

Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106



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Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106

NOT FOR CONSTRUCTION

PRICING SET

<p>OWNER Eastside Family Laundromat NICK DILLON W7237 RAPPY LAKE ROAD TREGO, WI 54886 T 716.419.3653 e NLD122@HOTMAIL.COM</p>	<p>ARCHITECT hw² DESIGN + ARCHITECTURE, LLC ANDREA HAMMEL WOLLAK 9232 68TH ST N GRANT, MN 55082 T 612.532.4147 e AHWOLLAK@HW2DESIGN.COM</p>	<p>CIVIL ENGINEER CIVIL METHODS, INC. DAVE POGGI PO BOX 28038 ST. PAUL, MN 55128 T 763.210.5713 e DAVE.POGGI@CIVILMETHODS.COM</p>	<p>STRUCTURAL ENGINEER BUNKERS & ASSOCIATES, LLC ERIC BUNKERS 6687 FOREST STREET FARMINGTON, MN 55024 T 651.366.2853 e ERICB@BUNKERSANDASSOCIATES.COM</p>	<p>LAUNDRY CONSULTANT BDS LAUNDRY JON GLOVER 2430 ENTERPRISE DRIVE ST. PAUL, MN 55120 T 651.286.7825 e JGLOVER@BDSL.AUNDRY.COM</p>	<p>CONTRACTOR SHANECON COMMERCIAL CONSTRUCTION SHANE WEIS 11900 VALLEY CREEK RD WOODBURY, MN 55129 T 651.493.4643 e SHANEWEIS@SHANECON.COM</p>
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PROJECT DESCRIPTION

CONSTRUCTION OF A NEW 2,770 SQ. FT. SELF-SERVICE LAUNDROMAT AND ASSOCIATE SITE WORK ON A PREVIOUSLY UNDEVELOPED LOT AT THE NORTHWEST CORNER OF SIMS AVENUE AND WHITE BEAR AVENUE. THE NEW BUILDING WILL CONSIST OF STRUCTURAL INSULATED PANELS (SIPS) WITH ENGINEERED WOOD FIBER CLADDING AND ALUMINUM STOREFRONT FENESTRATION. SITE WORK INCLUDES NEW UTILITY CONNECTIONS, PAVING OF A NEW PARKING LOT, NEW CONCRETE WALKS, LANDSCAPING, AND SITE FENCING & SCREENS.

PROPERTY & ZONING INFORMATION

LEGAL DESCRIPTION:
LOT 28, BLOCK 1, BIRMINGHAM'S PARK, EXCEPT THE WESTERLY 17 FEET THEREOF, RAMSEY COUNTY, MINNESOTA, LOTS 29 AND 30, BLOCK 1, BIRMINGHAM'S PARK, RAMSEY COUNTY, MINNESOTA.

PARCEL ID: 272922410012

LOT AREA: 0.23 ACRES (9,990 SQ.FT.)

GROSS BUILDING AREA: 2,770 SQ.FT.

BUILDING HEIGHT: 16'-0" +/-

BASE ZONING DISTRICT: B2 COMMUNITY BUSINESS DISTRICT

OVERLAY ZONING DISTRICT: WHITE BEAR AVENUE OVERLAY

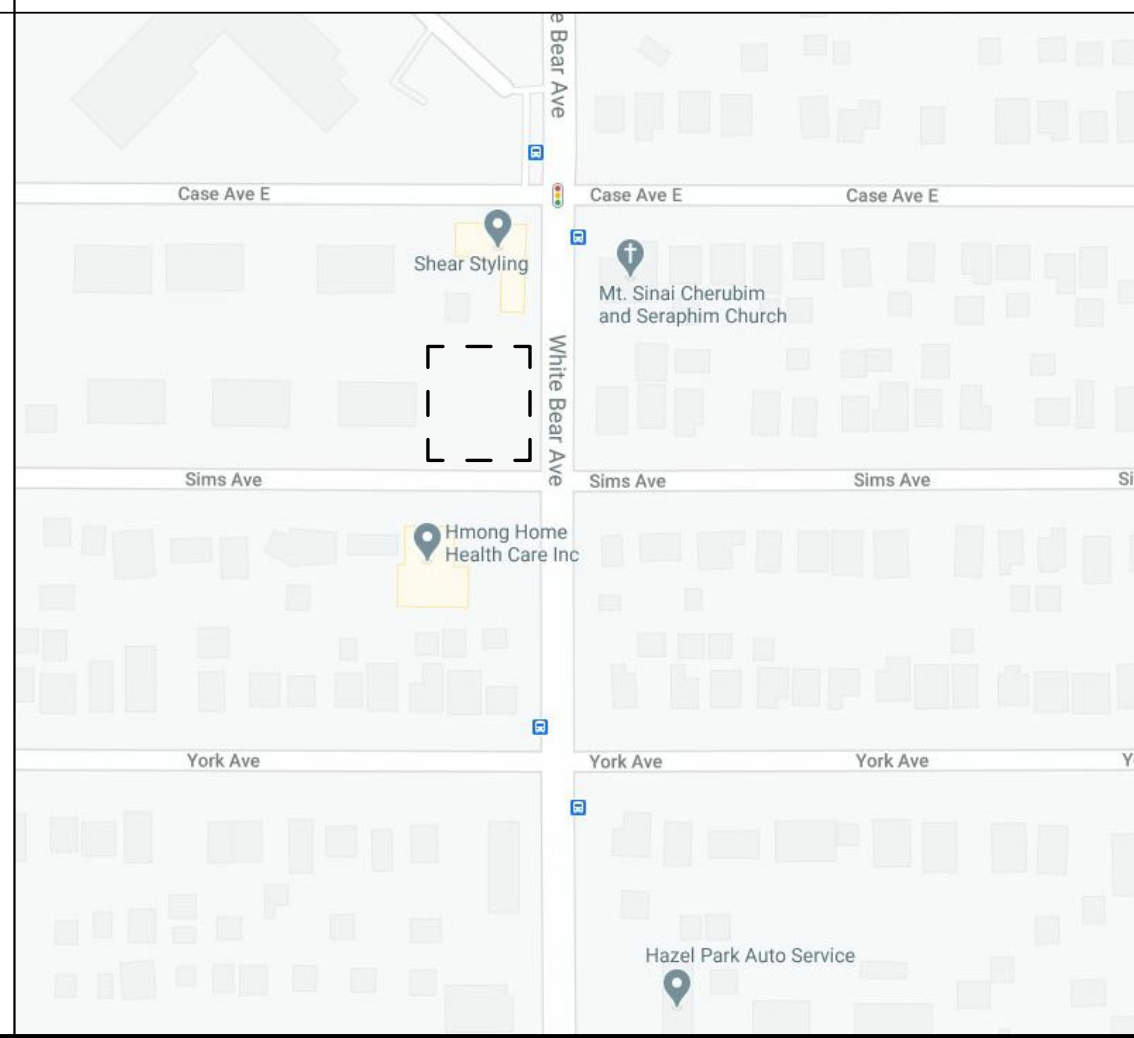
ADJACENT ZONING:

NORTH	B2
SOUTH	B2
EAST	R4
WEST	RM2

USE: SERVICE (LAUNDROMAT)

