

### **WebEx**

MAST will host a WebEx meeting (phone & web) for the duration of the experiment. There will be two WebEx conferences online: a T-Wall Test conference for sharing RDV and chat, and a DAQ conference for sharing the data acquisition system desktop. Please test your system in advance to see if it meets minimum requirements to use WebEx at:

<http://www.webex.com/system-test/t.php?AT=ST&SU=https://my.webex.com/join.php&BU=http://www.webex.com/lp/stest/index.php?t=demoUS>

Before dialing in to the teleconference, log on to the T-Wall Test online conference by following the link below in a browser. When you join the conference, you will be assigned an attendee ID number. After dialing the number for the teleconference, you will be prompted for the meeting number and attendee ID number. Enter 571 582 234 followed by # for the meeting number, and then enter the attendee ID you were assigned when joining the online conference, also followed by #. To join the DAQ web conference at the same time you are connected to the T-Wall Test conference, you will need to use a different browser (i.e. Firefox or Opera). You may choose to disconnect and re-connect at any time to check on the progress of the experiment.

Telephone Conference:

Toll-free call-in number: 866-469-3239

Access Code: 571 582 234

Main Web Conference Link: <http://nees.webex.com> (click on Meeting Center)

Topic: MAST T-Wall Test

Meeting number: 571 582 234

password: mInnesota

DAQ Web Conference Link: <http://nees.webex.com> (click on Meeting Center)

Topic: MAST DAQ System

Meeting number: 571 564 738

password: mInnesota

WebEx will be the primary communication between local and remote participants. Dr. French, Beth, and Jon will be on the lab floor and/or in the control room with wireless headsets connected to the telephone conference.

### **RDV (Remote Data Viewer, including instrument data and recorded video)**

MAST lab's RDV installation is available at: <http://nees.mast.umn.edu/rdv/RDV.jnlp>.

This version of RDV (1.7) only runs on Java 1.5 or higher. Any prior versions of JVM will not work. You can check which version of Java is installed on your machine at

<http://www.java.com/en/download/help/testvm.xml>.

If Java 1.5 is not installed, you can download and install it at <http://www.java.com/en/>.

Once you have Java 1.5, go to the URL listed above to fire up RDV. The access to the MAST Data Turbine server has been restricted to only connections from the U of MN campus and

authorized users. If you need access, please send a request email with IP address of the machine that you intend to run RDV to Drew Daugherty at [daugh009@umn.edu](mailto:daugh009@umn.edu). You can find out the IP address of your machine by pointing your browser to <http://nees.umn.edu/tools/ip.php>

The RDV is a NEES tool to access all data being collected during the test, including video streams, with the exception of the Krypton. All of this data is synchronized, so it is possible to set up a play back showing video and data next to each other, for example.

RDV now supports streaming audio. To enable this feature, click on the View menu and select 'Show Audio Player'. Next to the play button (green arrow) in the Audio Player panel, type 'http://audio.mast.umn.edu:8000/sweepnw'. Press the green arrow to start playback.

### **flexTPS (viewing current video)**

MAST Telepresence portal is at [http://assam.mast.umn.edu/portal?section=local\\_video](http://assam.mast.umn.edu/portal?section=local_video)

Please login with your NEES account username and password to access the camera videos and controls. If you are unable to login, please send an email to Drew Daugherty at [daugh009@umn.edu](mailto:daugh009@umn.edu).

All of the cameras on the four telepresence towers, as well as the two public labsweep video cameras can be viewed from this location. The cameras on the towers will not appear until after you login. The locations of the towers and the areas to be viewed by each camera are shown on pages 4 & 5. During the test, the labsweep cameras will be left available for external control, but all cameras on the towers will be locked for control only by John Messier.

### **Still Image Repository**

MAST still image repository is at: <https://dhamar.mast.umn.edu/>

Still images taken during the experiment will be archived in this repository. Login with your NEES account username and password.

John will be taking a series of 13 still image photographs during each pause during the test. These images will document the entire wall with good resolution, and particularly high resolution will be used to document the bottom floor level of the wall. These photographs will be automatically uploaded for immediate viewing.

Images from the actual test will be uploaded to a series of folders with one folder for each cycle during the test. i.e. <https://dhamar.mast.umn.edu/TWall/NTW2/test1.1/stilling/>, ...

<https://dhamar.mast.umn.edu/TWall/NTW2/test1.n/stilling/> where "n" is the group number.

The naming scheme for the images follows NEES protocol,

Date\_\_mast\_project\_test\_\_trial\_camera\_type\_time stamp  
20060426\_mast\_TWAll\_NTW2\_dryrun\_S3A\_img\_132617CST.jpg

Each camera is identified by its tower and shelf location: the S3A in the sample is shelf A on tower 3. The tower and shelf locations are shown on page 3. The pictures will appear in the order which they were taken.

