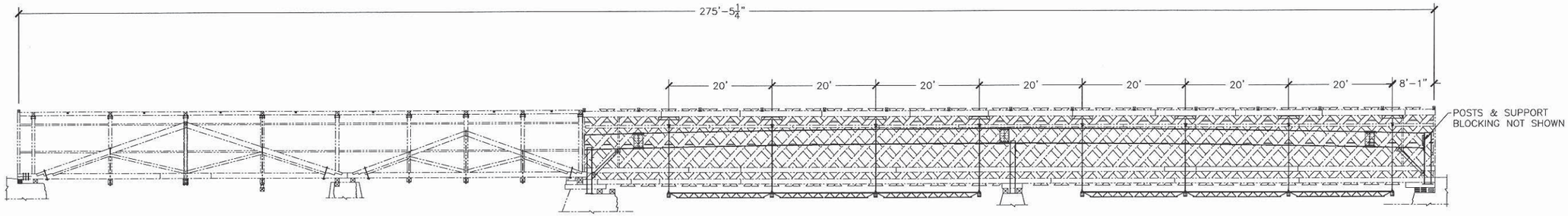
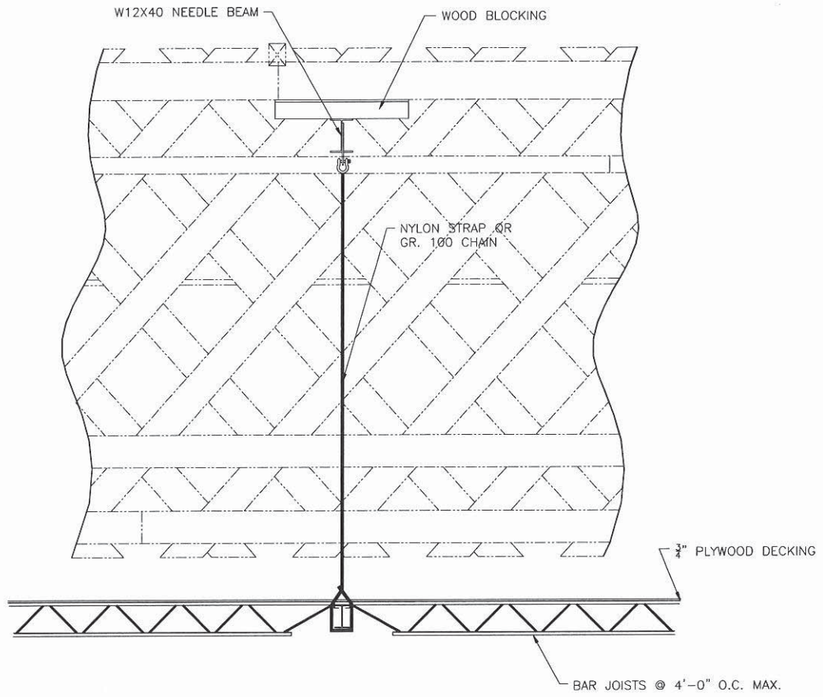


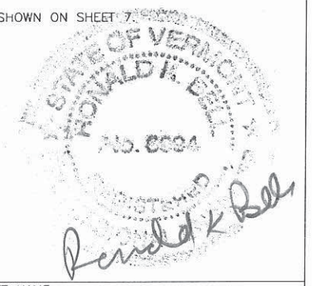
INSTALLED SHORING ELEVATION
NOT TO SCALE



NEEDLE BEAM ELEVATION
*RAILS NOT SHOWN FOR CLARITY

INSTALLATION SEQUENCE:

