454.72	\$27,857.18
	7th FL 3.25" LW Concrete	27107 sq ft	1	271.91	\$84.00	\$22,840.44	\$13.10	\$3,562.02	\$5.35	\$1,454.72	\$27,857.18
	8th FL 3.25" LW Concrete	21592 sq ft	1	216.59	\$84.00	\$18,193.56	\$13.10	\$2,837.33	\$5.35	\$1,158.76	\$22,189.65
	Totals										\$376,093.49

Table 2 – Detailed Structural Systems Estimate

5000	Columns	Length (Ft)	Quantity	Wt / Ft	Tons	Material Cost / Unit	Total Material Cost	Labor Cost / Unit	Total Labor Cost	Equip Cost / Unit	Total Equip Cost	Total Cost
	W10 x 68	56.00	4	68	7.62	\$2,550.00	\$19,420.80	\$360.00	\$2,741.76	\$169.00	\$1,287.10	\$23,449.66
	W12 x 45	14.00	5	45	1.58	\$2,551.00	\$4,017.83	\$361.00	\$568.58	\$170.00	\$267.75	\$4,854.15
	W12 x 45	29.00	6	45	3.92	\$2,552.00	\$9,991.08	\$362.00	\$1,417.23	\$171.00	\$669.47	\$12,077.78
	W12 x 50	14.00	1	50	0.35	\$2,550.00	\$892.50	\$360.00	\$126.00	\$169.00	\$59.15	\$1,077.65
	W12 x 50	29.00	5	50	3.63	\$2,551.00	\$9,247.38	\$361.00	\$1,308.63	\$170.00	\$616.25	\$11,172.25
	W12 x 53	14.00	12	53	4.45	\$2,552.00	\$11,361.50	\$362.00	\$1,611.62	\$171.00	\$761.29	\$13,734.42
	W12 x 53	29.00	7	53	5.38	\$2,553.00	\$13,733.86	\$363.00	\$1,952.76	\$172.00	\$925.27	\$16,611.90
	W12 x 53	42.00	5	53	5.57	\$2,550.00	\$14,190.75	\$360.00	\$2,003.40	\$169.00	\$940.49	\$17,134.64
	W12 x 58	42.00	8	58	9.74	\$2,550.00	\$24,847.20	\$360.00	\$3,507.84	\$169.00	\$1,646.74	\$30,001.78
	W12 x 65	42.00	5	65	6.83	\$2,550.00	\$17,403.75	\$360.00	\$2,457.00	\$169.00	\$1,153.43	\$21,014.18
	W12 x 72	42.00	7	72	10.58	\$2,550.00	\$26,989.20	\$360.00	\$3,810.24	\$169.00	\$1,788.70	\$32,588.14
	W12 x 87	42.00	12	87	21.92	\$2,551.00	\$55,928.12	\$361.00	\$7,914.56	\$170.00	\$3,727.08	\$67,569.77
	W12 x 96	42.00	8	96	16.13	\$2,552.00	\$41,158.66	\$362.00	\$5,838.34	\$171.00	\$2,757.89	\$49,754.88
	W12 x 106	42.00	17	106	37.84	\$2,550.00	\$96,497.10	\$360.00	\$13,623.12	\$169.00	\$6,395.30	\$116,515.52
	W12 x 120	42.00	8	120	20.16	\$2,550.00	\$51,408.00	\$360.00	\$7,257.60	\$169.00	\$3,407.04	\$62,072.64
	W12 x 136	42.00	6	136	17.14	\$2,550.00	\$43,696.80	\$360.00	\$6,168.96	\$169.00	\$2,895.98	\$52,761.74
	W14 x 61	29.00	2	61	1.77	\$2,552.00	\$4,514.49	\$362.00	\$640.38	\$171.00	\$302.50	\$5,457.37
	W14 x 74	29.00	4	74	4.29	\$2,553.00	\$10,957.48	\$363.00	\$1,558.00	\$172.00	\$738.22	\$13,253.70
	W14 x 74	42.00	2	74	3.11	\$2,554.00	\$7,937.83	\$364.00	\$1,131.31	\$173.00	\$537.68	\$9,606.83
	W14 x 82	29.00	7	82	8.32	\$2,555.00	\$21,265.27	\$365.00	\$3,037.90	\$174.00	\$1,448.20	\$25,751.36
	W14 x 90	29.00	2	90	2.61	\$2,556.00	\$6,671.16	\$366.00	\$955.26	\$175.00	\$456.75	\$8,083.17
	W14 x 90	42.00	2	90	3.78	\$2,550.00	\$9,639.00	\$360.00	\$1,360.80	\$169.00	\$638.82	\$11,638.62
	W14 x 99	42.00	2	99	4.16	\$2,551.00	\$10,607.06	\$361.00	\$1,501.04	\$170.00	\$706.86	\$12,814.96
	W14 x 109	42.00	3	109	6.87	\$2,550.00	\$17,510.85	\$360.00	\$2,472.12	\$169.00	\$1,160.52	\$21,143.49
	W14 x 120	42.00	2	120	5.04	\$2,550.00	\$12,852.00	\$360.00	\$1,814.40	\$169.00	\$851.76	\$15,518.16
	W14 x 122	42.00	12	122	30.74	\$2,550.00	\$78,397.20	\$360.00	\$11,067.84	\$169.00	\$5,195.74	\$94,660.78
	W14 x 145	42.00	8	145	24.36	\$2,550.00	\$62,118.00	\$360.00	\$8,769.60	\$169.00	\$4,116.84	\$75,004.44
	W14 x 159	42.00	7	159	23.37	\$2,550.00	\$59,601.15	\$360.00	\$8,414.28	\$169.00	\$3,950.04	\$71,965.47
	W14 x 176	42.00	2	176	7.39	\$2,550.00	\$18,849.60	\$360.00	\$2,661.12	\$169.00	\$1,249.25	\$22,759.97
	W18 x 31	56.00	8	31	6.94	\$2,550.00	\$17,707.20	\$360.00	\$2,499.84	\$169.00	\$1,173.54	\$21,380.58
	W18 x 31	42.00	12	31	7.81	\$2,550.00	\$19,920.60	\$360.00	\$2,812.32	\$169.00	\$1,320.23	\$24,053.15
	W21 x 136	42.00	2	136	5.71	\$2,550.00	\$14,565.60	\$360.00	\$2,056.32	\$169.00	\$965.33	\$17,587.25
	Totals		193		319.10		\$813,899.01		\$115,060.15		\$54,111.19	\$983,070.35

