



The City of Grove City

AGENDA

Board of Zoning Appeals

January 22, 2024

5:30 PM

City Hall

A. CALL TO ORDER/ROLL CALL

B. MOMENT OF SILENCE AND PLEDGE

C. APPROVAL OF MINUTES

1. BZA Minutes - December 27, 2023

D. NEW ITEMS

1. ACTION ITEM

1. Hear the appeal of Brian Sweeney, JH Architects Inc. representing Matthew Carver, Health Care Logistics at 1850 Gateway Circle, (Parcel #040-004147), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 6' tall decorative fence in front of the 30' building front setback, encroaching the setback by 16', leaving a total front setback of 14'.

2. ACTION ITEM

1. Hear the appeal of Gregory Baker, property owner at 4996 Snowy Creek Dr., (Parcel #040-012432), for a variance to Section 1137.05 Yard Obstructions and Fences; to install a 4' tall decorative fence in front of the 30' building front setback, on a corner lot along Shoreside Dr., encroaching the setback from 8' to 14' resulting in a front setback ranging from 22' to 16'.

3. ACTION ITEM

1. Hear the appeal of Rebecca Mott, Plank Law Firm LPA for 5824 Quail Run Dr., (Parcel #040-009118), for the following variances. (Staff note: the applicant is appealing the Building Inspectors "Notice of Corrections" decision (Exhibit 2) in sequential order (see Exhibit A.) Staff has attempted to summarize each item as a variance appeal request for this agenda.)

BZA Appeal Items:

- 1. Building Review Item #1: Appeal to Notice of Corrections Item 1 requiring sealed plans stamped by Ohio Licensed Engineer to be accepted because 1) the item fails for lack of specific reference and proper legal notice to the Applicant and Property Owners and 2) the applicant provided plans and specifications for the pool enclosure from the manufacturer that included a structural analysis completed by a New York licensed professional engineer, for support of structural load combinations prescribed by the 2015 International Building Code.**
- 2. Zoning Review Item #1: Section 1135.10: to appeal the applicability of the current zoning standards establishing the rear setback of 25' and accepting the correct rear yard setback for the property is equal to 15% of the total lot depth of 125', which is 18.75' per the PUD-R (R-1B) standards found in the 1986 lot development standards for the Quail Creek and Meadow Grove extensions table 1135.10.**
- 3. Zoning Review Item #2: Section 1135.10(a) – to allow a 960sf pool cover structure because the code section listed in the Notice of Corrections is not applicable to the pool structure and refers only to “garages” as in “residential garage” and “detached garage.”**
- 4. Zoning Review Item #3: Section 1137.08 (h) – to allow a 9'-6" tall accessory building (pool structure) because the code section listed in the Notice of Corrections is not applicable because the overall height of the pool structure is below the 13' maximum height for an accessory structure.**
- 5. Zoning Review Item #4: Section 1135.09 Permit Expiration and 1305.10 Permit Revocation are not applicable to the lawful permit issued for the in-ground pool.**

E. ADJOURN

**City of Grove City
BOARD OF ZONING APPEALS
REGULAR MEETING
December 27, 2023**

The regular meeting of the Board of Zoning Appeals was called to order by Vice Chair John Brant at 5:30 p.m. at the Grove City Municipal Building, 4035 Broadway.

1. Roll was called. The following members were present:

Mark “Tony” Haughn John Brant

Staff present: Chief Building and Zoning Official Michael P. Boso, Laura Scott, Secretary. Jesse Shamp, representing the Law Director, was excused.

Also, present: Robert McEntire, 3660 Beulah Park Dr., and Dan Iulianelli of Iulianelli Custom Homes. The speakers were sworn in.

2. ***Motion by Mr. Brant to approve the minutes from the November 27 meeting of the Board of Zoning Appeals. Second by Mr. Haughn.***

VOTE: Haughn, YES; Brant, YES; **APPROVED.**

3. Hear the appeal of Robert and Jessica McEntire, property owners at 3660 Beulah Park Dr., (Parcel #040-016189) for a variance to Section 1135.10 (a) to exceed the maximum size for an attached garage of 900sf by 140sf, for a total garage area of 1,040sf.

Robert McEntire described the project and the need for additional storage space in the garage area. He said the narrow long lot was a challenge when laying out the garage. It was determined the garage would be side loaded. The design also allows a view of the rear yard. He was not aware of the 900sf maximum for an attached garage. The request is necessary due to multiple drivers in the family and the need for an extra refrigerator, tools, yard equipment, bicycles, etc. Mr. Iulianelli stated the project met the minimum setbacks. The project has architectural review approval.

Motion by Mr. Brant to grant the appeal of Robert and Jessica McEntire, property owners at 3660 Beulah Park Dr., (Parcel #040-016189) for a variance to Section 1135.10 (a) to exceed the maximum size for an attached garage of 900sf by 140sf, for a total garage area of 1,040sf, with one stipulation to begin construction within 12 months.

VOTE: Haughn, YES; Brant, YES; **APPROVED.**

The applicant was advised of the 21-day waiting period.

There being no further business, the meeting was adjourned at 5:42 p.m.

Adjournment.

John Brant, Chair

Laura Scott, Secretary



Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee \$100.00

Date: 12/26/23

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☒ Building Permit ☐ Certificate of Occupancy ☐ Sign Permit

at the following address 1850 GATEWAY CIRCLE Grove City, OH 43123 Parcel # 040-004147

as it is in violation of : Building Code No. _____ Zoning Code No. 1137.05 Other: _____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:

Construct a 6'-0" high decorative black metal fence in the building setback.

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):

TABALEEN LTD, 3667 MARLANE DR, 040-013577

ARC INDUSTRIES INCORPORATED, 3705 MARLANE DR, 040-011532

GATEWAY TO GROWING LLC, MARLENE DR, 040-012799

LEHMAN JAMES N, GATEWAY CR, 040-010204

GREENLAWN REALTY, 1761 GATEWAY CR, 040-014561

ALADDIN SHRINERS HOLDING CORP, GATEWAY CR, 040-015368

ALADDIN SHRINERS HOLDING CORP, 1801 GATEWAY CR, 040-014605

ALADDIN SHRINERS HOLDING CORP, GATEWAY CR, 040-014490

WINDSOR BOLTWORKS LLC, 1929 GATEWAY CR, 040-013521

Are you the applicant or representative? ☐ Applicant ☒ Representative ☐ Property Owner

If you are the representative, who you are representing: Health Care Logistics (applicant), Brian Sweeney (representative)

Please note* As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.

Name of Applicant Matthew Carver Company Health Care Logistics

Address 1850 Gateway Circle City/State/Zip Grove City, OH 43123

Phone 800-848-1633 Fax _____ Email mcarver@gohcl.com

Signature of Applicant Matthew Carver Digitally signed by Matthew Carver
Date: 2023.12.26 16:25:26 -05'00'



Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS

STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

- (1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.
- (2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.
- (3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.
- (4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.
- (5) The special conditions and circumstances do not result from the action of the applicant.
- (6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. The variance will not be contrary to public interest or adversely affect health or safety. Instead, the variance will make the area for both employees of the business and the general public more safe by keeping illegal activities off of the property and out of the area.
2. The variance will not confer any special privilege. The purpose of the fence is to make the property and surrounding area safer and more secure. The fence will be of a decorative black metal that will not negatively affect the aesthetics of the property or surrounding area.
3. The nature of the business (Health Care Logistics) makes this property prone to unwanted illegal attention. Depriving the applicant of the right to secure the property not only negatively affects the owner but also affects the employees and general public of the surrounding area.
4. As stated above, the nature of the business (Health Care Logistics) makes this property prone to unwanted illegal attention. The term "Health Care" leads some people to believe that the business is involved with manufacturing and/or distributing prescription drugs. This leads to increased concerns for trespassing and other illegal activity that other structures in the same zoning district may not experience.
5. The special conditions and circumstances result from people attempting to commit crimes on the property, not the action of the applicant.
6. The variance will not violate the spirit of the Zoning Code. The purpose is to secure the property without detracting from the general aesthetics of the property or the surrounding area.

Signature of Applicant Matthew Carver

Digitally signed by Matthew Carver
Date: 2023.12.26 16:26:10 -05'00'

Date: 12-26-2023



P.O. Box 25
450 East Town Street
Circleville, OH 43113-0025
Call: 1.800.848.1633
Fax: 1.800.447.2923
www.GoHCL.com
hcl@GoHCL.com

December 21, 2023

City of Grove City
4035 Broadway
Grove City, OH 43123
Attn: Planning and Zoning Manager, Laura Scott
Ref: Certificate of Appropriateness

Dear Laura,

Health Care Logistics, Inc. is requesting a six-foot-tall fence for the property located at 1850 Gateway Circle, Grove City, Ohio. Health Care Logistics has encountered a series of unfortunate events and must implement new measures to prevent future occurrences. Listed below are examples of the unfortunate events for your consideration.

- July 2023, property damage from an unauthorized drifting party. Police responded twice to the disturbance.
- Theft of patio furniture and other patio items.
- Trespassers defecating on front sidewalk during business hours.
- Dumpster divers rummage and leave trash outside the dumpster.
- Trespassers use HCL dumpster as their personal trash receptacle.
- Unwanted overnight guests parking and sleeping in their personal vehicles on HCL property.
- Foreign feathered fowl trespassing, chasing, and harassing HCL employees.
- The term "Health Care" in the name of the business leads some people to believe there is manufacturing and/or distribution of prescription drugs. This leads to increased concerns related to trespassing and/or illegal activity.

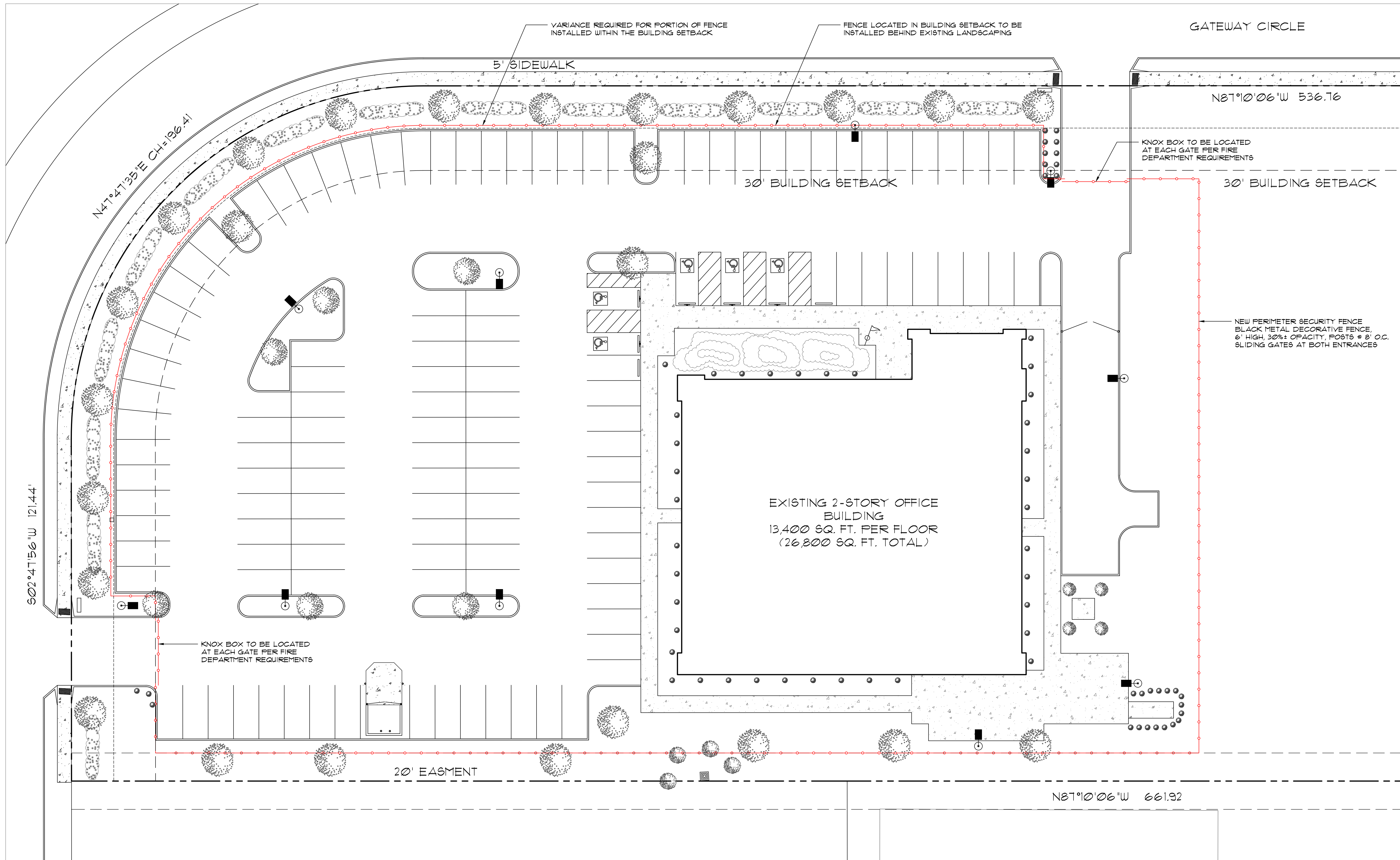
We have camera footage of all the above incidents.

Health Care Logistics, Inc. has six-foot-tall fencing around its Circleville facility. The fence has aided in limiting access to the facility. The fence is one more line of defense to ensure the safety of our employees and company assets.

Health Care Logistics appreciates your time and consideration of the request for a six-foot fence surrounding the perimeter located at 1850 Gateway Circle, Grove City, Ohio and looks forward to your reply.

Kind Regards,

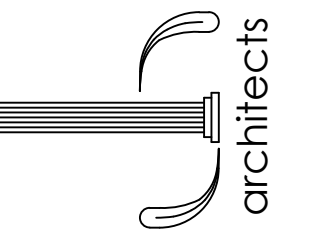
Bethany L. Reid
Health Care Logistics, Inc.
President



A
SPI
SITE PLAN
SCALE: 1/16" = 1'-0"
NORTH

HEALTH CARE LOGISTICS
1850 GATEWAY CIRCLE
GROVE CITY, OH 43123

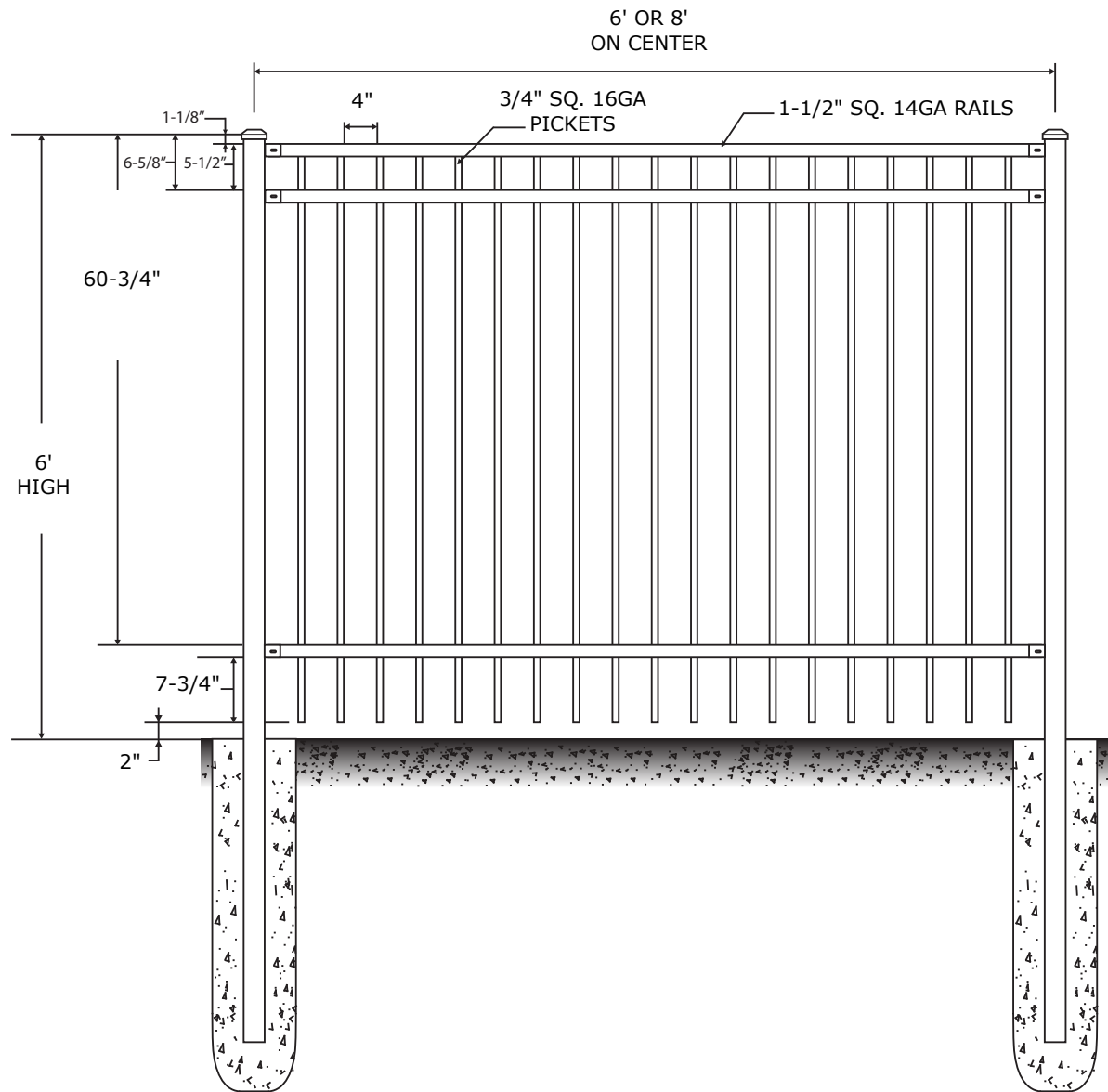
JH Architects, Inc.



5120 B Nike Drive
Hilliard, Ohio 43026
614-527-7590 Fax 614-527-7592

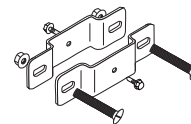
23036
12-26-23

SP1

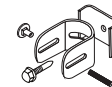


2-1/2" SQ. 14GA POST
10" x 36" IN DEPTH
WITH CONCRETE

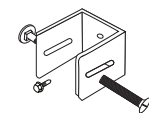
LINE
BRACKETS



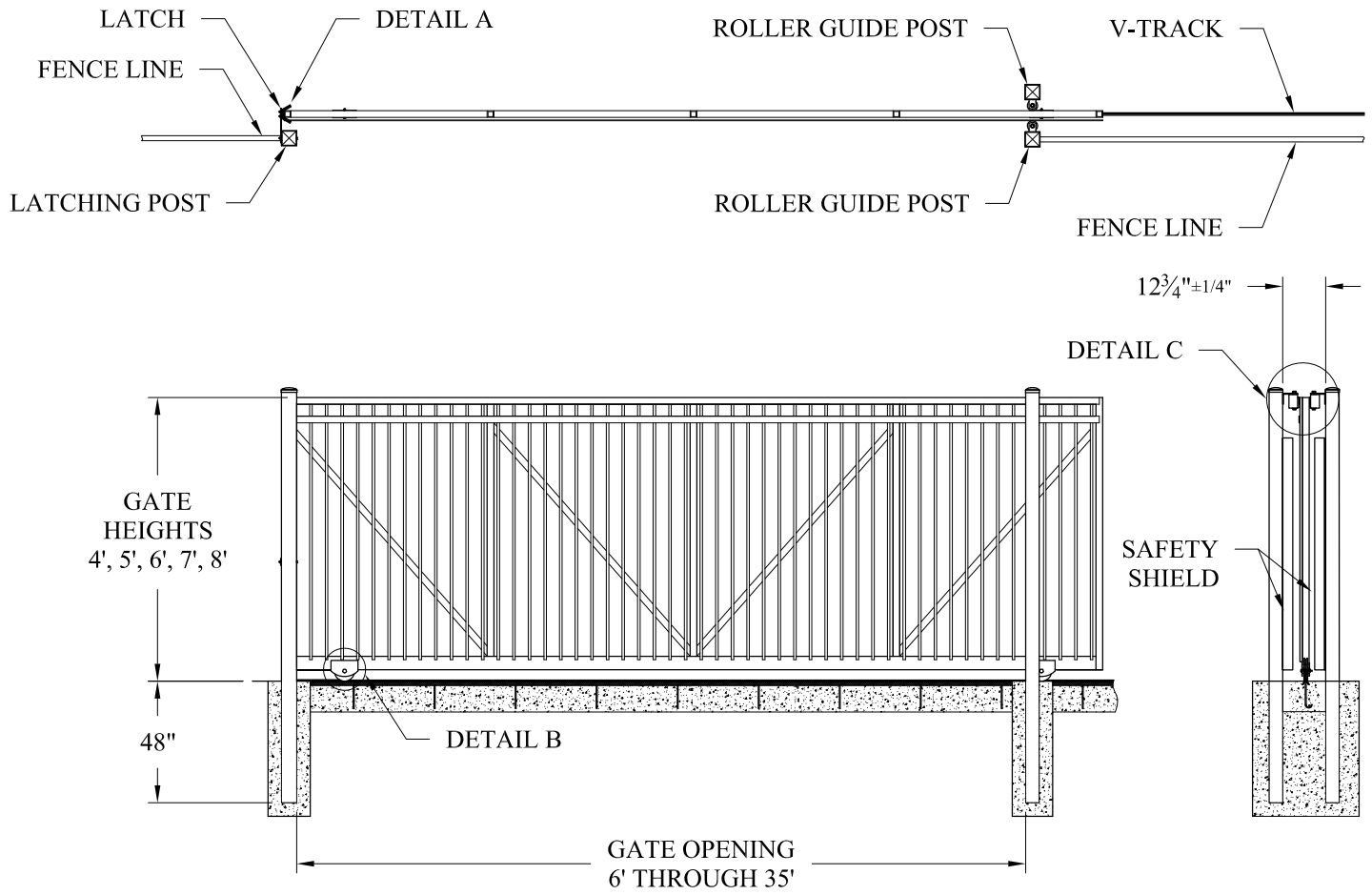
SWIVEL
BRACKETS



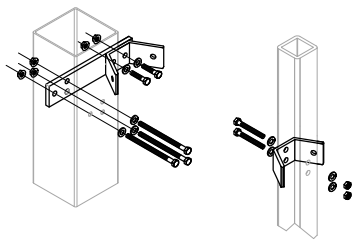
END
BRACKETS



COMMERCIAL GRADE 3-RAIL ORNAMENTAL STEEL FENCE PANEL

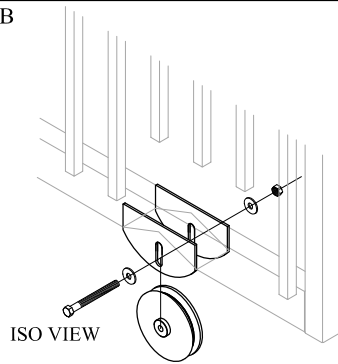


DETAIL A



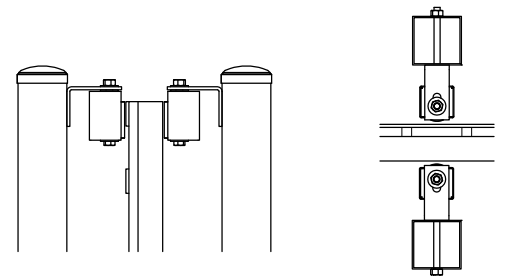
ISO VIEW

DETAIL B



ISO VIEW

DETAIL C



SIDE VIEW

TOP VIEW

PassPort[®] Commercial Ornamental Roll Gate

Ornamental Pickets: $\frac{3}{4}$ " Square
 Top Rail(s), Uprights and Diagonals Braces: 2" Square x 11Ga.
 Bottom Rail: 2" x 4" x 11Ga. (Notched & Plated for V-track Wheels)
 Roll Gate Hardware : Kit #PGKOD
 Available in Profiles of 2-Rail, 3-Rail, & 3-Rail w/Rings

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

1MISOR

Title: **PASSPORT MAJESTIC COMMERCIAL ROLL GATE**

DWN: NJB SH . 1 of 1 SCALE: DO NOT SCALE

ECR: 0412-02 Date: 06/17/13 REV: C



AMERISTAR[®]

1555 N. Mingo
 Tulsa, OK 74116
 1-888-333-3422
 www.ameristar.com













Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals

4035 Broadway, Grove City, Ohio 43123

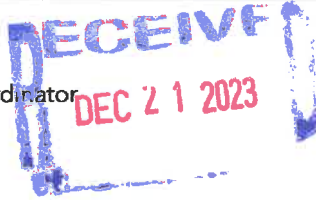
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:

CITY OF GROVE CITY

Filing Fee \$100.00

Date: 12/11/2023



Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☐ Building Permit

☐ Certificate of Occupancy

☒ Sign Permit

at the following address 4996 Snowy Creek Drive

Grove City, OH 43123 Parcel # 040-012432-00

as it is in violation of : Building Code No. _____ Zoning Code No. 1137.05 Other: _____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:

A VARIANCE TO SECTION 1137.05 TO ENCRoACH the 30' front setback
LINE along Shoreside DRNE from 8' to a maximum of 14' with a
48" tall fence for a total front setback of 16'.

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):

FLH SFR Propco KLP 4973 Shoreside Dr Grove City, OH 43123 Parcel # 040-012433-00

MB & SB 5009 Shoreside Dr Grove City, OH 43123 Parcel # 040-012434-00

Kershaw, Jeffrey & Melissa 5014 Snowy Creek Dr Grove City, OH 43123 Parcel # 040-012443-00

Are you the applicant or representative? ☒ Applicant ☐ Representative ☒ Property Owner

If you are the representative, who you are representing: _____

Please note* As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.

Name of Applicant Gregory BAKER

Company _____

Address 4996 Snowy Creek Dr

City/State/Zip Grove City, OH 43123

Phone 937-725-1049 Fax _____

Email gibaker46@yahoo.com

Signature of Applicant [Signature]



Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that all of the following facts and conditions exist:

- (1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.
- (2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.
- (3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.
- (4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.
- (5) The special conditions and circumstances do not result from the action of the applicant.
- (6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. On the south side of the house, the neighbor has fencing up & our fence will go up along side theirs and will not affect their views. Putting up the fencing will not adversely affect the safety or health of the neighbors.

2. Approval does not confer to any special privilege

3. Our decision to chose the 48" Aluminum fence approved by our HOA was based on having a puppy that will grow to be a large dog. We want to be able to enjoy our patio AND backyard without concern our dog will run off or disrupt neighbors walking by.

4. The cement patio and trees around the patio were already in place when we purchased the property and that already encroaches the 30' zoning build line. Because of the curve of shoreside drive, it causes a unique shape of our property and makes it difficult to not encroach (cont.)

5. WE WERE NOT AWARE OF fencing restrictions on a corner lot when we purchased the home.

6. Granting A variance for fencing would not cause an obstruction of vision or violate the spirit of the zoning code.

Signature of Applicant

[Handwritten Signature]

Date:

12/11/2023

Continuation

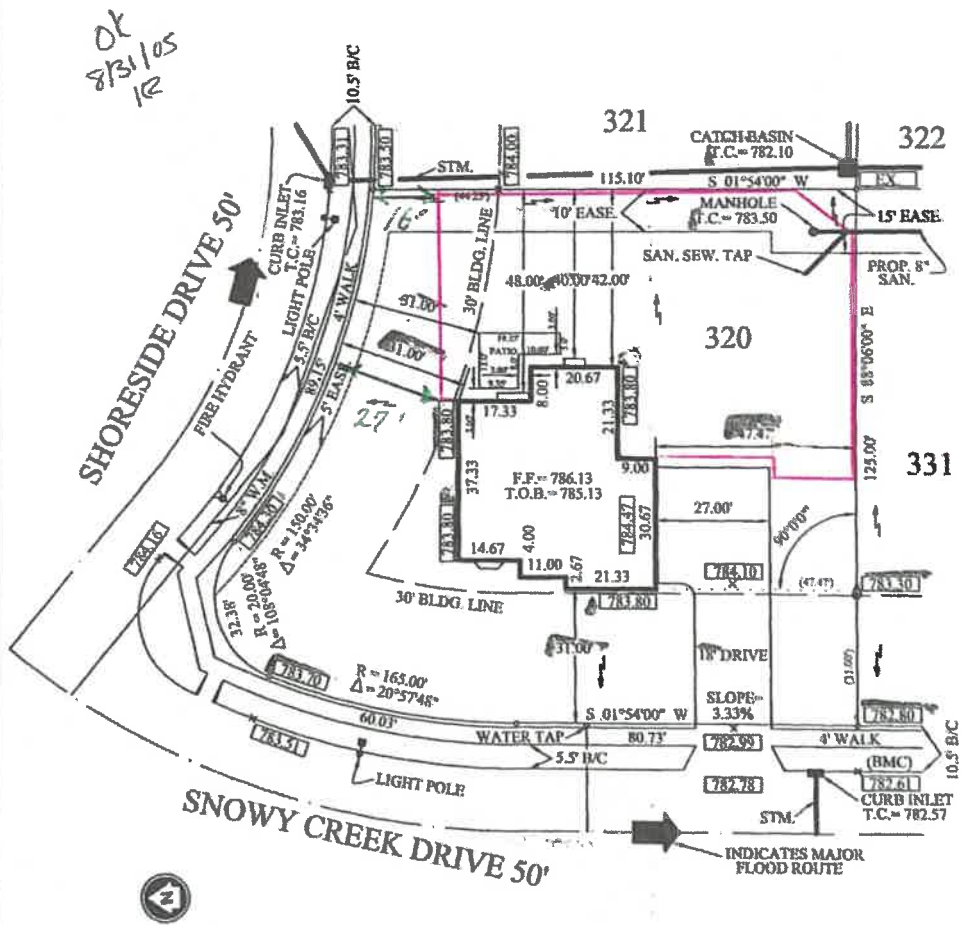
- ④ some aspects of the buildline. if we had to stay within the buildline, the fence appearance would be odd shaped and take away from the appearance of the property.

5750 Chandler Court
Westerville, OH 43082
E-Mail: hoyesinc@aol.com
Phone (614) 895-1922
Survey Fax (614) 895-1949
Construction Fax (614) 895-9549



REVISION DATE & REQUEST		
1	C	08/22/05 CHANGES PER REQUEST (SA)
2	C	08/16/05 ADDED PATIO (SA)
3		
4		
5		

FOR M/I SCHOTTENSTEIN HOMES INC. HOUSE STYLE BURTON TRAD.
 LOT/SUBDIVISION 320 CREEKSIDE SEC. 6 CITY OF GROVE CITY
 SCALE 1" = 30' PB 104 PG. 65 DATE 8/5/05 ORDER NO. _____ DRN. SA CK. _____
 FLOOD ZONE X COMM. PANEL 39049C PAGE 0331G DATE 8/2/95
 MINIMUMS R 15% LOT COV: 12.07%
 S 6'



SQUARE FOOTAGE DATA

LOT	16497.0	APPROACH	188.0
HOUSE	1986.0	WALK	1095.0
DRIVE	1340.0	600 COV.	15040.0

PLOT PLAN
 We hereby certify that the foregoing PLOT PLAN was prepared from information provided by the Client and data obtained from Engineered Subdivision Plan. This Plot Plan is to be used by the Client for the sole purpose of obtaining a building permit. The use of the Plot Plan for any other purpose is strictly prohibited.

By *Steven J. Huy*





**CREEKSIDE AT HOLTON ROAD
HOMEOWNERS' ASSOCIATION**

c/o SBS Management
4872 Cemetery Road
Hilliard, OH 43026
(614) 527-7909 | fax (614) 527-0877
info@sbsmanagementgroup.com

November 22, 2023

Greg L Baker
4996 Snowy Creek Drive
Grove City, OH 43123

Re: Fence installation improvement

Dear Greg Baker:

Upon review of your request for approval of exterior improvements and comparing your request to install fence to the Covenants and Deed Restrictions of Creekside at Holton Road Homeowners' Association, the Design Review Board finds no issues directly related to this construction that are not in compliance of the Association guidelines.

