Fac/Perm/Co ID #	Date	Doc ID#
26-09T	10/28/2010	DIN 12A-1

RICHARDSON SMITH GARDNER & ASSOCIATES
Engineering and Geological Services

October 28, 2010

Mr. Geoffrey H. Little
Environmental Engineer
North Carolina Department of Environment and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

RECEIVED OCT 28 2010 SOLID WASTE SECTION

RE: **Fayetteville Transfer Station – Permit No. 26-09T**
Response to Permit Conditions

Dear Mr. Little:

On behalf of Waste Industries USA, Inc., and as follow-up to our previous submittal[1], Richardson Smith Gardner and Associates, Inc., is transmitting the following in fulfillment of the cited permit conditions contained within the permit issued for the subject site on August 17, 2009.

Attachment 2 (Conditions of Permit To Construct); Part 1; subpart 4

b. Three (3) paper and one (1) electronic copy of the construction record drawings.

Please refer to the **attached record drawings (3 paper sets and one CD)** associated with the transfer station building.

Upon completion of the site grading, an as-built topographic map for the entire site will be completed and forwarded to the Department.

In the meantime, should you have any questions or require clarification, please contact me at my office at (919) 828-0577.

Sincerely,
Richardson Smith Gardner and Associates, Inc.

NORTH CAROLINA PROFESSIONAL SEAL 21278 ENGINEER JOHN M. GARDNER

10/28/10

John M. Gardner, P.E.
Senior Project Manager x126

Attachments

Copy to: Jerry Johnson, Waste Industries
John Leak, Leak & Associates
Dean Arp, P.E.

1 Transmittal to Geoffrey Little, NCDENR from John M. Gardner, P.E., dated October 25, 2010.

Name of Project: FAYETTEVILLE TRANSFER STATION

Address: 583 WINSLOW STREET
FAYETTEVILLE, NC 28301

Proposed Use: WASTE TRANSFER STATION

Owner/Contact Person: _____ Phone: _____

Owned By: ☐ City/County ☒ Private ☐ State

Code Enforcement Jurisdiction ☐ City _____ ☐ County _____

LEAD DESIGN PROFESSIONAL: Arp Engineering, Inc.

DESIGNER OF RECORD:

Designer	Firm	Name	License	Phone
Structural:	Arp Engineering, Inc.	L. Dean Arp, Jr.	18427	704-225-0079
Electrical:	Atlantec Engineers, PA	David J. Whitney	17382	919-571-1111
Plumbing:	Atlantec Engineers, PA	James B. Delpapa, Jr.	22035	919-571-1111
Mechanical:	Atlantec Engineers, PA	James B. Delpapa, Jr.	22035	919-571-1111
Civil:	Eagle Engineering, Inc.	John D. Barnard	19665	704-882-4222

YEAR EDITION OF CODE: North Carolina Building Code, 2009 Edition

☒ New Construction ☐ Renovation (Existing Building) ☐ Upfit ☐ Alteration

BUILDING DATA:

Construction Type: ☐ I-A ☐ I-B ☐ II-A ☒ II-B ☐ III
☐ IV-A ☐ IV-B ☐ V-A ☐ V-B

Mixed Construction: ☐ Yes ☒ No

Sprinklered: ☒ NO ☐ YES ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☒ NO ☐ YES ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Fire District: ☒ NO ☐ YES

Building Height: 38'-6" Feet 1 Stories ☐ Unlimited Per _____

Mezzanine: ☒ NO ☐ YES Central Reference Sheet # (if provided) _____

Gross Building Area:

Floor	Existing (sf)	New (sf)	Sub-Total
3rd Floor			
2nd Floor			
1st Floor		12,000	
Total		12,000	

ALLOWABLE AREA: THE ALLOWABLE AREA IS 12,500 S.F./ STORY
PRIMARY OCCUPANCY-S

Construction Type: ☐ Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ Business ☐ Educational ☐ Factory-Industrial ☐ F-1 ☐ F-2
☐ High-Hazard ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
☐ Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Use Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Mercantile ☐ Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
☒ Storage ☒ S-1 ☐ S-2 ☐ High-piled
☐ Utility & Miscellaneous Parking Garage ☐ Open ☐ Enclosed ☐ Repair

Secondary Occupancy: _____

Special Occupancy: ☐ 508.2 ☐ 508.3 ☐ 508.4 ☐ 508.5 ☐ 508.6 ☐ 508.7 ☐ 508.8

Mixed Occupancy: ☒ NO ☐ YES Separation: _____ Hr. Exception: _____

☐ Non-Separated Mixed Occupancy (303.1 Exception)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Mixed Occupancy (303.1/303.2) – See area calculations below.
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{12{,}000}{17{,}500} + \frac{N/A}{N/A} + \ldots\ldots \leq 1$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[3] AREA	(C) AREA FOR OPEN SPACE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA[4]
1	–	12,000	17,500	N/A	N/A	17,500	52,500

[1]Open space are increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase I$_f$ =100[F/P – 0.25] X W/30 = _____ (%)

[2]The sprinkler increase per Section 506.3 is as follows:
a. Multi-Story building I = 200 percent
b. Single Story building I + 300 percent

[3]Unlimited area applicable under conditions of Section Group B, F, M, S, A-4 (507.1, 507.2, 507.3, 507.5); Group A motion picture (507.8); Malls (402.6); and h-2 aircraft paint hangers (507.6).

[4]Max Bldg Area = total number of stories in the building x E, but not greater than 3 x E.

[5]The maximum area of parking garages must comply with 406.3.5. The maximum area of air traffic control towers must comply with 412.1.2.

FIRE PROTECTION REQUIREMENTS:

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (w/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses		None					
Bearing Walls		None					
Exterior		None					
North		None					
East		None					
West		None					
South		None					
Interior		None					
Non bearing walls and partitions		None					
Exterior		Non-combustible					
North		Non-combustible					
East		Non-combustible					
West		Non-combustible					
South		Non-combustible					
Interior		Non-combustible					
Floor Construction Including supporting beams and joists		Non-combustible					
Roof Construction Including supporting beams and joists		Non-combustible					
Shafts – Exit		None					
Shafts – Other		None					
Corridor Separation		None					
Occupancy Separation		None					
Party/Fire Wall Separation		None					
Smoke Barrier Separation		None					
Tenant Separation		None					

*Indicated section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS:

Emergency Lighting: ☐ NO ☒ YES
Exit Signs: ☐ NO ☒ YES
Fire Alarm: ☐ NO ☒ YES
Smoke Detection Systems: ☐ NO ☒ YES
Panic Hardware: ☐ NO ☒ YES

EXIT AND EGRESS REQUIREMENTS:

Dead end limit-maximum condition _____ Feet

Travel distance to exit-maximum condition _____ Feet

Number Exits:

Total square footage of floor _____ divided by net/sq. ft per occupancy _____ = _____ Total number of people on floor.

STRUCTURAL DESIGN:

DESIGN LOADS:

Classification of Building: Occupancy Category II (I, II, III, IV)

ROOF LIVE LOAD: (Horizontal Projection) _____ 20(R1)(R2) PSF
WHERE R1 AND R2 ARE FACTORS PER NCSBC 2009, SECTION 1607.11 "ROOF LOADS"

FLOOR LIVE LOAD: (SLAB ON GRADE) _____ 200 PSF

Snow Load: Flat-Roof Load Pg=10 psf Thermal Factor C_t 1.0
Exposure Factor C_e 1.0 Importance Factor I_s 1.0

Wind Load: Basic Speed 100 mph (3-second gust, ASCE-7-05 Edition)
Exposure B Importance Factor 1.0
Internal Pressure Coefficient +/- 0.18
Wind Base Shears (for MWFRS) Vx = PER MTL. BLDG MFR
Vy = PER MTL. BLDG MFR

SEISMIC DESIGN CATAGORY A
Compliance with Section 1616.4 only? ☐ YES ☒ NO

SEISMIC PERFORMANCE CATAGORY B, C, & D
Provide the following Siesmic Design Parameters:
Importance Factor 1.0
Occupancy Category II
Seismic Design Category C
Spectral Response Acceleration Sms 46.8 %g Sm1 24.4 %g
Site Classification D
Basic Structural System (check one)
☐ Bearing Wall ☐ Dual w/ Special Moment Frame
☐ Building Frame ☐ Dual w/ Intermediate R/C or Special Steel
☒ Moment Frame ☐ Inverted Pendulum
Seismic Base Shear Vx = PER MTL. BLDG MFR
Vy = PER MTL. BLDG MFR
Analysis Procedure ☐ Simplified ☒ Equivalent Lateral Force ☐ Modal
Architectural, Mechanical, Components Anchored? YES

LATERAL DESIGN CONTROL: ☐ Earthquake ☒ Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) N/A psf
Presumptive Bearing Capacity 1,500 psf
Pile size, type and capacity N/A

ELECTRICAL SYSTEM AND EQUIPMENT:
Reference Electrical Drawings

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:
Reference Mechanical Drawings

PLUMBING SYSTEMS AND EQUIPMENT:
Reference Plumbing Drawings

INDEX TO DRAWINGS

–	COVER SHEET
G1	GENERAL INFORMATION
3-F2.0	SITE PLAN
5-F2.2	UTILITY PLAN
B1	FLOOR PLAN
B2	BUILDING ELEVATIONS
B3	BUILDING ELEVATIONS
S1	GENERAL NOTES, SECTIONS & DETAILS
S2	FOUNDATION PLAN
S3	ROOF FRAMING PLAN
S4	SECTIONS & DETAILS
S5	SECTIONS & DETAILS
P1	PLUMBING PLAN
M1	MECHANICAL PLAN
E1	ELECTRICAL PLAN
E2	POWER RISER PANEL SCHEDULE, NOTES, LEGEND & DETAILS

PROJECT TEAM

Arp Engineering, Inc. BUILDING/STRUCTURAL
202 East Franklin Street, Suite A, PO Box 587, Monroe, NC 28111

Atlantec Engineers, PA PLUMBING/MECHANICAL/ELECTRICAL
3221 Blue Ridge Road, Suite 113, Raleigh, NC 27612

Eagle Engineering, Inc. CIVIL
2013 Van Buren Avenue, Indian Trail, NC 28079

Project ID: 8056

ARP ENGINEERING
CONSULTING ENGINEERS
202 EAST FRANKLIN STREET, SUITE A
PO BOX 587, MONROE · NC 28111
(704) 225-0079
NC COA C2424

