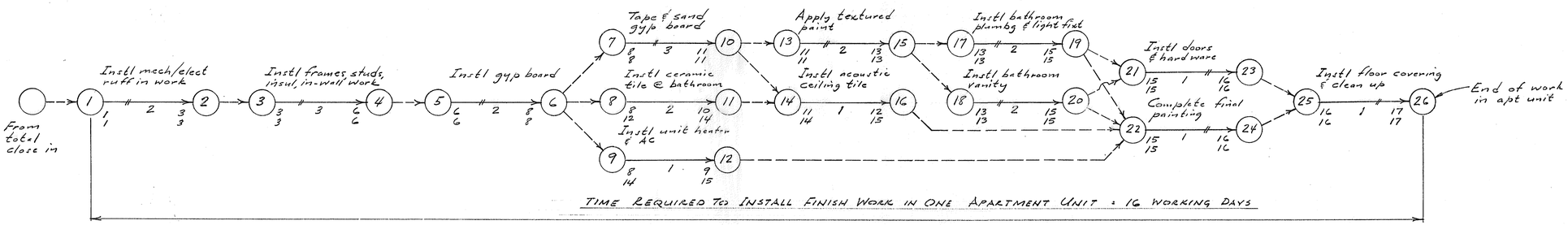
MONITORING RECORD						ISSUE RECORD	
DATE		DATE		DATE		ISSUE No.	DATE

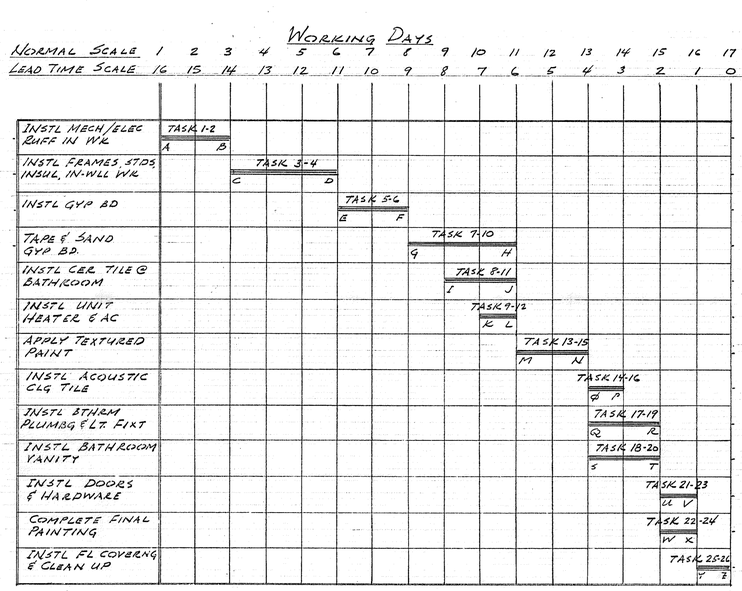
RALPH J. STEPHENSON, P.E.
15064 WARWICK ROAD
DETROIT, MICHIGAN 48223
CONSULTANT PH 273-5026

