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November 5, 1995

Clinton J. Bruestle, Vice President  
Kraus-Anderson Construction Company  
North Division  
206 Beltrami Avenue  
Bemidji, Minnesota 56601

Dear Clint:

Re: Data tabulation and bar chart for Northwest Airlines Aircraft Maintenance Facility, Duluth, Minnesota

Enclosed is a data listing of all activities in the network model, Sheets 1 and 2, issue 3, dated October 27, 1995 except end time restraints (E T/R), zero interconnectors, and the small satellite boxes we used to clean up the graphics of the network model.

The data listing is in ascending order of early starts and early finishes. It contains the usual data information about responsibilities, early starts, early finishes, late starts, late finishes, and durations in working days. In addition I have shown columns for % complete, actual start, and actual finish. These record columns are to record information as the project work proceeds.

The bar chart is also in ascending order of early start and shows the early start and early finish dates as open bars. The black fully shaded bars show the late starts and late finishes. The 11 sheets of the bar chart can be kept separate for ease of reading or pasted up into one or two larger chart, however you wish to use the information.

It was good working with you, Tim, Chris, and Dave. You appear to have a good team assembled for the job. If you have any questions about the data run or the bar chart please don't hesitate to call.

Regards,



Ralph J. Stephenson

enclosure: data run for issue #3  
bar chart for issue #3

Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
 Kraus-Anderson North - General contractors

Derived from issue #3 network model, sheets #1 & 2, dated 10/27/95.

	activity	resp/loc	early start	early finish	late start	late finish	d	% comp	act strt	act fin
1	008-T/R TO AM 10/18/95 ISSUE #2		10/18/95	10/18/95	10/18/95	10/18/95	0			
2	023-INSTALL & CONNECT GROUNDING GRID ADEQUATE TO START STEEL ERECTION - 1	SOWLES	10/18/95	10/18/95	10/18/95	10/18/95	1			
3	012-TEST & BACKFILL UNDERGROUND WATER LINES AT NORTH - 2	JAMAR	10/18/95	10/19/95	10/18/95	10/19/95	2			
4	059-COMP LAY CONCRETE SURFACE COURSE AT APRON TO WITHIN 80' OF BUILDING - 2	JESCO	10/18/95	10/19/95	10/18/95	10/19/95	2			
5	011-T/R TO START OF SPREAD FOOTINGS - 3		10/18/95	10/20/95	10/19/95	10/23/95	3			
6	005-OBTAIN BUILDING PERMIT - 4	KA	10/18/95	10/23/95	10/18/95	10/23/95	4			
7	009-T/R TO START CONST SHORING TOWER FTGS - 5		10/18/95	10/24/95	10/18/95	10/24/95	5			
8	010-PART EXCAV, FORM, REINF, POUR & STRIP FOUND WALL FOOTINGS & WALLS - 5	JESCO	10/18/95	10/24/95	10/18/95	10/24/95	5			
9	027-COMP EXCAV, FORM, REINF, POUR & STRIP PILE CAPS, ROCK ANCHORS & GRADE BMS POURED WITH PILE CAPS - 10	JESCO	10/18/95	10/31/95	10/18/95	10/31/95	10			
10	002- INSTALL PERMANENT POWER TO SITE (MP&L) - 11	MP&L	10/18/95	11/1/95	10/18/95	11/1/95	11			
11	004-INSTALL GAS SERVICE - 11	PNG	10/18/95	11/1/95	10/18/95	11/1/95	11			
12	006-CONSTRUCT PUBLIC ACCESS ROAD TO SITE (STEBNER ROAD) - BY CITY OF DULUTH - 11	CITY	10/18/95	11/1/95	10/18/95	11/1/95	11			
13	007-INSTALL PERMANENT WATER LINE TO SITE - 11	CITY	10/18/95	11/1/95	10/18/95	11/1/95	11			
14	003-EXTEND EXISTING AIRCRAFT TAXIWAY (DAA) - 21	DAA	10/18/95	11/15/95	10/18/95	11/15/95	21			
15	022-T/R TO START OF ERECTING STRUCT STL, JOISTS, MTL DK AT J THROUGH L COL LINE - AM 10/19/95		10/19/95	10/19/95	10/19/95	10/19/95	0			
16	024-PART ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 27	SOWLES	10/19/95	11/27/95	10/19/95	11/27/95	27			
17	015-FINE GRADE PARKING LOT SUBBASE - 1	LEUSTEK	10/20/95	10/20/95	10/20/95	10/20/95	1			
18	014-PART EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 2	JESCO	10/23/95	10/24/95	10/24/95	10/25/95	2			
19	019-LAY BITUMINOUS CONCRETE BINDER COURSE AT PARKING LOT - 3	GLACIER	10/23/95	10/25/95	10/23/95	10/25/95	3			
20	018-CONT(1) EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 2	JESCO	10/25/95	10/26/95	10/26/95	10/27/95	2			
21	013-EXCAV, FORM, REINF, POUR & STRIP SHORING TWR FTGS (TEMPORARY INSTALLATION) - 3	JESCO	10/25/95	10/27/95	10/25/95	10/27/95	3			
22	025-COMP EXCAV, FORM, REINF, POUR & STRIP FOUND WALL FOOTINGS & WALLS - 5	JESCO	10/25/95	10/31/95	10/25/95	10/31/95	5			
23	026-COMP EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 2	JESCO	10/27/95	10/30/95	10/30/95	10/31/95	2			
24	017-T/R TO AM 10/30/95		10/30/95	10/30/95	11/15/95	11/15/95	0			
25	170-COMP BACKFILL WATER PUMP STATION FOUNDATION - 2	PH	10/30/95	10/31/95	11/28/95	11/29/95	2			
26	171-APPV PUMP STATION MASONRY SUBMITTALS - 10	PH	10/30/95	11/10/95	11/15/95	11/29/95	10			
27	035-PART ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 24	SOWLES	11/1/95	12/5/95	11/1/95	12/5/95	24			
28	172-SET PUMP STATION HOLLOW METAL DOOR FRAME & ERECT EXT & INT MASONRY WALLS - 7	PH	11/13/95	11/21/95	11/30/95	12/8/95	7			
29	036-CONT(1) ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 27	SOWLES	11/28/95	1/5/96	11/28/95	1/5/96	27			
30	037-T/R TO DETAIL, APPROVE, FAB & DELIVER HANGAR DOOR RAILS, TOP GUIDES & DOORS - AM 12/04/95	DOOR ENGR	12/4/95	12/4/95	1/8/96	1/8/96	0			
31	039-CONT(1) ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 24	SOWLES	12/6/95	1/10/96	12/6/95	1/10/96	24			
32	T/R TO DETAIL, APPV, FAB, & DELIVER STRUCT STL, JOISTS & METAL DECK - AM 12/11/95		12/11/95	12/11/95	12/11/95	12/11/95	0			
33	173-ERECT PUMP STATION BAR JOISTS & METAL DECK - 2	PH	12/11/95	12/12/95	12/11/95	12/12/95	2			

Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
Kraus-Anderson North - General contractors

Derived from issue #3 network model, sheets #1 & 2, dated 10/27/95.