Therefore, the Association gladly approves your additions as shown on your application as long as your improvements have been properly permitted and built within any local governmental zoning requirements (if any) and any setback requirements.

The Association also sends its appreciation of you submitting the proper forms and request to assure your improvements are within the guidelines of the Association.

Sincerely,



Susan Kwadrat
Managing Agent for
Creekside at Holton Road Homeowners' Association



109 E Main Street
Fulton, OH 43321
Tel. 614.929.3526
Fax. 740.936.9991
www.MaeFence.com

Notes:

Proposal Date 10/1/23
Expiration Date
Target Install Date

Name <u>Greg Baker</u>		811 DIG #
Address <u>4996 Shady Creek Dr.</u>		Job Address
City, State, Zip <u>Grove City, OH 43123</u>		Email <u>mbaker7926@gmail</u>
Home Phone <u>(937) 725-1049</u>	Cell	County/ Township/ Subdivision
	Other	

Customer Responsibilities:

- ☐ Obtain Permit / Variance
- ☐ HOA Approval
- ☐ Provide Legal Survey
- ☐ Clear Fence Line
- ☐ Contain Animals
- ☐ Locate Private Utilities

Please Review:

- ☐ Dirt removal is not included unless otherwise specified. COST TO REMOVE \$ _____
- ☐ The fence will follow the natural contour of the property unless otherwise specified.
- ☐ Under no circumstances is Mae Fence responsible for damages to private lines and/or items not professionally located by utility companies, including sprinkler lines, drain tiles, electric fence, and sump pump.
- ☐ Customer understands checking (cracking) in wood is normal and will not impact its structural integrity.
- ☐ A small degree of construction activity and refuse may occur.

A Set back neighbors fence Walkway Tree 48	Total Footage <u>289</u>
	T.D: FTG Haul: FTG ☐ Wood ☐ Link ☐ Other Leave Dirt by Post or Haul Dirt Away # Breaks ☐ Con ☐ Asp Transition Slopes Removable Panels Permits/Approvals ☒ Yes ☐ No \$ <u>250</u> City and Association fees are included PLAT OF SURVEY MUST BE PROVIDED

PAYMENT TERMS: ☐ <u>50</u> % DEPOSIT Balance to be paid to installation crew chief or office upon completion ☐ _____ % DEPOSIT Terms: _____	Payment 1 \$ _____ Date _____ V M D A Check # _____ Exp _____ Sec _____	Payment 2 \$ _____ Date _____ V M D A Check # _____ Exp _____ Sec _____	Payment 3 \$ _____ Date _____ V M D A Check # _____ Exp _____ Sec _____	TOTAL \$ <u>10,550</u>
	DEPOSIT \$ <u>5275</u>			
	BALANCE \$ <u>5275</u>			

ACCEPTANCE OF PROPOSAL:

\$5,575

YOU, THE CONSUMER, MAY CANCEL THIS TRANSACTION AT ANY TIME PRIOR TO MIDNIGHT OF THE THIRD BUSINESS DAY AFTER THE DATE OF THIS TRANSACTION

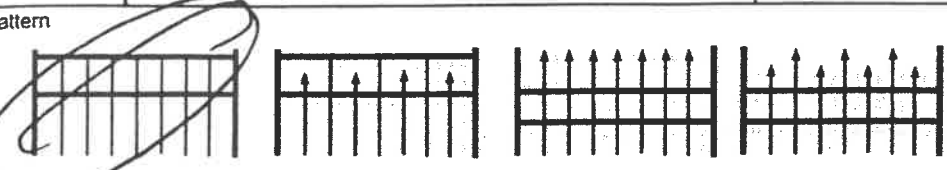
The above prices, specifications and conditions are satisfactory and are hereby accepted. Payment will be made as outlined in this contract. All work is to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra charges will be executed only upon written orders and will become an extra cost over and above the sale price. Cancellation of this contract after three business days will result in a 20% restocking fee. In the event of a default payment, Mae Fence may place the account with an agency and/or attorney for collection. Mae Fence may record and enforce a mechanic's lien against the property on which the project was installed in accordance with the Mechanic's Lien Act, as amended. Customer agrees to pay all fees and costs associated with default payments. Our employees are fully covered by workman's compensation insurance.

Payment is due immediately following installation.

Company Representative <u>Tyler (614) 580-6722</u>	Customer Signature _____ Date _____
---	--

Name:

Target Install Date:

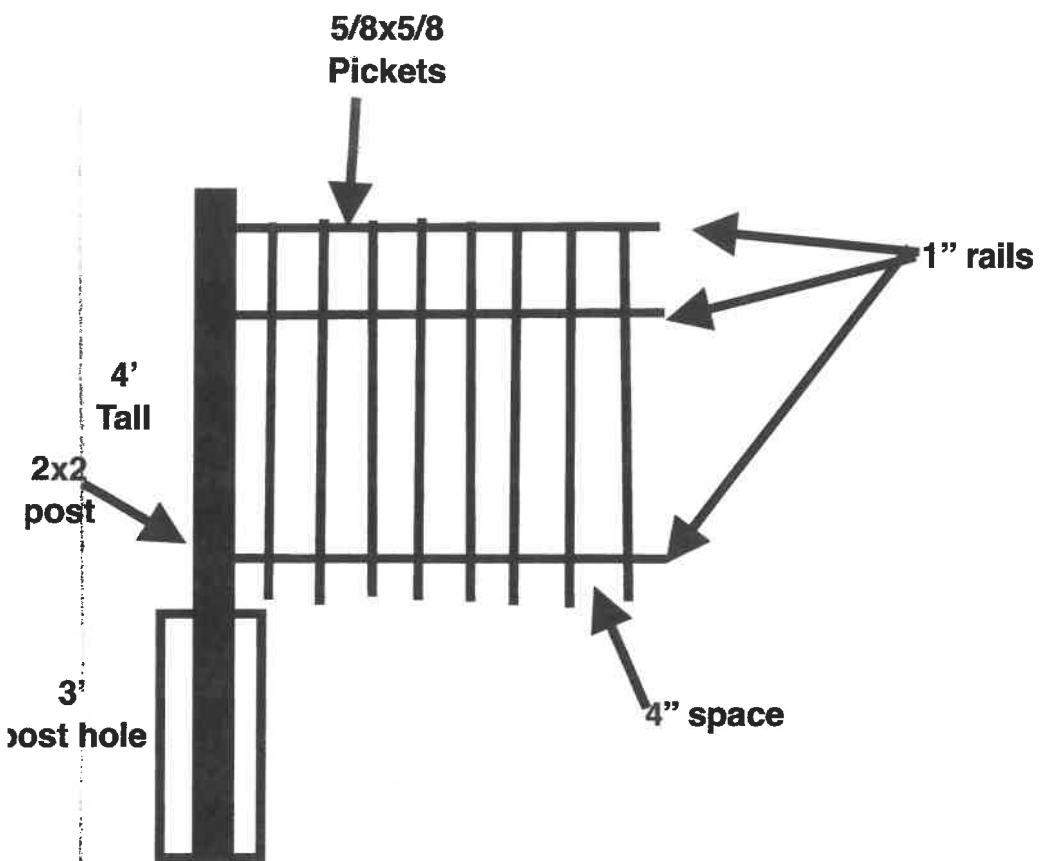
Height 4	Material ☒ Aluminum ☐ Steel ☐ Other: _____	Color ☒ Black ☐ White ☐ Pewter ☐ Bronze ☐ Tan ☐ Other: _____	
Pattern 		Other: _____	
Picket Size ☒ 5/8"x 5/8" ☐ 3/4"x 3/4" ☐ 1"x 5/8" ☐ 1"x 1"		Picket Top ☒ None ☐ Quad Finial ☐ Pressed Spear ☐ Triad Finial	
		Picket Spacing ☐ Standard ☐ Other: _____	
# of Rails 3	Rail Placement ☒ Standard ☐ Flush Bottom	Construction ☒ Fitted ☐ Bracketed	# of Bracketed Panels _____
		Panel Size ☐ 6' Wide ☐ 8' Wide	Rail Size ☒ Standard ☐ Other: _____
Post Size 2"	Post Setting ☒ Standard ☐ Flanged	# of Flanged Posts _____	Post Top ☐ Beveled Cap ☐ Ball Cap
		Coating ☐ Powder Coat ☐ Baked Enamel ☐ Other: _____	
Notes ☒ Single ☐ Double	Amount 2	Width 5ft	Hardware Self closing
Notes ☒ Single ☐ Double	Amount 4 2	Width 4ft	Hardware Self closing
Notes ☐ Single ☐ Double	Amount _____	Width _____	Hardware _____

10,550
All in

\$10,850 all in

Customer Initial

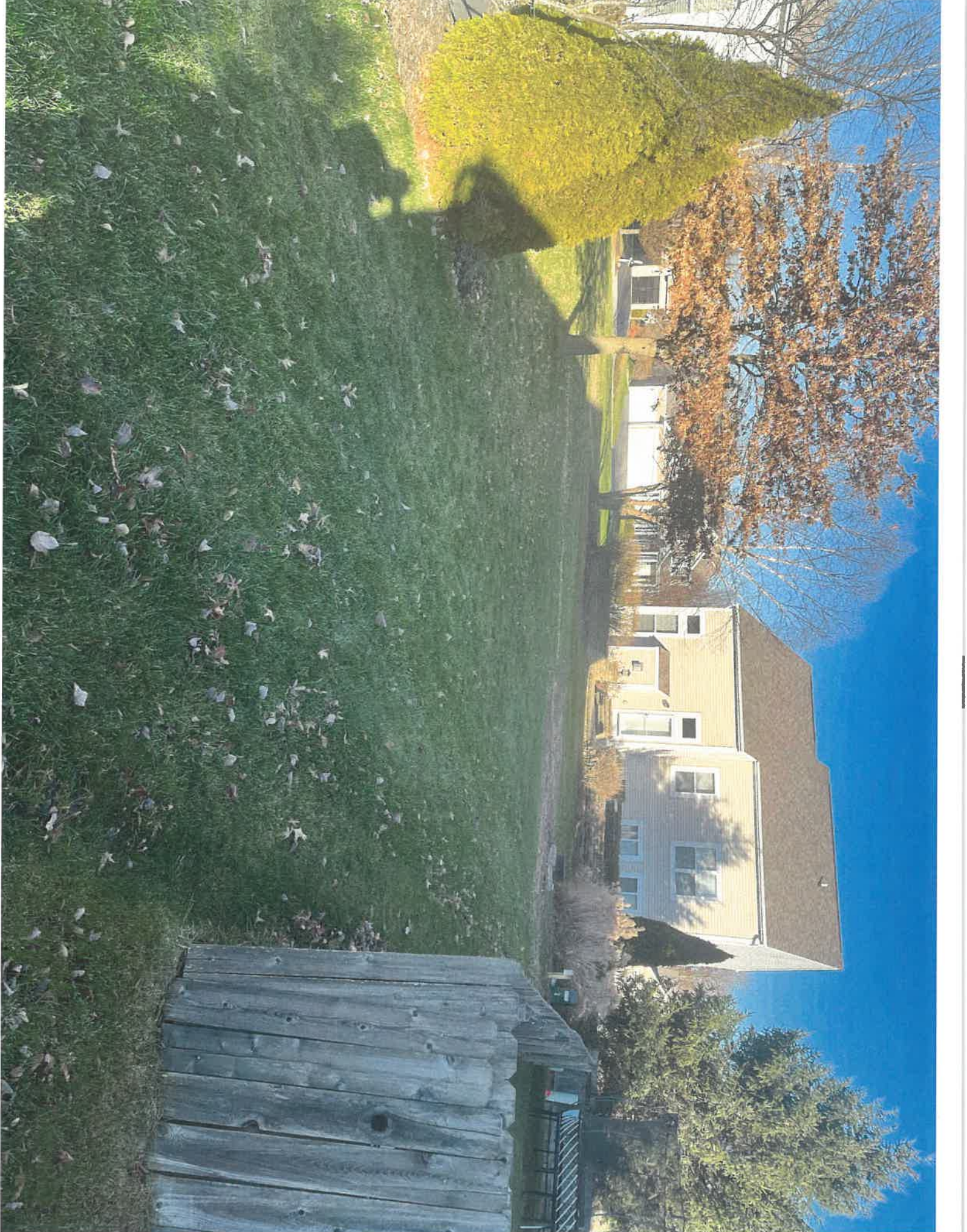
GRAND TOTAL \$



4' Black Aluminum Closed Top Standard Bottom Fence











Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS APPLICATION

TO: Board of Zoning Appeals
4035 Broadway, Grove City, Ohio 43123
Phone: 614-277-3075 - Planning & Zoning Coordinator

Checks Made Payable To:
CITY OF GROVE CITY
Filing Fee \$100.00

Date: 12-26-2023

Application information must be completed or it will be returned and not placed on an agenda until it is complete and re-submitted. One original set of plans and 13 copies (14 total sets) shall be included when submitting this application. Each set shall include this application form and any additional attachments.

The City of Grove City Building Inspector has refused to issue a:

☒ Building Permit

☐ Certificate of Occupancy

☐ Sign Permit

at the following address 5824 Quail Run Drive, Grove City, OH 43123 Parcel # 040-009118

as it is in violation of : Building Code No. _____ Zoning Code No. _____ Other: _____

I appeal to the Board of Zoning Appeals for a variance that will allow me to do the following:
Please see attached Exhibit "A".

Names, Address and Parcel numbers of all adjoining property owners (attach a separate sheet if needed):
Please see attached Exhibit "B".

Are you the applicant or representative? ☒ Applicant ☒ Representative ☐ Property Owner

If you are the representative, who you are representing: George O. and Rhea L. Humphrey

Please note* As the representative for this application, all correspondence will be directed to you. If additional space is needed, an addendum may be attached.

Name of Applicant Rebecca J. Mott, Attorney Company Plank Law Firm, LPA

Address 411 East Town Street, Floor 2 City/State/Zip Columbus, Ohio 43215

Phone 614-947-8600 Fax 614-228-1790 Email rjm@planklaw.com

Signature of Applicant Rebecca J. Mott, Attorney



Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

BOARD OF ZONING APPEALS STATEMENT OF HARDSHIP

Under Section 1133.02 of the Grove City Codified Ordinances, the Board of Zoning Appeals has the power to grant variances from the Zoning Code or Sign Code. No variance shall be granted unless the Board finds that **all** of the following facts and conditions exist:

- (1) The variance granted will not be contrary to public interest or adversely affect the health or safety of persons residing or working in the vicinity of the proposed development or be injurious to private property or public improvements in the vicinity.
- (2) Granting the variance requested will not confer on the applicant any special privilege that is denied by the Zoning Code or Sign Code to other lands or structures in the same zoning district.
- (3) A literal enforcement of the Zoning Code and Sign Code will result in unnecessary hardship by depriving the applicant of rights commonly enjoyed by other properties in the same zoning district under the terms of the Zoning Code or Sign Code.
- (4) Special conditions and circumstances exist which are peculiar to the land or structure involved, and which are not applicable to other lands or structures in the same zoning district.
- (5) The special conditions and circumstances do not result from the action of the applicant.
- (6) The variance so granted does not violate the spirit of the Zoning Code. In granting a variance, the Board may impose such requirements and/or conditions it deems necessary and are not inconsistent with substantial justice and avoiding unreasonable hardship to property owners.

I have read Section 1133.02 and believe that my application for relief satisfies each of the six criteria set forth above in the following ways (attach a separate sheet if needed):

1. N/A

2.

3.

4.

5.

6.

Signature of Applicant

Rebecca J. Mott, Attorney

Date: 12-26-2023

Exhibit "B"

Parcel ID #	Owner Name	Owner Tax Mailing Address	Owner Mailing Address	Property Address or Site Address
040-009132-00	Lester & Teresa Aderhold	Corelogic - N/A (Mortgage)	5833 Birch Bark Court, Grove City, Ohio 43123	5833 Birch Bark Court, Grove City, Ohio 43123
040-009131-00	FKH SFR Propco H LP	One Parkway 75 Center, 1850 Parkway Place SE, Suite 900, Marietta, Georgia 30067	1850 Parkway Place, Suite 900, Marietta, Georgia 30067	5823 Birch Bark Court, Grove City, Ohio 43123
040-009130-00	Ronald E. & Stacy L. Whisner	5813 Birch Bark Court, Grove City, Ohio 43123	5813 Birch Bark Court, Grove City, Ohio 43123	5813 Birch Bark Court, Grove City, Ohio 43123
040-009129-00	Donald R. & Karaline K. Grubaugh	Corelogic - N/A (Mortgage)	5803 Birch Bark Court, Grove City, Ohio 43123	5803 Birch Bark Court, Grove City, Ohio 43123
040-009128-00	Steven M. & Sue A. Burke	5793 Birch Bark Court, Grove City, Ohio 43123	5793 Birch Bark Court, Grove City, Ohio 43123	5793 Birch Bark Court, Grove City, Ohio 43123
040-009120-00	William A. & Bernice Ruth Johnson	Corelogic - N/A (Mortgage)	5804 Quail Run Drive, Grove City, Ohio 43123	5804 Quail Run Drive, Grove City, Ohio 43123
040-009119-00	Annemarie Huston	Union Savings Bank - N/A (Mortgage)	5814 Quail Run Drive, Grove City, Ohio 43123	5814 Quail Run Drive, Grove City, Ohio 43123
040-009118-00	George O. & Rhea L. Humphrey	5824 Quail Run Drive, Grove City, Ohio 43123	5824 Quail Run Drive, Grove City, Ohio 43123	5824 Quail Run Drive, Grove City, Ohio 43123
040-009117-00	Patricia M. Gorman	5834 Quail Run Drive, Grove City, Ohio 43123	5834 Quail Run Drive, Grove City, Ohio 43123	5834 Quail Run Drive, Grove City, Ohio 43123
040-009116-00	Zavier Rafael Sanchez	Corelogic - N/A (Mortgage)	5844 Quail Run Drive, Grove City, Ohio 43123	5844 Quail Run Drive, Grove City, Ohio 43123
040-009115-00	Robert G. & Viola M. Briggeman	Corelogic - N/A (Mortgage)	5839 Quail Run Drive, Grove City, Ohio 43123	5839 Quail Run Drive, Grove City, Ohio 43123
040-009114-00	Robert J. & Lila J. Moran	5829 Quail Run Drive, Grove City, Ohio 43123		5829 Quail Run Drive, Grove City, Ohio 43123
040-009113-00	CVC and Mary Kate Thomas	Corelogic - N/A (Mortgage)	5819 Quail Run Drive, Grove City, Ohio 43123	5819 Quail Run Drive, Grove City, Ohio 43123
040-009112-00	Matthew Thompson	Corelogic - N/A (Mortgage)	5809 Quail Run Drive, Grove City, Ohio 43123	5809 Quail Run Drive, Grove City, Ohio 43123

Exhibit "A"

This is an appeal by Applicant, Rebecca J. Mott, Attorney for Property Owners, George O. Humphrey and Rhea L. Humphrey, relative to the Notice of Corrections Required letter issued by the City of Grove City, Ohio Building Division (Chief Building Official) dated November 27, 2023 (the "Notice of Corrections Decision"), under Building Permit Application # PR20230001674 (the "Permit Application"). Please also see the Permit Application, as set forth on Exhibit 1, attached hereto and incorporated herein by this reference. Please see Notice of Corrections Decision, as set forth on Exhibit 2, attached hereto and incorporated herein by this reference.

Applicant is appealing the Notice of Corrections Decision for the following reasons (in sequential order from the order contained in the Notice of Corrections Decision):

Building Review

1. Sealed plans need to be stamped by Ohio Licensed Engineer to be accepted.

This building correction item fails for lack of specific reference (and proper, legal notice to, Applicant and Property Owners) as to any Zoning Code regulation or other sections or regulations of the Codified Ordinances of the City of Grove City, Ohio, for which this item of correction applies or pertains, or that Applicant's Permit Application fails to comply with any standard.

Further, Applicant provided a site plan/survey dated October 27, 2023 (the "Site Plan"), stamped by a licensed surveyor, Steven J. Hoy (License Number 7313), with the Permit Application for review of the site improvements for the real property located at 5824 Quail Run Drive, Grove City, Ohio 43123 (the "Property") to show compliance of the proposed site improvements with the land use approvals obtained for the Property and other Zoning Code standards that apply to the zoning district. In addition, the Applicant provided plans and specifications for the pool

enclosure from the manufacturer, Aqua Shield, Inc. The manufacturer's plans and specifications include the structural analysis for the pool enclosure structure frame by Engineering System, P.C., a New York licensed professional engineer, for support of structural load combinations prescribed by the 2015 International Building Code for consumers' purchases of the product in any state for which Aqua Shield, Inc., sells its products. There is no building contractor hired to install the pool enclosure structure; thus, no contractor as an Ohio licensed Engineer will install the improvement, and thus, no set of plans for any construction of the improvement applies. Applicant appeals from the decision made in the Notice of Corrections Decision under this item for (i) the Chief Building Official, or his designee's, failure to specify any code section or regulation that applies to this item or this proposed improvement, or (ii) that Applicant fails to comply with any code section or regulation of the Codified Ordinances of the City of Grove City, Ohio, and (iii) for ambiguity as to what type of "sealed plans need to be stamped by an Ohio licensed engineer" in order to be accepted and considered under the Permit Application.

Zoning Review

1. The required rear building setback is 25 feet; this structure per provided survey is 18'8". 1135-10 Grove City Codified Ordinance.

The rear building setback that applies to this Property is not 25 feet, which comes from the current Zoning Code. This Property was approved, under a PUD-R zoning (and preliminary development plan under CR-85-93 and final development plan under CR-42-94) in 1993 and 1994. The lot development standards that apply to the Quail Creek Extension and Meadowgrove Extension in the area for which the Property is located are the PUD-R (R-1B) standards and are found in the 1986 lot development standards table under 1135.10 (as contained under C-19-86), which reflects that the standard applicable to a rear yard in an R-1, R-2, R-3, D-1, and D-2 zoning

*district are: "Rear Yard = 15% of the total lot depth". Thus, according to our submitted Site Plan, attached, the calculation of rear yard is as follows: Total Lot Depth (125') * 15% = 18.75'. The pool enclosure structure can, therefore, be at the 18.75' setback line from the rear lot line, but the pool enclosure structure is slightly setback even more to actual the measurement of 18.8'. Thus, the Applicant's pool enclosure structure meets the rear yard requirement for this Property.*

2. Building exceeds 700 square feet max for detached garages and accessory structures, this structure is 960 square feet. 1135-10 Grove City Codified Ordinance.

The third paragraph of Section 1135.10(a), regarding size requirements, only refers to "detached garages" having a maximum square footage of 700 square feet. Although we would agree and opine that a pool enclosure structure is considered a "building" for purposes of the Zoning Code and is a "structure" for purposes of the Zoning Code, it is clearly not a "garage" or "residential garage", and, thereby, not a "detached garage" for purposes of the Zoning Code. The definition of "garage" and "residential garage" under the Zoning Code at Section 1131.03(29) and (29)(A) are: "Garage" means any building or portion of building in which motor vehicles are kept stored. "Residential garage" means a closed structure designed for vehicular parking with a minimum 20 x 20 floor area dimension. Floor area shall be measured from the exterior dimensions." Obviously, there will be no motor vehicles stored under the in-ground pool enclosure structure, as it is intended to enclose an in-ground pool. Thus, there is no violation of this code section, and no variance is needed.

Wall height of 9'6" exceeds max allowed wall height of 8' for accessory structure. 1137-08 Grove City Codified Ordinance.

The Notice of Corrections Decision cites to the following code section as well: Section 1137.08 regarding wall height, and we assume you intend to cite to 1137.08(h). This section states

as follows: "No detached garages and accessory buildings shall exceed a wall height of eight feet above finished floor, and an overall maximum of 13 feet above finished floor." Although we agree that this code section would apply to the pool enclosure structure as an "accessory building" for purposes of the Zoning Code, the pool enclosure structure's highest dome height is the center at 9.6' in height. And, that center height - the tallest height overall - is the only measurement that can be used under this code section, because the rounded walls leading up to the center dome height are rounded, have no edge, have no stop point, and there is no way to say where a side wall stops and a roof begins. Therefore, the pool enclosure structure meets this code section for being under the maximum overall height of 13 feet above finished floor, as the most reasonable way to measure height of a rounded dome structure for purposes of the Zoning Code. Further, Ohio case law makes it clear that "any ambiguity in a zoning regulation must be construed in favor of the property owner and the proposed use." Thus, we meet this code section as well, and there is no violation, and no variance is needed.

4. All permits associated with the construction of the pool have expired, inspections have never been completed. Pool permits need to be renewed and completed.

Please explain what you mean by the in-ground pool, which has been permitted long ago, by building permit, needs to be renewed. The lawful permit issued for the in-ground pool has not expired under Section 1305.09 or been revoked under Section 1305.10 of the Building Code. There is no section of the Building Code, for which we are aware, that deals with renewals of building permits or other permits once the improvement that was permitted was installed.

HOY LAND SURVEYING
1767 McCorkle Blvd #1767
Westerville, Ohio 43086
Phone: 614-679-1186



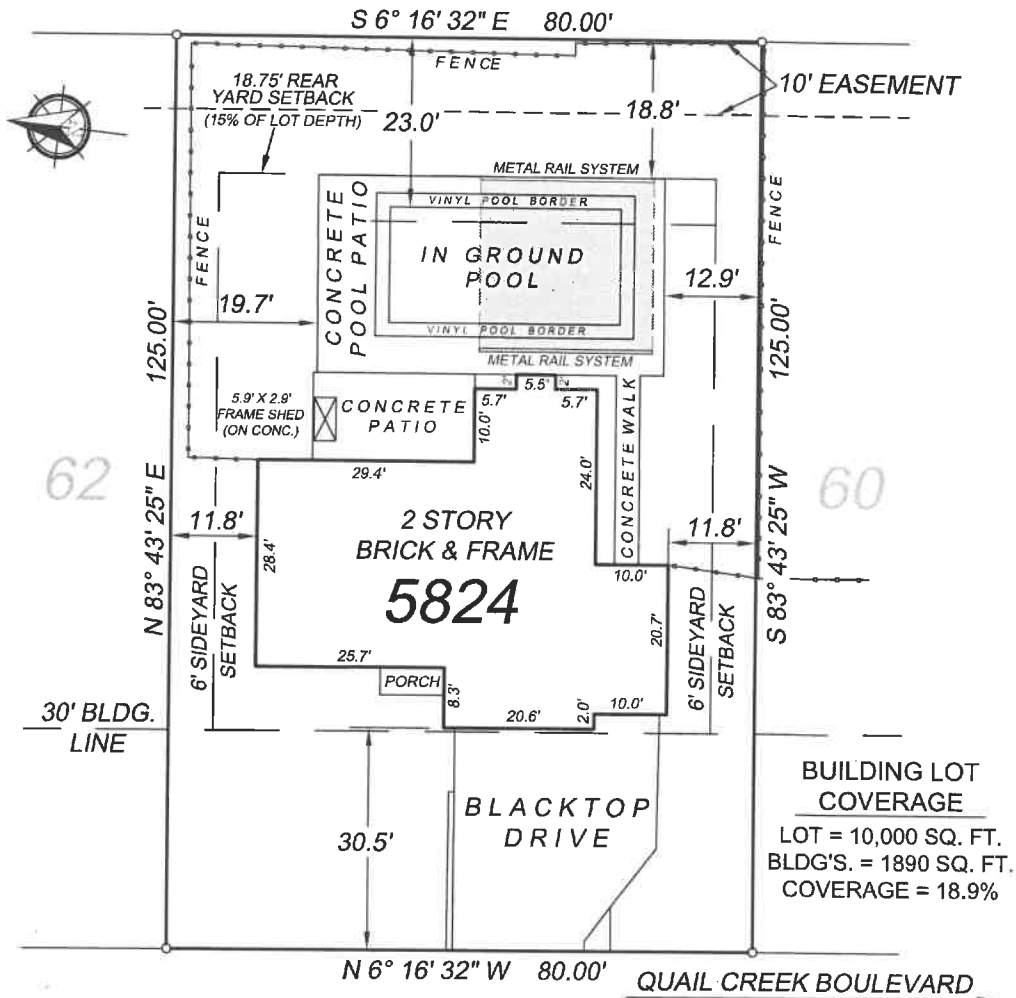
JOB NUMBER #: 5390-2023 S DATE OF DRAWING 10-27-23

CERTIFIED TO GEORGE & RHEA HUMPHREY

LEGAL DESC. LOT 61 ~ QUAIL CREEK SECTION NO. 2

P.B. 82 PG. 52 - 53

CITY/TWP. GROVE CITY COUNTY FRANKLIN DRN. KLH CK. SJH DRAWING SCALE 1" = 20'

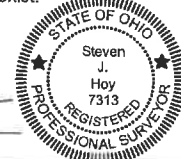


QUAIL RUN DRIVE 60'

I hereby certify that this survey was prepared from an actual survey of the premises completed on October 24, 2023 under my direct supervision and that it and the information, courses and distances as shown are correct to the best of my knowledge and belief. Easements shown on this exhibit were taken from the subdivision plat of record. Additional easements affecting this property may exist.