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Waste Industries
Fayetteville Transfer Station
Fayetteville, North Carolina

Release Information

Release Date: 3.22.2010
Issued: FOR CONSTRUCTION
Revisions:

Mark	Date	Description

AEI Project No.: 8056

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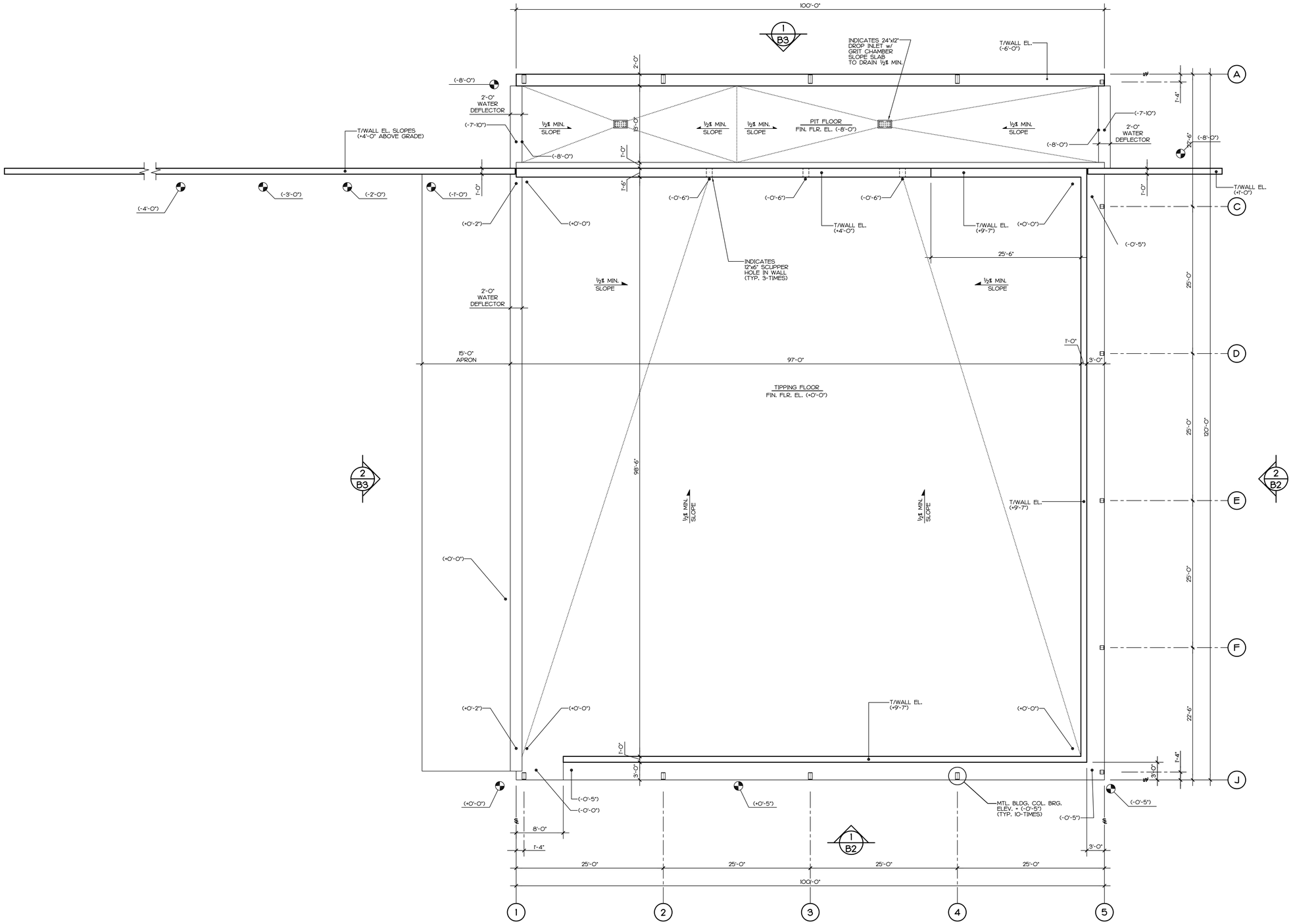
Sheet Title

GENERAL INFORMATION

BUILDING

G1



1 / B1 FLOOR PLAN

1/8" = 1'-0"

TRANSFER STATION

ARP ENGINEERING
CONSULTING ENGINEERS

202 EAST FRANKLIN STREET, SUITE A
PO BOX 587, MONROE · NC 28111
(704) 225-0079
NC COA C2424

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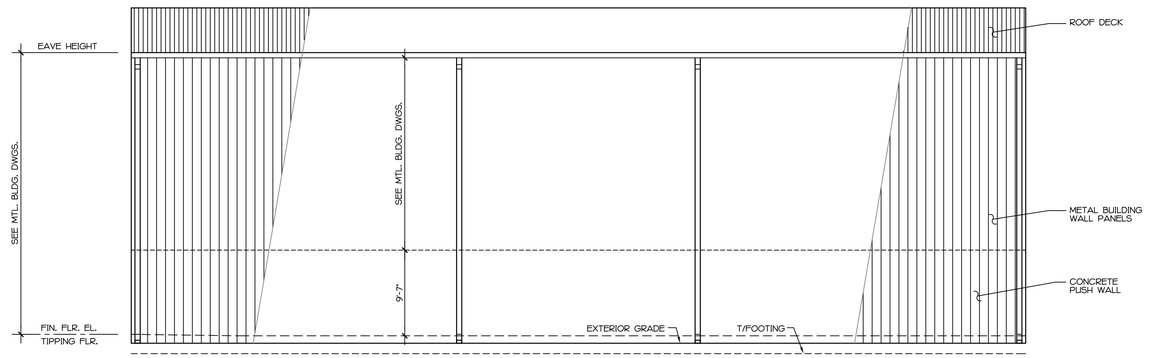
Sheet Title

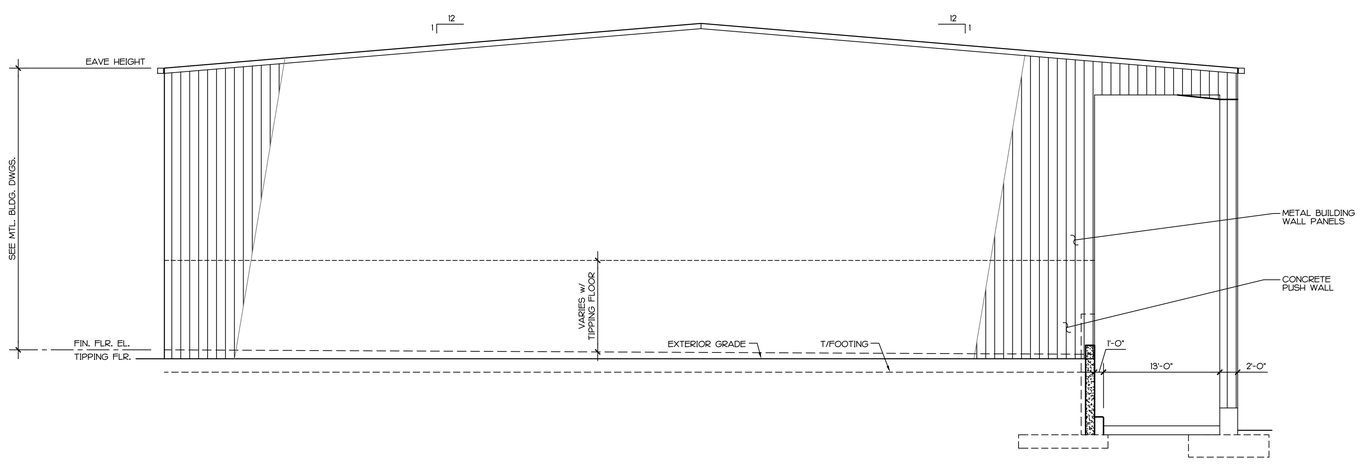
FLOOR PLAN

BUILDING

B1



1 / B2 SOUTH ELEVATION
1/8" = 1'-0"
TRANSFER STATION



2 / B2 EAST ELEVATION
1/8" = 1'-0"
TRANSFER STATION

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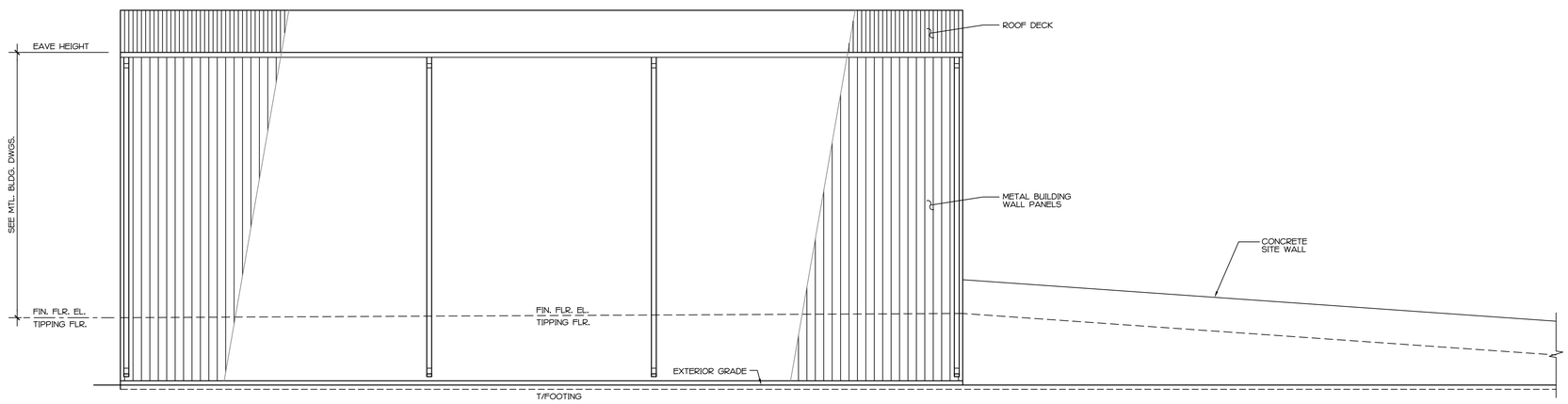
Sheet Title