Beams	Length (Ft)	Quantity	Wt / Ft	Tons	Material Cost / Unit	Total Material Cost	Labor Cost / Unit	Total Labor Cost	Equip Cost / Unit	Total Equip Cost	Total Cost
Section A Floors 1-7											
W14 x 22	33.00	14	22	5.08	\$2,550.00	\$12,959.10	\$360.00	\$1,829.52	\$169.00	\$858.86	\$15,647.48
W16 x 26	33.00	245	26	105.11	\$2,550.00	\$268,017.75	\$360.00	\$37,837.80	\$169.00	\$17,762.75	\$323,618.30
W18 x 35	36.00	35	35	22.05	\$2,550.00	\$56,227.50	\$360.00	\$7,938.00	\$169.00	\$3,726.45	\$67,891.95
W18 x 40	19.50	42	40	16.38	\$2,550.00	\$41,769.00	\$360.00	\$5,896.80	\$169.00	\$2,768.22	\$50,434.02
W21 x 57	36.00	70	57	71.82	\$2,550.00	\$183,141.00	\$360.00	\$25,855.20	\$169.00	\$12,137.58	\$221,133.78
W24 x 62	28.00	56	62	48.61	\$2,550.00	\$123,950.40	\$360.00	\$17,498.88	\$169.00	\$8,214.75	\$149,664.03
W24 x 84	28.00	42	84	49.39	\$2,550.00	\$125,949.60	\$360.00	\$17,781.12	\$169.00	\$8,347.25	\$152,077.97
W24 x 103	47.50	14	103	34.25	\$2,550.00	\$87,331.13	\$360.00	\$12,329.10	\$169.00	\$5,787.83	\$105,448.05
Section A Floor 8											
W14 x 22	18.00	1	22	0.20	\$2,550.00	\$504.90	\$360.00	\$71.28	\$169.00	\$33.46	\$609.64
W16 x 26	18.00	1	26	0.23	\$2,550.00	\$596.70	\$360.00	\$84.24	\$169.00	\$39.55	\$720.49
W16 x 26	33.00	1	26	0.43	\$2,550.00	\$1,093.95	\$360.00	\$154.44	\$169.00	\$72.50	\$1,320.89
W18 x 35	36.00	1	35	0.63	\$2,550.00	\$1,606.50	\$360.00	\$226.80	\$169.00	\$106.47	\$1,939.77
W24 x 62	47.50	1	62	1.47	\$2,550.00	\$3,754.88	\$360.00	\$530.10	\$169.00	\$248.85	\$4,533.83
Section B Floors 1-7											
W12 x 19	17.83	147	19	24.90	\$2,550.00	\$63,493.97	\$360.00	\$8,963.85	\$169.00	\$4,208.03	\$76,665.85
W14 x 22	28.00	49	22	15.09	\$2,550.00	\$38,484.60	\$360.00	\$5,433.12	\$169.00	\$2,550.55	\$46,468.27
W16 x 26	32.00	133	26	55.33	\$2,550.00	\$141,086.40	\$360.00	\$19,918.08	\$169.00	\$9,350.43	\$170,354.91
W18 x 35	36.00	63	35	39.69	\$2,550.00	\$101,209.50	\$360.00	\$14,288.40	\$169.00	\$6,707.61	\$122,205.51
W21 x 57	36.00	49	57	50.27	\$2,550.00	\$128,198.70	\$360.00	\$18,098.64	\$169.00	\$8,496.31	\$154,793.65
W24 x 62	24.00	14	62	10.42	\$2,550.00	\$26,560.80	\$360.00	\$3,749.76	\$169.00	\$1,760.30	\$32,070.86
Section B Floor 8											
W12 x 19	18.00	1	19	0.17	\$2,550.00	\$436.05	\$360.00	\$61.56	\$169.00	\$28.90	\$526.51
W16 x 26	28.00	1	26	0.36	\$2,550.00	\$928.20	\$360.00	\$131.04	\$169.00	\$61.52	\$1,120.76
W18 x 35	28.00	1	35	0.49	\$2,550.00	\$1,249.50	\$360.00	\$176.40	\$169.00	\$82.81	\$1,508.71
W21 x 57	36.00	1	57	1.03	\$2,550.00	\$2,616.30	\$360.00	\$369.36	\$169.00	\$173.39	\$3,159.05
Section C Floors 1-7											
W12 x 19	15.00	70	19	9.98	\$2,550.00	\$25,436.25	\$360.00	\$3,591.00	\$169.00	\$1,685.78	\$30,713.03
W16 x 26	33.00	84	26	36.04	\$2,550.00	\$91,891.80	\$360.00	\$12,972.96	\$169.00	\$6,090.08	\$110,954.84
W18 x 40	19.50	28	40	10.92	\$2,550.00	\$27,846.00	\$360.00	\$3,931.20	\$169.00	\$1,845.48	\$33,622.68
W21 x 57	33.00	161	57	151.42	\$2,550.00	\$386,122.28	\$360.00	\$54,511.38	\$169.00	\$25,590.06	\$466,223.72
W24 x 62	28.00	56	62	48.61	\$2,550.00	\$123,950.40	\$360.00	\$17,498.88	\$169.00	\$8,214.75	\$149,664.03