MULTI-COLOR 400 4-75 50297



ACTION PLAN FOR ONE APT. UNIT

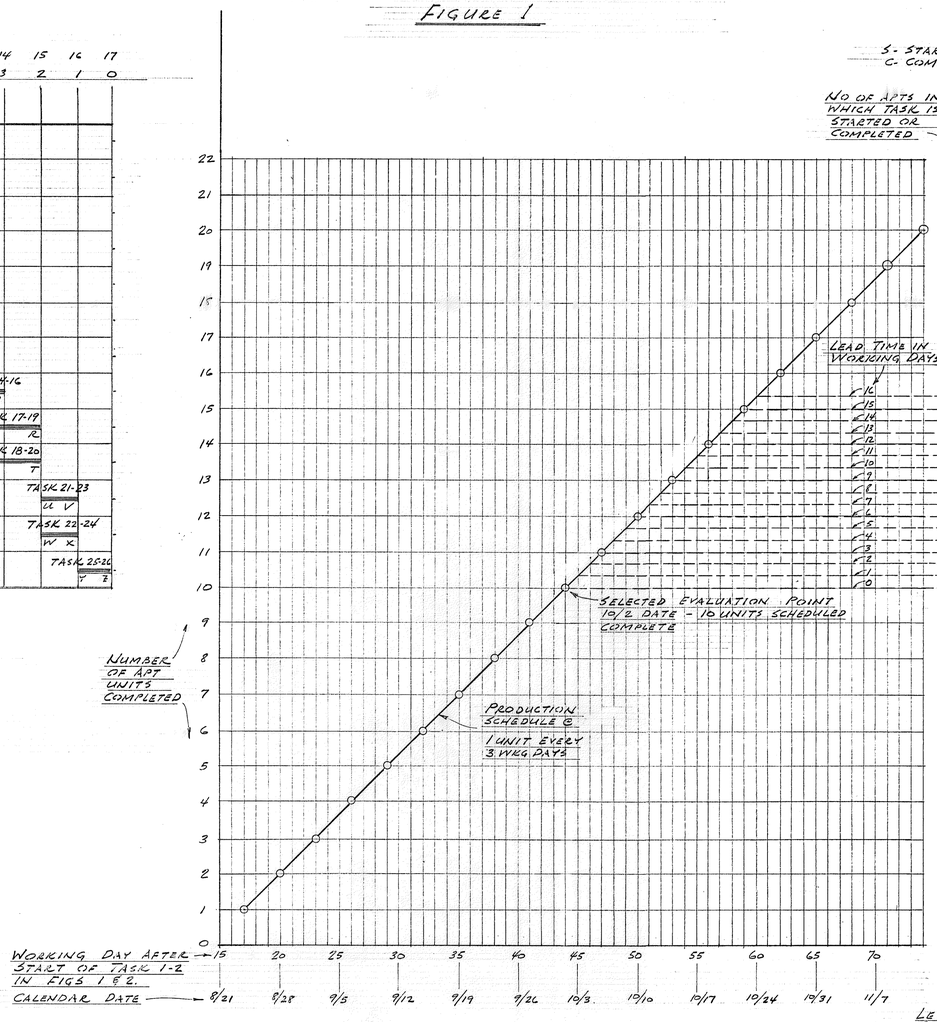
FIGURE 1



NOTE: LETTERS DESIGNATE STARTING & ENDING POINTS OF EACH TASK

WORK SCHEDULE FOR ONE APARTMENT UNIT

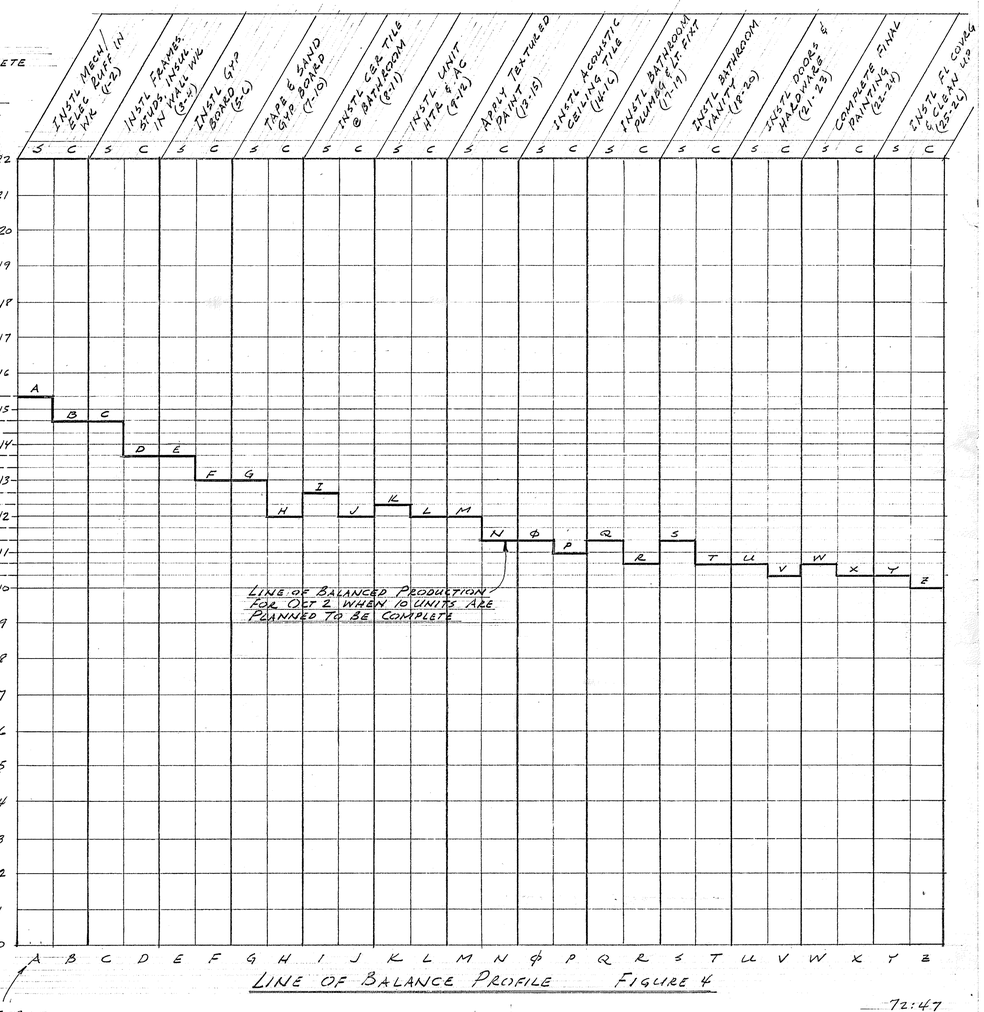
FIGURE 2



PRODUCTION SCHEDULE FOR DELIVERY OF 20 APARTMENTS-

RATE = 1 APARTMENT EVERY 3 WKG DAYS

FIGURE 3



LETTER DESIGNATING STARTING & ENDING POINTS OF TASKS FROM FIGURE 2

LINE OF BALANCE PROFILE FIGURE 4

72:47

MONITORING RECORD						ISSUE RECORD	
DATE		DATE		DATE		ISSUE No.	DATE
						1	AUG 12,

LINE OF BALANCE CONTROL SCHEDULE FOR OASIS APARTMENT DEVELOPMENT

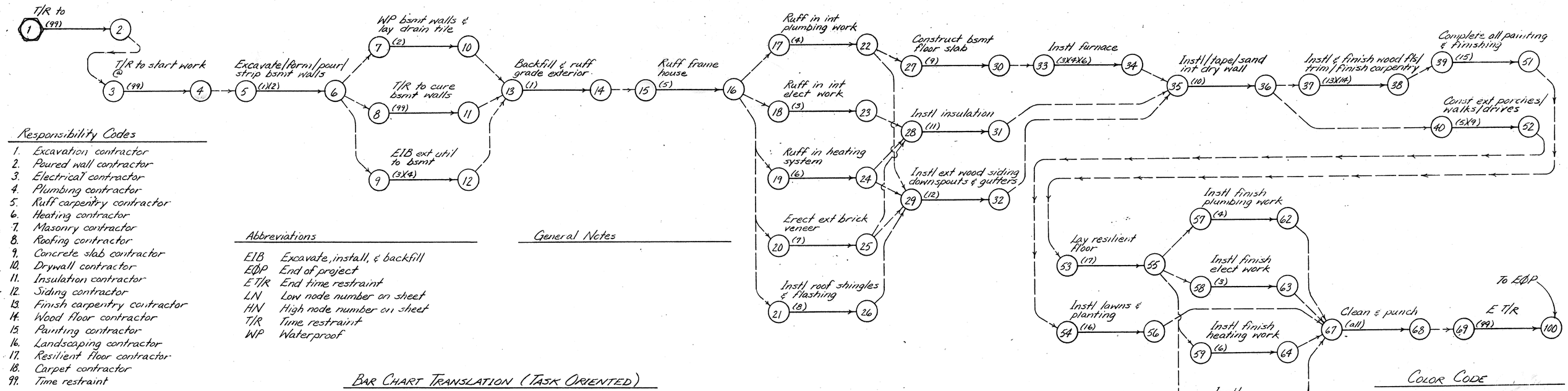
DESERT CITY

KAMIL DEVELOPMENT CO.

RALPH J. STEPHENSON, P.E.
15064 WARWICK ROAD
DETROIT, MICHIGAN 48223
CONSULTANT PH 273-5026

L 1

MULTI-COLOR 200 1-71 44696



Responsibility Codes

1. Excavation contractor
2. Poured wall contractor
3. Electrical contractor
4. Plumbing contractor
5. Ruff carpentry contractor
6. Heating contractor
7. Masonry contractor
8. Roofing contractor
9. Concrete slab contractor
10. Drywall contractor
11. Insulation contractor
12. Siding contractor
13. Finish carpentry contractor
14. Wood floor contractor
15. Painting contractor
16. Landscaping contractor
17. Resilient floor contractor
18. Carpet contractor
99. Time restraint

Abbreviations

EIB	Excavate, install, & backfill
E⌀P	End of project
E T/R	End time restraint
LN	Low node number on sheet
HN	High node number on sheet
T/R	Time restraint
WP	Waterproof

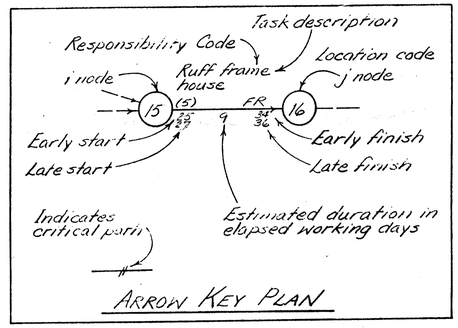
General Notes

Bar Chart Translation (Task Oriented)

RØW #	i node no.	j node no	d= dur	Task description and Responsibility Codes	Month / Date / Wkg Day
1	5	6		Excavate/form/pour/strip bsmt walls	(1)(2)
2	7	10		WP bsmt walls & lay drain tile	(2)
3	9	12		EIB ext util to bsmt	(3X4)
4	13	14		Backfill & ruff grade ext	(1)
5	15	16		Ruff frame house	(5)
6	17	22		Ruff in int plumbing work	(4)
7	18	23		Ruff in elect work	(3)
8	19	24		Ruff in heating system	(6)
9	20	25		Erect ext brick veneer	(7)
10	21	26		Instl roof shingles & flashing	(8)
11	27	30		Const bsmt floor slab	(9)
12	28	31		Instl insulation	(11)
13	29	32		Instl ext wood siding downspouts & gutters	(12)
14	33	34		Instl furnace	(3X4X6)
15	35	36		Instl tape/sand int dry wall	(10)
16	37	38		Instl & finish wood flrs/trims/finish carpentry	(13X14)
17	39	51		Comp all painting & finishing	(15)
18	40	52		Const all ext porches/walks/drives	(5X9)
19	53	55		Lay resilient floor	(17)
20	54	56		Instl lawns & planting	(16)
21	57	62		Instl finish plumbing work	(4)
22	58	63		Instl finish elect work	(3)
23	59	64		Instl finish heating work	(6)
24	60	65		Instl appliances	(3X4)
25	61	66		Lay carpet	(18)
26	67	68		Clean & punch	all

Color Code

Green	Task on time not past early finish
Orange	Task on time past early finish
Blue	Task behind not past late finish
Yellow	Task behind past late finish