PERMITTED USE: YES

SITE MAP



NO	ISSUE	DATE
2	PRICING	11.03.20
1	SITE PLAN REVIEW	10.21.20
NO	ISSUE	DATE

JOB NUMBER 20.027.0322

COVER SHEET

G00.00



C4 PERSPECTIVE - SOUTHEAST CORNER



A4 PERSPECTIVE - SOUTHWEST CORNER

NOT FOR CONSTRUCTION

hw² design
 9232 68th St North
 Stillwater, MN 55082
 1612.532.4147

Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106

PRICING SET

2	PRICING	11.03.20
1	SITE PLAN REVIEW	10.21.20
NO	ISSUE	DATE
JOB NUMBER		20.027.0322

GENERAL INFORMATION - PERSPECTIVES

G00.01

LEGEND

- MONUMENT FOUND
- IRON PIPE MONUMENT SET
- X 1027.7 EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- ⊕ FIRE HYDRANT
- ▣ CATCH BASIN
- ⊙ (S) SEWER MANHOLES
- ⊙ (W) WATER VALVE
- ⊙ SIGN
- UTILITY POLE
- OHU— OVERHEAD UTILITY LINE
- ☁ DECIDUOUS TREE



**LOT AREA SQUARE FOOTAGE:
9,990 SQUARE FEET**

CERTIFICATE OF SURVEY
SIMS AVENUE, ST. PAUL, MN

LEGAL DESCRIPTION:

Lot 28, Block 1, BIRMINGHAM'S PARK, except the Westerly 17 feet thereof, Ramsey County, Minnesota.
Lots 29 and 30, Block 1, BIRMINGHAM'S PARK, Ramsey County, Minnesota.

ZONING: Subject Property - B-2, Community Business District

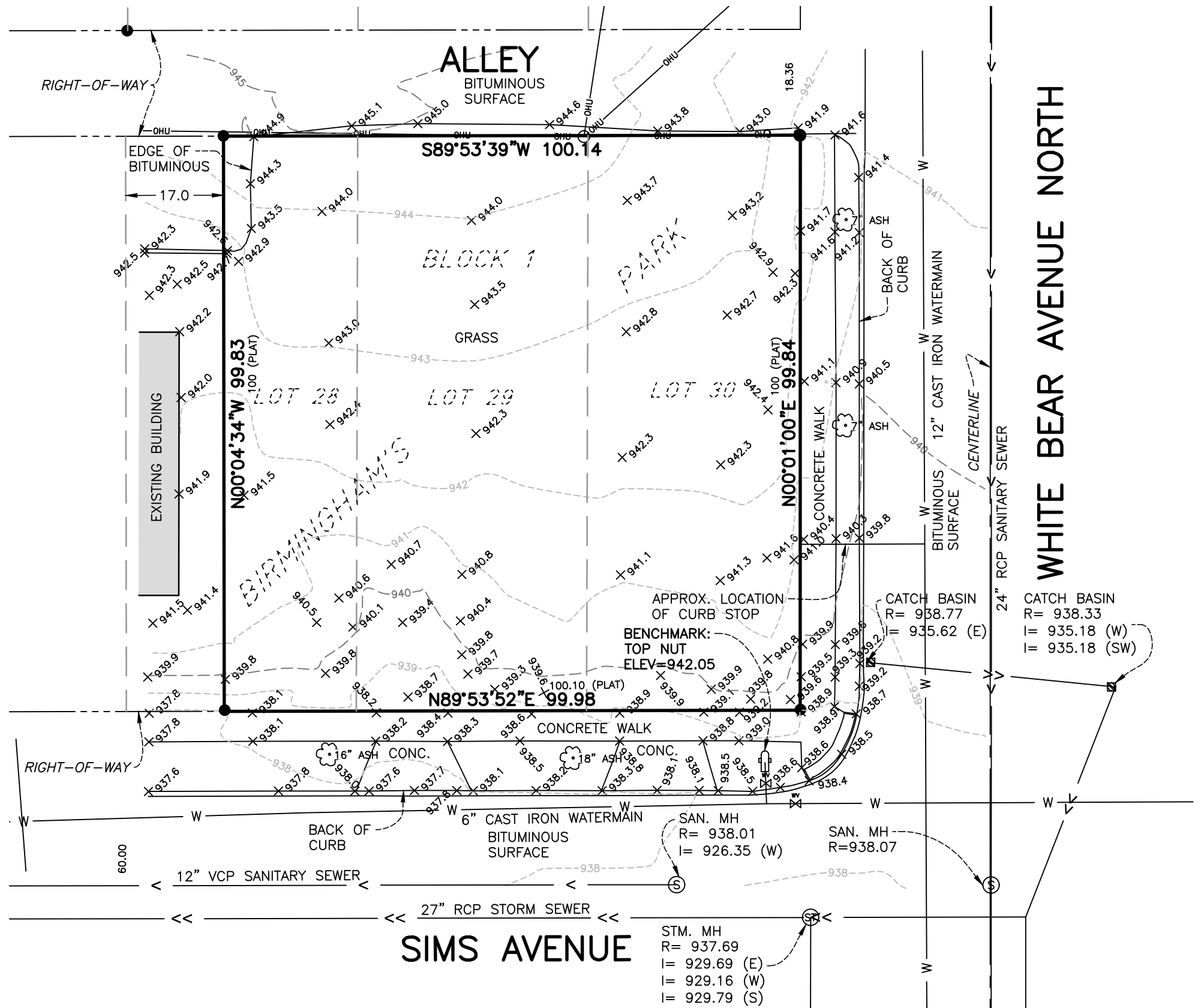
UTILITIES: Underground utility lines and structures are shown in an approximate way only, according to information provided by others. A request that utilities be located for this survey was made through Gopher State One Call (Ticket No. 202521694). The underground utility lines and structures shown on this map represent the information provided to Stonebrooke Engineering, Inc. as a result of that request. The surveyor does not guarantee that the information provided was either complete or accurate. The surveyor does not guarantee that there are no other underground utility lines and structures, active or abandoned, on or adjacent to the subject property.

HORIZONTAL DATUM: Hennepin County Coordinates NAD 83, 2011 adjustment

VERTICAL DATUM: NAVD 88

SURVEYOR:

Stonebrooke Engineering, Inc.
12279 Nicollet Ave. S.
Burnsville, MN 55337
Phone: 952-402-9202
Fax: 952-403-6803
www.stonebrookeengineering.com



Sep 23, 2020 1:01pm - S:\PROJECTS\SURVEY\HW2_Design&Architecture\S0941 (Lot 28, 30, & part of Lot 28, Blk 1, BIRMINGHAM'S PARK, City of St. Paul)\Cadd_Files\S0941.TPO1.dwg

REV. NO.	DATE	BY	CHK	DESCRIPTION



I HEREBY CERTIFY THAT THIS SURVEY, PLAN, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

Aaron J. Mages

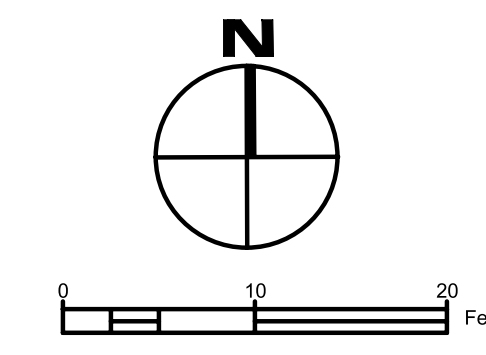
NAME: Aaron J. Mages LIC. NO.: 45507 DATE: 09-23-2020