	activity	resp/loc	early start	early finish	late start	late finish	d	% comp	act strt	act fin
34	065-T/R TO DETAIL, APPV, FAB & DELIVER PRECAST WALL PANELS - AM 12/13/95	WELLS	12/13/95	12/13/95	2/20/96	2/20/96	0			
35	174-LAY INSUL & ROOFING AT PUMP STATION - 4	PH	12/13/95	12/18/95	12/13/95	12/18/95	4			
36	053-T/R TO DETAIL, APPRV, FAB & DELIVR HANGAR DOOR SECTIONS - AM 12/15/95	DOOR ENGR	12/15/95	12/15/95	1/22/96	1/22/96	0			
37	055-DETAIL, APPRV, FAB & DELVR FRAMES FOR MASONRY SEPARATION WALL AT COL LINES J & K - AM 12/15/95		12/15/95	12/15/95	3/15/96	3/15/96	0			
38	175-HEAT & THAW SUBBASE AT SLAB ON GRADE IN PUMP STATION - 5	PH	12/19/95	12/26/95	12/19/95	12/26/95	5			
39	176-FILL, FINE GRADE, SET IN FL WORK & POUR OUT SLAB ON GRADE 4 - 2	PH	12/27/95	12/28/95	12/27/95	12/28/95	2			
40	178-PAINT & CAULK PUMP HOUSE INTERIOR - 2	PH	12/29/95	1/2/96	1/2/96	1/3/96	2			
41	177-FORM, REINF, POUR, STRIP & CURE EQUIP BASES AT PUMP HOUSE - 3	PH	12/29/95	1/3/96	12/29/95	1/3/96	3			
42	180-INSTALL MECH & ELECT ROUGH & FINISH WORK AT PUMP HOUSE - 20	PH	1/4/96	1/31/96	1/4/96	1/31/96	20			
43	051-PART INSTALL ROOF NAILERS, BLOCKING & CURBS (START AT HANGAR AREA) - 5	DY	1/8/96	1/12/96	1/30/96	2/5/96	5			
44	054-INSTALL RAILS & TOP GUIDE ASSEMBLY FOR HANGAR DOOR - 10	DOOR ENGR	1/8/96	1/19/96	1/8/96	1/19/96	10			
45	040-COMP ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 26	SOWLES	1/8/96	2/12/96	1/8/96	2/12/96	26			
46	056-COMP ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 23	SOWLES	1/11/96	2/12/96	1/11/96	2/12/96	23			
47	073-T/R TO DETAIL, APPV, FAB, & DELIVER OVERHEAD DOORS - AM 01/15/96	LBC	1/15/96	1/15/96	2/28/96	2/28/96	0			
48	089-T/R TO DETAIL, APPV, FAB, & DELIVER OVERHEAD DOORS - AM 01/15/96	LBC	1/15/96	1/15/96	3/29/96	3/29/96	0			
49	058-PART LAY INSUL & ROOFING AT HANGAR - 25	R/JAMAR	1/15/96	2/16/96	2/6/96	3/11/96	25			
50	060-INSTALL HANGAR DOOR SECTIONS - 12	DOOR ENGR	1/22/96	2/6/96	1/22/96	2/6/96	12			
51	069-T/R/ DETAIL, APPV, FAB & DELIVER FIBERGLAS WALL PANELS - AM 2/1/96	P/JAMAR	2/1/96	2/1/96	2/26/96	2/26/96	0			
52	074-T/R TO DETAIL, APPV, FAB & DELIVER CMPOSITE METAL PANELS - AM 2/1/96	P/JAMAR	2/1/96	2/1/96	3/1/96	3/1/96	0			
53	066-INSTL & GLAZE WINDOWS AT HANGER DOORS - 10	SUPERIOR	2/7/96	2/20/96	2/7/96	2/20/96	10			
54	057-CONT(1) INSTALL ROOF NAILERS, BLOCKING & CURBS - 5	DY	2/13/96	2/19/96	2/13/96	2/19/96	5			
55	041-W T/R - 5	KA	2/13/96	2/19/96	2/13/96	2/19/96	5			
56	063-CONST MASONRY SEPARATION WALL BETWEEN HANGAR & SUPPORT AREA AT COL LINES J & K - 20	CON	2/13/96	3/11/96	3/15/96	4/11/96	20			
57	077-T/R DETAIL, APPV, FAB & DELIVER EXTERIOR WINDOWS - AM 02/15/96	SUPERIOR	2/15/96	2/15/96	3/18/96	3/18/96	0			
58	071-T/R TO DETAIL, APPV, FAB & DELIVER ROOF MOUNTED EQUIPMENT - ASSUME 02/15/96	R/JAMAR	2/15/96	2/15/96	3/22/96	3/22/96	0			
59	134-T/R DETAIL, APPV, FAB & DELIVER FRAMES & IN WALL WORK FOR MASONRY WALLS AT 1ST FLOOR - AM 02/15/96	NORTH ERN	2/15/96	2/15/96	5/28/96	5/28/96	0			
60	068-PART ERECT, PLUMB & WELD PRECAST WALL PANELS (WEST & NORTH) - 4	WELLS	2/20/96	2/23/96	2/20/96	2/23/96	4			
61	061-COMP INSTALL ROOF NAILERS, BLOCKING & CURBS - 5	DY	2/20/96	2/26/96	2/20/96	2/26/96	5			
62	062-CONT(1) LAY INSUL & ROOFING AT HANGAR & SUPPORT AREA - 8	R/JAMAR	2/20/96	2/29/96	3/12/96	3/21/96	8			
63	072-INSTALL HANGAR DOOR COMPOSITE PANELS - 10	JAMAR	2/21/96	2/27/96	2/21/96	2/27/96	5			
64	075-CONT(1) ERECT, PLUMB & WELD PRECAST WALL PANELS (NORTH & EAST) - 4	WELLS	2/26/96	2/29/96	2/26/96	2/29/96	4			
65	076-ERECT FIBERGLAS EXT WALL PANEL SYSTEM (WEST ELEV SUPT AREA) - 15	P/JAMAR	2/26/96	3/15/96	2/26/96	3/15/96	15			
66	081-ERECT FIBERGLAS EXT WALL PANEL SYSTEM (WEST ELEV HANGAR AREA) - 25	P/JAMAR	2/26/96	3/29/96	3/8/96	4/11/96	25			

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67	067-COMPLETE LAY INSUL & ROOFING AT SUPPORT AREA TO HORIZ DRY IN - 18	R/JAMAR	2/27/96	3/21/96	2/27/96	3/21/96	18			
68	079-INSTALL OVERHEAD DOOR IN HANGAR DOOR - 3	LBC	2/28/96	3/1/96	2/28/96	3/1/96	3			
69	083-CONT(2) ERECT, PLUMB & WELD PRECAST WALL PANELS (EAST & SOUTH) - 5	WELLS	3/1/96	3/7/96	3/1/96	3/7/96	5			
70	084-ERECT COMPOSITE METAL PANEL SYSTEM (NORTH ELEV LOW WALL) - 20	P/JAMAR	3/1/96	3/28/96	3/1/96	3/28/96	20			
71	114-ERECT COMP MTL PANEL SYST (E ELEV AT HANGAR AREA & HANGAR N HIGH WALL) - 30	P/JAMAR	3/1/96	4/11/96	3/1/96	4/11/96	30			
72	090-COMP ERECT, PLUMB & WELD PRECAST WALL PANELS (SOUTH) - 2	WELLS	3/8/96	3/11/96	3/8/96	3/11/96	2			
73	102-ERECT COMPOSITE METAL PANEL SYSTEM (EAST ELEV AT SUPP AREA) - 25	P/JAMAR	3/8/96	4/11/96	3/8/96	4/11/96	25			
74	042-INSTALL EXT MAN DOORS IN PRECAST WALL PANELS. - 5	KA	3/12/96	3/18/96	3/12/96	3/18/96	5			
75	106-ERECT COMPOSITE METAL PANEL SYSTEM (SOUTH ELEV) - 20	P/JAMAR	3/12/96	4/8/96	3/12/96	4/8/96	20			
76	082-INSTALL & GLAZE PUNCHED WINDOWS AT WEST ELEVATION - 10	SUPERIOR	3/18/96	3/29/96	3/18/96	3/29/96	10			
77	078-INSTALL ROOF MOUNTED EQUIPMENT & WALKWAYS - 5	R/JAMAR	3/22/96	3/28/96	3/22/96	3/28/96	5			
78	104-INSTALL OVERHEAD DOORS AT LOADING DOCK - 3	LBC	3/29/96	4/2/96	3/29/96	4/2/96	3			
79	088-COMPLETE PERIM ROOFING & TRIM AT NORTH & WEST ELEVATIONS - 5	R/JAMAR	3/29/96	4/4/96	4/5/96	4/11/96	5			
80	101-INSTALL & GLAZE PUNCHED WINDOWS AT NORTH ELEVATION - 20	SUPERIOR	3/29/96	4/25/96	3/29/96	4/25/96	20			
81	118-INSTALL EXT BUILDING SECURITY LIGHTING - 5	BENSON	4/9/96	4/15/96	4/9/96	4/15/96	5			
82	120-INSTALL EXTERIOR BUILDING SIGNAGE AS REQUIRED - 10	KA	4/9/96	4/22/96	4/9/96	4/22/96	10			
83	108-INSTL & ACTIVATE TEMP BLDG HEATING SYSTEM AT SUPPORT AREA - 1	KA	4/12/96	4/12/96	4/12/96	4/12/96	1			
84	126-INSTL & ACTIVATE TEMP BLDG HEATING SYSTEM AT HANGAR AREA - 1	KA	4/12/96	4/12/96	4/12/96	4/12/96	1			
85	105-INSTALL OVERHEAD DOORS AT EAST ELEVATION - 5	LBC	4/12/96	4/18/96	4/12/96	4/18/96	5			
86	112-COMPLETE INSTALL PERIM ROOFING & TRIM AT EAST & SOUTH ELEVATIONS - 5	R/JAMAR	4/12/96	4/18/96	4/12/96	4/18/96	5			
87	107-INSTALL & GLAZE PUNCHED WINDOWS AT EAST ELEVATION - 18	SUPERIOR	4/12/96	5/7/96	4/12/96	5/7/96	18			
88	ACTIVATE TEMP HEAT AT SUPT 1 - ACTIVITY 108 - PM 04/12/96		4/15/96	4/15/96	7/17/96	7/17/96	0			
89	115-PART FM, REINFORCE, SET IN FLOOR WORK & POUR MEZZANINE FLOORS - 4	JESCO	4/15/96	4/18/96	4/15/96	4/18/96	4			
90	117-PART ERECT INT MASONRY PARTITIONS ON FTGS AT SUPPORT AREA 1ST FLOOR - 8	CON	4/15/96	4/24/96	5/1/96	5/10/96	8			
91	116-THAW SUPPORT AREA 1ST FLOOR SUBBASE - 10	KA	4/15/96	4/26/96	4/15/96	4/26/96	10			
92	131-THAW SELECTED SUBGRADE AT HANGAR AREA - 10	KA	4/15/96	4/26/96	4/15/96	4/26/96	10			
93	122-COMP FORM, REINFORCE, SET IN FLOOR WORK & POUR MEZZANINE FLOORS - 4	JESCO	4/19/96	4/24/96	4/19/96	4/24/96	4			
94	FROM ACTIVITY 130 SHT #1 - COMP FM, REINF, SET IFW & POUR MEZZ FLOOR - PM 4/24/96		4/25/96	4/25/96	4/25/96	4/25/96	0			
95	FROM ACTIVITY 130 SHT #1 - COMP FM, REINF, SET IFW & POUR MEZZ FLOOR - PM 4/24/96		4/25/96	4/25/96	6/7/96	6/7/96	0			
96	202-PART INSTALL ABOVE FLOOR MECH PIPING AT MEZZ 2 - 5	JAMAR/S2	4/25/96	5/1/96	4/30/96	5/6/96	5			
97	203-PART INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT MEZZ 2 - 5	JAMAR/S2	4/25/96	5/1/96	4/30/96	5/6/96	5			
98	204-PART INSTALL ABOVE FLOOR ROUGH ELECT CONDUIT & FEEDERS AT MEZZ 2 - 5	BENSON/S2	4/25/96	5/1/96	4/30/96	5/6/96	5			
99	128-COMP ERECT INT MASONRY PARTITIONS ON FTGS AT SUPPORT AREA 1ST FLOOR - 5	CON	4/25/96	5/1/96	5/20/96	5/24/96	5			