By

Steven J. Hoy





GENERAL PERMIT APPLICATION

Grove City Building Division • 4035 Broadway, Grove City, OH 43123 • 614-277-3075 • 614-277-3090 (Fax) Grove City, Ohio, 43123

RECEIVED
JUN 27 2005

COMPLETE THE FOLLOWING APPLICATION

EXHIBIT

ATTACH TO THE PROJECT AND PERMIT REQUESTED

PROJECT / PERMIT TYPE	REQUIRED FIELDS	ADDITIONAL INFORMATION
All Permit Types	1-17 and 65-69	Must be attached below.
Accessory Building	18-31	
Commercial Building	18-28	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Fire/Smoke Alarm	18, 32 and 33	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Hood	18 and 34	A registered design professional must be declared on the attached Contractor Declaration form.
Commercial Sprinkler	18 and 35-43	Submitted drawings must include location and elevation of static and residual test gauges; direction of flows; static pressure capacity; residual pressure capacity; and flow rates.
Demolition	18, 19 and 22	Submit Demolition Application Owner Statement. Asbestos report required. Asbestos must be removed before demolition (OAC 3745.20). Debris must be thoroughly dampened. Final inspection required at completion of demolition. Demolition permitted Mon.-Fri. 7:30 a.m.-6 p.m. Administrator may order inspection at any time during demolition.
Electric	18	For commercial projects, a registered design professional must be declared on the attached Contractor Declaration form.
Generator	50-53	
HVAC	18 and 54-57	For commercial projects, a registered design professional must be declared on the attached Contractor Declaration form.
Medical Gas	18 and 55-59	No part of the system shall be covered or used until inspected, tested and approved.
Plumbing	18 and 60	An air test is required at final inspection.
Pool/Spa	18 and 44-49	Applicant must also apply for Electric Permit. Perimeter enclosure(s): where required, gate shall be 4' or taller, lockable, self-closing and/or self-latching. Slats shall be no farther apart than 4".
Residential Building	18-31	
Sidewalk/Approach	No additional fields.	Concrete approach must be 6" thick with a maximum slope of 10 percent. Concrete sidewalk must be 4" thick with a maximum slope of two percent.
Temporary Structure	61-64	

GENERAL PERMIT APPLICATION

PROPERTY INFO.	1. Address in Grove City, Ohio 43123 5824 Quail Run Drive	2. Unit/Suite/Lot	3. Subdivision/Development Quail Creek
	4. Parcel Number ☐ a. 040 ▶ 61 ☐ b. 160 ▶	5. Zoning District	
OWNER INFO.	6. Owner Name George Humphrey	7. Owner Phone 614-361-5862	
	8. Owner Address	9. Owner Email	
BUSINESS INFO.	10. Business Name	11. Phone	
	12. Business Address	13. Business Ownership Type ☐ a. Private ☐ b. Public ☐ c. Non-Profit	

GENERAL PROJECT INFORMATION	14. Project Name Aquashield Kit Installation		15. Valuation \$ 48,000.00		
	16. Permit Type(s) Applying for (up to six) a. ▶ b. ▶ c. ▶ d. ▶ e. ▶ f. ▶				
	17. Project Type ☒ a. New Build ☐ b. Alteration ☐ c. Addition ☐ d. Repair ☐ e. Replacement	18. Coverage a. Building 168 to 964.8 sq. ft. b. Const. Scope 24' wide sq. ft. c. No. Structures 1 d. No. Units 1 e. Living Area 0 sq. ft. f. Height 9 ft. 6 in.	19. Current Use Groups a. ▶ b. ▶ c. ▶ d. ▶	20. Proposed Use Groups a. ▶ b. ▶ c. ▶ d. ▶	21. Occupancy Load ☒ a. No Occupancy Load ☐ b. Occupancy Load ▶ persons
	22. Construction Type ▶				
	23. House Model Name (if applicable) ▶				



GENERAL PERMIT APPLICATION

UTILITY SPECS	24. Heating Fuel Type ☐ a. Gas ☐ b. Electric ☒ c. None ☐ d. Other _____	25. Water Supply Type ☐ a. Private ☐ b. Public ☒ c. None	26. Water Tap Size ☐ a. 5/8" ☐ b. 3/4" ☐ c. 1" ☐ d. 1 1/2" ☐ e. 2" ☐ f. 3" ☐ g. 4" ☐ h. 6" ☐ i. 8" ☐ j. 10" ☐ k. 12" ☐ l. 16"	27. Sewer Supply Type ☐ a. Private ☐ b. Public ☒ c. None	28. Fire Tap Size ☐ a. 5/8" ☐ b. 3/4" ☐ c. 1" ☐ d. 1 1/2" ☐ e. 2" ☐ f. 3" ☐ g. 4" ☐ h. 6" ☐ i. 8" ☐ j. 10" ☐ k. 12" ☐ l. 16"
	29. Distance from the rear property line ▶ 15 ft. 0 in.		30. Distance from the street property line ▶ 75 ft. in.		31. Distance from the nearest side property line ▶ 15 ft. in.
FIRE AND SMOKE SYSTEM SPECS	32. Number of Devices a. Audible Visual Devices ▶ _____ b. Pull Stations ▶ _____ c. Area Smoke Detectors ▶ _____ d. Duct Smoke Detectors ▶ _____ e. Other ▶ _____			33. Power Supply ☐ a. Line Voltage ☐ b. Low Voltage	
	35. NFPA Sprinkler Hazard Coverage Type ☐ a. Light ☐ b. Ordinary ☐ c. Extra Hazard ☐ d. Other _____		36. Design Standard ☐ a. Hydraulic Calculations ☐ b. Pipe Schedule Calculations		37. Nearest Fire Station ☐ a. 201 ☐ b. 202 ☐ c. 203 ☐ d. 204 ☐ e. Other _____
	38. Station Distance ▶ _____ miles				
	39. Aisle Width ▶ _____ ft. in.	40. Storage height ▶ _____ ft. in.	41. Sprinkler Demand ▶ _____ gpm/sqft	42. Standpipe Demand ▶ _____ gpm/sqft	43. Sprinkler Type ☐ a. Wet ☐ b. Dry ☐ c. Other _____
POOL SPECS	44. Pool Type ☐ a. Above-ground ☐ b. In-ground ☐ c. Indoor		45. Heater Type ☐ a. Gas ☐ b. Electric ☐ c. None		46. Diving Board ☐ a. Equipped ☐ b. Not Equipped
	47. Pool Depth a. Minimum ▶ _____ ft. in. b. Maximum ▶ _____ ft. in.				
48. Barrier Type Around Pool ☐ a. Does Not Apply ☐ b. Other _____			49. Fence Height a. "A" Side ▶ _____ ft. in. b. "B" Side ▶ _____ ft. in. c. "C" Side ▶ _____ ft. in. d. "D" Side ▶ _____ ft. in.		
GEN. SPECS	50. Electric Load Calculation ▶ _____		51. Electric Load ▶ _____		52. Plumbing/Gas Load Calculation ▶ _____
	53. Plumbing/Gas Load ▶ _____ BTU/h				
HVAC SPECS	54. HVAC Unit(s) Quantity ▶ _____		55. Refrigeration & Pressure Pipe Unit(s) Quantity ▶ _____		56. Fireplace Quantity ▶ _____ Chimney Quantity ▶ _____
	57. Gas Line Outlets Quantity ▶ _____				
MEDICAL GAS SPECS	58. Number of Systems: a. CO ₂ ▶ _____ b. He ▶ _____ c. N ▶ _____ d. N ₂ O ▶ _____ e. O ₂ ▶ _____ f. Instrument Air ▶ _____ g. Medical Gas ▶ _____ h. Medical Vacuum ▶ _____ i. Waste Anesthesia Gas Disposal ▶ _____ j. Other ▶ _____				
	59. Number of Outlets: a. CO ₂ ▶ _____ b. He ▶ _____ c. N ▶ _____ d. N ₂ O ▶ _____ e. O ₂ ▶ _____ f. Instrument Air ▶ _____ g. Medical Gas ▶ _____ h. Medical Vacuum ▶ _____ i. Waste Anesthesia Gas Disposal ▶ _____ j. Other ▶ _____				
PLUMBING SPECS	60. Number of Fixtures: a. Dishwasher ▶ _____ b. Backflow Preventer ▶ _____ c. Backwater Valve ▶ _____ d. Dilution Sump ▶ _____ e. AAV ▶ _____ f. Rain Drain ▶ _____ g. Sterilizer ▶ _____ h. Garbage Disposal ▶ _____ i. Interceptor ▶ _____ j. Outside Faucets ▶ _____ k. Trap ▶ _____ l. Sump Pump ▶ _____ m. Trap Primer ▶ _____ n. Water Line ▶ _____ o. Gas Outlet ▶ _____ p. Other ▶ _____				
TEMP. STR. SPECS	61. Large Event Permit Application Submitted? ☐ a. Yes ☐ b. No		62. Alcohol Served? ☐ a. Yes ☐ b. No		63. Type of Structure ☐ a. Tent ☐ b. Free-Standing Canopy ☐ c. Other _____
	64. Dates Standing? a. Setup ▶ _____ b. Tear-down ▶ _____				

APPLICANT ACKNOWLEDGMENT & SIGNATURE

Once submitted, this application becomes a public document. Falsification of a public document is a violation of Ohio Revised Code 2921.13(a)(3) a misdemeanor of the first degree, punishable by up to six months imprisonment, or a fine of \$1,000, or both.

By signing below, I acknowledge I have read and understand the above-listed notice, followed each instruction pertaining to the permit type I am requesting, and the information provided is true and complete to the best of my ability.

APPLICANT INFORMATION	65. Applicant Name George	66. Phone Number	67. Email
	68. Signature 	69. Date	

Aqua Shield, Inc. Enclosure Frame Structural Analysis



Prepared per Aqua Shield, Inc., Inc. Order
114 Bell Street West Babylon NY 11704

Structural Analysis Result and Engineer's Opinion:

This Structural Analysis is based on the assumptions and data only available at the time of design as to the best of author's knowledge.

Attention!!! This Structural Analysis shall not to be used and must be returned to the author for additional review and actions if any reasonable doubts about reliability of design assumptions or data will arise.

This Structural Analysis provides evidentiary support that referred Enclosure Frame is capable to withstand critical load combinations as prescribed by 2015 IBC for PA 18334 vicinity:

- a) Ground Snow Load $P_g = 30 \text{ lb/ft}^2$
- b) Basic Wind Speed $V = 115 \text{ mph}$
- c) Seismic $S_{DS} = 0.160 \text{ g}$

Produced by or under direct supervision of Alexey Leonichev, P.E.

Warning: It is a violation of Law to alter this Document in any way.



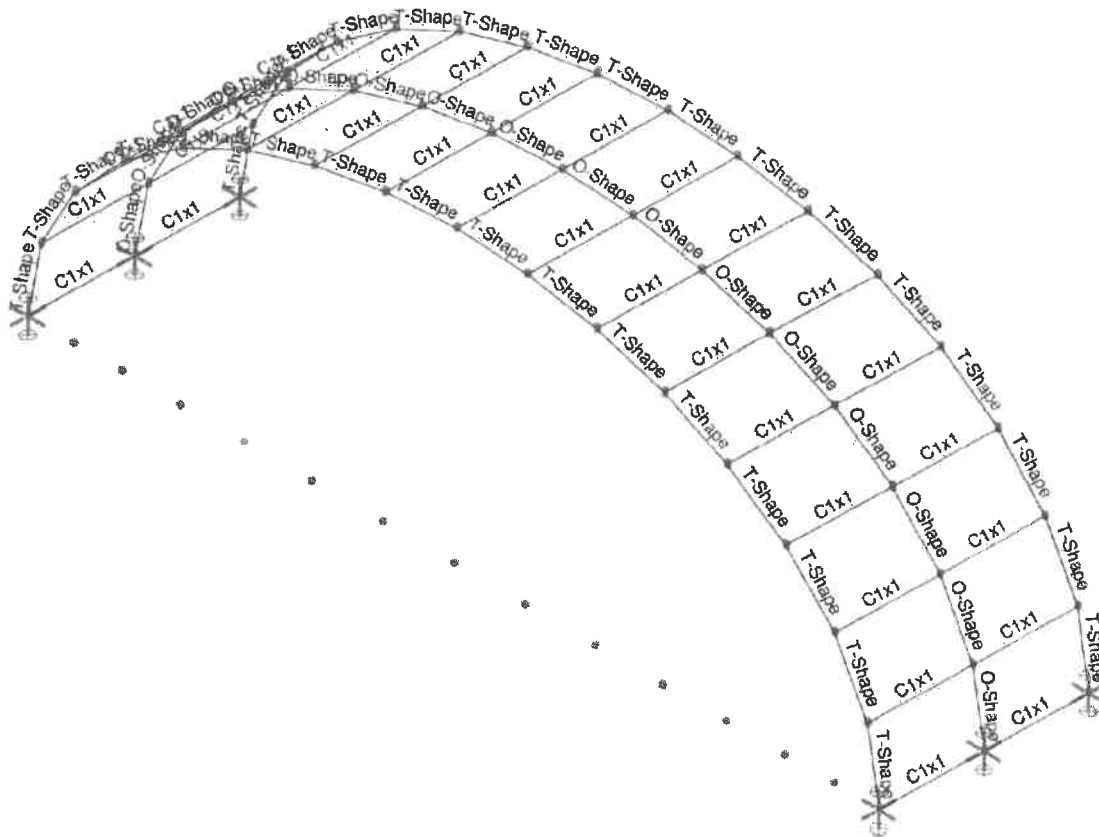
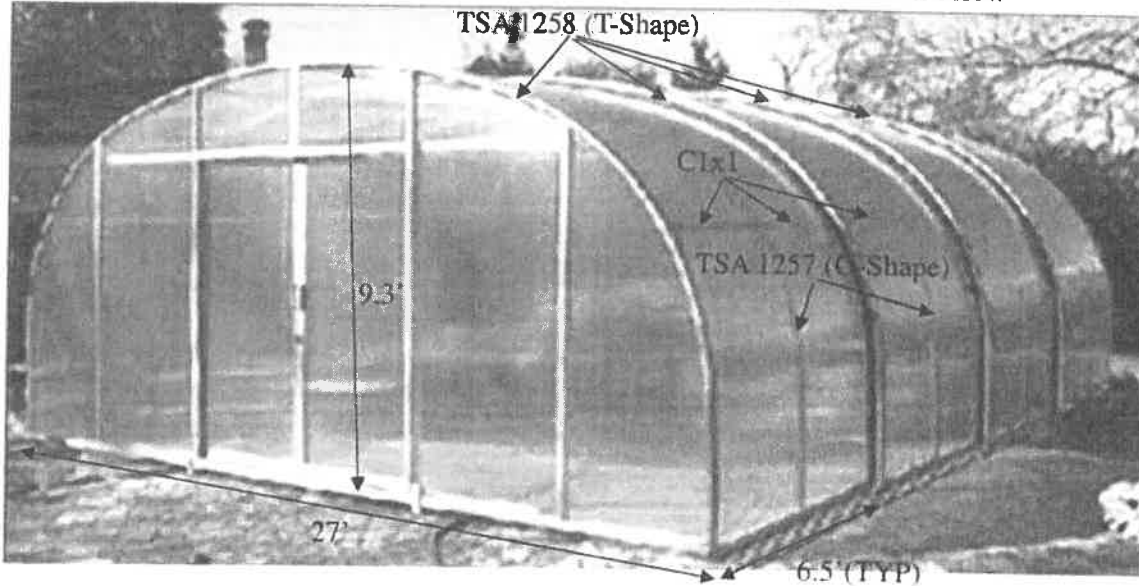
5/6/2021

Aqua Shield, Inc. 27'x9.3' Enclosure Frame Structural Analysis

Page 1 of 4

I. Customer-provided Design Task and Data:

a) Perform Structural Analysis of Aqua Shield, Inc. Enclosure Frame as shown below



Aqua Shield, Inc. 27'x9.3' Enclosure Frame Structural Analysis



Engineering System, P.C.
 NYSED Certificate 0015075
 P.O. Box 342, New York, NY 10014
 E-mail: system@the-system.com
 ph+1(646)584-5624; www.the-system.pro

II. Governing Design Provisions

- a) NYS Building Code - 2015 INTERNATIONAL Building Code® 3rd Edition as adopted by NY State;
- b) ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures;
- c) ACI 318-11 Building Code Requirements for Structural Concrete and Commentary;
- d) AISC Steel Construction Manual, 14th Edition

III. Applicable Loads Computation

1) ASD Critical Load Combination (1605.3 IBC 2015):

Prescribed	Applicable	Most Critical	Equation
D + F	D		16-8
D + H + F + L	D		16-9
D + H + F + (L _r or S or R)	D + S	D + S	16-10
D + H + F + 0.75(L) + 0.75(L _r or S or R)	D + 0.75(S)		16-11
D + H + F + (0.6W or 0.7E)	D + (0.6W or 0.7E)	D + (0.6W or 0.7E)	16-12
D+H+F+0.75(0.6W) +0.75L + 0.75(L _r or S or R)	D+0.45W + 0.75S	D + 0.45W + 0.75S	16-13
D + H + F + 0.75(0.7E) + 0.75(L) + 0.75(S)	D + 0.525(E) + 0.75(S)	D + 0.525E + 0.75S	16-14
0.6(D) + 0.6(W) + H	0.6(D) + 0.6(W)		16-15
0.6(D + F) + 0.7(E) + H	0.6(D) + 0.7(E)		16-16

D = Dead load.

E = Combined effect of horizontal and vertical earthquake induced forces

F = Load due to fluids with well-defined pressures and maximum heights

F = Flood load.

H = Load due to lateral earth pressures, ground water pressure or pressure of bulk

L = Roof Live load greater than 20psf

L_r = Roof live load of 20psf or less.

R = Rain load.

S = Snow load.

T = Self-straining force arising from contraction or expansion

W = Load due to wind pressure.



Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

2) Design Snow Loads Determination

- a) Ground Snow Load $P_g = 30.0 \text{ lb/ft}^2$ (Fig.7.1 ASCE 7-10)
- b) Snow exposure factor $C_e = 0.9$ (Table 7.2 ASCE 7-10)
- c) Snow thermal factor $C_t = 1.2$ (Table 7.3 ASCE 7-10)-0.
- d) Snow Importance Factor $I_s = 1.0$ (Table 1.5-2 ASCE 7-10)
- e) Snow Load $p_r = 0.7C_eC_tI_s p_g = 0.7 \times 0.9 \times 1.2 \times 1.0 \times 30.0 = 22.7 \text{ lb/ft}^2$

3) Design Wind Loads Determination

- a) Basic Wind Speed $V = 115.0 \text{ mph}$ (Fig.1609.3(2) IBC 2015)
- b) Surface roughness B (1609.4.2 IBC 2015)
- c) Wind Exposure Category: Category B (1609.4.3 IBC 2015)
- d) Directionality Factor $K_d = 0.85$ (Table 26.6-1 ASCE 7-10);
- e) Topographic Factor $K_{zt} = (1+K_1K_2K_3)^2 = 1$ (Sec.6.5.7.2 ASCE 7-10);
- f) $P_z = 0.00256 K_zK_{zt}K_d V^2 = 0.00256 \times K_z \times 1 \times 0.85 \times 115.0^2 \approx 28.8 K_z \text{ lb/ft}^2$ (16-35 IBC 2015)
- g) $K_z = 0.57$ (Table 27.3-1 ASCE 7-10);
- h) $P = 28.8 \times 0.57 \approx 16.4 \text{ lb/ft}^2$

4) Design Earthquake Loads Determination

- a) Component importance factor $I_e = 1.0$ for Risk Category 2 (Table 1.5.2 ASCE 7-10)
- b) $S_{DS} = 0.160 \text{ g}$ (Appendix B USGS Report);
- c) Seismic Design Coefficient $C_S = 0.3S_{DS}I_e = 0.3 \times 0.160 \times 1.0 = 0.048$ (eq.15.4-5 ASCE 7-10)
- d) $C_{S \max} \leq 1.6S_{DS}I_p = 1.6 \times 0.160 \times 1.0 = 0.256$ (13.3-2 ASCE 7-10)
- e) $C_{S \min} \geq 0.044S_{DS}I_e = 0.044 \times 0.160 \times 1.0 = 0.007$ (13.3-3 ASCE 7-10)
- f) Assume $C_S = 0.1$; Assume $E = 0.1D$

IV. RISA 3D Structural Analysis Result (See Appendix A for Report)



Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
27.0'x9.3' Enclosure Frame
Structural Analysis
Appendix A
RISA-3D Calculations

Prepared per Aqua Shield, Inc., Inc. Order
114 Bell Street West Babylon NY 11704

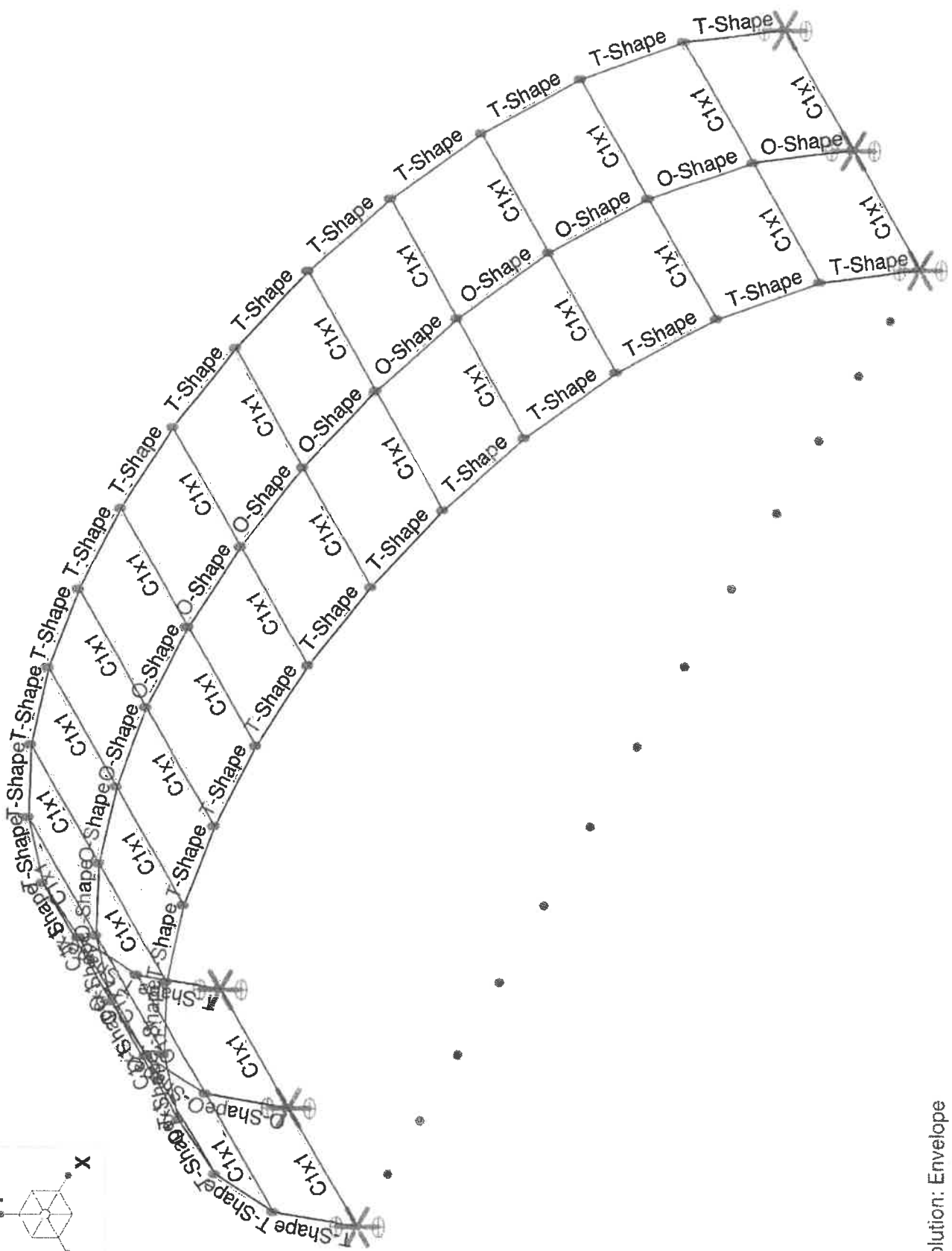
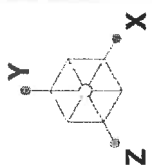
Produced by or under direct supervision of Alexey Leonichev, P.E.
Warning: *It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



A handwritten signature in black ink, appearing to be "Alexey Leonichev".

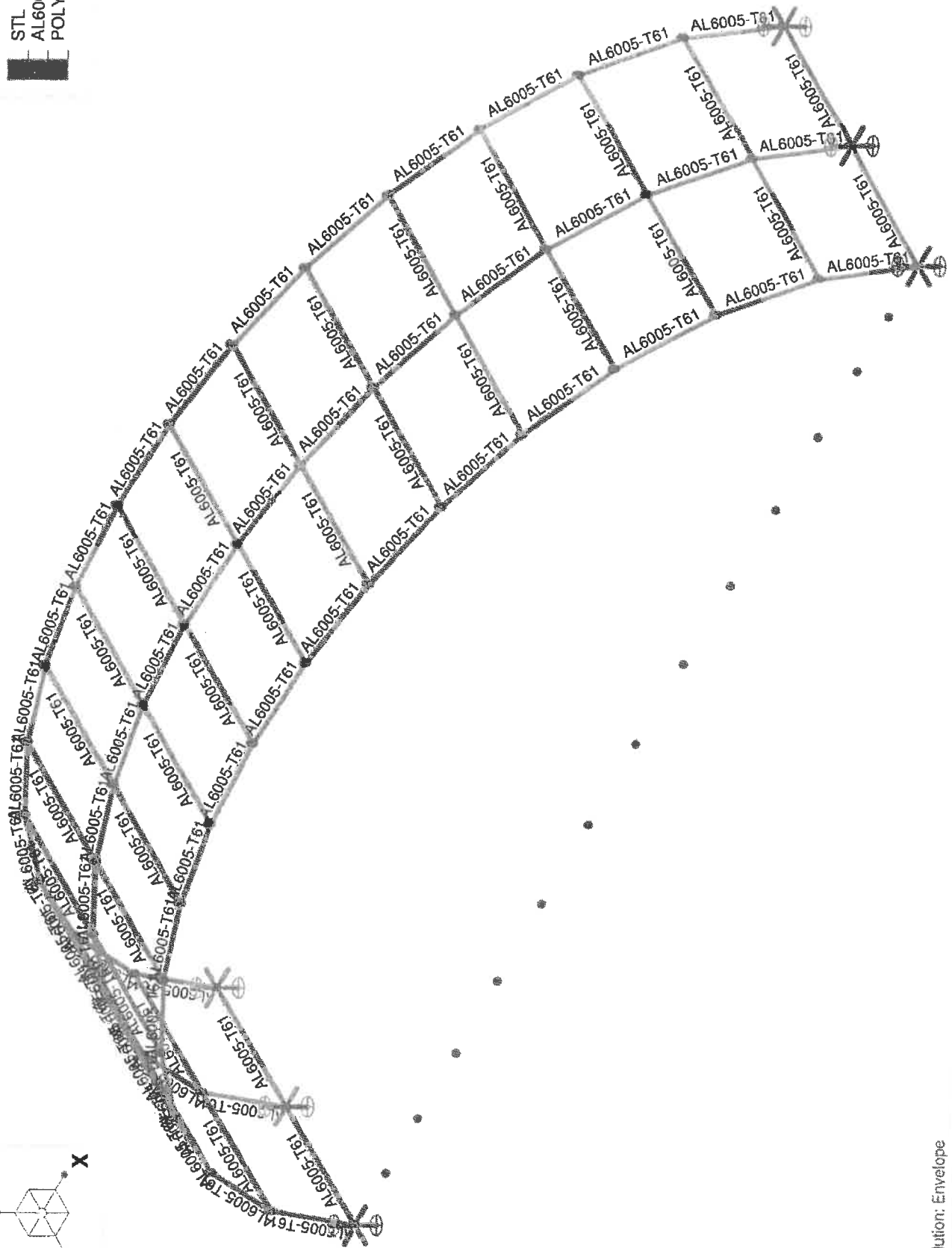
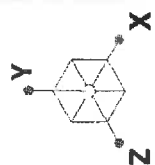
5/6/2021

Aqua Shield, Inc. 27.0'x9.3' Enclosure Frame Structural Analysis

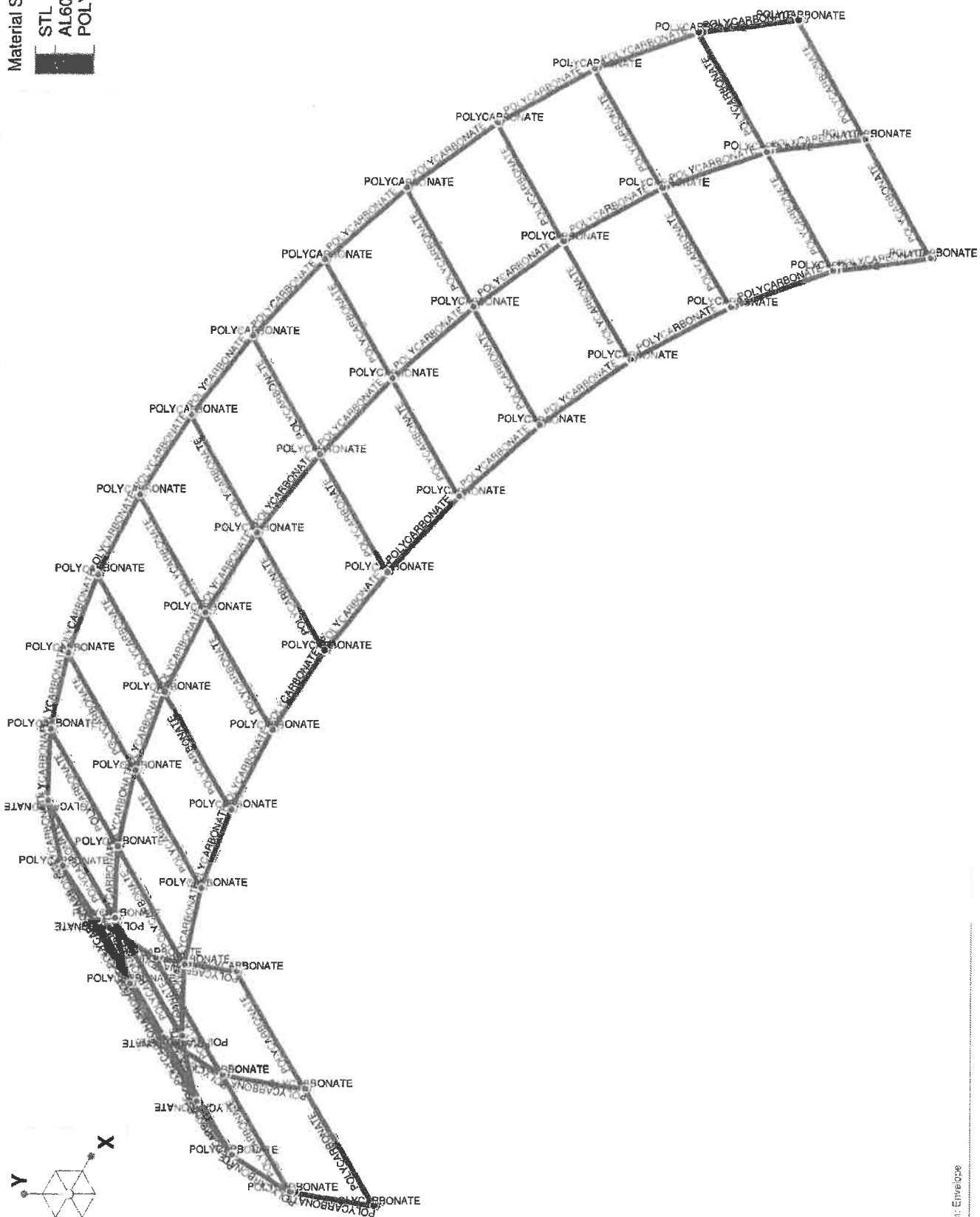


Solution: Envelope

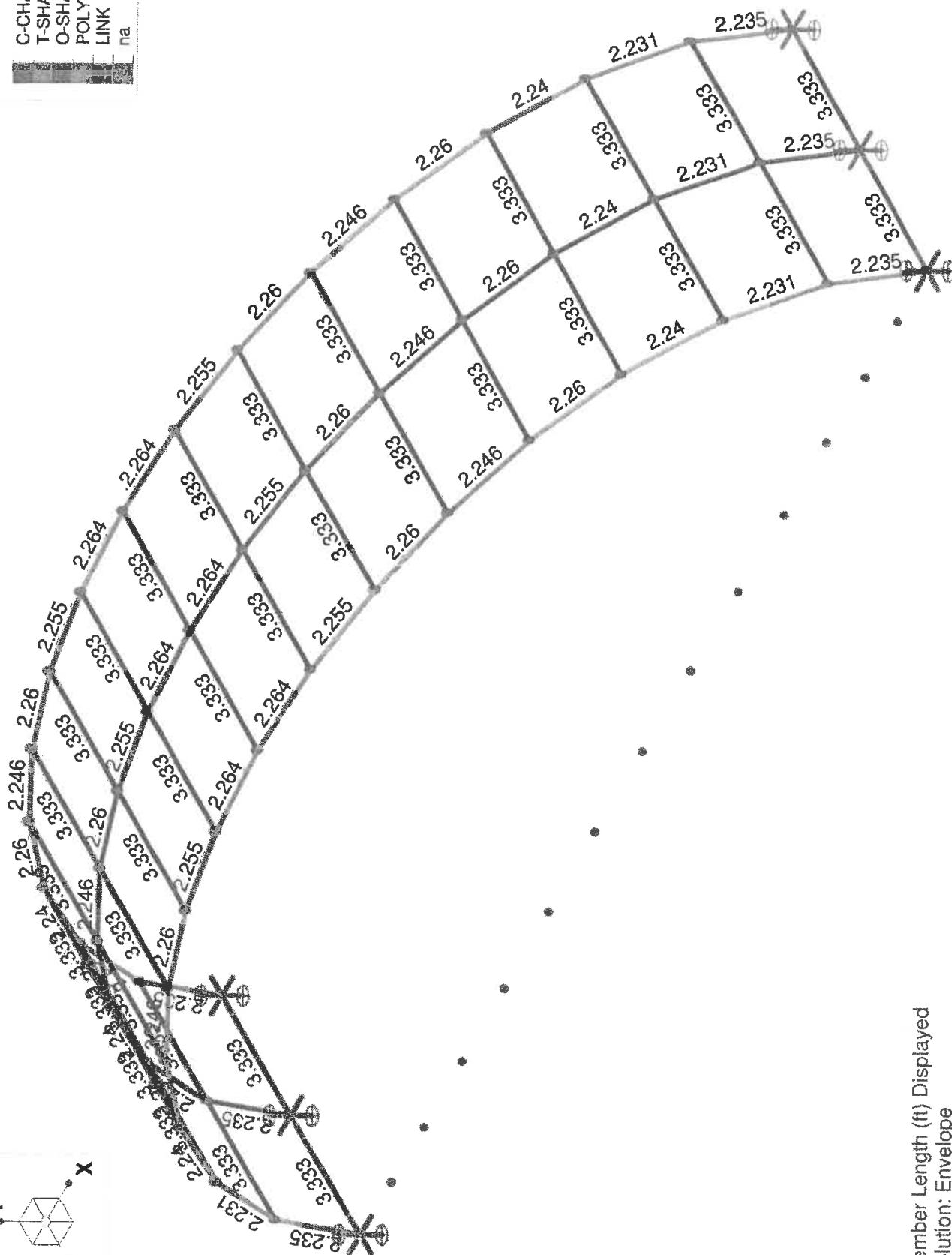
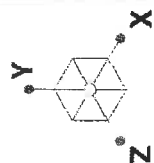
Material Sets



