ADDENDUM NO. FOUR
to
Contract Documents for

ATHLETIC IMPROVEMENTS FOR BRUNSWICK COUNTY SCHOOLS (WBHS FIELDHOUSE)

Project No.: 1716 File: B-8.2

Date: **March 25, 2020**

Boomerang Design

6131 Falls of Neuse, Suite 204
Raleigh, North Carolina 27609

NOTICE TO BIDDERS:

This addendum is issued pursuant to the General Conditions of the Contract for Construction, and is hereby made a part of the Contract Documents.

The addendum serves to clarify, revise, and supersede information in the Project Manual, the Drawings and Addenda (if any), which have previously been issued. It should be bound in the Project Manual for the project.

Bidders shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

Clarifications:

It was asked to confirm the height of the outer band fence: Fence was measured to be about 72" tall.

New fence does not have barbwire top

Special Inspections will be required for this project. Drawing and specification revisions are included in this Addendum #4 to reflect this requirement.

GENERAL

The Owner-Contractor Agreement has been added to the Specifications. Bidder to be advised that the Owner only has funds for the site package scope of work detailed in Drawings (C-000, C-001, CD-101, CS-101, CG-101, CU-101, CS-501, CS-502, CS-503, CS-504, and CU-501), and specification sections (Division 31, 32, and 33) at the time this agreement is being executed. The contractor is not authorized to perform any additional services or any other provisions of this agreement until the sale of bonds for this project has occurred. Additional services shall be authorized by express written permission of the Owner.

ITEMS PERTAINING TO THE PROJECT MANUAL:

SECTION 00 42 13 – BID FORM – SINGLE PRIME CONTRACT

Replace bid form with revised bid form included with this Addendum #4. Be sure to include the dollar amount of the Site Work on your bid form.

SECTION 00 43 23 – BID SUPPLEMENT – ALTERNATES

Replace Bid Supplement – Alternates with revised form included with this Addendum #4

SECTION 00 71 03 – OWNER-CONTRACTOR AGREEMENT

Insert section 00 71 03 included with this Addendum #4

SECTION 01 23 00 – ALTERNATES

3.1 – Add the following:

E. Alternate No. 5 – State an alternate price to provide Owner's Preferred Fire Alarm Cellular Communicator – Starlink Cell Communicator by NAPCO as described on Sheet E004.

SECTION 01 45 00 – INSPECTION REQUIREMENTS

Insert section 01 45 00 included with this Addendum #4

SECTION 07 27 26 – FLUID-APPLIED MEMBRANE AIR BARRIERS

2.3.A.1 – Add the following:

e. Henry Company

SECTION 07 54 19 – POLYVINYL-CHLORIDE (PVC) ROOFING

2.2.A.1 – Add the following:

e. Soprema USA

SECTION 10 51 13 – METAL LOCKERS

2.1.A – Add the following:

7. Lockers Manufacturing

ITEMS PERTAINING TO THE DRAWINGS:

SHEET CS-502 – Chain Link Fence Detail 09

Remove requirement for vinyl coating on fence fabric. Finish is to match existing.

See attached Addendum #4 items from LHC Engineers

Sheets S001, S100, S101, S102, S201, S202, S203

END OF ADDENDUM 04

Athletic Improvements for WBHS: **Bidder:**_____
Brunswick County Schools
Brunswick County, North Carolina

BASE BID, SINGLE-PRIME (ALL TRADES) CONTRACT
The undersigned Bidder, having carefully examined the Bidding Requirements, Agreement, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda as prepared by Boomerang Design, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled Allowances, necessary to complete the construction of:
Single-Prime (all trades) Contract

for the above-named project, in accordance with the Contract Documents prepared by Boomerang Design, for the sum of:

Dollars ($)

BID GUARANTEE
The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after Notice of Award, if offered within 60 days after receipt of bids, and upon failure to do so agrees to forfeit to the Owner the attached cash, cashier's check, certified check, U. S. money order, or bid bond, as liquidated damages for such failure, in the amount of:

Dollars ($)

the stated amount constituting five percent (5%) of the Base Bid amount above; otherwise the cash, cashier's check, certified check, U. S. money order, or bid bond shall be returned to the undersigned.

SUBCONTRACTS
Following are subcontractors selected to perform the three major subdivisions of the Work as described in G.S.143-128(a):

	Company Name	**License Number**
Plumbing Work		
HVAC Work		
Electrical Work		
Site Work		

BID _____ Dollars $ _____

Site Work (All work detailed in Drawings (C-000, C-001, CD-101, CS-101, CG-101, CU-101, CS-501, CS-502, CS-503, CS-504, and CU-501) and Specification Sections (Divisions 31, 32, and 33.)

The following companies shall execute subcontracts for the portions of the Work indicated:

	Company Name
Masonry Work	_____
Roofing Work	_____

TIME OF COMPLETION
The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by the Architect and shall fully complete all work for the project as a whole within the time indicated in the General Conditions. Applicable liquidated direct damages shall be as stated in the General Conditions.

ACKNOWLEDGEMENT OF ADDENDA
The undersigned Bidder acknowledges the receipt of and use of the following Addenda in the preparation of this Bid:

Addendum No. 1, dated _____	Addendum No. 2, dated _____
Addendum No. 3, dated _____	Addendum No. 4, dated _____
Addendum No. 5, dated _____	Addendum No. 6, dated _____

BID SUPPLEMENTS

Attached to this Bid Form and incorporated herein are the following documents, completed in full by the undersigned:

Bid Form Supplement - Minority Business Participation - Affidavit of Good Faith Effort
Bid Form Supplement - Allowances
Bid Form Supplement - Alternates
Bid Form Supplement - Unit Prices
Bid Form Supplement: Bid Security
E-Verify Affidavit

CONTRACTOR'S LICENSE

The undersigned further states that he is a duly licensed Contractor, for the type of work proposed, in the State of North Carolina, and that all fees, permits, etc., pursuant to the submission of this proposal have been paid in full.

SUBMISSION OF BID

Respectfully submitted this___day of_____, 20_____

By: _____
(Name of bidding firm or corporation)

Witness:

By: _____
(Signature)

_____

_____
(Type or print name)

Title: _____
(Owner/Partner/President/Vice Pres.)

Attest:

Address: _____

By: _____

_____

Title: _____

Phone: _____

(Corporate Secretary or Assistant Secretary Only)

Fax: _____

License: _____

Federal ID No.: _____

(Affix Corporate Seal Here)

END OF DOCUMENT 00 42 13

SECTION 00 43 23 – BID SUPPLEMENT: ALTERNATES

PART I - GENERAL

1.1 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form. See Document 00 21 13 “Instructions to Bidders.”

1.2 DESCRIPTION

A. Each bidder shall show below the amounts proposed to be added to the Base Contract Sum if particular Alternates are accepted by the Owner.

B. If the Alternate does not affect the Base Contract Bid Sum, the bidder shall write in the space provided "NO CHANGE."

C. If the Alternate does not affect the Work of his/her contract, the bidder shall write in the space provided "NOT APPLICABLE."

D. The bidder shall be responsible for determining from the Contract Documents the affects of each Alternate on the Contract Time and/or Contract Sum.

E. The Owner reserves the right to accept or reject any alternate and to amend the Contract accordingly during the period of the contract.

F. Acceptance or nonacceptance of any Alternates by the Owner shall have no affect on the Contract Time unless the Schedule of Alternates below provides a formatted space for the adjustment of the Contract Time.

1.3 SCHEDULE OF ALTERNATES

A. Alternate 1: Indicate the amount to add or deduct from the base bid to provide Owner’s preferred hardware package as described in Division 01, “Alternates.”

ADD ☐

_____ DOLLARS ($_____)

DEDUCT ☐

B. Alternate 2: Indicate the amount to add or deduct from the base bid to provide Owner’s preferred controls manufacturer as described in Division 01, “Alternates.”

ADD ☐

_____ DOLLARS ($_____)

DEDUCT ☐

C. Alternate 3: Indicate amount to add or deduct from the base bid to provide polished concrete floor finish as described in Division 03, Polished Concrete Finishing and where indicated in the drawings.

ADD ☐

_____ DOLLARS ($_____)

DEDUCT ☐

D. Alternate 4: State an alternate price to provide Owner's preferred Video Surveillance System as described in Division 28, Section 28 20 00 - Video Surveillance System.

ADD ☐

_____ DOLLARS ($_____)

DEDUCT ☐

E. Alternate 5: State an alternate price to provide Owner's preferred Fire Alarm Cellular Communicator as Starlink Cell Communicator by NAPCO as described on Sheet E004.

ADD ☐

_____ DOLLARS ($_____)

DEDUCT ☐

1.4 SUBMISSION OF SUPPLEMENT

Submitted this___day of_____, 20___

By: _____
(Name of bidding firm or corporation)

By: _____
(Signature)

_____
(Type or print name)

Title: _____
(Owner/Partner/President/Vice Pres.)

END OF DOCUMENT 00 43 23

SECTION 00 71 03 – OWNER-CONTRACTOR AGREEMENT (COVER)

Form of Agreement Between the Owner and Contractor for Construction, an original document supplied by the Owner.

END OF DOCUMENT 00 71 03

OWNER-CONTRACTOR AGREEMENT

PROJECT NAME: Athletic Improvements for Brunswick County Schools – Bid Package #2

SCHOOL NAME: West Brunswick High School

THIS AGREEMENT, in four (4) copies, made this _____ day of _____, Two Thousand and Twenty by and between the County of Brunswick, North Carolina (herein referred to as the "Owner"), whose mailing address is 30 Government Center Drive, NE Bolivia NC 284225 Referendum Drive NE, Bolivia, NC 28422 and_____ (herein referred to as the "Contractor"), whose mailing address is _____. Correspondence, submittals, and notices relating to or required under this Contract shall be sent in writing to the above addresses; unless either party is notified in writing by the other, of a change in address.

WITNESSETH:

WHEREAS, it is the intent of the Owner to obtain the services of the Contractor in connection with the construction of Athletic Improvements for Brunswick County Schools, hereinafter referred to as the "Project" or the "Work"; and

WHEREAS, the Contractor desires to perform such construction in accordance with the terms and conditions of this Agreement,

NOW, THEREFORE, in consideration of the promises made herein and other good and valuable consideration, the following terms and conditions are hereby mutually agreed to, by and between the Owner and Contractor:

Article 1

DEFINITIONS

1.1 All terms in this Agreement which are defined in the Information for Bidders and the General Conditions shall have the meanings designated therein.

1.2 The Contract Documents are as defined in the General Conditions. Such documents form the Contract, and all are as fully a part thereof as if attached to this Agreement or repeated herein.

Article 2

STATEMENT OF THE WORK

2.1 The Project is the Work identified in the plans and specifications prepared by Boomerang Design dated 24 February 2020 for the County of Brunswick, including the following addenda:

Addendum No. 1 with attachments dated _____

Addendum No. 2 with attachments dated _____

Addendum No. 3 with attachments dated _____

Addendum No. 4 with attachments dated _____

2.2 The Parties agree that the Project shall include the following alternates:

Alt. No. 1-Owner's Preferred Hardware Package	$_____
Alt. No. 2-Owner's Preferred Controls Manufacturer	$_____
Alt. No. 3-Polished Concrete Floor Finish	$_____
Alt. No. 4-Owner's Preferred Video Surveillance System	$_____
Alt. No. 5-Owner's preferred Fire Alarm Communicator	$_____

2.3 The Parties agree to the following modifications to the Project's plans and specifications:
In Section V General Conditions Paragraph 9.3.2 replace *10 percent (10%)* with *5 percent (5%)*.

2.4 The Contractor shall provide and pay for all materials, tools, equipment, labor and professional and non-professional services, and shall perform all other acts and supply all other things necessary, to fully and properly perform and complete the Work, as required by the Contract Documents.

2.2 The Contractor shall further provide and pay for all related facilities described in any of the Contract Documents, including all work expressly specified therein and such additional work as may be reasonably inferred therefrom, saving and excepting only such items of work as are specifically stated in the Contract Documents not to be the obligation of the Contractor. The totality of the obligations imposed upon the contractor by this Article and by all other provisions of the Contract Documents, as well as the structures to be built and the labor to be performed, is herein referred to as the "Work".

Article 3

DESIGN CONSULTANT

3.1 The Design Consultant (as defined in the General Conditions) shall be Boomerang Design whose address is 6131 Falls of Neuse Road, Suite 204, Raleigh, NC 27609, however, that the Owner may, without liability to the Contractor, unilaterally amend this Article from time to time by designating a different person or organization to act as its Design Consultant and so advising the Contractor in writing, at which time the person or organization so designated shall be the Design Consultant for purposes of this Contract.

Article 4

TIME OF COMMENCEMENT AND COMPLETION

4.1 The Contractor shall commence the Work promptly upon the date established in the Notice to Proceed. If there is no Notice to Proceed, the date of commencement of the Work shall be the date of this Agreement or such other date as may be established herein.

4.2 Time is of the essence. The Contractor shall achieve Final Completion, as defined in the General Conditions on or before the date established for Final Completion in the Supplementary Conditions.

4.3 The Supplementary Conditions contains certain specific dates that shall be adhered to and are the last acceptable dates unless modified in writing by mutual agreement between the Contractor and the Owner. All dates indicate midnight unless otherwise stipulated. The only exceptions to this schedule are defined in the General Conditions under 8.3 DELAYS AND EXTENSIONS OF TIME.

4.4 Should the Contractor fail to complete the Work on or before the dates stipulated for Substantial Completion and/or Final Completion, or such later date as may result from an extension of time granted by the Owner, he shall pay the Owner, as liquidated damages the sums set forth in the General and Supplementary Conditions.

Article 5

CONTRACT SUM

5.1 Provided that the Contractor shall strictly and completely perform all of its obligations under the Contract Documents, and subject only to additions and deductions by Modification or as otherwise provided in the Contract Documents, the Owner shall pay to the Contractor, in current funds and at the time and in the installments hereinafter specified, the sum of _____ Dollars ($_____) herein referred to as the "Contract Sum". This amount includes the based bid and the Alternates in Section 2.2. However, the Owner and Contractor acknowledge that the Owner does not currently have funds available to cover the total Contract Sum identified in this section. Therefore, the Contractor is only authorized to perform the preliminary site work identified in the bid documents, as amended by addenda issued by the Design Consultant. The maximum amount to be paid to the Contractor for the preliminary site work shall be _____(TBD)_____*Dollars (*TBD*)*. This amount is a part of, and not in addition to, the above Contract Sum. The Contractor shall not be entitled to any compensation by the Owner for any work other than the preliminary site work, unless such additional work is specifically authorized by a fully executed Change Order.

5.2 Unit Prices are established as follows for the Project:

Unit Price No. 2.1	Unsatisfactory Soils Excavation and Replacement with Clean Sand (Mass)	$_____/cu. yd.
Unit Price No. 2.2	Unsatisfactory Soils Excavation and Replacement with #57 Washed Stone (Trench and Footings)	$_____/cu. yd.
Unit Price No. 2.3	Provide and Install Geotextile Fabric	$_____/sq. yd.
Unit Price No. 7.1	Ceiling Access Panels	$_____/unit

Article 6

PROGRESS PAYMENTS

6.1 The Contractor hereby agrees that on or about the First day of the month for every month during the performance of the Work he will deliver to the Owner's Design Consultant an Application for Payment in accordance with the provisions of Article 9 of the General Conditions. This date may be changed upon mutual agreement, stated in writing, between the Owner and Contractor. Payment under this Contract shall be made as provided in the General Conditions, except that the 10% retainage held shall be reduced to 5%. Payments due and unpaid under the Contract Documents shall not bear interest.

Article 7

OTHER REQUIREMENTS

7.1 The Contractor shall submit the Performance Bond, Labor and Material Payment Bond and Certification of Insurance as required by the Contract Documents.

7.2 The Owner shall furnish to the Contractor Five set(s) of drawings and Five set(s) of specifications, at no extra cost, for use in the Construction of the Work. Additional sets of drawings or specifications may be obtained by the Contractor by paying the Owner for the costs of reproduction, handling and mailing.

7.3 The Contractor will make a good faith effort to utilize Minority Business Enterprises (MBEs) per N.C. Gen. Stat. 143-128 as subcontractors in the performance of this contract.

IN WITNESS WHEREOF, the County Of Brunswick, North Carolina (hereinbefore called the "Owner") has caused these presents to be signed and its corporate seal to be hereunto affixed, attested by its Chairperson and Secretary, and _____ (hereinbefore called "Contractor") has caused these presents to be signed by its President and its Corporate seal to be hereunto affixed, as hereinafter attested, all as of the day and year first above written.

COUNTY OF BRUNSWICK, NORTH CAROLINA

_____(Seal)

County Manager

_____(Seal)

Clerk to the Board of Commissioners

This contract was approved by the Board on the _____ day of _____, 2020.

_____(Contractor Name)

By: _____

_____(Print Name), President or Vice-President

ATTEST:

_____

Corporate Secretary [Corporate Seal]

This Instrument Has Been Preaudited In The Manner Required By The School Budget And Fiscal Control Act	This Instrument Has Been Preaudited In The Manner Required By The Local Government Budget And Fiscal Control Act
Freyja Cahill, Finance Officer Brunswick County Schools	Julie A. Miller,, Director Of Fiscal Operations, Brunswick County, North Carolina

PART 1 - GENERAL

Architect of Record: Angela Crawford Easterday, AIA – Boomerang Design
Structural Engineer of Record: David L. Uhland, P.E. – LHC Structural Engineers, P.C.
Building Official: Brunswick County

This Statement of Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection requirements of the 2018 North Carolina State Building Code. It includes a Schedule of Special Inspection Services applicable to this project. The name of the Inspector(s) and the identity of other approved agencies intended to be retained for conducting these inspections will be released by the Owner following the bid opening.

The Inspector(s) shall keep records of all inspections and shall furnish inspection reports to the Owner, Structural Engineer, and Architect of Record. A copy of all reports shall be kept on site at the contractor's trailer. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Owner, Structural Engineer and Architect of Record. The Inspections program does not relieve the Contractor of his or her supervision or inspection responsibilities.

The Contractor is responsible for notifications to Inspector and/or other agencies as required at least two days is advance. The Contractor is responsible for all additional costs incurred by failure to meet requirements or pass any/all inspections and/or testing as required in this section.

Interim reports shall be submitted to the Owner, Structural Engineer and Architect of Record.

Interim Report Frequency: Monthly

A Final Report of Inspections documenting completion of all required Special Inspections and correction of any discrepancies should be submitted prior to issuance of a Certificate of Use and Occupancy.

Job Site safety and means and methods of construction are solely the responsibility of the Contractor.

1.1 ITEMS REQUIRING IBC CHAPTER 1 INSPECTIONS/VERIFICATIONS

A. IBC Chapter 1 and NFPA required inspections include, but are not limited to, the following:
- 110.3.1 Footing or foundation inspection
- 110.3.2 Concrete slab or under-floor inspection
- 110.3.3 Lowest floor elevation
- 110.3.4 Frame Inspections

1.2 ITEMS REQUIRING IBC, CHAPTER 17 SPECIAL INSPECTIONS

A. EXCAVATION AND FILL

1. Excavation. All excavations with slopes exceeding those permitted by IBC 3304.1.
2. Fill: All fill greater than one foot in depth within the footprint of a structure or within the zone of influence of the structure's foundation; or, for a development consisting strictly of detached one and two family dwellings, where fill is used to support foundations of any building or structure.

