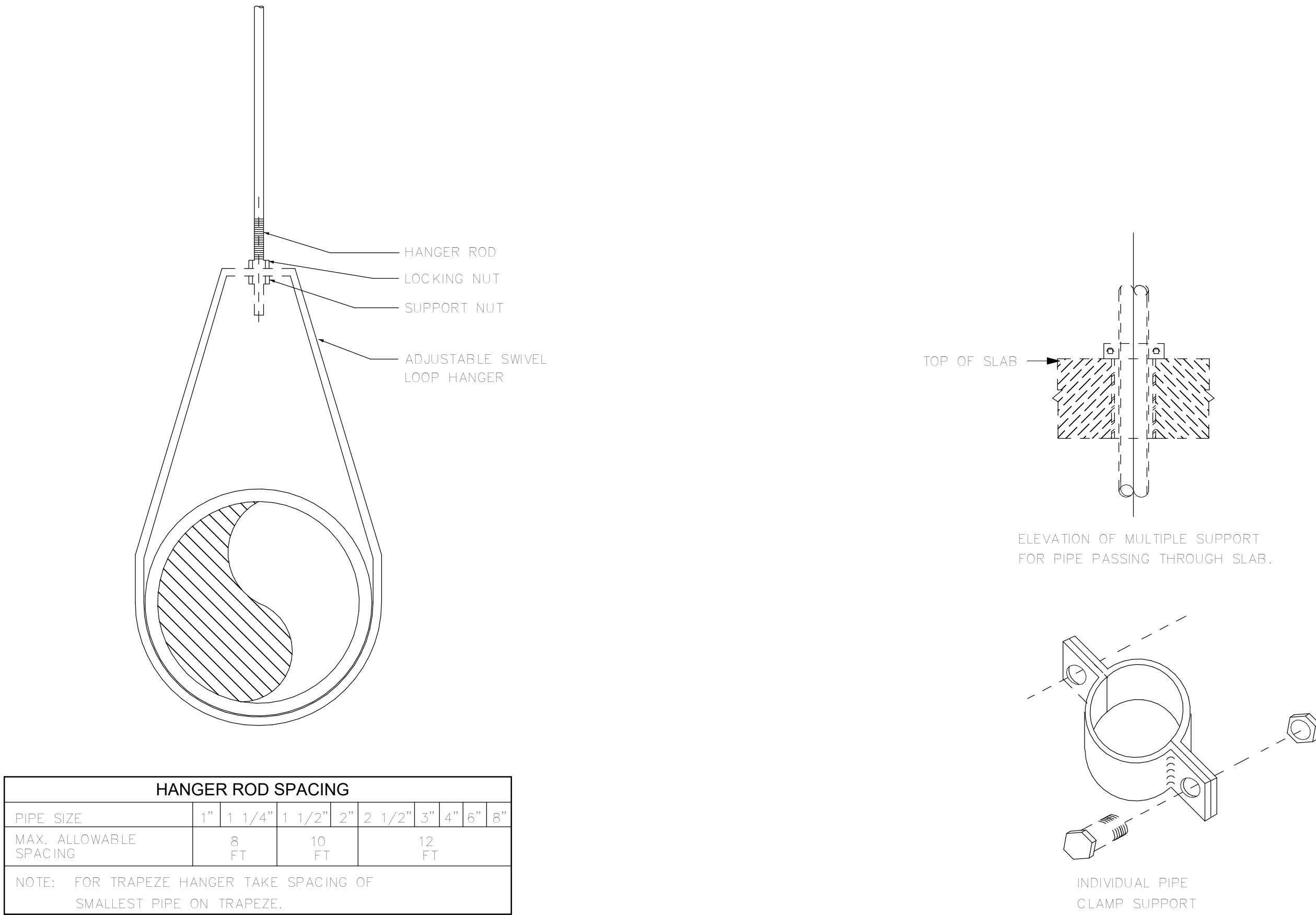


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2 ADJUSTABLE SWIVEL LOOP HANGER DETAIL
NO SCALE

1 VERTICAL PIPE SUPPORT DETAIL- FP
NO SCALE

FIRE PROTECTION LEGEND		
SYMBOL	DESCRIPTION	
FP	FIRE PROTECTION	
D	DRAIN	
DROP RISE	DROP OR RISE	
FLOW ARROW	FLOW ARROW	
VALVE IN RISER	VALVE IN RISER	
BALL VALVE	BALL VALVE	
BUTTERFLY VALVE	BUTTERFLY VALVE	
STRAINER	STRAINER	
PIPE SIZE	PIPE SIZE	
PIPE SYSTEM ABBREVIATION	PIPE SYSTEM ABBREVIATION	
RISER DESIGNATION	RISER DESIGNATION	
UTILITY RISER IDENTIFICATION	UTILITY RISER IDENTIFICATION	