1) REMOVE FLOORING & SUBSTRUCTURE OVER PIERS 2 & 3 TO ALLOW ACCESS WHERE COLUMNS WILL BE BEARING. (ON PIER 2 POUR CONCRETE PADS OVER STONE ABUTMENT TO ALLOW FOR STABLE BEARING SURFACE.
2) REMOVE PAVEMENT ON RTE. 30 END BEHIND BACKWALL OF ABUT. 2. POUR PADS WHERE COLUMNS WILL BE BEARING.
3) REMOVE ROOFING AND ROOF FRAME ABOVE PIERS 2 & 3, AND ABOVE ABUT. 2, TO ALLOW FOR COLUMNS TO BE SET WITH A CRANE DOWN THROUGH THE ROOF SYSTEM.
4) CONSTRUCT BLOCKING/ CRIBBING TOWERS ON ABUT. 1 & PIER 2 FOR ROLLERS TO SET UPON. INSTALL COLUMNS AND CROSS BEAMS ON PIERS 2 & 3.
5) ROLL W36X230 INTO BRIDGE FROM ABUT. 1 END. AS BEAM IS ROLLED IN, BOLT SPLICE SECTIONS TOGETHER, OMITTING BOTTOM SPLICE CONNECTIONS TO ALLOW FOR SMOOTH ROLLING. BEAMS WILL BE PULLED FROM THE RTE. 30 END. A FORKLIFT WILL BE POSITIONED ON THE ABUT. 1 END, WITH A CABLE ATTACHED AS BACKUP SAFETY.
6) LIFT BEAM FROM BOTH ENDS WITH A CRANE ON EACH END, BOLT TO SHEAR CONNECTION ON ABUT. 2 END. OVER PIERS 2 & 3, FIELD DRILL HOLES FOR SUPPORTING CROSS BEAM.
7) INSTALL BOTTOM SPLICE PLATE CONNECTIONS.
8) INSTALL ALL BRACING
9) INSTALL NEEDLE BEAMS THAT CAN BE ACCESSED WITHOUT REMOVING PORTIONS OF THE LAMINATED ARCH.
10) APPLY MINIMAL LOAD TO THE INSTALLED NEEDLE BEAMS.
11) INSTALL NEEDLE BEAMS IN REGION THAT IS INTERFERED BY THE LAMINATED ARCH. BEGIN WORKING FROM THE OUTSIDE TOWARD THE MIDDLE ON BOTH ENDS. (ONLY REMOVE ENOUGH ARCH THAT IS REQUIRED TO INSTALL THE BEAMS). APPLY LOAD TO THE NEEDLE BEAMS AS THEY ARE INSTALLED.
12) AS NECESSARY, DUE TO TOP CHORD DETERIORATION OR REPLACEMENT, USE THE SUPPORT CONFIGURATION AS SHOWN ON SHEET 7.
13) ADJUST BLOCKING THICKNESS AND BEAM HEIGHTS TO ACHIEVE DESIRED FINISHED BRIDGE PROFILE.

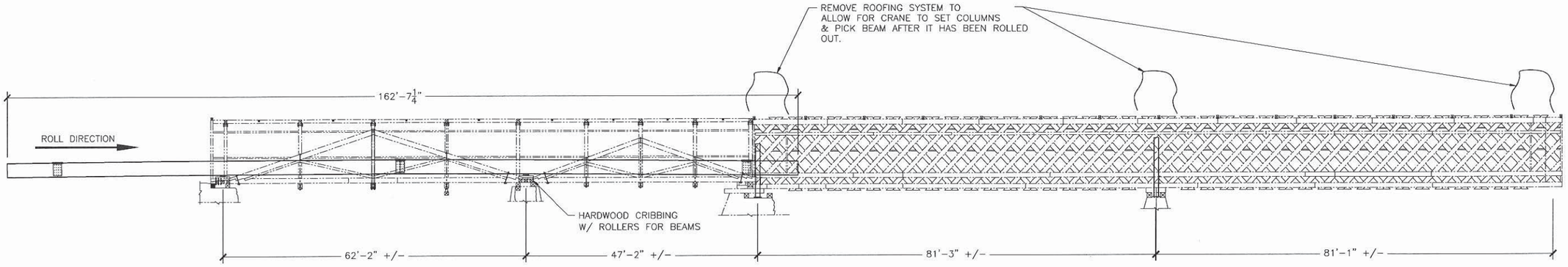


SHEET NAME: SHORING PLANS

REV. NO.	DATE:

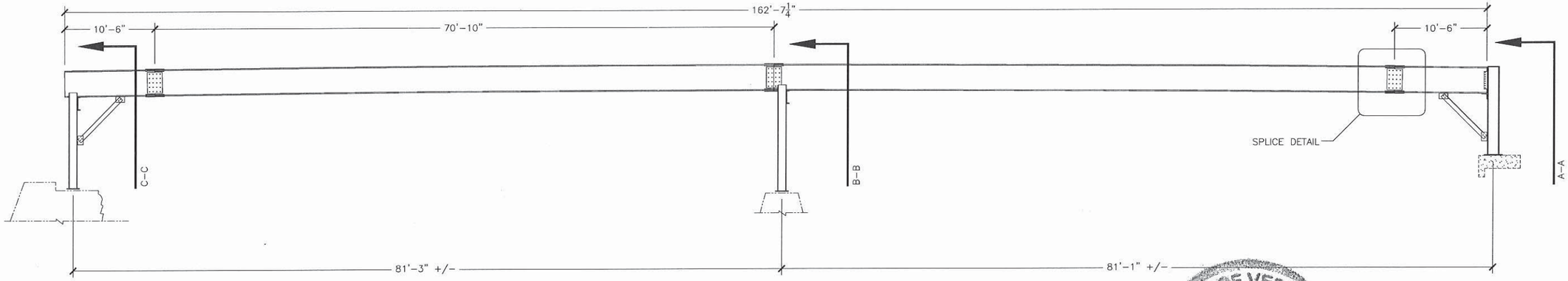
R.B. RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT. USA
285 FT. BRIDGMAN RD. VERNON VT. 05354
PH.(802) 257-7585 FAX (802) 257-7408

PROJECT NAME: TOWNSHEND
PROJECT NO: STP SCTT(1)
DRAWN BY: A.D. | CHK'D BY: M.R. | DATE: 10/27/15
SHEET NO. 1 OF 7



**DURING ROLLING OPERATIONS, BOTTOM OF BEAM WILL BE 2' OR LESS FROM TOP OF EXISTING FLOOR. BEAM WILL BE LIFTED INTO POSITION AFTER BEING ROLLED INTO PLACE.