B. SOILS AND FOUNDATION

1. Deep foundations. All piling and drilled piers.
2. Shallow footings and foundations. All shallow footings and foundations except: (a) Light frame buildings or structures of three stories or less in height involving only continuous or spread footings that meet the requirements of IBC Section 1704.4 (unless located at a reduced setback to a slope in accordance with IBC 1805.3.5); (b) Concrete foundation walls constructed in accordance with IBC Table 1805.5 (1-4).
3. Soils Verification. In addition to the foundations specified above, verification of soil conditions for structures with design soil bearing values in excess of 2000 pounds per square foot or where the structure bears on fill material.

C. EARTH RETAINING STRUCTURE

1. Retaining structure for deep excavation. Any slope-retention system (permanent or temporary) for excavations over 12 feet deep.

2. Retaining walls. Any retaining wall that is: (a) over six-(6) feet in height measured from grade on the low side of the wall; (b) supporting surcharge or impounding flammable liquids.

D. DETENTION BASIN

1. All detention basins.

E. CONCRETE FRAME

1. All reinforced concrete, including prestressed concrete and post-tension slabs except for a slab-on grade with effective prestress of less than 150 psi. (IBC Section 1704.4 and Chapter 19).

F. STEEL FRAME

1. All structural steel, including open web joists, bracing and stiffening members, and connections of high-strength bolts or welds (structural, metal deck, shear stud, and metal stud). [IBC Section 1704.3 and Chapter 22].

G. STRUCTURAL MASONRY

1. All masonry construction, except as exempted by IBC Section 1704.5.

H. SEISMIC RESISTANCE

1. For Seismic Design Category of “C” or higher, special inspections shall be provided, in addition to those specified herein, for portions of the seismic resistance systems in accordance with the requirements of IBC Section 1707 and the additional requirements of Sections 1705, 1708, and 1709.

I. SEISMIC AND WIND RESISTANCE

1. IBC states, in Chapter 17, specific contractor responsibilities, as follows:

2. Each contractor responsible for the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections 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:
   a. Acknowledgment of awareness of the special requirements contained in the statement of special inspections;
   b. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official;
   c. Procedures for exercising control within the contractor’s organization, the method and frequency of reporting and the distribution of the reports; and
   d. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

J. SPECIAL CASES

1. Special cases or construction that, in the opinion of the design professionals and/or the Director of the Office of School Facilities involves unusual hazards or conditions. (IBC Section 1704.13).

1.3 REPORTING SERVICES

A. It is the inspectors’ responsibility to verify that the contractor conforms to this section of the code.

B. Testing, inspections and source quality control may occur on or off project site.

C. Reports will be submitted by independent firm to Architect, Contractor, and authority having jurisdiction, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

1. Submit final report indicating correction of Work previously reported as non-compliant.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Architect and independent firm 48 hours prior to expected time for operations requiring services.

2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

E. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

F. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Architect. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.

G. Agency Responsibilities:
1. Test samples of mixes submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
6. Perform additional tests required by Architect.
7. Attend preconstruction meetings and progress meetings.

H. Agency Reports: After each test, promptly submit two copies of report to Architect, Contractor, and authority having jurisdiction. When requested by Architect, provide interpretation of test results. Include the following:
1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and specifications section.
6. Location in Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

I. Limits On Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency or laboratory may not approve or accept any portion of the Work.
3. Agency or laboratory may not assume duties of Contractor.
4. Agency or laboratory has no authority to stop the Work.

1.4 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 30 days in advance of required observations.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Refer to Section 01 33 00 - Submittal Procedures, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

STATEMENT OF SPECIAL INSPECTIONS

Project: *Athletic Improvements For Brunswick County Schools*

Location: *Brunswick County, NC*

Owner: *County of Brunswick*

Design Professional in Responsible Charge: *Angela Crawford Easterday, AIA*
Structural Engineer of Record: *David L. Uhland, P.E. – LHC Structural Engineers, P.C.*

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

☒ Structural ☐ Mechanical/Electrical/Plumbing

☐ Architectural ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Owner and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Owner and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Owner and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: *WEEKLY* or ☐ per attached schedule.

Prepared by:

_____
(type or print name)

_____
Signature Date

Design Professional Seal

Owner's Authorization:

_____
Signature Date

Building Official's Acceptance:

_____
Signature Date

SCHEDULE OF INSPECTION AND TESTING AGENCIES

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
- ☒ Cast-in-Place Concrete
- ☐ Precast Concrete
- ☒ Masonry
- ☒ Structural Steel
- ☐ Cold-Formed Steel Framing
- ☐ Deep Foundations
- ☐ Other
- ☐ Spray Fire Resistant Material
- ☐ Wood Construction
- ☐ Exterior Insulation and Finish System
- ☐ Mechanical & Electrical Systems
- ☐ Architectural Systems
- ☐ Seismic Requirements
- ☒ Wind Requirements

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Special Inspections	*SI*	*OWNER TO PROVIDE*
2. Structural Engineer of Record	*SER*	*LHC Structural Engineers*
3. Testing Laboratory	*ITL*	*OWNER TO PROVIDE*
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

QUALITY ASSURANCE PLAN

Quality Assurance for Seismic Resistance

Seismic Design Category	*C*

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)	*147*
Wind Exposure Category	*C*

Statement of Responsibility

Each contractor responsible for the construction of a main wind- or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections 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:

a. Acknowledgment of awareness of the special requirements contained in the statement of special inspections;
b. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official;
c. Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of the reports; and
d. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

SCHEDULE OF SPECIAL INSPECTIONS

Legend

ITL - Inspections Testing Laboratory
SER - Structural Engineer of Record
SI - Special Inspections
IT-# - Inspection Type
C - Continuous Special Inspections
P - Periodic Special Inspections

IT-1 SPECIAL CASES (Refer to NCBC Section 1705.1.1)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Construction materials and systems that are alternatives to materials and systems prescribed by the 2012 NCBC.	☐	☐	NCBC 1705.1.1, #1	
☐	☐	☐	Unusual design applications of materials described in the 2012 NCBC.	☐	☐	NCBC 1705.1.1, #2	
☐	☐	☐	Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.			NCBC 1705.1.1, #3	
☐	☐	☐	Special Events (as decided / required by Code Enforcement).	☐	☐	Local Authority Having Jurisdiction	
☐	☐	☐	Retaining Walls.	☐	☐		

IT-2 STEEL CONSTRUCTION (Refer to Section 1705.2 and the Exception; Table 1705.2.3)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☒	Structural Steel.	☐	☒	AISC 360	NCBC 1705.2.1 & Exception
☐	☐	☒	Cold-formed Steel Deck.	☐	☒	SDI QA/QC	NCBC 1705.2.2
☐	☐	☒	Open-web Steel Joists and Joist Girders.	☐	☒		NCBC 1705.2.3 & Table
☐	☐	☒	1. Installation of open-web steel joists and joist girders. a. End connections - welding or bolted.		☒	SJI specifications listed in Section 2207.1	
			b. Bridging - horizontal or diagonal.				
☐	☐	☒	i. Standard bridging.		☒	SJI specifications listed in Section 2207.1	
☐	☐	☒	ii. Bridging that differs from the SJI specifications listed in Section 2207.1		☒		Uplift Bridging
☐	☐	☐	Cold-formed steel trusses spanning 60 feet or greater		☐		NCBC 1705.2.4

IT-3 CONCRETE CONSTRUCTION (Refer to NCBC Section & Table1705.3; Ch. 19)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☒	1. Inspect reinforcement, including pre-stressing tendons and verify placement.	☐	☒	ACI 318 Ch 20, 25.2, 25.3, 26.6.1 – 26.76.3; & NCBC 1908.4	
☐	☐	☒	2. Reinforcing Bar welding: a. Verify weldability of reinforcing bars other than ASTM A706. b. Inspect single-pass fillet welds, maximum 5/16". c. Inspect all other welds.	☐	☒	AWS D1.4; ACI 318:26.6.4	

☐	☐	☒	3. Inspect anchors cast in concrete.		☒	ACI 318: 17.8.2	
☐	☐	☒	4. Inspect anchors post-installed in hardened concrete members. a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a.	☒	 ☒	ACI 318: 17.8.2.4 ACI 318: 17.8.2	
☐	☐	☒	5. Verify use of required design mix.		☒	ACI 318: Ch. 19, 26.4.3, 26.4.4, NCBC 1904.1, 1904.2. 1908.2, 1908.3	
☐	☐	☒	6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	☒		ASTM C 172; ASTM C 31; ACI 318: 26.4, 26.12	
☐	☐	☐	7. Inspect concrete and shotcrete placement for proper application techniques.	☐		ACI 318: 26.5, NCBC 1908.6, 1908.7. 1908.8	
☐	☐	☒	8. Verify maintenance of specified curing temperature and techniques		☒	ACI 318: 26.5.3-26.5.5 NCBC 1908.9	
☐	☐	☐	9. Inspect of pre-stressed concrete for: a. Application of pre-stressing forces; and b. Grouting of bonded pre-stressing tendons.	☐ ☐		 ACI 318: 26.10	
☐	☐	☐	10. Inspect erection of precast concrete members		☐	ACI 318: Ch. 26.8	
☐	☐	☐	11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.		☐	ACI 318: 26.11.2	
☐	☐	☒	12. Inspect formwork for shape, location and dimensions of the concrete members being formed.		☒	ACI 318:26.11.1.2(b)	

IT-4 MASONRY (Refer to NCBC Section 1705.4)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☒	Masonry Construction.	☒	☒	TMS 402/ ACI 530/ ASCE 5 and TMS 602/ACI 530.1/ASCE 6,	See NCBC 1705.4 Exceptions
☐	☐	☐	Empirically designed masonry (per 2109), glass unit masonry (per 2110) or masonry veneer (per Ch 14) in Risk Category IV.	☐	☐	TMS 402/ ACI 530/ ASCE 5, Level B Quality Assurance	

IT-5 WOOD (Refer to NCBC Section 1705.5)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Prefabricated wood structural elements and assemblies to be in accordance with the requirements set forth in NCBC Section 1704.2.5.	☐	☐	NCBC 1704.2.5	
☐	☐	☐	High Load Diaphragms.	☐	☐	NCBC 1705.5.1 & 1704.2	
☐	☐	☐	Temp & permanent bracing on metal-plate-connected trusses spanning ≥ 60 ft.	☐	☐	NCBC 1705.5.2	

IT-6 SOILS (Refer to NCBC Table 1705.6 & Section 1705.6)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments

☒	☐	☒	1. Verify materials below shallow foundation are adequate to achieve the design bearing capacity.		☒	NCBC 1705.6; geotechnical report & construction documents from RDPIRC	See NCBC 1705.6 exception
☐	☐	☒	2. Verify excavations are extended to proper depth and have reached proper material.		☒	NCBC 1705.6; geotechnical report & construction documents from RDPIRC	
☒	☐	☒	3. Perform classification and testing of compacted fill materials.		☒	NCBC 1705.6; geotechnical report & construction documents from RDPIRC	
☒	☐	☒	4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	☒		NCBC 1705.6; geotechnical report & construction documents from RDPIRC	
☒	☐	☒	5. Prior to placement of compacted fill, inspect sub-grade and verify that site has been prepared properly.		☒	NCBC 1705.6; geotechnical report & construction documents from RDPIRC	

IT-7 DRIVEN DEEP FOUNDATIONS (Refer to NCBC Section 1705.7)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	1. Verify element materials sizes and lengths comply with the requirements.	☐		NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	2. Determine capacities of test elements and conduct additional load tests as required.	☐		NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	3. Inspect driving operations and maintain complete and accurate records for each element.	☐		NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	☐		NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	5. For steel elements, perform additional inspections in accordance with Section 1705.2.			NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.2.			NCBC 1705.7; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.			NCBC 1705.7; geotechnical report & construction documents from RDPIRC	

IT 8 CAST-IN-PLACE DEEP FOUNDATIONS (Refer to NCBC Section 1705.8)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments

☐	☐	☐	1. Inspect drilling operations and maintain complete and accurate records for each element.	☐		NCBC 1705.8; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.	☐		NCBC 1705.8; geotechnical report & construction documents from RDPIRC	
☐	☐	☐	3. For concrete elements, perform tests and additional special inspections in accordance with section 1705.3.	☐		NCBC Section 1705.8; geotechnical report & construction documents from RDPIRC	

IT 9 HELICAL PILES (Refer to NCBC Sections 1705.9)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Inspect during installation. Record: 1. Installation equipment used. 2. Pile dimensions. 3. Tip elevations. 4. Final depth. 5. Final installation torque. 6. Other pertinent installation data as req'd by RDPIRC.	☐		NCBC Section 1705.9; geotechnical report & construction documents from RDPIRC	

IT 10 FABRICATED ITEMS (Refer to NCBC Sections 1705.10 & 1704.2.5)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☒	Inspect during fabrication. 1. Structural, 2. Load-bearing or 3. Lateral load-resisting members or assemblies.	☐	☒	NCBC Section 1705.10 or 1704.2.5.	SI are not required if the fabricator meets 1704.2.5, #1 or #2; or if the fabricator is approved per 1704.2.5.1

IT 11 WIND RESISTANCE (Refer to NCBC Sections 1705.11; 1705.11.1 – 1705.11.3; & 1609.3.1)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
			Only required in the following instances: 1. In wind Exposure Category B, where V*asd* is ≥ 120 MPH (per 1609.3.1), or 2. In wind Exposure Category Cor D, where V*asd* is ≥ 110 MPH (per 1609.3.1).				
☐	☐	☐	Structural Wood. 1. Gluing elements of the main wind force-resisting system. 2. Nailing, bolting, anchoring, etc. of elements of the main wind force-resisting system.	☐	☐	NCBC 1705.11.1	Not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the MWR system, where the fastener spacing of the sheathing is > 4" o.c.

☐	☐	☐	Cold-formed steel light frame construction. 1. Welding operations of elements of the MWRS 2. Screw attachment, bolting, anchoring and other fastening of elements of the MWRS including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs		☐ ☐	NCBC 1705.11.2	Not required for shear walls and diaphragms, where either of the following applies: **#1**. Sheathing is gypsum bd or fiberboard; **#2**. Sheathing is wood structural panel or steel sheets on one side of the shear wall, panel or diaphragm assembly and the fastener spacing of the sheathing is > 4"o.c.
☐	☐	☒	Wind-resisting components 1. Roof covering, roof deck and roof framing connections 2. Exterior wall covering and wall connections to roof and floor diaphragms and framing		☒ ☒	NCBC 1705.11.3	

IT-12 SEISMIC RESISTANCE (Refer to NCBC Sections 1705.12)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
			SI in sections 1705.12.1 – 1705.12.9 are not required for structures designed and constructed in accordance with one of the following: 1. Structure is light-frame construction, S_{DS} is not greater than 0.5; and building height is not greater than 35'. 2. SFRS of the structure is reinforced masonry or reinforced concrete, S_{DS} is not greater than 0.5; and building height is not greater than 25'.				
☐	☐	☐	Structural steel in the seismic force-resisting systems of buildings and structures assigned to SDC B, C, D, E or F.	☐	☐	NCBC 1705.12.1.1; AISC 341	Not required in the SFRS of buildings or structures in SDC B or C not specifically detailed for seismic resistance, with response modification coefficient, R, ≤3
☐	☐	☐	Structural steel elements in the seismic force-resisting systems of buildings or structures assigned to SDC B, C, D, E or F other than those covered in Section 1705.12.1.1, including struts, chords and foundation elements.	☐	☐	NCBC 1705.12.1.2; AISC 341	Not required in the SFRS of buildings and structures in SDC B or C with response modification coefficient, R, ≤3

☐ ☐	☐ ☐	☐ ☐	Structural Wood in the seismic force-resisting systems of structures assigned to SDC C, D, E or F. 1. Field gluing operations of elements of seismic force-resisting system 2. Nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system	☐	☐	NCBC 1705.12.2	These SI are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the SFRS when the fastener spacing of the sheathing is > 4” o.c. Includes wood shear walls, wood diaphragms, drag struts braces, panels & hold-down’s.
☐ ☐	☐ ☐	☐ ☐	Cold-formed steel light frame construction in the SFRS of structures in SDC C, D, E, or F. 1. Welding operations of elements of the SFRS 2. Screw attachment, bolting, anchoring, and other fastening of elements of the SFRS including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs		☐ ☐	NCBC 1705.12.3	Not required for shear walls and diaphragms, including screw installation, bolting, anchoring and other fastening to components of the SFRS where either of the following applies: **#1**. Sheathing is gypsum bd or fiberboard; **#2**. Sheathing is wood structural panel or steel sheets on one side of the shear wall, panel or diaphragm assembly and the fastener spacing of the sheathing is > 4”o.c
☐	☐	☐	Designated seismic systems for structures assigned to Seismic Design Category C, D, E or F. Verify the label, anchorage and mounting conform to the certificate of compliance	☐	☐	ASCE 7, Section 13.2.2	

☐	☐	☐	Architectural components – erection and fastening of exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer in structures assigned to Seismic Design Category D, E or F		☐	NCBC 1705.12.5	Not required for: #1. Exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer ≤ 30' in height above grade or walking surface. #2. Exterior cladding and interior and exterior veneer weighing 5 psf or less. #3. Interior nonbearing walls weighing 15 psf or less.
☐	☐	☐	Access floors - anchorage in structures assigned to Seismic Design Category D, E or F.		☐	NCBC 1705.12.5.1	
			Plumbing, Mechanical and electrical components: Seismic Design Categories C, D, E or F:				
☐	☐	☐	1. Anchorage of electrical equipment for emergency and standby power.		☐	NCBC 1705.12.6, #1	
☐	☐	☐	2. Installation and anchorage of piping systems for Hazardous materials and associated mechanical units.		☐	NCBC 1705.12.6, #3	
☐	☐	☐	3. Installation and anchorage of ductwork for Hazardous materials.		☐	NCBC 1705.12.6, #4	
☐	☐	☐	4. Installation and anchorage of vibration isolation systems where the required clearance is ≤ 1/4" between the equipment support frame and restraint.		☐	NCBC 1705.12.6, #5	
☐	☐	☐	Seismic Design Categories E or F: 1. Anchorage of other electrical equipment.		☐	NCBC 1705.12.6, #2	
☐	☐	☐	Storage racks ≥ 8' in height in Seismic Design Categories D, E or F.		☐	NCBC 1705.12.7	
☐	☐	☐	Seismic isolation systems in seismically isolated structures assigned to SDC B, C, D, E, or F.		☐	NCBC 1705.12.8	
☐	☐	☐	Installation of cold-formed steel special bolted moment frames in the SFRS of structures assigned to SDC D, E, or F.		☐	NCBC 1705.12.9	

IT 13 TESTING FOR SEISMIC RESISTANCE (Refer to Section 1705.13)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Structural Steel. 1. Nondestructive testing for seismic resistance for SFRS for buildings assigned to SDC B, C, D, E or F.	☐	☐	NCBC 1705.13.1 NCBC 1705.13.1.1 or AISC 341	Exception: SDC B or C buildings with a response modification coefficient ≤ 3.
☐	☐	☐	Structural Steel Elements. 1. Nondestructive testing for seismic resistance of structural steel elements in the SFRS of buildings and structures assigned to SDC B, C, D, E or F if not covered in 1705.13.1.1.	☐	☐	NCBC 1705.13.1.2 AISC 341	Exception: SDC B or C buildings with a response modification coefficient ≤ 3.