FIRE PROTECTION SHEET LIST	
Sheet Number	Sheet Name
FP001	FIRE PROTECTION LEGEND, SCHEDULES AND DETAILS
FP101	FIRST LEVEL - FIRE PROTECTION PLAN
FP102	SECOND LEVEL - FIRE PROTECTION PLAN
FP103	THIRD LEVEL - FIRE PROTECTION PLAN
FP104	FOURTH LEVEL - FIRE PROTECTION PLAN
FP105	FIFTH LEVEL - FIRE PROTECTION PLAN
FP201	FIRE PROTECTION PIPING ISOMETRIC

FIRE PROTECTION GENERAL NOTES	
NO.	DESCRIPTION
1	PIPE HANGERS AND CONCRETE INSERTS UTILIZED FOR FIRE PROTECTION THIS PROJECT SHALL BE PROVIDED BY THE FIRE PROTECTION SUB-CONTRACTOR. THIS INCLUDES ALL SUPPLEMENTAL STEEL, ETC.
2	ALL LINTELS REQUIRED IN MASONRY AND STUD WALLS FOR PIPING PENETRATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
3	COORDINATE VERTICAL PIPING WITH ARCHITECTURAL PLANS FOR EXACT LOCATION OF RISER. IF THERE IS A CONFLICT, NOTIFY THE ARCHITECT PRIOR TO INSTALLATION.
4	ALL SPRAY ON FIREPROOFING WHICH SETTLES ON FIRE PROTECTION PIPING SHALL BE REMOVED BY THE GENERAL CONTRACTOR.
5	HYDRAULIC CALCULATIONS AND FABRICATION SHOP DRAWINGS BASED ON ACTUAL CODE REFINEMENTS SHALL BE A PART OF THIS CONTRACT, FURNISHED BY THE FIRE PROTECTION SUB-CONTRACTOR.
6	THE FIRE PROTECTION DRAWINGS ARE APPLICABLE TO THE GENERAL CONTRACT.
7	COORDINATE ALL WORK OUTSIDE OF A DESIGNATED AREA OF GENERAL CONSTRUCTION WITH THE OWNER OR THE ARCHITECTS REPRESENTATIVE.
8	THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANUP AND DEBRIS REMOVAL OF ITEMS GENERATOR BY HIS WORK. ALL TRASH BINS USED SHALL BE INDEPENDENT OF THE OWNERS.
9	THE REQUIRED SHOP DRAWINGS SHALL SPECIFICALLY INDICATE ALL EXPOSED PIPING BY NOTE IN PUBLIC AREAS. THE CONTRACTOR SHALL PROVIDE DETAILS INDICATING THE METHOD OF ROUTING, HANGING AND COORDINATION WITH THE OTHER BUILDING COMPONENTS. THE EXPOSED PIPING SHALL BE ROUTED AS HIGH AS POSSIBLE AND IN AN ORDERLY MANNER.
10	THE FIRE PROTECTION SUB-CONTRACTOR SHALL COORDINATE THE PIPE ROUTING WITHIN THE ELECTRICAL ROOMS TO AVOID CROSSING OVER ELECTRICAL PANELS AND ELECTRICAL EQUIPMENT. THE FIRE PROTECTION SUB-CONTRACTOR SHALL SHOW THE ELECTRICAL PANELS AND ELECTRICAL EQUIPMENT ON THE REQUIRED SHOP DRAWING FLOOR PLANS AS CONFIRMATION OF THIS COORDINATION EFFORT.
11	THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SCOPE OF WORK BETWEEN THE TRADES PRIOR TO PERFORMING ANY WORK. REFER TO THE SPECIFICATIONS AND DETAILS FOR INSTALLATION INSTRUCTIONS.
12	ALL FIRE PROTECTION HANGERS, INSERTS, CLAMPS, STANCHIONS, BRACKETS, AND ALL THREAD RODS SHALL BE GALVANIZED.
13	NO PIPE PENETRATIONS OF STRUCTURAL MEMBERS, EXCEPT AS NOTED, ARE PERMITTED WITHOUT THE APPROVAL OF THE ARCHITECT/ENGINEER.
14	PROVIDE PIPE PENETRATIONS OF FIRE OR SMOKE PARTITIONS OR WALLS AND MAKE FIRE AND SMOKE TIGHT.
15	PROVIDE UL LISTED THROUGH PENETRATION FIRE STOPPING ASSEMBLIES FOR EACH PENETRATION OF FIRE-RATED ASSEMBLIES.

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SCO ID NUMBER: 18-19226-01A
CODE: 441828
ITEM: 301

CONTRACTOR
Balfour Beatty Construction

DESIGNER

CLARK NEXSEN
1523 ELIZABETH AVENUE, SUITE 300
CHARLOTTE, NORTH CAROLINA 28204
704-377-8800

CLARK NEXSEN LICENSE NUMBER: C-1028

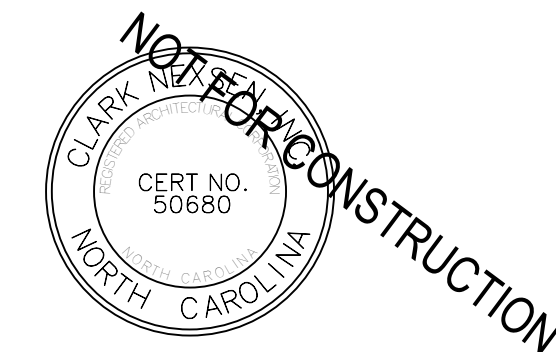
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KEY PLAN

