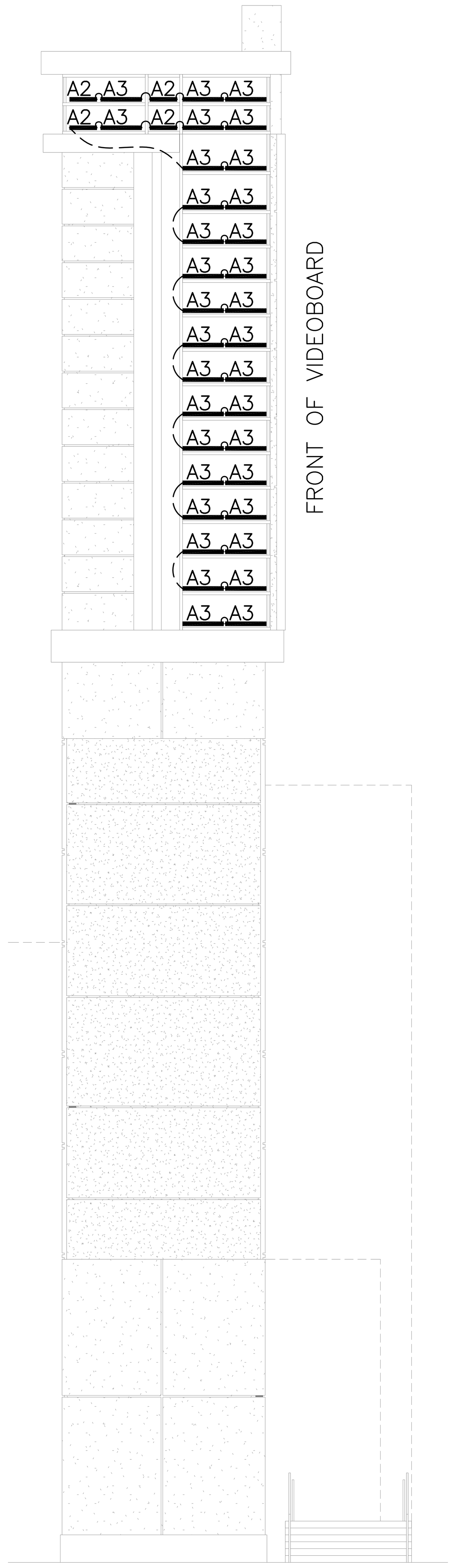
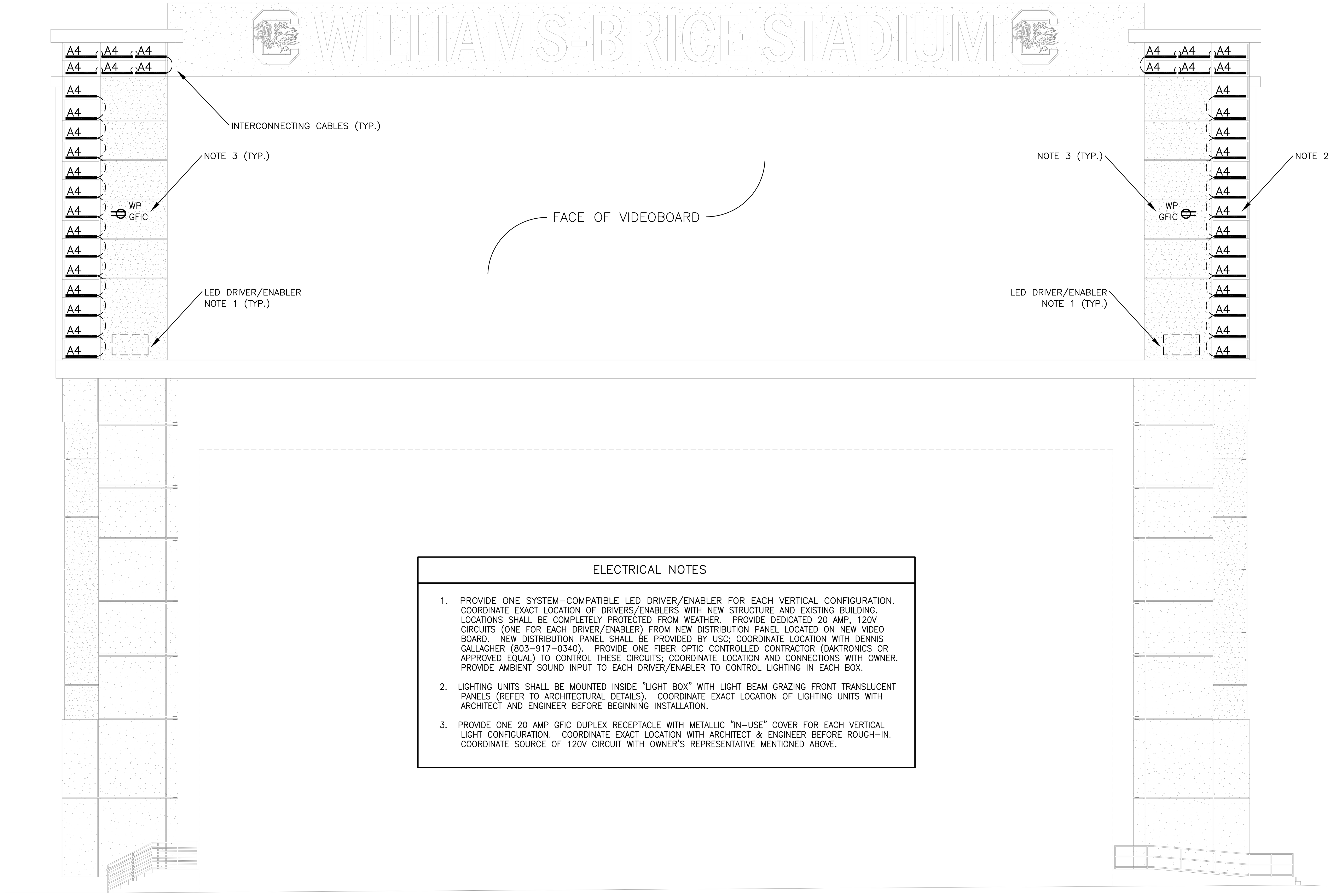
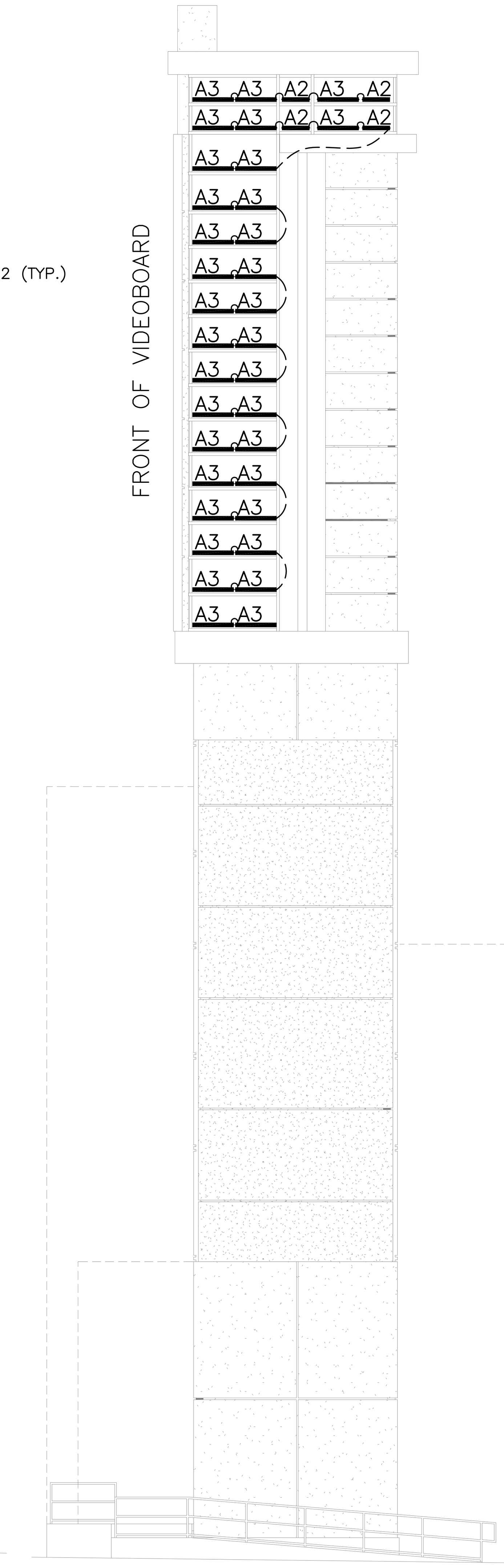


1 E1 WEST ELEVATION VIEW
1/8" = 1'-0"



2 E1 FRONT ELEVATION VIEW
1/8" = 1'-0"



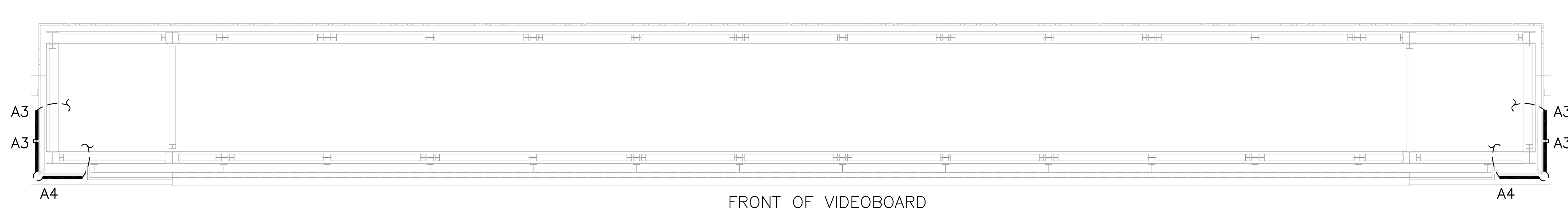
3 E1 EAST ELEVATION VIEW
1/8" = 1'-0"

ELECTRICAL NOTES

1. PROVIDE ONE SYSTEM–COMPATIBLE LED DRIVER/ENABLER FOR EACH VERTICAL CONFIGURATION. COORDINATE EXACT LOCATION OF DRIVERS/ENABLERS WITH NEW STRUCTURE AND EXISTING BUILDING. LOCATIONS SHALL BE COMPLETELY PROTECTED FROM WEATHER. PROVIDE DEDICATED 20 AMP, 120V CIRCUITS (ONE FOR EACH DRIVER/ENABLER) FROM NEW DISTRIBUTION PANEL LOCATED ON NEW VIDEO BOARD. NEW DISTRIBUTION PANEL SHALL BE PROVIDED BY USC; COORDINATE LOCATION WITH DENNIS GALLAGHER (803–917–0340). PROVIDE ONE FIBER OPTIC CONTROLLED CONTRACTOR (DAKTRONICS OR APPROVED EQUAL) TO CONTROL THESE CIRCUITS; COORDINATE LOCATION AND CONNECTIONS WITH OWNER. PROVIDE AMBIENT SOUND INPUT TO EACH DRIVER/ENABLER TO CONTROL LIGHTING IN EACH BOX.

2. LIGHTING UNITS SHALL BE MOUNTED INSIDE "LIGHT BOX" WITH LIGHT BEAM GRAZING FRONT TRANSLUCENT PANELS (REFER TO ARCHITECTURAL DETAILS). COORDINATE EXACT LOCATION OF LIGHTING UNITS WITH ARCHITECT AND ENGINEER BEFORE BEGINNING INSTALLATION.

3. PROVIDE ONE 20 AMP GFIC DUPLEX RECEPTACLE WITH METALLIC "IN–USE" COVER FOR EACH VERTICAL LIGHT CONFIGURATION. COORDINATE EXACT LOCATION WITH ARCHITECT & ENGINEER BEFORE ROUGH–IN. COORDINATE SOURCE OF 120V CIRCUIT WITH OWNER'S REPRESENTATIVE MENTIONED ABOVE.



4 E1 SECTION THROUGH CENTER OF BOARD
1/8" = 1'-0"

N

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	OPTICAL ELEMENT	MOUNTING	VOLTS	LAMPS (PHILIPS OR EQUAL)
▬	A2	2' LED LINEAR GRAZING FIXTURE, 10°x60° BEAM ANGLE, WHITE LIGHT	PHILIPS (COLOR KINETICS)	iW GRAZE POWERCORE–24"–10X60–4000K	ACRYLIC COVER	SURFACE INSIDE "BOX"	120	LED WITH VARIABLE COLOR TEMP. OF 2700K TO 4000K; MIN. 550 LUMENS PER FOOT
▬	A3	3' LED LINEAR GRAZING FIXTURE, 10°x60° BEAM ANGLE, WHITE LIGHT	PHILIPS (COLOR KINETICS)	iW GRAZE POWERCORE–36"–10X60–4000K	ACRYLIC COVER	SURFACE INSIDE "BOX"	120	LED WITH VARIABLE COLOR TEMP. OF 2700K TO 4000K; MIN. 550 LUMENS PER FOOT
▬	A4	4' LED LINEAR GRAZING FIXTURE, 10°x60° BEAM ANGLE, WHITE LIGHT	PHILIPS (COLOR KINETICS)	iW GRAZE POWERCORE–48"–10X60–4000K	ACRYLIC COVER	SURFACE INSIDE "BOX"	120	LED WITH VARIABLE COLOR TEMP. OF 2700K TO 4000K; MIN. 550 LUMENS PER FOOT

1/8"=1'–0" 4 0 4 8 16 scale feet

GA21107
BEA
BELKA ENGINEERING ASSOCIATES, INC.
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(803) 731–0650 fax (803) 731–2880
EMAIL: CEStringfield@bellsouth.net

GARVINDESIGNGROUP
architecture interiors planning
1209 Lincoln Street P. O. Box 18
803.212.1032 p / 803.212.1074 f Columbia, SC 29202

A/E SEAL
SOUTH CAROLINA
BELKA ENGINEERING ASSOC. INC. No. C00953
CERTIFICATE OF AUTHORIZATION

A/E SEAL
SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 12465
KEVIN L. BELKA
[illegible]

PROJECT TITLE
WILLIAMS-BRICE STADIUM VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SC
STATE PROJECT NO. H27-6089-MJ

REVISIONS		
NO.	NAME	DATE

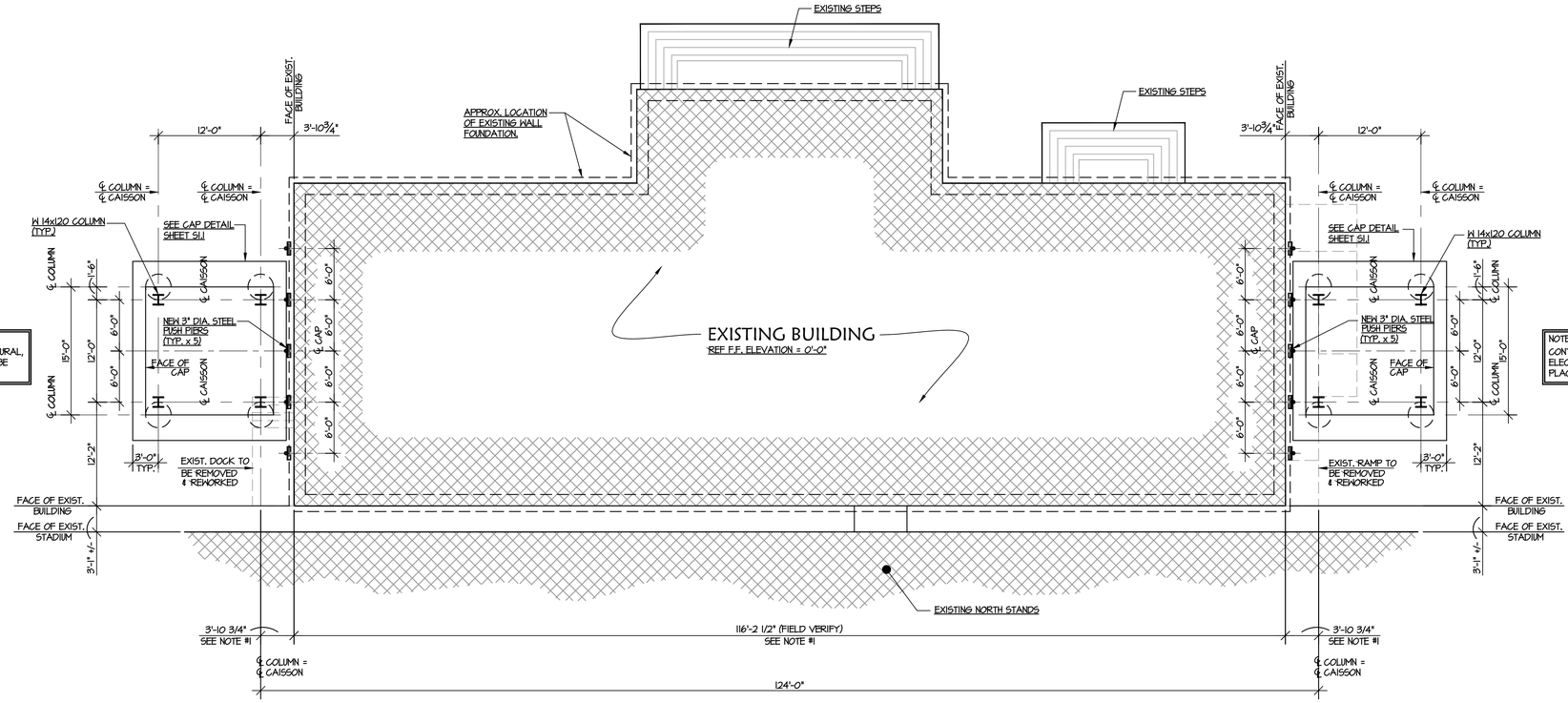
DRWN BY: CES
CHKD BY: KLB

DRAWING TITLE
ELECTRICAL PLAN

PROJECT NO. U291.11
DATE 12.30.11
DRAWING NO. **E1.1**

SHEET INDEX	
S1.0	DEEP FOUNDATION PLANS
S1.1	FOUNDATION DETAILS
S1.2	RAMP & LOADING DOCK PLANS
S2.0	FIELD SIDE ELEVATION
S2.1	STREET SIDE ELEVATION
S2.2	END ELEVATIONS
S2.3	STEEL FRAMING DETAILS
S2.4	STEEL FRAMING DETAILS
S3.0	LOAD TABLE & WIND DISTRIBUTION
S3.1	STRUCTURAL NOTES
S3.2	STRUCTURAL NOTES
S3.3	SPECIAL INSPECTIONS
S4.0	STRUCTURAL MEMBER FORCES
S4.1	STRUCTURAL MEMBER FORCES
S4.2	STRUCTURAL MEMBER FORCES
S4.3	STRUCTURAL MEMBER FORCES

EXISTING SCOREBOARD NOTE:
THE CONTRACTOR SHALL REMOVE THE EXISTING SCOREBOARD/VIDEO BOARD IN ITS ENTIRETY. THE STEEL COLUMNS AND STEEL KICKERS SUPPORTING THE EXISTING STRUCTURE SHALL BE CUT 8 INCHES ABOVE THE EXISTING ROOF TO PREVENT DAMAGE TO THE ROOF AND 4 INCHES ABOVE THE SPEAKER CABINETS. ALL REMAINING STEEL STUBS (TUBES) SHALL BE CAPPED TO PREVENT TRAPPING WATER.
THE CONTRACTOR SHALL INSTALL ADDITIONAL STRUCTURAL STEEL AS NECESSARY TO PROVIDE BACKUP SUPPORT TO ALLOW THE VIDEO BOARD PORTION OF THE EXISTING SCOREBOARD TO BE REMOVED INTACT AND SUITABLE FOR REUSE. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES (ELECTRICAL, ETC.) REGARDING UTILITY CONNECTIONS. THE CONTRACTOR WILL RECEIVE INSTRUCTIONS FROM THE OWNER'S REPRESENTATIVE REGARDING PLACEMENT OF OLD SCOREBOARD COMPONENTS.