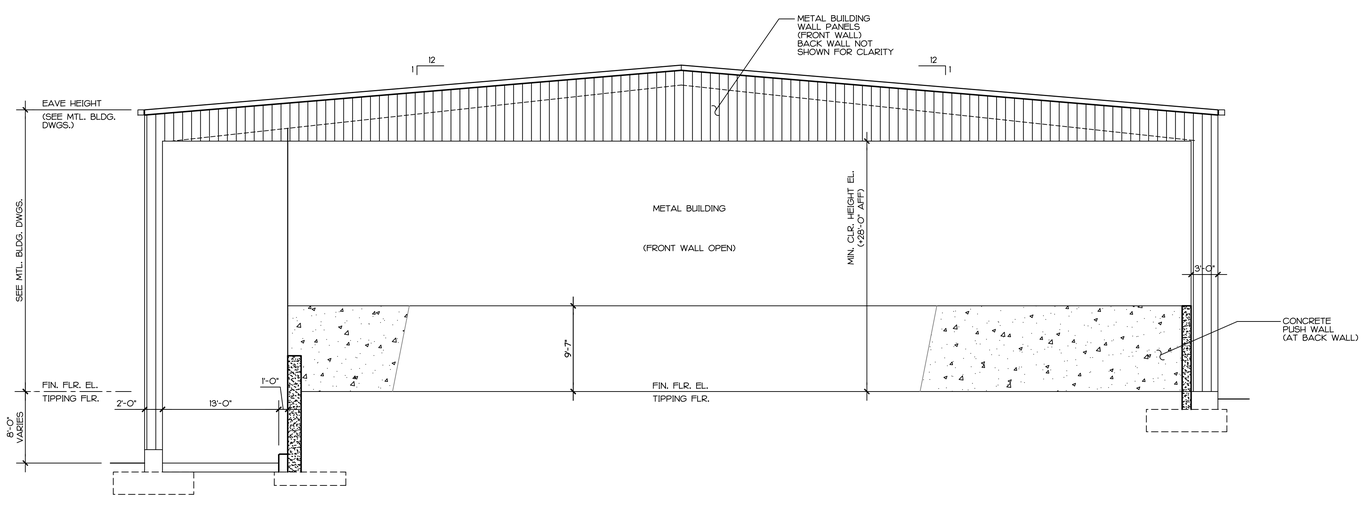
BUILDING ELEVATIONS

BUILDING

B2



1 / B3 NORTH ELEVATION
1/8" = 1'-0"
TRANSFER STATION



2 / B3 WEST ELEVATION
1/8" = 1'-0"
TRANSFER STATION

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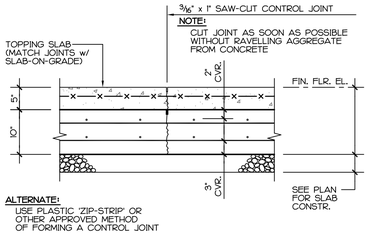
Sheet Title

BUILDING ELEVATIONS

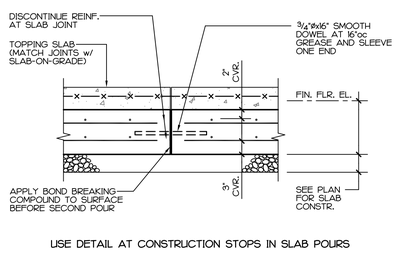
BUILDING

B3



USE TYPICALLY AT TIPPING FLOOR SLAB EXCEPT AT CONSTRUCTION STOPS IN POURS

SECTION 1A
SAW-CUT JOINT

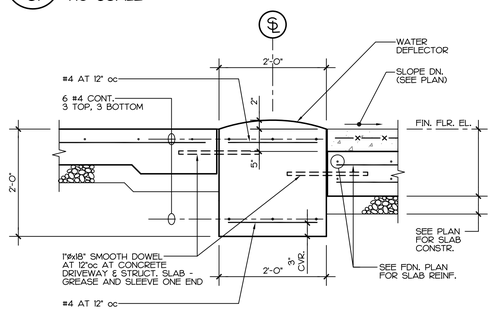


USE DETAIL AT CONSTRUCTION STOPS IN SLAB POURS

SECTION 1B
CONTROL JOINT

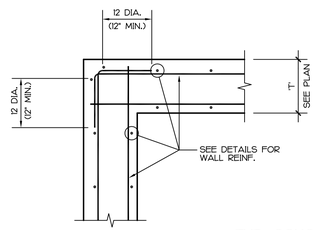
1 SI SECTION - JOINTS IN SLAB-ON-GRADE

NO SCALE (AT TIPPING FLOOR)



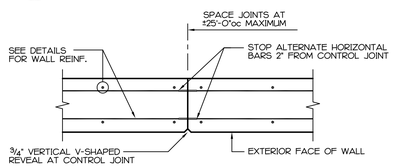
3 SI SECTION AT WATER DEFLECTOR

3/4" = 1'-0"

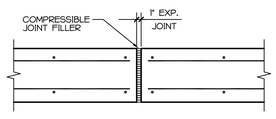


4 SI PLAN DETAIL - TYP. CONC. WALL CORNER

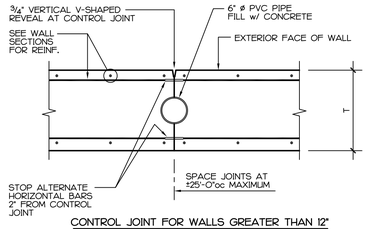
NO SCALE



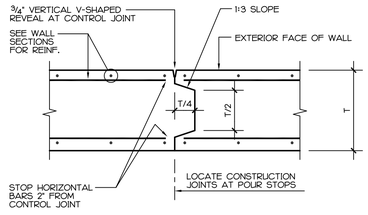
CONTROL JOINT FOR 12" WALLS OR LESS



EXPANSION JOINT



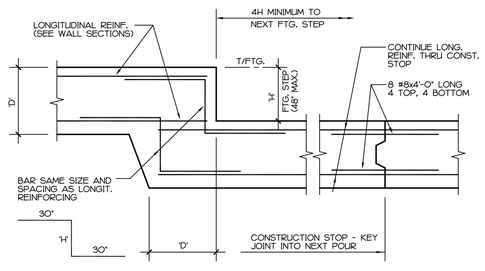
CONTROL JOINT FOR WALLS GREATER THAN 12"



CONSTRUCTION JOINT FOR WALLS GREATER THAN 12"

5 SI PLAN DETAIL - CONCRETE WALL CONTROL/CONST./EXP. JOINTS

3/4" = 1'-0"



6 SI SECTION AT FOOTING STEP

NO SCALE AS REQUIRED

DESIGN LIVE LOADS:

ROOF LIVE LOAD: (Horizontal Projection) ——— 20(R1)(R2) PSF
WHERE R1 AND R2 ARE FACTORS PER NCSBC 2009, SECTION 1607.11 "ROOF LOADS"

COLLATERAL HANGING LOAD ——— 5 PSF
SUPPORTED MECHANICAL EQUIPMENT LOADS ——— AS INDICATED IN CONTRACT DOCUMENTS

FLOOR LIVE LOAD: (SLAB ON GRADE) ——— 200 PSF

SNOW: (NCSBC 2009 Section 1608 – ASCE 7-05 SECTION 7)
- SNOW EXPOSURE FACTOR, Ce ——— 1.0
- THERMAL FACTOR, Ct ——— 1.0
- IMPORTANCE FACTOR, I ——— 1.0
- 50-YEAR RECURRENCE GROUND SNOW LOAD, Pg ——— 10 PSF

WIND LOADS: (NCSBC 2009 Section 1609 – ASCE 7-05 SECTION 6)
- BASIC DESIGN WIND VELOCITY ——— 100 MPH
- STRUCTURE CATEGORY ——— II
- EXPOSURE CATEGORY ——— B
- IMPORTANCE FACTOR ——— 1.0
- INTERNAL PRESSURE COEFFICIENTS ——— +/- 0.18

SEISMIC DESIGN:

- SITE CLASS (ASSUMED): ——— D
- MAPPED SPECTRAL ACCELERATION AT 0.2 sec, Ss: ——— 0.299 g
- MAPPED SPECTRAL ACCELERATION AT 1.0 sec, S1: ——— 0.102 g
- SITE COEFFICIENT, Fa: ——— 1.563
- SITE COEFFICIENT, Fv: ——— 2.395
- SOIL MODIFIED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION, SMs: ——— 0.468 g
- SOIL MODIFIED LONG PERIOD SPECTRAL RESPONSE ACCELERATION, SM1: ——— 0.244 g
- SHORT PERIOD SPECTRAL RESPONSE ACCELERATION, SDs: ——— 0.312 g
- LONG PERIOD SPECTRAL RESPONSE ACCELERATION, SD1: ——— 0.163 g
- STRUCTURE CATEGORY ——— II
- SEISMIC DESIGN CATEGORY ——— C
- OCCUPANCY IMPORTANCE FACTOR, IE: ——— 1.0

BASIC SEISMIC-FORCE RESISTING SYSTEM
STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE
- RESPONSE MODIFICATION FACTOR,R: ——— 3
- DEFLECTION AMPLIFICATION FACTOR,Cd: ——— 3

GENERAL NOTES:

1. THESE DRAWINGS SHALL BE USED WITH ARCHITECTURAL AND OTHER CONTRACT DOCUMENTS. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2009 EDITION OF THE NORTH CAROLINA STATE BUILDING CODE.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING OF THE STRUCTURE AND COMPONENTS UNTIL ALL COMPONENTS ARE ERECTED AND ALL CONNECTIONS ARE FULLY MADE. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FRAMING IS COMPLETED AND THE ROOF DECK CONNECTIONS ARE COMPLETED. CONTRACTOR SHALL BRACE ALL WALLS DURING CONSTRUCTION AGAINST WIND OR CONSTRUCTION LOADS.

3. EQUIPMENT PADS SHALL BE PROVIDED BY THE MECHANICAL, ELECTRICAL, OR PLUMBING CONTRACTORS REQUIRING THE PAD.

4. CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

5. BACKFILL SHALL NOT BE PLACED AGAINST RETAINING WALLS UNTIL THE CONCRETE HAS REACHED DESIGN STRENGTH.

SPECIAL INSPECTIONS

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1704. SPECIAL INPSECTIONS ARE NOT REQUIRED FOR WORK OF A MINOR NATURE OR AS WARRANTED BY CONDITIONS IN THE JURISDICTION AS APPROVED BY THE BUILDING OFFICIAL.