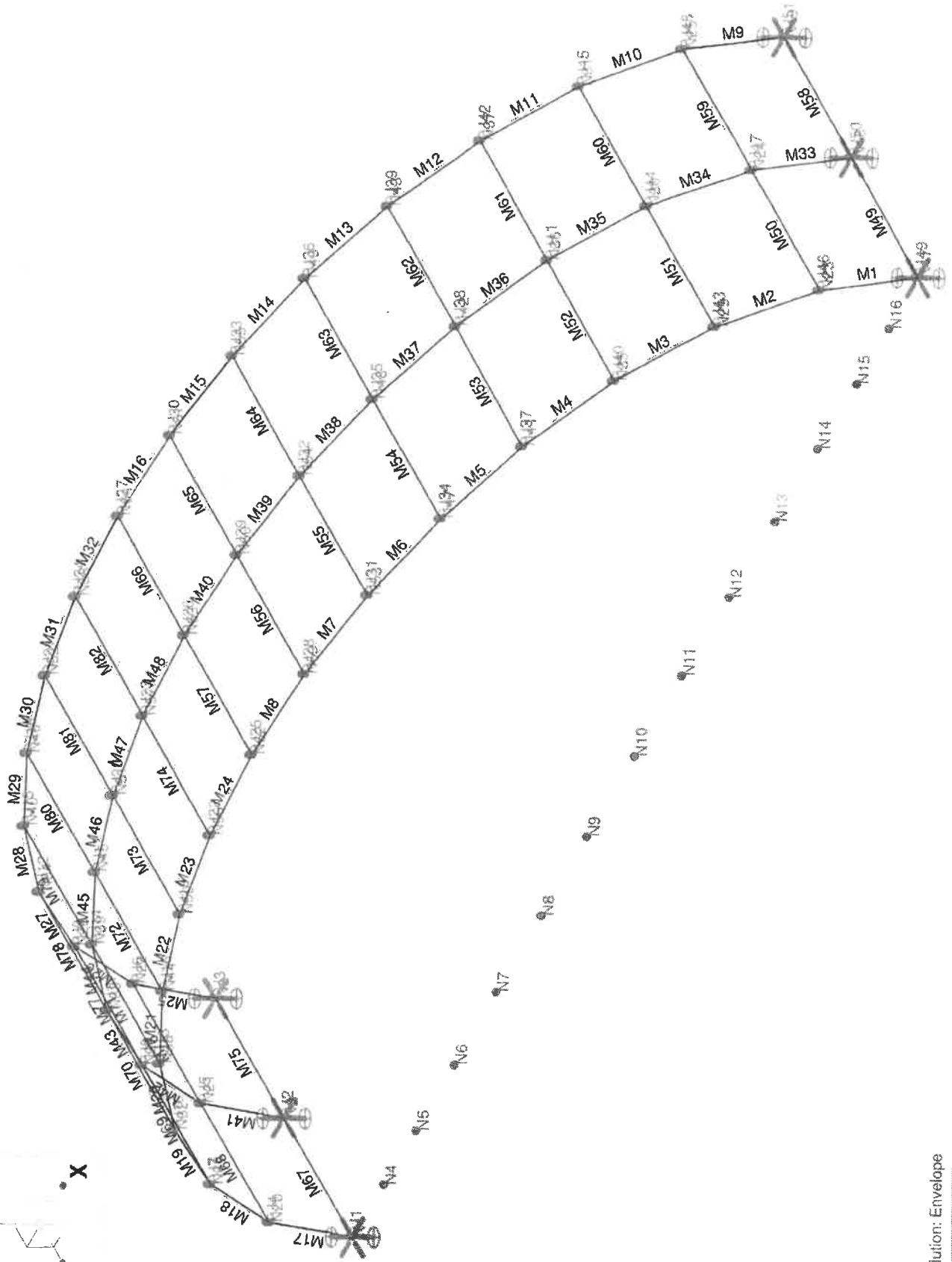
Solution: Envelope



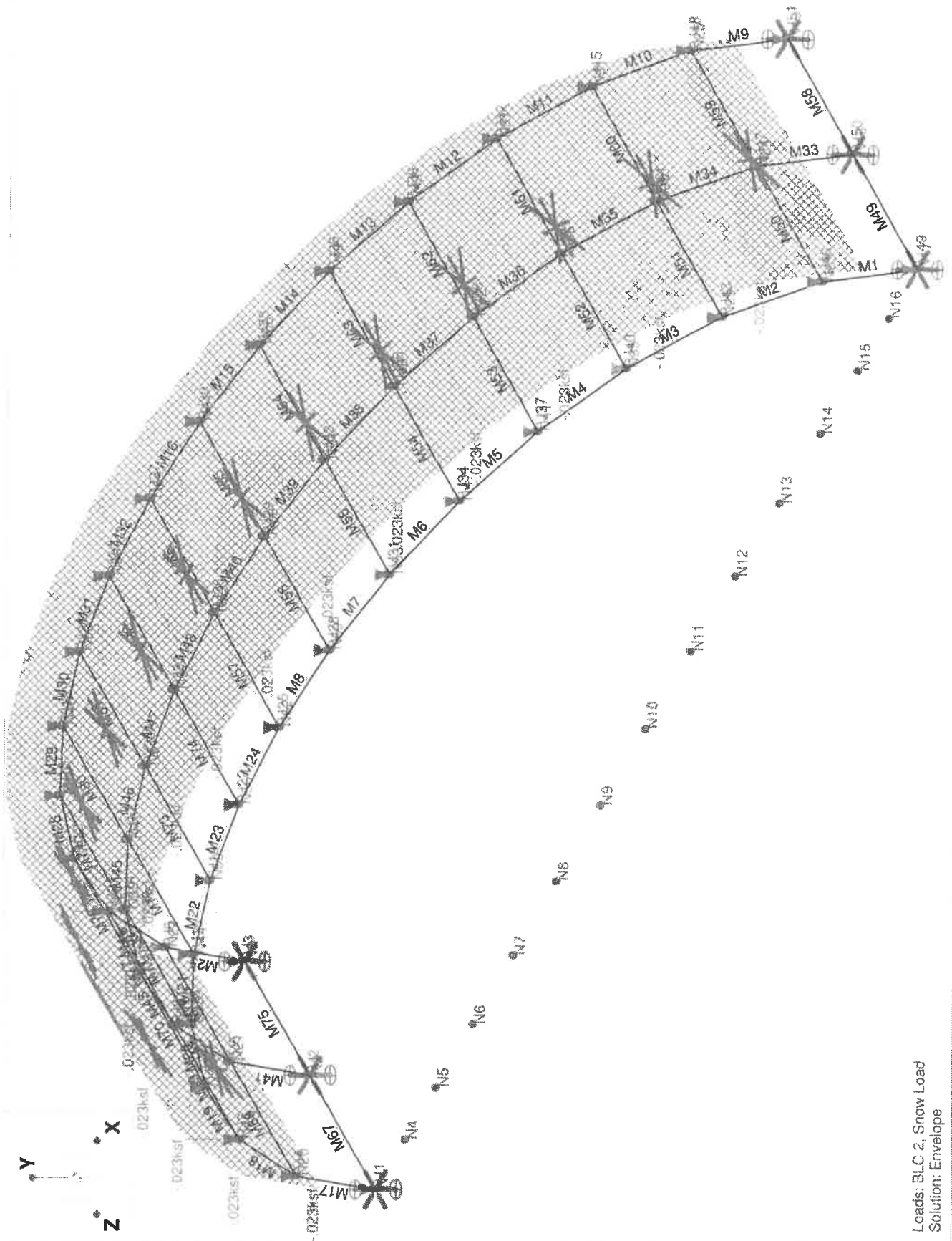
C-CHAN...
T-SHAPE
O-SHAPE
POLYCA...
LINK
na



Member Length (ft) Displayed
Solution: Envelope

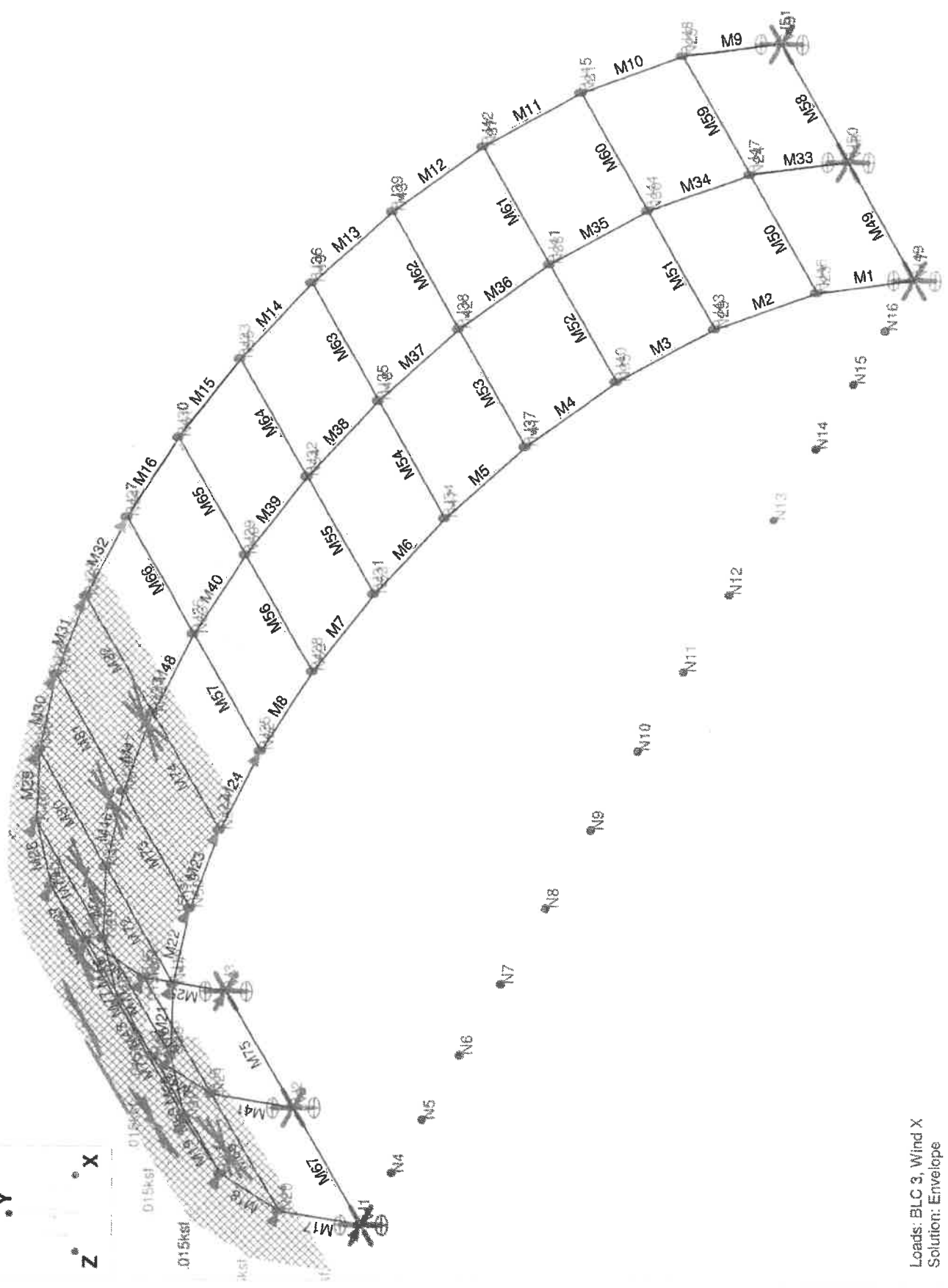


Solution: Envelope

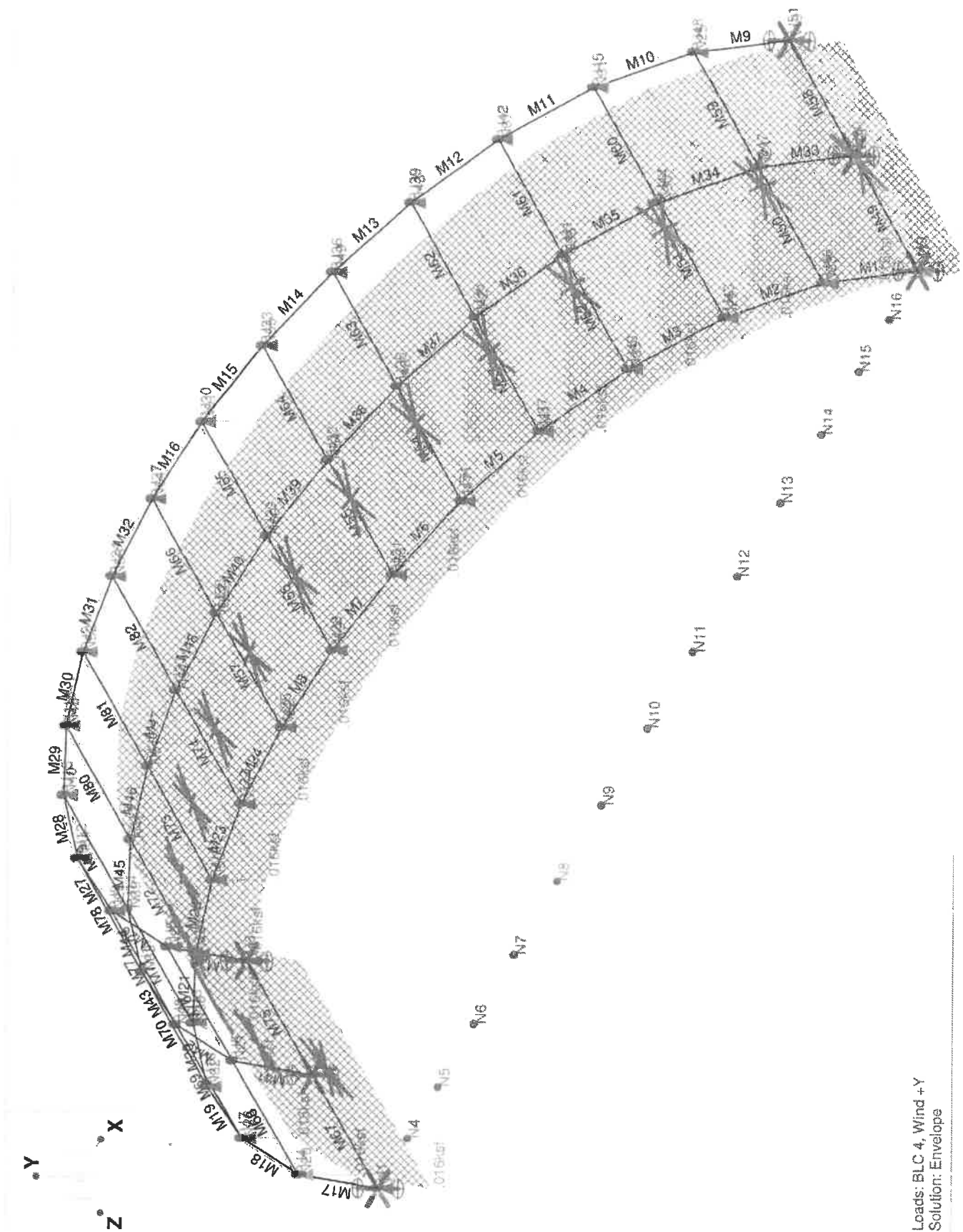


Loads: BLC 2, Snow Load
Solution: Envelope

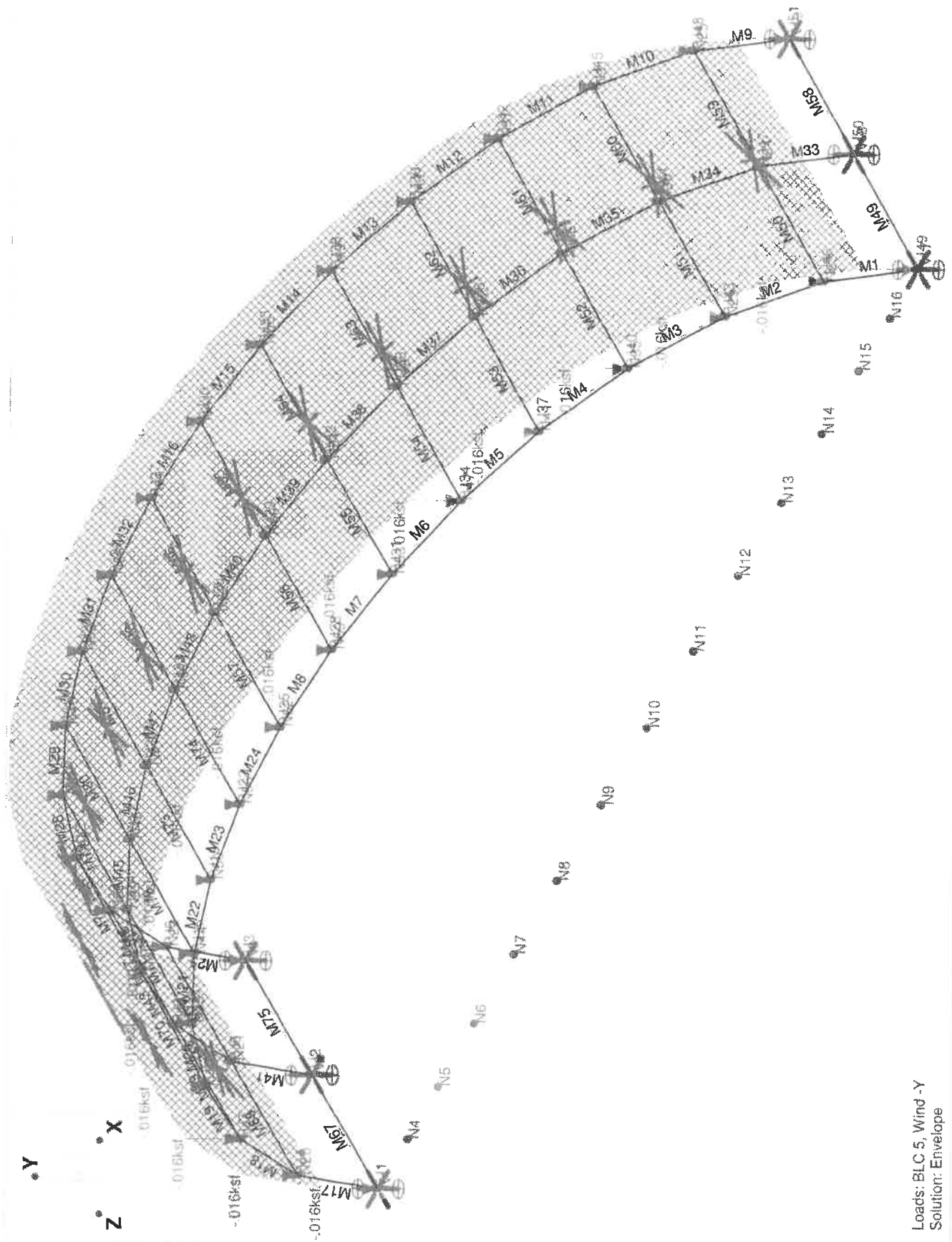
Y
Z X



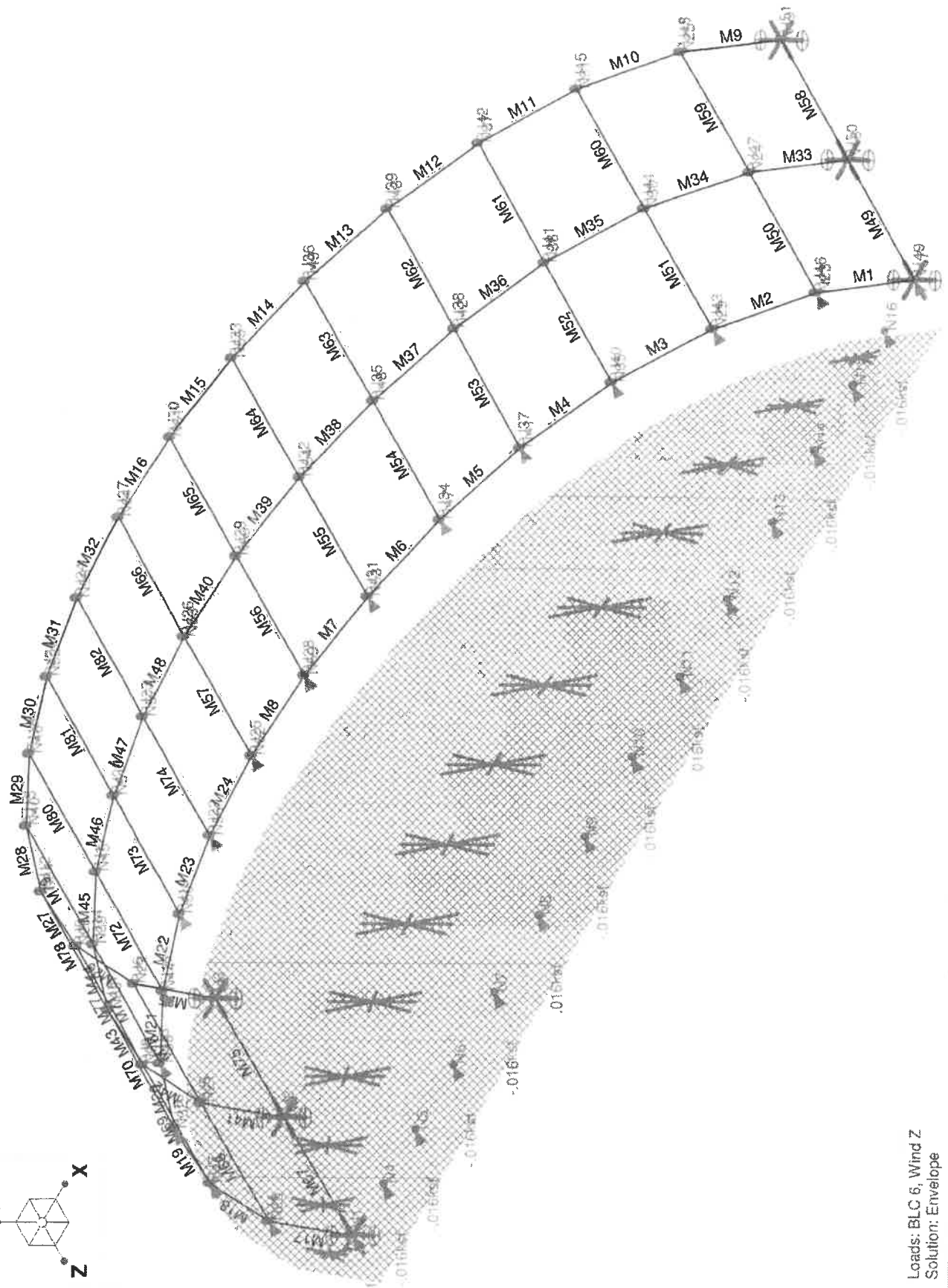
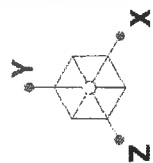
Loads: BLC 3, Wind X
Solution: Envelope



Loads: BLC 4, Wind + Y
Solution: Envelope



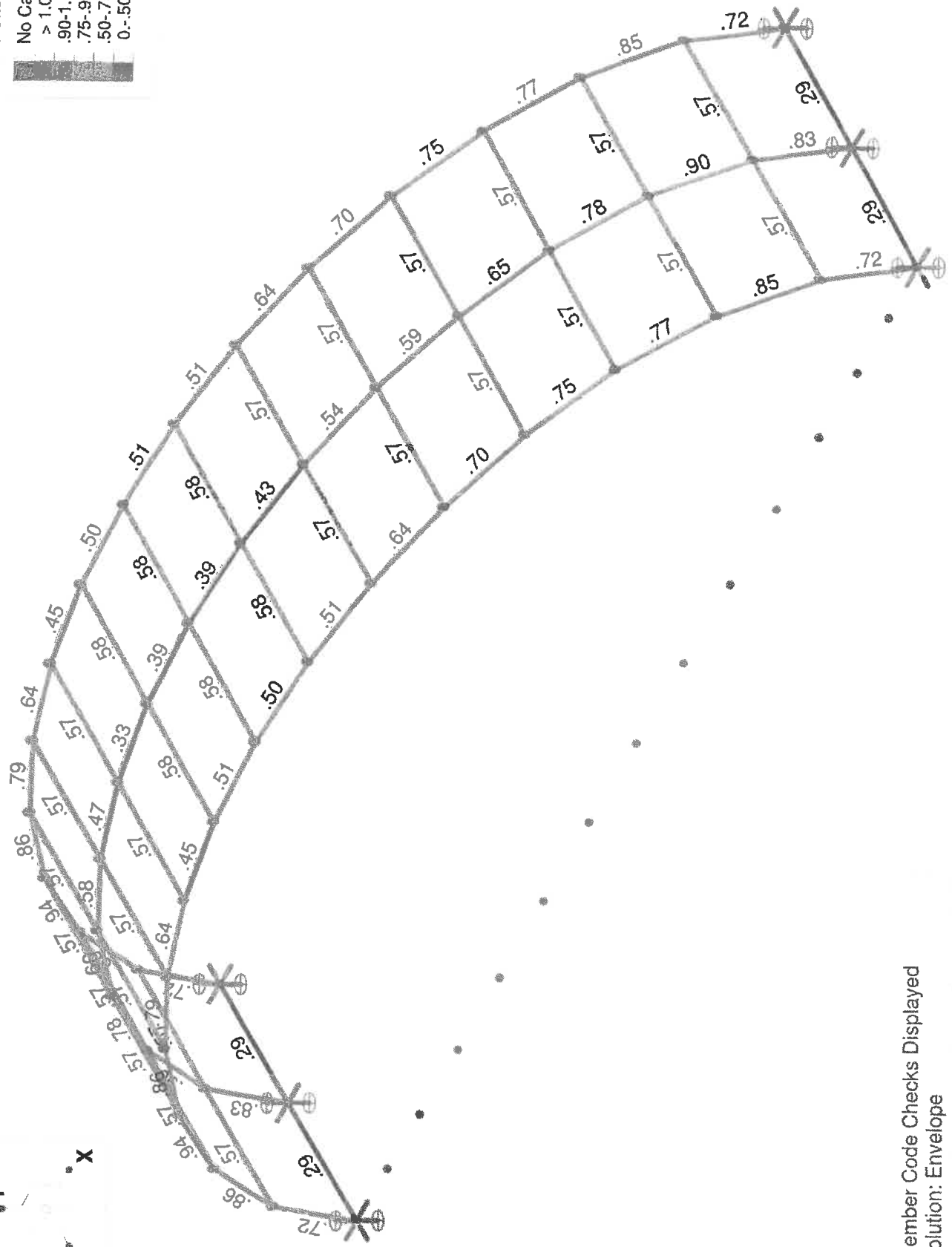
Loads: BLC 5, Wind -Y
Solution: Envelope



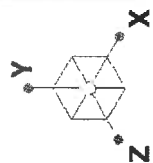
Loads: BLC 6, Wind Z
Solution: Envelope

Y
X
Z

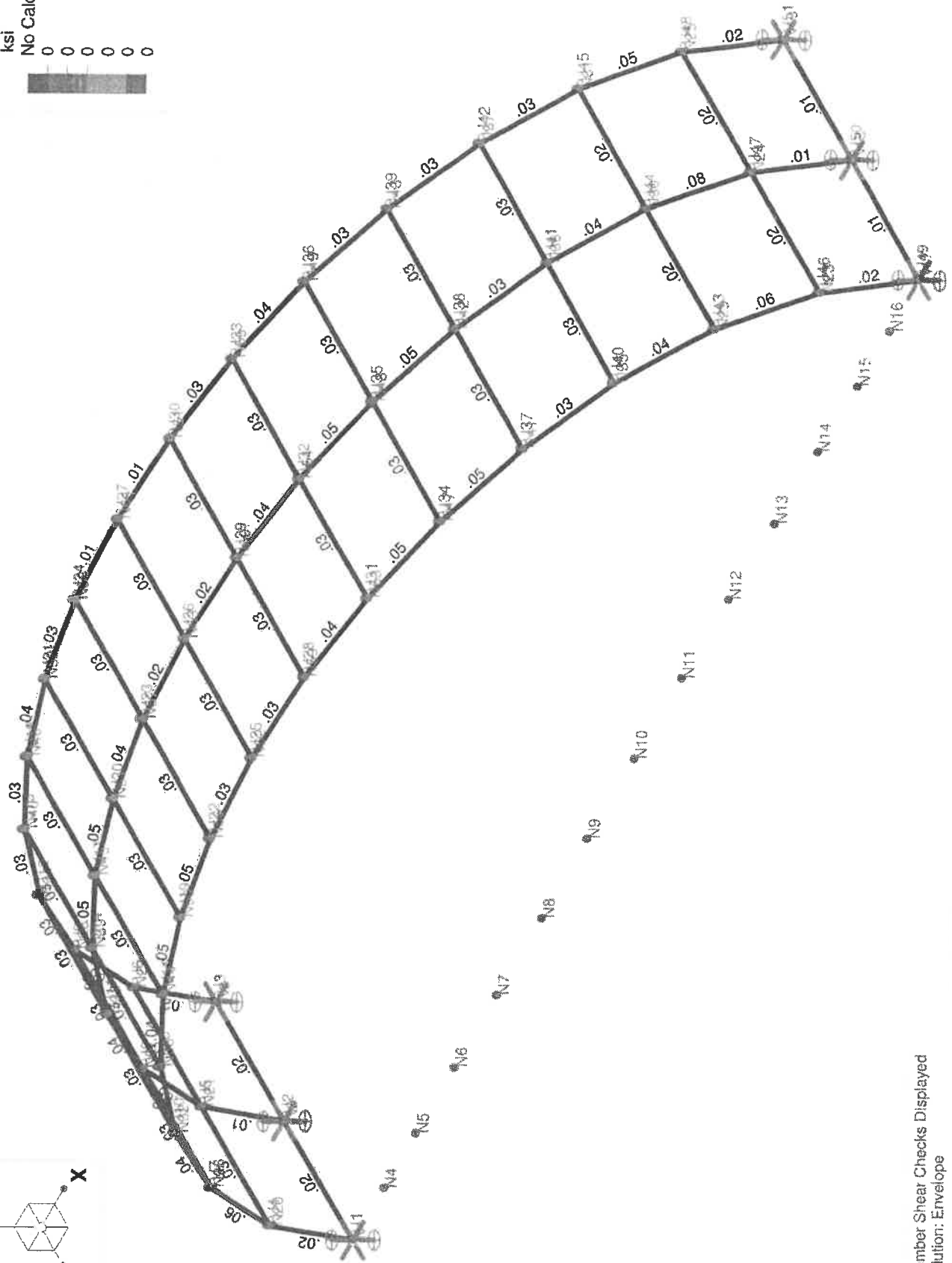
Code Check
No Calc
> 1.0
.90-1.0
.75-.90
.50-.75
0-.50