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100	201-PART INSTALL ABOVE FLOOR SHEET METAL DUCTWORK AT MEZZ 2 - 8	JAMAR/S2	4/25/96	5/6/96	4/25/96	5/6/96	8			
101	123-PART EXCAV, INSTL, TEST & BKFL UNDERGROUND UTIL AT SUPPORT AREA 1ST FL - 10	JAMAR	4/29/96	5/10/96	4/29/96	5/10/96	10			
102	138-PART INSTALL BELOW FLOOR MECH & ELECT WORK & SERVICE PITS - 10	JAMAR	4/29/96	5/10/96	4/29/96	5/10/96	10			
103	179-T/R TO SPRING WEATHER - 05/01/96	PH	5/1/96	5/1/96	5/1/96	5/1/96	0			
104	181-PAINT & CAULK PUMP HOUSE EXTERIOR SURFACES - 2	PH	5/1/96	5/2/96	5/1/96	5/2/96	2			
105	206-COMP INSTALL ABOVE FLOOR MECH PIPING AT MEZZ 2 - 5	JAMAR/S2	5/2/96	5/8/96	5/24/96	5/31/96	5			
106	207-COMP INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT MEZZ 2 - 5	JAMAR/S2	5/2/96	5/8/96	5/24/96	5/31/96	5			
107	208-COMP INSTALL ABOVE FLOOR ROUGH ELECT CONDUIT & FEEDERS AT MEZZ 2 - 5	BENSO N/S2	5/2/96	5/8/96	5/24/96	5/31/96	5			
108	205-COMP INSTALL ABOVE FLOOR SHEET METAL DUCTWORK AT MEZZ 2 - 7	JAMAR/S2	5/7/96	5/15/96	5/22/96	5/31/96	7			
109	209-PART ERECT INTERIOR MASONRY PARTITIONS AT MEZZ 2 - 8	CON/S2	5/7/96	5/16/96	5/7/96	5/16/96	8			
110	140-PART PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 3	NELS	5/13/96	5/15/96	5/16/96	5/20/96	3			
111	129-PART FILL, FINE GRADE, LAY VAPOR BARRIER & INSTALL SAND CUSHION AT SUPPORT AREA - 5	NELS	5/13/96	5/17/96	5/13/96	5/17/96	5			
112	139-CONT(1) INSTALL BELOW FLOOR MECH & ELECT WORK & SERVICE PITS - 5	JAMAR	5/13/96	5/17/96	5/13/96	5/17/96	5			
113	127-COMP EXCAV, INSTL, TEST & BKFL UNDERGROUND UTIL AT SUPPORT AREA 1ST FL - 10	JAMAR	5/13/96	5/24/96	5/13/96	5/24/96	10			
114	155-PART POUR OUT HANGAR SLAB ON GRADE - 3	JESCO	5/16/96	5/20/96	5/21/96	5/23/96	3			
115	046-NWA SET EMBEDS FOR AIRCRAFT DOCKING EQUIPMENT - 5	NWA	5/17/96	5/17/96	5/28/96	5/28/96	0			
116	213-INSTALL ABOVE FLOOR HANGERS AT MEZZ 2 - 2	AMERE CT/S2	5/17/96	5/20/96	5/30/96	5/31/96	2			
117	211-PART ERECT INTERIOR METAL STUDS, FRAMING & IN WALL WORK AT MEZZ 2 - 3	DY/S2	5/17/96	5/21/96	5/29/96	5/31/96	3			
118	212-COMP ERECT INTERIOR MASONRY PARTITIONS AT MEZZ 2 - 7	CON/S2	5/17/96	5/28/96	5/17/96	5/28/96	7			
119	154-CONT(1) PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 2	NELS	5/20/96	5/21/96	5/22/96	5/23/96	2			
120	045-FORM, REINF, POUR & STRIP DOCK LEVELER PITS & BKFL - 4	JESCO	5/20/96	5/23/96	5/29/96	6/3/96	4			
121	132-PART FORM, SET IN FL WORK & POUR SLAB ON GRADE AT SUPPORT AREA - 3	JESCO	5/20/96	5/24/96	5/20/96	5/24/96	5			
122	153-COMP INSTALL BELOW FLOOR MECH & ELECT WORK & SERVICE PITS - 5	JAMAR	5/20/96	5/24/96	5/20/96	5/24/96	5			
123	215-PART HANG GYP BD AT STUD PARTITIONS, CEILINGS, DROPS & SOFFITS AT MEZZ 2 - 2	DY/S2	5/22/96	5/23/96	6/3/96	6/4/96	2			
124	158-CONT(1) POUR OUT HANGAR SLAB ON GRADE - 3	JESCO	5/22/96	5/24/96	5/24/96	5/29/96	3			
125	157-COMP PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 2	NELS	5/28/96	5/29/96	5/28/96	5/29/96	2			
126	133-COMP FILL, FINE GRADE, LAY VAPOR BARRIER & INSTALL SAND CUSHION AT SUPPORT AREA - 5	NELS	5/28/96	6/3/96	5/28/96	6/3/96	5			
127	137-PART ERECT MASONRY PARTITIONS ON FL SLAB AT 1ST FLOOR SUPPORT AREA - 10	CON	5/28/96	6/10/96	5/28/96	6/10/96	10			
128	216-COMP ERECT INTERIOR METAL STUDS, FRAMING & IN WALL WORK AT MEZZ 2 - 2	DY/S2	5/29/96	5/30/96	6/3/96	6/4/96	2			
129	220-CONSTRUCT CONCRETE LOCKER BASES AT MEZZ 2 - 2	JESCO/S2	5/29/96	5/30/96	6/18/96	6/19/96	2			
130	214-INSTL COILING DOORS & INT OVERHEAD DOORS AT MEZZ 2 - 5	LBC/S2	5/29/96	6/4/96	5/29/96	6/4/96	5			
131	162-COMP POUR OUT HANGAR SLAB ON GRADE - 3	JESCO	5/30/96	6/3/96	5/30/96	6/3/96	3			
132	218-COMP HANG GYP BD AT STUD PARTITIONS, CEILINGS, DROPS & SOFFITS AT MEZZ 2 - 3	DY/S2	5/31/96	6/4/96	6/5/96	6/7/96	3			

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133	016-T/R TO SPRING 1996 - 06/01/96		6/1/96	6/1/96	6/3/96	6/3/96	0			
134	070-T/R TO COMP PLACE SURFACE COURSE OF APRON ADJACENT BLDG - 06/1/96 -		6/1/96	6/1/96	6/3/96	6/3/96	0			
135	342-DETAIL, APPV, FAB & DELIVER COILING DOORS & INT OVERHEAD DOORS - PM MAY 31, 1996		6/3/96	6/3/96	6/27/96	6/27/96	0			
136	080-COMP PLACE BITUM SURFACE AT APRON - 3	GLACIE R	6/3/96	6/5/96	6/3/96	6/5/96	3			
137	020-LAY BITUMINOUS CONCRETE SURFACE COURSE AT PARKING LOT - 5	GLACIE R	6/3/96	6/7/96	6/13/96	6/19/96	5			
138	029-CONSTRUCT SIDEWALKS OUTSIDE PARKING AREAS - 15	JESCO	6/3/96	6/21/96	6/3/96	6/21/96	15			
139	FROM ACTIVITY 162 - COMP POUR HANGAR SLAB ON GRADE - PM 06/03/96		6/4/96	6/4/96	6/4/96	6/4/96	0			
140	136-COMP FORM, SET IN FL WORK & POUR SLAB ON GRADE AT SUPPORT AREA - 3	JESCO	6/4/96	6/6/96	6/4/96	6/6/96	3			
141	401-ERECT HOLLOW METAL FRAMES & MASONRY PARTITIONS AT HANGAR - 5	CON/HA	6/4/96	6/10/96	7/2/96	7/9/96	5			
142	402-PART INSTALL ABOVE FLOOR HVAC EQUIP & SHEET METAL DUCTWORK AT HANGAR - 12	JAMAR/HA	6/4/96	6/19/96	6/4/96	6/19/96	12			
143	403-PART INSTALL ABOVE FLOOR MECH PIPING AT HANGAR - 12	JAMAR/HA	6/4/96	6/19/96	6/4/96	6/19/96	12			
144	404-PART INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT HANGAR - 12	JAMAR/HA	6/4/96	6/19/96	6/4/96	6/19/96	12			
145	405-PART INSTALL ABOVE FLOOR ELECT CONDUIT, FEEDERS, & FIXTURES AT HANGAR - 12	BENSO N/HA	6/4/96	6/19/96	6/4/96	6/19/96	12			
146	217-PART TAPE & SAND GYP BD AT PARTITIONS, CEILINGS, DROPS & SOFFITS AT MEZZ 2 - 3	DY/S2	6/5/96	6/7/96	6/5/96	6/7/96	3			
147	087-COMP PLACE CONCRETE SURFACE COURSE AT APRON ADJACENT BUILDING - 5	JESCO	6/6/96	6/12/96	6/6/96	6/12/96	5			
148	FROM ACTIVITY 136 - COMP POUR OUT SOG AT SUPPORT AREA - PM 06/06/96		6/7/96	6/7/96	6/7/96	6/7/96	0			
149	341--INSTALL DOCK LEVELERS AT LOADING DOCK	LBC	6/7/96	6/7/96	6/7/96	6/7/96	0			
150	302-PART INSTALL ABOVE FLOOR MECH PIPING AT SUPT 1 - 8	JAMAR/S1	6/7/96	6/18/96	6/25/96	7/5/96	8			
151	303-PART INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT SUPT 1 - 8	JAMAR/S1	6/7/96	6/18/96	6/25/96	7/5/96	8			
152	304-PART INSTALL ABOVE FLOOR ROUGH ELECT CONDUIT & FEEDERS AT SUPT 1 - 8	BENSO N/S1	6/7/96	6/18/96	6/25/96	7/5/96	8			
153	309-PART ERECT INTERIOR MASONRY PARTITIONS AT SUPT 1 - 10	CON/S1	6/7/96	6/20/96	6/7/96	6/20/96	10			
154	301-PART INSTALL ABOVE FLOOR SHEET METAL DUCTWORK AT SUPT 1 - 11	JAMAR/S1	6/7/96	6/21/96	6/17/96	7/1/96	11			
155	411-INSTL INT HOLLOW METAL DOOR & HARDWARE AT HANGAR -		6/10/96	6/10/96	7/10/96	7/10/96	0			
156	219-COMP TAPE & SAND GYP BD AT PARTITIONS, CEIINGS, DROPS & SOFFITS AT MEZZ 2 - 2	DY/S2	6/10/96	6/11/96	6/10/96	6/11/96	2			
157	030-STRIPE PARKING LOT SURFACES AS REQUIRED - 2	GLACIE R	6/10/96	6/11/96	6/20/96	6/21/96	2			
158	152-COMP ERECT MASONRY PARTITIONS ON FL SLAB AT 1ST FLOOR SUPPORT AREA - 10	CON	6/11/96	6/24/96	6/11/96	6/24/96	10			
159	221-PART PAINT REQUIRED INT SURFACES AT MEZZ 2 - 3	STROM/S2	6/12/96	6/14/96	6/12/96	6/14/96	3			
160	032-INSTALL PARKING LOT LIGHT FIXTURES - 5	BENSO N	6/12/96	6/18/96	7/1/96	7/8/96	5			
161	034-INSTALL PARKING LOT SIGNAGE - 5	KA	6/12/96	6/18/96	7/1/96	7/8/96	5			
162	103-STRIPE APRON SURFACES AS REQUIRED - 5	GLACIE R	6/13/96	6/19/96	6/13/96	6/19/96	5			
163	223-PART INSTL ACOUSIC CEILING SUSP & GRID AT MEZZ 2 - 3	KA/S2	6/17/96	6/19/96	6/17/96	6/19/96	3			
164	224-CONT(1) PAINT REQD INT SURFACES AT MEZZ 2 - 3	STROM/S2	6/17/96	6/19/96	7/2/96	7/5/96	3			
165	222-INSTL TO/R HARD TILE AT MEZZ 2 - 6	KA/S2	6/17/96	6/24/96	6/20/96	6/27/96	6			