VIDEO BOARD FOUNDATION PLAN

SCALE ====== 1/8"=1'-0"

NOTE:

1. NEW VIDEO BOARD STRUCTURE TO BE CENTERED WITH EXISTING BUILDING.

Revisions	
Revision	By

Seal

Job Title:

WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
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COLUMBIA, SOUTH CAROLINA

KYZER & TIMMERMAN
STRUCTURAL ENGINEERS
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Drawing Title:

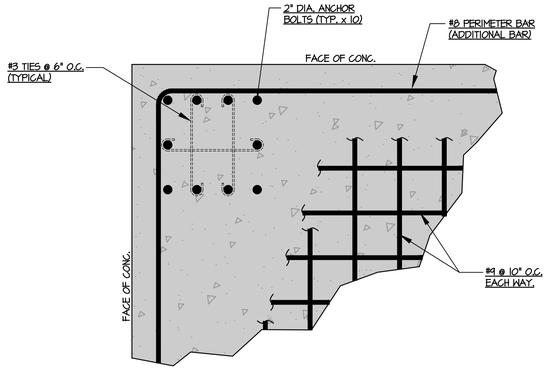
FOUNDATION PLAN

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number

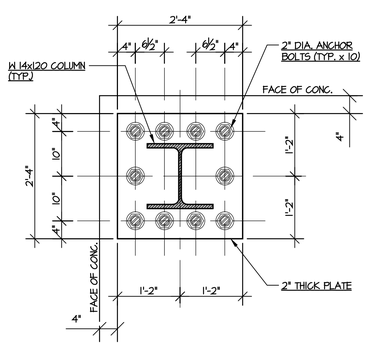
S1.0

STATE PROJECT NO: H-27-6089-ML



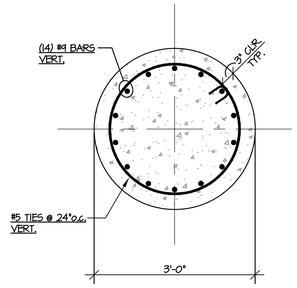
PLAN VIEW OF ANCHOR BOLTS AND PERIMETER #8 BAR

SCALE ====== 3/4"=1'-0"



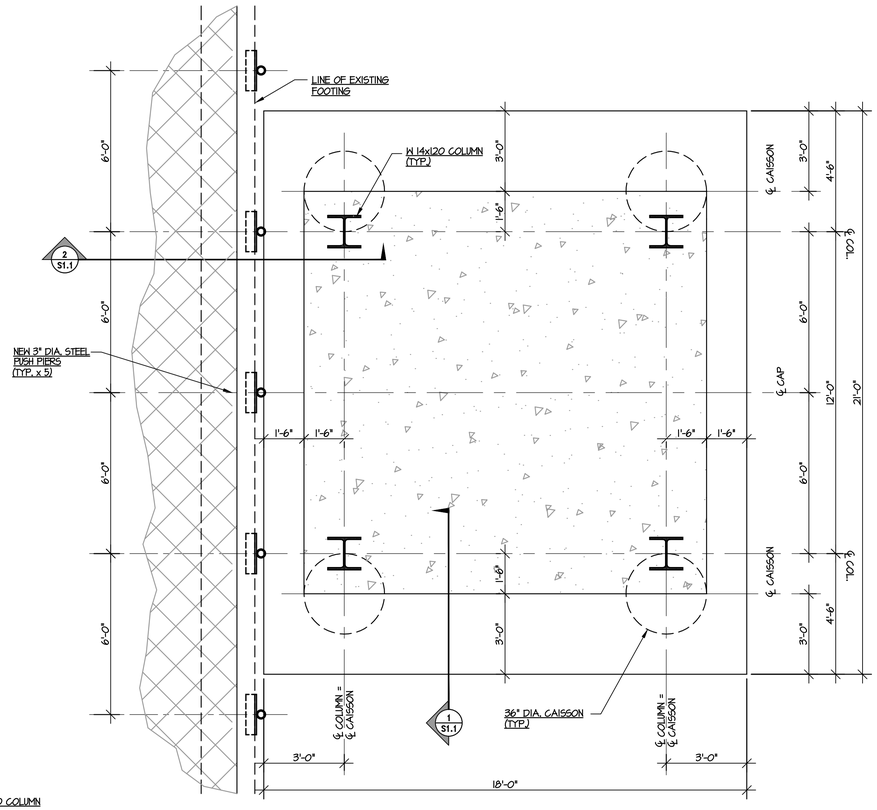
BASE PLATE @ W 14x120 VIDEO BOARD SUPPORTS

SCALE ====== 3/4"=1'-0"



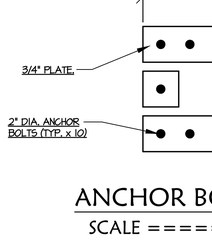
TYP. SECTION THRU 36" DIA. CASSION

SCALE ====== 3/4"=1'-0"



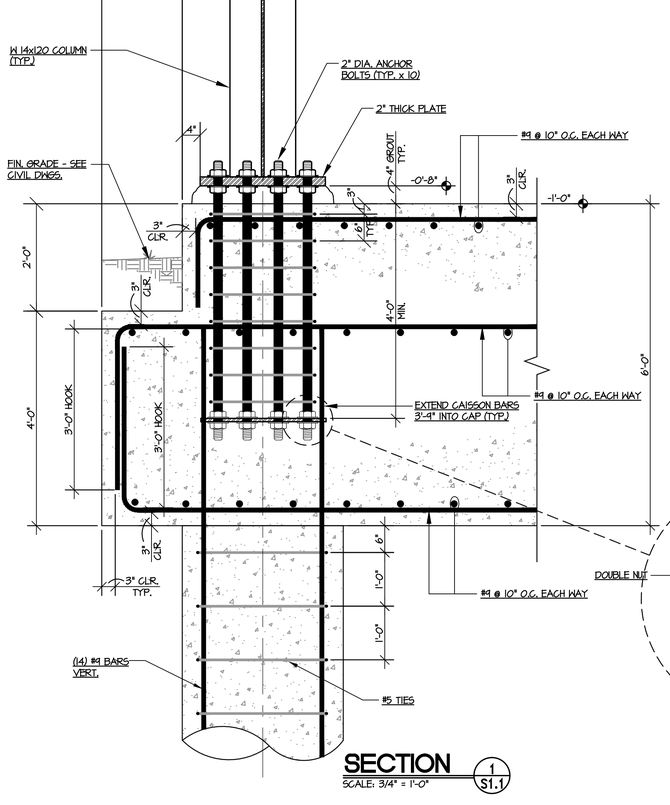
CAISSON CAP ENLARGED PLAN

SCALE ====== 3/8"=1'-0"



ANCHOR BOLT PLATES

SCALE ====== 3/4"=1'-0"

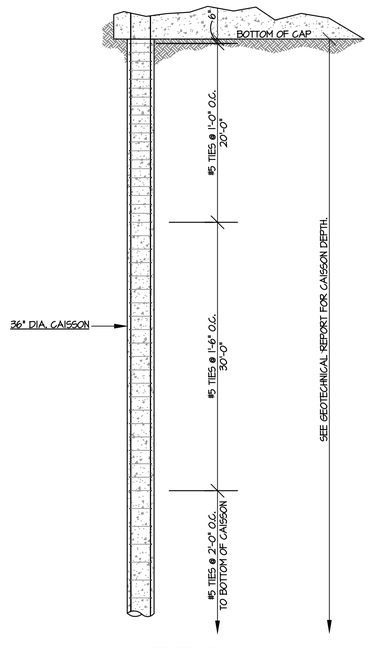


SECTION 1 / S1.1

SCALE: 3/4" = 1'-0"

SECTION 2 / S1.1

SCALE: 3/4" = 1'-0"



TIE SPACING

SCALE ====== 1/8"=1'-0"

Revisions	
Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 11150
01/02/12
REGISTERED
KENNETH WILLIAM TIMMERMAN

KYZER & TIMMERMAN STRUCTURAL ENGINEERING S.C. No.C00774 SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

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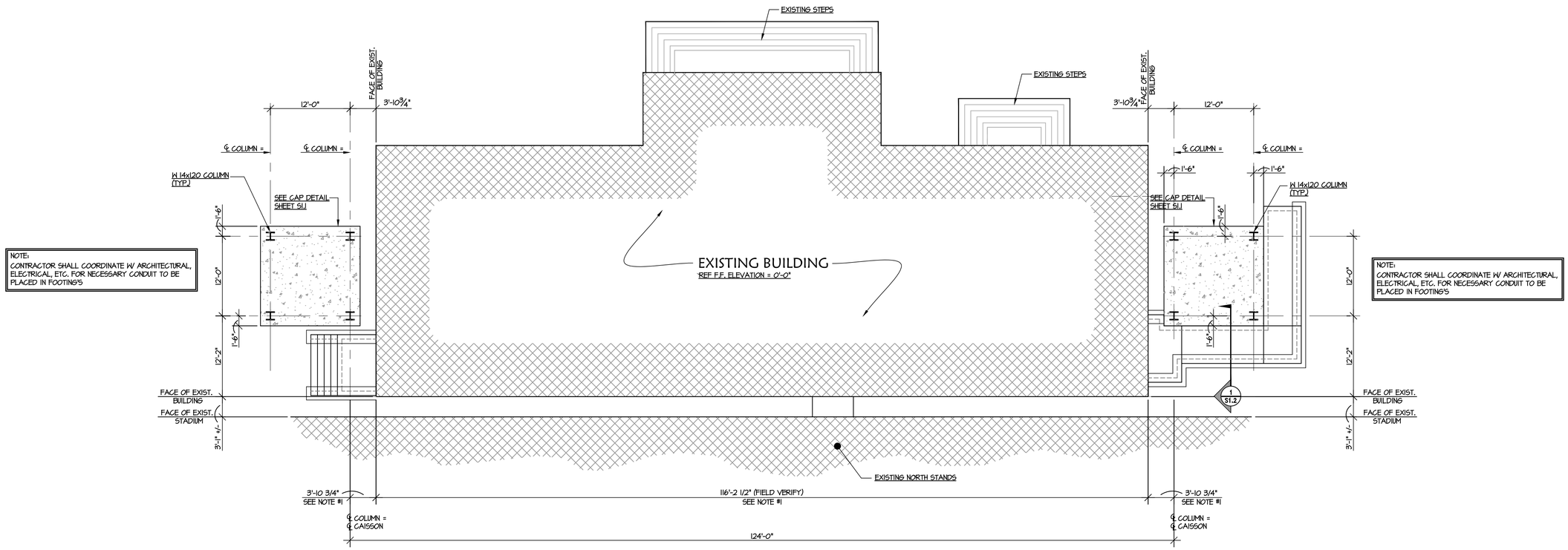
FOUNDATION DETAILS

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number

S1.1

STATE PROJECT NO: H-27-6089-WJ

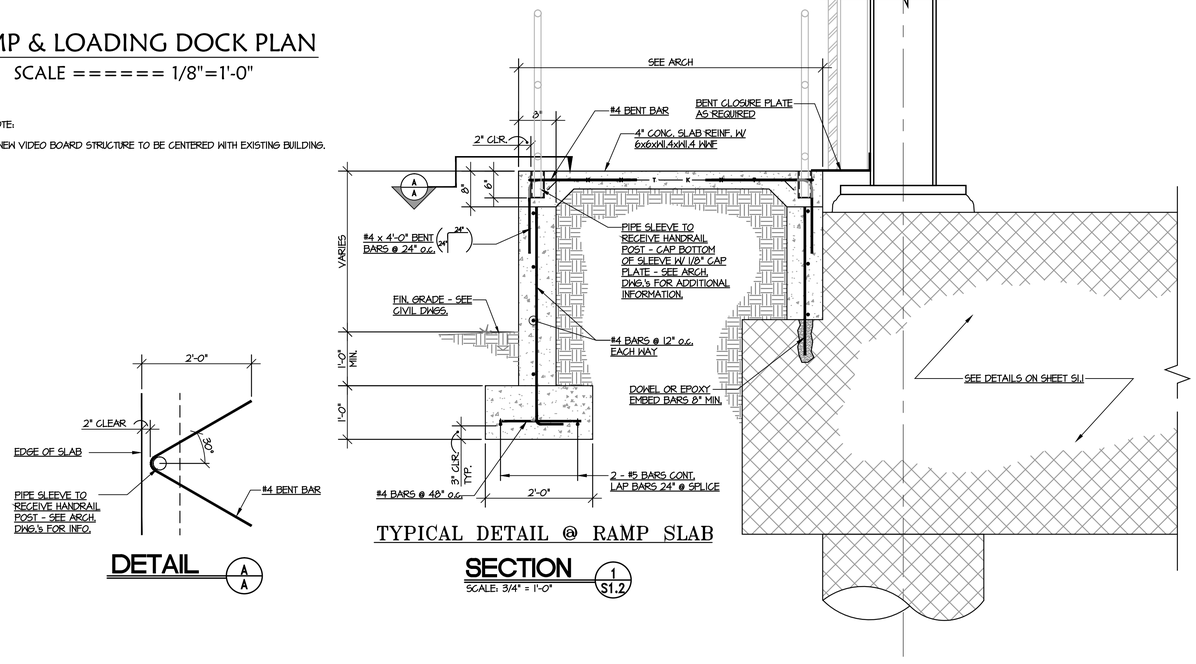


RAMP & LOADING DOCK PLAN

SCALE ====== 1/8"=1'-0"

NOTE:

1. NEW VIDEO BOARD STRUCTURE TO BE CENTERED WITH EXISTING BUILDING.



TYPICAL DETAIL @ RAMP SLAB

SECTION 1 / S1.2

SCALE: 3/4" = 1'-0"

DETAIL A / A

Revisions

Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 11150 01/02/12 KENNETH WILLIAM TIMMERMAN REGISTERED PROFESSIONAL ENGINEER

KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

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Drawing Title:

RAMP & LOADING DOCK PLAN

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

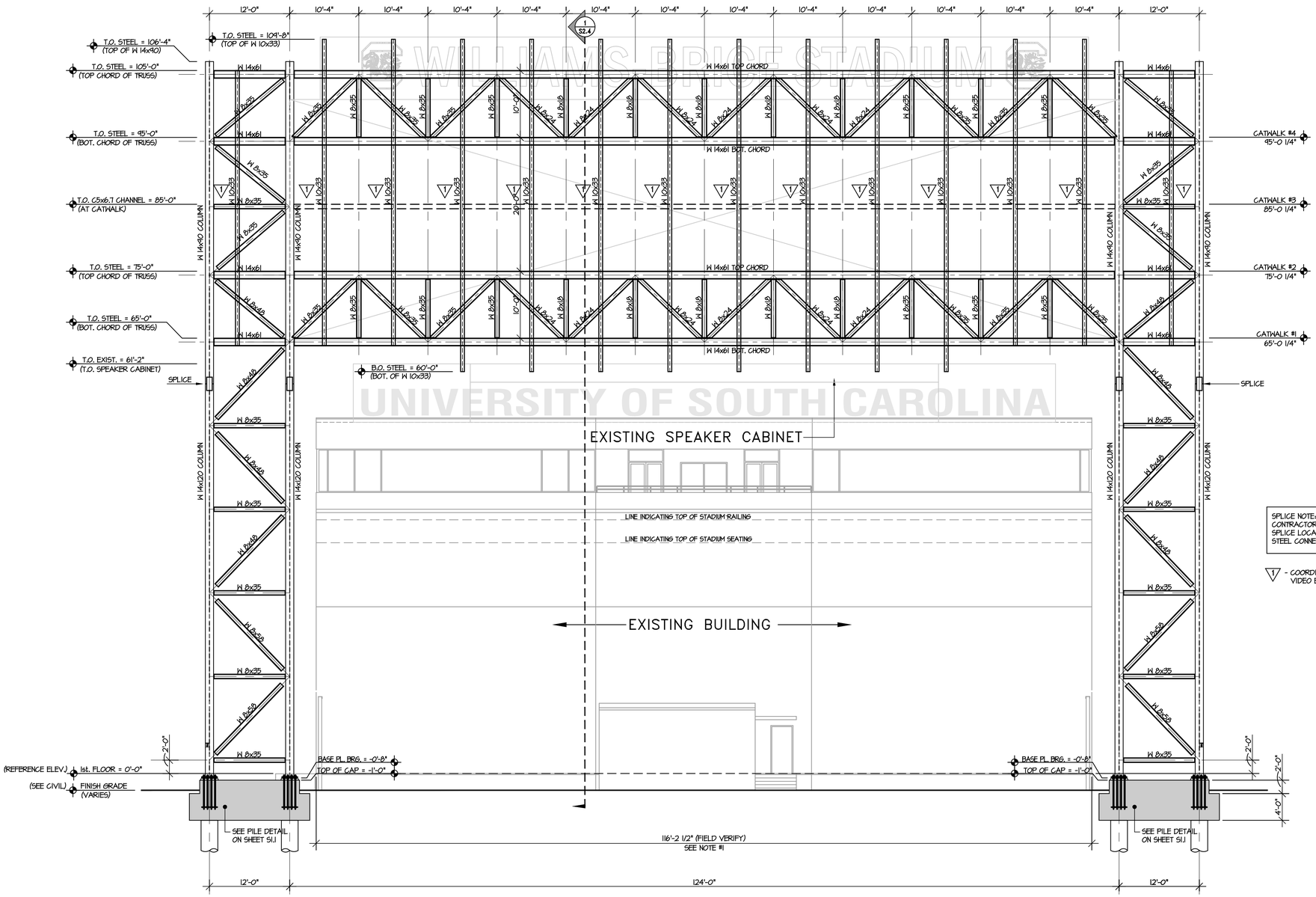
Sheet Number

S1.2

STATE PROJECT NO: H-27-6089-MJ

6"x4" STEEL TUBE NOTE:
ADDITIONAL STEEL TUBES FOR VIDEO BOARD ATTACHMENT ARE NOT SHOWN ON THIS PLAN FOR CLARITY. THE CONTRACTOR SHALL COORDINATE W/ VIDEO BOARD SUPPLIER FOR NUMBER OF, LOCATION & SPACING OF HORIZONTAL TUBES.

NOTE:
ACCESS TO ALL CATWALKS TO BE ACHIEVED BY INSTALLING SHIPS LADDERS AS NEEDED LOCATIONS TO BE COORDINATED WITH VIDEO BOARD SUPPLIER



SPLICE NOTE:
CONTRACTOR TO SUBMIT STRUCTURAL STEEL SPLICE LOCATION AND DESIGN AS PART OF STEEL CONNECTION SUBMITTAL.

1 - COORDINATE STEEL BEAM LOCATION W/ VIDEO BOARD SUPPLIER & ARCH. DWGS

FIELD VIEW

SCALE ====== 1/8"=1'-0"

NOTE:
1. NEW VIDEO BOARD STRUCTURE TO BE CENTERED WITH EXISTING BUILDING.

Revisions	
Revision	By

Seal

REGISTERED PROFESSIONAL ENGINEER SOUTH CAROLINA No. 11150 01/02/12 KENNETH WILLIAM TIMMERMAN

KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 CERTIFICATE OF AUTHORIZATION SOUTH CAROLINA

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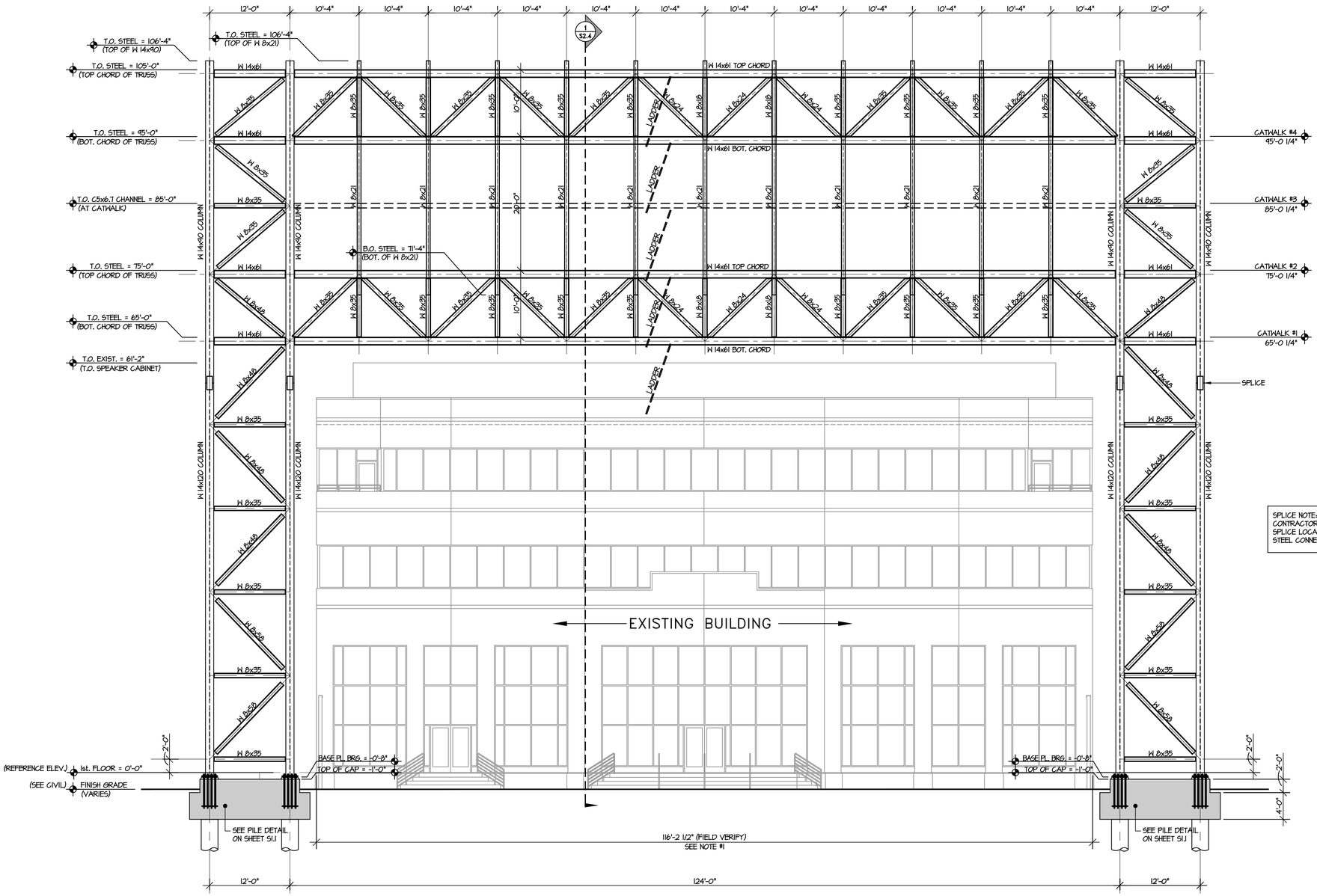
Drawing Title: FIELD SIDE ELEVATION	
Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number
S2.0
STATE PROJECT NO: H-27-6089-ML

6"x4" STEEL TUBE NOTE:
ADDITIONAL STEEL TUBES FOR VIDEO BOARD ATTACHMENT ARE NOT SHOWN ON THIS PLAN FOR CLARITY. THE CONTRACTOR SHALL COORDINATE W/ VIDEO BOARD SUPPLIER FOR NUMBER OF, LOCATION & SPACING OF HORIZONTAL TUBES.

NOTE:
ACCESS TO ALL CATWALKS TO BE ACHIEVED BY INSTALLING SHIPS LADDERS AS NEEDED LOCATIONS TO BE COORDINATED WITH VIDEO BOARD SUPPLIER



SPLICE NOTE:
CONTRACTOR TO SUBMIT STRUCTURAL STEEL SPLICE LOCATION AND DESIGN AS PART OF STEEL CONNECTION SUBMITTAL.

STREET SIDE ELEVATION

SCALE ====== 1/8"=1'-0"

NOTE:
1. NEW VIDEO BOARD STRUCTURE TO BE CENTERED WITH EXISTING BUILDING.

