

PLAN COMMISSION REPORT

Proposal: Site Plan and Architectural Review – Sound Absorbing Barrier Wall System

Description: Review site and architectural plans for proposed installation of a sound absorbing barrier wall system.

Applicant(s): David Bever, Briohn Property Management

Address(es): 10303 S. Oakview Pkwy. (5th Aldermanic District)

Suggested Motion: That the Plan Commission approves the site and architectural plans for construction of a sound absorbing barrier wall system at MG Foods, an existing business located at 10303 S. Oakview Pkwy with the following conditions:

1. That all relevant Code requirements remain in effect.
2. That all revised plans are submitted in digital format for review and approval by the Department of Community Development prior to the submission of permit applications.

Owner(s): Oakview Industrial Property V, LLC, a WI LLC Co.

Tax Key(s): 955-1033-000

Lot Size(s): 13.045 acres

Current Zoning District(s): M-1, Manufacturing

Overlay District(s): PUD

Wetlands: Yes No

Floodplain: Yes No

Comprehensive Plan: Business Park

Background: The Applicant is requesting site and architectural approval to install a sound-absorbing barrier wall system. The proposed wall will enclose the chiller compressors on three (3) sides and will be located along the west side of the building, near the center of the parking lot. The barrier wall is designed to capture much of the sound emitted by the chiller compressor units. It is expected to reduce the noise generated by the chiller compressors by 10-15 dB-A.

District Specific Standards, Use Specific Standards, & Land Use: The proposed modification complies with the intent, standards, and requirements of the City's Zoning Ordinance and the M-1 Manufacturing District, as well as the Planned Unit Development (PUD) approved by Ordinance 2676 in May of 2013. Additionally, the land use is consistent with the City's comprehensive plan.

Design: The three (3)-sided barrier wall will be 12 feet tall and constructed from five (5)-inch thick panels. The south wall will be 20 feet in length, the west wall will be 27 feet in length, and the north wall will be 45 feet in length. The panels will be hollow steel, filled with fiberglass to absorb sound. The fiberglass material will be non-corrosive, resistant to fungus, fire-resistant, vermin-proof, and non-hygroscopic. The exterior of the barrier wall will be white to match the building.

According to the Zoning Code's non-residential design standards, materials used on the ground floor or base must be limited to wood, masonry, or stone veneer systems. Requests to use other materials on the ground floor require a 3/4 majority approval from the Plan Commission

Parking: No modifications are proposed for the size (square footage) or use of the building; therefore, no changes to parking are proposed or required.

Lighting: No new or additional lighting is being proposed. Any future lighting additions will need to comply with the Municipal Code, and the owner or tenant must apply for the necessary permits before installing additional lighting on the property.

Engineering: Engineering indicated no concerns. The Applicant will comply with all regulations and requirements.

Access: The site currently has access from S. Oakwood Prkwy. No new or additional access is being proposed.

Signage: No new or additional signage is being proposed as part of this review. Any future signs must comply with the Municipal Code, and the owner or tenant will need to apply for the necessary permits before installing any additional signs on the property.

Environmental: The site is developed and does not contain any environmentally sensitive areas such as wetlands, floodplains, or environmental corridors.

Landscaping: No new or additional landscaping is proposed or required.

Fire Department: The materials to be used for the barrier wall are fire-retardant. The Fire Department indicated no concerns. The Applicant must comply with all regulations and requirements of the City of Oak Creek Fire Department.

Review/Options/Alternatives: The Plan Commission has the discretion to either approve the plans as presented, approve them with specified conditions, or disapprove the proposal. In reviewing the request, the Commission will evaluate it in light of the City’s Zoning Ordinance and any other relevant information.

The Plan Commission may only approve or approve with conditions if it is satisfied that the proposed project complies with all applicable provisions of the City’s Zoning Ordinance, as well as with all adopted plans and policy documents. Any approval with conditions must specify the necessary actions to bring the application into compliance with the City’s Zoning Ordinance and its adopted plans and policy documents.

The Plan Commission has the authority to modify any of the site plan review criteria outlined in Sec. 17.0804(g)(3)(a-j) of the City’s Zoning Ordinance. However, such modifications require a 3/4 majority vote of the Commissioners present at the meeting and must include supplemental design elements or improvements to compensate for any modifications to the specific standards.

