

GENERAL	1. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES.
	2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.
	3. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.
	4. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.
	5. THE CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
	6. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ARCHITECT, NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
	7. IF ANY BIDDER IS IN DOUBT AS TO THE INTENT OF THE PLANS OR SPECIFICATIONS, THEY SHALL REQUEST AN INTERPRETATION FROM THE ARCHITECT IN WRITING AT LEAST TEN (10) DAYS PRIOR TO THE SCHEDULED BID DATE.
	8. PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS AS THEY SHALL BE PROVIDED FOR WHETHER SHOWN ON THESE DRAWINGS OR NOT. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
	9. SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND THE LOCATION OF DEPRESSED FLOOR AREAS.
	10. WHERE A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS OCCURS THE MORE STRINGENT REQUIREMENT SHALL APPLY.
	11. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
	12. SEVERAL ITEMS NOTED HEREIN AND IN THE SPECIFICATIONS REQUIRE THE CONTRACTOR TO ENGAGE A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED, TO PROVIDE DESIGN AND/OR DETAILING OF STRUCTURAL ELEMENTS. SEE INDIVIDUAL GENERAL NOTE AND SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. THESE DELEGATED DESIGN ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO: A. TIMBER PILES B. STRUCTURAL STEEL (CONNECTIONS) C. NON-LOAD BEARING COLD-FORMED STEEL
	13. THIS PROJECT REQUIRES SPECIAL INSPECTIONS AS DESCRIBED IN SECTION 1704 OF THE NORTH CAROLINA STATE BUILDING CODE. SEE STATEMENT OF SPECIAL INSPECTIONS FOR REQUIRED INSPECTIONS. CONTRACTOR SHALL COORDINATE WITH SPECIAL INSPECTOR ALL WORK REQUIRING SPECIAL INSPECTIONS AND TESTING.

DESIGN CRITERIA			
1.	APPLICABLE CODES: A. 2018 NORTH CAROLINA STATE BUILDING CODE (2015 INTERNATIONAL BUILDING CODE WITH REVISIONS) B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE/SEI 7-10) C. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14) D. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/530.1-13) E. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-10) F. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (ANSI/AWC NDS-2015)		
2.	LIVE LOADS	UNIFORM (PSF)	CONCENTRATED (LB)
	RIGGING FOR STAGE	TBD	TBD
	ASSEMBLY AREAS	100	NA
	MECHANICAL	150	NA
	PUBLIC AREAS, LOBBIES	100	2,000
	ROOF	20	300
	STAGE FLOOR	150	NA
	STAIRS	100	300
	STORAGE	125	NA
3.	RISK CATEGORY	II	
4.	SNOW LOAD:		
	GROUND SNOW LOAD	Pg = 10 PSF	
	IMPORTANCE FACTOR	Is = 1.0	
	SNOW EXPOSURE FACTOR	Ce = 1.0	
	THERMAL FACTOR	Ct = 1.2	
	FLAT ROOF SNOW ROOF LOAD	Pf = 12 PSF (PLUS 5 PSF RAIN-ON-SNOW SURCHARGE)	
5.	WIND LOAD:		
	BASIC DESIGN WIND VELOCITY	V = 145 MPH (ULTIMATE)	
	EXPOSURE CATEGORY	C	
		CATERING BUILDING	PARK SUPPORT BUILDING
		(PHASE 4)	(PHASE 4)
	BASE SHEAR	Vx = 4k	Vx = 4k
		Vy = 4k	Vy = 15k
		± 0.18	± 0.18
			Vy = 6k
			± 0.55
	INTERNAL PRESSURE COEFFICIENTS		
	COMPONENTS AND CLADDING -		
	ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR, AND EXPOSURE LISTED ABOVE.		
6.	SEISMIC LOAD (2008 USGS SEISMIC DESIGN MAPS):		
	DESIGN METHOD - EQUIVALENT LATERAL FORCE PROCEDURE		
	Ss	22.0 %g	
	S1	9.2 %g	
	Sds	23.5 %g	
	SD1	14.8 %g	
	IMPORTANCE FACTOR	Ie = 1.0	
	SITE CLASS	D	
	SEISMIC DESIGN CATEGORY	C	
	SEISMIC FORCE-RESISTING SYSTEM -		
	CATERING BUILDING - STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, PER ASCE 7-10 TABLE 12.2-1		
	PARK SUPPORT BUILDING - STEEL ORDINARY CANTILEVER COLUMN SYSTEMS, PER ASCE 7-10 TABLE 12.2-1		
	CANOPY STRUCTURE - CANTILEVERED COLUMN SYSTEM		
		CATERING BUILDING	PARK SUPPORT BUILDING
		(PHASE 4)	(PHASE 4)
	RESPONSE MODIFICATION COEFFICIENT	Rx = Ry = 3	Rx = Ry = 3
	DEFLECTION AMPLIFICATION FACTOR	Cdx = Cdy = 3	Cdx = Cdy = 3
	SEISMIC RESPONSE COEFFICIENT	Csx = Csy = .078	Csx = Csy = .078
	BASE SHEAR	Vx = Vy = 1k	Vx = Vy = 3k
			Cx = Cdy = 1.25
			Cx = Csy = .188
			Vx = Vy = 7k
NONSTRUCTURAL COMPONENT ANCHORAGE -			
ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING COMPONENTS ARE TO BE ATTACHED AS REQUIRED BY ASCE 7 CHAPTER 13, "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". EACH INDIVIDUAL CONTRACTOR RESPONSIBLE FOR THE COMPONENT MUST PROVIDE PROJECT SPECIFIC DESIGN AND DOCUMENTATION PREPARED BY AN ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. CHAPTER 13 DEFINES THE FORCE REQUIRED TO SUPPORT THE COMPONENT FOR THE ANCHORAGE AND BRACING. THE COST OF PREPARING THIS INFORMATION AND DESIGN SHALL BE INCLUDED IN EACH CONTRACTOR'S BID THAT IS PROVIDING THE COMPONENT			
7.	FUTURE LOADS:		
	UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.		