Arrow Key Plan

MONITORING RECORD						ISSUE RECORD	
DATE		DATE		DATE		ISSUE No.	DATE
						1	SEPT 1, 87

Reserved Node Nos

41	46
42	47
43	48
44	49
45	50

LN 1
HN 69
E⌀P 100

74-77

Network Planning Worksheet
Residential
Bar Chart Schedule
Look Ahead Schedule

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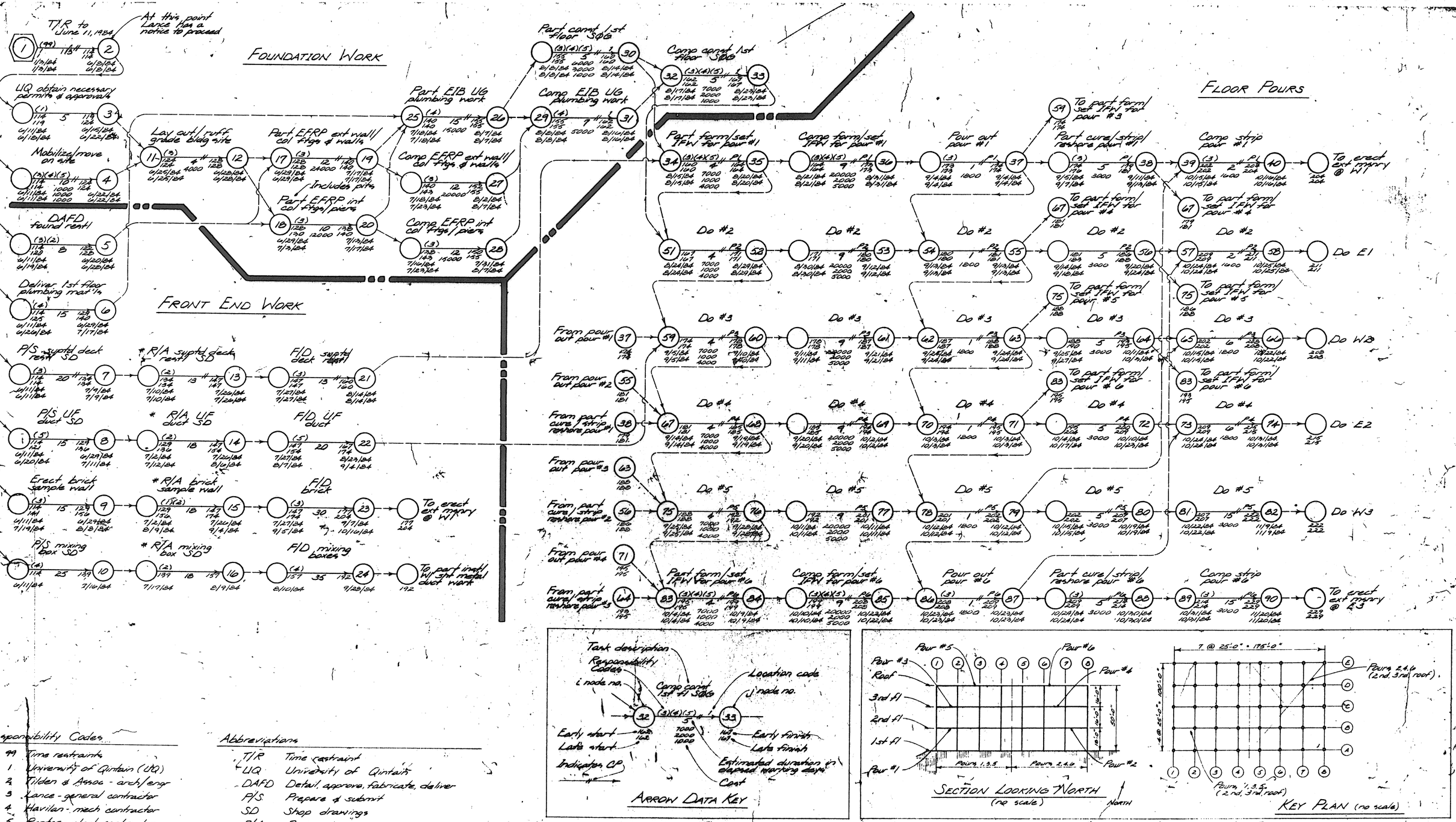
DETROIT, MICHIGAN 48223
CONSULTANT PH 273-5026

2

JLB 1

MULTI-COLOR 856 1-84 77188P



Responsibility Codes

99	Time restraints
1	University of Qintain (UQ)
2	Tilden & Assoc - arch/engr
3	Lance - general contractor
4	Klavilan - mech contractor
5	Renter - elect contractor

Abbreviations

T/R	Time restraint
UQ	University of Qintain
DAFD	Detail, approve, fabricate, deliver
P/S	Prepare & submit
SD	Shop drawings
R/A	Review & approve
EFRP	Excavate, form, reinforce, pour
F/D	Fabricate & deliver
E.I.B	Excavate, install, backfill
SOG	Slab on grade
UG	Underground
IFW	In floor work - includes inserts, reinforcing, sleeves, hangers, screeds, conduit, UF duct
W1	West 1st Floor (others similar)
UF	Under floor
Wd	Working days
T&A	Tilden & Associates

* General Notes

- For R/A (review & approve) shop drawings, the following times will normally apply:

Lance log in & transmit	3 wd.
T&A log in & check	10 wd.
T&A transmit to Lance	2 wd.
Lance transmit to subs	2 wd.
total	17 wd.

- For expedited shop drawings & hand carrying the time can be reduced to 13 working days.

MONITORING RECORD			ISSUE RECORD	
DATE	DATE	DATE	ISSUE No.	DATE
			1	NOV 2
			2	Jan 2, 85

Reserved Node Nos.