SHEET

FIRE PROTECTION LEGEND, SCHEDULES AND DETAILS

FP001

DESIGN: AWB
DRAWN: AWB
REVIEW: CN

CN 8112

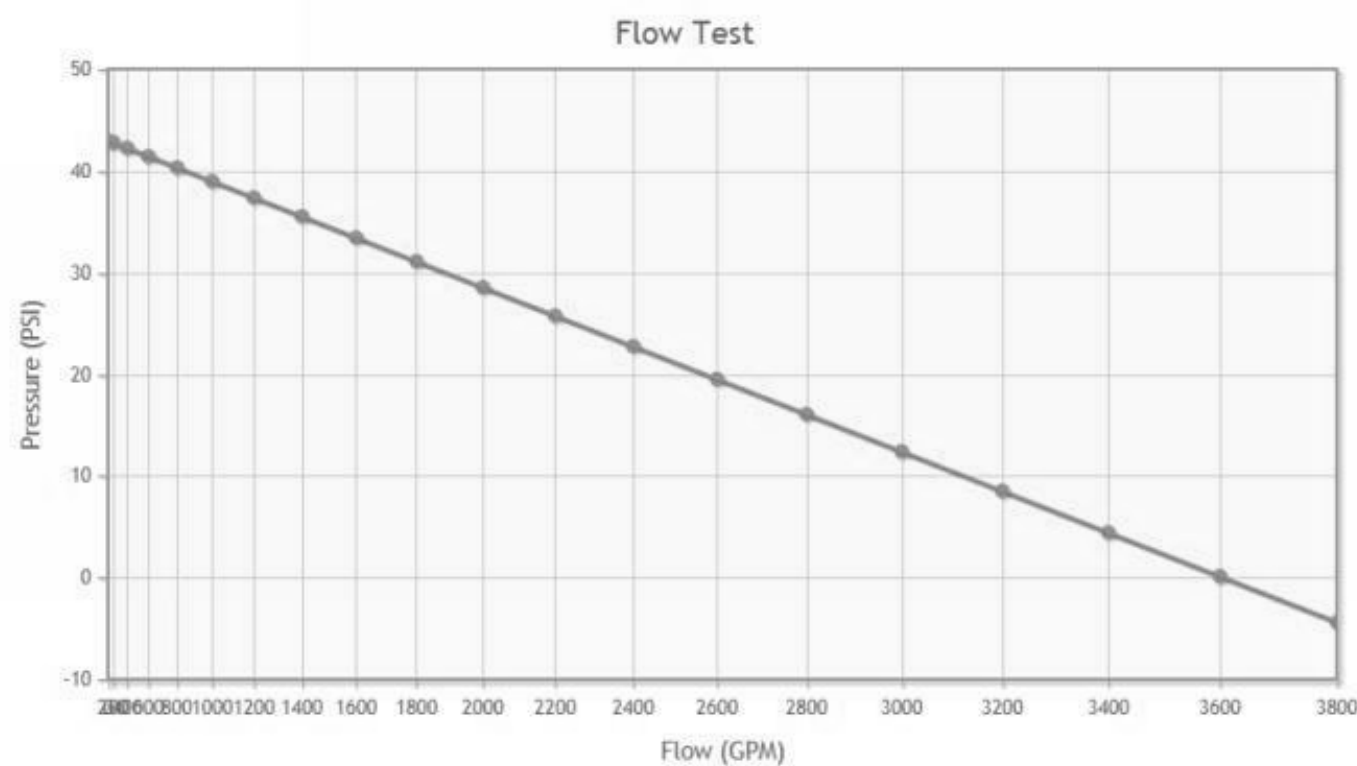
FIRE PROTECTION SYSTEM DESIGN CRITERIA

WATER SUPPLY INFORMATION		
HYDRANT NO.(LOCATION):	HYDRANT NO. WH 0037 - FLOW HYDRANT	
HYDRANT NO.(LOCATION):	HYDRANT NO. WH 0074 - PRESSURE HYDRANT	
STATIC PRESSURE (PSIG):	53	
RESIDUAL PRESSURE (PSIG):	49	
HYDRANT NO.(LOCATION):	FLOW HYDRANT - LOCATED ALONG RIEGEL ROAD IN FRONT OF HERBERT FISHER FIELD HOUSE	
PITOT PRESSURE (PSIG):	44 PSI	
FLOW (GPM):	1110	
CALCULATED FLOW AT 20 PSIG (GPM):	2569 (ADJUSTED FLOW PER THE SCO PRESSURE AND FLOW REDUCTIONS. REFER TO THE ADJACENT GRAPH)	
DISTANCE TO TEST GAUGES (FT):		
HORIZONTAL:	NA FEET	
ELEVATIONS:		
TEST HYDRANT:	XXX.00	
BASE OF RISER:	XXX.00	
SOURCE OF WATER SUPPLY :		
MUNICIPAL DEAD END	NA	
MUNICIPAL RECIRCULATION	MUNICIPAL 10" WATER MAIN	
OTHER:	NA	
TESTED BY:	DAN SHOOK - McKIM & CREED	
TEST DATE:	01.16.19 @ 2:15 PM	
BACKFLOW PREVENTION SERVICE :	NA	
NFPA HAZARD CLASSIFICATION		
STANDPIPES MANUAL DRY CLASS 1 STANDPIPE SYSTEM		
CODES AND STANDARDS		
SYSTEM COMPONENT	APPLICABLE NFPA STANDARD/YEAR EDITION OR OTHER APPLICABLE CODES OR STATUTES	
FIRE PROTECTION	2018 NORTH CAROLINA FIRE PREVENTION CODE, STATE CONSTRUCTION OFFICE - WATER BASED FIRE PROTECTION SYSTEMS AND GUIDELINES AND POLICES 2014	
SPRINKLER SYSTEM	NA	
STANDPIPES	NFPA-14 - 2013 EDITION - HYDRAULICALLY CALCULATE THE MANUAL WET STANDPIPE BASED ON THE RESPONDING PUMPER TRUCK REQUIREMENTS AND 125 PSI AT THE HYDRAULICALLY REMOTE 2-1/2" HOSE VALVE.	