Revisions	
Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 11150
01/02/12
KENNETH WILLIAM TIMMERMAN

SOUTH CAROLINA
KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C.
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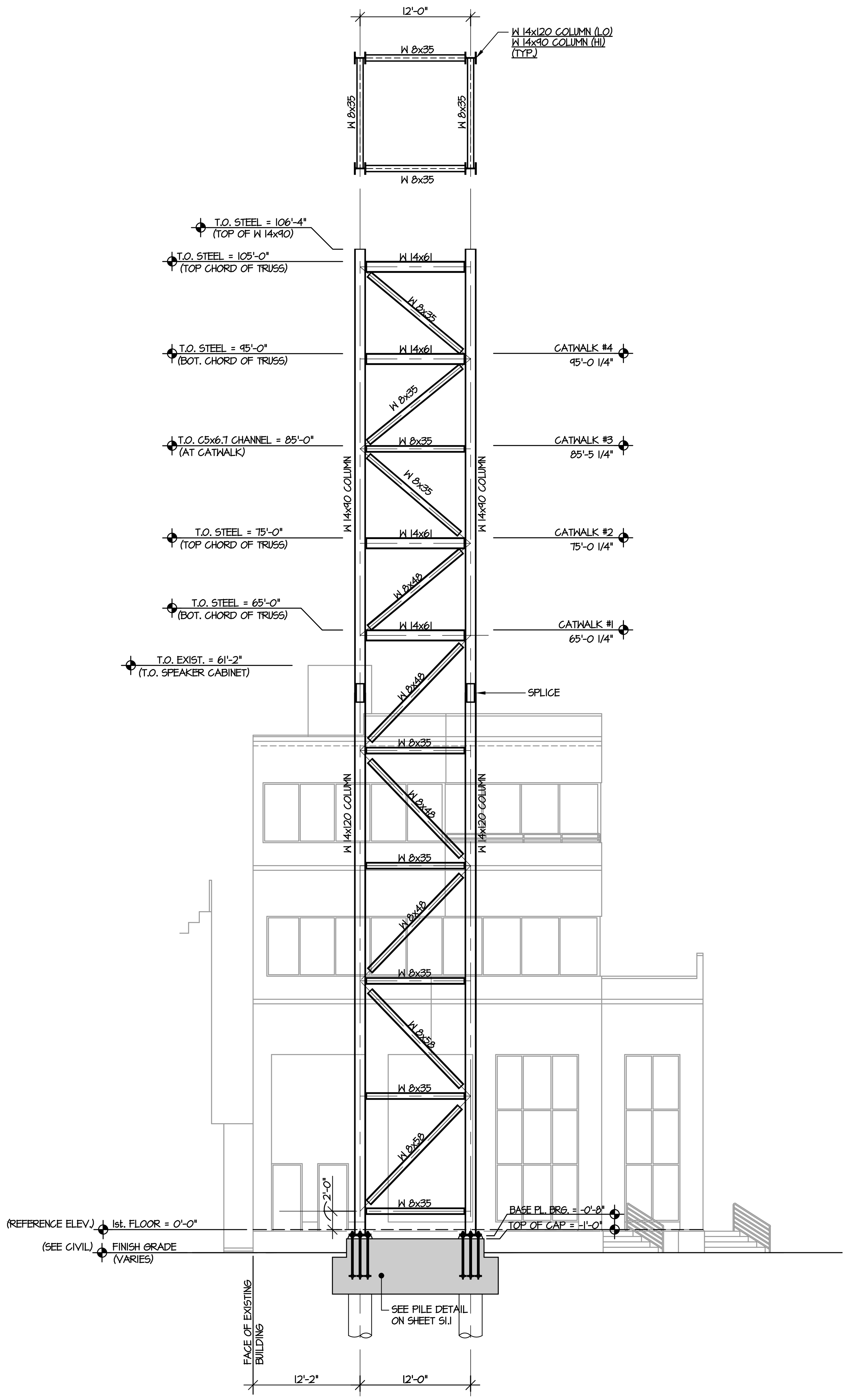
Drawing Title:
STREET SIDE ELEVATION

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number
S2.1
STATE PROJECT NO: H-27-6089-MJ



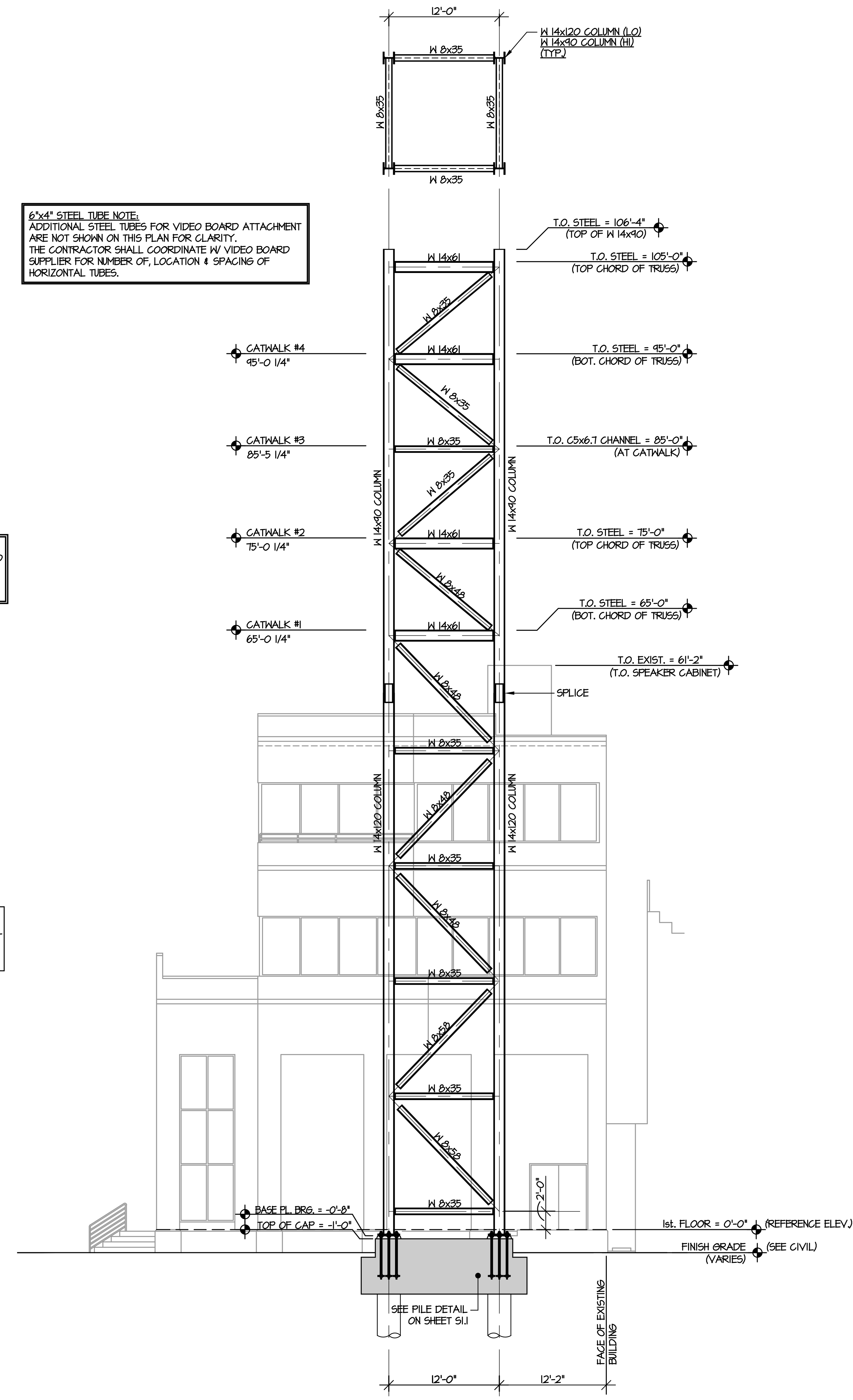
EAST SIDE ELEVATION

SCALE ====== 1/8"=1'-0"

NOTE:
ACCESS TO ALL CATWALKS TO BE ACHIEVED BY INSTALLING SHIPS LADDERS AS NEEDED LOCATIONS TO BE COORDINATED WITH VIDEO BOARD SUPPLIER

SPLICE NOTE:
CONTRACTOR TO SUBMIT STRUCTURAL STEEL SPLICE LOCATION AND DESIGN AS PART OF STEEL CONNECTION SUBMITTAL.

6"x4" STEEL TUBE NOTE:
ADDITIONAL STEEL TUBES FOR VIDEO BOARD ATTACHMENT ARE NOT SHOWN ON THIS PLAN FOR CLARITY.
THE CONTRACTOR SHALL COORDINATE W/ VIDEO BOARD SUPPLIER FOR NUMBER OF, LOCATION & SPACING OF HORIZONTAL TUBES.



WEST SIDE ELEVATION

SCALE ====== 1/8"=1'-0"

Revisions	
Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER
REGISTERED
No. 11150
01/02/12
KENNETH WILLIAM TIMMERMAN

SOUTH CAROLINA
KYZER & TIMMERMAN STRUCTURAL ENGINEERING
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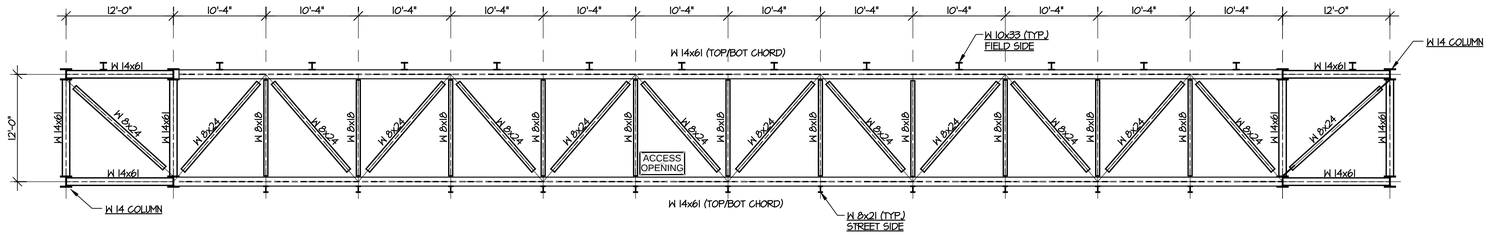
Drawing Title:
EAST & WEST ELEVATIONS

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

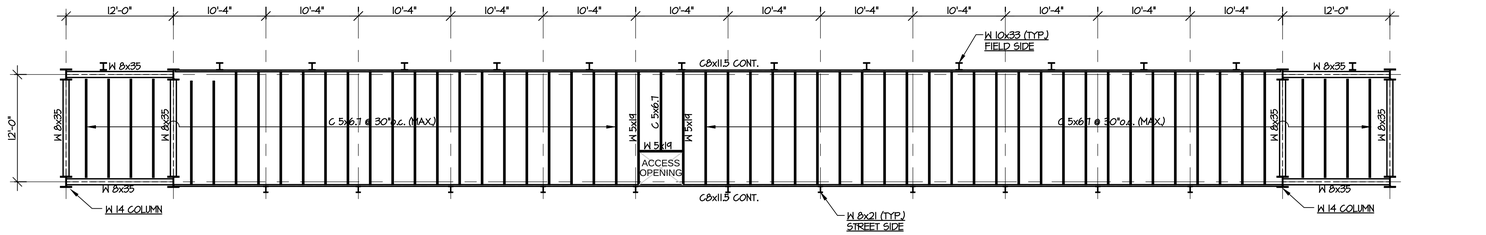
Sheet Number
S2.2

STATE PROJECT NO: H-27-6089-MJ



FRAMING PLAN @ LO ROOF

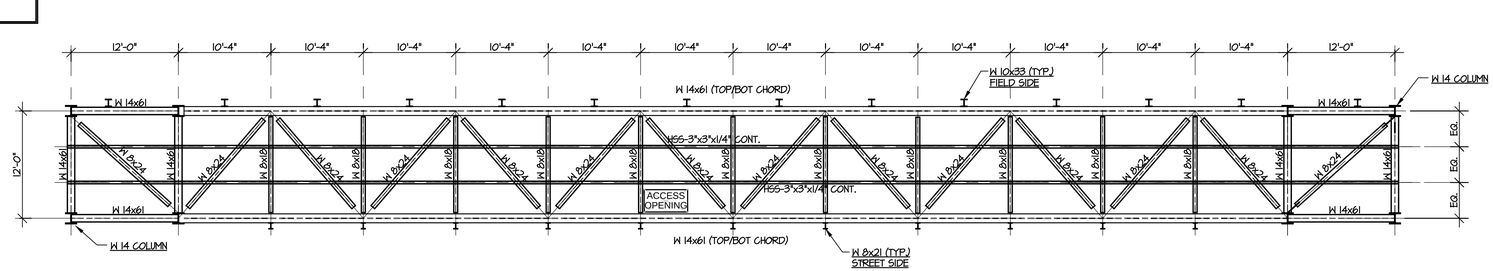
SCALE ====== 1/8"=1'-0"



FRAMING PLAN @ CATWALK # 3

SCALE ====== 1/8"=1'-0"

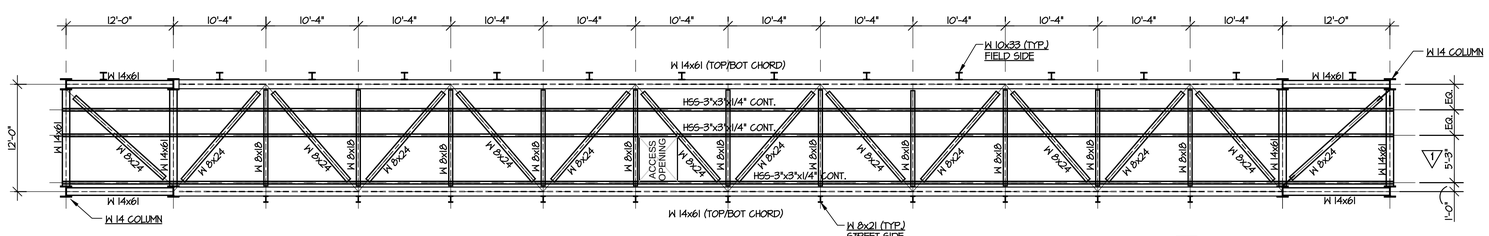
6"x4" STEEL TUBE NOTE:
ADDITIONAL STEEL TUBES FOR VIDEO BOARD ATTACHMENT ARE NOT SHOWN ON THIS PLAN FOR CLARITY. THE CONTRACTOR SHALL COORDINATE W/ VIDEO BOARD SUPPLIER FOR NUMBER OF, LOCATION & SPACING OF HORIZONTAL TUBES.



PLAN @ TOP OR BOTTOM CHORD OF TRUSS & CATWALKS # 2 & 4

SCALE ====== 1/8"=1'-0"

NOTE:
ACCESS TO ALL CATWALKS TO BE ACHIEVED BY INSTALLING SHIPS LADDERS AS NEEDED LOCATIONS TO BE COORDINATED WITH VIDEO BOARD SUPPLIER



▽ - MAINTAIN 5'-0" CLEAR BETWEEN TUBES FOR ACCESS HATCH TO ROOF OF FLOYD BUILDING. SEE ARCH DETAILS.

PLAN @ TOP OR BOTTOM CHORD OF TRUSS & CATWALK # 1

SCALE ====== 1/8"=1'-0"

Revisions	
Revision	By

Seal

KENNETH WILLIAM TIMMERMAN — REGISTERED PROFESSIONAL ENGINEER — SOUTH CAROLINA — No. 11150 — 01/02/12

KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 — SOUTH CAROLINA — CERTIFICATE OF AUTHORIZATION

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Drawing Title:

TRUSS & CATWALK FRAMING PLANS

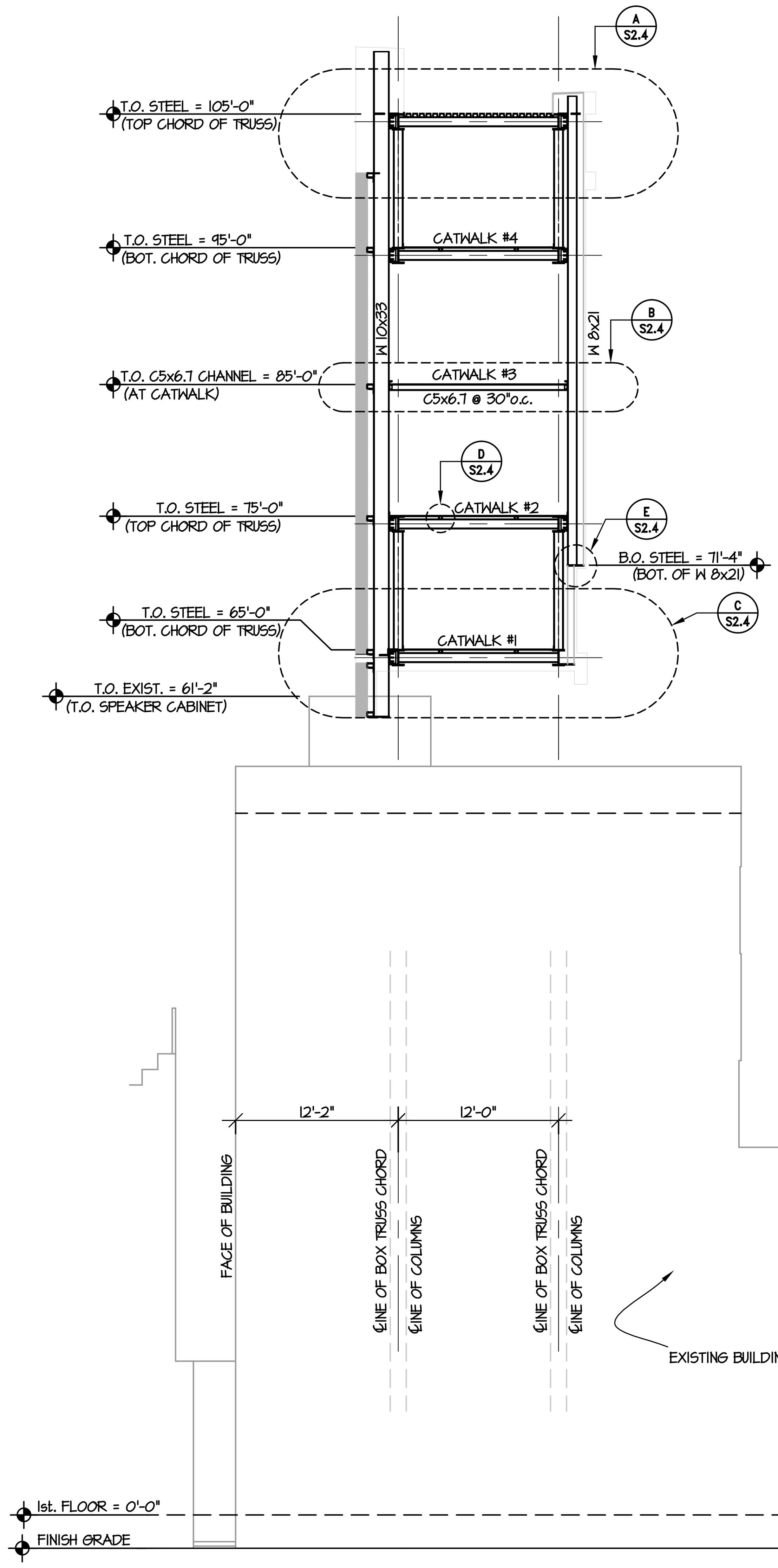
Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number

S2.3

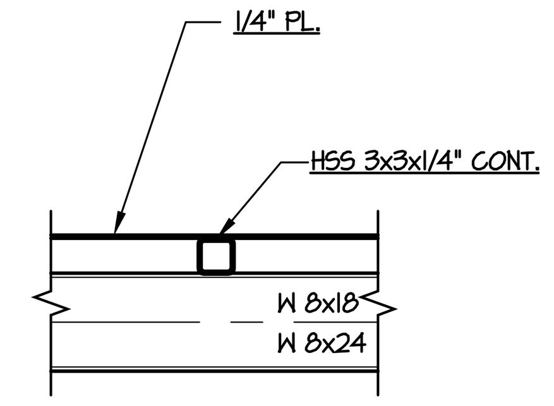
STATE PROJECT NO: H-27-6089-ML

METAL STUD NOTE:
THE METAL STUD SYSTEM (STUDS, CLIPS, TRACKS, BRACING, ANCHORS, LINTELS, SCREWS, ETC.) SHALL BE DESIGNED BY A REGISTERED ENGINEER IN THE PROJECT STATE AND SUBMITTED FOR APPROVAL TO THE ARCHITECT AND ENGINEER OF RECORD.

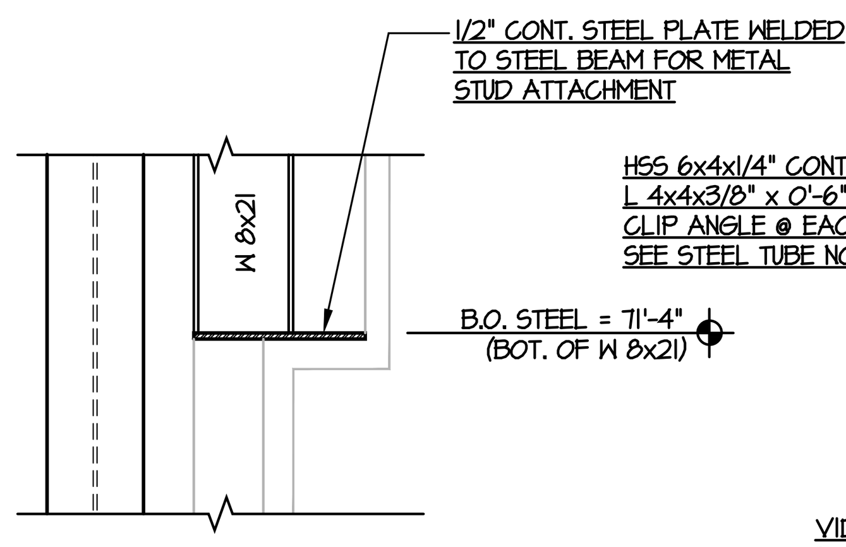


SECTION THRU EXISTING BUILDING AND NEW VIDEO BOARD
SCALE ====== 1/8" = 1'-0"

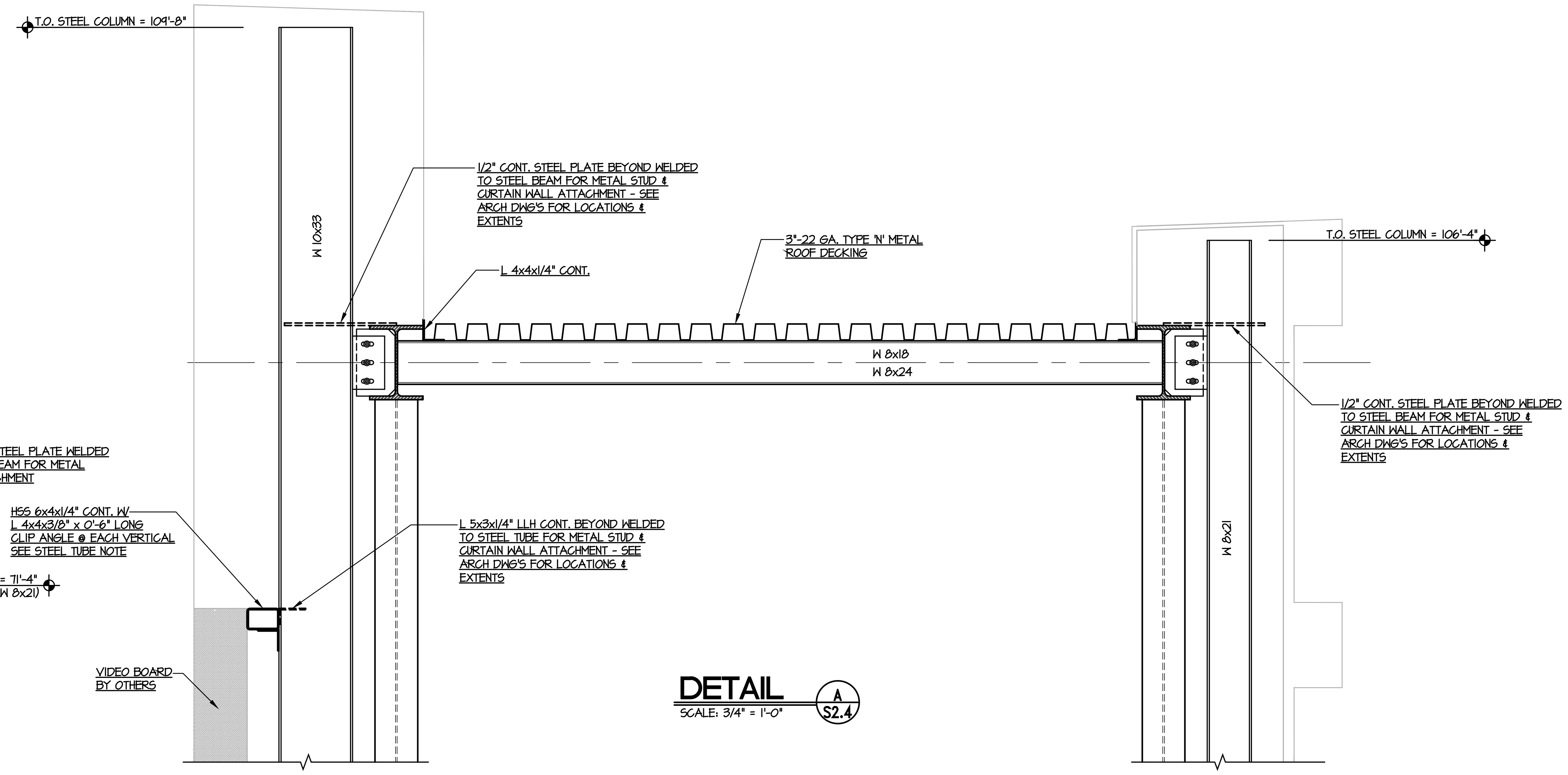
SECTION 1 S2.4



DETAIL D S2.4
SCALE: 3/4" = 1'-0"