Member Code Checks Displayed
Solution: Envelope



Shear Stress
ksi
No Calc
0 0 0 0 0 0



Member Shear Checks Displayed
Solution: Envelope

Area Loads on Members, Category : SL, BLC 2 : Snow Load

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	-.023
N20	N22	N28	N26	Y	-.023
N26	N28	N34	N32	Y	-.023
N32	N34	N40	N38	Y	-.023
N38	N40	N46	N44	Y	-.023
N44	N46	N52	N50	Y	-.023
N50	N52	N58	N56	Y	-.023
N56	N58	N64	N62	Y	-.023
N62	N64	N61	N59	Y	-.023
N59	N61	N55	N53	Y	-.023
N53	N55	N49	N47	Y	-.023
N47	N49	N43	N41	Y	-.023
N41	N43	N37	N35	Y	-.023
N35	N37	N31	N29	Y	-.023
N29	N31	N25	N23	Y	-.023
N23	N25	N19	N17	Y	-.023

Area Loads on Members, Category : WLX, BLC 3 : Wind X

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	X	.015
N20	N22	N28	N26	X	.015
N26	N28	N34	N32	X	.015
N32	N34	N40	N38	X	.015
N38	N40	N46	N44	X	.015
N44	N46	N52	N50	X	.015
N50	N52	N58	N56	X	.015
N56	N58	N64	N62	X	.015

Area Loads on Members, Category : WL+Y, BLC 4 : Wind +Y

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	.016
N20	N22	N28	N26	Y	.016
N26	N28	N34	N32	Y	.016
N32	N34	N40	N38	Y	.016
N38	N40	N46	N44	Y	.016
N44	N46	N52	N50	Y	.016
N50	N52	N58	N56	Y	.016
N56	N58	N64	N62	Y	.016
N62	N64	N61	N59	Y	.016
N59	N61	N55	N53	Y	.016
N53	N55	N49	N47	Y	.016
N47	N49	N43	N41	Y	.016
N41	N43	N37	N35	Y	.016
N35	N37	N31	N29	Y	.016
N29	N31	N25	N23	Y	.016
N23	N25	N19	N17	Y	.016

Area Loads on Members, Category : WL-Y, BLC 5 : Wind -Y

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N3	N22	N20	Y	-.016
N20	N22	N28	N26	Y	-.016
N26	N28	N34	N32	Y	-.016
N32	N34	N40	N38	Y	-.016
N38	N40	N46	N44	Y	-.016
N44	N46	N52	N50	Y	-.016
N50	N52	N58	N56	Y	-.016
N56	N58	N64	N62	Y	-.016

Area Loads on Members, Category : WL-Y, BLC 5 (continued)

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N62	N64	N61	N59	Y	-.016
N59	N61	N55	N53	Y	-.016
N53	N55	N49	N47	Y	-.016
N47	N49	N43	N41	Y	-.016
N41	N43	N37	N35	Y	-.016
N35	N37	N31	N29	Y	-.016
N29	N31	N25	N23	Y	-.016
N23	N25	N19	N17	Y	-.016

Area Loads on Members, Category : WLZ, BLC 6 : Wind Z

Joint A	Joint B	Joint C	Joint D	Direction	Magnitude (ksf)
N1	N20	N26	N4	Z	-.016
N4	N26	N32	N5	Z	-.016
N5	N32	N38	N6	Z	-.016
N6	N38	N44	N7	Z	-.016
N7	N44	N50	N8	Z	-.016
N8	N50	N56	N9	Z	-.016
N9	N56	N62	N10	Z	-.016
N10	N62	N59	N11	Z	-.016
N11	N59	N53	N12	Z	-.016
N12	N53	N47	N13	Z	-.016
N13	N47	N41	N14	Z	-.016
N14	N41	N35	N15	Z	-.016
N15	N35	N29	N16	Z	-.016
N16	N29	N23	N17	Z	-.016

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity			Joint	Load Type Totals			
				X	Y	Z		Point	Direct Dist.	Area	Surf.
1	Dead Load	DL	Dead Load		-1						
2	Snow Load	SL	Snow Load							16	
3	Wind X	WLX	Wind Load X							8	
4	Wind +Y	WL+Y	Wind Load +Y							16	
5	Wind -Y	WL-Y	Wind Load -Y							16	
6	Wind Z	WLZ	Wind Load Z							14	
7	Earthquake X	ELX	Earthquake Load X	-1							
8	Earthquake Y	ELY	Earthquake Load Y		-1						
9	Earthquake Z	ELZ	Earthquake Load Z			-1					
10	LC 1 Transient Area Lo...	None								448	

Load Combinations

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	IBC 16-10	y				1	DL	1	SL	1				
2	IBC 16-12a	y				1	DL	1	WLX	1				
3	IBC 16-12b	y				1	DL	1	WL+Y	1				
4	IBC 16-12c	y				1	DL	1	WL-Y	1				
5	IBC 16-12d	y				1	DL	1	WLZ	1				
6	IBC 16-12e	y				1	DL	1	ELX	.7				
7	IBC 16-12f	y				1	DL	1	ELY	.7				
8	IBC 16-12g	y				1	DL	1	ELZ	.7				

Load Combinations (continued)

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
9	IBC 16-13	y				1	DL	1	WL-Y	.45	SL	.75		
10	IBC 16-14	y				1	DL	1	ELY	.525	SL	.75		

Materials (General)

Material Label	Young's Modulus (ksi)	Shear Modulus (ksi)	Poisson's Ratio	Thermal Coef. (per 10 ⁵ F)	Weight Density (k/ft ³)	Yield Stress (ksi)
STL	29000	11154	.3	.65	.49	50
AL6005-T61	10100	11154	.33	1.73	.173	35
POLYCARBONATE	380	11154	.3	.65	.075	8.8

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N1	0	0	0	0	No
N2	0	0	-3.333	0	No
N3	0	0	-6.666	0	No
N4	1.45	0	0	0	No
N5	2.98	0	0	0	No
N6	4.829999	0	0	0	No
N7	6.86	0	0	0	No
N8	9.02	0	0	0	No
N9	11.24	0	0	0	No
N10	13.5	0	0	0	No
N11	15.759999	0	0	0	No
N12	17.979999	0	0	0	No
N13	20.139999	0	0	0	No
N14	22.17	0	0	0	No
N15	24.019999	0	0	0	No
N16	25.549999	0	0	0	No
N17	26.999999	0	0	0	No
N18	26.999999	0	-3.333	0	No
N19	26.999999	0	-6.666	0	No
N20	.39	2.200964	0	0	No
N21	.39	2.200964	-3.333	0	No
N22	.39	2.200964	-6.666	0	No
N23	26.609999	2.200964	0	0	No
N24	26.609999	2.200964	-3.333	0	No
N25	26.609999	2.200964	-6.666	0	No
N26	1.45	4.163987	0	0	No
N27	1.45	4.163987	-3.333	0	No
N28	1.45	4.163987	-6.666	0	No
N29	25.549999	4.163987	0	0	No
N30	25.549999	4.163987	-3.333	0	No
N31	25.549999	4.163987	-6.666	0	No
N32	2.98	5.799839	0	0	No
N33	2.98	5.799839	-3.333	0	No
N34	2.98	5.799839	-6.666	0	No
N35	24.019999	5.799839	0	0	No
N36	24.019999	5.799839	-3.333	0	No
N37	24.019999	5.799839	-6.666	0	No
N38	4.829999	7.098606	0	0	No
N39	4.829999	7.098606	-3.333	0	No
N40	4.829999	7.098606	-6.666	0	No
N41	22.17	7.098606	0	0	No
N42	22.17	7.098606	-3.333	0	No
N43	22.17	7.098606	-6.666	0	No
N44	6.86	8.060288	0	0	No
N45	6.86	8.060288	-3.333	0	No
N46	6.86	8.060288	-6.666	0	No
N47	20.139999	8.060288	0	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N48	20.139999	8.060288	-3.333	0	No
N49	20.139999	8.060288	-6.666	0	No
N50	9.02	8.724543	0	0	No
N51	9.02	8.724543	-3.333	0	No
N52	9.02	8.724543	-6.666	0	No
N53	17.979999	8.724543	0	0	No
N54	17.979999	8.724543	-3.333	0	No
N55	17.979999	8.724543	-6.666	0	No
N56	11.24	9.121114	0	0	No
N57	11.24	9.121114	-3.333	0	No
N58	11.24	9.121114	-6.666	0	No
N59	15.759999	9.121114	0	0	No
N60	15.759999	9.121114	-3.333	0	No
N61	15.759999	9.121114	-6.666	0	No
N62	13.5	9.249999	0	0	No
N63	13.5	9.249999	-3.333	0	No
N64	13.5	9.249999	-6.666	0	No
PJ1	0	.1	0	0	No
PJ2	0	.1	-3.333	0	No
PJ3	0	.1	-6.666	0	No
PJ4	.39	2.300964	0	0	No
PJ5	.39	2.300964	-3.333	0	No
PJ6	.39	2.300964	-6.666	0	No
PJ7	1.45	4.263987	0	0	No
PJ8	1.45	4.263987	-3.333	0	No
PJ9	1.45	4.263987	-6.666	0	No
PJ10	2.98	5.899839	0	0	No
PJ11	2.98	5.899839	-3.333	0	No
PJ12	2.98	5.899839	-6.666	0	No
PJ13	4.829999	7.198606	0	0	No
PJ14	4.829999	7.198606	-3.333	0	No
PJ15	4.829999	7.198606	-6.666	0	No
PJ16	6.86	8.160288	0	0	No
PJ17	6.86	8.160288	-3.333	0	No
PJ18	6.86	8.160288	-6.666	0	No
PJ19	9.02	8.824543	0	0	No
PJ20	9.02	8.824543	-3.333	0	No
PJ21	9.02	8.824543	-6.666	0	No
PJ22	11.24	9.221114	0	0	No
PJ23	11.24	9.221114	-3.333	0	No
PJ24	11.24	9.221114	-6.666	0	No
PJ25	13.5	9.349999	0	0	No
PJ26	13.5	9.349999	-3.333	0	No
PJ27	13.5	9.349999	-6.666	0	No
PJ28	15.759999	9.221114	0	0	No
PJ29	15.759999	9.221114	-3.333	0	No
PJ30	15.759999	9.221114	-6.666	0	No
PJ31	17.979999	8.824543	0	0	No
PJ32	17.979999	8.824543	-3.333	0	No
PJ33	17.979999	8.824543	-6.666	0	No
PJ34	20.139999	8.160288	0	0	No
PJ35	20.139999	8.160288	-3.333	0	No
PJ36	20.139999	8.160288	-6.666	0	No
PJ37	22.17	7.198606	0	0	No
PJ38	22.17	7.198606	-3.333	0	No
PJ39	22.17	7.198606	-6.666	0	No
PJ40	24.019999	5.899839	0	0	No
PJ41	24.019999	5.899839	-3.333	0	No
PJ42	24.019999	5.899839	-6.666	0	No
PJ43	25.549999	4.263987	0	0	No
PJ44	25.549999	4.263987	-3.333	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
PJ45	25.549999	4.263987	-6.666	0	No
PJ46	26.609999	2.300964	0	0	No
PJ47	26.609999	2.300964	-3.333	0	No
PJ48	26.609999	2.300964	-6.666	0	No
PJ49	26.999999	.1	0	0	No
PJ50	26.999999	.1	-3.333	0	No
PJ51	26.999999	.1	-6.666	0	No

Reactions, By Combination

LC	Joint Label	X Force (k)	Y Force (k)	Z Force (k)	X Moment (k-ft)	Y Moment (k-ft)	Z Moment (k-ft)
1	N17	-.451	.763	.028	0	NC	0
1	N18	-.596	1.38	0	0	NC	0
1	N19	-.451	.761	-.028	0	NC	0
1	N1	.451	.761	.028	0	NC	0
1	N2	.596	1.38	0	0	NC	0
1	N3	.451	.763	-.028	0	NC	0
1	Totals:	0	5.806	0			
1	COG (ft):	X: 13.5	Y: 6.233	Z: -3.333			

Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M1	1	.002	1.078	0	9.812e-4	NC	NC
		2	.002	.846	0	7.351e-4	705.637	NC
		3	.001	.582	0	4.889e-4	619.507	NC
		4	0	.296	0	2.428e-4	993.386	NC
		5	0	0	0	-3.338e-6	NC	NC
1	M2	1	.344	1.532	0	1.312e-3	NC	NC
		2	.343	1.473	0	1.228e-3	390.385	NC
		3	.342	1.366	0	1.145e-3	302.329	NC
		4	.342	1.214	0	1.061e-3	415.494	NC
		5	.341	1.023	0	9.775e-4	NC	NC
1	M3	1	.725	1.179	0	1.105e-3	NC	NC
		2	.724	1.295	0	1.156e-3	430.591	NC
		3	.723	1.371	0	1.208e-3	319.582	NC
		4	.723	1.405	0	1.259e-3	419.95	NC
		5	.722	1.395	0	1.311e-3	NC	NC
1	M4	1	.954	.212	0	6.046e-4	NC	NC
		2	.953	.448	0	7.296e-4	717.887	NC
		3	.953	.662	0	8.546e-4	508.249	NC
		4	.952	.849	0	9.795e-4	636.686	NC
		5	.952	1.005	0	1.105e-3	NC	NC
1	M5	1	-.976	.047	0	-6.034e-4	NC	NC
		2	-.977	-.206	0	-4.593e-4	106.474	NC
		3	-.977	-.471	0	-3.151e-4	51.947	NC
		4	-.977	-.743	0	-1.71e-4	34.084	NC
		5	-.978	-1.017	0	-2.688e-5	25.332	NC
1	M6	1	-.822	-1.146	0	-2.531e-5	NC	NC
		2	-.822	-1.42	0	1.007e-4	1809.194	NC
		3	-.822	-1.686	0	2.267e-4	1148.819	NC
		4	-.822	-1.941	0	3.527e-4	1353.914	NC
		5	-.822	-2.179	0	4.787e-4	NC	NC
1	M7	1	-.552	-2.263	0	4.798e-4	NC	NC
		2	-.551	-2.481	0	5.621e-4	748.17	NC
		3	-.551	-2.679	0	6.444e-4	534.035	NC
		4	-.551	-2.85	0	7.267e-4	686.099	NC
		5	-.551	-2.994	0	8.09e-4	NC	NC
1	M8	1	-.189	-3.038	0	8.096e-4	NC	NC
		2	-.189	-3.152	0	8.382e-4	562.459	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		3	-.189	-3.236	0	8.668e-4	415.39	NC
		4	-.189	-3.286	0	8.954e-4	550.029	NC
		5	-.188	-3.302	0	9.241e-4	NC	NC
1	M9	1	.002	1.078	0	-9.809e-4	NC	NC
		2	.002	.846	0	-7.348e-4	706.103	NC
		3	.001	.582	0	-4.887e-4	619.587	NC
		4	0	.297	0	-2.427e-4	992.775	NC
		5	0	0	0	3.417e-6	NC	NC
1	M10	1	.344	1.532	0	-1.311e-3	NC	NC
		2	.343	1.473	0	-1.228e-3	390.73	NC
		3	.342	1.366	0	-1.144e-3	302.39	NC
		4	.342	1.214	0	-1.061e-3	415.278	NC
		5	.341	1.023	0	-9.771e-4	NC	NC
1	M11	1	.725	1.179	0	-1.104e-3	NC	NC
		2	.724	1.295	0	-1.156e-3	431.132	NC
		3	.723	1.371	0	-1.207e-3	319.625	NC
		4	.723	1.405	0	-1.259e-3	419.548	NC
		5	.722	1.395	0	-1.31e-3	NC	NC
1	M12	1	.954	.212	0	-6.042e-4	NC	NC
		2	.953	.448	0	-7.291e-4	719.646	NC
		3	.953	.662	0	-8.541e-4	508.323	NC
		4	.952	.849	0	-9.79e-4	635.482	NC
		5	.952	1.005	0	-1.104e-3	NC	NC
1	M13	1	-.976	.047	0	6.03e-4	NC	NC
		2	-.977	-.206	0	4.588e-4	106.512	NC
		3	-.977	-.471	0	3.147e-4	51.947	NC
		4	-.977	-.744	0	1.706e-4	34.08	NC
		5	-.978	-1.017	0	2.648e-5	25.332	NC
1	M14	1	-.822	-1.146	0	2.493e-5	NC	NC
		2	-.822	-1.419	0	-1.01e-4	1821.222	NC
		3	-.822	-1.686	0	-2.27e-4	1148.678	NC
		4	-.822	-1.941	0	-3.53e-4	1346.964	NC
		5	-.822	-2.179	0	-4.79e-4	NC	NC
1	M15	1	-.552	-2.263	0	-4.8e-4	NC	NC
		2	-.551	-2.481	0	-5.623e-4	750.299	NC
		3	-.551	-2.679	0	-6.446e-4	534.021	NC
		4	-.551	-2.85	0	-7.269e-4	684.285	NC
		5	-.551	-2.994	0	-8.092e-4	NC	NC
1	M16	1	-.189	-3.038	0	-8.097e-4	NC	NC
		2	-.189	-3.152	0	-8.383e-4	563.698	NC
		3	-.189	-3.236	0	-8.669e-4	415.386	NC
		4	-.189	-3.286	0	-8.955e-4	548.841	NC
		5	-.188	-3.302	0	-9.241e-4	NC	NC
1	M17	1	.002	1.078	0	-9.809e-4	NC	NC
		2	.002	.846	0	-7.348e-4	706.103	NC
		3	.001	.582	0	-4.887e-4	619.587	NC
		4	0	.297	0	-2.427e-4	992.775	NC
		5	0	0	0	3.417e-6	NC	NC
1	M18	1	.344	1.532	0	-1.311e-3	NC	NC
		2	.343	1.473	0	-1.228e-3	390.73	NC
		3	.342	1.366	0	-1.144e-3	302.39	NC
		4	.342	1.214	0	-1.061e-3	415.278	NC
		5	.341	1.023	0	-9.771e-4	NC	NC
1	M19	1	.725	1.179	0	-1.104e-3	NC	NC
		2	.724	1.295	0	-1.156e-3	431.132	NC
		3	.723	1.371	0	-1.207e-3	319.625	NC
		4	.723	1.405	0	-1.259e-3	419.548	NC
		5	.722	1.395	0	-1.31e-3	NC	NC
1	M20	1	.954	.212	0	-6.042e-4	NC	NC
		2	.953	.448	0	-7.291e-4	719.646	NC
		3	.953	.662	0	-8.541e-4	508.323	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		4	.952	.849	0	-9.79e-4	635.482	NC
		5	.952	1.005	0	-1.104e-3	NC	NC
1	M21	1	-.976	.047	0	6.03e-4	NC	NC
		2	-.977	-.206	0	4.588e-4	106.512	NC
		3	-.977	-.471	0	3.147e-4	51.947	NC
		4	-.977	-.744	0	1.706e-4	34.08	NC
		5	-.978	-1.017	0	2.648e-5	25.332	NC
1	M22	1	-.822	-1.146	0	2.493e-5	NC	NC
		2	-.822	-1.419	0	-1.01e-4	1821.222	NC
		3	-.822	-1.686	0	-2.27e-4	1148.678	NC
		4	-.822	-1.941	0	-3.53e-4	1346.964	NC
		5	-.822	-2.179	0	-4.79e-4	NC	NC
1	M23	1	-.552	-2.263	0	-4.8e-4	NC	NC
		2	-.551	-2.481	0	-5.623e-4	750.299	NC
		3	-.551	-2.679	0	-6.446e-4	534.021	NC
		4	-.551	-2.85	0	-7.269e-4	684.285	NC
		5	-.551	-2.994	0	-8.092e-4	NC	NC
1	M24	1	-.189	-3.038	0	-8.097e-4	NC	NC
		2	-.189	-3.152	0	-8.383e-4	563.697	NC
		3	-.189	-3.236	0	-8.669e-4	415.386	NC
		4	-.189	-3.286	0	-8.955e-4	548.84	NC
		5	-.188	-3.302	0	-9.241e-4	NC	NC
1	M25	1	.002	1.078	0	9.812e-4	NC	NC
		2	.002	.846	0	7.351e-4	705.637	NC
		3	.001	.582	0	4.889e-4	619.507	NC
		4	0	.296	0	2.428e-4	993.386	NC
		5	0	0	0	-3.338e-6	NC	NC
1	M26	1	.344	1.532	0	1.312e-3	NC	NC
		2	.343	1.473	0	1.228e-3	390.385	NC
		3	.342	1.366	0	1.145e-3	302.329	NC
		4	.342	1.214	0	1.061e-3	415.494	NC
		5	.341	1.023	0	9.775e-4	NC	NC
1	M27	1	.725	1.179	0	1.105e-3	NC	NC
		2	.724	1.295	0	1.156e-3	430.591	NC
		3	.723	1.371	0	1.208e-3	319.582	NC
		4	.723	1.405	0	1.259e-3	419.95	NC
		5	.722	1.395	0	1.311e-3	NC	NC
1	M28	1	.954	.212	0	6.046e-4	NC	NC
		2	.953	.448	0	7.296e-4	717.887	NC
		3	.953	.662	0	8.546e-4	508.249	NC
		4	.952	.849	0	9.795e-4	636.686	NC
		5	.952	1.005	0	1.105e-3	NC	NC
1	M29	1	-.976	.047	0	-6.034e-4	NC	NC
		2	-.977	-.206	0	-4.593e-4	106.474	NC
		3	-.977	-.471	0	-3.151e-4	51.947	NC
		4	-.977	-.743	0	-1.71e-4	34.084	NC
		5	-.978	-1.017	0	-2.688e-5	25.332	NC
1	M30	1	-.822	-1.146	0	-2.531e-5	NC	NC
		2	-.822	-1.42	0	1.007e-4	1809.194	NC
		3	-.822	-1.686	0	2.267e-4	1148.819	NC
		4	-.822	-1.941	0	3.527e-4	1353.914	NC
		5	-.822	-2.179	0	4.787e-4	NC	NC
1	M31	1	-.552	-2.263	0	4.798e-4	NC	NC
		2	-.551	-2.481	0	5.621e-4	748.17	NC
		3	-.551	-2.679	0	6.444e-4	534.035	NC
		4	-.551	-2.85	0	7.267e-4	686.099	NC
		5	-.551	-2.994	0	8.09e-4	NC	NC
1	M32	1	-.189	-3.038	0	8.096e-4	NC	NC
		2	-.189	-3.152	0	8.382e-4	562.458	NC
		3	-.189	-3.236	0	8.668e-4	415.39	NC
		4	-.189	-3.286	0	8.954e-4	550.029	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M33	5	-.188	-3.302	0	9.241e-4	NC	NC
		1	.004	1.121	0	1.87e-7	NC	NC
		2	.003	.883	0	1.5e-7	627.271	NC
		3	.002	.609	0	1.131e-7	554.241	NC
		4	0	.31	0	7.61e-8	891.863	NC
1	M34	5	0	0	0	3.914e-8	NC	NC
		1	.361	1.578	0	2.487e-7	NC	NC
		2	.359	1.52	0	2.48e-7	374.057	NC
		3	.358	1.411	0	2.474e-7	293.506	NC
		4	.357	1.257	0	2.467e-7	406.215	NC
1	M35	5	.356	1.063	0	2.46e-7	NC	NC
		1	.754	1.199	0	2.513e-7	NC	NC
		2	.753	1.321	0	2.576e-7	428.003	NC
		3	.752	1.4	0	2.64e-7	320.755	NC
		4	.751	1.439	0	2.703e-7	420.929	NC
1	M36	5	.749	1.434	0	2.766e-7	NC	NC
		1	.988	.196	0	2.163e-7	NC	NC
		2	.987	.438	0	2.268e-7	740.468	NC
		3	.986	.659	0	2.374e-7	527.278	NC
		4	.985	.855	0	2.479e-7	650.104	NC
1	M37	5	.984	1.019	0	2.585e-7	NC	NC
		1	-1.007	.026	0	-2.12e-7	NC	NC
		2	-1.008	-.236	0	-2.078e-7	102.985	NC
		3	-1.009	-.51	0	-2.035e-7	50.237	NC
		4	-1.01	-.789	0	-1.993e-7	33.056	NC
1	M38	5	-1.01	-1.068	0	-1.951e-7	24.629	NC
		1	-.846	-1.202	0	-1.834e-7	NC	NC
		2	-.847	-1.483	0	-1.748e-7	1665.643	NC
		3	-.847	-1.759	0	-1.661e-7	1016.329	NC
		4	-.848	-2.019	0	-1.575e-7	1213.174	NC
1	M39	5	-.848	-2.262	0	-1.489e-7	NC	NC
		1	-.568	-2.348	0	-1.34e-7	NC	NC
		2	-.568	-2.573	0	-1.224e-7	715.335	NC
		3	-.568	-2.776	0	-1.108e-7	500.49	NC
		4	-.568	-2.951	0	-9.917e-8	646.553	NC
1	M40	5	-.568	-3.096	0	-8.755e-8	NC	NC
		1	-.194	-3.142	0	-6.978e-8	NC	NC
		2	-.194	-3.26	0	-5.457e-8	540.103	NC
		3	-.194	-3.347	0	-3.936e-8	393.616	NC
		4	-.195	-3.397	0	0	524.792	NC
1	M41	5	-.195	-3.413	0	0	NC	NC
		1	.004	1.121	0	1.87e-7	NC	NC
		2	.003	.883	0	1.5e-7	627.271	NC
		3	.002	.609	0	1.131e-7	554.241	NC
		4	0	.31	0	7.61e-8	891.863	NC
1	M42	5	0	0	0	3.914e-8	NC	NC
		1	.361	1.578	0	2.487e-7	NC	NC
		2	.359	1.52	0	2.48e-7	374.057	NC
		3	.358	1.411	0	2.474e-7	293.506	NC
		4	.357	1.257	0	2.467e-7	406.215	NC
1	M43	5	.356	1.063	0	2.46e-7	NC	NC
		1	.754	1.199	0	2.513e-7	NC	NC
		2	.753	1.321	0	2.576e-7	428.003	NC
		3	.752	1.4	0	2.64e-7	320.755	NC
		4	.751	1.439	0	2.703e-7	420.929	NC
1	M44	5	.749	1.434	0	2.766e-7	NC	NC
		1	.988	.196	0	2.163e-7	NC	NC
		2	.987	.438	0	2.268e-7	740.468	NC
		3	.986	.659	0	2.374e-7	527.278	NC
		4	.985	.855	0	2.479e-7	650.104	NC
		5	.984	1.019	0	2.585e-7	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M45	1	-1.007	.026	0	-2.12e-7	NC	NC
		2	-1.008	-.236	0	-2.078e-7	102.985	NC
		3	-1.009	-.51	0	-2.035e-7	50.237	NC
		4	-1.01	-.789	0	-1.993e-7	33.056	NC
		5	-1.01	-1.068	0	-1.951e-7	24.629	NC
1	M46	1	-.846	-1.202	0	-1.834e-7	NC	NC
		2	-.847	-1.483	0	-1.748e-7	1665.643	NC
		3	-.847	-1.759	0	-1.661e-7	1016.329	NC
		4	-.848	-2.019	0	-1.575e-7	1213.174	NC
		5	-.848	-2.262	0	-1.489e-7	NC	NC
1	M47	1	-.568	-2.348	0	-1.34e-7	NC	NC
		2	-.568	-2.573	0	-1.224e-7	715.335	NC
		3	-.568	-2.776	0	-1.108e-7	500.49	NC
		4	-.568	-2.951	0	-9.917e-8	646.553	NC
		5	-.568	-3.096	0	-8.755e-8	NC	NC
1	M48	1	-.194	-3.142	0	-6.977e-8	NC	NC
		2	-.194	-3.26	0	-5.456e-8	540.103	NC
		3	-.194	-3.347	0	-3.935e-8	393.616	NC
		4	-.195	-3.397	0	0	524.792	NC
		5	-.195	-3.413	0	0	NC	NC
1	M49	1	0	0	0	4.614e-2	NC	NC
		2	0	0	.136	4.614e-2	NC	293.789
		3	0	0	.191	4.614e-2	NC	209.416
		4	0	0	.136	4.614e-2	NC	293.789
		5	0	0	0	4.614e-2	NC	NC
1	M50	1	0	1.062	-.186	3.195e-2	NC	NC
		2	0	1.072	.082	3.195e-2	3770.434	148.324
		3	0	1.083	.189	3.195e-2	1885.217	105.727
		4	0	1.094	.079	3.195e-2	1256.811	148.324
		5	0	1.104	-.192	3.195e-2	942.609	NC
1	M51	1	0	1.512	-.425	4.247e-3	NC	NC
		2	0	1.524	-.157	4.247e-3	NC	149.129
		3	0	1.535	-.05	4.247e-3	NC	106.593
		4	0	1.547	-.161	4.247e-3	NC	151.078
		5	0	1.559	-.432	4.247e-3	NC	5778.145
1	M52	1	0	1.356	-.276	-2.134e-2	NC	5158.867
		2	0	1.365	-.002	-2.134e-2	NC	150.431
		3	0	1.374	.109	-2.134e-2	NC	106.012
		4	0	1.382	.002	-2.134e-2	NC	148.269
		5	0	1.391	-.268	-2.134e-2	NC	NC
1	M53	1	0	.902	.375	-3.73e-2	NC	NC
		2	0	.907	.655	-3.73e-2	NC	147.004
		3	0	.912	.773	-3.73e-2	NC	104.786
		4	0	.917	.672	-3.73e-2	NC	147.004
		5	0	.922	.408	-3.73e-2	NC	NC
1	M54	1	0	.448	1.337	-4.133e-2	NC	NC
		2	0	.45	1.625	-4.133e-2	NC	147.021
		3	0	.452	1.749	-4.133e-2	NC	104.798
		4	0	.454	1.655	-4.133e-2	NC	147.021
		5	0	.456	1.398	-4.133e-2	NC	NC
1	M55	1	0	.145	2.324	-3.439e-2	NC	NC
		2	0	.145	2.619	-3.439e-2	NC	146.735
		3	0	.146	2.75	-3.439e-2	NC	104.594
		4	0	.146	2.662	-3.439e-2	NC	146.735
		5	0	.146	2.411	-3.439e-2	NC	NC
1	M56	1	0	.016	3.044	-1.935e-2	NC	NC
		2	0	.016	3.343	-1.935e-2	NC	146.611
		3	0	.016	3.479	-1.935e-2	NC	104.506
		4	0	.015	3.395	-1.935e-2	NC	146.611
		5	0	.015	3.148	-1.935e-2	NC	NC
1	M57	1	0	0	3.308	0	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		2	0	0	3.609	0	NC	146.337
		3	0	0	3.746	0	NC	104.311
		4	0	0	3.664	0	NC	146.337
1	M58	5	0	0	3.418	0	NC	NC
		1	0	0	0	4.481e-2	NC	NC
		2	0	0	.136	4.481e-2	NC	293.789
		3	0	0	.191	4.481e-2	NC	209.416
		4	0	0	.136	4.481e-2	NC	293.789
		5	0	0	0	4.481e-2	NC	NC
1	M59	1	0	1.104	-.192	3.15e-2	NC	NC
		2	0	1.094	.079	3.15e-2	NC	148.324
		3	0	1.083	.189	3.15e-2	NC	105.727
		4	0	1.072	.082	3.15e-2	NC	148.324
		5	0	1.062	-.186	3.15e-2	NC	NC
1	M60	1	0	1.559	-.432	4.922e-3	NC	5778.165
		2	0	1.547	-.161	4.922e-3	NC	151.078
		3	0	1.535	-.05	4.922e-3	NC	106.593
		4	0	1.524	-.157	4.922e-3	NC	149.129
		5	0	1.512	-.425	4.922e-3	NC	NC
1	M61	1	0	1.391	-.268	-2.029e-2	NC	NC
		2	0	1.382	.002	-2.029e-2	NC	148.269
		3	0	1.374	.109	-2.029e-2	NC	106.012
		4	0	1.365	-.002	-2.029e-2	NC	150.43
		5	0	1.356	-.276	-2.029e-2	NC	5160.213
1	M62	1	0	.922	.408	-3.625e-2	NC	NC
		2	0	.917	.672	-3.625e-2	NC	147.004
		3	0	.912	.773	-3.625e-2	NC	104.786
		4	0	.907	.655	-3.625e-2	NC	147.004
		5	0	.902	.375	-3.625e-2	NC	NC
1	M63	1	0	.456	1.398	-4.039e-2	NC	NC
		2	0	.454	1.655	-4.039e-2	NC	147.021
		3	0	.452	1.749	-4.039e-2	NC	104.798
		4	0	.45	1.625	-4.039e-2	NC	147.021
		5	0	.448	1.337	-4.039e-2	NC	NC
1	M64	1	0	.146	2.411	-3.369e-2	NC	NC
		2	0	.146	2.662	-3.369e-2	NC	146.735
		3	0	.146	2.75	-3.369e-2	NC	104.594
		4	0	.145	2.619	-3.369e-2	NC	146.735
		5	0	.145	2.324	-3.369e-2	NC	NC
1	M65	1	0	.015	3.148	-1.898e-2	NC	NC
		2	0	.015	3.395	-1.898e-2	NC	146.611
		3	0	.016	3.479	-1.898e-2	NC	104.506
		4	0	.016	3.343	-1.898e-2	NC	146.611
		5	0	.016	3.044	-1.898e-2	NC	NC
1	M66	1	0	0	3.418	9.797e-6	NC	NC
		2	0	0	3.664	9.797e-6	NC	146.337
		3	0	0	3.746	9.797e-6	NC	104.311
		4	0	0	3.609	9.797e-6	NC	146.337
		5	0	0	3.308	9.797e-6	NC	NC
1	M67	1	0	0	0	-4.614e-2	NC	NC
		2	0	0	.136	-4.614e-2	NC	293.789
		3	0	0	.191	-4.614e-2	NC	209.416
		4	0	0	.136	-4.614e-2	NC	293.789
		5	0	0	0	-4.614e-2	NC	NC
1	M68	1	0	-1.062	-.186	-3.195e-2	NC	NC
		2	0	-1.072	.082	-3.195e-2	NC	148.324
		3	0	-1.083	.189	-3.195e-2	NC	105.727
		4	0	-1.094	.079	-3.195e-2	NC	148.324
		5	0	-1.104	-.192	-3.195e-2	NC	NC
1	M69	1	0	-1.512	-.425	-4.247e-3	NC	NC
		2	0	-1.524	-.157	-4.247e-3	NC	149.129