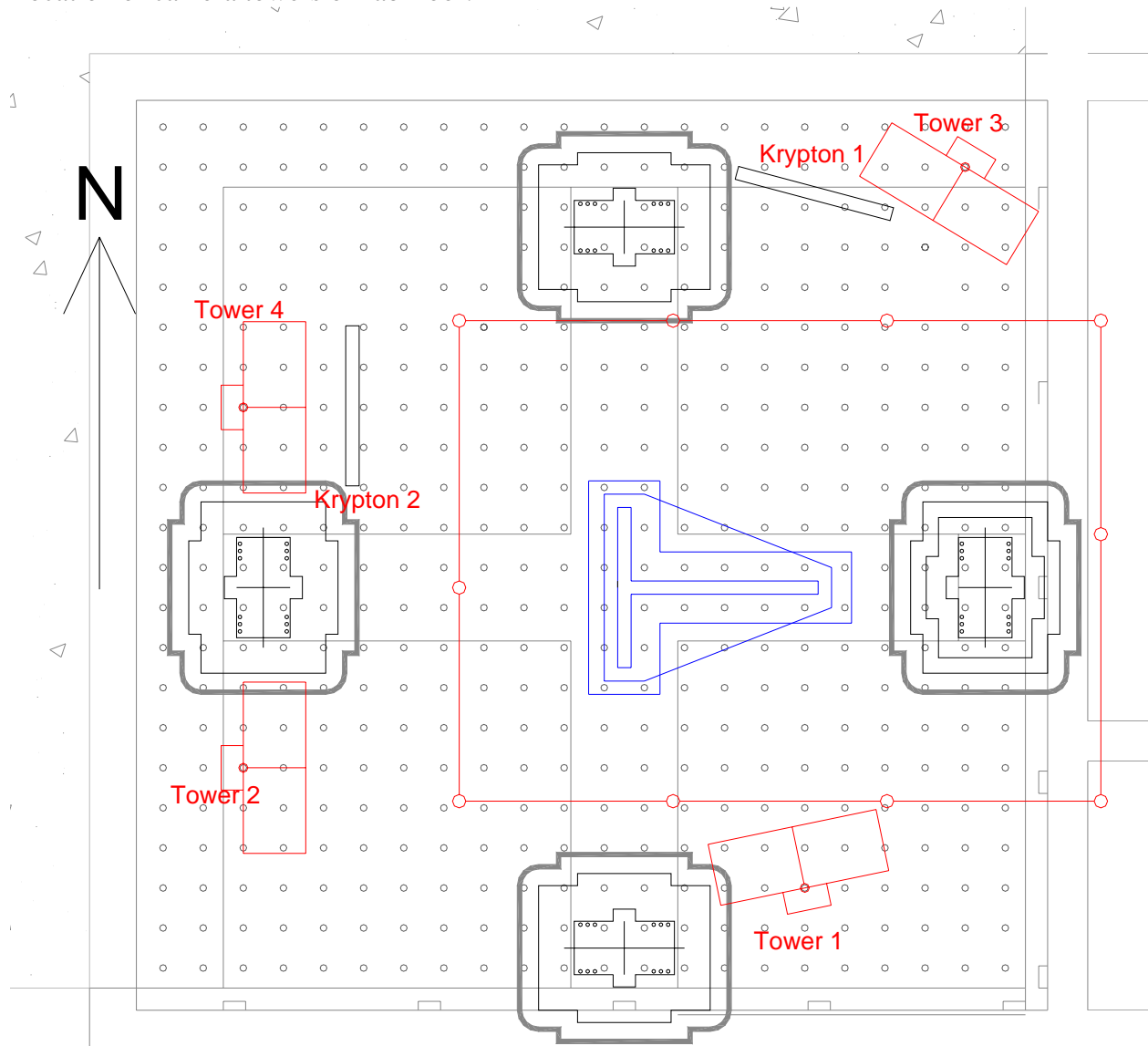
To avoid testing delays caused by photography, these cameras will generally NOT be available for request to take additional photographs. The hand-held digital camera will be on the floor for this use, and the pictures can be uploaded through WebEx quickly. Make these requests through the WebEx teleconference.

### **Audio Server**

<http://audio.mast.umn.edu:8000>

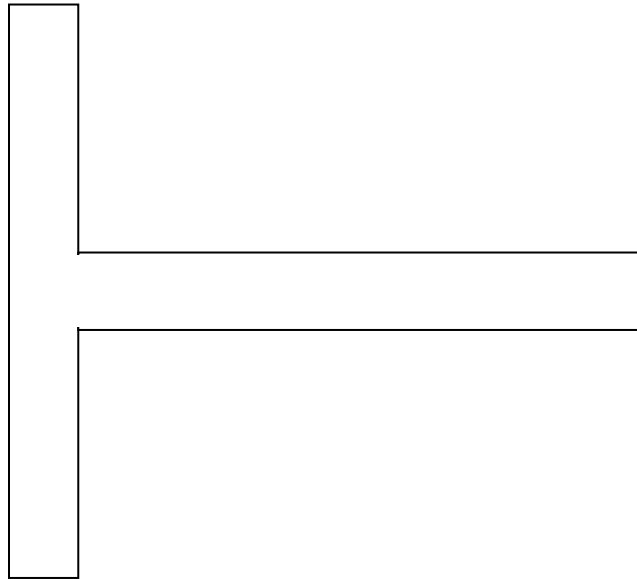
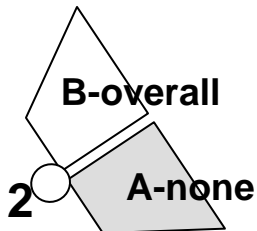
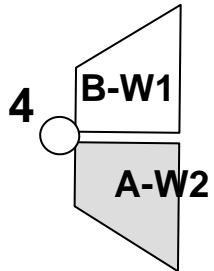
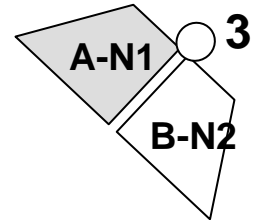
You should see a list of available microphone audio streams. Each microphone is attached next to a different video camera in the lab. Each audio link is an mp3 play list, which can be played by the mainstream media players such as Winamp, Microsoft Media Player, and Quicktime.