Section C Floor 8											
W12 x 19	11.50	1	19	0.11	\$2,550.00	\$278.59	\$360.00	\$39.33	\$169.00	\$18.46	\$336.38
W14 x 22	11.50	1	22	0.13	\$2,550.00	\$322.58	\$360.00	\$45.54	\$169.00	\$21.38	\$389.49
W16 x 26	33.00	1	26	0.43	\$2,550.00	\$1,093.95	\$360.00	\$154.44	\$169.00	\$72.50	\$1,320.89
W18 x 40	33.00	1	40	0.66	\$2,550.00	\$1,683.00	\$360.00	\$237.60	\$169.00	\$111.54	\$2,032.14
W21 x 57	33.00	1	57	0.94	\$2,550.00	\$2,398.28	\$360.00	\$338.58	\$169.00	\$158.94	\$2,895.80
W24 x 62	18.00	1	62	0.56	\$2,550.00	\$1,422.90	\$360.00	\$200.88	\$169.00	\$94.30	\$1,718.08
Totals		1382		810.47		\$2,066,691.73		\$291,768.24		\$136,968.98	\$2,503,785.36
Total Structural Estimate											\$3,862,949.21

Table 2 – Detailed Structural Systems Estimate

GENERAL CONDITIONS ESTIMATE

I have prepared a general conditions estimate for the Lehigh Valley Hospital expansion project. I have included project and staffing costs along with temporary facilities and miscellaneous items to give a total estimate of the general conditions. The total costs of the Conditions Estimate came in at \$7,174,668.00.

Category	Item	Quantity	Unit	Time (Months)	Unit Cost (\$)	Cost / Month (\$)	Total Cost (\$)
Fee							
	GC Fee	2.50%	Job	33	\$4,537,500.00	\$137,500.00	\$4,537,500.00
Bonds/Insurance							
	Bonds (Performance)	0.60%	Job	33	\$1,089,000.00	\$33,000.00	\$1,089,000.00
	Insurance (Builders Risk)	0.24%	Job	33	\$435,600.00	\$13,200.00	\$435,600.00
Staffing							
	Division VP	1	Ea.	6	—	\$15,000.00	\$90,000.00
	Senior PM	1	Ea.	34	—	\$10,000.00	\$340,000.00
	Superintendent	1	Ea.	34	—	\$6,900.00	\$234,600.00
	Project Manager	1	Ea.	34	—	\$7,400.00	\$251,600.00
	Project Engineer	1	Ea.	20	—	\$3,500.00	\$70,000.00
	Field Engineer	1	Ea.	20	—	\$3,100.00	\$62,000.00
Temporary Utilities							
	Temporary Electrical	1	Ea.	33	—	\$250.00	\$8,250.00
	Temporary Lighting	1	Ea.	29	—	\$18.00	\$522.00
	Temporary Heating	1	Ea.	9	—	\$36.00	\$324.00
	Portable Toilets	3	Ea.	33	—	\$159.00	\$5,247.00
Office Support							
	Trailer (10' x 40')	2	Ea.	33	—	\$254.00	\$8,382.00
	Office Supplies	1	Ea.	33	—	\$85.00	\$2,805.00
	Telephone / Internet	1	Ea.	33	—	\$204.00	\$6,732.00
	Trailer Lights / HVAC	1	Ea.	33	—	\$98.00	\$3,234.00
	Copy Machine	2	Ea.	33	\$6,300.00	—	\$6,300.00
Miscellaneous							
	Dumpster (Pulled Weekly)	4	Ea.	33	—	\$665.00	\$21,945.00
	Tempory Fencing	1000	LF	33	—	\$19.00	\$627.00
	Totals					\$231,388.00	\$7,174,668.00

