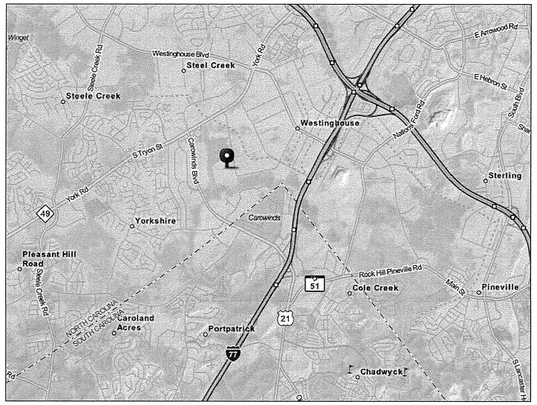
GENCO – RACKING

10325 RIDGE CREEK DRIVE
SUITE T
CHARLOTTE, N.C. 28273

Building / Structural Engineer

WALKER ENGINEERING
Civil/Structural Engineering

WALKER ENGINEERING, PA
315 E WORTHINGTON AVE,
CHARLOTTE, N.C. 28203
(704) 366-5554
(980) 207-2867 FAX
EMAIL: DWALKER@WALKERPA.COM



VICINITY MAP

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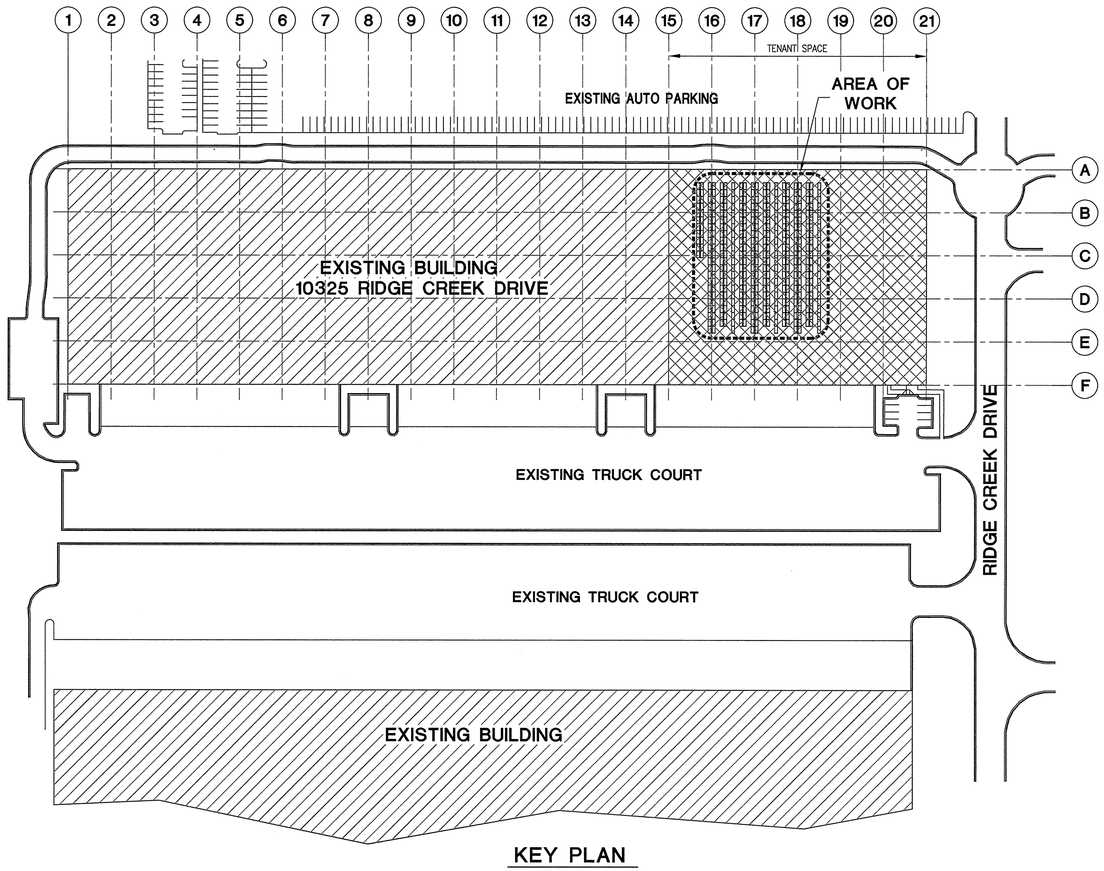

KEY PLAN
NO SCALE

WALKER ENGINEERING
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ENGINEER SEAL

SEAL 014588
ENGINEER
DAVID DILLIS WALKER
12-9-13

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MECKLENBURG COUNTY
NORTH CAROLINA

STEIN FENCE
AND SUPPLY

MECKLENBURG COUNTY
CODE ENFORCEMENT

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GENCO
RACKING

10325-T RIDGE CREEK DR
CHARLOTTE, N.C.

REV	DATE	DRAWN	DESCRIPTION
0	12-9-13	DDW	ISSUED FOR CONSTRUCTION

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SHEET TITLE
COVER SHEET

DRAWN:	DDW		
CHECKED:		SHEET SIZE:	24X36
APPROVED:		PLOT FACTOR:	1:1
PROJECT:	13-164	DATE:	12.9.13
CAD NAME:	13-164-CS	SCALE:	

DRAWING NUMBER
CS

2012 APPENDIX B BUILDING CODE SUMMARY

a. Project Information
Name of Project: GENCO RACKING
Address: 10325 RDGE CREEK DRIVE, SUITE T, CHARLOTTE, NC 28273 Zip Code: 28273
Proposed Use: STORAGE
Owner or Authorized Agent: DAVID WALKER Phone: (704) 366-5554 X 11 EMail: DWALKER@WALKERPA.COM
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction ☒ City Charlotte ☒ County Mecklenburg ☒ State NC

b. Project Summary/Alternative Means of Compliance
Building Description: EXISTING SINGLE STORY OFFICE/WAREHOUSE BUILDING

Scope of work details:
ADDING HIGH PILED STORAGE RACKING

Does this project have air rights, easements, an assumed or deeded property line, no build easements or other circumstances similar to the aforementioned? Yes _____ No X If yes, please provide a copy of the official documents.

