RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEERS

September 16, 1984

Subject: Monitoring Report #1

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Actions taken:

- Reviewed project characteristics with owner, architect/engineer, and site engineer
- Prepared network models for evaluation of structural system construction
- Prepared network model for site utility package A

General Summary

This was the second network modeling session; the first encompassed a preliminary evaluation of the time required for design, contract award, and procure structural steel for a steel tower compared to a reinforced concrete frame structure. At planning session #2 this work continued, and a decision made to proceed with a reinforced concrete structure. A copy of the network model prepared at our meeting of September 4, 1984 (working day 173) is enclosed with this report which is being sent to Mr. Ross W. Pursifull, AIA; Mr. Jerry Shea, FAIA, at Louis Redstone Associates; and to Mr. Richard R. Rademacher, LLS, of Gordie Fraser and Associates. Accompanying this network model is a working day calendar for use in interpreting working day designations on the network model. The network model is presently being drafted into final form which will be dated with both working days and calendar dates.

Detailed minutes of the meeting on September 4, 1984 (working day 173) have been prepared by Mr. Jerry Shea, president of Louis G. Redstone & Associates,so this report will basically deal with the ne twork evaluation made of early foundation design work along with the site utility package A .

Building foundation and structural frame

Presently the intent is to prepare and obtain approval of the footprint and floor plan schematics by September 14, 1984 (working day 181). This will be followed by preparation of a design development package for early concrete work to allow preparation of the concrete package #1 for the full foundation construction and the tower concrete structural frame. An early

RALPH J. STEPHENSON, P.E., P.C.
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design development package for the structure is to be released by September 21, 1984 (working day 186). It will allow the structural engineer to begin intensive work on the foundation and structure. This issue will be followed by a more detailed design development package on October 19, 1984 (working day 206) following which concrete package #1 for the entire foundation and tower structure can be completed. It appears that this foundation and tower structure package can be released by November 26, 1984 (working day 231) for proposals and selection of contractors.

A contractor is expected to be selected with a contract awarded by December 24, 1984 (working day 251). Early foundation resteel should be on the job within the next 25-35 working days. Meanwhile, however, excavation could start provided that footings are installed immediately after excavation at each area and backfilled to protect from the frost. The actual start of foundation work will be determined in more detail once the footprint and floor plan schematics have been approved and are incorporated into early design development work.

Of great importance is the package designated as site utility package A since there is a large amount of preliminary site work that must be done to get the project to a position where actual building construction can begin. Therefore, we prepared a specific network model for site utility package A which includes:

- relocation of existing water line
- relocation of existing sanitary sewer
- resolution of potential storm water interferences
- installation of the extended gas service
- provision of a revised temporary access road and entrance into the hotel main lobby

It is hoped to get this site utility package in contract document preparation by September 12,1984 (working day 179) and complete the contract document by September 26, 1984 (working day 189). It will then be submitted for review and approval by the owner, the DNR, the Department of Public Health, the Metropolitan Fire Department, and the County. Reviews are expected to be available by October 10, 1984 (working day 199) after which the utility drawings will be revised and issued so that proposals can be received by October 16, 1984 (working day 203). The contract will be let immediately with expectations that the

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contractor can mobilize and be on the site and be ready to start work on site package A by October 19, 1984 (working day 206).

While proposals are being received for the site utility package work, landscaping in the package A construction areas can be salvaged and relocated.

We should plan to have another planning and monitoring session sometime in the very near future preferably after the footprint drawings, floor plan schematics, and early design development packages have been completed. At that point it would be wise to review the validity of our logic and planning to date. We should also start a detailed evaluation of construction dates and incorporate the construction sequencing desired into a usable planning form.

Presently the owner is attempting to retain a manager of construction to be in charge of the total project, and it is expected that this individual will be involved in the program shortly. I shall maintain contact with Mr. Shea of the Louis G. Redstone office to determine the date and location of our next planning session.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross W. Pursifull

cc: Mr. Jerry Shea
Mr. Richard R. Rademacher

LISTED BY ABBREVIATION DATE PRINTED: SEP 16 1984
RALPH J. STEPHENSON PE PC

ABB	MEANING	CAT	REC#
45	FOURTH AND FIFTH FLOORS OF STRUCT STEEL	NP	16
COD	CONTRACT DOCUMENTS	NP	17
DNR	DEPARTMENT OF NATURAL RESOURCES	ORG	18
DPH	DEPARTMENT OF PUBLIC HEALTH	ORG	22
EOP	END OF PROJECT	NP	21
ET/R	END TIME RESTRAINT	NP	9
F/D	FABRICATE AND DELIVER	NP	8
FRP	FORM, REINFORCE AND POUR	NP	13
GEN	GENERAL ABBREVIATIONS	GEN	20
HN	HIGH NODE NUMBER ON SHEET	NP	11
IFW	IN FLOOR WORK - RESTL, SLEEVES, INSERTS	NP	14
LL	LOWER LEVEL	NP	6
LN	LOW NODE NUMBER ON SHEET	NP	10
ML	MAIN LEVEL	NP	7
N3	NORTH HALF OF 3RD FLOOR - OTHERS SIMILAR	NP	15
NP	NETWORK PLANNING	NP	2
ORG	ORGANIZATION	GEN	19
P/I	PREPARE AND ISSUE	NP	5
P/S	PREPARE AND SUBMIT	NP	3
PC	PRECAST	NP	12
R/A	REVIEW AND APPROVE	NP	4
T/R	TIME RESTRAINT	NP	1

LISTED BY CODE DATE PRINTED: SEP 16 1984

RALPH J. STEPHENSON PE PC

NUM	REFERENCE	REC#
001	GRAND TRAVERSE RESORT VILLAGE	1
002	ROSS W. PURSIFULL AIA	2
003	LOUIS G. REDSTONE ASSOCIATES INC	3
004	GOURDIE/FRASER & ASSOC	4
005	CONSUMERS POWER COMPANY	5
006	MICHIGAN BELL TELEPHONE	6
007	DEPARTMENT OF NATURAL RESOURCES	7
008	METROPOLITAN FIRE DEPARTMENT	8
009	DEPARTMENT OF PUBLIC HEALTH	9
010	GRAND TRAVERSE COUNTY	10
011	SITE UTILITY CONTRACTOR FOR PACKAGE A	11
012	EHLART/BRYAN-STRUCTURAL ENGINEERS	12

GRAND TRAVERSE RESORT VILLAGE PROJECT NAME ABBREVIATIONS PAGE 1
LISTED BY NAME DATE PRINTED: SEP 16 1984
RALPH J. STEPHENSON PE PC

ABB	NAME & TITLE	ORG	REC#
FB	BAUMGARTNER, FRED	COP	20
WB	BRYAN, WAYNE-STRUCTURAL ENGINEER	EBI	11
CRE	CHERRYLAND RURAL ELECTRIC POWER	CRE	22
COP	CONSUMERS POWER	COP	21
EBI	EHLERT/BRYAN-STRUCTURAL ASSOCIATES, INC	EBI	12
RE	ERB, RICHARD		15
RF	FIFAREK, RAYMOND		19
TAF	FORESBERG, T.A.-CONTRACTOR	TAF	25
GFA	GOURDIE/FRASER & ASSOC INC	GFA	5
GTD	GRAND TRAVERSE DEVELOPMENT CO. LTD	GTD	2
RTH	HAMMOND, ROBERT T. PE DIR OF ENGR	GFA	7
CHA	HANNA, CHIEF	MFI	23
MK	KELLY, MIKE	GFA	13
DL	LATHER, DAVID		17
LGR	LOUIS G. REDSTONE ASSOCIATES INC	LGR	4
RM	MASSIE, RON-MAINTENANCE	GTD	26
MFI	METROPOLITAN FIRE DEPARTMENT	MFI	24
PN	NINE, PAUL	GTD	14
CP	PETRILLI, CARMINE AIA-DIRECTOR OF DESIGN	LGR	9
RWP	PURSIFULL, ROSS W. AIA SENIOR VP	GTD	1
RAR	RADEMAKER, RICHARD A. LLS PROJECT MGR	GFA	6
JSC	SCOTT, JAMES		18
LGS	SHEA, LEO G. FAIA PRESIDENT	LGR	3
EGS	SIEGEL, EDWIN G.-MECHANICAL ENGINEER	LGR	8
RJS	STEPHENSON, RALPH J. PE CONSULTANT	RJS	10
JS	STEVENS, JAMES		16

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

October 30, 1984

Subject: Monitoring Report #2

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Actions taken:

- Reviewed current status of design development and working drawings
- Prepared network model for package A construction (mass excavation)
- Prepared network model for preparation of package B design work (sub-structure)
- Began preparation of random laundry lists for package A, B, and C construction activities

General Summary

The major objective of this meeting was to begin preparing the contract package matrices for various contract document groupings. As a part of this work we also prepared a network model for construction of package A work, mass excavation, and for preparation of contract documents for package B, sub-structure work. At subsequent sessions we will prepare network plans for remaining contract document work through to completion of all contract documents.

A brief review of each package status is given below:

Package A - Mass excavation

It is intended that the printing and issuing of package A will proceed immediately and move on through to award of contract A for package A by November 8, 1984 (working day 200) at which time field activities can start.

Items included in the mass excavation package A are shown in the attached random laundry list of activities and identified as part of package A in the column headed I. Thus, on the network model, Issue #3 dated October 23, 1984 (working day 208) sheets #2, the work identified subsequent to award of contract includes all activities listed in the random laundry list. Please keep in mind that the contract activity list attached is at random and is not arranged in any particular sequence.

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Present plans are to complete package A work by the evening of December 28, 1984 (working day 255).

It should be noted that the cleaning of surrounding roads used by contract A contractor is to be ongoing and is a part of the contract requirements.

Package B - Design for sub-structure

The random laundry list of activities also shows items included in the package B (sub-structure) contract. The network model sheet #2 Issue #3 dated October 23, 1984 (working day 208) shows contract document production work up through issuance of the drawings, award of contract, and receipt of early reinforcing steel on the job.

It is anticipated that there will be approximately eight structural drawings and five architectural drawings issued as a part of this package. These are identified at the left of the network diagram. Work is expected to begin immediately and is dependent for its completion upon the owner reviewing and approving the design/development material produced to date as quickly as possible. It also assumes that owner's reivew and sign off of contract documents will be obtained during preparation of the package documents.

Present plans are to print and issue package B by the evening of November 26, 1984 (working ayd 232) with award of contract by the evening of December 18, 1984 (working day 248). This should allow a full scale field operation to begin by January 11, 1985 (working day 263).

Completion of contract A work in relation to the start of contract B work ties together very closely and should permit relatively uninterrupted field work to continue.

Contract C- Superstructure

The items included in the contract C work are also shown on the attached random laundry list. They consist fundamentally of construction of the building superstructure at both the low rise and the tower for both phases #1 and #2. Phase #1 is that work that can proceed at a distance from the existing building while phase #2 is completion of the tie in and remodeling at the existing building. Boundary lines for phases #1 and #2 will be identified on the contract documents.

General

At our next session we will concentrate on the planning for contract document packages following A and B and make strong

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efforts to mesh each succeeding package into an appropriate time frame with preceeding packages.

Preparation of the matrix, which is the random laundry list for activities for the tower and low rise will be kept current as planning proceeds and will ultimately result in a full list of all major construction activities indicating in which package and at which location (LO) each of these activities is to be found. In addition, the laundry list contains an S (submittal required) column in which the presence of an X indicates that submittals are required for that particular activity. Thus, it will be possible to identify by package and activity where submittals are required. This should permit accurate tracking of submittals.

A brief discussion was held about issuance of the C package (superstructure) and informally it was agreed that it should be released as close to January 10, 1985 (working day 262) as possible. This would permit the superstructure to be started up at a good matchpoint with construction of the sub-structure. Again, as with package B every effort will be made to compress the design work.

Attached to this report in addition to the random laundry list is also an updated set of data documents including general abbreviations, and the names of the parties involved in the design and construction planning to date. These lists will also be updated on a regular basis and issued with each monitoring report.

I shall confirm our next meeting date soon with Mr. Jerry Shea and Mr. Donald Robertson.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross W. Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

LISTED BY ABBREVIATION DATE PRINTED:

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ABB	MEANING	CAT	REC#
45	FOURTH AND FIFTH FLOORS OF STRUCT STEEL	NP	16
A	CONTRACT A - MASS EXCAVATION	NP	37
AL	ALL	LO	23
B	CONTRACT B - SUBSTRUCTURE WORK	NP	38
C	CONTRACT C - SUPERSTRUCTURE WORK	NP	39
CO	BUILDING COMPONENT TO WHICH ACTIVITY BELONGS	NP	35
COD	CONTRACT DOCUMENTS	NP	17
DNR	DEPARTMENT OF NATURAL RESOURCES	ORG	18
DPH	DEPARTMENT OF PUBLIC HEALTH	ORG	22
EFRP	EXCAVATE, FORM, REINFORCE & POUR	NP	40
EIB	EXCAVATE, INSTALL & BACKFILL	NP	52
EL	ELEVATION	NP	42
ELECT	ELECTRICAL	NP	47
EOP	END OF PROJECT	NP	21
ET/R	END TIME RESTRAINT	NP	9
EXP	EXPANSION	NP	48
EXSTG	EXISTING	NP	45
F/D	FABRICATE AND DELIVER	NP	8
FRP	FORM, REINFORCE AND POUR	NP	13
FRPS	FORM, REINFORCE, POUR & STRIP	NP	43
GEN	GENERAL ABBREVIATIONS	GEN	20
HN	HIGH NODE NUMBER ON SHEET	NP	11
I	CONTRACT PACKAGE IDENTIFICATION FOR ITEM	GEN	36
IFW	IN FLOOR WORK - RESTL, SLEEVES, INSERTS	NP	14
JST	JOISTS	NP	51
LB	LOBBY LEVEL	LO	29
LL	LOWER LEVEL	NP	6
LL	LOWER LEVEL	LO	28
LN	LOW NODE NUMBER ON SHEET	NP	10
LO	LOCATION	GEN	26
LR	LOW RISE - BACK OF HOUSE	LO	25
MECH	MECHANICAL	NP	46
MEZZ	MEZZANINE	NP	44
ML	MAIN LEVEL	NP	7
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NP	NETWORK PLANNING ABBREVIATIONS	NP	2
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P/S	PREPARE AND SUBMIT	NP	3
P1	PHASE 1	NP	30
P2	PHASE 2	NP	31
PC	PRECAST	NP	12
R/A	REVIEW AND APPROVE	NP	4
REC	RECORD	GEN	34
S	SUBMITTAL REQUIREMENTS	NP	32
SI	SITE	LO	24
SOG	SLAB ON GRADE	NP	41
STL	STEEL	NP	50
SUPTD	SUPPORTED	NP	49
T/R	TIME RESTRAINT	NP	1
TW	TOWER	LO	27
UG	UNDERGROUND	NP	53
UTIL	UTILITIES	NP	54
X	INDICATES SUBMITTAL REQUIRED	NP	33

LISTED BY NAME DATE PRINTED: OCT 27 1984

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RC	CLARK, RUSSELL - LAND PLANNER	GTD	36
COP	CONSUMERS POWER	COP	21
EBI	EHLERT/BRYAN-STRUCTURAL ASSOCIATES, INC	EBI	12
LE	ELMQUEST, LU - SECRETARY	GTD	33
RE	ERB, RICHARD - GEN MGR HOTEL	GTD	15
RF	FIFAREK, RAYMOND - LARKIN INSURANCE	LI	19
TAF	FORESBERG, T.A.-CONTRACTOR	TAF	25
JG	GERNHOFER, JAMES	GTD	34
AG	GITTLEMAN, AL - PRINCIPAL	LGR	31
GFA	GOURDIE/FRASER & ASSOC INC	GFA	5
GTB	GRAND TRAVERSE COUNTY BUILDING DEPT	GTB	30
GTD	GRAND TRAVERSE DEVELOPMENT CO. LTD	GTD	2
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WH	HANNA, WAYNE - CHIEF	MFI	23
MK	KELLY, MIKE	GFA	13
LI	LARKIN INSURANCE	LI	29
DL	LATHER, DAVID - CHIEF	GTB	17
LGR	LOUIS G. REDSTONE ASSOCIATES INC	LGR	4
DM	MADELINE, DOUGLAS - ASST MGR CONST	GTD	37
RM	MASSIE, RON-MAINTENANCE	GTD	26
MFI	METROPOLITAN FIRE DEPARTMENT	MFI	24
TN	NAB, TERRY - SOIL EROSION CONTROL	GFA	32
PLN	NINE, PAUL L. - PRESIDENT	GTD	14
CP	PETRILLI, CARMINE AIA-DIRECTOR OF DESIGN	LGR	9
RWP	PURSIFULL, ROSS W. AIA SENIOR VP	GTD	1
RAR	RADEMAKER, RICHARD A. LLS PROJECT MGR	GFA	6
DGR	ROBERTSON, DONALD G. - VP CONST	GTD	27
JSC	SCOTT, JOHN - GOLF COURSE MAINT	GTD	18
LGS	SHEA, LEO G. FAIA PRESIDENT	LGR	3
EGS	SIEGEL, EDWIN G.-MECHANICAL ENGINEER	LGR	8
RS	SMITH, RON	GTD	35
RJS	STEPHENSON, RALPH J. PE CONSULTANT	RJS	10
JS	STEVENS, JAMES		16
JW	WELWORTH, JAMES - ELECT	LGR	28

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006	MICHIGAN BELL TELEPHONE	6
007	DEPARTMENT OF NATURAL RESOURCES	7
008	METROPOLITAN FIRE DEPARTMENT	8
009	DEPARTMENT OF PUBLIC HEALTH	9
010	GRAND TRAVERSE COUNTY	10
011	SITE UTILITY CONTRACTOR FOR PACKAGE A	11
012	EHLART/BRYAN-STRUCTURAL ENGINEERS	12
013	GRAND TRAVERSE COUNTY BUILDING DEPT	13
014	EXCAVATION CONTRACTOR - CONTRACT A	14
015	SUBSTRUCTURE CONTRACTOR - CONTRACT B	15
016	SUPERSTRUCTURE CONTRACTOR - CONTRACT C	16
017	DONALD G. ROBERTSON	17
099	TIME RESTRAINTS - T/R	18

RANDOM LAUNDRY LIST OF ACTIVITIES FOR GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE
ACME, MICHIGAN - DATE PRINTED: OCT 27 1984

I	RESP CDE	LO	CO	S	ACTIVITY DESC	REC#
A	04	AL			SET HORIZ & VERT CONTROLS	1
A	14	AL			MASS EXCAVATE TO 677'4	2
A	14	AL			STRIP BLDG SITE & STOCKPILE TOPSOIL	3
A	14	AL			HAUL EXCAVATION TO BORROW AREA	4
A	14	SI			CONSTRUCT HAUL ROAD	5
A	14	SI			DEMOLISH EXISTING RD IN EXCAVATED AREA	6
A	14	SI			REMOVE ABANDONED UTIL IN EXCAVATED AREAS	7
A	14	SI			KEEP EXISTING ROADS CLEAN	8
B	15	AL			LAY OUT BUILDING	9
B	01	AL			ERECT NECESSARY CONSTRUCTION FENCING	10
B	?	AL			OBTAIN FOUNDATION PERMIT	11
B	15	AL		X	FRP EXT LOWER LEVEL WALLS	12
B	15	AL		X	EFRP PIT SOG & WALLS	13
B	15	AL		X	EFRP COL FTGS	14
B	15	AL		X	EFRP WALL FTGS	15
B	15	LR		X	FRP COLS TO LOBBY LEVEL	16
B	15	TW		X	FRP COLS TO LL MEZZ	17
B	15	AL		X	EXCAVATE FOOTINGS-NOT FOR SLAB ON GRADE	18
B	15	AL		X	BACKFILL INT FOUND TO EL ?	19
B	15	TW		X	FRPS ELEV 5 & STAIR 4 WALLS TO LB	20
B	15	TW			BACKFILL & COMPACT AT PITS	21
B	15	TW			LAY DRAIN TILE AT PITS	22
B	15	TW		X	APPLY PIT WATERPROOFING	23
B	15	LR		X	DRIVE SHEETING & UNDERPIN AT EXISTG BLDG	24
B	15	AL		X	INSTALL MISC ELECT COND IN COLS	25
C	16	SI		X	EFRP RETAINING WALL FOOTING	26
C	16	SI		X	FRPS RETAINING WALL STEM	27
C	16	SI			BACKFILL EXT RETAINING WALL	28
C	15	AL			BACKFILL EXT BUILDING WALLS	29
C	16	AL		X	APPLY EXTERIOR WALL WATERPROOFING	30
C	16	AL			INSTL DRAIN TILE AT EXT WALLS	31
C	16	TW		X	CONSTRUCT TOWER LL MEZZ DECK	32
C	16	LL			COMPLETE PHASE 2 EXCAVATION	33
C	16	LL		X	INSTL PHASE 2 UNDERPINNING AT EXSTG BLDG	34
C	16	LL			EXCAVATE FOR ALL SLABS ON GRADE	35
C	16	AL		X	INSTL ALL MECH EMBEDS IN C CONCRETE	36
C	16	AL		X	INSTALL ALL ELECT EMBEDS IN C CONCRETE	37
C	16	AL		X	INSTL ELECT GROUNDING SYSTEM	38
C	16	AL			PROVIDE CONTRACT C HOISTING	39
C	16	AL			INSTALL MATERIAL & PERSONNEL HOIST	40
C	16	AL		X	FRP EQUIPMENT BASES	41
C	16	AL		X	INSTALL STEEL STAIRS & FILL	42
C	16	AL		X	INSTALL MISCELLANEOUS IRON	43
C	16	AL		X	INSTALL EXP JOINTS & RELATED EMBEDS	44
C	16	LL		X	CONSTRUCT LL SLAB ON GRADE	45
C	16	LB		X	CONSTRUCT LOBBY LEVEL SLAB ON GRADE	46
C	16	AL		X	FRPS COLUMNS ABOVE LOBBY LEVEL	47
C	16	AL		X	FORM & SET IN FL WORK FOR SUPTD DECKS	48
C	16	AL			POUR OUT SUPPORTED DECKS	49
C	16	AL		X	CURE, STRIP & RESHORE SUPTD DECKS	50
C	16	AL			CURE, STRIP & TOTAL STRIP SUPTD DKS	51
C	16	AL		X	INSTL MISC IRON SKIN EMBEDS & SUPPORTS	52
C	16	AL		X	ERECT, PLUMB & BOLT STRUCTURAL STL & JST	53
C	16	AL		X	ERECT METAL FLOOR & ROOF DECK	54

I	RESP CDE	LO	CO	S	ACTIVITY DESC	REC#
C	16	LL		X	EIB UG UTIL AT LL SLAB ON GRADE	55
C	16	LB		X	EIB UG UTIL AT LB LVL SLAB ON GRADE	56

LISTED BY ABBREVIATION DATE PRINTED:

RALPH J. STEPHENSON PE PC OCT 27 1984

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EXSTG	EXISTING	NP	45
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PC	PRECAST	NP	12
R/A	REVIEW AND APPROVE	NP	4
REC	RECORD	GEN	34
S	SUBMITTAL REQUIREMENTS	NP	32
SI	SITE	LO	24
SOG	SLAB ON GRADE	NP	41
STL	STEEL	NP	50
SUPTD	SUPPORTED	NP	49
T/R	TIME RESTRAINT	NP	1
TW	TOWER	LO	27
UG	UNDERGROUND	NP	53
UTIL	UTILITIES	NP	54
X	INDICATES SUBMITTAL REQUIRED	NP	33

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RALPH J. STEPHENSON PE PC

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FB	BAUMGARTNER, FRED	COP	20
WB	BRYAN, WAYNE-STRUCTURAL ENGINEER	EBI	11
CC	CHADWICK, CHUCK - CONSTRUCTION MANAGER	GTD	38
CRE	CHERRYLAND RURAL ELECTRIC POWER	CRE	22
RC	CLARK, RUSSELL - LAND PLANNER	GTD	36
COP	CONSUMERS POWER	COP	21
EBI	EHLERT/BRYAN-STRUCTURAL ASSOCIATES, INC	EBI	12
LE	ELMQUEST, LU - SECRETARY	GTD	33
RE	ERB, RICHARD - GEN MGR HOTEL	GTD	15
RF	FIFAREK, RAYMOND - LARKIN INSURANCE	LI	19
TAF	FORESBERG, T.A.-CONTRACTOR	TAF	25
JG	GERNHOFER, JAMES	GTD	34
AG	GITTLEMAN, AL - PRINCIPAL	LGR	31
GFA	GOURDIE/FRASER & ASSOC INC	GFA	5
GTB	GRAND TRAVERSE COUNTY BUILDING DEPT	GTB	30
GTD	GRAND TRAVERSE DEVELOPMENT CO. LTD	GTD	2
RTH	HAMMOND, ROBERT T. PE DIR OF ENGR	GFA	7
WH	HANNA, WAYNE - CHIEF	MFI	23
MK	KELLY, MIKE	GFA	13
LI	LARKIN INSURANCE	LI	29
DL	LATHER, DAVID - CHIEF	GTB	17
LGR	LOUIS G. REDSTONE ASSOCIATES INC	LGR	4
DM	MADELINE, DOUGLAS - ASST MGR CONST	GTD	37
RM	MASSIE, RON-MAINTENANCE	GTD	26
MFI	METROPOLITAN FIRE DEPARTMENT	MFI	24
TN	NAB, TERRY - SOIL EROSION CONTROL	GFA	32
PLN	NINE, PAUL L. - PRESIDENT	GTD	14
CP	PETRILLI, CARMINE AIA-DIRECTOR OF DESIGN	LGR	9
RWP	PURSIFULL, ROSS W. AIA SENIOR VP	GTD	1
RAR	RADEMAKER, RICHARD A. LLS PROJECT MGR	GFA	6
DGR	ROBERTSON, DONALD G. - VP CONST	GTD	27
JSC	SCOTT, JOHN - GOLF COURSE MAINT	GTD	18
LGS	SHEA, LEO G. FAIA PRESIDENT	LGR	3
EGS	SIEGEL, EDWIN G.-MECHANICAL ENGINEER	LGR	8
RS	SMITH, RON	GTD	35
RJS	STEPHENSON, RALPH J. PE CONSULTANT	RJS	10
JS	STEVENS, JAMES		16
JW	WELWORTH, JAMES - ELECT	LGR	28

LISTED BY CODE DATE PRINTED: OCT 27 1984
RALPH J. STEPHENSON PE PC

NUM	REFERENCE	REC#
001	GRAND TRAVERSE RESORT VILLAGE	1
002	ROSS W. PURSIFULL AIA	2
003	LOUIS G. REDSTONE ASSOCIATES INC	3
004	GOURDIE/FRASER & ASSOC	4
005	CONSUMERS POWER COMPANY	5
006	MICHIGAN BELL TELEPHONE	6
007	DEPARTMENT OF NATURAL RESOURCES	7
008	METROPOLITAN FIRE DEPARTMENT	8
009	DEPARTMENT OF PUBLIC HEALTH	9
010	GRAND TRAVERSE COUNTY	10
011	SITE UTILITY CONTRACTOR FOR PACKAGE A	11
012	EHLART/BRYAN-STRUCTURAL ENGINEERS	12
013	GRAND TRAVERSE COUNTY BUILDING DEPT	13
014	EXCAVATION CONTRACTOR - CONTRACT A	14
015	SUBSTRUCTURE CONTRACTOR - CONTRACT B	15
016	SUPERSTRUCTURE CONTRACTOR - CONTRACT C	16
017	DONALD G. ROBERTSON	17
099	TIME RESTRAINTS - T/R	18

RANDOM LAUNDRY LIST OF ACTIVITIES FOR GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE
ACME, MICHIGAN - DATE PRINTED: OCT 2 7 1984

I	RESP CDE	LO	CO	S	ACTIVITY DESC	REC#
A	04	AL			SET HORIZ & VERT CONTROLS	1
A	14	AL			MASS EXCAVATE TO 677'4	2
A	14	AL			STRIP BLDG SITE & STOCKPILE TOPSOIL	3
A	14	AL			HAUL EXCAVATION TO BORROW AREA	4
A	14	SI			CONSTRUCT HAUL ROAD	5
A	14	SI			DEMOLISH EXISTING RD IN EXCAVATED AREA	6
A	14	SI			REMOVE ABANDONED UTIL IN EXCAVATED AREAS	7
A	14	SI			KEEP EXISTING ROADS CLEAN	8
B	15	AL			LAY OUT BUILDING	9
B	01	AL			ERECT NECESSARY CONSTRUCTION FENCING	10
B	?	AL			OBTAIN FOUNDATION PERMIT	11
B	15	AL		X	FRP EXT LOWER LEVEL WALLS	12
B	15	AL		X	EFRP PIT SOG & WALLS	13
B	15	AL		X	EFRP COL FTGS	14
B	15	AL		X	EFRP WALL FTGS	15
B	15	LR		X	FRP COLS TO LOBBY LEVEL	16
B	15	TW		X	FRP COLS TO LL MEZZ	17
B	15	AL		X	EXCAVATE FOOTINGS-NOT FOR SLAB ON GRADE	18
B	15	AL		X	BACKFILL INT FOUND TO EL ?	19
B	15	TW		X	FRPS ELEV 5 & STAIR 4 WALLS TO LB	20
B	15	TW			BACKFILL & COMPACT AT PITS	21
B	15	TW			LAY DRAIN TILE AT PITS	22
B	15	TW		X	APPLY PIT WATERPROOFING	23
B	15	LR		X	DRIVE SHEETING & UNDERPIN AT EXISTG BLDG	24
B	15	AL		X	INSTALL MISC ELECT COND IN COLS	25
C	16	SI		X	EFRP RETAINING WALL FOOTING	26
C	16	SI		X	FRPS RETAINING WALL STEM	27
C	16	SI			BACKFILL EXT RETAINING WALL	28
C	15	AL			BACKFILL EXT BUILDING WALLS	29
C	16	AL		X	APPLY EXTERIOR WALL WATERPROOFING	30
C	16	AL			INSTL DRAIN TILE AT EXT WALLS	31
C	16	TW		X	CONSTRUCT TOWER LL MEZZ DECK	32
C	16	LL			COMPLETE PHASE 2 EXCAVATION	33
C	16	LL		X	INSTL PHASE 2 UNDERPINNING AT EXSTG BLDG	34
C	16	LL			EXCAVATE FOR ALL SLABS ON GRADE	35
C	16	AL		X	INSTL ALL MECH EMBEDS IN C CONCRETE	36
C	16	AL		X	INSTALL ALL ELECT EMBEDS IN C CONCRETE	37
C	16	AL		X	INSTL ELECT GROUNDING SYSTEM	38
C	16	AL			PROVIDE CONTRACT C HOISTING	39
C	16	AL			INSTALL MATERIAL & PERSONNEL HOIST	40
C	16	AL		X	FRP EQUIPMENT BASES	41
C	16	AL		X	INSTALL STEEL STAIRS & FILL	42
C	16	AL		X	INSTALL MISCELLANEOUS IRON	43
C	16	AL		X	INSTALL EXP JOINTS & RELATED EMBEDS	44
C	16	LL		X	CONSTRUCT LL SLAB ON GRADE	45
C	16	LB		X	CONSTRUCT LOBBY LEVEL SLAB ON GRADE	46
C	16	AL		X	FRPS COLUMNS ABOVE LOBBY LEVEL	47
C	16	AL		X	FORM & SET IN FL WORK FOR SUPTD DECKS	48
C	16	AL			POUR OUT SUPPORTED DECKS	49
C	16	AL		X	CURE, STRIP & RESHORE SUPTD DECKS	50
C	16	AL			CURE, STRIP & TOTAL STRIP SUPTD DKS	51
C	16	AL		X	INSTL MISC IRON SKIN EMBEDS & SUPPORTS	52
C	16	AL		X	ERECT, PLUMB & BOLT STRUCTURAL STL & JST	53
C	16	AL		X	ERECT METAL FLOOR & ROOF DECK	54

I	RESP CDE	LO	CO	S	ACTIVITY DESC	REC#
C	16	LL		X	EIB UG UTIL AT LL SLAB ON GRADE	55
C	16	LB		X	EIB UG UTIL AT LB LVL SLAB ON GRADE	56

MM

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

November 12, 1984

Subject: Monitoring Report #3

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Actions taken:

- Continued preparation of contract package matrix
- Monitored current status of design work
- Prepared summary network model sheets SM-1 and SM-2, Issue #4 dated November 5, 1984 (working day 217)

General Summary

The major purpose of this meeting at Redstone's office was to review current project status, continue preparation of packaging for contract document work and to prepare a relatively authentic overview of the entire project field work. The initial part of the session concerned ongoing definition of various concrete packages. These package designations are identified in Mr. Shea's memo of November 6, 1984 (working day 218) Schedule of Bid Packages. One additional package has been added entitled package M, Food Service Equipment.

We next began preparation of the matrix which identified detailed components of each package. These are listed on the attached contract document matrix summary (A) dated November 12,1984. In the matrix the column identification is as follows:

- 1 - contract package containing activities shown
- S - submittal - X indicates submittal required
- activity description - the description of the task
  - AL - all areas except phase #2
  - LB - lobby level
  - LL - lower level
  - LR - lower rise - back of house

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- TW - tower
- SI - site work
- EB - existing building - generally phase #2 work

The matrix is arranged in ascending order of contract packages. It should be cautioned that the matrix is not yet complete and changes are expected to be made at each of the sessions as we adjust the components and where they are contained in the contract documents. The contract document designation indicates that it is a grouping of documents within which there could be many contracts let. For instance, contract package C contains diverse elements as install steel stairs and fill, install underground utilities at lower level slab on grade, and backfill exterior retaining wall. These all rquire different trades but have a chronological field construction relationship that indicates that contract documents for that work should be issued together.

A very important part of our discussion concerned installation of embedded items. We made a comprehensive list of items to be embedded in the poured concrete to determine whether or not it would be possible to provide information about these in the documents.

Embedded items include:

- mechanical and electrical sleeves and thimbles
- electrical conduit
- embeds for miscellaneous iron supports
- curb angles and clips
- wedge inserts
- unistrut inserts
- structural steel embedded connections to concrete
- anchor bolts
- frames

Most of these will have to be available in package C for the concrete superstructure which is to be released for proposals on January 10, 1985 (working day 262). In discussions with the mechanical,and particularly the electrical design group, it was felt that this was going to be a difficult date to meet to provide electrical in slab work at all areas. The matter

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is presently under intensive study by Redstone and will be resolved internally.

It is important to understand that for any cast in place concrete work all embeds must be shown, specified, or identified in some manner. It is possible, of course, to identify these by allowance or possibly later by bulletins although the bulletin route is undesirable because of the difficulty of cost control.

The items indicated in the matrix as being part of package F are what are normally considered long lead items. Package F is defined as the long lead procurement documents and there has been no attempt here to assign responsibility for this procurement to any organization as yet. However, it is understood that if needed be the procurement of items in package F could be either by the contractor for the specific trade the item is for,or the owner if conditions warrant. Lead times on equipment as shown in this F grouping range from 5 weeks to 20 weeks from approval and thus, each item delivery has to be specifically addressed. The intent is to place critical items on order early enough so they can be available at the job site by the time the various specialty contractors need them for installation. This matter will be studied in more detail as work proceeds on the contract packages.

At this session we also prepared a summary network model for construction of the tower and low rise. This network model is shown on sheets SM-1 and SM-2, Issue #4 dated November 5, 1984 (working day 217). It identifies major activities for construction of the buildings and for early design packages to allow construction to proceed. Copies of this network model were given to the Redstone staff and Mr. Donald Robertson for their use. It is presumed that distribution to Mr. Pursifull and to other participants in the program will be made by Redstone staff and Mr. Robertson.

The key dates taken from that network model have been published by Mr. Shea in the Schedule of Key Dates dated November 6, 1984 mentioned above. We shall continue to refine this summary diagram as we prepare additional study material and analyses. Once early contracts are let for work on the sub-structure, we shall begin preparing detailed network models with the contractors which will be expansions of the various summary activities shown on sheets SM-1 and SM-2. I shall be in touch with Mr. Shea and Mr. Robertson to establish the optimum times to do these detailed diagrams.

Meanwhile, we have a good summary structure within which to work which should help all parties to the contract understand the various schedule responsibilities and needs of this very exciting program.

Attached to this report are updated copies of the master abbreviation list (B) and responsibility codes (C) dated November 10, 1984 as adjusted at our meeting on November 5, 1984.

I shall be in touch with Mr. Shea shortly to set the next planning and monitoring session.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross W. Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

Attachments

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

November 19, 1984

Subject: Monitoring Report #4

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: November 16, 1984 (working day 226)

Actions taken:

- Completed preparation of preliminary contract document matrix
- Briefly reviewed status of contract document preparation

General Summary

This was a short planning and monitoring session, the major purpose of which was to complete preparation of the contract document matrix defining the content of the contract documents. We revised the contract document package designation, and package identifications are now as follows:

- A - mass excavation contract work
- B - sub-structure contract work
- C - concrete superstructure contract work
- D - elevators
- E - structural steel, joists, and deck
- F - exterior skin or enclosure contract work
- G - mechanical contract work
- H - electrical contract work
- I - not used
- J - interior rough and finish contract work
- K - food service equipment
- L - fixtures, furnishings, and equipment (FF & E)

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

The revised and updated matrix summary will be distributed shortly. I suggest it be used as a general guideline to the elements contained in each of the packages. The contract document designation indicates it is a grouping of documents within which there could be many contracts let. Several diverse trades may be included in any one package, but the packaging designation indicates that these trades will be included in that grouping.