ROLLING ELEVATION
NOT TO SCALE



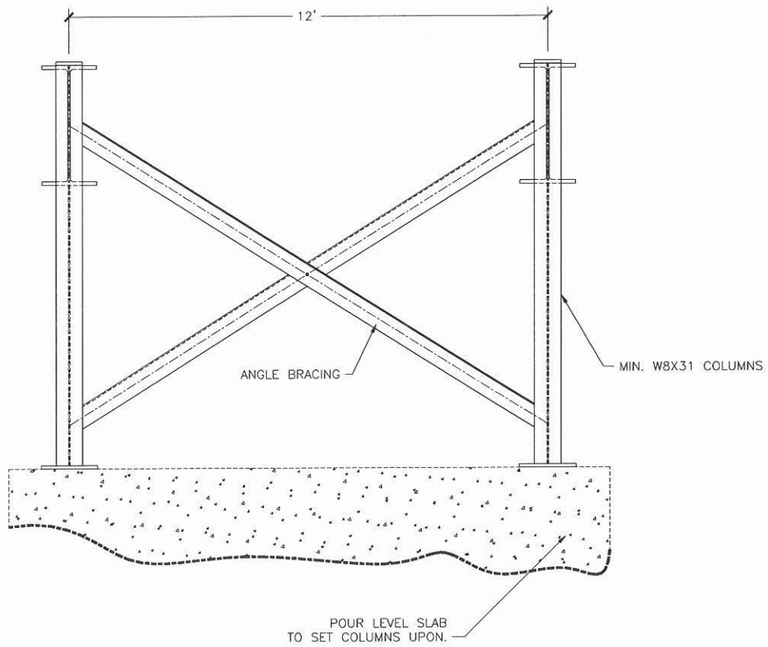
BEAM & SUPPORT COLUMNS
NOT TO SCALE

STATE OF VERMONT
RONALD K. BELL
No. 8994
REGISTERED PROFESSIONAL ENGINEER

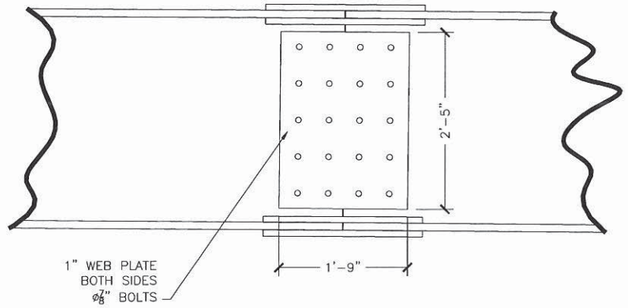
Ronald K. Bell

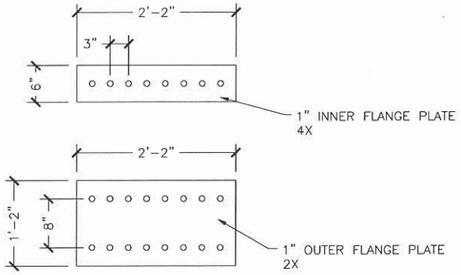
SHEET NAME: SHORING PLANS

REV. NO.	DATE:		PROJECT NAME: TOWNSHEND			SHEET NO.
		RENAUD BROS. INC. STEEL SALES & FABRICATION VERNON VT. USA 285 FT. BRIDGMAN RD. VERNON VT. 05354 PH.(802) 297-7585 FAX(802) 297-7508	PROJECT NO: STP SCTT(1)			2 OF 7
			DRAWN BY: A.D.	CHK'D BY: M.R.	DATE: 10/27/15	



SECTION A–A
RT. 30 END COLUMNS





SPLICE DETAILS

STATE OF VERMONT
RONALD K. BELL
No. 6994
REGISTERED
PROFESSIONAL ENGINEER

Ronald K. Bell

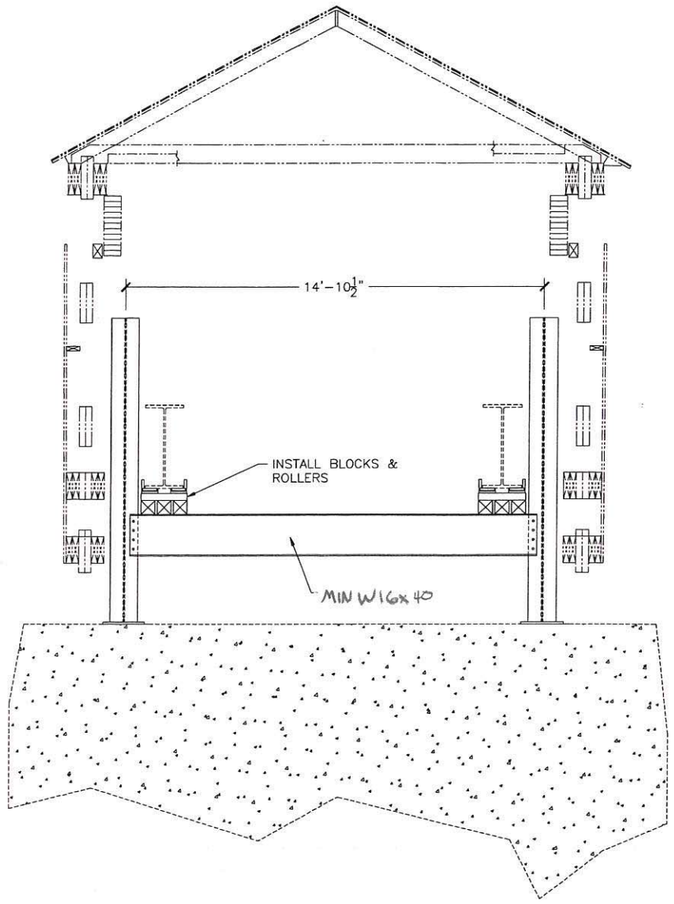
REV. NO.	DATE:

R.B. RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT, USA
285 FT. BRIGGS AVE RD. VERNON VT., 05354
PH. (802) 257-7585 FAX (802) 257-7508