☐	☐	☐	Nonstructural Components for structures assigned to SDC B, C, D, E or F where the requirements of Section 13.2.1 of ASCE 7 for nonstructural components, supports or attachments are met by seismic qualification as specified in Item 2 therein, the RDPIRC shall specify on the approved construction documents the requirements for seismic qualification by analysis, testing or experience data.	☐	☐	NCBC 1705.13.2	
☐	☐	☐	Designated seismic systems for structures assigned to SDC C, D, E or F that are subject to the requirements of Section 13.2.2 of ASCE 7 for certification, the RDPIRC shall specify on the approved construction documents the requirements to be met by analysis, testing or experience data.	☐	☐	NCBC 1705.13.3	
☐	☐	☐	Seismic Isolation Systems in Seismically isolated structures assigned to SDC B, C, D, E, or F.			NCBC 1705.13.4; ASCE 7, section 17.8	

IT-14 SPRAYED FIRE-RESISTANT MATERIALS (Refer to NCBC Sections 1705.14)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
			Sprayed fire-resistant materials.			NCBC 1705.14.4.2 &	
☐	☐	☐	1. Floor, roof and wall assemblies	☐	☐	ASTM E605	4/1000sf
☐	☐	☐	2. Cellular Decks	☐	☐	NCBC 1705.14.4.3	4 @12”x12”
☐	☐	☐	3. Fluted Decks	☐	☐	NCBC 1705.14.4.4	4 @12”x12”
☐	☐	☐	4. Structural members	☐	☐	NCBC 1705.14.4.5	25%
☐	☐	☐	5. Beams and Girders	☐	☐	NCBC 1705.14.4.6	9@12”
☐	☐	☐	6. Joists and Trusses	☐	☐	NCBC 1705.14.4.7	7@12”
☐	☐	☐	7. Wide-flanged columns	☐	☐	NCBC 1705.14.4.8	12@12”
☐	☐	☐	8. Hollow structural section and pipe columns	☐	☐	NCBC 1705.14.4.9	4@12”

IT 15 MASTIC AND INTUMESCENT FIRE-RESISTANT COATING 1705.15

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Mastic and Intumescent fire-resistant coating applied to structural elements and decks.	☐	☐	NCBC 1705.15; AWCI 12-B	

IT-16 EXTERIOR INSULATION & FINISH SYSTEM (EIFS)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	EIFS application.	☐	☐		Not required for: 1. EIFS applications installed over a water-resistive barrier that drains to the exterior. 2. EIFS applications installed over masonry or concrete walls.
☐	☐	☐	Water-resistive barrier coating when installed over a sheathing substrate.	☐	☐	ASTM E2570	

IT 17 FIRE-RESISTANT PENETRATIONS AND JOINTS (Refer to NCBC Sections 1705.17; 1705.17.1; & 1705.17.2)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments

			Applies to all new high-rise buildings and all new buildings in Risk Category III or IV. Additions, Changes of Use, NCEBC Ch 14 evaluated buildings and Level 3 Alterations within existing high-rises and / or Risk Category III or IV buildings will also require these special inspections.				
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Inspection of tested and listed penetration firestop systems: 1. Through penetrations: a. Verify materials before installation. b. Verify against design (Cutsheet or EJ). c. For each type of firestop: i. Witness 10% of installations, or ii. Destructive testing on 2% of installations. d. Verify all firestops are installed. 2. Membrane penetrations: a. Verify materials before installation. b. Verify against design (Cutsheet or EJ). c. For each type of firestop: i. Witness 10% of installations or ii. Destructive testing on 2% of installations. d. Verify all firestops are installed.	☐	☐	NCBC 1705.17.1; ASTM E2174-10ae1	10% of installations per floor or per area. Area = 1 sf – 10,000 sf. 2% of installations per floor or per area. Area = 1sf – 10,000 sf 10% of installations per floor or per area. Area = 1sf – 10,000 sf 2% of installations per floor or per area. Area = 1sf – 10,000 sf
☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	Installation of tested and listed fire-resistant joint systems: 1. Verify materials before installation. 2. Verify against design (cutsheet or EJ) . 3. For each type of joint system: a. Witness installation of 5% min of total lineal feet of joint system being installed, or b. Destructive testing, disassembly or visual inspection at the rate of at least 1 sample for every 500 lineal feet of the joint system.	☐	☐	NCBC 1705.17.2; ASTM E2393-10a	

IT-18 SMOKE CONTROL (Refer to NCBC Section 1705.18)

ITL	SER	SI	Inspection Task	C	P	Standard	Notes / Comments
☐	☐	☐	Inspection of smoke control system.	☐	☐	NCBC 1705.18	

FINAL REPORT OF SPECIAL INSPECTIONS

Project: *Athletic Improvements For Brunswick County Schools*

Location: *Brunswick County, NC*

Owner: *County of Brunswick*

Design Professional in Responsible Charge: *Angela Crawford Easterday, AIA*

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the State of Special Inspections submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections).

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector

Licensed Professional Seal

Signature Date

FINAL REPORT OF SPECIAL INSPECTIONS

AGENTS FINAL REPORT

Project: *Athletic Improvements For Brunswick County Schools*

Location: *Brunswick County, NC*

Owner: *County of Brunswick*

Design Professional in Responsible Charge: *Angela Crawford Easterday, AIA*

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

(Attach continuation sheets if required to complete the description of corrections).

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,

Agent of the Special Inspector

Licensed Professional Seal

_____

Signature Date

END OF SECTION 01 45 00

DESIGN CRITERIA

LOCATION: BRUNSWICK COUNTY, NORTH CAROLINA
BUILDING CODE: 2018 NORTH CAROLINA STATE BUILDING CODE
(2015 IBC WITH NORTH CAROLINA AMENDMENTS)
OCCUPANCY CATEGORY: II
BASIC LATERAL FORCE RESISTING SYSTEM:
INTERMEDIATE REINFORCED MASONRY SHEAR WALLS

DESIGN LIVE LOADS

ROOF 20 PSF

ROOF SNOW LOAD

P_g = 10 PSF
C_e = 0.9
I_s = 1.0
C_t = 1.0

WIND LOAD

V = 147 MPH (3 SECOND GUST ASCE 7-10)
I_w = 1.0
EXPOSURE C
DESIGN (ULTIMATE) WIND BASE SHEAR:
V_x = 51k V_y = 199k
INTERNAL PRESSURE COEFFICIENT = ±0.18
COMPONENTS & CLADDING PER ASCE 7-10 TABLE 26.11-1

WIND LOADS ON COMPONENTS & CLADDING FOR GIVEN TRIBUTARY AREAS (psf)

	ZONE	10 SQ FT	20 SQ FT	50 SQ FT	100 SQ FT	500 SQ FT
ROOF	1	+20.3/-54.2	+19.1/-54.2	+17.4/-54.2	+16.1/-54.2	+16.1/-54.2
	2	+20.3/-62.7	+19.1/-61.4	+17.4/-59.7	+16.1/-58.5	+16.1/-58.5
	3	+20.3/-83.9	+19.1/-76.2	+17.4/-66.1	+16.1/-58.5	+16.1/-58.5
ROOF OVHANG	2	N/A	N/A	N/A	N/A	N/A
	3	N/A	N/A	N/A	N/A	N/A
WALL	4	+45.8/-49.6	+43.7/-47.5	+41.0/-44.9	+39.0/-42.8	+34.3/-38.1
	5	+45.8/-61.0	+38.0/-57.0	+41.0/-51.6	+39.0/-47.5	+34.3/-38.1

1. DETERMINE WIND LOADS ON COMPONENTS IN ACCORDANCE WITH THE NCSBC AND ASCE-7-10 OR WITH THIS TABLE. REFERENCE ASCE 7-10, CHAPTER 30.
2. TRIBUTARY AREA = GREATER OFLxW OR LxL/3.
3. DESIGN FOR STRENGTH USING LOADS FROM ASCE-7 OR FROM THIS TABLE. DEFLECTIONS MAY BE CALCULATED USING WIND LOADS BASED ON SERVICABILITY WIND SPEED IN ACCORDANCE WITH ASCE 7-10 COMMENTARY APPENDIX C.
4. POSITIVE PRESSURES ARE DIRECTED TOWARD THE INTERIOR. NEGATIVE LOADS ARE DIRECTED AWAY FROM THE INTERIOR. NEGATIVE ROOF LOADS ARE UPLIFT LOADS.
5. NOTE: VALUES IN TABLE ASED ON MEAN ROOF HEIGHT H= 20.1 FEET

SEISMIC CRITERIA

I_e = 1.0
SEISMIC DESIGN VALUES DETERMINED UTILIZING 2008 USGS HAZARD DATA
SPECTRAL RESPONSE ACCELERATIONS S_s = 0.292 S_1 = 0.114
SITE CLASS D (USED FOR DESIGN - SEE BELOW)
SITE CLASS F (PER GEOTECHNICAL REPORT)
SPECTRAL RESPONSE COEFFICIENTS S_{ms} = 0.305 S_{d1} = 0.179
SEISMIC DESIGN CATEGORY D
DESIGN ULTIMATE SEISMIC BASE SHEAR: V_x = 46k V_y = 46k
DESIGN SEISMIC RESPONSE COEFFICIENT C_s = 0.087
RESPONSE MODIFICATION FACTOR R = 3.5

NOTE: SOIL SITE CLASS D HAS BEEN USED TO DETERMINE SEISMIC DESIGN CRITERIA BASED ON THE FOLLOWING:
1. THE STRUCTURE'S CALCULATED FUNDAMENTAL PERIOD OF.041 SECONDS IS SIGNIFICANTLY LESS THAN 0.5 SECONDS.
2. THE STRUCTURE HAS CAPACITY TO WITHSTAND ESTIMATED DIFFERENTIAL SETTLEMENT OF 1.5 INCHES WITHOUT COLLAPSE.

SPECIAL INSPECTION REQUIREMENTS

THE FOLLOWINGS SYSTEMS ARE SUBJECT TO THE SPECIAL INSPECTION REQUIREMENTS OF THE NCSBC, CHAPTER 17.

1. CAST IN PLACE CONCRETE FOUNDATIONS
2. ELEVATED CAST IN PLACE CONCRETE SLABS
3. CONCRETE MASONRY (LOAD-BEARING OR LATERAL LOAD RESISTING)
4. STRUCTURAL STEEL
5. STEEL JOISTS
6. STEEL DECK

GENERAL NOTES

GENERAL

1. DESIGN, FURNISH, AND INSTALL TEMPORARY SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS REQUIRED FOR CONSTRUCTING THE STRUCTURE AND TO MAINTAIN THE STABILITY THROUGHOUT ALL PHASES OF CONSTRUCTION UNTIL THE STRUCTURE IS COMPLETED. ALL TEMPORARY SUPPORTS ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
2. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND THE DRAWINGS OF OTHER TRADES.
3. COORDINATE WITH OTHER TRADES THE ACTUAL LOCATIONS AND SIZES OF OPENINGS AND PENETRATIONS REQUIRED BY THEIR WORK.
4. COORDINATE WITH OTHER TRADES THE ACTUAL LOCATIONS AND ELEVATIONS OF BURIED SERVICES PASSING NEAR FOUNDATIONS. UNDERGROUND SERVICES WHICH PASS BENEATH WALL FOOTINGS SHALL HAVE AT LEAST 12" OF CLEARANCE BELOW THE BOTTOM OF THE FOOTING. WHERE THIS IS NOT ACHIEVED, EITHER STEP THE FOOTING DOWN BENEATH THE SERVICE OR INSTALL A STEEL PIPE SLEEVE FOR THE SERVICE TO PASS THROUGH. SLEEVES ARE FURNISHED AND INSTALLED BY THE TRADE INSTALLING THE SERVICE. NO SERVICE IS TO BE INSTALLED BENEATH COLUMN FOOTINGS UNLESS APPROVED BY THE ARCHITECT.
5. COORDINATE WITH OTHER TRADES THE ACTUAL LOCATIONS AND TYPES OF ATTACHMENTS AND ANCHORS THAT ARE REQUIRED BY THE TRADES TO FASTEN THEIR WORK TO THE STRUCTURE.
6. MODIFICATIONS TO STRUCTURAL COMPONENTS AND INSTALLATION OF PENETRATIONS THROUGH STRUCTURAL MEMBERS ARE NOT PERMITTED WITHOUT PRIOR APPROVAL OF THE ARCHITECT.
7. VERIFY ACTUAL DIMENSIONS, ELEVATIONS, AND CONDITIONS OF EXISTING CONSTRUCTION PRIOR TO PROCEEDING WITH WORK OR ORDERING MATERIALS WHICH COULD BE AFFECTED BY EXISTING CONDITIONS.

FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON A REPORT OF SUBSURFACE INVESTIGATION PREPARED BY S&ME, INC., DATED MARCH 28, 2018.
2. ALL FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. NET ALLOWABLE BEARING PRESSURE IS 2000 PSF.
3. ALL STRUCTURAL EARTH FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES AND BE COMPACTED TO AT LEAST 95 PERCENT OF THE SOIL'S STANDARD PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698. THE TOP 12 INCHES OF FILL IN LOAD BEARING AREAS SHOULD BE COMPACTED TO AT LEAST 98 ERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. ALL STRUCTURAL FILL MATERIAL SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN 3 PERCENT OF THE SOIL'S OPTIMUM MOISTURE CONTENT (AS DETERMINED BY ASTM D-698). ALL STRUCTURAL FILL SHALL BE PLACED UNDER THE FULL-TIME CONTROL OF AN ENGINEERING TECHNICIAN WORKING UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER. THE PLACEMENT AND COMPACTION OF ALL FILL MATERIAL SHALL BE MONITORED AND TESTED IN ORDER TO CONFIRM THAT THE RECOMMENDED DEGREE OF COMPACTION IS BEING OBTAINED. IF AN IMPORTED STRUCTURAL FILL IS REQUIRED TO COMPLETE SITE GRADING, IT SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO USE. IMPORTED STRUCTURAL FILL SHOULD TYPICALLY CONSIST OF LOW PLASTICITY SOIL (LL<50, PI<25), HAVE A STANDARD PROCTOR MAXIMUM DRY DENSITY OF AT LEAST 100 PCF, AND BE FREE OF ORGANIC AND OTHER DEFLETERIOUS MATERIALS. IF CLEAN SAND FILL IS NECESSARY TO REPLACE LOWER CONSISTENCY SOILS IN THE BUILDING AREA, THE SAND SHOULD CONTAIN LESS THAN 10 TO 12 PERCENT FINES.
FINISHED SUBGRADES IN BUILDING AREAS RECEIVING MORE THAN 7 FEET OF FILL
4. SHALL BE MONITORED FOR SETTLEMENT DUE TO THE FILL LOADING. SETTLEMENT MONUMENTS SHOULD BE INSTALLED AT THE TOP OF THE FILL IMMEDIATELY UPON FILL COMPLETION WITH SETTLEMENT MEASUREMENTS TAKEN AT LEAST TWO PER WEEK UNTIL SETTLEMENTS HAVE STABILIZED. CONSTRUCTION F BUILDING FOUNDATIONS AND PAVMENTS SHALL NOT OCCUR UNTIL IT IS CONFIRMED THAT SETTLEMENT DUE TO NEW FILL HAS STABILIZED.
NO FOUNDATIONS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
5. ALL FOOTING EXCAVATIONS ARE TO BE FINISHED BY HAND.
6. ALL FINISHED FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY
7. THE ARCHITECT OR HIS DESIGNATE BEFORE ANY CONCRETE IS PLACED.
UNLESS OTHERWISE NOTED, ALL FOOTINGS AND PILASTERS SHALL BE CENTERED
8. UNDER SUPPORTED MEMBERS.
DOWELS FROM FOUNDATIONS INTO PIERS, COLUMNS, BUTTRESSES, OR WALLS
9. ABOVE SHALL BE THE SAME SIZE AND NUMBER AS VERTICAL REINFORCEMENT IN PIERS, COLUMNS, BUTTRESSES, OR WALLS ABOVE, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
CAREFULLY FOLLOW THE REQUIREMENTS OF THE SPECIFICATIONS FOR BACKFILL
10. UNDER OR ADJACENT TO ANY PORTION OF THE BUILDING.
WHERE FOUNDATION ELEMENTS ARE TO HAVE FILL ON BOTH SIDES, EACH SIDE SHALL
11. BE FILLED SIMULTANEOUSLY, MAINTAINING A COMMON ELEVATION.
COORDINATE UNDERFLOOR DRAIN REQUIREMENTS WITH ARCHITECTURAL AND
12. MECHANICAL DRAWINGS AND THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR SHALL PROVIDE CONTINUOUS CONTROL OF SURFACE AND UNDERGROUND WATER AS REQUIRED DURING CONSTRUCTION SUCH THAT THE WORK
13. IS DONE IN THE DRY.

CAST-IN-PLACE CONCRETE

1. MATERIALS
   - A. PORTLAND CEMENT: ASTM C150, TYPE I.
   - B. FLY ASH: ASTM A618, CLASS C OR F.
   - C. NORMAL-WEIGHT AGGREGATE: ASTM ASTM C33, CLASS 3M.
   - D: LIGHTWEIGHT AGGREGATE EXPANDED SHALE OR SLATE: ASTM C330.
   - E. REINFORCING STEEL: ASTM A615 GRADE 60.
   - F. REINFORCING STEEL, WELDABLE: ASTM A706.
   - G. WELDED WIRE FABRIC: ASTM A185, FLAT SHEETS.
   - H. UNDER-SLAB DRAINAGE FILL: 6" WASHED CRUSHED STONE, MAXIMUM AGGREGATE SIZE OF 3/4".
   - I. VAPOR BARRIER: ASTM E1745, CLASS B; FIVE-PLY, NYLON OR POLYESTER CHORD, 10 MILS THICKNESS.
   - J. WATERSTOP: SELF-EXPANDING.
2. CONCRETE MIXES
   - A. FOOTINGS: 3000 PSI NW
   - B. CONCRETE ON METAL DECK: 3500 PSI LIGHTWEIGHT.
   - C. SLABS-ON-GRADE: 3000 PSI NW
   - D. SLABS-ON-GRADE EXPOSED TO WEATHER: 4500 PSI NW, AIR-ENTRAINED
3. PERFORM CONCRETE WORK IN ACCORDANCE WITH ACI 318 AND ACI 301.
4. PROVIDE CONCRETE COVER AS FOLLOWS:
   - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3".
   - B. CONCRETE EXPOSED TO EARTH OR WEATHER:
     #5 OR SMALLER: 1 1/2".
     #6 OR LARGER: 2".
   - C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
     SLABS, WALLS, JOIST: 3/4" BEAMS, COLUMNS: 1 1/2" TO PRIMARY REINFORCEMENT, TIES, STIRRUPS, OR SPIRALS.
5. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. MINIMUM LAP LENGTHS, EXPRESSED IN NUMBER OF BAR DIAMETERS, SHALL BE AS FOLLOWS:

BAR SIZE	NORMAL WT. CONCRETE STRENGTH, fc (psi)		
	3000	4000	5000
#6 OR SMALLER	57 DIA.	49 DIA.	44 DIA.
#7 OR LARGER	71 DIA.	62 DIA.	55 DIA.