It is still the intent to issue package C, concrete superstructure work, by January 10, 1985 (working day 262). It is planned to issue the package G, mechanical work, by February 1, 1985 (working day 278) and the electrical package, package H, by February 7, 1985 (working day 282). Strong efforts are being made by Redstone design staff to meet these targets, and presently they are serving as early issue objectives.

There is no current word on when package F, or package J will be available. At future sessions we shall review progress on these design elements and establish target dates for their release. I shall plan to draft the summary network model sheets, SM-1 and SM-2, Issue #4 dated November 5, 1984 (working day 217) into final dated form in the near future. However, it would be best if this network were tested against all preliminary information available from the various contractors before it is put into final form. The rough diagram can be used as an interim document for this work.

So far, rough checks indicate that the preliminary time frames shown on that plan of work are achievable. Beginning in late December,1984 and continuing on a regular basis , I recommend that field monitoring inspections be made at least once per month. In addition, there will be a need for planning sessions with the various contractors as they are brought on board. I shall be in touch with Mr. Robertson and Mr. Shea on an ongoing basis to establish dates for these planning and monitoring meetings.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

(A)

CONTRACT DOCUMENT MATRIX SUMMARY PAGE 1

GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE

RALPH J. STEPHENSON PE PC - D106 - DATE:

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
?	X	FRP EQUIP BASES	?	-	-	-	-	-	-	1
?	X	INSTALL DUMBWAITER	-	-	-	-	?	-	-	2
?	X	INSTALL WINDOW WASHING EQUIPMENT	-	-	-	-	?	-	-	3
A	-	SET HORIZ & VERT CONTROLS	A	-	-	-	-	A	-	4
A	-	MASS EXCAVATE TO 677'4	A	-	-	-	-	A	-	5
A	-	HAUL EXCAVATION TO BORROW AREA	A	-	-	-	-	A	-	6
A	-	CONSTRUCT HAUL ROAD	-	-	-	-	-	A	-	7
A	-	KEEP EXISTING ROADS CLEAN	-	-	-	-	-	A	-	8
A	-	REMOVE ABANDONED UTIL IN EXCAV AREAS	-	-	-	-	-	A	-	9
A	-	STRIP BLDG SITE & STOCKPILE TOPSOIL	A	-	-	-	-	A	-	10
A	-	DEMOLISH EXISTING ROAD IN EXCAV AREAS	-	-	-	-	-	A	-	11
B	-	ERECT NECESSARY CONSTRUCTION FENCING	B	-	-	-	-	-	-	12
B	-	LAY OUT BUILDING	B	-	-	-	-	-	-	13
B	-	EXCAVATE FOOTINGS-NOT FOR SLB ON GRD	B	-	-	B	B	-	-	14
B	-	LAY DRAIN TILE AT PITS	-	-	-	-	B	-	-	22
B	-	BACKFILL INT FOUND TO EL ?	B	-	-	B	B	-	-	19
B	-	BACKFILL & COMPACT AT PITS	-	-	-	-	B	-	-	21
B	-	OBTAIN FOUNDATION PERMIT	B	-	-	-	-	-	-	28
B	X	EFRP COL FTGS	B	-	-	B	B	-	B	17
B	X	EFRP PIT SOG & WALLS	-	-	-	-	B	-	-	20
B	X	EFRP WALL FOOTINGS	B	-	-	B	B	-	-	18
B	X	APPLY PIT WATERPROOFING	-	-	-	-	B	-	-	16
B	X	DRIVE SHEETING & UNDERPIN AT EXISTG BL	-	-	-	B	-	-	B	23
B	X	FRPS COLS TO LOBBY LEVEL	-	-	-	B	-	-	-	24
B	X	FRP EXT LOWER LEVEL WALLS	B	-	B	B	B	-	-	15
B	X	FRPS COLS TO LL MEZZ	-	-	-	B	B	-	-	26
B	X	FRPS ELEV 5 WALLS TO LB	-	-	-	-	B	-	-	27
B	X	INSTL MISC ELECT CONDUIT IN COLS	B	-	B	B	B	-	-	25
C	-	INSTL DRAIN TILE AT EXT WALLS	C	-	-	-	-	-	-	36
C	-	COMPLETE PHASE 2 ECAVATION	-	-	C	C	-	-	C	33
C	-	BACKFILL EXT BUILDING WALLS	C	-	-	-	-	-	-	38
C	-	POUR OUT SUPPORTED DECKS	C	-	-	C	C	-	-	53
C	-	EXCAVATE FOR ALL SLABS ON GRADE	-	-	C	C	C	-	-	49
C	-	BACKFILL EXT RETAINING WALL	-	-	-	-	-	C	-	35
C	X	INSTL PHASE 2 UNDERPINNING AT EXSTG BL	-	-	C	C	-	-	C	34
C	X	EIB UG UTIL AT LB LVL SLAB ON GRADE	-	C	-	-	-	-	C	30
C	X	EFRP RETAINING WALL FOOTING	-	-	-	-	-	C	-	37
C	X	INSTALL STEEL STAIRS & FILL	C	-	-	-	-	-	-	31
C	X	INSTALL TRENCH DRAIN COVERS	-	-	C	C	-	-	-	29
C	X	INSTL ALL ELECT EMBEDS IN C CONCRETE	C	-	-	-	-	-	-	40
C	X	CONSTRUCT TOWER LL MEZZ DECK	-	-	C	-	C	-	-	41
C	X	EIB UG UTIL AT LL SLAB ON GRADE	C	-	C	C	C	-	-	32
C	X	FRPS COLS ABOVE LL MEZZ	-	-	C	C	C	-	-	43
C	X	INSTL EXPANSION JOINTS & RELATED EMBED	C	-	-	-	-	-	-	44
C	X	INSTL ALL MECH EMBEDS IN C CONCRETE	C	-	-	-	-	-	-	45
C	X	CONSTRUCT LB SLABS ON GRADE	-	C	-	-	-	-	C	46
C	X	INSTL MATERIAL & PERSONNEL HOIST	C	-	-	-	-	-	-	47
C	X	PROVIDE CONTRACT C HOISTING	C	-	-	-	-	-	-	48
C	X	APPLY EXTERIOR WALL WATERPROOFING	C	-	-	-	-	-	-	42
C	X	CURE, STRIP & RESHORE SUPTD DECKS	C	-	-	C	C	-	-	50
C	X	CURE, STRIP & TOTAL STRIP SUPTD DECKS	C	-	-	C	C	-	-	51
C	X	INSTL ELECT GROUNDING SYSTEM	C	-	-	-	-	-	-	52
C	X	FRPS RETAINING WALL STEM	-	-	-	-	-	C	-	39
C	X	FRPS COLUMNS ABOVE LOBBY LEVEL	C	-	-	-	C	-	-	54

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
C	X	FORM & SET IN FLOOR WORK FOR SUPTD DKS	C	-	-	C	C	-	-	55
C	X	INSTL MISC IRON SKIN EMBEDS & SUPPORTS	C	-	-	-	C	-	-	56
C	X	CONSTRUCT LL SLABS ON GRADE	C	-	C	C	C	-	-	57
D	X	INSTALL ELEVATOR RAILS, EQUIP, CAB	-	-	-	-	D	-	-	58
D	X	INSTALL ELEVATOR HYDRAULIC CYLINDER	-	-	-	-	D	-	-	59
E		INSTALL INSULATION AT EXPOSED SOFFITS	-	-	-	E	E	-	E	63
E		ERECT INTERIOR MASONRY	E	-	E	E	E	-	-	62
E		INSTALL PLASTER SOFFITS	-	-	-	E	E	-	E	80
E	X	INSTALL DOCK LEVELLERS	-	-	E	E	-	-	-	61
E	X	ERECT EXTERIOR MASONRY	E	-	-	E	E	-	E	64
E	X	INSTALL SKYLITE FRAMING	-	-	-	E	E	-	-	65
E	X	INSTL MISCELLANEOUS IRON	E	-	-	-	-	-	-	60
E	X	ERECT STOREFRONT FRAMING	E	E	-	E	E	-	E	67
E	X	INSTALL STOREFRONT GLASS	E	E	-	E	E	-	E	68
E	X	INSTALL ROLLING STEEL DOORS	-	-	E	E	-	-	-	69
E	X	INSTALL EXT HOLLOW METAL DOORS	E	E	E	E	E	-	-	70
E	X	INSTALL EXT HOLLOW METAL FRAMES	E	E	E	E	E	-	-	71
E	X	ERECT PRECAST PANELS (OR DRIVIT)	-	-	-	E	-	-	-	72
E	X	INSTALL INSULATION,SHT MTL & RFG	E	-	-	E	E	-	-	73
E	X	INSTALL ENTRY GLASS	E	E	-	E	E	-	-	74
E	X	ERECT ALUM SIDING	-	-	-	-	E	-	-	75
E	X	INSTALL EXT LOUVERS	-	-	-	E	E	-	-	76
E	X	INSTALL EXT DRIVIT (OR PRECAST)	E	-	-	E	-	-	-	77
E	X	INSTALL BALCONY RAILS	-	-	-	-	E	-	-	78
E	X	INSTALL SLIDING DOORS	-	-	-	-	E	-	-	79
E	X	INSTALL SKYLITE GLASS	-	-	-	E	E	-	-	66
E	X	ERECT CURTAIN WALL FRAMING	-	-	-	-	E	-	-	81
E	X	INSTALL CURTAIN WALL GLASS	-	-	-	-	E	-	-	82
E	X	APPLY BALCONY TOPPINGS	-	-	-	-	E	-	-	83
E	X	INSTALL EXT ENTRY FRAMES	E	E	-	E	E	-	E	84
E	X	INSTALL EXT HARDWARE	E	E	E	E	E	-	-	85
F	X	PROCURE UNIT SUBSTATIONS	F	-	-	-	-	-	-	86
F	X	PROCURE EMERGENCY GENERATOR	F	-	-	-	-	-	-	87
F	X	PROCURE CONTROL SYSTEMS	F	-	-	-	-	-	-	88
F	X	PROCURE SWITCH GEAR	F	-	-	-	-	-	-	89
F	X	PROCURE TRASH COMPACTOR	F	-	-	-	-	-	-	90
F	X	PROCURE HOT WATER TANK	F	-	-	-	-	-	-	91
F	X	PROCURE DOMESTIC WATER PUMPS	F	-	-	-	-	-	-	92
F	X	PROCURE DOMESTIC WATER TANKS	F	-	-	-	-	-	-	93
F	X	PROCURE WATER SOFTENER	F	-	-	-	-	-	-	94
F	X	PROCURE AIR HANDLING UNITS	F	-	-	-	-	-	-	95
F	X	PROCURE FIRE PUMPS	F	-	-	-	-	-	-	96
F	X	PROCURE MOTOR CONTROL CENTERS	F	-	-	-	-	-	-	97
F	X	PROCURE COOLING TOWER	F	-	-	-	-	-	-	98
F	X	PROCURE FAN COIL UNITS	F	-	-	-	-	-	-	99
F	X	PROCURE BOILER	F	-	-	-	-	-	-	100
F	X	PROCURE CHILLERS	F	-	-	-	-	-	-	101
F	X	PROCURE TRANSFORMERS	F	-	-	-	-	-	-	102
G	X	INSTALL INT HOLLOW METAL FRAMES	G	-	-	-	-	-	-	103
H	X	INSTALL ROOF EQUIP CURBS	-	-	-	H	-	-	-	104
H	X	INSTALL ROOF MOUNTED EQUIP	-	-	-	H	-	-	-	105
H	X	INSTALL WATER HEATING EQUIP	H	-	-	-	-	-	-	106
J	X	ERECT, PLUMB & BOLT STRUCT STL & JSTS	J	-	-	J	J	-	J	107
J	X	ERECT METAL FLOOR & ROOF DECK	J	-	-	J	J	-	J	108

CONTRACT DOCUMENT MATRIX SUMMARY
GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE
RALPH J. STEPHENSON PE PC - D106 - DATE:

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
L	X	INSTALL PLASTIC LAM DOORS & HARDWARE	L	-	-	-	-	-	-	109
L	X	INSTALL INT HOLLOW METAL DOORS	L	-	-	-	-	-	-	110
L	X	INSTALL INT WOOD DOORS & HARDWARE	L	-	-	-	-	-	-	111
L	X	INSTALL INT HARDWARE	L	-	-	-	-	-	-	112
M	X	INSTALL FOOD SERVICE EQUIP	M	-	-	-	-	-	-	113

GRAND TRAVERSE RESORT VILLAGE GENERAL ABBREVIATIONS PAGE 1
LISTED BY ABBREVIATION DATE PRINTED: Nov 19 84
RALPH J. STEPHENSON PE PC

ABB	MEANING	CAT	REC#
45	FOURTH AND FIFTH FLOORS OF STRUCT STEEL	NP	16
A	CONTRACT A - MASS EXCAVATION	NP	37
AL	ALL - EXCEPT PHASE 2 (EB)	LO	23
B	CONTRACT B - SUBSTRUCTURE WORK	NP	38
BL	BAR & LOUNGE LEVEL	LO	73
C	CONTRACT C - SUPERSTRUCTURE WORK	NP	39
CO	BUILDING COMPONENT TO WHICH ACTIVITY BELONGS	NP	35
CO	COMPONENT OF BUILDING	CO	67
COD	CONTRACT DOCUMENTS	NP	17
D	ELEVATOR CONTRACT PACKAGE	NP	56
DNR	DEPARTMENT OF NATURAL RESOURCES	ORG	18
DPH	DEPARTMENT OF PUBLIC HEALTH	ORG	22
E	CLOSE IN CONTRACTS PACKAGE	NP	55
EB	EXISTING BUILDING	LO	57
EFRP	EXCAVATE, FORM, REINFORCE & POUR	NP	40
EIB	EXCAVATE, INSTALL & BACKFILL	NP	52
EL	ELEVATION	NP	42
ELECT	ELECTRICAL	NP	47
EOP	END OF PROJECT	NP	21
ET/R	END TIME RESTRAINT	NP	9
EXP	EXPANSION	NP	48
EXSTG	EXISTING	NP	45
F	LONG LEAD PROCUREMENT CONTRACTS PACKAGE	NP	58
F/D	FABRICATE AND DELIVER	NP	8
FE	FRONT END WORK	CO	64
FI	FINISH INTERIOR WORK	CO	68
FRP	FORM, REINFORCE AND POUR	NP	13
FRPS	FORM, REINFORCE, POUR & STRIP	NP	43
FS	FOOD SERVICE	NP	71
G	INTERIOR ROUGH WORK CONTRACTS PACKAGE	NP	59
GEN	GENERAL ABBREVIATIONS	GEN	20
H	MECHANICAL WORK CONTRACTS PACKAGE	NP	60
HN	HIGH NODE NUMBER ON SHEET	NP	11
I	CONTRACT PACKAGE IDENTIFICATION FOR ITEM	GEN	36
IFW	IN FLOOR WORK - RESTL, SLEEVES, INSERTS	NP	14
J	STRUCTURAL STL,JSTS,MTL DK CONTRACTS PACKAGE	NP	61
JST	JOISTS	NP	51
L	INTERIOR FINISH WORK CONTRACTS PACKAGE	NP	76
LB	LOBBY LEVEL	LO	29
LL	LOWER LEVEL	NP	6
LL	LOWER LEVEL	LO	28
LM	LOWER LEVEL MEZZ	LO	62
LN	LOW NODE NUMBER ON SHEET	NP	10
LO	LOCATION	GEN	26
LR	LOW RISE - BACK OF HOUSE	LO	25
M	FOOD SERVICE CONTRACTS PACKAGE	NP	77
ME	MECHANICAL ROOM LEVEL	LO	74
MECH	MECHANICAL	NP	46
MEZZ	MEZZANINE	NP	44
ML	MAIN LEVEL	NP	7
N3	NORTH HALF OF 3RD FLOOR - OTHERS SIMILAR	NP	15
NP	NETWORK PLANNING ABBREVIATIONS	NP	2
ORG	ORGANIZATION	GEN	19
P/I	PREPARE AND ISSUE	NP	5

ABB	MEANING	CAT	REC#
P/S	PREPARE AND SUBMIT	NP	3
P1	PHASE 1	NP	30
P2	PHASE 2	NP	31
PC	PRECAST	NP	12
PR	PROCUREMENT	CO	70
R/A	REVIEW AND APPROVE	NP	4
RE	RESTAURANT LEVEL	LO	72
REC	RECORD	GEN	34
RI	ROUGH INTERIOR WORK	CO	66
S	SUBMITTAL REQUIREMENTS	NP	32
SB	SUBSTRUCTURE	CO	63
SI	SITE	LO	24
SOG	SLAB ON GRADE	NP	41
SS	SUPERSTUCTURE	CO	65
STL	STEEL	NP	50
SUPTD	SUPPORTED	NP	49
SY	SYSTEMS WORK	CO	69
T/R	TIME RESTRAINT	NP	1
TA	ALL TYPICAL APT LEVELS	LO	75
TW	TOWER	LO	27
UG	UNDERGROUND	NP	53
UTIL	UTILITIES	NP	54
X	INDICATES SUBMITTAL REQUIRED	NP	33

TRAVERSE RESORT VILLAGE PROJECT RESPONSIBILTY CODES PAGE 1
LISTED BY CODE DATE PRINTED: NOV 10 1984
RALPH J. STEPHENSON PE PC

NUM	REFERENCE	REC#
001	GRAND TRAVERSE RESORT VILLAGE	1
002	ROSS W. PURSIFULL AIA	2
003	LOUIS G. REDSTONE ASSOCIATES INC	3
004	GOURDIE/FRASER & ASSOC	4
005	CONSUMERS POWER COMPANY	5
006	MICHIGAN BELL TELEPHONE	6
007	DEPARTMENT OF NATURAL RESOURCES	7
008	METROPOLITAN FIRE DEPARTMENT	8
009	DEPARTMENT OF PUBLIC HEALTH	9
010	GRAND TRAVERSE COUNTY	10
011	SITE UTILITY CONTRACTOR FOR PACKAGE A	11
012	EHLART/BRYAN-STRUCTURAL ENGINEERS	12
013	GRAND TRAVERSE COUNTY BUILDING DEPT	13
014	EXCAVATION CONTRACTORS - CONTRACT PACKAGE A	14
015	SUBSTRUCTURE CONTRACTORS - CONTRACT PACKAGE B	15
016	SUPERSTRUCTURE CONTRACTORS - CONTRACT PACKAGE C	16
017	DONALD G. ROBERTSON	17
018	ELEVATOR CONTRACTOR - CONTRACT PACKAGE D	19
019	EXTERIOR SKIN CONTRACTORS - CONTRACT PACKAGE E	20
020	LONG LEAD PROCUREMENT CONTRCTS - CONTR PACKGE F	24
021	ROUGH INTERIOR WORK CONTRACTORS - CONTR PACKAGE G	21
022	MECH WORK CONTRACTORS - CONTRACT PACKAGE H	22
023	STRUCT STEEL,JOISTS,MTL DK CONTRS - CONTR PACKGE J	23
024	FIN INT WORK CONTRTRS - CONTRCT PACKGE L	25
025	ELECT WORK CONTRACTORS - CONTRACT PACKAGE K	26
026	FOOD SERVICE EQUIP CONTRCTS - CONTR PACKGE M	27
099	TIME RESTRAINTS - T/R	18

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

January 5, 1985

Subject: Monitoring Report #5

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: December 26, 1984 (working day 252)

Monitored from Issue #4 dated November 5, 1984 (working day 217) sheet SM-1

Actions taken:

- Reviewed current status of field work and design work
- Made detailed review of contract document matrix summary and updated

Contract A - Mass Excavation

Mass excavation is nearly complete under contract A and a contract has been awarded for sub-structure work, contract B.

Contract B - Substructure

The contract was awarded December 21, 1984 (working day 250). There is currently no word on when the contractor will move on the job. Apparently he is presently getting early procurement under way and will move on as soon as he can continue meaningful field work. Substructure work under contract B was due to begin no later than January 1, 1985 (working day 262). It presently appears that this date will be met. 267 ?11

Contract C - Concrete Superstructure

The package C contract documents are presently in work with the target to issue them by January 10, 1985 (working day 262). It is a sizable working drawing package, and the design team is working hard at meeting their target date. Presently it appears that it will be achieved.

Contract D - Elevators

The contract D package was issued and proposals have been received. There are generally good proposals, and an evaluation is currently being made as to which contractor is to be awarded the work.

RALPH J. STEPHENSON, P.E., P.C.
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Contract E - Low rise structural steel joists and deck

At this session we had a detailed discussion as to the advisability of splitting the structural steel package for the low rise and the high rise. The discussion was triggered by an ongoing need for additional design and approval on work at the upper floors of the tower. It appears that this area is still open to design revisions while the low rise work which is very critical could be released in the near future. Therefore, it was decided that contract package E would be for the low rise only. It was further decided t hat the issue of low rise contract E documents would be set at January 28, 1985 (working day 274). High rise structural steel and deck will be included in package M for which an issue date has not yet been set.

Contract F - Exterior skin and close in

This work was discussed in depth at our meeting, and it was decided that the package content would be cut back to include only exterior skin miscellaneous metal, sliding doors, balcony rails, curtain wall framing and glass, and aluminun siding. Other close in items are to be included in contract packages A, J, N, and P. The reason for this revision was that it was thought best to keep curtain wall and closely related items in the early package so that it would be expedited to the greatest extent possible. This matter is still being reviewed but, for the time, being, we will include the elements noted above in package F.

Package F is presently to be issued January 7, 1985 (working day 259) with proposals due back in three weeks or on January 28, 1985 (working day 274).

Contract G - Mechanical work

No major review made of the mechanical contract document progress at this session. However, it is still the plan to issue the documents in February, 1985 hopefully concurrent with the issue of the electrical contract document package.

Contract H - Electrical work

The current target for issuing the electrical package is February 11, 1985 (working day 284). It is presently the intent to have an electrical contract awarded by early March, probably the first week in March, 1985. This is a difficult design package and it must be tied closely to mechanical contract documents in order for both to be properly proposed upon.

Contract J - Interior rough and finish work

Preparation of the J documents is ongoing and will be a continuous part of the architectural work from now until the issue date. No issue target has been set as yet since there are still matters to be resolved that deal with interior work included in this package. We will set an issue date in our ongoing planning sessions.

Contract K - Food service equipment

Food service layouts are still being reviewed by the owner and a decision is needed as to the final arrangement of food service facilities. We will evaluate the progress and issue of the food service equipment contract documents at subsequent planning sessions. Since mechanical and electrical work to some extent depends upon the food service equipment layouts I suggest that resolution of all matters dealing with such equipment be accomplished at an early date.

Contract package L - Formerly fixtures, furnishings, and equipment (FF & E) - now not used

The designation of the FF & E work package has been changed from L to Z. At present there is no contract package L in planning. Z will be discussed below.

Contract M - Tower structural steel and metal deck

No date was set for issue of this contract document package. There still are reviews and approvals necessary at upper floors that will affect the design and layout of structural steel. This item is being worked on on an ongoing basis.

Contract N - Miscellaneous low rise and tower enclosure work

Items that did not fit in with the curtain wall close in documents were put into contract package N. These include such items as louvers, rolling steel doors, exterior masonry and other similar work. Preparation of package N will be ongoing and should be such that a later issue of the package does not hold up erection of the exterior skin work leading to weather tightness.

Contract P - Miscellaneous close in glass and window washing equipment

Included in package P was skylight glass, sloped glazing, balcony glass, skylight framing, and window washing equipment. This grouping is one that should be studied in more detail to see if it is an appropriate combination and we shall review it at subsequent sessions to see if it is properly configured.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Contract Z - FF & E work (was formerly package L)

The interior deisgner has not yet been selected for the project, and therefore, we decided to put this package at the end of the alphabet designations to allow other package to be inserted as required. It was stressed at our meeting that selection of this design team and the beginning of their work does impact upon other decisions that relate to architectural packages for the entire project. Of particular importance is the impact of interior design on package J which includes architectural interior rough and finish work. It is strongly recommended that the owner move rapidly on retention of an interior design team.

It should be noted that interior finish work at the tower is planned to begin by August 2, 1985 (working day 406). This is only about 7 months away and interior items require, in some cases, considerable lead time. It is extremely important that interior design work be tied closely to building work.

General

Overall, project work is moving relatively well in the field, and the design contract packages are being planned and scheduled as tightly as possible. It is very important that the interior design consultant be brought on board as quickly as is feasible so that the architectural contract documents and interior design documents can be properly correlated.

One major revision to the project design packages that was made during our session was splitting the structural steel package into two elements - structural steel, joists, and deck for the low rise, and structural steel and metal deck for the tower. The low rise structural steel package is to be issued by January 28, 1985 (working day 274). This is approximately 16 working days later than had been anticipated earlier for the structural steel package and thus, we can expect that the start of structural steel close in and completion of owner work at the low rise area will be three to four weeks later than planned in the summary network model, Issue #1, dated November 5, 1984 (working day 217) sheets SM-1 and SM-2.

Accompanying this report are the revised GTRV data sheets including the contract document matrix summary, the name abbreviations, the general abbreviations, and the new responsibility codes. It would be greatly appreciated if those using those date sheets would be so kind to make corrections to them, and let me know of these revisions.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Meanwhile, I have set meeting dates with Mr. Robertson to monitor and further plan the project. The next monitoring and planning session will be January 9, 1985 (working day 261) at the site. This meeting will be concentrated on preparing a detailed network model for installation of substructure work under contract package B.

It should be stressed again that the contract document packages contain groupings of documents within which many contracts could be let. The grouping is fundamentally for the convenience of the project team so that drawings and reference documents can be combined and issued in an effective combination. If there are any questions or comments on the packages, please let the writer know at as early a date as possible.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

CONTRACT DOCUMENT MATRIX SUMMARY

GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE

D106 - RALPH J. STEPHENSON PE PC - DATE PRINTED: JAN 4 1984

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
A	-	SET HORIZ & VERT CONTROLS	A	-	-	-	-	A	-	4
A	-	MASS EXCAVATE TO 677'4	A	-	-	-	-	A	-	5
A	-	HAUL EXCAVATION TO BORROW AREA	A	-	-	-	-	A	-	6
A	-	CONSTRUCT HAUL ROAD	-	-	-	-	-	A	-	7
A	-	KEEP EXISTING ROADS CLEAN	-	-	-	-	-	A	-	8
A	-	REMOVE ABANDONED UTIL IN EXCAV AREAS	-	-	-	-	-	A	-	9
A	-	STRIP BLDG SITE & STOCKPILE TOPSOIL	A	-	-	-	-	A	-	10
A	-	DEMOLISH EXISTING ROAD IN EXCAV AREAS	-	-	-	-	-	A	-	11
B	-	OBTAIN FOUNDATION PERMIT	B	-	-	-	-	-	-	28
B	-	EXCAVATE FOOTINGS-NOT FOR SLB ON GRD	B	-	-	B	B	-	-	14
B	-	ERECT NECESSARY CONSTRUCTION FENCING	B	-	-	-	-	-	-	12
B		PART BACKFILL AT EXT FOUND WALLS	B	-	B	B	B	-	B	72
B	-	LAY OUT BUILDING	B	-	-	-	-	-	-	13
B	-	BACKFILL INT FOUND TO EL ?	B	-	-	B	B	-	-	19
B	-	LAY DRAIN TILE AT PITS	-	-	-	-	B	-	-	22
B	X	EFRP PIT SOG	-	-	-	-	B	-	-	20
B	X	FRP EXT LOWER LEVEL WALLS	B	-	B	B	B	-	-	15
B	X	EFRP COL FTGS	B	-	-	B	B	-	B	17
B	X	EFRP WALL FOOTINGS	B	-	-	B	B	-	-	18
B	X	DRIVE SHEETING AT EXISTING BLDG	-	-	-	B	-	-	B	23
B	X	PART APPLY EXT WALL WATERPROOFING	B	-	B	B	B	-	-	25
B	X	PART INSTL EXT WALL DRAIN TILE	B	-	B	B	B	-	B	34
B	X	FRPS COLS TO LOBBY LEVEL	-	-	-	B	-	-	-	24
B	X	FRPS COLS TO LL MEZZ	-	-	-	B	B	-	-	26
C	-	BACKFILL & COMPACT AT PITS	-	-	-	-	C	-	-	21
C	-	COMP INSTL DRAIN TILE AT EXT WALLS	C	-	-	-	-	-	-	36
C	X	APPLY PIT WATERPROOFING	-	-	-	-	C	-	-	16
C	X	FRPS ELEV 5 WALLS TO LB	-	-	-	-	C	-	-	27
C	X	INSTALL TRENCH DRAIN COVERS	-	-	C	C	-	-	-	29
C	X	INSTALL STEEL STAIRS & FILL	C	-	-	-	-	-	-	31
C	-	COMPLETE PHASE 2 ECAVATION	-	-	C	C	-	-	C	33
C	X	FRP PIT WALLS	-	-	-	-	C	-	-	189
C	-	BACKFILL EXT BUILDING WALLS	C	-	-	-	-	-	-	38
C	-	BACKFILL EXT RETAINING WALL	-	-	-	-	-	C	-	35
C	X	EFRP RETAINING WALL FOOTING	-	-	-	-	-	C	-	37
C	X	FRPS RETAINING WALL STEM	-	-	-	-	-	C	-	39
C	-	EXCAVATE FOR ALL SLABS ON GRADE	-	-	C	C	C	-	-	49
C	-	POUR OUT SUPPORTED DECKS	C	-	-	C	C	-	-	53
C	-	DEMOLISH EXISTING CANOPY	-	-	-	-	-	-	C	77
C	X	CURE, PART & TOTAL STRIP SUPTD DECKS	C	-	-	C	C	-	-	51
C	X	INSTL ELECT GROUNDING SYSTEM	C	-	-	-	-	-	-	52
C	X	FRPS COLUMNS ABOVE LOBBY LEVEL	C	-	-	-	C	-	-	54
C	X	FRPS COLS ABOVE LL MEZZ	-	-	C	C	C	-	-	43
C	X	CURE, STRIP & RESHORE SUPTD DECKS	C	-	-	C	C	-	-	50
C	X	ERECT MISC MTLS RELATED TO SS CONC WOR	C	-	-	-	-	-	-	190
C	X	CONSTRUCT LB SLABS ON GRADE	-	C	-	-	-	-	C	46
C	X	INSTL MISC IRON SKIN EMBEDS & SUPPORTS	C	-	-	-	C	-	-	56
C	X	COMP APPLY EXTERIOR WALL WATERPROOFING	C	-	-	-	-	-	-	42
C	X	FORM & SET IN FLOOR WORK FOR SUPTD DKS	C	-	-	C	C	-	-	55
C	X	INSTL EXPANSION JOINTS & RELATED EMBED	C	-	-	-	-	-	-	44
C	X	CONSTRUCT LL SLABS ON GRADE	C	-	C	C	C	-	-	57
C	X	INSTL MATERIAL & PERSONNEL HOIST	C	-	-	-	-	-	-	47
C	X	PROVIDE CONTRACT C HOISTING	C	-	-	-	-	-	-	48
C	X	CONSTRUCT TOWER LL MEZZ DECK	-	-	C	-	C	-	-	41

T	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
D	X	FURNISH ELEVATOR EMBEDMENTS	-	-	-	-	D	-	-	192
D	X	INSTALL ELEVATOR RAILS, EQUIP, CAB	-	-	-	-	D	-	-	58
D	X	INSTALL ELEVATOR HYDRAULIC CYLINDER	-	-	-	-	D	-	-	59
E	X	ERECT LR METAL FLOOR & ROOF DECK	-	-	-	E	-	-	E	108
E	X	ERECT, PLUMB & BOLT LR STRUCT STL & JS	-	-	-	E	-	-	E	107
F	X	INSTL EXT SKIN MISC METALS	F	-	-	-	-	-	-	60
F	X	INSTALL SLIDING DOORS	-	-	-	-	F	-	-	79
F	X	INSTALL CURTAIN WALL GLASS	-	-	-	-	F	-	-	82
F	X	ERECT ALUM SIDING	-	-	-	-	F	-	-	75
F	X	ERECT CURTAIN WALL FRAMING	-	-	-	-	F	-	-	81
F	X	INSTALL BALCONY RAILS	-	-	-	-	F	-	-	78
G	X	INSTL PLUMBING FIXTURES	G	-	-	-	-	-	G	145
G	X	INSTL SPRINKLER HEADS	G	-	-	-	-	-	G	169
G	X	INSTL GRILLS & DIFFUSERS	G	-	-	-	-	-	G	139
G	X	INSTL FAN COIL UNITS	-	-	-	-	G	-	-	142
G	X	PROCURE FAN COIL UNITS	G	-	-	-	-	-	-	99
G	X	PROCURE WATER SOFTENER	G	-	-	-	-	-	-	94
G	X	PROCURE CHILLERS	G	-	-	-	-	-	-	101
G	X	PROCURE DOMESTIC WATER TANKS	G	-	-	-	-	-	-	93
G	X	PROCURE BOILER	G	-	-	-	-	-	-	100
G	X	PROCURE COOLING TOWER (OR COND)	G	-	-	-	-	-	-	98
G	X	PROCURE FIRE PUMPS	G	-	-	-	-	-	-	96
G	X	PROCURE HOT WATER TANK	G	-	-	-	-	-	-	91
G	X	PROCURE DOMESTIC WATER PUMPS	G	-	-	-	-	-	-	92
G	X	PROCURE AIR HANDLING UNITS	G	-	-	-	-	-	-	95
G	-	INST AF DOMESTIC MECH PIPING	G	-	-	-	-	-	G	134
G	-	INSTL HARD CEILING SUSP & BLACK IRON	G	-	-	-	-	-	G	167
G	-	INSTL STUDS & IN WALL WORK	G	-	-	-	-	-	G	164
G	X	EIB UG UTIL AT LL SLAB ON GRADE	G	-	G	G	G	-	-	32
G	X	INSTL WATER HEATING SYSTEM	G	-	-	-	-	-	G	159
G	X	INSTL OUTSIDE GREASE TRAP	G	-	-	-	-	-	-	160
G	X	INSTL HOOD DUCTS	G	-	-	G	G	-	-	136
G	X	EIB UG UTIL AT LB LVL SLAB ON GRADE	-	G	-	-	-	-	G	30
G	X	INSTL INSIDE GREASE TRAP	G	-	-	-	-	-	-	161
G	X	INSTL AF SHT MTL DUCTWK	G	-	-	-	-	-	G	133
G	X	INSTL & PIPE FUEL TANK	G	-	-	-	-	G	G	162
G	X	INSTALL ROOF EQUIP CURBS	-	-	-	G	-	-	-	104
G	X	INSTL SIAMESE CONNECTIONS	G	-	-	-	-	-	G	131
G	X	INSTALL ROOF MOUNTED EQUIP	-	-	-	G	-	-	-	105
G	X	INSTL HOSE BIBBS	G	-	-	-	-	-	G	130
G	-	INSTL MECH SLEEVES	G	-	-	-	-	-	G	125
G	X	INSTL ALL MECH EMBEDS IN C CONCRETE	G	-	-	-	-	-	-	45
G	-	TEST & BALANCE MECHANICAL SYSTEMS	G	-	-	-	-	-	G	188
G	X	INSTL SPRINKLER SYSTEM	G	-	-	-	-	-	G	132
G	X	SET & PIPE CHILLER	G	-	-	-	-	-	-	152
G	X	INSTALL WATER HEATING EQUIP	G	-	-	-	-	-	-	106
G	X	SET & HOOK UP JACUZZIS	-	-	-	-	G	-	-	143
G	X	INSTL TOILET ROOM ACCESSORIES	G	-	-	-	-	-	G	149
G	X	INSTL VV BOXES	G	-	-	-	-	-	G	140
	X	PROCURE MECH CONTROL SYSTEMS	H	-	-	-	-	-	-	88
H	X	INSTL ELECT TRIM ITEMS	H	-	-	-	-	-	H	123
H	X	INSTL LIGHT FIXT	H	-	-	-	-	-	H	120
H	X	PROCURE EMERGENCY GENERATOR	H	-	-	-	-	-	-	87
H	X	PROCURE TRANSFORMERS	H	-	-	-	-	-	-	102