If the request is not approved, the Plan Commissioners are required to provide the relevant Code Sections upon which the denial is based. This will allow the applicant to revise and resubmit the proposal accordingly.

Respectfully submitted & approved by:



Kristi Laine
Community Development Director

Prepared by:



Todd Roehl
Senior Planner

Attachments:

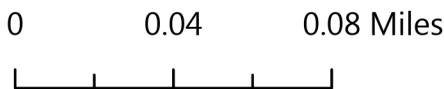
- Location Map
- Narrative (7 page)
- Example Photo (1 page)
- Site Plan (2 pages)

Location Map

10303 S. Oakview Pkwy.



This map is not a survey of the actual boundary of the property this map depicts



Legend

- Zoning
- Official Street Map
- Parcels
- FloodFringe2024
- Floodway2024
- 10303 S. Oakview Pkwy.

David Bever
Briohn Property Management, LLC
3885 Brookfield Road
Suite 200
Brookfield, WI 53045

September 23, 2024

Quotation No. 3827-1

Subject: MG Foods Noise Barrier Wall

Dear David:

We are pleased to offer the following quotation to furnish the sound absorbing barrier wall system per your request.

Barrier Wall Size: 3-Sided 45' x 27' x 20' long x 12' high

Proposal Includes:

- Standard FS/S Barrier Panels – Acoustical Barrier Wall Panels are 5 inches thick, 24 inches high (on center) and up to 120 inches long and shall be constructed of cold rolled galvanized steel, fabricated using 14 gauge materials for the solid side, and 20 gauge materials for the perforated side of the panel. Fill materials shall be fiberglass, non-corrosive, resistant to attack by fungus, fire-resistant, vermin proof and non-hygroscopic. Fill material shall be free draining, self-supporting and shall retain physical and sound absorptive characteristics after long term exposure to the elements. All materials shall have a Class A fire rating with a flame spread not greater than 25.
- Finish – Each panel shall be cleaned and degreased using a multi-step process and finished with a tough, thermosetting, polyester powder-coat, in one of several standard colors, as approved by the owner.
- Structural steel columns are included and coated with a two-part exterior epoxy paint finish.
- Steel columns will anchor onto existing concrete.

Acoustical Performance

Acoustical Barrier Wall Panels have a minimum NRC (Noise Reduction Coefficient) rating of 1.00 and an STC (Sound Transmission Class) of 30 after barrier installation.

Sound Transmission Loss Data (1/3 Octave Band), dB (STC)

125	250	500	1K	2K	4K	8K
21	34	40	33	32	26	37

WE SOLVE NOISE PROBLEMS

1420 E. Bristlecone Drive | Hartland, WI 53029
Phone: (262) 367-6700
E-Mail: toneill@noiseproblems.com
Web: www.noiseproblems.com

Net Price for Materials, including freight charges \$111,290.00

Net Price for Optional Non Union Installation Services..... \$ 26,650.00

Options:

➤ Add \$59,185.00 to have the barrier wall be 16' high vs 12' high
(Much of the price increase is in the heavier steel required for the taller wall.)

TERMS: Prices are firm for 30 days. Terms: 35% due with purchase order.
Materials invoiced upon shipment. Installation is invoiced upon
substantial completion.
Sales tax, or permits of any kind are not included.

FOB: Factory, freight charges included.

Lead-Time: 2 to 3 weeks for submittal/approval drawings
10 to 12 weeks for shipment following receipt of approved drawings

Respectfully Submitted,

Tim O'Neill

President

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Low frequency sound travels farther than high frequency sound. Much of the low frequency sound comes from the chiller compressors mounted under the fan coils. The wall will capture much of the sound emanating from the lower open sides of the chiller units.

STC is a single number value representing the

ability of a partition to stop noise from passing through it. STC 30 does not mean it stops 30 decibels. The higher the STC the more noise is reduced. (High is 40-50 STC) The barrier cannot stop sound from going over the top or around the sides. By placing the barrier next to the noise source, we get the best bang for the dollar in noise reduction. The inner face (towards the noise source) is perforated steel and that will allow the noise to pass into the fiberglass inside the 5" thick panels. That noise will be absorbed rather than reflected in a new direction. The barrier wall will likely reduce the noise by 10-15 dB-A. When noise is reduced 8-10 dB-A, the human ear perceives it as cutting the noise in half. We will be cutting the noise in half almost two times.

