

CITY OF DULUTH PURCHASING DIVISION Room 100 City Hall 411 West First Street Duluth, Minnesota 55802-1199 218/730-5340 218/730-5922 FAX purchasing@duluthmn.gov

Addendum 1 File # 17-0132 Project: Ventilation System at Fleet Garage

This addendum serves to notify all bidders of the following changes to the solicitation documents:

- 1. The bid opening has been moved to Wednesday, April 26, at 2:00 p.m.
- 2. All questions must be submitted by April 19. A final addendum, if needed, will be posted on April 24.
- 3. Plan sheet S1 General Structural Notes, Plans and Details has been added and is attached.
- 4. The pre-bid meeting sign-in sheet is attached.

Please acknowledge receipt of this Addendum by initialing and dating Addendum #1 below the bid form on the invitation for bids.

Posted: April 12, 2017

<u>TYPICAL NOTES</u> : These notes specify the requirements for the design represented in these documents. The construction and materials shall comply with all the pertinent codes and references, plans, and details, including (but not limited to) those shown in architectural, civil, mechanical and electrical drawings.	GRAVITY Snow Lo Ground S Flat-Roo
The contractor shall verify all dimensions and existing conditions in the field that affect construction prior to commencing work on the	Snow Ex Snow Lo

affected element or shop drawing submittals. Resolve any discrepancies with the architect prior to construction. The contract structural drawings and specifications represent the completed structure. The contractor is responsible for bracing and

shoring (without overstressing) all structural elements as necessary at any stage of construction until completion of the project. The Structural Engineer is not responsible for the contractor's means, methods, sequences or procedures of construction. Contractor shall recognize and consider effects of thermal movements of structural elements during construction period.

The contractor is solely responsible for site safety including all temporary precautionary measures and safety programs. Site observation visits by the Structural Engineer do not include review of the contractor's safety precautions.

Refer to architectural, mechanical and electrical drawings for locations, elevations, dimensions, and details of sleeves, inserts, openings, recesses, curbs, housekeeping pads, etc. that are not shown on the structural drawings and do not damage structural members.

Information shown in the structural drawings regarding existing conditions represents the current and general field conditions related to the new work, to the best of our knowledge. Report all discrepancies (unforeseen conditions) to the Architect for resolution prior to performing related new work.

Requests for information shall be submitted in writing and shall reference the part of the construction documents that is in question.

SPECIAL INSPECTIONS: Special inspections required by the building code and these documents shall be provided in addition to inspections to be

performed by the City in which the Project is located.

Contractor shall read and understand their duties in the specification and under the building code for special inspections and coordinate as necessary the owner's responsibilities.

The special inspectors shall be provided by the Owner and shall only use structural drawings and approved shop drawings.

Special inspection reports are to be submitted promptly and within 24 hours to the Structural Engineer of Record and Contractor from the time when inspections are performed.

The general contractor shall provide timely notice (minimum 24 hours) to the special inspector and sufficient time for the inspector to perform their inspection.

For a schedule of Special Structural Inspections required by the building code for this project, see the Special Inspection Schedule.

STRUCTURAL TEST AND SPECIAL INSPECTION SCHEDULE:

	Continuous	Periodic	None
. STEEL CONSTRUCTION: Section 1705.2.1 and Ta	able 1705.2.2		
1.1 Fabricator Documentation - Note (1)			
1.2 High Strength Bolting-Bearing Material			
1.3 High-Strength Bolting-Slip-Critical and Materi			
1.4 Steel Material, Seismic - Section 1705.11.1			
1.5 Welds: Full and Part Pen and Multi-Pa			
1.6 Welds: Single Pass Fillet for All Section	ons 🗌		
1.7 Frame Joint Detail Compliance			
	3 Table 1705.3		
2.1 Member Shape and Size Compliance in Form			
2.2 Reinf Steel and PT Tendons Size, Quantity a	Ind Placement		
2.3 Weldability of Reinforcing and Welds			
2.4 Anchors in Concrete			
2.5 Use of Required Mix Design			
2.6 Sample for Specimens and Tests			
2.7 Placement of CIP Concrete and Shotcrete			
2.8 Curing Compliance			
2.9 Strength for Stressing PT Tendons			
2.10 Prestressing Force Application			
2.11 Grouting Bonded Tendons - Seismic			
2.12 Strength for Formwork Removal			
2.13 Erection of Precast Members			
8. MASONRY CONSTRUCTION: Section 1705.4 TM	S 402/ACI 530/ASCE 5; Note	2	
3.1 Level B: Section 1.18.2 Table 1.18.2			
3.1.1 Grout Placement and Sampling			
3.1.2 Welding Reinforcing			
3.1.3 Other Inspection Tasks			
3.2 Level C: Section 1.18.3 Table 1.18.3			
3.2 Level C: Section 1.18.3 Table 1.18.3			
3.2Level C:Section 1.18.3 Table 1.18.33.2.1Open Cores and Grout Placement			
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1. When the fabricator does not meet the requirements of 1704.2.5.2 and where applicable the exception in 1705.2, Special Inspection in the Fabricator's shop is required. 2. Empirically designed masonry is excluded.

SHOP DRAWINGS:

Submit shop drawing schedule with construction schedule that includes consideration for review period. See specification for additional information.

General contractor shall submit shop drawings in digital format for structural review. Digital drawing shall meet the following requirements.

Adobe extension (.pdf) All pages are rotated, printed to scale.

All transmittals shall be located as the first page of the submittal or as a separate file within one digital package. Contractor digital review comments and their digital stamp shall be attached. Our review will not occur until the contractor has reviewed, coordinated with other trades and provided shop stamp.

MBJ will mark-up the digital set in red and return a digital file via email, ftp site or other means.

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DESIGN CODES AND STANDARDS:		
2012 International Building Code, as amended a	nd adopted by th	e State of Minnesota
MATERIAL PROPERTIES: Reinforcing Steel (Fy): Typical Weldable	60,000 psi 60,000 psi	ATSM A615 Grade 60 ASTM A706 Grade 60
Cast-in-Place Concrete (f'c) at 28 days, u.n.o.:		
Drilled Piers All Concrete not otherwise noted	4,000 psi 4,000 psi	
Structural Steel (Fy): Angles, Channels, Plates, and Bars Steel Pipe	36,000 psi AST 35,000 psi AST	™ A36 ™ A53, Grade B
Structural Fasteners: Typical High-Strength Bolts Carbon Steel, Threaded Rods Anchor Rods, Grade 36 U.N.O.	105,000 psi AS 36,000 psi AST 36,000 psi AST	TM A36
Cold-formed Light Gauge Metal Framing (Fy): Studs, Joists, Braces-16 ga. and heavier	50,000 psi AST	TM A653
DESIGN LOADS: LATERAL LOADS: Risk Category: Wind Loads: Primary Frame Wind Data: Basic Wind Speed: Exposure Category: Internal Pressure Coefficient (Gcpi): Components and Cladding Wind Loads:	II V ult = 115 mph V asd = 90 mph C +0.18 or -0.18	
Exterior Component/Cladding:	Supplier to deve criteria and indi	elop based on code cate on shop drawings.
<u>Seismic Loads:</u> Primary Seismic Data:	No design requi	ired

GRAVITY LOADS:		
Snow Load:		
Ground Snow Load, Pg:		60 psf
Flat-Roof Snow Load, Pf:	42 psf	
Snow Exposure Factor, Ce:		1.0
Snow Load Importance Factor, I:	1.0	
Thermal Factor, Ct:	1.2	
Unbalanced/Drift Snow Load:		Refer to plan, U.N.O.
Roof Live Load:		
Mechanical and Electrical Equipment Units:	Refer to	drawings, for the units' locat
Future Mechanical and Electrical Units:	This pro	piect is not designed for future

This project is not designed for future units. Future Mechanical and Electrical Units: FOUNDATIONS:

For underground utilities adjacent to foundations and through foundations reference drawings for typical detail showing step footings below utilities as required to avoid undermining of structure by utilities.