Location of camera towers on lab floor:

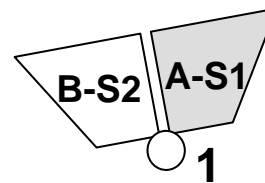




## Plan for Telepresence Photos (Still & video Images)



**All lights stay off throughout test to avoid interference with Krypton. Turn lights on only when taking photographs**



### Plan for photos & video:

Take photos at all pauses and occasionally (as requested) as the structure passes through zero.

Record video from all towers and public telepresence cameras throughout test.

### Strain Gages:

- $SGmLn$ : strain gage above the base block on longitudinal bar “m” at a nominal distance of “n” inches from the wall and base block interface.
- $SGmMn$ : strain gage inside the base block on longitudinal bar “m” at a nominal distance of “n” inches from the wall and base block interface.
- $SGmHn$ : strain gage on the hoop reinforcement near longitudinal bar “m”. The hoop is located at “n” inches from the wall and base block interface.
- $SGmTn$ : strain gage on the transverse shear reinforcement near longitudinal bar “m”. The transverse bar is located at “n” inches from the wall and base block interface.
- $SGmCnV/H$ : concrete strain gage near longitudinal bar “m”. The middle of the gage is “n” inches from the wall and base block interface. “V” denotes gages oriented vertically, and “H” denotes gages oriented horizontally.

Nominal locations of all strain gages are shown on pages 8-10.

### String Pots:

- Global displacement:  $SP(1 \text{ or } 2)(N, S, \text{ or } E)(X, Y, U, \text{ or } V)$  - Global deformation of the wall measured to the reference frame at the top of each story level. 1 or 2 indicates the story level, N, S, or E indicates the flange tip or web tip being measured, X & Y are used to indicate the direction of string pots measuring in the X & Y coordinates of the MAST system for the north and south flange tips, U & V are used to indicate the directions of the string pots measuring the web tip (which are not aligned with the MAST coordinate system).
- Vertical deformations:  $SP(1 \text{ or } 2)(N, S, E, W, NM, SM, \text{ or } WM)q$  - 1 or 2 indicate the story level of the wall that the instrument is on. The direction (N, S, E, W, NM, SM, or WM) indicates the location of the instrument on the wall: North flange tip, South flange tip, East web tip, West end of web, North Middle of flange, South Middle of flange, or Web Middle. “q” is the quarter of the story level measured by the instrument, with 1 at the bottom and 4 at the top of each story.
- Horizontal deformations:  $SP(1 \text{ or } 2)(N, S, E, \text{ or } W)Hm$  - 1 or 2 indicate the story level of the wall that the instrument is on. The direction (N, S, E, W) indicates the location of the instrument on the wall: North half of flange, South half of flange, East half of web, West half of web. “m” is the approximate vertical location of the string pot in inches on the story, measured from the wall and base block interface for the first story, and the top of the slab for the second story.
- Diagonal deformations, bottom panel:  $SP(1 \text{ or } 2)(N, S, E, \text{ or } W) \text{ angle}(T \text{ or } B)$  - 1 or 2 indicate the story level of the wall that the instrument is on. The direction (N, S, E, W) indicates the location of the instrument on the wall: North half of flange, South half of flange, East half of web, West half of web (or entire Web for story 2). The angle is the approximate angle of the string in degrees, where  $0^\circ$  corresponds to horizontal, and counter-clockwise rotations are positive. T or B indicate whether the instrument is on the Top or Bottom half of the wall.

Nominal locations of the string pots with their labels are shown on pages 11-14.