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166	306-COMP INSTALL ABOVE FLOOR MECH PIPING AT SUPT 1 - 7	JAMAR/S1	6/19/96	6/27/96	7/8/96	7/16/96	7			
167	307-COMP INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT SUPT 1 - 7	JAMAR/S1	6/19/96	6/27/96	7/8/96	7/16/96	7			
168	308-COMP INSTALL ABOVE FLOOR ROUGH ELECT CONDUIT & FEEDERS AT SUPT 1 - 7	BENSO N/S1	6/19/96	6/27/96	7/8/96	7/16/96	7			
169	226-COMP INSTL ACOUSIC CEILING SUSP & GRID AT MEZZ 2 - 2	KA/S2	6/20/96	6/21/96	6/25/96	6/26/96	2			
170	229-PART INSTALL ACOUSTIC CEILING SPRINKLER HEADS & RELATED CEILING TILE AT MEZZ 2 - 3	JAMAR/S2	6/20/96	6/24/96	6/27/96	7/1/96	3			
171	227-PART INSTL LIGHT FIXTURES AT MEZZ 2 - 5	BENSO N/S2	6/20/96	6/26/96	6/20/96	6/26/96	5			
172	228-PART INSTL GRILLS & DIFFUSERS AT MEZZ 2 - 5	JAMAR/S2	6/20/96	6/26/96	6/20/96	6/26/96	5			
173	110-INSTALL APRON LIGHT FIXTURES - 5	BENSO N	6/20/96	6/26/96	6/25/96	7/1/96	5			
174	111-INSTALL APRON SIGNAGE - 5	KA	6/20/96	6/26/96	6/25/96	7/1/96	5			
175	109-INSTALL APRON LANDSCAPING - 8	HAMM	6/20/96	7/1/96	6/20/96	7/1/96	8			
176	406-INSTL OVERHEAD BRIDGE CRANE SUPPORTS & RAILS - 10	TCAM/HA	6/20/96	7/3/96	6/25/96	7/9/96	10			
177	407-COMP INSTALL ABOVE FLOOR HVAC EQUIP & SHEET METAL DUCTWORK AT HANGAR - 13	JAMAR/HA	6/20/96	7/9/96	6/20/96	7/9/96	13			
178	408-COMP INSTALL ABOVE FLOOR MECH PIPING AT HANGAR 1 - 13	JAMAR/HA	6/20/96	7/9/96	6/20/96	7/9/96	13			
179	409-COMP INSTALL ABOVE FLOOR BUILDING SPRINKLER PIPING AT HANGAR - 13	JAMAR/HA	6/20/96	7/9/96	6/20/96	7/9/96	13			
180	410-COMP INSTALL ABOVE FLOOR ELECT CONDUIT, FEEDERS & FIXTURES AT HANGAR - 13	BENSO N/HA	6/20/96	7/9/96	6/20/96	7/9/96	13			
181	NWA PROVIDE & SET VERTICAL CAROUSELS & PALLET RACKING - 2	NWA/S1	6/21/96	6/24/96	6/21/96	6/24/96	2			
182	313-INSTALL ABOVE FLOOR HANGERS AT SUPT 1 - 5	AMERE CT/S1	6/21/96	6/27/96	7/10/96	7/16/96	5			
183	314-INSTL COILING DOORS & INT OVERHEAD DOORS AT SUPT 1 - 15	LBC/S1	6/21/96	7/12/96	6/27/96	7/18/96	15			
184	311-PART ERECT INTERIOR METAL STUDS, FRAMING & IN WALL WORK AT SUPT 1 - 3	DY/S1	6/24/96	6/26/96	7/12/96	7/16/96	3			
185	033-INSTALL PARKING LOT, WEST, & EAST AREA LANDSCAPING - 10	HAMM	6/24/96	7/8/96	6/24/96	7/8/96	10			
186	305-COMP INSTALL ABOVE FLOOR SHEET METAL DUCTWORK AT SUPT 1 - 10	JAMAR/S1	6/24/96	7/8/96	7/2/96	7/16/96	10			
187	234-COMP INSTALL ACOUSTIC CEILING SPRINKLER HEADS & RELATED CEILING TILE AT MEZZ 2 - 2	JAMAR/S2	6/25/96	6/26/96	7/2/96	7/3/96	2			
188	225-INSTL TO/R VANITIES & PLUMBING FIXTURES AT MEZZ 2 - 5	JAMAR/S2	6/25/96	7/1/96	6/28/96	7/5/96	5			
189	312-COMP ERECT INTERIOR MASONRY PARTITIONS AT SUPT 1 - 15	CON/S1	6/25/96	7/16/96	6/25/96	7/16/96	15			
190	315-PART HANG GYP BD AT STUD PARTITIONS, CEILINGS, DROPS & SOFFITS AT SUPT 1 - 2	DY/S1	6/27/96	6/28/96	7/17/96	7/18/96	2			
191	232-COMP INSTL ACOUSTIC CEILING LIGHT FIXTURES AT MEZZ 2 - 5	BENSO N/S2	6/27/96	7/3/96	6/27/96	7/3/96	5			
192	233-COMP INSTL GRILLS & DIFFUSERS AT MEZZ 2 - 5	JAMAR/S2	6/27/96	7/3/96	6/27/96	7/3/96	5			
193	119-AT THIS POINT ALL WORK SOUTH OF THE BUILDING IS COMPLETE		7/1/96	7/1/96	7/1/96	7/1/96	0			
194	230-CONT(2) PAINT REQD INT SURFACES AT MEZZ 2 - 3	STROM/S2	7/2/96	7/5/96	7/8/96	7/10/96	3			
195	231-INSTL TO/R ACCESSORIES AT MEZZ 2 - 5	KA/S2	7/2/96	7/9/96	7/8/96	7/12/96	5			
196	237-COMP INSTL ACOUSTIC CEILING TILE AT MEZZ 2 - 3	KA/S2	7/5/96	7/9/96	7/5/96	7/9/96	3			
197	236-INSTL ARCH, MECH, & ELECT TRIM ITEMS AT MEZZ 2 - 5	ALL/S2	7/8/96	7/12/96	7/11/96	7/17/96	5			
198	235-COMP PAINT REQD INT SURFACES AT MEZZ 2 - 3	STROM/S2	7/10/96	7/12/96	7/15/96	7/17/96	3			