Check if applicable to your project:
☐ Industrial equipment with declaration document attached. [See www.Meckpermit.com (Electrical Services)]
☐ RTAP (Revisions to approved plans.) [see www.Meckpermit.com (Commercial Plan Review Services)]

c. Design Professioinal Information – (Required Information for all projects)

LEAD DESIGN PROFESSIONAL: DAVID WALKER, PE

DESIGNER	FIRM	NAME	LICENSE #	PHONE #	E-MAIL
Building	WALKER ENGINEERING, PA	DAVID DILKS WALKER, PE	14588	(704) 366-5554 x11	DWALKER@WALKERPA.COM
Civil	N/A			( ) x	
Electrical	N/A			(704) x	
Fire Alarm	N/A			( ) x	
Plumbing	N/A			( ) x	
Mechanical	N/A			( ) x	
Sprinkler–Standpipe	N/A			( ) x	
Structural	WALKER ENGINEERING, PA	DAVID DILKS WALKER, PE	14588	(704) 366-5554 x11	DWALKER@WALKERPA.COM
Retaining Walls > 5' High	N/A			( ) x	
Other				( ) x	

d. Type of work being performed – (Required information for all projects)
2012 EDITION OF NC CODE FOR: ☐ New Construction ☐ Addition ☒ Upfit
Existing Building: ☐ Reconstruction ☒ Alteration (Previously Occupied Space)

e. Code Information – NCSBC -- (If using the REHAB code please go to section f.)
Building Code: ☒ 2012 North Carolina State Building Code (NCSBC)
☐ 2012 Chapter 34 (attach summary per section b)
☐ 1995 Existing Building Code Vol. 9
New Building: ☐ New Building ☐ Shell Building
☐ First time interior completion (Upfit)
☐ Addition
Existing Building: ☐ Change of use/occupancy
☒ Building tenant space interior completion (Alteration / Renovation)
Original Construction: (Date) 2007 Original Use(s) (Ch. 3): OFFICE / WAREHOUSE

Alteration/Renovation projects: Please use 3411 NCSBC for compliance for Accessibility for Existing Buildings. A letter from the designer will be required to be reproduced on the plans to verify how compliance will be achieved. This can be placed on the plans after the Appendix B.

f. REHAB Code (Existing Building Code)

☐ 2009 NE REHAB CODE Information: (Delineated on the plans)
Check all that apply: ☐ Repair ☐ Renovation ☐ Alteration ☐ Reconstruction ☐ Change of use ☐ Addition

☐ Last know legal occupancy use _____ Historic Property ☐ Yes ☐ No
Original Building Construction Date:_____ Date of Preliminary Meeting: _____

Justification for using the REHAB Code:

Reviewers Notes for Field Inspector:

g. Basic Building Data -- (Required information for all projects)
BUILDING DATA
Construction Type: ☐ I–A ☐ II–A ☐ III–A ☐ IV ☐ V–A
☐ I–B ☒ II–B ☐ III–B ☐ V–B
Mixed Construction ☐ Yes ☒ No Types _____
Sprinklers: ☐ No ☐ Partial ☒ Yes ☒ NFPA 13 ☐ NFPA 13r ☐ NFPA 13d
Standpipes: ☒ No ☐ Yes CLASS ☐ I ☐ II ☐ III ☒ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary) Flood Hazard Area: ☒ No ☐ Yes
Building Height: 36'–0" FEET Number of Stories 1 (ONE) ☒ Unlimited per 507.3
Mezzanine: ☒ No ☐ Yes

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB–TOTAL
6th Floor	0	0	0
5th Floor	0	0	0
4th Floor	0	0	0
3rd Floor	0	0	0
2th Floor	0	0	0
Mezzanine	0	0	0
1st Floor	270,000 SF	0	270,000 SF
Basement	0	0	0
TOTAL	270,000 SF	0	270,000 SF

h. Allowable Area / Occupancy Classification -- (Required Information for all projects)

OCCUPANCY
Primary Occupancy:
☐ Assembly ☐ A–1 ☐ A–2 ☐ A–3 ☐ A–4 ☐ A–5
☐ Business
☐ Educational
☐ Factory/Industrial: ☐ F–1 Moderate ☐ F–2 Low
☐ Hazardous: ☐ H–1 Detonate ☐ H–2 Deflagrate ☐ H–3 Combust ☐ H–4 Health ☐ H–5 HPM
☐ 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
☐ Parking Garage: ☐ Open ☐ Enclosed ☐ Repair
☐ Utility and Miscellaneous

Accessory Occupancies:
☐ Assembly ☐ A–1 ☐ A–2 ☐ A–3 ☐ A–4 ☐ A–5
☒ Business
☐ Educational
☐ Factory/Industrial: ☐ F–1 Moderate ☐ F–2 Low
☐ Hazardous: ☐ H–1 Detonate ☐ H–2 Deflagrate ☐ H–3 Combust ☐ H–4 Health ☐ H–5 HPM
☐ 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:

Accessory Occupancies: (continued)
☐ Furnace room where any piece of equipment is over 400,000 BTU/H output
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H, located in a Group E or I–2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I–3 cells equipped with padded surfaces
☐ Group I–2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium–ion capacity of 1,000 lbs used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I–2 storage over 100 square feet
☐ Group I–2 commercial kitchens
☐ Group I–2 laundries equal to or less than 100 square feet
☐ Group I–2 rooms or spaces that contain fuel–fired heating equipment

Special Uses:
☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414
☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427

Special Provisions: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8 ☐ 509.9

Mixed Occupancy: ☐ No ☒ Yes Separation: 0 HR. Exception: _____

☐ Incidental Use Separation (508.2.5)
This separation is not exempt as a Non–Separated Use (see exceptions).