DESIGNED
DRAWN
ACR
CHECKED
AJM



CERTIFICATE OF SURVEY
LOTS 28, 29, 30, BLOCK 1
BIRMINGHAM'S PARK

SHEET
1
OF
1



BENCHMARK
TNH: NW INTERSECTION
ELEV. = 942.05

LEGEND:

- PROPERTY LINE ———
- SETBACK - - - - -
- EXISTING CONCRETE [diagonal lines]
- REMOVE EXISTING TREE [cross-hatch]
- PAVEMENT REMOVAL [diagonal lines]
- CONSTRUCTION ENTRANCE [hatched rectangle]
- SILT FENCE OR EQ. [SF]
- TREE PROTECTION FENCE [dashed line]
- INLET PROTECTION [square with X]

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

GENERAL NOTES:

- The subsurface utility location information in this plan is utility quality level D. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, titled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." Engineer does not guarantee the accuracy of utility locations or that all existing utilities are shown; Contractor is responsible for locating utilities prior to digging.
- Perimeter sediment controls, tree protection fence and inlet protection shall be installed prior to beginning site disturbance operations.
- Existing conditions depicted are not survey accurate; No site survey has been completed.
- Existing pavement shall be cut full-depth to provide a clean, uniform face for new connection.
- Protect light poles and other existing utilities, signs, trees, etc. Relocation of any private utilities not directed on these plans shall be coordinated with the utility owner. If drain tile is encountered, Engineer shall be notified immediately; reconnection or rerouting will be required.
- Damaged items or property shall be repaired or replaced at Contractor's expense.

DESIGNED: DMP
DRAWN: DMP
CHECKED: KEB

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DAVID M POGGI
DATE: 11-02-2020
LIC. #: 44573

CIVIL METHODS, INC.
1551 Livingston Avenue, Ste. 104
West St. Paul, MN 55118
PH: 763.210.5713 www.civilmethods.com

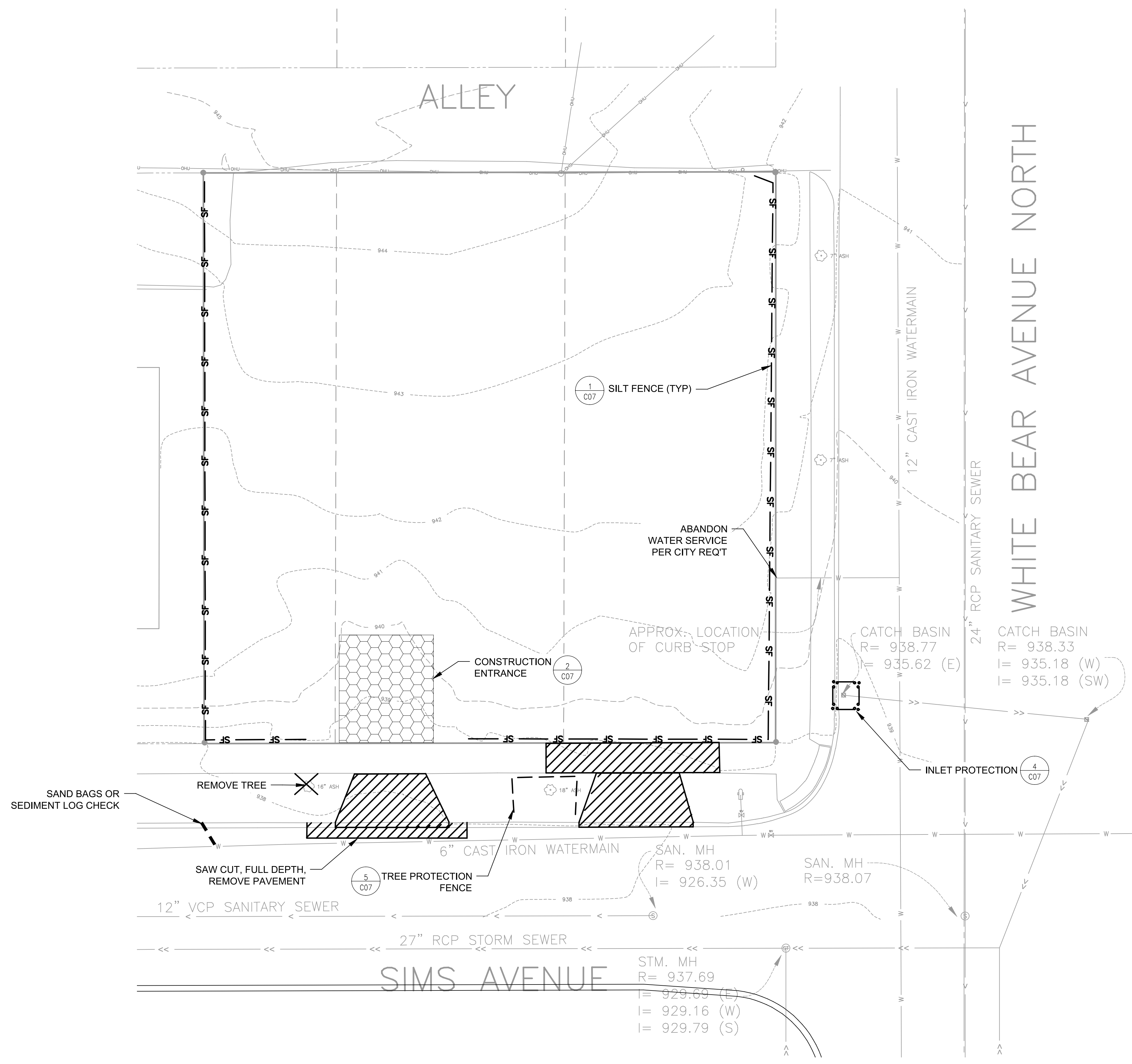
OWNER:

PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

SHEET:
REMOVALS & SEDIMENT CONTROL

SHEET NO.:
C01

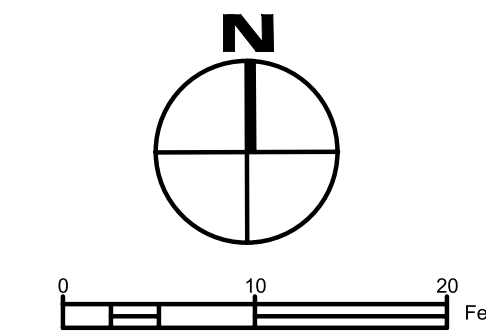


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LEGEND:

- PROPERTY LINE ————
- SETBACK - - - - -
- DECORATIVE FENCE —○—○—○—
- CEDAR FENCE —○—○—○—
- BITUMINOUS SURFACE [Hatched Pattern]
- PAVEMENT PATCH [Diagonal Lines]
- CONCRETE [Stippled Pattern]
- LANDSCAPING [Dotted Pattern]
- TRENCH DRAIN [Double Line]
- TREE [Circle with Cross]
- DETAIL ID [Circle with Number]
- MONUMENT [Circle with Triangle]
- RETAINING WALL [Chain Link Pattern]



BENCHMARK
 TNH: NW INTERSECTION
 ELEV. = 942.05

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
 DRAWN: DMP
 CHECKED: KEB

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DAVID M POGGI
 DATE: 11-02-2020
 LIC. #: 44573

