BLOCK 671 LOT 1.01 QUALIFICATION CODE _____ ADDRESS (SITE) 56 Chambers Bridge Rd Brick NJ PERMIT NO. 14-1871

CONSTRUCTION PERMIT APPLICATION

C-14-001963

Applicant Completes: Sections I, II, III (optional), IV, VI, and VII

I. IDENTIFICATION

1. Proposed Work Site at: 56 Chambers Bridge Rd / Federal Realty
2. Name of Owner in Fee: Red Robin Gourmet Burgers/Inv. / Trust
   Tel. ( ) _____ e-mail _____
   Address 6312 S. Fiddlers Greenw Cir., Greenwood Co 80111 (street / municipality / zip code)
3. Ownership in Fee: Public _____ Private _____
4. Principal Contractor: Conboy-Mannion Tel. (518) 583-4038
   Address 36 Phila St. e-mail _____
   Saratoga Springs N.Y. 12866
   License No. OR, if new home, Builder Reg. No. _____ Exp. Date _____
   Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____
   Federal Emp. ID No. 14-1686116 FAX: ( ) _____
5. Architect or Engineer Chipman Design Contact _____
   Address 2700 S. River Rd., Des Plaines Ill. e-mail _____
   Tel. (847) 298-6900 FAX: ( ) _____
6. Responsible Person in Charge once Work has Begun Daniel Cochran
   Tel. (609) 226-8226 FAX: ( ) _____

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	$ 182		
2. Electrical	40		
3. Plumbing			
4. Fire Protection			
5. Elevator Devices			
6. Subtotal			
7. Less 20% for State Plan Review	$		
8. Subtotal	$		
9. State Permit Surcharge Fee	52		
10. Subtotal	$		
11. Cert. of Occupancy			
12. Other			
13. TOTAL	$ 274		

VI. BUILDING/SITE CHARACTERISTICS (office use only)

1. Number of Stories _____
2. Height of Structure _____ ft.
3. Area — Largest Floor _____ sq. ft.
4. New Building Area _____ sq. ft.
5. Volume of New Structure _____ cu. ft.
6. Max. Live Load _____
7. Max. Occupancy Load _____
8. If Industrialized Building: State Approved ____ HUD ____
9. Total Land Area Disturbed _____ sq. ft.
10. Flood Hazard Zone _____
11. Base Flood Elevation _____ ft.
12. Wetlands yes ____ no ____

IIa. PROPOSED WORK

☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition
☐ Repair ☐ Alteration ☐ Renovation ☐ Reconstruction
☐ Asbestos Abat. -Subch.8 ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES (Check all that apply)

FOR OFFICE USE ONLY (Optional)

	Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Resubmission Dates Rejection	Re-viewer
☐ Building		OL			6/12/14	MV			
☐ Electrical					6214	TO			
☐ Plumbing									
☐ Fire Protection									
☐ Elevator		Gov Exempt			5/31/14	ECC			
TOTAL COST									

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL *(primary use)*
1. State Specific Use: _____
2. Use Group, Proposed: _____
3. Change In Use Group, Indicate Present:
4. No. of dwelling units: *Total Units* *Income-restricted*
   Gained, Sale ____ ____
   Gained, Rental ____ ____
   Lost, Sale ____ ____
   Lost, Rental ____ ____

B. NON-RESIDENTIAL *(primary use)*
1. State Specific Use: _____
2. Use Group, Proposed: _____
3. Change In Use Group, Indicate Present:

C. MIXED USE -List secondary use(s): _____

D. Construct. Classification: Present _____ Proposed _____

III. PLAN REVIEW (optional)

DO YOU WANT:
1. ☐ Partial Releases
2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/ Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers/Standpipes
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks
10. ☐ Swimming Pools, Spas and Hot Tubs
11. ☐ LPGas Tanks
12. ☐ Fire Alarm

U.C.C. F100-1 (rev. 8/08)

Red Robin B - Sign permit - 5-14-14 - 2

Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 2/10/2015
Control Number C-14-001962
Permit Number 14-1871
Permit Issue Date 6/19/2014
Certificate Number 14-1871

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 56 CHAMBERS BRIDGE RD. Red Robin (Building Signs) Brick Township, NJ Block: 671 Lot: 1.01 Qual:

Owner in Fee: FEDERAL REALTY INVESTMENT TRUST

Owner Address: 1626 EAST JEFFERSON ST ROCKVILLE NJ 20852

Telephone:

Contractor Conboy-Mannion

Address 36 Phila St. Saratoga Springs NY 12866

Telephone: (518) 583-4038 Fax:

License Number or Builders Registration Number: Federal Emp. Number: 14-16866116

Home Warranty Number:

Type of Warranty Plan: ☐ State ☐ Private

Use Group: A-2 Construction Classification:

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: SIGN INSTALLATION ...RED ROBIN RESTAURANT - BUILDING SIGNS

Certificate Comments:

☐ **Certificate of Occupancy**
This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☑ **Certificate of Approval**
This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Continued Occupancy**
This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**
The following conditions must be met no later than
or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:
Conditions to be met:

☐ **Certificate of Clearance - Lead Abatement 5:17**
This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 to the following extent.

☐ Total removal of lead-based paint hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Clearance - Asbestos Abatement**
This serves notice that based on written certification, asbestos abatement was performed to the following extent.

☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Compliance**
This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ **Temporary Certificate of Occupancy**
The following conditions must be met no later than:
or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:
Conditions to be met:

Construction Official

Fee: $0.00
Check Number:
Collected By:

Date Printed: 2/10/2015

U.C.C. F260 (rev. 08/05)

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

A. ( ) I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

B. ( ) I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

C. (✓) I further certify that I will perform or supervise the following work:
C.1. (✓) Building C.2. ( ) Fire Protection

I further certify that I will perform the following work:
C.3. ( ) Electrical C.4. ( ) Plumbing

D. (✓) I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date 5/5/14

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

(✓) Check if contractor.

Agent Name Conboy - Mannion

Address 36 Phila St.
Saratoga Springs, N.Y 12866

Telephone (518) 583-4088

Signature _____

III. ( ) LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.

NEW JERSEY UNIFORM CONSTRUCTION CODE

BUILDING SUBCODE
TECHNICAL SECTION

Date Received 6/19/14
Control #
Date Issued
Permit # 14-1871

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 671 Lot 1.01 Qualification Code

Work Site Location 56 Chambers Bridge Rd. Brick NJ

Owner in Fee: Red Robin Gormet Burgers

Tel. ( ) e-mail

Address 6312 S. Fiddlers Greene Cir., Greenwood Co. 80111
(street, municipality, zip code)

Contractor: Cowboy Mannion Tel. (518) 583-4038

Address 36 Phila St. e-mail
Saratoga Springs NY 12866

Contractor License No. or Builder Registration No. ~~HI 6886116~~ Exp. Date

Home Improvement Contractor Registration No. or Exemption Reason (if applicable):

Federal Emp. ID No. 14-1686116 FAX: ( )

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial
[ ] No Plans Required		
[X] All	6/12/14	LW
[ ] Footings/Foundations		
[ ] Structural/Framework		
[ ] Exterior		
[ ] Interior		

Joint Plan Review Required:
[ ] Elec. [ ] Plumb. [ ] Fire [ ] Elevator

SUBCODE APPROVAL for PERMIT
Date: 06/13/14
Approved by: [illegible]

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [✓] CA
Date: 02/10/15
Approved by: [illegible]

INSPECTIONS Type:	Failure	Failure	Approval	Initial
	Dates (Month/Day)			
Footing				
Footing Bonding				
Foundation				
Slab				
Frame				
Truss Sys./Bracing				
Barrier-Free				
Insulation				
Finishes -Base Layer				
Finishes -Final				
Energy				
Mechanical				
TCO				
Other				
Final			2-5-15 LW	
Barrier-Free				

B. BUILDING CHARACTERISTICS

Use Group Present ____ Proposed ____
No. of Stories 1
Height of Structure 22'6" ft.
Area — Largest Floor 5940 sq. ft.
New Bldg. Area/All Floors 6284 sq. ft.
Volume of New Structure 141,390 cu. ft.
Max. Live Load 20 lbs. sq. ft
Max. Occupancy Load 289

Constr. Class Present ____ Proposed ____

If Industrialized Building:
State Approved ____ HUD ____

Est. Cost of Bldg. Work:
1. New Bldg. $ 28,900 Signs
2. Rehabilitation $
3. Total (1+ 2) $

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Sign here: [signature]

Print name here: Daniel Cochran

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Signs (Building Sign)