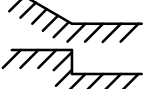






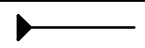

FOUNDATIONS	
	1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT BY STEWART DATED 06/04/2018 (STEWART PROJECT #C17135.00) AS WELL AS GEOTECHNICAL ADDENDUM #3 DATED 09/07/2018 (TIMBER PILE FOUNDATIONS)
	2. THE PARK SUPPORT BUILDING, CATERING BUILDING AND CANOPY ARE TO BE BUILT ON TIMBER PILES PER GEOTECHNICAL RECOMMENDATIONS.
	3. THE SUBGRADE AND UNDERFLOOR FILL SHALL BE PREPARED TO A POINT THAT EXTENDS 3'-0" MINIMUM BEYOND THE LIMITS OF THE FOUNDATION.
	4. MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS: COMPACT ALL FILL UNDER BUILDING TO 95% MAXIMUM DENSITY AS DETERMINED BY ASTM D698. PLACE IN LAYERS OF 8" MAXIMUM LOOSE THICKNESS. VERIFY FIELD DENSITY, ASTM D1556, WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LAYER. SEE SPECIFICATIONS FOR OTHER TESTING REQUIREMENTS.
	5. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.
	6. SUBSURFACE CONTRACTOR TO DESIGN AND INSTALL SHEET PILE SHORING SYSTEM ON NORTH SIDE OF WALL TO ALLOW FOR MAINTENANCE EXCAVATION OF CPUPA'S GRAVITY SEWER INSIDE PUMP STATION.

	CONCRETE / REINFORCING STEEL	
1.	CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS: COLUMNS, BASEMENT WALLS, SITE WALLS SLAB ON GRADE MATS/PILCAPCS, GRADE BEAMS	4,500 PSI, NORMAL WEIGHT 4,500 PSI, NORMAL WEIGHT 4,500 PSI, NORMAL WEIGHT
2.	REINFORCING: TYPICAL - ASTM A615, GRADE 60 REINFORCING TO BE WELDED - ASTM A706 DEFORMED BAR ANCHORS - ASTM A 496 WELDED WIRE FABRIC - ASTM A1064 (FLAT SHEETS ONLY)	
3.	GROUT UNDER BASE PLATES TO BE HIGH STRENGTH (5,000 PSI), NON-SHRINK.	
4.	REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS, WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.	
5.	LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.	
6.	CLEAR COVER FROM FACE OF CONCRETE: CAST IN PLACE CONCRETE (MEASURE TO OUTERMOST REINFORCING) - CONCRETE CAST AGAINST AND EXPOSED TO EARTH - 3" CONCRETE EXPOSED TO EARTH/WEATHER - 2" FOR #6 BARS AND LARGER CONCRETE NOT EXPOSED TO EARTH/WEATHER - 1 1/2" ELSE 3/4" FOR SLABS AND WALLS 1 1/2" FOR BEAMS AND COLUMNS (TO TIES)	
7.	WHERE SCHEDULED BARS ARE NOT PRESENT, PROVIDE CONTINUOUS #5 TOP AND BOTTOM BARS TO SUPPORT STIRRUPS AS REQUIRED FOR THE LENGTH OF THE STIRRUP SPACING IN ALL BEAMS. WALL FOOTING REINFORCING SHALL BE CONTINUOUS THROUGH ADJACENT COLUMN FOOTINGS. PROVIDE VERTICAL DOVETAIL SLOTS AT 24"OC WITH TIES AT 16"OC VERTICALLY IN ALL CONCRETE WALLS BACKING-UP MASONRY VENER.	
8.	BAR SUPPORTS FOR CONCRETE EXPOSED TO VIEW SHALL HAVE PLASTIC COATED LEGS OR BE HOT DIP GALVANIZED AFTER FABRICATION.	
9.	MECHANICAL AND ELECTRICAL CONDUIT IN SLABS ON GRADE AND ELEVATED SLABS SHALL RUN UNDER TOP LAYER OF SLAB REINFORCING. PROVIDE A MINIMUM OF 1-1/2" CLEAR BETWEEN CONDUITS AND BETWEEN REINFORCING AND ADJACENT CONDUITS PARALLEL TO REINFORCING. IF MAXIMUM SIZE OF CONDUIT EXCEEDS ONE THIRD OF THE SLAB DEPTH, ADDITIONAL FRAMING OR REINFORCING MAY BE NECESSARY AT ENGINEER'S DISCRETION.	
10.	MECHANICAL AND ELECTRICAL CONDUIT IN ELEVATED SLABS ON METAL DECK IS NOT ALLOWED UNLESS SPECIFICALLY REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.	
11.	HEADED CONCRETE ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A108, GRADES 1010, 1015, 1017, OR 1020. STUDS SHALL BE AUTOMATICALLY END WELDED IN THE SHOP OR FIELD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.	
12.	EMBED PLATES MUST BE SET IN THE FORM BEFORE POURING CONCRETE, NOT PLACED INTO TOP OF WET CONCRETE. THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR CORRECTIVE DETAILS FOR ANY EMBED PLATES LEFT OUT OF CONCRETE POURS.	
13.	FOR SLABS ON GRADE, SLAB AND FOOTING REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4'-0"OC BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.	
14.	THE CONTRACTOR SHALL ASSUME CONCRETE OVERAGES IN ELEVATED DECK POURS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERAGES MAY BE CALCULATED BY THE CONTRACTOR FOR BEAM DEFLECTIONS EQUALING 1/300 INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER SDI.	
15.	REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.	
16.	THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER EAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.	