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 West St. Paul, MN 55118
 PH: 763.210.5713 www.civilmethods.com

OWNER:

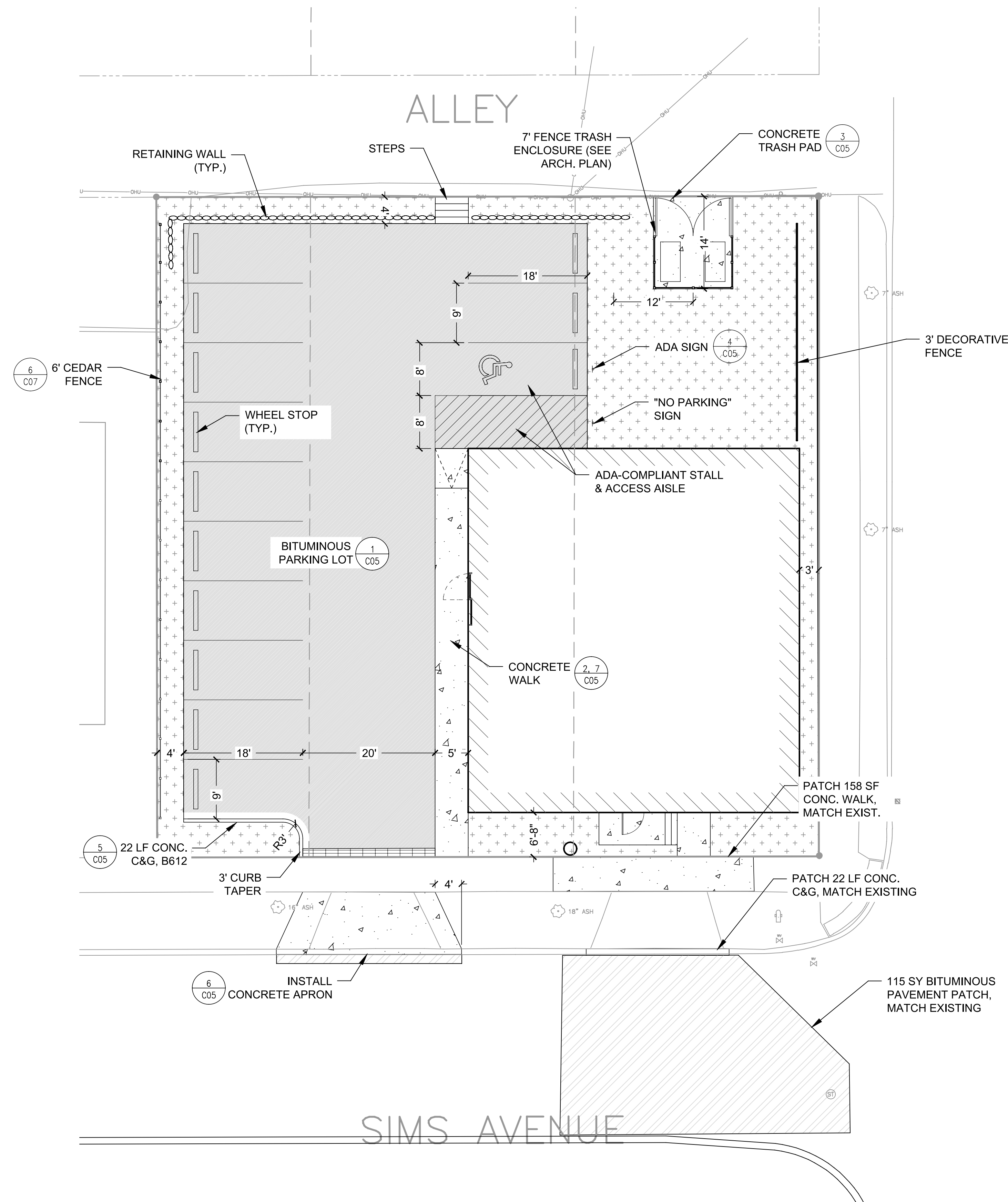
PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

SHEET:
SITE LAYOUT & GEOMETRICS

SHEET NO.:
C02

WHITE BEAR AVENUE NORTH



GENERAL NOTES:

- The subsurface utility location information in this plan is utility quality level D. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, titled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." Engineer does not guarantee the accuracy of utility locations or that all existing utilities are shown.
- Contractor is responsible for locating utilities prior to digging; topographic survey completed by others.
- Protect light poles and other existing utilities, signs, trees, etc. Relocation of any private utilities not directed on these plans shall be coordinated with the utility owner.
- Damaged items or property shall be repaired or replaced at Contractor's expense.
- Contractor is responsible to ensure all required permits have been obtained.
- Dimensions are to edge of pavement or face of curb unless noted otherwise.
- Field verify walk, slab and wall elevations; coordinate with architectural drawings.
- Accessible stall and striped access aisle shall be 2% grade max. in any direction.
- ADA compliant curb ramp shall be installed; ramp and flares shall be no steeper than 1" per foot.
- Wheel stops (6' x 6" x 4" high, min.) shall be positioned and mounted at the end of each stall.
- Sediment shall be kept from leaving the site. Use sediment control logs at downstream ends of disturbance operations; any stockpiles shall be surrounded.
- Adjacent streets and alleys must be monitored for sediment and swept to keep clean. Must be swept within 24 hours of notice by the City.
- See Sheet C01 for additional sediment controls and Sheet L01 for landscaping plan details.

AGGREGATE BASE:

- Mn/DOT specification 2211 shall apply to the Class 5 aggregate base construction.
- Subgrade preparation is incidental to aggregate base construction and shall be approved by Geotechnical Engineer prior to placement of aggregate.
- The depth and class of aggregate base to be constructed shall be as shown on the plans. Aggregate base construction shall take place only after the subgrade condition and grade has been examined by the geotechnical engineer.
- Aggregate shall be placed in lifts no greater than 4". Each layer of base course shall be wetted and rolled to achieve maximum compaction per Mn/DOT Quality Compaction Methods.
- Contractor shall perform test roll by driving a fully loaded tandem truck over the aggregate and areas that deflect shall be reworked.