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199	240-INSTALL LOCKERS AT MEZZ 2 - 5	KA/S2	7/10/96	7/16/96	7/11/96	7/17/96	5			
200	238-INSTL & FINISH WOOD DOORS & HARDWARE AT MEZZ 2 - 6	KA/S2	7/10/96	7/17/96	7/10/96	7/17/96	6			
201	239-INSTL HOLLOW METAL DOORS & HARDWARE AT MEZZ 2 - 6	KA/S2	7/10/96	7/17/96	7/10/96	7/17/96	6			
202	412-PAINT INTERIOR OF HANGAR - 10	STROM/HA	7/10/96	7/23/96	7/10/96	7/23/96	10			
203	317-PART TAPE & SAND GYP BD AT PARTNS, CLGS, DROPS & SOFFITS AT SUPT 1 - 3	DY/S1	7/15/96	7/17/96	7/19/96	7/23/96	3			
204	160-ERECT PRECAST MEZZANINE FLOOR PLANK	WELLS	7/16/96	7/16/96	7/16/96	7/16/96	0			
205	164-GROUT, SET IN FLOOR WORK & POUR TOPPING AT MEZZ PRECAST FLOOR PLANK	JESCO	7/16/96	7/16/96	7/16/96	7/16/96	0			
206	316-COMP ERECT INTERIOR METAL STUDS, FRAMING & IN WALL WORK AT SUPT 1 - 2	DY/S1	7/17/96	7/18/96	7/17/96	7/18/96	2			
207	320-CONSTRUCT CONCRETE LOCKER BASES AT SUPT 1 - 2	JESCO/S1	7/17/96	7/18/96	8/7/96	8/8/96	2			
208	252-LAY CARPET AT MEZZ 2 - 2	KA/S2	7/18/96	7/19/96	7/19/96	7/22/96	2			
209	253-LAY RESILIENT FLOOR TILE AT MEZZ 2 - 2	KA/S2	7/18/96	7/19/96	7/19/96	7/22/96	2			
210	251-SEAL CONCRETE FLOORS AT MEZZ 2 - 3	JESCO/S2	7/18/96	7/22/96	7/18/96	7/22/96	3			
211	318-COMP HANG GYP BD AT STUD PARTITIONS, CEILINGS, DROPS & SOFFITS AT SUPT 1 - 3	DY/S1	7/19/96	7/23/96	7/19/96	7/23/96	3			
212	413-COMPLETE INSTL BRIDGE CRANES & ACTIVATE -		7/23/96	7/23/96	8/21/96	8/21/96	0			
213	254-CLEAN UP & TURN OVER MEZZ 2 TO NWA - 3	KA/S2	7/23/96	7/25/96	7/23/96	7/25/96	3			
214	319-COMP TAPE & SAND GYP BD AT PARTNS, CLGS, DROPS & SOFFITS AT SUPT 1- 2	DY/S1	7/24/96	7/25/96	7/24/96	7/25/96	2			
215	416-COMP INSTALL & HOOK UP OF FIRE PROTECTION SYSTEM - 5	JAMAR/HA	7/24/96	7/30/96	7/30/96	8/5/96	5			
216	415-COMP INSTL & HOOK UP MECH HVAC EQUIPMENT - 5	JAMAR/HA	7/24/96	7/30/96	7/31/96	8/6/96	5			
217	414-PART INSTALL SMOKE CURTAIN AT HANGAR ROOF - 10	SFP/HA	7/24/96	8/6/96	7/24/96	8/6/96	10			
218	165-INSTALL & GLAZE STOREFRONT AREA AT NORTH ELEVATION - 10	SUPERIOR/S1	7/24/96	8/6/96	7/31/96	8/13/96	10			
219	321-PART PAINT REQUIRED INT SURFACES AT SUPT 1 - 5	STROM/S1	7/26/96	8/1/96	7/26/96	8/1/96	5			
220	255-PLACE & INSTALL NWA FFE WORK AT MEZZ 2 - 22	NWA/S2	7/26/96	8/26/96	7/26/96	8/26/96	22			
221	417-CONDUCT FIRE PROTECTION SYSTEM DELUGE TEST - 1	JAMAR/HA	7/31/96	7/31/96	8/6/96	8/6/96	1			
222	324-CONT(1) PAINT REQD INT SURFACES AT SUPT 1 - 3	STROM/S1	8/2/96	8/6/96	8/23/96	8/27/96	3			
223	323-PART INSTL ACOUSIC CEILING SUSP & GRID AT SUPT 1 - 5	KA/S1	8/2/96	8/8/96	8/2/96	8/8/96	5			
224	322-INSTL TO/R HARD TILE AT SUPT 1 - 6	KA/S1	8/2/96	8/9/96	8/9/96	8/16/96	6			
225	419-NWA INSTALL D CHECK AIRCRAFT DOCK SYSTEM & PALLET RACKING - ??	NWA/HA	8/6/96	8/6/96	8/6/96	8/6/96	0			
226	409-COMP INSTL SMOKE CURTAIN AT HANGAR ROOF - 10	SFA/HA	8/7/96	8/20/96	8/7/96	8/20/96	10			
227	326-COMP INSTL ACOUSIC CEILING SUSP & GRID AT SUPT 1 - 5	KA/S1	8/9/96	8/15/96	8/14/96	8/20/96	5			
228	328-PART INSTL GRILLS & DIFFUSERS AT SUPT 1 - 5	JAMAR/S1	8/9/96	8/15/96	8/16/96	8/22/96	5			
229	329-PART INSTALL SPRINKLER HEADS & RELATED CEILING TILE AT SUPT 1 - 5	JAMAR/S1	8/9/96	8/15/96	8/16/96	8/22/96	5			
230	327-PART INSTL LIGHT FIXTURES AT SUPT 1 - 8	BENSON/S1	8/9/96	8/20/96	8/9/96	8/20/96	8			
231	325-INSTL TO/R VANITIES & PLUMBING FIXTURES AT SUPT 1 - 5	JAMAR/S1	8/12/96	8/16/96	8/19/96	8/23/96	5			



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232	333-COMP INSTL GRILLS & DIFFUSERS AT SUPT 1 - 5	JAMAR/S1	8/16/96	8/22/96	8/23/96	8/29/96	5			
233	334-COMP INSTALL SPRINKLER HEADS AT SUPT 1 - 5	JAMAR/S1	8/16/96	8/22/96	8/23/96	8/29/96	5			
234	330-CONT(2) PAINT REQD INT SURFACES AT SUPT 1 - 3	STROM/S1	8/19/96	8/21/96	8/28/96	8/30/96	3			
235	331-INSTL TO/R ACCESSORIES AT SUPT 1 - 5	KA/S1	8/19/96	8/23/96	8/26/96	8/30/96	5			
236	332-COMP INSTL LIGHT FIXTURES AT SUPT 1 - 7	BENSON/S1	8/21/96	8/29/96	8/21/96	8/29/96	7			
237	418-CLEAN UP & TURN OVER HANGAR AREA TO NWA - 10	KA/HA	8/21/96	9/4/96	8/21/96	9/4/96	10			
238	336-INSTL ARCH, MECH, & ELECT TRIM ITEMS AT SUPT 1 - 5	ALL/S1	8/22/96	8/28/96	9/6/96	9/12/96	5			
239	335-COMP PAINT REQD INT SURFACES AT SUPT 1 - 8	STROM/S1	8/26/96	9/5/96	9/3/96	9/12/96	8			
240	337-COMP INSTL ACOUSTIC CEILING TILE AT SUPT 1 - 3	KA/S1	8/30/96	9/4/96	8/30/96	9/4/96	3			
241	340-INSTALL LOCKERS AT SUPT 1 - 5	KA/S1	9/5/96	9/11/96	9/6/96	9/12/96	5			
242	338-INSTL & FINISH WOOD DOORS & HARDWARE AT SUPT 1 - 6	KA/S1	9/5/96	9/12/96	9/5/96	9/12/96	6			
243	339-INSTL HOLLOW METAL DOORS & HARDWARE AT SUPT 1 - 6	KA/S1	9/5/96	9/12/96	9/5/96	9/12/96	6			
244	352-LAY CARPET AT SUPT 1 - 2	KA/S1	9/13/96	9/16/96	9/16/96	9/17/96	2			
245	353-LAY RESILIENT FLOOR TILE AT SUPT 1 - 2	KA/S1	9/13/96	9/16/96	9/16/96	9/17/96	2			
246	351-SEAL CONCRETE FLOORS AT SUPT 1 - 3	JESCO/S1	9/13/96	9/17/96	9/13/96	9/17/96	3			
247	354-CLEAN UP & TURN OVER SUPT 1 TO NWA - 3	KA/S1	9/18/96	9/20/96	9/18/96	9/20/96	3			

**D. NWA equipment - equipment that must be installed before stands, bench tops, standard, material handling, tools, work benches, shelving equipment and other similar items are placed and hooked up**

1. Equipment locations shown on AM drawings
  - a) Hangar
  - b) Support area 1st level
  - c) Support area 2nd level
2. Items of equipment & building requirements for starting installation as of October 18, 1995
  - a) Aircraft Docking System
    - (1) Location
      - (a) Hangar D check and C check
    - (2) Components
      - (a) Docking supplier provides rails and installation requirements for floor setting (interior connections)
      - (b) Aircraft service pit shop drawings (interior connections) to AGSE
      - (c) FP deluge test in hangar
      - (d) Aircraft service pits completed
      - (e) Power, air to pits
      - (f) Docking installation - D Check position (D check position, clear)
      - (g) Docking installation - C Check position (C check position, clear)
      - (h) Install high pressure washers in hangar
      - (i) Concrete apron complete
      - (j) Docking system fit check (aircraft in hangar)
      - (k) Docking system, final acceptance test (requires hangar overhead cranes, power, wash and air to service pits and umbilical
      - (l) Overhead crane certification
    - (3) Locational requirements
      - (a) NWA has access to west D check position in hangars
      - (b) NWA has access to east C check position in hangars
      - (c) Bridge crane rails installed (to minimize overhead work)
      - (d) Slab on grade complete with service pits & embedded rails
      - (e) Slab on grade sealed
      - (f) Areas punched out and deficiencies recorded for correction
      - (g) Floors do not have to be striped
      - (h) Mechanical & electrical systems complete and operational in hangar bay
      - (i) Overhead painting complete
    - (4) Procurement
      - (a) NWA systems design - complete
      - (b) Solicit proposals on work - complete