ADHESIVE AND MECHANICAL POST-INSTALLED ANCHORS		
1.	ANCHOR BOLTS, REINFORCING STEEL, THREADED RODS, STAIR HANDRAILS, AND OTHER EMBEDDED STEEL ITEMS SHALL BE SET INTO HARDENED CONCRETE WITH ADHESIVE OR MECHANICAL POST-INSTALLED ANCHOR ONLY WHERE DETAILED ON THE DRAWINGS OR WHERE APPROVED BY THE ENGINEER.	
2.	PRE-APPROVED MANUFACTURERS ARE HILTI, SIMPSON STRONG-TIE, AND DEWALT. WHERE DETAILS INDICATE SPECIFIC ADHESIVE OR MECHANICAL POST-INSTALLED ANCHORS, IT IS ACCEPTABLE AT THE CONTRACTOR'S OPTION TO SUBMIT AN ALTERNATE SIMILAR PRODUCT PROVIDED BY A DIFFERENT MANUFACTURER. THE FONG ASKS THE MANUFACTURER'S DATA PROVIDES EQUIVALENT LOAD CAPACITY TO THE ANCHOR SPECIFIED.	
3.	MANUFACTURER'S DATA FOR ALL ADHESIVE AND MECHANICAL POST-INSTALLED ANCHORS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. SUBMITTALS FOR ADHESIVE ANCHOR PRODUCTS SHALL INCLUDE ICC-ES EVALUATION REPORTS, STRICTLY FOLLOW THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. HEED ALL LABEL WARNINGS. INSTALL IN ACCORDANCE WITH APPLICABLE SAFETY LAWS.	
4.	ALL HOLES SHALL BE DRILLED WITH A DIAMETER NO LARGER THAN 1/8" GREATER THAN THE DIAMETER OF THE STEEL MEMBER BEING INSTALLED.	
5.	ALL HOLES SHALL BE CLEANED WITH COMPRESSED AIR AND SHALL BE DRY PRIOR TO INSTALLATION OF ADHESIVE. HOLES SHALL BE FREE OF ALL DELETERIOUS MATERIAL SUCH AS LANTANE, DUST, DIRT, AND OIL.	
6.	CONTRACTOR PERFORMING ADHESIVE WORK SHALL BE AN APPROVED CONTRACTOR BY THE MANUFACTURER FURNISHING THE ADHESIVE MATERIALS, AND SHALL HAVE NO LESS THAN FIVE YEARS EXPERIENCE IN THE VARIOUS TYPES OF ADHESIVE RELATED WORK REQUIRED IN THIS PROJECT. A CERTIFICATION FROM THE MANUFACTURER ATTESTING TO THE TRAINING SHALL BE SUBMITTED TO THE ENGINEER/ARCHITECT ALONG WITH THE PROPOSAL TO DO THE WORK.	

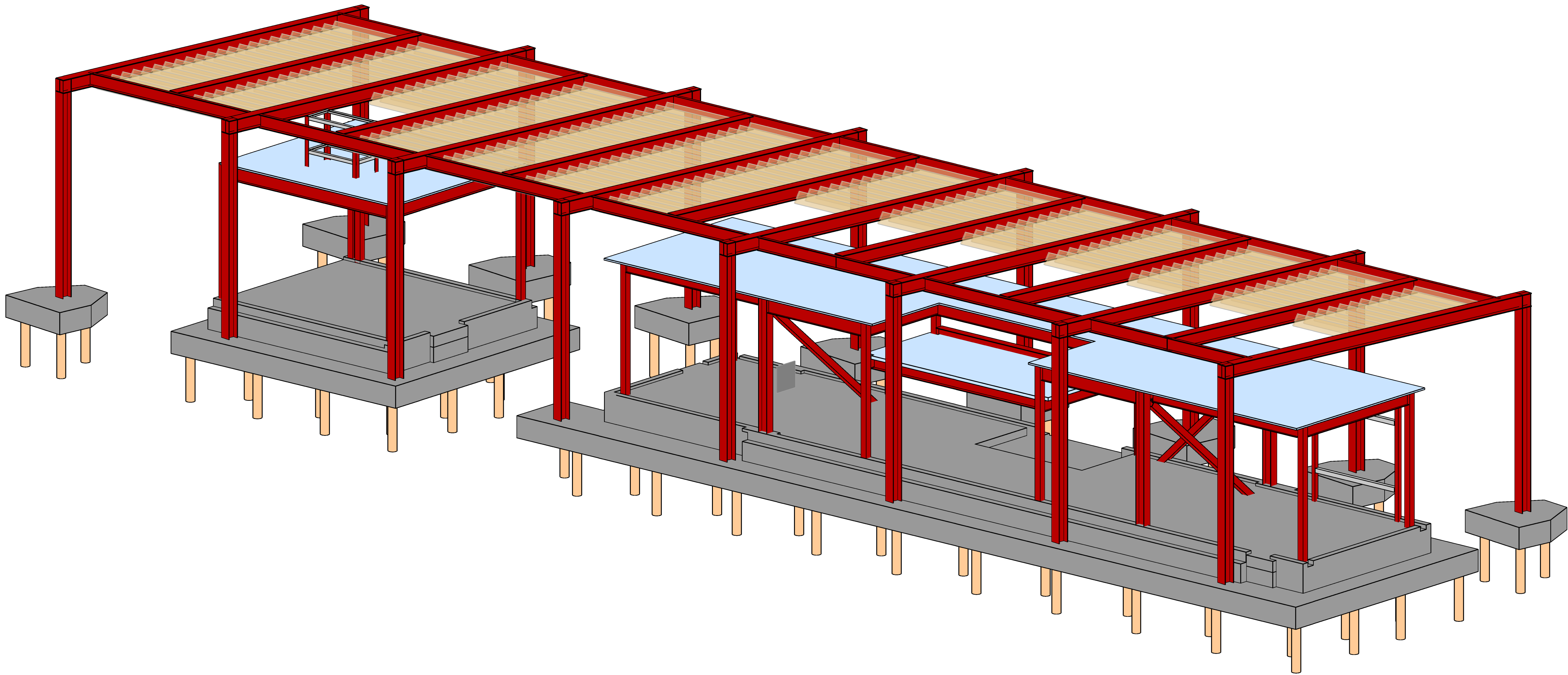
REPRODUCTION		
1.	THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREIN AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOBS EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HERE ON.	