Red Robin

TYPE OF WORK:
- [ ] New Building
- [ ] Addition
- [ ] Rehabilitation
- [ ] Roofing
- [ ] Siding
- [ ] Fence ____ Height (exceeds 6')
- [X] Sign ____ Sq. Ft.
- [ ] Pool
- [ ] Retaining Wall ____ Sq. Ft.
- [ ] Asbestos Abatement Subchapter 8
- [ ] Lead Haz. Abatement NJAC 5:17
- [ ] Radon Remediation
- [ ] Other ____
- [ ] Demolition

FEE (Office Use Only)
$

Administrative Surcharge $
Minimum Fee $
State Permit Surcharge Fee $
TOTAL FEE $

U.C.C. F110
(rev. 11/09)

1 White = Inspector Copy 2 Canary = Office Copy
3 Pink = Office Copy 4 Gold = Applicant Copy

ELECTRICAL SUBCODE
TECHNICAL SECTION

Date Received 6/19/14
Control # 14-1871
Date Issued
Permit # [redacted]

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 6.09 Lot 1.01 Qualification Code

Work Site Location 56 Chambers Bridge Rd. Brick NJ

Owner in Fee: Red Robin Gormet Burgers

Tel. ( ) e-mail

Address 6312 Fiddlers Green Cir, Greenwood Co 80111
street municipality zip code

Contractor: SIGCO ELECTRIC Tel. (973) 670-4208

Address 8 FAIRVIEW DR e-mail

NORTH CALDWELL NJ 07006

Contractor License No. 11502 Exp. Date

Home Improvement Contractor Registration No. or Exemption Reason (if applicable):

Federal Emp. ID No. 22-3377592 FAX: (973) 228-4984

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed

[ ] Pole/Pad # [ ] Temporary [ ] Other

Building Occupied as Utility Co.

Est. Cost of Elec. Work $ #2000.

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[ ] No Plans Required

[ ] Partial -Underslab Utilities Approved
Date: Approved by:

[✓] Electric Plans Approved
Date 6/24 Approved by:

Joint Plan Review Required:
[ ] Bldg. [ ] Plumb. [ ] Fire. [ ] Elev.

SUBCODE APPROVAL for PERMIT
Date: 6/24
Approved by:

SUBCODE APPROVAL for CERTIFICATE
[ ] CO [ ] CCO [✓] CA
Date: 7/8/15
Approved by:

INSPECTIONS — Dates (Month/Day)

Type:	Failure	Failure	Approval	Initial
Rough				
Barrier-Free				
Trench				
Temp. Serv.				
Constr. Serv.				
TCO				
Other				
Service				
Final			7/8/15	PSE
Barrier-Free				

Temp. Cut-in-Card Date Issued

Final Cut-in-Card Date Issued

Annual Pool Inspection

Date of Grounding and Bonding Certification

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Applicant sign/Contractor sign and seal here:

Print name here: Rick Sigismondi

[✓] Licensed Elec. Contractor [ ] Certif'd Landscape Irrigation Cont'r [ ] Exempt Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: SIGNS

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	$
		Pool Permit/with UW Lights	
		Storable Pool/Spa/Hot Tub	
		KW Elec. Range/Receptacle	
		KW Oven/Surface Unit	
		KW Elec. Water Heater	
		KW Elec. Dryer/Receptacle	
		KW Dishwasher	
		HP Garbage Disposal	
		KW Central A/C Unit	
		HP/KW Space Heater/Air Handler	
		KW Baseboard Heat	
		HP Motors 1/+ HP	
		KW Transformer/Generator	
		AMP Service	
		AMP Subpanels	
		AMP Motor Control Center	
93	1	KW Elec. Sign/Outline Light	

Administrative Surcharge $
Minimum Fee $
State Permit Surcharge Fee $
TOTAL FEE $

CUT-IN-CARD

MUNICIPALITY BRICK

LOCATION Chambers BRIDGE RD UTILITY CO

BLK 671 LOT 1.04

OWNER RED Robin OCCUPANT

"Installation in the above premises has been inspected and is in accordance with N.E.C., utility and DCA requirements."