- (c) Select supplier - complete
- (d) Award contract - complete
- (e) Prepare and submit shop drawings
  - i) Not started
- (f) Review and approve shop drawings
- (g) Fabricate and deliver equipment
- b) Pallet Racking and Cantilever in Oversized Stores and Hangar
  - (1) Location
    - (a) Room 165
    - (b) Exterior walls of hangar at grids 5 and 15
  - (2) Components
    - (a) Power available
    - (b) Racking profile provided to FP contractor for piping design in OS stores and hangar areas
    - (c) Racking installation in oversized stores
    - (d) Sprinkler installation into racking - oversized stores
    - (e) Racking installation in hangar
    - (f) Sprinkler installation in hangar racking
    - (g) Narrow aisle turret truck installation - oversized stores
  - (3) Locational requirements
    - (a) Provision for tying racking to building structure at top of racks
    - (b) Fire protection rough in complete to connections to racks
    - (c) Slab on grade constructed and sealed
    - (d) All overhead work complete
  - (4) Procurement
    - (a) NWA systems design
      - i) Rack bid package planned to be issued by November 15, 1995 (733)
    - (b) Solicit proposals on work
    - (c) Select supplier
    - (d) Award contract
    - (e) Prepare and submit shop drawings
    - (f) Review and approve shop drawings
    - (g) Fabricate and deliver equipment
- c) Vertical Carousels in RPS & RPH
  - (1) Location
    - (a) Support area level 1 - room 162 & 176
  - (2) Components from NWA check list
    - (a) Power available
    - (b) Provide carousel shop drawings for FP contractor for design of piping into carousels

- (c) Carousel installation
- (d) Install sprinklers
  - i) Intermediate level
  - ii) Top
- (e) All overhead mech and electrical complete
- (f) Overhead painting complete
- (3) Locational requirements
  - (a) Room available
  - (b) Utility service available
  - (c) Area painted
  - (d) Lighting complete
  - (e) Floor slab on grade complete and sealed
  - (f) Sprinkler rough in piping complete
- (4) Procurement
  - (a) NWA systems design
    - i) In work as of 10/18/95
    - ii) Spec package planned for bidding issue on November 30, 1995
  - (b) Solicit proposals on work
  - (c) Select supplier
  - (d) Award contract
  - (e) Prepare and submit shop drawings
  - (f) Review and approve shop drawings
  - (g) Fabricate and deliver equipment
- d) Bridge Cranes in Shops - Machine, Sheet Metal, and Door Shops
  - (1) Location
    - (a) Machine shop - room 191
    - (b) Sheet metal shop - room 173
    - (c) Door shops - room 225
  - (2) Components
    - (a) Shop drawings of overhead FP, lighting, electrical, air, HVAC to bridge crane suppliers
    - (b) Power available
    - (c) Install cranes
    - (d) Connect to building power
  - (3) Locational requirements
    - (a) Rail supports installed
    - (b) Room mechanical and electrical complete
  - (4) Procurement
    - (a) NWA systems design - complete
    - (b) Solicit proposals on work - complete
    - (c) Select supplier - to be selected by November 8, 1995

- (d) Award contract
- (e) Prepare and submit shop drawings
- (f) Review and approve shop drawings
- (g) Fabricate and deliver equipment
- e) Cadmium & Irridite Plating Line
  - (1) Location
    - (a) Room 153 - sheet metal machining
  - (2) Components
    - (a) Power available
    - (b) Cad line shop drawings to HVAC contractor for duct placement
    - (c) Install slabs on grade and curbs
    - (d) Install reinforced plastic grating
    - (e) Water and power to area
    - (f) Tank installation - 3' x 4' x 2'
    - (g) Connections to tanks
  - (3) Locational requirements
    - (a) Overhead work well along
    - (b) See above for other items
  - (4) Procurement
    - (a) NWA systems design
    - (b) Solicit proposals on work
    - (c) Select supplier
    - (d) Award contract
    - (e) Prepare and submit shop drawings
    - (f) Review and approve shop drawings
    - (g) Fabricate and deliver equipment
- f) Telecommunications
  - (1) Location
    - (a) Room 129
  - (2) Components
    - (a) Power available to COMM rooms
    - (b) Work benches installed
    - (c) Dock system installed
    - (d) Office furniture installation
    - (e) Fiber optic lines into building installed
    - (f) COMM rooms completed, secured
    - (g) Power available to shop areas
    - (h) Computer routers/hubs/servers installed by NWA
    - (i) Building wiring for phone and devices installed
    - (j) Phone installation (by NWA)

- (3) Location requirements
  - (a) Mech and electrical systems complete
- (4) Procurement
  - (a) NWA systems design - in work
  - (b) Solicit proposals on work
  - (c) Select supplier
  - (d) Award contract - probably in January, 1996
  - (e) Prepare and submit shop drawings
  - (f) Review and approve shop drawings
  - (g) Fabricate and deliver equipment
- g) Miscellaneous
  - (1) Location
    - (a) All over the place
  - (2) Components
    - (a) Small items with M & E hookups
      - i) Stands
      - ii) Bench tops
      - iii) Tools
      - iv) Work benches
      - v) Shelving
      - vi) Furniture
      - vii) Lockers
    - (b) Large items with M & E hookups
      - i) Standard equipment
      - ii) Material handling
      - iii) Metal bending equipment
      - iv) Lathes
      - v) Drill presses
      - vi) Power wash
    - (c) Deliver and place - no mech and elect
      - i) Fork trucks
      - ii) Pickup trucks
      - iii) Electric trucks
      - iv) Golf carts
  - (3) Locational requirements
  - (4) Procurement - ongoing
    - (a) NWA systems design
    - (b) Solicit proposals on work
    - (c) Select supplier
    - (d) Award contract
    - (e) Prepare and submit shop drawings

**NWA Aircraft Maintenance Facility**  
Duluth, Minnesota

**Ralph J. Stephenson, P. E., P. C.**  
Consulting Engineer

- (f) Review and approve shop drawings
- (g) Fabricate and deliver equipment

9 7 2 7  
Ralph J. Stephenson, P. E., P. C.  
Consulting Engineer  
323 Hiawatha Drive  
Mt. Pleasant, Michigan 48858  
ph 517 772 2537

September 6, 1995

Clinton J. Bruestle, Vice President  
Kraus-Anderson Construction Company  
North Division  
206 Beltrami Avenue  
Bemidji, Minnesota 56601

Dear Clint:

Re: Data tabulation for Northwest Airlines Aircraft Maintenance Facility, Duluth, Minnesota

Enclosed is a listing of all activities in the network model, Sheet 1, issue 1, dated August 30, 1995 except end time restraints (E T/R), zero interconnectors, and the small satellite boxes we use to clean up the graphics of the network model.

The listing is in ascending order of early starts. It gives the project manager an easily read output that can be used to track the project on a day-by-day basis. Be careful not to pay too much attention to the late starts and late finishes for this issue of the network. We still must tie many of the tasks into activities not yet shown on the diagram.

I enjoyed planning the project with you and Chris. One more session and we should have a job plan that will serve you both well.

Thanks for your help in the diagraming sessions and for the lunches and breakfast. I shall wait to hear from you in regards to the next follow up planning session. Good luck and regards.

enclosure: data run for issue #1



date printed: 9/5/95



**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
1	002-OWNER PROVIDE NOTICE TO PROCEED - 07/28/95 PM	7/31/95	7/31/95	7/31/95	7/31/95	0
2	003-T/R TO AM 08/30/95	8/30/95	8/30/95	8/30/95	8/30/95	0
3	007-OBTAIN BUILDING PERMIT - 1	8/30/95	8/30/95	8/30/95	8/30/95	1
4	016-OWNER & PILING CONTRACTOR RESOLVE PILING REWORK - 1	8/30/95	8/30/95	8/30/95	8/30/95	1
5	121-COMPLETE PLACE CRUSHED ROCK AT APRON AREA - 1	8/30/95	8/30/95	8/30/95	8/30/95	1
6	014-JESCO MOBILIZE & MOVE ON SITE - 2	8/30/95	8/31/95	8/30/95	8/31/95	2
7	015-INSTALL TEMPORARY POWER - 5	8/30/95	9/6/95	8/30/95	9/6/95	5
8	012-COMP EXCAVATE, INSTALL, TEST, & BACKFILL UNDERGROUND STORM SEWERS - 5	8/30/95	9/6/95	9/7/95	9/13/95	5
9	023-FAB & DELIVER ANCHOR BOLTS - 5	8/30/95	9/6/95	9/7/95	9/13/95	5
10	024-DETAIL, APPRV, FAB & DELIVER EARLY FOUND RESTL - 5	8/30/95	9/6/95	9/7/95	9/13/95	5
11	026-PREP, SUBMIT, APPRV CONC MIX DESIGNS - 5	8/30/95	9/6/95	9/7/95	9/13/95	5
12	013-COMP EXCAVATE, INSTALL, TEST, & BACKFILL UNDERGROUND SANITARY SEWERS - 10	8/30/95	9/13/95	8/30/95	9/13/95	10
13	005-EXTEND EXISTING AIRCRAFT TAXIWAY (DAA) - 15	8/30/95	9/20/95	8/30/95	9/20/95	15
14	004- INSTALL PERMANENT POWER TO SITE (MP&L) - 20	8/30/95	9/27/95	8/30/95	9/27/95	20
15	006-INSTALL GAS SERVICE - 22	8/30/95	9/29/95	8/30/95	9/29/95	22
16	009-INSTALL PERMANENT WATER LINE TO SITE (DAA) - 22	8/30/95	9/29/95	8/30/95	9/29/95	22
17	008-CONSTRUCT PUBLIC ACCESS ROAD TO SITE (STEBNER ROAD) - BY DULUTH AIRPORT AUTHORITY - 44	8/30/95	10/31/95	8/30/95	10/31/95	44
18	129-INSTALL UNDER-APRON ELECTRICAL CONDUIT - 5	8/31/95	9/7/95	8/31/95	9/7/95	5
19	025-PILING CONTR CORRECT EXISTING PILING & COMP INSTL NEW PILES & CERTIFY ALL PILING - 9	8/31/95	9/13/95	8/31/95	9/13/95	9
20	018-CONSTRUCT WATER PUMP STATION (TO BE DIAGRAMMED IN DETAIL) -50	9/1/95	11/10/95	9/1/95	11/10/95	50
21	133-LAY BITUMINOUS CONCRETE BINDER COURSE AT APRON - 12	9/8/95	9/25/95	9/8/95	9/25/95	12
22	030-EXCAV, FORM, REINF, POUR & STRIP SHORING TWR FTGS (TEMPORARY INSTALLATION) - 5	9/14/95	9/20/95	9/14/95	9/20/95	5
23	031-PART EXCAV, FORM, REINF, POUR & STRIP FOUND WALL FOOTINGS & WALLS - 13	9/14/95	10/2/95	9/14/95	10/2/95	13
24	032-PART EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 13	9/14/95	10/2/95	9/14/95	10/2/95	13