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		3	0	-1.535	-.05	-4.247e-3	NC	106.593
		4	0	-1.547	-.161	-4.247e-3	NC	151.078
		5	0	-1.559	-.432	-4.247e-3	NC	5778.165
1	M70	1	0	-1.356	-.276	2.134e-2	NC	5160.213
		2	0	-1.365	-.002	2.134e-2	NC	150.43
		3	0	-1.374	.109	2.134e-2	NC	106.012
		4	0	-1.382	.002	2.134e-2	NC	148.269
		5	0	-1.391	-.268	2.134e-2	NC	NC
1	M71	1	0	-.902	.375	3.73e-2	NC	NC
		2	0	-.907	.655	3.73e-2	NC	147.004
		3	0	-.912	.773	3.73e-2	NC	104.786
		4	0	-.917	.672	3.73e-2	NC	147.004
		5	0	-.922	.408	3.73e-2	NC	NC
1	M72	1	0	-.448	1.337	4.133e-2	NC	NC
		2	0	-.45	1.625	4.133e-2	NC	147.021
		3	0	-.452	1.749	4.133e-2	NC	104.798
		4	0	-.454	1.655	4.133e-2	NC	147.021
		5	0	-.456	1.398	4.133e-2	NC	NC
1	M73	1	0	-.145	2.324	3.439e-2	NC	NC
		2	0	-.145	2.619	3.439e-2	NC	146.735
		3	0	-.146	2.75	3.439e-2	NC	104.594
		4	0	-.146	2.662	3.439e-2	NC	146.735
		5	0	-.146	2.411	3.439e-2	NC	NC
1	M74	1	0	-.016	3.044	1.935e-2	NC	NC
		2	0	-.016	3.343	1.935e-2	NC	146.611
		3	0	-.016	3.479	1.935e-2	NC	104.506
		4	0	-.015	3.395	1.935e-2	NC	146.611
		5	0	-.015	3.148	1.935e-2	NC	NC
1	M75	1	0	0	0	-4.481e-2	NC	NC
		2	0	0	.136	-4.481e-2	NC	293.789
		3	0	0	.191	-4.481e-2	NC	209.416
		4	0	0	.136	-4.481e-2	NC	293.789
		5	0	0	0	-4.481e-2	NC	NC
1	M76	1	0	-1.104	-.192	-3.15e-2	NC	NC
		2	0	-1.094	.079	-3.15e-2	NC	148.324
		3	0	-1.083	.189	-3.15e-2	NC	105.727
		4	0	-1.072	.082	-3.15e-2	NC	148.324
		5	0	-1.062	-.186	-3.15e-2	NC	NC
1	M77	1	0	-1.559	-.432	-4.911e-3	NC	5778.145
		2	0	-1.547	-.161	-4.911e-3	NC	151.078
		3	0	-1.535	-.05	-4.911e-3	NC	106.593
		4	0	-1.524	-.157	-4.911e-3	NC	149.129
		5	0	-1.512	-.425	-4.911e-3	NC	NC
1	M78	1	0	-1.391	-.268	2.03e-2	NC	NC
		2	0	-1.382	.002	2.03e-2	NC	148.269
		3	0	-1.374	.109	2.03e-2	NC	106.012
		4	0	-1.365	-.002	2.03e-2	NC	150.431
		5	0	-1.356	-.276	2.03e-2	NC	5158.867
1	M79	1	0	-.922	.408	3.627e-2	NC	NC
		2	0	-.917	.672	3.627e-2	NC	147.004
		3	0	-.912	.773	3.627e-2	NC	104.786
		4	0	-.907	.655	3.627e-2	NC	147.004
		5	0	-.902	.375	3.627e-2	NC	NC
1	M80	1	0	-.456	1.398	4.041e-2	NC	NC
		2	0	-.454	1.655	4.041e-2	NC	147.021
		3	0	-.452	1.749	4.041e-2	NC	104.798
		4	0	-.45	1.625	4.041e-2	NC	147.021
		5	0	-.448	1.337	4.041e-2	NC	NC
1	M81	1	0	-.146	2.411	3.371e-2	NC	NC
		2	0	-.146	2.662	3.371e-2	NC	146.735
		3	0	-.146	2.75	3.371e-2	NC	104.594

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M82	4	0	-.145	2.619	3.371e-2	NC	146.735
		5	0	-.145	2.324	3.371e-2	NC	NC
		1	0	-.015	3.148	1.899e-2	NC	NC
		2	0	-.015	3.395	1.899e-2	NC	146.611
		3	0	-.016	3.479	1.899e-2	NC	104.506
1	M164	4	0	-.016	3.343	1.899e-2	NC	146.611
		5	0	-.016	3.044	1.899e-2	NC	NC
		1	0	0	0	0	NC	NC
		2	0	.013	0	1.083e-5	NC	NC
		3	0	.027	0	2.166e-5	NC	NC
1	M165	4	0	.04	0	3.249e-5	NC	NC
		5	0	.054	0	4.332e-5	NC	NC
		1	0	0	0	0	NC	NC
		2	0	.014	0	0	NC	NC
		3	0	.028	0	0	NC	NC
1	M166	4	0	.041	0	0	NC	NC
		5	0	.055	0	0	NC	NC
		1	0	0	0	0	NC	NC
		2	0	.013	0	-1.083e-5	NC	NC
		3	0	.027	0	-2.166e-5	NC	NC
1	M167	4	0	.04	0	-3.25e-5	NC	NC
		5	0	.054	0	-4.333e-5	NC	NC
		1	0	0	0	0	NC	NC
		2	0	-.013	0	1.083e-5	NC	NC
		3	0	-.027	0	2.166e-5	NC	NC
1	M168	4	0	-.04	0	3.249e-5	NC	NC
		5	0	-.054	0	4.332e-5	NC	NC
		1	0	0	0	0	NC	NC
		2	0	-.014	0	0	NC	NC
		3	0	-.028	0	0	NC	NC
1	M169	4	0	-.041	0	0	NC	NC
		5	0	-.055	0	0	NC	NC
		1	0	0	0	0	NC	NC
		2	0	-.013	0	-1.083e-5	NC	NC
		3	0	-.027	0	-2.166e-5	NC	NC
1	M170	4	0	-.04	0	-3.25e-5	NC	NC
		5	0	-.054	0	-4.333e-5	NC	NC
		1	.186	1.062	0	9.404e-4	NC	NC
		2	.186	1.071	0	9.405e-4	NC	NC
		3	.186	1.081	0	9.407e-4	NC	6279.518
1	M171	4	.187	1.09	0	9.409e-4	NC	4184.83
		5	.187	1.099	0	9.411e-4	NC	3138.574
		1	.192	1.104	0	-1.461e-7	NC	NC
		2	.192	1.114	0	-1.461e-7	NC	NC
		3	.192	1.123	0	-1.461e-7	NC	NC
1	M172	4	.192	1.133	0	-1.461e-7	NC	NC
		5	.193	1.142	0	-1.461e-7	NC	NC
		1	.186	1.062	0	-9.406e-4	NC	NC
		2	.186	1.071	0	-9.408e-4	NC	NC
		3	.186	1.081	0	-9.41e-4	NC	6270.056
1	M173	4	.187	1.09	0	-9.412e-4	NC	4178.527
		5	.187	1.099	0	-9.414e-4	NC	3133.847
		1	.425	1.512	0	1.075e-3	NC	NC
		2	.425	1.513	0	1.075e-3	NC	5196.543
		3	.425	1.514	0	1.076e-3	NC	2597.825
1	M174	4	.425	1.516	0	1.076e-3	NC	1731.618
		5	.425	1.517	0	1.077e-3	NC	1298.538
		1	.432	1.559	0	-1.514e-7	NC	NC
		2	.432	1.561	0	-1.515e-7	NC	NC
		3	.432	1.562	0	-1.515e-7	NC	NC
		4	.432	1.563	0	-1.516e-7	NC	NC

Member Deflections By Combination (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M175	5	.432	1.564	0	-1.516e-7	NC	NC
		1	.425	1.512	0	-1.075e-3	NC	NC
		2	.425	1.513	0	-1.075e-3	NC	5193.348
		3	.425	1.514	0	-1.076e-3	NC	2596.228
		4	.425	1.516	0	-1.076e-3	NC	1730.553
1	M176	5	.425	1.517	-.001	-1.077e-3	NC	1297.741
		1	.276	1.356	0	7.296e-4	NC	NC
		2	.276	1.35	0	7.304e-4	NC	NC
		3	.275	1.344	0	7.312e-4	NC	NC
		4	.275	1.338	0	7.32e-4	NC	NC
1	M177	5	.275	1.332	0	7.328e-4	NC	NC
		1	.268	1.391	0	-1.419e-7	NC	NC
		2	.268	1.384	0	-1.42e-7	NC	NC
		3	.268	1.378	0	-1.421e-7	NC	NC
		4	.268	1.372	0	-1.422e-7	NC	NC
1	M178	5	.267	1.365	0	-1.423e-7	NC	NC
		1	.276	1.356	0	-7.298e-4	NC	NC
		2	.276	1.35	0	-7.307e-4	NC	NC
		3	.275	1.344	0	-7.315e-4	NC	NC
		4	.275	1.338	0	-7.323e-4	NC	NC
1	M179	5	.275	1.332	0	-7.331e-4	NC	NC
		1	-.375	.902	0	3.11e-4	NC	NC
		2	-.375	.892	0	3.121e-4	NC	NC
		3	-.375	.881	0	3.131e-4	NC	NC
		4	-.376	.87	0	3.142e-4	NC	NC
1	M180	5	-.376	.859	0	3.153e-4	NC	NC
		1	-.408	.922	0	-1.299e-7	NC	NC
		2	-.408	.91	0	-1.3e-7	NC	NC
		3	-.408	.899	0	-1.301e-7	NC	NC
		4	-.408	.888	0	-1.301e-7	NC	NC
1	M181	5	-.408	.877	0	-1.302e-7	NC	NC
		1	-.375	.902	0	-3.112e-4	NC	NC
		2	-.375	.892	0	-3.123e-4	NC	NC
		3	-.375	.881	0	-3.134e-4	NC	NC
		4	-.376	.87	0	-3.145e-4	NC	NC
1	M182	5	-.376	.859	0	-3.156e-4	NC	NC
		1	-1.337	.448	0	1.934e-5	NC	NC
		2	-1.337	.436	0	2.043e-5	NC	NC
		3	-1.338	.424	0	2.152e-5	NC	NC
		4	-1.338	.412	0	2.26e-5	NC	NC
1	M183	5	-1.338	.4	0	2.369e-5	NC	NC
		1	-1.398	.456	0	-1.443e-7	NC	NC
		2	-1.398	.443	0	-1.444e-7	NC	NC
		3	-1.398	.431	0	-1.445e-7	NC	NC
		4	-1.398	.419	0	-1.446e-7	NC	NC
1	M184	5	-1.398	.406	0	-1.448e-7	NC	NC
		1	-1.337	.448	0	-1.963e-5	NC	NC
		2	-1.337	.436	0	-2.072e-5	NC	NC
		3	-1.337	.424	0	-2.181e-5	NC	NC
		4	-1.338	.412	0	-2.289e-5	NC	NC
1	M185	5	-1.338	.4	0	-2.398e-5	NC	NC
		1	-2.324	.145	0	-1.046e-4	NC	NC
		2	-2.324	.135	0	-1.038e-4	NC	8528.694
		3	-2.324	.125	0	-1.03e-4	NC	4262.433
		4	-2.324	.115	0	-1.021e-4	NC	2840.314
1	M186	5	-2.324	.105	0	-1.013e-4	NC	2129.231
		1	-2.411	.146	0	-1.52e-7	NC	NC
		2	-2.411	.136	0	-1.522e-7	NC	NC
		3	-2.411	.125	0	-1.523e-7	NC	NC
		4	-2.411	.115	0	-1.525e-7	NC	NC
		5	-2.411	.105	0	-1.526e-7	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M187	1	-2.324	.145	0	1.043e-4	NC	NC
		2	-2.324	.135	0	1.035e-4	NC	8532.678
		3	-2.324	.125	0	1.027e-4	NC	4264.422
		4	-2.324	.115	0	1.018e-4	NC	2841.639
		5	-2.324	.105	0	1.01e-4	NC	2130.224
1	M188	1	-3.044	.016	0	-8.998e-5	NC	NC
		2	-3.044	.01	0	-8.954e-5	NC	4965.969
		3	-3.044	.005	0	-8.91e-5	NC	2482.546
		4	-3.044	0	0	-8.866e-5	NC	1654.697
		5	-3.044	-.007	0	-8.822e-5	NC	1240.742
1	M189	1	-3.148	.015	0	-1.566e-7	NC	NC
		2	-3.148	.009	0	-1.568e-7	NC	NC
		3	-3.148	.004	0	-1.57e-7	NC	NC
		4	-3.148	-.002	0	-1.572e-7	NC	NC
		5	-3.148	-.008	0	-1.574e-7	NC	NC
1	M190	1	-3.044	.016	0	8.968e-5	52.85	NC
		2	-3.044	.01	0	8.923e-5	70.492	4966.698
		3	-3.044	.005	0	8.879e-5	105.701	2482.911
		4	-3.044	0	0	8.835e-5	211.174	1654.94
		5	-3.044	-.007	0	8.791e-5	NC	1240.924
1	M191	1	-3.308	0	0	-1.555e-7	NC	NC
		2	-3.308	0	0	-1.556e-7	NC	4325.093
		3	-3.307	0	0	-1.558e-7	NC	2162.262
		4	-3.307	0	0	-1.559e-7	NC	1441.272
		5	-3.307	0	-.001	-1.561e-7	NC	1080.741
1	M192	1	-3.418	0	0	-1.569e-7	NC	NC
		2	-3.418	0	0	-1.571e-7	NC	NC
		3	-3.418	0	0	-1.573e-7	NC	NC
		4	-3.418	0	0	-1.575e-7	NC	NC
		5	-3.418	0	0	-1.577e-7	NC	NC
1	M193	1	-3.308	0	0	-1.555e-7	NC	NC
		2	-3.308	0	0	-1.557e-7	NC	4325.093
		3	-3.307	0	0	-1.558e-7	NC	2162.262
		4	-3.307	0	0	-1.56e-7	NC	1441.272
		5	-3.307	0	.001	-1.561e-7	NC	1080.741
1	M194	1	-3.044	-.016	0	8.968e-5	52.85	NC
		2	-3.044	-.01	0	8.923e-5	70.492	4966.698
		3	-3.044	-.005	0	8.879e-5	105.701	2482.91
		4	-3.044	0	0	8.835e-5	211.174	1654.94
		5	-3.044	.007	0	8.791e-5	NC	1240.924
1	M195	1	-3.148	-.015	0	-1.566e-7	NC	NC
		2	-3.148	-.009	0	-1.568e-7	NC	NC
		3	-3.148	-.004	0	-1.57e-7	NC	NC
		4	-3.148	.002	0	-1.572e-7	NC	NC
		5	-3.148	.008	0	-1.574e-7	NC	NC
1	M196	1	-3.044	-.016	0	-8.998e-5	NC	NC
		2	-3.044	-.01	0	-8.954e-5	NC	4965.969
		3	-3.044	-.005	0	-8.91e-5	NC	2482.546
		4	-3.044	0	0	-8.866e-5	NC	1654.697
		5	-3.044	.007	0	-8.822e-5	NC	1240.742
1	M197	1	-2.324	-.145	0	1.043e-4	NC	NC
		2	-2.324	-.135	0	1.035e-4	NC	8532.677
		3	-2.324	-.125	0	1.027e-4	NC	4264.422
		4	-2.324	-.115	0	1.018e-4	NC	2841.639
		5	-2.324	-.105	0	1.01e-4	NC	2130.224
1	M198	1	-2.411	-.146	0	-1.52e-7	NC	NC
		2	-2.411	-.136	0	-1.522e-7	NC	NC
		3	-2.411	-.125	0	-1.523e-7	NC	NC
		4	-2.411	-.115	0	-1.525e-7	NC	NC
		5	-2.411	-.105	0	-1.526e-7	NC	NC
1	M199	1	-2.324	-.145	0	-1.046e-4	NC	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		2	-2.324	-.135	0	-1.038e-4	NC	8528.694
		3	-2.324	-.125	0	-1.03e-4	NC	4262.432
		4	-2.324	-.115	0	-1.021e-4	NC	2840.314
1	M200	5	-2.324	-.105	0	-1.013e-4	NC	2129.231
		1	-1.337	-.448	0	-1.963e-5	NC	NC
		2	-1.337	-.436	0	-2.072e-5	NC	NC
		3	-1.337	-.424	0	-2.181e-5	NC	NC
		4	-1.338	-.412	0	-2.289e-5	NC	NC
		5	-1.338	-.4	0	-2.398e-5	NC	NC
1	M201	1	-1.398	-.456	0	-1.443e-7	NC	NC
		2	-1.398	-.443	0	-1.444e-7	NC	NC
		3	-1.398	-.431	0	-1.445e-7	NC	NC
		4	-1.398	-.419	0	-1.446e-7	NC	NC
		5	-1.398	-.406	0	-1.448e-7	NC	NC
1	M202	1	-1.337	-.448	0	1.934e-5	NC	NC
		2	-1.337	-.436	0	2.043e-5	NC	NC
		3	-1.338	-.424	0	2.152e-5	NC	NC
		4	-1.338	-.412	0	2.26e-5	NC	NC
		5	-1.338	-.4	0	2.369e-5	NC	NC
1	M203	1	-.375	-.902	0	-3.112e-4	NC	NC
		2	-.375	-.892	0	-3.123e-4	NC	NC
		3	-.375	-.881	0	-3.134e-4	NC	NC
		4	-.376	-.87	0	-3.145e-4	NC	NC
		5	-.376	-.859	0	-3.156e-4	NC	NC
1	M204	1	-.408	-.922	0	-1.299e-7	NC	NC
		2	-.408	-.91	0	-1.3e-7	NC	NC
		3	-.408	-.899	0	-1.301e-7	NC	NC
		4	-.408	-.888	0	-1.301e-7	NC	NC
		5	-.408	-.877	0	-1.302e-7	NC	NC
1	M205	1	-.375	-.902	0	3.11e-4	NC	NC
		2	-.375	-.892	0	3.121e-4	NC	NC
		3	-.375	-.881	0	3.131e-4	NC	NC
		4	-.376	-.87	0	3.142e-4	NC	NC
		5	-.376	-.859	0	3.153e-4	NC	NC
1	M206	1	.276	-1.356	0	-7.298e-4	NC	NC
		2	.276	-1.35	0	-7.307e-4	NC	NC
		3	.275	-1.344	0	-7.315e-4	NC	NC
		4	.275	-1.338	0	-7.323e-4	NC	NC
		5	.275	-1.332	0	-7.331e-4	NC	NC
1	M207	1	.268	-1.391	0	-1.419e-7	NC	NC
		2	.268	-1.384	0	-1.42e-7	NC	NC
		3	.268	-1.378	0	-1.421e-7	NC	NC
		4	.268	-1.372	0	-1.422e-7	NC	NC
		5	.267	-1.365	0	-1.423e-7	NC	NC
1	M208	1	.276	-1.356	0	7.296e-4	NC	NC
		2	.276	-1.35	0	7.304e-4	NC	NC
		3	.275	-1.344	0	7.312e-4	NC	NC
		4	.275	-1.338	0	7.32e-4	NC	NC
		5	.275	-1.332	0	7.328e-4	NC	NC
1	M209	1	.425	-1.512	0	-1.075e-3	NC	NC
		2	.425	-1.513	0	-1.075e-3	NC	5193.348
		3	.425	-1.514	0	-1.076e-3	NC	2596.228
		4	.425	-1.516	0	-1.076e-3	NC	1730.553
		5	.425	-1.517	.001	-1.077e-3	NC	1297.741
1	M210	1	.432	-1.559	0	-1.514e-7	NC	NC
		2	.432	-1.561	0	-1.515e-7	NC	NC
		3	.432	-1.562	0	-1.515e-7	NC	NC
		4	.432	-1.563	0	-1.516e-7	NC	NC
		5	.432	-1.564	0	-1.516e-7	NC	NC
1	M211	1	.425	-1.512	0	1.075e-3	NC	NC
		2	.425	-1.513	0	1.075e-3	NC	5196.543

Member Deflections, By Combination (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
1	M212	3	.425	-1.514	0	1.076e-3	NC	2597.825
		4	.425	-1.516	0	1.076e-3	NC	1731.618
		5	.425	-1.517	0	1.077e-3	NC	1298.538
		1	.186	-1.062	0	-9.406e-4	NC	NC
		2	.186	-1.071	0	-9.408e-4	NC	NC
		3	.186	-1.081	0	-9.41e-4	NC	6270.056
		4	.187	-1.09	0	-9.412e-4	NC	4178.527
		5	.187	-1.099	0	-9.414e-4	NC	3133.847
		1	.192	-1.104	0	-1.461e-7	NC	NC
		2	.192	-1.114	0	-1.461e-7	NC	NC
1	M213	3	.192	-1.123	0	-1.461e-7	NC	NC
		4	.192	-1.133	0	-1.461e-7	NC	NC
		5	.193	-1.142	0	-1.461e-7	NC	NC
		1	.186	-1.062	0	9.404e-4	NC	NC
		2	.186	-1.071	0	9.405e-4	NC	NC
1	M214	3	.186	-1.081	0	9.407e-4	NC	6279.518
		4	.187	-1.09	0	9.409e-4	NC	4184.83
		5	.187	-1.099	0	9.411e-4	NC	3138.574

Member Stresses, By Combination

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M1	1	.815	.257	-.004	-4.045	12.742	.198	-.198
		2	.816	.256	-.004	-3.011	9.485	.149	-.149
		3	.827	.25	-.004	-1.983	6.247	.099	-.099
		4	.838	.244	-.004	-.984	3.1	.05	-.05
		5	.838	.244	-.004	0	0	0	0
1	M2	1	1.114	.11	-.001	-4.928	15.524	.195	-.195
		2	1.115	.109	-.001	-4.488	14.14	.182	-.182
		3	1.125	.092	-.001	-4.065	12.807	.168	-.168
		4	1.135	.076	-.001	-3.721	11.721	.154	-.154
		5	1.135	.075	-.001	-3.417	10.764	.141	-.141
1	M3	1	1.189	-.015	.003	-3.669	11.558	.074	-.074
		2	1.189	-.016	.003	-3.732	11.757	.108	-.108
		3	1.198	-.04	.003	-3.819	12.03	.142	-.142
		4	1.206	-.064	.003	-4.019	12.659	.176	-.176
		5	1.206	-.065	.003	-4.278	13.476	.209	-.209
1	M4	1	.952	-.081	.004	-1.663	5.238	-.025	.025
		2	.952	-.083	.004	-1.996	6.289	.027	-.027
		3	.958	-.111	.004	-2.359	7.431	.079	-.079
		4	.965	-.14	.004	-2.859	9.008	.132	-.132
		5	.965	-.142	.004	-3.433	10.813	.184	-.184
1	M5	1	.557	.165	.004	-1.806	5.688	-.13	.13
		2	.556	.164	.004	-1.14	3.59	-.077	.077
		3	.551	.132	.004	-.553	1.742	-.025	.025
		4	.547	.101	.004	-.117	.369	.028	-.028
		5	.546	.099	.004	.288	-.906	.081	-.081
1	M6	1	.135	.152	.003	-.037	.117	-.07	.07
		2	.135	.15	.003	.579	-1.825	-.029	.029
		3	.132	.117	.003	1.111	-3.501	.012	-.012
		4	.128	.084	.003	1.482	-4.669	.054	-.054
		5	.128	.082	.003	1.819	-5.731	.095	-.095
1	M7	1	-.191	.115	.002	1.501	-4.73	-.017	.017
		2	-.191	.113	.002	1.964	-6.188	.01	-.01
		3	-.193	.079	.002	2.34	-7.373	.036	-.036
		4	-.195	.044	.002	2.551	-8.036	.063	-.063
		5	-.195	.042	.002	2.727	-8.591	.089	-.089
1	M8	1	-.367	.067	0	2.536	-7.989	.031	-.031
		2	-.367	.065	0	2.805	-8.835	.039	-.039
		3	-.368	.03	0	2.985	-9.402	.048	-.048
		4	-.369	-.005	0	2.995	-9.436	.056	-.056

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M9	5	-.369	-.007	0	2.971	-9.36	.064	-.064
		1	.813	.258	.004	-4.044	12.74	-.198	.198
		2	.813	.258	.004	-3.006	9.469	-.149	.149
		3	.825	.252	.004	-1.983	6.246	-.099	.099
		4	.836	.246	.004	-.988	3.114	-.05	.05
1	M10	5	.836	.245	.004	0	0	0	0
		1	1.112	.113	.001	-4.93	15.53	-.195	.195
		2	1.113	.112	.001	-4.477	14.102	-.182	.182
		3	1.123	.096	.001	-4.065	12.805	-.168	.168
		4	1.133	.079	.001	-3.731	11.753	-.154	.154
1	M11	5	1.133	.078	.001	-3.413	10.753	-.141	.141
		1	1.187	-.01	-.003	-3.672	11.568	-.074	.074
		2	1.188	-.011	-.003	-3.715	11.704	-.108	.108
		3	1.196	-.035	-.003	-3.818	12.028	-.142	.142
		4	1.204	-.059	-.003	-4.034	12.709	-.176	.176
1	M12	5	1.205	-.06	-.003	-4.274	13.463	-.209	.209
		1	.95	-.075	-.004	-1.667	5.251	.025	-.025
		2	.951	-.077	-.004	-1.976	6.226	-.027	.027
		3	.957	-.105	-.004	-2.358	7.43	-.079	.079
		4	.964	-.134	-.004	-2.879	9.069	-.132	.132
1	M13	5	.964	-.136	-.004	-3.428	10.798	-.184	.184
		1	.556	.159	-.004	-1.801	5.672	.13	-.13
		2	.555	.157	-.004	-1.161	3.657	.077	-.077
		3	.551	.126	-.004	-.553	1.741	.025	-.025
		4	.546	.094	-.004	-.095	.3	-.028	.028
1	M14	5	.545	.093	-.004	.283	-.892	-.081	.081
		1	.134	.145	-.003	-.032	.101	.07	-.07
		2	.134	.144	-.003	.557	-1.753	.029	-.029
		3	.131	.11	-.003	1.111	-3.502	-.012	.012
		4	.128	.077	-.003	1.505	-4.742	-.054	.054
1	M15	5	.127	.075	-.003	1.814	-5.715	-.095	.095
		1	-.192	.108	-.002	1.507	-4.746	.017	-.017
		2	-.192	.106	-.002	1.941	-6.114	-.01	.01
		3	-.194	.072	-.002	2.34	-7.373	-.036	.036
		4	-.196	.037	-.002	2.575	-8.111	-.063	.063
1	M16	5	-.196	.035	-.002	2.722	-8.575	-.089	.089
		1	-.368	.06	0	2.541	-8.006	-.031	.031
		2	-.368	.058	0	2.78	-8.759	-.039	.039
		3	-.368	.023	0	2.985	-9.402	-.048	.048
		4	-.369	-.012	0	3.02	-9.512	-.056	.056
1	M17	5	-.369	-.014	0	2.966	-9.343	-.064	.064
		1	.813	.258	.004	-4.044	12.74	-.198	.198
		2	.813	.258	.004	-3.006	9.469	-.149	.149
		3	.825	.252	.004	-1.983	6.246	-.099	.099
		4	.836	.246	.004	-.988	3.114	-.05	.05
1	M18	5	.836	.245	.004	0	0	0	0
		1	1.112	.113	.001	-4.93	15.53	-.195	.195
		2	1.113	.112	.001	-4.477	14.102	-.182	.182
		3	1.123	.096	.001	-4.065	12.805	-.168	.168
		4	1.133	.079	.001	-3.731	11.753	-.154	.154
1	M19	5	1.133	.078	.001	-3.413	10.753	-.141	.141
		1	1.187	-.01	-.003	-3.672	11.568	-.074	.074
		2	1.188	-.011	-.003	-3.715	11.704	-.108	.108
		3	1.196	-.035	-.003	-3.818	12.028	-.142	.142
		4	1.204	-.059	-.003	-4.034	12.709	-.176	.176
1	M20	5	1.205	-.06	-.003	-4.274	13.463	-.209	.209
		1	.95	-.075	-.004	-1.667	5.251	.025	-.025
		2	.951	-.077	-.004	-1.976	6.226	-.027	.027
		3	.957	-.105	-.004	-2.358	7.43	-.079	.079
		4	.964	-.134	-.004	-2.879	9.069	-.132	.132
		5	.964	-.136	-.004	-3.428	10.798	-.184	.184