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
H	X	PROCURE MOTOR CONTROL CENTERS	H	-	-	-	-	-	-	97
H	X	PROCURE UNIT SUBSTATIONS	H	-	-	-	-	-	-	86
H	X	PROCURE SWITCH GEAR	H	-	-	-	-	-	-	89
H	-	INSTL ABOVE FLOOR ROUGH ELECT WORK	H	-	-	-	-	-	H	170
H	-	INSTL HARD CEILING SUSP & BLACK IRON	H	-	-	-	-	-	H	168
H	-	INSTL EXPOSED RUFF ELECT COND & FEEDER	H	-	-	-	-	-	H	119
H	X	INSTL POWER PANEL BOXES	H	-	-	-	-	-	-	117
H	X	INSTL LIGHT PANEL BOXES	H	-	-	-	-	-	-	118
H	X	INSTL STUDS & IN WALL WORK	H	-	-	-	-	-	H	165
H	-	INSTL TV CONDUIT	H	-	-	-	-	-	H	127
H	-	INSTL EMBEDDED ELECT CONDUIT	H	-	-	-	-	-	-	115
H	-	INSTL ELECT SLEEVES	H	-	-	-	-	-	H	124
H	-	INSTL EMBEDDED ELECT BOXES	H	-	-	-	-	-	-	116
H	X	INSTL TELEPHONE CONDUIT	H	-	-	-	-	-	H	126
H	X	INSTL ALL ELECT EMBEDS IN C CONCRETE	H	-	-	-	-	-	-	40
H	X	INSTL FIRE SAFETY CONDUIT	H	-	-	-	-	-	H	128
H	-	TEST & BALANCE ELECTRICAL SYSTEMS	H	-	-	-	-	-	H	141
H	X	PROCURE ELECT CONTROL SYSTEMS	H	-	-	-	-	-	H	114
H	X	INSTL & HOOK UP ELECT EQUIP	H	-	-	-	-	-	-	129
H	X	INSTL GROUNDING MAT	H	-	-	-	-	-	-	121
H	X	INSTL LIGHTENING ARRESTER SYSTEM	H	-	-	-	-	-	-	122
J	X	FRP EQUIP BASES	J	-	-	-	-	-	J	1
J	X	PROCURE TRASH COMPACTOR	J	-	-	-	-	-	-	90
J	-	INSTL HARD CEILING SUSP & BLACK IRON	J	-	-	-	-	-	J	166
J	X	INSTL STUDS & IN WALL WORK	J	-	-	-	-	-	J	163
J	X	ERECT INTERIOR MASONRY	J	-	J	J	J	-	J	62
J	X	INSTL LINEN CHUTE	-	-	-	-	J	-	-	148
J	X	INSTL TRASH COMPACTOR	J	-	-	-	-	-	-	171
J	X	INSTL TRASH CHUTE	-	-	-	-	J	-	-	147
J	X	INSTALL INT HOLLOW METAL FRAMES	J	-	-	-	-	-	-	103
J	X	INSTALL DOCK LEVELLERS	-	-	J	J	-	-	-	61
J	X	INSTL SHOWER PANS	J	-	-	-	-	-	J	146
J	O	INSTALL INSULATION AT EXPOSED SOFFITS	-	-	-	J	J	-	J	63
J	X	INSTALL PLASTER SOFFITS	-	-	-	J	J	-	J	80
J	-	HANG BOARD	J	-	-	-	-	-	J	174
J	-	TAPE & SAND BOARD	J	-	-	-	-	-	J	175
J	X	INSTL ACOUST CLG SUSP & GRID	J	-	-	-	-	-	J	181
J	X	INSTL SIGNAGE	J	-	-	-	-	-	J	183
J	X	INSTL VANITIES	J	-	-	-	-	-	J	173
J	X	APPLY FP TO HOOD DUCT	J	-	-	J	J	-	-	137
J	X	INSTL APPLIANCES	-	-	-	-	J	-	-	150
J	X	INSTALL PLASTIC LAM DOORS & HARDWARE	J	-	-	-	-	-	-	109
J	X	INSTL RESILIENT FLOORING	J	-	-	-	-	-	J	180
J	X	INSTALL DUMBWAITER	-	-	-	-	J	-	-	2
J	X	INSTL MILLWORK & TRIM	J	-	-	-	-	-	J	172
J	X	INSTL INTERIOR LANDSCAPING	J	-	-	-	-	-	J	185
J	X	INSTL CERAMIC TILE	J	-	-	-	-	-	-	144
J	X	INSTL ACOUST CLG PANELS	J	-	-	-	-	-	J	182
J	X	INSTL QUARRY TILE	J	-	-	-	-	-	J	179
J	X	INSTALL INT WOOD DOORS & HARDWARE	J	-	-	-	-	-	-	111
J	X	INSTALL INT HARDWARE	J	-	-	-	-	-	-	112
J	X	INSTALL INT HOLLOW METAL DOORS	J	-	-	-	-	-	-	110
J	X	LAY CARPETING IN CORR & PUBL SPACES	J	-	-	-	-	-	J	177
J	X	INSTL VINYL WALL COVERING	J	-	-	-	-	-	J	187

GRAND TRAVERSE RESORT VILLAGE TOWER & LOW RISE

D106 - RALPH J. STEPHENSON PE PC - DATE PRINTED: JAN 4 1984

I	S	ACTIVITY DESC	AL	LB	LL	LR	TW	SI	EB	REC#
J	X	PAINT REQUIRED SURFACES	J	-	-	-	-	-	J	176
J	X	INSTL CLOSET DOORS	-	-	-	-	J	-	-	184
J	X	INSTL INT DOORS & HARDWARE	J	-	-	-	-	-	J	157
J	X	INSTL TOILET ROOM PARTITIONS	J	-	-	-	-	-	J	151
K	X	INSTL FOOD SERVICE ROUGH IN	K	-	-	-	-	-	-	154
K	-	FIELD MEASURE FOR FOOD SERVICE EQUIP	K	-	-	-	-	-	-	155
K	X	INSTL HOOD FIRE PROTECTION	K	-	-	M	M	-	-	138
K	-	RUN IN FOOD SERVICE EQUIP & TRAIN STAF	K	-	-	-	-	-	-	186
K	X	INSTALL FOOD SERVICE EQUIP	K	-	-	-	-	-	-	113
K	X	INSTL HOODS	K	-	-	M	M	-	-	135
K	X	FAB & DEL FOOD SERVICE EQUIP	K	-	-	-	-	-	-	156
K	X	INSTL FOOD SERVICE EQUIPMENT	K	-	-	-	-	-	-	153
M	X	ERECT TOWER METAL DK	-	-	-	-	M	-	-	195
M	X	ERECT, PLUMB & BOLT TOWER STRUCT STEEL	-	-	-	-	M	-	-	194
N	X	INSTALL EXT LOUVERS	-	-	-	N	N	-	-	76
N	X	INSTALL ROLLING STEEL DOORS	-	-	N	N	-	-	-	69
N	X	INSTALL EXT HOLLOW METAL DOORS	N	N	N	N	N	-	N	70
N	X	INSTALL EXT ENTRY FRAMING	N	N	-	N	N	-	N	84
N	X	INSTALL EXT HARDWARE	N	N	N	N	N	-	N	85
N	X	APPLY BALCONY TOPPINGS	-	-	-	-	N	-	-	83
N	X	ERECT EXTERIOR MASONRY	N	-	-	N	N	-	N	64
N	X	INSTALL EXT HOLLOW METAL FRAMES	N	N	N	N	N	-	N	71
N	X	ERECT STOREFRONT FRAMING	N	N	-	N	N	-	N	67
N	X	INSTALL STOREFRONT GLASS	N	N	-	N	N	-	N	68
N	X	INSTALL LR INSULATION,SHT MTL & RFG	N	-	-	N	-	-	N	73
N	X	INSTALL ENTRY GLASS	N	N	-	N	N	-	N	74
P	X	INSTALL SKYLITE GLASS	-	-	-	P	-	-	-	66
P	X	INSTALL SLOPED GLAZING	-	-	-	-	P	-	-	193
P	X	INSTL BALCONY GLASS	-	-	-	-	P	-	-	191
P	X	INSTALL SKYLITE FRAMING	-	-	-	P	-	-	-	65
P	X	INSTALL WINDOW WASHING EQUIPMENT	-	-	-	-	P	-	-	3
Z	X	LAY CARPET AT GUEST ROOMS	-	-	-	-	Z	-	-	178

PROJECT NAME ABBREVIATIONS LISTED BY NAME - DATE PRINT: JAN 4 1984

RALPH J. STEPHENSON PE PC

ABB	NAME & TITLE	ORG	REC#
FB	BAUMGARTNER, FRED - CONSUMERS POWER	COP	20
WB	BRYAN, WAYNE-STRUCTURAL ENGINEER	EBI	11
CRE	CHERRYLAND RURAL ELECTRIC POWER	CRE	22
RC	CLARK, RUSSELL - VP SPECIAL PROJECTS	GTD	36
COP	CONSUMERS POWER	COP	21
EBI	EHLERT/BRYAN-STRUCTURAL ASSOCIATES, INC	EBI	12
LE	ELMQUEST, LU - SECRETARY	GTD	33
RE	ERB, RICHARD - CHIEF OPERATIONS OFFICER	GTR	15
RF	FIFAREK, RAYMOND - LARKIN INSURANCE	LI	19
TAF	FORESBERG, T.A - SITE CONTRACTOR	TAF	25
JG	GERNHOFER, JAMES - HOTEL MANAGER	GTR	34
AG	GITTLEMAN, AL - PRINCIPAL	LGR	31
GFA	GOURDIE/FRASER & ASSOC INC	GFA	5
GTCM	GRAND TRAVERSE CM INC	GTCM	43
GTC	GRAND TRAVERSE COUNTY CONST CODE OFF	GTC	30
MFI	GRAND TRAVERSE COUNTY FIRE DEPT - METRO	MFI	24
GTD	GRAND TRAVERSE DEVELOPMENT CO. INC	GTD	2
GTR	GRAND TRAVERSE RESORT	GTR	42
KH	HAFER, KEN - DIRECTOR ARCH PROD	LGR	40
RTH	HAMMOND, ROBERT T. PE DIR OF ENGR	GFA	7
WH	HANNA, WAYNE - CHIEF METRO FIRE DEPT	MFI	23
MK	KELLY, MIKE - GFA	GFA	13
LI	LARKIN INSURANCE	LI	29
DL	LATHER, DAVID - DIRECTOR	GTC	17
GR	LOUIS G. REDSTONE ASSOCIATES INC	LGR	4
DM	MADDELEIN, DOUGLAS - FIELD SUPT GTCM	GTCM	37
RM	MASSIE, RON-MAINTENANCE	GTD	26
TN	NAB, TERRY - QUALITY CONTROL ENGR GTCM	GTCM	32
PLN	NINE, PAUL L. - PRESIDENT	GTD	14
CP	PETRILLI, CARMINE AIA-DIRECTOR OF DESIGN	LGR	9
DP	POWER, DAVE - PROJECT MANAGER	LGR	41
RWP	PURSIFULL, ROSS W. AIA SENIOR VP	GTD	1
RAR	RADEMAKER, RICHARD A. LLS PROJECT MGR	GFA	6
DGR	ROBERTSON, DONALD G. - VP GTCM	GTCM	27
JR	RUNDQUIST, JAMES - PRINCIPAL DESIGNER	LGR	39
JSC	SCOTT, JOHN - GOLF COURSE MAINT	GTD	18
LGS	SHEA, LEO G. FAIA PRESIDENT	LGR	3
EGS	SIEGEL, EDWIN G.-MECHANICAL ENGINEER	LGR	8
RS	SMITH, RON - VP SALES GTD	GTD	35
RJS	STEPHENSON, RALPH J. PE CONSULTANT	RJS	10
JS	STEVENS, JAMES		16
JW	WALWORTH, JAMES - DIRECTOR OF ELECT ENGR	LGR	28

LISTED BY ABBREVIATION DATE PRINTED: JAN 4 1984
RALPH J. STEPHENSON PE PC

ABB	MEANING	CAT	REC#
A	CONTRACT A - MASS EXCAVATION	I	37
AL	ALL - EXCEPT PHASE 2 (EB)	LO	23
B	CONTRACT B - SUBSTRUCTURE WORK	I	38
BL	BAR & LOUNGE LEVEL	LO	73
C	CONTRACT C - SUPERSTRUCTURE WORK	I	39
CO	BUILDING COMPONENT TO WHICH ACTIVITY BELONGS	NP	35
CO	COMPONENT OF BUILDING	CO	67
COD	CONTRACT DOCUMENTS	NP	17
D	CONTRACT D - ELEVATOR WORK	I	56
DNR	DEPARTMENT OF NATURAL RESOURCES	ORG	18
DPH	DEPARTMENT OF PUBLIC HEALTH	ORG	22
E	CONTRACT E - STRUCT STL, JSTS, MTL DECK	I	61
EB	EXISTING BUILDING & PHASE 2 AREAS	LO	57
EFRP	EXCAVATE, FORM, REINFORCE & POUR	NP	40
EIB	EXCAVATE, INSTALL & BACKFILL	NP	52
EL	ELEVATION	NP	42
ELECT	ELECTRICAL	NP	47
EOP	END OF PROJECT	NP	21
ET/R	END TIME RESTRAINT	NP	9
EXP	EXPANSION	NP	48
EXSTG	EXISTING	NP	45
F	CONTRACT F - BUILDING CLOSE IN WORK	I	55
F/D	FABRICATE AND DELIVER	NP	8
FE	FRONT END WORK	CO	64
FFE	FIXTURES. FURNISHINGS & EQUIPMENT	NP	80
FI	FINISH INTERIOR WORK	CO	68
FRP	FORM, REINFORCE AND POUR	NP	13
FRPS	FORM, REINFORCE, POUR & STRIP	NP	43
FS	FOOD SERVICE	NP	71
G	CONTRACT G - MECHANICAL WORK	I	59
GEN	GENERAL ABBREVIATIONS	GEN	20
H	CONTRACT H - ELECTRICAL WORK	I	60
HN	HIGH NODE NUMBER ON SHEET	NP	11
I	CONTRACT PACKAGE IDENTIFICATION FOR ITEM	GEN	36
IFW	IN FLOOR WORK - RESTL, SLEEVES, INSERTS	NP	14
J	CONTRACT J - ROUGH & FINISH INTERIOR WORK	I	76
JST	JOISTS	NP	51
K	CONTRACT K - FOOD SERVICE EQUIPMENT	I	77
L	CONTRACT L - FFE WORK	I	81
LB	LOBBY LEVEL	LO	29
LL	LOWER LEVEL	LO	28
LL	LOWER LEVEL	NP	6
LM	LOWER LEVEL MEZZ	LO	62
LN	LOW NODE NUMBER ON SHEET	NP	10
LO	LOCATION	GEN	26
LR	LOW RISE - BACK OF HOUSE	LO	25
ME	MECHANICAL ROOM LEVEL	LO	74
MECH	MECHANICAL	NP	46
MEZZ	MEZZANINE	NP	44
ML	MAIN LEVEL	NP	7
N3	NORTH HALF OF 3RD FLOOR - OTHERS SIMILAR	NP	15
NP	NETWORK PLANNING ABBREVIATIONS	NP	2
ORG	ORGANIZATION	GEN	19
P/I	PREPARE AND ISSUE	NP	5

LISTED BY ABBREVIATION DATE PRINTED: JAN 4 1984

RALPH J. STEPHENSON PE PC

BB	MEANING	CAT	REC#
P/S	PREPARE AND SUBMIT	NP	3
P1	PHASE 1	NP	30
P2	PHASE 2	NP	31
PC	PRECAST	NP	12
PR	PROCUREMENT	CO	70
R/A	REVIEW AND APPROVE	NP	4
RE	RESTAURANT LEVEL	LO	72
REC	RECORD	GEN	34
RI	ROUGH INTERIOR WORK	CO	66
S	SUBMITTAL REQUIREMENTS	NP	32
SB	SUBSTRUCTURE	CO	63
SI	SITE	LO	24
SI	SITE WORK	CO	79
SK	EXTERIOR BUILDING SKIN WORK	CO	78
SOG	SLAB ON GRADE	NP	41
SS	SUPERSTUCTURE	CO	65
STL	STEEL	NP	50
SUPTD	SUPPORTED	NP	49
SY	SYSTEMS WORK	CO	69
T/R	TIME RESTRAINT	NP	1
TA	ALL TYPICAL APT LEVELS	LO	75
TW	TOWER	LO	27
UG	UNDERGROUND	NP	53
'ITIL	UTILITIES	NP	54
.	INDICATES SUBMITTAL REQUIRED	NP	33

LISTED BY CODE DATE PRINTED: JAN 4 1984

RALPH J. STEPHENSON PE PC

JM	REFERENCE	REC#
001	GRAND TRAVERSE RESORT VILLAGE	1
002	ROSS W. PURSIFULL AIA	2
003	LOUIS G. REDSTONE ASSOCIATES INC	3
004	GOURDIE/FRASER & ASSOC	4
005	CONSUMERS POWER COMPANY	5
006	MICHIGAN BELL TELEPHONE	6
007	DEPARTMENT OF NATURAL RESOURCES	7
008	METROPOLITAN FIRE DEPARTMENT	8
009	DEPARTMENT OF PUBLIC HEALTH	9
010	GRAND TRAVERSE COUNTY	10
011	SITE UTILITY CONTRACTOR FOR PACKAGE A	11
012	EHLART/BRYAN-STRUCTURAL ENGINEERS	12
013	GRAND TRAVERSE COUNTY BUILDING DEPT	13
014	EXCAVATION CONTRACTORS - CONTRACT PACKAGE A	14
015	SUBSTRUCTURE CONTRACTORS - CONTRACT PACKAGE B	15
016	SUPERSTRUCTURE CONTRACTORS - CONTRACT PACKAGE C	16
017	DONALD G. ROBERTSON	17
018	ELEVATOR CONTRACTOR - CONTRACT PACKAGE D	19
019	CURTAIN WALL CONTRACTORS - CONTRACT PACKAGE F	20
020	LONG LEAD PROCUREMENT CONTRACTORS	24
021	RUFF & MISC INT WORK CONTRACTOR - CONTRCT PKG J	21
022	MECH WORK CONTRACTORS - CONTRACT PACKAGE G	22
023	LOW RISE STRUCT STL, JOISTS, MTL DK - CONTR PKG E	23
024	FIN INT WORK CONTRTRS - CONTRACT PACKAGE J	25
025	ELECT WORK CONTRACTORS - CONTRACT PACKAGE H	26
026	FOOD SERVICE EQUIP CONTRCTS - CONTR PACKGE K	27
027	FFE CONTRACTORS - CONTRACT PACKAGE Z	28
028	TOWER STRUCT STL & MTL DK - CONTRACT PACKAGE M	29
029	MISC LOW RISE & TOWER CLOSE IN - CONTR PKG N	30
030	MISC GLASS, SKYLITES & WIND WSHG EQP - CONTR PKG P	31
099	TIME RESTRAINTS - T/R	18

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January 16, 1985

Subject: Monitoring Report #6

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: January 9, 1985 (working day 261)

Monitored from sheet B-1 and B-2, Issue #1, dated January 9, 1985 (working day 261)

Date of award of contract B: December 21, 1984 (working day 250) A.M.

Contract completion date for contract B: April 19, 1985 (working day 334) P.M.

Actions taken:

- Briefly reviewed current status of field work
- Prepared detailed network model for contract B sub-structure work

General

The major purpose of this session was to prepare a detailed network model with the contract B sub-structure contractor. It should be noted that in Monitoring Report #5 sub-structure work was identified as due to begin no later than January 1, 1985 (working day 262). This date was in error and the sentence should read "Substructure work under contract B was due to begin no later than January 11, 1985 (working day 263).") At our session today Mr. Thomas J. Comstock from Comstock Construction Company was the prime source of contractor input, and from our session we were able to assemble a network model showing the current intent relative to installation of contract B foundation work.

A brief summary of the work to be done is given below:

Contract B - Substructure

The contractor is not yet moved fully on the site pending resolution of several items including preparation, submittal, and approval of the concrete mix design, obtaining a foundation permit, and the preparation and submittal,

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review and approval, and fabrication and delivery of early mat foundation resteel. Presently it is expected that mat steel shop drawings will be submitted by January 11, 1985 (working day 263), and based upon an expedited turnaround early mat foundation resteel should be on the job January 23, 1985 (working day 271).

For ease of identification substructure work has been broken into several major areas including:

- mat foundation which are those footings under the tower elevators and stairs
- west and south side column footings and lower level wall and columns
- east side wall and column footings and lower level walls and columns
- west and south side lower level wall waterproofing and drain tile
- east side lower level wall waterproofing and drain tile
- north end lower level wall footing and wall construction, waterproofing, and drain tile

Two intermediate major milestones have also been identified, the first when tower foundations are complete, and the second when approximately one-half of the low rise foundations are complete. Milestone A, when the tower foundations are complete, is set for the evening of March 1, 1985 (working day 299). Milestone B, for when the north half of the low rise is available, is set for the evening of March 26, 1985 (working day 316). These activity points are indicated on the network model by crosshatching. The key graphic indicator at the top right hand area of sheet B-1 shows the pattern for identifying A & B.

Presently the project plan and schedule is very tight, and close attention will have to be given to front end work to insure that the project can begin promptly as shown. The network model incorporates a small amount of weather in durations as established by Mr. Comstock, and using the logic and durations shown on sheets B-1 and B-2, it appears that the contract milestone points can be achieved. The network model preliminary calculations shows a possible early completion of all work by the evening of April 9, 1985 (working day 326), slightly ahead of the contract completion date.

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The network model was calculated with early and late starts and finishes but is subject to additional review and checking. The calculations were reworked considerably and therefore, it would be appreciated if those reviewing and checking the network information would note any discrepancies and call them to the writer's attention. Copies of the network model were distributed to those members of the project team normally receiving this information as well as directly to Mr. Comstock per our discussions at the diagramming session. If the current network model is satisfactory, it can be drafted directly into final form, dated with early and late starts and finishes, and issued.

If there are to be any major revisions to the logic it would be well to meet once again and review the plan to make such changes and determine the impact of revisions on the milestone and end contract dates. With the current network it appears that the plan of operation can stay well in alignment with the desired date framework shown in the summary network model sheets SM-1 and SM-2, Issue #4 dated November 5, 1984 (working day 217).

Within design work, efforts are being made to meet all current contract package issue dates. We shall plan at our next session to review these dates in detail and confirm or revise the summary plan as needed.

Present at our meeting today were the following:

Thomas J. Comstock, Comstock Construction Company
Donald Robertson
Douglas Maddelein

I shall be in touch with Mr. Robertson shortly to determine his desires relative to our next planning and monitoring session.

Ralph J.Stephenson, P.E.

RJS:sps

To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher
Note: Mr. Robertson will distribute copies of this report to those contractors who should receive them.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

February 2, 1985

Subject: Monitoring Report #7

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: January 28, 1985 (working day 274)

Monitored from sheets SM-1 and SM-2, Issue #4, dated November 5, 1984 (working day 217) and sheet B-1 and B-2 Issue #1 dated January 9, 1985 (working day 261)

Start of contract A work - Mass excavation: Approximately November 9, 1984 (working day 221)

Start of contract B work - Sub-structure concrete: About January 11, 1985 (working day 263)

Contract completion date: For contract B: p.m. April 19, 1985 (working day 334)

Target project completion date: April 30, 1986 (working day 596) p.m.

Actions taken:

- Reviewed current status of substructure work (contract B)
- Reviewed shop drawing procedures
- Discusssed work progress on contract packages C, D, E, F, G, H, K, and M
- Reviewed contract document matrix
- Discussed timing, scope of work, and tie in of mechanical and electrical packages to general contract work

A brief review of each contract package is given below:

Contract A - Mass excavation

Work complete.

Contract B - Substructure

The contractor is on the job and working on mat foundations. Present plans are to pour this mat out on February 11, 1985 (working day 284). A review was made of the network model Issue #1 dated January 9, 1985 (working day 261) sheets B-1 and B-2 by the contractor and the owner. Some revisions were made and this updated network is being drafted for issuance.

RALPH J. STEPHENSON, P.E., P.C.
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Foundation resteel for mat footings should be on the job January 28, 1985 (working day 274). Resteel shop drawings for substructure work from column line A to Q minus the mats are about half submitted and about half approved. There was no current word on when the remainder of these would be available. Resteel shop drawings for the substructure from column line Q to the south end are still in work, and there was no information on when submittals would be made. The sheeting design drawing is also in work, but there is no current information about when they will be submitted.

The target dates for contract B work are as defined in the network model Issue #1 dated January 9, 1985 (working day 261) sheets B-1 and B-2. The B work is to be far enough along by the evening of March 1, 1985 (working day 299) to permit start up of the tower superstructure. By the evening of March 26, 1985 (working day 316) work is to be far enough along so that the low rise concrete superstructure can start in the field. Total completion of the contract B work is currently set at p.m. of April 19, 1985 (working day 334) as a contract end date to allow completion of the low rise concrete superstructure. These three dates are being held as milestone targets and it presently appears possible, provided the weather is not excessively severe, to meet these dates.

While discussing procedures on contract B work, we reviewed the sequence of processing shop drawings. Shop drawings go directly from the contractor to Grand Traverse CM Inc., from which they are distributed to Redstone. Early structural shop drawings are being sent directly to the structural engineer. After review the shop drawings are returned to the owner, Grand Traverse CM Inc., and they are then distributed to the appropriate contractor. Details of submittals and return procedures were discussed with each of the major parties and the number of prints to be made along with the routing will be worked out among those groups affected.

Contract C - Concrete superstructure work

Contract documents were issued January 14, 1985 (working day 264) and presently six firms are proposing on the work. Proposals are due back on February 6, 1985 (working day 281). Preparation of estimates seems to be moving well, and if proposals are received back by February 6, 1985 (working day 281) the concrete superstructure contractor should be able to be on the job, starting work by about March 1, 1985.

It is very critical to insure that all drawings requiring embedments of any kind in concrete be available by the start of contract C field work.

We checked each of the contract C items in the matrix summary, and there were some changes. Exterior wall waterproofing and drain tile is all to be installed under contract B. French French drain covers which are in a site component location will be covered by the site contract documents. Also, the electrical grounding system was shifted from package C to package H. Expansion joint covers were put in package J.

Contract D - Elevator

The letter of intent was issued January 2, 1985 (working day 256) to the elevator contractor and a formal contract is in the contractor's hands for execution. Of strong importance is to insure that any required embedments related to elevator work are brought to the job prior to construction of related concrete areas. The elevator contractor has been made aware of these areas and is going to provide these embeds. Shop drawings were expected in January 25, 1985 (working day 273) but have not yet arrived. They probably will be here shortly. Shop drawings are important because they may have some impact upon work currently in progress, and being proposed upon.

Contract E - Low rise structural steel joists and deck

The issue date for this package has been set at February 11, 1985 (working day 284). Structural steel reinforcement has been added to the contract E package and will be included in the issue. The contract E package also will include both phase #1 and phase #2 low rise structural steel.

As we discussed the erection of structural steel and its relationship to total progress we began analyzing the need to provide safe, effective, convenient passage through the new facility into the old lobby at a point when phase #2 work is to start. This led us to a re-evaluation of the matter of access to the existing lobby. To help focus the problem, a decision tree analysis was made on what courses of action might be possible for installation of the phase #2 temporary entrance into the building. This decision tree, done in a very rough fashion, was taken by Mr. Don Robertson and will be reviewed with Mr. Pursifull relative to establishing the feasibility of alternate courses of action. These alternate courses are discussed below under the title of Temporary Existing Lobby Access.

The low rise structural steel package is being issued on February 11, 1985 (working day 284) with the intent that steel could be on the job by June 11, 1985 (working day 369). The low rise concrete superstructure will, according to our present plan, be complete by then and structural steel should be able to be erected without delay. It is important to get this low rise structural steel on the job as early as possible since closing in the low rise is critical and must be accomplished prior to cold weather, 1985.

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The summary network model sheet SM-2, Issue #4 dated November 5, 1984 (working day 217) indicated that the low rise could be closed to weather by August 6, 1985 (working day 408). This was based upon a steel delivery of May 2, 1985 (working day 358). The later issue of the contract (C) package brings delivery of structural steel to the morning of June 11, 1985 (working day 359), a difference of about 11 working days which moves the close in point to about September 6, 1985 (working day 430).

This should still give us adequate time to complete the low rise to meet required use dates. It would be good, however, if construction of the low rise superstructure and close in could proceed continuously through phase #1 and phase #2. Thus, the need to find alternate methods of getting through the existing lobby area as early as possible.

Contract F - Exterior skin and glass work

Package F for the exterior curtain wall was issued January 15, 1985 (working day 266). Proposals are due February 5, 1985 (working day 280). Presently it appears that contract F work will be required on the job at the tower by July 2, 1985 (working day 384). If a contract can be awarded for contract F by February 5, 1985 (working day 280) it will allow about four and a half months to detail, fabricate, and deliver materials. This item will have to be watched carefully since it is a critical part of the project and a sensitive area to keep on target so as to allow interior finish work to proceed in a timely manner.

Contract G - Mechanical work

Contract package G is not going to be ready by February 11, 1985 (working day 284) which had been set as the informal target issue date. Apparently there are still some unresolved areas that affect both mechanical and electrical; and therefore, since mechanical and electrical packages G and H are closely related both will probably be delayed slightly. There was no current word on when the mechanical and electrical packages would be available, but it was pointed out that the contractor for each of these trades would be needed shortly after work on the concrete superstructure starts on March 1, 1985 (working day 298). Thus, it becomes imperative that these packages be issued sometime within the next four weeks.

Major discussions are in work presently to decide how best to resolve this rather difficult and tight schedule. We discussed in some detail the needs of each of the packages, and ongoing conversations will be held to expedite the work to the greatest degree possible.

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Contract H - Electrical work

Remarks for the electrical contract packages are the same as for the mechanical contract package G above. I suggest that both be concentrated upon heavily in the next several days and that all items restraining electrical and mechanical work be clearly and completely outlined and reviewed. Communication should be maintained with the owner to insure that anything there is a need for is provided to the design team. Of particular importance to mechanical and electrical design is reflected ceiling plans, and shaft and opening layouts along with roof drain layouts.

Contract package J - Interior rough and finish work

No current word was available on when the full package of contract documents would be available. We shall discuss the issue of them in more depth at our next session.

Contract K - Food service equipment

Redstone and Grand Traverse CM now have in their possession the revised kitchen layout. These were given to the Grand Traverse Resort Village staff on Friday, January 25, 1985 (working day 273). Concurrently work was released in the architectural department to continue on those areas affected by the kitchen revisions. A quick review is being made of the material and approval is expected through Grand Traverse CM shortly.

Contract package L - Designation not now used

Contract package M - Tower structural steel and metal deck

This package was reviewed briefly, but there is no current authentic date on when it will be issued. There are still design conditions to be resolved that will affect framing this top of the high rise area. We shall plan to discuss the network at subsequent sessions.

Contract package N - Miscellaneous low rise and tower enclosure work

Not discussed.

Contract package P - Miscellaneous close in glass and window washing equipment

Not discussed in detail.

Contract Z - FF & E work

Heavy efforts are being made to retain an interior design firm to get the FF & E and other interior elements of the project into design and working drawings. It is believed that a

decision will be forthcoming soon on the design team and their work will be initiated immediately.

It should be noted that interior finish work at the tower is planned to begin August 2, 1985 (working day 406). This is only 230 working days from the current date and does not give a great deal of time to prepare and issue the FF & E and other interior finish material documents. We shall plan to monitor this work carefully as the interior design team is brought into the project.

Temporary entrance into existing lobby during construction of phase #2

Presently the project is broken into two phases. Phase #1 is all work on the tower and low rise with the exception of the area immediately adjacent to the existing canopy and lobby. Phase #2 is construction of the area at the existing canopy and lobby needed to tie the two buildings together. At present, there are several plans under consideration as to how this phase #2 construction is to be done. The thinking has been that the phase #2 construction start would be held until a guest passage through the new building from the lobby of the new high rise was available and then to route entry guests into the hotel via this route.

A second alternative was to find another entry while blocking the lobby off from construction of phase #2 with temporary partitions. The alternate schemes put phase #2 into work at various times, basically about February, 1985; May, 1985; August, 1985; or November, 1985.

A review of the features of each is given below:

Course of Action #1 - Hold phase #2 until a passage through the new building is safe.

Comments:

A. The cost of building such a package would be high since, in all likelihood, full protection of non-construction personel using this corridor would be needed. Passages through construction in progress would have to be fully enclosed, lighted, and all safety and security systems would have to be installed and workable.

B. Installation of a passage through the new facility will probably not be possible until late fall, 1985. This means that construction of phase #2 work is starting at a poor time of the year.

C. There is no continuity of any early work since there will likely be a time gap in the process of constructing phase #1 and constructing phase #2.

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D. It would not be possible, in all likelihood, to complete paving at the exterior by May 1, 1986, the present target for finishing the job. The reason is that the phase #2 excavation, substructure construction, and backfilling would be completed too late to do all paving in 1985 prior to the target opening date of May 1, 1986 (working day 596).

Course of Action #2 - Shut down the existing entry at the lobby and shift to an alternate entrance. Several concerted discussions indicated that making the east entry at the meeting rooms into a temporary entrance into the facility might prove workable. With minor modifications, perhaps a canopy, either permanent or temporary, and with some miscellaneous revisions to the entry pattern and its passage through the existing meeting areas, such an entrance could work reasonably well.

Four general time frames were evaluated - February, May, August, and November, 1985 for shutting down the existing entry. Some of the points discussed under each are given below for the phase of work to begin at the dates indicated.

February, 1985:

A. Would achieve continuity in most construction work including that under way presently.

B. Site work could, in all likelihood, be done by fall, 1985.

C. The full lobby could be back in operation by late fall, although the entry to the lobby would be from the temporary east meeting room entrance.

May, 1985:

A. Would allow continuity in all contract work except contract C.

B. Site work would be completed by late fall 1985 or early winter.

C. The lobby could be back in service from the temporary east meeting room entrance by early 1986.

August, 1985:

A. No continuity of structural work possible.

B. Some continuity of close in might be possible.

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C. Might possibly be paved by late fall, 1985. Is questionable however and somewhat risky.

D. The lobby could be reoccupied, still served by the east meeting room entry by mid-spring, 1986.

November, 1985:

A. No continuity in any of the major installation work.

B. Could not pave by May 1, 1986 (working day 596) unless winter was exceptionally mild and early paving possible in 1986.

C. There would be a slight possibility of the lobby not being able to be completed by the grand opening date of May 1, 1986 (working day 596).

This analysis was reviewed by Mr. Don Robertson and he will, in turn, go over it with Grand Traverse CM to determine the appropriateness of each course of action. We shall continue to try and resolve the matter with all concerned since it is an important decision that must be made in the very near future.

General

Our next meeting will be on February 22, 1985 (working day 293) probably at the site. This meeting will be for the purpose of initiating network modeling and detailed planning for the concrete superstructure work at the high rise and low rise. By that time, a contractor should be on board and early procurement work starting. I shall be in touch with Mr. Robertson shortly to confirm the location of this session.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

March 13, 1985

Subject: Monitoring Report #8

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: March 5, 1985 (working day 300)

Monitored from sheets SM-1 and SM-2, Issue #5 dated January 28, 1985 (working day 274) and sheets B-1 and B-2, Issue #1 dated January 9, 1985 (working day 261).

Start of contract B work - Substructure concrete: About January 11, 1985 (working day 263)

Contract completion date for contract B: p.m. April 19, 1985 (working day 334)

Target project completion date: April 30, 1986 p.m. (working day 596)

Actions taken:

- Reviewed current status of substructure work (contract B)
- Prepared network model for contract C work at tower (superstructure)
- Reviewed sequencing of tower structural work in detail and analyzed various turnover cycles

Contract B - Substructure

Work is proceeding fairly well at foundation areas, and it is expected to be able to start up with superstructure work for contract C tower in the near future. Substructure work should be far enough along within the next few days so that little, if any, delay will be experienced in following work at the tower.

Mat foundations have been poured as have the north end wall footings. The north wall is presently being formed and should be poured out shortly. Wall footings have been completed to column line Q from the north and are proceeding on down toward

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column line W. Columns have been partially constructed to upper floors from the north toward column line Q. Additional columns at the lower level mezzanine will be poured out in the near future.

Comstock Construction has been awarded the contract C work for the superstructure and so should be able to closely knit together their contract B substructure work with the work following in contract C.

There has been some delay in completing contract documents for mechanical and electrical packages G and H respectively, but it is presently anticipated these will be issued the latter part of March, 1985. More discussions about this are to be held at a review meeting on March 22, 1985 (working day 293). Shop drawings are being prepared for the elevator, contract B. The low rise structural steel joists and duct package, contract G, has been issued and proposals are apparently in, with contractors to be selected soon. The exterior skin and glass work, contract F, package has been issued and proposals have been received with a contract to be let in the near future. Thus, most work except the mechanical and electrical packages is proceeding well. These two packages, mechanical and electrical, must be given top priority attention since it will be critical to have them available to place sleeves, floor openings, and embeds as the concrete frame goes on up.

The plan of work at present anticipates a very intense pouring schedule for the tower concrete frame, and in floor and in wall work information will be critical in the near future. Plans are to try and complete the concrete frame up to the 13th level by the end of August, 1985 or sooner if possible. The contract C contractor is presently working over the basic pour schedule and discussing it with his form contractor to determine how much form work can be made available and what kind of turnover cycle can be expected in the floor pours. We shall review this again in some detail at our meeting on March 22, 1985 (working day 313). The main review of floor pours, however, will probably be in our planning meeting of March 27, 1985 (working day 316) probably at the site.

It will be very important to tie together the concrete frame construction with mechanical and electrical trades as well as the curtain wall construction. Of special importance here is to insure that all embeds are available when needed.

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Tower

Within the next two days, it will be necessary to get well and deck resteel shop drawings in and to expedite their review and approval so that fabrication and delivery of reinforcing steel for the superstructure can be brought to the job as needed. Everyone involved in this particular activity knows of the highly important nature of it and are planning to cooperate to the fullest to get quick submittals and turnarounds. We shall better be able to review this at our next planning session where the remainder of the superstructure concrete work, including that at the low rise, will be planned and evaluated.