FIRE PUMP	NA	
PRIVATE MAINS	NA	
NOTES		
SPRINKLER CONTRACTOR IS REQUIRED TO ORDER A NEW FLOW TEST PRIOR TO SPRINKLER DESIGN IF THE TEST IS ONE YEAR OR MORE OLDER.		
SEISMIC DESIGN CRITERIA		
SEISMIC DESIGN CATEGORY	C	THE FIRE PROTECTION SYSTEM SEISMIC RESTRAINTS SHALL BE DESIGNED AND PROVIDED PER THE REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE.
SEISMIC IMPORTANCE FACTOR	1.0	

THE PRESSURE AND FLOW WERE REDUCED PER THE REQUIREMENTS OF THE SCO GUIDELINES.

Graph Points	
43	Static Pressure
39	Residual Pressure
999	Residual Flow

Data Points	
2569	Flow
20	Pressure



NOTE:

THE AVAILABLE FIRE FLOW AT 20 PSI WAS OBTAINED FROM THE CURRENT HYDRANT TEST DATA ADJUSTED PER THE SCO PRESSURE AND FLOW REDUCTIONS.

FIRE PROTECTION KEYED NOTES	
NO.	DESCRIPTION
S2	2-1/2" FIRE FIRMATHOSE WALL MOUNTED EXPOSED. THE VALVE SHALL BE PROVIDED WITH A 2-1/2" CAP AND CHAIN. SPANNER LUGS. PROVIDE A 2-1/2" NIPPLE BETWEEN THE VERTICAL RISER AND VALVE CONNECTION. THREADS SHALL MATCH THE WILMINGTON FIRE PROTECTION STANDARD.
S3	CHECK VALVE
S17	5" x 9" RIGID NPT STORZ CONNECTION. WALL MOUNTED 30 DEGREE DOWN TURN ANGLE. FORD ALUMINUM CONNECTION. NITRILE GASKETS. 250 PSI RATED. CAP AND CHAIN. POLISHED CHROME FINISH. AMERICAN FIRE BOX & CABINET MODEL S24X30X90R OR EQUIVALENT BY GUARDIAN OR OTC ROEMER
T5	TAMPER SWITCH: THE TAMPER TAMPER SWITCH SHALL BE ELECTRICALLY SUPERVISED WITH THE BUILDING FIRE ALARM SYSTEM.