2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED (REGISTERED PROFESSIONAL OR ICBO CERTIFIED SPECIAL INSPECTOR) PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCT ION OR OPERATION REQUIRING SPECIAL INSPECTION.

3. THE FOLLOWING ELEMENTS OF CONSTRUCTION REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT:

____ SOILS AND FOUNDATIONS
____ CAST-IN-PLACE CONCRETE
____ PRECAST CONCRETE
____ MASONRY
____ STRUCTURAL STEEL
____ COLD-FORMED STEEL FRAMING
_X_ RETAINING WALLS EXCEEDING FIVE FEET
____ SPRAY FIRE RESISTANT MATERIAL
____ WOOD CONSTRUCTION
____ EXTERIOR INSULATION AND FINISH SYSTEM
____ MECHANICAL & ELECTRICAL SYSTEMS
____ ARCHITECTURAL SYSTEMS
____ SPECIAL CASES

SHOP DRAWINGS:

1. SUBMIT SHOP DRAWINGS ON ALL MATERIALS FOR REVIEW BEFORE FABRICATION. THE CONTRACT DRAWINGS SHALL NOT BE USED AS BASE DRAWINGS FOR SHOP DRAWINGS. SHOP DRAWINGS SUBMITTED FOR REVIEW WHICH WERE PREPARED WITH CONTRACT DRAWINGS USED AS BASE DRAWINGS WILL BE REJECTED.

2. ALL SUBMITTALS TO ENGINEER FOR REVIEW SHALL BE PREVIOUSLY REVIEWED BY THE CONTRACTOR, WITH HIS APPROVAL STAMPED ON THE DRAWINGS, DATED AND SIGNED. SUBMITTALS NOT CONFORMING SHALL BE SUFFICIENT REASON FOR REJECTION BY THE ENGINEER.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, AND SHALL BE GRADE 60. REINFORCING STEEL THAT IS TO BE WELDED OR OTHERWISE INDICATED, SHALL BE ASTM A 706 GRADE 60.

2. WELDED WIRE FABRIC SHALL BE NEW BILLET STEEL, COLD DRAWN CONFORMING TO THE ASTM SPECIFICATIONS A 185 AND A 82.

3. BAR SUPPORTS, DESIGN, DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE CODE AND DETAILING MANUAL, LATEST EDITION. SUPPORT ALL REINFORCING ON METAL CHAIRS OR BOLSTERS.

4. ALL REINFORCING STEEL LAPS FOR MASONRY SHALL BE AS INDICATED IN THE SCHEDULE BELOW UNLESS NOTED OTHERWISE. 18" MINIMUM. USE CORNER BARS IN BOND BEAMS AND AT CORNERS OF EACH RUN OF LONGITUDINAL REINFORCING. CORNER BARS SHALL BE THE SAME SIZE AND SPACING AS LONGITUDINAL BARS. OVERLAP STEPS IN BOND BEAMS BY 8 FEET.

5. ALL REINFORCING STEEL LAPS FOR CONCRETE REINFORCING SHALL BE CONSIDERED A CLASS B SPLICE UNLESS NOTED OTHERWISE, 12" MINIMUM.

CONCRETE:

1. PROVIDE MINIMUM CONCRETE COVER FOR ALL REINFORCING IN ACCORDANCE WITH ACI 117.

2. ALL CONCRETE SHALL BE NORMAL WEIGHT (N.W.) WITH A MAXIMUM UNIT WEIGHT OF 150 POUNDS PER CUBIC FOOT AND SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH, AS SPECIFIED BELOW, FOR THE RESPECTIVE AREAS:

- FOOTINGS ——— 3,000 PSI N.W.
- SLAB-ON-GRADE ——— 3,500 PSI N.W.
- CONCRETE WALLS ——— 4,000 PSI N.W.
- CONCRETE (NOT OTHERWISE SPECIFIED) ——— 4,000 PSI N.W.

ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED (6%, +/- 1%).

3. MIX DESIGNS SHALL BE SUBMITTED FOR APPROVAL IN CONFORMANCE WITH ACI 301. SUBMITTALS NOT CONFORMING WILL BE REJECTED. PLACE CONCRETE ONLY WITH APPROVED MIX DESIGN.

4. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS, UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS. COORDINATE CONCRETE WORK WITH OTHER TRADES BEFORE BEGINNING WORK. VIBRATE ALL CONCRETE PLACED IN FOOTING EXCAVATIONS. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AND ARCHITECT ANY REQUIREMENTS BY THE OWNER, OR VARIOUS TRADES FOR TRENCHES, PITS, INSERT ITEMS, OPENINGS, ETC. WHICH MAY BE REQUIRED IN THE FLOOR SLABS BEFORE PLACING CONCRETE.

5. ALL COLD WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 306R, COLD WEATHER CONCRETING. HOT WEATHER CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 305R, HOT WEATHER CONCRETING.

6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER FAR ENOUGH IN ADVANCE OF THE TIME EACH CONCRETE POUR IS TO BE MADE TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE BEGINNING THE ACTUAL POUR, BUT NOT IN ADVANCE OF THE TIME THAT 90% OF THE STEEL FOR THAT POUR HAS BEEN PLACED.

STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 FOR ALL W SHAPES AND ASTM A36 FOR ALL OTHER SHAPES. RECTANGULAR HOLLOW STRUCTURAL STEEL (TUBE) SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 ksi). ROUND HOLLOW STRUCTURAL STEEL (PIPE) SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B. ANCHOR BOLTS SHALL BE WELDABLE AND SHALL CONFORM TO ASTM F1554 GRADE 36 OR 55 WITH WELDABILITY SUPPLEMENT S1.

2. THE STRUCTURAL STEEL SHALL BE FABRICATED BY A QUALIFIED FABRICATOR WHO PARTICIPATES IN THE AISC CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC CERTIFIED PLANT, CATEGORY STD AT TIME OF BID, OR THE STRUCTURAL STEEL FABRICATOR MUST DEMONSTRATE A CONSISTENT RECORD OF AT LEAST 10 (TEN) SUCCESSFUL PROJECTS OR EQUAL OR GREATER MAGNITUDE OVER THE PRECEDING 2 YEARS. THE CONTRACTOR SHALL SUBMIT EVIDENCE IN WRITING VERIFYING ONE OF THE ABOVE REQUIRED QUALIFICATIONS.

THE STRUCTURAL STEEL SHALL BE ERECTED BY A QUALIFIED INSTALLER WHO PARTICIPATES IN THE AISC CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC CERTIFIED ERECTOR, CATEGORY CSE [ACSE] AT TIME OF BID.

3. BOLTED CONNECTIONS – 3/4 INCH DIAMETER A325-X, TYPE 1 BOLTS UNLESS NOTED OTHERWISE. USE 3/4 INCH DIAMETER A325-X, TYPE 3 BOLTS FOR EXPOSED EXTERIOR CONDITIONS. NON-FRAME BEAM CONNECTIONS MAY BE DESIGNED FOR THE REACTIONS SHOWN ON THE PLANS. IF NO REACTION IS SHOWN, THE CONNECTION SHALL BE DESIGNED ACCORDING 60% OF THE MAXIMUM TOTAL FACTORED UNIFORM LOAD FOR THE APPROPRIATE BEAM SECTION AND SPAN AS DETERMINED FROM THE STEEL BEAM SELECTION TABLES IN THE AISC LRFD MANUAL, THIRD EDITION. FRAME MEMBERS SHALL BE DESIGNED ACCORDING TO THE NOTES AND LOADS INDICATED IN THE PLANS AND ELEVATIONS.

4. BOLTED CONNECTIONS SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, APPROVED JUNE 23, 2000. ALTERNATE DESIGN BOLTS OR DIRECT TENSION INDICATOR DEVICES WILL BE ACCEPTED ONLY BY WRITTEN APPROVAL OF THE ENGINEER. INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 8 OF THE SPECIFICATION. AN INDEPENDENT TESTING AGENCY SHALL INSPECT ALL BOLTED CONNECTIONS IN ACCORDANCE WITH SECTION 9 OF THE SPECIFICATION AND REPORT IN WRITING TO THE CONTRACTOR AND ARCHITECT.

5. ALL SHOP AND FIELD WELDING SHALL BE BY CERTIFIED WELDERS AND SHALL CONFORM TO AWS STANDARDS. USE E70XX ELECTRODES UNLESS NOTED OTHERWISE. CURRENT AWS CERTIFICATIONS SHALL BE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE ARCHITECT OR ENGINEER. NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS BY ANY TRADE WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

6. ALL BEAMS AND PRIMARY BRACING MEMBERS SHALL BE SECURED WITH AT LEAST 2 BOLTS PRIOR TO REMOVAL OF HOISTING CABLES.

7. IN CONDITIONS WHERE BEAMS FRAME WITH DOUBLE ANGLE FRAMING CONNECTIONS FROM BOTH SIDES OF A COLUMN WEB, OR BEAM WEB OVER A COLUMN, THE FABRICATOR SHALL FABRICATE THE CONNECTION SO THAT THE FIRST BEAM ERECTED TO THE CONNECTION SHALL HAVE AT LEAST ONE BOLT AND WRENCH-TIGHTENED NUT SECURING THE FIRST BEAM AT ALL TIMES. THE CONNECTION SHALL BE DETAILED SO THAT EITHER BEAM MAY BE CONSIDERED THE FIRST BEAM ERECTED. ALTERNATIVELY, A SEAT ANGLE AT THE FACE OF THE COLUMN FOR ERECTION, OR OTHER METHOD SATISFYING OSHA REQUIREMENTS, MAY BE USED IF CONDITIONS PERMIT.

8. ALL EXPOSED STRUCTURAL STEEL SHALL BE GALVANIZED. SUBMIT WITH SHOP DRAWINGS FOR REVIEW.

9. A STANDARD SHOP PRIMER PAINT IS NOT REQUIRED FOR THE STRUCTURAL STEEL.

METAL BUILDING:

1. THE METAL BUILDING SHALL BE DESIGNED BY AN ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. THE DRAWINGS AND CALCULATIONS SHALL BEAR HIS SIGNED SEAL. CONSTRUCTION OF FOOTINGS AND METAL BUILDING MAY NOT BEGIN UNTIL DRAWINGS AND CALCULATIONS HAVE BEEN SUBMITTED AND REVIEWED. DESIGN SHALL BE IN CONFORMANCE WITH THE METAL BUILDING MANUFACTURERS ASSOCIATION AND THE 2009 EDITION OF THE NORTH CAROLINA STATE BUILDING CODE.