41	46	71	76	LN 1
42	47	72	77	HN 180
43	48	73	78	INC 1
44	49	74	79	
45	50	75	80	

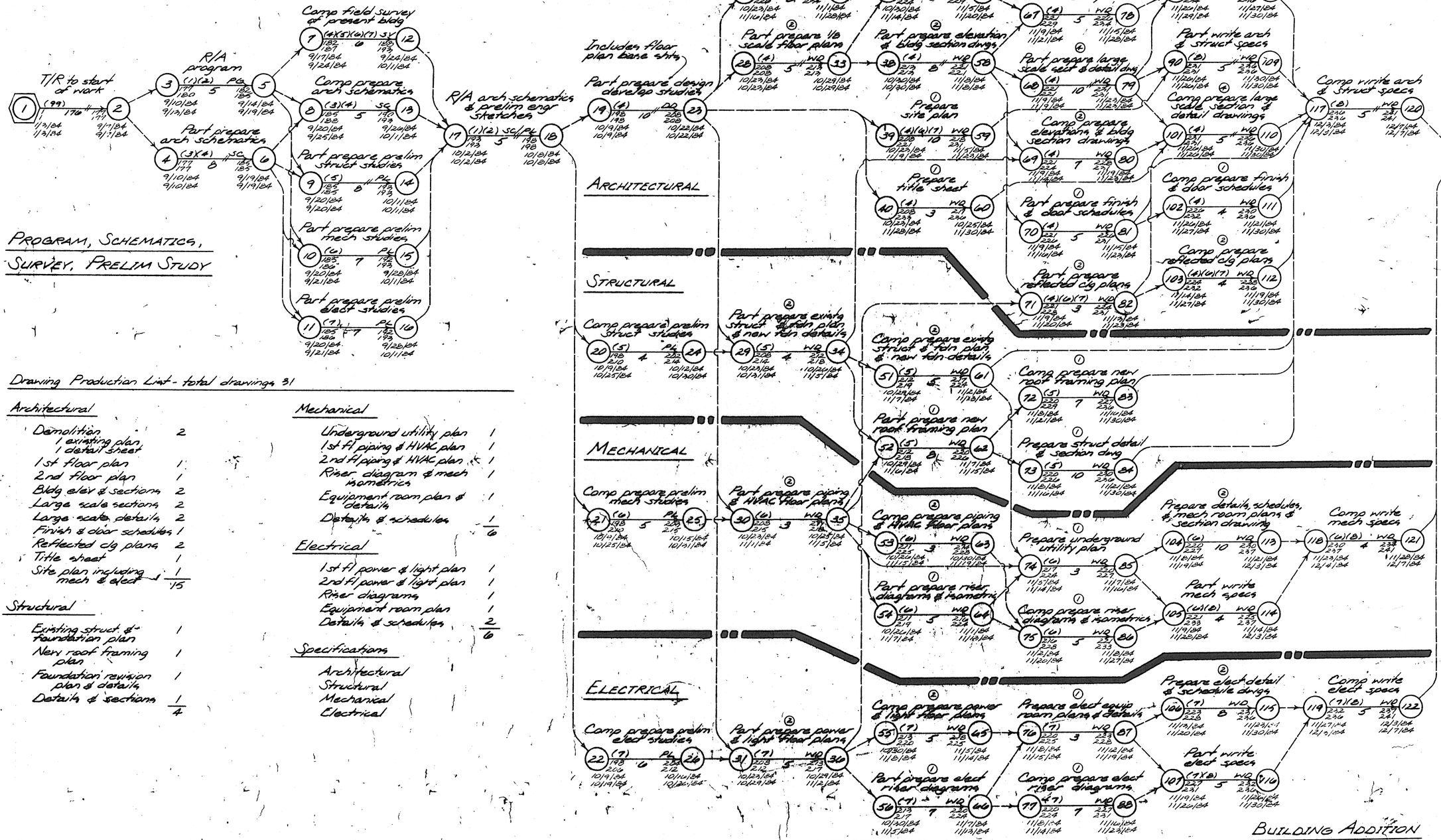
SUBSTRUCTURE & FRAME 77-20

NETWORK MODEL FOR NEW UNIVERSITY ACTIVITIES BUILDING
UNIVERSITY OF QITAIN
QITAIN, WYOMING
LANCE CONSTRUCTION COMPANY

RALPH J. STEPHENSON, P.E.
15084 WARWICK ROAD
DETROIT, MICHIGAN 48223
CONSULTANT PH 278-5020

1 UDM 2

MULTI-COLOR PRINT



PROGRAM, SCHEMATICS, SURVEY, PRELIM STUDY

Drawing Production List - total drawings 31

Architectural

Demolition, 1 existing plan, 1 detail sheet	2
1st floor plan	1
2nd floor plan	1
Bldg elev & sections	2
Large scale sections	2
Large scale details	2
Finish & door schedules	1
Reflected clg plans	2
Title sheet	1
Site plan including mech & elect	1
	15

Structural

Existing struct & foundation plan	1
New roof framing plan	1
Foundation revision plan & details	1
Details & sections	1
	4

Mechanical

Underground utility plan	1
1st fl piping & HVAC plan	1
2nd fl piping & HVAC plan	1
Riser diagram & mech isometrics	1
Equipment room plan & details	1
Details & schedules	1
	6

Electrical

1st fl power & light plan	1
2nd fl power & light plan	1
Riser diagrams	1
Equipment room plan	1
Details & schedules	2
	6

Specifications

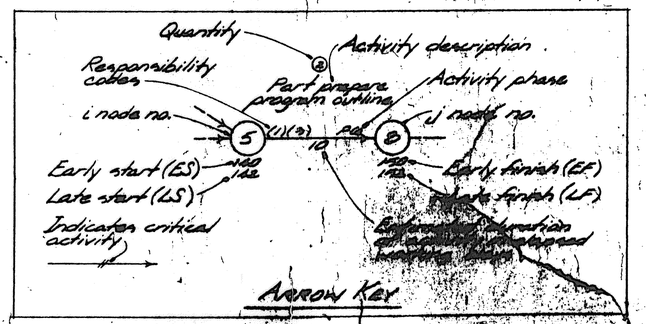
- Architectural
- Structural
- Mechanical
- Electrical

RESPONSIBILITY CODES

99	T/R - time restraint
1	Bengst
2	Jonquil & Associates
3	Architectural design
4	Architectural production
5	Structural
6	Mechanical
7	Electrical
8	Specifications

ABBREVIATIONS

T/R	Time restraint
R/A	Review & approve
PG	Program phase
SC	Schematic phase
PL	Preliminary phase
DD	Design development phase
WD	Working drawing phase
HVAC	Heating, ventilating & air conditioning
LN	Low node no. on sheet
HN	High node no. on sheet



MONITORING RECORD				ISSUE RECORD	
DATE	DATE	DATE		ISSUE NO.	DATE
				1	Sept 1, 84

Reserved Node Nos.