NRC – Noise Reduction Coefficient. Products that absorb sound get an NRC number. Perfect absorption is basically NRC 1.0. These barrier panels absorb sound at a higher level due to the 5" thickness. Basically 100% of the sound energy that hits the wall is absorbed, reducing the amount to go around or over the wall.





Noishield® Sound Barriers Protect Communities Against Noise

Highly Absorptive Noishield® Panels Maximize Noise Reduction

HVAC Equipment | Chillers | Pumps | Compressors | Fans | Transformers & Electrical Substations
Highway & Rail Transportation Systems | Loading Docks | Rail-Yards | Drive-Thrus | Salvage Yards

Overview

- Galvanized Steel or Aluminum
- Free-Draining
- Light Weight
- Easily Installed
- Highly Sound Absorptive
- Weather-Tested Finishes
- Freestanding or Add-on Cladding Panels
- Relocatable
- Horizontal or Vertical Installation

Standard Features



Laboratory Rated Acoustic Performance
STC-30 to STC-33
NRC 1.00 to 1.05



Excellent weather and corrosion resistance. Galvanized steel materials with powder coated finish applied post assembly. Fully non-welded construction to avoid damage to galvanized coating.



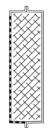
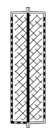
Freestanding, able to span supports of up to 20 feet depending on local codes and wind-speed requirements.



Freestanding Barriers

Noishield Types: FS and SFS Barriers — sound absorptive on one and two sides respectively — optimize sound transmission loss and sound absorption properties in a durable and attractive wall system in harmony with the community.


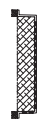

- Excellent low frequency absorption for heavy equipment
- Laboratory-rated sound absorption on one or both sides
- Low weight, rugged construction — ideal for wall or roof mounting
- 5" thick (127mm) modular metal module system in steel or aluminum
- Abuse resistant dual-coated, galvanized steel or aluminum construction
- Withstands wind velocities of 110 mph (177 km/hr) — designs for specific wind loads are available
- Readily relocated in the event of expansion or other projects

Configuration		Type FS	Type SFS
		 Thickness 5" / 127mm	 Thickness 5" / 127mm
Weight lb/ft ² (kg/m ²)	Steel	FS/S – 6.5 (31.7)	SFS/S – 9.9 (48.3)
	Aluminum	FSt/S* – 8.6 (42.0)	–
Application		Freestanding along-side noisy equipment	Freestanding between multiple noise sources

Sound Absorptive Treatment for New Construction & Retrofit Applications

Noishield Type C Cladding Modules — sound absorptive to control reflections from acoustically hard barriers

- Apply to new or existing wood, concrete or steel barriers to reduce reflected noise levels in the community
- Retrofit existing barriers to eliminate or mitigate noise complaints
- Low weight, rugged construction — ideal for retrofit applications
- Laboratory-rated sound absorption coefficients
- 2-1/2" (64mm) thick metal module system
- Abuse resistant galvanized steel or aluminum construction
- Individual modules readily manufactured and replaced if damaged

Configuration		Type C	Type C12	Type C38
		 Thickness 2.5" / 64mm	 Thickness 3" / 76mm	 Thickness 4" / 102mm
Weight lb/ft ² (kg/m ²)	Steel	C/S – 3.25 (15.9)	C12/S – 3.55 (17.3)	C38/S – 2.8 (19.8)
	Aluminum	C/A – 1.1 (5.4)	C12/A – 1.4 (6.8)	C38/A – 1.9 (9.3)
Application		Apply to new or retrofit existing metal, wood, brick, concrete, stone or other noise-reflecting walls. Select Types C12 & C38 for enhanced 125Hz sound absorption.		