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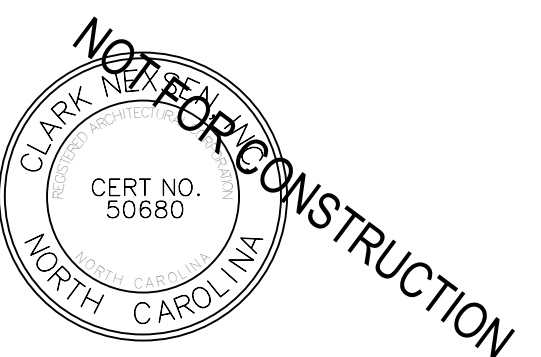
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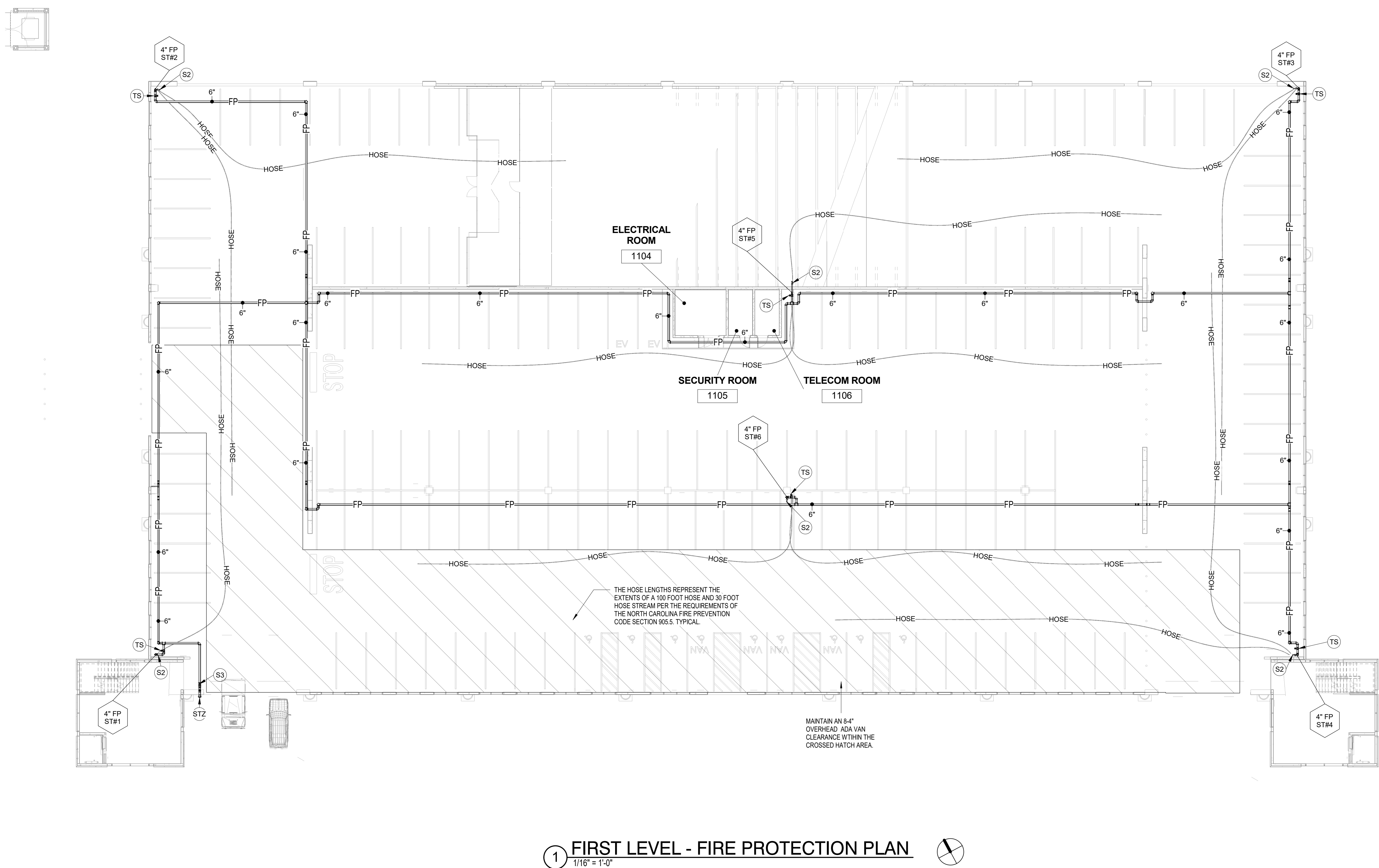
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FIRST LEVEL - FIRE PROTECTION PLAN

FP101

DESIGN: AWB
DRAWN: AWB
REVIEW: CN

CN 8112



1 FIRST LEVEL - FIRE PROTECTION PLAN
1/16" = 1'-0"

1/8" = 1' - 0"