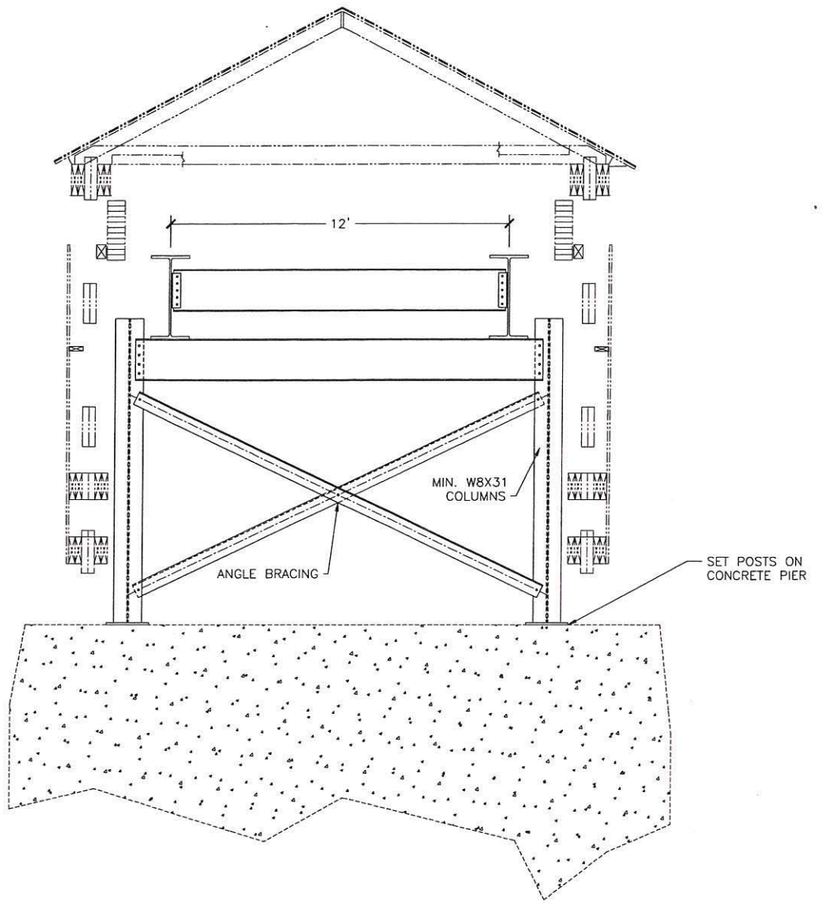
PROJECT NAME:		
TOWNSHEND		
PROJECT NO:		
STP SCTT(1)		
DRAWN BY:	CHK'D BY:	DATE:
A.D.	M.R.	10/27/15

SHEET NAME: SHORING PLANS

SHEET NO. 3 OF 7



SECTION B–B ROLLING CONFGURATION
NOT TO SCALE



SECTION B–B LIFTING CONFGURATION
NOT TO SCALE

STATE OF VERMONT
RONALD K. BELL
No. 6094
REGISTERED PROFESSIONAL ENGINEER

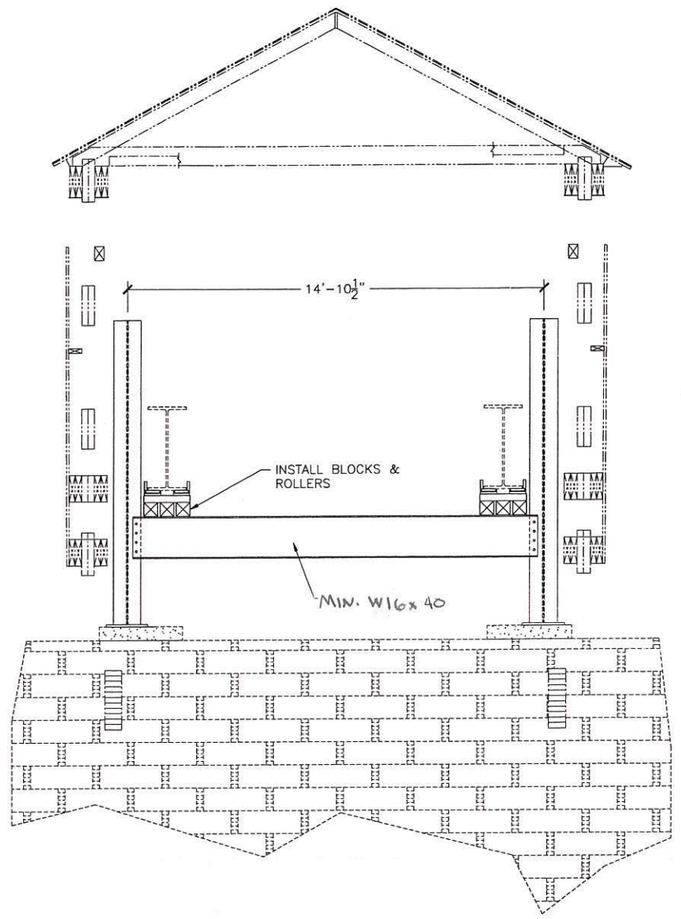
Ronald K. Bell

SHEET NAME: SHORING PLANS

REV. NO.	DATE:

R.B. RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT. USA
285 FT. BRIDGMAN RD. VERNON VT., 05354
PH. (802) 257-7585 FAX (802) 257-7508