I shall be in touch with Mr. Don Robertson to confirm the near future meetings. Meanwhile, Mr. Robertson will send me the C contract network model C-3, Issue #1 dated March 5, 1985 (working day 300) for my use and ongoing analysis.

Ralph J.Stephenson,P.E.

RJS:sps

To: Mr. Ross Pursifull

cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

March 21, 1985

Subject: Monitoring Report #9

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: March 15, 1985 (working day 308)

Monitored from sheets SM-1 and SM-2 Issue #5 dated January 28, 1985 (working day 274) and networks as noted below under each contract discussion

Start of contract B work - substructure concrete: About January 11, 1985 (working day 263)

Contract completion date for contract B: p.m. April 19, 1985 (working day 334)

Target project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Reviewed current design status of contract packages
- Reviewed current position of project in field
- Updated contract document matrix summary
- Briefly discussed method of soliciting proposals from contract document packages

General

We first reviewed the general status of the total project and set a list of items to discuss at our session. The project is currently in design for contracts G, mechanical work; H, electrical work; J, interior rough and finish work; K, food service equipment work; M, tower structural steel and metal deck; and to a limited extent, Z, which is the owner's FF & E work.

A brief review of each contract package is given below:

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Tower

Contract A - Mass excavation

Field work complete.

Contract B -Substructure - Monitored from Issue #1, dated January 9, 1985 (working day 261)

A detailed monitoring of the contract B sub-structure work was not made at this session except to determine the impact of the work upon movement of concrete superstructure work into the field. Apparently foundation work is far enough along so that contract C work can begin at any time desired.

Generally, the foundation work has proceeded fairly well and with the weather moderating somewhat, improved progress has been possible according to Mr. Robertson. We shall make a more detailed evaluation of the status at our next monitoring on March 27, 1985 (working day 316).

Contract C - Concrete superstructure work- Monitored from Issue #1 dated March 4, 1985 (working day 299)

(Note: The date of Issue #1 was shown incorrectly as March 4, 1985 (working day 299). The actual date of the Issue #1 preparation was March 5, 1985 (working day 300). This will be reflected in the final drafted network model. Meanwhile, please make this revision to your issue record date).

Field work is expected to begin on shear walls at the lower level to the lower level mezzanine on March 18, 1985 (working day 309). We are assuming for the time being that the sequence of work will be as shown on network model sheets C-1, C-2, and C-3 Issue #1 dated March 5, 1985 (working day 300). There may be some revisions to this network model by the contractor, Comstock Construction, and these will be forwarded to me for incorporation into the final drafted copies. As of March 20, 1985 (working day 311) no revised networks have been returned to me but I shall check with Mr. Robertson and Mr. Comstock at our next session to see what changes are desired.

It is the intent in the next planning meeting to complete modeling the superstructure concrete work and to put in final form the rough network model for all work encompassed in the contract C scope of work. The items in this contract can be found defined in the contract documents and summarized in the contract document matrix.

There is still discussion ongoing about the number of sets of form work needed for the tower construction as well as for the

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low rise first floor framing. This is a very important matter and will be given a high level of attention at our next session.

Contract D - Elevator and Dumbwaiter Work

The contracts have been awarded for elevator work, and shop drawings for elevators #1, #2, #3, #4 and the dumb waiter have been checked and approved as noted by Redstone. The elevator #5 shop drawings have not yet been submitted.

Contract E - Low rise structural steel joists and deck

This contract has been awarded; however, no major discussion was held at our meeting as to current job status. We will review this at our next monitoring session.

Contract F - Exterior skin and glass work

Contract F has been awarded, and intensive discussions about the curtain wall details and erection were held on Monday, March 18, 1985 (working day 309) at Redstone's office. We shall tie in the information from that meeting to the concrete superstructure work as planning for the tower frame proceeds. Of importance to erection of the curtain wall is a determination as to at what point in the tower frame construction, curtain wall installation could start, and the plan of sequencing needed to prevent damage from construction at upper levels to installation of sash and glass at lower levels.

Contract G - Mechanical work

Mechanical design work is practically done up to the restaurant floor, and present plans are to completely issue the mechanical package by April 8, 1985 (working day 324) with the exception of fire protection and possibly energy management. Fire protection may be a separate contract according to present plans. It is the intent now to allow three weeks for the bidding period for both mechanical and electrical with a briefing to be held on each one week into the bidding period.

Very critical to the contract C package is a decision on the method of providing pipe hangers for larger size pipes and multiple bulk piping runs. Information on this will be made available in the very near future so that the necessary embeds can be cast into the contract C superstructure work.

Contract H - Electrical work

The electrical package is to be printed and issued Monday, March 25, 1985 (working day 314). Three weeks is to be allowed for proposing on the project with a technical briefing to be held about one week into the proposal period. Work not completed will be primarily that at the restaurant and bar area in respect to reflected ceiling plans. This work will be covered on an addedum to be issued about April 1, 1985 (working day 319).

There are some problems with installation of grounding in the early concrete operations but intensive efforts are being made currently to install the necessary grounding work with the substructure and superstructure installation.

Meanwhile, proposals have been received by the owner for the electrical sub-station. They are being revised and will be available on March 25, 1985 (working day 314). A decision will be made at that time and, in all likelihood, an order placed for these substations due to the long lead times required.

Contract J - Interior rough and finish work

At our session we decided to combine packages N, miscellaneous low rise and tower enclosure work, and contract package P work, miscellaneous close in glass and window washing equipment, with the contract J package. This is reflected in the attached revised contract document matrix summary.

Package J work is being focused on intently by Redstone and current efforts are aimed at getting it completed by April 15, 1985 (working day 329). There is some concern that this may be a difficult date to meet for the full package since it includes substantially the rest of the major design work. As we reviewed the scope of the J package, it was brought out that we have to look carefully at how the individual contract document packages are to be broken down by trade. As has been pointed out, contract document designations indicate the grouping of documents within which many different trades are shown. Thus, as package J is issued, machinery will have to be set up to isolate each ~~of the~~ trade as it is desired to be let. To this point it has not been too difficult since in the early contract document packages the package itself was let to one contractor. However, with more complex packages, such as J, undoubtedly multiple proposals will be solicited by the owner and a method must be decided upon that will allow the contract documents to be issued properly. This matter is being reviewed presently.

Contract K - Food service equipment

This package was issued February 27, 1985 (working day 296) with proposals due March 20, 1985 (working day 311).

Contract package M - Tower structural steel and metal deck

Will be issued with package J on April 15, 1985 (working day 329).

Contract package N - Miscellaneous low rise and tower enclosure work

Combined with package J.

Contract package P - Miscellaneous close in glass and window washing equipment

Combined with package J.

Contract package Z - FF & E work

There was no major word available on the current status of contract Z design work. However, efforts are ongoing to retain an interior designer. This is becoming increasingly important due to the need to interface FF & E work with main building work.

In our matrix we showed the carpet to be installed in corridor and public spaces to be a part of the Z package. It had previously been a part of the J package. Ongoing efforts will be made to more thoroughly identify the scope of work under the FF & E contract as the design team begins their work.

Again, it should be noted that it is planned to start tower interior finish work in early August, 1985 and, of course, both contract J and contract Z packages are critical for that to start.

General

We briefly discussed the temporary entrance into the existing lobby, and I would like to urge ongoing consideration of courses of action that might free up early the area at which phase #2 work is to be constructed. This was reviewed thoroughly in Monitoring Report #7 on pages 6 through 8. We shall continue to discuss the matter at our session to determine the owner's desires on an ongoing basis in this matter.

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As noted above, our next planning and monitoring session will be held on March 27, 1985 (working day 316) during which we will plan to complete the network diagram for superstructure concrete work.

Attached to this report are the revised information documents including the contract document matrix summary and other updated lists of the general abbreviations, contract responsibility codes, and project name abbreviations.

Ralph J.Stephenson,P.E.

RJS:sps

To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

April 1, 1985

Subject: Monitoring Report #10

Grand Traverse Resort Village Condominium Tower

Traverse City, Michigan

Project: 84:37

Date of Monitoring: March 27, 1985 (working day 316)

Monitored from sheets SM-1 and SM-2, Issue #5, dated January 28, 1985 (working day 274) and networks as noted below under each contract discussion

Start of contract B work - substructure concrete:
About January 11, 1985 (working day 334)

Contract completion date for contract B: p.m. April 19, 1985 (working day 334)

Target project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Completed major network modeling for concrete superstructure work, contract C
- Prepared network model for contract E work, erection of structural steel, joists and roof deck at low rise.
- Briefly inspected project
- Updated contract document matrix and information sheets

A brief review of each contract package is given below:

Contract A - Mass excavation

Work complete. This item will be dropped from future reports.

Contract B - Substructure Monitored from Issue #1, dated January 9, 1985 (working day 261) sheets B-1 and B-2

The north wall is substantially complete, the west wall is partially constructed, and the east wall is poured out nearly to the existing canopy. Most columns at the north end are up to the first supported deck. Present plans are to complete all lower level exterior walls in about 13 working days, by April 15, 1985 (working day 329), except for the connection at the lower level. Work is under way on

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placing and compacting subgrade at the north end so as to be able to start up with the tower lower level mezzanine floor forming.

Installation of sheeting at the existing building will now encompass construction of footings and walls along with the connection at the south end to the existing building lower level. Construction on these walls will begin Monday, April 1, 1985 (working day 319).

Overall contract B work has moved to a point where it is now possible to start continuous construction of the contract C concrete superstructure work.

Contract C - Concrete superstructure work - Monitored from Issue #1 dated March 5, 1985 (working day 300) sheets 1, 2 and 3

The main efforts at this session were to complete as much of the network model for the concrete superstructure as possible. We were able to diagram the remainder of the floor pours in the tower, as well as in the low rise. We also planned installation of straight stairs and elevator shaft divider beams, and attached to the contract C network erection of structural steel, joists, and deck for the low rise (contract E work).

Present plans are to start forming the lower level mezzanine deck on April 3, 1985 (working day 321). We re-evaluated all the durations for each of the floor pours, and set these for a finally agreed upon time structure with the contract C builder. A full tabulation of the calculated floor pour dates was made on flip chart sheets and left with Mr. Robertson and Mr. Comstock for their continued review.

Work on the main tower lobby level deck is expected to start after the lower level mezzanine has been poured out with forming to begin at the lobby level in the tower on April 11, 1985 (working day 327).

From the lobby level, work will move on up in the tower to the residential section first floor (R1). Forming there is expected to begin on May 16, 1985 (working day 350) and proceed on up through R-12 and into the top tower floors including the restaurant (RS), balcony (BY), bar and lounge (BL), and mechanical equipment room (ME) floors. Next the columns to the roof level will be constructed, after which tower structural steel can start. The columns to the roof level are presently anticipated to be in place by October 28, 1985 (working day 466) which will allow erection of tower structural steel to start.

This is late in the year, and it would be desirable that this steel and the following sloped glass installation might be able to be accomplished in better weather than appears presently possible.

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Therefore, every effort will be made to compress the pour schedule as work proceeds. We shall make continued evaluations of the floor pour sequences to see if and where any time might be recaptured.

The network model for contract C work will be drafted into final form and issued in the near future. Meanwhile, the rough network models have been distributed to all concerned and will be used as interim monitoring guides to the work. It would be well to use this rough network model for a short time until the floor pour sequences are set and a pattern established. At that point, a final issue can be completed and dated.

We also prepared a network model for the pours at the low rise area. These included the following:

- lobby level pour B (LBB) - Note: Lobby level pour A is the lobby level pour at the tower
- lobby level pour C (LBC)
- lobby level pour D (LBD)
- lower level mezzanine at south (LMS)
- lobby level pour E (LBE)
- lobby level pour F (LBF)

The LBB pour will be started into forming and deck work by April 22, 1985 (working day 334) after a portion of the LBA deck at the tower has been formed. Work will proceed to the LBC and LBD decks in sequence. The lower level mezzanine south will be started after the LBC deck has been part cured and stripped. The LBE and LBF decks will follow. Thus, construction at the low rise will move from north to south in a sequence as described above.

Contract D - Elevator and Dumbwaiter Work

No monitoring was made on this contract at our session.

Contract E - Low rise structural steel, joists and deck

Work on these elements was tied into the contract C network model and is shown on rough sheet C-5, Issue #2, dated March 27, 1985 (working day 316). Present plans are to start erection of structural steel and joists after the lobby level pour E has been made on June 5, 1985 (working day 365). Steel is expected to be complete with roof metal deck in place by July 12, 1985 (working day

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391). The target date for completion of low rise structural steel, joists, and deck from the summary network model was July 10, 1985 (working day 389).

Contract F - Exterior skin and glass work

Discussions were initiated at this session relative to possible points where this work could begin. However, most of the session was devoted to completing floor pour planning for the tower and low rise, and we will insert the curtain wall installation at our next planning session. Apparently work on the exterior skin and glass might be able to start sometime in July, 1985 and we shall review this in detail at our diagramming meeting.

Contract G - Mechanical work

Not monitored in detail at this session.

Contract H - Electrical work

Not monitored in detail at this session.

Contract J - Interior rough and finish work

Not monitored in detail at this session.

Contract K - Food service equipment

Not monitored in detail at this session.

Contract M - Tower structural steel and metal deck

Not monitored at this session.

Contract Z - FF & E work

Not monitored at this session.

Temporary entrance into existing lobby duration construction of phase #2

No major discussions were held on this item; however, a further field inspection was made of the possible temporary entrance to be used and the matter will be reviewed on an ongoing basis as construction of superstructure work continues.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

General

Overall, project work is proceeding fairly well in the field, although the tower superstructure work is getting a later start than had been desired. This is tending to push the tentative completion date into colder weather and may pose some close in problems relative to upper area curtain wall. It is urged that every possible effort be made to compress the schedule for the tower superstructure, and we will monitor the work closely so that every assist is given to expediting this very important part of the total facility.

I have set the next planning and monitoring session with Mr. Robertson and will be in touch with him shortly to confirm this date.

Ralph J. Stephenson, P.E.

RJS:pw

To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

NR

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

April 25, 1985

Subject: Monitoring Report #11

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Date of Monitoring: April 16, 1985 (working day 330)

Monitored from sheets SM-1 and SM-2, Issue #5, dated January 28, 1985 (working day 274) and networks as noted below under each contract discussion

Start of contract B work - substructure concrete: About January 11, 1985

Contract completion date for contract B: p.m. April 19, 1985 (working day 334)

Target total project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Inspected project
- Reviewed current job status with GTRV CM staff and contract B and C contractor
- Evaluated current job status
- Prepared network model for close in of building including curtain wall and sloped glazing
- Started preparation of network model for typical tower floor interior work

A brief review of each contract package is given below:

Contract B - Substructure - Monitored from Issue #1, dated January 9, 1985 (working day 261) sheets B-1 and B-2

The east lower level wall is substantially complete to the existing building canopy, most interior columns have been poured out to the supported floor deck, and forming is in work

for the southerly half of the west wall. The access area to the north is still being used as a road to work on the interior. This passageway will probably be closed shortly to start forming for the lobby level deck. At that point, any additional materials or equipment brought into the job will be delivered by another route probably around to the west.

At present, measuring contract B work against the completion target of April 19, 1985 (working day 334 p.m.), columns lag about 13 working days, waterproofing and drain tile installation lags about 6 working days, and interior fill lags 2 or 3 working days. Underpinning work at the existing building is just starting, and there is no current projection on when it will be complete. As noted in the previous report, this work will now encompass construction of footings and walls along with the connection at the south end to the existing building lower level.

The major concern at present with contract B work is the impact on work that must be carried out in contract C. This matter is being addressed by the contractor.

Contract C - Concrete superstructure work - Monitored from Issue #2 dated March 27, 1985 (working day 316)

This network model consists of sheets #1, #2, and #3 which were put into final form and issued in reduced drawing size after our monitoring of March 27, 1985 (working day 316).

Forming is in work at the lower level mezzanine area at the north end. This work lags by about six working days. The floor pour for the lower level mezzanine was due to be made on April 10, 1985 (working day 326). At our session on April 16, 1985 (working day 330) it was planned to be poured out on Thursday, April 18, 1985 (working day 332). This accounts for the six working day lag. Apparently this deck was not poured out on April 18, 1985 (working day 332) so the lag will increase by each day that this pour is delayed.

Columns and walls to the lobby level will be started up as soon as this lower level mezzanine deck is in place. It was intended to start forming the LBA deck by April 15, 1985 (working day 329). Thus, the lag can next be measured by the date by which this does start.

However, the most authentic measuring point for the project will be the start of forming for the second residential level (R2). This level was due to start up with columns and walls on May 16, 1985 (working day 352). Following a sequence from this date, the target was to complete pouring out the ME deck (mechanical room) on October 17, 1985 (working day 459).

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It is very important that everything possible be done to regain the lost time on deck pours at the tower, since close in of the building with curtain wall, and particularly sloped glazing, must be done in relatively good weather. Thus, every effort must be made to regain alignment with the current network model. We shall keep the model in effect for the time being.

Meanwhile, of course, it will be important to move across to the other lower decks at the low rise structure. These include LBB, LBC, LBD, LMS, LBE, and LBF (LB -lobby, and LM - lower level). This is a critical operation so as to prepare for erection of low rise structural steel and joists starting by June 3, 1985 (working day 363).

During our session we reviewed the current project status with Mr. Tom Comstock, and he is fully aware of the critical nature of present work. Also, we discussed with him the need to be able to start firm fabrication of the deck tables beginning at the R-1 or probably R-2 level. These will be flying forms but fabrication of these does require ground space. This will have to be made available in adequate time ahead so proper fabrication can be accomplished.

Contract D - Elevator and Dumbwaiter work

Not monitored in detail at this meeting.

Contract E - Low rise structural steel and joists

An evaluation of the need for this item was made at our session. However, no discussion occurred as to the current status. We should review progress at our next meeting.

Contract F - Exterior skin and glass work - Monitored from sheet C-4, Issue #3 dated April 16, 1985 (working day 330)

We spent considerable time analyzing the needs of the curtain wall contractor and curtain wall installation. To show the sequence we prepared a network model for this work along with installation of sloped glazing, based on information from previous meetings with the curtain wall contractor. Most data included in our network came from the curtain wall contractor's memo of their meeting on March 18, 1985 (working day 309) with the architect/engineer and the owner.

In our network model we showed a possible start of curtain wall after the 9th residential floor (R-9) is poured out. In

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our Issue #2 network model dated March 27, 1985 (working day 316) this date was August 6, 1985 (working day 408). Curtain wall durations assigned were 10 working days for R-1 and five working days sequentially for each of the floors following through R-12. Completing the vertical curtain wall to close in requires another 7 working days which brings the early finish of curtain wall work to mid-November, 1985, slightly earlier than the target date mentioned in the memo referred to above from the curtain wall contractor. (The memo from the curtain wall contractor should be reviewed for accuracy. There appears to be some discrepancy in dates and terminology in section 17 of the memo. These appear to be typographical errors.)

Of importance in this analysis is that present indications show sloped glass framing at the tower and installation of sloped glass must proceed independently of vertical curtain wall framing and glass. Therefore, we showed sloped glass framing starting after erection, plumbing, and trimming of tower structural steel and floor deck.

Under our present floor pour schedule, the erection of tower structural steel could begin by October 28, 1985 (working day 466). Allowing five working days for steel erection and trimming and one day for weather, the sloped glass framing could begin by November 5, 1985 (working day 472) with glass complete by about November 29, 1985 (working day 489). Tower metal siding and roof deck might be able to be completed within another one to two weeks, which brings total close of the facility to early or mid-December, 1985.

Our summary network model sheets SM-1 and SM-2, Issue #5 dated January 28, 1985 shows tower close in complete by November 9, 1985 (working day 496). This is an important target to strive for, but equally important is the need to begin interior finish work in the tower at an earlier interim point. The tower must be closed in early and adequate for initiating early finish trades, which probably will be either hanging board or taping and sanding. This represents a very important early milestone on the project and must be given intense attention.

At our monitorings we shall continue to analyze close in points in detail for the tower and evaluate the impact of them on current status.

Meanwhile, it is important to get the curtain wall submittals process in work and expedite deliveries so the dates outlined in the confirmation meeting of March 18, 1985 (working day 309) are met.

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Contract G - Mechanical work

The mechanical contract package has been issued and a proposal due date set.

Contract H - Electrical work

The electrical contract document package has been issued and a date set for submittals.

Contract J - Interior rough and finish work

Not monitored in detail at this session. It presently appears this package will be issued in early May, 1985.

Contract K - Food service equipment

Not monitored in detail at this session.

Contract M - Tower structural steel and metal deck

Not monitored in detail at this session; however, we did assume this item would be needed on the job by at least October 28, 1985 (working day 466) and hopefully earlier. We will monitor it at subsequent meetings.

Contract Z - FF & E work

Not monitored in detail at this session.

Temporary entrance into existing lobby during construction of phase #2

No major discussions were held at our session on this item. Further evaluation of temporary entrance should be ongoing so when the entrance is to be constructed, the design is available. We will make this an ongoing review.

General

Overall, project work is slipping more than is desirable in contract B and contract C but most particularly in the concrete superstructure work, contract C. It is imperative that this early concrete superstructure construction proceed expeditously.

Once we are above the R-1 deck, the repetitive nature of the operation should insure a suitable turnover cycle will be achieved. It is, however, very important to get up to that level as quickly as possible.

In addition, it is important to keep in mind that low rise concrete deck work must also proceed concurrently so as to meet the target erection start of structural steel at the low rise. This low rise steel erection is presently set to begin about early June, 1985. At our next planning and diagramming we will review the current status of the work and continue planning of the typical residential floor interior areas and close in the low rise. As time permits, we should begin work diagrams for each of the special lower areas including the tower lower level, lower level mezzanine and lobby level, along with the lower level and lobby level work at the low rise.

Another element that should be reviewed in detail is the method by which the contract document packages particularly package J will be broken into discrete elements for award of Subcontracts. There are dozens of different contracts to be let in the J contract document package. Decisions will have to be made as to how these are to be combined, and the degree of work involvement in letting contracts and administering this work by the GTRV CM staff. The degree of detail can range from awarding it all to a general contractor, through to individually awarding each of the subcontracts and administering this work by the staff.

I suggest strongly that the necessary support equipment and resources be assembled now if it is the intent to let the work in smaller subcontracts through the CM staff. This, in essence, makes that group a general contractor on this project and they will need the proper staff equipment and space to do their work effectively. As noted, we will discuss this at our next meeting. Our session is set for April 30, 1985 and May 1, 1985 (working days 340 and 341) at Traverse City.

Meanwhile, I have made prints of the updated sheets C-4 showing the sloped glazing and curtain wall along with sheet A, showing the start of work on the interior of a typical residential floor and forwarded it to those concerned.

I shall be in touch with Mr. Robertson shortly to confirm our next meeting.

Ralph J.Stephenson,P.E.

RJS:sps
To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

May 10, 1986

Subject: Monitoring Report #12

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Dates of Monitoring: April 30, 1985 and May 1, 1985 (working days 340 and 341)

Monitored from sheets SM-1 and SM-2, Issue #5 dated January 28, 1985 (working day 274) and networks as noted below under each contract discussion

Target total project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Inspected project
- Reviewed current job status with GTRV CM staff and contract B and C contractor
- Evaluated current job status
- Projected potential early target pour dates for contract C at tower
- Prepared network model for phase #2 work (P2) up through close in
- Prepared network model for site work (S) at east of building
- Completed preparation of logic plan for tower typical residential floor interior
- Prepared partial network model for low rise (LR) and tower lobby level (TLB) close in
- Reviewed division of contract J work into specialty contract divisions
- Reviewed rerouting of hotel traffic guest entry traffic from temporary entrance

A brief review of each contract package work is given below:

Contract B - Substructure - Monitored from Issue #1, dated January 9, 1985 (working day 361) sheets B-1 and B-2

The starting date for this work was about January 11, 1985 with contract completion the p.m. of April 19, 1986 (working day 334). At present, most contract B work is complete and not exerting any major physical restraints on work following. Elements of contract B that are being concentrated upon at present are waterproofing lower level exterior walls and completing the passageway walls at the south end of the new building. A total completion date for package B was not projected at our session. The field forces are in close touch with this phase and are tracking it well.

Contract C - Concrete superstructure - Monitored from Issue #2, dated March 27, 1985 (working day 316)

The table below is a summary of the early pours for the contract C work with notes as to the differential in both actual and projected pour dates.

Pour#	Issue #2		As Revised 5-1-85		Lag in pour
	Start shear walls or deck	Make pour	Start shear walls or deck	Make pour	
LMN (walls)	3-22-85 (313)	4-10-85 (326)		4-22-85 (334)	-8
LBA (walls)	4-11-85 (327)	4-29-85 (339)	4-23-85 (335)	5-3-85 (343)	-4
LBB (deck)	4-22-85 (334)	5-6-85 (344)	4-23-85 (335)	5-10-85 (348)	-4
LBC (deck)	4-29-85 (339)	5-8-85 (346)	5-1-85 (341)	5-14-85 (350)	-4
R1	4-30-85 (340)	5-15-85 (351)	5-16-85 (352)	5-22-85 (356)	-5
R2	5-16-85 (352)	5-24-85 (358)	5-23-85 (357)	5-31-85 (362)	-5

Thus, it can be seen that although there is slight pick up on pour LBA that for the next two pours after that the lag stays the same and then increases slightly. This illustrates the critical importance of picking up time as early as possible,

since as we move up past R2 the chances of picking up time on those floor pours diminishes. The period between now and May 31, 1985 (working day 362) is very critical to the job.

In addition, it must be fully understood by all concerned that floor pours moving on across at the low rise first floor lobby level are also very important. These are designated as LBC, LBD, LMS, LBE, and LBF. These pours are presently planned so as to permit start of low rise structural steel and joists by June 5, 1985 (working day 365). Since the projected lag on the LBC pour presently is four working days it can be seen here that some time will have to be picked up on the low rise pours if we are to meet the current projected start of low rise structural steel and joists.

This is not quite as critical as picking up time on the tower floor pours; however, the nature of low rise work in hotels and condominiums of this nature make it imperative that close in of back of house areas be done as quickly as possible.

We had extensive discussions with the contract C contractor, and he is well aware of the critical nature of his current work.

There were some revisions to the pour outlines made that should allow a slight pickup in time. I strongly recommend that the use of selective overtime and certainly additional manpower be explored continuously to insure that we are making use of of the good weather available at this time of year.

It will be very important to continuously follow and expedite the curtain wall material as well as the sloped glazing material since our present intent is to start up with interior rough work at the tower closely in back of the stripping out of the structure. It is also the intent to close in the lower floors temporarily as soon as the curtain wall starts up so that interior finish work might begin. We made some preliminary calculations at our previous monitoring session in mid-April re starting points for finish work, and these are recorded on flip charts being retained in the records. We shall further evaluate this sequence at our next monitoring when we are able to determine with greater accuracy what kind of realignment with the desired schedule can be made on contract C structural work.

Contract D - Elevator and Dumbwaiter work

Not monitored in detail at this session.

Contract E - Low rise structural steel and joists

We are still assuming a delivery of low rise structural steel and joists on June 5, 1985 (working day 365). We will concentrate heavily on this item at subsequent sessions. The planning today for close in of the low rise areas was based upon being able to start work on structural steel there at the delivery date presently suggested.

Contract F - Exterior skin and glass work - Monitored from sheet C-4, Issue #3 dated April 16, 1985 (working day 330)

No major evaluation was made of the curtain wall and sloped glazing at our session today. However, heavy attention must be given now to procurement of materials for this pair of trades, and I recommend that constant expediting of the work and clearance of all approvals that might be needed be made an ongoing function of the architect/engineer and the GTRV CM staff. We shall cover this material in more detail at our next monitoring session.

Contract G - Mechanical work

Proposals have been received and apparently are being re-evaluated for price and content. It is expected that a contract will be awarded for mechanical work by May 6, 1985 (working day 344). When the mechanical contractor is retained, we will then consult with him for his input into the planning work for various elements of the project that are to be diagrammed. We will plan to start this planning process at our next monitoring session.

Contract M - Electrical work

An electrical contract has been awarded, and we were able to meet briefly with the electrical contractor to discuss the planning process with him. Since they are relatively new to the project, we did not go over the program in detail but did make the project manager and project superintendent familiar with what has been done to date. As with the mechanical contractor, we will plan to meet with the electrical contractor to review their work plan and expected scheduling at subsequent sessions.

Contract J - Interior rough and finish work

We did not monitor this package in detail at our session; however, it is expected that the package will be issued sometime in the near future. It is becoming critical that we obtain this package of work since the planning for the next

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four months will depend greatly upon what items are contained in the J contract. We were able to use, for preliminary purposes, the reference drawings issued with the mechanical and electrical packages but are now at a point where we do need more details about contract J work.

In preparation for the issuance of contract J, Mr. Robertson, Mr. Maddelein, and myself prepared a tabulation of J contract items by division as we have them listed in our contract document matrix summary. We then gave each one of the items a number which indicated that it could be included in a specific contract of this identification to be awarded by the GTRV CM staff. These groupings are very preliminary and must be reviewed in greater detail than was possible at our session. The early tabulation information is listed below for review and comment. It should be noted that the divisional assignment of the items was merely based on the major work. There may be further divisional breakdown within each item as contracts are let.

Tabulation of J package items by division and by possible contractor grouping - Grouping is indicated by the number in parentheses following each item

Division 2- Site work

- trench drain covers (1)
- interior landscaping (2)

Division 3 - Concrete

- form, reinforce and pour equipment bases (3)
- balcony toppings (3)

Division 4 - Masonry

- interior masonry (4)
- exterior masonry (4)

Division 5 - Metals

- balcony rails (5)
- exterior skin miscellaneous metal (5)

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- spiral stairs (5)
- other miscellaneous iron (5)

Division 6 - Wood and plastics

- millwork and trim (6)

Division 7 - Moisture, thermal control

- insulation at exposed soffits (7)
- hood fireproofing (possibly with mechanical)
- insulation, sheet metal, and roofing (8)
- skylight framing (9)
- spray on fireproofing (10)

Division 8 - Doors, windows and glass

- sliding doors (11)
- interior wood doors and frames (12)
- hardware (13)
- plastic laminate doors and frames (12)
- closet doors (12)
- hollow metal doors and frames (12)
- storefront framing (14)
- entry and storefront glass (14)
- entry glass (14)
- rolling steel curtains (15)
- balcony rail glass (?)
- skylight glass (9)
- sloped glazing (16)
- exterior elevator enclosure (with curtain wall)

Division #9 - Finishes

- wall studs (17)
- gyp board (17)
- hard ceiling suspension (17)
- ceramic (18)
- vinyl wall covering (19)
- acoustic ceiling work (20)
- quarry tile (18)
- resilient flooring (21)
- painting (19)
- plastering (17)

Division #10 - Specialties

- signage (22)
- toilet room partitions (23)
- shower pans (?)
- exterior louvers (24)?

Division #11 - Equipment

- vanities (6)?
- appliances (25)
- trash compactors (26)
- dock levelers (27)
- window washing equipment (28)
- food service equipment (contract K)
- hoods (let with food service equipment

Division #12 - Furnishings

Scope not known at present.

Division #13 - Special construction

- hood fire protection (?) possibly in food service

Division #14 - Conveying systems

- trash chute (29)
- linen chute (29)

Division #15 - Mechanical

This work all let as part of contract G.

Division #16 - Electrical

This work all let as part of contract H.

As the assembly of the material proceeds I recommend the trades to be let be tabulated in a narrative description in specification sections and by contracts to be let (i.e., the numbers in the parentheses above). This will then form the basis of tracking the contract document assembly for each of the contracts to be let as well as permitting ease of reference as the contract administration period proceeds. We shall discuss this in more detail at our next monitoring session.

Contract K - Food service equipment

Not monitored in detail at this session.

Contract M - Tower structural steel and metal deck

Not monitored in detail at this session.

Contract Z - FF & E work

Not monitored in detail at this session.

Temporary entrance into existing lobby during construction of phase #2

We prepared a detailed network model of phase #2 work up through close in of the lobby area being remodeled and extended. These rough networks are shown on sheets #7 and #8.

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Issue #4 dated April 30, 1985. It presently appears that it will take about three months to close in the new lobby and entrance area from the date relocation of the existing hotel lobby entrance is initiated. At present, our planning is that on September 3, 1985 (working day 427) relocation of the lobby will begin. This brings close in to about December 5, 1985 which appears presently to be a reasonable point. At that time, interior finish work can proceed which will then ultimately allow reoccupation of the lobby. It appears that this reoccupation will be close to the current target completion for the entire project of the p.m. of April 30, 1986 (working dya 596). We shall check this in more detail as planning proceeds for the lobby interior rough finish work.

A very critical part of this operation will be the ability to backfill lower level walls early enough to permit the majority of asphalt paving to be done by mid-November, 1985. This is when the asphalt plants normally shut down and it usually is difficult to get materials after that date.

Therefore, two courses of action were evaluated. One in which the slab on grade at the phase #2 lower level was poured before construction of the lobby level deck and one in which it was poured out after. It seems that it would be desirable to pour out the lower level slab on grade at phase #2 prior to forming the lobby level deck. This will help allow an earlier backfilling operation than would be possible by waiting until after the lobby level deck at phase #2 was stripped out and then constructing the lower level deck.

Site work is also very critical to this phase #2 operation, and we prepared a preliminary plan for site work and incorporated durations and logic as reviewed by Mr. Kim Draeger of Foresberg Construction. Site work at the new parking areas on the east side of the project will probably require about 35 to 40 working days to complete. Since the desire is to get this site work in prior to the close of asphalt plants, it will be necessary to start in September or very early October, 1985 under this present plan of work. I suggest that this site work, if possible, be begun even earlier, perhaps as soon as July or August, 1985.

In order for site work to be accomplished it will be necessary to shift major construction marshalling operations from their present location to another area to be identified.

General

Mr. Robertson and I conferred briefly with Mr. Ross Pursifull regarding the methodology of administering the contract

document J package. Due to the large amount of specialty contractor contacts that must be made during this period, it would be advisable to gain some additional spece. Consideration is presently being given to providing another construction trailer to be used specifically for plan review by the specialty contractors involved on the project.

I will print the rough network models made at this session and distribute them to those concerned. I shall also continuing preparing the logic plans in relatively final and accepted shape for issuance to the GTRV CM group and shall be in touch with Mr. Robertson shortly to set the next planning and monitoring session.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

M.

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May 23, 1985

Subject: Monitoring Report #13

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Date of monitoring: May 15, 1985 (working day 351)

Monitored from sheets SM-1 and SM-2, Issue #5, dated January 28, 1985 (working day 274) and networks as noted below under contract discussion

Target total project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Reviewed project status with GTRV CM staff and contract B and C contractor
- Evaluated current job status
- Updated tower structure and close in to Issue #3 dated May 15, 1985 (working day 351)
- Reviewed and udpated site work plan
- Reviewed contract file system and document packaging
- Discussed FF & E planning work in detail
- Reviewed tower crane installation

A brief review of each contract package and the work in progress is given below:

Contract B - Substructure

No detailed evaluation of this work was made at our session.

Contract C - Concrete superstructure - Monitored from Issue #2 dated March 27, 1985 (working day 316)

Superstructure work continues to encounter difficulties, and the present projected lag on the R-1 deck is ten working days. This is an increase in lag of five working days since May 1, 1985 (working day 341). Thus, in ten working days five

have been lost over projected pour dates as of May 1, 1985 (working day 341). We discussed this matter thoroughly with the contract C contractor and his forming contractor. They appear to be making heavy efforts to recapture some of this lost time; however, due to constraints on what they can do, it appears that methods of actually effecting a gain seem somewhat restricted.

It should be understood that this lag is serious and that it brings up the problem of forcing exterior skin work into less than desirable weather. The contract C contractor realizes this, and we went through the entire close in analysis with him at the session.

A tabulation of the pour dates given by the contractor as presently expected and compared to those projected in the Issue #2 network model dated March 27, 1985 (working day 316) is given below:

Pour	Date to be poured as of 3/27/85 (Issue #2 - 3/27/85)	Date to be poured as of 5/15/85	Lag
R1	5-15-85 (351)	5-30-85 (361)	-10
R2	5-24-85 (358)	6-10-85 (368)	-10
R3	6-05-85 (365)	6-19-85 (375)	-10
R4	6-14-85 (372)	6-28-85 (382)	-10
R5	6-25-85 (379)	7-10-85 (389)	-10
R6	7-05-85 (386)	7-19-85 (396)	-10
R7	7-16-85 (393)	7-30-85 (403)	-10
R8	7-25-85 (400)	8-8-85 (410)	-10
R9	8-05-85 (407)	8-19-85 (417)	-10
R10	8-14-85 (414)	8-28-85 (424)	-10
R11	8-23-85 (421)	9-9-85 (431)	-10
R12	9-04-85 (428)	9-18-85 (438)	-10
LBB	5-06-85 (344)	5-17-85 (353)	- 9
LBC	5-08-85 (346)	5-23-85 (357)	-11
LBD	5-23-85 (357)	6-6-85 (366)	- 9
LBS	5-17-85 (353)	6-4-85 (364)	-11
LBE	6-04-85 (364)	6-19-85 (375)	-11
LBF	6-07-85 (367)	6-24-85 (378)	-11

The lag at the low rise pours is 9 to 11 working days. The seriousness of this is that it delays erection of structural steel at the low rise. Structural steel delivery is presently

projected for delivery in early June, 1985. The ripple effect of the structural concrete lags on succeeding trades is becoming very serious, and if any time is to be picked up it is best regained between now and the end of May, 1985 since at that point the sequences tighten up, and there is less chance of gaining time from there on.