LUMBER		
1.	ALL LUMBER AND ITS FASTENINGS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, LATEST EDITION, BY THE AMERICAN FOREST AND PAPER ASSOCIATION.	
2.	ALL LUMBER SHALL BE OF THE FOLLOWING PROPERTIES UNLESS OTHERWISE NOTED (OR EQUIVALENT GRADE OF ANOTHER SPECIES): ALL STRUCTURAL LUMBER (SPRUCE-PINE-FIR NO. 2) - CONTRACTOR NOTE: SPF (SOUTH) IS NOT ACCEPTABLE 2x4 Fb 1,313 PSI Fb 1,323 PSI (PARALLEL TO GRAIN) Fv 1,138 PSI Fc 1,265 PSI (PARALLEL TO GRAIN) 2x6 Fb 1,050 PSI Fc 1,208 PSI (PARALLEL TO GRAIN) Fb 963 PSI Fc 1,150 PSI (PARALLEL TO GRAIN) 2x8 Fb 875 PSI Fc 1,150 PSI (PARALLEL TO GRAIN) Fv 135 PSI (ALL SIZES NOTED ABOVE) Fv 135 PSI (ALL SIZES NOTED ABOVE) E 1,400 KSI (ALL SIZES NOTED ABOVE) BOARDWALK - SOUTHERN YELLOW PINE SELECT STRUCTURAL 2x10 Fb 2,050 PSI Fc 1,850 PSI (PARALLEL TO GRAIN) 2x12 Fb 1,900 PSI Fc 1,800 PSI (PARALLEL TO GRAIN) Fv 175 PSI (ALL SIZES NOTED ABOVE) E 1,800 KSI (ALL SIZES NOTED ABOVE) STAGE LOUVERS- WESTERN RED CEDAR SELECT STRUCTURAL 2x10 Fb 1,100 PSI Fc 1,000 PSI (PARALLEL TO GRAIN) 2x12 Fb 1,000 PSI Fc 1,000 PSI (PARALLEL TO GRAIN) Fv 155 PSI (ALL SIZES NOTED ABOVE) E 1,100 KSI (ALL SIZES NOTED ABOVE) 3. ALL WOOD BEARING ON CONCRETE, MASONRY, OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED SOUTHERN PINE. ALL ENGINEERED LUMBER BEARING ON CONCRETE, MASONRY, OR EXPOSED TO WEATHER SHALL BE CHEMICALLY TREATED OR WOLMANIZED TO MEET AWWA USE CATEGORY 3 OR 4. 4. ALL SILL PLATES SHALL BE ANCHORED TO CONCRETE OR MASONRY WITH A MINIMUM 1/4" DIAMETER ANCHOR BOLT (6" MIN EMBED) @48" OC , UNO. 5. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, DUCTWORK, ETC., UNLESS SPECIFICALLY NOTED OR DETAILED. 6. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER. 7. ALL BOLTS SHALL BE RE-TIGHTENED PRIOR TO APPLICATION TO GYPSUM WALLBOARD, PLYWOOD, ETC. 8. ALL BOLTS BEARING ON W/WS SHALL HAVE WASHERS UNDER HEAD AND/OR NUT. 9. 2x SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, ENDS OF CANTILEVERS, AND HALFWAY BETWEEN SUPPORTS. CROSS BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0"OC MAXIMUM. FOR ALL JOISTS AND RAFTERS MORE THAN 8" IN DEPTH, 2x3 OR APPROVED METAL TYPE BRIDGING MAY BE USED. 10. ALL WALLS SHALL BE COMMON UNLESS NOTED OTHERWISE. 11. STANDARD WOOD CONNECTORS MUST BE PROVIDED BY THE GENERAL CONTRACTOR FOR WOOD FRAMED MEMBERS. INTERIOR FRAMING CONNECTORS MUST BE G90 GALVANIZED ZINC CONNECTORS. EXTERIOR FRAMING CONNECTORS MUST BE G185 GALVANIZED ZINC COATING, MINIMUM. 12. ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITIONS OF SERVICE. EXPOSED BEAMS SHALL BE ARCHITECTURAL GRADE. ALL OTHERS SHALL BE INDUSTRIAL GRADE. MEMBERS SHALL BE INDIVIDUALLY WRAPPED.	

SYMBOL LEGEND		
SYMBOL	MEANING	REFERENCE
<No>	TOP OF MAT, FOOTING, GRADE BEAM, PILE CAP, OR DRILLED PIER.	---
<No> <No>	STEP IN TOP OF FOOTING ELEVATION.	---
	DEPRESSED OR RAISED SLAB ELEVATION.	---
	SLOPED / STEPPED SLAB.	---
[No]	TOP OF WALL OR PEDESTAL.	---
F#	SPREAD FOOTING TYPE.	---
P#	CONCRETE PEDESTAL TYPE.	---
PC#	PILE CAP TYPE.	---
GB# WxD	CONCRETE GRADE BEAM TYPE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).	---
	SPOT ELEVATION.	---
	SPAN DIRECTION OF METAL ROOF DECK. CONSTRUCTION SHALL BE 1 1/2"-20GA METAL ROOF DECK.	---
	SPAN DIRECTION OF METAL ROOF DECK. CONSTRUCTION SHALL BE 3"-18GA METAL ROOF DECK.	---
	SPAN DIRECTION OF COMPOSITE SLAB. CONSTRUCTION SHALL BE 3 1/4" LIGHT WEIGHT CONCRETE ON 2"-20GA COMPOSITE METAL DECK (5 1/4" TOTAL THICKNESS).	---
	SPAN DIRECTION OF COMPOSITE SLAB. CONSTRUCTION SHALL BE 4 1/2" NORMAL WEIGHT CONCRETE ON 2"-20GA COMPOSITE METAL DECK (6 1/2" TOTAL THICKNESS).	---
(No) [+No]	TOP OF STEEL/JOIST BEARING ELEVATION TOP OF STEEL ABOVE STEEL/JOIST BEARING ELEVATION.	---
V#	STEEL BEAM DESIGN END VERTICAL SHEAR REACTION (IN KIPS).	---
H#	STEEL BEAM DESIGN END HORIZONTAL SHEAR REACTION (IN KIPS).	---
A#	STEEL BEAM DESIGN END AXIAL REACTION (IN KIPS). LOAD SHALL BE REVERSIBLE (TENSION OR COMPRESSION).	---
M#	STEEL BEAM DESIGN END MOMENT REACTION (IN KIP-Feet). LOAD SHALL BE REVERSIBLE, UNO.	---
T#	STEEL BEAM DESIGN END TORSION REACTION (IN KIP-Feet). LOAD SHALL BE REVERSIBLE, UNO.	---
CB# WxD	CONCRETE BEAM TYPE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).	---
CJ# WxD	CONCRETE JOIST TYPE. "W" INDICATES NOMINAL JOIST WIDTH AND "D" INDICATES JOIST DEPTH (IN INCHES).	---
PT# WxD	POST-TENSIONED CONCRETE BEAM TYPE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).	---
	STUD RAIL REINFORCING TYPE.	---
MP#	MASONRY PILASTER TYPE.	---
ML#	MASONRY LINTEL TYPE.	---
BP#	STEEL BEARING PLATE TYPE.	---
C#	WOOD COLUMN TYPE. ALL COLUMNS ARE TO BE EXTENDED TO THE FOUNDATION LEVEL WHETHER SHOWN OR NOT.	---
H#	WOOD HEADER TYPE.	---
	MOMENT CONNECTION	---
	VERTICAL FRAME TYPE.	---
CSW#	CONCRETE SHEAR WALL TYPE.	---
MSW#	MASONRY SHEAR WALL TYPE.	---
SSW#	METAL STUD SHEAR WALL TYPE.	---
WSW#	WOOD SHEAR WALL TYPE.	---