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M21	1	.556	.159	-.004	-1.801	5.672	.13	-.13
		2	.555	.157	-.004	-1.161	3.657	.077	-.077
		3	.551	.126	-.004	-.553	1.741	.025	-.025
		4	.546	.094	-.004	-.095	.3	-.028	.028
		5	.545	.093	-.004	.283	-.892	-.081	.081
1	M22	1	.134	.145	-.003	-.032	.101	.07	-.07
		2	.134	.144	-.003	.557	-1.753	.029	-.029
		3	.131	.11	-.003	1.111	-3.502	-.012	.012
		4	.128	.077	-.003	1.505	-4.742	-.054	.054
		5	.127	.075	-.003	1.814	-5.715	-.095	.095
1	M23	1	-.192	.108	-.002	1.507	-4.746	.017	-.017
		2	-.192	.106	-.002	1.941	-6.114	-.01	.01
		3	-.194	.072	-.002	2.34	-7.373	-.036	.036
		4	-.196	.037	-.002	2.575	-8.111	-.063	.063
		5	-.196	.035	-.002	2.722	-8.575	-.089	.089
1	M24	1	-.368	.06	0	2.541	-8.006	-.031	.031
		2	-.368	.058	0	2.78	-8.759	-.039	.039
		3	-.368	.023	0	2.985	-9.402	-.048	.048
		4	-.369	-.012	0	3.02	-9.512	-.056	.056
		5	-.369	-.014	0	2.966	-9.343	-.064	.064
1	M25	1	.815	.257	-.004	-4.045	12.742	.198	-.198
		2	.816	.256	-.004	-3.011	9.485	.149	-.149
		3	.827	.25	-.004	-1.983	6.247	.099	-.099
		4	.838	.244	-.004	-.984	3.1	.05	-.05
		5	.838	.244	-.004	0	0	0	0
1	M26	1	1.114	.11	-.001	-4.928	15.524	.195	-.195
		2	1.115	.109	-.001	-4.488	14.14	.182	-.182
		3	1.125	.092	-.001	-4.065	12.807	.168	-.168
		4	1.135	.076	-.001	-3.721	11.721	.154	-.154
		5	1.135	.075	-.001	-3.417	10.764	.141	-.141
1	M27	1	1.189	-.015	.003	-3.669	11.558	.074	-.074
		2	1.189	-.016	.003	-3.732	11.757	.108	-.108
		3	1.198	-.04	.003	-3.819	12.03	.142	-.142
		4	1.206	-.064	.003	-4.019	12.659	.176	-.176
		5	1.206	-.065	.003	-4.278	13.476	.209	-.209
1	M28	1	.952	-.081	.004	-1.663	5.238	-.025	.025
		2	.952	-.083	.004	-1.996	6.289	.027	-.027
		3	.958	-.111	.004	-2.359	7.431	.079	-.079
		4	.965	-.14	.004	-2.859	9.008	.132	-.132
		5	.965	-.142	.004	-3.433	10.813	.184	-.184
1	M29	1	.557	.165	.004	-1.806	5.688	-.13	.13
		2	.556	.164	.004	-1.14	3.59	-.077	.077
		3	.551	.132	.004	-.553	1.742	-.025	.025
		4	.547	.101	.004	-.117	.369	.028	-.028
		5	.546	.099	.004	.288	-.906	.081	-.081
1	M30	1	.135	.152	.003	-.037	.117	-.07	.07
		2	.135	.15	.003	.579	-1.825	-.029	.029
		3	.132	.117	.003	1.111	-3.501	.012	-.012
		4	.128	.084	.003	1.482	-4.669	.054	-.054
		5	.128	.082	.003	1.819	-5.731	.095	-.095
1	M31	1	-.191	.115	.002	1.501	-4.73	-.017	.017
		2	-.191	.113	.002	1.964	-6.188	.01	-.01
		3	-.193	.079	.002	2.34	-7.373	.036	-.036
		4	-.195	.044	.002	2.551	-8.036	.063	-.063
		5	-.195	.042	.002	2.727	-8.591	.089	-.089
1	M32	1	-.367	.067	0	2.536	-7.989	.031	-.031
		2	-.367	.065	0	2.805	-8.835	.039	-.039
		3	-.368	.03	0	2.985	-9.402	.048	-.048
		4	-.369	-.005	0	2.995	-9.436	.056	-.056
		5	-.369	-.007	0	2.971	-9.36	.064	-.064
1	M33	1	1.432	.17	0	-3.907	10.91	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		2	1.432	.169	0	-2.857	7.977	0	0
		3	1.455	.158	0	-1.837	5.129	0	0
		4	1.478	.146	0	-.903	2.522	0	0
		5	1.479	.146	0	0	0	0	0
1	M34	1	1.718	.104	0	-4.647	12.973	0	0
		2	1.718	.103	0	-4.009	11.195	0	0
		3	1.739	.071	0	-3.454	9.645	0	0
		4	1.759	.039	0	-3.133	8.749	0	0
		5	1.759	.038	0	-2.895	8.082	0	0
1	M35	1	1.783	.034	0	-3.407	9.511	0	0
		2	1.784	.033	0	-3.199	8.932	0	0
		3	1.801	-.013	0	-3.11	8.683	0	0
		4	1.817	-.059	0	-3.361	9.384	0	0
		5	1.818	-.06	0	-3.73	10.415	0	0
1	M36	1	1.53	-.004	0	-1.604	4.478	0	0
		2	1.531	-.006	0	-1.635	4.565	0	0
		3	1.544	-.061	0	-1.811	5.057	0	0
		4	1.558	-.117	0	-2.402	6.706	0	0
		5	1.558	-.118	0	-3.137	8.76	0	0
1	M37	1	1.122	.142	0	-1.864	5.206	0	0
		2	1.122	.14	0	-.988	2.759	0	0
		3	1.112	.079	0	-.27	.754	0	0
		4	1.102	.018	0	-.004	.011	0	0
		5	1.102	.017	0	.104	-.291	0	0
1	M38	1	.666	.14	0	-.416	1.162	0	0
		2	.666	.138	0	.452	-1.263	0	0
		3	.659	.073	0	1.152	-3.215	0	0
		4	.652	.008	0	1.367	-3.817	0	0
		5	.652	.006	0	1.414	-3.947	0	0
1	M39	1	.308	.117	0	.917	-2.56	0	0
		2	.308	.115	0	1.643	-4.587	0	0
		3	.303	.049	0	2.195	-6.13	0	0
		4	.299	-.018	0	2.252	-6.287	0	0
		5	.299	-.02	0	2.135	-5.96	0	0
1	M40	1	.112	.087	0	1.84	-5.136	0	0
		2	.112	.085	0	2.381	-6.647	0	0
		3	.111	.018	0	2.744	-7.662	0	0
		4	.109	-.05	0	2.601	-7.262	0	0
		5	.109	-.052	0	2.28	-6.367	0	0
1	M41	1	1.432	.17	0	-3.907	10.91	0	0
		2	1.432	.169	0	-2.857	7.977	0	0
		3	1.455	.158	0	-1.837	5.129	0	0
		4	1.478	.146	0	-.903	2.522	0	0
		5	1.479	.146	0	0	0	0	0
1	M42	1	1.718	.104	0	-4.647	12.973	0	0
		2	1.718	.103	0	-4.009	11.195	0	0
		3	1.739	.071	0	-3.454	9.645	0	0
		4	1.759	.039	0	-3.133	8.749	0	0
		5	1.759	.038	0	-2.895	8.082	0	0
1	M43	1	1.783	.034	0	-3.407	9.511	0	0
		2	1.784	.033	0	-3.199	8.932	0	0
		3	1.801	-.013	0	-3.11	8.683	0	0
		4	1.817	-.059	0	-3.361	9.384	0	0
		5	1.818	-.06	0	-3.73	10.415	0	0
1	M44	1	1.53	-.004	0	-1.604	4.478	0	0
		2	1.531	-.006	0	-1.635	4.565	0	0
		3	1.544	-.061	0	-1.811	5.057	0	0
		4	1.558	-.117	0	-2.402	6.706	0	0
		5	1.558	-.118	0	-3.137	8.76	0	0
1	M45	1	1.122	.142	0	-1.864	5.206	0	0
		2	1.122	.14	0	-.988	2.759	0	0

Member Stresses By Combination. (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		3	1.112	.079	0	-.27	.754	0	0
		4	1.102	.018	0	-.004	.011	0	0
		5	1.102	.017	0	.104	-.291	0	0
1	M46	1	.666	.14	0	-.416	1.162	0	0
		2	.666	.138	0	.452	-1.263	0	0
		3	.659	.073	0	1.152	-3.215	0	0
		4	.652	.008	0	1.367	-3.817	0	0
		5	.652	.006	0	1.414	-3.947	0	0
1	M47	1	.308	.117	0	.917	-2.56	0	0
		2	.308	.115	0	1.643	-4.587	0	0
		3	.303	.049	0	2.195	-6.13	0	0
		4	.299	-.018	0	2.252	-6.287	0	0
		5	.299	-.02	0	2.135	-5.96	0	0
1	M48	1	.112	.087	0	1.84	-5.136	0	0
		2	.112	.085	0	2.381	-6.647	0	0
		3	.111	.018	0	2.744	-7.662	0	0
		4	.109	-.05	0	2.601	-7.262	0	0
		5	.109	-.052	0	2.28	-6.367	0	0
1	M49	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M50	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M51	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M52	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M53	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M54	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M55	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M56	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M57	1	-.021	0	-.33	0	0	0	0
		2	-.021	0	-.219	0	0	-10.749	6.536
		3	-.021	0	0	0	0	-14.059	8.549

Member Stresses, B_y Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		4	-.021	0	.219	0	0	-10.749	6.536
		5	-.021	0	.33	0	0	0	0
1	M58	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M59	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M60	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M61	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M62	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M63	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M64	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M65	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M66	1	-.021	0	-.33	0	0	0	0
		2	-.021	0	-.219	0	0	-10.749	6.536
		3	-.021	0	0	0	0	-14.059	8.549
		4	-.021	0	.219	0	0	-10.749	6.536
		5	-.021	0	.33	0	0	0	0
1	M67	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M68	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M69	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	-.018	0	.326	0	0	0	0
1	M70	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M71	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M72	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M73	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0
1	M74	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M75	1	0	0	-.164	0	0	0	0
		2	0	0	-.109	0	0	-5.355	3.256
		3	0	0	0	0	0	-7.005	4.259
		4	0	0	.109	0	0	-5.355	3.256
		5	0	0	.164	0	0	0	0
1	M76	1	-.09	0	-.325	0	0	0	0
		2	-.09	0	-.216	0	0	-10.605	6.449
		3	-.09	0	0	0	0	-13.871	8.435
		4	-.09	0	.216	0	0	-10.605	6.449
		5	-.09	0	.325	0	0	0	0
1	M77	1	-.018	0	-.326	0	0	0	0
		2	-.018	0	-.216	0	0	-10.616	6.455
		3	-.018	0	0	0	0	-13.885	8.443
		4	-.018	0	.216	0	0	-10.616	6.455
		5	-.018	0	.326	0	0	0	0
1	M78	1	.029	0	-.328	0	0	0	0
		2	.029	0	-.218	0	0	-10.685	6.498
		3	.029	0	0	0	0	-13.975	8.498
		4	.029	0	.218	0	0	-10.685	6.498
		5	.029	0	.328	0	0	0	0
1	M79	1	.032	0	-.328	0	0	0	0
		2	.032	0	-.218	0	0	-10.7	6.507
		3	.032	0	0	0	0	-13.995	8.51
		4	.032	0	.218	0	0	-10.7	6.507
		5	.032	0	.328	0	0	0	0
1	M80	1	.018	0	-.328	0	0	0	0
		2	.018	0	-.218	0	0	-10.699	6.506
		3	.018	0	0	0	0	-13.993	8.509
		4	.018	0	.218	0	0	-10.699	6.506
		5	.018	0	.328	0	0	0	0
1	M81	1	-.002	0	-.329	0	0	0	0
		2	-.002	0	-.219	0	0	-10.72	6.519
		3	-.002	0	0	0	0	-14.021	8.526
		4	-.002	0	.219	0	0	-10.72	6.519
		5	-.002	0	.329	0	0	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M82	1	-.013	0	-.329	0	0	0	0
		2	-.013	0	-.219	0	0	-10.729	6.524
		3	-.013	0	0	0	0	-14.033	8.533
		4	-.013	0	.219	0	0	-10.729	6.524
		5	-.013	0	.329	0	0	0	0
1	M164	1	-.078	-.272	.031	0	0	0	0
		2	-.078	-.272	.031	-.014	.014	.009	-.009
		3	-.078	-.272	.031	-.027	.027	.019	-.019
		4	-.078	-.272	.031	-.041	.041	.028	-.028
		5	-.078	-.272	.031	-.054	.054	.037	-.037
1	M165	1	-.045	-.369	0	0	0	0	0
		2	-.045	-.369	0	-.018	.018	0	0
		3	-.045	-.369	0	-.037	.037	0	0
		4	-.045	-.369	0	-.055	.055	0	0
		5	-.045	-.369	0	-.074	.074	0	0
1	M166	1	-.078	-.272	-.031	0	0	0	0
		2	-.078	-.272	-.031	-.014	.014	-.009	.009
		3	-.078	-.272	-.031	-.027	.027	-.019	.019
		4	-.078	-.272	-.031	-.041	.041	-.028	.028
		5	-.078	-.272	-.031	-.054	.054	-.037	.037
1	M167	1	-.078	.272	-.031	0	0	0	0
		2	-.078	.272	-.031	.014	-.014	-.009	.009
		3	-.078	.272	-.031	.027	-.027	-.019	.019
		4	-.078	.272	-.031	.041	-.041	-.028	.028
		5	-.078	.272	-.031	.054	-.054	-.037	.037
1	M168	1	-.045	.369	0	0	0	0	0
		2	-.045	.369	0	.018	-.018	0	0
		3	-.045	.369	0	.037	-.037	0	0
		4	-.045	.369	0	.055	-.055	0	0
		5	-.045	.369	0	.074	-.074	0	0
1	M169	1	-.078	.272	.031	0	0	0	0
		2	-.078	.272	.031	.014	-.014	.009	-.009
		3	-.078	.272	.031	.027	-.027	.019	-.019
		4	-.078	.272	.031	.041	-.041	.028	-.028
		5	-.078	.272	.031	.054	-.054	.037	-.037
1	M170	1	-.263	.402	-.034	-.068	.068	.024	-.024
		2	-.263	.402	-.034	-.048	.048	.014	-.014
		3	-.263	.402	-.034	-.028	.028	.004	-.004
		4	-.263	.402	-.034	-.008	.008	-.006	.006
		5	-.263	.402	-.034	.012	-.012	-.016	.016
1	M171	1	-.262	.609	0	-.071	.071	0	0
		2	-.262	.609	0	-.041	.041	0	0
		3	-.262	.609	0	-.01	.01	0	0
		4	-.262	.609	0	.02	-.02	0	0
		5	-.262	.609	0	.051	-.051	0	0
1	M172	1	-.263	.402	.034	-.068	.068	-.024	.024
		2	-.263	.402	.034	-.048	.048	-.014	.014
		3	-.263	.402	.034	-.028	.028	-.004	.004
		4	-.263	.402	.034	-.008	.008	.006	-.006
		5	-.263	.402	.034	.012	-.012	.016	-.016
1	M173	1	.003	.296	-.004	-.071	.071	.009	-.009
		2	.003	.296	-.004	-.056	.056	.008	-.008
		3	.003	.296	-.004	-.042	.042	.007	-.007
		4	.003	.296	-.004	-.027	.027	.005	-.005
		5	.003	.296	-.004	-.012	.012	.004	-.004
1	M174	1	.015	.428	0	-.065	.065	0	0
		2	.015	.428	0	-.043	.043	0	0
		3	.015	.428	0	-.022	.022	0	0
		4	.015	.428	0	0	0	0	0
		5	.015	.428	0	.021	-.021	0	0
1	M175	1	.003	.296	.004	-.07	.07	-.009	.009

Member Stresses, By Combination. (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		2	.003	.296	.004	-.056	.056	-.008	.008
		3	.003	.296	.004	-.041	.041	-.007	.007
		4	.003	.296	.004	-.026	.026	-.005	.005
1	M176	5	.003	.296	.004	-.011	.011	-.004	.004
		1	.213	-.054	.012	-.027	.027	-.016	.016
		2	.213	-.054	.012	-.029	.029	-.012	.012
		3	.213	-.054	.012	-.032	.032	-.008	.008
		4	.213	-.054	.012	-.035	.035	-.005	.005
		5	.213	-.054	.012	-.037	.037	0	0
1	M177	1	.215	.028	0	-.019	.019	0	0
		2	.215	.028	0	-.018	.018	0	0
		3	.215	.028	0	-.016	.016	0	0
		4	.215	.028	0	-.015	.015	0	0
		5	.215	.028	0	-.013	.013	0	0
1	M178	1	.213	-.054	-.012	-.026	.026	.016	-.016
		2	.213	-.054	-.012	-.028	.028	.012	-.012
		3	.213	-.054	-.012	-.031	.031	.008	-.008
		4	.213	-.054	-.012	-.034	.034	.005	-.005
		5	.213	-.054	-.012	-.036	.036	0	0
1	M179	1	.216	-.339	.012	.015	-.015	-.024	.024
		2	.216	-.339	.012	-.002	.002	-.02	.02
		3	.215	-.339	.012	-.019	.019	-.016	.016
		4	.215	-.339	.012	-.036	.036	-.013	.013
		5	.215	-.339	.012	-.053	.053	-.009	.009
1	M180	1	.205	-.292	0	.018	-.018	0	0
		2	.205	-.292	0	.004	-.004	0	0
		3	.205	-.292	0	-.011	.011	0	0
		4	.205	-.292	0	-.025	.025	0	0
		5	.205	-.292	0	-.04	.04	0	0
1	M181	1	.216	-.339	-.012	.015	-.015	.024	-.024
		2	.216	-.339	-.012	-.001	.001	.02	-.02
		3	.215	-.339	-.012	-.018	.018	.016	-.016
		4	.215	-.339	-.012	-.035	.035	.013	-.013
		5	.215	-.339	-.012	-.052	.052	.009	-.009
1	M182	1	.111	-.437	.007	.034	-.034	-.02	.02
		2	.111	-.437	.007	.012	-.012	-.018	.018
		3	.111	-.437	.007	-.009	.009	-.016	.016
		4	.111	-.437	.007	-.031	.031	-.014	.014
		5	.11	-.437	.007	-.053	.053	-.012	.012
1	M183	1	.092	-.418	0	.037	-.037	0	0
		2	.092	-.418	0	.016	-.016	0	0
		3	.092	-.418	0	-.005	.005	0	0
		4	.092	-.418	0	-.026	.026	0	0
		5	.092	-.418	0	-.047	.047	0	0
1	M184	1	.111	-.437	-.007	.035	-.035	.02	-.02
		2	.111	-.437	-.007	.013	-.013	.018	-.018
		3	.11	-.437	-.007	-.008	.008	.016	-.016
		4	.11	-.437	-.007	-.03	.03	.014	-.014
		5	.11	-.437	-.007	-.052	.052	.012	-.012
1	M185	1	-.005	-.37	-.002	.033	-.033	-.012	.012
		2	-.005	-.37	-.002	.015	-.015	-.013	.013
		3	-.005	-.37	-.002	-.004	.004	-.013	.013
		4	-.005	-.37	-.002	-.022	.022	-.014	.014
		5	-.005	-.37	-.002	-.041	.041	-.014	.014
1	M186	1	-.036	-.368	0	.035	-.035	0	0
		2	-.036	-.368	0	.017	-.017	0	0
		3	-.036	-.368	0	-.002	.002	0	0
		4	-.036	-.368	0	-.02	.02	0	0
		5	-.036	-.368	0	-.039	.039	0	0
1	M187	1	-.005	-.37	.002	.034	-.034	.012	-.012
		2	-.005	-.37	.002	.016	-.016	.013	-.013

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		3	-.005	-.37	.002	-.003	.003	.013	-.013
		4	-.005	-.37	.002	-.021	.021	.014	-.014
		5	-.005	-.37	.002	-.039	.039	.014	-.014
1	M188	1	-.086	-.207	-.006	.02	-.02	-.007	.007
		2	-.086	-.207	-.006	.009	-.009	-.009	.009
		3	-.086	-.207	-.006	-.001	.001	-.01	.01
		4	-.086	-.207	-.006	-.011	.011	-.012	.012
		5	-.086	-.207	-.006	-.022	.022	-.014	.014
1	M189	1	-.121	-.209	0	.021	-.021	0	0
		2	-.121	-.209	0	.01	-.01	0	0
		3	-.121	-.209	0	0	0	0	0
		4	-.121	-.209	0	-.011	.011	0	0
		5	-.121	-.209	0	-.021	.021	0	0
1	M190	1	-.086	-.207	.006	.021	-.021	.007	-.007
		2	-.086	-.207	.006	.01	-.01	.009	-.009
		3	-.086	-.207	.006	0	0	.01	-.01
		4	-.086	-.207	.006	-.01	.01	.012	-.012
		5	-.086	-.207	.006	-.021	.021	.014	-.014
1	M191	1	-.114	0	-.009	0	0	-.005	.005
		2	-.114	0	-.009	0	0	-.007	.007
		3	-.114	0	-.009	0	0	-.01	.01
		4	-.114	0	-.009	0	0	-.013	.013
		5	-.114	0	-.009	0	0	-.016	.016
1	M192	1	-.152	0	0	0	0	0	0
		2	-.152	0	0	0	0	0	0
		3	-.152	0	0	0	0	0	0
		4	-.152	0	0	0	0	0	0
		5	-.152	0	0	0	0	0	0
1	M193	1	-.114	0	.009	0	0	.005	-.005
		2	-.114	0	.009	0	0	.007	-.007
		3	-.114	0	.009	0	0	.01	-.01
		4	-.114	0	.009	0	0	.013	-.013
		5	-.114	0	.009	0	0	.016	-.016
1	M194	1	-.086	.207	-.006	-.021	.021	-.007	.007
		2	-.086	.207	-.006	-.01	.01	-.009	.009
		3	-.086	.207	-.006	0	0	-.01	.01
		4	-.086	.207	-.006	.01	-.01	-.012	.012
		5	-.086	.207	-.006	.021	-.021	-.014	.014
1	M195	1	-.121	.209	0	-.021	.021	0	0
		2	-.121	.209	0	-.01	.01	0	0
		3	-.121	.209	0	0	0	0	0
		4	-.121	.209	0	.011	-.011	0	0
		5	-.121	.209	0	.021	-.021	0	0
1	M196	1	-.086	.207	.006	-.02	.02	.007	-.007
		2	-.086	.207	.006	-.009	.009	.009	-.009
		3	-.086	.207	.006	.001	-.001	.01	-.01
		4	-.086	.207	.006	.011	-.011	.012	-.012
		5	-.086	.207	.006	.022	-.022	.014	-.014
1	M197	1	-.005	.37	-.002	-.034	.034	-.012	.012
		2	-.005	.37	-.002	-.016	.016	-.013	.013
		3	-.005	.37	-.002	.003	-.003	-.013	.013
		4	-.005	.37	-.002	.021	-.021	-.014	.014
		5	-.005	.37	-.002	.039	-.039	-.014	.014
1	M198	1	-.036	.368	0	-.035	.035	0	0
		2	-.036	.368	0	-.017	.017	0	0
		3	-.036	.368	0	.002	-.002	0	0
		4	-.036	.368	0	.02	-.02	0	0
		5	-.036	.368	0	.039	-.039	0	0
1	M199	1	-.005	.37	.002	-.033	.033	.012	-.012
		2	-.005	.37	.002	-.015	.015	.013	-.013
		3	-.005	.37	.002	.004	-.004	.013	-.013

Member Stresses By Combination (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		4	-.005	.37	.002	.022	-.022	.014	-.014
		5	-.005	.37	.002	.041	-.041	.014	-.014
1	M200	1	.111	.437	.007	-.035	.035	-.02	.02
		2	.111	.437	.007	-.013	.013	-.018	.018
		3	.11	.437	.007	.008	-.008	-.016	.016
		4	.11	.437	.007	.03	-.03	-.014	.014
		5	.11	.437	.007	.052	-.052	-.012	.012
1	M201	1	.092	.418	0	-.037	.037	0	0
		2	.092	.418	0	-.016	.016	0	0
		3	.092	.418	0	.005	-.005	0	0
		4	.092	.418	0	.026	-.026	0	0
		5	.092	.418	0	.047	-.047	0	0
1	M202	1	.111	.437	-.007	-.034	.034	.02	-.02
		2	.111	.437	-.007	-.012	.012	.018	-.018
		3	.111	.437	-.007	.009	-.009	.016	-.016
		4	.111	.437	-.007	.031	-.031	.014	-.014
		5	.11	.437	-.007	.053	-.053	.012	-.012
1	M203	1	.216	.339	.012	-.015	.015	-.024	.024
		2	.216	.339	.012	.001	-.001	-.02	.02
		3	.215	.339	.012	.018	-.018	-.016	.016
		4	.215	.339	.012	.035	-.035	-.013	.013
		5	.215	.339	.012	.052	-.052	-.009	.009
1	M204	1	.205	.292	0	-.018	.018	0	0
		2	.205	.292	0	-.004	.004	0	0
		3	.205	.292	0	.011	-.011	0	0
		4	.205	.292	0	.025	-.025	0	0
		5	.205	.292	0	.04	-.04	0	0
1	M205	1	.216	.339	-.012	-.015	.015	.024	-.024
		2	.216	.339	-.012	.002	-.002	.02	-.02
		3	.215	.339	-.012	.019	-.019	.016	-.016
		4	.215	.339	-.012	.036	-.036	.013	-.013
		5	.215	.339	-.012	.053	-.053	.009	-.009
1	M206	1	.213	.054	.012	.026	-.026	-.016	.016
		2	.213	.054	.012	.028	-.028	-.012	.012
		3	.213	.054	.012	.031	-.031	-.008	.008
		4	.213	.054	.012	.034	-.034	-.005	.005
		5	.213	.054	.012	.036	-.036	0	0
1	M207	1	.215	-.028	0	.019	-.019	0	0
		2	.215	-.028	0	.018	-.018	0	0
		3	.215	-.028	0	.016	-.016	0	0
		4	.215	-.028	0	.015	-.015	0	0
		5	.215	-.028	0	.013	-.013	0	0
1	M208	1	.213	.054	-.012	.027	-.027	.016	-.016
		2	.213	.054	-.012	.029	-.029	.012	-.012
		3	.213	.054	-.012	.032	-.032	.008	-.008
		4	.213	.054	-.012	.035	-.035	.005	-.005
		5	.213	.054	-.012	.037	-.037	0	0
1	M209	1	.003	-.296	-.004	.07	-.07	.009	-.009
		2	.003	-.296	-.004	.056	-.056	.008	-.008
		3	.003	-.296	-.004	.041	-.041	.007	-.007
		4	.003	-.296	-.004	.026	-.026	.005	-.005
		5	.003	-.296	-.004	.011	-.011	.004	-.004
1	M210	1	.015	-.428	0	.065	-.065	0	0
		2	.015	-.428	0	.043	-.043	0	0
		3	.015	-.428	0	.022	-.022	0	0
		4	.015	-.428	0	0	0	0	0
		5	.015	-.428	0	-.021	.021	0	0
1	M211	1	.003	-.296	.004	.071	-.071	-.009	.009
		2	.003	-.296	.004	.056	-.056	-.008	.008
		3	.003	-.296	.004	.042	-.042	-.007	.007
		4	.003	-.296	.004	.027	-.027	-.005	.005

Member Stresses By Combination (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
1	M212	5	.003	-.296	.004	.012	-.012	-.004	.004
		1	-.263	-.402	-.034	.068	-.068	.024	-.024
		2	-.263	-.402	-.034	.048	-.048	.014	-.014
		3	-.263	-.402	-.034	.028	-.028	.004	-.004
		4	-.263	-.402	-.034	.008	-.008	-.006	.006
1	M213	5	-.263	-.402	-.034	-.012	.012	-.016	.016
		1	-.262	-.609	0	.071	-.071	0	0
		2	-.262	-.609	0	.041	-.041	0	0
		3	-.262	-.609	0	.01	-.01	0	0
		4	-.262	-.609	0	-.02	.02	0	0
1	M214	5	-.262	-.609	0	-.051	.051	0	0
		1	-.263	-.402	.034	.068	-.068	-.024	.024
		2	-.263	-.402	.034	.048	-.048	-.014	.014
		3	-.263	-.402	.034	.028	-.028	-.004	.004
		4	-.263	-.402	.034	.008	-.008	.006	-.006
		5	-.263	-.402	.034	-.012	.012	.016	-.016

Member AISC ASD 9th Code Checks By Combination

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M1	.668	0	.018	0	y	H1-3	
1	M2	.792	0	.010	0	y	H1-2	
1	M3	.699	2.24	.006	2.24	y	H1-2	
1	M4	.561	2.26	.014	2.26	y	H1-2	
1	M5	.297	0	.016	0	y	H1-2	
1	M6	.273	2.26	.015	0	y	H2-1	
1	M7	.418	2.255	.011	0	y	H2-1	
1	M8	.469	1.344	.006	0	y	H2-1	
1	M9	.668	0	.018	0	y	H1-3	
1	M10	.792	0	.011	0	y	H1-2	
1	M11	.698	2.24	.006	2.24	y	H1-2	
1	M12	.560	2.26	.013	2.26	y	H1-2	
1	M13	.297	0	.016	0	y	H1-2	
1	M14	.272	2.26	.014	0	y	H2-1	
1	M15	.418	2.255	.010	0	y	H2-1	
1	M16	.472	1.509	.005	0	y	H2-1	
1	M17	.668	0	.018	0	y	H1-3	
1	M18	.792	0	.011	0	y	H1-2	
1	M19	.698	2.24	.006	2.24	y	H1-2	
1	M20	.560	2.26	.013	2.26	y	H1-2	
1	M21	.297	0	.016	0	y	H1-2	
1	M22	.272	2.26	.014	0	y	H2-1	
1	M23	.418	2.255	.010	0	y	H2-1	
1	M24	.472	1.509	.005	0	y	H2-1	
1	M25	.668	0	.018	0	y	H1-3	
1	M26	.792	0	.010	0	y	H1-2	
1	M27	.699	2.24	.006	2.24	y	H1-2	
1	M28	.561	2.26	.014	2.26	y	H1-2	
1	M29	.297	0	.016	0	y	H1-2	
1	M30	.273	2.26	.015	0	y	H2-1	
1	M31	.418	2.255	.011	0	y	H2-1	
1	M32	.469	1.344	.006	0	y	H2-1	
1	M33	.769	0	.012	0	y	H1-1	
1	M34	.828	0	.007	0	y	H1-1	
1	M35	.722	2.24	.004	2.24	y	H1-1	
1	M36	.600	2.26	.008	2.26	y	H1-1	
1	M37	.362	0	.010	0	y	H1-1	
1	M38	.188	2.26	.010	0	y	H2-1	
1	M39	.304	1.456	.008	0	y	H2-1	
1	M40	.366	1.25	.006	0	y	H2-1	
1	M41	.769	0	.012	0	y	H1-1	

Member AISC ASD 9th Code Checks, By Combination, (continued)

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M42	.828	0	.007	0	y	H1-1	
1	M43	.722	2.24	.004	2.24	y	H1-1	
1	M44	.600	2.26	.008	2.26	y	H1-1	
1	M45	.362	0	.010	0	y	H1-1	
1	M46	.188	2.26	.010	0	y	H2-1	
1	M47	.304	1.456	.008	0	y	H2-1	
1	M48	.366	1.25	.006	0	y	H2-1	
1	M49	.267	1.666	.012	3.333	z	H2-1	
1	M50	.533	1.666	.023	3.333	z	H2-1	
1	M51	.530	1.666	.023	0	z	H2-1	
1	M52	.532	1.666	.023	3.333	z	H2-1	
1	M53	.533	1.666	.023	0	z	H2-1	
1	M54	.533	1.666	.023	0	z	H2-1	
1	M55	.534	1.666	.023	0	z	H2-1	
1	M56	.535	1.666	.023	0	z	H2-1	
1	M57	.537	1.666	.024	0	z	H2-1	
1	M58	.267	1.666	.012	3.333	z	H2-1	
1	M59	.533	1.666	.023	0	z	H2-1	
1	M60	.530	1.666	.023	3.333	z	H2-1	
1	M61	.532	1.666	.023	3.333	z	H2-1	
1	M62	.533	1.666	.023	0	z	H2-1	
1	M63	.533	1.666	.023	0	z	H2-1	
1	M64	.534	1.666	.023	3.333	z	H2-1	
1	M65	.535	1.666	.023	3.333	z	H2-1	
1	M66	.537	1.666	.024	0	z	H2-1	
1	M67	.267	1.666	.012	3.333	z	H2-1	
1	M68	.533	1.666	.023	3.333	z	H2-1	
1	M69	.530	1.666	.023	3.333	z	H2-1	
1	M70	.532	1.666	.023	3.333	z	H2-1	
1	M71	.533	1.666	.023	3.333	z	H2-1	
1	M72	.533	1.666	.023	0	z	H2-1	
1	M73	.534	1.666	.023	3.333	z	H2-1	
1	M74	.535	1.666	.023	0	z	H2-1	
1	M75	.267	1.666	.012	3.333	z	H2-1	
1	M76	.533	1.666	.023	3.333	z	H2-1	
1	M77	.530	1.666	.023	3.333	z	H2-1	
1	M78	.532	1.666	.023	3.333	z	H2-1	
1	M79	.533	1.666	.023	0	z	H2-1	
1	M80	.533	1.666	.023	0	z	H2-1	
1	M81	.534	1.666	.023	3.333	z	H2-1	
1	M82	.535	1.666	.023	0	z	H2-1	
1	M164	- Steel code ...						- Steel code check not calculate...
1	M165	- Steel code ...						- Steel code check not calculate...
1	M166	- Steel code ...						- Steel code check not calculate...
1	M167	- Steel code ...						- Steel code check not calculate...
1	M168	- Steel code ...						- Steel code check not calculate...
1	M169	- Steel code ...						- Steel code check not calculate...
1	M170	- Steel code ...						- Steel code check not calculate...
1	M171	- Steel code ...						- Steel code check not calculate...
1	M172	- Steel code ...						- Steel code check not calculate...
1	M173	- Steel code ...						- Steel code check not calculate...
1	M174	- Steel code ...						- Steel code check not calculate...
1	M175	- Steel code ...						- Steel code check not calculate...
1	M176	- Steel code ...						- Steel code check not calculate...
1	M177	- Steel code ...						- Steel code check not calculate...
1	M178	- Steel code ...						- Steel code check not calculate...
1	M179	- Steel code ...						- Steel code check not calculate...
1	M180	- Steel code ...						- Steel code check not calculate...
1	M181	- Steel code ...						- Steel code check not calculate...
1	M182	- Steel code ...						- Steel code check not calculate...
1	M183	- Steel code ...						- Steel code check not calculate...