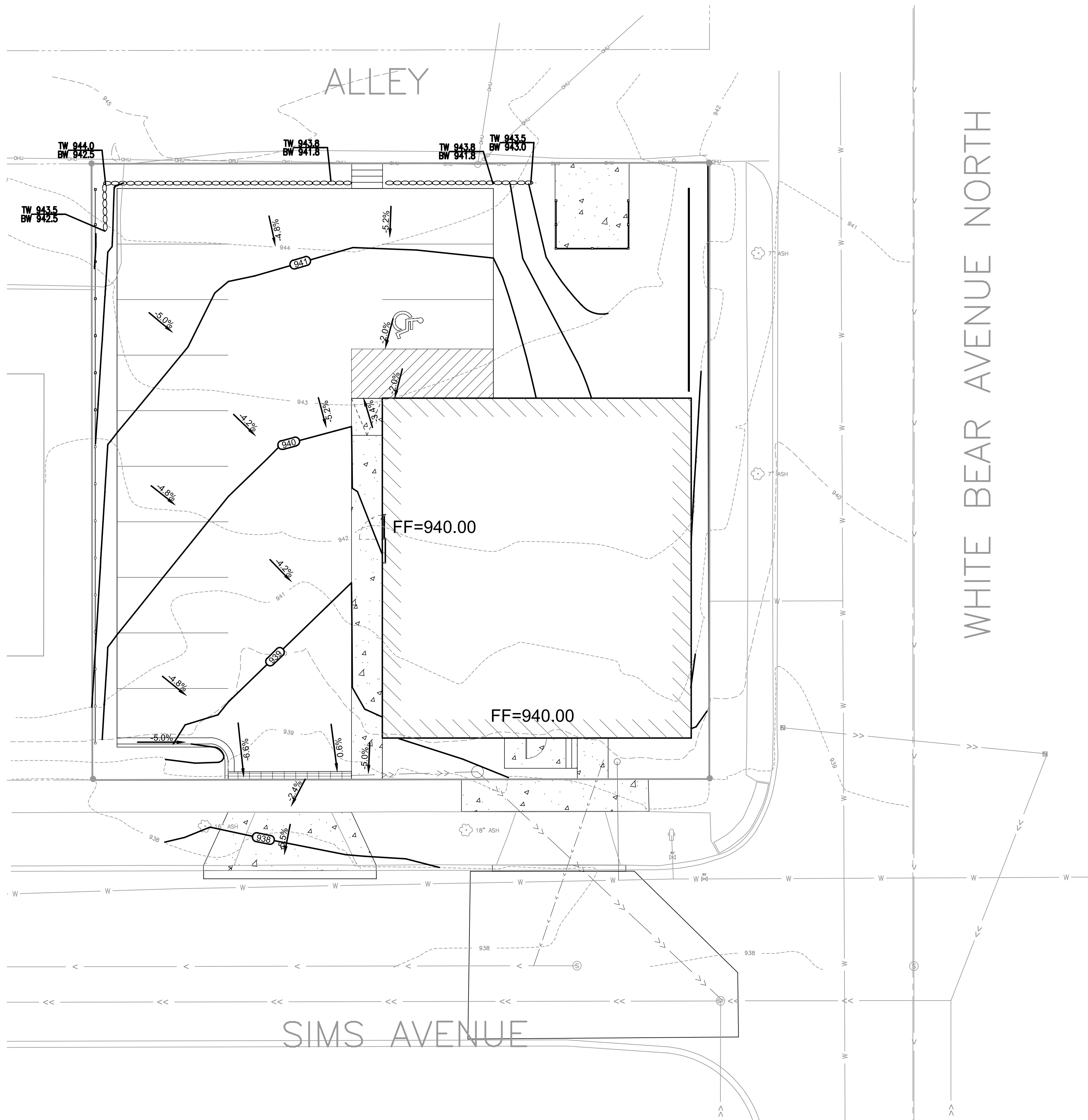
BITUMINOUS HOT MIX ASPHALT:

- Bituminous pavement shall be of type and depth indicated in the details, meeting all material and installation requirements of Mn/DOT Specification Section 2360.
- Bituminous street patch shall be completed by City Public Works Staff, as required.
- Test results and/or certificates of compliance shall be submitted for verification of mineral aggregates, gradation, aggregate quality, mix design, asphalt material, and tack coat.
- The bituminous surfacing shall be prepared, handled, and constructed per Mn/DOT 2360, with a maximum deviation of plus or minus 1/4 inch from the planned compacted thickness.
- The bituminous material for tack coat shall be CSS-1, CSS-1h, CRS-1, or CRS-2 meeting requirements of Mn/DOT 2357.
- When connecting to old bituminous pavement, a clean, straight, vertical edge will be provided by saw-cutting full depth through the existing pavement. New bituminous pavement shall match grade of existing pavement, with no noticeable difference in elevation at joint. Contractor responsible for continuous, smooth pavement transition from existing street.
- The contact surfaces of all fixed structures, new curb face, the edge of the in-place mixture in all courses at transverse joints, and the wearing course at longitudinal joints shall be given a uniform coating of Liquid Asphalt or Emulsified Asphalt tackifier before placing the adjoining mixture. The bituminous material shall be applied at a rate of 0.05 Gal/SY and by methods that will ensure uniform coating and in no case shall the application be excessive. The contractor shall thoroughly clean all hard surfaces immediately before applying tack material.
- Compaction of all asphalt mixtures shall be by the Ordinary Compaction Method (2360).
- Pavement markings shall be per Mn/DOT 2582 with epoxy resin (3590); verify color with Owner.

CONCRETE CURBING, WALKS, & CAST IN PLACE SLABS:

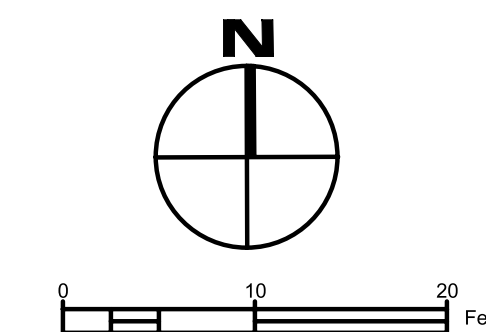
- Mn/DOT Specification Section 2521 & 2531 shall apply to ready-mixed concrete pavement materials, construction, curing, and quality control for walks and curb & gutter construction.
- The concrete mix (2461) to be used for walks and manual curb placement shall be 3F52 (2521,2531).
- Contraction joints shall be at a depth of 1/4 of the concrete thickness and spaced no more than 5' in walks and 12' in any patio panel dimension. Panels shall maintain L-W ratio of 1.25:1 or less.
- Concrete work in right-of-way shall be completed by City Public Works Staff, as required.
- Isolation/expansion joint (1/2") shall be provided at end of curb return and against old concrete, etc.; joints shall be filled with preformed joint filler material (3702).
- Contractor shall provide a smooth radius curb return.
- When tapering is necessary, taper shall be from curb height to zero height in no less than 3.0 feet (UNO).
- All concrete shall be coated with white pigmented curing compound immediately after finishing is complete in accordance with Mn/DOT 3754, meeting ASTM C309, Type 2.
- Testing per Owner requirements.
- Minimum 6" depth of Class 5 (3138) aggregate base shall be furnished under all concrete. All base material shall be compacted to 100% Standard Proctor upon the prepared subgrade.
- Base course shall be moist, but not saturated during concrete placement. Apply water not less than 6 hours before placement; if base dries, sprinkle water to moisten to avoid pools.
- Slab design & installation reference: "ACI Manual of Concrete Practices" (latest addition).
- Slab materials:
 - Minimum concrete strength at 28 days for concrete slab to be 4,000 PSI.
 - Furnish 5-7% air entraining agent for all concrete.
 - Reinforcing steel to be deformed bars- ASTM A615, Grade 60.