☒ Nonseparated Use (508.3.2)
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 (508.3.3) (see below for area calculations)
See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the rations of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

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

_____ + _____ + = ≤ 1.00

ALLOWABLE AREA

STORY #	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[3] AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA
1	STORAGE	270,000 SF	17,500 SF	N/A	52,500 SF	UNLIMITED	UNLIMITED

1. Frontage area incresases from Section 506.2 are computed thus:
   a. Perimeter which fronts a public way or open space having 20 feet minimum width =
   b. Total Building Perimeter =
   c. Ratio (F/P) =
   d. W = Minimum width of public way =
   e. Percent of frontage increase I = 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 of applicable under conditions of Sections 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. Maximum Building Area = total number of stories in the building x E but not greater than 3 x E. (506.4)
5. The maximum area of open parking garages must comply with table 406.3.5. the maximum area of air traffic control towers must comply with table 412.1.2.

i. Allowable Height (Chapter 5)
ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type 2–B		Type 2–B	
Building Height in Feet	55'	Feet = H + 20' = 75	36'–0"	
Building Height in Stories	2	Stories + 1 = 3	Stories = 1	

j. Fire Protection Requirements (Chapter 7)
FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQUIRED	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		NC	NC				
Bearing Walls							
Exterior		NC	NC				
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior Walls		NC	NC				
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists		NC	NC				
Roof Construction Including supporting beams and joists		NC	NC				
Shafts – Exit S708.4							
Shafts – Other S708.4							
Corridor Separation T1018.1							
Occupancy Separation T508.4							
Party/Fire Wall Separation T706.4							
Smoke Barrier Separation S710							
Tenant Separation T508.25							
Incidental Use Separation T508.25							

*Indicates section number permitting reduction

k. Percentage of Wall Opening Calculations -- (New Construction, Addition and Change or Use)
PERCENTAGE WALL OPENING CALCULATION:

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENING PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
N/A			

l. Wall Legends
WALL LEGENDS: (SEE PLANS)
☐ Fire Walls 706 ☐ Fire Barriers 707 ☐ Shaft Enclosure 708
☐ Fire Partitions 709 ☐ Smoke Barriers 710 ☐ Smoke Partitions 711 ☒ No Rated Walls are Present

m. Life Safety Systems (Existing or new systems) -- (Required for all projects)
LIFE SAFETY SYSTEM:
Emergency Lighting: S1006 ☐ NO ☒ YES
Exit Signs: S1011 ☐ NO ☒ YES
Fire Alarm: S907, NFPA 72–07 ☒ NO ☐ YES
Smoke Detection Systems: S907 ☒ NO ☐ YES ☐ Partial _____
Panic Hardware: S1008.1.10 ☒ NO ☐ YES
Life safety systems generator: S2702.2 ☒ NO ☐ YES
BUILDING DOES NOT REQUIRE FIRE ALARM AND SMOKE DETECTOR PER CODE.

n. Life Safety Plan checklist for compliance -- (Required for all projects)
Check items that are applicable to your project
LIFE SAFETY PLAN REQUIREMENTS
Life Safety Plan Sheet # LSP–1. COVER SHEET HAS PROPERTY LINE LOCATIONS
N/A ☐ Fire and/or smoke rated wall locations (Chapter 7)
☒ Assumed and real property line locations
N/A ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
N/A ☐ Existing Structures within 30 feet of the proposed building
N/A ☐ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
☒ Occupancy loads for each area
☒ Exit access travel distances (1016)
N/A ☐ Common path to travel distances (1014.3 & 1028.8)
N/A ☐ Dead–end lengths (1018.4)
☒ Clear exit widths for each exit door
☒ Maximum calculated occupant load capacity each exit door can accomadate based on egress width (1005.1)
☒ Actual occupant load for each exit door
N/A ☐ A separate schematic plan indicating where fire–rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
N/A ☐ Location of doors with panic hardware (1008.1.10)
N/A ☐ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
N/A ☐ Location of doors with electromagnetic egress locks (1008.1.9.8)
N/A ☐ Location of doors equipped with hold–open devices
N/A ☐ Location of emergency escape windows (1029)
N/A ☐ The square footage of each fire area (902)
N/A ☐ The square footage of each smoke compartment (407.4)
N/A ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

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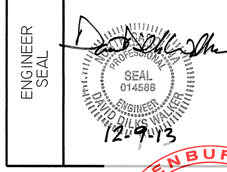

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STEIN SERVICE AND SUPPLY

GENCO RACKING

10325-T RIDGE CREEK DR
CHARLOTTE, N.C.