RILLED PIERS: Drilled Piers are designed for an allowable bearing pressure of 1,500 psf. Allowable bearing pressure is to be verified in the field by a Geotechnical Engineer.

Acceptability of bearing surface, exact shaft diameter, depth, bearing elevation, and placing tolerance of the drilled pier must be field verified and recorded by a qualified Geotechnical Engineer at the time of drilling.

REINFORCED CONCRETE: The detailing, fabrication and erection of all reinforcing shall be done in accordance with the latest edition of ACI-315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures and ACI-318, "Building Code Requirements for Structural Concrete." All reinforcing bars are deformed and continuous, unless noted otherwise. Refer to drawings for reinforcing lap length schedule.

Provide suitable wire spacers, chairs, etc. for support of reinforcing steel in proper position while placing concrete. All bars shall be

tied to prevent displacement while placing concrete. All chairs and slab bolsters shall be plastic or steel with plastic tips.

The fabricator shall submit a complete list of accessories and placing details with the shop drawings.

Aluminum conduit, aluminum sleeves and aluminum embeds are not permitted in concrete.

Calcium chloride is not permitted as a concrete additive.

Concrete Cover on Reinforcing:

Footings and Caissons: 3" clear bottom and sides, 2" clear top

EXPANSION AND ADHESIVE ANCHORS:

Expansion anchors shall be stud type with a single piece three section wedge and zinc plated in accordance with ASTM B633.

Threaded anchor rod for adhesive anchors in concrete shall be ASTM A193 Grade B7, or ASTM A36, as noted in the drawings. The adhesive used for anchors shall be a structural grade, two part epoxy or acrylic material that meets the requirement of ASTM C-881 Types I, II, IV, and V, Grade 3, Classes B and C as noted on plans.

Holes shall be drilled with a bit and cleaned using a method that complies with the manufacturer's guidelines, and specifications. Do not cut or damage reinforcing steel, prestressed strands, or P-T tendons.

Upon the request of the structural engineer the anchors shall be proof tested by the manufacturer to verify capacity of anchors that do not meet the conditions in the construction documents.

Minimum embedment depths in concrete and concrete masonry for expansion and adhesive anchors shall be as noted below: Concrete base material:

For 1/2", 5/8", and 3/4" diameter expansion anchors provide 4 3/4"embed, unless noted otherwise on plan. For 1/2" and 5/8" diameter adhesive anchors provide 5" embed. For 3/4" diameter adhesive anchors provide 7" embed, unless

noted otherwise on plan. Pre-approved manufacturer are as follows: HILTI, ITWR Ramset/Redhead, Powers Fasteners, and Simpson Strong-Tie. For review of

alternate products, submit manufacture's product data and product's current ICBO report prior to construction.

304/316 Stainless Steel.

STRUCTURAL STEEL Structural steel shall be detailed, fabricated and erected in compliance with AISC Specification for the design, fabrication, erection of structural steel for building, and Code of standard practice, and OSHA steel erection standards.

All beams and girders shall be cambered at mid-span as indicated on the structural drawings. The cambers indicated shall be present in the beam in its erected position after completion of the end connections and shall be verified prior to placing concrete. Cambering tolerances shall be (-0", +1/4"). No center point cambering allowed.

Splicing structural members where not detailed on the drawings is prohibited without prior approval of the structural engineer

Modification of structural steel members in the field is not allowed without written approval by the structural engineer.

Anchor rods shall be minimum 3/4" diameter or as detailed in drawings.

STRUCTURAL STEEL CONNECTIONS: All steel connections are as indicated on the drawings

Unless detailed otherwise, beam shop connections may be welded or bolted and field connections are to be bolted. Bolts shall be a minimum 3/4" diameter for connections specified or detailed in the drawings. The fabricator may submit an alternate connection with the calculations that is certified by a professional engineer who is licensed in the state where the project is located.

All beam web copes must be made to a 1 inch minimum radius.