Acoustic Performance

Noishield barrier panels are rated with sound transmission loss values fully compatible with typical acoustic screen performance requirements. All Noishield barrier panels incorporate sound absorbing materials to prevent noise reflections that degrade barrier performances. Type C modules are used to clad new or existing non-absorbing barriers while Type FS and SFS are free-standing walls that combine excellent sound transmission loss (used for 125 Hz insertion loss up to 10 dB) with high sound absorption ratings.

* Freestanding Type FSt is used for applications requiring 125 Hz insertion loss between 10 and 14 dB.

Barrier Model	1/3 Octave Band Center Frequency, Hz							STC		
	125	250	500	1k	2k	4k	8k			
	Sound Transmission Loss, dB									
FS/S and SFS/S	21	34	40	33	32	26	37	30		
FSt/S	24	38	41	33	35	29	34	33		
FS/A and SFS/A	21	32	37	30	37	28	30	31		
Barrier Model	Sound Absorption Coefficients							NRC		
	FS/S, FS/A and FSt/S	1.12	1.12	1.10	1.01	0.89	0.76		0.57	1.05
	SFS/S and SFS/A	0.47	1.04	1.14	1.03	0.76	0.73		0.87	1.03
	C/S and C/A	0.30	1.05	1.07	1.01	0.96	0.88		0.78	1.00
	C12/S and C12/A	0.48	1.08	1.10	0.99	0.92	0.83		0.78	1.00
	C38/S and C38/A	0.68	1.19	1.10	1.03	0.90	0.81		0.76	1.05

• Sound Transmission Loss: All data in accordance with ASTM E90 and E413

• Sound Absorption Coefficients: All data in accordance with ISO Standard 354, ASTM C423 and E413 with 120 ft² (11.15m²) test sample in 10,000 ft³ (262m³) reverberation room. Type A mounting. Coefficients greater than 1.0 result from edge diffraction effects. Do not use sound absorption values greater than 0.95.

Durable Noishield Barrier Finishes

Noishield Barriers are finished with a tough, thermosetting, polyester powder coating which is not damaged by the harsh cleaning chemicals used to remove spray paint graffiti. A wide variety of standard colors allow complementary decorative schemes and attractive designs to reduce apparent wall height as perceived by the community.

- Tested for accelerated weathering per ASTM G 23 for 2,400 hours with chalking not less than No. 8 rating (ASTM D 659) and color changes less than 5 NBS units (ASTM D 2244)
- Salt spray tested for checking, blistering, loss or adhesion, or evidence of corrosion per ASTM B 117 for more than 4,000 hours without coating failure

Weather Shedding Construction

Noishield Sound Barrier Modules are constructed with solid top surfaces to minimize water infusion and perforated bottom surfaces to allow any entrapped water to escape. Infill is non-hygroscopic — water does not "wick" into the modules. Hence, traditional polymer fill protection is neither required or desirable due to adverse effects on sound absorbing characteristics.

Ground Mount / Roof Mount / Structure Mount

Noishield Sound Barriers are engineered from the foundation up for structural and acoustical integrity and economic installation. Low weight modules stack between posts to achieve required wall heights. Noishield Barriers can be installed with horizontal or vertical reveals to satisfy aesthetic and architectural considerations.

Specifications | Noishield® Sound Barriers FS/S Module

Section 32 35 16 | Sound Barriers | FS Noishield Barriers

Part 2 — Products

2.01 Manufacturers

A. Basis of Design: IAC Acoustics, Division of Sound Seal, Noishield Barrier Wall System.

- IAC, Division of Sound Seal, 401 Airport Road, North Aurora, IL, 60542; Telephone: (630) 270-1790; Fax: (630) 966-9710; E-mail: iacacoustics@soundseal.com; Web site: www.iacacoustics.com.

2.02 Performance Requirements

Specifier Note: Select one of the following options for panel construction. Delete the alternative. Apply to panel structural requirements as well.