N
M
L
K
J
I
H
G
F
E
D
C
B
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17



PROJECT INFORMATION

**NORTH
WATERFRONT
PARK**
10 COWAN STREET
WILMINGTON, NORTH CAROLINA

CITY OF WILMINGTON
Community Services Department
PO Box 1810, Wilmington, NC 28402
HARGREAVES JONES
Landscape Architecture = L
180 Varick Street, Suite 204, New York, NY 10014
www.hargreavesjonesla.com

Architecture = A
SAGE & COOMBE ARCHITECTS
12-16 Veslly St, 5th Floor, New York, NY 10013
www.sageandcoombe.com

Acoustic/Theater/AV = AT
OAP.P.C.
77 Water Street, New York NY 10015
www.arup.com

Civil Engineering = C
Structural Engineering = S
Geotechnical Engineering = G
STEWART
223 S. West St., Suite 1100, Raleigh, NC 27603
www.stewartinc.com

Environmental Engineering = EE
SOIL & ENVIRONMENTAL CONSULTANTS, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615
www.sandec.com
EAGLE RESOURCES
PO Box 11189, Southport, NC 28461
www.eagleresources.com

Irrigation = I
CLARK IRRIGATION DESIGN & CONSULTING, INC
PO Box 650, Lavonia, GA 30553
www.clarkirrigationdesign.com

Soil Design = LS
LANDIS, PLLC
3908 Bentley Brook Dr. Raleigh, NC 27612
www.landispllc.com

Mechanical Engineering = M
Electrical Engineering = E
Plumbing Engineering = P
Fire Protection = FP
CHEATHAM & ASSOCIATES, PA
3412 Enterprise Drive, Wilmington NC 28405
www.cheathampa.com

Marine Structural Engineering = SM
ANDREW CONSULTING ENGINEERS
3511 Peachtree Avenue, Suite 300, Wilmington, NC 28403
www.andrewengineers.com

Water Fountain Design = WF
COMMERCIAL AQUATIC ENGINEERING
6500 Carlson Drive, Eden Prairie, MN 55346
www.fountaindesigns.com

Lighting Design = EL
TILLOTSON DESIGN ASSOCIATES
40 North Street, Room 703, New York NY 10013
www.tillotsondesign.com

SEAL/SIGNATURE



ISSUE/REVISIONS

Firm License #C-1051

NO.	DESCRIPTION	DATE
1	30% CONSTRUCTION DOCUMENTS P3/P4	06/07/2019
2	60% CONSTRUCTION DOCUMENTS P4	07/03/2019
3	95% CONSTRUCTION DOCUMENTS P4	12/04/2019

KEY MAP

SHEET INFORMATION

Project No.: NWP 1701
Drawn By: DJ, TM
Checked By: JF
Date: 12/04/2019
Scale:

SHEET TITLE

**PARK SUPPORT 3D
VIEW**

STRUCTURAL

SHEET NO.

S-021 - P4

A



S-130 - P4

**NORTH
WATERFRONT
PARK**
10 COWAN STREET
WILMINGTON, NORTH CAROLINA

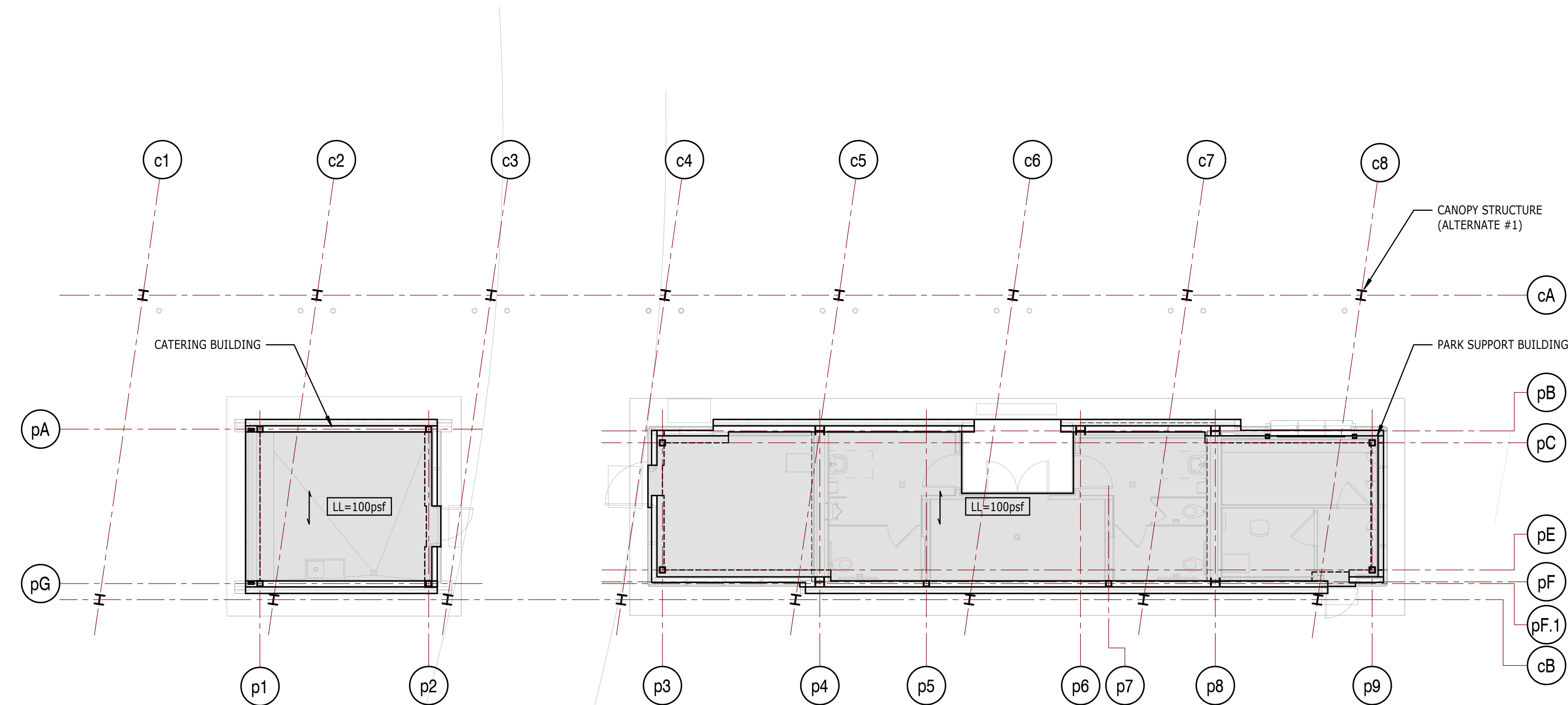
Lighting Design = EL
TILLOTSON DESIGN ASSOCIATES
 40 Worth Street, Room 703, New York NY 10013
www.tillotsondesign.com