41	46	91	96	
42	47	92	97	
43	48	93	98	LN 1
44	49	94	99	HN 127
45	50	95	100	

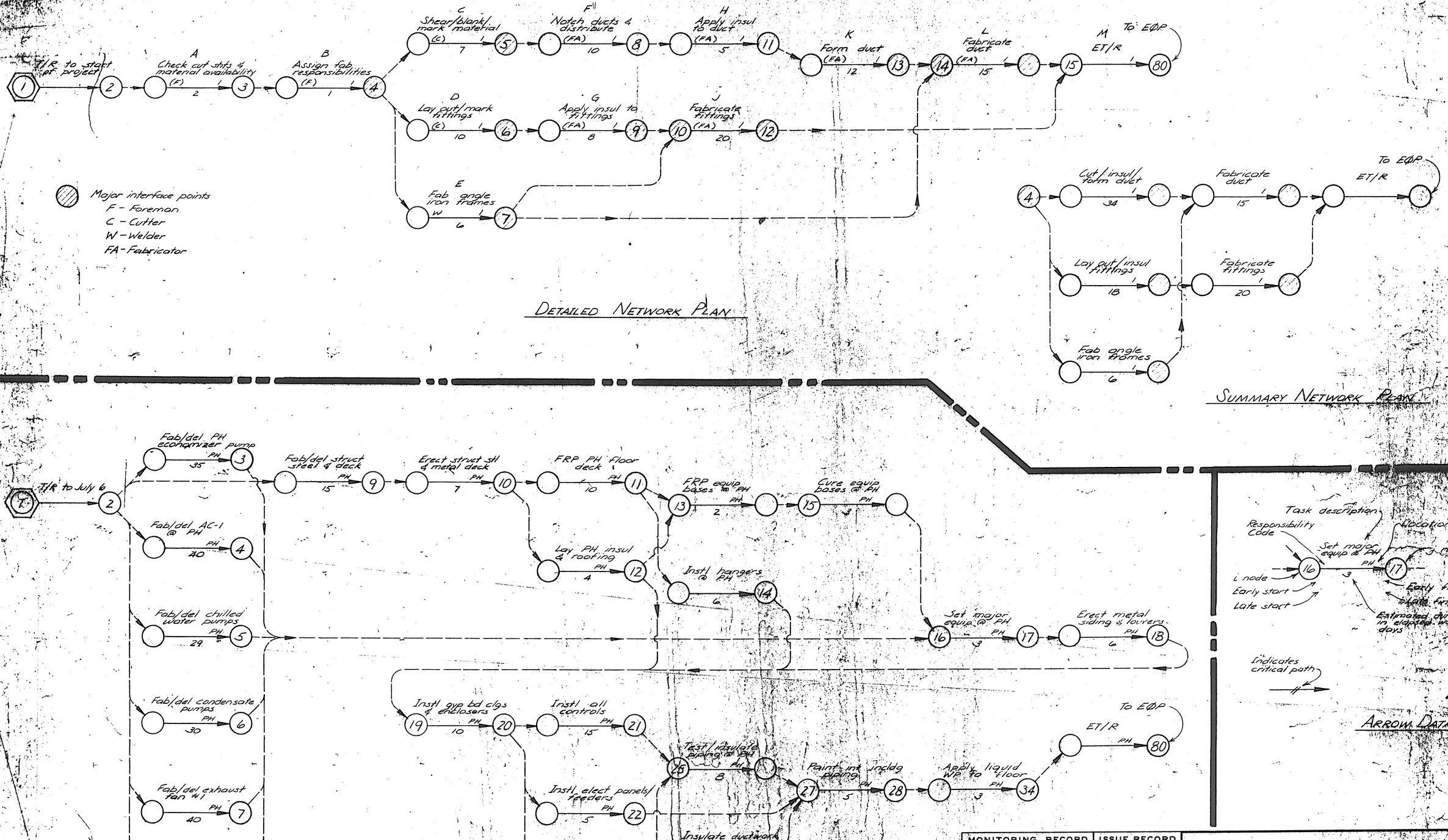
BUILDING ADDITION

NETWORK MODEL FOR PREPARATION OF CONTRACT DOCUMENTS - BENGST EXPANSION PROGRAM

JONQUIL & ASSOCIATES

RALPH J. STEPHENSON, P.E.
15064 WARWICK ROAD
DETROIT, MICHIGAN 48223
CONSULTANT PH 273-5026

1



MONITORING RECORD						ISSUE RECORD	
DATE		DATE		DATE		ISSUE NO.	DATE
						1	APRIL 19

Reserved Node Nos.

29 30 31 32 33 — 35 thru 79

PN 1
HN 34
FIN 80

NETWORK MODEL FOR DUCTWORK FABRICATION & INSTALLATION OF MECHANICAL EQUIPMENT ROOM

RALPH J. STEPHENSON, P.E.
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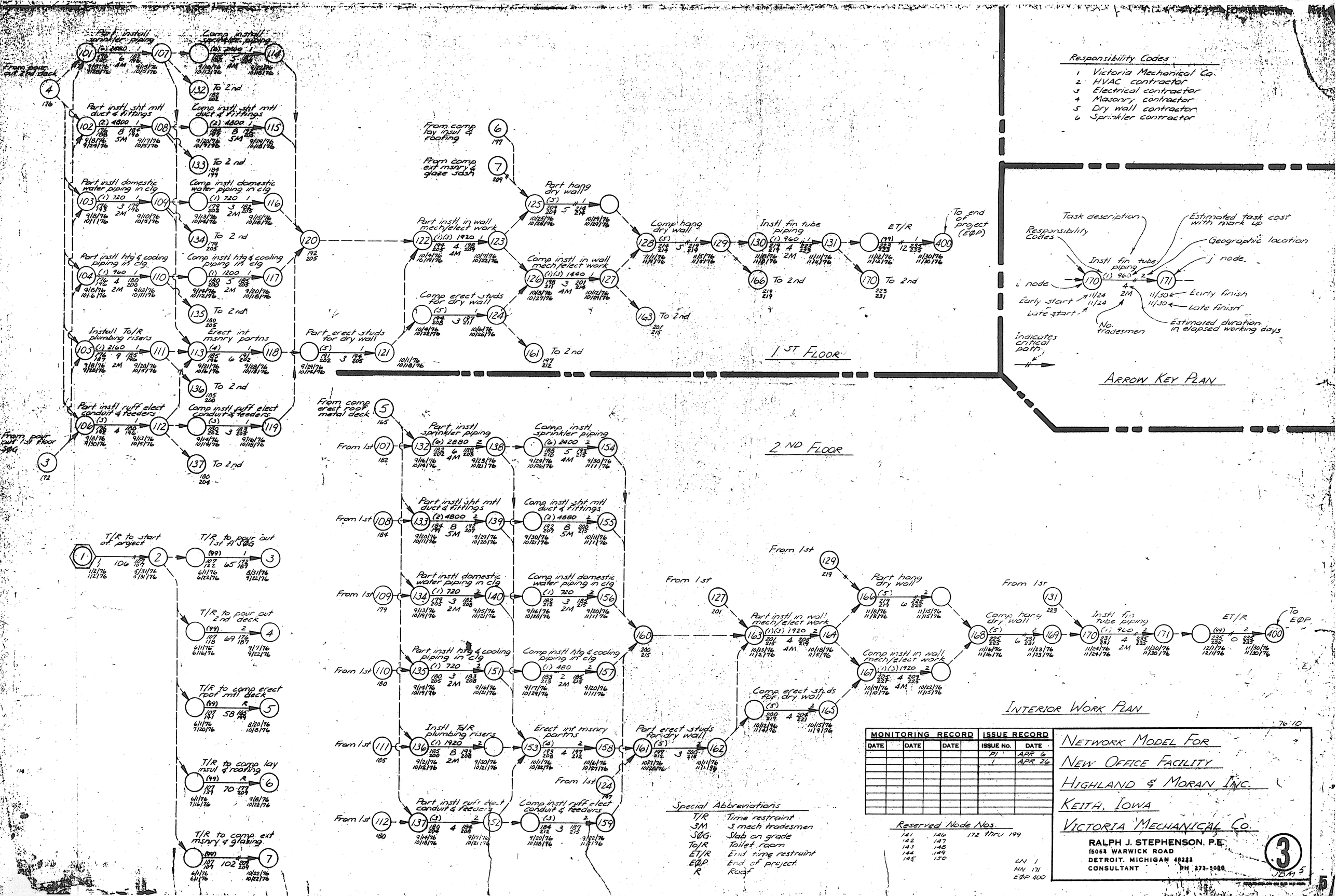
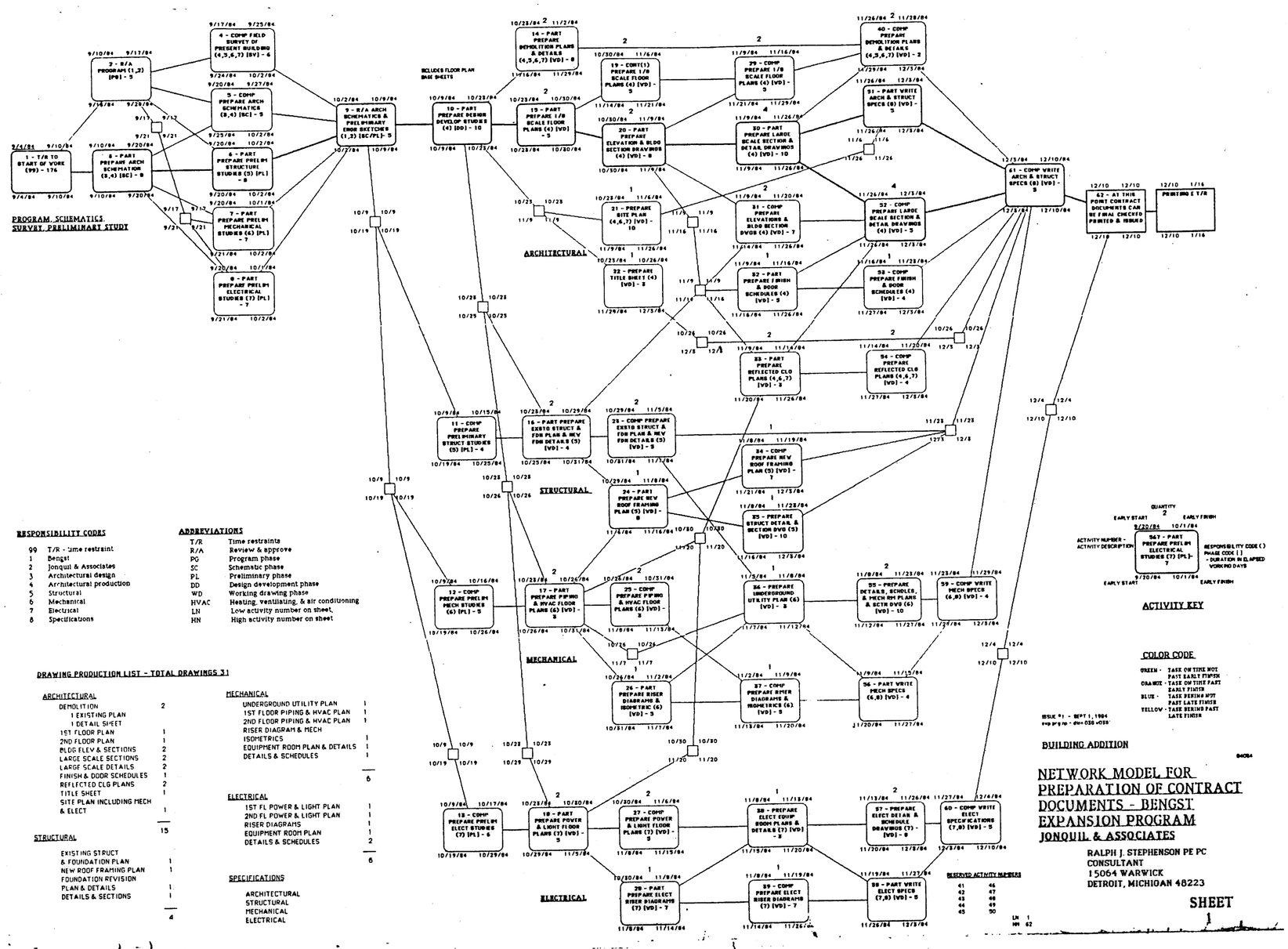
DETROIT, MICHIGAN 48223
CONSULTANT PH. 273-5026