A. FS/S (steel construction) Sound Transmission Loss (dB) per ASTM E90 & Sound Transmission Class (STC) per E413:

1/3 Octave Band Center Frequency (Hz)	125	250	500	1K	2K	4K	8K	STC
Noishield FS/S (steel construction)	21	34	40	33	32	26	37	30

B. FS/S (steel construction) Sound Absorption Coefficients per ASTM C423:

1/3 Octave Band Center Frequency (Hz)	125	250	500	1K	2K	4K	8K	NRC
Noishield FS/S (steel construction)	1.12	1.12	1.10	1.01	0.89	0.76	0.57	1.05

C. FS/A (aluminum) Sound Transmission Loss (dB) per ASTM E90 & Sound Transmission Class (STC) per E413:

1/3 Octave Band Center Frequency (Hz)	125	250	500	1K	2K	4K	8K	STC
Noishield FS/A (aluminum construction)	21	32	37	30	37	28	30	31

D. FS/A (aluminum) Sound Absorption Coefficients per ASTM C423:

1/3 Octave Band Center Frequency (Hz)	125	250	500	1K	2K	4K	8K	NRC
Noishield FS/A (aluminum construction)	1.12	1.12	1.10	1.01	0.89	0.76	0.57	1.05

Specifier Note: Retain the longest applicable span. Delete the remaining options.

E. Structural: Galvanized steel panels shall be designed to withstand a wind pressure of [24.2 PSF at a span of twenty (20) feet] [37.8 PSF at a span of sixteen (16) feet] [67.3 PSF at a span of twelve (12) feet] without reinforcement.

F. Structural: Aluminum panels shall be designed to withstand a wind pressure of [14.3 PSF at a span of twenty (20) feet] [22.3 PSF at a span of sixteen (16) feet] [39.7 PSF at a span of twelve (12) feet] without reinforcement.

G. Corrosion Testing: Modules shall prove testing for corrosion resistance in accordance with ASTM B117. After 2,400 hours of exposure, the coating system shall not fail due to blistering, loss of adhesion or corrosion along the score lines.

H. Weather Testing: Modules shall prove testing for accelerated weathering in accordance with ASTM G23. After 2,400 hours of testing, module samples shall not exhibit chalking greater than No. 8 per ASTM D4214 or a color change greater than 5 NBS units per ASTM D2244.

2.03 Components

A. Standard Panel Construction

- Individual panels shall be two (2) feet high or one-and-a-half (1.5) feet high x five (5) inches thick x up to twenty (20) feet in length.

Specifier Note: Select one of the following two options for panel construction. Delete the alternative. Apply to panel structural requirements as well.

- Panels shall be constructed of [galvanized steel manufactured in accordance with ASTM A924 and ASTM A653] [aluminum type 5052].
- Panel components shall meet the following structural requirements:
 - Perforated face sheet shall be [20 gauge steel] [0.050 mill finished aluminum].
 - Solid face sheet shall be [14 gauge steel] [0.050 mill finished aluminum].
 - Solid end caps shall be [18 gauge steel] [0.050 mill finished aluminum].

B. Acoustic Fill

- Fiberglass, non-corrosive, resistant to attack by fungus, vermin proof and non-hygroscopic.
- Free draining, self-supporting and shall retain physical and sound absorptive characteristics after long term exposure to the elements.
- Class A Fire Rating with a Flame Spread not greater than 25.

C. Bearing Blocks shall be:

- Used to support the bottom panel of the wall system
- 1 inch thick x 2.25 inch wide x 4 inch long
- 65 durometer EPDM, neoprene or rubber.

D. Steel columns:

Specifier Note: Select one of the following two options for steel column finish.

- Fabricated structural steel members to [be hot-dipped galvanized after fabrication per ASTM A123] [receive epoxy paint coating].
- Steel for wide flange shapes and built-up column members shall conform to ASTM A992. All other structural steel base plates and braces shall conform to ASTM A36.
- Anchor Bolts: ASTM A36 galvanized.