MULTIPLY THE ABOVE LENGTHS BY 1.3 FOR TOP BARS AND BY 1.3 FOR LIGHTWEIGHT CONCRETE. WHERE BARS OF UNEQUAL DIAMETER ARE LAPPED, USE THE LAP LENGTH OF THE SMALLER BAR. THE ABOVE LENGTHS ARE CLASS "B" TENSION LAP SPLICES BASED ON GRADE 60 BARS WITH A COVER OF AT LEAST 1 BAR DIA. AND SPACING AT LEAST 3 BAR DIA. LAP LENGTHS SHALL BE INCREASED IN ACCORDANCE WITH ACI 318 IF COVER IS LESS THAN 1 BAR DIA. OR SPACING IS LESS THAN 3 BAR DIA.

6. ACCURATELY INSTALL AND PROPERLY SECURE ANCHORS, BEARING PLATES, SLEEVES, AND OTHER EMBEDDED ITEMS.
7. ACCURATELY LOCATE AND BLOCK OUT OPENINGS AND PENETRATIONS.
8. COORDINATE WITH OTHER TRADES FOR ANCHORS, EMBEDDED ITEMS, SLEEVES, AND PENETRATIONS REQUIRED AND/OR FURNISHED BY THE OTHER TRADES.
9. PROVIDE CONTRACTION JOINTS IN SLABS-ON-GRADE WHERE INDICATED ON THE PLANS. PROVIDE A JOINT DEPTH EQUAL TO AT LEAST 25% OF THE SLAB THICKNESS.
10. INSTALL AND SEAL VAPOR BARRIER IN ACCORDANCE WITH ASTM E1643 AND MANUFACTURER'S INSTRUCTIONS. LAP JOINTS 6" AND SEAL WITH MANUFACTURER'S RECOMMENDED TAPE.
11. FLOOR FINISHES:
    - A. FLOAT FINISH: SURFACES TO RECEIVE A TROWEL FINISH, TO BE COVERED WITH FLUID-APPLIED OR SHEET WATERPROOFING, OR TO BE COVERED WITH BUILT-UP OR MEMBRANE ROOFING.
    - B. TROWEL FINISH: SURFACES EXPOSED TO VIEW OR COVERED WITH RESILIENT FLOORING, CARPET, WOOD FLOORING, PAINT, SEALER, OR OTHER THIN FILM FINISH.
    - C. TROWEL AND FINE-BROOM FINISH: SURFACES TO BE COVERED WITH QUARRY OR CERAMIC TILE INSTALLED BY THE THIN-SET OR THICK-SET METHOD.
    - D. BROOM FINISH: EXTERIOR CONCRETE PLATFORMS, STEPS, AND RAMPS
    - E. FLOOR FINISH TOLERANCE:
      SLABS TO RECEIVE WOOD ATHLETIC FLOORING OR SPECIAL SPORTS FLOORING:
      OVERALL FLOOR FLATNESS OF AT LEAST FF 50.
      OVERALL FLOOR LEVELNESS OF AT LEAST FL 30.
      ALL OTHERS RECEIVING TROWEL OR TROWEL AND FIN-BROOM FINISH:
      OVERALL FLOOR FLATNESS OF AT LEAST FF 32.
      OVERALL FLOOR LEVELNESS OF AT LEAST FL 20.
12. NO CONDUIT OR PIPE MAY BE RUN WITHIN STRUCTURAL CONCRETE MEMBERS EXCEPT WHERE INDICATED.

STRUCTURAL MASONRY

1. SCOPE: THESE NOTES APPLY TO LOAD BEARING MASONRY OR MASONRY THAT IS PART OF THE LATERAL LOAD RESISTING SYSTEM. SEE ARCHITECTURAL FOR OTHER MASONRY.
2. ALL MASONRY WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI530-08) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI530.1-08)
3. MATERIALS
   - A. CONCRETE MASONRY UNITS: ASTM C90, 2000 PSI MIN. UNIT STRENGTH.
   - B. MORTAR: ASTM C270, PROPORTION SPECIFICATION, TYPE S.
   - C. GROUT: ASTM C476; SLUMP=8" TO 11". COMPRESSIVE STRENGTH fc = 3000 PSI
   - D. MASONRY f'm = 2000 PSI.
   - E. REINFORCING STEEL: ASTM A615, GRADE 60.
4. LAP REINFORCING AS FOLLOWS, UNLESS NOTED OTHERWISE.

#3	1'-6"	#7	5'-0"
#4	2'-0"	#8	8'-0"
#5	2'-6"	#9	10'-0"
#6	4'-0"	#10	12'-6"

5. INSTALL REINFORCING IN THE CENTER OF CELLS UNLESS INDICATED OTHERWISE.
6. ADEQUATELY SECURE REINFORCING TO PREVENT MOVEMENT PRIOR TO GROUT FILL.
7. GROUT ALL CELLS OF MASONRY UNITS INSTALLED BELOW FINAL GRADE.
8. ABOVE GRADE, GROUT ONLY REINFORCED CELLS UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL

1. MATERIALS
   - A. STRUCTURAL STEEL WIDE FLANGE SHAPES: ASTM A992
   - B. OTHER STRUCTURAL STEEL ROLLED SHAPES: ASTM A36
   - C. RECTANGULAR OR ROUND HSS: ASTM A500, GR B
   - D: STEEL PIPE: ASTM A53, GR B, TYPE OR F
   - E. STEEL PLATE: ASTM A36
   - F. HIGH STRENGTH BOLTS: ASTM A325
   - G. ANCHOR RODS: ASTM F1554, GRADE 36
   - H. WELD ELECTRODE: IN ACCORDANCE WITH AWS D1.1
2. FABRICATE AND ERECT STEEL IN ACCORDANCE WITH THE AISC SPECIFICATION. PERFORM SHOP AND FIELD WELDING IN ACCORDANCE WITH AWS D1.1 WITH CURRENTLY CERTIFIED WELDERS.
3. UNLESS NOTED OTHERWISE, ALL BOLTED CONNECTIONS ARE MADE WITH 3/4" HIGH STRENGTH BOLTS INSTALLED SNUG TIGHT
4. ALL STEEL EXPOSED TO VIEW SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 10 OF THE "AISC CODE OF STANDARD PRACTICE".

STEEL JOISTS

1. MATERIALS
   - A. STEEL JOISTS: SJI SPECIFICATIONS, K SERIES.
   - B. LONG SPAN STEEL JOISTS: IN ACCORDANCE WITH SJI SPECIFICATIONS.
   - C. BRIDGING AND ACCESSORIES: IN ACCORDANCE WITH SJI SPECIFICATIONS.
   - D: HIGH-STRENGTH BOLTS: ATSM A325
   - E. CARBON STEEL BOLTS: ASTM A307, GRADE A
   - F. WELD ELECTRODE: IN ACCORDANCE WITH AWS D1.1
2. FABRICATE AND ERECT JOISTS IN ACCORDANCE WITH THE SJI SPECIFICATIONS.
3. PERFORM SHOP AND FIELD WELDING WITH CERTIFIED WELDERS IN ACCORDANCE WITH AWS D1.1
4. INSTALL 3/4 INCH DIAMETER HIGH STRENGTH BOLTS, SNUG TIGHT, IN BOLTED JOIST-TO-STRUCTURAL STEEL, JOIST-TO-JOIST GIRDER, AND JOIST SPLICE CONNECTIONS.
5. INSTALL CARBON STEEL BOLTS IN BOLTED CONNECTIONS FOR BRIDGING AND JOIST ACCESSORIES.
6. INSTALL BRIDGING AND UPLIFT BRIDGING AS REQUIRED BY THE SJI SPECIFICATIONS.

STEEL DECK

1. MATERIALS
   - A. STEEL ROOF DECK: 1 1/2" DEEP, TYPE B (WIDE RIB), 22 GAGE, ASTM A653, SS, GRADE 33/ G60 GALVANIZED COATING.
   - B. COMPOSITE STEEL FLOOR DECK: 1 1/2" DEEP, 22 GAGE, ASTM A653, GRADE 33/ G60 GALVANIZED COATING.
   - C. POUR STOPS, GIRDER FILLERS, COLUMN, END, AND Z CLOSURES, COVER PLATES, OTHER STEEL SHEET DECKING ACCESSORIES: THICKNESS AS REQUIRED FOR STRENGTH BUT NOT LESS THAN THE DECKING THICKNESS; OF THE SAME MATERIAL AND FINISH AS THE DECKING MATERIAL.
   - D. MECHANICAL FASTENERS: CORROSION RESISTANT SELF-DRILLING CARBON STEEL SCREWS, #10 MINIMUM DIAMETER.
   - E. WELD ELECTRODE: IN ACCORDANCE WITH AWS D1.3.
2. FABRICATE AND ERECT DECK IN ACCORDANCE WITH SDI PUBLICATION NO. 29.
3. PERFORM WELDING IN ACCORDANCE WITH AWS D1.3 WITH CURRENTLY CERTIFIED WELDERS.
4. CUT AND NEATLY FIT DECK AROUND OPENINGS AND OTHER WORK PROJECTING THROUGH THE DECK. PROVIDE ADDITIONAL SUPPORT AND CLOSURE PIECES AS REQUIRED FOR STRENGTH, CONTINUITY OF DECK, AND SUPPORT OF OTHER WORK
5. 1 1/2" DEEP ROOF DECK ATTACHMENT TO STRUCTURAL STEEL
   - A. FASTEN ROOF DECK PANELS TO STEEL SUPPORTING MEMBERS WITH 5/8" NOMINAL DIAMETER PUDDLE WELDS OR WELDS WITH AN EQUAL PERIMETER, OR SEAM WELDS NOT LESS THAN 1 1/2" LONG.
   - B. WELD EDGES AND INTERIOR RIBS OF DECK UNITS TO EACH SUPPORTING MEMBER WITH A MINIMUM OF THREE WELDS PER DECK UNIT.
   - C. WELD SPACING: WITHIN THE FIELD OF THE ROOF, SPACE WELDS 12" APART, MAXIMUM. WITHIN 13'-4" OF ROOF PERIMETERS, RIDGES, AND HIPS, SPACE WELDS AT 6" APART. WELD ENDS OF EACH INDIVIDUAL ROOF DECK UNIT @ 6"
   - D. FASTEN SIDE LAPS WITH #10 SELF-DRILLING SCREWS AT THE LESSER OF 36" OR ONE HALF OF THE SPAN. DECK SPANS 36" OR LESS DO NOT REQUIRE SIDE LAP FASTENERS. SEE ROOF DECK ATTACHMENT PLAN ON S404.
   - E. END BEARING: 1 1/2" MINIMUM.
   - F. END JOINTS: LAPPED
   - G. DO NOT HANG ANYTHING FROM THE ROOF DECK.
   - H. MECHANICAL FASTENERS OR POWER-DRIVEN FASTENERS (HILTI X-HSN 24 OR EQUAL) MAY BE USED IN LIEU OF WELDS. SPACING SHALL BE AS SPECIFIED FOR WELDS.

POST-INSTALLED ANCHORS

UNLESS OTHERWISE INDICATED ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI HY 200 SAFE SET HILTI RE 500 SD POWERS AC100+GOLD POWERS PURE110+	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ POWERS POWER-STUD+SD2 POWERS WEDGE-BOLT+
GROUTED MASONRY	HILTI HY 270 POWERS AC100 +GOLD	HILTI KWIK BOLT 3 POWERS POWER-STUD+SD1
HOLLOW MASONRY OR BRICK	HILTI HY 270 WITH APPROPRIATE SCREEN TUBE POWERS AC100+GOLD	HILTI HLC SLEEVE ANCHOR POWERS LOK-BOLT AS

1. SUBSTITUTION REQUESTS FOR ALTERNATIVE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE.
2. INSTALL ANCHORS PER THE MANUFACTURED INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGE.
3. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318-11 D.9.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
4. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2).
5. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308, AND FOR USE IN CONCRETE APPLICATION OR ICC-ES AC58 OR FOR USE IN MASONRY APPLICATIONS.

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BRUNSWICK COUNTY SCHOOLS — A Community of Learners

ATHLETIC IMPROVEMENTS FOR BRUNSWICK COUNTY SCHOOLS

PROJECT TITLE

NORTH CAROLINA PROFESSIONAL SEAL 020096 ENGINEER DAVID L. UHLAND
2/24/20

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REVISIONS

NO.	DATE	DESCRIPTION
1	03/24/2020	Addendum 04

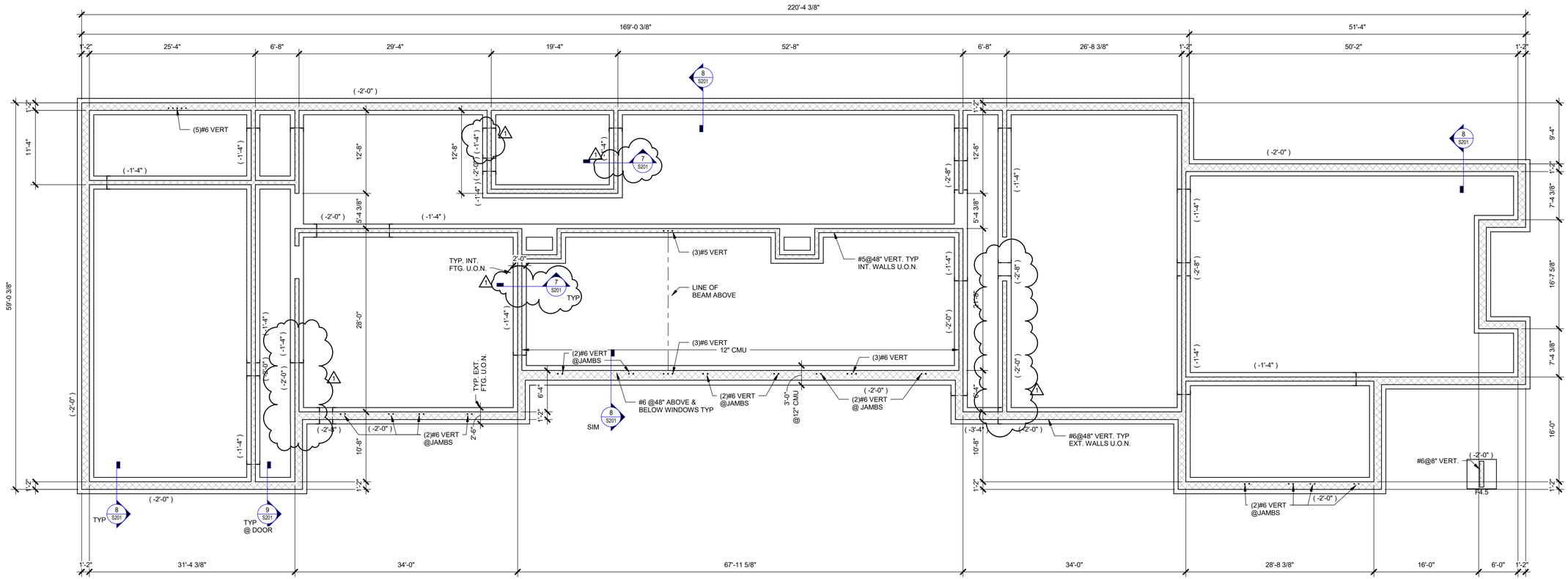
BID
PROJECT PHASE

1716
BOOMERANG DESIGN PROJECT NUMBER

02-24-2020
DRAWING RELEASE DATE

GENERAL NOTES
SHEET TITLE

S001
SHEET



1 S100 WBHS STADIUM FIELDHOUSE FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION NOTES:

1. NUMBER IN PARENTHESIS DENOTES TOP OF FOOTING BELOW FIN. FLOOR ELEVATION = 0'-0".
2. SEE 6/S201 FOR CMU WALL REINFORCING REQUIREMENTS.
3. IN ADDITION TO REINFORCING SHOWN ON THE DRAWINGS, PROVIDE VERT. BARS IN JAMBS OF ALL DOORS AND WINDOWS AND VERT. BAR EA. SIDE OF EXPANSION JOINTS AND CONTROL JOINTS. SEE ARCH'L FOR JOINT LOCATIONS. BAR SIZE SHALL MATCH SIZE OF ADJACENT WALL REINFORCING.
4. ⌐ ¬ DENOTES STEPPED FOOTING. SEE 5/S201 FOR DETAIL. G.C. COORDINATE STEP LOCATION AND DEPTH W/ PLUMBING CONTRACTOR PRIOR TO FOOTING EXCAVATION.
5. REFER TO ARCH'L DRAWINGS FOR INTERIOR WALL DIMENSIONS NOT SHOWN ON STRUCTURAL. PROVIDE BOND BEAMS IN MASONRY WALLS @ 9'-4" MAX AND TOP COURSE OF ALL WALLS.
6. PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS. LAP 2'-0".