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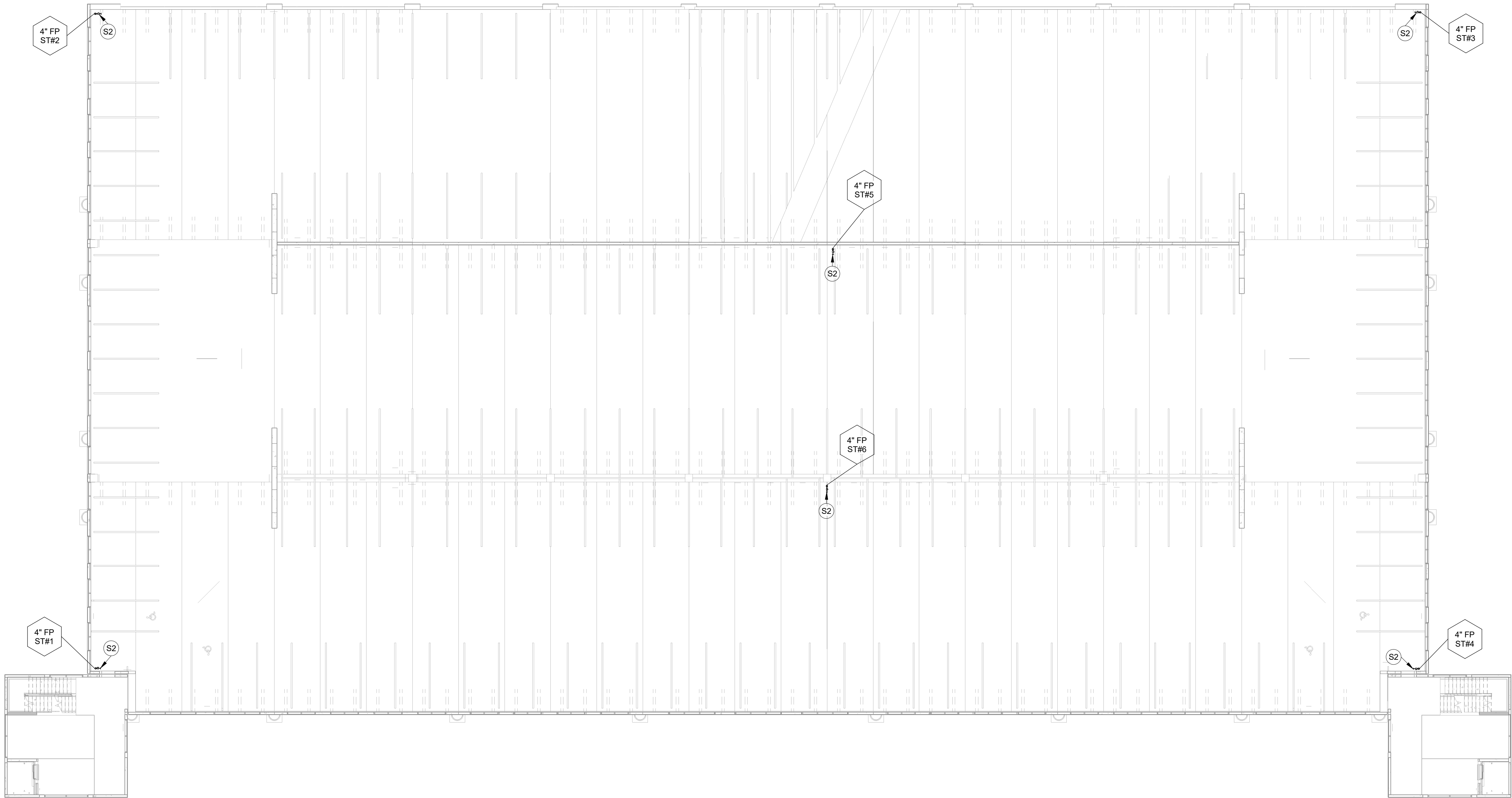
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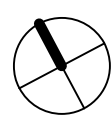
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FIRE PROTECTION KEYED NOTES	
NO.	DESCRIPTION
S2	2-1/2" FIRE DEPARTMENT HOSE VALVE MOUNTED EXPOSED. THE VALVE SHALL BE PROVIDED WITH A 2-1/2" CAP AND CHAIN, SPANNER LUGS. PROVIDE A 2-1/2" NIPPLE BETWEEN THE VERTICAL RISER AND VALVE CONNECTION. THREADS SHALL MATCH THE WILMINGTON FIRE DEPARTMENT STANDARD.



1 THIRD LEVEL - FIRE PROTECTION
1/16" = 1'-0"



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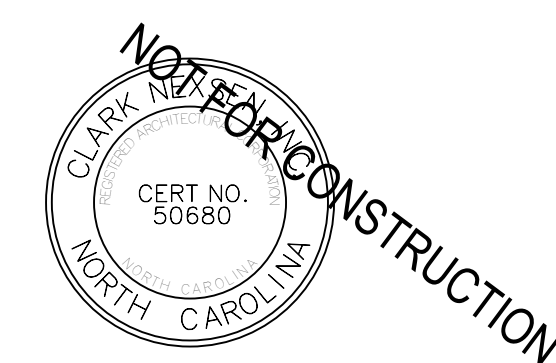


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THIRD LEVEL - FIRE
PROTECTION PLAN