E. Post Footing: Refer to Section 03 30 0.

2.04 Fabrication

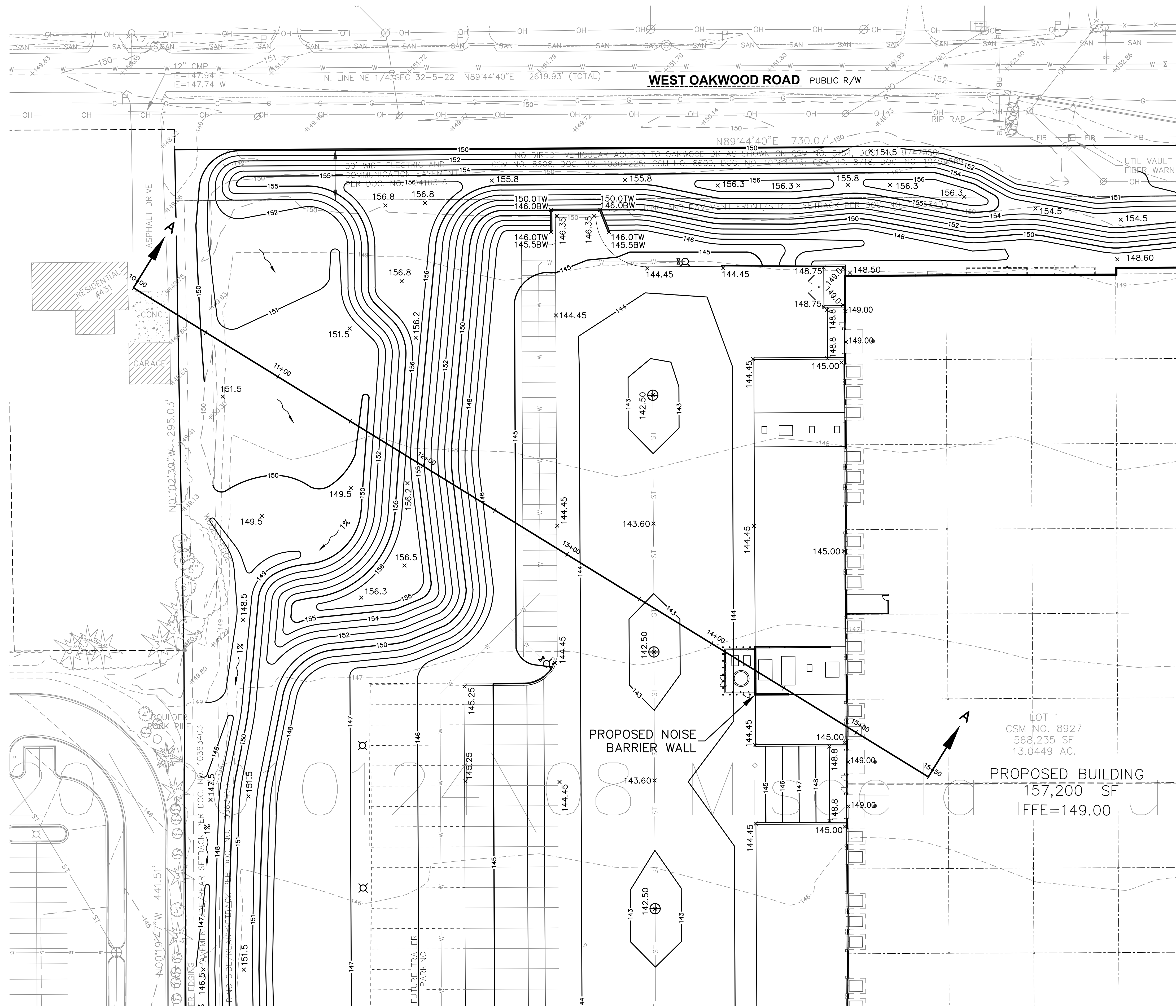
- Perforated and solid sheets shall be roll-formed in lengths up to twenty (20) feet.
- Panel shall be assembled to form a free-draining module.
- Spot welds or mechanical fasteners shall not be acceptable to join the solid inner and perforated outer panel sheets together. Internal reinforcement shall not be acceptable.
- Fabricate panels to be rigid, neat in appearance and free from defects.
- Panel assembly shall such so as to compress and hold the fill materials in place under severe conditions of vibration such as encountered in shipment and installation. Any voids in the panel will be unacceptable.
- Panel manufacturer, where required, shall provide openings for any large known penetrations. Pipe and conduit penetrations shall be located and cut in the field and sealed in accordance with manufacturer's instructions.