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SHEET TITLE
2012 APPENDIX B SHEET 1

DRAWN:	DDW		
CHECKED:		SHEET SIZE:	24X36
APPROVED:		PLOT FACTOR:	1:1
PROJECT:	13–164	DATE:	12.9.13
CAD NAME:	13–164–APPB	SCALE:	

DRAWING NUMBER
APP B - 1

o. Exit Requirements -- (Required for all projects)

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS (SECTION 1015.2)	
	REQUIRED T1021.2	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE TABLE (1016.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
S-1 RACK STORAGE	2	6	250 FT	227 FT	136 FT	354 FT

1 Corridor dead ends (section 1018.4)
2 Buildings with single exits (Table 1021.2) Spaces with one means of egress (Table 1015.1)
3 Common Path of Travel (Section 1014.3)

OCCUPANT LOAD AND EXIT WIDTH

USE GROUP OR SPACE DESIGNATION	(a)	(b)	(c)			EXIT WIDTH (in)			
	AREA (sq.ft.)	AREA PER OCCUPANT (TABLE 1004.1.1)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT TABLE (1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a / b) * c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
S-1 RACK STORAGE	43,000								
S-1 STORAGE	24,600								
TOTAL	67,600	500	136	0.2	0.15	N/A	20.4	N/A	216

For SI: 1 inch=35.4 mm, 1 square foot=0.929m .
1. See Table 1004.1.1 to determine whether net or gross area is applicable. See definition "Area, Gross" and "Area, Net" (Section 1002).
2. Minimum stairway width (Section 1009.1); min. corridor width (Section 1018.2): min.door width (Section 1008.1.1).
3. Minimum width of exit passageway (Section 1023.2).
4. See Section 1004.5 for converging exits.
5. The loss of one means of egress shall not reduce the available capacity to less than 50% of the total required Section 1005.1)
6. Assembly occupancies (Section 1028).
7. Spaces within occupancies or use groups shall be calculated independently. (Ex. Lobbies, lounges, break rooms, conference rooms.)

p. Accessible Dwelling Units and sleeping units -- (Only for R-1, R-2 occupancy)

ACCESSIBLE DWELLING UNITS (SECTION 1107) (NOT APPLICABLE)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE 'A' UNITS REQUIRED	TYPE 'A' UNITS PROVIDED	TYPE 'B' UNITS REQUIRED	TYPE 'B' UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A							

q. Accessible Parking -- (Projects that are New Construction, Additions, Change of Use)

ACCESSIBLE PARKING (NOT APPLICABLE)

LOT OR PARKING AREA	TOTAL NUMBER OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
TOTAL						

r. Structural Design

DESIGN LOADS:

Importance Factors: (ASCE/SEI 7-05-11.5) Wind 1.0; Snow 1.0; Seismic 1.0

Live Loads: Roof: (1603.1.2, 1607.11, 1611) 20 psf
Floor: (1603.1.1, 1607.10, T 1607.10) 250 psf
Live Load Reductions (1603.1.1, 1607.9) N/A psf

Ground Snow Load: (1608.2) 10 psf

Wind Load: Basic Wind Speed: (1609.3) 90 mph (ASCE-7)
Exposure Category (1609.4) B
Wind Base Shears (for MWFRS)(Engineer Cal's) Vx= N/A Vy= N/A

Seismic Design Category: (1613.1, 1613.5.6) ☐ A ☐ B ☒ C ☐ D

Provide the following Seismic Design Parameters:

Occupancy Catagory:(Table 1604.5) ☐ I ☒ II ☐ III ☐ IV

Spectral Response Acceleration:(Engineer cal's) S_s 35 %g S_1 12 %g

Site Classification (Table 1613.5.2) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F

Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data

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:(Engineer cal's) Vx= N/A Vy= N/A

Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical Components anchored? ☐ Yes ☒ No

Lateral Design Control: Earthquake ☒ Wind ☐

Soil Bearing Capacities:

Field Test (provide copy of test report as a reference document) N/A psf

Presumptive Bearing Capacity 2000 psf

Pile size, type, and capacity N/A

SPECIAL INSPECTIONS REQUIRED ☐ Yes ☒ No

s. Special Inspections – (If applicable to your project)

SCHEDULE OF SPECIAL INSPECTION SERVICES

☒ NO SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT ☐ SPECIAL INSPECTIONS REQUIRED

THE FOLLOWING SHEETS COMPRISE THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOWS:

☐ IT-1 VERIFICATION OF SOILS
☐ IT-2 EXCAVATION AND FILL
☐ IT-3 PILING AND DRILLING PIERS
☐ IT-4 MODULAR RETAINING WALLS
☐ IT-5 REINFORCED CONCRETE
☐ IT-6 POST TENSION SLAB
☐ IT-7 PRE-CAST CONCRETE ERECTION
☐ IT-8 PRE-STRESSED CONCRETE
☐ IT-9 INSPECTION OF PRE-CAST FABRICATORS
☐ IT-10 INSPECTION OF STRUCTURAL STEEL FABRICATORS
☐ IT-11 STRUCTURAL MASONRY
☐ IT-12 WELDING
☐ IT-13 HIGH STRENGTH BOLTS AND STEEL FRAMING INSPECTION
☐ IT-14 SPRAYED FIRE-RESISTANCE MATERIALS
☐ IT-15 EXTERIOR INSULATION AND FINISH SYSTEM
☐ IT-16 SEISMIC RESISTANCE
☐ IT-17 SMOKE CONTROL
☐ IT-18 DETENTION BASIN
☐ IT-19 SPECIAL CASES

t. Plumbing Fixture Requirements (New Construction, Additions, Upfits, Alterations and Change of use or if increasing occupant load)

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1) (NOT APPLICABLE)

USE		WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
UNOCCUPIED	EXISTING								
	NEW								
	REQUIRED								

u. Special Approvals (If applicable to your project)

SPECIAL APPROVALS

Special approval (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, SBCCI, ICC, etc., described below)

N/A

v. Energy Summary (New Construction, Additions, Change or use and upfits)

ENERGY SUMMARY N/A

BUILDING ENVELOPE:

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided.
Each Designer shall furnish the required portions of the project information for the plan data sheet.
If performance method, state the annual energy cost for the standard reference design versus the annual energy cost for the proposed design.