COLUMN FOOTING SCHEDULE

Mark	Width	Length	Thickness	Reinf	Comments
F4.5	4'-6"	4'-6"	1'-0"	(5) #5 EA. WAY	

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ATHLETIC IMPROVEMENTS FOR BRUNSWICK COUNTY SCHOOLS

PROJECT TITLE

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REVISIONS

NO.	DATE	DESCRIPTION
1	03/24/2020	Addendum 04

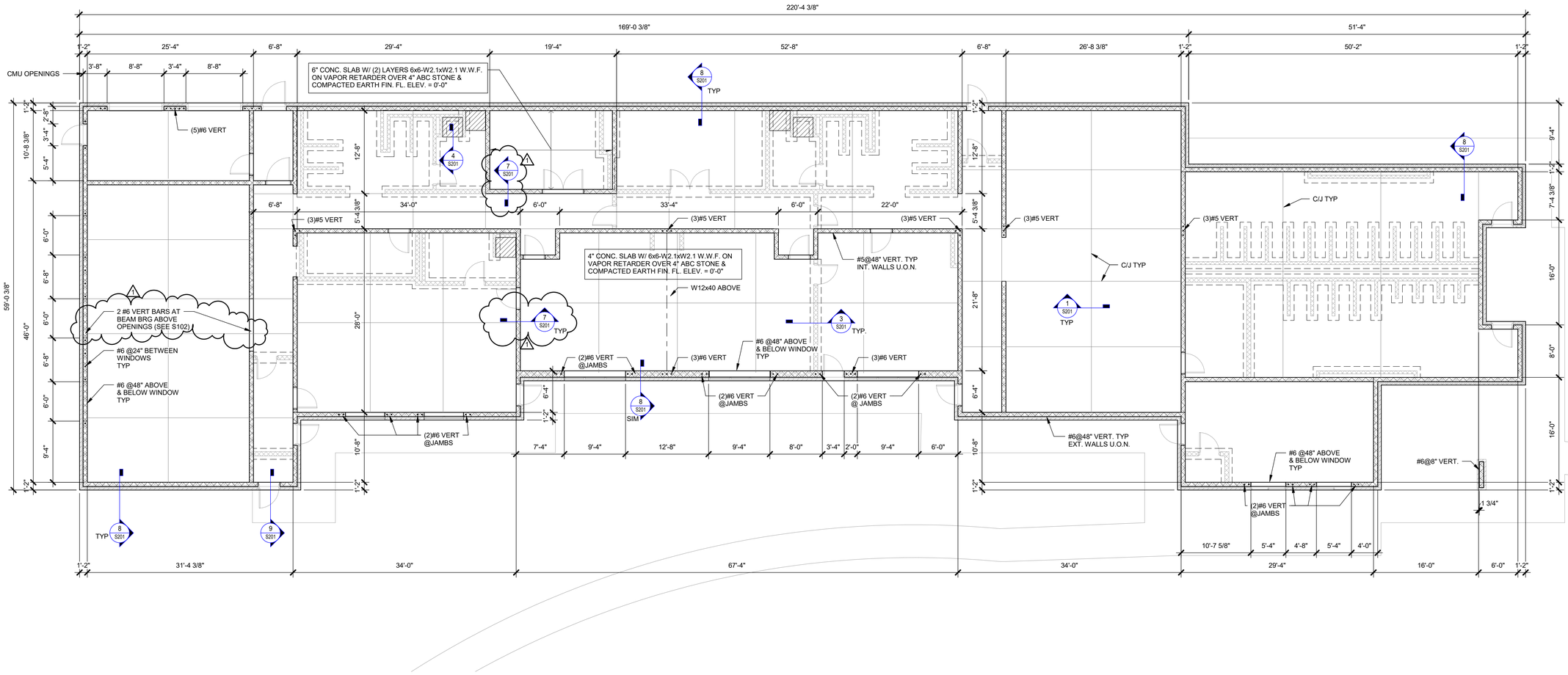
BID
PROJECT PHASE

1716
BOOMERANG DESIGN PROJECT NUMBER

02-24-2020
DRAWING RELEASE DATE

WBHS STADIUM FIELDHOUSE FOUNDATION PLAN
SHEET TITLE

S100
SHEET



1 / S101 WBHS STADIUM FIELDHOUSE SLAB PLAN

1/8" = 1'-0"

SLAB NOTES:

1. SEE 6/S201 FOR CMU WALL REINFORCING REQUIREMENTS.
2. IN ADDITION TO REINFORCING SHOWN ON THE DRAWINGS, PROVIDE VERT. BARS IN JAMBS OF ALL DOORS AND WINDOWS AND VERT. BAR EA. SIDE OF EXPANSION JOINTS AND CONTROL JOINTS. SEE ARCH'L FOR JOINT LOCATIONS. BAR SIZE SHALL MATCH SIZE OF ADJACENT WALL REINFORCING. REFER TO ARCH'L DRAWINGS FOR INTERIOR WALL DIMENSIONS NOT SHOWN ON STRUCTURAL.
3. SEE DETAIL 2/S201 FOR SLAB REINFORCING AT RE-ENTRANT CORNERS.
4. PROVIDE BOND BEAMS IN MASONRY WALLS @ 9'-4" MAX AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS. LAP 2'-0".
6. ▨ INDICATES DEPRESSED SLAB. COORDINATE DEPTH WITH ARCH'L. SEE DETAIL 4/S201

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REVISIONS

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1	03/24/2020	Addendum 04

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02-24-2020
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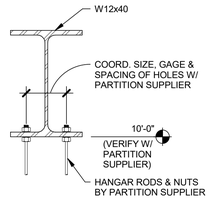
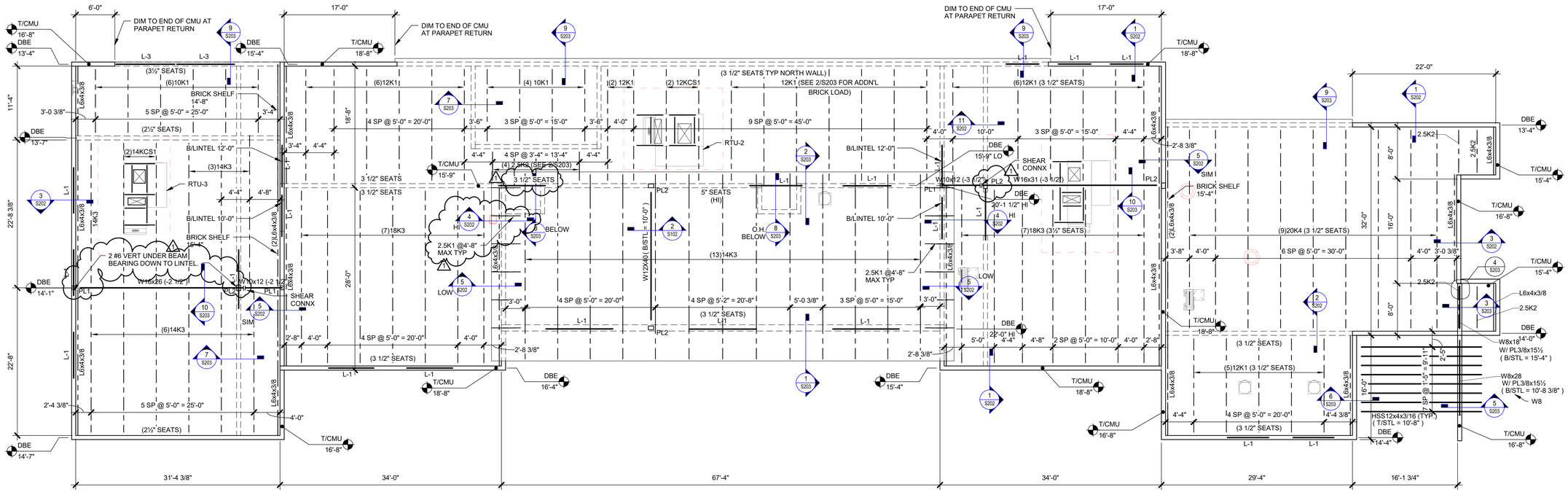
WBHS STADIUM FIELDHOUSE SLAB PLAN
SHEET TITLE

S101
SHEET



2 / S102 DETAIL AT OPERABLE PARTITION
1 1/2" = 1'-0"



1 / S102 WBHS STADIUM FIELDHOUSE ROOF FRAMING PLAN
1/8" = 1'-0"

ROOF FRAMING NOTES:

1. ——◆ DBE DENOTES DECK BEARING ELEVATION (TOP OF JOIST) ABOVE FIN. FLOOR ELEV. = 0'-0"
2. **L-1** DENOTES LINTEL TYPE. SEE SCHEDULE ON S203.
3. FRAME RTU CURBS AND ROOF OPENINGS W/ L4x3x1/4. COORD. LOCATION W/ MECHL CONTRACTOR. SEE DETAIL 12/S202.

boomerang DESIGN
rethink, repurpose, results

SHELBY
201 S. Washington St., Suite 200
Shelby, NC 28150
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803/356-0507

BRUNSWICK COUNTY SCHOOLS — A Community of Learners

ATHLETIC IMPROVEMENTS FOR BRUNSWICK COUNTY SCHOOLS

PROJECT TITLE

PRELIMINARY NOT FOR CONSTRUCTION

LHC STRUCTURAL ENGINEERS
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Raleigh, North Carolina 27607
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NC License # C-1629
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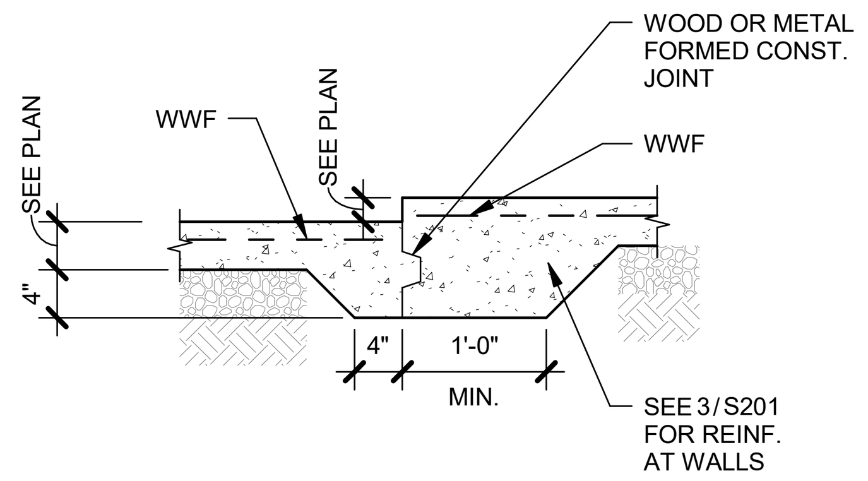
WBHS STADIUM FIELDHOUSE ROOF FRAMING PLAN

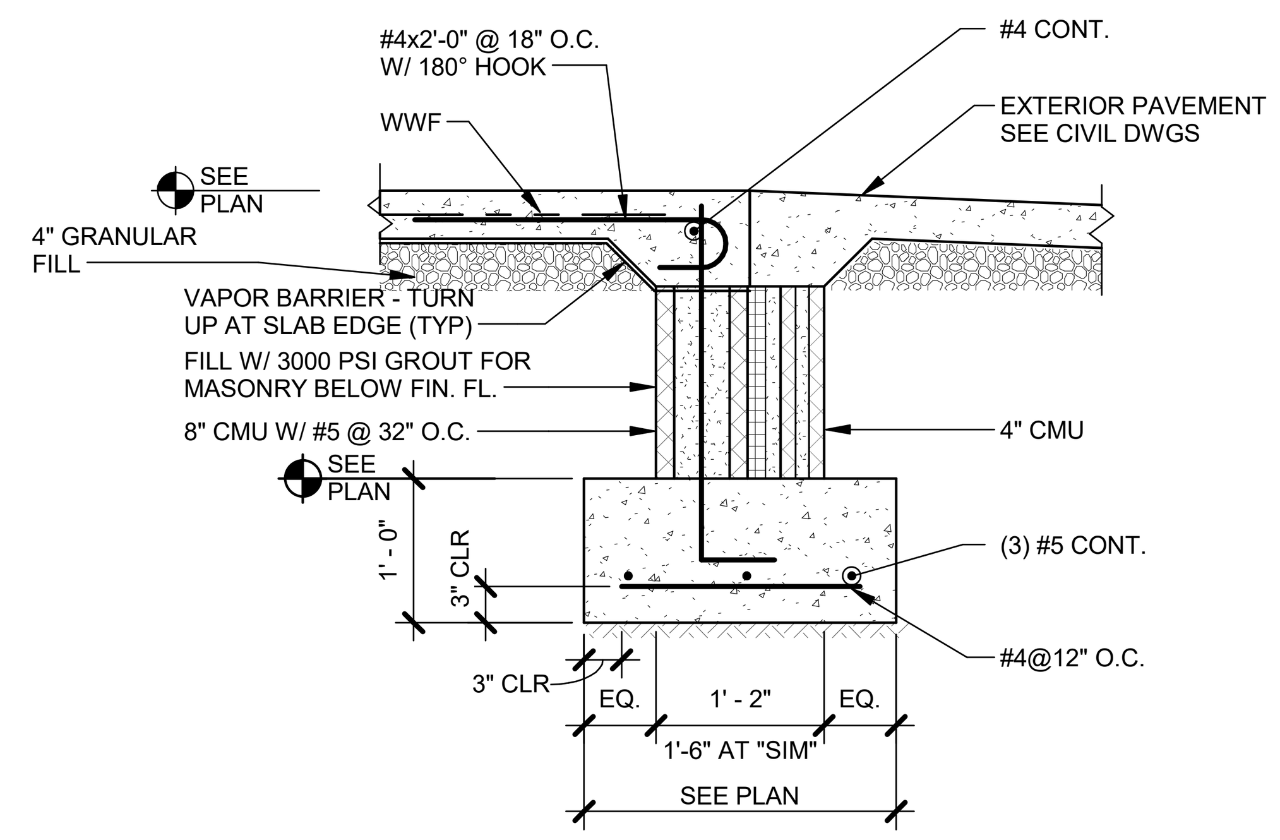
SHEET TITLE

S102

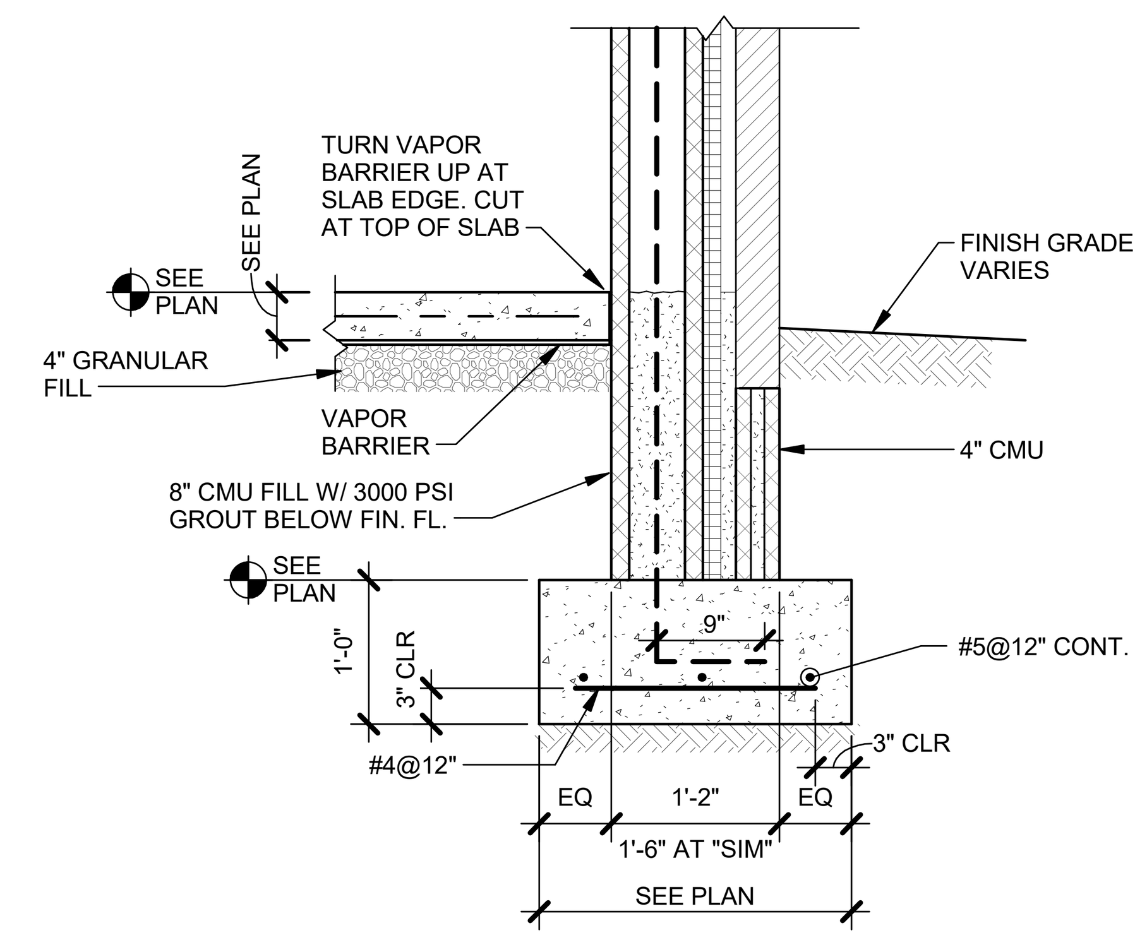
SHEET



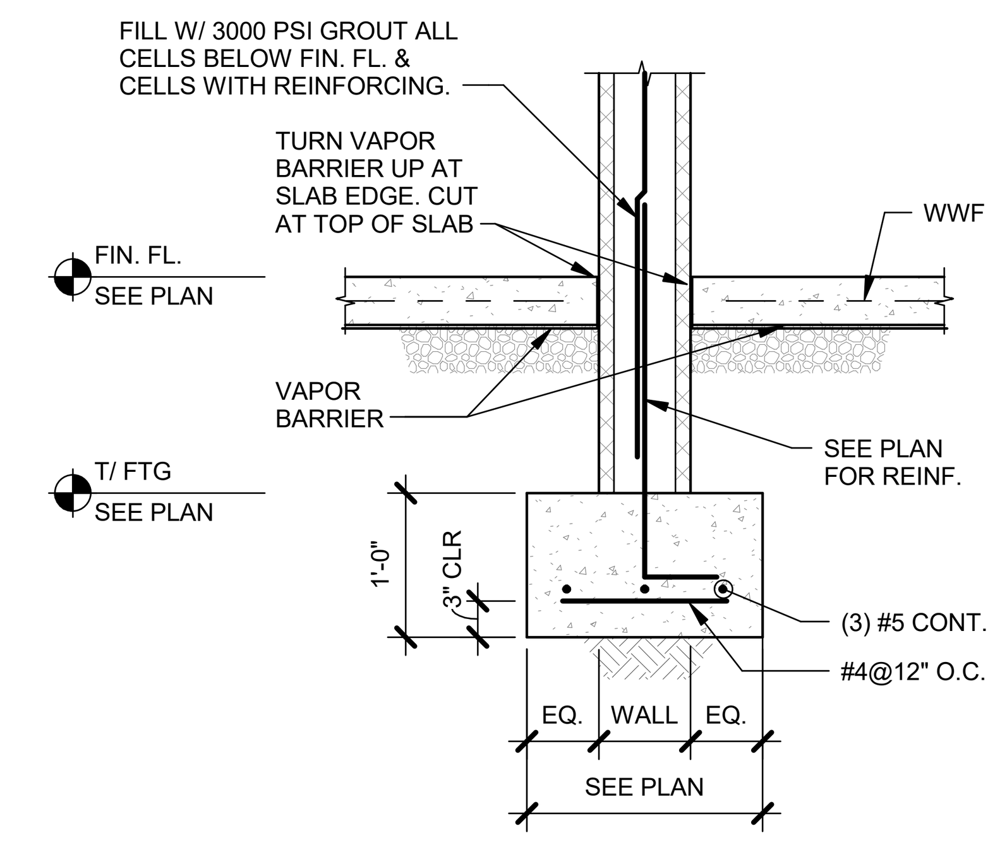
4 S201 TYPICAL DEPRESSED SLAB
3/4" = 1'-0"