[illegible]

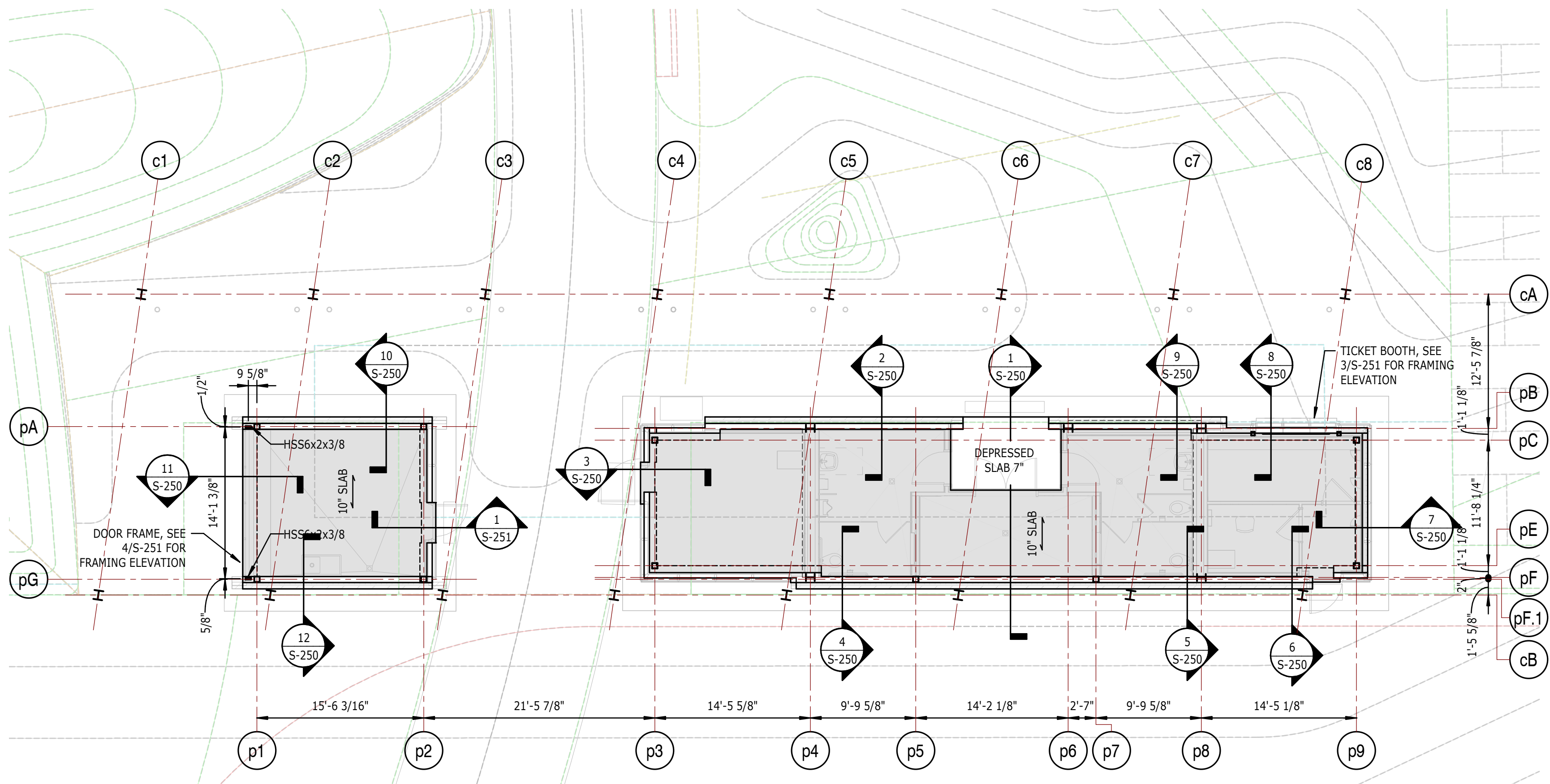
Project No.: NWP 1701
 Drawn By: DJ, TM
 Checked By: JF
 Date: 12/04/2019
 Scale: 1/8" = 1'-0"

PARK SUPPORT SLAB ON GRADE AND LOADING PLANS STRUCTURAL

S-131 - P4



2
S-131
PARK SUPPORT SLAB ON GRADE LOADING PLAN
 1/8" = 1'-0"
 NOTES:
 1. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS, SEE S-020.



1 **PARK SUPPORT SLAB ON GRADE PLAN**
 S-131 $1/8" = 1'-0"$
 NOTES:
 1. DO NOT CUT SLAB ON GRADE. ALL UTILITIES MUST BE IN PLACE BEFORE PLACEMENT OF SLAB ON GRADE.