Climate Zone: ☐ 3 ☐ 4 ☐ 5

Method of Compliance:
☐ Prescriptive (Energy Code) ☐ Prescriptive (ASHRAE 90.1)
☐ Performance (Energy Code) ☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE:

Roof/ceiling Assembly (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Skylights in each assembly
U-Value of skylight
total square footage of skylights in each assembly

Exterior Walls (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Openings (windows or doors with glazing)
U-Value of assembly
Solar heat gain coefficient
Projection factor
Low e required, if applicable
Door 'R' Values

Walls adjacent to unconditioned space (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation
Openings (windows or doors with glazing)
U-Value of assembly
low e required, if applicable
Door R-Values

Walls below grade (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation

Floors over unconditioned space (each assembly)
Description of assembly
U-Value of total assembly
R-Value of insulation

Floors slab on grade
Description of assembly
U-Value of total assembly
R-Value of insulation
Horizonal/vertical requirement
slab heated

MECHANICAL SUMMARY (NOT APPLICABLE)

This information is located on Mechanical Sheet Number N/A

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

Method of Compliance:
☐ Prescriptive ☐ Energy Cost Budget

Thermal Zone
winter dry bulb
summer dry bulb

Interior design conditions
winter dry bulb
summer dry bulb
relative humidity

Building heating load

Building cooling load

Mechanical Spacing Conditioning System
Unitary
description of unit
heating efficiency
cooling efficiency
size catagory of unit
Boiler
Size category. If oversized, state reason.
Chiller
Size category. If oversized, state reason.
List equipment efficiencies
Equipment schedules with motors (mechanical systems)
Motor horsepower
number of phases
minimum efficiency
motor type
# of poles

ELECTRICAL SUMMARY (NOT APPLICABLE)

This information is located on Electrical Sheet Number SEE REFERENCE ELECTRICAL DRAWING E2.1

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code ☐ Prescriptive ☐ Performance
ASHRAE 90.1 ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
Lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs allowed
total exterior wattage specified vs allowed

Additional Prescriptive Compliance
☐ 506.2.1 More Efficient Mechanical Equipment
☐ 506.2.2 Reduced Lighting Power Density
☐ 506.2.3 Energy Recovery Ventilation Systems
☐ 506.2.4 Higher Efficiency Service Water Heating
☐ 506.2.5 On-site Supply of Renewable Energy
☐ 506.2.6 Automatic Daylighting Control Systems

Equipment schedules with motors (not used for mechanical systems)
Motor horsepower
number of phases
minimum efficiency
motor type
# of poles

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NORTH CAROLINA PROFESSIONAL SEAL 014588 ENGINEER DAVID DOUGLAS WALKER

12-9-13

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MECKLENBURG COUNTY NORTH CAROLINA MAY 20, 1776

STEIN SEATING AND SUPPLY

GENCO RACKING

10325-T RIDGE CREEK DR
CHARLOTTE, N.C.

MECKLENBURG COUNTY CODE ENFORCEMENT

The Design In These Construction Documents Have Been Reviewed For Compliance With The State Building Code. It Is The Responsibility Of The Contractor To Construct This Project With Good Engineering Practice And In Compliance With The North Carolina State Building Code

The issuance of a permit or approval of plans specifications shall not be deemed or construed to be a permit for an approval of any violation of the provisions of the North Carolina State Building Code or local ordinances.

Separate permits required for erection of signs and for Hazardous Occupancy or Processing.