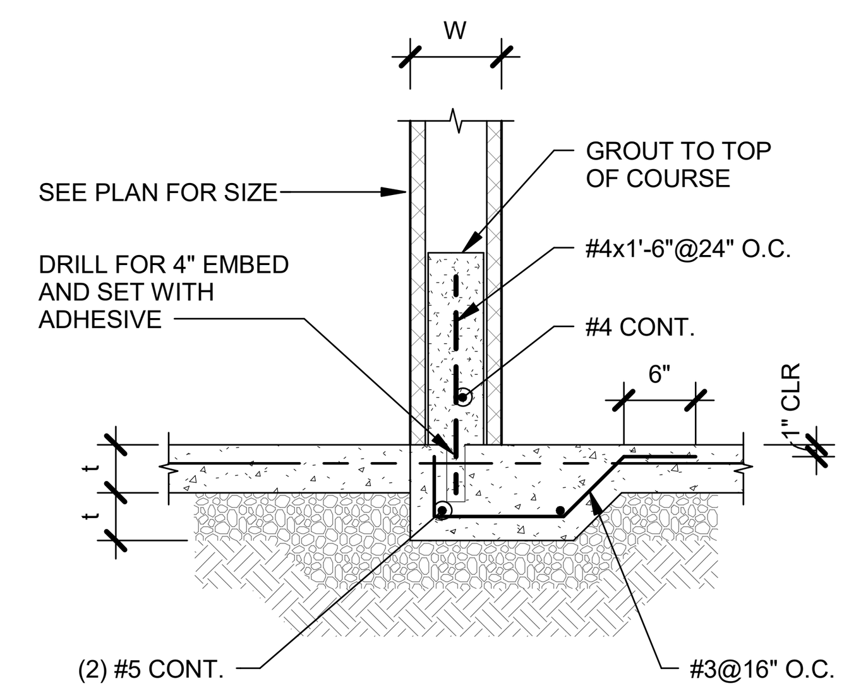
9 S201 TYPICAL DOOR OPENING
3/4" = 1'-0"



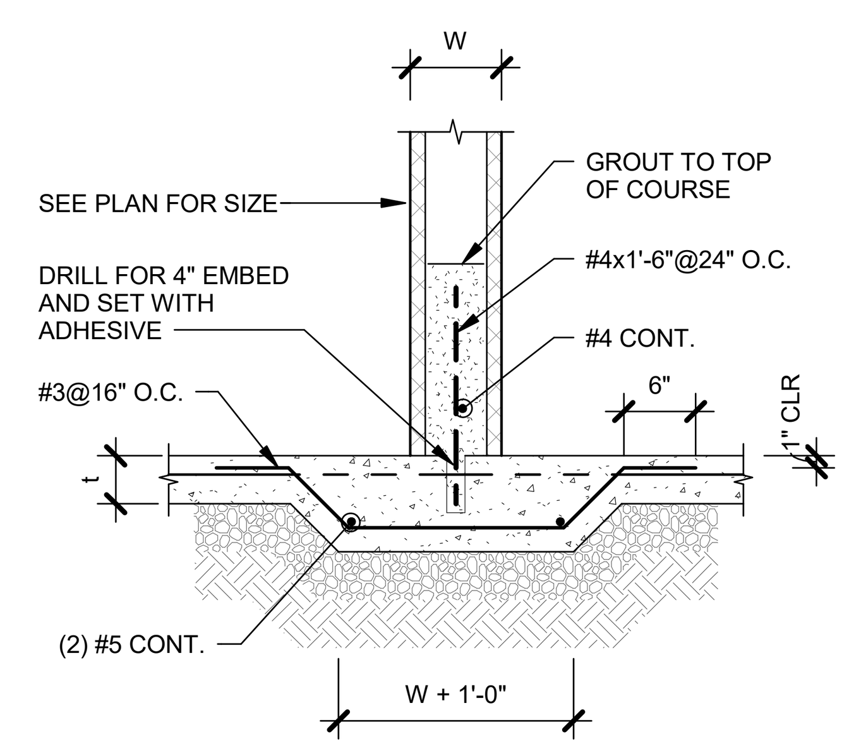
8 S201 EXTERIOR WALL FOOTING DETAIL
3/4" = 1'-0"



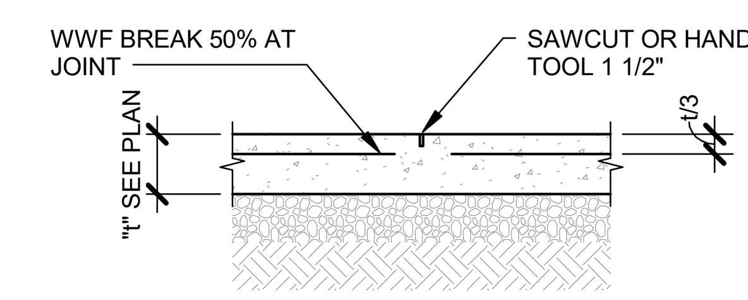
7 S201 INTERIOR WALL FOOTING DETAIL
3/4" = 1'-0"



CONSTRUCTION JOINT

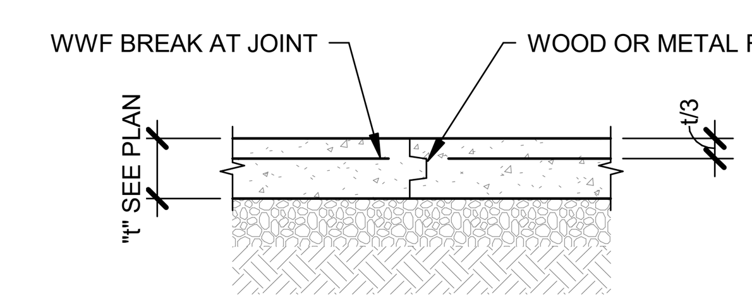


3 S201 THICKENED SLAB
3/4" = 1'-0"



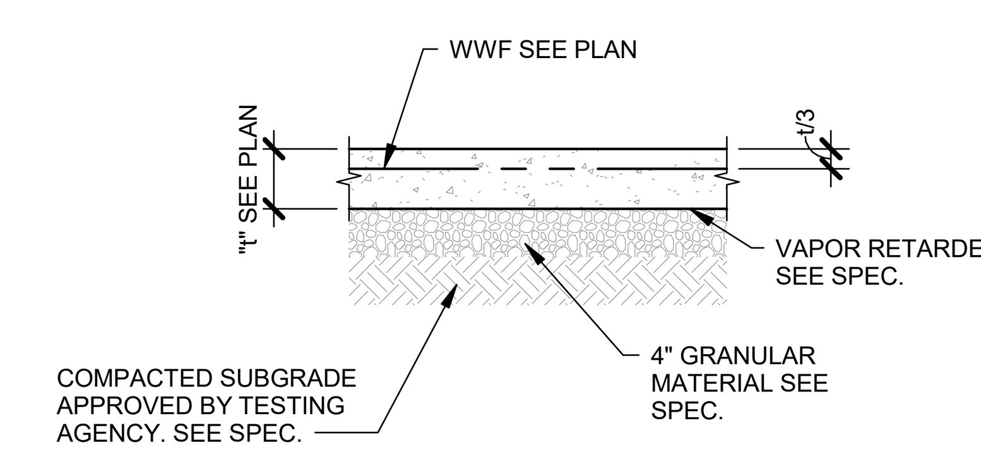
NOTE:
IN LIEU OF SAWCUT OR HAND TOOL CONTRACTOR MAY USE FULL-DEPTH PREFORMED JOINT.

CONTROL JOINT

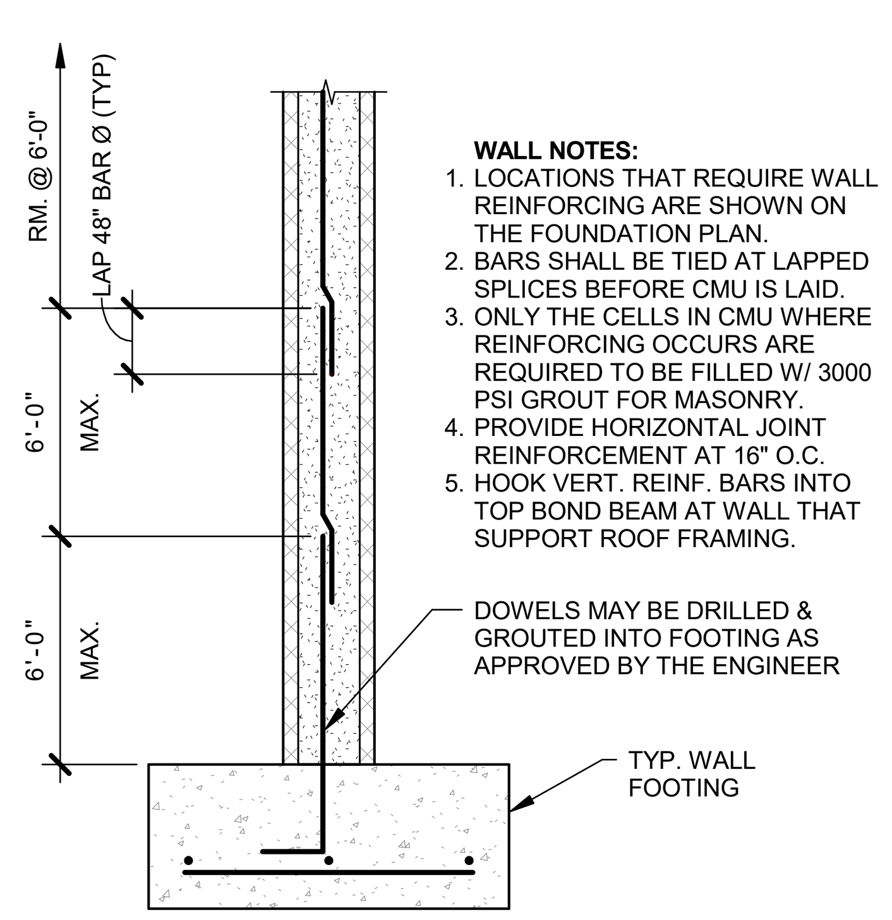


NOTE:
IN LIEU OF FORMING KEY WAY CONTRACTOR MAY USE 1/2"Øx2'-0" LONG SMOOTH DOWELS WITH ONE END GREASED. PLACE AT 24" O.C.

CONSTRUCTION JOINT



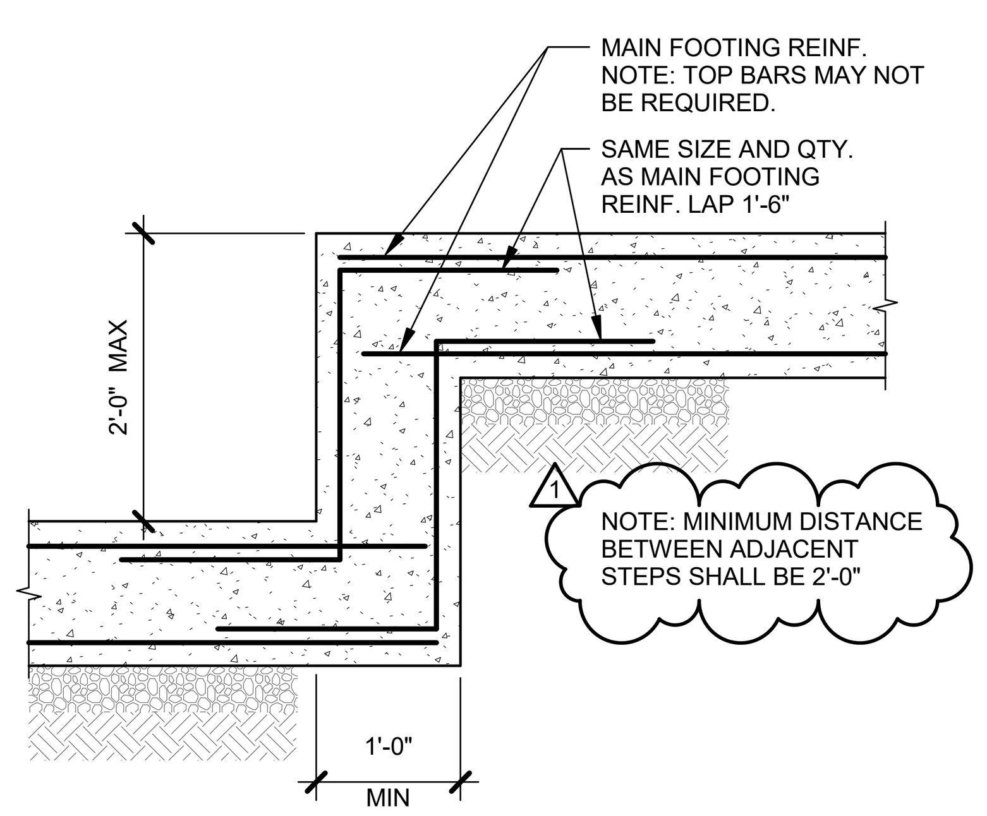
1 S201 TYPICAL SLAB ON GRADE DETAIL
3/4" = 1'-0"



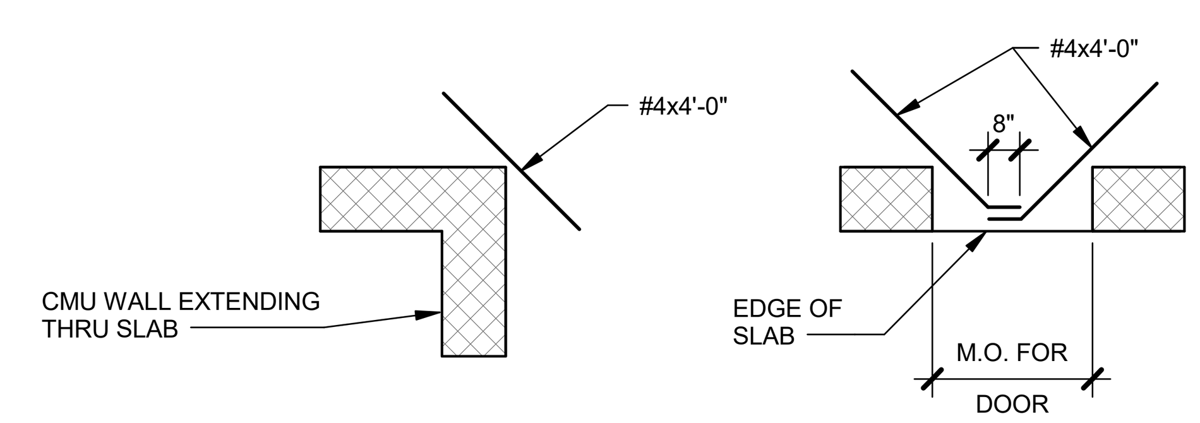
WALL NOTES:

1. LOCATIONS THAT REQUIRE WALL REINFORCING ARE SHOWN ON THE FOUNDATION PLAN.
2. BARS SHALL BE TIED AT LAPPED SPLICES BEFORE CMU IS LAID.
3. ONLY THE CELLS IN CMU WHERE REINFORCING OCCURS ARE REQUIRED TO BE FILLED W/ 3000 PSI GROUT FOR MASONRY.
4. PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C.
5. HOOK VERT. REINF. BARS INTO TOP BOND BEAM AT WALL THAT SUPPORT ROOF FRAMING.

6 S201 CMU WALL REINF. DETAIL
3/4" = 1'-0"



5 S201 STEPPED FOOTING
3/4" = 1'-0"



2 S201 SLAB PLAN @ RE-ENTRANT CORNER
1/4" = 1'-0"

boomerang DESIGN
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FOUNDATION DETAILS

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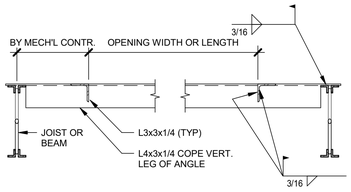
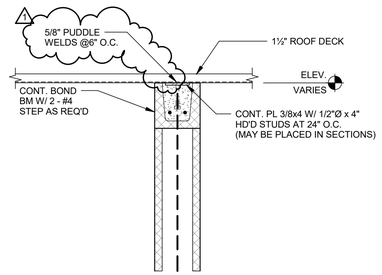
S201

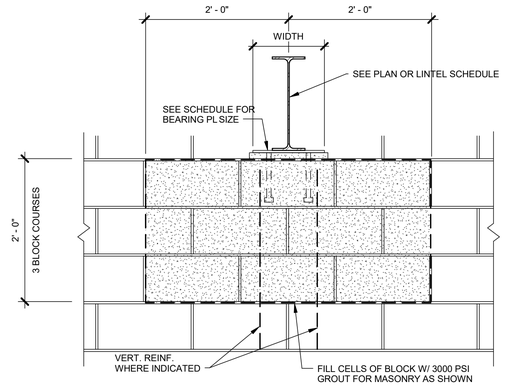
SHEET



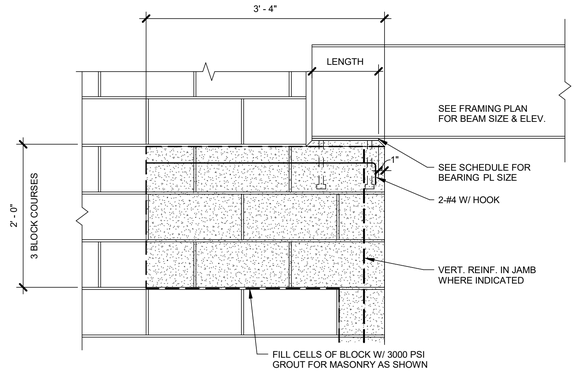
12 S202 ROOF OPENING DETAIL
1" = 1'-0"



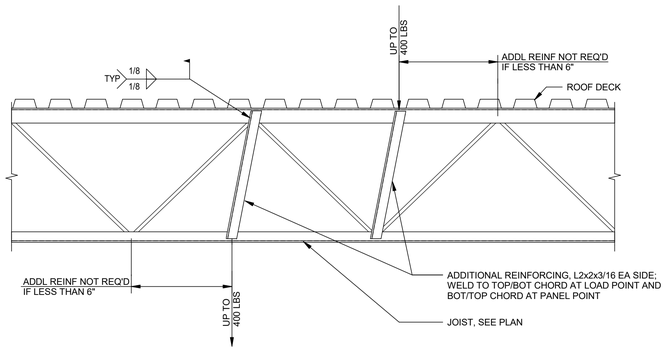
11 S202 SECTIOIN
1" = 1'-0"



10 S202 BEAM BEARING DETAIL
1" = 1'-0"

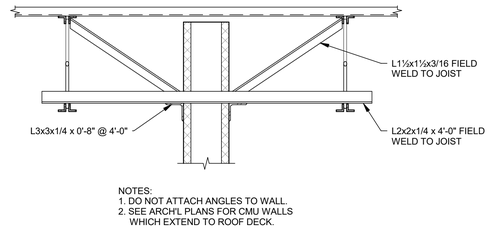


9 S202 BEAM BEARING DETAIL
1" = 1'-0"



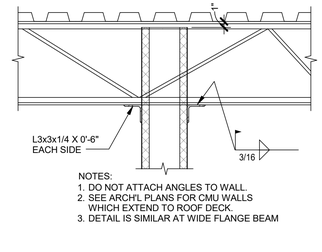
NOTES:
1. WHERE POSSIBLE, ALL LOADS ARE TO BE SUPPORTED FROM PANEL POINTS. WHERE NOT POSSIBLE, PROVIDE REINFORCEMENT AS DETAILED
2. LOADS LESS THAN 150 LBS REQUIRE NO ADDITIONAL REINFORCING. LOADS LARGER THAN 400 LBS PER JOIST REQUIRE SPECIAL SUPPORT.
3. BOTTOM CHORDS EXTENDING UNSUPPORTED PAST THE FIRST BOTTOM PANEL POINT TOWARDS JOIST BEARING LOCATION ARE NOT TO BE USED TO SUPPORT ANY LOAD WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD.