5


Responsibility Codes
1 Victoria Mechanical Co.
2 HVAC contractor
3 Electrical contractor
4 Masonry contractor
5 Dry wall contractor
6 Sprinkler contractor
Task description
Responsibility Codes
Estimated task cost with mark up
Geographic location
j node
i node
Early start
Late start
No. tradesmen
Early finish
Late finish
Estimated duration in elapsed working days
Indicates critical path
ARROW KEY PLAN
1 ST FLOOR
2 ND FLOOR
INTERIOR WORK PLAN
From pour out 2nd deck
From pour out 1st floor SOG
From comp lay insul & roofing
From comp ext msnry & glaze 3rd fl
From comp erect roof metal deck
From 1st
To 2nd
To end of project (EOP)
Special Abbreviations
T/R Time restraint
3M 3 mech tradesmen
SOG Slab on grade
To/R Toilet room
ET/R End time restraint
EOP End of project
R Roof
Reserved Node Nos.
141 142 143 144 145
146 147 148 149 150
172 thru 199
LN 1
HN 171
EOP 400
MONITORING RECORD
DATE
ISSUE RECORD
ISSUE No.
DATE
P1 APR 6
1 APR 26
NETWORK MODEL FOR
NEW OFFICE FACILITY
HIGHLAND & MORAN INC.
KEITH, IOWA
VICTORIA MECHANICAL CO.
RALPH J. STEPHENSON, P.E.
15068 WARWICK ROAD
DETROIT, MICHIGAN 48223
CONSULTANT PH 273-5080
76 10
3
JOM 5



RESPONSIBILITY CODES

99	T/R - time restraint
1	Bengst
2	Jonquil & Associates
3	Architectural design
4	Architectural production
5	Structural
6	Mechanical
7	Electrical
8	Specifications

ABBREVIATIONS

T/R	Time restraints
R/A	Review & approve
PG	Program phase
SC	Schematic phase
PL	Preliminary phase
DD	Design development phase
WD	Working drawing phase
HVAC	Heating, ventilating, & air conditioning
LN	Low activity number on sheet,
HN	High activity number on sheet

DRAWING PRODUCTION LIST - TOTAL DRAWINGS 31

ARCHITECTURAL

DEMOLITION	2
1 EXISTING PLAN	
1 DETAIL SHEET	
1ST FLOOR PLAN	1
2ND FLOOR PLAN	1
BLDG ELEV & SECTIONS	2
LARGE SCALE SECTIONS	2
LARGE SCALE DETAILS	2
FINISH & DOOR SCHEDULES	1
REFLECTED CLG PLANS	2
TITLE SHEET	1
SITE PLAN INCLUDING MECH & ELECT	1
	15

STRUCTURAL

EXISTING STRUCT & FOUNDATION PLAN	1
NEW ROOF FRAMING PLAN	1
FOUNDATION REVISION PLAN & DETAILS	1
DETAILS & SECTIONS	1
	4

MECHANICAL

UNDERGROUND UTILITY PLAN	1
1ST FLOOR PIPING & HVAC PLAN	1
2ND FLOOR PIPING & HVAC PLAN	1
RISER DIAGRAM & MECH ISOMETRICS	1
EQUIPMENT ROOM PLAN & DETAILS	1
DETAILS & SCHEDULES	1
	6

ELECTRICAL

1ST FL POWER & LIGHT PLAN	1
2ND FL POWER & LIGHT PLAN	1
RISER DIAGRAMS	1
EQUIPMENT ROOM PLAN	1
DETAILS & SCHEDULES	2
	6

SPECIFICATIONS

ARCHITECTURAL
STRUCTURAL
MECHANICAL
ELECTRICAL

NETWORK MODEL FOR PREPARATION OF CONTRACT DOCUMENTS - BENGST EXPANSION PROGRAM

JONQUIL & ASSOCIATES

RALPH J. STEPHENSON PE PC
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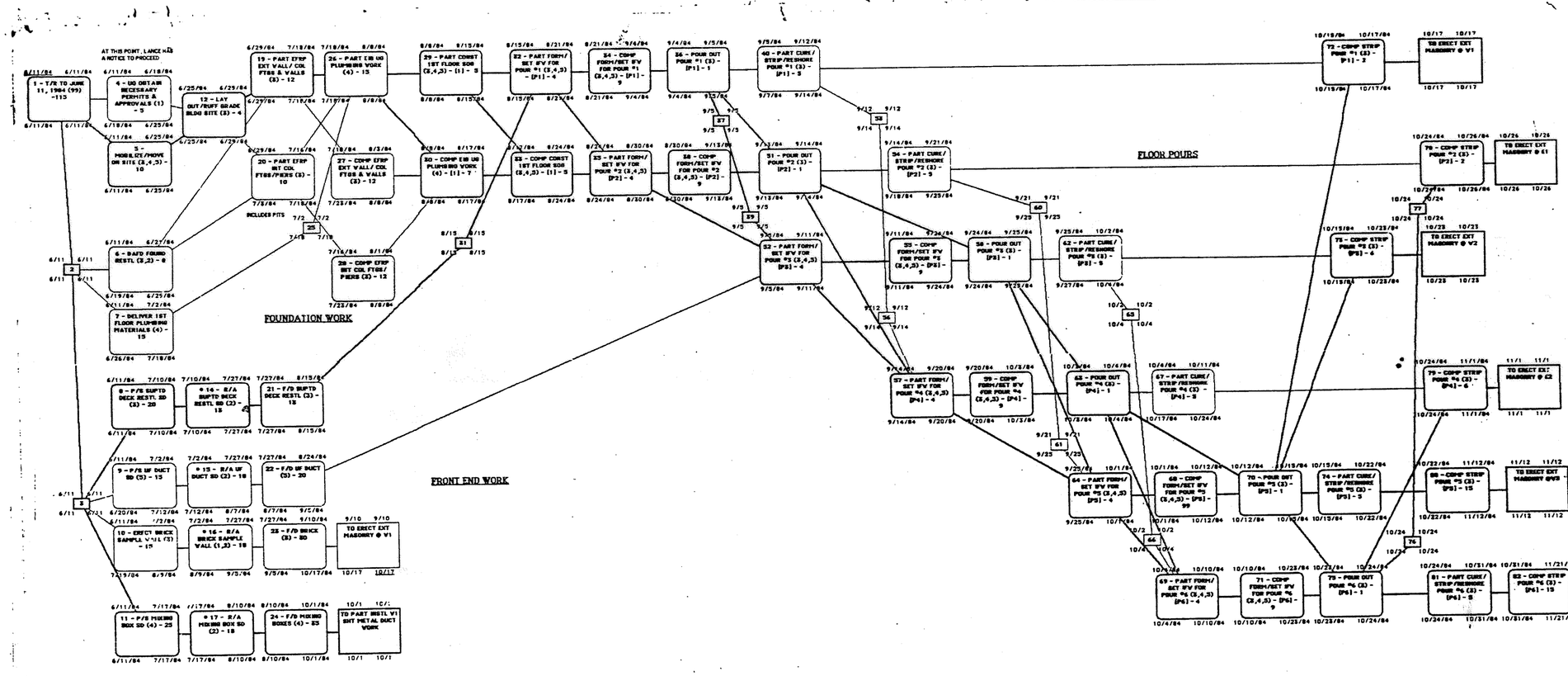
DETROIT, MICHIGAN 48223