FP103

DESIGN: AWB
DRAWN: AWB
REVIEW: CN

CN 8112

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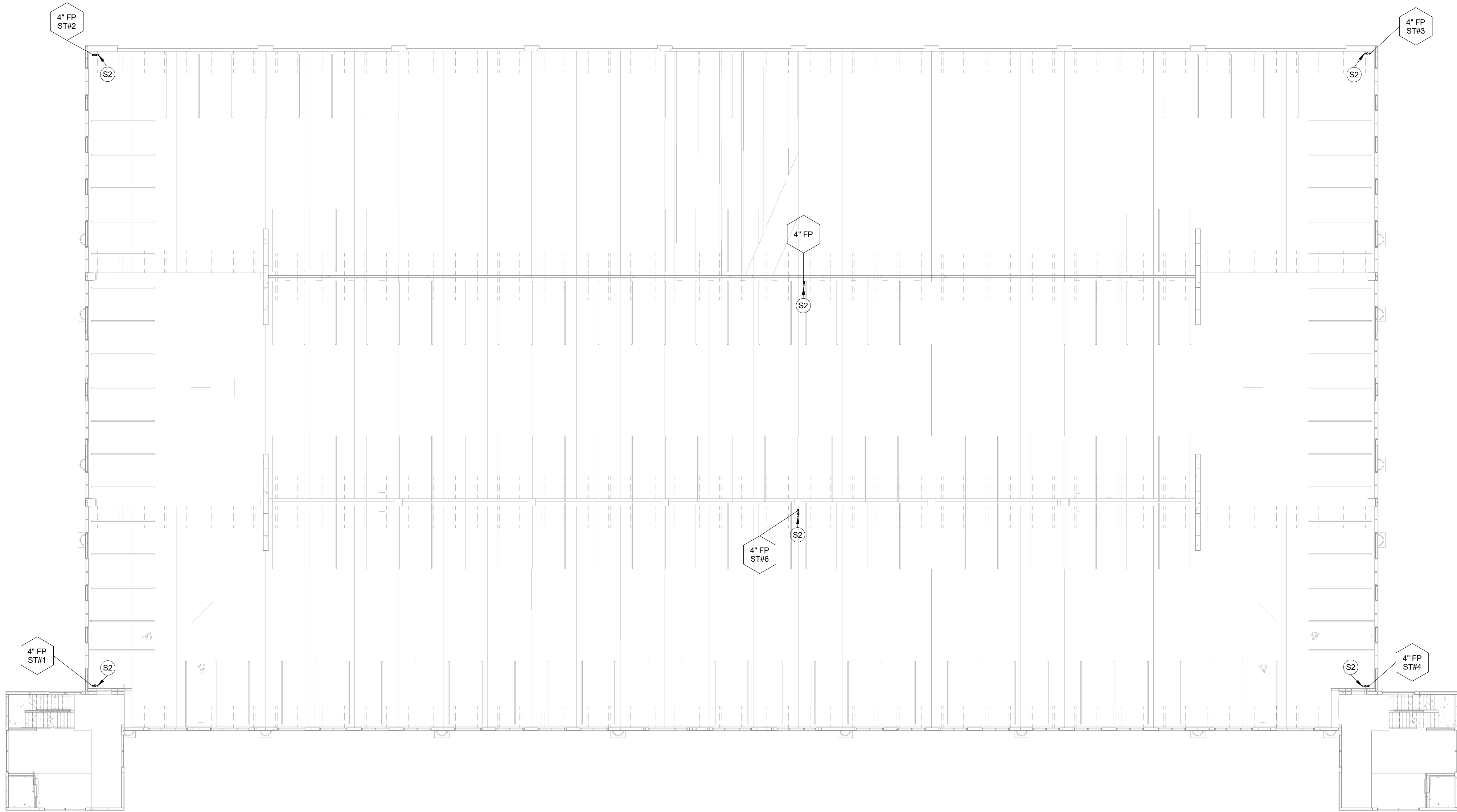
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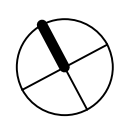
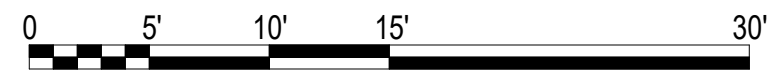
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NO.	DESCRIPTION
S2	2-1/2" FIRE DEPARTMENT HOSE VALVE MOUNTED EXPOSED. THE VALVE SHALL BE PROVIDED WITH A 2-1/2" CAP AND CHAIN, SPANNER LUGS. PROVIDE A 2-1/2" NIPPLE BETWEEN THE VERTICAL RISER AND VALVE CONNECTION. THREADS SHALL MATCH THE WILMINGTON FIRE DEPARTMENT STANDARDS.



① FOURTH LEVEL - FIRE PROTECTION

1/16" = 1'-0"

1/8" = 1' - 0"