Welded connections shall be made in accordance with ANSI/AWS D1.1 Structural Welding Code using E70XX electrodes unless noted otherwise. Weld sizes not shown or controlled by the required forces shall be AWS code minimum size. Welds shall be visually inspected for compliance with the AWS code visual inspection criteria. Welders shall be gualified in accordance with ANSI/AWS D1.1 and shall be experienced in weld in structural steel.

LIGHT GAUGE METAL FRAMING: The design and connection detailing of all cold-formed material including, but not limited to exterior studs, bearing studs, headers, jambs, joists, rafters and anchorage shall be by the Light Gauge Supplier. This is a deferred submittal item. The minimum design criteria for all systems other than bearing framing shall meet the following criteriais as follows:

Stud in exterior walls shall be minimum 6005162600S162-54 (6"-16 gauge) studs at 16" o.c. Studs shall be cold rolled steel, galvanized, C shape, with minimum 1 5/8" flange and minimum 1/2" return. They are to be punched for

utility access and galvanized to G60 coating per ASTM 525.

additional stud each side for lintel bearing.

Light gauge metal framing fasteners shall be minimum #10 self-drilling sheet metal screws, 16 threads per inch, with low profile head. Provide a minimum of two screws per connection unless noted otherwise.

All framing components shall be squarely cut for attachment to perpendicular members. Stud ends must seat tightly into tracks for all bearing applications.

At all wall elements, provide 1 1/2"-16 gauge horizontal channel bridging to prevent stud rotation. For all axial loaded walls, space bridging at 4'-0" o.c. For all non-load bearing exterior walls, space bridging at 5'-0" o.c.

Wall stud deflection criteria:

For wall studs providing lateral support to masonry veneer and cementitious stucco, provide L/600. For wall studs providing lateral support to other materials, provide L/360.

All light gauge designations are in accordance with the Steel Stud Manufacturers Association (SSMA).

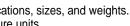
Temporary bracing shall be furnished by the light gauge supplier and framing installer and maintained until permanent systems providing lateral stability are in place.

Welding shall conform to the American Welding Society (AWS) "Structural Welding Code - Sheet Steel, D1.3 - Current Edition." Welders shall be qualified in accordance with AWS D1.3 and shall be experienced in cold-formed welding.

All cold-formed material to be welded must be nominal 16 gauge or thicker

Touch up all cold-formed material at welds with zinc-rich paint.

Splices in studs, joists, and headers, are not permitted, unless approved in writing by the structural engineer Framing components may be pre-assembled into panels prior to erecting. Prefabricated panels shall be square, with components attached in a manner that prevents racking.



The contractor shall verify the location of all existing and new underground utilities and tanks prior to beginning excavation.