SHEET 1



RESPONSIBILITY CODES

99	TIME RESTRAINTS
1	UNIVERSITY OF QINTAIN
2	TILDEN & ASSOCIATES - ARCH/ENGINEER
3	LANCE - GENERAL CONTRACTOR
4	HAVILAN - MECHANICAL CONTRACTOR
5	RENTER - ELECTICAL CONTRACTOR

*GENERAL NOTES.

- FOR R/A (REVIEW & APPROVE) SHOP DRAWINGS, THE FOLLOWING TIMES WILL NORMALLY APPLY

LANCE LOG IN & TRANSMIT	3WD
T&A LOG IN & CHECK	10WD
T&A TRANSMIT TO LANCE	3WD
LANCE TRANSMIT TO SUBS	2WD
TOTAL	18WD

- FOR EXPEDITED SHOP DRAWINGS & HAND CARRYING THE TIME CAN BE REDUCED TO 13 WORKING DAYS

ABBREVIATIONS

T/R	TIME RESTRAINTS
UQ	UNIVERSITY OF QINTAIN
DAFD	DETAIL, APPROVE, FABRICATE, DELIVER
P/S	PREPARE & SUBMIT
SD	SHOP DRAWINGS
R/A	REVIEW & APPROVE
EFRP	EXCAVATE, FORM, REINFORCE, POUR
F/D	FABRICATE & DELIVER
EIB	EXCAVATE, FORM, REINFORCE & POUR
SOG	SLAB ON GRADE
UG	UNDERGROUND
IFW	IN FLOOR WORK - INCLUDES INSERTS, REINFORCING, SLEEVES, HANGERS, SCREEDS, CONDUIT, UF DUCT
W1	WEST 1ST FLOOR (OTHERS SIMILAR)
Wd	WORKING DAYS
T&A	TILDEN & ASSOCIATES

ACTIVITY KEY

COLOR CODE

GREEN - TASK CURRENTLY ON TIME - NOT PAST EARLY FINISH
ORANGE - TASK CURRENTLY ON TIME - PAST EARLY FINISH - NOT PAST LATE FINISH
BLUE - TASK CURRENTLY BEHIND - NOT PAST LATE FINISH
YELLOW - TASK CURRENTLY BEHIND - PAST LATE FINISH

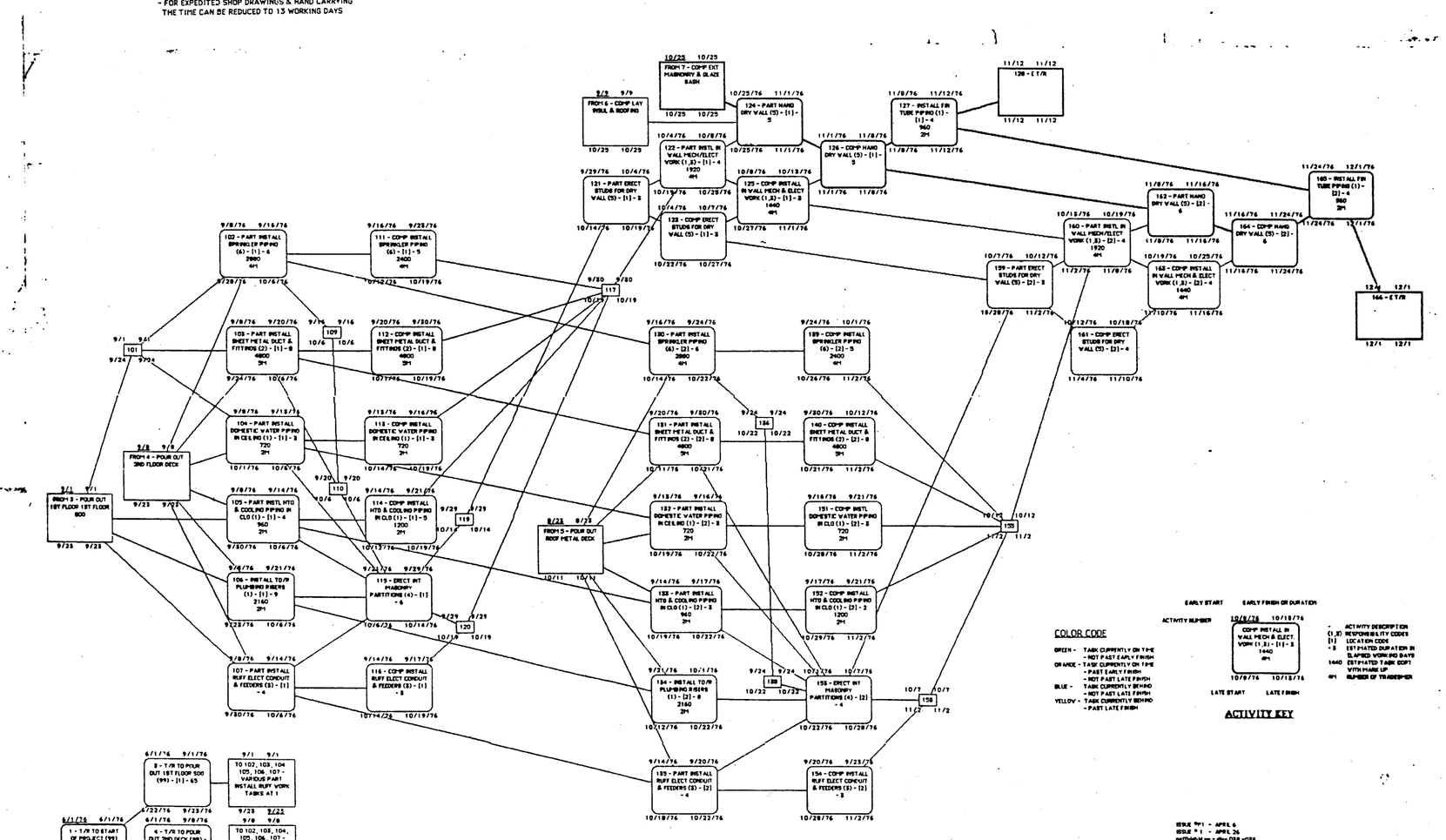
SUBSTUCTURE & FRAME

77020

NETWORK MODEL FOR NEW UNIVERSITY ACTIVITIES BUILDING UNIVERSITY OF QINTAIN QINTAIN, WYOMING LANCE CONSTRUCTION COMPANY

RALPH J. STEPHENSON
15064 WARWICK
DETROIT, MICHIGAN 48223
CONSULTANT 1-313-273-5026

SHEET 1



COLOR CODE

GREEN - TASK CURRENTLY ON TIME - NOT PAST EARLY FINISH
ORANGE - TASK CURRENTLY ON TIME - PAST EARLY FINISH - NOT PAST LATE FINISH
BLUE - TASK CURRENTLY BEHIND - NOT PAST LATE FINISH
YELLOW - TASK CURRENTLY BEHIND - PAST LATE FINISH

ACTIVITY KEY

SPECIAL ABBREVIATIONS

T/R	TIME RESTRAINT
SM	THREE MECHANICAL TRADESMEN
SOG	SLAB ON GRADE
TO/R	TOILET ROOM
ET/R	END TIME RESTRAINT
EOP	END OF PROJECT
R	ROOF

RESPONSIBILITY CODES

1 VICTORIA MECHANICAL CO.
2 HVAC CONTRACTOR
3 ELECTRICAL CONTRACTOR
4 MASONRY CONTRACTOR
5 DRY CONTRACTOR
6 SPRINKLER CONTRACTOR

INTERIOR WORK PLAN

76010

NETWORK MODEL FOR NEW OFFICE FACILITY HIGHLAND & MORAN INC. KEITH, IOWA

VICTORIA MECHANICAL CO.