8 S202 JOIST AT CONCENTRATED LOAD
1" = 1'-0"



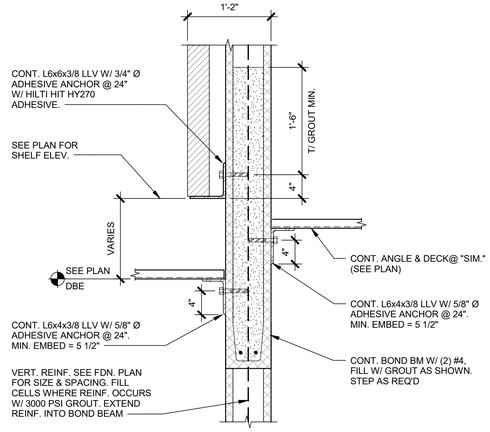
NOTES:
1. DO NOT ATTACH ANGLES TO WALL.
2. SEE ARCH'L PLANS FOR CMU WALLS WHICH EXTEND TO ROOF DECK.

7 S202 WALL BRACING DETAIL
1" = 1'-0"

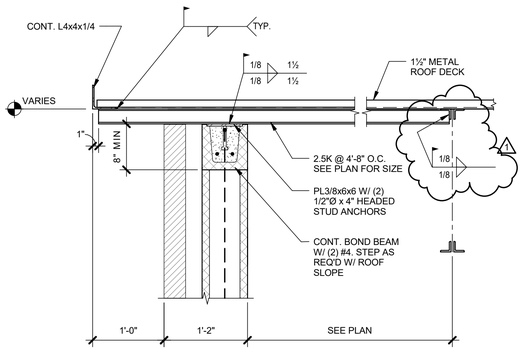


NOTES:
1. DO NOT ATTACH ANGLES TO WALL.
2. SEE ARCH'L PLANS FOR CMU WALLS WHICH EXTEND TO ROOF DECK.
3. DETAIL IS SIMILAR AT WIDE FLANGE BEAM

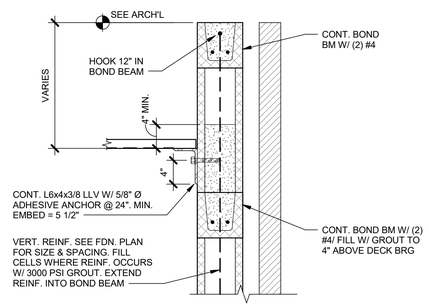
6 S202 WALL BRACING DETAIL
1" = 1'-0"



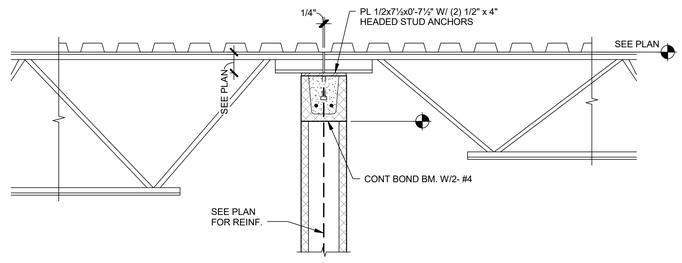
5 S202 SECTION THRU ROOF
1" = 1'-0"



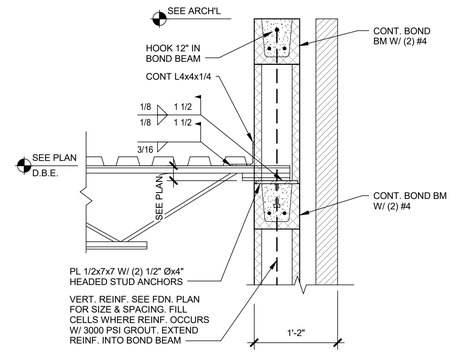
4 S202 SECT THRU ROOF
1" = 1'-0"



3 S202 SECT THRU ROOF END WALL
1" = 1'-0"



2 S202 JOIST BEARING DETAIL @ ROOF
1" = 1'-0"



1 S202 SECTION THRU ROOF
1" = 1'-0"

boomerang DESIGN
rethink, repurpose, results

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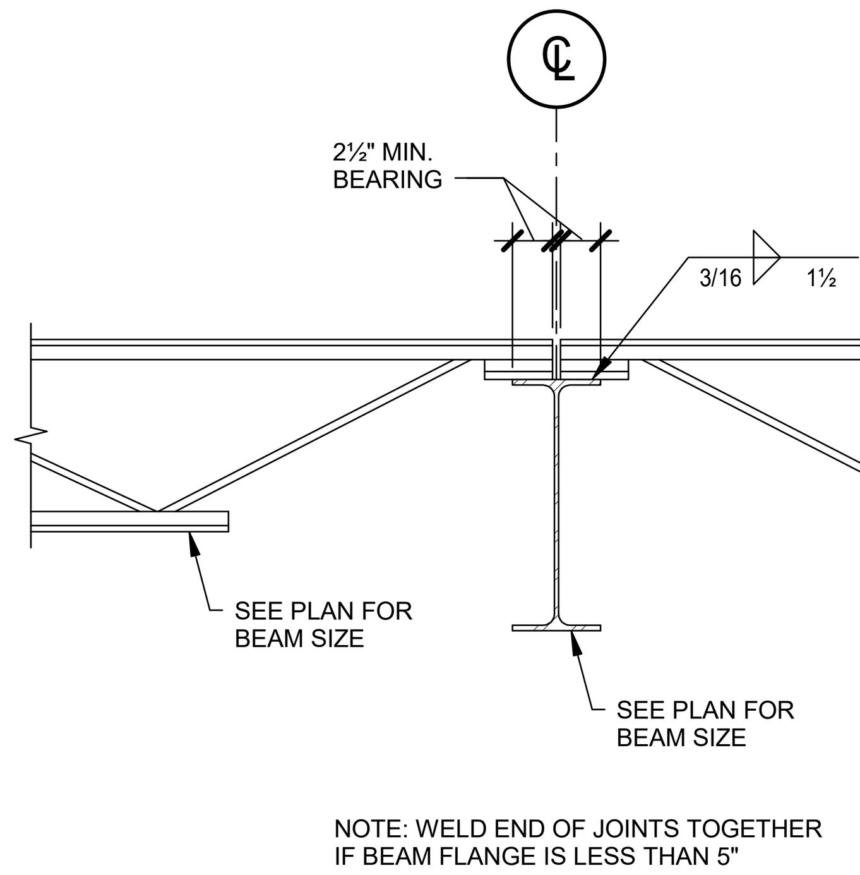
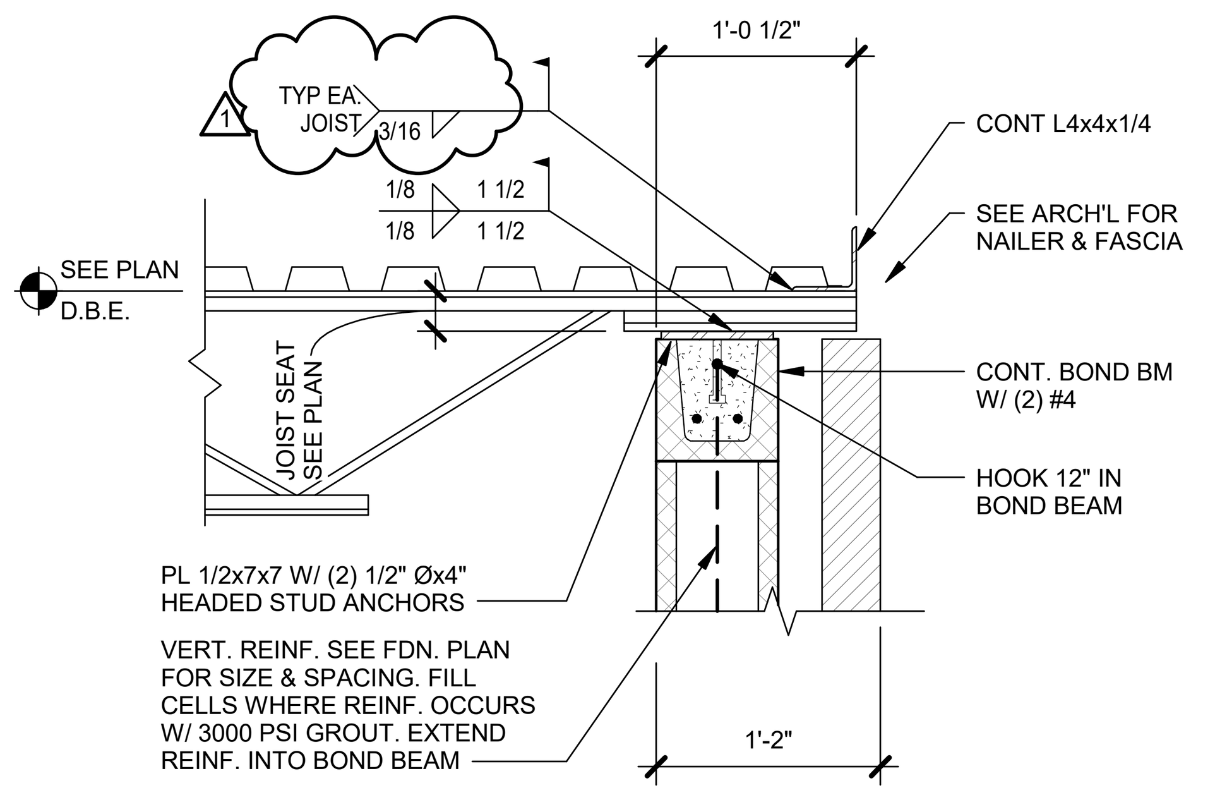
SHEET TITLE

S202
SHEET



10 S203 SECTION THRU ROOF
1" = 1'-0"



9 S203 SECTION THRU ROOF
1" = 1'-0"

LOOSE LINTEL SCHEDULE

WALL TYPE	MASONRY OPENING	LINTEL	BEARING EA. END	REMARKS
4" BRICK	TO 2'-0"	PL 3/8"x6"	4"	GALVANIZED
4" BRICK	TO 4'-0"	L3-1/2x3-1/2x5/16	4"	GALVANIZED
4" BRICK	TO 6'-8"	L5x3-1/2x5/16 LLV	8"	GALVANIZED
4" BRICK	TO 8'-0"	L6x4x3/8 LLV	8"	GALVANIZED
4" BRICK	TO 10'-0"	L6x4x3/8 LLV	8"	GALVANIZED

LOAD BEARING LINTEL SCHEDULE

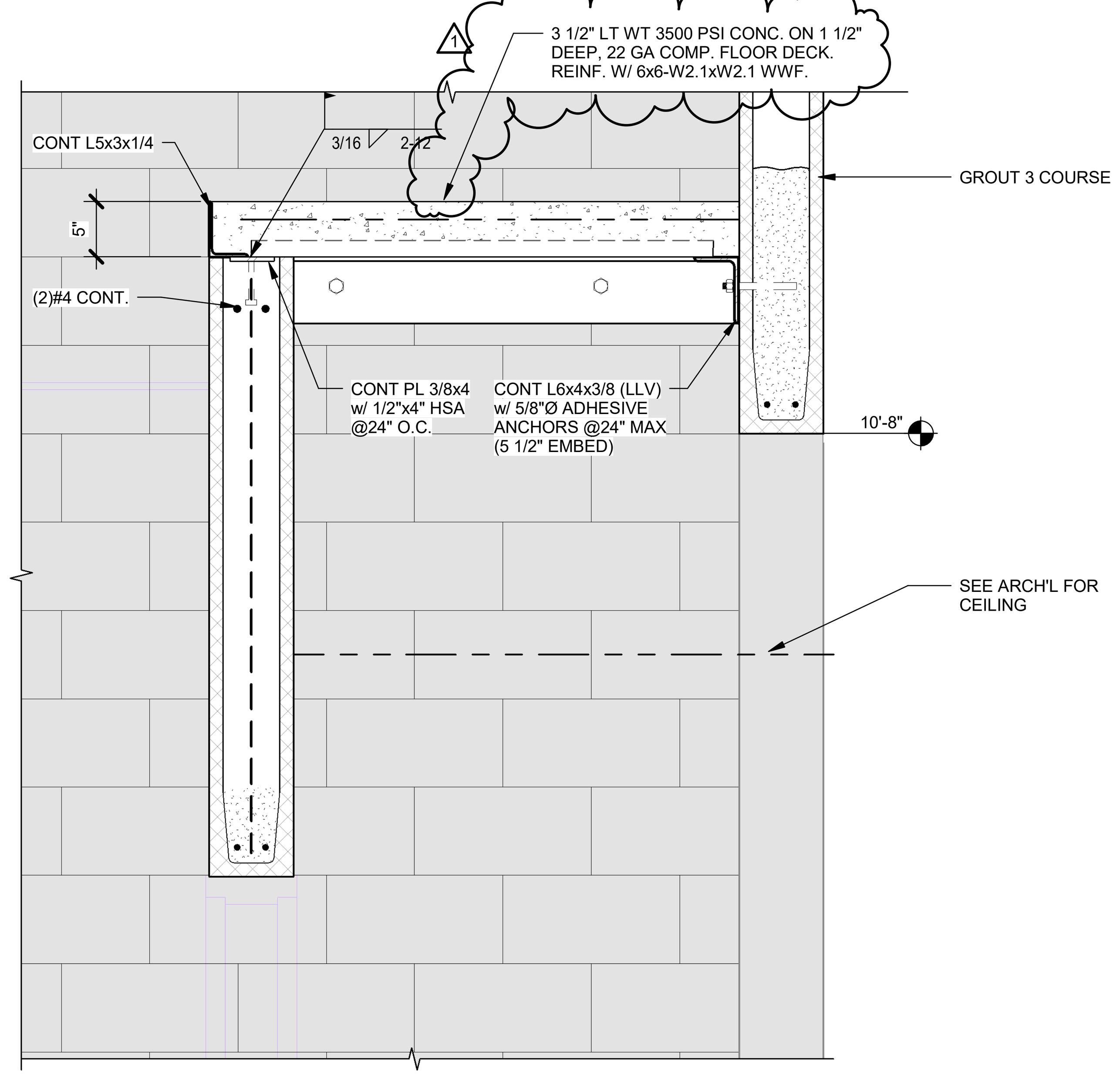
MARK	WALL TYPE	LINTEL	SIZE	REINF.	SECTION	BEARING END	REMARKS
L-1	8" CMU	U-BLOCK	8x16	(2)#5	8"	8"	
L-2	8" CMU	U-BLOCK	8x8	(2)#4	8"	8"	
L-3	8" CMU 4" BRICK	STEEL	W8x21 W/ 3/8 PL & 1/2"Ø HSA @ 16"	-----	1'-2"	8"	GALVANIZED

NON-LOAD BEARING/INTERIOR LINTEL SCHEDULE

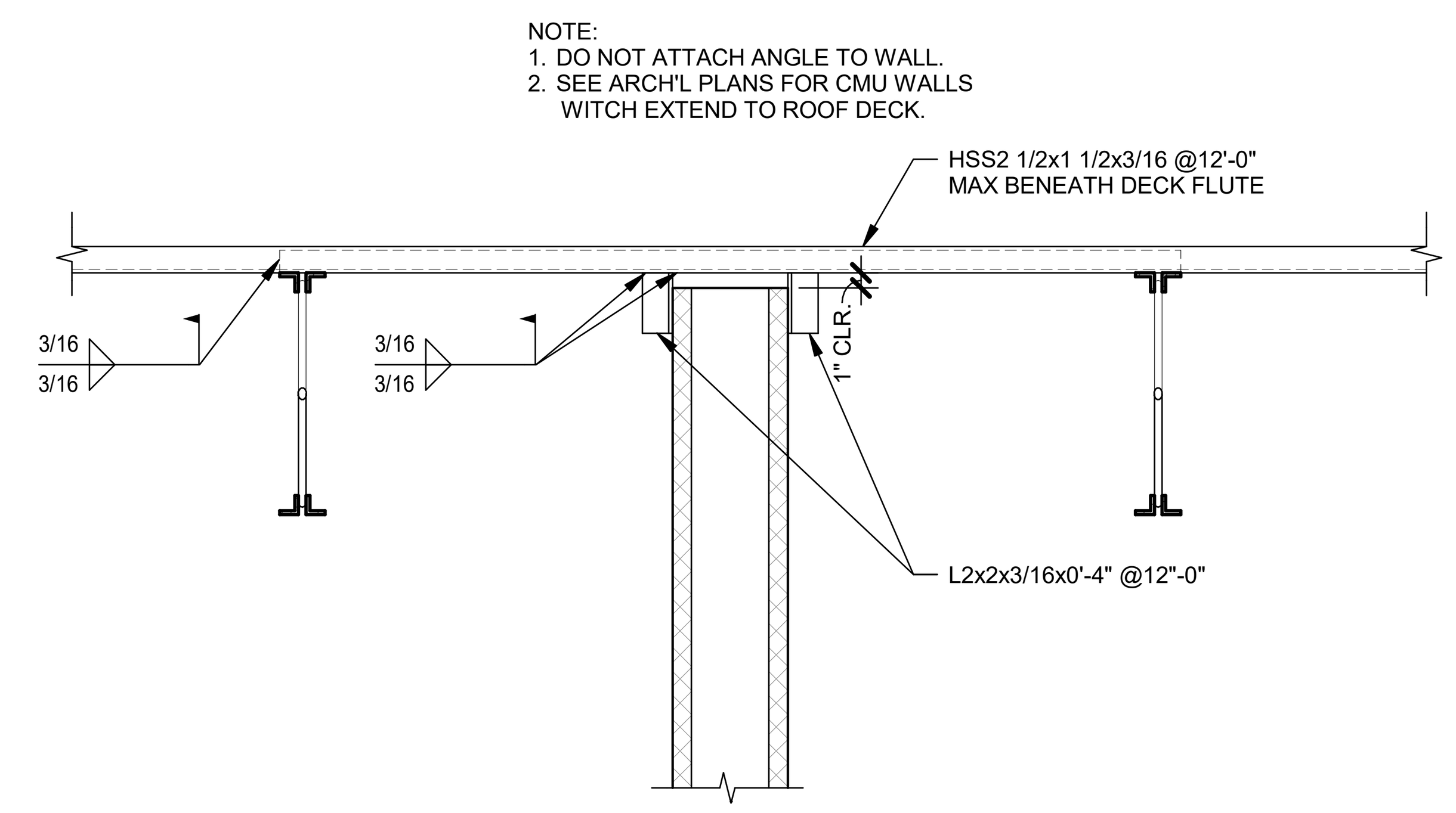
WALL TYPE	OPENING WIDTH	LINTEL TYPE	LINTEL SIZE	REINF.	BEARING EA. END	REMARKS
8" CMU	<4'-0"	U-BLOCK	8x8	(2) #4	8"	
8" CMU	4' THRU 6'-0"	U-BLOCK	8x8	(2) #5	8"	
8" CMU	6'-4" THRU 8'-0"	U-BLOCK	8x16	(2) #5	8"	
8" CMU	8'-4" THRU 12'-0"	U-BLOCK	8x16	(2) #6	8"	