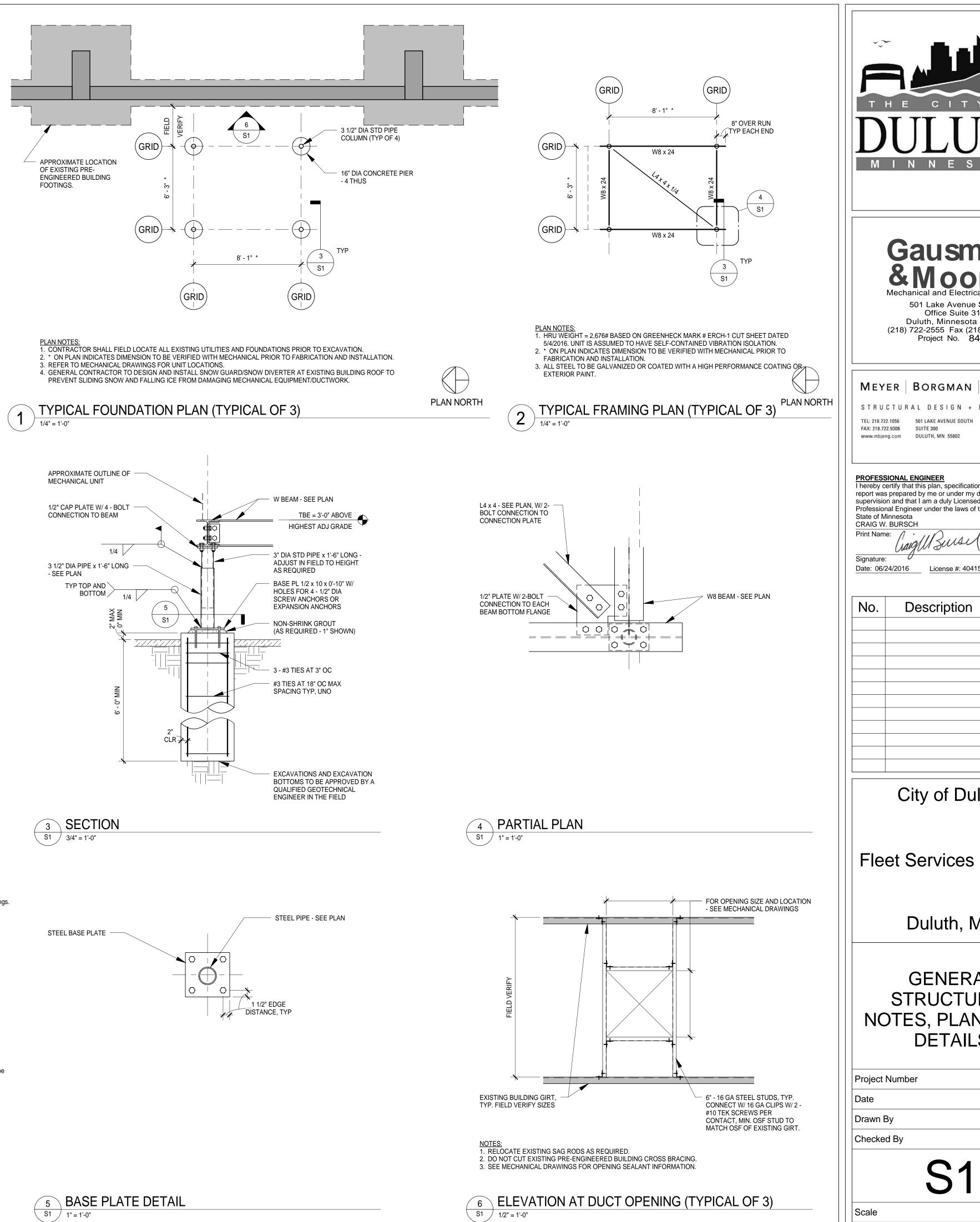
Provide a 3/4 inch chamfer for all exposed concrete corners. See Architectural drawings for details and additional requirements.

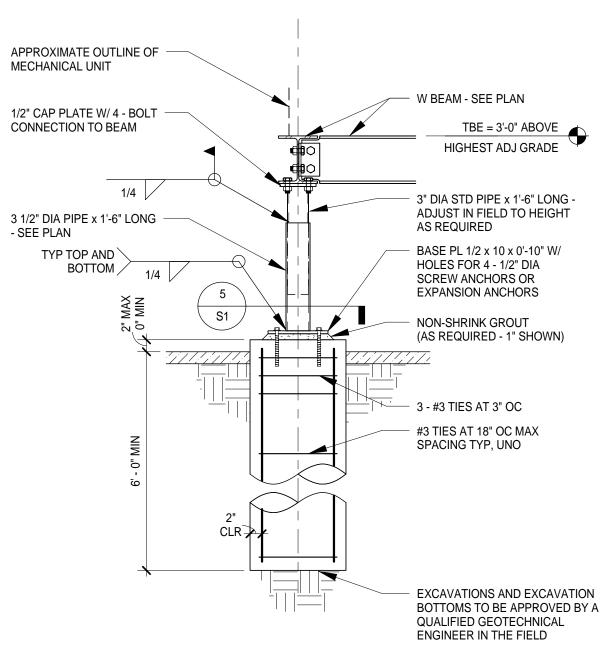
Anchors in concrete or concrete masonry when not exposed to earth, weather, or corrosive environment shall be as noted below:

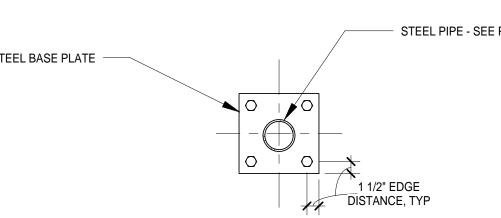
Anchors in concrete or concrete masonry when exposed to earth, weather, or corrosive environment shall be manufactured from AISI

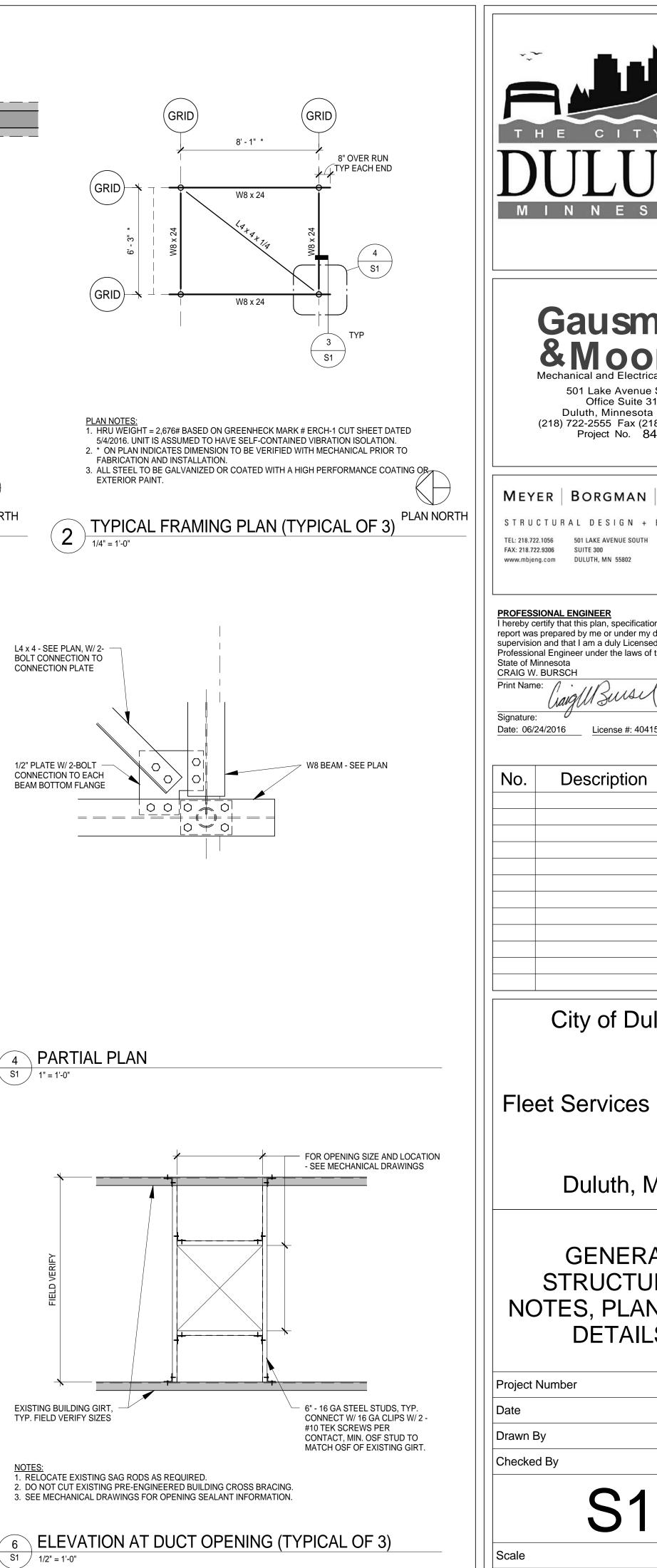
At all openings in exterior and bearing walls provide a minimum two studs full wall height each side of opening and a minimum one

Top and bottom tracks shall be cold rolled or break formed steel, galvanized U shaped and minimum 16 18 gauge and as noted on the drawings.











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