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LEGEND:

- PROPERTY LINE ———
- SETBACK ———
- EASEMENT - - - - -
- WETLAND — WET —
- CONTOUR ———
- SPOT ELEVATION ———
- DRAINAGE DIRECTION ———
- STORM SEWER / CULVERT ———
- TRENCH DRAIN ———
- RETAINING WALL ———



BENCHMARK
 TNH: NW INTERSECTION
 ELEV. = 942.05

SITE GRADING NOTES:

1. The subsurface utility location information in this plan is utility quality level D. This utility quality level was determined according to the guidelines of C/ASCE 38-02, titled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data." Engineer does not guarantee the accuracy of utility locations or that all existing utilities are shown.
2. Unless otherwise noted, all proposed grades shown are finished grades.
3. At locations where new work connects to existing work, field verify existing elevations and grades prior to beginning the new work. Match existing grades at construction limits.
4. Topsoil from grading areas (if available) shall be stripped, salvaged and stockpiled; subcut below final grade for placement of a minimum of 4" topsoil.
5. Boulevard areas shall be restored with 4" topsoil.
6. The site earthwork is not necessarily balanced; excess material shall be disposed of by contractor.
7. Maximum slopes shall be 3:1 (H:V) in mowed grass areas or 2:1 in planted/natural areas.

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
 DRAWN: DMP
 CHECKED: KEB

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DAVID M POGGI
 DATE: 11-02-2020
 LIC. #: 44573

CIVIL METHODS, INC.
 1551 Livingston Avenue, Ste. 104
 West St. Paul, MN 55118
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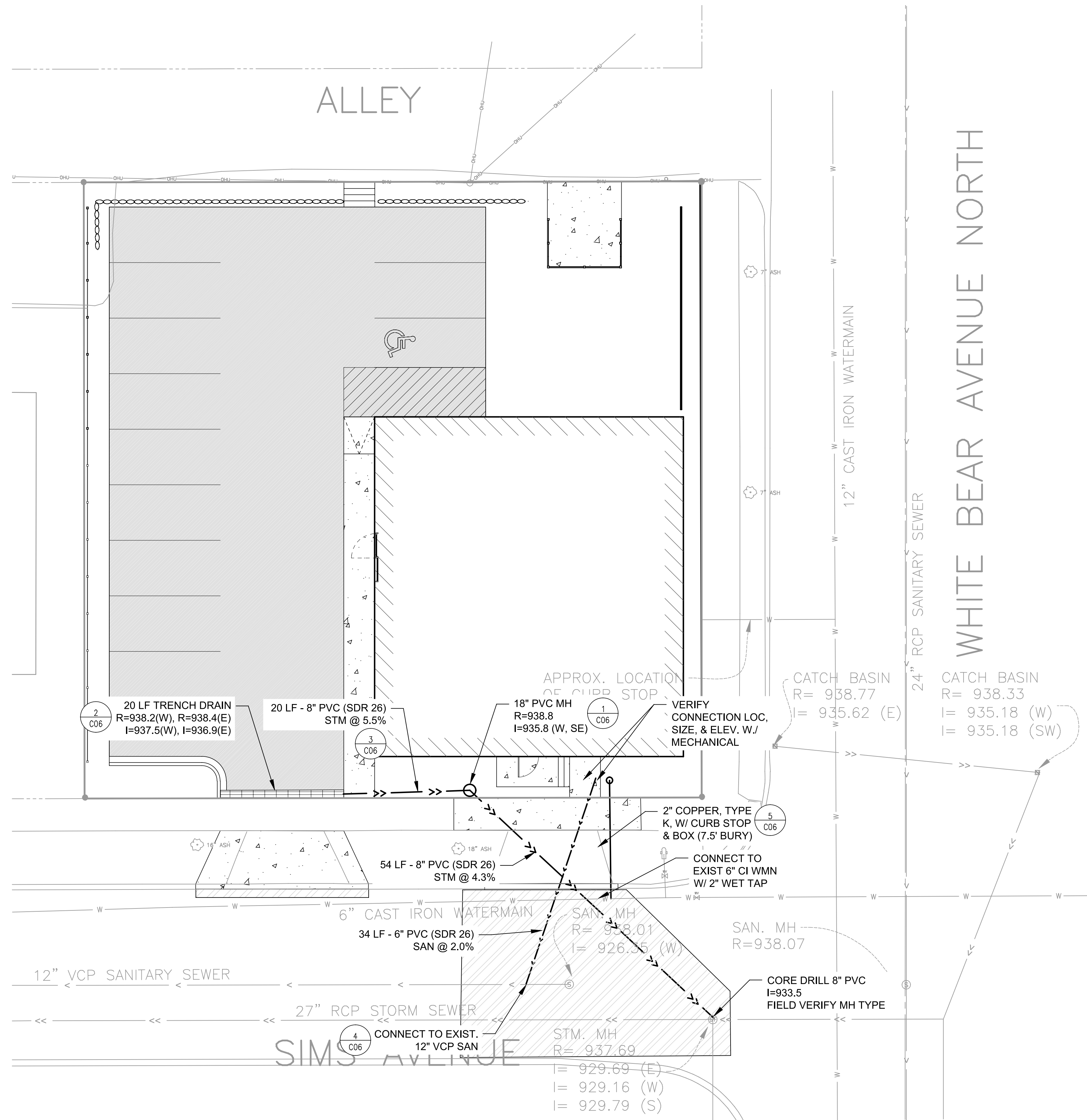
OWNER:

PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

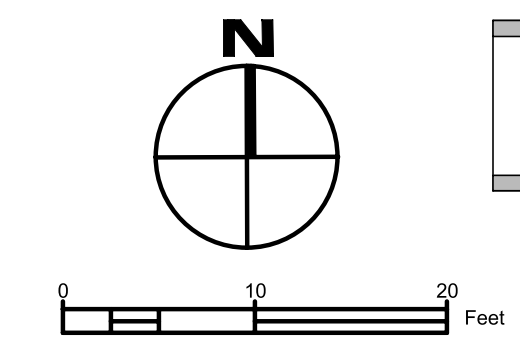
SHEET:
GRADING PLAN

SHEET NO.:
C03



LEGEND:

PROPERTY LINE	---
STORM SEWER	--->>---
SANITARY SEWER	--->---
WATER	--- ---
TRENCH DRAIN	▬▬▬▬▬▬
BITUMINOUS PAVEMENT PATCH	▨▨▨▨▨▨
PROPOSED CONCRETE / WALK PATCH	▣▣▣▣▣▣



BENCHMARK
 TNH: NW INTERSECTION
 ELEV. = 942.05

TRENCH EXCAVATION, BEDDING & BACKFILL:

- Trench excavations shall be in accordance with the requirements of CEAM Standard Specifications Section 2600.3B.
- Granular Bedding and Granular Encasement - Bedding and granular encasement materials used in the pipe zone area (4" below the pipe to 12" over the pipe) shall conform to Mn/DOT 3149.2F.
- Backfill material shall consist of soil from trench; in the case of unsuitable material, backfill shall consist of Mn/DOT 3149.D1.
- Bedding and encasement shall be compacted to 90% Standard Proctor using Specified Density Method, or as recommended by manufacturer, whichever is denser.
- Backfill shall be compacted in 12" lifts to Specified Density Method:
 - 100% Standard Proctor from subgrade elevation down 3 feet.
 - 95% Standard Proctor from bottom of excavation up to 3 feet below.
- Backfill material around all manholes, catch basins, valve boxes, curb boxes, and hydrants shall be compacted with hand-machines. The maximum lift thickness shall be 6 inches.