REV	DATE	DRAWN	DESCRIPTION
0	12.9.13	DDW	ISSUED FOR CONSTRUCTION

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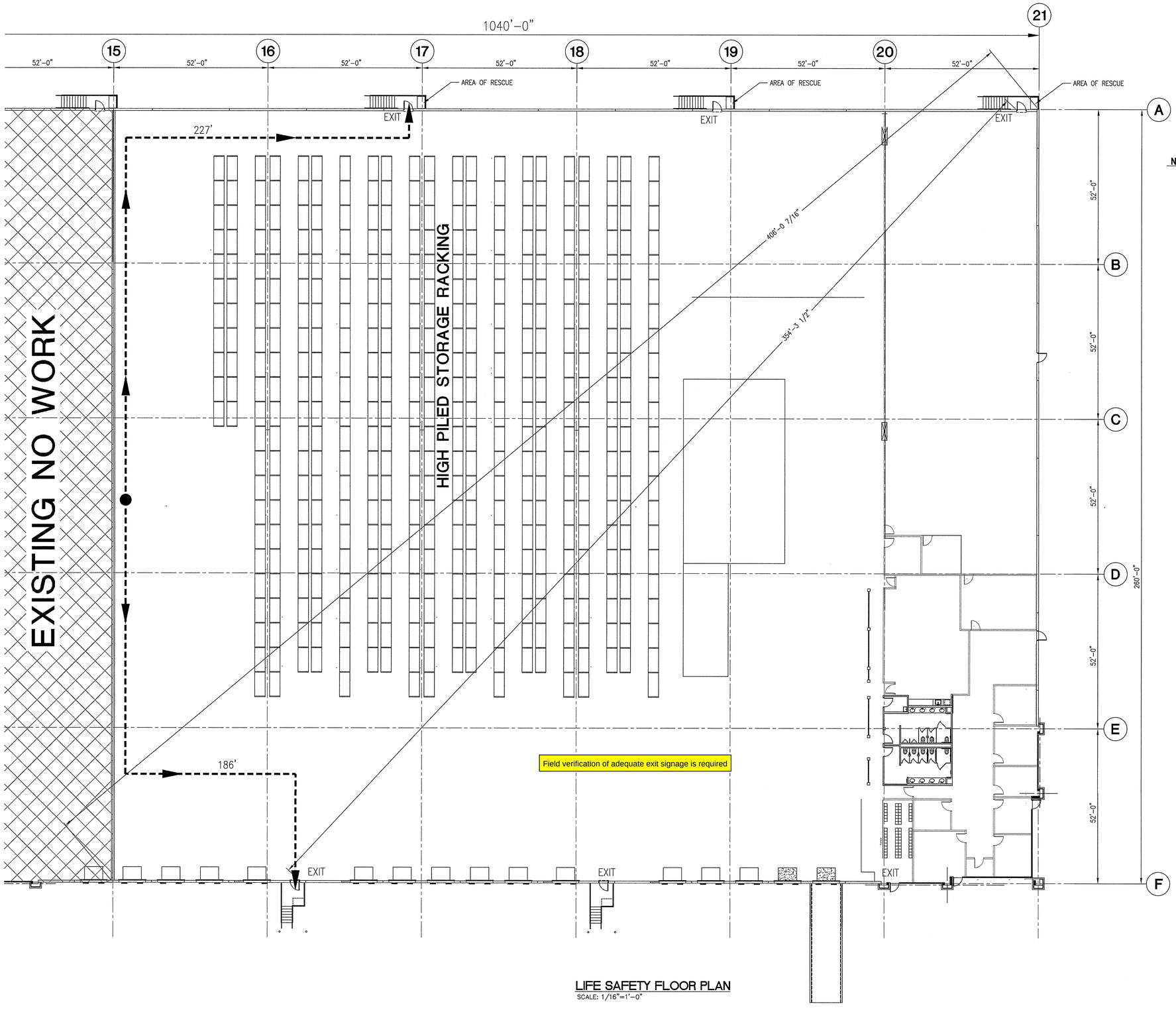
SHEET TITLE

2012 APPENDIX B

DRAWN: DDW	
CHECKED:	SHEET SIZE: 24X36
APPROVED:	PLOT FACTOR: 1:1
PROJECT: 13-164	DATE: 12.9.13
CAD NAME: 13-164-APPB	SCALE:

DRAWING NUMBER

APP B - 2



LIFE SAFETY FLOOR PLAN
SCALE: 1/16"=1'-0"

REFERENCE DRAWING NOTE

EXIT DOOR ILLUMINATION AND EMERGENCY LIGHTING TO ACCOMMODATE HIGH PILED STORAGE RACKING IS SHOWN ON REFERENCE ELECTRICAL DRAWING E2.1 FLOOR PLAN LIGHTING PREPARED BY GRIFFITH ENGINEERING FOR GENCO UPFIT SPACE.

NOTES

1. ALL EXIT DOORS TO HAVE A MINIMUM SIZE OF 3'x7' AND TO OPEN TOWARD THE DIRECTION OF EGRESS. DOOR TO HAVE PANIC HARDWARE PER NCBC 1008.1.10 WITH OPENING FORCE PER NCBC 1008.1.3
2. EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. THE PATH OF EGRESS TRAVEL TO EXITS AND WITHIN EXITS SHALL BE MARKED BY READILY VISIBLE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS. EXIT SIGN PLACEMENT SHALL BE SUCH THE NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAT 100 FEET (30480 MM) OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN.
3. THE FACILITY IS TO HAVE EXIT LIGHTING WITH EMERGENCY ILLUMINATION POWER PER ELECTRICAL PLAN TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOTCANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOTCANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOTCANDLE (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOTCANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.
4. ADD DIRECTIONAL EGRESS SIGNS AT THE ENDS OF ALL RACKING AISLES. SIGN IS TO BE CLEARLY VISIBLE FROM ANY POINT IN THE AISLE.
5. MAINTAIN MINIMUM OF 36" CLEARANCE FROM ESFR SPRINKLER HEAD TO TOP OF PRODUCT.

EXISTING BUILDING CONSTRUCTION
STRUCTURAL STEEL FRAMED – UNPROTECTED
EXTERIOR CONCRETE WALL PANELS
33'-0" MINIMUM DECK ELEVATION AT STORAGE
35'-0" MAXIMUM DECK ELEVATION AT STORAGE

SPRINKLERED – CEILING SYSTEM ESFR
HIGH PILED RACK STORAGE AREA
– 43,000 SQUARE FEET
STEEL RACKING – OPEN WIRE SHELF TYPE
MAXIMUM STORED HEIGHT – 29'-10"
STORED MATERIALS – TYPE 4
COMMODITIES INCLUDING GROUP 'A'
PLASTICS IN CARDBOARD BOXES
ON WOOD PALLETS.
TYPE 4 COMMODITY DEFINITION
PER NFPA 13 & 2012 NC STATE
FIRE CODE SECT 2303.4

TOTAL AREA OF EXISTING BUILDING – 270,000 SF
GENCO TENANT AREA – SUITE T – 81,120 SF
AREA OF NEW HIGH PILED RACK STORAGE – 43,000 SF

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MECKLENBURG COUNTY
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STEIN SPRINKLER AND SUPPLY

GENCO RACKING

10325-T RIDGE CREEK DR
CHARLOTTE, N.C.