PROJECT NAME:			SHEET NO.
TOWNSHEND			4 OF 7
PROJECT NO: STP SCTT(1)			
DRAWN BY: A.D.	CHK'D BY: M.R.	DATE: 10/27/15	



SECTION C–C ROLLING CONFGURATION
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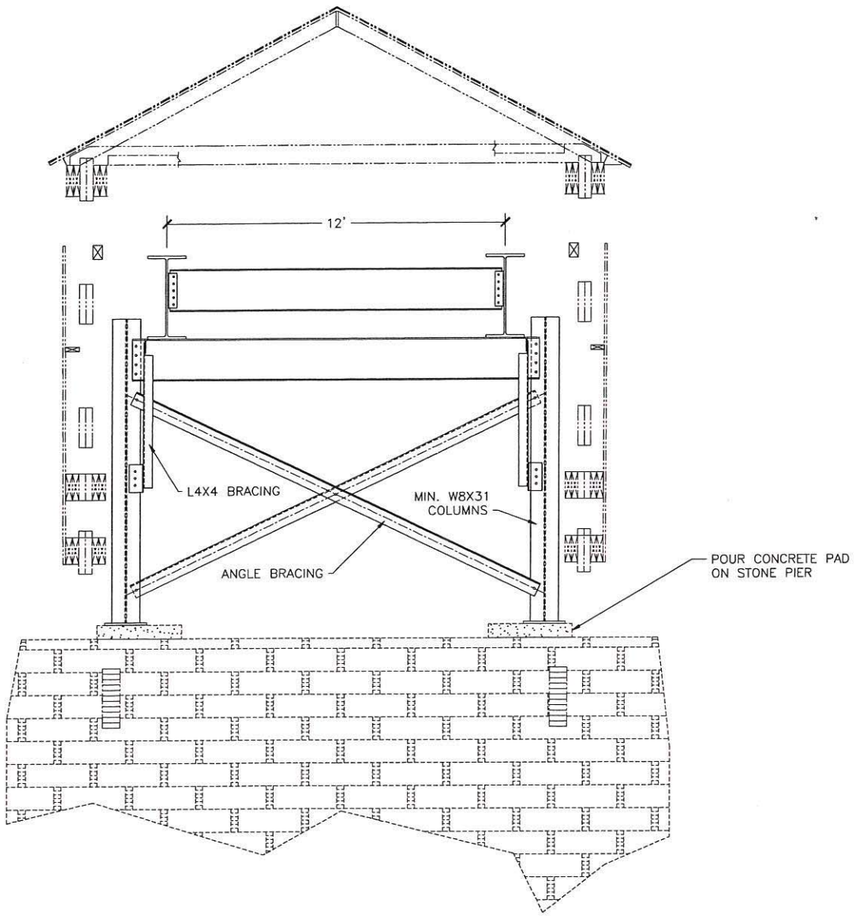