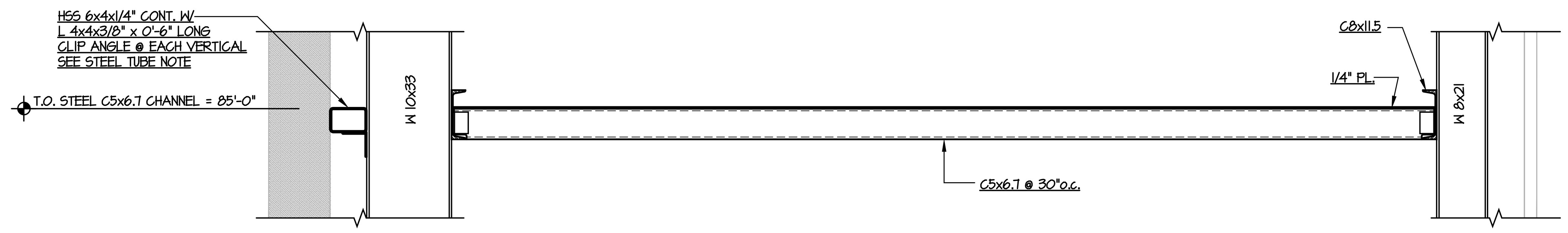


DETAIL E S2.4
SCALE: 3/4" = 1'-0"

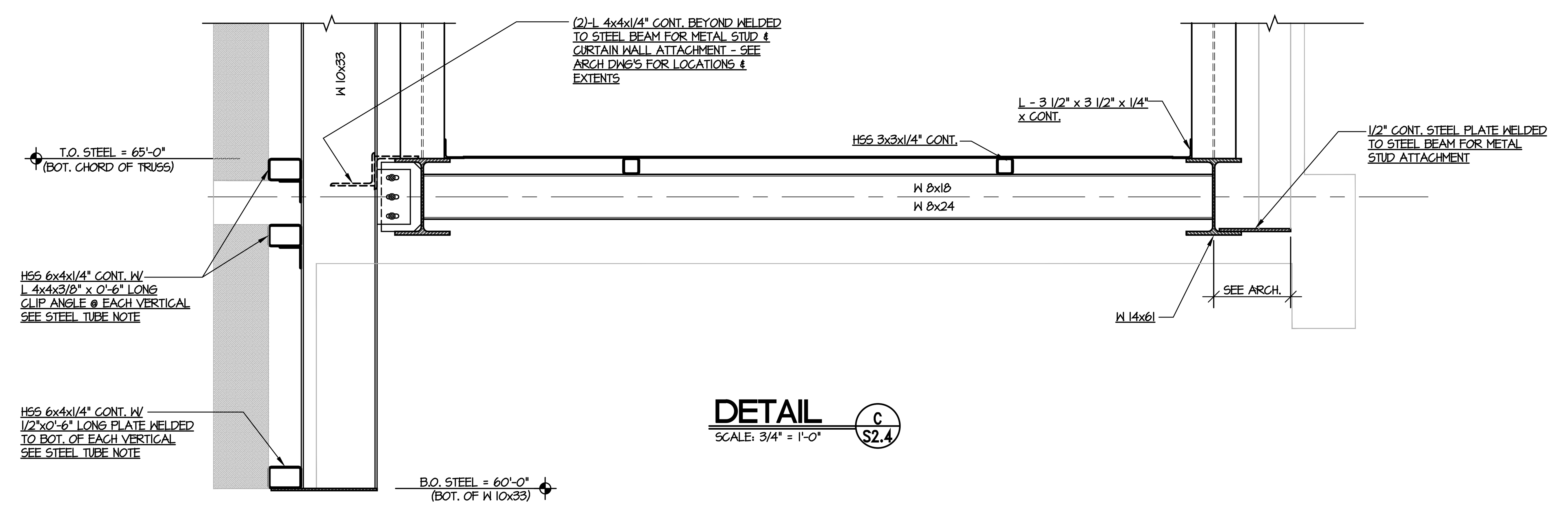


DETAIL A S2.4
SCALE: 3/4" = 1'-0"

6"x4" STEEL TUBE NOTE:
THE CONTRACTOR SHALL COORDINATE W/ VIDEO BOARD SUPPLIER FOR NUMBER OF, LOCATION & SPACING OF HORIZONTAL TUBES.



DETAIL B S2.4
SCALE: 3/4" = 1'-0"



DETAIL C S2.4
SCALE: 3/4" = 1'-0"

Revisions	
Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER REGISTERED No. 11150 01/02/12 KENNETH WILLIAM TIMMERMAN

[illegible]

SOUTH CAROLINA KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 CERTIFICATE OF AUTHORIZATION

Job Title:
WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

KYZER & TIMMERMAN
STRUCTURAL ENGINEERS
580 Chris Drive, West Columbia S.C. 29169 Ph. 803.791.4511 Fax 803.791.4522

Drawing Title:
STEEL FRAMING SECTIONS

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number
S2.4
STATE PROJECT NO: H-27-6089-MJ

LOAD TABLE

2006 INTERNATIONAL BUILDING CODE AND ASCE 7-05

LIVE LOADS:

1. FLOOR LOADS: (ASCE Table 4-1)
   - A. Catwalks = 40 p.s.f.
   - B. Ladders:
     - Shipe Ladders W/ Treads = 100 p.s.f.
     - Ladders W/ Rungs = 300 lb Conc.

2. ROOF LOADS:
   - A. Basic roof live load = 20 p.s.f.

Note: It shall be unlawful to place, cause or permit to be placed, on any floor or roof of a building, structure, or portion thereof, a load greater than is permitted by these requirements. (per IBC 1603.2)

DEAD LOADS:

1. USE ACTUAL DEAD LOADS OF MATERIALS

SNOW LOADS:

GROUND SNOW LOAD – Pg = 10 p.s.f.	(ASCE Figure 7-1)
SNOW LOAD IMPORTANCE FACTOR – Is = 1.0	(ASCE Table 7-4)
SNOW EXPOSURE FACTOR – Ce = 0.9	(ASCE Table 7-2)
THERMAL FACTOR – Ct = 1.2	(ASCE Table 7-3)
FLAT-ROOF SNOW LOAD–Pf = 8 p.s.f.	(ASCE Section 7.3)

WIND LOADS:

BASIC WIND SPEED (3-SECOND GUST) = 100 (mph)	(ASCE Figure 6-1)
BUILDING CATEGORY = II	(ASCE Table 1-1)
WIND IMPORTANCE FACTOR – Iw = 1.0	(ASCE Table 6-1)
WIND EXPOSURE = C	(ASCE Section 6.5.6)

WIND BORN DEBRIS – NO

If yes, exterior windows and doors shall have debris protection per IBC 1609.1.2.

INTERNAL PRESSURE COEFICIENT

Enclosed Building +/- 0.18 (ASCE Figure 6-5)

1. DESIGN WIND PRESSURES:
   - A. Main Windforce Resisting System = 39 psf (ASCE Section 6.5.12.2)
   - B. Components and Cladding (ASCE Section 6.5.12.4)

The wind pressures (and associated DP ratings) indicated below are considered as the minimum unless otherwise specified by code.

ZONE	PRESSURE	SUCTION
ROOF ZONE ①	N/A	-35.4 PSF
ROOF ZONE ②	N/A	-57.0 PSF
ROOF ZONE ③	N/A	-78.7 PSF
WALL ZONE ④	25.1 PSF	-26.9 PSF
WALL ZONE ⑤	25.1 PSF	-41.6 PSF

a = width of pressure coeff. zone = 4'

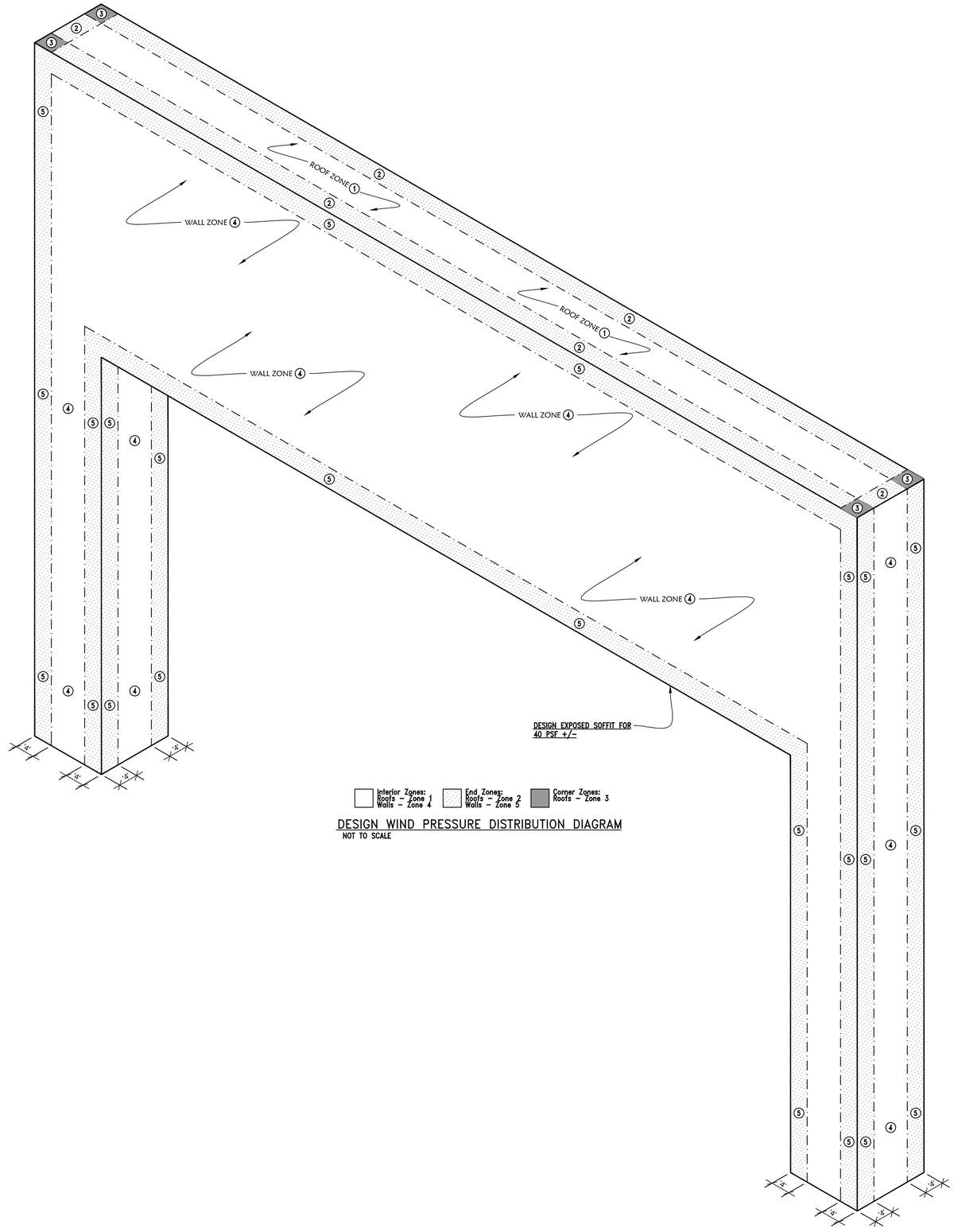
Roof Net Uplift = (Zone Suction Reduced by Dead Load)

NOTE: SEE DESIGN WIND PRESSURE DISTRIBUTION DIAGRAM.

SEISMIC LOADS:

SITE CLASS – D	(ASCE Chapter 20)
SPECTRAL RESPONSE ACCELERATIONS	(ASCE Figure 22-1 & 22-2)
Ss = 0.55 S1 = 0.15	
SPECTRAL RESPONSE COEFFICIENTS	(ASCE Section 11.4.4)
Sds = 0.50 Sd1 = 0.22	
SEISMIC IMPORTANCE FACTOR – Ie = 1.0	(ASCE Table 11.5-1)
SEISMIC DESIGN CATEGORY = D	(ASCE Table 11.6-1 & 11.6-2)
BASIC SEISMIC-FORCE RESISTING SYSTEM= SPECIAL STEEL TRUSS MOMENT FRAMES	(ASCE Table 12.2-1)
SEISMIC RESPONSE COEFFICIENT – Cs = .071	(ASCE Section 12.8.1.1)
RESPONSE MODIFICATION FACTOR – R = 7	(ASCE Table 12.2-1)
DESIGN BASE SHEAR – 22 KIPS	(ASCE Section 12.8)
ANALYSIS PROCEDURE – EQUIVALENT FORCE METHOD	

Much of the information presented in this load table originates from the applicable building code(s). The structural design for systems such as metal studs, exterior doors,windows, skylights, roofing systems, etc. will likely be more complicated and more building specific than indicated in this table. Designers and suppliers must refer to the applicable building codes, site conditions and architectural drawings to adequately design and / or specify their individual components and systems.



DESIGN WIND PRESSURE DISTRIBUTION DIAGRAM

NOT TO SCALE

Revisions	
Revision	By

Seal

REGISTERED PROFESSIONAL ENGINEER – SOUTH CAROLINA – No. 11150 – 01/02/12 – KENNETH WILLIAM TIMMERMAN

KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 CERTIFICATE OF AUTHORIZATION – SOUTH CAROLINA

Job Title:

WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

KYZER & TIMMERMAN STRUCTURAL ENGINEERS
580 Citrus Drive, West Columbia S.C. 29169 Ph. 803.791.4511 Fax 803.791.4522

Drawing Title:

LOAD TABLE & WIND DISTRIBUTION

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number

S3.0

STATE PROJECT NO: H-27-6069-ML

STRUCTURAL NOTES:

1. THE NOTES PRESENTED IN THESE STRUCTURAL DRAWINGS ARE TO PROVIDE THE CONTRACTOR (AND SUBCONTRACTORS) WITH USEFUL INFORMATION PERTAINING TO THE STRUCTURAL WORK REQUIRED FOR THIS PROJECT. MANY OF THE NOTES PRESENTED HERE HAVE BEEN SPECIFICALLY GENERATED TO BRING ATTENTION TO CERTAIN ASPECTS AND/OR CONDITIONS WHICH MAY BE SPECIFIC TO THIS PROJECT OR PERTAINING TO CERTAIN REQUIREMENTS BY KYZER AND TIMMERMAN. IN SOME CASES A BOOK OF SPECIFICATIONS (SPECIFICATION BOOK) MAY BE PROVIDED BY THE LEAD DESIGNER WHICH SHALL BE CONSIDERED AS SUPPLEMENTAL INFORMATION TO THESE DRAWINGS. IN THE EVENT OF ANY CONFLICTING INFORMATION IN THE STRUCTURAL DRAWINGS, OR BETWEEN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHOULD FAX A (REQUEST FOR INFORMATION((RFI) TO THE APPROPRIATE DESIGNER, IN THE APPROPRIATE OFFICE, OF KYZER AND TIMMERMAN. THE LEADER OF THE DESIGN TEAM (ARCHITECT) SHOULD BE COPIED. THE CONTRACTOR SHOULD ASSUME THE MOST STRINGENT CONDITION UNTIL A RULING IS MADE. THE RESPONSE TIME FOR THE RFI WILL DEPEND ON THE REQUIRED RESEARCH AND MAY INVOLVE A RESPONSE FROM INDIVIDUALS OUTSIDE THE OFFICE OF KYZER AND TIMMERMAN.

2. THE GENERAL/STRUCTURAL NOTES FOR THIS PROJECT ARE GENERALLY CATEGORIZED AS TO WORK TRADE. THERE WILL BE INSTANCES IN WHICH SOME STRUCTURAL NOTES WILL PERTAIN TO MULTIPLE TRADES AND DRAWINGS OR INFORMATION PROVIDED BY OTHERS. FOR THIS REASON, THE DETAILS AND NOTES FOUND IN THE CONSTRUCTION DRAWINGS, DOCUMENTS AND SUBMITTALS SHALL BE CLEARLY UNDERSTOOD BY THE CONTRACTOR AND HIS SUBCONTRACTORS PRIOR TO STARTING THAT PART OF THE WORK. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SUPERVISION OVER ALL HIS PERSONNEL AND SUBCONTRACTORS FOR THIS PROJECT. ADEQUATE EXPERIENCED STAFFING BY THE GENERAL CONTRACTOR IS A REQUIREMENT TO MAINTAIN CONTROL OVER HIS SUBCONTRACTORS AND ULTIMATELY THE QUALITY OF THE SUBCONTRACTOR(S WORK. IT MUST BE REALIZED BY ALL PARTIES THAT KYZER AND TIMMERMAN STRUCTURAL ENGINEERS IS NOT THE LICENSED CONTRACTOR FOR THIS PROJECT AND DOES NOT ASSUME THE RESPONSIBILITY OF THE CONTRACTOR(S QUALITY CONTROL OFFICER (OR SAFETY OFFICER) FOR THIS PROJECT.

3. THE HORIZONTAL AND VERTICAL BUILDING DIMENSIONS ORIGINATE FROM THE LEAD DESIGNER DRAWINGS. THE LEAD (ARCHITECTURAL) DRAWINGS SHALL BE CONSIDERED AS (THE ORIGINAL SOURCE(FOR THE DIMENSIONING FOR THE PROJECT AND THEREBY WILL NORMALLY TAKE PRECEDENCE OVER THE DRAWINGS BY OTHERS ON THE DESIGN TEAM. THE DIMENSIONS INDICATED IN THESE STRUCTURAL DRAWINGS ARE TO DOCUMENT AND AID THE STRUCTURAL DESIGNER WITH THE DIMENSIONS USED FOR THE BASIC DESIGN OF THE STRUCTURAL SYSTEM. CONSTRUCTION AND DETAILING DIMENSIONS SHALL BE TAKEN (OR DERIVED) FROM THE (ORIGINAL SOURCE) DRAWINGS BY THE ARCHITECT OR LEAD DESIGNER. KYZER AND TIMMERMAN STRUCTURAL ENGINEERS PROVIDE STRUCTURAL ENGINEERING SERVICES AND SHALL NOT BE CONSIDERED THE LEAD DESIGNER, STRUCTURAL DETAILER OR BUILDING SURVEYOR FOR THIS PROJECT.

4. TO LESSEN THE RISK OF ERROR, THE CONTRACTOR IS ADVISED TO PROVIDE HIS DESIGNERS AND DETAILERS FOR THE STRUCTURAL SYSTEM(S) COMPLETE SETS OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS FOR THEIR USE. FAILURE TO PROVIDE COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS MAY CONTRIBUTE TO AN ERROR IN DETAILING, ETC.

5. AS PART OF MEANS AND METHODS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND ERECTION OF TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURAL SYSTEM AND STRUCTURAL COMPONENTS DURING ALL PHASES OF CONSTRUCTION. KYZER AND TIMMERMAN ARE NOT THE PROVIDERS FOR THE DESIGN OF SHORING, SCAFFOLDING, FORMING OR PROJECT SAFETY. THOUGH A REPRESENTATIVE FROM KYZER AND TIMMERMAN MAY VISIT THE SITE, OUR PERSONNEL ARE NOT HIRED OR TRAINED TO RECOGNIZE PROJECT SAFETY REQUIREMENTS AS REQUIRED BY REGULATIONS OR SPECIFIED BY THE CONTRACTOR AND/OR HIS SAFETY OFFICER(S).

6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY, GATHER AND SUBMIT ALL SHOP DRAWINGS TO THE ARCHITECT OR LEAD DESIGNER FOR STRUCTURAL COMPONENTS. THIS STIPULATION IS FOR THE SPECIFIC PURPOSE OF KEEPING TRACK OF THE REQUIRED SHOP DRAWINGS FOR THE PROJECT THEREBY PROVIDING THE PROJECT WITH ALL THE NECESSARY SHOP DRAWINGS RELATING TO STRUCTURAL COMPONENTS AND STRUCTURAL SYSTEM(S). THOUGH THE ARCHITECT AND/OR STRUCTURAL ENGINEER MAY PERFORM SITE VISITS-THESE VISITS DO NOT RELIEVE THE CONTRACTOR FROM THE DUTIES OF GATHERING AND SUBMITTING SHOP DRAWINGS. NOR DOES THE PRESENCE OF THE ARCHITECT OR STRUCTURAL ENGINEER ON SITE RELIEVE THE CONTRACTOR FROM PROVIDING THE NECESSARY QUALITY CONTROL OVER THIS PROJECT. THE STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED FOR SHOP DRAWINGS, SECTION SHEETS OR ERECTION PLANS. THE CONTRACTOR SHALL SUBMIT AN AMPLE NUMBER OF SETS OF SHOP DRAWINGS TO ALLOW FOR EACH DESIGN PROFESSIONAL TO RETAIN A SET FOR THE FILE. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS DETERMINED BY THE REVIEWER, SHALL BE ALLOTTED FOR HIS REVIEW OF SHOP DRAWINGS. THE CONTRACTOR SHOULD ISSUE SHOP DRAWINGS EARLY ENOUGH TO ALLOW FOR THE NECESSARY FABRICATION TIME. THE MEMBERS OF THE DESIGN TEAM SHOULD RECEIVE A FINAL SET OF SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET(WHICH INCORPORATES ANY COMMENTS MADE DURING THE SHOP DRAWING PROCESS. (FINAL SHOP DRAWINGS(STRUCTURAL SHOP DRAWINGS ARE REQUIRED TO BEAR THE SEAL OF A REGISTERED ENGINEER IN THE PROJECT STATE.

7. THE CONTRACTOR IS ADVISED TO VISIT THE SITE PRIOR TO BID FOR THE PURPOSES OF DETERMINING SITE CONDITIONS WHICH MAY ADVERSELY AFFECT THE BID FOR THE PROJECT.

8. THE ENGINEER'S APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS AND THE PROJECT SPECIFICATION REQUIREMENTS. THOUGH THE SHOP DRAWINGS MAY BE APPROVED BY THE STRUCTURAL ENGINEER, THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS. CONTRACTOR DEVIATIONS TO THE CONTRACT DOCUMENTS MUST BE SUBMITTED SEPARATELY FOR APPROVAL AND TO BRING ATTENTION TO THE DEVIATION. IT IS THE CONTRACTOR(S DUTY TO CHECK, VERIFY, CONFIRM AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS AND COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS AND/OR SUBCONTRACTORS FOR THIS PROJECT.

9. ALL HANDRAILS, STAIRS, STAIR LANDINGS, HOIST BEAMS, OTHER ARCHITECTURAL/STRUCTURAL ITEMS & THEIR CONNECTIONS NOT SHOWN ON THE STRUCTURAL AND/OR ARCHITECTURAL DRAWINGS SHALL BE DESIGNED BY A REGISTERED ENGINEER, REGISTERED IN THE PROJECT STATE, TO RESIST ALL APPLIED LOADS PER THE LATEST EDITION OF THE APPLICABLE BUILDING CODE(S) AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. ANY ENGINEERING AND DETAILING FEES, MATERIAL AND LABOR COSTS FOR THESE ITEMS IS CONSIDERED PART OF THE CONTRACT.

10. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AND ARCHITECT OF ANY UNUSUAL AND/OR EXCESSIVE LOADS DUE TO EQUIPMENT OR CONSTRUCTION REQUIREMENTS PRIOR TO CONSTRUCTION. ANY ADDITIONAL COSTS ASSOCIATED WITH THESE ADDITIONAL LOADS SHALL BE CONSIDERED PART OF THE CONTRACTOR(S ORIGINAL SCOPE OF WORK INCLUDING ENGINEERING FEES.

11. THE STRUCTURAL DRAWINGS AND RELATED INFORMATION SHALL BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL DRAWINGS AS WELL AS OTHER INFORMATION AND DOCUMENTS RELATING TO OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS OWN VERIFICATION AND COORDINATION OF DIMENSIONS, FIELD CONDITIONS, CLEARANCES, ETC. WITH THE WORK OF THE OTHER TRADES. IN CASE OF CONFLICT, CONTACT ARCHITECT AND/OR ENGINEER VERBALLY AND IN WRITING. IN THE OPINION OF THE CONTRACTOR, ANY CONDITIONS WHICH MAY APPEAR TO BE AN OMISSION, DEFICIENCY OR AMBIGUITY IN THE DESIGN DOCUMENTS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR LEAD DESIGNER, IN THE FORM OF AN (RFI((REQUEST FOR INFORMATION) FOR CLARIFICATION. INTERPRETATIONS OR ADDITIONAL INFORMATION MAY BE ISSUED BEFORE THAT PORTION OF THE WORK MAY PROCEED. WORK PERFORMED BY THE CONTRACTOR, NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS MAY REQUIRE AN ENGINEERING EVALUATION, TESTING OR REMOVAL AT THE EXPENSE OF THE CONTRACTOR. THE ARCHITECTURAL DRAWINGS ARE CONSIDERED THE LEAD DRAWINGS FOR PROJECT INCLUDING DIMENSIONS AND BUILDING LAYOUT/PLACEMENT. THE CONTRACTOR MUST LAYOUT THE BUILDING AND BUILDING COMPONENTS PER THE INFORMATION PROVIDED IN THE ARCHITECTURAL DRAWINGS. DO NOT RELY SOLELY ON THE STRUCTURAL DRAWINGS FOR BUILDING LAYOUT, EQUIPMENT LAYOUT AND SO ON. AN ARCHITECTURAL (ADDENDUM(MAY CAUSE A CHANGE IN THE DIMENSIONS FOUND IN THE STRUCTURAL DRAWINGS.

12. THE CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL SLOTS, PIPE SLEEVES, ANCHOR BOLTS, ETC. AS REQUIRED FOR ALL TRADES PRIOR TO CONSTRUCTING THAT PORTION OF THE PROJECT.

13. WORK NOT INDICATED AS PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT AT CORRESPONDING PLACES SHALL BE REPEATED.

14. THE CONTRACTOR SHALL BUILD THIS PROJECT IN ACCORDANCE TO ALL APPLICABLE BUILDING CODES AND SAFETY STANDARDS AND/OR REGULATIONS.

15. THE DESIGN PROFESSIONALS DO NOT CONTROL, THE CONTRACTOR'S MEANS, METHODS, SEQUENCE, TECHNIQUES, PROCEDURES AND/OR QUALITY CONTROL IN PERFORMING THE WORK, SITE SAFETY OR SAFETY PROGRAMS IN CONNECTION WITH THIS PROJECT. THESE DUTIES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND HIS STAFF. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL REGULATORY AGENCIES.

16. THESE STRUCTURAL DRAWINGS ARE TO BE USED FOR DESCRIBING THE STRUCTURAL SYSTEM FOR THE PROJECT. FINISHES, FIXTURES AND ALL OTHER NON-STRUCTURAL COMPONENTS SHALL BE DESIGNED AND/OR SELECTED BY OTHER PROFESSIONALS. THE CONTRACTOR SHALL SHOULDER THE RESPONSIBILITY FOR INSTALLATION, PERFORMANCE, DURABILITY OR MAINTENANCE FOR THESE ITEMS.

17. ALL SUSPENDED EXTERIOR CEILING/SOFFIT SYSTEMS (INCLUDING LIGHT FIXTURES) SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER(S). ATTACHMENTS, WIRES, STRUTS AND OTHER SUPPORTS SHALL BE DESIGNED TO RESIST THE CODE REQUIRED WIND (BOTH NEGATIVE AND POSITIVE PRESSURES) AND SEISMIC LOADS PER THE APPLICABLE EDITION OF THE APPROPRIATE BUILDING CODE(S).

18. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ALL WALL OPENINGS INCLUDING DOORS, WINDOWS AND VENTS. REFER TO ELECTRICAL AND MECHANICAL PLANS AND/OR REQUIREMENTS FOR SIZE AND LOCATION OF ALL OPENINGS FOR DUCTS, PIPING, CONDUCTS, ETC.

19. THESE STRUCTURAL DRAWINGS ARE BASED ON THE LATEST INFORMATION/ARCHITECTURAL DRAWINGS PRIOR TO THE SUBMITTAL DATE. SOME DIMENSIONS FOUND IN THESE DRAWINGS MAY HAVE BEEN VERBALLY COMMUNICATED BY THE ARCHITECT OR TAKEN DIRECTLY FROM ELECTRONIC FILES SUPPLIED BY THE ARCHITECT. GENERAL CONTRACTOR AND SUBCONTRACTORS ARE ADVISED TO USE THE ARCHITECTURAL DRAWINGS AS THE BASIS FOR THE DIMENSIONS ON THIS PROJECT. TYPICALLY, THE ARCHITECTURAL DRAWINGS ARE CONSIDERED THE LEAD DRAWINGS FOR DIMENSIONING.

20. THESE DRAWINGS ARE AN INSTRUMENT OF SERVICE AND SHALL NOT BE REPRODUCED, ALTERED OR REUSED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF KYZER & TIMMERMAN STRUCTURAL ENGINEERS. THESE STRUCTURAL DRAWINGS ARE PROTECTED THROUGH THE U.S. GOVERNMENT COPYRIGHT LEGISLATION. THE DETAILS AND NOTES INDICATED IN THESE DRAWINGS ARE PART OF AN OVERALL COPYRIGHT REGISTERED WITH (THE UNITED STATES COPYRIGHT OFFICE, THE LIBRARY OF CONGRESS) COPYRIGHT 2012 - KYZER & TIMMERMAN STRUCTURAL ENGINEERS. (803)791-4511/ 791-4522 FAX

21. EXISTING BUILDINGS/STRUCTURES: DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS WILL REQUIRE FIELD VERIFICATION. DEPENDING ON FIELD CONDITIONS BEYOND THE DESIGNER(S CONTROL, SOME STRUCTURAL/ARCHITECTURAL SECTIONS AND/OR DETAILS WILL REQUIRE MODIFICATION. THE CONTRACTOR SHALL INCLUDE THE ALLOWANCE NECESSARY TO PERFORM THESE MODIFICATIONS AND ASSOCIATED WORK. THE CONTRACTOR PERFORMING ALL WORK IS EXPECTED TO HAVE AT LEAST 5 YEARS EXPERIENCE IN PROJECTS OF THIS TYPE, SIZE AND SCOPE OF WORK. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO OBSERVE THE FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS FOR ACCURACY.

22. IN THE EVENT THAT STRUCTURAL (AS-BUILTS(ARE REQUIRED FOR THE PROJECT, THE DRAWINGS SHALL BE FULL SIZE DOCUMENTS CLEARLY STAMPED OR LABELED (AS-BUILTS(WITH A SIGNATURE AND THE PRINTED NAME (ALL SHEETS) OF THE INDIVIDUAL CERTIFYING THE DRAWINGS TO BE TRUE AS-BUILTS. SKETCHES AND DETAILS ON SMALLER SHEETS MAY BE TAPED (FRONT SIDE ONLY) ONTO ADDITIONAL FULL SIZE SHEETS AND BOUND INTO THE (AS-BUILT) STRUCTURAL DRAWING PACKAGE. (AS-BUILTS) SUBMITTED TO THE STRUCTURAL ENGINEER NOT CONFORMING TO THE ABOVE ARE SUBJECT TO BE REJECTED BY THE STRUCTURAL ENGINEER.

23. QUESTIONS RELATING TO THESE STRUCTURAL DRAWINGS MAY BE SUBMITTED IN WRITING, THROUGH THE ARCHITECT OR PRIME PROFESSIONAL TO THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER SHALL BE COPIED AT:

KYZER & TIMMERMAN STRUCTURAL ENGINEERS
580 CHRIS DRIVE
WEST COLUMBIA, SC 29169
(803) 791-4511
(803) 791-4522 (FAX)

GEOTECHNICAL:

1. THE CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS INDICATED IN THE GEOTECHNICAL REPORT, WHICH SHALL BE CONSIDERED AN INTEGRAL PART OF THESE CONTRACT DOCUMENTS. REFERENCE IS MADE TO THE GEOTECHNICAL REPORT BY GS2 ENGINEERING, REPORT #11-3688-G DATED 11/23/2011. GEOTECHNICAL QUESTIONS ARE TO BE DIRECTED IN WRITING TO THE GEOTECHNICAL ENGINEER, ARCHITECT OR LEAD DESIGNER.

2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXCAVATIONS AND SLOPES.

3. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR DIVERTING/PUMPING ALL FORMS OF WATER FROM THE WORKING AREA OF THE SITE. DEPENDING ON THE SITE LOCATION AND UNDERLYING SOILS SITE WATER MAY INCLUDE OFF SITE DRAINAGE, RAINWATER, STORM WATER, GROUND WATER, SPRINGS AND INFRASTRUCTURE. DEWATERING THE SITE AND FOUNDATION EXCAVATIONS IS CONSIDERED PART OF THE SLAB AND FOUNDATION PREPARATION FOR THE PROJECT. REFER TO GEOTECHNICAL AND SITE ENGINEER AS NECESSARY IF ADDITIONAL INFORMATION IS REQUIRED.

4. THE SIDES OF FOUNDATION CONCRETE (FOOTINGS, PILE CAPS, CAISSON CAPS, ETC.) MAY BE EARTH FORMED PROVIDED THE EXCAVATION CAN BE SAFELY KEPT VERTICAL, CLEAN AND STABLE, OTHERWISE, FORMS MUST BE USED. REFER TO GEOTECHNICAL ENGINEER FOR ADDITIONAL INFORMATION AS REQUIRED.

CAISSONS/DRILLED PIERS:

1. CAISSONS SHALL BE 36 INCH DIAMETER AND CAPABLE OF RESISTING THE FOLLOWING LOADS:

   2621 KIPS DOWNWARD

   525 KIPS UPLIFT

   34 KIPS LATERAL

2. CAISSONS SHALL BE AS SPECIFIED AND INSTALLED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

3. THE ALLOWABLE DESIGN LOADS, SAFETY FACTORS, FIELD TESTS, INTERPRETATION OF SOIL DATA AND DESIGN RECOMMENDATIONS ARE THE RESPONSIBILITY OF THE GEOTECHNICAL PROFESSIONAL. THOUGH CERTAIN GEOTECHNICAL INFORMATION MAY BE ASSUMED IN THE PRELIMINARY DESIGN, IT IS BEYOND THE SCOPE OF WORK FOR THE STRUCTURAL ENGINEER TO CERTIFY THE SITE, SPECIFY SPECIFIC TESTING REQUIREMENTS AND/OR INTERPRET GEOTECHNICAL FIELD DATA.

4. IT IS RECOMMENDED THAT THE FIELD TESTING AND MONITORING ASSOCIATED WITH DEEP FOUNDATIONS BE DONE BY THE GEOTECHNICAL FIRM PERFORMING THE EXPLORATION AND GEOTECHNICAL REPORT.

PUSH PIER SUPPORTS:

1. PUSH PIERS SHALL HAVE A MINIMUM SHAFT DIAMETER OF 3 INCHES AND CAPABLE OF RESISTING THE FOLLOWING LOADS:

   3 TONS DOWNWARD

   0 TONS UPLIFT

2. THE CONTRACTOR SHALL AVOID DAMAGE TO THE EXISTING STRUCTURE.

3. CARE SHALL BE TAKEN TO DETERMINE AND ADEQUATELY LOCATE ANY EXISTING UTILITIES, POWER LINES, PIPES ETC. PRIOR TO INSTALLATION. THIS INCLUDES UTILITIES ABOVE AND BELOW GROUND.

4. ALL PIERS, BRACKETS, BOLTS AND HARDWARE SHALL BE GALVANIZED.

5. ALL HOLLOW PIERS SHALL BE GROUT FILLED.

6. A SAFETY FACTOR OF NO LESS THAN 1.5 SHALL BE USED IN DESIGN OF THE ULTIMATE CAPACITY OF THE HELICAL PIERS.

7. INSTALLATION PROCEDURE OF STEEL FOUNDATIONS SHALL BE AS SPECIFIED BY MANUFACTURER(S RECOMMENDATIONS.

8. UNLESS SPECIFIED OTHERWISE IN THE DRAWINGS/DESIGN, THE PUSH PIERS SHALL BE INSTALLED AS CLOSE TO VERTICAL AS POSSIBLE.

9. PIERS SHALL BE CONNECTED TO AN APPROPRIATE BRACKET CAPABLE OF SUPPORTING THE DESIGN ALLOWABLE LOADS WITH A MINIMUM SAFETY FACTOR OF 1.5.

10. CONTRACTOR SHALL SUBMIT TO ARCHITECT FOR APPROVAL THE PIER MANUFACTURER ALONG WITH THE MANUFACTURER(S PIER INFORMATION INCLUDING SHAFT SIZE, LENGTH, AND PIER CAP CONNECTOR INFORMATION PRIOR TO INSTALLATION.

RAMP/LOADING DOCK WALLS:

1. UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER IT IS RECOMMENDED THAT RETAINING WALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6 INCHES AND COMPACTED WITH HAND HELD TAMPERS.

2. RAMP WALLS SHALL BE ADEQUATELY BRACED AGAINST EARTH/BACKFILL PRESSURES UNTIL SLABS AT THE TOP AND BOTTOM OF THE WALL ARE IN PLACE. THE CONTRACTOR IS TO TAKE CARE TO MAKE NECESSARY CONNECTIONS TO THE RAMP SLAB FOR WALLS IN ORDER TO TRANSFER THE HORIZONTAL LOADS FROM TOP OF THE BASEMENT WALLS INTO THE RAMP SLABS.

5. ALL RETAINING WALLS SHALL HAVE #57 DRAINAGE STONE (12 INCHES WIDE) BEHIND THE WALL. THE DRAINAGE STONE SHALL EXTEND FROM FRENCH DRAIN (FOOTING) TO TWO FEET FROM THE FINISH GRADE. FILTER FABRIC SHALL BE PROPERLY PLACED BETWEEN THE GRAVEL AND SOIL TO PREVENT THE GRAVEL FROM BEING POLLUTED BY THE SURROUNDING SOILS. ALL SOILS SHALL BE PROPERLY PLACED AND COMPACTED AS REQUIRED BY GEOTECHNICAL ENGINEER.

CONCRETE:

1. ALL CONCRETE AND REINFORCING BARS SHALL BE INSTALLED ACCORDING TO STANDARDS SET FORTH BY THE LATEST EDITION OF ACI-318.

2. REINFORCEMENT SHALL BE HELD IN PLACE DURING CONCRETE PLACEMENT. IF REQUIRED, ADDITIONAL BARS MAY BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS.

3. 28 DAY MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE AS FOLLOWS:

FOOTINGS	3000 PSI
SLABS ON GRADE	3000 PSI
STEPS ON GRADE	3500 PSI
PIERS	5000 PSI
CAISSONS	4500 PSI
PILE CAPS	4500 PSI

NO CALCIUM CHLORIDE SHALL BE USED IN MIX.

4. THE CONTRACTOR SHALL TAKE ADDITIONAL PRECAUTIONS WHEN CONCRETE IS TO BE PLACED AND CURED DURING COLD OR HOT WEATHER. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS PRESCRIBED BY AMERICAN CONCRETE INSTITUTE FOR COLD OR HOT WEATHER CONSTRUCTION.

5. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE ABOVE THAT PRESCRIBED IN THE MIX DESIGN UNLESS APPROVED BY THE ARCHITECT OR STRUCTURAL ENGINEER.

6. REINFORCING STEEL: ASTM A 615, GRADE 60, MINIMUM LAP IN CONCRETE SHALL BE IN ACCORDANCE W/ ACI?318.

7. WELDED WIRE FABRIC SHALL BE LAPPED A MINIMUM OF 1'?0".

8. ALL PLUMBING SLOTS SHALL BE FILLED WITH CONCRETE TO THE SAME DEPTH AS THE FLOOR SLAB AFTER PIPING IS INSTALLED.

9. EXTERIOR CONCRETE PADS SHALL BE SIZED AND LOCATED PER THE CONTRACT DOCUMENTS AND/OR EQUIPMENT SPECIFICATIONS. PLEASE SEE DRAWINGS BY ARCHITECT AND/OR MECHANICAL/ELECTRICAL ENGINEERS IN ADDITION TO THE STRUCTURAL AND ARCHITECTURAL DRAWINGS.

10. THE GENERAL CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS SHOWING NUMBER, SIZE AND LOCATION, INCLUDING BAR LISTS AND DIAGRAMS, TO THE ARCHITECT FOR APPROVAL. TO PREVENT A POSSIBLE DELAY IN THE APPROVAL PROCESS, THE STRUCTURAL DRAWINGS SHALL NOT BE DUPLICATED IN THE SHOP DRAWING PROCESS. TO PREVENT DELAY IN CONSTRUCTION, SHOP DRAWINGS SHALL BE SUBMITTED TO ALLOW FOR AMPLE TIME FOR REVIEW AND FABRICATION.

THE STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED FOR SHOP DRAWINGS, SECTION SHEETS OR ERECTION PLANS. THE CONTRACTOR SHALL SUBMIT AN AMPLE NUMBER OF SETS OF SHOP DRAWINGS TO ALLOW FOR EACH DESIGN PROFESSIONAL TO RETAIN A SET FOR THE FILE. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS DETERMINED BY THE STRUCTURAL ENGINEER, SHALL BE ALLOTTED FOR HIS REVIEW OF SHOP DRAWINGS. THE CONTRACTOR MAY ISSUE SHOP DRAWINGS EARLY IN THE SCHEDULE TO ALLOW FOR ADEQUATE FABRICATION TIME. THE MEMBERS OF THE DESIGN TEAM SHALL RECEIVE A FINAL SET OF SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET(WHICH INCORPORATES ANY COMMENTS MADE DURING THE SHOP DRAWING PROCESS AND SHALL BE STAMPED BY A REGISTERED ENGINEER REGISTERED IN THE PROJECT STATE.

11. REBAR DOWELS SHALL MATCH VERTICAL REINFORCING (UNO).

12. PROVIDE PROPERLY TIED SPACERS, CHAIRS, BOLSTERS, ETC, AS REQUIRED AND NECESSARY TO ASSEMBLE, PLACE AND SUPPORT ALL REINFORCING. USE WIRE BAR TYPE SUPPORTS COMPLYING WITH CRSI RECOMMENDATIONS-USE PLASTIC TIP LEGS ON ALL EXPOSED CONCRETE.

13. REBAR MECHANICAL COUPLERS ARE PERMITTED PROVIDED THE COUPLER IS CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF THE BAR. ALL MECHANICAL COUPLERS SHALL BE ICBO APPROVED.

14. SEE ARCHITECTURAL DRAWINGS FOR REQUIRED CONCRETE FINISH/COLOR, SPECIAL FLATNESS REQUIREMENTS, ETC. ALL CONCRETE SHALL BE PROPERLY CURED IMMEDIATELY AFTER FINISHING.

15. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO COLLECT CYLINDERS AND PERFORM THE NECESSARY CONCRETE TESTS. A MINIMUM OF FOUR CYLINDERS SHALL BE TAKEN FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF)OF EACH CONCRETE TYPE/STRENGTH SUPPLIED. THE CONCRETE CYLINDERS SHALL BE TAKEN AFTER WATER AND ADMIXTURES (IF ANY) ARE ADDED TO THE MIX. IT IS RECOMMENDED THAT ONE CYLINDER SHALL BE TESTED AT 7 DAYS, TWO AT 28 DAYS AND HOLD THE FINAL CYLINDER IN RESERVE. IT IS RECOMMENDED THAT TEST REPORTS SHALL BE SENT DIRECTLY TO THE GENERAL CONTRACTOR, OWNER, ARCHITECT AND STRUCTURAL ENGINEER. ANY CYLINDER BREAKS (INCLUDING 7 AND 14 DAY BREAKS) SHALL BE FLAGGED AND BROUGHT TO THE ATTENTION OF THE APPROPRIATE DESIGN PROFESSIONAL.

16. AT APPLICATIONS REQUIRING NEW CONCRETE TO BE PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SHALL BE PROPERLY ROUGHENED, 1/4" HIGH TO LOW, AND A SUITABLE BONDING AGENT APPLIED PRIOR TO PLACING NEW CONCRETE. THE SURFACE PREPARATION AND BONDING AGENT IS IN ADDITION TO THE ANY DOWELS AS SPECIFIED IN THE DETAILS.

17. 4" SLAB ON GRADE SHALL BE REINFORCED WITH W6X6-W1.4 x W1.4 WWF ON PROPERLY PREPARED BASE MATERIAL WITH VAPOR BARRIER. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL ENGINEER(S RECOMMENDATIONS FOR SPECIFICS RELATING TO SLAB SUPPORT, LOCATION OF VAPOR BARRIER AND ANY OTHER (UNDER SLAB(REQUIREMENTS. A 4" SLAB IS TYPICALLY FOR (DOMESTIC OR LIGHT COMMERCIAL(APPLICATIONS WITH FLOOR LOADINGS UP TO 100 PSF. SLAB THICKNESS SHOULD BE INCREASED IN THE EVENT THERE IS A NEED FOR HEAVIER FLOOR LOADINGS- CONTRACTOR SHALL VERIFY FLOOR LOADS WITH OWNER AND EQUIPMENT SUPPLIERS, ETC. PRIOR TO BASE AND SLAB PLACEMENT. IN THESE AREAS THE SLAB SHALL BE THICKENED TO ACCOMMODATE THE LOADS. SEE CONSTRUCTION DOCUMENTS FOR LOCATIONS OF SLABS AND (BASIC(OR MINIMUM SLAB THICKNESS.

18. THE CONTRACTOR, CONCRETE SUPPLIERS AND ALL RELATED SUBCONTRACTORS SHALL BE EXPERIENCED IN THE USE OF CONCRETE ADMIXTURES, SEALERS, CURING COMPOUNDS, ETC. AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IN THE CONCRETE MIX.