Member AISC ASD 9th Code Checks, By Combination. (continued)

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
1	M184	- Steel code ...						- Steel code check not calculate...
1	M185	- Steel code ...						- Steel code check not calculate...
1	M186	- Steel code ...						- Steel code check not calculate...
1	M187	- Steel code ...						- Steel code check not calculate...
1	M188	- Steel code ...						- Steel code check not calculate...
1	M189	- Steel code ...						- Steel code check not calculate...
1	M190	- Steel code ...						- Steel code check not calculate...
1	M191	- Steel code ...						- Steel code check not calculate...
1	M192	- Steel code ...						- Steel code check not calculate...
1	M193	- Steel code ...						- Steel code check not calculate...
1	M194	- Steel code ...						- Steel code check not calculate...
1	M195	- Steel code ...						- Steel code check not calculate...
1	M196	- Steel code ...						- Steel code check not calculate...
1	M197	- Steel code ...						- Steel code check not calculate...
1	M198	- Steel code ...						- Steel code check not calculate...
1	M199	- Steel code ...						- Steel code check not calculate...
1	M200	- Steel code ...						- Steel code check not calculate...
1	M201	- Steel code ...						- Steel code check not calculate...
1	M202	- Steel code ...						- Steel code check not calculate...
1	M203	- Steel code ...						- Steel code check not calculate...
1	M204	- Steel code ...						- Steel code check not calculate...
1	M205	- Steel code ...						- Steel code check not calculate...
1	M206	- Steel code ...						- Steel code check not calculate...
1	M207	- Steel code ...						- Steel code check not calculate...
1	M208	- Steel code ...						- Steel code check not calculate...
1	M209	- Steel code ...						- Steel code check not calculate...
1	M210	- Steel code ...						- Steel code check not calculate...
1	M211	- Steel code ...						- Steel code check not calculate...
1	M212	- Steel code ...						- Steel code check not calculate...
1	M213	- Steel code ...						- Steel code check not calculate...
1	M214	- Steel code ...						- Steel code check not calculate...



Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
27.0'x9.3' Sunroof Enclosure Frame
Structural Analysis
Appendix B
USGS Seismic Data Report

Prepared per Aqua Shield, Inc., Inc. Order
114 Bell Street West Babylon NY 11704

Produced by or under direct supervision of Alexey Leonichev, P.E.
Warning: *It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



A handwritten signature in black ink, appearing to read "Alexey Leonichev".

5/6/2021

Aqua Shield, Inc. 27.0'x9.3' Sunroof Enclosure Frame Structural Analysis



OSH PD

Aqua Shield, Inc. Enclosure Frame

Long Pond, PA 18334, USA

Latitude, Longitude: 41.0646306, -75.46942849999999



Go gle

Map data ©2021

Date 4/30/2021, 2:29:42 PM
Design Code Reference Document ASCE7-16
Risk Category II
Site Class D - Default (See Section 11.4.3)

Type	Value	Description
S_s	0.15	MCE_R ground motion. (for 0.2 second period)
S_1	0.046	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.24	Site-modified spectral acceleration value
S_{M1}	0.112	Site-modified spectral acceleration value
S_{DS}	0.16	Numeric seismic design value at 0.2 second SA
S_{D1}	0.074	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2 second
F_v	2.4	Site amplification factor at 1.0 second
PGA	0.079	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.126	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
$SsRT$	0.15	Probabilistic risk-targeted ground motion. (0.2 second)
$SsUH$	0.16	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
$S1RT$	0.046	Probabilistic risk-targeted ground motion. (1.0 second)
$S1UH$	0.05	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
$S1D$	0.6	Factored deterministic acceleration value. (1.0 second)
$PGAd$	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.937	Mapped value of the risk coefficient at short periods

4/30/2021

U.S. Seismic Design Maps

Type	Value	Description
C _{R1}	0.926	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

While the information presented on this website is believed to be correct, SEAO / QSHPD and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in this web application should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. SEAO / QSHPD do not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the seismic data provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the search results of this website.



Engineering System, P.C.
NYSED Certificate 0015075
P.O. Box 342, New York, NY 10014
E-mail: system@the-system.com
ph+1(646)584-5624; www.the-system.pro

Aqua Shield, Inc.
27.0'x9.3' Sunroof Enclosure Frame
Structural Analysis
Appendix C
Moment of Inertia Computation

Prepared per Aqua Shield, Inc., Inc. Order
114 Bell Street West Babylon NY 11704

Produced by or under direct supervision of Alexey Leonichev, P.E.
Warning: *It is a violation of 145 NYS Ed. Law to alter this Document in any way.*



A handwritten signature in black ink, appearing to read "Alexey Leonichev".

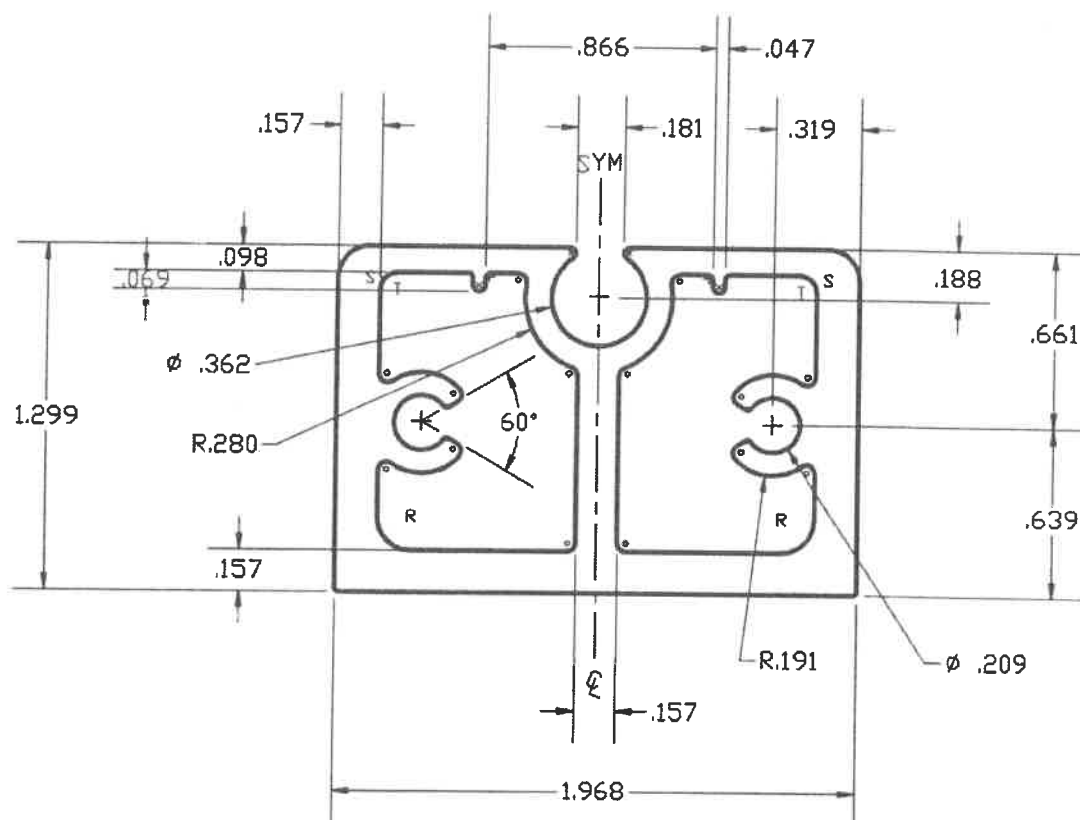
5/6/2021

Aqua Shield, Inc. 27.0'x9.3' Sunroof Enclosure Frame Structural Analysis

1482

TRI-STATE ALUMINUM

H-2664

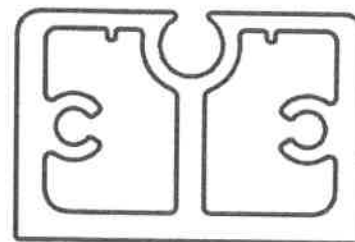


NO EXPOSED SURFACE

```
(R) = R.125 (2)
(S) = R.118 (2)
(T) = R.062 (2)
(•) = R.031 (14)
(+) = R.015 (2)
(•) = R.011 (4)
(*) = FULL RADIUS (4)
ALL UNMARKED CORNERS = R.012
```

EXTERIOR PERIMETER: 7.232(183.69)

ACTUAL SIZE



UNMARKED THICKNESS

BREAK CORNERS .010" (0.25mm), OUTSIDE CORNERS .015" (0.38mm)
STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE STATED.

DESCRIPTION	TSA-1257
-------------	----------

DWN. BY	R.B.	DATE	05/16/07
---------	------	------	----------

SCALE	1.5X	ALLOY	6005-T5
-------	------	-------	---------

EST. AREA	1.143	IN ²	mm ²
-----------	-------	-----------------	-----------------

EST. WT. 1.349 LBS/FT 2.008 KG/M

EST.PER. 16.369 IN mm

FACTOR	12	CCD	2.309
--------	----	-----	-------

PLEASE SIGNIFY BELOW THAT SHAPE AND DIMENSIONS CONFORM TO YOUR REQUIREMENTS AND THAT YOU AGREE TO ACCEPT ALL LEGAL RESPONSIBILITIES FOR PATENT OR TRADE MARK INFRINGEMENT RELATING TO THIS SHAPE AND SAVE HARMLESS EXTRUDEX FROM ANY CLAIMS, SUITS, ACTIONS OR DEMANDS ARISING THEREFROM.

SIGNED BY	DATE
-----------	------

DATE _____

REVISION

BY

DIE ND.
H-2664



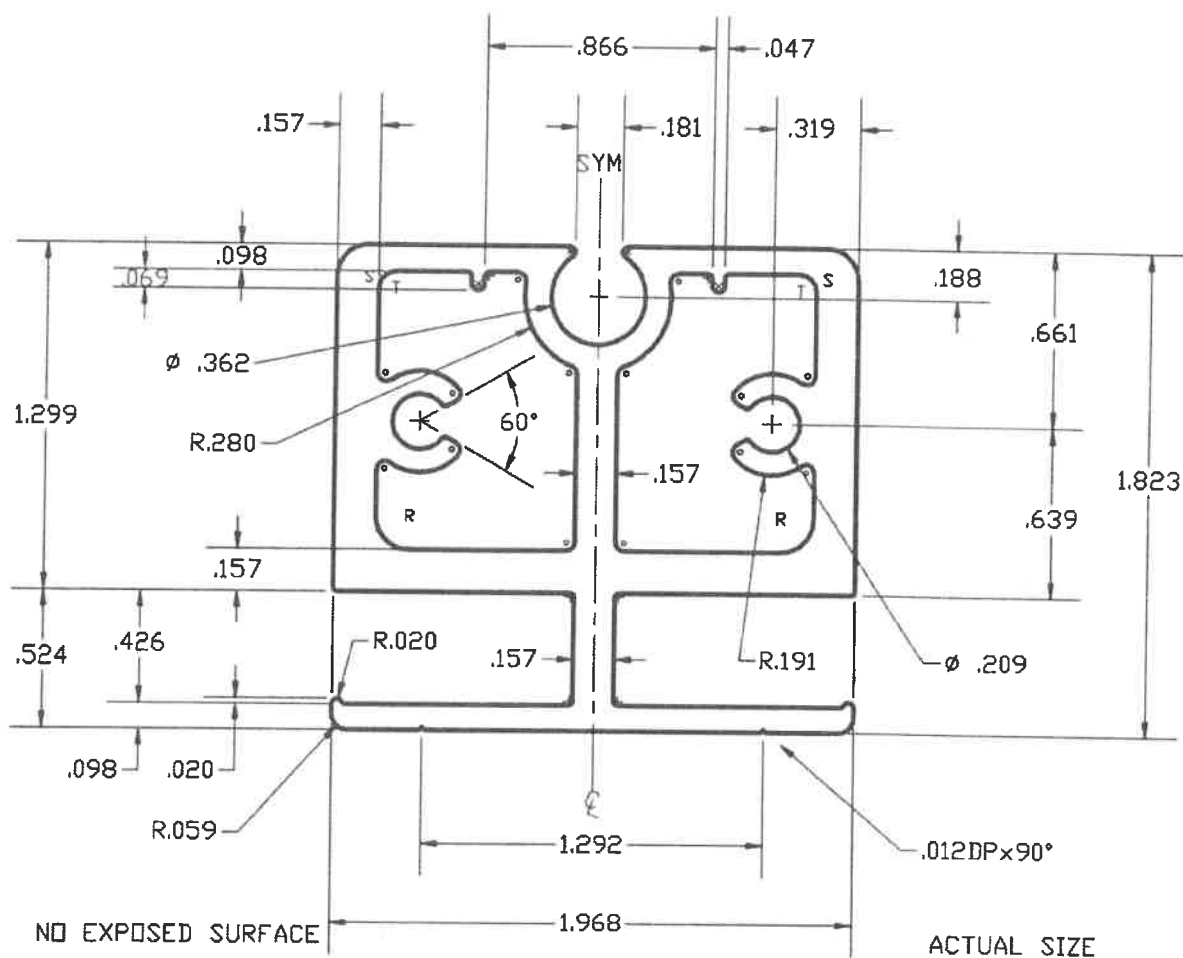
CUSTOMER NO.

1482

TRI-STATE ALUMINUM

DIE NO.

H-2665



(R) = R.125 (2)
 (S) = R.118 (2)
 (T) = R.062 (2)
 (•) = R.031 (14)
 (+) = R.015 (6)
 (•) = R.011 (4)
 (x) = FULL RADIUS (4)
 ALL UNMARKED CORNERS = R.012

EXTERIOR PERIMETER: 11.884(301.86)

UNMARKED THICKNESS

BREAK CORNERS .010" (0.25mm), OUTSIDE CORNERS .015" (0.38mm)
 STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE STATED.

DESCRIPTION TSA-1258

DWN. BY R.B.

DATE 05/16/07

SCALE 1.5X

ALLOY 6005-T5

EST. AREA 1.403

IN² mm²

EST. WT. 1.656

LBS/FT 2.464 KG/M

EST. PER. 21.022

IN mm

FACTOR 13

CCD 2.610

PLEASE SIGNIFY BELOW THAT SHAPE AND DIMENSIONS CONFORM TO YOUR REQUIREMENTS AND THAT YOU AGREE TO ACCEPT ALL LEGAL RESPONSIBILITIES FOR PATENT OR TRADE MARK INFRINGEMENT RELATING TO THIS SHAPE AND SAVE HARMLESS EXTRUDEX FROM ANY CLAIMS, SUITS, ACTIONS OR DEMANDS ARISING THEREFROM.

SIGNED BY

DATE

DATE

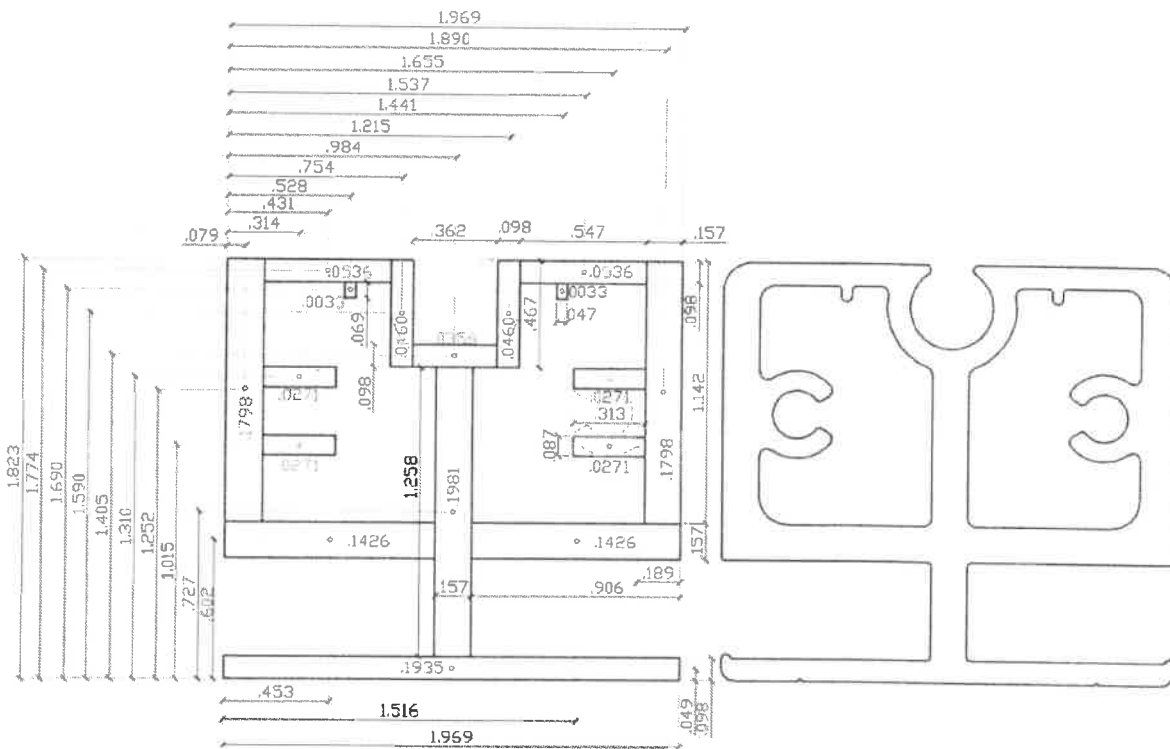
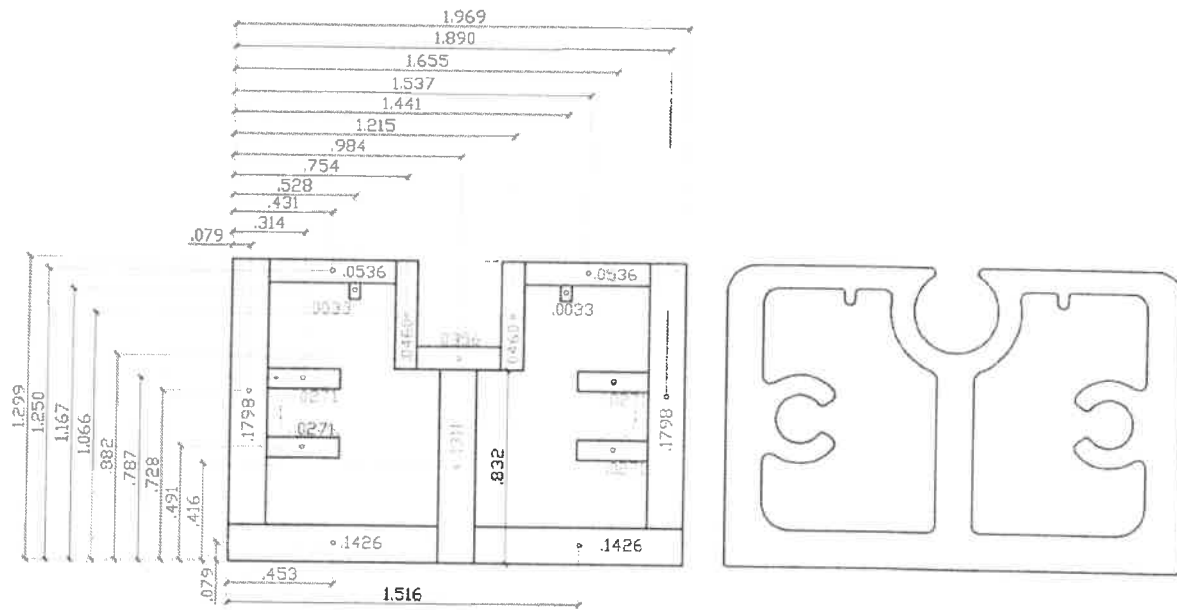
REVISION

BY

EXTRUDEX
 ALUMINUM-CHINA

DIE NO.
 H-2665

TSA-1257



TSA-1258

TSA 1257 X-X Inertia Moment Calculations

N ₂	B	H	$\bar{y}$ Local	A Local	I Local	$\bar{y}$ A Local	d	I+Ad ²
1					0.0000	0.0000	0.6035	0.0000
2	0.1570	0.8320	0.4160	0.1306	0.0075	0.0543	0.1875	0.0121
3	0.9060	0.1570	0.0790	0.1422	0.0003	0.0112	0.5245	0.0394
4	0.9060	0.1570	0.0790	0.1422	0.0003	0.0112	0.5245	0.0394
5	0.1570	1.1420	0.7280	0.1793	0.0195	0.1305	0.1245	0.0223
6	0.1570	1.1420	0.7280	0.1793	0.0195	0.1305	0.1245	0.0223
7	0.3130	0.0870	0.4910	0.0272	0.0000	0.0134	0.1125	0.0004
8	0.3130	0.0870	0.4910	0.0272	0.0000	0.0134	0.1125	0.0004
9	0.3130	0.0870	0.7870	0.0272	0.0000	0.0214	0.1835	0.0009
10	0.3130	0.0870	0.7870	0.0272	0.0000	0.0214	0.1835	0.0009
11	0.3620	0.0980	0.8820	0.0355	0.0000	0.0313	0.2785	0.0028
12	0.4670	0.0980	1.0660	0.0458	0.0000	0.0488	0.4625	0.0098
13	0.4670	0.0980	1.0660	0.0458	0.0000	0.0488	0.4625	0.0098
14	0.0470	0.0690	1.1670	0.0032	0.0000	0.0038	0.5635	0.0010
15	0.0470	0.0690	1.1670	0.0032	0.0000	0.0038	0.5635	0.0010
16	0.5470	0.0980	1.2500	0.0536	0.0000	0.0670	0.6465	0.0224
17	0.5470	0.0980	1.2500	0.0536	0.0000	0.0670	0.6465	0.0224
18								
19								
20								

Total

1.1233

0.6779

I x-x 0.2075

$\bar{y}$ 0.6035

TSA 1257 Y-Y Inertia Moment Calculations

Nº	B	H	æ Local	A Local	I Local	æ A Local	d	I+Ad ²
				0.0000	0.0000	0.0000	1.0531	0.0000
2	0.8320	0.1570	0.9840	0.1306	0.0075	0.1285	0.0691	0.0082
3	0.1570	0.9060	1.9690	0.1422	0.0003	0.2801	0.9159	0.1196
4	0.1570	0.9060	0.4530	0.1422	0.0003	0.0644	0.6001	0.0515
5	1.1420	0.1570	0.0790	0.1793	0.0195	0.0142	0.9741	0.1896
6	1.1420	0.1570	1.8900	0.1793	0.0195	0.3389	0.8369	0.1451
7	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7391	0.0149
8	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8369	0.0191
9	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7391	0.0149
10	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8369	0.0191
11	0.0980	0.3620	0.9840	0.0355	0.0000	0.0349	0.0691	0.0002
12	0.0980	0.4670	0.7540	0.0458	0.0000	0.0345	0.2991	0.0041
13	0.0980	0.4670	1.2150	0.0458	0.0000	0.0556	0.1619	0.0012
14	0.0690	0.0470	0.5280	0.0032	0.0000	0.0017	0.5251	0.0009
15	0.0690	0.0470	1.4410	0.0032	0.0000	0.0047	0.3879	0.0005
16	0.0980	0.5470	0.4310	0.0536	0.0000	0.0231	0.6221	0.0208
17	0.0980	0.5470	1.5370	0.0536	0.0000	0.0824	0.4839	0.0126
18								
19								
20								
Total				1.1233		1.1830		

I y-y **0.6223**
æ **1.0531**

TSA 1258 X-X Inertia Moment Calculations

Nº	B	H	$\bar{y}$ Local	A Local	I Local	$\bar{y}$ A Local	d	I+Ad ²
1	1.9690	0.0980	0.0490	0.1930	0.0002	0.0095	0.8883	0.1524
2	0.1570	1.2580	0.7270	0.1975	0.0260	0.1436	0.2103	0.0348
3	0.9060	0.1570	0.6020	0.1422	0.0003	0.0856	0.3353	0.0163
4	0.9060	0.1570	0.6020	0.1422	0.0003	0.0856	0.3353	0.0163
5	0.1570	1.1420	1.2520	0.1793	0.0195	0.2245	0.3147	0.0372
6	0.1570	1.1420	1.2520	0.1793	0.0195	0.2245	0.3147	0.0372
7	0.3130	0.0870	1.0150	0.0272	0.0000	0.0276	0.0777	0.0002
8	0.3130	0.0870	1.0150	0.0272	0.0000	0.0276	0.0777	0.0002
9	0.3130	0.0870	1.3100	0.0272	0.0000	0.0357	0.3727	0.0038
10	0.3130	0.0870	1.3100	0.0272	0.0000	0.0357	0.3727	0.0038
11	0.3620	0.0980	1.4050	0.0355	0.0000	0.0498	0.4677	0.0078
12	0.4670	0.0980	1.5900	0.0458	0.0000	0.0728	0.6527	0.0195
13	0.4670	0.0980	1.5900	0.0458	0.0000	0.0728	0.6527	0.0195
14	0.0470	0.0690	1.6900	0.0032	0.0000	0.0055	0.7527	0.0018
15	0.0470	0.0690	1.6900	0.0032	0.0000	0.0055	0.7527	0.0018
16	0.5470	0.0980	1.7740	0.0536	0.0000	0.0951	0.8367	0.0376
17	0.5470	0.0980	1.7740	0.0536	0.0000	0.0951	0.8367	0.0376
18								
19								
20								
Total				1.3832		1.2964		

I x-x **0.4279**
 $\bar{y}$ **0.9373**

TSA 1258 Y-Y Inertia Moment Calculations

N ₂	B	H	$\bar{x}$ Local	A Local	I Local	$\bar{x}$ A Local	d	I+Ad ²
1	0.0980	1.9690	0.9840	0.1930	0.0002	0.1899	0.0561	0.0008
2	1.2580	0.1570	0.9840	0.1975	0.0260	0.1943	0.0561	0.0267
3	0.1570	0.9060	1.9690	0.1422	0.0003	0.2801	0.9289	0.1230
4	0.1570	0.9060	0.4530	0.1422	0.0003	0.0644	0.5871	0.0493
5	1.1420	0.1570	0.0790	0.1793	0.0195	0.0142	0.9611	0.1851
6	1.1420	0.1570	1.8900	0.1793	0.0195	0.3389	0.8499	0.1490
7	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7261	0.0144
8	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8499	0.0197
9	0.0870	0.3130	0.3140	0.0272	0.0000	0.0086	0.7261	0.0144
10	0.0870	0.3130	1.8900	0.0272	0.0000	0.0515	0.8499	0.0197
11	0.0980	0.3620	0.9840	0.0355	0.0000	0.0349	0.0561	0.0001
12	0.0980	0.4670	0.7540	0.0458	0.0000	0.0345	0.2861	0.0038
13	0.0980	0.4670	1.2150	0.0458	0.0000	0.0556	0.1749	0.0014
14	0.0690	0.0470	0.5280	0.0032	0.0000	0.0017	0.5121	0.0009
15	0.0690	0.0470	1.4410	0.0032	0.0000	0.0047	0.4009	0.0005
16	0.0980	0.5470	0.4310	0.0536	0.0000	0.0231	0.6091	0.0199
17	0.0980	0.5470	1.5370	0.0536	0.0000	0.0824	0.4969	0.0133
18								
19								
20								
Total				1.3832		1.4387		

I y-y **0.6419**
 $\bar{x}$ **1.0401**



Grove City Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075 (Phone)
614-277-3090 (Fax)
GroveCityOhio.gov

HOMEOWNER AFFIDAVIT

George Humphrey, I do certify that I am, or will be, the occupying homeowner of a single family residence and hereby submit application to undertake the following work located at:

Address 5824 Quail Run Drive Grove City, Ohio 43123 Phone 614-361-5862

REQUIRED PERMIT

Type Accessory structure, Aqua Shield Telescoping Stucture Kit Fee: \$

☐ I live in this residence with my family.

☐ I will move into this residence with my own family for a minimum of six months after the proper occupancy permit has been issued.

I agree to only use this dwelling as the home for my family and me.

I will not enter into a contract with an unregistered contractor and I will do the work as required by the respective codes. It is understood that I may have the assistance from other persons not registered as contractors with the City of Grove City providing no contract either verbal or written exists among the parties involved.

The permit application and the proper fee are attached. The work being completed by someone other than me, requires permits by registered contractors. No construction will commence until proof of proper filings is made.

I HAVE TOLD THE TRUTH ON THIS AFFIDAVIT AND ON THE ATTACHED PERMITS.

Falsification of a public document is a violation of the Ohio Revised Code, section 2921.13(a)(3), a misdemeanor of the first degree, punishable by up to six months imprisonment and a fine of one thousand dollars (\$1,000.00) or both.

NOTARIZED SIGNATURE

Signature of applicant George Humphrey Date 4/27/2023

Sworn to before me and subscribed in my presence this 27 day of June, in the year 2023

Notary Public [Signature] My commission expires 02/23/2025



KOTA THOMAS ASANO WHARTON
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
02-23-2025
Recorded in
Franklin County

Approved _____ Denied _____ Date: _____

Comments _____



The City of Grove City, Ohio
Building Division
4035 Broadway
Grove City, OH 43123
614-277-3075
GroveCityOhio.gov

NOTICE OF CORRECTIONS REQUIRED



July 17, 2023

Reference: Corrections Required for Permit Application #PR20230001674

5824 QUAIL RUN DR

Dear GEORGE O HUMPHREY & RHEA L HUMPHREY:

Your plans submitted have been reviewed and due to non-compliance with the Ohio Building Code and/or other codes applicable to this project, the Building Division is unable to issue a plan approval without the additional information or corrections indicated below.

Building Review (Reviewed By: Justin Taylor)

1. Sealed plans need to be stamped by an Ohio Licensed Engineer to be accepted in Ohio.

Zoning Review

This property is Zoned PUD with the requirements of R1 and R1B.

1. The required rear building setback for a structure is 25ft, location dimensions were not provided. Seeing that this is a structure over the existing pool the slab edge is 18ft from rear lot line.
2. Building exceeds 700sqft max size for detached structures.
3. Per zoning, a maximum of 30% lot coverage allowed for all structures exceeds 300sqft.
4. Pool and pool electrical permits have not been finalized and have outstanding inspections.

Please note:

- I. The above items are not necessarily the only items not in compliance and additional items may be found upon further review of the requested information.
- II. The omission of a reference to any provision of the Ohio Building Code does not nullify nor exempt any structure from such requirements of the Ohio Building Codes.
- III. The review was solely based on the information contained within the submitted drawings and related documents.
- IV. The review may not be sufficient to ensure compliance with the Ohio Building Codes, if the plans are inadequate and/or incomplete.

In order to expedite a re-review, the following must be completed.

1. A revised set of drawings should be resubmitted through the Grove City Building Division permitting portal within 30 days with **ALL** changes circled or clouded in color and each changed item numbered.

If you have questions about this review please feel free to contact the plan reviewer or the Chief Building Official.

Please resubmit your plans and any associated documents at your earliest convenience.

Sincerely,

Grove City Building Division