At our meeting on May 1, 1985 (working day 341) we had discussed several possible steps to be taken that would help improve performance on the concrete pours. These were again reviewed at our session, and should be discussed on an ongoing basis by the CM staff and contractor C.

Another element of importance is erection of the tower crane which has been delayed by late release of it from the job it is on presently. Dismantling the tower crane is now expected to begin on May 18, 1985 (working day 354), and it is to be on the job May 20, 1985 (working day 354), and every effort will be made to have it activated by May 28, 1985 (working day 359). It was hoped originally to have the tower crane on the job and ready to work by May 3, 1985 (working day 343). Thus, the current lag in tower crane activation is about 16 working days. In the interim, conventional hoisting equipment will be used for the necessary form lifts on the concrete decks.

Contract D - Elevator and Dumbwaiter work

Not monitored at this session.

Contract E - Low rise structural steel and joists

We are still maintaining a delivery of low rise structural steel and joists for early June, 1985. As noted above, there is a serious enough lag in the low rise concrete work, however, to possibly delay start of erection until late June, 1985. It is possible, however, that steel could be started at the portion of the job completed by that date. We will not be able to determine that until closer to the point in time where steel is to be delivered.

Contract F - Exterior skin and glass work

No major evaluation was made of the current status of this work. The contract C contractor was exposed to the erection

sequence of the curtain wall, and we again stressed to him the need to pick up as much of the current 10 working day lag in the structure so curtain wall work could be accomplished before the onset of cold weather. This matter is extremely important and must be constantly discussed and reviewed so compression of the structural schedule can be made to accommodate good weather erection of the curtain wall.

Contract G - Mechanical work

This contract has been awarded; however, there was no major planning work done today with the mechanical installation work other than to complete the logic plan for a typical tower floor interior.

Contract M - Electrical work

No major monitoring of this contract was done at this session.

Contract J - Interior rough and finish work

The contract J documents were received by GTRV CM today May 15, 1995 (working day 351) and are presently being reviewed for packaging and issuance. I provided Mr. Robertson and Mr. Maddelein a suggested format for tracking the various contract documents packages as defined in our previous monitoring #12 on pages #5, #6, #7, and #8. Of critical importance will be to identify the location of information regarding each of the suggested contract packages. I recommended to Mr. Robertson that they fill in the outline format of information as required, and I shall try to update it and keep it current for the CM field staff to permit them to track the award of contracts and subsequent submittal work.

Contract K - Food service equipment

Not monitored at this session.

Contract M - Tower structural steel and metal deck

Not monitored at this session.

Contract Z - FF & E work

A detailed discussion was held regarding the relationship between finishing architectural work at the floors in the

tower and installation of FF & E work. An important element here is to insure that completion of floors is done on a timely and predictable sequence so fixtures, furnishings, and equipment can be brought to the job as needed. Every effort should be made to minimize double handling and excessive storage requirements for FF & E due to the bulk of the items. Present planning is to turn over a floor interior on an 8 working day cycle . The intention is to start hanging board at the first residential floor, RI, in late August or early September, 1985. Thus, FF & E work can begin at whatever point is convenient so as to maintain a continuous installation. There is the possibility that the FF & E turnover cycle might be less than the length at the individual floor finish turnover cycle. Indications are that we might be up high as the 5th, 7th, or 8th floor with finish work before starting installation of FF & E. We shall plan this in more depth at subsequent sessions. The slant diagrams prepared on flip charts at this meeting will be given to Mr. Robertson for retention and future reference.

I recommend a meeting be scheduled in the near future between the architect/engineer, the interior designer, the CM staff, and all others concerned with this set of activities to plan the work in detail. I shall discuss this with Mr. Robertson in the near future.

Temporary entrance into existing lobby during construction of phase #2

No major work was done on this at our session; however, the architect/engineer has provided the owner with a plan for temporary routing which is currently under study. This matter will be addressed on an ongoing basis.

Site work

We reviewed the plan of operation for installation of site work since it has been suggested it might be better to hold off installing site work until 1986. Site work must be done by May 25, 1986 (working day 635) although it would be desirable to complete it earlier to accommodate possible early business traffic. Asphalt plants usually open sometime between mid-April and early May. The site work installation must be timed so when the plants open the area is ready for laying blacktop. No decision was made at this session as to when site work will actually be started. However, we shall make this an ongoing discussion point and arrive at a decision shortly.

General

One item which must be resolved as rapidly as possible is that of the need for a fire separation between the new building and the existing lobby. Apparently this matter is under continuous review, but now that we are approaching the time when a full building permit will be essential to the job it is necessary that a solution to whatever difficulties are being encountered be found. The GTRV CM staff are in constant communication with the architect/engineer about the matter and steps are being taken to resolve it. These must be followed aggressively since no delay whatsoever must be experienced in obtaining approval to move into the full construction process. All drawings have now been issued, and at this point it is crucial that a full building permit be obtained as quickly as possible.

At our next planning session, we should expect to have input from the mechanical and electrical contractors as well as those specialty contractors that are under contract. I also recommend that we make an ongoing review of all close in elements for both the high rise and low rise to be certain the information we have is authentic and that the contractors involved are able to perform in accordance with the present plan of work. I shall be in touch with Mr. Robertson in respect to these matters in the very near future.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEERS

July 3, 1985

Subject: Monitoring Report #14

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Date of monitoring: June 19, 1985 (working day 375)

Monitored from networks as noted below

Target total project completion date: p.m. April 30, 1986 (working day 596). The working day calendar gives day numbers of the A.M. of the day. A P.M. date shows as the day number of the next day in the working day calendar.

Actions taken:

- Reviewed current project status with GTRV CM staff
- Reviewed and completed interior diagram for typical tower floor
- Completed review of close in diagrams for low rise
- Reviewed site work start dates
- Reviewed lobby turn over date
- Discussed fire separation resolution
- Reviewed miscellaneous correspondence re job progress

A brief review of each contract package and the work in progress is given below:

Contract B - Substructure

No detailed evaluation of this contract was made at our session. It appears presently that most of work is complete and is no longer a constraint on the concrete superstructure. Contract B discussions will be dropped from subsequent reports.

Contract C - Concrete superstructure - Monitored from Issue #3 dated May 16, 1985 (working day 352).

We are now using the Issue #3 and #4 network models for evaluating tower progress. These network models contain dates generally as shown on page 3 of Monitoring Report #13 dated May 23, 1985. It should be kept in mind that the dates there lag the Issue #2 network model dated March 27, 1985 by the amounts tabulated.

Currently, as of June 19, 1985, tower floor pours are meeting targets between early and late starts and finishes in accordance with the Issue #3 network model dated May 16, 1985 (working day 352). This network is to be put into final form and will be issued as Issue #4 dated June 19, 1985 (working day 375).

R1, which is the first residential level was poured out on May 28, 1985 (working day 359) slightly ahead of the revised target. However, labor difficulties delayed work on R2 and it was poured out on June 10, 1985 (working day 368) which was the Issue #3 and #4 target. The R3 deck was poured out on June 19, 1985 (working day 375), the target shown on the Issue #3 and #4 network model. We should continue to meet dates tabulated in Monitoring Report #13 on page 3, and there is some hope that tower floor pours can proceed on a reduced time cycle which will top out main tower floor pours by Nov. 1, 1985 (working day 470).

At the low rise the work has not proceeded as well as had been desired. As of June 19, 1985 (working day 375) the LBB and the LBC decks have been poured out with the LBD deck in work and to be poured out by June 24, 1985 (working day 378). This is a lag of 12 working days over the Issue #3 network model dated May 16, 1985 (working day 352). Structural steel is now due to start on July 8, 1985 (working day 387), approximately 11 working days later than had been desired. However, it is anticipated that the completion date for structural steel will be in accordance with the Issue #3 network model on July 29, 1985 (working day 402).

Erection of structural steel at the low rise is a very critical item since low rise construction in hotels tends to be very complex and time consuming. It is imperative that close in of the low rise proceed concurrently with the tower structure and be completed at the earliest date possible. We will make a more detailed evaluation of this at our next monitoring, since by that time structural steel should be in full work.

Present plans are to temporarily close in the tower once the R@O deck has been poured out and a portion of the curtain wall erected. This should allow interior finish work on the job to start by about Sept. 9, 1985 (working day 431), where it is anticipated installation of gyp board at interior areas should be able to begin. Because of the tight time schedule it is important that interior finish work start promptly and that it be able to proceed on up behind floor pours and curtain wall installation so as to maintain the expected progress at each interior area.

In summary, tower floor pours are currently meeting targets between early and late starts in accordance with Issue #3 dated May 16, 1985 (working day 352) and Issue #4 dated June 19, 1985 (working day 375). Low rise floor pours are lagging by about 12 working days over the Issue #3 and #4 network models but steel erection is still planned to be completed by the end of July, 1985 as set in the Issue #3 network model dated May 16, 1985 (working day 352).

I shall redo the current network plan and issue it in the near future for full job use.

Contract D - Elevator and dumbwaiter work.
Not monitored at this session.

Contract E - Low rise structural steel and joists.
As noted above, low rise structural steel will be delivered to the job site July 8, 1985 (working day 387) and both structural steel and deck are expected to be completed by July 29, 1985 (working day 402). Close in of the project will start at the low rise just as quickly after structural steel erection as possible.

It is important that contracts that relate to close in work be let in the very near future. Some of the items needed require long lead times and shop drawings and approvals should be obtained just as rapidly as possible in order to expedite deliveries. Long lead items include hollow metal frames, hardware schedules for frame templates, masonry and studs.

Contract F - Exterior skin and glass work

Present intent is to start erection of curtain wall by August 9, 1985 (working day 411) and to install the first residential

level in 10 working days, followed at the remaining levels by a 5 working day cycle. This will bring erection of the curtain wall at R3 to completion Sept. 9, 1985 (working day 431). At this point it is anticipated that with a temporary roof on at the 10th level, interior finish work could begin. As noted above, this is a critical item and careful attention should be paid to insure that the curtain wall starts up as currently scheduled.

Contract G - Mechanical work

No major planning was done at this session with mechanical installation work other than to complete preliminary quantification of the logic plan for a typical tower floor interior.

Contract M - Electrical work

No major planning was done at this session with electrical installation work other than to complete preliminary quantification of the logic plan for a typical tower floor interior.

Contract J - Interior rough and finish work

Proposals have been received for most J work and efforts are being made to bring costs within target budgets. It is crucial that J contracts under the J scope of work be let in the very near future since indications are that finish trades will be started in the tower by early September, 1985. In addition, interior work within the low rise will be moving concurrently.

It is also essential to let trades for exterior skin elements for the low rise and the lower areas of the tower. Mr. Robertson and I had considerable discussion about this item and efforts are being made to have work awarded soon.

We completed the network model for a typical interior tower floor and will put this into final form to use as a guideline in interior work at the tower and for evaluating needs in relation to FF & E work.

Contract K - Food service equipment

Not monitored at this session.

Contract M - Tower structural steel and metal deck

Not monitored at this session.

Contract Z - FF & E work (fixtures, furnishings & equipment)

We continued discussing FF & E work in relation to interior finishes. Since there was little information available on progress of interior design, it was decided to defer major conversations about FF & E until our next monitoring. At this time we shall review the FF & E work in detail and begin to tie it together with the interior work planned for the tower and other areas of the project.

Our next meeting is currently set for July 22 and 23, 1985 (working day 397 and 398) at the job site. At this session we should plan to interrelate most FF & E work to the total project so planning for installation of interior finishes can be brought to a point where evaluations of the necessary time scale can be made.

Temporary entrance into existing lobby during construction of phase 2.

Present plans are to start this work on Friday, Sept. 13, 1985 (working day 435). We are basing our detailed planning of the lobby remodeling on this date. Lobby remodeling is now being tied into insertion of the fire wall to separate building uses. This is a complex problem and when a full set of details is available of the fire wall separation we will then diagram its work in relation to the lobby remodeling.

We will take the planning that has been done on lobby remodeling and put it into form to issue for use by those involved.

Site work

Site work is tentatively scheduled to begin April 1, 1986 (working day 574). This presently appears to permit adequate time to complete the work needed without excessive interference with ongoing operations of the hotel. We shall continue to make further evaluations of site work in future monitoring sessions.

General

At our session we went through various recent documents that have been written about the project over the past few weeks, and covered several items that appear to be of concern. These include discussion of the following:

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- These areas that must be designed for handicap use
- Revisions to electrical requirements due to code needs
- Health department approvals
- Building permits. No major difficulties are currently expected in obtaining building permits and this is now in work.
- Aircraft warning signals
- Status of mechanical drawing reviews by the state

Overall, the various problems that must be resolved have been well identified and we will make a review of these problems a part of the ongoing monitoring process at each planning session.

I shall be in touch with Mr. Robertson shortly to confirm the date of our next planning and monitoring review.

Ralph J. Stephenson, P.E.

RJS:gmy

To: Mr. Ross W. Purisfull
CC: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

July 27, 1985

Subject: Monitoring Report #15

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Dates of Monitoring: July 22 and 23, 1985 (working days 397 and 398)

Monitored from networks as noted below

Target total project completion date: p.m. April 30, 1986 (working day 596)

Actions taken:

- Briefly inspected project
- Reviewed current project status with Mr. Don Robertson
- Reviewed delivery of vertical curtain wall and temporary close in point (delivery of curtain wall still to be resolved)
- Completed preparing interior network model for typical residential floor exclusive of FF & E work
- Prepared network model for residential FF & E work in conjunction with Mr. Tom Hoch and Mr. Jerry Shea
- Evaluated current status of field work
- Reviewed procurement with Mr. Don Robertson and began preparing network model for procurement monitoring
- Reviewed close in diagram for low rise and tower lobby
- Discussed tie in of FF & E work to building work

A brief review of each major element of the project is given below:

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Contract C- Concrete superstructure - Monitored from Issue #4 dated June 19, 1985 (working day 375)

The network model Issue #4 dated June 19, 1985 (working day 375) was issued to the field recently and is currently being used to evaluate progress on the structure. Work on decks has moved well over the past month and at present, is three to five working days ahead of the plan in the issue #4 network model. A comparison of planned dates for pours as opposed to actual dates for those decks already constructed is given below:

	Planned pour date (Issue #4, dated June 19, 1985)	Actual pour date
R4	June 28, 1985 (382)	June 26, 1985 (380)
R5	July 10, 1985 (389)	July 8, 1985 (387)
R6	July 19, 1985 (396)	July 16, 1985 (393)
R7	July 30, 1985 (403)	To be poured out- July 24, 1985 (399)

The reduction of the time required for the floor pour cycle has been encouraging, and if present progress can be continued for another four or five weeks the major lower structure critical emphasis will shift to close in elements. However, it should be cautioned that to start the slanted enclosure at the steel superstructure of the tower the entire concrete frame must be poured out. The earlier this can be accomplished the better it will be for close in of the total building.

The present target pour out date for columns and walls to roof level which is the last major structural concrete pour is November 11, 1985 (working day 476). Whatever can be done to improve this date would be of great value to closing in the project and keeping difficult sloped glazing erection work out of winter weather.

Low rise floor pours have been poured out although later than had been planned. Structural steel, however, is now being erected and it is intended to complete steel and deck as close to the target desired date of July 29, 1985 (working day 396) as possible. There probably will be some slippage in this completion date although strong efforts are being made to maintain it.

It is still the intent to provide a temporary closure of lower tower residential floors by September 11, 1985 (working day 433). This will consist primarily of protecting floor openings from water running in and down. Thus, temporary protection at the structure is to guard against penetration of the horizontal decks. Weather protection of vertical surfaces is to be provided by having three floors of curtain wall installed at R-1, R-2, and R-3 before starting interior finish trades. This will be discussed below; it may prove difficult to achieve.

Contract B - Elevator and Dumbwaiter Work

Shop drawings seem to have moved well and there is little, if any, perceived problems with elevator installation meshing properly with the rest of the project. We did not investigate procurement in detail at our session but will do so as our procurement analysis is refined. Presently the field staff has a shop drawing tracking system that contains much valuable information. We shall use this in conjunction with the network models to further evaluate elevator procurement and installation at subsequent monitoring sessions.

Contract E - Low rise structural steel and joists

Work is in progress on erection of structural steel and joists and although it got a late start, present indications are that it will be completed in less elapsed time than had originally been expended. However, it does not look at present as if it will to meet the desired target completion for erection of all steel and metal deck by July 29, 1985 (working day 402). The low rise structure and its close in is very critical to the project since, as has been mentioned frequently, the low rise areas of hotels tend to be the most difficult portions of the project to complete.. I strongly urge that every possible attention be given to completing the structure and closing in this low rise or back of house area.

We again reviewed the close in diagram for the low rise area and will issue it for use as the information needed is obtained. Procurement will be a critical part of completing close in of the low rise.

Contract F - Exterior skin and glass work

The current network model Issue #4 dated June 19, 1985 (working day 375) is based upon delivery of curtain wall and start of erection by August 9, 1985 (working day 411). There has been some discussion about this date being difficult to

meet with a possible slippage of from two to four weeks in delivery of the materials. This is a pivotal element of the project and will definitely be the key point around which the start of finish work revolves. We have determined that it is very important to start hanging drywall at the first residential level, R1, by September 11, 1985 (working day 433). Thus, any slippage in delivery of curtain wall could impact upon this start unless time could be picked up in erection of the curtain wall particularly at the first, second, and third residential levels. Another solution would be provision of temporary protection in lieu of curtain walls. As of the preparation of this report, no word was available on the actual delivery to be expected. I shall be in touch with Mr. Robertson to establish this in the near future and will hold issuing the interior finish network until the start of interior finish work can be established with more accuracy than at present.

Contract G - Mechanical work

We completed assignment of logic and durations to mechanical work at the residential floors during this session. I shall issue a typical interior network to Mr. Robertson for his use in discussing the logic of the residential floors with the mechanical and electrical contractors. Concurrently, the interior network is being prepared in final form so that it can be issued as information becomes available.

Presently it appears that the amount of time required at each residential floor from the start of hanging board, the first finish trade, on through to completion of work up to the point where FF & E installation can start will be about 39 working days. We are presently planning an 8-working day turnover cycle for each floor (the amount of time in working days between when a floor is complete and the next floor that follows is complete). There does not appear to be any major difficulty in meeting this turnover cycle for residential floors in the tower.

It is also important to remember that there is considerable work - architecturally, mechanically, and electrically - to be done in the low rise and on the special floors of the tower. Thus, maintenance of the proper tower turnover cycle is of prime importance, while still keeping manpower at a level to finish other areas of the building with similar trades. We shall discuss this in detail at each of our monitorings.

Contract H - Electrical work

No major review was made of this contract work except that

similar to what was done for mechanical contract work on the typical residential floors. We shall discuss electrical work in more detail at subsequent sessions.

Contract J -Interior rough and finish work

Most proposals for this work have been received and contracts are being awarded on an ongoing basis. A shop drawing submittal log has been intiated by the CM staff and is being maintained to track submittals for each of the contracts. At our session we prepared a procurement network diagram showing the following phases of procurement work:

- Award of contract
- Prepare and submit shop drawings or other submittals
- Review and approve shop drawings or other submittals
- Fabricate and deliver material or equipment

I left a copy of this with Mr. Robertson for his use and study and at our next monitoring we shall take the information that he will feed into it and evaluate in more detail the actual status of various elements not only in the J package but in all other packages as well.

We also made an effort at this session to relate the FF & E (fixtures, furnishings, and equipment) package to contract J. It was decided to establish a breakoff point at each residential floor where FF & E could start. Presently we are using this breakoff point as our major milestone in starting the FF & E installation sequence in the tower.

Contract K - Food service equipment

There was no authentic word at this session on the status of food service equipment. It is an important item and we will review it at subsequent sessions in as much detail as possible.

Contract M - Tower structural steel and metal deck

The tower structural steel and metal deck is the support system for the sloped glazing at the top of the tower. As such it must be on the job and ready to erect by the time we have completed the concrete superstructure to the roof columns. The quicker we can complete pouring the superstructure, the earlier we can start work on that tower superstructure and

close in. It is important to process the tower structural steel superstructure submittals promptly and to get strong commitments on delivery of this steel so that there is absolutely no delay in erection of the tower structure.

Contract Z - FF & E work - (fixtures, furnishings, and equipment)

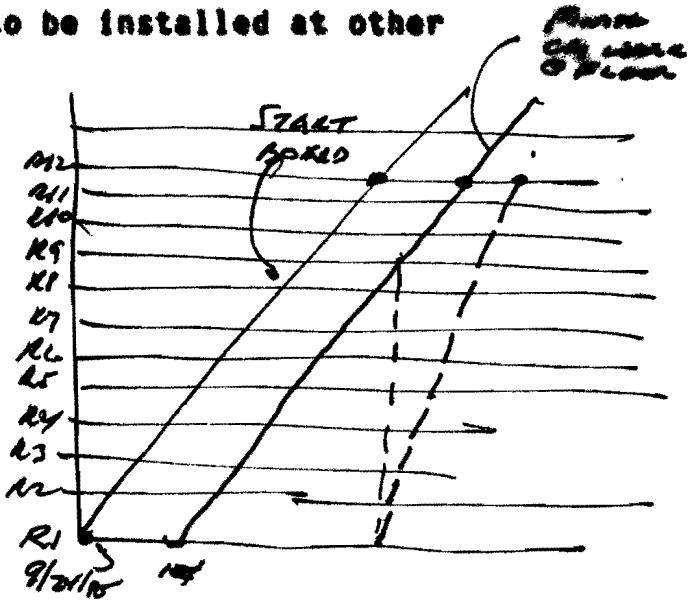
Mr. Tom Hoch, Mr. Jerry Shea, and Mr. Ross Pursifull participated in a major discussion of the FF & E work and how it was to best interface with GTRV CM work.

Present plans are to start installation of FF & E work in early to mid February, 1986. The work sequence begins with installation of closet door tracks and proceeds on through following trades to the point where the floor is entirely furnished. It is estimated that the 12 residential floors can be completed in about 40 working days from the starting point. Thus, if a decision is made to begin installation of FF & E on February 3, 1986 (working day 533) and it was to be completed in the 40 day time period, the final residential floor could be ready for occupancy by March 31, 1986 (working day 577).1986. We shall discuss the details of the actual desired field operation in more depth with Mr. Jerry Shea and Mr. Tom Hoch at subsequent planning sessions.

It presently appears that it will be possible to start FF & E work at the date projected above, based upon our anticipation of interior floor finish progress for GTRV CM work. FF & E probably will start sometime about at the point where CM work is at the 8th or 9th residential level. We shall confirm this in subsequent sessions and develop a more detailed plan and timetable, knitting together the two elements.

Of strong concern is the FF & E work to be installed at other areas. These are as follows:

- tower lobby (LB)
- tower bar (BR) and lounge (LG)
- tower restaurant (RS)
- meeting rooms (MR)
- board rooms (BR)
- assembly areas(AA)
- office areas (OA)



- existing lobby (EL)

- retail areas (RA)

It can be seen that there is considerable FF & E work to be done throughout the entire building and we must focus early on getting the design packages issued, proposals in, and submittals flowing if we are to properly tie together the entire operation of construction for FF & E.

We shall continue to discuss this work in detail at subsequent sessions keeping it separated to the greatest degree possible from the CM work. To do this, we are presently establishing definitive cut off points where the FF & E work can start based upon the status of the CM work.

As part of our discussion today, we also prepared a brief summary FF & E work outline which was provided to those at the session. This information will be updated at each of our sessions to reflect additional information as made available.

We also reviewed the need for a checklist tabulation of the issuance of documents for obtaining proposals for FF & E work. These are essentially the contract documents which are the basis of the work to be done. Mr. Hoch is preparing the contract documents and we shall continue reviewing the various packages needed to obtain proposals for each area of the building which contains FF & E work. This too, is something that must be watched carefully since there are sizable numbers of items to be provided in FF & E work and they must be brought to the job in such fashion as be installed with minimal difficulty. The Redstone office is acting as the management channel through which FF & E work is being done. It will be important to maintain close contact with them and the Hoch office so that minimal time is lost in the information transfer. I shall maintain contact with both groups to establish future planning and monitoring reviews.

<u>Temporary entrance into existing lobby during construction of phase #2</u>

Plans are still to start this work on Friday, September 13, 1985 (working day 435). We did not discuss the lobby remodeling in detail at our session. Still of importance is design and provision of the fire wall separation between the new and existing buildings. This must be tied carefully to lobby construction and remodeling. It will be reviewed as design and approvals are obtained on the work.

Also of importance is design of the temporary lobby entrance. This is in work at the Redstone office.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Site work

Site work is still scheduled to begin April 1, 1986 (working day 574) and the work plan has generally been reviewed and approved by those concerned.

General

The next planning and monitoring session is set for mid August and I shall be in touch with Mr. Robertson shortly to discuss the time and place. I shall continue to maintain my prime contact on the job with Mr. Robertson although for FF & E work I shall also be in direct touch with Mr. Jerry Shea of the Redstone office. Planning and monitoring of the project over the next few weeks will be very critical since we are now approaching winter weather and close in of the building must be accomplished within the next five months so as to maintain our interior finish and completion schedules.

Ralph J. Stephenson,P.E.

RJS:sps

To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

August 19, 1985

Subject: Monitoring Report #16

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37

Dates of Monitoring: August 14 and 15, 1985 (working days 414 and 415)

Monitored from networks noted below

Target total project completion date: p.m. April 30, 1986 for GTRV CM work (working day 596)

Actions taken:

- Inspected project
- Reviewed current project status with Mr. Donald Robertson
- Discussed project status with Mr. Ross Pursifull
- Reviewed network models with Mr. Thomas Comstock, general contractor
- Redlagrammed structure and close in networks to Issue #5, dated August 14, 1985 (working day 414), sheets #2 and #3
- Prepared network model for construction of fire separation at existing lobby
- Prepared network model for lower level ramp link to existing building
- Updated network model for phase #2 lobby close in work to Issue #7, dated August 14, 1985 (working day 414) sheets #4 and #5
- Completed review of tower interior networks and set starting dates for finish work
- Reviewed FFE work plan
- Discussed design and construction of temporary lobby entry with Mr. Pursifull and Mr. Robertson

A brief review of each major element of the project is given below. Note that the review is given by area so as to more clearly identify the section of the building being discussed.

Tower work

Monitored from Issue #4 dated June 19, 1985 (working day 375)

Concrete decks at the tower have moved very well over the past three weeks and now are approximately eight working days ahead of target pour dates shown on the Issue #4 network dated June 19, 1985 (working day 375). However, the deck pours are about 32 working days behind targets set in the summary diagram, Issue #5 dated January 28, 1985 sheets SM-1 and SM-2.

Tower curtain wall is expected on the job September 3, 1985 (working day 427) with erection to start immediately. Efforts are to be made to compress erection times of curtain wall at the first three floors, R1, R2, and R3 so as to be able to start hanging dry wall at R1 by September 24, 1985 (working day 442). This triggers the start of tower interior finish work and initiates the eight day floor turnover cycle. It is estimated that finish work at each floor R1 through R11 will take 34 working days giving a completion date of GTRV CM work on R1 of November 11, 1985 (working day 476) and a completion date of March 6, 1985 (working day 556) at R11. It is anticipated that interior work at R12 will take slightly longer with finish there being set for late March, 1986.

Completion dates of GTRV CM work signal the point where FFE work could start physically at the floor. However, the present intent is to start FFE work in mid to late February, 1986 so as to be able to maintain continuity of installation. The FFE turnover cycle is much shorter than that on GTRV CM work at the floors; thus, GTRV CM work will probably be finishing out at the 9th or 10th floor when FFE work will actually start.

Floor pours at the tower are complete through R9 with R10 to be poured out August 16, 1985 (working day 416). Rough interior work has moved close behind the floor pours and plumbing rough in is well along through R6. Studs for interior walls are being completed at R1 and have been started at R2. In wall work is following stud work closely although some concern has been expressed about the location and nature of blocking in stud walls. This information is needed and has not yet been furnished by the design group. I shall check on this matter to determine the status. Meanwhile, the field staff of GTRV CM is also following the item.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

It is important to understand the need to have all in wall work in place as studs are being erected particularly at the lower floors since board is due to start on or before September 24, 1985 (working day 442).

Stairs are being erected at the north stairwell as the floors are stripped. A personnel hoist is being installed, and in conjunction with the stairs should allow good vertical access to upper floors. Elevator work is due to begin in the near future and I shall discuss the need to plan the work with Mr. Robertson at our next meeting.

At the lower level and lobby level of the tower, rough interior work is in progress and moving relatively well. We have not yet prepared networks for these areas, and I have requested that at our next planning and monitoring session we diagram these important spaces.

Due to the progress made over the past three weeks and the information now available about curtain wall and sloped glazing installation it was decided to rediagram the structure and close in work for the tower. This information is shown on sheets #2 and #3, Issue #5, dated August 14, 1985 (working day 414).

In this network the concrete frame for the tower is shown being poured out at the mechanical (ME) level by October 16, 1985 (working day 458). Erection of sloped roof structural steel is to start on October 16, 1985 (working day 458) and sloped glazing framing at the north is to start in early November, 1985. Sloped glass is to be complete by December 20, 1985 (working day 504). This is later than desired and an ongoing analysis will be made to see if the schedule can be compressed to give an earlier total close in point for the tower.

The date for completion of sloped glazing shown on the summary network model sheets SM-1 and SM-2 Issue #5 dated January 28, 1985 (working day 274) was December 9, 1985 (working day 496). Thus total close in of the tower is about eight working days later than the targets shown on the summary plan of work.

Low rise

Structural steel at the low rise is substantially complete and erection of metal deck is about 70% complete. The deck was due to have been completed by July 29, 1985 (working day 402) so is currently about 13 working days behind the desired finish date.

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CONSULTING ENGINEER

Interior rough work is in progress at both the lobby and the lower levels of the low rise, and floor slab on grade is about 70% complete. The slab at the food service area is yet to be completed.

Exterior stud work has just started at the low rise area. It was due to begin no later than August 12, 1985 (working day 412) so lags the Issue #6 network dated July 22, 1985 (working day 397) by about 3 working days.

The plan of work at the low rise is to close in by December 9, 1985 (working day 495) as shown on sheet #4, Issue #6 dated July 22, 1985 (working day 397). It will be important to meet or better this date since in hotel work it is generally the low rise areas and lobby areas that are the most difficult to complete. The reason for this is that much of these area, and the design of FFE work is usually a late item of approval. In addition, the low rise contains tenant space areas which must be leased, designed and built by parties not normally involved in the main construction of the hotel. Although it is recognized that in all likelihood, few if any tenant spaces may be ready for early openings there still is work to accomplish at the space including temporary storefront closures.

Another element of the low rise areas that often poses delay potential is in service areas where long lead equipment is frequently ordered late and depends on field measurement for detailing and fabrication.

So, in general it is good to give the low rise areas considerable attention and to get them closed in early.

Phase #2 lobby work

Phase #2 lobby work was due to begin September 3, 1985 (working day 427). The first activity was a temporary relocation of the entrance to the lobby. However, fire code problems with the existing walls and doors may delay start of construction. This matter is being discussed with the architects and engineers now.

It is very important to get phase #2 lobby work into field operations as soon as possible so as to have the building closed in by early or mid fall, 1985. The work was rediagrammed to show a close in point of November 25, 1985 (working day 486). This is close to the phase #1 low rise close in point of December 9, 1985 (working day 495). However, the lobby close in completion was based on starting

temporary partition work on September 13, 1985 (workin gday 435) and this may not be possible unless code problems with the walls and doors are resolved promptly.

We prepared a network plan for installation of a new fire separation at the existing lobby. This fire wall will require some dislocation of existing office and reception activities but Mr. Robertson is studying the plan of action to keep this to a minimum.

It will be necessary to install new steel columns along with the wall and these will require some demolition and installation of new column footings and piers.

No firm starting date has yet been set for fire wall work.

Ramp link connection

Monitored from Issue #1 dated August 14, 1985 (working day 414).

The connection from the new building at the lower level area adjoining the existing lobby is a difficult area of construction and we prepared a network of the construction sequence with Mr. Thomas Comstock. He assigned durations to the diagram and it will probably take about 26 working days to compelte from vacation of the existing maintenance office.

Work is in progress on the new footings and walls to the existing building and these should be complete about August 21, 1985. At this point work on the link could begin.

No specific starting date was set at our meeting but Mr. Don Robertson will analyze the work plan and set a starting point soon.

Site work

The retaining wall at the equipment court is complete and some electrical equipment is in place. Mechanical equipment will be arriving shortly according to Mr. Robertson.

So far as main site work is concerned it is still the intent to begin installation on April 1, 1986 (working day 574) or earlier if the weather is good. Completion of site work is set for May 21, 1986 (working day 610). The network has been reviewed by the site work contractor and is satisfactory to him.

FFE Work

The sequence for FFE work was reviewed briefly and it still is the intent to begin FFE installation sometime between mid and late February, 1986. FFE installation at the tower will take about forty working days.

FFE installation at other areas including the upper tower facilities and the lobby and low rise functions was not discussed at this session. I recommend that at our next monitoring and planning meeting we start tying the planning for GTRV CM work to planning for FFE work. I shall be in touch with Mr. Jerry Shea to set the best method of doing this.

Meanwhile, I highly recommend that all FFE design be completed, approved, and translated into working documents as quickly as possible to allow for proper procurement of materials and equipment.

General

The project is now moving fairly well and although early difficulties had been encountered in the tower structure it now looks like close in can be accomplished near the original desired date in December, 1986.

The main items to follow carefully are deliveries, particularly close in materials and early rough and finish interior items.

FFE work must come in for very heavy planning attention at upper tower areas and low rise areas.

Of great importance currently is to resolve the meeting area wall and door code problems so as to be able to start phase #2 lobby work just as soon as possible.

I shall be in touch with Mr. Robertson in the near future to set our next meeting.

Ralph J. Stephenson,P.E.

RJS:sps
To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

September 22, 1985

Subject: Monitoring Report #17

Grand Traverse Resort Village Condominium Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM) and 85:37 (FF & E)

Date of Monitoring: September 18, 1985 (working day 438)

Monitored from networks noted below

Target total project completion date: p.m. April 30, 1986 for GTRV CM work (working day 596); p.m. April 16, 1986 (working day 586) for GTRV FF & E work

Actions taken:

- Briefly inspected project
- Reviewed current project status with Mr. Donald Robertson
- Discussed project status with Mr. Ross Pursifull
- Prepared partial network models for lobby level, lower level, and restaurant levels
- Reviewed FF & E interrelationships with Mr. Tom Hoch and Mr. Jerry Shea
- Set dates for start and completion of FF & E work at major FF & E areas
- Identified items to note and watch at each major area relative to FF & E work
- Distributed sheets #8 through #19 network models for interior work at floors R-1 through R-12, Issue #5 dated July 31, 1985 (working day 404) to Mr. Shea, Mr. Hoch, and Mr. Robertson

A brief review of each major element of the project is given below:

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Tower structure and close in - Monitored from Issue #5 dated August 14, 1985 (working day 414)

The restaurant level deck (RS) was poured out on September 17, 1985 (working day 437). The target pour out date for the RS deck from Issue #5 dated August 13, 1985 (working day 414) was September 19, 1985 (working day 439). Thus, at the point of pour we were two working days ahead of current target dates.

Other floor pours made since the previous monitoring on August 14 and 15, 1985 (working days 414 and 415) were completed on the following dates:

R10 - Poured out August 15, 1985 (working day 416)

R11 - Poured out August 23, 1985 (working day 421)

Each of these met or were slightly ahead of the scheduled pour date. It is presently anticipated that the current schedule will be met for the remaining floors which include the balcony level (BY), bar and lounge (BL), mechanical room (ME), and the mechanical room mezzanine. One other pour remains after the mechanical mezzanine at a small walkway deck , elevation 881' 10". This last pour is expected to be made by November 12, 1985 (working day 477). Presently it appears that these are all feasible dates to meet given current progress on the job.

Exterior curtain wall at the tower started September 10, 1985 (working day 432), five working days later than had been planned. However, curtain wall progress presently appears to be such that this lag will probably be picked up within the next month. The target completion for erection of all vertical curtain wall to close in at the RS level is November 22, 1985 (working day 485). It is hoped that this date can be improved upon, and every effort is to be made to expedite the work.

Temporary close in for start of gyp board at the R1 level will be completed by September 27, 1985 (working day 445). It had been hoped to complete this temporary close in by September 24, 1985 (working day 442) but because of the late start on curtain wall there will be a slight lag in the temporary close in point. Here, too, it is expected that the drywall contractor will be able to pick up some of the loss of time.