☑ FINAL ☐ TEMPORARY This approval void after _____ days

DESCRIPTION OF SERVICE 800 AMP 3° 208 VOLT / 120 VOLT

INSTALLED BY SIB Co LICENSE NO 11502

DATE 12/15/14 PERMIT# 14-1867 INSPECTOR

LIC. NO: 5151

U C.C. Form F-350A 1 WHITE - UTILITY 2 CANARY - OFFICE/FILE 3 PINK - OFFICE/CONTRACTOR PRO 141

LM 6/13/14 LM

CONSTRUCTION PERMIT

Date Issued 6/19/14
Control # C-14-001962
Permit # 14-1871

IDENTIFICATION Block: 671 Lot: 1.01 Qualifier

Work Site Location: 56 CHAMBERS BRIDGE RD. Red Robin (Building Signs) Brick Township, NJ

Owner in Fee: FEDERAL REALTY INVESTMENT TRUST 1626 EAST JEFFERSON ST ROCKVILLE NJ 20852

Telephone:

Contractor: Conboy-Mannion

Address: 36 Phila St. Saratoga Springs NY 12866

Telephone: (518) 583-4038

Lic. No. or Bldrs. Reg. No.

Federal Employee. No. 14-16866116

Is hereby granted permission to perform the following work:

- ☑ BUILDING
- ☑ ELECTRICAL
- ☐ ELEVATOR DEVICES
- ☐ PLUMBING
- ☐ FIRE PROTECTION
- ☐ ASBESTOS ABATEMENT (Subchapter 8 only)
- ☐ LEAD HAZARD ABATEMENT
- ☐ DEMOLITION
- ☐ OTHER

DESCRIPTION OF WORK:

SIGN INSTALLATION ... BUILDING SIGNS FOR RED ROBIN RESTAURANT

Note: If constuction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work $30,900

Construction Official David K. Newman Jr. Date 6/12/14

PAYMENTS (Office Use Only)

Building	$182
Electrical	$40
Plumbing	$0
Fire Protection	$0
Elevator Devices	$0
Other	$0.00
DCA Training Fee	$52
CO Fee	
Other	$0
Total	$274
Check No.	72492
Cash	$0
Credit	$0
Collected By	

150 324

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR 2 CANARY - OFFICE 3 PINK - TAX ASSESSOR 4 GOLD - APPLICANT

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☑ Required inspections for all subcodes for one- and two-family dwellings are as follows:

06/19/14 11:51AM 00155843252
XX10 SERV.010
#1871
BUILDING $182.00
ELECTRIC $40.00
FEE $52.00
SUR $50.00
CHEC $324.00

1. The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
2. Foundations and all walls up to grade level prior to back filling.
3. All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and /or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
4. Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☑ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☑ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.

File : Kieffer1043a.mcd

Site : Red Robin
Location No. 664
56 Chambers Bridge Road
Brick, New Jersey 08723

Sign Type : 2'-2 1/2" tall x 5" deep 'RED ROBIN' open channel letters with exposed neon mounted on 1-3/4" stand-offs to 7'-2" x 10'-5 1/2" x 8" deep arched single face sign for installation to radiused building wall with double mounting angles.
Drawing No. 1405012 rev. A

Design loads are based on the New Jersey State Uniform Construction Code (2009 IBC) using Exposure C and 120 mph winds.

Design Wind Speed : (mph.) $V := 120.0$

Importance Factor : $I := 1.00$ Based on Category II, Non-Hurricane Prone Regions with V > 100 mph.

Velocity Pressure Coefficient at a Height of Less Than 25', Exposure C : $Kz := 0.94$

Topographic Factor : $Kzt := 1.00$ Based on 6.5.7.2

Wind Directionality Factor : $Kd := 0.85$ Based on Table 6-4

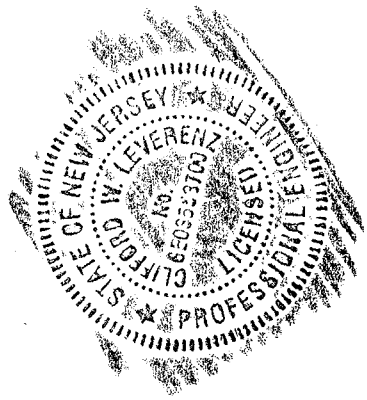
Velocity Pressure : (PSF) $qz := 0.00256 \cdot Kz \cdot Kzt \cdot Kd \cdot V^2 \cdot I$ $qz = 29.454$

Force Coefficent for Components and Cladding : $Cf := 1.65$ Taken from Figure 6-17

Gust Effect Factor : $G := 0.85$ Taken from 6.5.8.1 for Rigid Structures

Design Pressure : (PSF) $F := qz \cdot Cf \cdot G$ $F = 41.31$ Use : $WL := 41.4$

Design Snow Load : (PSF) $SL := 20.0$ Based on Ground Snow Loads



Reference : Manual of Steel Construction, AISC 13th Edition.