Listed in early start, early finish sequence

sheet 1  
date: 9/4/95

**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
25	033-PART EXCAV, FORM, REINF, POUR & STRIP PILE CAPS, ROCK ANCHORS & GRADE BEAMS POURED WITH PILE CAPS - 13	9/14/95	10/2/95	9/14/95	10/2/95	13
26	017-EXCAVATE, INSTALL, TEST, & BACKFILL UNDERGROUND WATER LINES - 15	9/14/95	10/4/95	9/14/95	10/4/95	15
27	139-LAY CONCRETE SURFACE COURSE AT APRON TO WITHIN 120' OF BUILDING - 12	9/26/95	10/11/95	9/26/95	10/11/95	12
28	037-T/R TO DELIVER STRUCT STL, JOISTS, & MTL DK FOR HANGAR AREA - AM 10/2/95	10/2/95	10/2/95	10/3/95	10/3/95	0
29	054-PART INSTALL & CONNECT GROUNDING GRID - 5	10/3/95	10/9/95	10/3/95	10/9/95	5
30	038-CONT(1) EXCAV, FORM, REINF, POUR & STRIP FOUND WALL FOOTINGS & WALLS - 14	10/3/95	10/20/95	10/3/95	10/20/95	14
31	039-CONT(1) EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 14	10/3/95	10/20/95	10/3/95	10/20/95	14
32	040-CONT(1) EXCAV, FORM, REINF, POUR & STRIP PILE CAPS, ROCK ANCHORS & GRADE BEAMS POURED WITH PILE CAPS - 14	10/3/95	10/20/95	10/3/95	10/20/95	14
33	053-PART ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 24	10/3/95	11/3/95	10/3/95	11/3/95	24
34	020-EXCAVATE, INSTALL, TEST, & BACKFILL UNDERGROUND GAS LINES - 3	10/5/95	10/9/95	10/9/95	10/11/95	3
35	022-EXCAVATE, INSTALL, TEST, & BACKFILL UNDERGROUND PHONE LINES - 5	10/5/95	10/11/95	10/5/95	10/11/95	5
36	021-EXCAV, FORM, REINF & POUR LIGHT BASE FOOTINGS & CONDUIT OUTSIDE PARKING AREAS - 5	10/5/95	10/11/95	5/8/96	5/14/96	5
37	029-FINE GRADE PARKING LOT SUBBASE - 1	10/12/95	10/12/95	10/13/95	10/13/95	1
38	028-EXCAVATE, FORM, REINF & POUR PARKING LOT LIGHT FIXT FOOTINGS - 4	10/12/95	10/17/95	10/12/95	10/17/95	4
39	140-T/R TO COMP PLACE CONC SURF COURSE OF APRON ADJACENT BLDG - 05/15/96 - 152	10/12/95	5/15/96	10/12/95	5/15/96	152
40	036-INSTALL CONCRETE CURBS AT PARKING LOT - 4	10/13/95	10/18/95	10/16/95	10/19/95	4
41	035-EXCAVATE, INSTALL & BACKFILL PARKING LOT LIGHTING CONDUIT - 2	10/18/95	10/19/95	10/18/95	10/19/95	2
42	058-LAY BITUMINOUS CONCRETE BINDER COURSE AT PARKING LOT - 3	10/20/95	10/24/95	10/20/95	10/24/95	3
43	055-COMP EXCAV, FORM, REINF, POUR & STRIP FOUND WALL FOOTINGS & WALLS - 10	10/23/95	11/3/95	10/23/95	11/3/95	10
44	056-COMP EXCAV, FORM, REINF, POUR & STRIP SPREAD FOOTINGS - 10	10/23/95	11/3/95	10/23/95	11/3/95	10
45	057-COMP EXCAV, FORM, REINF, POUR & STRIP PILE CAPS, ROCK ANCHORS & GRADE BMS POURED WITH PILE CAPS - 110	10/23/95	11/3/95	10/23/95	11/3/95	10
46	052-T/R TO DELIVER STRUCT STL, JOISTS, & MTL DK FOR SUPPORT AREA - AM 11/6/95	11/6/95	11/6/95	11/6/95	11/6/95	0
47	061-PART ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 15	11/6/95	11/27/95	11/6/95	11/27/95	15
48	063-CONT(1) ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 19	11/6/95	12/1/95	11/6/95	12/1/95	19

Listed in early start, early finish sequence

sheet 2  
date: 9/4/95

**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota**  
**Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
49	066-CONT(1) ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 16	11/28/95	12/18/95	11/28/95	12/18/95	15
50	062-T/R DETAIL, APPROVE, FAB & DELIVER HANGAR DOOR RAILS, TOP GUIDES & DOORS - AM 12/1/95	12/1/95	12/1/95	12/4/95	12/4/95	0
51	070-PART INSTALL HANGAR ROOF NAILERS, BLOCKING & CURBS (MINUS BLDG PERIMETER) - 3	12/4/95	12/6/95	1/3/96	1/5/96	3
52	068-INSTALL DOOR RAILS & TOP GUIDE ASSEMBLY FOR HANGER DOOR - 10	12/4/95	12/15/95	12/4/95	12/15/95	10
53	067-COMP ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT HANGAR AREA - A TO L & 4 TO 16 - 28	12/4/95	1/12/96	12/4/95	1/12/96	28
54	075-PART LAY INSUL & ROOFING AT HANGAR - 8	12/7/95	12/18/95	1/8/96	1/17/96	8
55	084-T/R DETAIL, APPV, FAB & DELIVER PRECAST WALL PANELS - AM 12/13/95	12/13/95	12/13/95	1/15/96	1/15/96	0
56	069-T/R DETAIL, APPRV, FAB & DELIVR HANGAR DOOR SECTIONS - AM 12/15/95	12/15/95	12/15/95	12/18/95	12/18/95	0
57	065-DETAIL, APPRV, FAB & DELVR FRAMES FOR MASONRY SEPARATION WALL AT COL LINES J & K - AM 12/15/95	12/15/95	12/15/95	1/23/96	1/23/96	0
58	076-PART INSTALL HANGAR DOOR SECTIONS - 6	12/18/95	12/26/95	12/18/95	12/26/95	6
59	073-COMP ERECT, PLUMB & TRIM STRUCT STL, JOISTS & MTL DK AT SUPPORT AREA - L TO S & 1 TO 18 - 17	12/19/95	1/12/96	12/19/95	1/12/96	17
60	072-CONST MASONRY SEPARATION WALL BETWEEN HANGAR & SUPPORT AREA AT COL LINES J & K - 20	12/19/95	1/17/96	1/23/96	2/19/96	20
61	082-PART INSTALL HANGAR DOOR COMPOSITE PANELS - 5	12/27/95	1/3/96	12/28/95	1/4/96	5
62	081-COMP INSTALL HANGAR DOOR SECTIONS - 6	12/27/95	1/4/96	12/27/95	1/4/96	6
63	089-T/R/ DETAIL, APPV, FAB & DELIVER FIBERGLAS WALL PANELS - AM 12/31/95	12/31/95	12/31/95	1/18/96	1/18/96	0
64	103-T/R DETAIL, APPV, FAB & DELIVER CMPOSITE METAL PANELS - AM 12/31/95	12/31/95	12/31/95	1/23/96	1/23/96	0
65	086-COMP INSTALL HANGAR DOOR COMPOSITE PANELS - 5	1/5/96	1/11/96	1/5/96	1/11/96	5
66	088-T/R DETAIL, APPV, FAB & DELIVER ROOF MOUNTED EQUIPMENT - ASSUME 01/15/96	1/15/96	1/15/96	2/5/96	2/5/96	0
67	112-T/R DETAIL, APPV, FAB, & DELIVER OVERHEAD DOORS - AM 01/15/96	1/15/96	1/15/96	2/6/96	2/6/96	0
68	090-T/R DETAIL, APPV, FAB & DELIVER EXTERIOR WINDOWS - AM 01/15/96	1/15/96	1/15/96	2/8/96	2/8/96	0
69	074-CONT(1) INSTALL ROOF NAILERS, BLOCKING & CURBS (MINUS BLDG PERIMETER) - 3	1/15/96	1/17/96	1/15/96	1/17/96	3
70	087-PART ERECT, PLUMB & WELD PRECAST WALL PANELS (WEST & NORTH) - 3	1/15/96	1/17/96	1/15/96	1/17/96	3
71	104-CONT(1) ERECT, PLUMB & WELD PRECAST WALL PANELS (NORTH & EAST) - 3	1/18/96	1/22/96	1/18/96	1/22/96	3
72	083-COMP INSTALL ROOF NAILERS, BLOCKING & CURBS (MINUS BLDG PERIMETER) - 3	1/18/96	1/22/96	1/23/96	1/25/96	3