Table 3 – General Conditions Estimate

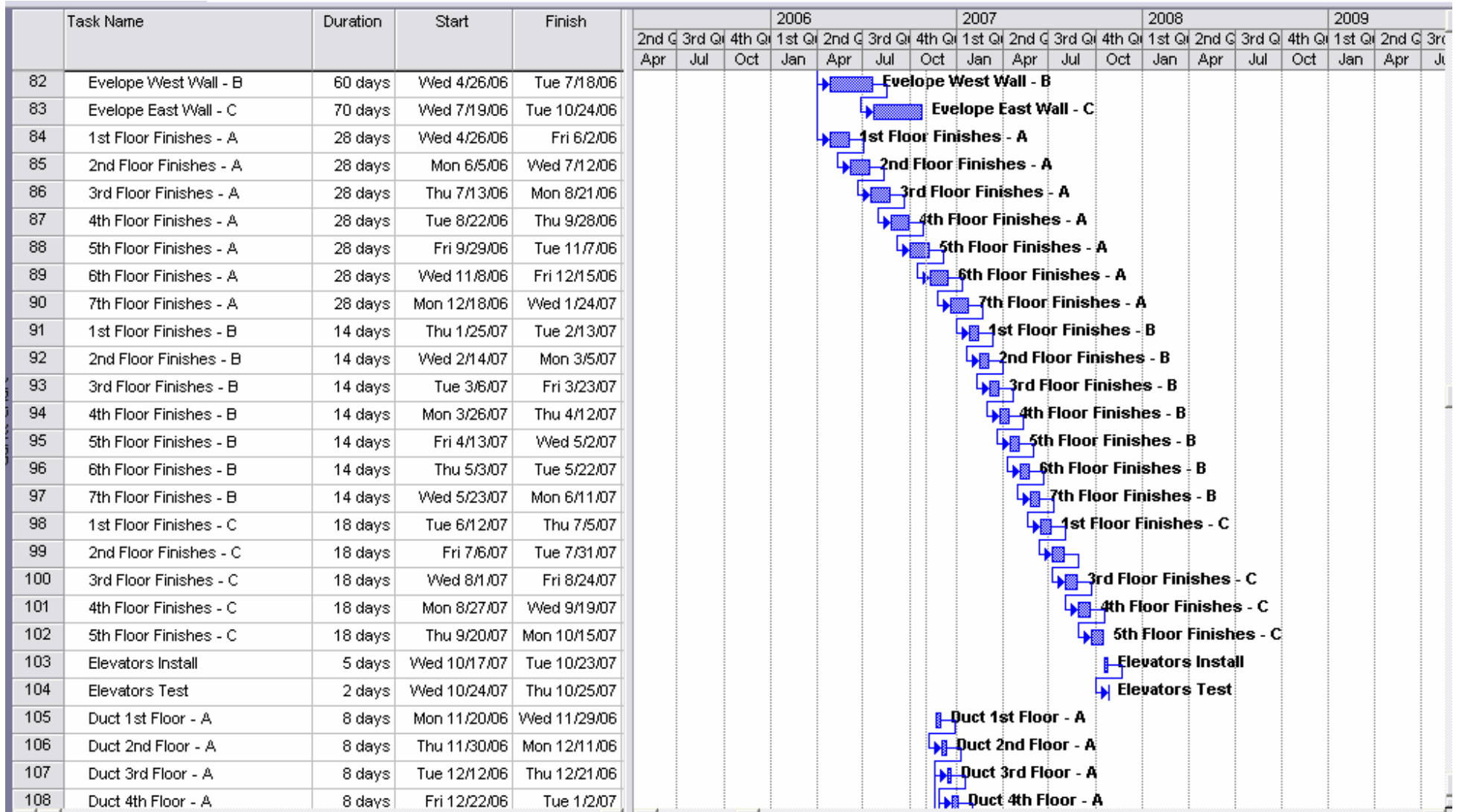
DETAILED PROJECT SCHEDULE

You will find the Detailed Project Schedule that was further developed from the General Project Schedule from Technical Assignment 1 included on the following pages. The schedule was broken down into the major systems components including foundations, structural steel, building envelope, finishes, mechanical, electrical and sprinklers for the each of the three sections of the building. The phases for each section were used in order to keep the schedule from becoming too long. Overlapping of the schedule will allow for further time savings throughout the project.

Task Name	Duration	Start	Finish	2006				2007				2008				2009			
				2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q		
				Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	
1 Start Construction	1 day	Mon 6/13/05	Mon 6/13/05																
2 Temp Lots/Site Prep	20 days?	Tue 6/14/05	Mon 7/11/05																
3 Mobilize	15 days	Tue 7/12/05	Mon 8/1/05																
4 Excavation	40 days	Tue 8/2/05	Mon 9/26/05																
5 Form Foundation Wall - A	10 days	Mon 7/18/05	Fri 7/29/05																
6 Form Foundation Wall - B	5 days	Mon 8/1/05	Fri 8/5/05																
7 Form Foundation Wall - C	8 days	Mon 8/8/05	Wed 8/17/05																
8 Form Footings - A	10 days	Mon 7/18/05	Fri 7/29/05																
9 Form Footings - B	5 days	Mon 8/1/05	Fri 8/5/05																
10 Form Footings - C	8 days	Mon 8/8/05	Wed 8/17/05																
11 Pour Foundation Walls	2 days	Thu 8/18/05	Fri 8/19/05																
12 Pour Footings	4 days	Mon 8/1/05	Thu 8/4/05																
13 Pour Slab on Grade - A	8 days	Fri 8/5/05	Tue 8/16/05																
14 Pour Slab on Grade - B	5 days	Wed 8/17/05	Tue 8/23/05																
15 Pour Slab on Grade - C	10 days	Wed 8/24/05	Tue 9/6/05																
16 Erect Steel 1st Floor - A	5 days	Wed 9/7/05	Tue 9/13/05																
17 Erect Steel 2nd Floor - A	8 days	Wed 9/14/05	Fri 9/23/05																
18 Erect Steel 3rd Floor - A	5 days	Mon 9/26/05	Fri 9/30/05																
19 Erect Steel 4th Floor - A	5 days	Mon 10/3/05	Fri 10/7/05																
20 Erect Steel 5th Floor - A	5 days	Mon 10/10/05	Fri 10/14/05																
21 Erect Steel 6th Floor - A	5 days	Mon 10/17/05	Fri 10/21/05																
22 Erect Steel 7th Floor - A	5 days	Mon 10/24/05	Fri 10/28/05																
23 Erect Steel 8th Floor - A	5 days	Mon 10/31/05	Fri 11/4/05																
24 Erect Steel 1st Floor - B	2 days	Mon 11/7/05	Tue 11/8/05																
25 Erect Steel 2nd Floor - B	2 days	Wed 11/9/05	Thu 11/10/05																
26 Erect Steel 3rd Floor - B	2 days	Fri 11/11/05	Mon 11/14/05																
27 Erect Steel 4th Floor - B	2 days	Tue 11/15/05	Wed 11/16/05																