### **LVDTs:**

- L(F or W)*n*(L or S): F is the flange, W is the Web, “n” is the nominal horizontal distance from the south end of the flange or the east end of the web to the LVDT attachment. L denotes long ( $\pm 1$ ” stroke) LVDTs attached 12” above the base block, and S denotes short ( $\pm 1/2$ ” stroke) LVDTs attached 6” above the base block
- Vertical deformations: L(1 or 2)(N, S, E, W, NM, SM, or WM)*q* – 1 or 2 indicate the story level of the wall that the instrument is on. The direction (N, S, E, W, NM, SM, or WM) indicates the location of the instrument on the wall: North flange tip, South flange tip, East web tip, West end of web, North Middle of flange, South Middle of flange, or Web Middle. “*q*” is the quarter of the story level measured by the instrument, with 1 st the bottom and 4 at the top of each story.
- LBaseUN, LBaseUS, LBaseUE, LTopUN, LTopUS, LTopUE, LTopSF, and LTopSW measure any uplift (U) or slipping (S) between the specimen and the strong floor (Base) or the top block (Top) at the given location (North flange tip, South flange tip, East web tip, slip of Flange or Web)
- LSlip*n*: These LVDTs measure slip of the bar out of the base block. Their location is shown on pages 8 and 13.
- LSplicen(B or T)(a or b): These LVDTs measure relative movement of the bars at the splice between the attachment point on the bar and the top of the slab. N is the number of the bar, B or T indicates which half of the splice it is: the bottom (anchored in the base block and terminating somewhere in the 2<sup>nd</sup> story level) or the top (beginning at the top of the slab and anchored in the top block), a indicates that the instrument is attached just above the slab, b indicates that the instrument is attached just below the point where the bar anchored in the base block is cut off. Locations of these instruments are on pages 8 and 13.

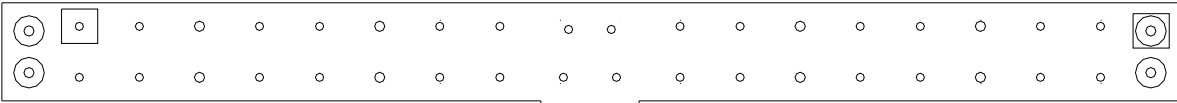
Nominal locations of the LVDTs with their labels are shown on pages 11-14.

### **Krypton:**

- Two Krypton cameras are being used in this test. One is viewing the first story level of the web from the north, and the other is viewing the first story level and a very small portion of the second story level of the flange from the west. Locations of LEDs are shown on page 15.

Bar numbering scheme:

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39



2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40

41 ◦ ◦ 42 ⊙ slip measured at base  
 ◻ ◦ splice slip measured

43 ◦ ◦ 44

45 ◦ ◦ 46

47 ◻ ◦ 48

49 ◦ ◦ 50

51 ◦ ◦ 52

53 ◦ ◦ 54

55 ◦ ◦ 56

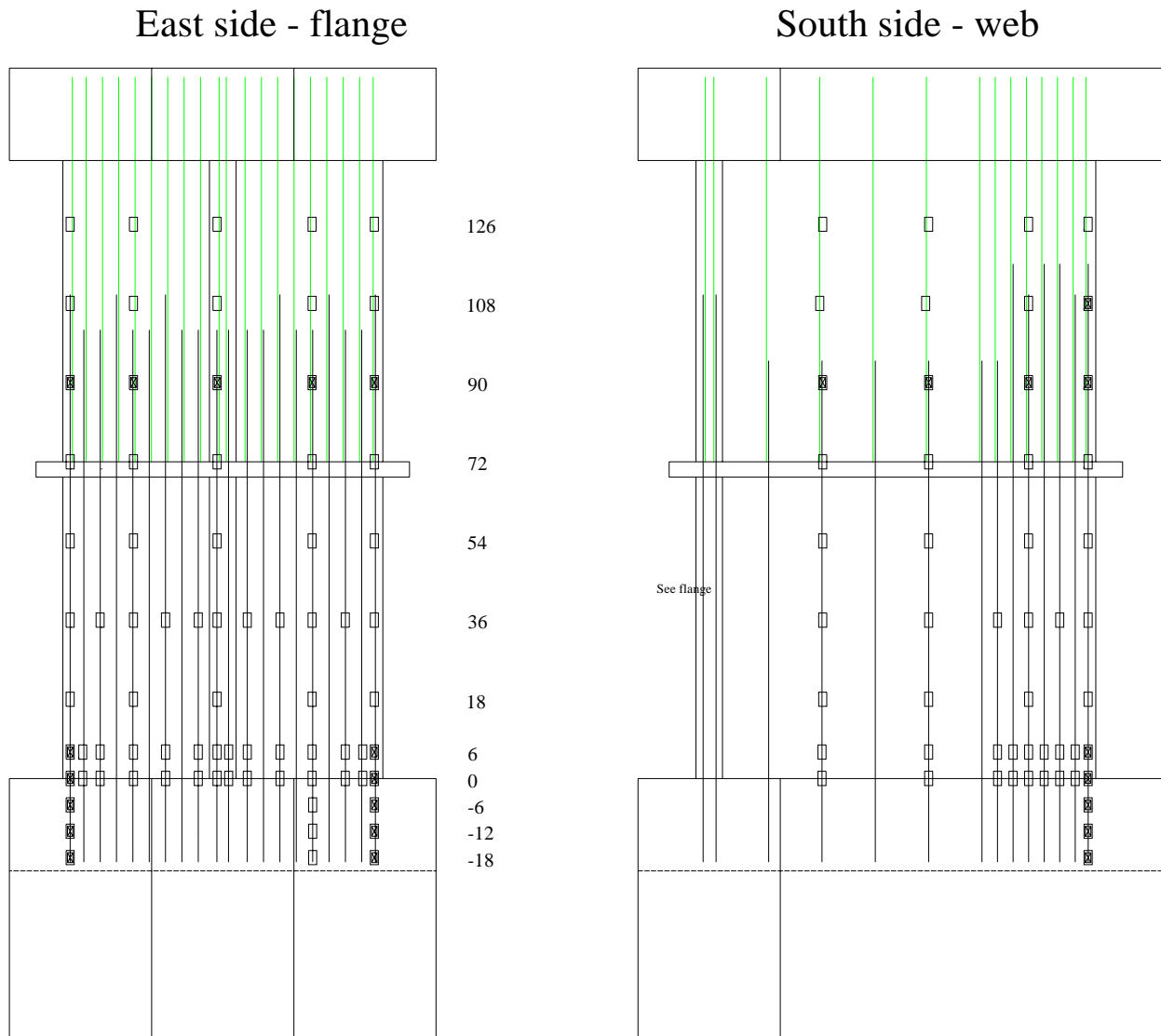
57 ◦ ◦ 58

59 ◦ ◦ 60

61 ◦ ◦ 62