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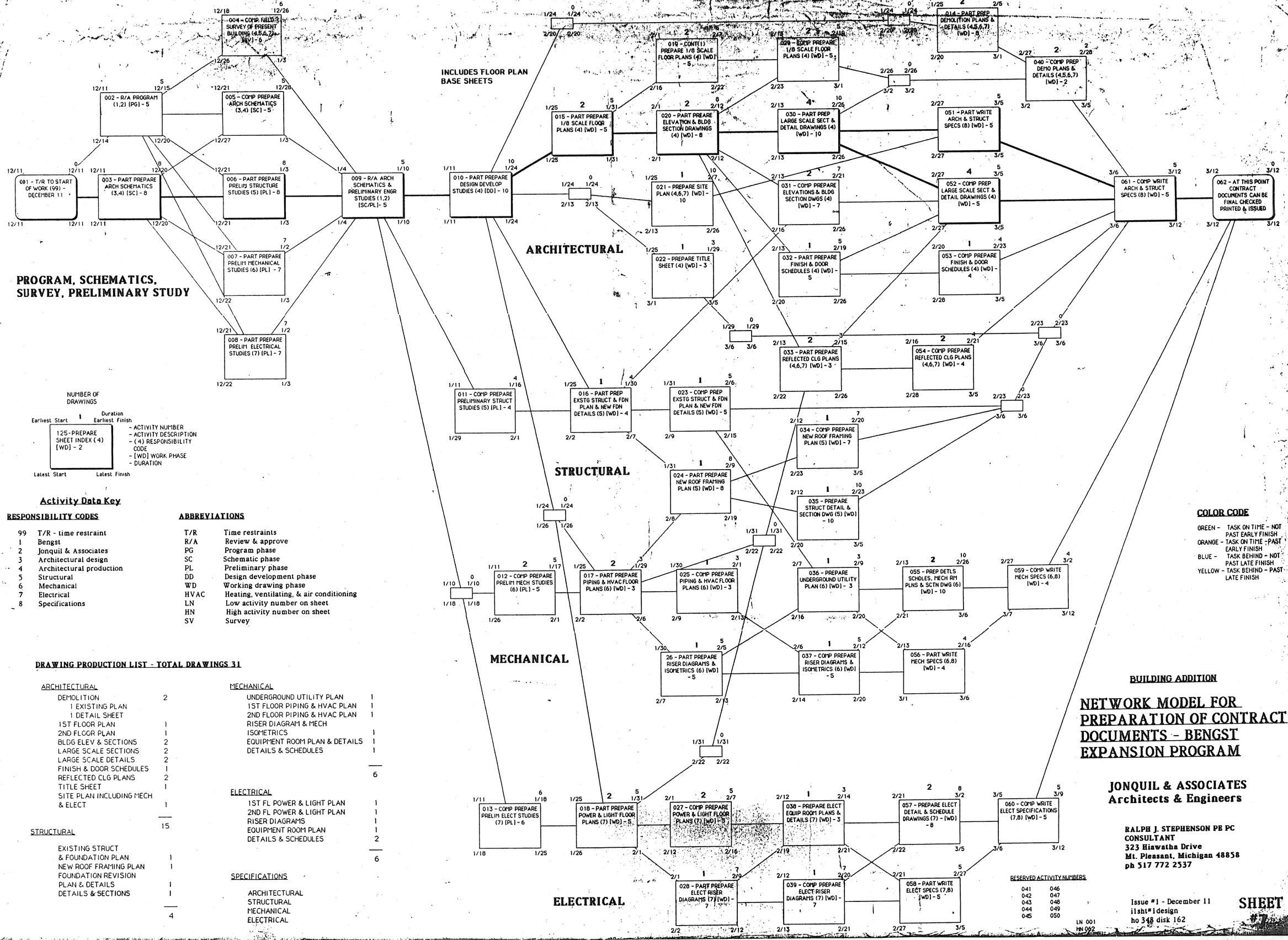
CONSULTANT
15064 WARWICK
DETROIT, MICHIGAN 48223

SHEET 3



NUMBER OF DRAWINGS

Earliest Start | Duration | Earliest Finish

125-PREPARE SHEET INDEX (4) [WD] - 2

Latest Start | Latest Finish

- ACTIVITY NUMBER
- ACTIVITY DESCRIPTION
- (4) RESPONSIBILITY CODE
- [WD] WORK PHASE
- DURATION

Activity Data Key

RESPONSIBILITY CODES

99	T/R - time restraint
1	Bengst
2	Jonquil & Associates
3	Architectural design
4	Architectural production
5	Structural
6	Mechanical
7	Electrical
8	Specifications

ABBREVIATIONS

T/R	Time restraints
R/A	Review & approve
PG	Program phase
SC	Schematic phase
PL	Preliminary phase
DD	Design development phase
WD	Working drawing phase
HVAC	Heating, ventilating, & air conditioning
LN	Low activity number on sheet
HN	High activity number on sheet
SV	Survey

COLOR CODE

GREEN - TASK ON TIME - NOT PAST EARLY FINISH

ORANGE - TASK ON TIME - PAST EARLY FINISH

BLUE - TASK BEHIND - NOT PAST LATE FINISH

YELLOW - TASK BEHIND - PAST LATE FINISH

DRAWING PRODUCTION LIST - TOTAL DRAWINGS 31

ARCHITECTURAL	
DEMOLITION	2
1 EXISTING PLAN	
1 DETAIL SHEET	
1ST FLOOR PLAN	1
2ND FLOOR PLAN	1
BLDG ELEV & SECTIONS	2
LARGE SCALE SECTIONS	2
LARGE SCALE DETAILS	2
FINISH & DOOR SCHEDULES	1
REFLECTED CLG PLANS	2
TITLE SHEET	1
SITE PLAN INCLUDING MECH & ELECT	1
	15
STRUCTURAL	
EXISTING STRUCT & FOUNDATION PLAN	1
NEW ROOF FRAMING PLAN	1
FOUNDATION REVISION PLAN & DETAILS	1
DETAILS & SECTIONS	1
	4
MECHANICAL	
UNDERGROUND UTILITY PLAN	1
1ST FLOOR PIPING & HVAC PLAN	1
2ND FLOOR PIPING & HVAC PLAN	1
RISER DIAGRAM & MECH ISOMETRICS	1
EQUIPMENT ROOM PLAN & DETAILS	1
DETAILS & SCHEDULES	1
	6
ELECTRICAL	
1ST FL POWER & LIGHT PLAN	1
2ND FL POWER & LIGHT PLAN	1
RISER DIAGRAMS	1
EQUIPMENT ROOM PLAN	1
DETAILS & SCHEDULES	2
	6
SPECIFICATIONS	
ARCHITECTURAL	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	

RESERVED ACTIVITY NUMBERS

041 046
042 047
043 048
044 049
045 050

LN 001
HN 062

BUILDING ADDITION

NETWORK MODEL FOR PREPARATION OF CONTRACT DOCUMENTS - BENGST EXPANSION PROGRAM

JONQUIL & ASSOCIATES
Architects & Engineers

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323 Hiawatha Drive
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ph 517 772 2537

Issue #1 - December 11
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ho 348 disk 162

SHEET #1