Task Name	Duration	Start	Finish	2006				2007				2008				2009				
				2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q			
				Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct		
28 Erect Steel 5th Floor - B	2 days	Thu 11/17/05	Fri 11/18/05																	
29 Erect Steel 6th Floor - B	2 days	Mon 11/21/05	Tue 11/22/05																	
30 Erect Steel 7th Floor - B	2 days	Wed 11/23/05	Thu 11/24/05																	
31 Erect Steel 8th Floor - B	2 days	Fri 11/25/05	Mon 11/28/05																	
32 Erect Steel 1st Floor - C	4 days	Tue 11/29/05	Fri 12/2/05																	
33 Erect Steel 2nd Floor - C	4 days	Mon 12/5/05	Thu 12/8/05																	
34 Erect Steel 3rd Floor - C	4 days	Fri 12/9/05	Wed 12/14/05																	
35 Erect Steel 4th Floor - C	4 days	Thu 12/15/05	Tue 12/20/05																	
36 Erect Steel 5th Floor - C	4 days	Wed 12/21/05	Mon 12/26/05																	
37 Metal Deck 1st Floor - A	5 days	Mon 9/26/05	Fri 9/30/05																	
38 Metal Deck 2nd Floor - A	5 days	Mon 10/3/05	Fri 10/7/05																	
39 Metal Deck 3rd Floor - A	5 days	Mon 10/10/05	Fri 10/14/05																	
40 Metal Deck 4th Floor - A	5 days	Mon 10/17/05	Fri 10/21/05																	
41 Metal Deck 5th Floor - A	5 days	Mon 10/24/05	Fri 10/28/05																	
42 Metal Deck 6th Floor - A	5 days	Mon 10/31/05	Fri 11/4/05																	
43 Metal Deck 7th Floor - A	5 days	Mon 11/7/05	Fri 11/11/05																	
44 Metal Deck 8th Floor - A	5 days	Mon 11/14/05	Fri 11/18/05																	
45 Metal Deck 1st Floor - B	2 days	Fri 11/11/05	Mon 11/14/05																	
46 Metal Deck 2nd Floor - B	2 days	Tue 11/15/05	Wed 11/16/05																	
47 Metal Deck 3rd Floor - B	2 days	Thu 11/17/05	Fri 11/18/05																	
48 Metal Deck 4th Floor - B	2 days	Mon 11/21/05	Tue 11/22/05																	
49 Metal Deck 5th Floor - B	2 days	Wed 11/23/05	Thu 11/24/05																	
50 Metal Deck 6th Floor - B	2 days	Fri 11/25/05	Mon 11/28/05																	
51 Metal Deck 7th Floor - B	2 days	Tue 11/29/05	Wed 11/30/05																	
52 Metal Deck 8th Floor - B	2 days	Thu 12/1/05	Fri 12/2/05																	
53 Metal Deck 1st Floor - C	4 days	Mon 12/5/05	Thu 12/8/05																	
54 Metal Deck 2nd Floor - C	4 days	Fri 12/9/05	Wed 12/14/05																	