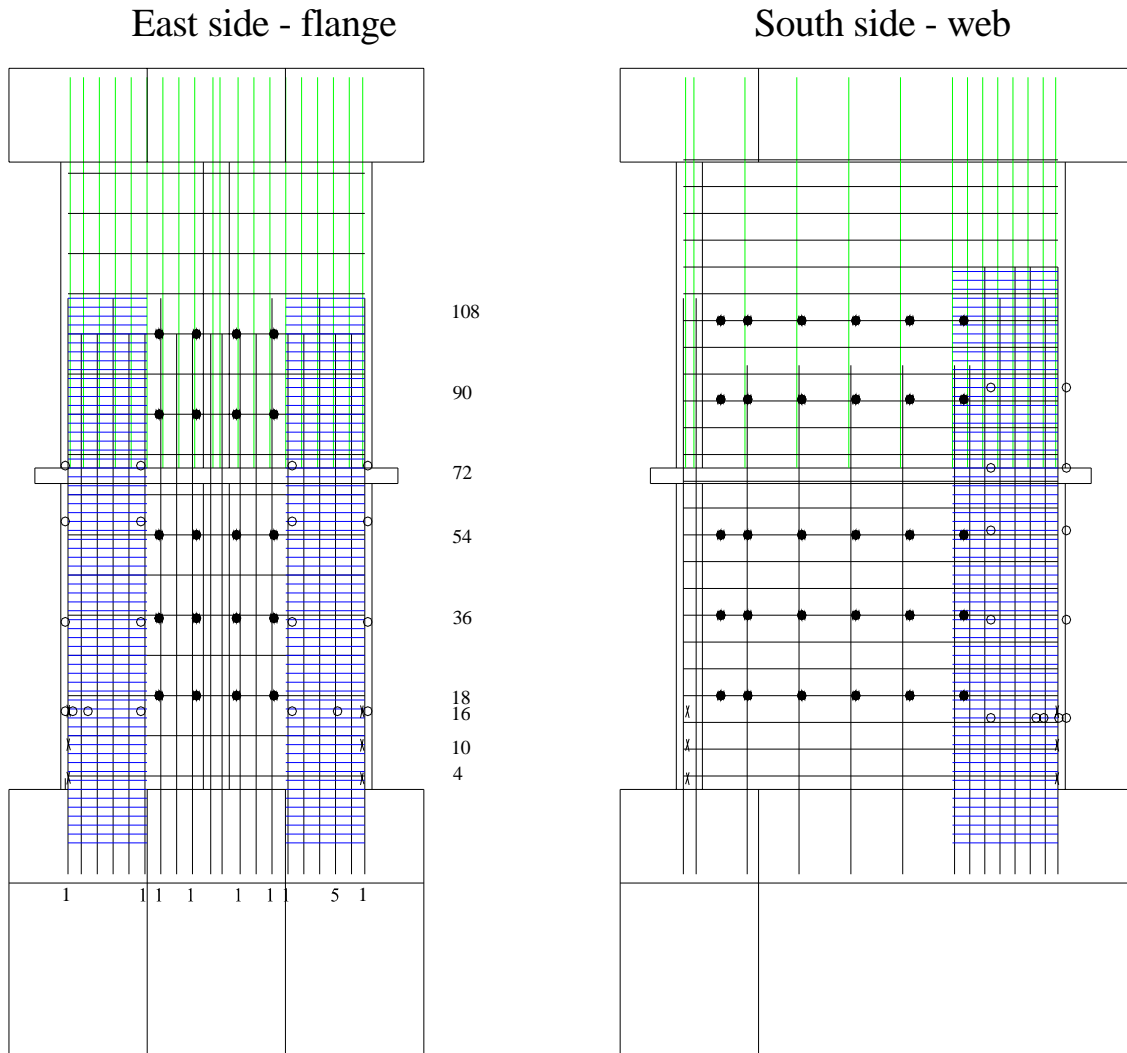
63 ◻ ⊙ ◻ 64

### Longitudinal bar strain gages



- One gage at this location
- ⊗ Two gages at this location

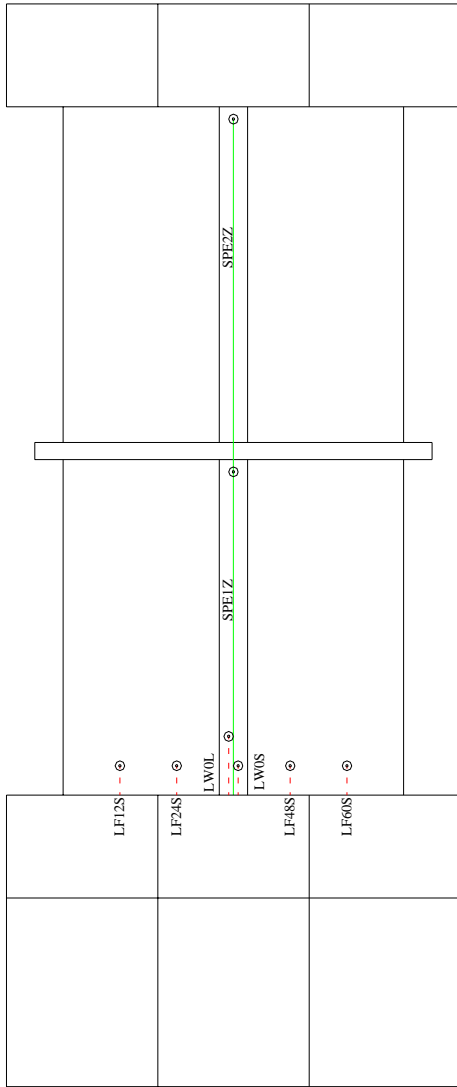
### Transverse bar & hoop strain gages



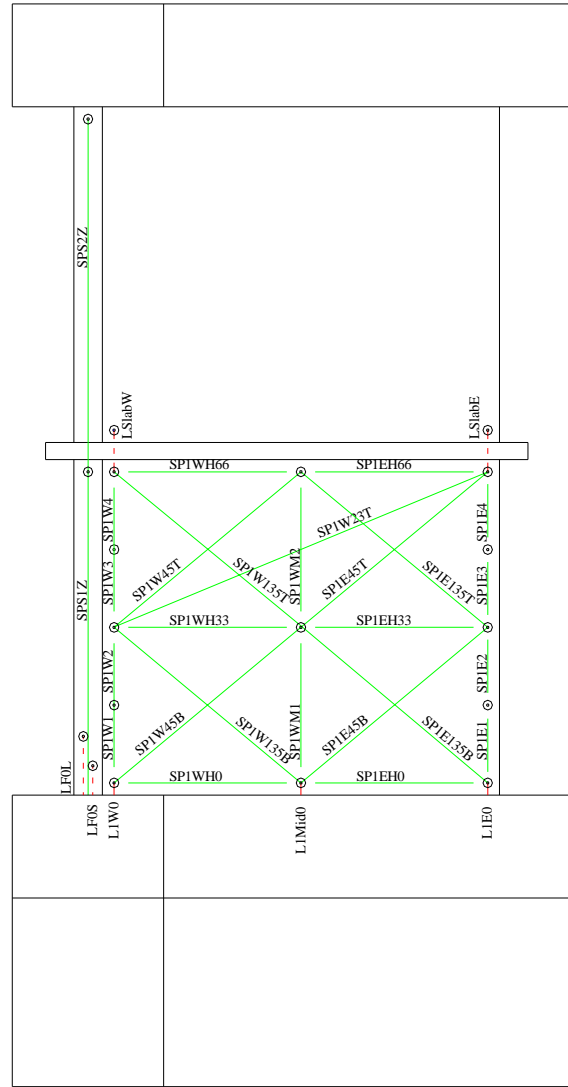
● Gage on horizontal steel   ○ Gage on hoop  
X Concrete gage