2. ANCHOR BOLTS SHALL BE WELDABLE AND SHALL CONFORM TO ASTM F1554 GRADE 36 OR 55 WITH WELDABILITY SUPPLEMENT S1.

3. THE METAL BUILDING SHALL BE DESIGNED USING PINNED COLUMN BASE REACTIONS WITH NOT MOMENT FIXITY ASSUMED AT THE BASE. THE MAXIMUM HORIZONTAL STORY DRIFT SHALL BE LIMITED TO H/300.

4. THE METAL BUILDING COMPONENTS AND MAIN FRAMES SHALL BE DESIGNED TO SUPPORT ALL APPLIED LOADS FROM SUPPORTED MECHANICAL EQUIPMENT.

FOUNDATION:

1. ASSUMED DESIGN ALLOWABLE SOIL BEARING PRESSURE IS 1,500 PSF ON SUITABLE RESIDUAL SOIL OR PROPERLY COMPACTED STRUCTURAL FILL FOR WALL AND COLUMN FOOTINGS. STRUCTURAL FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8" AND COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE UPPER 12" OF STRUCTURAL FILL DIRECTLY BENEATH FLOOR SLABS SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. ADDITIONAL FILL PLACEMENT REQUIREMENTS ARE A PART OF THE SPECIFICATIONS. ALL FILL MATERIAL SHALL BE PLACED UNDER THE SUPERVISION AND CONTROL OF AN INDEPENDENT TESTING LABORATORY. AN INDEPENDENT SOILS TESTING LABORATORY SHALL VERIFY IN WRITING THAT THE MINIMUM SAFE ALLOWABLE SOIL BEARING PRESSURE IS AVAILABLE BEFORE FOUNDATIONS ARE PLACED. IN THE EVENT THAT THE DESIGN ALLOWABLE BEARING PRESSURE IS NOT AVAILABLE, THE ENGINEER SHALL BE NOTIFIED AND THE SOIL CONDITION AND FOUNDATION SHALL BE EVALUATED AND FOOTING SIZE ADJUSTED IF REQUIRED.

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Fayetteville, North Carolina

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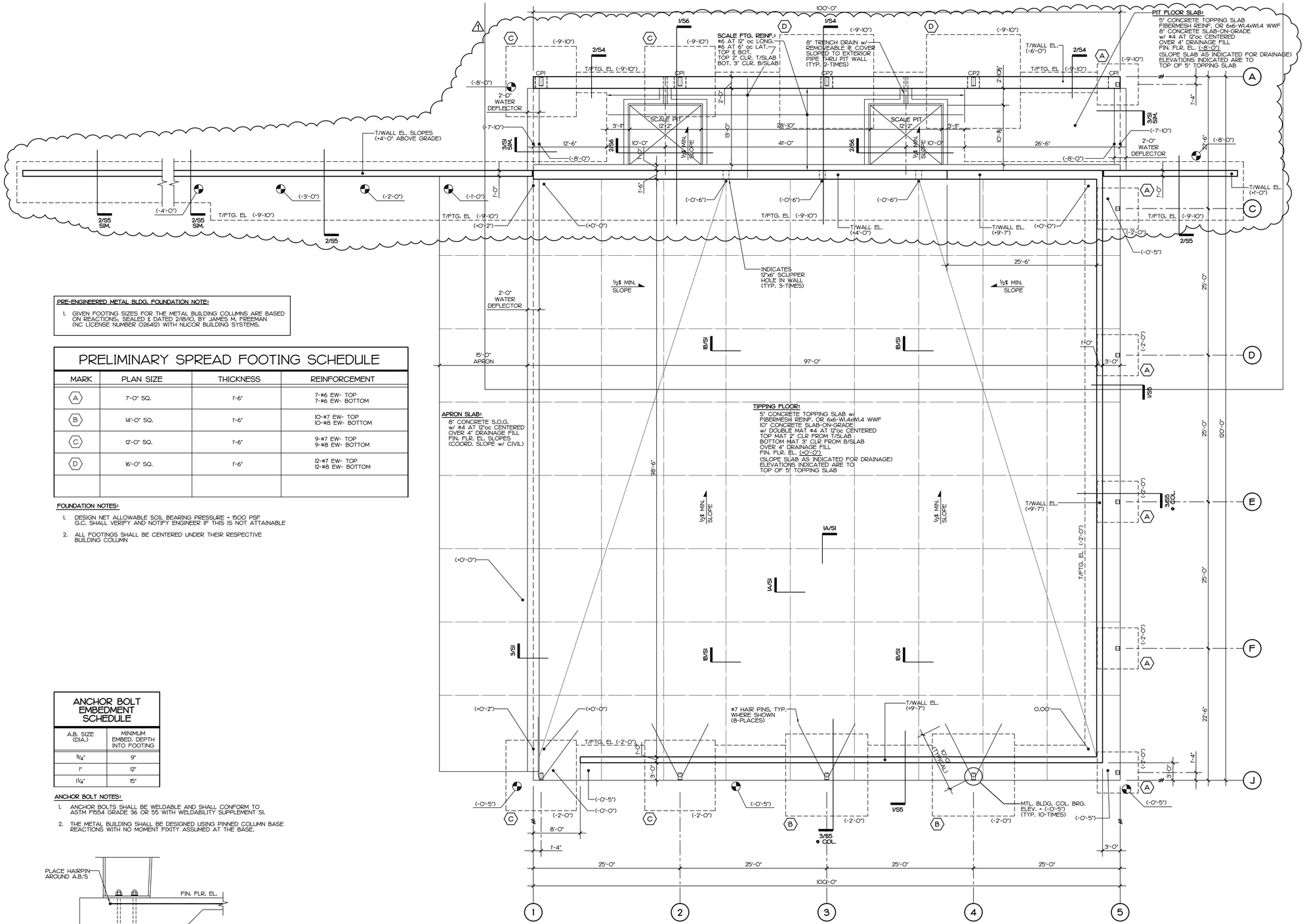
Sheet Title

GENERAL NOTES, SECTIONS & DETAILS

STRUCTURAL

S1



PRE-ENGINEERED METAL BLDG. FOUNDATION NOTE:

1. GIVEN FOOTING SIZES FOR THE METAL BUILDING COLUMNS ARE BASED ON REACTIONS, SEALED & DATED 2/18/10, BY JAMES M. FREEMAN (NC LICENSE NUMBER 026412) WITH NUCOR BUILDING SYSTEMS.

PRELIMINARY SPREAD FOOTING SCHEDULE

MARK	PLAN SIZE	THICKNESS	REINFORCEMENT
A	7'-0" SQ.	1'-6"	7-#6 EW- TOP 7-#6 EW- BOTTOM
B	14'-0" SQ.	1'-6"	10-#7 EW- TOP 10-#8 EW- BOTTOM
C	12'-0" SQ.	1'-6"	9-#7 EW- TOP 9-#8 EW- BOTTOM
D	16'-0" SQ.	1'-6"	12-#7 EW- TOP 12-#8 EW- BOTTOM

FOUNDATION NOTES:

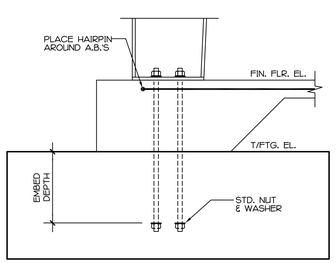
1. DESIGN NET ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF G.C. SHALL VERIFY AND NOTIFY ENGINEER IF THIS IS NOT ATTAINABLE
2. ALL FOOTINGS SHALL BE CENTERED UNDER THEIR RESPECTIVE BUILDING COLUMN

ANCHOR BOLT EMBEDMENT SCHEDULE

A.B. SIZE (DIA.)	MINIMUM EMBED. DEPTH INTO FOOTING
3/4"	9"
1"	12"
1 1/4"	15"

ANCHOR BOLT NOTES:

1. ANCHOR BOLTS SHALL BE WELDABLE AND SHALL CONFORM TO ASTM F1554 GRADE 36 OR 55 WITH WELDABILITY SUPPLEMENT S1.
2. THE METAL BUILDING SHALL BE DESIGNED USING PINNED COLUMN BASE REACTIONS WITH NO MOMENT FIXITY ASSUMED AT THE BASE.



1 / S2 FOUNDATION PLAN: TIPPING FLOOR
1/8" = 1'-0"
TRANSFER STATION

PLAN NOTES:

1. ELEVATIONS AND GRADES GIVEN THUS (-#'-#") ARE REFERENCED FROM FIN. FLR. EL. 108.00'
2. ℄: INDICATES EDGE OF CONCRETE AND STEEL LINE
3. POUR TIPPING FLOOR SLAB-ON-GRADE IN ALTERNATING STRIPS AS DELINIATED BY THE CONTROL JOINTS (SEE SECT. 18/S1). DELAY POURING THE ALTERNATE STRIPS UNITL THE ORIGINAL POUR HAS HARDENED.
4. CP#: INDICATES COLUMN PIER. (SEE DTL. 1/S4 FOR PIER REINF.)