Task Name	Duration	Start	Finish	2006				2007				2008				2009					
				2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q				
				Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct			
55	Metal Deck 3rd Floor - C	4 days	Thu 12/15/05	Tue 12/20/05																	
56	Metal Deck 4th Floor - C	4 days	Wed 12/21/05	Mon 12/26/05																	
57	Metal Deck 5th Floor - C	4 days	Tue 12/27/05	Fri 12/30/05																	
58	Pour Deck 1st Floor - A	4 days	Mon 10/10/05	Thu 10/13/05																	
59	Pour Deck 2nd Floor - A	4 days	Fri 10/14/05	Wed 10/19/05																	
60	Pour Deck 3rd Floor - A	4 days	Thu 10/20/05	Tue 10/25/05																	
61	Pour Deck 4th Floor - A	4 days	Wed 10/26/05	Mon 10/31/05																	
62	Pour Deck 5th Floor - A	4 days	Tue 11/1/05	Fri 11/4/05																	
63	Pour Deck 6th Floor - A	4 days	Mon 11/7/05	Thu 11/10/05																	
64	Pour Deck 7th Floor - A	4 days	Fri 11/11/05	Wed 11/16/05																	
65	Pour Deck 8th Floor - A	4 days	Thu 11/17/05	Tue 11/22/05																	
66	Pour Deck 1st Floor - B	2 days	Thu 11/17/05	Fri 11/18/05																	
67	Pour Deck 2nd Floor - B	2 days	Mon 11/21/05	Tue 11/22/05																	
68	Pour Deck 3rd Floor - B	2 days	Wed 11/23/05	Thu 11/24/05																	
69	Pour Deck 4th Floor - B	2 days	Fri 11/25/05	Mon 11/28/05																	
70	Pour Deck 5th Floor - B	2 days	Tue 11/29/05	Wed 11/30/05																	
71	Pour Deck 6th Floor - B	2 days	Thu 12/1/05	Fri 12/2/05																	
72	Pour Deck 7th Floor - B	2 days	Mon 12/5/05	Tue 12/6/05																	
73	Pour Deck 8th Floor - B	2 days	Wed 12/7/05	Thu 12/8/05																	
74	Pour Deck 1st Floor - C	3 days	Thu 12/15/05	Mon 12/19/05																	
75	Pour Deck 2nd Floor - C	3 days	Tue 12/20/05	Thu 12/22/05																	
76	Pour Deck 3rd Floor - C	3 days	Fri 12/23/05	Tue 12/27/05																	
77	Pour Deck 4th Floor - C	3 days	Wed 12/28/05	Fri 12/30/05																	
78	Pour Deck 5th Floor - C	3 days	Mon 1/2/06	Wed 1/4/06																	
79	Envelope North Wall - A	44 days	Wed 11/23/05	Mon 1/23/06																	
80	Envelope East Wall - A	22 days	Tue 1/24/06	Wed 2/22/06																	
81	Envelope South Wall - A	44 days	Thu 2/23/06	Tue 4/25/06																	