Structural steel for the tower upper level will be started sometime between October 7, 1985 (working day 451) and October 15, 1985 (working day 458). This steel, once erected, will allow erection of space frames and start of installation on tower sloped glass. Delivery of sloped glass is presently set for November 22, 1985 (working day 485), and it appears that

this date can be met or bettered. The north sloped glass is expected to be complete at the tower no later than December 13, 1985 (working dya 499). South sloped glass is scheduled to be completed by December 20, 1985 (working day 504). Tower metal siding and roof deck is planned to be complete no later than November 19, 1985 (working day 482).

It is recognized that these dates force much of this very difficult work into weather that may be somewhat inclement. Therefore, every effort is being made presently to compress the structural frame schedule so that an early start can be made on the sloped glazing.

It must be remembered that once the upper floors, particularly mechanical levels are reached, that any equipment to be set on these floors must be available since it will be critical to close in this building in a continuous fashion as soon as the structural framing is available to erect the exterior skin. There are some current problems with electrical equipment deliveries, and these must be worked out so this equipment can be placed without delay to exterior skin erection. Heavy efforts are being made toward resolving this problem.

Tower interior work - Monitored from sheets #8 through #19, Issue #5, dated July 31, 1985 (working day 404)

At this session, I distributed the dated interior network models for floors R-1 through R-12 showing interior finish work from start of above floor plumbing through to start of FF & E work. The plans are based upon a floor completion plan showing the R-1 area complete on November 11, 1985 (working day 476) and with subsequent floors being finished off each 8 working days after, through to completion of the R-12 floor on March 17, 1986 (working day 563). Monitoring the project from these network models indicates that current rough interior work up to start of board is meeting targets between early and late starts and finishes. Above floor rough plumbing risers are to the 9th floor. Water piping is being put in on the fifth floor, and studs are well along to the 7th floor. There still are some matters to be resolved relative to in wall blocking, but apparently these are not a major delay at present.

The intent was to start hanging gyp board on studs and ceilings by September 24, 1985 (working day 442). However, because of the late start on curtain wall it presently appears that this work will now begin on September 30, 1985 (working day 446), a lag of about four working days over the desired target start. However, there is a good possibility that this four working day lag can be picked up by the drywall

contractor. In any event, at present there is adequate area out in front of the drywallers so that delays to his work are not expected once he starts.

As part of our discussion of the interior work, it was decided that FF & E installation would begin at residential floor R-1 on February 19, 1986 (working day 545). At this point in time, most of the CM work at floors R-1 through R-9 should be complete and finish work almost complete at R-10. This puts the CM building work out far enough in front of FF & E so that there should be minimal, if any, interference between the two operations. Again, it will be essential to move aggressively on close in of the building as finish work begins to approach the upper floors, since the interim close in point for finish work will only be valid through about the 7th through 9th residential floor. At that point it will be essential to have close in of the upper levels of the building in place to prevent moisture from following vertical paths down through to these floors.

Present plans are to start insulation and board at the 9th floor by December 24, 1985 (working day 506). This means that the critical point of close in relating to drywall will be somewhere between the 8th and 9th floors. We will monitor this very carefully at each of our sessions.

Copies of the interior diagrams were given to Mr. Robertson, Mr. Shea, and Mr. Hoch for their review, use, and study. We shall plan to monitor from these network models.

Low rise structure and close in

Structural steel is complete at the low rise, exterior studs are well along, and plywood sheathing is being installed. Installation of insulation and roofing to dry in has started at the low rise south area, and is presently meeting targets between early and late starts and finishes. Exterior brick facing is expected to be initiated in the very near future. There is a considerable amount of brick already stockpiled on the job, and no delays are anticipated once it starts. Brick was due to have begun August 23, 1985 (working day 421) so is starting considerably later than had been desired. However, the critical element relative to brick erection is that it originally was shown restraining insulation and roofing to dry in. This restraint no longer is needed and therefore, insulation and roofing appears to be able to proceed somewhat independently of the brick facing.

A good share of our discussion today dealt with close in relative to start of interior finish work for the low rise lobby and lower level areas. Because of the difference in

times at which phase #1 and phase #2 work will be closed in at these two levels, there may be some difficulties in meshing interior finish work. However, we will address this matter as an ongoing program, working and planning the actions to be taken at each of our monitoring and planning sessions. However, at present, however, close in of the low rise is moving reasonably well and should permit starting of interior work in the low rise on schedules that will accommodate the FF & E installation.

Low rise interior work

At our diagramming meeting today we began planning installation of interior rough and finish work at the lobby level (LB) and the lower level (LL). The lobby level is now considered to be the entire floor at the lobby level extending from the north end of the building through to the south end of the existing lobby to be remodeled. Phase #1 work is basically that that extends from the north end of the building to where the current construction has stopped. Phase #2 is generally meant to include the existing lobby area and new construction out to meet the phase #1 cutoff line. At the lower level, the same boundaries are being used. The lower level is slightly smaller at the south end of the project than is the lobby level, but there is some basement to be built. Diagrams for lobby level work (LB) are shown on sheets #20 and #21; for the lower level work (LL) on sheets #22 and #23; and restaurant and the bar and lounge work will probably be shown on sheets #24 through #27. We were not able to complete the network models for these areas but will continue to work on them at subsequent sessions.

We were able to bring the lobby level and lower level planning up through the start of acoustic ceiling, suspension, grid, and conduit. There is still some question as to how to maintain continuity of finish trades due to the many different close in points needed for low rise phase #1 and phase #2 work. There are close in points at phase #1, and a different set of close in points, of course, for phase #2. Trying to mesh these is reasonably difficult, although good progress was made toward identifying the proper approach at our session today.

It should be cautioned that there is a great deal of work in the lower level (LL) area, and that it will be essential to complete this portion of the building, ready for FF & E no later than March 3, 1986 (working day 553). I shall review the network models prepared at our sessions and put them into more readable form for continued planning at our next meeting. At this session we should be able to complete all interior planning for the low rise areas.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Phase #2 lobby work

Construction of the temporary entrance into the existing hotel lobby has started and should proceed well enough so that demolition of the existing canopy and footings can begin by October 4, 1985 (working day 450). This is the target date shown on the Issue #6 network model dated July 22, 1985 (working day 397) sheet #4. We have used the dates in the phase #2 lobby close in diagram on sheets #4 and #5, Issue #6 dated July 22, 1985 (working day 397) as the basis upon the interior work has been planned. Again, we shall continue to review these diagrams to insure that they remain a valid planning guide. This is especially important here since the need for phase #2 work up through close in and on through completion is an integral part of the entire project.

Lobby and office fire wall construction is expected to maintain progress, concurrent with remodeling of the existing lobby and construction of the new. In addition, the ramp link connection will be installed generally as we had diagrammed previously to help complete the interconnection with the existing building.

Site work - Monitored from Issue #6 dated July 22, 1985 (working day 397)

It is still the intent to start work on the new parking lot and entries on April 1, 1986 (working day 574). Under this plan paving is to start by April 25, 1986 (working day 592). Site work is to be completed by May 21, 1986 (working day 610). There is some concern on the part of the site contractor that he will not be able to get asphalt for paving until early May, 1986. This is fairly critical and must be watched critically since the paving is an essential ingredient to a proper opening of the hotel. At some point in the near future, we shall make a thorough review of the site work and how it is to be tied to total completion of the project.

FF & E work

We made a very thorough analysis of the FF & E work particularly in relationship to five major areas - the lobby level (LB), the lower level (LL), the restaurant level (RS), the bar and lounge level (BL), and the residential floors (R). At present, FF & E work is all approved with some major exceptions that will be noted as we discuss the various areas below. Drawings are almost complete, and a record of the design decisions up to September 17, 1985 (working day 437) has been issued to CM operations and the architect/engineer. There still are some matters to be resolved at each level, and

we shall discuss these in somewhat more detail as we review each of the various levels. In tabular form, below is given the time schedule data for each of the areas:

Area	Time to install FF & E	Starting Date	Completion Date
Lobby level(LB)	40 working days	Feb. 19,1986 (545)	Apr.16, 1986 (585)
Lower Level(LL)	15 working days	March 3,1986 (553)	March 24,1986 (568)
Restaurant (RS)	22 working days	March 14,1986 (562)	Apr. 15,1986 (584)
Bar and lounge (BL)	22 working days	March 14,1986 (562)	Apr. 15,1986 (584)
Residential floors (R)	17 working days per floor - 40 working days total	Feb. 19,1986 (545)	Apr.16,1986 (585)

This schedule is very tight and will demand careful attention on the part of all concerned.

Mr. Hoch has asked about possible storage areas that might be available to permit stockpiling of FF & E items. We will continue to discuss this at subsequent sessions.

So far as FF & E work is concerned, there are several items of note. These are given below, listed at random, and numbered for ease of reference.

1. Will start FF & E purchasing on November 1, 1985 (working day 470).

2. Will have all FF & E costs to those concerned by October 15, 1985 (working day 457).

3. All interior landscaping is in FF & E work.

4. FF & E working drawings are nearly complete. Three sets of furniture cuts have been provided to operations, CH, and the architect/engineer.

5. All concerned have received a record of the design up to September 17, 1985 (working day 437).

6. Storage space may be needed. Area required could be as large as one of the large conference rooms on the lower level.

7. Data is required for the fountain and adjoining planter areas at the lobby level.

8. Lobby bar data is needed.

9. Lobby level front desk data is needed re size and location.

10. It is desired to have elevator #5 operating for the use of the FF & E contractor. No date of operation was discussed.

11. All pavers are in FF & E work.

12. Temporary store front closures will be needed for those areas not ready for public use at the grand opening. Discussions will be ongoing about who is to provide these and what are they to be.

13. The matter of who is to build the shops should be addressed in the near future. It could be the general contractor, the GTRV CM, each tenant, or some other party than one of these.

14. Chandelier hangers and location data will be available October 1, 1985 (working day 447). The FF & E contractor will provide the hangers and the location at the underside of the concrete deck over the lower level.

15. Must define clearances for carpet at carpeted areas.

16. The restaurant and bar and lounge areas will have extra FF & E lighting.

17. The restaurant and bar and lounge areas will have separate and extra sound systems. It will be necessary to provide conduit for these. This matter should be addressed in the very near future.

18. The CM provides quarry tile for food service areas.

19. Food service equipment revisions are still to be resolved at the bar and lounge areas.

20. The owner is to provide automated bars at all bar locations. These may require changes to CM construction.

21. Brass handrails are to be replaced with wood materials. The details of this revision and the changes necessary are yet to be resolved.

22. Beds are yet to be selected. It is expected that a final decision on beds is to be made the week of October 10, 1985.

23. There is some question about whether any holdup exists on blocking at the residential floors. This matter must be addressed, and any questions resolved quickly since gyp board is to be started in the very near future.

We shall maintain this list as an ongoing checklist of items to be discussed for FF & E consideration relative to the CM work. If there are any questions or additions to the list, it would be appreciated if those concerned would let me know. I shall tie them into an ongoing checklist record that will allow us to gradually work through unresolved items.

General

Overall, the project is continuing to move very well in the field with the next major problem to be encountered being close in operations on through into the colder, early winter months. It is imperative that the curtain wall proceed on up just as rapidly as possible so temporary closure can be effected, and drywall started at the tower. In addition, it is equally important that the existing lobby and phase #2 work be initiated and that the structure and close in there be done as quickly as possible so a meshing of low rise finish work at phase #1 and #2 can be made.

As can be seen in the FF & E work tabulation above, lower level work must be done to a point where FF & E can start by March 3, 1986 (working day 553). There is considerable finish work in this area, and presently it appears that the area will be ready for acoustic ceiling suspension and grid about February 4, 1986 (working day 534). This is late, and efforts will be made to see if this date can be brought to any earlier point. It will also be essential to insure that heat of some type is available in the building from late October 1985 on, to protect finish work already installed. This will be an important matter and one that is presently being addressed by the entire GTRV CM team.

I shall be in touch with Mr. Robertson again shortly to set the next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps
To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

Ralph J. Stephenson PE PC
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October 19, 1985

Ross Pursifull AIA, Senior Vice President
Grand Traverse Condominium Development
PO Box 366
Acme, Michigan 49610

Re: FFE work - Personal

Dear Mr. Pursifull:

It is my responsibility to help plan and schedule the various CM work activities required for design and construction of the Grand Traverse Resort Village tower and low rise; and to monitor and report on progress toward achieving design and construction objectives.

Another of my responsibilities is to evaluate collateral activities that impact on CM work, but are being done under a different organizational structure. Most of these activities are FFE work, brief for furnishings, fixtures and equipment.

The architect for the CM work is Louis G. Redstone, Associates, Inc. The designer for FFE work is Tom Hoch Interior Designs, inc. The contractor for the CM work is Grand Traverse CM,inc. The contractor for FFE work is Tom Hoch Interior Designs, Inc. The firm of Louis G. Redstone, Associates has been retained to see that the work of Tom Hoch Interior Designs, Inc. is accomplished. I am not fully acquainted with the details of contract arrangements between Tom Hoch Interior Designs, Inc., Louis G. Redstone, Associates, Grand Traverse Resort Village and Grand Traverse CM, Inc.

My contract is with Grand Traverse CM, Inc., with time and costs for FFE planning, scheduling and monitoring being kept separate from CM work.

The above summary is merely to set out how I understand the interactions of basic contract responsibilities. There are many other related contract details between the parties of which I am not aware and therefore cannot comment upon authentically or first hand.

After my monitoring of October 15, 1985 (working day 457), I feel for the good of the total project, it is time to evaluate progress of the job in relation to what is needed in the remaining few months of construction up to the grand opening.

The present completion targets to which planning and scheduling is being addressed are as follows:

CM work - pm April 30, 1986 (working day 596)
FFE work - pm April 16, 1986 (working day 586)

These dates were set forth in monitoring report #17, dated September 22, 1985, and the CM target date has been in effect since March 5, 1985 (working day 300) or earlier (see monitoring report #8).

The amount of time remaining for work on the project from the latest monitoring on October 15, 1985 (working day 457) to CM and FFE completions is as follows

CM work 596 - 457 = 139 working days
FFE work 586 - 457 = 129 working days

As to the purpose of this memo; it is to express my concern that the machinery and organization established to integrate CM work and FFE work is not operating properly, and it does not appear to me that adequate steps are being taken to insure a workable communication system is put into effect to effectively integrate CM and FFE work.

This is not to criticize activities of any of the groups involved since we all have the responsibility to do what we are supposed to do, fulfilling these responsibilities by using the authority vested in us. It should go without saying however, that if we are expected to do something we must have the authority to do it.

Let me next review progress <u>visible to me</u> on FFE. To start the discussion I shall use the series of numbered points described on pages seven, eight and nine of my monitoring report #17 dated September 22, 1985 as a base reference. The following comments refer to that document.

1. FFE purchasing was due to begin on November 1, 1985 (working day 470). As of October 15, 1985 (working day 457) there was no authentic word within the group with whom I was monitoring the project - Don Robertson, Jerry Shea and, on a part time basis, Carmine Petrilli - on the status of the start of this purchasing. I presume Tom Hoch is to do the purchasing. If so I believe the GTRV project team should be constantly apprised of the status of his purchasing operation, and particularly of their respective responsibilities in this operation as desired by Tom Hoch, Redstone, Grand Traverse CM, Inc and Grand Traverse Resort Village. I do not see evidence that this has been done.

2. All FFE costs were to have been submitted to those concerned by October 15, 1985 (working day 457). As of October 15, 1985 (working day 457), no information on this matter was available from Don Robertson, Jerry Shea or Carmine Petrilli. Since the latter two persons are directly involved in the FFE work management, I must assume cost information is not available, or has not been distributed on a project wide basis.

3. All interior landscaping work is included in the FFE work. Within the same monitoring group described in points 1 and 2 above no current information was available about landscaping.

4. As of September 18, 1985 (working day 438) it was reported that the FFE contract documents were nearly complete. However 19 working days later on October 15, 1985 (working day 457) no authentic word was available on the status of these contract documents. Apparently they have not yet been released, at least not to the knowledge of the group participating in the monitoring.

5. It is assumed, although no specifics were available, that all design decisions through October 15, 1985 (working day 457) are known by the operating staff of GTRV, and agreed to by them.

6. As of October 15, 1985 (working day 457) GTRV CM does not anticipate providing any in-building storage space for FFE. The FFE contractors will obtain their own storage areas and bring equipment, furnishings, and materials to the job as they are to be installed.

7. Data is required about fountain and adjoining planter areas at the lobby level. As of October 15, 1985 (working day 457) no information was available on this design element, although design is thought to have started.

It is to be pointed out that the target for completing lobby level interior CM work is now set at late February, 1986 and that any hard tile or other integral hard floor, fountain or planter surfaces would be started considerably before this date, perhaps by late December 1985.

The materials and equipment which make up fountain and planter assemblies sometime take considerable lead time to acquire. In addition, changes to CM base building work will undoubtedly be required, particularly on plumbing installation and floor sleeves. These changes will require revisions to the contract documents and receipt of proposals for the work. Since we only have 50 to 60 working days remaining to the desired start of hard floor finishes at the lobby level the work proposed must be defined immediately and the implementation process put into motion.

8. No information was available from the monitoring group regarding design of the lobby bar. Here revisions to the CM contract work should be put into work just as soon as possible for the same reasons outlined for the fountain in 7 above.

9. No information was available regarding redesign of the front desk. It is an important element of the interior design package, since work at the lobby level will proceed rapidly now that the existing entrance is being demolished and phase 2 construction is underway. Finish work at the lobby level in phase 2 is due to begin in late December, 1985. It is recommended that all revisions to interior work be issued as soon as possible due to the long time periods it takes to process changes.

10. The major thrust of elevator work will be on #4 with #5 to follow. The FFE contractor has requested the #5 elevator be put into operation as soon as possible. This request will be fulfilled to the greatest degree possible, considering the importance of #4 to be prime.

11. Marble pavers are to be purchased with other FFE items, starting in November, 1985. Care must be taken to properly expedite these floor finishes since pavers, particularly marble, are traditionally very long lead time materials. In addition approvals of pavers is often a time consuming affair.

12. Temporary store front barricades will be designed by the Redstone organization. This is not yet a critical item but will be needed at the opening of the space to the public.

13. The organizations that will build the shops is to be determined by Grand Traverse CM, Inc. No immediate need exists for this decision although it should be up for consideration in the near future, probably within the next two months.

14. Chandelier hangers and location information was to have been provided to GTRV CM by the FFE contractor on October 1, 1985 (working day 447). The materials and information have not been furnished as of October 15, 1985 (working day 457). This information is important to have prior to beginning ceiling suspension work, presently set for an early start in late October, 1985.

15. No information has been provided to CM on the clearances needed at carpeted areas. This does not yet appear to be a critical issue. However it should be cleared as soon as possible so as to allow all efforts to focus on field activities without the possibility of delay caused by pending decisions.

16. Apparently a detailed review of the extra sound and light systems at the bar and lounge areas is still in work. At present the tower structure is being poured out and close in of the entire building is targeted for mid December, 1985. Prior to this date it is hoped to be able to start rough interior work for the upper floor areas such as the restaurant and the bar and lounge. Information on special systems that affect overhead rough and finish work will be needed within the next two months.

Any long lead items must be put into the procurement process now so as to avoid delay to CM work.

17. Same comments as for 16 above

18. There are no current problems with quarry tile delivery or installation

19. A resolution of the proposed changes to food service equipment at the bar and lounge area will be made by GTRV CM, Inc. Any item that affects the stucture, rough interior work or is a long lead item should be addressed immediately since the target start of FFE work at the bar and lounge is presently set for March 15, 1986 (working day 562).

20. There is no final decision on automated bars at present although the present thinking is not to use them. If this matter requires revisions to any rough in at bar areas, immediate action should be taken.

21. The fate of brass handrails and their use or non use has apparently not been totally resolved. Because of long lead times on special handrail materials a formal decision should be made and procurement initiated immediately.

22. An inspection of pull down bed mockups was made at the supplier's plant with all decision makers participating on October 15, 1985 (working day 457). There was no report on progress toward a selection except that the mock up was deficient in several details and apparently not acceptable.

Since the bed location, details and general characteristics are critcal to final stud wall construction, and since studs in the residential tower are already partially or totally installed on floors R1 through R9, it can be seen that it is imperative a decision be made immediately on bed details. If revisions are needed to existing stud installation there will be delays to the job, and undoubtedly extra costs to consider.

23. Holdups to blocking at the residential floors have been assumed not to exist and in wall work is proceeding at a full production pace. It is expected to start hanging board in the immediate future and since board is already 15 to 20 working days behind critical starting and finishing points a catch up in time is essential. If any changes to in wall work is experienced this delay will be directly reflected in installation of critical interior trades. <u>This matter is serious!</u>

* * * * * * *

I recommend in light of the above that immediate steps be taken to clarify procedures surrounding FFE/CM design decisions, FFE approvals, lines of communication, responsibility and authority for FFE work, and the

reporting and monitoring methods to be used for evaluating FFE progress. We have attempted to monitor FFE actions somewhat informally at the past three or four inspections and things have gone well when all concerned have been involved. I feel that as we now approach critical decision points where delays and cost extras are caused by even the smallest changes, or hesitation in deciding, that our entire FFE/CM process must be tightened up considerably.

It is to be reemphasized that this letter is not written to criticize, nor to cry wolf. Everone I see on the job is trying hard to make the project a success. It is written because I feel the existing FFE/CM organizational and process structure is currently unstable and will be a source of major trouble unless the parties and talents involved are used more effectively

I do not feel it is appropriate in this letter to impose on you how I feel this might best be done. However it is my job to tell you that I sense and can see that if improvements are not made to FFE/CM design, review, approval, and reporting responsibility and authority patterns, and procedures, the project will quickly be in trouble. One major recommendation I have is that you immediately and personally take an active role in integrating and relating CM and FFE work at critical interaction points. These include all places where FFE decisions affect CM design, installation, and most particularly budget and schedule. This is something no one outside the GTRV organization can do since it concerns internal people and organizational relations that must be managed from the inside. Outside agencies cannot manage internal company relations.

I would be pleased to talk over this matter with you personally in more detail at any time convenient.

Meanwhile the monitoring report for the October 15, 1985 session is in work. I felt it more important to write this letter first, so there has been a slight delay in preparing and sending the report. I shall be in touch with Don Robertson soon to set the next planning and monitoring meeting at the site.

Sincerely yours,

Ralph J. Stephenson PE PC

RALPH J. STEPHENSON, P.E., P.C.
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October 28, 1985

Subject: Monitoring Report #18

Grand Traverse Resort Village Condominium
Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM)
85:37 (FF & E)

Date of Monitoring: October 15, 1985 (working day 457)

Monitored from networks as noted below

Target total project completion dates: P.M. April 30, 1986 (working day 596) for GTRV CM work
P.M. April 16, 1986 (working day 586) for GTRV FF & E work

Actions taken:

- Inspected project
- Reviewed current project status with Mr. Donald Robertson
- Discussed project status with Mr. Ross Pursifull
- Continued preparing network models for lower level, lobby level, and restaurant levels
- Reviewed FF & E interrelationship with Mr. Jerry Shea and Mr. Don Robertson

General Summary

As of October 15, 1985 (working day 457) the tower structure continues in work with the lag over the current network model being about five working days. Presently forming is in progress for columns to the roof level and the mechanical roof deck (ME). Interior rough work at the tower at residential floors is moving well and meeting targets between early and late starts and finishes. However, installation of interior board is not yet started on a production basis except at the jacuzzis. The current lag on board is about 16 working days.

Interior rough work at the lower and lobby levels (LL and LB) is also moving well and good progress is noted in most rough trade installations.

Demolition of the existing canopy is nearly complete with mass excavation for the phase #2 lower level construction to begin in the very near future. This work is presently meeting targets between early and late starts and finishes.

It is still planned to start site work next spring about April 1, 1986.

A more detailed of each major area is given below:

Tower structure and close in - Monitored from Issue #5 dated August 14, 1985 (working day 414)

The concrete structure has been poured up through the bar and lounge level and forming for the mechanical floor supporting columns and walls is in work. Probably the mechanical deck will be poured out on October 22, 1985 (working day 462). It was due to be poured out October 15, 1985 (working day 457) so lags by a projected amount of five working days. The bar and lounge deck was poured out on October 10, 1985 (working day 454) about four working days later than the desired target date.

Curtain wall is presently erected to the 8th floor and the 8th and 9th residential levels are presently being installed. This work is currently just meeting our schedule targets. There are a considerable number of broken panes in the lower installation areas. Replacement of these, however, should pose no major close in difficulties.

Upper tower structural steel is available and erection will begin probably October 16, 1985 (working day 458), the current target date. Erection, plumbing, and trimming of the space frame is anticipated to begin October 21, 1985 (working day 461) slightly ahead of the target late start date.

We discussed erection of upper tower structural steel, space frames, sloped glass framing, and the metal siding and roof deck in detail. Because of the complexity of the erection procedure, it was decided that this work should be separately diagrammed. Mr. Comstock, Mr. Robertson, and I prepared a network model for erection of these elements and it was left with Mr. Robertson for field use. He is to send a copy to me, and I shall put it into a more easily read form as soon as it is received.

Present plans are to complete all close in of the building by mid-December, 1985 with certain areas closed to weather slightly earlier. We are now entering a critical area of the entire project since once total close in is achieved with sloped glazing and the metal siding and deck interior work can proceed full tilt at practically any area of the project.

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Project close in is moving relatively well in relation to projections in the summary diagrams. In these early projections it was expected that the exterior skin of the tower would be substantially completed by the evening of December 9, 1985 (working day 496). Thus, we are relatively close to this early projected full enclosure date for the tower.

Tower interior work - Monitored from sheets #8 through #19 Issue #5 dated July 31, 1985 (working day 404)

Interior rough work is moving relatively well with interior studs totally or partially in place up through R-9. Most rough floor work is meeting or bettering targets between early and late starts and finishes. Some of the collateral rough work such as setting and piping fan coil units and setting jacuzzis is moving closer to late finish targets than is presently desirable, particularly fan coil units. However, the major measuring activity for interior work is installation of insulation and board at studs and ceilings. Presently the green board, which is a water resistant gyp board, has been erected on several of the floors adjoining the jacuzzis. However, regular board on walls and ceilings has not yet been started. This board was due for an early start of September 24, 1985 (working day 442). It may be able to be started October 16, 1985 (working day 458) which gives a projected lag of about 16 working days. This is a very critical item since it represents a trade that the entire turnover cycling of the floor is built upon. Therefore, delays to the project can be measured almost directly by the point in time at which board is started. There are, of course, methods by which this delay could be overcome and the lost time recaptured. These deal primarily with multiple crew assignments and perhaps some compression of time. Mr. Robertson is well aware of the nature of this problem and is making every effort to get board installation under way at an early date.

It is important to remember here that with the drive to recapture the lost time on board work that decisions on in wall installation must be in hand immediately. There are some potential delays to this from FF & E decisions that are presently being considered, and these must be resolved immediately if progress is to be maintained and the lost time recaptured.

As of our monitoring session on October 15, 1985 (working day 457) we should have been completing board at R-2 and ready to start installation of board at R-3. This provides a relative measure of where this interior work is at present.

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As part of our evaluation, we later discussed the impact of FF & E operations on the CM operations. This information is discussed in a separate part of the monitoring report.

Low rise structure and close in - Monitored from sheet #5, Issue #6 dated July 22, 1985 (working day 397)

Close in of the low rise and tower lobby level areas is moving well, and for all intents and purposes these areas could be considered now in the dry regarding horizontal surfaces and nearly in the dry regarding vertical surfaces. Plywood sheathing is well along on both areas, and face brick veneer is moving rapidly. It does not appear at present that the close in work at these lower areas is going to delay any work progress. Of considerable importance, however, is installation of skylights presently planned to start in early December, 1985. These will be important elements of the close in to allow interior finish work to start and should be followed carefully.

Low rise interior work - Monitored from sheets #20, #21, #22, and #23, Issue #8 dated October 15, 1985 (working day 457)

At our session today we were able to complete the network models for the lower level, lobby level, and in part the restaurant level of the building. These network models are presently being drafted into final form and will be issued in the near future. The current target for completion of the lower level interior work ready for full turnover to complete FF & E work is in late March, 1986. It is expected to start FF & E in early March, 1986 with some overlap on the interior finish operations. Thus, our present plans should tie into FF & E installation reasonably well.

At the lower level, work is proceeding in production on above floor rough sheet metal, piping, electrical, and other rough trades. This work is currently meeting targets between early and late starts and finishes.

At the lobby level, present plans are to complete interior CM finish work by late February, 1986 with FF & E installation to begin in mid-February, a small overlap. Presently installation of rough interior work at the lobby level is moving very well with most rough trade operations in work and currently meeting targets between early and late starts and finishes. It is essential that the activities for the lower and lobby levels be tied carefully together for phases #1 and #2.

Phase #2 work on the existing lobby is starting, with demolition of the canopy nearly complete and mass excavation

RALPH J. STEPHENSON, P.E., P.C.
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for the P-2 lower level to start about October 16, 1985. It was due to have begun no later than October 18, 1985 (working day 460) in accordance with the network model sheet #4 issue #6 dated July 22, 1985 (working day 397). Thus, work there is currently meeting early start/early finish targets.

Overall, it will be increasingly critical to insure that decisions regarding FF & E work at the lower level and the lobby level phases #1 and #2 be provided promptly and in adequate time to allow proper processing, if these two very critical areas are to be brought to completion in adequate time to install FF & E and other finish work. We shall give this a high priority of attention at each of our monitoring sessions.

<u>FF & E work</u>

Mr. Tom Hoch, the FF & E designer and contractor, was not at our session. However, Mr. Robertson, Mr. Jerry Shea of Redstone, and myself evaluated the current progress where we were able to identify the elements of FF & E in relation to CM work. FF & E work is being evaluated against a set of reference points defined in our previous monitoring and shown on pages #7, #8, and #9 of Monitoring Report #17 dated September 22, 1985. A brief discussion of each of these points is given below with the appropriate number identification referred to in Monitoring Report #17.

12/18/85 →

1. As of October 15, 1985 (working day 457) there was no authentic word within the monitoring group as to the status of FF & E purchasing. This work was due to begin on November 1, 1985 (working day 470). It does not appear that it has started as yet.

- Budget is $75,000 over
- Has been bought out

2. There was no information on whether FF & E costs had been submitted to those concerned. They were to be available on October 15, 1985 (working day 457) from Mr. Hoch.

3. No current information was available on the progress on interior landscaping design or approvals.

- Is not [illegible] cost set enough budget. No resolution.

4. No information was available on the status of FF & E contract documents. These were supposed to have been nearly complete at our previous monitoring on September 18, 1985 (working day 438). Apparently they are not yet released, at least not to the knowledge of the group participating in the monitoring.

- Were given to GTRV Dec 18, 85
- Given Jerry Tues Dec 17, 85

5. It is assumed on an ongoing basis that all design decisions that had been made are available to the full project team. It must be stressed at this critical point in the entire project, that quick, accurate and reliable information transfer is a necessity if this project is to be completed as presently planned. As CM work proceeds toward completion, the need for any FF & E decisions that impact upon CM work is more and more urgent. It is imperative that all members of the project team be able to plan their work with increasing certainty as we near close in and start of interior finishes.

6. As of October 15, 1985 (working day 457) GTRV CM does not anticipate providing any in building storage space for FF & E items. FF & E contractors will obtain their own storage areas and bring equipment, furnishings, and materials to the job as they are to be installed.

7. No information was available on the design of fountain and adjoining planting areas at the lobby level. This is a very critical item since some of the equipment and materials to be used will undoubtedly be long lead items. In addition, their approval will likely require considerable time. It should be pointed out that the target for completing lobby level interior CM work is now set at late February, 1986 and that hard tile and other integral hard floor fountain or planter surfaces will have to be started considerably before this date, perhaps by late December, 1985. Since there are only 50 - 60 working days remaining to the desired start of hard floor finishes at the lobby, planter and fountain work should be addressed as quickly as possible.

There also will be an impact here on plumbing installation since undoubtedly some revisions will be necessary to accommodate whatever plumbing is to be installed at the fountain.

8. No information was available as of October 15, 1985 (working day 457) on design of the lobby bar. Again, because of the impact on CM work this area should be given a high design priority.

9. No information was available as of October 15, 1985 (working day 457) in respect to redesign of the front desk. Finish work at the lobby level in phase #2 is due to begin in late December, 1985. Thus, it can be seen that if changes are to be made in the design that they should be addressed immediately to avoid delay.

RALPH J. STEPHENSON, P.E., P.C.
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10. The major concentration of elevator work will initially be on #4, followed by #5.

11. No word was available on marble pavers. These must be expedited properly since pavers, particularly marble pavers, are traditionally long lead time materials. Again, approvals are also time consuming.

12. Apparently the temporary store front barricades will be designed by Redstone. This is not yet a critical item but will be needed when any of the areas are opened to public traffic.

13. No decision has yet been made on who is to construct the shops. This apparently will be decided by Grand Traverse CM, Inc.. A decision on this matter should be available within the next two months.

14. Chandelier hanger and location information was to have been provided to GTRV CM by the FF & E contractor on October 1, 1985 (working day 447). As of October 15, 1985 (working day 457) no information on materials had been provided. It should be pointed out that ceiling suspension work in the various low rise areas could begin in late October or early November, 1985. Thus, it is important to obtain information on any items that might affect ceiling work.

15. No information has yet been provided to GTRV CM on the clearances needed at carpeted areas.

16. A review of the extra sound and light systems at the bar and lounge area is still being made. Once the tower is poured out and the structural work complete at the upper areas of the tower, full production installation of rough interior work will be well under way. It is essential that decisions on the special sound and light materials and equipment be made prior to completion of rough interior work so it does not restrain installation of finish ceilings and walls.

17. Same comments about restaurant area as for #16 above.

18. There are no current problems with quarry tile delivery or installation.

19. A resolution of the proposed changes to food service equipment at the bar and lounge area is still needed. It apparently will be made by GTRV CM, Inc.

20. There is no current final decision on automated bars. If this matter requires any rough in at bar areas, immediate action should be taken.

RALPH J. STEPHENSON, P.E., P.C.
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21. The matter of brass handrails and the substitution of other materials for brass is still under consideration. Because of long lead time on special handling of materials, a formal decision should be made and procurement initiated immediately.

22. An inspection of pull-down bed mockups was made at the supplier's plant with many decision makers participating on October 15, 1985 (working day 457). No reported progress was made toward a selection except that the mockup was deficient, and is currently not acceptable. Since bed location, details, and general characteristics are critical to final stud wall construction, and since studs are already partially or totally installed on floors R-1 through R-9 it can be seen that it is imperative a decision be made immediately on bed details if additions or changes are required to existing stud installation.

23. Holdups to installation of blocking at residential floors have been assumed not to exist. In wall work at lower floors is proceeding on a full production basis with board probably to start October 16, 1985 (working day 458). If any changes to in wall work are anticipated, they should be communicated to GTRV CM.

* * * * *

We shall continue to maintain this checklist as an ongoing reference point for FF & E consideration relative to CM work. It is to be repeated that if there are any revisions or additions to this list, they should be communciated to me and I shall incorporate them into the monitoring and evaluation process.

General

CM work on the project continues to move relatively well although the current lags are slightly greater than is desirable. However, close in should be close to the desired target date, and apparently methods can be found to expedite installation of interior work particularly interior finishes at the residential tower.

Of strong concern is still the design, approval, and knitting together of FF & E work relative to CM work. I feel this activity poses one of the largest project difficulties at the

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present time and wish to urge all involved to constantly address how best good communications can be maintained in the upcoming weeks. I have expressed this concern both in writing and orally to all key people involved and trust that it will be addressed by top management in all companies on an ongoing basis.

I shall be in touch with Mr. Don Robertson shortly to set the next planning and monitoring session.

Ralph J. Stephenson, P.E.

RJS:sps
To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

December 22, 1985

Subject: Monitoring Report #19

Grand Traverse Resort Village Condominium
Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM)
85:37 (FF & E)

Dates of Monitoring: December 16 and 17, 1985 (working days 500 and 501)

Monitored from networks as noted below

Target total project completion dates: GTRV CM work - p.m.April 30, 1986 (working day 596); GTRV FF & E work- p.m. April 16, 1986 (working day 586)

Actions taken:

- Inspected project
- Reviewed current project status with Mr. Donald Robertson
- Prepared revised tower close in network with window wall superintendent
- Discussed drywall installation with Mr. Robertson and drywall contractor
- Completed preparation of restaurant and bar lounge level diagrams
- Updated network models for close in of phase #2
- Updated network models for interior work at lower level (LL) and lobby level (LB)
- Evaluated current project status
- Reviewed interrelationships of FF & E and CM work
- Discussed total project with Mr. Ross Pursifull and Mr. Donald Robertson

General Summary

Overall, in the 44 working days since the previous monitoring the project has encountered some progress difficulties and at present lags current network models from 6 working days to as

many as 55 working days. The major areas of present concern on the project are phase #2 close in, installation of interior rough finish work at the lower level (LL), installation of window curtain wall at upper areas of the tower, installation of drywall on the tower residential floors, and the impacts of each of these on succeeding work at all areas.

The weather in November and December, 1985 to date has been very difficult with large amounts of rain in the warmer periods and, as the temperatures dropped, heavy snow and winds. These have basically affected progress on close in of both the tower and the phase #2 area.