**NORTH
WATERFRONT
PARK**
10 COWAN STREET
WILMINGTON, NORTH CAROLINA

Lighting Design = EL
TILLOTSON DESIGN ASSOCIATES
 40 Worth Street, Room 703, New York NY 10013
www.tillotsondesign.com

Firm License #C-105

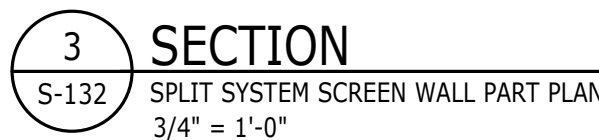
KEY MAP



SHEET TITLE

SHEET NO.

S-132 - P4



T/STEEL LOW ANGLE (24'-9 5/8")
T/STEEL HIGH ANGLE (27'-4")

NORTH WATERFRONT PARK

10 COWAN STREET
WILMINGTON, NORTH CAROLINA

Firm License #C-1051

KEY MAP



SHEET TITLE

SHEET NO.

S-135 - P4



1/8" = 1'-0"

NOTES:

1. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOLS, SEE S-020

**NORTH
WATERFRONT
PARK**
10 COWAN STREET
WILMINGTON, NORTH CAROLINA

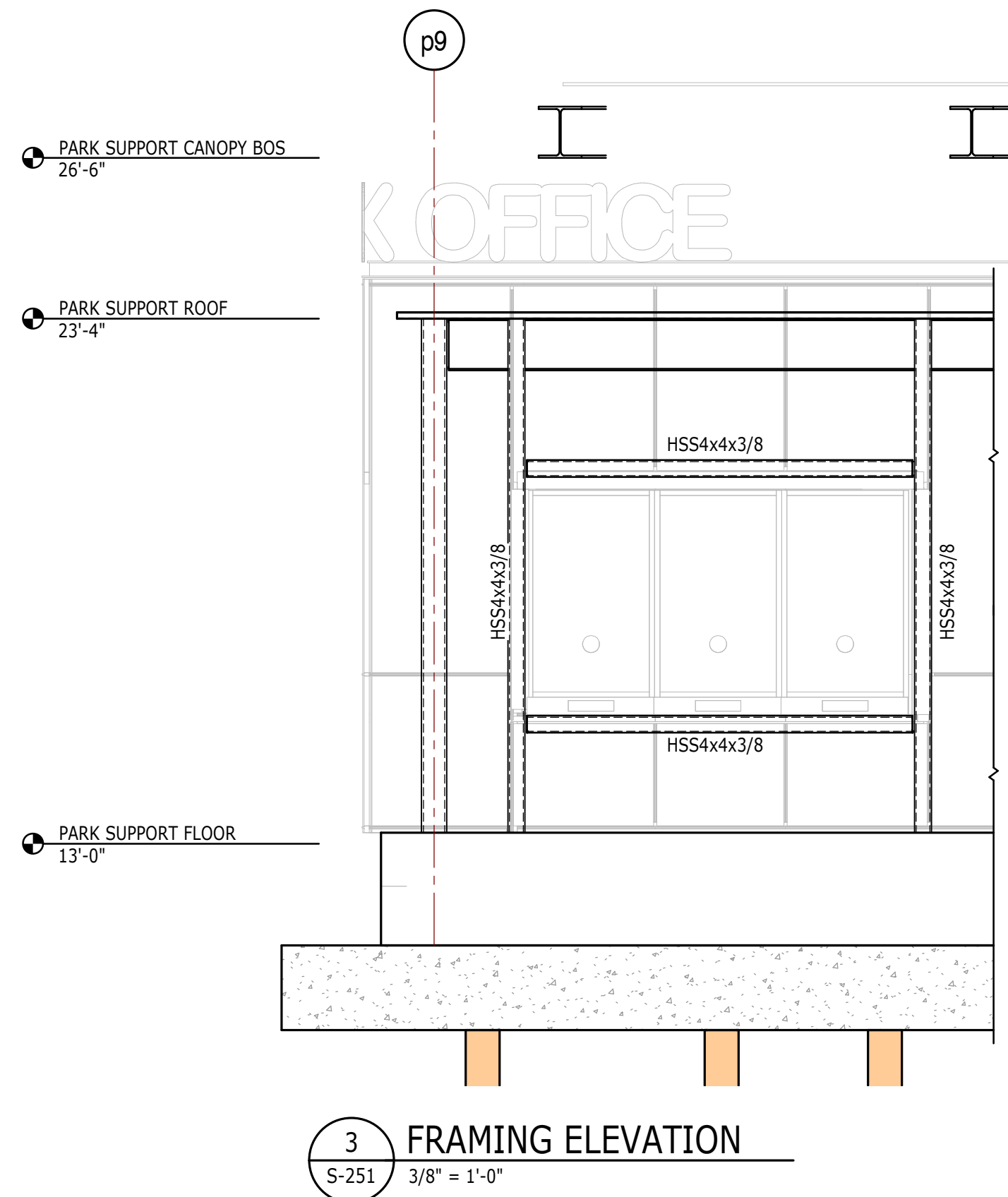
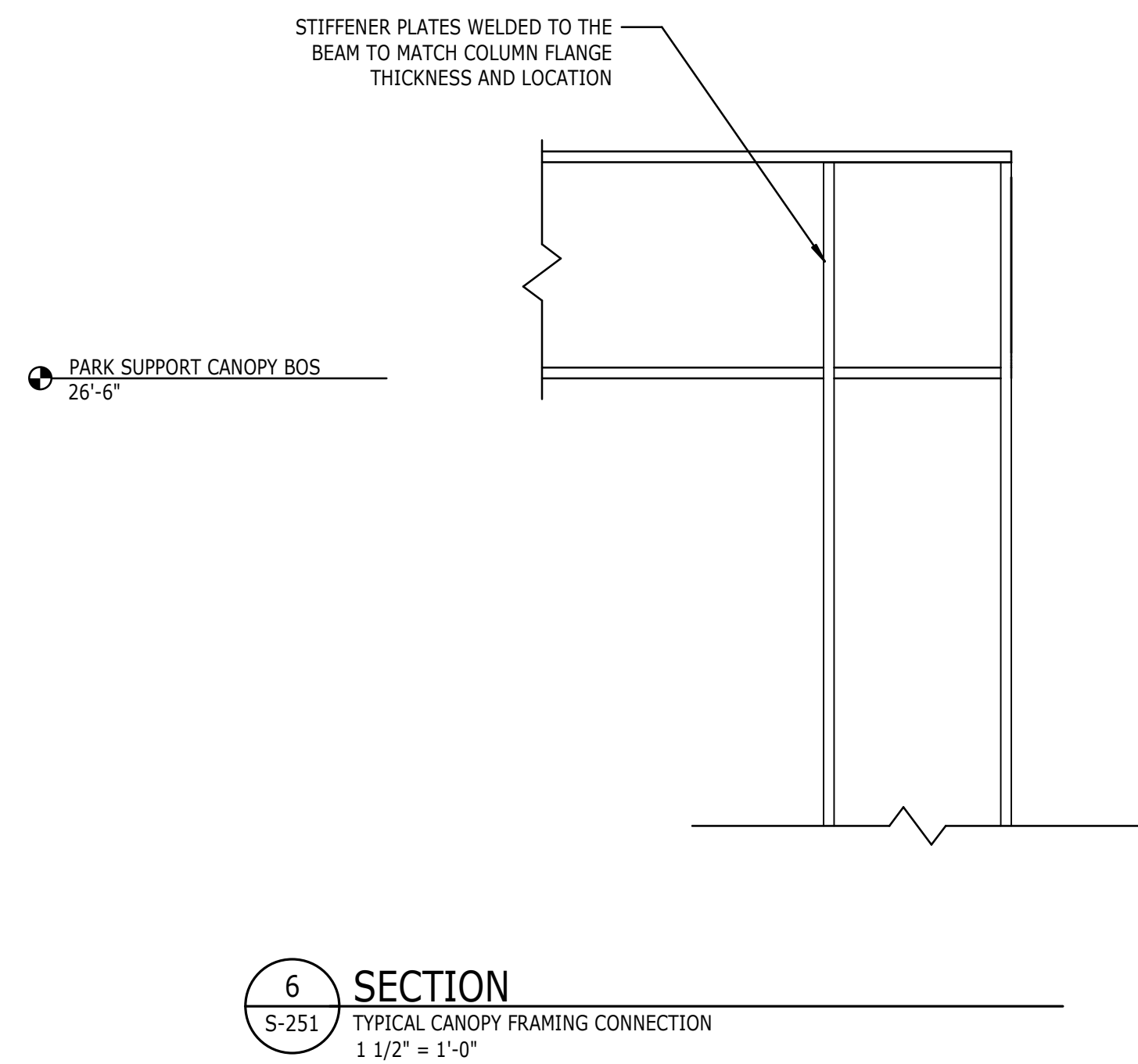
[illegible]