REV	DATE	DRAWN	DESCRIPTION
0	12-9-13	BDS	ISSUED FOR CONSTRUCTION

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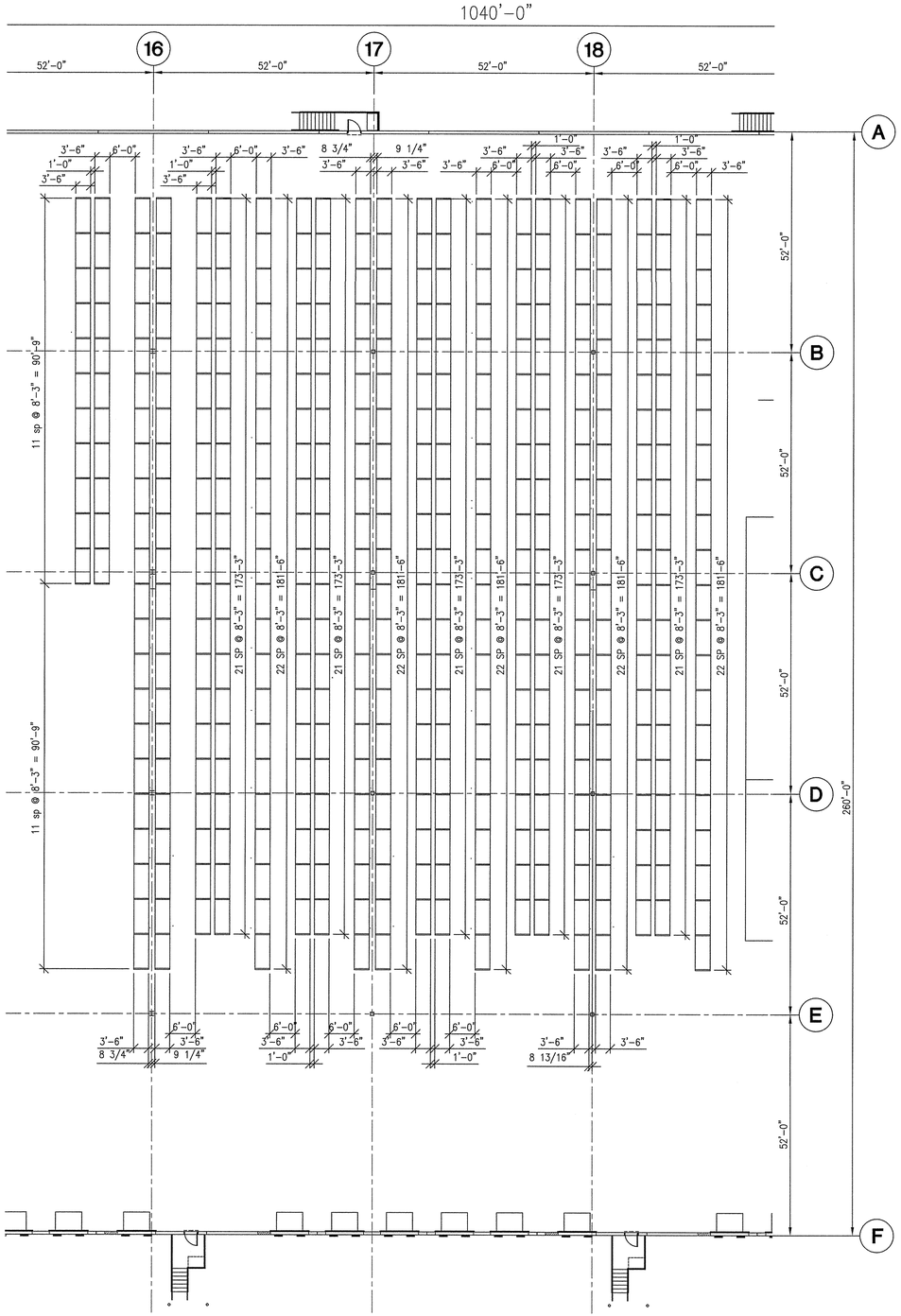
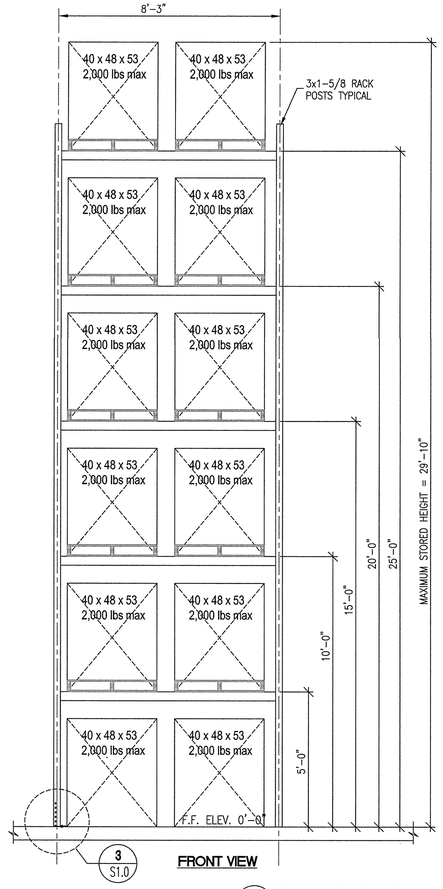
SHEET TITLE
LIFE SAFETY PLAN

DRAWN: BDS	
CHECKED:	SHEET SIZE: 24x36
APPROVED:	PLOT FACTOR: PAPER
PROJECT: 13-164	DATE: 12.9.13
CAD NAME: 13-164-LSP	SCALE: AS NOTED