BEARING PLATE SCHEDULE

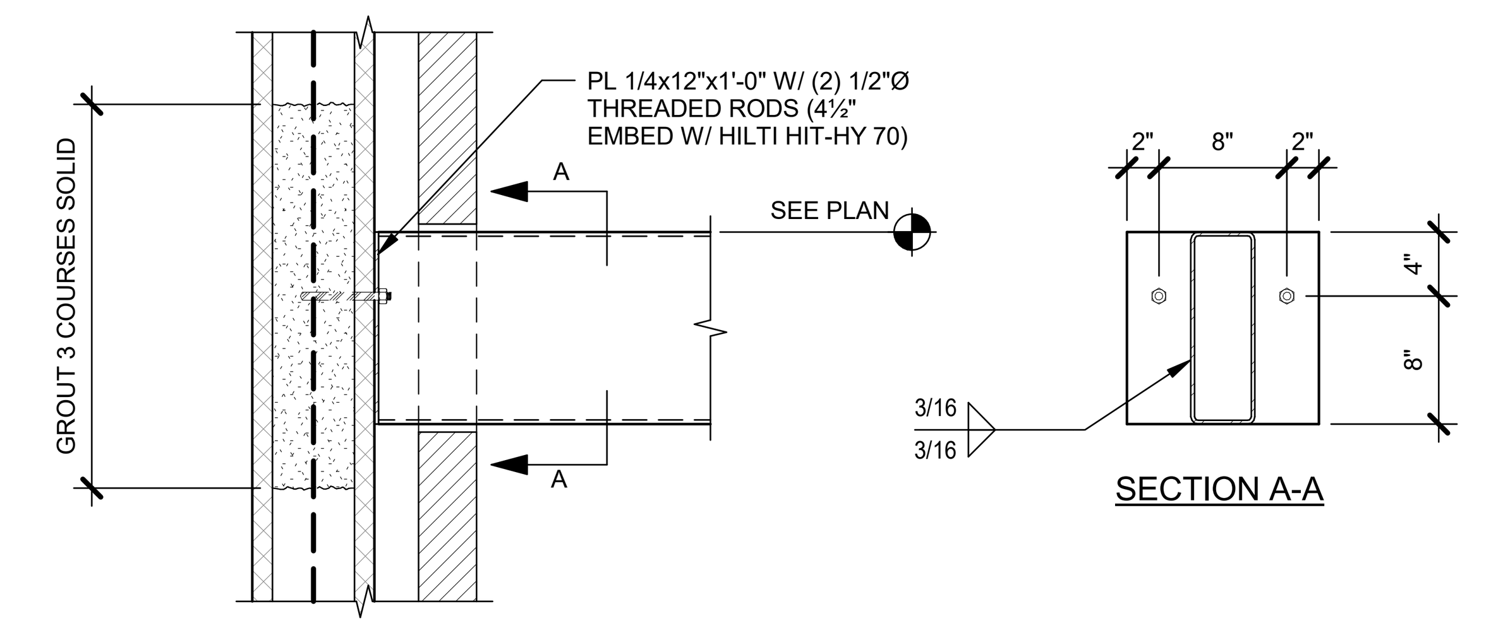
MARK	LENGTH	WIDTH	THICKNESS	HEADED STUDS
PL1	7"	7"	1/2"	(2) 1/2x4
PL2	7"	10"	1/2"	(2) 1/2x6
PL2A	10"	7"	1/2"	(2) 1/2x6



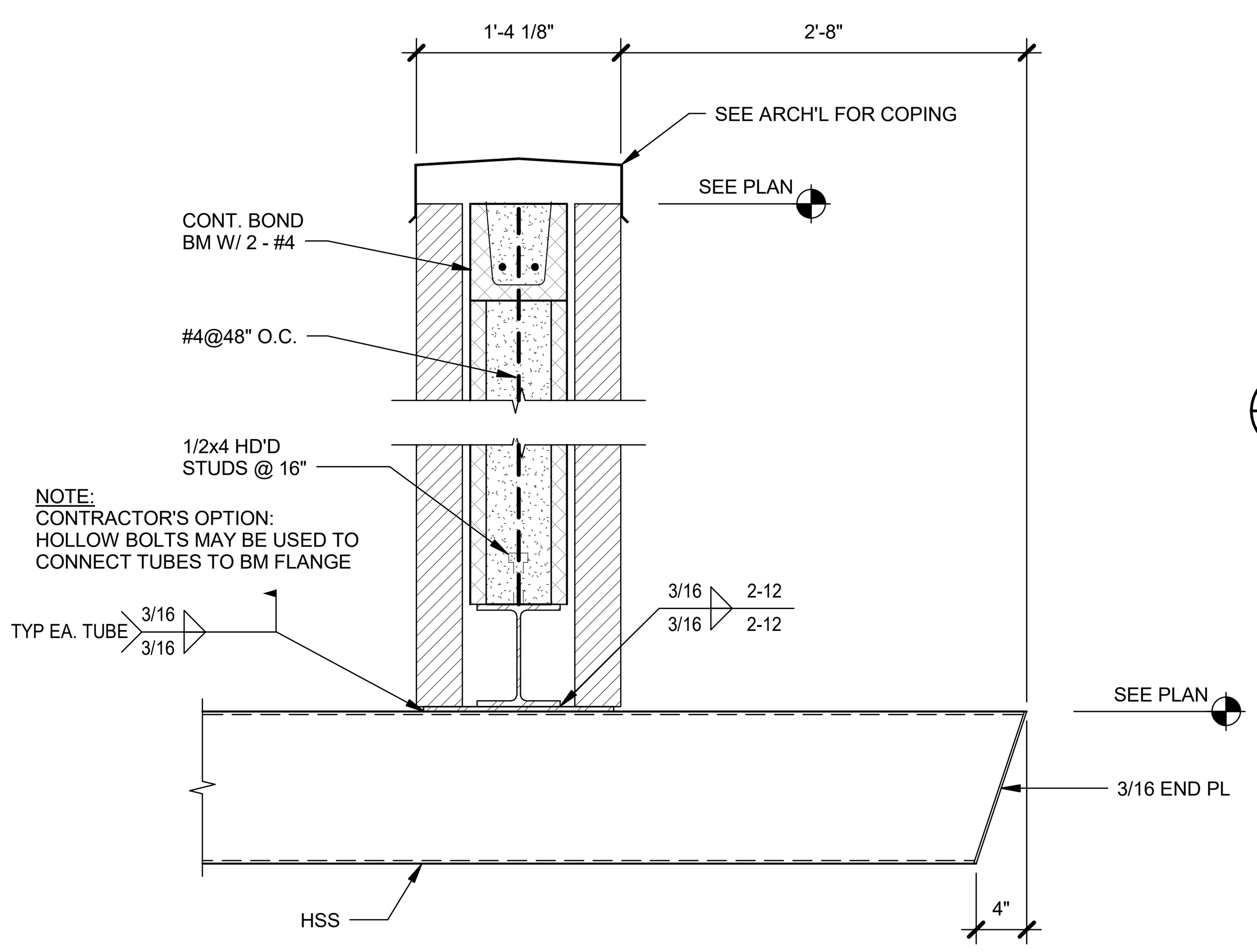
8 S203 SECTION AT CAP SLAB
1" = 1'-0"



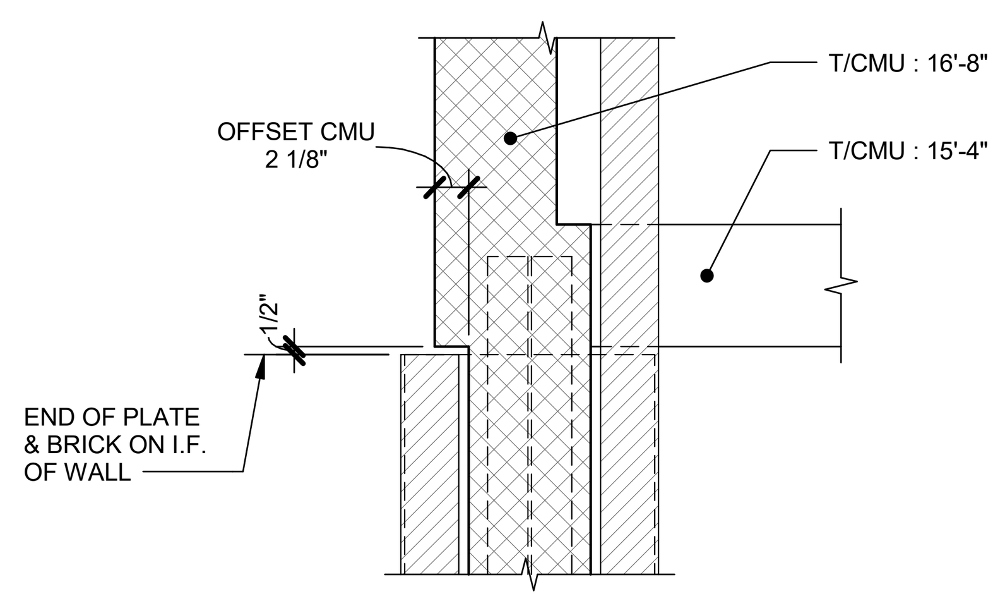
7 S203 WALL BRACING DETAIL
1" = 1'-0"



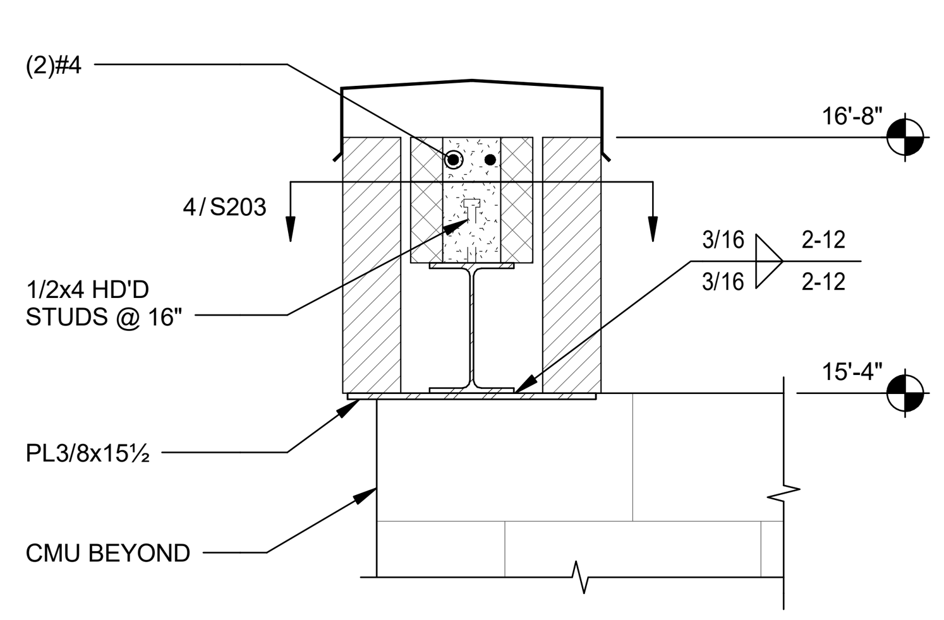
6 S203 SECTION AT PERGOLA
1" = 1'-0"



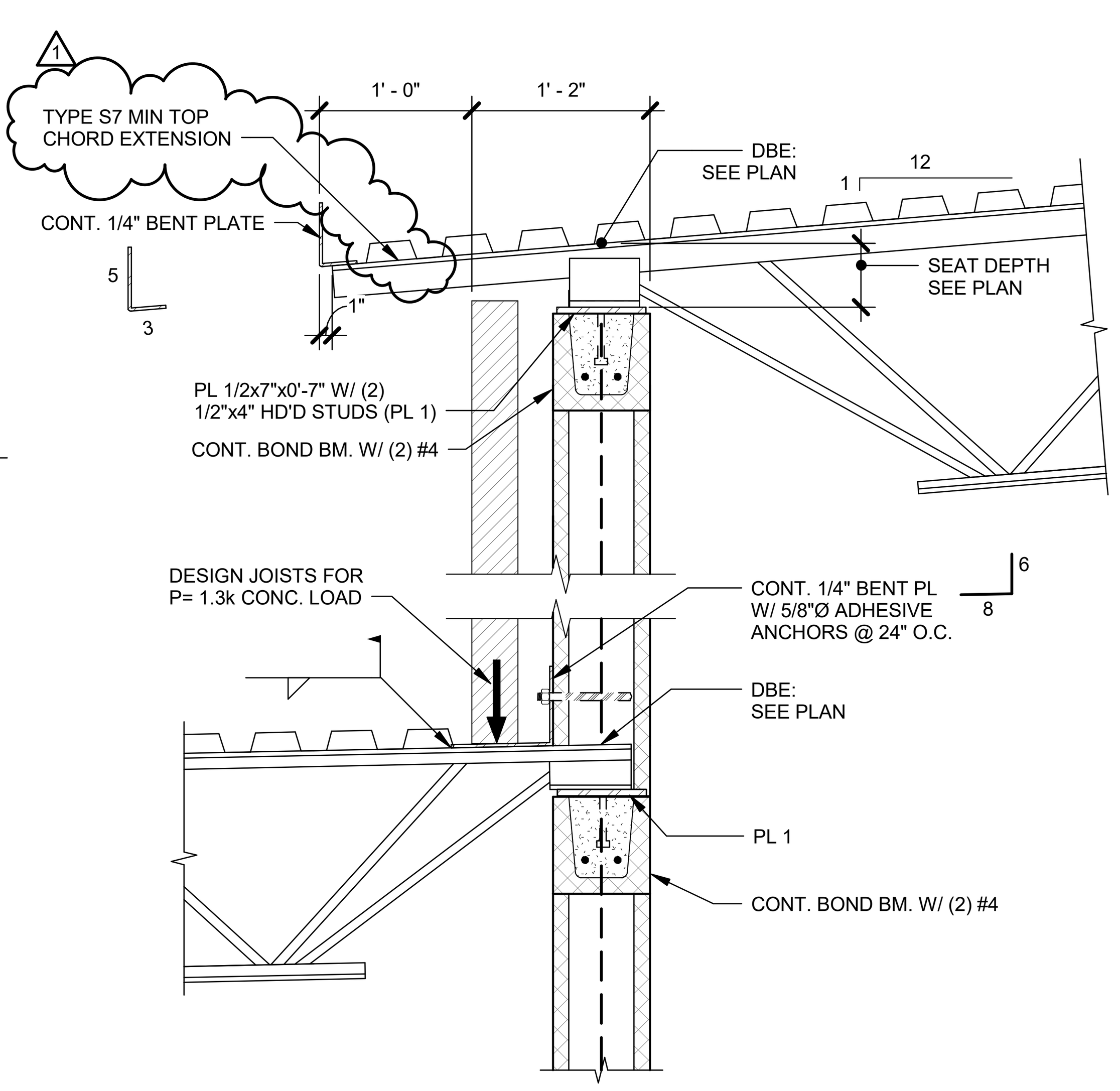
5 S203 SECTION AT PERGOLA
1" = 1'-0"



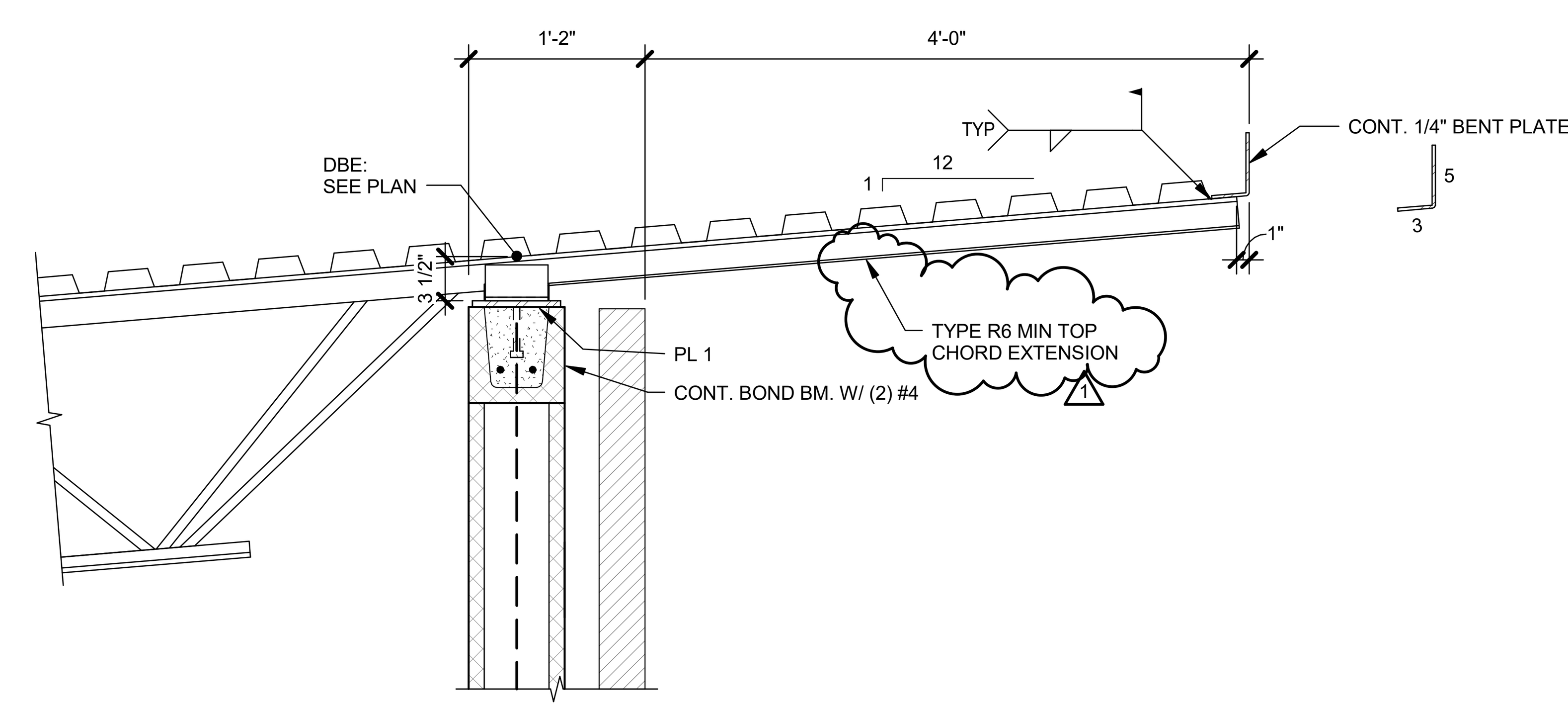
4 S203 PLAN DETAIL AT RAISED PARAPET
1" = 1'-0"



3 S203 SECTION AT RAISED PARAPET
1" = 1'-0"



2 S203 SECTION AT LOW/HIGH ROOF
1" = 1'-0"



1 S203 SECTION AT HIGH ROOF
1" = 1'-0"

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