2.05 Finish

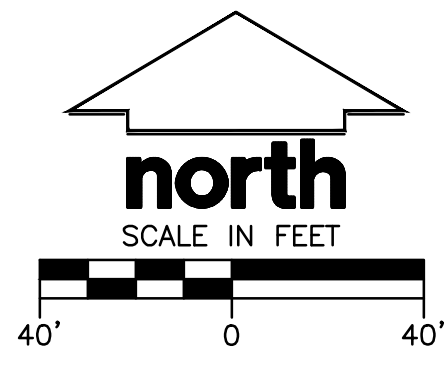
- Panels shall be finished with a factory-applied polyester powder coating system.
- Finish coating shall have a dry film thickness of three (3) mils (+/- 0.5 mils).

All designs and specifications subject to change without notice. Metric dimensions nominal. Request CSI format specifications on disk or hard copy for Types FS/S, FS/A, FS/S, SFS/S, SFS/A and C.



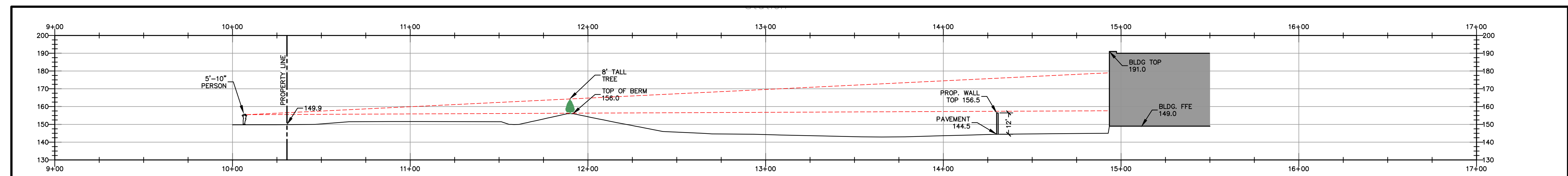


LOT 1
 CSM NO. 8927
 568,235 SF
 13.0449 AC.
 PROPOSED BUILDING
 157,200 SF
 FFE=149.00

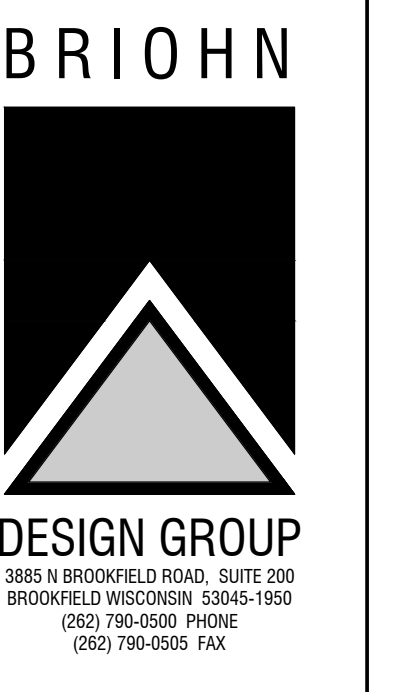


LEGEND

⊙	SANITARY SEWER MANHOLE	— SAN —	SANITARY SEWER
⊕	STORM MANHOLE	— W —	WATER MAIN
⊕	CATCH BASIN ROUND	— ST —	STORM SEWER
⊕	CATCH BASIN SQUARE	— RD —	ROOF DRAIN
⊕	FIRE HYDRANT	— G —	UNDERGROUND GAS
⊕	WATER VALVE	— E —	UNDERGROUND ELECTRIC
⊕	GAS VALVE	— T —	UNDERGROUND TELEPHONE
⊕	LIGHT POLE	— FIB —	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	— OH —	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	— SF —	SILT FENCE
⊕	SIGN	⊕	CONIFEROUS TREE
⊕	POWER POLE	⊕	DECIDUOUS TREE
⊕	GUY WIRE		



SECTION A-A
 SCALE: 1"=30' HORIZ./VERT.



SHEET TITLE
**SOUND WALL
 CROSS SECTIONS EXHIBIT**

OAKVIEW INDUSTRIAL FACILITY V
 10303 S. OAKVIEW PARKWAY
 OAKVIEW BUSINESS PARK
 LOT 1 OF CSM NO. 8927
 CITY OF OAK CREEK, WI

JOB: 20-10124
 DRAWN: RWJ
 CHECKED: RKW
 DATE: 10/26/20
 SHEET:

EX-1