19. ALL CONDUITS SHALL BE CAREFULLY POSITIONED IN CONCRETE WALLS AND SLABS PER REQUIREMENTS SET FORTH BY ACI-318. THE OUTSIDE DIAMETER OF ANY CONDUIT SHALL NOT BE GREATER THAN ONE THIRD OF THE THICKNESS OF SLAB OR WALL. CONDUITS SHALL NOT BE SPACED CLOSER THAN THREE CONDUIT DIAMETERS APART (MEASURED CENTER TO CENTER). REINFORCING BARS SHALL NOT BE CUT OR ALTERED TO INSTALL CONDUITS UNLESS APPROVED BY ARCHITECT/ STRUCTURAL ENGINEER.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. SHOP DRAWING NOTE: THIS NOTE IS DIRECTED TO THE CONTRACTOR, STEEL SUPPLIERS AND DETAILERS FOR STRUCTURAL AND MISCELLANEOUS STEEL, DECKING, JOISTS AND JOIST GIRDERS.

THE DETAILERS/ SUPPLIERS SHALL BE PROVIDED A FULL SET OF CONSTRUCTION DOCUMENTS (INCLUDING ADDENDUMS AND SPECIFICATIONS) BY THE CONTRACTOR FOR THEIR USE IN ORDER TO PROPERLY DETAIL THE PROJECT. DECK EDGES, DIMENSIONS, TOP OF STEEL, SLOPES, ARE CONTROLLED BY THE ARCHITECTURAL DRAWINGS.

THE CONTRACTOR SHALL ANSWER QUESTIONS, IN THE SHOP DRAWINGS, INDICATED TO THE (CONTRACTOR(AND/OR (APPROVER(OR SIMILAR DESIGNATION.

KYZER AND TIMMERMAN WILL RESPOND TO CLOUDED QUESTIONS, IN THE SHOP DRAWINGS PROCESS, DIRECTED TO THE (ENGINEER OF RECORD(OR SIMILAR DESIGNATION.

IT IS RECOMMENDED THAT THE DETAILER USE APPROPRIATE DESIGNATIONS FOR THE ARCHITECT, CIVIL ENGINEER, MECHANICAL ENGINEER, ELECTRICAL ENGINEER, ETC.

IT IS IMPORTANT FOR THE CONTRACTOR TO REVIEW THE SHOP DRAWINGS FROM HIS DETAILERS AND TO PROVIDE THE NECESSARY COORDINATION BETWEEN THE STEEL, JOISTS AND DECKING SHOP DRAWINGS PRIOR TO SUBMITTING TO THE DESIGN TEAM. SHOP DRAWINGS SUBMITTED TO THE DESIGN TEAM WITHOUT THE CONTRACTORS REVIEW ARE SUBJECT TO BE RESUBMITTED, REJECTED OR OTHER SIMILAR ACTION MAY BE TAKEN BY THE ARCHITECT AND/OR ENGINEER.

2. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL GRADES FOR ALL STEEL SHALL BE AS INDICATED BELOW:

   A. ANCHOR BOLTS ....ASTM A307
   B. CONNECTION BOLTS ....ASTM A325 OR A490
   C. PLATES AND FLAT BARS ...ASTM A36
   D. STEEL PIPE ....ASTM A53, TYPE E OR S, GRADE B, Fy=35 ksi
   E. STRUCTURAL TUBING ......ASTM A500, GRADE B, Fy=46 KSI
   F. WIDE FLANGE SHAPES .... ASTM A992, GRADE 50
   G. OTHER ROLLED SHAPES.....ASTM A36
   H. MISCELLANEOUS SHAPES ...ASTM A36

3. THE CONTRACTOR SHALL SUBMIT DETAILED STRUCTURAL STEEL SHOP DRAWINGS TO INCLUDE (BUT NOT LIMITED TO) COLUMNS, BEAMS, JOISTS, BRIDGING, DECKING, STAIRS, STAIR LANDINGS AND ALL CONNECTIONS. AS PART OF THE SHOP DRAWINGS, THE CONTRACTOR SHALL SUPPLY EMBEDDED STEEL PLATE AND BRACKET LOCATION DRAWINGS. IN NO CIRCUMSTANCES SHALL THE STRUCTURAL DRAWINGS BE REPRODUCED FOR SHOP DRAWINGS (SECTION SHEETS, ERECTION PLANS, ETC.). THE CONTRACTOR SHALL SUBMIT AN AMPLE NUMBER OF SETS OF SHOP DRAWINGS TO ALLOW FOR EACH DESIGN PROFESSIONAL TO RETAIN A SET FOR HIS/HER FILES. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS REQUIRED AND DETERMINED BY THE STRUCTURAL ENGINEER, SHALL BE ALLOTTED TO PERFORM HIS REVIEW OF SHOP DRAWINGS. THE CONTRACTOR IS ADVISED TO PROVIDE THE REQUIRED SHOP DRAWINGS AS SOON AS REASONABLY POSSIBLE TO ALLOW FOR ADEQUATE TIME FOR FABRICATION, SHIPPING ETC. THE MEMBERS OF THE DESIGN TEAM SHALL RECEIVE A FINAL SET OF SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET(WHICH INCORPORATES ANY COMMENTS MADE DURING THE SHOP DRAWING PROCESS AND SHOULD BE STAMPED BY A REGISTERED ENGINEER REGISTERED IN THE PROJECT STATE. THIS SET OF SHOP DRAWINGS SHALL ALSO CONTAIN THE SAME INFORMATION AS THE (FIELD SET). THE CONTRACTOR SHALL NOT CONSIDER THE SHOP DRAWING PROCESS COMPLETE UNTIL TIME THE STRUCTURAL ENGINEER RECEIVES THE SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET). THE CONTRACTOR SHOULD NOT FABRICATE STEEL UNTIL TIME THE STRUCTURAL ENGINEER RECEIVES THE FINAL DRAWINGS CARRYING THIS NOTATION. THIS SET OF SHOP DRAWINGS IS TO ALLOW THE ENGINEER OF RECORD TO HAVE A FINAL SET FOR HIS USE PRIOR TO ERECTION. DUE TO UNFORSEEN CONDITIONS, THE CONTRACTOR MAY CONSIDER TO PROCEED (AT HIS OWN RISK) TO FABRICATE AND ERECT STEEL PRIOR TO COMPLETED SUBMITTALS.

4. TO LESSEN THE RISK OF ERROR DESIGNERS AND DETAILERS OF THE STRUCTURAL SYSTEMS AND COMPONENTS FOR THIS PROJECT SHALL BE PROVIDED COMPLETE SETS OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS. THIS DONE TO ALLOW THE STEEL DETAILER TO IDENTIFY OTHER ADDITIONAL LOADS INCLUDING OPENINGS, DUCTS, HOODS, MECHANICAL AND OTHER SYSTEMS TO BE SUPPORTED BY STEEL. THE CONTRACTOR SHALL COORDINATE THE STEEL SUBCONTRACTORS AND DETAILERS TO ASSURE THAT THE NECESSARY STEEL IS PROVIDED TO SUPPORT AND/OR ACCOMMODATE THESE ADDITIONAL LOADS AND SYSTEMS.

5. ALL SHOP & FIELD WELDING SHALL BE PERFORMED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH A.W.S. SPECIFICATIONS-LATEST EDITION. BOTH SHOP AND FIELD WELDER CERTIFICATIONS SHALL BE CURRENT THROUGH THE DURATION OF THE STEEL WORK. THE CONTRACTOR SHALL KEEP ON SITE ALL WELDER CERTIFICATIONS (SHOP AND FIELD) AND SHALL BE MADE AVAILABLE UPON REQUEST OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER.

6. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF A.I.S.C. SPECIFICATIONS.

7. FIELD SPLICES SHALL BE DESIGNED AND CONSTRUCTED TO DEVELOP THE FULL CAPACITY OF THE MEMBER IN BENDING, SHEAR AND AXIAL LOADS.

8. CANTILEVERED BEAMS SHALL BE THE SAME SIZE AS THE BACK-SPAN UNLESS NOTED OTHERWISE.

9. IN THE ABSENCE OF SPECIFIC CAMBER REQUIREMENTS, THE STEEL SHALL BE FABRICATED AND ERECTED WITH MILL CAMBER UP.

10. ALL EXPOSED METALS INCLUDING MECHANICAL UNIT CURBS, TIE DOWN STRAPS, EXPOSED FRAMING, ASSOCIATED HARDWARE, ETC. SHALL BE GALVANIZED. THIS INCLUDE METALS EXPOSED TO UNDERGROUND/GROUND CONTACT.

11. WHETHER OR NOT SHOWN IN THE STRUCTURAL DETAILS, FULL HEIGHT WEB STIFFENER PLATES SHALL BE INSTALLED ON BOTH SIDES OF ALL STEEL BEAMS AT BEAM SUPPORTS AND LOCATIONS OF POINT LOADS FROM BEAMS AND COLUMNS, ETC. IN SOME CASES THESE STIFFENER PLATES MAY NOT BE SHOWN FOR CLARITY.

12. A SUITABLE NON-SHRINK GROUT (7000 PSI) SHALL BE USED UNDER BASE PLATES REQUIRING GROUT. GROUT SHALL BE PLACED UNDER THE BASEPLATE ONCE THE STEEL COLUMN IS IN PLACE & PLUMB. THOUGH THE DETAILS AND DRAWINGS MAY (OR MAY NOT) INDICATE, THE CONTRACTOR MAY OPT TO USE LEVELING PLATES AND LEVELING NUTS BELOW THE BASE PLATES TO PLUMB THE STEEL COLUMNS. THE CONTRACTOR SHALL ADJUST THE FOOTING ELEVATION(S) AND CONSIDER THE FLOOR ELEVATION FOR COLUMNS SUBJECT TO GROUT, LEVELING NUTS, ETC.

13. ALL WELDS IN EXPOSED STEEL SHALL BE FIELD COATED W/ ZINC-RICH PAINT.

14. ALL STEEL SHALL BE SHOP PRIMED EXCEPT AS NOTED BELOW. PRIMER: SSPC PAINT 25, TYPE 1, ZINC-OXIDE, ALKYD. LINSEED OIL PRIMER. COLOR SHALL BE GRAY.

15. SHOP PRIME ALL STEEL SURFACES EXCEPT THE FOLLOWING:
   A. SURFACES EMBEDDED IN CONCRETE OR MORTAR. EXTEND PRIMING OF PARTIALLY EMBEDDED MEMBERS TO A DEPTH OF 2 INCHES.
   B. SURFACES TO BE FIELD WELDED.
   C. SURFACES TO BE HIGH-STRENGTH BOLTED WITH SLIP-CRITICAL CONNECTIONS.
   D. SURFACES TO RECEIVE SPRAYED FIRE-RESISTIVE MATERIALS (APPLIED FIREPOOFING).
   E. GALVANIZED SURFACES.

   PROPERLY CLEAN AND PREPARE SURFACE TO ACCEPT THE PRIMER & APPLY PRIMER ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND AT A RATE RECOMMENDED BY SSPC TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 1.5 mils. USE PRIMING METHODS THAT RESULT IN FULL COVERAGE OF JOINTS, CORNERS, EDGES & EXPOSED SURFACES.

Revisions

Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER REGISTERED No. 11150 01/02/12 KENNETH WILLIAM TIMMERMAN

SOUTH CAROLINA KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 CERTIFICATE OF AUTHORIZATION

Job Title:
WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

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METAL DECKING:

1. SHOP DRAWING NOTE: THIS NOTE IS DIRECTED TO THE CONTRACTOR, STEEL SUPPLIERS AND DETAILERS FOR STRUCTURAL AND MISCELLANEOUS STEEL, DECKING, JOISTS AND JOIST GIRDERS.

THE DETAILERS/ SUPPLIERS SHALL BE PROVIDED A FULL SET OF CONSTRUCTION DOCUMENTS (INCLUDING ADDENDUMS AND SPECIFICATIONS) BY THE CONTRACTOR FOR THEIR USE IN ORDER TO PROPERLY DETAIL THE PROJECT. DECK EDGES, DIMENSIONS, TOP OF STEEL, SLOPES, ARE CONTROLLED BY THE ARCHITECTURAL DRAWINGS.

THE CONTRACTOR SHALL ANSWER QUESTIONS, IN THE SHOP DRAWINGS, INDICATED TO THE (CONTRACTOR(AND/OR (APPROVER(OR SIMILAR DESIGNATION.

KYZER AND TIMMERMAN WILL RESPOND TO CLOUDED QUESTIONS, IN THE SHOP DRAWINGS PROCESS, DIRECTED TO THE (ENGINEER OF RECORD(OR SIMILAR DESIGNATION.

IT IS RECOMMENDED THAT THE DETAILER USE APPROPRIATE DESIGNATIONS FOR THE ARCHITECT, CIVIL ENGINEER, MECHANICAL ENGINEER, ELECTRICAL ENGINEER, ETC.

IT IS IMPORTANT FOR THE CONTRACTOR TO REVIEW THE SHOP DRAWINGS FROM HIS DETAILERS AND TO PROVIDE THE NECESSARY COORDINATION BETWEEN THE STEEL, JOISTS AND DECKING SHOP DRAWINGS PRIOR TO SUBMITTING TO THE DESIGN TEAM. SHOP DRAWINGS SUBMITTED TO THE DESIGN TEAM WITHOUT THE CONTRACTORS REVIEW ARE SUBJECT TO BE RESUBMITTED, REJECTED OR OTHER SIMILAR ACTION MAY BE TAKEN BY THE ARCHITECT AND/OR ENGINEER.

2. THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING BEAMS, JOISTS, BRIDGING, DECKING (INCLUDING TEMPORARY SHORING) AND ALL CONNECTIONS. THESE SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE PROJECT STATE. AS PART OF SHOP DRAWINGS, STEEL FABRICATOR SHALL SUPPLY EMBEDDED STEEL PLATE AND BRACKET LOCATION DRAWINGS. THE STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED FOR SHOP DRAWINGS, SECTION SHEETS OR ERECTION PLANS. SUBMIT AN AMPLE NUMBER OF SETS OF SHOP DRAWINGS TO ALLOW FOR EACH DESIGN PROFESSIONAL TO RETAIN A SET FOR THE FILE. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS DETERMINED BY THE STRUCTURAL ENGINEER, SHALL BE ALLOTTED FOR HIS REVIEW OF SHOP DRAWINGS. THE CONTRACTOR MAY ISSUE SHOP DRAWINGS EARLY TO ALLOW FOR ADDITIONAL FABRICATION TIME. THE MEMBERS OF THE DESIGN TEAM SHALL RECEIVE A FINAL SET OF SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET(WHICH INCORPORATES ANY COMMENTS MADE DURING THE SHOP DRAWING PROCESS AND SHALL BE STAMPED BY A REGISTERED ENGINEER REGISTERED IN THE PROJECT STATE.

3. DECKING CONTRACTOR TO COORDINATE OPENING SIZES AND LOCATIONS FROM ARCHITECTURAL AND MECHANICAL DRAWINGS. METAL DECK SHALL CONFORM TO ASTM A446 AND A525.

4. ALL METAL ROOF DECKING SHALL BE 3" - TYPE "N" - 22 GAUGE (GALVANIZED).

ALL 3" 22 GAGE VULCRAFT TYPE 3N22 GALVANIZED ROOF DECK (SEE PLAN FOR LOCATIONS) TO BE INSTALLED WITH A 24/4 FASTENER PATTERN AT ALL END AND INTERMEDIATE SUPPORTS WITH A MIN. OF 5 SIDE LAP FASTENERS. SIDE LAP FASTENERS TO BE #10 TEK SCREWS.

5. PROVIDE 4 X 4 X 1/4 ANGLES SURROUNDING ALL METAL DECK PENETRATIONS UNLESS OTHERWISE NOTED.

6. CONSTRUCTION EQUIPMENT SUCH AS WHEEL BARROWS, ETC. SHALL NOT BE ALLOWED ON THE STEEL DECKS. CONSTRUCTION EQUIPMENT WEIGHTS SHALL BE SUPPORTED DIRECTLY ON THE STEEL JOISTS.

7. THE CONTRACTOR SHALL INSTALL 1/4" THICK BENT PLATE(S) AS NECESSARY AT RIDGE, HIP, EAVE AND VALLEY LOCATIONS TO ADEQUATELY SUPPORT THE EDGE OF METAL ROOF DECK PANELS. THE PLATE(S) SHALL BE CONFIGURED (IN THE SHAPE OF AN EQUAL LEGGED CHANNEL OR TUBE) TO PROVIDE A MINIMUM BEARING AND SUPPORT WIDTH OF 2 INCHES. IN FLOOR SYSTEMS, A FABRICATED SQUARE TUBE (FROM 1/4" THICK PLATES) OR A 1/4" THICK STEEL TUBE OF THE PROPER DIMENSION SHALL BE USED AT ALL UNSUPPORTED EDGES OF FLOOR DECKING.

8. DO NOT HANG OR ATTACH MECHANICAL SYSTEMS, DUCTS, CONDUIT, PIPING, EQUIPMENT, CEILINGS, ETC. FROM METAL DECKING.

9. THE CONTRACTOR SHALL SUPPORT THE EDGE OF ALL ROOF AND FLOOR DECK WITH A STEEL ANGLE AND APPROPRIATE FASTENERS, A 5 X 3 X 1/4" ANGLE (LONG LEG VERTICAL) WITH 3/4" (4" EMBEDMENT) EXPANSION BOLTS AT 2'-0" ON CENTER SHALL BE USED AT ALL MASONRY AND CONCRETE WALLS UNLESS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. A 5 X 5 X 5/16" ANGLE SHALL BE USED AT LOCATIONS IN WHICH THE DECK SUPPORT MUST SPAN BETWEEN STEEL JOISTS AND/OR BEAMS.

10. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AS REQUIRED BY THE MANUFACTURER (AND MEANS AND METHODS) FOR CONCRETE FILLED DECKING-INCLUDING COMPOSITE DECK. TEMPORARY SHORING DETERMINATIONS SHALL BE MADE BASED UPON THE GAGE, SPAN, TYPE OF DECK, CONCRETE WEIGHT AND ALLOWABLE DEFLECTION OF DECK. THE CONTRACTOR/ SUBCONTRACTOR SHALL TAKE SPECIAL CARE TO ASSURE PROPER INSTALLATION AND SHORING OF ALL METAL DECKING PRIOR TO CONCRETE PLACEMENT. SEE ARCHITECTURAL DRAWINGS FOR CEILING AND SOFFIT REQUIREMENTS.

11. THE FIREPROOFING ASSOCIATED WITH STRUCTURAL ELEMENTS IS NOT SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL REFER TO THE ARCHITECTURAL DRAWINGS AND APPLICABLE BUILDING CODE FOR FIRE RATING INCLUDING MATERIALS AND METHODS.

12. DECK PAINTING/GALVANIZING SHALL BE COMPATIBLE WITH ADHESION REQUIREMENTS FOR ANY AREAS REQUIRING FIREPROOFING.

13. ALL STEEL REQUIRING PAINT SHALL BE PROPERLY CLEANED AND PREPARED TO ACCEPT THE APPROPRIATE PAINT FOR THE PROJECT. THE PAINT TYPE, COLOR AND THICKNESS SHALL BE SELECTED ACCORDING TO THE LOCATION OF THE STEEL, TYPE OF BUILDING AND OWNER(S REQUIREMENTS FOR COLOR, ETC. DECISIONS INVOLVING PAINT, COLOR AND SO ON SHALL BE PER OWNER.

14. PLYWOOD AND OSB SHEATHING, LOCATED ON METAL DECKING, SHALL BE 3/4" THICK TO ALLOW FOR ADEQUATE NAIL PENETRATION FOR ATTACHMENT OF ROOFING MATERIALS. UNLESS OTHERWISE REQUIRED BY LOCAL CODES 3/4" LONG GALVANIZED ROOFING NAILS SHALL BE USED TO ATTACH ASPHALT SHINGLES TO ROOF SHEATHING.

15. FOR SHINGLE/PLYWOOD/METAL DECK AS PART OF THE ROOF ASSEMBLY, THE CONTRACTOR SHALL INSTALL 2 X 4 WOOD NAILERS VERTICALLY UP THE ROOF BETWEEN THE STEEL ROOF DECK AND PLYWOOD. THESE 2 X 4 NAILERS SHALL BE SPACED NO FURTHER APART THAN 2 FEET ON CENTER AND ATTACHED WITH #8 SCREWS AT 12 INCHES ON CENTER. THE NAILER IS TO PROVIDE CLEARANCE FOR THE ROOF NAILS AND VENTILATION FOR THE SHINGLE PLYWOOD SUBSTRATE. THE CONTRACTOR SHALL VERIFY WITH THE SHINGLE SUPPLIER AS TO ADDITIONAL VENTILATION (IF ANY) BETWEEN THE METAL ROOF AND PLYWOOD.

COLD-FORMED STEEL FRAMING/ METAL STUDS:

1. CONTRACTOR TO PROVIDE ADDITIONAL METAL STUDS AT ALL END ZONES TO SATISFY THE WINDS REQUIREMENTS AS SET FORTH IN THE LATEST EDITION OF THE APPLICABLE BUILDING CODE(S).

2. ALL STEEL FRAMING SHALL BE INSTALLED BY PERSONNEL EXPERIENCED IN LIGHT GAGE METAL FRAMING INSTALLATION.

3. WHERE STEEL FRAMING MEMBERS ARE COMPONENTS OF ASSEMBLIES INDICATED IN THE CONSTRUCTION DOCUMENTS FOR A FIRE-RESISTANCE RATING, INCLUDING THOSE REQUIRED FOR COMPLIANCE WITH GOVERNING REGULATIONS, PROVIDE MEMBERS WHICH HAVE BEEN APPROVED BY THE GOVERNING AUTHORITIES.

4. GAUGE STEEL FRAMING MEMBERS SHALL BE PROTECTED AGAINST RUSTING AND DAMAGE. IT IS RECOMMENDED THAT ALL MATERIAL SHALL BE DELIVERED TO THE PROJECT SITE IN BUNDLES, FULLY IDENTIFIED WITH NAME, BRAND, TYPE AND GRADE. STORE OFF GROUND IN A DRY VENTILATED SPACE AND/OR PROTECT WITH SUITABLE WATERPROOF COVERINGS. ALL METAL STUDS, TRACKS, CLIPS ETC. SHALL BE GALVANIZED. MINIMUM GALVANIZING FOR WALL SYSTEMS AND ASSEMBLIES SHALL BE G60.

5. THE CONTRACTOR SHALL PROVIDE THE MANUFACTURERS STANDARD STEEL RUNNERS/TRACKS, BLOCKING, LINTELS, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS AND ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER FOR THE PARTICULAR APPLICATION TO PROVIDE A COMPLETE STRUCTURAL SYSTEM.

6. UNLESS OTHERWISE REQUIRED, SCREWS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

7. EXTERIOR WALL SYSTEMS SHALL BE DESIGNED TO WITHSTAND BOTH POSITIVE AND NEGATIVE WIND PRESSURES AS INDICATED IN THE LATEST EDITION OF THE APPLICABLE BUILDING CODE. CARE SHALL BE TAKEN IN THE DESIGN TO CONSIDER DEFLECTIONS OF THE WALL SYSTEMS UNDER LOADING AS IT RELATES TO THE PRESCRIBED DEFLECTION LIMITS AS INDICATED IN THE APPLICABLE BUILDING CODE.