DRAWING NUMBER
LSP

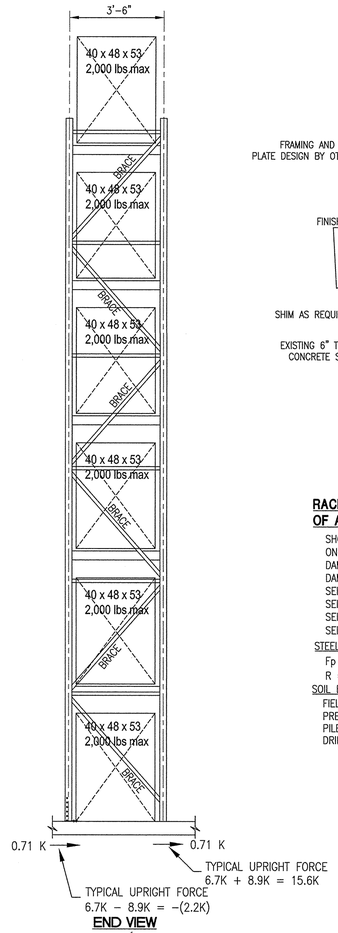


RACKING LAYOUT PLAN
1/16"=1'-0"

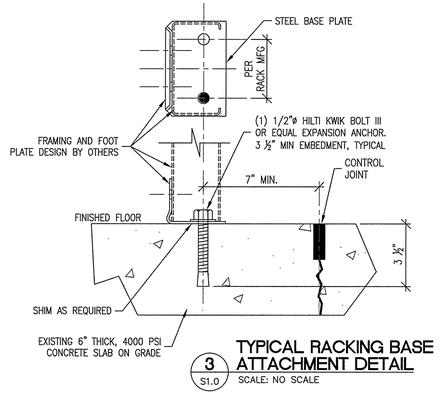


FRONT VIEW

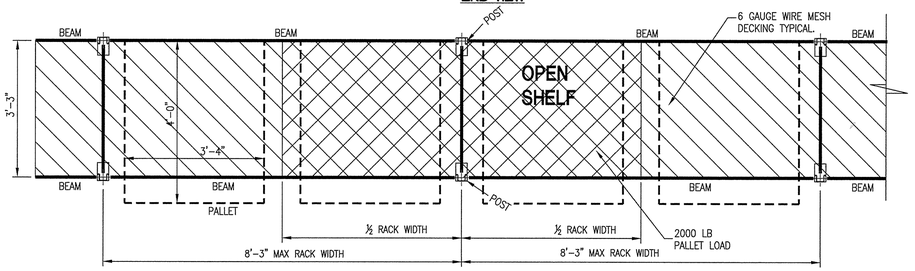
1 S1.0 RACK ELEVATIONS
SCALE: 3/8" = 1'-0"



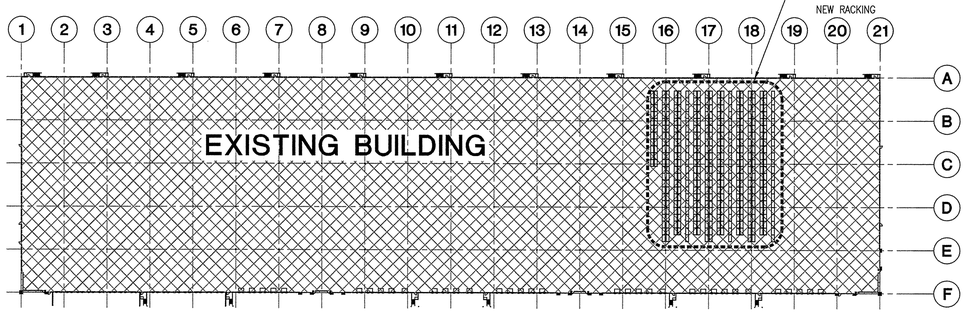
END VIEW



3 S1.0 TYPICAL RACKING BASE ATTACHMENT DETAIL
SCALE: NO SCALE



2 S1.0 RACK PLAN VIEW
SCALE: N.T.S.



KEY PLAN
NO SCALE

RACKING SEISMIC LOADING PER SECTION 15.5.3 OF ASCE7-05

SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_s):	0.35
ONE SECOND SPECTRAL RESPONSE ACCELERATION (S_1):	0.12
DAMPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_{ms}):	0.352
DAMPED ONE SECOND SPECTRAL RESPONSE ACCELERATION (S_{m1}):	0.185
SEISMIC SITE CLASS	D
SEISMIC USE GROUP	I
SEISMIC DESIGN CATEGORY	C
SEISMIC IMPORTANCE FACTOR	1
STEEL STORAGE RACKS	
Fp = 0.3 SDS Ip Wp = 0.106 Wp	
R = 4.0	
SOIL BEARING CAPACITY:	
FIELD TEST (PROVIDE COPY OF TEST REPORT)	N/A psf
PRESUMPTIVE BEARING CAPACITY	2000 psf
PILE SIZE, TYPE, AND CAPACITY	N/A
DRILLED PIERS OR CAISSONS	N/A

SEAL 014586 ENGINEER PROFESSIONAL DAVID DILKS WALKER
12-9-13

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SHEET TITLE
RACKING LAYOUT PLAN AND DETAILS

DRAWN:	DRAWN		
CHECKED:	CHECKED	SHEET SIZE:	24x36
APPROVED:	APPV'D	PLOT FACTOR:	PAPER
PROJECT:	13-164	DATE:	12.6.13
CAD NAME:	13-164-S1.0	SCALE:	AS NOTED

DRAWING NUMBER
S1.0