The combination of low temperatures, high wind, and precipitation have severely restricted productivity in installation of the window wall and sloped supporting frames at the tower upper levels. This has adversely affected full close in of the building, and it was felt at our session today that a complete review of this area was imperative. This was done in conjunction with the superintendent for the window wall contractor, and the new network resulting from our monitoring was printed and sent to Mr. Robertson for his evaluation. Meanwhile, we shall put the networks that were rough drafted into final form for review and comments. I shall have these in Mr. Robertson's hands just as quickly as possible.

The problem with drywall at the tower area is that, for many reasons many of which were discussed at our session, installation of drywall surfaces has proceeded sporadically, and progress has been slow with only limited amounts of drywall at each of the floors where it has started having been hung. The lag at the first residential level in taping and sanding drywall is currently 55 working days over what had been originally planned. This is a serious matter and is being addressed intensively by Mr. Robertson and the drywall contractor.

So far as phase #2 close in is concerned, this work should now proceed reasonably well since the structure is ready to receive structural steel and metal deck. Again, weather has adversely affected progress on this section of the building and the consequent linking of phase #1, phase #2, and the existing structure.

In relation to FF & E, it is now important to review completely the revised status of CM work relative to FF & E installation. In the majority of cases, efforts are going to be made that will permit an overlapping as has been desired of FF & E operations with CM work. We will have to analyze each of these areas in detail in establish the actual needs of each

FF & E operation. I will be in touch with the Redstone staff to ascertain their desires in this matter, since it is important that the two major areas of work - CM and FF & E- are knitted together in a well planned and predictable form.

At present, a mockup of a typical apartment is being built in the tower lower areas and most CM work and part of the FF & E work is already in place. However, we did not have available to us at this diagramming session authentic information on the current status of FF & E, but this will be reviewed with the Redstone office at the earliest opportunity and a course of planning action decided upon in conjunction with them and Mr. Hoch.

We did not discuss site work in detail, but it is still planned to begin site activities next spring, about April 1, 1986.

A detailed review of each major area is given below:

Tower structure and close in- Monitored from sheet #26, Issue #8, dated October 15, 1985 (working day 457)

Close in of the tower represents one of the most difficult portions of the project currently. The poor weather in November and December, 1985 added to delays in material deliveries has now put exterior curtain wall installation about a month and a half to two months behind the Issue #8 network model dated October 15, 1985 (working day 457). The lag was serious enough so that we requested the curtain wall superintendent assist us in replanning the entire installation of the glass at the top of the tower. This network model showing the updated plan of action is on sheet #27, Issue #9 dated December 16, 1985 (working day 500). The sequence was reviewed in great detail with the superintendent and he assigned durations to the best of his ability, considering minimal weather delays from here on out. This may be somewhat misleading since the weather has been extremely cold and snowy. Nevertheless, it represents a new set of targets to which all can work.

Installation of vertical curtain wall glass will proceed concurrently with erection of north and south sloped glass framing. One of the most critical elements is close in of the restaurant level with vertical glass which will provide a windbreak and an opportunity for some heating at the floor to allow start of installation of rough above floor work. As the sloped glass is erected and the vertical glass proceeds, gutters will be installed, followed by completion of perimeter glass and installation of standing seam roof deck and metal siding.

The present plan shows the entire upper tower metal siding to be on by early February, 1986. Other portions of upper areas will be closed in on a staggered basis from mid-January, 1986 on through to early February, 1986. Again, it is possible that some protection can be provided as the structure and glass move to a point where arrangements can be made to fill in open voids and protect the inside of the building from the entrance of weather. This is a matter that Mr. Robertson and the glass contractor will review together in detail.

Installation of elevator curtain wall will proceed independently of the building curtain wall and sloped glass. Present plans are to complete installing the elevator curtain wall up to the gutter at the top of the elevator vertical framing by mid-January, 1986. This is to be followed by installation of the gutter and the south standing seam roof.

The current lags in the tower close in are serious to a point, but are a function of items that are at this time somewhat outside the control of the project management. I strongly recommend that a careful, thorough, and detailed investigation be made of how the upper floors of the building, especially the restaurant and possibly the mechanical equipment room, could be protected from weather with temporary enclosures. These enclosures could be inside the final boundary of the perimeter skin and fundamentally provide shelter from the very strong westerly and north winds. If such enclosures could be used and are appropriate, this might allow an early start on above floor rough installation.

Phase #2 close in - Monitored from sheet #4, Issue #6, dated July 22, 1985 (working day 397)

Difficulty has been encountered with phase #2, primarily due to weather, in constructing the lobby level deck at the south end of the building. This deck was due to have been poured on November 21, 1985 (working day 484) but was poured out on December 10, 1985 (working day 496) a lag of 12 working days. It is now being stripped and this should free the area at the lower level of phase #2 for additional rough interior work. Structural steel at phase #2 was due to have begun on November 21, 1985 (working day 484). It is expected to begin December 18, 1985 (working day 502), a lag of about 18 working days.

Unfortunately, the delay in work at the phase #2 area will cause some difficulties in completion of interior work at both the lower level and the lobby level. Since there is a great deal of work at the lower level, this is one of the more crucial portions of the building to get completely enclosed and available for work.

We updated the network model for close in work at the phase #2 area, and it shows that we will be in the dry with roofing and exterior sheathing about January 21, 1986 (working day 524). However, just as soon as steel is erected, presently by about the end of December, 1985, and metal deck is installed, overhead rough work can begin as some protection is available from exterior stud walls or from temporary enclosure. This is a matter that will have to be planned day by day to insure that the close in is done as rapidly as possible.

Phase #1 low rise close in - Monitored from sheet #27, Issue #9, dated December 16, 1985 (working day 500)

At our meeting with the curtain wall contractor we also discussed delivery and installation of sloped glass framing and glass at the elevator, at the west skylight, and at the lobby skylight. Sloped glass framing at the low rise roof is in fabrication now and expected on the job January 2, 1986 (working day 511). Probably glass will be arriving with the framing, but this matter should be checked now. Present plans are to have the sloped glass installed at both the elevator skylight and the west skylight by January 15, 1986 (working day 520).

There was no current word on delivery of lobby skylight frame and skylight glass; however, we have assumed that once the phase #2 structural steel and deck is installed and the installation of phase #2 roofing is on up to dry in, that the lobby skylight could be erected. The question, of course, is delivery of the skylight which may be later than when the area is ready for it. Presently we have planned to have skylight installation complete by late January, 1986. Meanwhile, if temporary protection is needed at these openings it is relatively simple to provide so as to allow interior work in the vicinity to proceed. Nevertheless, it is more desirable to have the permanent frames and glass in place for such protection.

Tower interior work - Monitored from sheets #8 through #19, Issue #5 dated July 31, 1985 (working day 404)

Interior rough and finish work at the tower had been moving fairly well up to early and mid October 1985. Then a series of delays apparently evidenced themselves in the progress of drywall installation. Drywall at the interior residential floor R-1, the first floor to be worked upon, was due to have begun no later than September 24, 1985 (working day 443). It still had not started in mid-October, 1985 and so at that time at the previous monitoring lagged about sixteen working days. Since then some progress has been made in installation of board and studs, in wall work, and other related activities have moved reasonably well.

At this time it is doubtful, however, whether it would be possible to start production taping and sanding since so little drywall is in front of the tapers and sanders on a single floor. Taping and sanding at the residential floors was due to begin no later than September 27, 1985 (working day 445). None has yet started. Thus, as of December 16, 1985 (working day 500) the lag currently in drywall is 55 working days. This is a direct lag in interior work. Since taping and sanding releases following interior trades, this means that the lag can be applied to the entire interior CM finish operations. The Issue #5 network model dated July 31, 1985 (working day 404) was based upon a finish installation cycle requiring, from start of board to turnover for FF & E 34 working days, or from start of taping and sanding 31 working days. It was also planned to use a turnover cycle of 8 working days per floor which means that each 8 days a residential floor CM work would be completed. Based upon these planning parameters, the project at present is at a point where taping and sanding should be under way at the eighth residential level. As noted, no taping and sanding has yet started.

We discussed this matter in detail with the drywall contractor, and Mr. Robertson, the drywall contractor, and the building inspector along with Mr. Robertsons' staff met for several hours to review steps that could be taken to improve performance. In our basic analysis, it presently appears that to meet current target dates for completion of FF & E at the 12th level it would be necessary to reduce the turnover cycle from the current 8 working days to three or four working days. Of course, this will also make it necessary to reduce the turnover cycle for following trades. Of these, texturing, ceramic tile, plumbing fixtures, and accessories will be critical items to give careful attention since each requires more than three working days per floor to install. Thus, what appears will be required is multiple crewing in these very critical trades.

There have been some assurances given by the drywall contractor that an improved performance will be initiated immediately. Mr. Robertson is working closely with the contractors to identify how this can be done as quickly as possible. There are some problems that deal with design of wall including board thickness at adjoining fan coil units, distance apart of wall outlets in adjoining rooms, and the enclosures of shafts and stairs. These matters are being resolved at present and hopefully can be clarified without major changes. It would be wise, if revisions at the lower floors are needed, to consider starting production drywall one of the upper level areas so that the faster sequencing could begin just as rapidly as possible. At present, there some wall drywall hung on R-1, R-2, R-3, R-4, and at ot floors, drywall at jacuzzis and shafts up through R-7

The impact of delays to hanging board has, in my opinion, caused a slowing of work on the following trades particularly completion of plumbing at the jacuzzis and tubs, installation of showers and installation of fan coil units. At the upper floors, generally beginning about the 5th or 6th residential unit, progress on fan coil units has noticeably slowed and on the higher floors very few have been set in place. The same is true of the jacuzzis and tubs. What this indicates is that the driving force behind manning the job in these trades, primarily mechanical, must be maintained by them seeing far more rapid progress in hanging board. Without this visible progress it can be expected there will be little additional manpower put on the project, nor will there be any major incentive to again build up a high production rate on mechanical installation.

Electrical work and sprinkler work in walls and at the floors has proceeded extremely well, and at present these trades, along with stud installation, are up to the 10th or 11th residential floor. Work at the top floors is not yet complete, but is in progress.

The key to any meaningful improvement in work at the residential tower floors still remains with the drywall contractor and my opinion until his performance can be improved and brought into line with what is desired and planned there will be little, if any, improvement in floor work above R-5.

As mentioned previously, no major monitoring of FF & E work was done at this session, but I shall be in touch with the Redstone project staff to determine the impact of the current lag on FF & E work. Present intentions are to regain the lost time so that FF & E at the tower will still finish as close to the end FF & E target of April 16, 1986 (working day 586) as is possible. The impact of the delay on FF & E work probably will result in a closer meshing of the CM and FF & E operations. Thus, it is imperative to carefully plan this work just as soon as possible.

At the top of the tower, restaurant, bar and lounge, and mechanical floors the work there will depend almost totally upon progress relative to close in of this area. We completed the network model for the restaurant and the bar and lounge levels, assigning durations as seemed to be appropriate from experience and from past work on the job. The analysis indicated it is imperative to start rough mechanical and electrical trades above the floor at as early a date as possible, particularly in the restaurant area. Initial estimates indicate that the length of time from the start of rough above floor trades at the restaurant on out to clean up

and turnover for FF & E work might be as long as 110 working days (5 months). It is quite apparent that no delays in starting work there can be accommodated since the present plan is that the restaurant area will be finished in mid to late April, 1986. Thus, it is absolutely critical that when close in of the restaurant area particularly is accomplished, either by permanent curtain wall and sloped glass or by temporary means, that metal studs, in wall work, or other items needed are in place so drywall can start.

It appears presently that drywall could probably begin about two months after the rough work through erection of metal studs and in wall work is complete. From the time finish work starts to completion of the CM work at the area is about 66 working days or approximately three months. This begins to give us a better time point from which to work although it is apparent that the present assumed durations on activities will have to be tested and probably shortened. I believe it is possible with careful planning to reduce the restaurant duration by 15 to 25 working days but hesitate to do this at the present time until more detailed discussions of the plan can be conducted.

At the bar and lounge level, the problem is not quite so serious since the total amount of time from start of work to completion, because of its smaller size is about 71 working days or approximately three months and a few days. The time from start of board to completion of CM work is about 43 working days or two months. However, again, it is best to get the rough work to where board can start to be installed just as soon as possible.

Please note that the completion times mentioned above do not include food service equipment. Food service equipment at the restaurant level could require as much as 20 additional working days to complete and at the bar and lounge level as much as 17 additional working days to complete beyond clean up and turnover. However, the latter actions in food service equipment planning deal with running in the equipment and training. In addition we are showing the installation starting at a late date to minimize damage from overhead trade installation. It is entirely possible we could start installation of food service equipment at an earlier point if it proved essential.

In essence, it is necessary to start just as quickly as possible on above floor work at the restaurant level particularly and at the bar and lounge level if possible. To be watched carefully is delivery of the spiral staircase which will require special soffit work on drywall. This will be a difficult element to install, and usually the trimming out of these monumental stairs requires material that are difficult and time consuming to obtain.

The other levels at the upper tower area are basically mechanical and electrical equipment rooms. These, too, are of a critical nature particularly since they serve very important elements of the building. Therefore, any temporary close in that can be provided for these areas will also be of help.

Low rise interior work - Monitored from sheets #20, #21, #22, and #23, Issue #8 dated October 15, 1985 (working day 457)

Lower level work is focused primarily at this time on installation of rough and some finish trades. Fairly good progress has been made on erection of metal studs and in wall work, and it presently appears that these are about as far as possible until the phase #2 lower level is fully stripped. Board hanging has also started and it will be very critical to keep this work moving rapidly since there is a large amount of wall and ceiling gyp board at the lower level. Mr. Robertson and I replanned the lower level using the current network and applying starting points at about where the job is at this point. It presently appears that the lower level completion date is now in late April, 1986. This is considerably later than had been desired since the original target was March 26, 1986 (working day 570) exclusive of food service equipment. The lag projected at present at the lower level is about 26 working days. However, there are some areas in which work there could be expedited, and certain activities in the current network could probably be reduced in duration if adequate manpower is available. Manpower, again, is a very important part of the schedule adjustment. We shall discuss this matter in detail at each of our monitoring sessions and evaluate what progress is being made toward achievement of the schedule compression where needed.

I shall recheck the updated network model which will be Issue #9, dated December 17, 1985 (working day 501) and redraft, print, and issue the network for review and discussion by Mr. Robertson and his contractors. This will be accomplished just as quickly as possible.

At the lobby level, a similar situation relative to status exists as in the lower level. Work has proceeded fairly well in the rough above floor trades and will be, of course, resumed once the phase #2 portion of the building is opened for work. Spray on fireproofing is under way at the roof of the lobby level structure with more than half of the fireproofing already installed. This work should proceed on through to completion without too much additional difficulty. Installation of board is getting under way and current projections indicate that this area will be completed in late March, 1986 as compared to the previous target date of February 25, 1986 (working day 549).

Thus, the lag at the lobby level is presently about a projected 23 working days. Here it is not quite so serious as at the lower level since the CM work is not as complex as at that lower level. However, FF & E projections for the lobby level work indicate that it will take about 40 working days to make this installation as compared to about 15 working days at the lower level. Thus, the impact of the later completion dates for CM work will affect FF & E installation at both levels. I shall discuss this matter with Redstone at an early date.

Close in of the lobby level is dependent upon installation of the sloped glass at the elevator, at the west elevation, and the skylight over the main monumental stair. Therefore, this work which will proceed independently of the tower curtain wall and sloped glazing must be watched carefully and expedited to the greatest extent possible. The openings at the elevator on the west elevation are apparently ready to receive the framing and glass. The skylight area, as noted previously, will be available once the phase #2 structure is in the dry.

FF & E work

There were no major discussions about FF & E work at this session since those involved were not present. However, there is a distinct feeling that some of the 23 points mentioned in previous monitoring reports and in the most recent monitoring report #18 dated October 28, 1985 still must be carefully considered. These points have been addressed in several documents generated over the past two months, but we should make absolutely certain that the FF & E installation can proceed without major delay once CM work is at a point where it will allow this installation to start.

I shall plan to cover the appropriate FF & E items with the Redstone staff at an early date and if appropriate, will prepare a separate report of the results of that session.

The discussion of the several FF & E points began with a review of these on pages #6, #7, #8, and #9 in Monitoring Report #17 dated September 22, 1985. They were again addressed on pages #5, #6, #7, and #8 of Monitoring Report #18 prepared in October. I recommend a review of these points be made by all concerned.

General

Although the above report paints a somewhat less than rosy picture of progress on the project, there is still good potential to recapture some lost time and maintain tho

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integrity of desired completion dates. This is particularly true where there is a lag on interior rough and finish work. The difficult portion of recapturing lags and delays will be in the installation of curtain wall, primarily due to the early unseasonable and very bad winter weather encountered in November and December, 1985. Thus, the solution here must come from planning how areas of a critical nature can be protected temporarily. We discussed this in detail in the report and on the job and everyone is fully aware of the need for attention to this matter.

I shall plan to monitor the project again in the near future and will be in touch with Mr. Robertson to set the dates.

Meanwhile, I would like to take this opportunity to wish everyone on the project a happy holiday and a prosperous and joyous New Year.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross W. Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

January 20, 1986

Subject: Monitoring Report #20

Grand Traverse Resort Village Condominium
Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM)
85:37 (FF & E)

Date of Monitoring: January 13, 1986 (working day 518)

Monitored from networks noted below

Target total project completion date - GTRV CM work p.m. April 30, 1986 (working day 596) - GTRV FF & E work p.m. April 16, 1986 (working day 586) - this date will probably be reset at p.m. April 30, 1986 (working day 596) to match completion of CM work.

Actions taken:

- Inspected project
- Reviewed current project status with Mr. Don Robertson
- Discussed drywall installation with Mr. Robertson and drywall contractor
- Updated restaurant and bar and lounge level diagrams
- Updated phase #2 close in diagrams
- Updated lower level and lobby level interior work diagrams
- Evaluated current CM project status
- Continued review of interrelationships between FF & E and CM work
- Made detailed evaluation of turnover cycle requirements for tower residential areas
- Discussed total project work together with Mr. Ross Pursifull and Mr. Don Robertson

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General Summary

As of January 13, 1986 (working day 518) the project continues to lag with some delays now becoming serious. Among these lagging items are installation of drywall at the tower floors, total close in of upper tower areas, drywall installation at the lower level and close in of phase #2. Residential floor lags are very serious in that no taping and sanding has yet begun on the tower floors. What this now requires is a very short floor turnover cycle or to put it another way, a very short taping and sanding start up cycle in order to meet current target requirements of the project.

We still feel that maintenance of the completion of CM work by the p.m. of April 30, 1986 (working day 596) is critical to the job. This has made it imperative that turnover cycles for the floors be adjusted so the last residential floor is completed approximately 17 working days before the morning of May 1, 1986 (working day 596). CM work, then, must be completed at the tower residential floors no later than April 8, 1986 (working day 579). The reason is that the FF & E work, as presently planned, will require about 17 working days to complete on one floor with a total time of 40 working days required for all FF & E work at the residential unit. This further means that FF & E work will have to start now about March 6, 1986 (working day 556) so as to be complete by the present target finish date.

There have been several difficulties with drywall installation. These are generally resolved now, although there still remain a few barriers to full production work. These are being cleared rapidly. The major difficulty with the actions necessary to pull the project back into line at the residential area is that the shorter turnover cycle will be imposed on many other trades. In some cases where there is very little trade work to do on the floor it will not materially affect production. However, the longer trades such as texturing, installation of cabinets, installation of plumbing fixtures, hanging doors and installing hardware, installing mill work and trim, and particularly, installing ceramic tile will have to be carefully studied so that they, too, match a turnover cycle necessary to bring the job to completion at the proper date. Mr. Robertson is evaluating this matter at present for each of the trades.

Close in of upper tower levels above the residential tier has continued to prove very difficult because of the ongoing harsh weather being encountered in the Traverse City area this year. However, some temporary closures have been provided at the restaurant level, and sloped glass seems to be moving

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Get weather delays.

relatively well when weather will allow tradesmen to work. At this portion of the structure, future progress will almost totally depend upon whether weather allows the outside areas to be worked upon in continuous fashion. Strong efforts are being made at present to identify ways by which interior work particularly rough interior work at the restaurant, bar and lounge and mechanical room floors can be pursued immediately. These will be one key to completing the areas within the time limits required.

Phase #2 close in has also been severely affected by the difficult weather conditions, and at present efforts are being made to complete installation of metal deck on the phase #2 structure. Close in dates for this building have been pushed back further than desired, but in our replanning and udpating of the network model it is still felt that the areas affected can be completed by desired target dates.

At the lower level and lobby level, delays have also been encountered but these are not so critical as at the other areas discussed above. At the lower level, the present concern is primarily centered on initiation and aggressive pursuit of gyp board, walls, and ceilings. There is a sizable amount of hard ceiling work to be done at the lower level, and this must be started immediately if desired end dates are to be reached. This matter was discussed in detail, along with the tower residential areas, with the drywall contractor. He is presently preparing a detailed plan of operations on a day to day basis for review and critique by the CM team.

GET THIS

Elevator work appears to be moving relatively well on the interior shafts. However, close in of the residential elevator at the south side of the tower is moving slowly primarily due to delays in closing in the shaft. Again, weather problems have caused major difficulties in this work.

It is still intended to start site work on the project by April 1, 1986 (working dya 574) and this date should be able to be held under the normal weather conditions expected. There is no way of presently predicting whether the desired start date can be guaranteed. However, the work has been planned well and reviewed in depth by all concerned with present expectations that it will be able to be completed within the time structure desired.

We reviewed FF & E work briefly but since the FF & E contractor was not a part of this monitoring session it was necessary to gain the information required from the Redstone office by phone. They were apprised of the various problems

with CM work and what impact might be felt on the FF & E installation. This matter will be reviewed in depth by Redstone with Mr. Hoch at a meeting to be held on Friday and Saturday, January 17 and 18, 1986 (working day 522). It is imperative that a careful interrelationship and close coordination between CM and FF & E work be maintained from now on through to opening of the project. The two elements are very closely intertwined with each other, and the impact of one on the other must be continually evaluated, particularly at the interface points where CM work is sufficiently along to allow FF & E work to begin. There is general concern about FF & E installation primarily because so little full information is available at present, this matter will be reviewed below under the appropriate section of the report.

WHAT WAS RESULT?

A detailed review of each major areas is given below:

Tower and low rise close in - Monitored from sheet #27, Issue #9 dated December 16, 1985 (working day 500)
(Note: This sheet superceded sheet #26 Issue #8 dated October 15, 1985 (working day 457) and sheet #4, Issue #9 dated December 16, 1985 (working day 500)

As of January 13, 1986 (working day 518) the north sloped glass framing is complete, the sloped glass framing for the south elevation is well along and north sloped glass was about 60% complete when I monitored the project in the morning of January 13, 1986 (working day 518). It was noted that by the end of that day considerable additional progress had been made on installing sloped glass at the north elevation and it appeared by the close of the workday, it possibly was as much as 75 - 90% complete on the north slope.

The vertical glass is erected up through the restaurant level and perhaps a bit higher on portions of the building. Vertical erection of glass is one of the lagging elements although again with some break in the weather time could be regained on the current lag. It should be pointed out that the restaurant level has been enclosed with temporary protection which gives some shelter from wind, snow, or driving rain. This is adequate to allow rough work to begin at the restaurant level. It is the intent to start on this rough work in the very near future. The critical element to be paid careful attention at the restaurant level is to insure that metal studs begin no later than February 12, 1986 (working day 540) and that close in to allow start of board work is close behind. It seems that this will be possible with present progress at this area. The plan of work shown on the latest issue of the network model sheet #27, Issue #9 dated December 16, 1985 (working day 500) shows completion of the north sloped glass by January 8, 1986 (working day 515) and completion of the south sloped glass by February 4, 1986 (working day 534). It also shows completion of the vertical

HAS IT?

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elements of the curtain wall by January 29, 1986 (working day 530). Although presently this work appears to lag from three to five working days it is possible that the present field progress being made by overlapping areas could pick up a portion or perhaps even all of the lag if the weather holds reasonably good. For that reason, we did not update the plan of work for exterior framing and glass at the restaurant level and up.

Installation of glass at the elevator has slowed considerably and presently lags by as much as 10 - 15 working days. Here, again, weather has been a major deterrent although when the job was monitored it was noticed that clip work was proceeding which should allow fairly rapid progress on curtain wall installation again as weather permits. The elevator curtain wall is important in that it does impact upon the north standing seam deck roof. It had been hoped to begin this north standing seam roof deck by January 22, 1986 (working day 525). It was not possible to determine at this point whether the January 22, 1986 (working day 525) could be met.

Installation of sloped glass framing at the elevator skylight on the low rise roof is nearly complete with sloped glass to be delivered the week of January 13, 1986. The target date for completion of the sloped glass at the elevator skylight and the sloped glass at the west on the low rise roof was set in our network model for January 15, 1986 (working day 520). It is apparent that this date will not be met, and it in turn could cause some problems of close in to accommodate finish work below. It is entirely possible to close these smaller areas to weather with temporary protection, if needed. At the lobby skylight work was due to begin on frames by January 7, 1986 which was after installation of insulation and roofing at the low rise roof. Close in of the low rise, however, has been affected adversely by weather conditions and the steel is just now being trimmed out at the east half. Metal deck and roofing at the west half of the low rise has been installed and it is expected that the insulation and roofing at the east half will probably be complete by late January, 1986. Presently it is projected that the low rise will be in the dry by February 4, 1986 (working day 534) provided weather does not delay exterior work further. This is later than had been desired but should allow interior work, particularly at the lobby level, to still be completed by the desired CM target end date, now set for March 28, 1986 (working day 572).

Overall, then, the entire close in process for the tower and the low rise has experienced delays and considerable difficulty primarily because of the severe weather that has

hindered work on the job during November and December, 1985 and early January, 1986. I shall update the close in diagram for phase #2 work and issue it with the other network models to be revised as a result of this monitoring session.

Tower interior work - Monitored from sheets #8 through #19, Issue #5 dated July 31, 1985 (working day 404)

As of January 13, 1986 (working day 518) no production taping and sanding has yet begun at the tower residential area. The largest current lag is at floor R-1 where taping and sanding was due to have begun no later than September 27, 1985 (working day 445) and thus, currently lags by 73 working days. Start of taping and sanding is the most critical problem presently faced at the tower residential area and thus we focused heavy attention on the matter, discussing it in detail with the drywall contractor.

There have been some difficult problems with drywall installation with delays being caused by a variety of conditions. These include inability of the contractor to properly man the job in some instances, difficulties with obtaining approval on drywall systems at special areas where traditional methods of installation have apparently not been acceptable, and in some areas improper installation of board by the contractors involved. However, to the credit of the field operation strong efforts have been made and are being made to resolve these problems. R-1 and R-2 will be ready for inspection to hanging final board in three or four working days. R-3 is being readied for inspection and R-4 and R-5 as of January 13, 1986 (working day 518) are ready for inspection. It is expected that by January 27, 1986 (working day 528) four residential floors will be completely boarded out and the operation by then should be in full production cycling.

Drywall finishing and texturing is presently planned to start January 20, 1986 (working day 523) or earlier. The intent is to increase drywall contractor field forces on the job for the from 40 to 50 people in the immediate future. In our detailed conversations about the project the drywall contractor feels he can complete all board, taping and sanding, and texturing and finishing at a rate of two floors per week. This produces a turnover cycle of 2 1/2 days per floors. As mentioned earlier, this will allow the floors to be completed by April 8, 1986 (working day 579) which permits FF & E the required 17 working days out to the p.m. of April 30, 1986 (working day 596).

However, there are additional requirements for this work to be completed within these cycling limitations. The most critical

is to insure that other trades which follow installation of board and taping and sanding can also maintain the two floor per week turnover cycle. Ceramic tile is one of those that may pose some difficult problems. The estimated duration of ceramic per floor is presently 12 working days. This means that if they are to maintain a turnover cycle of one floor every 2 1/2 days that there will have to be about five or six crews on the job at the residential tower, plus those needed for other areas.

Another major problem will be with deliveries of vanities, mill work, and kitchen cabinets. Presently there has been no formal approval of the work in the typical room mock up and therefore, some of the mill work and cabinets have not been able to be ordered. These are normally long lead time items which will require pricing, processing of submittals and fabrication. Under the present plan of work we could need mill work and trim on the job starting about January 27, 1986 (working day 528). Cabinets could be needed about February 17, 1986 (working day 543). Thus, it can be seen that it is of the utmost importance that prompt approvals be given on all items that deal with CM installation and the need to provide proper lead time for detailing, fabricating and delivering.

In addition all problems that presently might hold up the field work on any of the residential floors must be resolved now. This includes any difficulty with approvals, design,decisions that affect materials whether they be CM or FF & E or anything else that might possibly stop the cycling of floors and extend the turnover past the 2 1/2 working day goal.

A word of explanation about this turnover cycle derivation might be in order here. The turnover cycle is the length of time between when one area is turned over and the succeeding area is turned over. For instance, on the residential floors we have twelve units or levels to consider. The first of these is starting on a production taping and sanding basis on January 20, 1986 (working day 523). It requires 30 working days from that point to finish the CM work to start of FFE work. The first floor CM work will be completed on March 3, 1986 (working day 553). Producing the remaining floors, 11 in number at 2 1/2 days per floor requires approximately 28 working days which brings completion of CM work at the 12th floor to 553 plus 28, or to working day 581, which is April 10, 1986. It is felt that the compression necessary to reduce the time required by two days so as to bring completion to April 8, 1986 (working day 579) can be accomplished. However, it can be seen that this is an extremely tight program of work and will require close cooperation and involvement of all concerned, both CM and FF & E. We will revise the residential floor network models and reissue them showing the updated information.

Meanwhile, I strongly recommend we focus intently upon the interrelationship of FF & E to the CM turnover points. I shall talk to Mr. Leo Shea at the Redstone office to help determine how best to plan this interrelationship in the coming three to four months. Of critical importance to maintaining a sound plan of work is to inform and closely monitor the work of the mechanical and electrical contractors. They, to this point, have been able to stay ahead of the work being done at the residential floors but with the increased pace, specific attention will now have to be given to insuring that the jacuzzis, fan coil units, sprinkler piping, and all domestic mechanical and electrical work is kept ahead of drywall work.

A problem that also must be resolved that came up at our session was apparent discrepancies in stairwall layouts at the 12th floor. This matter is presently being discussed and should be able to be resolved within the next few days. Mr. Robertson and the drywall contractor will follow this matter with the Redstone office.

Interior work at the tower restaurant and bar and lounge levels - Monitored from Issue #9 dated December 17, 1985 (working day 501) sheets #24, #25, #28, and #29

As of January 13, 1986 (working day 518) no rough interior work has started at either of these two levels. The restaurant level is partially closed to weather and is available for rough mechanical and electrical work to start. It is expected that installation will begin sometime in the very near future. The target that must be maintained at these areas is to complete all work, CM and FFE, by May 1, 1986 (working day 596). If metal studs start on February 12, 1986 (working day 540) it will be essential to complete the entire restaurant level in 56 working days. This is a moderately difficult time frame within which to do this kind of work. However, Mr. Robertson and I reviewed the current network model and were able to compress the plan times so that the desired finish date was achieved. This model is being reissued as sheets #24 and #25 Issue #10 dated January 13, 1986 (working day 518).

If desired targets are to be met, rough interior work must begin immediately and the area must be ready for hanging board no later than February 26, 1986 (working day 550).

Of importance also at both the restaurant and the bar and lounge level is to insure that the food service supplier knows the dates by which he is to be on the job. At the restaurant level, this date will be March 26, 1986 (working day 570) and at the bar and lounge level food service equipment must be started no later than April 2, 1986 (working day 575). These dates are subject to further check but appear presently to be

adequate as major guidelines. A careful review of the network model should be made so that any approvals, deliveries, or other items that impact the work can be cleared as early as possible.

At the bar and lounge level, the start of studs has been shown at January 29, 1986 (working day 530). We will hold this starting point which gives completion at the floor in early or mid April for CM work. The new run to be issued will be sheets #28 and #29, Issue #10 dated January 13, 1986 (working day 518). As with the restaurant area and critical to progress will be freeing the floor up for rough work to start, and then most importantly insuring that that work sensitive to weather such as drywall, taping and sanding, and painting can start promptly once studs are completed.

Tower equipment room at mechanical level

No detailed network model has been prepared for installation of equipment at the mechanical floor level. However, in subsequent monitoring sessions I shall discuss this matter in detail with Mr. Robertson. I strongly suggest that the field work to be done there be done start just as quickly as possible. There has been some temporary protection built for electrical equipment and the area is ready for rough installation although it is not totally closed to weather.

Low rise interior work - Monitored from sheets #20, #21, #22, and #23 Issue #9 dated December 17, 1985 (working day 246)

At the lower level some board has been hung at wall areas, studs are being completed in the phase #2 sector of the building and the area is relatively weather tight although probably not fully closed yet to permit weather sensitive trades such as painting to begin. Nevertheless, there is adequate area in which to hang board, particularly on ceilings so ceiling work can be initiated any time.

It is expected that lower level ceiling work will start on January 15, 1986 (working day 520). This should allow us to maintain a completion target of the evening of April 30, 1986 (working day 596). However, there can be no further delays to the work there since we have now compressed the schedule to a considerable degree. Here as with the bar and lounge and restaurant levels it will be critical to inform the food service contractor when he must be on the job. At present, we are showing a completion of run in for the food service equipment by Mid-May, 1986. This is later than a best date to finish, and we will check to see how some compression of the time is possible.

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The quarry tile floor at the lower level is to be complete by an early finish of mid-February, 1986 so in all likelihood, food service equipment could be set and aligned sometime in early or mid March, 1986. However, it normally is not desirable on large food service installations to set equipment prior to completion of most overhead work particularly ceilings. Therefore, a determination should be made early as to the conditions under which the food service equipment is to be set.

No word was available on delivery of food service equipment but Mr. Robertson will work with the food service equipment supplier to establish appropriate dates and lengths of time of installation.

Also of importance at the lower level is hoods. These hoods influence ceiling work at the food service area and generally must be installed and connected before the food service area ceilings can be installed.

At the lobby level, work on the fountain and sculpture areas will be starting sometime soon. As yet there is no final approval on the sculpture although it was anticipated that this matter would be cleared and resolved over the weekend of January 18, 1986. I spoke with Mr. Shea of Redstone's office regarding the scope of work for the CM staff to install relative to the scope of work to be covered by the FF & E contract. Mr. Robertson and the Redstone production staff will review this matter on January 16 and 17, 1986 (working days 521 and 522) respectively. It is essential that all loose ends be tied together at these two areas of the building and that the CM group has a full and accurate set of contract documents that have been approved, with changes that have been priced and issued on appropriate change orders.

There is no current word on the status of the chandelier although Mr. Shea said that information regarding it is available if the decision is made to proceed with its installation. Presently there are some discussions about the advisability of installing a chandelier, and this, too, will be a matter discussed at the approval session on January 17 and 18, 1986.

FF & E work

We are now approaching a point on the project where FF & E work will be able to start in the near future. Of critical importance in the tower is approval, or if not approved, the issuance of the appropriate revisions for the mock up of the typical room. A full inspection of the room is to be made on January 17 and 18, 1986 and presumably as a result of this,

all decisions will be made regarding the final design and material. Of particular importance to CM work is to permit all CM purchasing to be completed and procurement to be made on key items of finish dependent upon these approvals. By virtue of the delays encountered both in CM work and some of the FF & E design and approval, we are now maintaining a completion of CM work and FF & E work together on the p.m. of April 30, 1986 (working day 596). This is one month prior to the official grand opening of the hotel.

There have been no comments or information available in respect to the schedule about any soft or unadvertised openings that might be desirable prior to the grand opening date of June 1, 1986 (working day 617). It would be advisable, in my opinion, for the operating staff of the facility to carefully plan the opening ceremonies starting probably as far back as two or three months ahead of the opening itself. I have spoken briefly about this to those with whom I work on the project and suggest that they convey this recommendation to the operational staff of the hotel. If there is anything that we can do to better sequence the opening of the hotel, it will be of help in insuring a successful transition from construction into operation. I shall speak to Mr. Pursifull and to Mr. Shea about this matter in the very near future.

General

The project is at present in reasonably serious difficulty on three major counts - tower upper level close in, tower residential floor finish work, and lower level interior finish work. However, at this monitoring we reviewed the entire program in depth and rediagrammed the project so that it is possible to maintain with this plan the desired target completion of the p.m. of April 30, 1986 (working day 596). I am now updating the entire network model including the 12 residential floors, the tower and low rise close in including phase #2, the interior finish work for the lower level and lobby level and the interior work for the restaurant and bar and lounge levels. These are the major elements that must be watched carefully over the next few weeks. I shall be in touch with Mr. Robertson to help evaluate progress on a week to week basis and shall set the next on-site planning and monitoring session with him in the near future.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Meanwhile, as the network models are updated, we will issue these to Mr. Robertson in four sets of bluelines and one set of sepias or reproducibles. He will then make the essential and desired additional distributions as he deems necessary.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

February 17, 1986

Subject: Monitoring Report #21

Grand Traverse Resort Village Condominium
Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM)
85:37 (FF & E)

Date of Monitoring: February 10, 1986 (working day 538)

Monitored from networks as noted below

Target total project completion date - GTRV CM work p.m. April 30, 1986 (working day 596) - GTRV FF & E work p.m. April 16, 1986 (working day 586) - This date will probably be reset to p.m. April 30, 1986 (working day 596) to match completion of CM work.