SECTION C–C LIFTING CONFIGURATION
NOT TO SCALE

STATE OF VERMONT
RONALD K. BELL
No. 6994
REGISTERED PROFESSIONAL ENGINEER

Ronald K. Bell

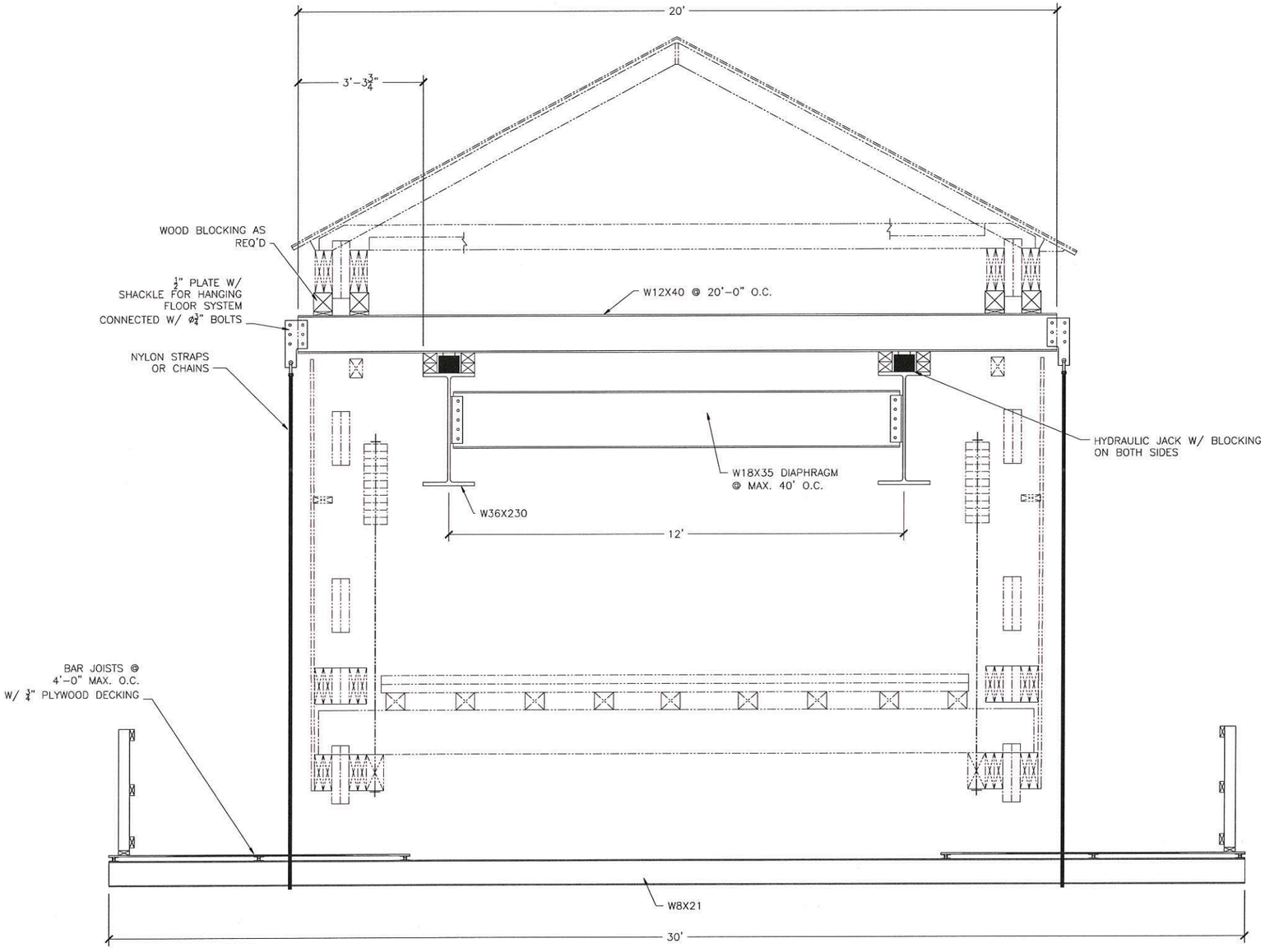
SHEET NAME: SHORING PLANS

REV. NO.	DATE:

RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT. USA
285 FT. DUMMERSTON RD. VERNON VT., 05354
PH.(802) 257-7365 FAX.(802) 257-7508