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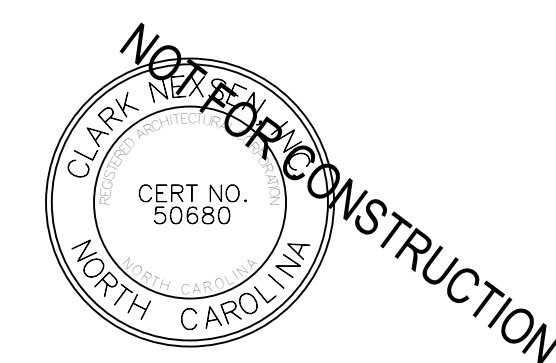
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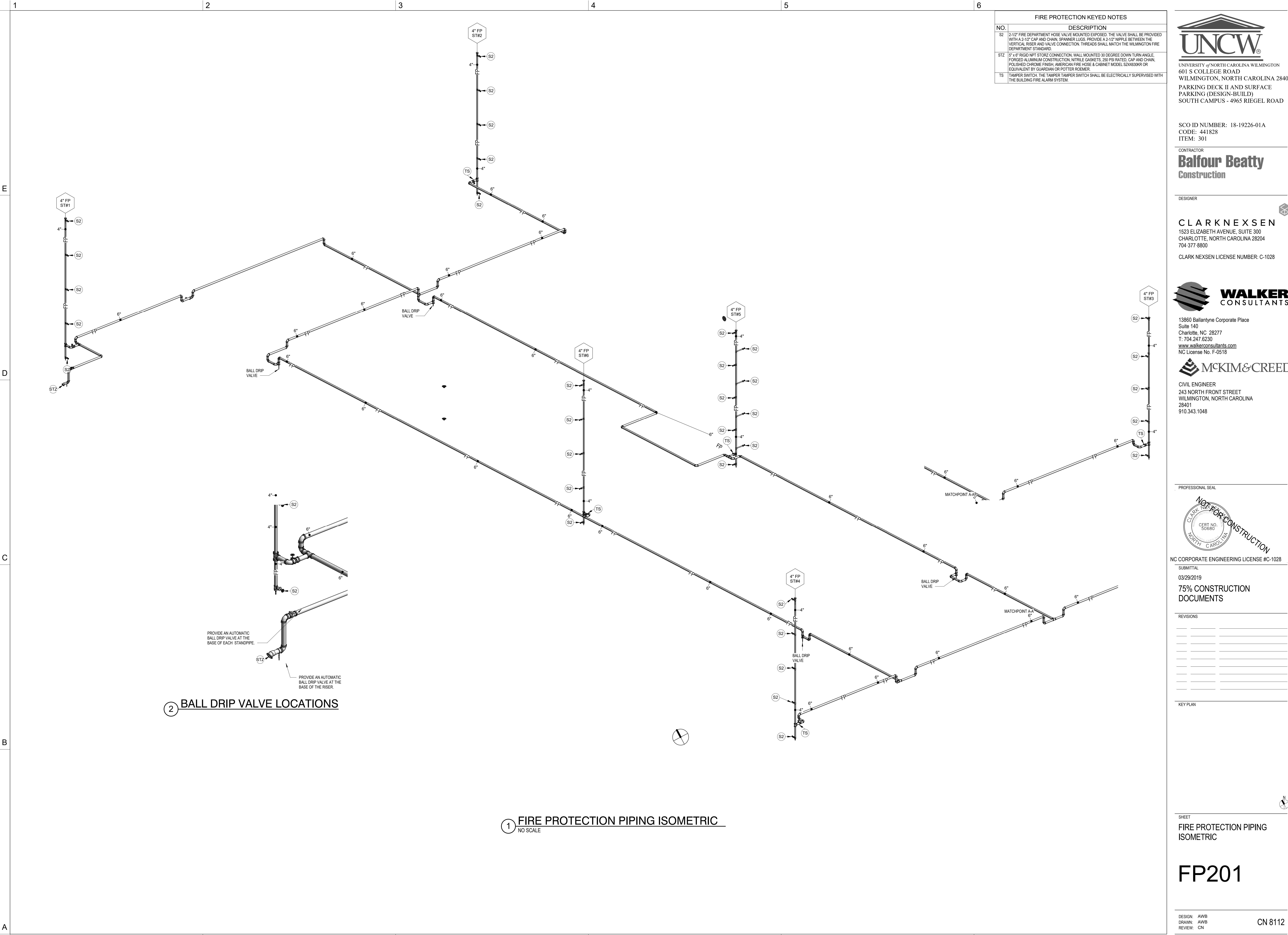
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**FOURTH LEVEL - FIRE
PROTECTION PLAN**

FP104

DESIGN: AWB
DRAWN: AWB
REVIEW: CN

CN 8112



FIRE PROTECTION KEYED NOTES	
NO.	DESCRIPTION
SZ	2-1/2" FIRE DEPARTMENT HOSE VALVE MOUNTED EXPOSED. THE VALVE SHALL BE PROVIDED WITH A 2-1/2" CAP AND CHAIN, SPANNER LUGS. PROVIDE A 2-1/2" NIPPLE BETWEEN THE VERTICAL RISER AND VALVE CONNECTION. THREADS SHALL MATCH THE WILMINGTON FIRE DEPARTMENT STANDARD.
STZ	5" x 6" RIGID NPT STORZ CONNECTION, WALL MOUNTED 30 DEGREE DOWN TURN ANGLE, FORGED ALUMINUM CONSTRUCTION, NITRILE GASKETS, 250 PSI RATED, CAP AND CHAIN, POLISHED CHROME FINISH, AMERICAN FIRE HOSE & CABINET MODEL S24X630KR OR EQUIVALENT BY GUARDIAN OR POTTER ROEMER.
TS	TAMPER SWITCH. THE TAMPER TAMPER SWITCH SHALL BE ELECTRICALLY SUPERVISED WITH THE BUILDING FIRE ALARM SYSTEM.

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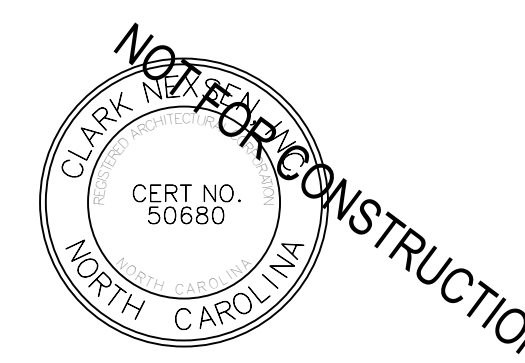
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FIRE PROTECTION PIPING
ISOMETRIC

FP201

DESIGN: AWB
DRAWN: AWB
REVIEW: CN

CN 8112