### String pot & LVDT locations

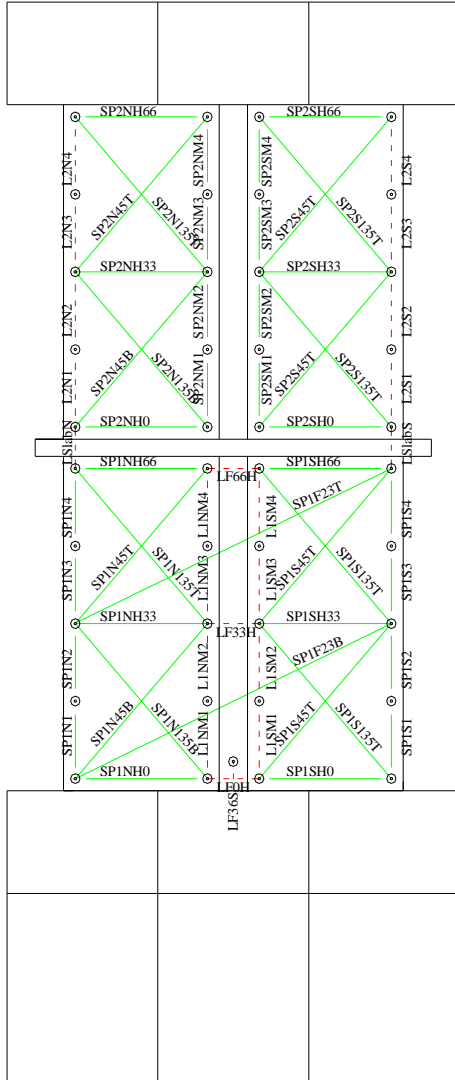
#### East side



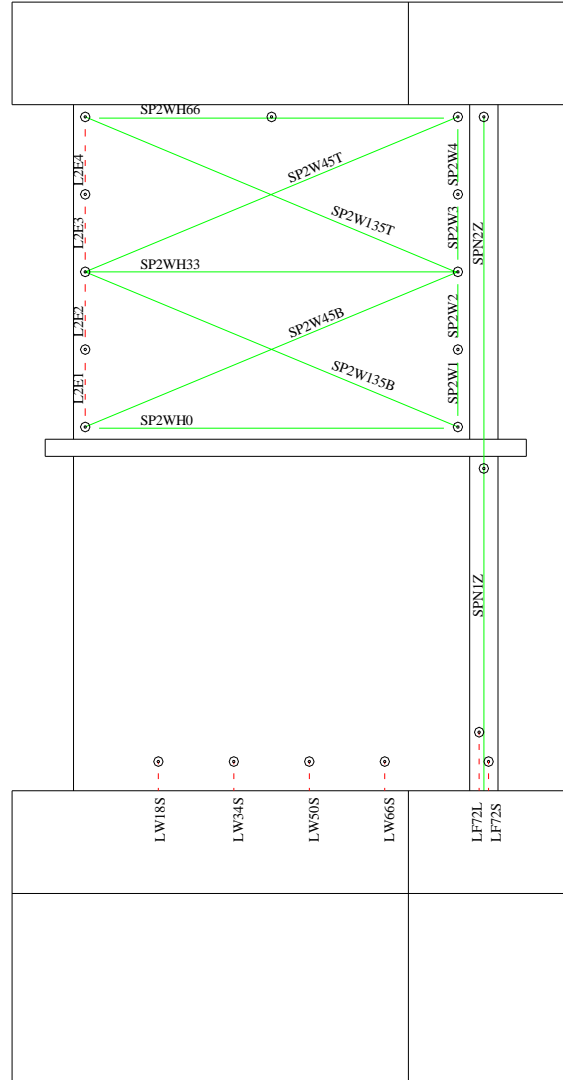
#### South side



## West side

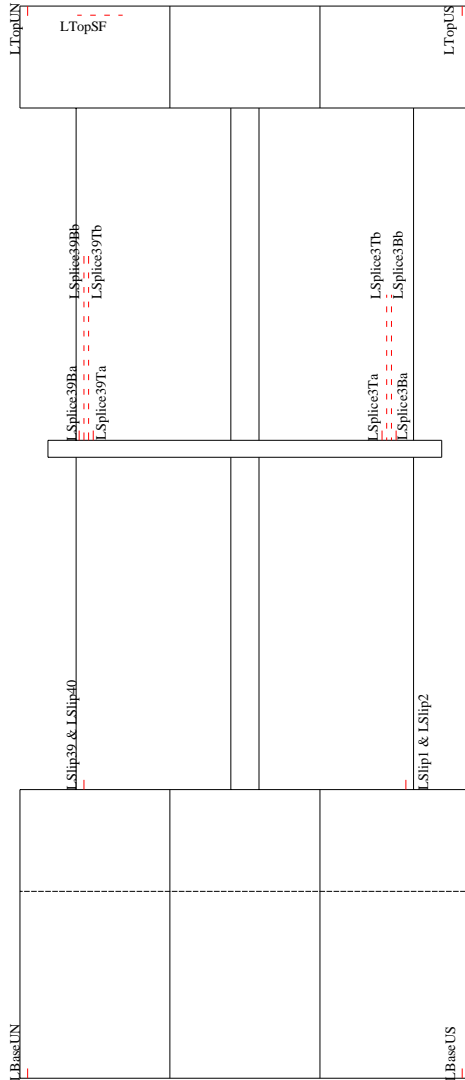