PROJECT NAME: TOWNSHEND
PROJECT NO: STP SCTT(1)
DRAWN BY: A.D. | CHK'D BY: M.R. | DATE: 10/27/15

SHEET NO. 5 OF 7



INSTALLED SHORING SECTION

**WHERE TOP CHORD IS DETERIORATED, SEE SHEET 7 FOR ALTERNATE SUPPORT PLAN.

STATE OF VERMONT
RONALD K. BELL
No. 6994
REGISTERED PROFESSIONAL ENGINEER

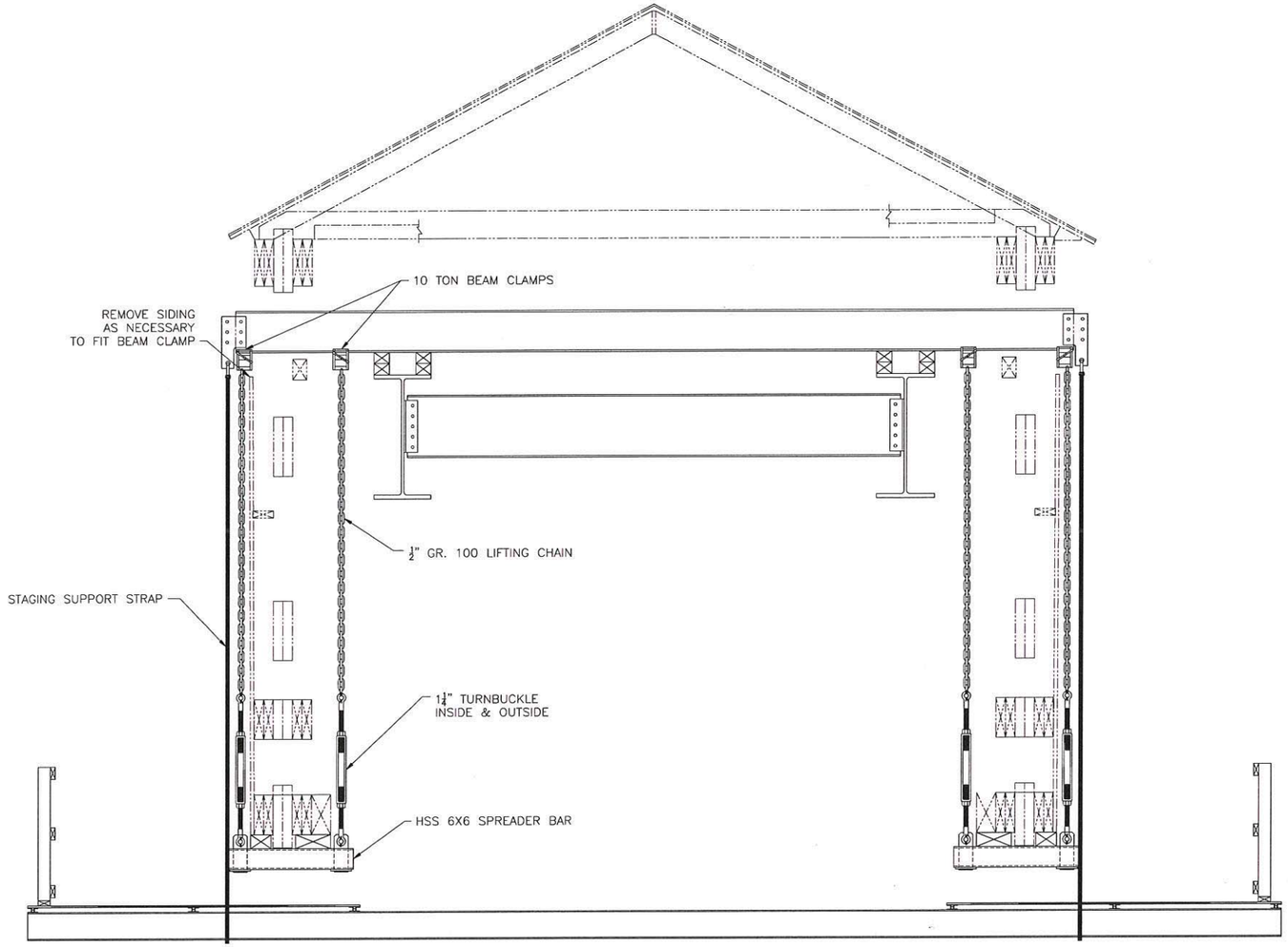
Ronald K Bell

SHEET NAME: SHORING PLANS

REV. NO.	DATE:

B.R.I. RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT. USA
285 FT. BRIDGMAN RD. VERNON VT., 05354
PH.(802) 257-7585 FAX.(802) 257-7508

PROJECT NAME:			SHEET NO.
TOWNSHEND			6 OF 7
PROJECT NO: STP SCTT(1)			
DRAWN BY: A.D.	CHK'D BY: M.R.	DATE: 10/27/15	



INSTALLED SHORING SECTION
@ LOCATIONS WHERE TOP CHORD IS BEING REPLACED.

STATE OF VERMONT
RONALD K. BELL
No. 8994
REGISTERED PROFESSIONAL ENGINEER

SHEET NAME: SHORING PLANS

REV. NO.	DATE:

R.B. RENAUD BROS. INC.
STEEL SALES & FABRICATION
VERNON VT. USA
285 FT. BRIDGMAN RD. VERNON VT. 05354
PH. (802) 257-7555 FAX (802) 257-7508

PROJECT NAME: TOWNSHEND
PROJECT NO: STP SCTT(1)
DRAWN BY: A.D.
CHK'D BY: M.R.
DATE: 10/27/15
SHEET NO. 7 OF 7