Angle : ASTM A-36 Fy = 36.0 ksi. ; Fb = 23.76 ksi. ; Fv = 14.40 ksi.

Mounting Bolts : 18-8 Stainless Steel Fu = 60.0 ksi. ; Ft = 20.00 ksi. ; Fv = 10.00 ksi.
(Threads included in shear plane)

8/8/14

Design Loads for the Channel Letters :

Dead Load - Based on the Letter 'R' - Heaviest :

Based on 8.5 lbs./sq.ft. : $ShDLLtr := (2.21 \cdot 1.84) \cdot 8.5$ $ShDLLtr = 34.564$ lbs.

Wind Load - Based on the Letter 'N' :

5" Deep Letter Plus 1-3/4" Stand-offs : $ShWLLtr := \left[2.33 \cdot (2.21 \cdot 2) \cdot \left(\frac{5.0 + 1.75}{12}\right)\right] \cdot WL$ $ShWLLtr = 239.829$ lbs.

Snow Load - Based on the Letter 'E' :

All Exposed Surfaces : $ShSLLtr := \left[2.33 \cdot (1.65 \cdot 2) \cdot \left(\frac{5.0 + 1.75}{12}\right)\right] \cdot SL$ $ShSLLtr = 86.501$ lbs.

Combined Shear :

Summation : (lbs.) $ShTotLtr := \sqrt{\left[(ShDLLtr + ShWLLtr)^2 + (ShSLLtr + ShWLLtr)^2\right]}$ $ShTotLtr = 426.36$

Design of Mounting Bolts for the Channel Letters :

Mounting Bolt Diameter : (in.) MntBltDia := 0.375

Stress Area : ($in.^2$) (Based on nominal diameter per AISC 4-3) $MntBltArea := \frac{\pi \cdot MntBltDia^2}{4}$ MntBltArea = 0.11

Allowable Tension : (lbs.) AllwTen := 20000·MntBltArea AllwTen = 2209

Allowable Shear : (lbs.) AllwShr := 10000·MntBltArea AllwShr = 1104

Minimum Number of Mounting Bolts in Shear per Letter : NoShr := 3
(The letter 'E' has five mounting bolts, the letter 'I' has three and all other letters have four.)

Shear Load per Mounting Bolt : (lbs.) $ShrMntBlt := \frac{ShTotLtr}{NoShr}$ ShrMntBlt = 142.12

Minimum Number of Mounting Bolts in Tension : NoTen := 1

Minimum Distance Between Mounting Bolts : (in.) LvrArm := 10.5

Tension Load per Mounting Bolt : (lbs.) $TenMntBlt := \frac{(ShTotLtr)\cdot(5.0 + 1.75)}{NoTen \cdot LvrArm}$ TenMntBlt = 274.09

Unity Check : Mounting Bolts $UCMntBlt := \frac{ShrMntBlt}{AllwShr} + \frac{TenMntBlt}{AllwTen}$ UCMntBlt = 0.253 < 1.00 OK

Note : Use 3/8" diameter 18-8 Stainless Steel bolts.

Design Loads for the Sign :

Dead Load of Sign and Channel Letters :

Based on 10.5 lbs. per Square Foot : ShDLTot := (7.17·10.46·10.5) + (8·ShDLLtr) ShDLTot = 1063.996 lbs.

Wind Load on Sign and Channel Letters :

8" Deep Sign Plus Mounting Angles : $ShWLTot := \left[10.46 \cdot \left(\frac{8.0 + 3.0}{12}\right) \cdot WL\right] + (8 \cdot ShWLLtr)$

ShWLTot = 2315.586 lbs.

Snow Load on Sign and Letters :

8" Deep Sign Plus Mounting Angles : $ShSLTot := \left[10.46 \cdot \left(\frac{8.0 + 3.0}{12}\right) \cdot SL\right] + (8 \cdot ShSLLtr)$

ShSLTot = 883.777 lbs.

Combined Shear :

Summation : (lbs.) $ShTot := \sqrt{\left[(ShDLTot + ShWLTot)^2 + (ShSLTot + ShWLTot)^2\right]}$ ShTot = 4653.762

Design of Sign Mounting Bolts :

Mounting Bolt Diameter : (in.) MntBltDia := 0.375