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FOUNDATION PLAN

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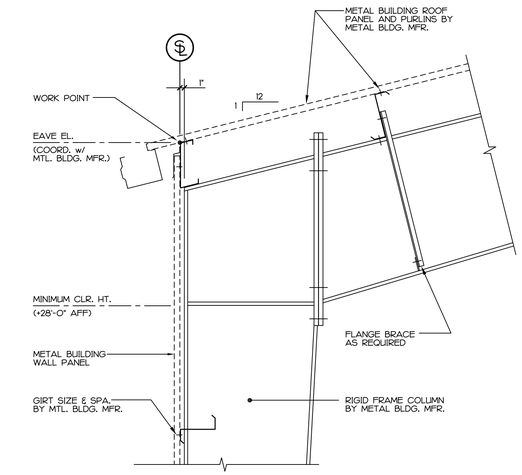
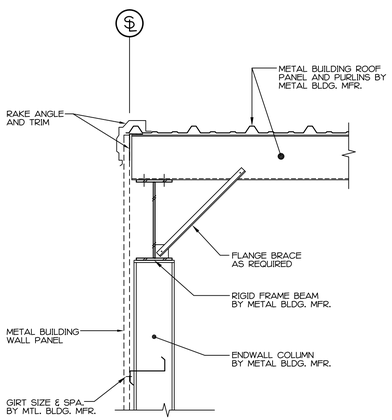
S2



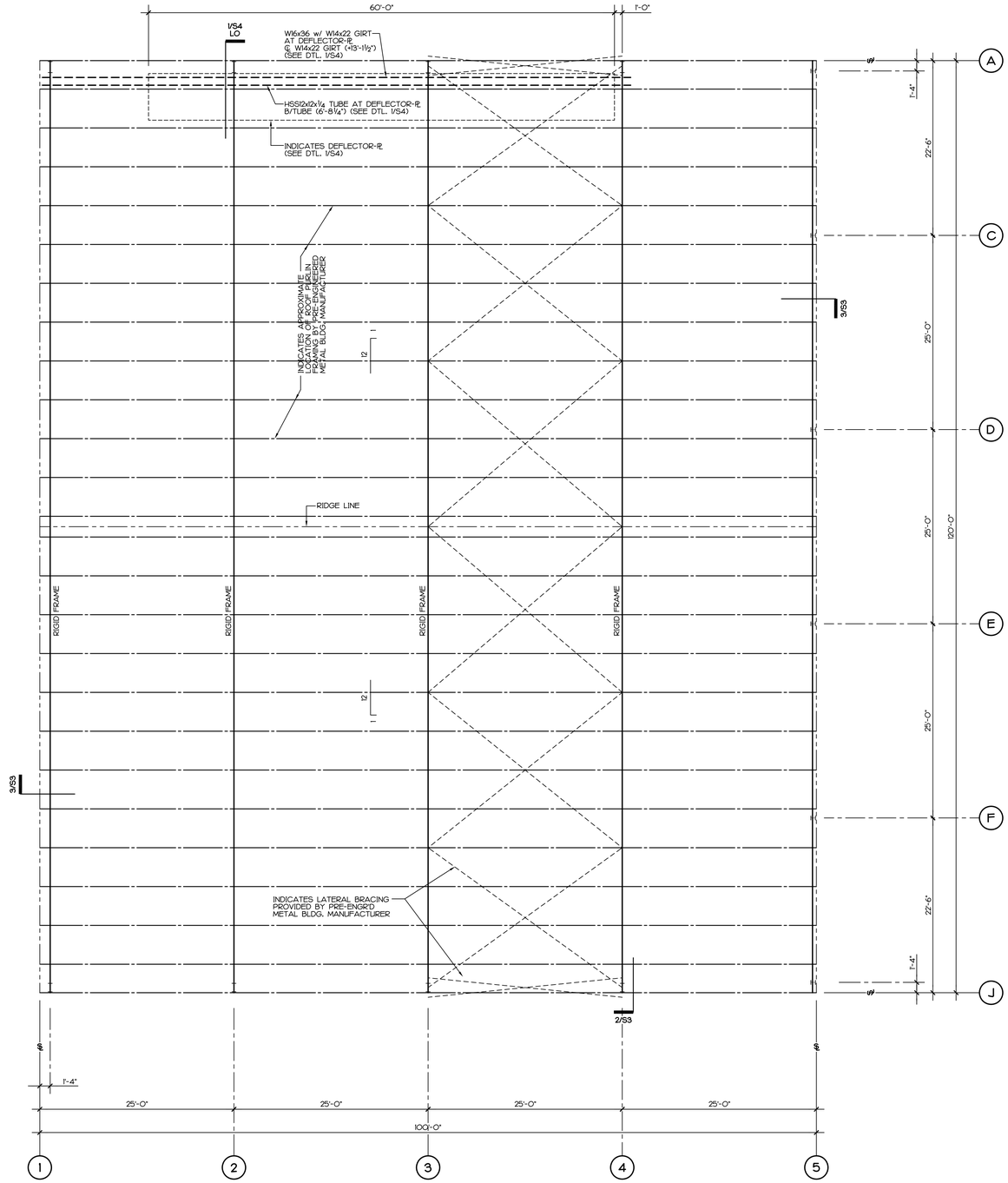
2 / S3 SECTION AT EAVE

3/4" = 1'-0" INSET GIRTS



3 / S3 SECTION - POST & BEAM ENDWALL

3/4" = 1'-0" INSET GIRTS



1 / S3 ROOF FRAMING PLAN

1/8" = 1'-0" TRANSFER STATION

PLAN NOTES:

1. METAL BUILDING SHALL HAVE A 28'-0" MINIMUM CLEAR HEIGHT AT TIPPING FLOOR
2. ℄: INDICATES EDGE OF STEEL LINE

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	2/3/10	METAL BUILDING ELEVATIONS

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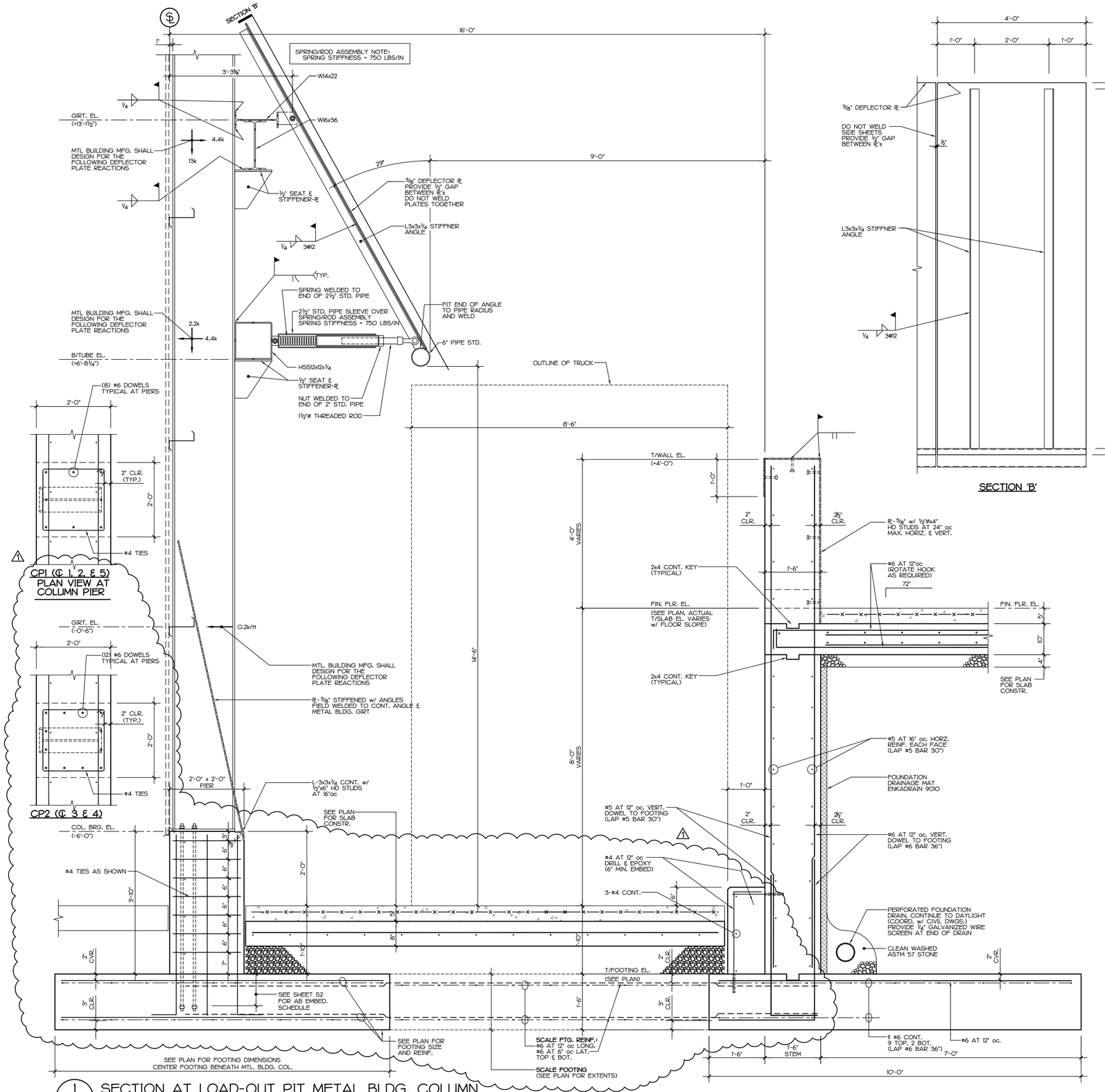
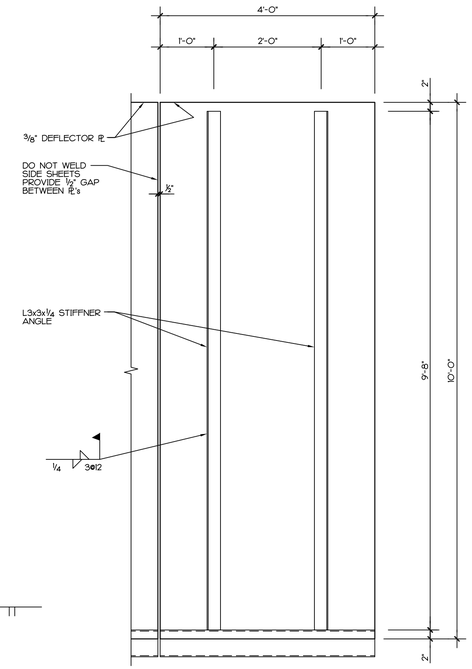
ROOF FRAMING PLAN

STRUCTURAL

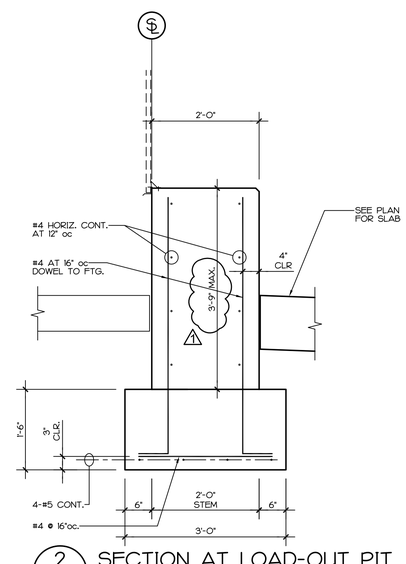
S3



1 / S4 SECTION AT LOAD-OUT PIT METAL BLDG. COLUMN
3/4" = 1'-0"