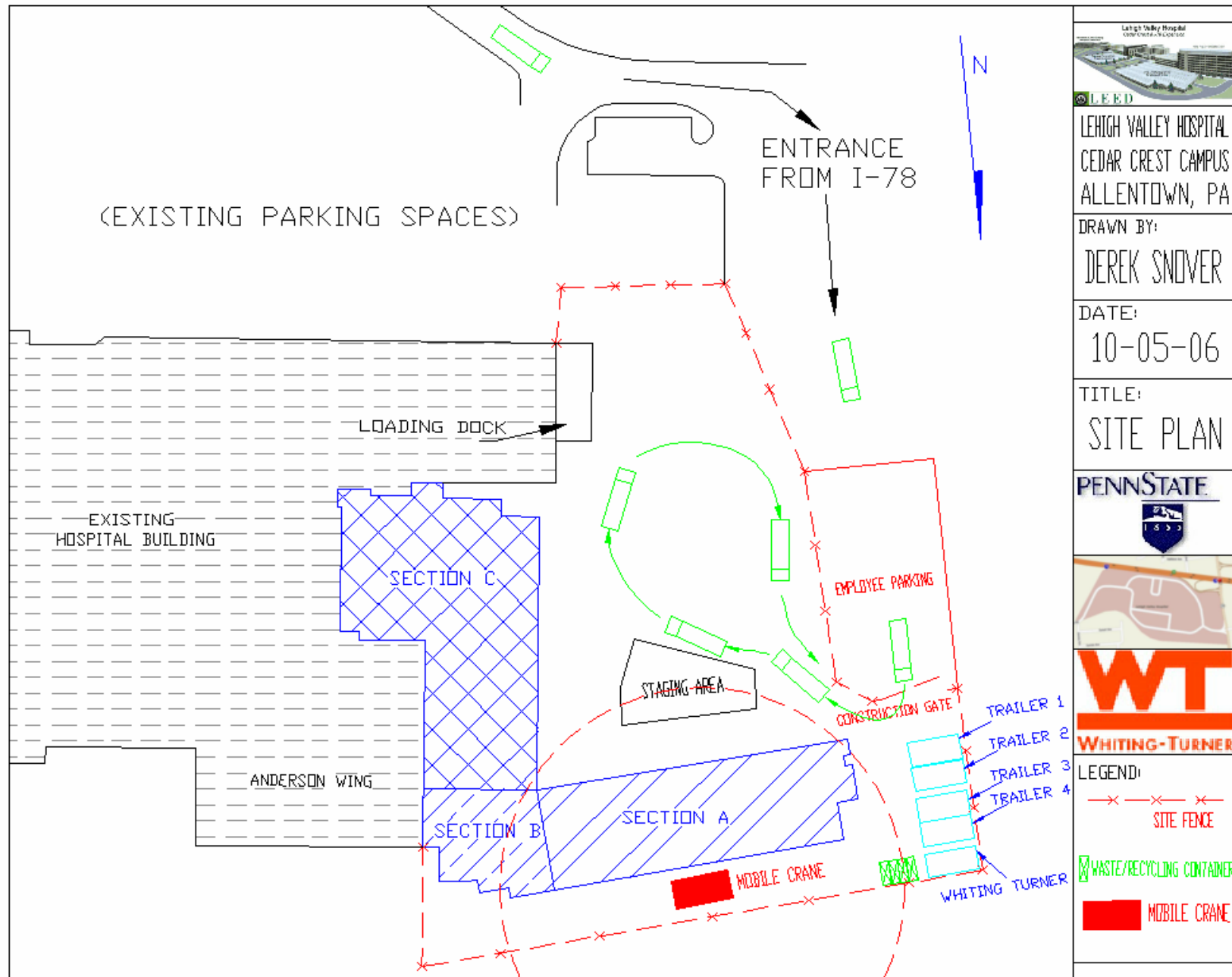


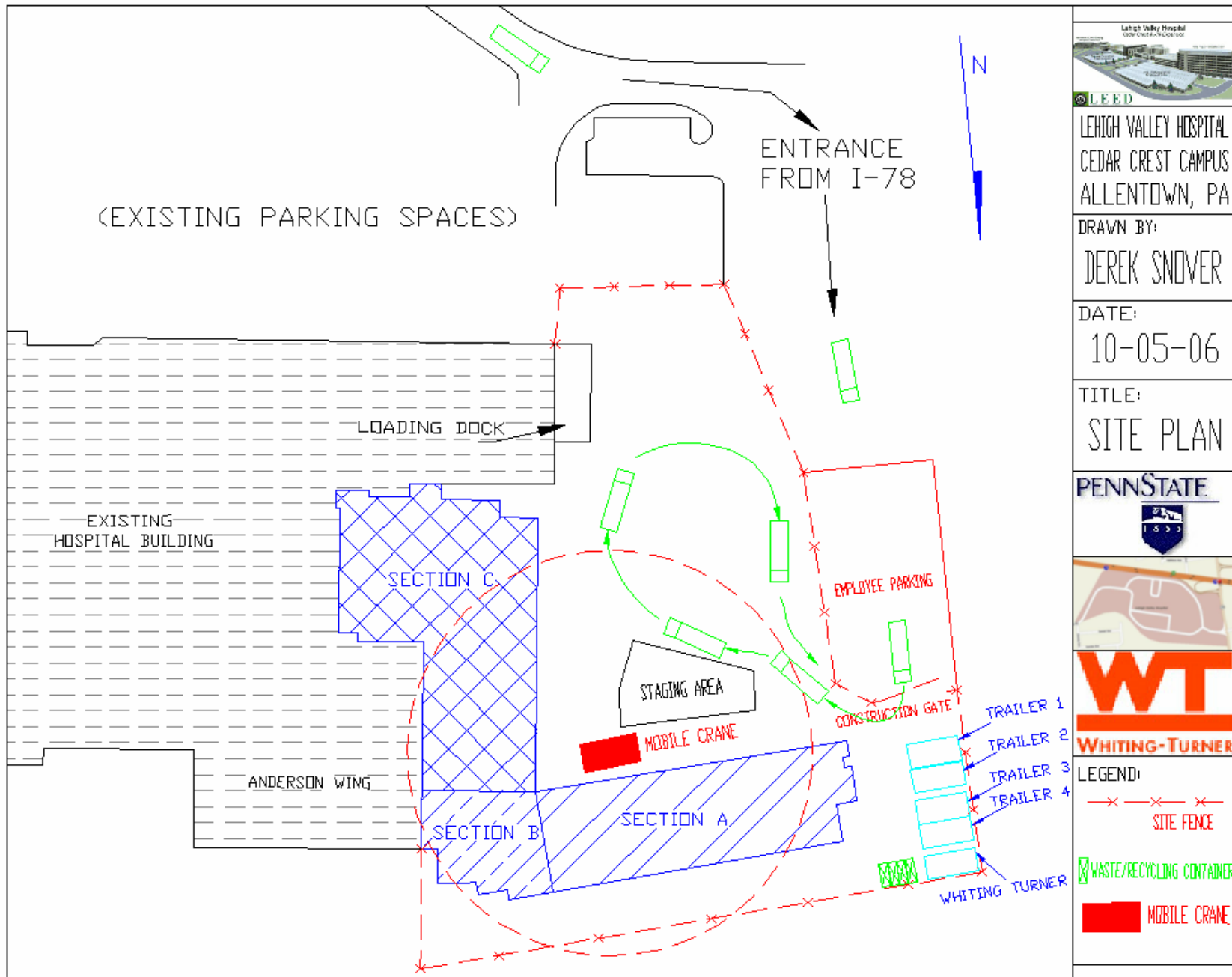
Task Name	Duration	Start	Finish	2006				2007				2008				2009			
				2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q		
				Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul		
109	Duct 5th Floor - A	8 days	Wed 1/3/07	Fri 1/12/07															
110	Duct 6th Floor - A	8 days	Mon 1/15/07	Wed 1/24/07															
111	Duct 7th Floor - A	8 days	Thu 1/25/07	Mon 2/5/07															
112	Duct 1st Floor - B	8 days	Fri 12/22/06	Tue 1/2/07															
113	Duct 2nd Floor - B	8 days	Wed 1/3/07	Fri 1/12/07															
114	Duct 3rd Floor - B	8 days	Mon 1/15/07	Wed 1/24/07															
115	Duct 4th Floor - B	8 days	Thu 1/25/07	Mon 2/5/07															
116	Duct 5th Floor - B	8 days	Tue 2/6/07	Thu 2/15/07															
117	Duct 6th Floor - B	8 days	Fri 2/16/07	Tue 2/27/07															
118	Duct 7th Floor - B	8 days	Wed 2/28/07	Fri 3/9/07															
119	Duct 1st Floor - C	6 days	Thu 1/25/07	Thu 2/1/07															
120	Duct 2nd Floor - C	6 days	Fri 2/2/07	Fri 2/9/07															
121	Duct 3rd Floor - C	6 days	Mon 2/12/07	Mon 2/19/07															
122	Duct 4th Floor - C	6 days	Tue 2/20/07	Tue 2/27/07															
123	Duct 5th Floor - C	6 days	Wed 2/28/07	Wed 3/7/07															
124	Sprinklers 1st Floor - A	8 days	Tue 12/12/06	Thu 12/21/06															
125	Sprinklers 2nd Floor - A	8 days	Fri 12/22/06	Tue 1/2/07															
126	Sprinklers 3rd Floor - A	8 days	Wed 1/3/07	Fri 1/12/07															
127	Sprinklers 4th Floor - A	8 days	Mon 1/15/07	Wed 1/24/07															
128	Sprinklers 5th Floor - A	8 days	Thu 1/25/07	Mon 2/5/07															
129	Sprinklers 6th Floor - A	8 days	Tue 2/6/07	Thu 2/15/07															
130	Sprinklers 7th Floor - A	8 days	Fri 2/16/07	Tue 2/27/07															
131	Sprinklers 8th Floor - A	8 days	Wed 2/28/07	Fri 3/9/07															
132	Sprinklers 1st Floor - B	4 days	Thu 1/25/07	Tue 1/30/07															
133	Sprinklers 2nd Floor - B	4 days	Wed 1/31/07	Mon 2/5/07															
134	Sprinklers 3rd Floor - B	4 days	Tue 2/6/07	Fri 2/9/07															
135	Sprinklers 4th Floor - B	4 days	Mon 2/12/07	Thu 2/15/07															