SHEET TITLE

SHEET NO.

S-250 - P4

A

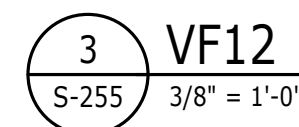
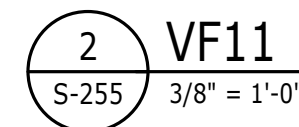


S-251 - P4

A



VERTICAL FRAME ELEVATION NOTES



S-255 - P4

A

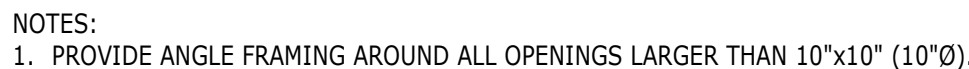


3 TYPICAL
S-523 $3/4" = 1'-0"$

- SPAN "D1" - 1 1/2" METAL ROOF DECK

- NOTES:
1. ATTACH DECK TO SUPPORTING MEMBERS WITH SELF-DRILLING SELF-TAPPING SCREWS. HEAD SCREWS USE 1/2" DIA. FOR DECK ATTACHMENT AND #10-16 FOR SIDELAP ATTACHMENT.
 2. AT DECK BEARING SUPPORTS, PROVIDE SCREWS 812°C (36/4 PATTERN).
 3. SUPPLY SUBSTRATE WITH MINIMUM 1/2" THICKNESS. PROVIDE SCREWS @120°C, TYPICAL.
 4. PROVIDE 1/2" MINIMUM PERIMETER EDGE, 1/2" MIN. END JOINTS. TYPICAL WELDING OF SIDELAP IS NOT PERMITTED FOR 25GA DECK.
 5. MINIMUM DECK PROPERTIES: 1-1/2" 20G; 10-0.212 114W; ST-0.234 114W; 10-0.212 114W; 10-0.212 114W; 10-0.212 114W.
 6. DECK SHALL BE CONTINUOUS OVER (2) OR MORE SPANS, TYPICAL.
 7. 5/8" Ø RUDDLE WELD MAY BE USED FOR DECK ATTACHMENT TO SUPPORTS AS LONG AS IT IS SPECIFIED ABOVE. SIDELAP FASTENING MUST BE SCREWED AS DESCRIBED ABOVE.
 8. CONTRACTOR OPTION TO SUBMIT MECHANICAL FASTENERS BY HILTI, SIMONS STRONG-TIE, OR APPROVED EQUIV. SUBSTITUTION REQUESTS FOR PRODUCTS SUBSTITUTED MUST BE REVIEWED BY THE ENGINEER OF RECORD. FOR EVERY SUBSTITUTION, THERE MUST BE THE SAME CODE REQUIREMENTS FOR DECK ATTACHMENT, POSSESS A FM GLOBAL APPROVED PRODUCT, BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS THAT MEET THE CODE REQUIREMENTS FOR DECK ATTACHMENT, POSSESS A FM GLOBAL APPROVED PRODUCT, BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. FOR THE APPROPRIATE APPLICATION, SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES OF THE DESIGN BASIS PRODUCT. SUBSTITUTION REQUESTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR PRODUCT INSTALLATION TRAINING AND A LETTER SHALL BE SUBMITTED TO THE EOR INDICATING TRAINING HAS TAKEN PLACE. FASTENERS SHALL BE INSTALLED AND INSTALLED USING THE MANUFACTURER'S DELIVERY TOOL AND FOLLOWING MANUFACTURER'S INSTRUCTIONS.

1	TYPICAL
S-523	3/4" = 1'-0"



2 TYPICAL
S-523 $3/4" = 1'-0"$

Firm License #C-105

KEY MAP

Scale: $3/4" = 1'-0"$

S-523 - P4