SECTION 'B'



2 / S4 SECTION AT LOAD-OUT PIT
3/4" = 1'-0"

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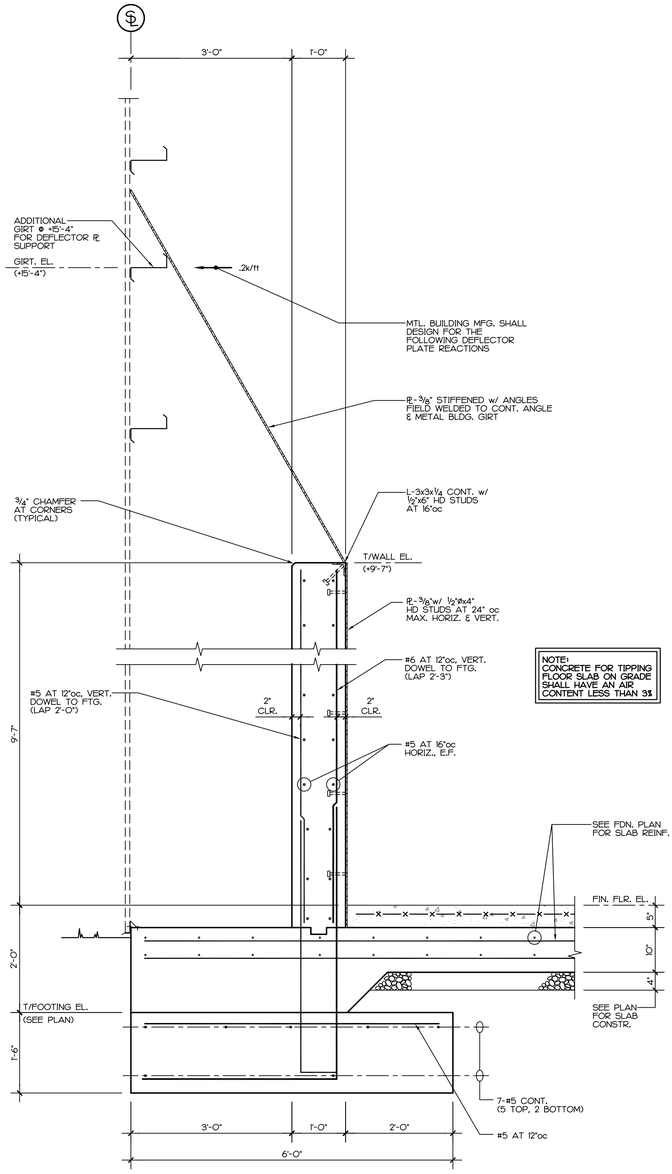
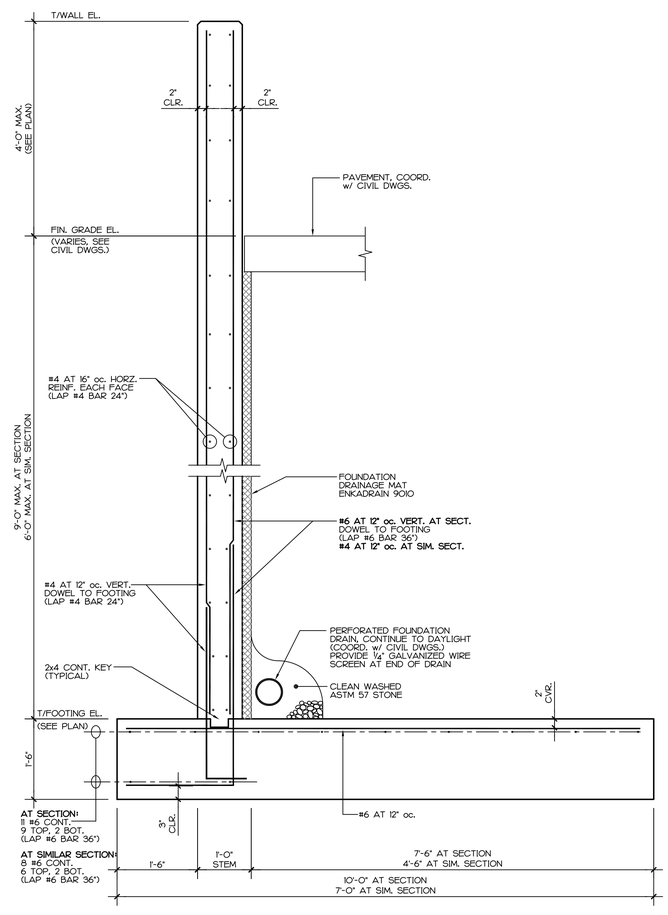
SECTIONS & DETAILS

STRUCTURAL

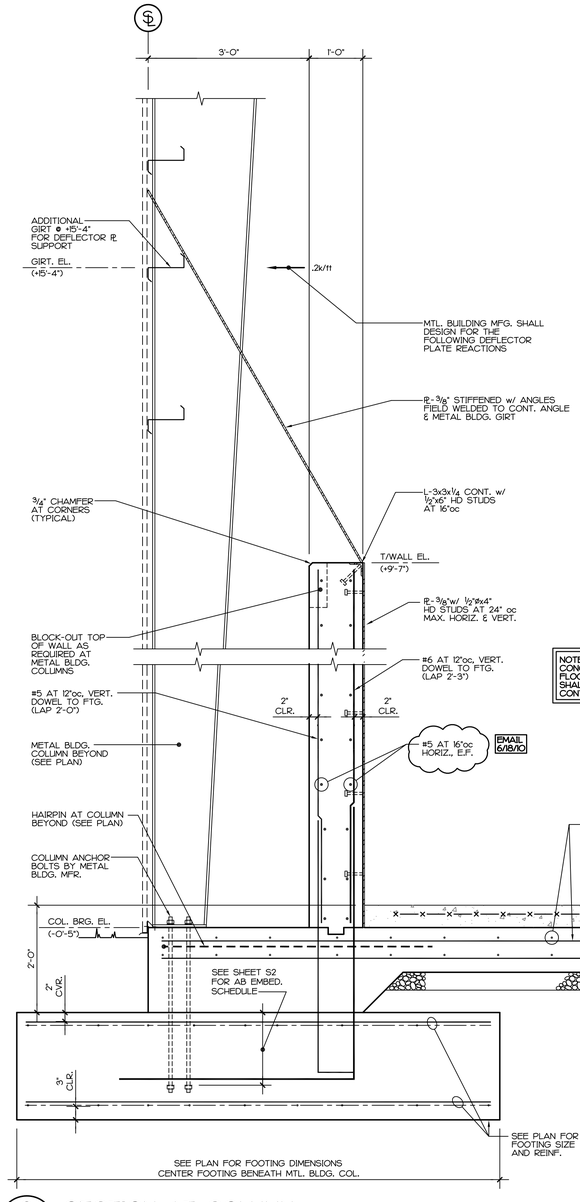
S4



1 SECTION AT PUSH WALL
S5 3/4" = 1'-0"



2 SECTION AT SITE WALL
S5 3/4" = 1'-0"



3 SECTION AT COLUMN
S5 3/4" = 1'-0"

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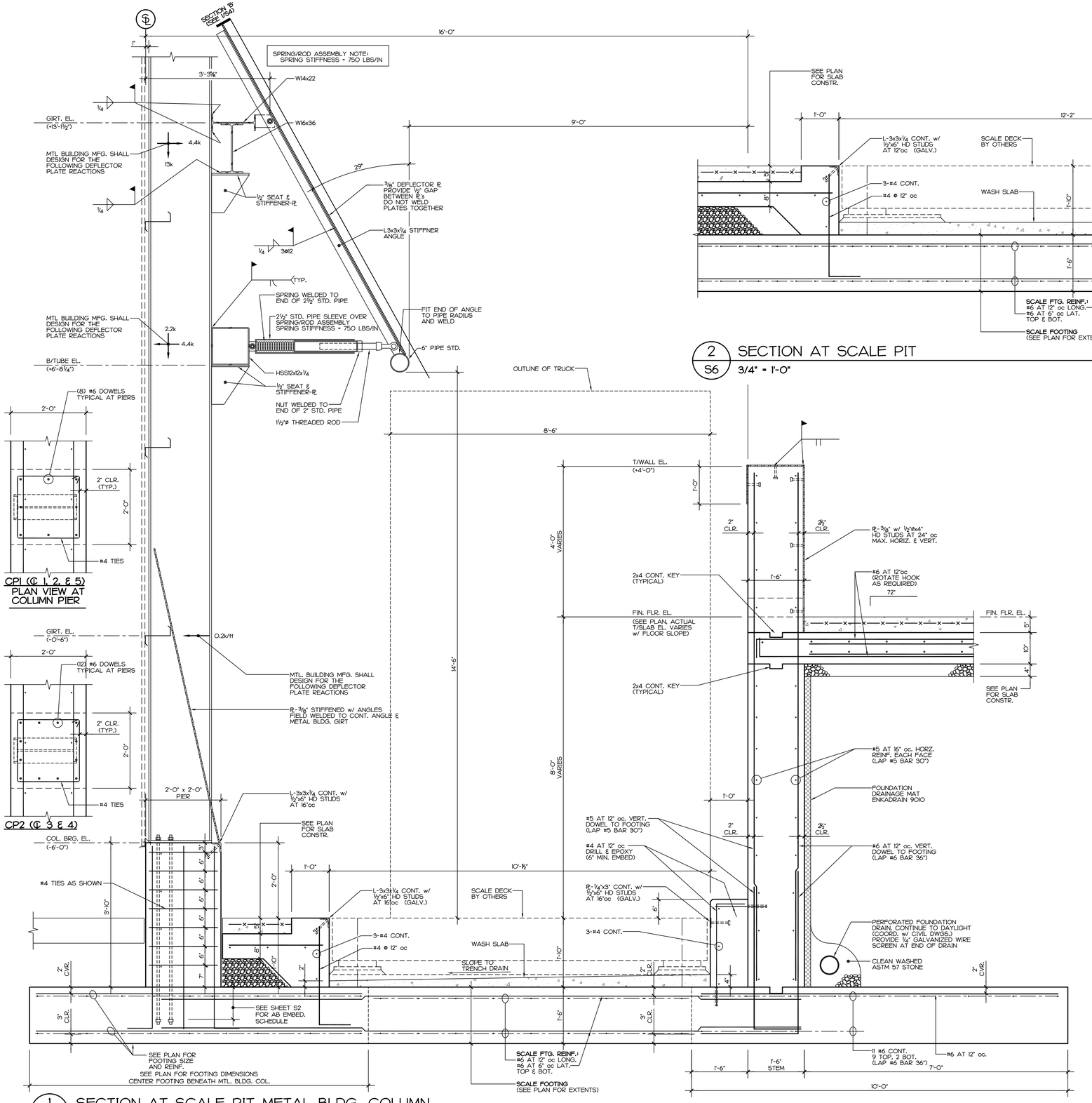
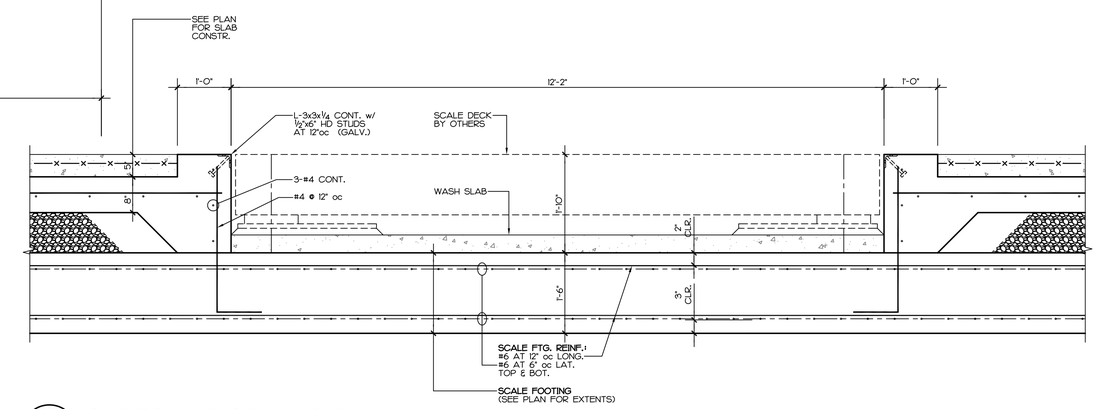
SECTIONS & DETAILS