8. THE CONTRACTOR SHALL INSTALL SUFFICIENT TEMPORARY BRACING, AS NEEDED, UNTIL ERECTION OF THE STEEL FRAMING SYSTEM(S) IS COMPLETE.

9. ALL ATTACHMENTS SHALL BE DONE BY WELDING, SCREW ATTACHMENT, OR BOLTING-NO WIRE TYING OF FRAMING COMPONENTS SHALL BE PERMITTED.

10. WALL BRIDGING FOR EXTERIOR WALLS SHALL BE INSTALLED IN ACCORDANCE TO THE FOLLOWING WALL HEIGHTS:

BELOW 10 FEET ..... 1 ROW (AT MID HEIGHT)
10 FEET TO 14 FEET .. 2 ROWS (EQUALLY SPACED)

OVER 14 FEET ..... SPACE AT 4 FEET (ON CENTER)

11. STUD FRAMING USED TO FORM AND SUPPORT CEILINGS, CEILING FEATURES, SOFFITS AND THE LIKE SHALL BE CONSTRUCTED BY EXPERIENCED FRAMERS IN THIS TYPE OF WORK.

12. AS PART OF THE FRAMING OF THE COLD-FORMED METAL FRAMING, THE FRAMER SHALL MAKE THE NECESSARY PROVISIONS FOR MECHANICAL UNITS; PLATFORMS FOR SERVICING UNITS; AND THE NECESSARY HALKWAYS AND CLEARANCES PER THE APPLICABLE CODE(S). ADDITIONAL COLD-FORMED METAL FRAMING MAY BE REQUIRED BY OTHER DESIGN TEAM MEMBERS TO PROVIDE CLOSURE FOR DUCT CHASES, BUILD DOWNS, ETC. SEE DRAWINGS AND REQUIREMENTS BY OTHERS.

13. THE STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED FOR SHOP DRAWINGS, SECTION SHEETS OR ERECTION PLANS. THE CONTRACTOR SHALL SUBMIT AN AMPLE NUMBER OF SETS OF SHOP DRAWINGS TO ALLOW FOR EACH DESIGN PROFESSIONAL TO RETAIN A SET FOR THE FILE. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS DETERMINED BY THE STRUCTURAL ENGINEER, SHALL BE ALLOTTED FOR HIS REVIEW OF SHOP DRAWINGS. THE CONTRACTOR MAY ISSUE SHOP DRAWINGS EARLY TO ALLOW FOR ADDITIONAL FABRICATION TIME. THE MEMBERS OF THE DESIGN TEAM SHALL RECEIVE A FINAL SET OF SHOP DRAWINGS STAMPED (FINAL SHOP DRAWINGS - FILE SET(WHICH INCORPORATES ANY COMMENTS MADE DURING THE SHOP DRAWING PROCESS AND SHALL BE STAMPED BY A REGISTERED ENGINEER REGISTERED IN THE PROJECT STATE.

14. THE METAL STUDS AND RECOMMENDATIONS INDICATED IN THESE DRAWINGS ARE TO BE CONSIDERED AS THE MINIMUM ALLOWED BY THE ENGINEER OF RECORD FOR THE PROJECT. DUE TO VARYING MANUFACTURERS AND SUBCONTRACTOR PREFERENCE THE CONTRACTOR SHALL SUBMIT AN ENGINEERED DESIGN FOR THE METAL STUD SYSTEM TO BE USED FOR THIS PROJECT. THIS DESIGN SHALL INCLUDE COMPLETED DETAILS REGARDING THE STUDS, CLIPS, TRACKS, BRACING, ANCHORS, LINTELS, SCREWS AND SO ON. THIS SUBMITTAL SHALL BE STAMPED BY A REGISTERED ENGINEER IN THE PROJECT STATE AND SUBMITTED TO THE ARCHITECT.

ALUMINUM:

1. WHERE ALUMINUM IS PLACED IN CONTACT WITH DISSIMILAR MATERIALS, THE ALUMINUM SHALL BE PROTECTED AGAINST CORROSION OR BACK-PAINTED BEFORE ERECTION WITH ZINC CHROMATE PAINT. THE METHOD OF PROTECTION SHALL BE APPROVED BY THE SUPPLIER FOR THE SYSTEM.

2. ALL ALUMINUM SURFACES SHALL BE PROTECTED FROM DAMAGE BY MORTAR, LIME, ACIDS, CONCRETE OR OTHER HARMFUL MATERIALS/SUBSTANCES. PROCEDURES AS PRESCRIBED BY THE MANUFACTURER SHALL BE FOLLOWED FOR HANDLING, PROTECTION, CLEANING AND STORAGE.

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS ARE TYPICAL FOR THESE STRUCTURAL DRAWINGS. THE CONTRACTOR MAY CONTACT THE STRUCTURAL ENGINEER IF THERE ARE ANY QUESTIONS CONCERNING THESE ABBREVIATIONS:

-A-
AB - ANCHOR BOLT
ADJ - ADJACENT
AL - ALUMINUM
ARCH - ARCHITECT(URAL)
AC - AIR CONDITIONING
AFF - ABOVE FINISH FLOOR
ALT - ALTERNATE
ASPH - ASPHALT

-B-
BLG - BUILDING
BLK - BLOCK
BO - BOTTOM OF
BOTT - BOTTOM
BRG - BEARING
BLDG - BUILDING
BLKG - BLOCKING
BOT - BOTTOM
BPL - BEARING PLATE
BRK - BRICK

BS - BOTH SIDES
BW - BOTH WAYS
BSMT - BASEMENT

-C-
CL - CENTERLINE
CFT - CUBIC FEET
CLG - CEILING
COL - COLUMN
CONST - CONSTRUCTION
CRSI - CONCRETE REINFORCING STEEL INSTITUTE
CYD - CUBIC YARD
CIP - CAST IN PLACE CONCRETE
CMU - CONCRETE MASONRY UNITS
CONC - CONCRETE

-D-
d - PENNY
DIAG - DIAGONAL
DIM - DIMENSION
DTL - DETAIL
DIA - DIAMETER
DIAM - DIAMETER
DL - DEAD LOAD

-E-
EF - EACH FACE
ELE - ELEVATION
ELECT - ELECTRIC
EOS - EDGE OF SLAB
EXIST. - EXISTING
EXT - EXTERIOR
EL - ELEVATION
ELEC - ELECTRIC
EQ - EDGE OF
EXG - EXISTING
EXP BLT - EXPANSION BOLT

-F-
FF - FINISHED FLOOR
FIN - FINISH (ED)
FLG - FLASHING
FND - FOUNDATION
FS - FAR SIDE
FFE - FINISH FLOOR ELEVATION
FL - FLOOR
FLR - FLOOR
FO - FACE OF
FTG - FOOTING

-G-
GA - GAGE, GAUGE
GC - GENERAL CONTRACTOR
GALV - GALVANIZED

-H-
HK - HOOK(S)
HTG - HEATING
HVAC - HEATING/VENTILATING/AIR CONDITIONING
HORZ - HORIZONTAL

-I-
ID - INSIDE DIAMETER
INV - INVERT
INT - INTERIOR

-J-
JT - JOINT
JST. BRG. - JOIST BEARING

-L-
LL - LIVE LOAD
LLV - LONG LEG VERTICAL
LLH - LONG LEG HORIZONTAL
LONG. - LONGITUDINAL

-M-
MAS - MASONRY
MBR - MEMBER
MEM - MEMBER
MFR. - MANUFACTURER
MO - MASONRY OPENING
NOM - NOMINAL
MAX - MAXIMUM
MECH - MECHANICAL
MEZZ. - MEZZANINE
MISC - MISCELLANEOUS
MOD - MODULAR
MULL - MULLION

-N-
NS - NEAR SIDE
NTS - NOT TO SCALE

-O-
OC - ON CENTER
O.F. - OUTSIDE FACE
OPP - OPPOSITE
OD - OUTSIDE DIAMETER
OPG - OPENING
OPP. HD. - OPPOSITE HAND

-P-
PAF - POWDER ACTUATED FASTENER
PCF - POUNDS PER CUBIC FOOT
PFB - PREFABRICATED
PNL - PANEL
PSI - POUNDS PER SQUARE INCH
PVC - POLYVINYL CHLORIDE
PWD - PLYWOOD
PCC - PRECAST CONCRETE
REF - REFERENCE
PL - PLATE
PSF - POUNDS PER SQUARE FOOT
PT - POST-TENSIONING CABLE(S)
PVMT - PAVEMENT

-R-
RAD - RADIUS
REF. - REFER
REV - REVISION
RM - ROOM
RCP - REINFORCED CONCRETE PIPE
REBAR - DEFORMED REINFORCING BARS
REQD. - REQUIRED
RO - ROUGH OPENING

-S-
SCHDL - SCHEDULE
SHT - SHEET
SLH - SHORT LEG HORIZONTAL
SPEC - SPECIFICATION(S)
STR - STRUCTURAL
SCHED - SCHEDULE
SIM - SIMILAR
SLV - SHORT LEG VERTICAL
STL - STEEL
SYS - SYSTEM

-T-
T&B - TOP AND BOTTOM
TJI - TRUSS JOIST INSTITUTE
TOB - TOP OF BEAM
TOS - TOP OF STEEL
TRD - TREAD
TS - TUBE STEEL
THK - THICK(NESS)
TO - TOP OF
TOM - TOP OF MASONRY
TOW - TOP OF WALL
TRANS. - TRANSVERSE
TYP - TYPICAL

-V-
VERT - VERTICAL

-W-
W - WIDE FLANGE SECTION
WP - WORKING POINT
WM - WIRE MESH
WWF - WELDED WIRE FABRIC

Revisions	
Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 11150
01/02/12
REGISTERED
WILLIAM T. TIMMERMAN

SOUTH CAROLINA
KYZER & TIMMERMAN STRUCTURAL ENGINEERING
COLA. S.C.
No.C00774
CERTIFICATE OF AUTHORIZATION

Job Title:
WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

KYZER & TIMMERMAN
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Drawing Title:
STRUCTURAL NOTES

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

Sheet Number
S3.2
STATE PROJECT NO: H-27-6088-ML

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTION COORDINATOR -

BUILDING COMPONENTS OR MATERIAL	MATERIAL SUBMITTAL	TESTING			INSPECTION			QUALITY ASSURANCE	
		REQUIREMENTS	FREQUENCY	AGENCY	MONITORING	FREQUENCY	AGENCY	PART OF WIND	PART OF SEISMIC
SOILS (COMPACTED FILL)	N/A	1. TEST IN PLACE DRY DENSITY OF COMPACTED FILL.	1. AS APPROVED GEOTECHNICAL ENGINEER.	TESTING LAB TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. DETERMINE SITE IS PREPARED IN ACCORDANCE WITH APPROVED SOILS REPORT PRIOR TO PLACEMENT OF FILL. 2. DURING PLACEMENT AND COMPACTION OF FILL MATERIAL, DETERMINE MATERIAL BEING USED AND MAXIMUM LIFT THICKNESS COMPLIES WITH SOILS REPORT. 3. VERIFY THAT IN PLACE DRY DENSITY TESTS OF COMPACTED FILL COMPLIES WITH SOILS REPORT.	1. PERIODIC 2. PERIODIC 3. CONTINUOUS	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. COLUMNS AND SHEARWALLS ACCORDANCE WITH APPROVED SOILS REPORT PRIOR TO PLACEMENT OF FILL.	1. COLUMNS AND SHEARWALLS ACCORDANCE WITH APPROVED SOILS REPORT PRIOR TO PLACEMENT OF FILL.
DISPLACEMENT AUGER CAST PILE	1. SUBMIT CONCRETE MIX DESIGN. 2. SUBMIT PILE REINFORCEMENT SHOP DRAWINGS.	1. CONDUCT PILE LOAD TEST, 2. TEST GROUT STRENGTH.	1. PILE LOAD TEST FOR EACH PILE TYPE. 2. (1) SET OF GROUT CUBES FOR EVERY 30 YARDS OF GROUT.	TESTING LAB TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. EACH PILE WILL BE MONITORED FOR: A. PILE DEPTH B. GROUT PRESSURE C. GROUT VOLUME D. REBAR PLACEMENT	1. EACH PILE	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. UPLIFT PILE UNDER SHEARWALLS ARE PART OF THE WIND AND SEISMIC LATERAL SYSTEM.	1. UPLIFT PILE UNDER SHEARWALLS ARE PART OF THE WIND AND SEISMIC LATERAL SYSTEM.
CONCRETE FOUNDATIONS	1. SUBMIT CONCRETE MIX DESIGN. 2. SUBMIT FOUNDATION REINFORCEMENT SHOP DRAWINGS. 3. VERIFY PROPER CONCRETE STRENGTH.	1. TEST CONCRETE STRENGTH.	1. (1) SET OF CYLINDERS FOR EACH VERTICAL LIFT OR EACH 50 YARDS OF CONCRETE.	TESTING LAB TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. VERIFY APPROPRIATE MIX (STRENGTH) PROVIDE: A. REBAR SIZE B. REBAR QUANTITY C. REBAR PLACEMENT	1. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. SPREAD FOOTINGS AT BEARING WALLS AND SHEARWALL.	1. SPREAD FOOTINGS AT BEARING WALLS AND SHEARWALL.
CONCRETE MASONRY UNITS	1. SUBMIT TEST DATA ON CMU UNITS NET AREA OF COMPRESSIVE STRENGTH 1900 PSI OR GREATER. 2. TYPE 'S' MORTAR GROUT MIX 2000 PSI	1. TEST COMPRESSIVE STRENGTH OF MORTAR & GROUT.	1. (1) SET OF GROUT CUBES FROM EACH FLOOR AND/OR (1) SET OF CUBES FOR EACH 50 YARDS OF GROUT.	TESTING LAB TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	SEE MASONRY INSPECTION CHART	SEE MASONRY INSPECTION CHART	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. YES	1. YES
STRUCTURAL STEEL	1. SUBMIT MANUFACTURER'S CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.	N/A	N/A	N/A	1. INSPECT STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS.	1. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. FLOOR AND ROOF SYSTEM FRAMING	1. FLOOR AND ROOF SYSTEM FRAMING
STRUCTURAL STEEL HIGH - STRENGTH BOLTING (AND MECHANICAL FASTENING OF METAL DECK)	1. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR HIGH-STRENGTH BOLTS, NUTS, WASHERS AND/OR FASTENERS.	N/A	N/A	N/A	1. VERIFY BOLTING IN BEARING-TYPE CONNECTIONS ARE INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS. 2. VERIFY BOLTING IN SLIP-CRITICAL CONNECTIONS ARE INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS. 3. VERIFY IDENTIFICATION MARKING ON HIGH-STRENGTH BOLTS, NUTS AND WASHERS CONFORMING TO ASTM STANDARDS SPECIFIED. 4. VERIFY FASTENER TYPE AND ADHERENCE TO SPECIFIED FASTENER ATTACHMENT PATTERN. 5. VERIFY PROPER STORAGE AND HANDLING OF BOLTS, NUTS, WASHERS.	1. PERIODIC 2. CONTINUOUS (MAY BE PERIODIC IF TURN-OF-NUT WITH MATCH MARKING METHODS, DIRECT TENSION INDICATOR OR ALTERNATE DESIGN FASTENER (TWIST-OFF) METHODS ARE USED) 3. PERIODIC 4. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. FLOOR AND ROOF SYSTEM BOLTING	1. FLOOR AND ROOF SYSTEM BOLTING
STRUCTURAL STEEL WELDING	1. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR WELD FILLER MATERIAL.	N/A	N/A	N/A	VERIFY WELDING IS IN COMPLIANCE WITH AWS D1.1 1. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS. 2. MULTIPASS FILLET WELDS 3. SINGLE-PASS FILLET WELDS > 5/16" 4. SINGLE-PASS FILLET WELDS < OR = 5/16" 5. FLOOR AND DECK WELDS	1. CONTINUOUS 2. CONTINUOUS 3. CONTINUOUS 4. PERIODIC 5. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. FLOOR AND ROOF SYSTEM WELDING	1. FLOOR AND ROOF SYSTEM WELDING
WALL PANELS OR GLAZING SYSTEM	1. SUBMIT MANUFACTURER'S LITERATURE FOR COMPLIANCE WITH DP RATINGS. 2. SUBMIT SHOP DRAWINGS FOR ANCHORAGE.	1. SUBMIT MANUFACTURERS TEST REPORTS ON ANCHORAGE.	N/A	N/A	1. VERIFY FASTENER LOCATION AND INSTALLATION.	1. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. YES	1. YES
ANCHORAGE OF ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER	1. SUBMIT ANCHOR TYPE AND LITERATURE.	1. SUBMIT MANUFACTURERS TEST REPORTS.	N/A	N/A	1. VERIFY FASTENER LOCATION AND INSTALLATION.	1. PERIODIC	INSPECTION AGENCY TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	1. NO	1. YES

NOTE: ALL TESTING & INSPECTION REPORTS TO BE SENT TO SPECIAL INSPECTION COORDINATOR ON A WEEKLY BASIS. ALL REPORTS TO BE IN AN ELECTRONIC FORMAT BY EMAIL. SPECIAL INSPECTION COORDINATOR WILL SUBMIT CONSOLIDATED REPORT TO BUILDING OFFICIAL ON A WEEKLY BASIS.

SEISMIC QUALITY ASSURANCE PLAN

1. THE FOLLOWING SEISMIC SYSTEMS AND SEISMIC-FORCE-RESISTING SYSTEM ARE SUBJECT TO QUALITY ASSURANCE:
   - A. MASONRY SHEARWALL REINFORCEMENT.
   - B. ATTACHMENT OF ROOF STRUCTURAL SYSTEM TO SHEARWALLS.
   - C. INSTALLATION OF SUSPENDED CEILINGS AND THEIR ANCHORAGE.
   - D. ANCHORAGE OF ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER.
   - E. ANCHORAGE OF EXTERIOR WALL PANELS &/OR GLAZING.
2. PROVIDE SPECIAL INSPECTIONS FOR SYSTEMS INDICATED ABOVE AS INDICATED IN SPECIAL INSPECTIONS CHART.
3. TYPE AND FREQUENCY OF TESTING PER CHART.
4. TYPE AND FREQUENCY OF SPECIAL INSPECTIONS SEE CHART.
5. ALL REPORTS TO ARCHITECT, STRUCTURAL ENGINEER AND SPECIAL INSPECTIONS COORDINATOR.
6. PERIODIC STRUCTURAL OBSERVATION WILL BE PERFORMED AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM.
7. STRUCTURAL OBSERVATION REPORTS TO ARCHITECT, STRUCTURAL ENGINEER

CONTRACTOR'S RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC - FORCE - RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR A COMPONENT LISTED IN THE SEISMIC QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

1. IN THE WIND QUALITY ASSURANCE PLAN.
2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
4. IDENTIFICATIONS AND QUALIFICATIONS OF PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

WIND QUALITY ASSURANCE PLAN

1. THE FOLLOWING MAIN WIND FORCE-RESISTING SYSTEMS AND WIND RESISTING COMPONENTS ARE SUBJECT TO QUALITY ASSURANCE:
   - A. MASONRY SHEARWALL CONSTRUCTION AND REINFORCEMENT.
   - B. ROOF DIAPHRAGM SYSTEMS.
   - C. WALL CONNECTIONS TO ROOF DIAPHRAGM AND FRAMING.
   - D. GLAZING SYSTEM FABRICATION AND INSTALLATION.
   - E. ROOF CLADDING AND ROOF FRAMING COMPONENTS.
2. PROVIDE SPECIAL INSPECTIONS FOR SYSTEMS INDICATED ABOVE AS INDICATED IN SPECIAL INSPECTIONS CHART.
3. TYPE AND FREQUENCY OF TESTING PER CHART.
4. TYPE AND FREQUENCY OF SPECIAL INSPECTIONS SEE CHART.
5. ALL REPORTS TO ARCHITECT, STRUCTURAL ENGINEER AND SPECIAL INSPECTIONS COORDINATOR.
6. PERIODIC STRUCTURAL OBSERVATION WILL BE PERFORMED AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM.
7. STRUCTURAL OBSERVATION REPORTS TO ARCHITECT, STRUCTURAL ENGINEER

CONTRACTORS RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WINDFORCE - RESISTING SYSTEM OR A WIND-RESISTING COMPONENT LISTED IN THE WIND QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE WIND QUALITY ASSURANCE PLAN.
2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
4. IDENTIFICATIONS AND QUALIFICATIONS OF PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

Revisions

Revision	By

Seal

SOUTH CAROLINA PROFESSIONAL ENGINEER — REGISTERED — No. 11150 — 01/02/12 — WILLIAM T. TIMMERMAN

SOUTH CAROLINA — KYZER & TIMMERMAN STRUCTURAL ENGINEERING COLA. S.C. No.C00774 — CERTIFICATE OF AUTHORIZATION

Job Title:

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Drawing Title:

SPECIAL INSPECTIONS

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

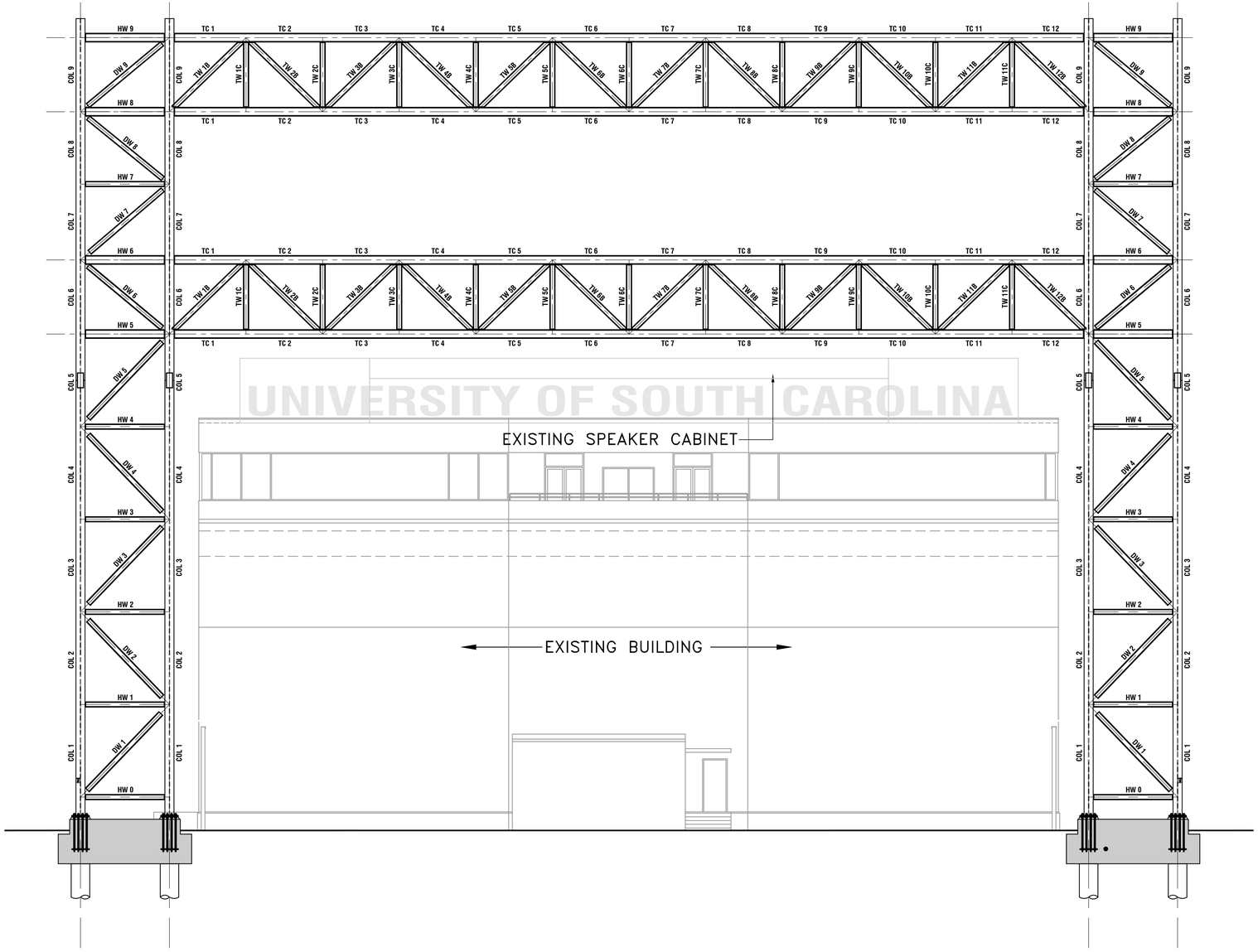
Sheet Number

S3.3

STATE PROJECT NO: H-27-6089-ML

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
TC 1	191.5	-72.0
TC 2	36.5	-166.0
TC 3	129.4	-166.0
TC 4	129.4	-260.0
TC 5	203.3	-260.0
TC 6	205.8	-288.0
TC 7	206.9	-288.0
TC 8	209.4	-248.0
TC 9	130.0	-248.0
TC 10	132.5	-142.0
TC 11	73.0	-142.0
TC 12	203.5	-85.0
TW 1A	2.4	-50.2
TW 1B	-------	-156.0
TW 1C	11.3	-------
TW 1D	-------	-------
TW 2A	41.3	-2.4
TW 2B	127.0	-------
TW 2C	-------	-11.2
TW 2D	-------	-6.9
TW 3A	2.4	-32.2
TW 3B	-------	-99.1
TW 3C	11.3	-------
TW 3D	-------	-------
TW 4A	23.3	-2.4
TW 4B	70.5	-------
TW 4C	-------	-11.0
TW 4D	-------	-6.9
TW 5A	2.4	-14.2
TW 5B	-------	-43.0
TW 5C	11.3	-------
TW 5D	-------	-------
TW 6A	5.3	-2.4
TW 6B	14.5	-5.6
TW 6C	-------	-11.0
TW 6D	-------	-6.9
TW 7A	5.2	-3.4
TW 7B	16.4	-------
TW 7C	11.3	-------
TW 7D	-------	-------
TW 8A	3.4	-14.1
TW 8B	-------	-41.7
TW 8C	-------	-11.0
TW 8D	-------	-6.9
TW 9A	23.2	-3.4
TW 9B	69.3	-------
TW 9C	11.3	-------
TW 9D	-------	-------
TW 10A	3.4	-32.1
TW 10B	-------	-97.8
TW 10C	-------	-11.2
TW 10D	-------	-6.9
TW 11A	41.2	-3.4
TW 11B	126.1	-------
TW 11C	11.3	-------
TW 11D	-------	-------
TW 12A	3.4	-50.1
TW 12B	-------	-154.0

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
COL 1	757.6	-893.0
COL 2	547.4	-666.0
COL 3	510.2	-599.0
COL 4	409.8	-471.0
COL 5	320.2	-331.0
COL 6	158.2	-243.0
COL 7	89.8	-182.0
COL 8	131.4	-187.0
COL 9	79.7	-85.6
DW 1	186.2	-189.0
DW 2	182.0	-177.0
DW 3	169.7	-172.0
DW 4	165.1	-160.0
DW 5	152.9	-156.0
DW 6	201.9	-201.0
DW 7	124.6	-107.0
DW 8	107.0	-124.0
DW 9	124.1	-133.0
HW 1	-------	-5.71
HW 2	-------	-5.71
HW 3	-------	-5.71
HW 4	-------	-5.71
HW 5	100.1	-136.0
HW 5D	4.3	-108.0
HW 6	191.5	-106.0
HW 6D	143.4	-------
HW 7	-------	-5.71
HW 8	46.7	-167.0
HW 8D	-------	-13.2
HW 9	101.8	-45.6
HW 9D	56.5	-1.3

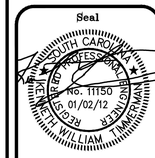


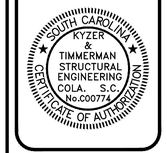
FIELD VIEW MEMBER FORCES

SCALE ====== 1/8"=1'-0"

Revisions	
Revision	By

Seal





Job Title:

WILLIAMS-BRICE STADIUM
VIDEO BOARD SUPPORT CONSTRUCTION
UNIVERSITY OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

KYZER & TIMMERMAN
STRUCTURAL ENGINEERS
580 Dreh Drive, West Columbia S.C. 29169 Ph. 803.791.4511 Fax 803.791.4522

Drawing Title:

STRUCTURAL STEEL MEMBER FORCES

Scale:	AS NOTED
Job Number:	11-136
Designed By:	KWT
Drawn By:	AGB
Checked By:	DWS
Date:	January 02, 2012

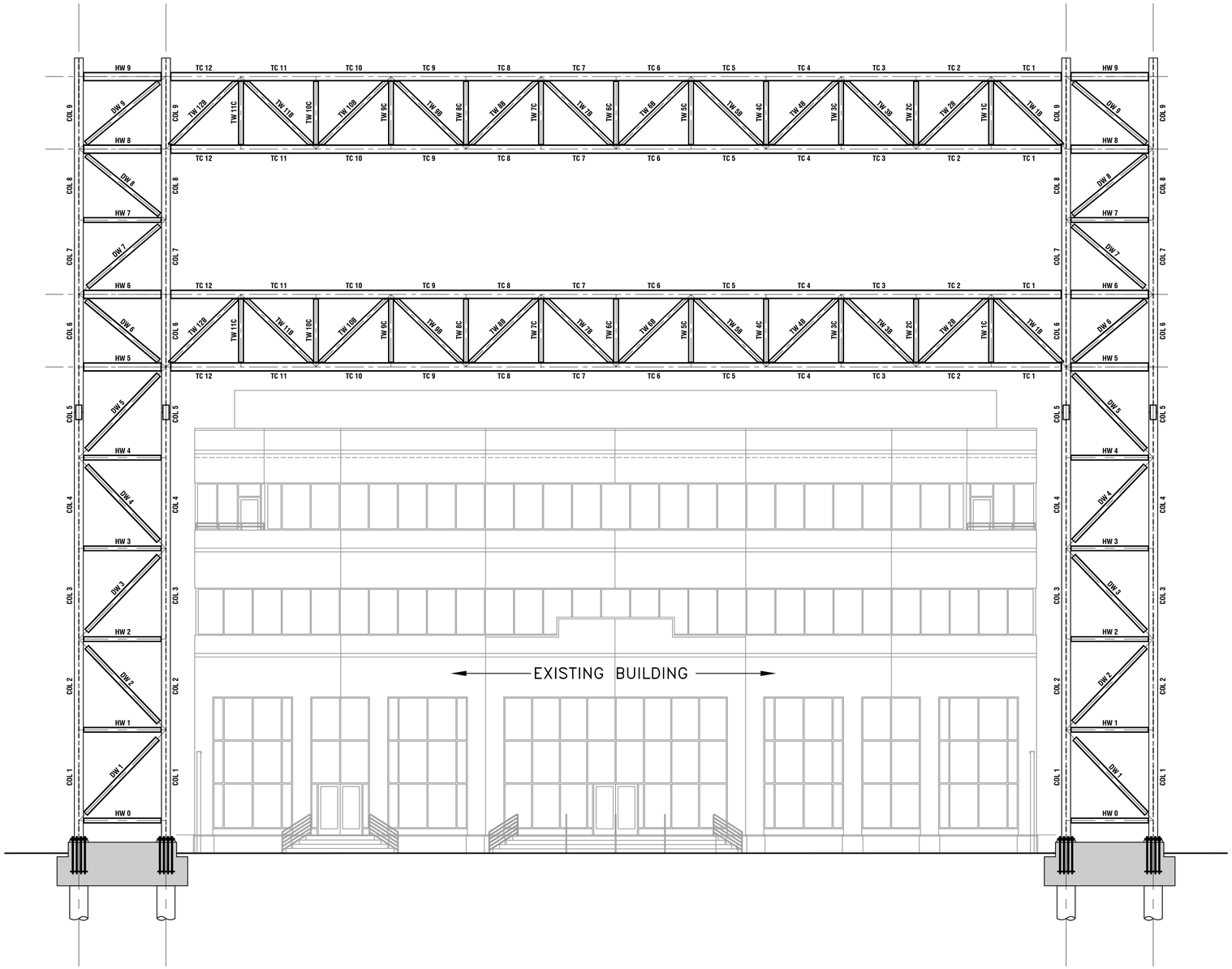
Sheet Number

S4.0

STATE PROJECT NO: H-27-6089-MJ

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
TC 1	191.5	-72.0
TC 2	36.5	-166.0
TC 3	129.4	-166.0
TC 4	129.4	-260.0
TC 5	203.3	-260.0
TC 6	205.8	-288.0
TC 7	206.9	-288.0
TC 8	209.4	-248.0
TC 9	130.0	-248.0
TC 10	132.5	-142.0
TC 11	73.0	-142.0
TC 12	203.5	-85.0
TW 1A	2.4	-50.2
TW 1B	-------	-156.0
TW 1C	11.3	-------
TW 1D	-------	-------
TW 2A	41.3	-2.4
TW 2B	127.0	-------
TW 2C	-------	-11.2
TW 2D	-------	-6.9
TW 3A	2.4	-32.2
TW 3B	-------	-99.1
TW 3C	11.3	-------
TW 3D	-------	-------
TW 4A	23.3	-2.4
TW 4B	70.5	-------
TW 4C	-------	-11.0
TW 4D	-------	-6.9
TW 5A	2.4	-14.2
TW 5B	-------	-43.0
TW 5C	11.3	-------
TW 5D	-------	-------
TW 6A	5.3	-2.4
TW 6B	14.5	-5.6
TW 6C	-------	-11.0
TW 6D	-------	-6.9
TW 7A	5.2	-3.4
TW 7B	16.4	-------
TW 7C	11.3	-------
TW 7D	-------	-------
TW 8A	3.4	-14.1
TW 8B	-------	-41.7
TW 8C	-------	-11.0
TW 8D	-------	-6.9
TW 9A	23.2	-3.4
TW 9B	69.3	-------
TW 9C	11.3	-------
TW 9D	-------	-------
TW 10A	3.4	-32.1
TW 10B	-------	-97.8
TW 10C	-------	-11.2
TW 10D	-------	-6.9
TW 11A	41.2	-3.4
TW 11B	126.1	-------
TW 11C	11.3	-------
TW 11D	-------	-------
TW 12A	3.4	-50.1
TW 12B	-------	-154.0

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
COL 1	757.6	-893.0
COL 2	547.4	-666.0
COL 3	510.2	-599.0
COL 4	409.8	-471.0
COL 5	320.2	-331.0
COL 6	158.2	-243.0
COL 7	89.8	-182.0
COL 8	131.4	-187.0
COL 9	79.7	-85.6
DW 1	186.2	-189.0
DW 2	182.0	-177.0
DW 3	169.7	-172.0
DW 4	165.1	-160.0
DW 5	152.9	-156.0
DW 6	201.9	-201.0
DW 7	124.6	-107.0
DW 8	107.0	-124.0
DW 9	124.1	-133.0
HW 1	-------	-5.71
HW 2	-------	-5.71
HW 3	-------	-5.71
HW 4	-------	-5.71
HW 5	100.1	-136.0
HW 5D	4.3	-108.0
HW 6	191.5	-106.0
HW 6D	143.4	-------
HW 7	-------	-5.71
HW 8	46.7	-167.0
HW 8D	-------	-13.2
HW 9	101.8	-45.6
HW 9D	56.5	-1.3

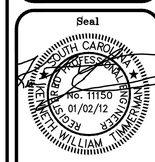


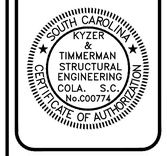
STREET SIDE ELEVATION MEMBER FORCES

SCALE ====== 1/8"=1'-0"

Revisions	
Revision	By

Seal





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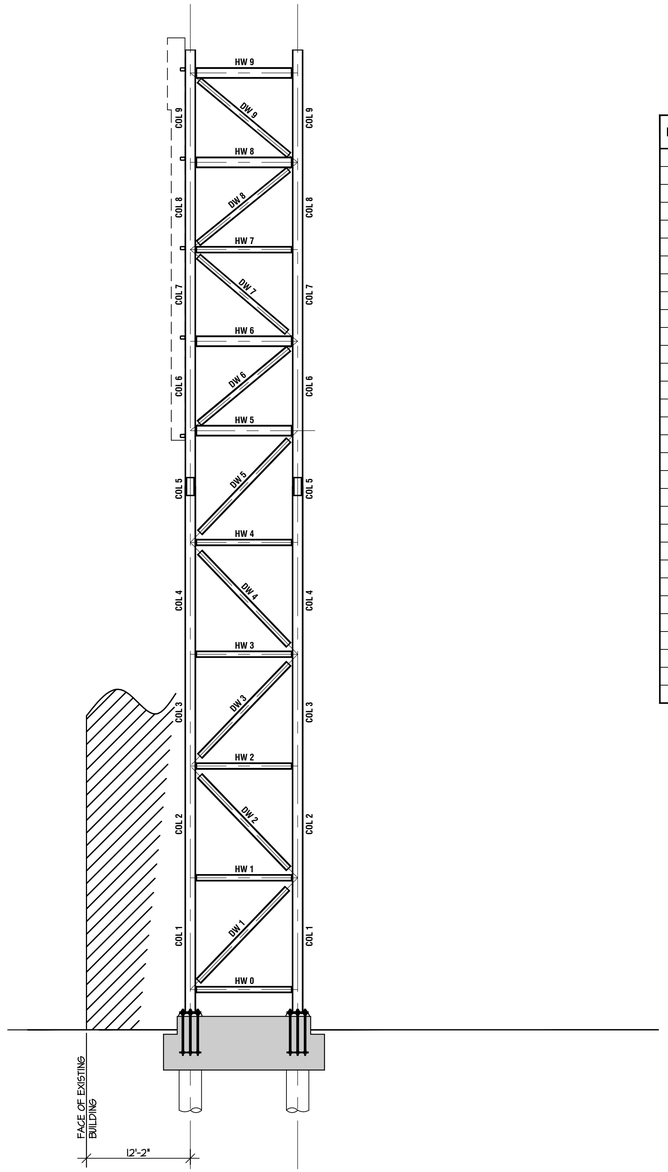
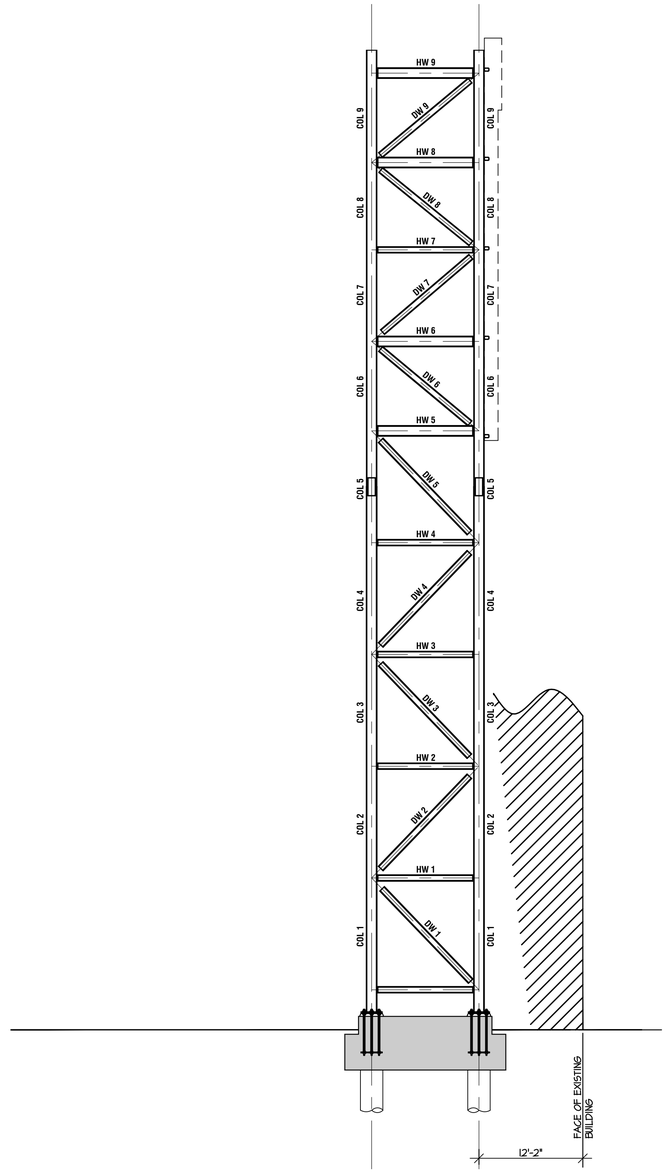


EAST SIDE ELEVATION MEMBER FORCES

SCALE ====== 1/8"=1'-0"

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
COL 1	757.6	-893.0
COL 2	547.4	-666.0
COL 3	510.2	-599.0
COL 4	409.8	-471.0
COL 5	320.2	-331.0
COL 6	158.2	-243.0
COL 7	89.8	-182.0
COL 8	131.4	-187.0
COL 9	79.7	-85.6
DW 1	186.2	-189.0
DW 2	182.0	-177.0
DW 3	169.7	-172.0
DW 4	165.1	-160.0
DW 5	152.9	-156.0
DW 6	201.9	-201.0
DW 7	124.6	-107.0
DW 8	107.0	-124.0
DW 9	124.1	-133.0
HW 1	-------	-5.71
HW 2	-------	-5.71
HW 3	-------	-5.71
HW 4	-------	-5.71
HW 5	100.1	-136.0
HW 5D	4.3	-108.0
HW 6	191.5	-106.0
HW 6D	143.4	-------
HW 7	-------	-5.71
HW 8	46.7	-167.0
HW 8D	-------	-13.2
HW 9	101.8	-45.6
HW 9D	56.5	-1.3



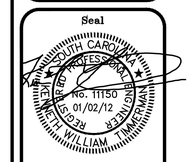
WEST SIDE ELEVATION MEMBER FORCES

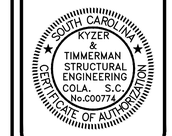
SCALE ====== 1/8"=1'-0"

Revisions

Revision	By

Seal





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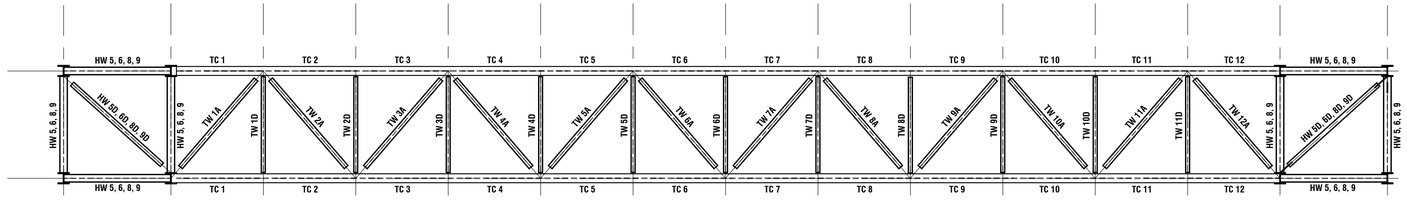
S4.2

STATE PROJECT NO: H-27-6089-ML



MEMBER FORCES PLAN @ TOP & BOTTOM CHORD OF TRUSSES TYPICAL

SCALE ====== 1/8"=1'-0"

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	TENSION (KIPS)	COMPRESSION (KIPS)
COL 1	757.6	-893.0
COL 2	547.4	-666.0
COL 3	510.2	-599.0
COL 4	409.8	-471.0
COL 5	320.2	-331.0
COL 6	158.2	-243.0
COL 7	89.8	-182.0
COL 8	131.4	-187.0
COL 9	79.7	-85.6
DW 1	186.2	-189.0
DW 2	182.0	-177.0
DW 3	169.7	-172.0
DW 4	165.1	-160.0
DW 5	152.9	-156.0
DW 6	201.9	-201.0
DW 7	124.6	-107.0
DW 8	107.0	-124.0
DW 9	124.1	-133.0
HW 1	-------	-5.71
HW 2	-------	-5.71
HW 3	-------	-5.71
HW 4	-------	-5.71
HW 5	100.1	-136.0
HW 5D	4.3	-108.0
HW 6	191.5	-106.0
HW 6D	143.4	-------
HW 7	-------	-5.71
HW 8	46.7	-167.0
HW 8D	-------	-13.2
HW 9	101.8	-45.6
HW 9D	56.5	-1.3

MEMBER	DESIGN FORCES	
	TENSION (KIPS)	COMPRESSION (KIPS)
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TC 3	129.4	-166.0
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TC 6	205.8	-288.0
TC 7	206.9	-288.0
TC 8	209.4	-248.0
TC 9	130.0	-248.0
TC 10	132.5	-142.0
TC 11	73.0	-142.0
TC 12	203.5	-85.0
TW 1A	2.4	-50.2
TW 1B	-------	-156.0
TW 1C	11.3	-------
TW 1D	-------	-------
TW 2A	41.3	-2.4
TW 2B	127.0	-------
TW 2C	-------	-11.2
TW 2D	-------	-6.9
TW 3A	2.4	-32.2
TW 3B	-------	-99.1
TW 3C	11.3	-------
TW 3D	-------	-------
TW 4A	23.3	-2.4
TW 4B	70.5	-------
TW 4C	-------	-11.0
TW 4D	-------	-6.9
TW 5A	2.4	-14.2
TW 5B	-------	-43.0
TW 5C	11.3	-------
TW 5D	-------	-------
TW 6A	5.3	-2.4
TW 6B	14.5	-5.6
TW 6C	-------	-11.0
TW 6D	-------	-6.9
TW 7A	5.2	-3.4
TW 7B	16.4	-------
TW 7C	11.3	-------
TW 7D	-------	-------
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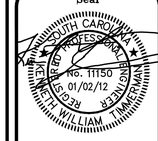
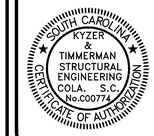
TW 8B	-------	-41.7
TW 8C	-------	-11.0
TW 8D	-------	-6.9
TW 9A	23.2	-3.4
TW 9B	69.3	-------
TW 9C	11.3	-------
TW 9D	-------	-------
TW 10A	3.4	-32.1
TW 10B	-------	-97.8
TW 10C	-------	-11.2
TW 10D	-------	-6.9
TW 11A	41.2	-3.4
TW 11B	126.1	-------
TW 11C	11.3	-------
TW 11D	-------	-------
TW 12A	3.4	-50.1
TW 12B	-------	-154.0

Revisions

Revision	By

Seal





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