Task Name	Duration	Start	Finish	2006				2007				2008				2009					
				2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q				
				Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul				
136	Sprinklers 5th Floor - B	4 days	Fri 2/16/07	Wed 2/21/07																	
137	Sprinklers 6th Floor - B	4 days	Thu 2/22/07	Tue 2/27/07																	
138	Sprinklers 7th Floor - B	4 days	Wed 2/28/07	Mon 3/5/07																	
139	Sprinklers 8th Floor - B	4 days	Tue 3/6/07	Fri 3/9/07																	
140	Sprinklers 1st Floor - C	5 days	Mon 3/12/07	Fri 3/16/07																	
141	Sprinklers 2nd Floor - C	5 days	Mon 3/19/07	Fri 3/23/07																	
142	Sprinklers 3rd Floor - C	5 days	Mon 3/26/07	Fri 3/30/07																	
143	Sprinklers 4th Floor - C	5 days	Mon 4/2/07	Fri 4/6/07																	
144	Sprinklers 5th Floor - C	5 days	Mon 4/9/07	Fri 4/13/07																	
145	Electric Rough In 1st Floor - A	6 days	Mon 4/16/07	Mon 4/23/07																	
146	Electric Rough In 2nd Floor - A	6 days	Tue 4/24/07	Tue 5/1/07																	
147	Electric Rough In 3rd Floor - A	6 days	Wed 5/2/07	Wed 5/9/07																	
148	Electric Rough In 4th Floor - A	6 days	Thu 5/10/07	Thu 5/17/07																	
149	Electric Rough In 5th Floor - A	6 days	Fri 5/18/07	Fri 5/25/07																	
150	Electric Rough In 6th Floor - A	6 days	Mon 5/28/07	Mon 6/4/07																	
151	Electric Rough In 7th Floor - A	6 days	Tue 6/5/07	Tue 6/12/07																	
152	Electric Rough In 8th Floor - A	6 days	Wed 6/13/07	Wed 6/20/07																	
153	Electric Rough In 1st Floor - B	4 days	Thu 6/21/07	Tue 6/26/07																	
154	Electric Rough In 2nd Floor - B	4 days	Wed 6/27/07	Mon 7/2/07																	
155	Electric Rough In 3rd Floor - B	4 days	Tue 7/3/07	Fri 7/6/07																	
156	Electric Rough In 4th Floor - B	4 days	Mon 7/9/07	Thu 7/12/07																	
157	Electric Rough In 5th Floor - B	4 days	Fri 7/13/07	Wed 7/18/07																	
158	Electric Rough In 6th Floor - B	4 days	Thu 7/19/07	Tue 7/24/07																	
159	Electric Rough In 7th Floor - B	4 days	Wed 7/25/07	Mon 7/30/07																	
160	Electric Rough In 8th Floor - B	4 days	Tue 7/31/07	Fri 8/3/07																	
161	Electric Rough In 1st Floor - C	6 days	Mon 8/6/07	Mon 8/13/07																	
162	Electric Rough In 2nd Floor - C	6 days	Tue 8/14/07	Tue 8/21/07																	

SITE LAYOUT PLANNING

A Site Layout Plan was developed for the steel erection phase of the project. In the graphics on the next couple pages you will see how the cranes were phased during the steel erection process. The mobile cranes that were used started on the north face of section A and continued around the building until they finished on the east face of section C. The deliveries were made to the site from the construction entrance and were dropped off at the staging area that is located between the south face of section A and the east face of section C. The trucks then made and loop and continued back out the construction entrance to the highway.





Lehigh Valley Hospital
CONSTRUCTION CONTROL

LEED

LEHIGH VALLEY HOSPITAL
CEDAR CREST CAMPUS
ALLENTOWN, PA

DRAWN BY:
DEREK SNOVER

DATE:
10-05-06

TITLE:
SITE PLAN

PENNSTATE

WT
WHITING-TURNER

LEGEND:

- x---x---x--- SITE FENCE
- WASTE/RECYCLING CONTAINER
- MOBILE CRANE