## North side



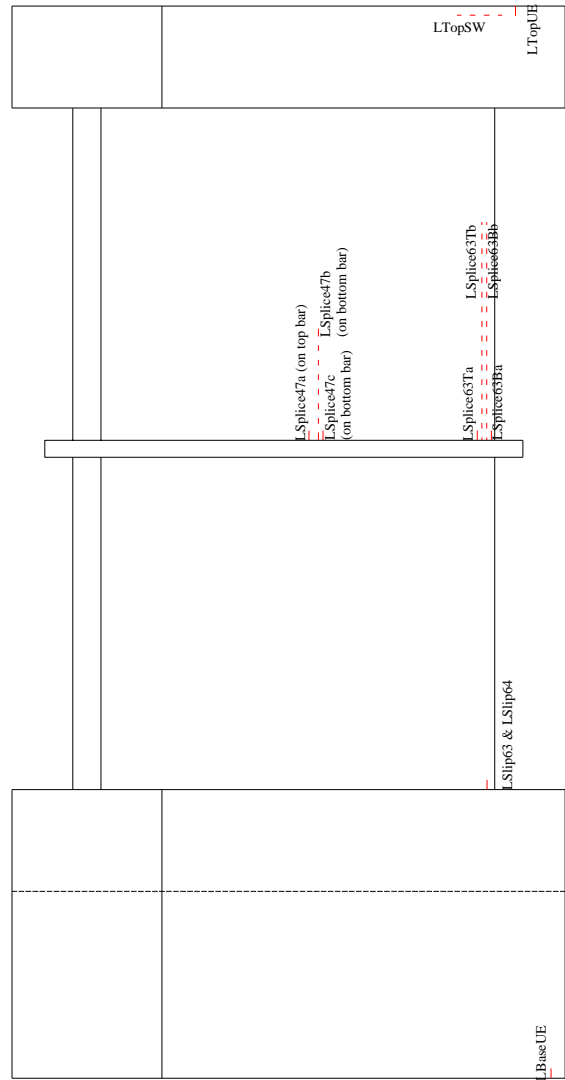
# West

strain penetration & slip

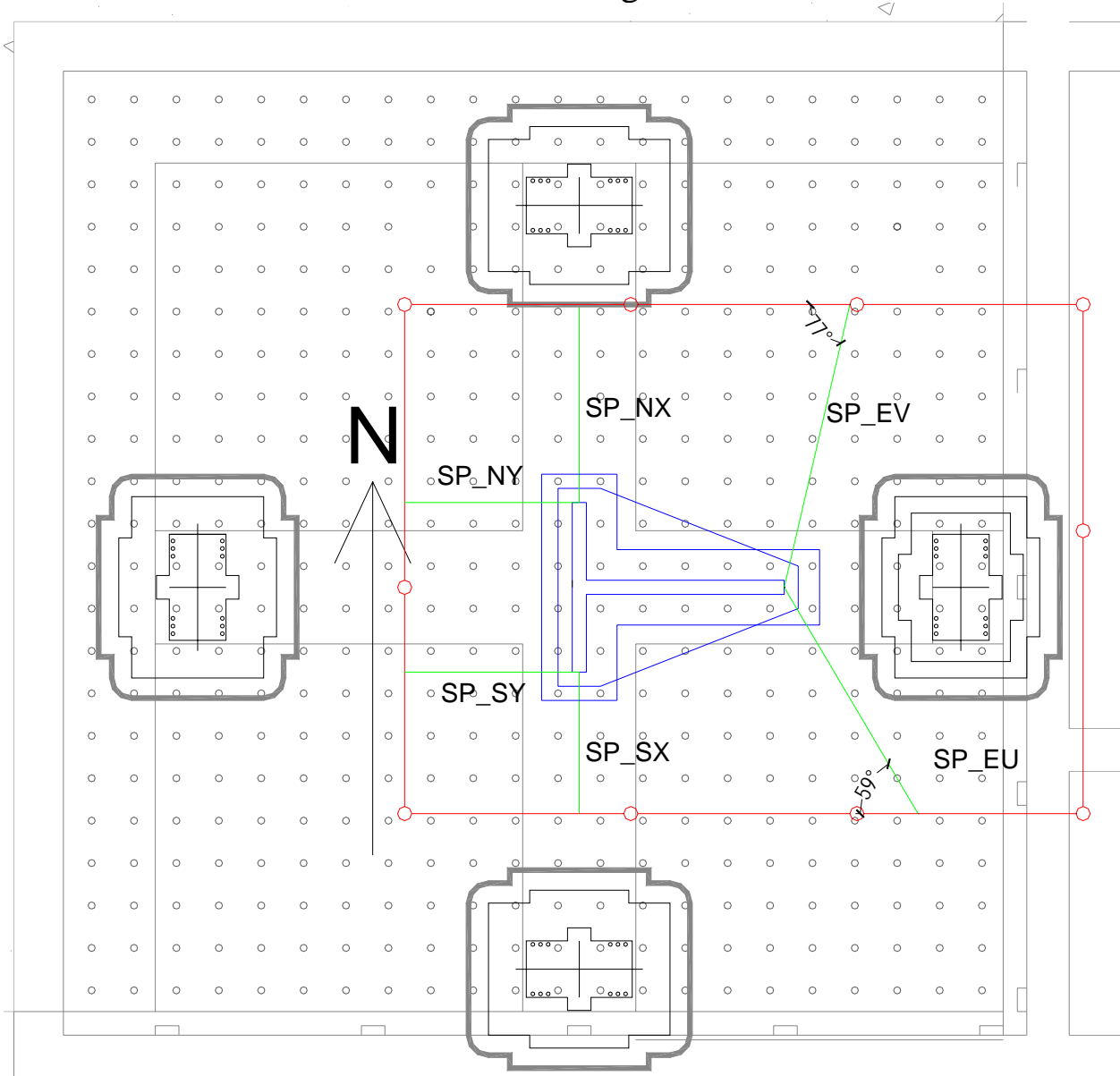


# South

strain penetration & slip



### External String Pots



(not final) Locations of Krypton targets

North side

West side