STRUCTURAL

S5



1 / S6 SECTION AT SCALE PIT METAL BLDG. COLUMN
3/4" = 1'-0"



2 / S6 SECTION AT SCALE PIT
3/4" = 1'-0"

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Waste Industries
Fayetteville Transfer Station
Fayetteville, North Carolina

Release Information

Release Date: 3.22.2010
Issued: FOR CONSTRUCTION
Revisions:

Mark	Date	Description
1	4/30/10	OWNER REVISIONS

AEI Project No.: 8056

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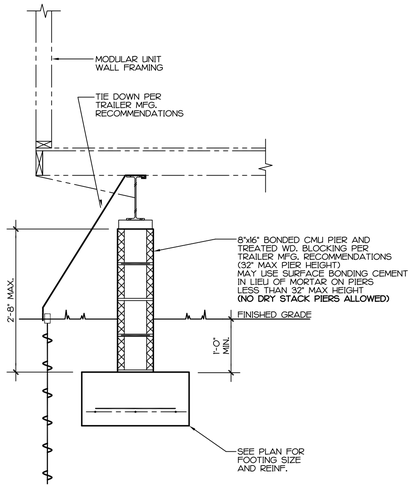
Sheet Title

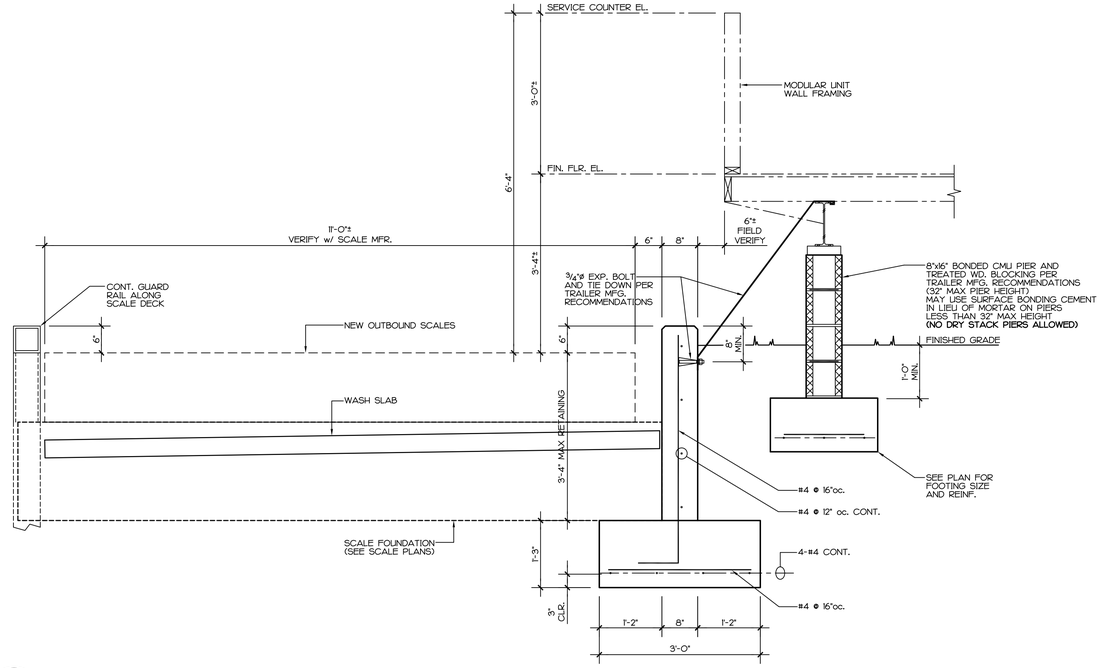
SECTIONS & DETAILS

STRUCTURAL

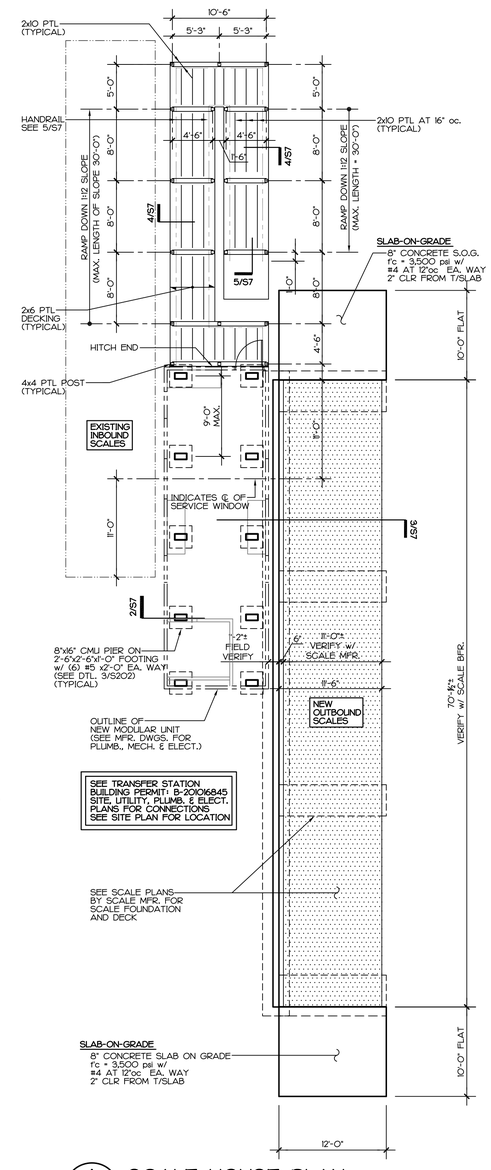
1 S6



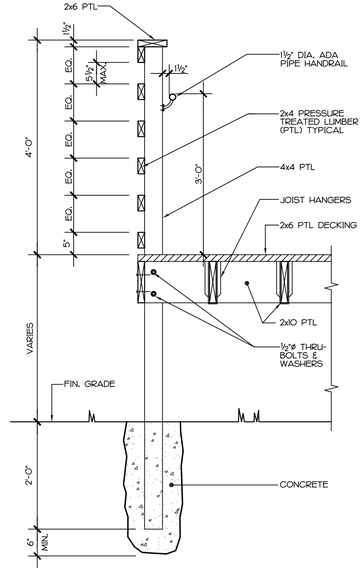
2 S7 SECTION AT SCALE HOUSE
3/4" = 1'-0"



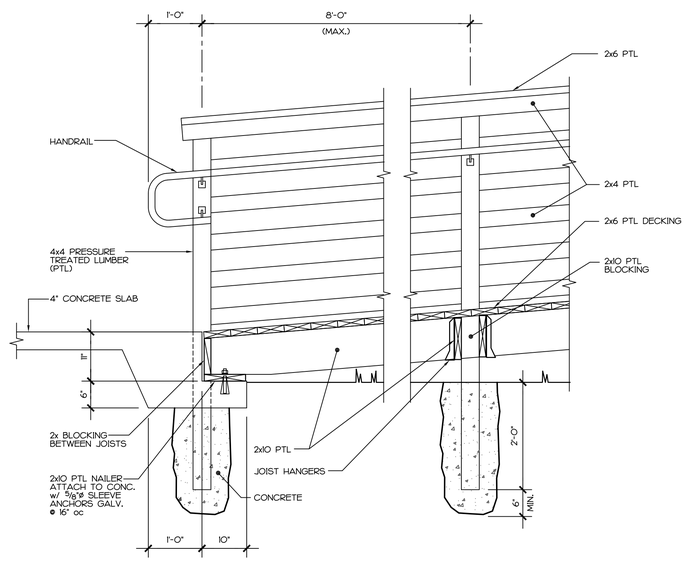
3 S7 SECTION AT SCALE HOUSE
3/4" = 1'-0"



1 S7 SCALE HOUSE PLAN
1/8" = 1'-0"



4 S7 SECTION AT ACCESS RAMP
3/4" = 1'-0"



5 S7 SECTION AT ACCESS RAMP
3/4" = 1'-0"

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Waste Industries
Fayetteville Transfer Station
Scale House

Fayetteville, North Carolina

Release Information

Release Date:	6.29.2010
Issued:	FOR CONSTRUCTION
Revisions:	

Mark	Date	Description

AEI Project No.: 8056

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Sheet Title

SCALE HOUSE PLAN & DETAILS

STRUCTURAL

S7