Actions taken:

- Inspected project
- Reviewed current project status with Mr. Don Robertson
- Updated network models for:
  - lower level interior work
  - lobby level interior work
  - restaurant level interior work
  - bar and lounge interior work
  - close in work for tower and phase #2
- Evaluated current CM project status
- Reviewed and discussed FF & E work in relation to CM work
- Discussed total project work with Mr. Ross Pursifull and Mr. Don Robertson together

General Summary

As of February 10,1986 (working day 538) the project is still experiencing difficulty in total close in at the phase #2 exterior, the low rise roof areas at clerestories and

skylights and tower curtain wall erection. All of these elements have serious delay implications, but perhaps the most critical of these is the tower close in which is now impacting upon the mechanical equipment level at the upper area of the tower. This equipment room provides ventilation and life safety support sources for the tower, and is critical to operation of the hotel. Therefore, it is very important that it be put into active work just as quickly as possible.

Temporary protection has been built around the electrical switchgear at this level and work on that item has proceeded. Plans are being made for active work to proceed there despite lack of close in just as quickly as possible at present.

The restaurant level has been provided some temporary protection which has allowed rough interior work and stud work to proceed. There is an indication that such protection will be also provided as needed at the bar and lounge level.

Since total tower close in will be delayed due to additional problems that have been encountered in delivery of glass it is imperative that temporary solutions to maintaining work progress at the upper three levels - restaurant, bar and lounge, and mechanical - be devised as required by weather conditions.

Close in at phase #2 is also a very critical item since it presently restricts full access to the low rise south end. This is particularly important at the lobby level which is most directly impacted upon by weather. Work at the lower level has proceeded out into phase #2 with the use of some extensive temporary protection. Close in of the phase #2 area is expected within the next few days and this should allow work at the lobby level to proceed without additional delays.

Good progress has been made in the last month toward improving interior finish work progress at the tower. The most apparent of all of these improvements is in progress on drywall installation and to some extent on taping and sanding. At present, conventional drywall is either hung or in progress at the residential floors R-1 through R-9. It is anticipated at this time that floors R-1 through R-6 will have drywall hung, taped, and sanded by February 19, 1986 (working day 545). It is the intent to start installing FF & E work on February 19, 1986 (working day 545) and Mr. Robertson is making every effort to free all floors R-1 through R-6 up to a point where FF & E installation can continue without delay.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

In conversations with the FF & E contractor and the architect/engineer, there were some commitments made relative to procedures on the job site. The FF & E contractor is planning to be on the job just before February 19, 1986 (working day 545) to marshall forces necessary to start work. The actual FF & E work will begin close to the February 19, 1986 date. In anticipation of the need for FF & E sequencing, we have rerun and issued the network model for FF & E installation for the twelve floors as was prepared in July, 1985. This network shows the proposed plan of action as of then assuming that the FF & E will take about 40 working days total on a two-working day per floor turnover cycle. There have been some additional items injected into the FF & E logic. These, however, were not shown in this network since at present the exact sequence is not totally known.

At our next monitoring and planning session, we should consider putting these into the network diagram. Copies of the diagram were provided to Mr. Ross Pursifull, Mr. Don Robertson, Mr. Jerry Shea who in turn has provided copies to Mr. Tom Hoch, the FF & E contractor.

A strong drive is on at present to insure that the CM work and FF & E work will be properly meshed so we can achieve a desired target completion date in the tower of the evening of April 30, 1986 (working day 596). Items that will be of importance concern storage of FF & E, hoisting of materials, competition for tradesmen with the CM operations, and the necessity to sequence delivery of critical materials for FF & E onto the job so as not to interfere with CM work.

So far as interior work at the lower level and lobby level are concerned, presently the targets being maintained are for the evening of April 30, 1986 (working day 596) as a completion date at the lower level while at the upper level we are striving to maintain a completion target of from late March to mid-April, 1986. There are some lags at the lobby level that hopefully can be recaptured once phase #2 close in is complete.

At present, with the improvement in performance over the past month and the intensity of planning for integration of CM and FF & E work being exhibited by all parties, the chances for general completion by a.m. of May 1, 1986 (working day 596) have improved considerably. With the cushion of the month of May as a possible buffer to the grand opening June 1, 1986 (working day 617), I believe the project will be in condition to receive guests on the target grand opening date.

Those on the job realize the importance of this date and are making every effort possible to meet it. It should be

understood very clearly by those involved on the project, however, that from this point out any changes that are made, any delays in approvals, or any revisions that affect major areas of work will increase the probability of delays past desired target completions. It is to be stressed that the effort from here on out must be one of cooperation and working together to achieve a unified work effort.

There are only 58 working days remaining from February 10, 1986 (working day 538) to the p.m. of April 30, 1986 (working day 596). This is a very short period of time and the job will be heavily loaded with manpower and will be involved in serious systems changeovers such as from temporary hoisting to permanent hoisting along with a variety of other restrictions on work that will make imperative a very closely knit FF & E and CM work program. The talent is there to achieve this. It is now a matter of managing it to make it happen.

A brief review of each major area is given below:

Tower and low rise close in - Monitored from sheet #27, Issue #9 dated December 16, 1985 (working day 500) and sheet #4, Issue #9 dated December 16, 1985 (working day 500)

At the tower sloped glass at the roof is complete on the north and partially installed on the south. Much of the vertical glass is installed and the restaurant core area has been temporarily closed in so work has proceeded there on rough overhead installation and studs. The elevator shaft is lagging badly. This is primarily due to problems with delivery of glass. Apparently the supplier has encountered transportation problems and there have been delays to getting glass to the job site. However, these delays are now being resolved and elevator shaft work should be able to proceed with minimal delay. The importance of the elevator shaft curtain wall is that it restrains the solid panel standing seam roof at the south which, in turn, restrains installation of upper tower metal siding. We replanned this work and I will issue the network model for it in the very near future.

So far as replacement glass is concerned on the tower, it will be shipped to the job site at periods of time from here on out to the projected end point for delivery of the tower complete. There is concern about the appearance of these damaged panels, but it must be realized that the top priority at present is being given to getting glass on the job that will complete close in of the upper sections of the tower.

At the low rise, it is expected that the glass at the skylight and the glass at the sloped elevator clerestory and at the two sloped areas on the low rise at the west and the east are either on the job now or will be shortly. Thus, these elements can be installed just as quickly as they arrive. framing for the large skylight at the lobby level is complete. Framing is also complete at the elevator clerestory and is yet to be installed for the two slanted clerestories on the low rise. Nevertheless, Mr. Robertson feels that these areas can be sealed off if glass is not totally available, which will in turn close the low rise to weather and allow proceeding with interior work across the present boundary between phase #1 and phase #2. This is an important action and should be given high priority attention.

As has been mentioned before, the major impact upon close in of this building has been the difficulty with weather. However, now we are very near to being substantially closed in so most interior work can proceed.

Tower interior work - Monitored from sheets #8 through #19, Issue #10 dated January 13, 1986 (working day 518)

These network model sheets were issued as a result of our previous monitoring and reflect the shortened turnover cycle for the interior tower work. Present major operations are centered on completing all drywall, taping, and sanding at floors R-1 through R-6. There are some exceptions to this completion dealing primarily with suspended drywall ceiling areas and some special installations that probably will be able to be carried out concurrent with FF & E installation. It is presently planned to move FF & E work onto the job February 19, 1986 (working day 545) and this has been confirmed in conversations with the FF & E contractor.

Generally, there is a slight lag in drywall at the lower R level areas but as the installation evaluation moved upwards, drywall installation showed a slight ahead position.

Of critical importance to remember is that following drywall are several very critical trades that must be installed to properly start FF & E and continue it on through on an ongoing basis. The items that follow taping and sanding drywall include texturing and painting, installation of mechanical and electrical trim items, ceramic tile, mill work, doors and hardware, acoustic ceilings, plumbing fixtures, accessories cabinet work and set and hook up appliances.

Cabinet work is very critical and with the late approvals, present delivery on the vanities, mill work, and cabinets

stands at February 19, 1986 (working day 545). This means we will probably be installing cabinets and vanities along with the installation of FF & E.

Another problem that must be addressed very early in the final two and a half months of work on the tower is scheduling of vertical transportation. Mr. Robertson expects to take the two hoist exterior lift out of service within the next two to three weeks. This will be replaced by elevator #4 which will be ready for use in two to three weeks. This single elevator will then be used for all hoisting and for all personnel vertical movement. With FF & E installation, there are a considerable number of bulk items such as carpet, bed frames, mattresses, and, of courses, the usual tables, chairs, lamps, and other such items. Careful scheduling of the work must be maintained by joint cooperation between the CM and the FF & E contractor. Elevator #3 will be ready for use about three weeks later than the delivery of elevator #4.

Another element that must be taken into account is the fact that the south end of the residential floors and the northeast corner will have some unfinished areas since curtain wall for the elevator shaft is still being erected and the temporary hoist slot close in will have to be done after the hoist is dismantled. These appear to be matters that can be handled locally between CM and FF & E.

Overall, the job of closely knitting together all of the tower interior work so that it can meet the completion date of the p.m. of April 30, 1986 (working day 596) will be a sizable responsibility and will demand close and cooperative effort between all involved.

Interior work at the tower restaurant, bar and lounge levels Monitored from Issue #9 dated December 17, 1986 (working day 501) sheets #24, #25, #28, and #29

At the restaurant level, all north sloped glass and most of the vertical glass has been installed which helps greatly to close the area off from winds , driving snow, and other weather elements. To further help there has been a temporary enclosure erected around the restaurant level interior. This has allowed a start of rough overhead work such as sheet metal, piping, and electrical work at the restaurant area. In addition, steel studs at the core have been erected to allow for field measurement of restaurant equipment. Thus, at present work there is proceeding quite well. The key to maintaining progress at the restaurant area will be able to begin hanging board by late February, 1986 so as to be able to meet our present desired target of completion of p.m. April 30, 1986 (working day 596). There may be some problems encountered with this but the field forces are fully aware of the need to expedite work at this level.

To be watched here is delivery and setting of hoods which must be hoisted up to the level and set into place. Field arrangements are presently being made for this to be accomplished.

At the bar and lounge level, there is less interior work to be than at the restaurant level; however, it is still imperative that a close in of the bar and lounge level be made just as quickly as possible. Efforts are being exerted to get this particular portion of the building closed to weather so that work on drywall there can begin by late February or early March, 1986. It appears that with a break in the weather and continued progress on installation of sloped glass and particularly the standing seam roof and metal siding that this would be possible. Again, it is a matter of expediting the day to day operations so that rough work can proceed along with the preparation to get drywall hung, taped, and sanded.

Of critical importance at these upper levels is also the mechanical room where equipment in the main has been set. Start of hook up of this equipment is being initiated and since it is an important portion of the building will have to be given careful attention in the immediate future.

Low rise interior work - Monitored from sheets #20, #21, #22 and #23, Issue #9 dated December 17, 1985 (working day 246)

At the lower level of the project interior finishes have moved well over the past month with considerable work having been done on installation of drywall at ceilings and on vertical surfaces. According to the present plan of work, it appears feasible to meet the current target for completion of CM work on the evening of April 30, 1986 (working day 596).

One advantage is that the quarry tile has been placed and the area is generally ready to receive kitchen equipment. This kitchen equipment is partially on the job site, partially stored in Traverse City, and some is yet to be sent to the job from the supplier. The CM work staff is currently tracking this delivery carefully since it is of critical importance.

We have updated the network model for each of these areas, and they will be issued as final drawings are prepared. In all of these we are attempting to maintain a delivery of all areas on or before the evening of April 30, 1986 (working day 596).

At the lobby level, considerable difficulty has been encountered in completing close in of phase #2. This has affected work progress in phase #1. However, with the nearing of close in completion at phase #2 it is expected that the

finish work effort on the lobby level will be intensified. At present, it is about 13 working days behind the desired target completion of March 28, 1986 (working day 572). This shows a projected completion of late April, 1986. Thus, although the slippage is not desirable it is still within the target points established for the project.

At both the lobby level and the lower level it is critical to understand that FF & E work must be overlapped with the CM work and that, in all likelihood, a very close cooperative effort is going to be essential to make the two work together. This is again a reason why the CM staff and the FF & E contractor must get to work on the detailed planning of their installation just as quickly as possible. There are still questions about several items of work that are to be clarified between the architect/engineer, the interior designer and contractor, and the CM field staff. These matters are job problems that will be discussed on an ongoing day to day basis and be resolved in that fashion.

In our discussions today, we did begin some brief conversations about how the project is to be punched out. Apparently the CM field staff along with the architect/engineer is to accept responsibility for punching out the job. I suggest that these parties get together very soon to set up punch out procedures. Since we only have 58 working days to the p.m. of April 30, 1986 (working day 596) we must soon decide exactly how punching out is to proceed and what the responsibilities of each party are. I will discuss this in more depth with Mr. Robertson at succeeding monitoring sessions.

FF & E work

Most comments about FF & E have already been made and related to the areas upon which they impact. However, just to review, it is important to note that at the tower the vanities, mill work, and cabinets will probably have to be done concurrent with FF & E installation. It should also be noted that the pull down bed is to be mounted on the concrete floor and bolted to the walls. There is a sprinkler feeder that extends through the soffit and above the bed and thus, the bed must be installed at an early point on FF & E work at each floor. The network model prepared at our July, 1985 meeting for FF & E installation has been issued to the parties involved, and it would be appreciated if all would make appropriate comments and corrections to the network and return them to me for updating and revision.

In this network model, it has been assumed that the total FF & E installation will take approximately 40 working days at

the tower based on a turnover cycle of two working days. FF & E work at the other areas - the restaurant, bar and lounge, lower level, and lobby level - will have to proceed in a very close pattern of work with the CM installation.

Of paramount importance is that the two groups work out the relative hoisting problems that are inherent on practically any job of this type. Both have been alerted and are aware of the need for this close cooperation and it is expected that there will be little, if any, problem in maintaining close contact with each other on this work.

General

There has been some improvement in CM work particularly at the tower interior over the past month and although exterior close in of the building has been very slow, it presently appears that interior work will now proceed in a fairly continuous manner at practically all areas except at possibly the upper levels of the tower. FF & E installation is expected to start on February 19, 1986 (working day 545) and to proceed concurrently with completion of CM work.

I shall be in touch with Mr. Robertson shortly to set the next monitoring and planning session. Meanwhile, I am also revising the network models and reissuing those that deal with interior work as reflected from the decisions made at our monitoring and planning session on February 10, 1986 (working day 538).

Ralph J. Stephenson,P.E.

RJS:sps
To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
Mr. Jerry Shea
Mr. Richard R. Rademacher

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

March 10, 1986

Subject: Monitoring Report #22

Grand Traverse Resort Village Condominium
Tower and Low Rise

Traverse City, Michigan

Project: 84:37 (CM)
85:37 (FF & E)

Date of Monitoring: March 3, 1986 (working day 553)

Monitored from networks as noted below

Target total project completion date:

- GTRV CM work - p.m. April 30, 1968 (working day 596
- GTRV FF & E work - finish dates for various areas range from mid-April to mid-May, 1986
- Target grand opening - June 1, 1986 (working day 617)

Actions taken:

- Inspected project
- Reviewed project status with Mr. Don Robertson
- Evaluated current CM project status
- Reviewed and discussed FF & E work in relation to CM work with Don Robertson and Mr. Tom Hoch
- Reviewed project progress with Mr. Ross Pursifull and Mr. Don Robertson

General Summary

As of March 3, 1986 (working day 553) difficulties are still being encountered in closing in the building. However, temporary measures have been taken at most critical areas so that interior work can continue. The most critical of the areas yet to be closed in are primarily at the exterior elevator shaft and the remaining glass and metal deck roof and siding at the tower top. Close in to weather is substantially complete at the low rise south end although there are still skin elements to put in place.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

At lower level interior work the present lag is 10 to 13 working days over a target completion of May 1, 1986 (working day 596). This lag is primarily in ceiling work at the large meeting rooms. There is considerable dry wall installation at these ceilings, and although the largest meeting room is pretty well boarded, taped and sanded, progress at the other meeting rooms is lagging slightly.

There are some steps that might be taken in relation to job sequencing that could help recapture some of this delay. They consist primarily of isolating the meeting areas while continuing to finish off other lower level areas. Food service equipment at the lower level is to start with hoods being installed on March 4, 1986 (working day 554) followed by stainless steel starting on March 5, 1986 (working day 555). Walk in coolers at the lower level are due to be on the job and installation started by March 17, 1986 (working day 563). These are the current dates being used as provided by the food service equipment supplier and installer. They are reasonably well in line with the dates as set in our network model and if achieved should bring completion of run in of food service equipment by May 1, 1986 (working day 596).

At the lobby level, the lag is about three working days over a completion date of April 21, 1986 (working day 588). Thus, although the lag is not desirable it does not appear at present to be overly serious.

At the restaurant level, the present status of work indicates a lag of about six working days in wall work over a target finish of May 1, 1986 (working day 596). Here again it is possible that this delay could be recaptured depending upon how sequencing from here on out is maintained. I suggest a careful evaluation be made of the network model sheet #24 and #25, Issue #10 dated February 10, 1986 (working day 510) to see where compression of time might be possible.

At the bar and lounge level, work is meeting targets between early and late starts and finishes. It is expected that some difficulty will be encountered in keeping the area tight to weather and this will become an increasingly important factor as studs are completed and board work starts. Again, temporary protection of some type will probably be required until the metal siding and standing seam roofs at the north can be installed. This matter is being given constant attention and is recognized by all concerned.

Interior work at the residential floors of the tower is tending to lag slightly although good progress has been made on hanging board, taping and sanding, and the following trades

particularly at floors three through six. There is some delay in work above six, but it appears presently that ceiling work should be able, with the kind of attention being given it at present, to move out well ahead of FF & E.

FF & E work started with installation of vinyl wall covering at R-3. Vinyl at R-3 is presently about 60% complete. It was due to have been completed under our initial network model by March 4, 1986 (working day 554). Present planning indicates that sequencing of FF & E work at the tower portion of the building, floors R-1 through R-12 can be predicated on a two and a half day turnover cycle starting from March 3, 1986 (working day 553). Considering that we still need a total of 17 working days to a floor to install FF & E, the total time for completion is about 45 working days from March 3, 1986 (working day 553). This brings completion to about May 5, 1986 (working day 598). Site work is still expected to begin, weather permitting, on Apruil 1, 1986 (working day 574) and be complete in mid-May, 1986.

A brief detailed review of each major area is given below:

Tower and low rise close in - Monitored from sheet #27,Issue #10, dated February 10, 1986 (working day 538)

Elevator shaft close in is presently one of the difficult parts of the project and is still not complete. However, the south standing seam roof deck has begun and appears to be moving relatively well. Standing seam deck at the north has been installed. Difficulties are still being encountered in getting glass to the job site, although presently most of the glass, except for replacement panels, is either on the job or will be available soon. Sloped glazing is being installed at the south and is nearly complete.

Replacement glass is due to start arriving on the job March 3, 1968 (working day 553). Replacement will be ongoing from here to completion of CM work. The major thrust, as noted previously, has been to concentrate on closing up the high portions of the tower so that the interior work, particularly at the restaurant, bar and lounge, and mechanical equipment room areas could proceed with optimum protection from weather.

Tower residential interior work - Monitored from sheets #8 through #19, Issue #10 dated January 13, 1968 (working day 518)

At present, floors R-1 through R-6 are available for FF & E work although there is some additional clean up and

installation that could be done at R-1 and R-2. It will be important that FF & E work follow CM work closely so that an urgency is provided to move CM trades off the job particularly at those first six residential floors.

From floors R-7 through R-12, there are lags ranging downwards from 12 working days to 3 working days on R-7 through R-12 respectively. Again this lag should not be a cause for delaying FF & E work above the 6th floor. Most upper area board is hung, much of it at 7 and 8 is taped and sanded, and CM trades are now able to move in and work in a relatively unobstructed environment. Nevertheless, it is important to get the dirty activities out of the upper six floors particularly 7 and 8 just as quickly as possible since with a two and a half day turnover cycle on vinyl wall covering, FF & E will be moving to the 7th floor within the next three weeks.

With the present delays, it appears that the residential floors, particularly the top floors, might be completed sometime in early or mid-May, 1986. This matter is being addressed on an ongoing basis by Mr. Robertson in conjunction with his trade foreman and he is also working closely with Mr. Tom Hoch to insure that areas are provided in a manner that will help Mr. Hoch install his FF & E work.

Cabinets are arriving on the job along with plumbing fixtures and vanities and should be installed as soon after arriving on the job as is possible. The need is to keep floor areas in the rooms as clear as possible to permit storing large bulky FF & E items such as beds and other furnishings. There is no place on the project to stockpile FF & E and therefore, it must be brought to the floor and into the rooms as it arrives.

Interior work at the tower, restaurant, bar and lounge levels monitored from Issue #10, dated February 10, 1986 (working day 538) sheets #24, #25, #28, and #29

At the restaurant level, installation of studs has moved fairly well although there still is considerable clean up to be done to insure that the board work can proceed in an orderly fashion. Apparently it is intended to start installation of board at the walls and ceilings within the next few days. It was due to begin no later than February 27, 1986 (working day 551) so must be started very soon to insure meeting a target end date of May 1, 1986 (working day 596). At the restaurant level, food service equipment installation is presently planned to start on April 1, 1986 (working day 574) and be complete by April 30, 1986 (working day 595). Thus, the interior work patterns at this floor will have to accommodate this food service equipment installation schedule.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

At the bar and lounge level, stud work has started and is just meeting late start/late finish targets. Installation of board is due to begin no later than March 13, 1986 (working day 561) and if present progress can be maintained it appears that this date could be achieved. The target completion date for the bar and lounge interior work is being held at May 1, 1986 (working day 596). Food service equipment will be installed at the bar and lounge concurrently with the restaurant level below.

Interior work at the lower level and lobby level - Monitored from sheets #20, #21, #22, and #23, Issue #10, dated February 10, 1986 (working day 538)

At the lower level, the lag over the current plan of work is about 13 working days primarily in suspension and framing work at drywall ceilings. This lag is primarily in the smaller meeting rooms. There, work is proceeding on framing of ceiling at one of the rooms while the least far along room still remains to be framed out for ceiling work. At the large meeting room, most drywall has been hung, taped, and sanded and this area is in relatively good condition.

I strongly recommend that a sequence of work be planned now to permit the areas other than the smaller meeting rooms to be completed concurrently with ceiling work in these areas. In that manner, it might be possible to recapture some of the current lag on the lower level. We are still maintaining a target date of completing the floor by May 1, 1986 (working day 596) although it appears presently that work might not be completed there until early or mid-May, 1986. Food service equipment, as mentioned previously, is to start March 4 and 5, 1986 (working day 553 and 554) with walk in coolers to be on the job by May 17, 1986 (working day 563).

At the lobby level, the lag of three working days is primarily in completion of rough work at the south end. However, it is not expected that there will be any major impact on the project caused by this slight delay in CM work. There is a problem of insuring that all decisions are made in a timely fashion relative to revisions that might impact upon CM work. This includes, most importantly, the work planned for the planter and fountain area. There is still no authentic information available to the CM group on the installation to be made here and it is needed badly.

FF & E work at the upper level will probably start in the existing lobby area on March 17, 1986 (working day 563) with installation of the new reception desk. Next, FF & E will

move to the lower concourse and ballroom about March 24, 1986 (working day 568) and then to the upper level about a week later. It is essential for FF & E work that information about the planter be made available.

Marble for the tenant promenade at the lobby level should be available within two weeks. However, this material is to be stockpiled since it is too early to lay it at the floor due to the potential for damage by other trades.

Overall, the lobby level, except for decisions on design particularly at the fountain, is in fairly good shape. The chandelier for the executive board room will be shipped from California May 15, 1986 (working day 606) and will be on the job six days later. Meanwhile, it is necessary to get information on the various supports and dimensions needed to completely install the ceiling. This matter is being by between Mr. Hoch and Mr. Robertson.

FF & E work - Monitored from sheets FFE #1 and #2, Issue #1 dated July 25, 1985 (working day 398)

The network model being used is now out of date and may have to be revised if sufficient justification is indicated for its updating. However, the pattern of FF & E work can be established generally from discussions we have had about the network in the past. At the lower and lobby levels, as has been noted above, FF & E work will begin at the old lobby area about March 17, 1986 on desk installation. Next, it will move to the lower concourse and ballrooms starting about March 24, 1986 and then up to the lobby level beginning about April 1, 1986. FF & E work at the restaurant level is presently planned to begin about April 15, 1986 concurrently with FF & E work at the bar level.

In the residential tower, FF & E is just started with installation of vinyl wall covering at the third residential floor. Mr. Hoch is going to try and make a two and a half day cycle of vinyl wall covering on the floor, which, as noted above, will bring completion of FF & E work to early May, 1986.

Beds are to be delivered starting March 4, 1986 (working day 554). There are two or three trailer loads of beds in Traverse City. The bathroom vinyl should be on the job by March 5, 1986 (working day 554). Carpet is to be shipped March 7, 1986 (working day 557) and be on the job by March 12, 1986 (working day 560). Mirrored doors are available as needed from Ludington, Michigan. However, the installer wants about two floors ahead to start his work. Closet door tracks will be installed as the mirrored doors are hung.

The bed cabinet units (EPCO) are to be shipped April 1, 1986 (working day 574). These are the bed cabinet units through which the sprinkler feed extends over the bed. Mr. Hoch and Mr. Robertson will discuss the dimension of this feed so that it can be cut to the proper length and tied together with the bed cabinet installed. Present plans are to install the first bed before the feed line is cut to size.

The buyout units (dressers and round tables) will be on the job April 15, 1986 (working day 584). Drapes will arrive May 1, 1986 (working day 596). Chairs are to be on the site by May 15, 1986 (working day 606). Art work for residential rooms is to be started in early May, 1986. Corridor vinyl, which will start later than room vinyl to avoid damage by those bringing in heavy, bulky FF & E items will begin in late April, 1986. Mattresses and box springs are to be on the job April 15, 1986 (working day 584) and will probably be hoisted on a night shift due to their and the need for extensive hoisting capacity.

The problem of hoisting is to be worked out jointly between the CM and FF & E forces. They are presently working on scheduling hoisting equipment available so that both can use it effectively.

Elevator #4 will be in service sometime this week if approvals are given promptly. Elevator #3 will be delivered about two weeks behind #4. Elevators #1 and #2 will not be available according to present information by mid-May, 1986. Elevator #5, the hydraulic elevator, is currently ready for inspection.

As vertical transportation at the interior of the building comes on line, the construction hoist and tower crane will be taken down and removed from the site.

General

Work is now being brought to a close with only 43 working days remaining to the target completion for CM work and 64 working days remaining to the grand opening. Thus, it is critical that all elements to close out this project, obtain a certificate of occupancy, and make the building workable must be planned carefully and expedited on an almost daily basis. There is still a considerable list of items that have to be resolved relative to CM work. These are presently being addressed by Mr. Robertson with the participation of the architect/engineer. These matters must be resolved promptly to insure that no delays whatsoever to work from here on occur.

RALPH J. STEPHENSON, P.E., P.C.
CONSULTING ENGINEER

Another matter that must be addressed on an ongoing basis is manpower for the job. At present, the staffing is at a high level on the job and must be maintained there to insure completion particularly in the high demand trades such as tapers, painters, and FF & E installers. There are probably going to be problems getting enough carpet layers on the project particularly for FF & E work. These matters will have to be addressed on a day by day basis by the management of the various organizations.

I shall be in touch with Mr. Robertson to determine the need for another monitoring session and to set a date for this meeting if it is deemed desirable.

Ralph J. Stephenson, P.E.

RJS:sps

To: Mr. Ross Pursifull
cc: Mr. Donald G. Robertson
~~Mr. Jerry Shee~~ Now its to DAN REDSTONE AT REDSTONES
Mr. Richard R. Rademacher
↓
Gourlee/Frazer

Ralph J. Stephenson PE PC
Consulting Engineer
April 17, 1986

Subject: Monitoring Report #23
Grand Traverse Resort Village Condominium
Tower and low rise
Traverse City, Michigan

Project : 84:37 (CM)
85:87 (FFE)

Date of monitoring: April 10, 1986 (working day 581)
Monitored from networks as noted below
Target total project completion dates
-GTRV CM work - pm April 30, 1986 (working day 596) - now revised to mid to late May, 1986
-GTRV FFE work - finish dates for various areas range from mid April, 1986 to late May, 1986
-Target grand opening date - June 1, 1986 (working day 617)

Actions taken

-Inspected project
-Reviewed current status of job with Mr. Don Robertson
-Reviewed current status of FFE work with Mr. Al Malin and Mr. Kirk Smith
-Rediagrammed remaining work for restaurant level
-Rediagrammed FFE work for residential floors
-Reviewed project status with Mr. Ross Pursifull and Mr. Don Robertson

General Summary

As of April 10, 1986 (working day 581) the project is still encountering difficulties. The shift of major problems is now swinging toward installation of FFE work. There have been some FFE personnel set backs over the past two weeks, and these have disrupted progress and required extra steps to be taken to insure the job being ready for the grand opening on June 1, 1986 (working day 617).

Close in of the structure is still not complete although most major areas having extensive finishing work are substantially closed to weather and finish work is proceeding at all levels of the buildings.

Curtain wall replacement glass deliveries have been hampered by a strike at the plant of the glass manufacturer. Heavy efforts are being made to find alternate solutions, with the major focus being on finding another supplier. This matter is being given top priority attention because of the impact of broken panes on the exterior appearance of the structure.

At the lower level much of the acoustic ceiling is installed and CM work is being concentrated on finishes of floors and walls. The spiral stair to the lobby level is being formed. Overall lower level CM work is about 16 working days behind the plan of work. This puts the projected completion at mid or late May, 1986 for CM work.

At the lobby level, interior finishing is now being carried out at both phase 1 and phase 2 sections of the building. CM work is about 22 working days behind the current plan. This puts CM completion about the 3rd or 4th week in May, 1986.

It is presently planned to remove the construction barrier between the existing lobby and the new phase 2 area on April 28, 1986 (working day 593). This appears to be a feasible target even though there is considerable work remaining to do at the lobby level.

Installation of the marble strip delineating tenant areas from public corridors at the lobby level is potentially a problem. However Mr. Robertson said the installation of the marble strip could be worked around if need be.

A critical area in the lobby level is the board room at the northwest corner. Mr. Robertson said there could be from 5 to 6 weeks of ceiling work there, followed by all the finish work on floors and walls. Thus there may be some difficulty in completing work there by the grand opening. Since the board room may be an important element in the grand opening, strong efforts will be made to expedite deliveries and installation at this portion of the building.

Residential floor CM work is now being closed out at the upper levels and FFE work is in progress at lower levels. The major problem at the residential levels is how to get FFE work to move up closer behind CM work.

At present residential FFE installation is just starting into a production mode with vinyl wall covering, carpeting and wall bed unit bases in work at the floors. There will have to be a concerted effort on the part of the FFE contractor to staff the job immediately, I suggest the CM group be involved to help bring FFE installation, particularly at residential floors back into line with a workable schedule of trade movement.

If FFE work is to be complete for the grand opening it will be necessary to be substantially complete by May 23, 1986 (working day 612). This is only 21 days from the current monitoring date and means that a residential floor will have to be turned over for cleaning and installation of corridor vinyl and carpet every two working days or less. It is a sizable job and I suggest the entire project team become involved in the effort needed to complete work at the residential levels.

At the restaurant level work has fallen back from the current plan of work, so remaining activities were analyzed and incorporated into a new network plan. This revised plan of action shows it is possible to finish the restaurant level by May 22, 1986 (working day 611).

It should be kept in mind that for all levels there is still FFE work to do in addition to the CM work. This dual activity is particularly critical at the restaurant and the bar and lounge area. The new network, sheet 24, issue 11 dated April 10, 1986 (working day 581) was printed and issued to Mr. Robertson for his field use.

Work at the bar and lounge level is in progress and it presently appears it is about 20 working days behind the current plan of work. This puts the CM completion date in the 3rd or 4th week of May, 1986.

Mechanical level work is proceeding, with nearly all equipment set, and hook up proceeding well. Mr. Robertson is concerned about installation of the control system for the grand opening, but is working with the contractors involved to schedule the work on a day to day basis.

Site work is just getting under way with site clearing and grading nearly complete. Stakes are being set and constuction of curbs is about to begin. Site work lags slightly over the current plan of work, but should be able to be completed for the grand opening. Care must be taken however not to let the work drop any further behind since the current plan shows site work being completed by May 21, 1986 (working day 610).

A brief detailed review of each area is given below:

Tower and low rise close in - monitored from sheet #27, Issue #10 dated February 10, 1986 (working day 538)

Exterior elevator shaft glass is substantially complete and all other glass is now being put in place. There have been problems with glass deliveries due to many different problems. The latest of these is a strike at the glass supplier's plant. However most of the building is well enough closed to weather so finish work can proceed with minimum disruption.

At the low rise roof areas there are still some panes of roof glass not installed. These apparently are on the job or available. Meanwhile temporary closures have been installed at the missing glass locations and finish work below is proceeding.

Replacement glass for broken panes will probably continue to be a severe problem. The GTRV project team is working intensively on this matter in a attempt to get all broken glass replaced by the grand opening. An accurate forecast as to whether this is possible cannot be made at this time.

Tower residential floors - Monitored from sheet #8 through #10, Issue 10 dated January 13, 1986 (working day 518).

Residential floor CM work has proceeded to the point where FFE work can move without major hinderance. At present, major efforts must be concentrated on installation of FFE. As noted above the finishing work at the floors must proceed on a very tight turnover cycle. Successive scheduled completion dates for residential floor FFE work are given below. The end date represents where corridor carpet at the floor is complete.

R1 - April 23, 1986 (working day 590)
R2 - April 25, 1986 (working day 592)
R3 - April 29, 1986 (working day 594)
R4 - May 1, 1986 (working day 596)
R5 - May 5, 1986 (working day 598)
R6 - May 7, 1986 (working day 600)
R7 - May 9, 1986 (working day 602)
R8 - May 13, 1986 (working day 604)
R9 - May 15, 1986 (working day 606)
R10 - May 19, 1986 (working day 608)
R11 - May 21, 1986 (working day 610)
R12 - May 23, 1986 (working day 612)

It is essential to meet the above schedule of completions if the job is to be ready for the grand opening. Caution should be taken to not get too spread out on the job, and to keep a tight control on the sequencing of floor completions. I recommend a schedule of punching and full move out from each floor be made up now, and that as each floor is completed, punched out and corrected it be closed to construction traffic. This will help insure an orderly completion, and reduce the amount of damage and tracked construction dirt.

Interior work at the tower restaurant and bar and lounge levels - monitored from Issue #10, dated February 10, 1986 (working day 538), sheets #24, 25, 28 and 29

Finish work at the upper areas of the tower is in progress with heavy efforts being made to complete dry wall surfaces. At present the finish work and the FFE work at these two levels is going to be difficult to fully complete by the grand opening date of June 1, 1986 (working day 617); but if adequate manpower is available the date can be met.

We rediagrammed the restaurant level, reducing the durations as it seemed advisable. The new plan for the CM work came to a completion date of May 22, 1986 (working day 611). This appears to be a feasible target. The problem will probably be in getting FFE work underway and completing by the opening date.

At the bar and lounge level the current lag over the plan of action is about 20 working days, which means that CM work there could probably finish in late May, 1986. This poses problems of finishing FFE installation. However with good field management, the FFE work could overlap and be completed concurrently with CM work. This will be essential to timely completion.

Interior work at the lower level and lobby level - Monitored from sheets #20, 22 and 23, Issue #10, dated Febuary 10, 1986, (working day 538)

At the lower level interior CM work is at a point where it could be substantially complete by mid or late May, 1986. As with practically every other section of the facility it will be essential to closely overlap CM work with FFE work. There appears to be relatively little FFE installation at the lower and lobby levels except for special areas such as tenant area delineation, the fountain area and in the board room. These portions of the project will have to be given extra attention to insure completion by the grand opening.

Food service equipment installation is moving well at the lower level and active hook up work should be well along by now. It is important to get the equipment to a point where testing and training can begin. These are vital overlapping tasks with completion of the rest of the facility.

FFE work

A review of FFE work has been incorporated into the main body of the report above, relative to each area in which FFE is to be installed. We did redo the FFE networks for the residential floors, but no additional planning work was done on FFE planning at other areas due to the press of time and the lack of information as to how this work was to be implemented.

I again recommend that at this point on the job the total project needs be considered seriously in making management assignments. It will require a full concerted effort by all the considerable talents available to GTRV CM and FFE to complete successfully by the target dates. The objective of a June 1, 1986 (working day 617) target can be achieved with such cooperative effort.

Ralph J. Stephenson PE PC
Consulting Engineer
April 17, 1986

General

This monitoring will probably be the final evaluation I make on this phase of the GTRV expansion program, unless a special need is encountered where I can be of help. It has been a pleasure to work on the tower and low rise portion of the project, and I wish the staff and management of GTRV success in its opening and operating this significant contribution to upper Michigan's environment.

I also wish to thank all concerned for the help and cooperation provided in carrying out the responsibilities assigned to me for the project. The project has all the hallmarks of quality and should be a success from the start.

Ralph J. Stephenson PE