**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota**  
**Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
73	080-CONT(1) LAY INSUL & ROOFING AT HANGAR & SUPPORT AREA - 6	1/18/96	1/25/96	1/18/96	1/25/96	6
74	105-ERECT FIBERGLAS EXT WALL PANEL SYSTEM (WEST ELEV) - 15	1/18/96	2/7/96	1/18/96	2/7/96	15
75	107-CONT(2) ERECT, PLUMB & WELD PRECAST WALL PANELS (EAST & SOUTH) - 3	1/23/96	1/25/96	2/1/96	2/5/96	3
76	108-ERECT COMPOSITE METAL PANEL SYSTEM (NORTH ELEV) - 10	1/23/96	2/5/96	1/23/96	2/5/96	10
77	113-PART ERECT, PLUMB & WELD PRECAST WALL PANELS (SOUTH) - 2	1/26/96	1/29/96	2/6/96	2/7/96	2
78	085-SUBSTANT COMPLETE LAY INSUL & ROOFING AT HANGAR & SUPPORT AREA TO HORIZ DRY IN - 6	1/26/96	2/2/96	1/26/96	2/2/96	6
79	102-INSTALL ROOF MOUNTED EQUIPMENT - 5	2/5/96	2/9/96	2/5/96	2/9/96	5
80	116-INSTALL OVERHEAD DOORS AT LOADING DOCK 3	2/6/96	2/8/96	2/6/96	2/8/96	3
81	114-ERECT COMPOSITE METAL PANEL SYSTEM (EAST ELEV) - 10	2/6/96	2/19/96	2/6/96	2/19/96	10
82	106-INSTALL & GLAZE PUNCHED WINDOWS AT WEST ELEVATION - 5	2/8/96	2/14/96	2/8/96	2/14/96	5
83	111-COMPLETE PERIM BLOCKING & ROOFING & TRIM AT NORTH & WEST ELEVATIONS - 5	2/8/96	2/14/96	2/15/96	2/21/96	5
84	119-ERECT COMPOSITE METAL PANEL SYSTEM (SOUTH ELEV) - 10	2/8/96	2/21/96	2/8/96	2/21/96	10
85	109-E T/R TO SET LATE FINISH OF ROOFING & ROOF MOUNTED EQUIPMENT	2/9/96	2/9/96	2/9/96	2/9/96	0
86	154-T/R DETAIL, APPV, FAB & DELIVER FRAMES & IN WALL WORK FOR MASONRY WALLS AT 1ST FLOOR - AM 02/15/96	2/15/96	2/15/96	4/5/96	4/5/96	0
87	110-INSTALL & GLAZE PUNCHED WINDOWS AT NORTH ELEVATION - 8	2/15/96	2/26/96	2/15/96	2/26/96	8
88	118-INSTL & ACTIVATE TEMP BUILDING HEATING SYSTEM AT SUPPORT AREA - 3	2/20/96	2/22/96	2/20/96	2/22/96	3
89	117-INSTALL OVERHEAD DOORS AT EAST ELEVATION - 5	2/20/96	2/26/96	2/20/96	2/26/96	5
90	122-INSTALL OVERHEAD DOOR IN HANGAR DOOR - 3	2/22/96	2/26/96	2/22/96	2/26/96	3
91	130-INSTL & ACTIVATE TEMP BUILDING HEATING SYSTEM AT HANGAR AREA - 3	2/22/96	2/26/96	2/22/96	2/26/96	3
92	124-COMPLETE INSTALL PERIM BLOCKING & ROOFING & TRIM AT EAST & SOUTH ELEVATIONS -- 5	2/22/96	2/28/96	2/22/96	2/28/96	5
93	127-INSTALL EXT BUILDING SECURITY LIGHTING - 5	2/22/96	2/28/96	2/22/96	2/28/96	5
94	123-INSTALL EXTERIOR BUILDING SIGNAGE AS REQUIRED - 10	2/22/96	3/6/96	2/22/96	3/6/96	10
95	125-PART FM, REINFORCE, SET IN FLOOR WORK & POUR MEZZANINE FLOORS - 4	2/23/96	2/28/96	2/23/96	2/28/96	4
96	128-PART ERECT INT MASONRY PARTITIONS ON FTGS AT SUPPORT AREA 1ST FLOOR - 8	2/23/96	3/5/96	3/12/96	3/21/96	8

**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
97	126-THAW SUPPORT AREA 1ST FLOOR SUBBASE - 10	2/23/96	3/7/96	2/23/96	3/7/96	10
98	120-INSTALL & GLAZE PUNCHED WINDOWS AT EAST ELEVATION - 5	2/27/96	3/4/96	2/27/96	3/4/96	5
99	134-THAW SELECTED SUBGRADE AT HANGAR AREA - 10	2/27/96	3/11/96	2/27/96	3/11/96	10
100	131-COMP FORM, REINFORCE, SET IN FLOOR WORK & POUR MEZZANINE FLOORS - 4	2/29/96	3/5/96	2/29/96	3/5/96	4
101	138-COMP ERECT INT MASONRY PARTITIONS ON FTGS AT SUPPORT AREA 1ST FLOOR - 7	3/6/96	3/14/96	3/27/96	4/4/96	7
102	132-PART EXCAV, INSTL, TEST & BKFL UNDERGROUND UTIL AT SUPPORT AREA 1ST FL - 10	3/8/96	3/21/96	3/8/96	3/21/96	10
103	151-PART INSTALL BELOW FLOOR MECH & ELECTRICAL WORK & SERVICE PITS - 10	3/12/96	3/25/96	3/12/96	3/25/96	10
104	136-PART FILL, FINE GRADE, LAY VAPOR BARRIER & INSTALL SAND CUSHION AT SUPPORT AREA - 5	3/22/96	3/28/96	3/22/96	3/28/96	5
105	137-COMP EXCAV, INSTL, TEST & BKFL UNDERGROUND UTIL AT SUPPORT AREA 1ST FL - 10	3/22/96	4/4/96	3/22/96	4/4/96	10
106	155-CONT(1) INSTALL BELOW FLOOR MECH & ELECTRICAL WORK & SERVICE PITS - 5	3/26/96	4/1/96	3/26/96	4/1/96	5
107	156-PART PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 5	3/26/96	4/1/96	3/26/96	4/1/96	5
108	152-PART FORM, SET IN FL WORK & POUR SLAB ON GRADE AT SUPPORT AREA - 5	3/29/96	4/4/96	3/29/96	4/4/96	5
109	160-COMP INSTALL BELOW FLOOR MECH & ELECTRICAL WORK & SERVICE PITS - 5	4/2/96	4/8/96	4/2/96	4/8/96	5
110	161-CONT(1) PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 5	4/2/96	4/8/96	4/2/96	4/8/96	5
111	162-PART POUR OUT HANGAR SLAB ON GRADE - 5	4/2/96	4/8/96	4/2/96	4/8/96	5
112	153-COMP FILL, FINE GRADE, LAY VAPOR BARRIER & INSTALL SAND CUSHION AT SUPPORT AREA - 5	4/5/96	4/11/96	4/5/96	4/11/96	5
113	159-PART ERECT MASONRY PARTITIONS ON FL SLAB AT 1ST FLOOR SUPPORT AREA - 10	4/5/96	4/18/96	4/5/96	4/18/96	10
114	166-PLACE VAPOR BARRIER & SAND CUSHION UNDER HANGAR SLAB ON GRADE - 5	4/9/96	4/15/96	4/9/96	4/15/96	5
115	167-CONT(1) POUR OUT HANGAR SLAB ON GRADE - 5	4/9/96	4/15/96	4/9/96	4/15/96	5
116	158-COMP FORM, SET IN FL WORK & POUR SLAB ON GRADE AT SUPPORT AREA - 5	4/12/96	4/18/96	4/12/96	4/18/96	5
117	172-COMP POUR OUT HANGAR SLAB ON GRADE - 5	4/16/96	4/22/96	4/16/96	4/22/96	5
118	165-COMP ERECT MASONRY PARTITIONS ON FL SLAB AT 1ST FLOOR SUPPORT AREA - 10	4/19/96	5/2/96	4/19/96	5/2/96	10
119	019-T/R TO SPRING 1996 - 05/1596	5/15/96	5/15/96	5/15/96	5/15/96	0
120	060-T/R TO LAY BITUMINOUS CONCRETE SURFACE COURSE AT PARKING LOT IN 1996 - 07/01/96	5/15/96	5/15/96	5/15/96	5/15/96	0

Listed in early start, early finish sequence

sheet 5  
date: 9/4/95

**Data listing for NWA aircraft maintenance facility, Duluth, Minnesota  
Kraus-Anderson North - General contractors**

Derived from network model, sheet #1, dated 08/30/95.

	activity	early start	early finish	late start	late finish	d
121	064-LAY BITUMINOUS CONCRETE SURFACE COURSE AT PARKING LOT - 5	5/15/96	5/21/96	5/15/96	5/21/96	5
122	051-CONSTRUCT SIDEWALKS AT PARKING LOT - 8	5/15/96	5/24/96	5/15/96	5/24/96	8
123	027-CONSTRUCT SIDEWALKS OUTSIDE PARKING AREAS - 10	5/15/96	5/29/96	5/15/96	5/29/96	10
124	157-COMP PLACE CONCRETE SURFACE COURSE AT APRON ADJACENT BUILDING -5	5/16/96	5/22/96	5/16/96	5/22/96	5
125	071-STRIPE PARKING LOT SURFACES AS REQUIRED - 2	5/22/96	5/23/96	5/22/96	5/23/96	2
126	163-STRIPE APRON SURFACES AS REQUIRED - 5	5/23/96	5/30/96	5/23/96	5/30/96	5
127	078-INSTALL PARKING LOT LIGHT FIXTURES - 5	5/24/96	5/31/96	5/24/96	5/31/96	5
128	079-INSTALL PARKING LOT SIGNAGE - 5	5/24/96	5/31/96	5/24/96	5/31/96	5
129	077-INSTALL PARKING LOT, WEST, & EAST AREA LANDSCAPING - 10	5/24/96	6/7/96	5/24/96	6/7/96	10
130	170-INSTALL APRON LIGHT FIXTURES - 5	5/31/96	6/6/96	6/5/96	6/11/96	5
131	171-INSTALL APRON SIGNAGE	5/31/96	6/6/96	6/5/96	6/11/96	5
132	169-INSTALL APRON LANDSCAPING - 8	5/31/96	6/11/96	5/31/96	6/11/96	8
133	173-AT THIS POINT ALL WORK SOUTH OF THE BUILDING IS COMPLETE	6/11/96	6/11/96	6/11/96	6/11/96	0