SANITARY SEWER SYSTEM:

- If existing pipe is VCP, connection of the new PVC pipe will require saddle & concrete (see detail).
- Sanitary sewer pipe and fittings shall consist of solid-wall PVC SDR 26 / Sch 40 with joints of elastomeric or solvent cement as recommended by the manufacturer for water-tight connection. Sanitary service lateral shall be installed at a minimum grade of 2.0%.
- When connecting to existing lines, Contractor shall field verify location, elevation, type and size of existing material to ensure a proper connection. Notify engineer if differs from plan.
- All water / material must be kept out of the bell of the pipe until the joint is completed.
- Extend pipe to 5' of building wall; coordinate location & elevation with building contractor / mechanical drawings.
- Sanitary stub end to be plugged until building connection made.
- Pipes shall be inspected and tested per City standards.

WATER DISTRIBUTION SYSTEM:

- Water service connection to be made with 2" stainless steel saddle (Smith-Blair 372 or equal) and corporation stop (AY McDonald 74701B or equal).
- Service pipe shall be copper, Type K, or approved equal.
- Pipe bends, tees, plugs, etc., shall contain concrete thrust blocks or approved equal. Thrust blocks shall be cast in place or solid blocks placed between the appurtenance and the undisturbed trench wall; fill all voids with mortar or concrete.
- Pipes shall not be placed directly on sandstone bedrock, if encountered. Trench shall be over-excavated a minimum of 6" and filled with compacted granular/sand bedding.
- A minimum of 8.0 feet of cover shall be provided over all water main and service pipe; maintain 18" separation (min.) at crossings. If water service crosses sanitary or storm sewer with less than 18" separation, then 4" polystyrene insulation shall be installed between pipes, extending 5' each side. Watermain installation shall be in accordance with CEAM Standard Specifications.
- Extend pipe to 5' of building wall; coordinate location with building contractor / mechanical drawings.
- Water stub ends to be capped and staked until future phase or building connection made.

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
 DRAWN: DMP
 CHECKED: KEB

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DAVID M POGGI
 DATE: 11-02-2020
 LIC. #: 44573

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 1551 Livingston Avenue, Ste. 104
 West St. Paul, MN 55118
 PH: 763.210.5713 www.civilmethods.com

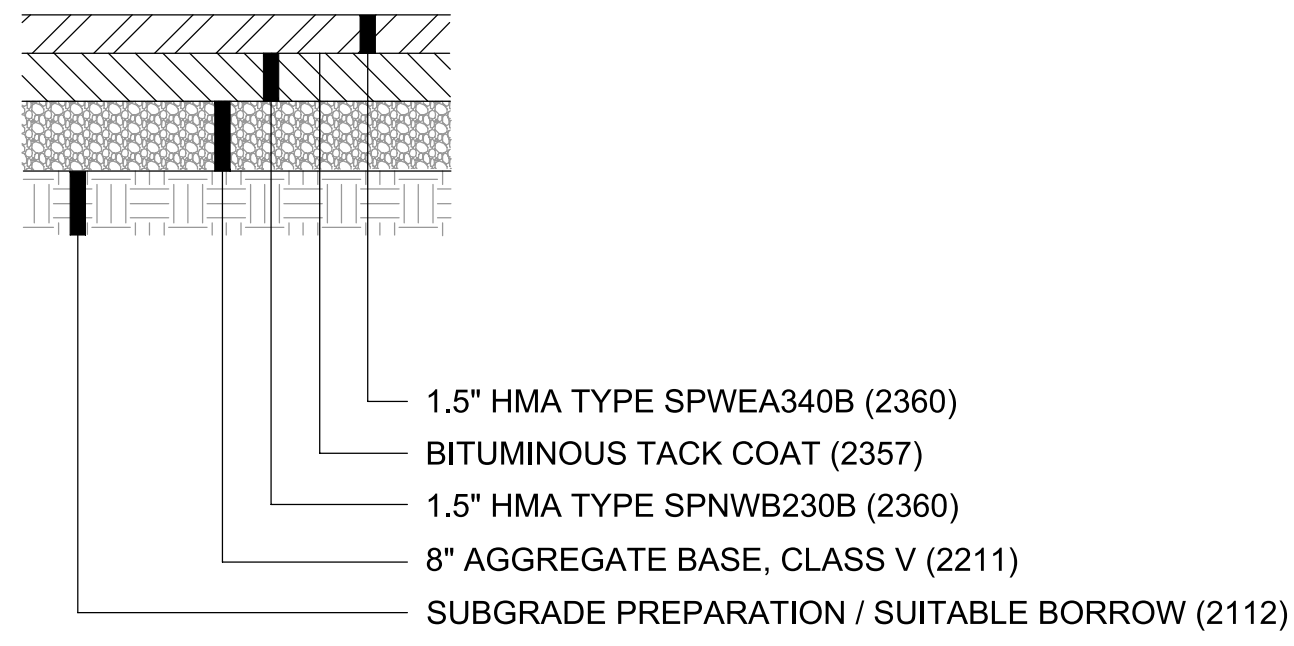
OWNER:

PROJECT:
EASTSIDE FAMILY LAUNDROMAT

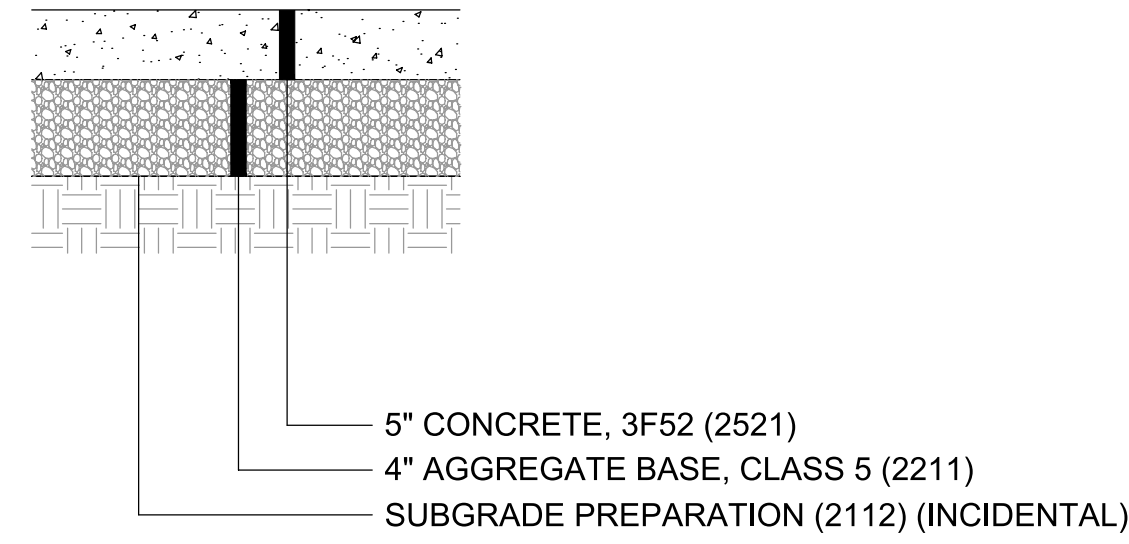
ST. PAUL, MN

SHEET:
UTILITY PLAN

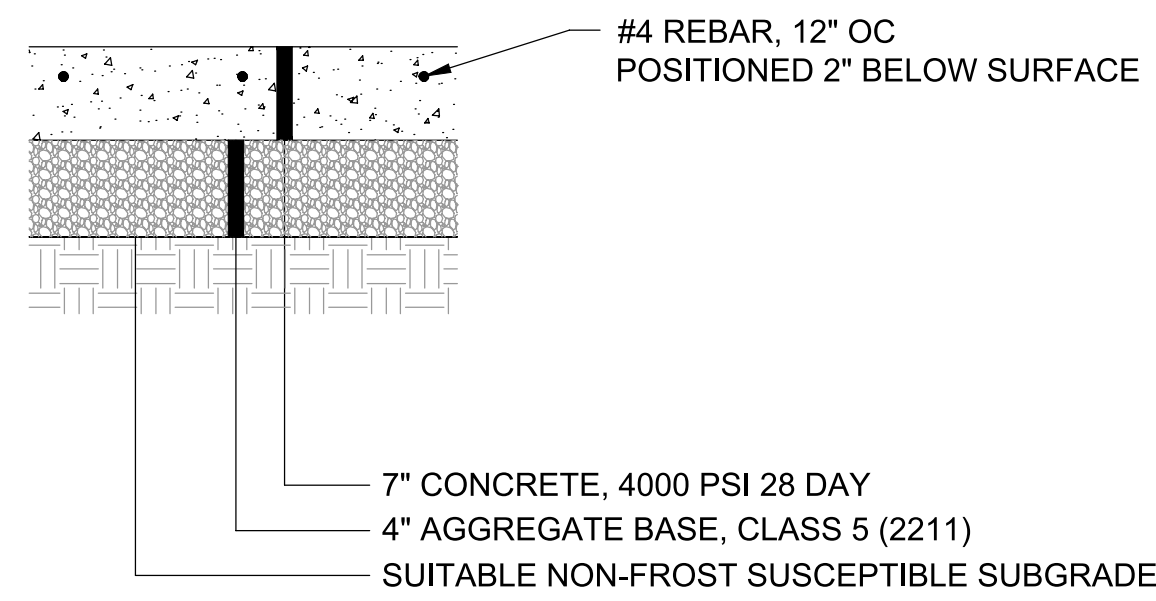
SHEET NO.:
C04



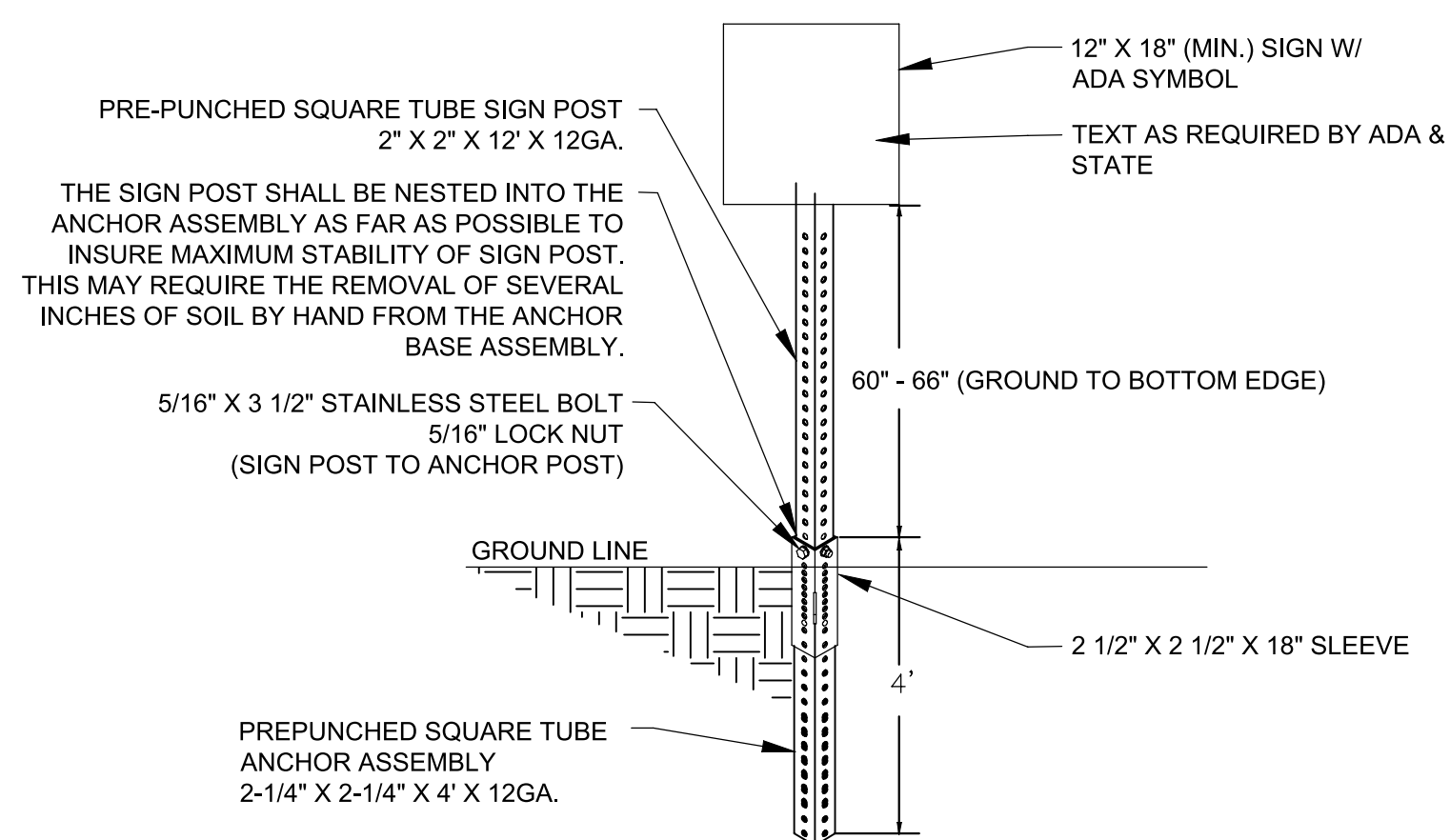
1 ASPHALT PAVEMENT SECTION



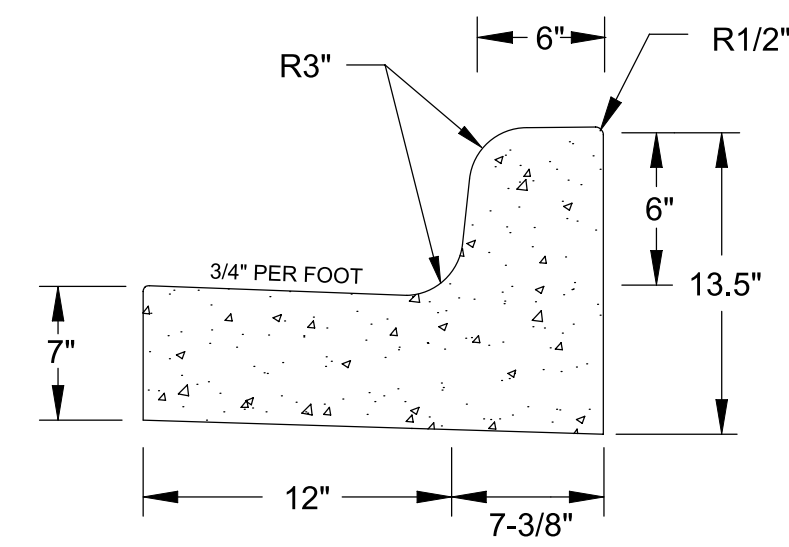
2 CONCRETE WALK



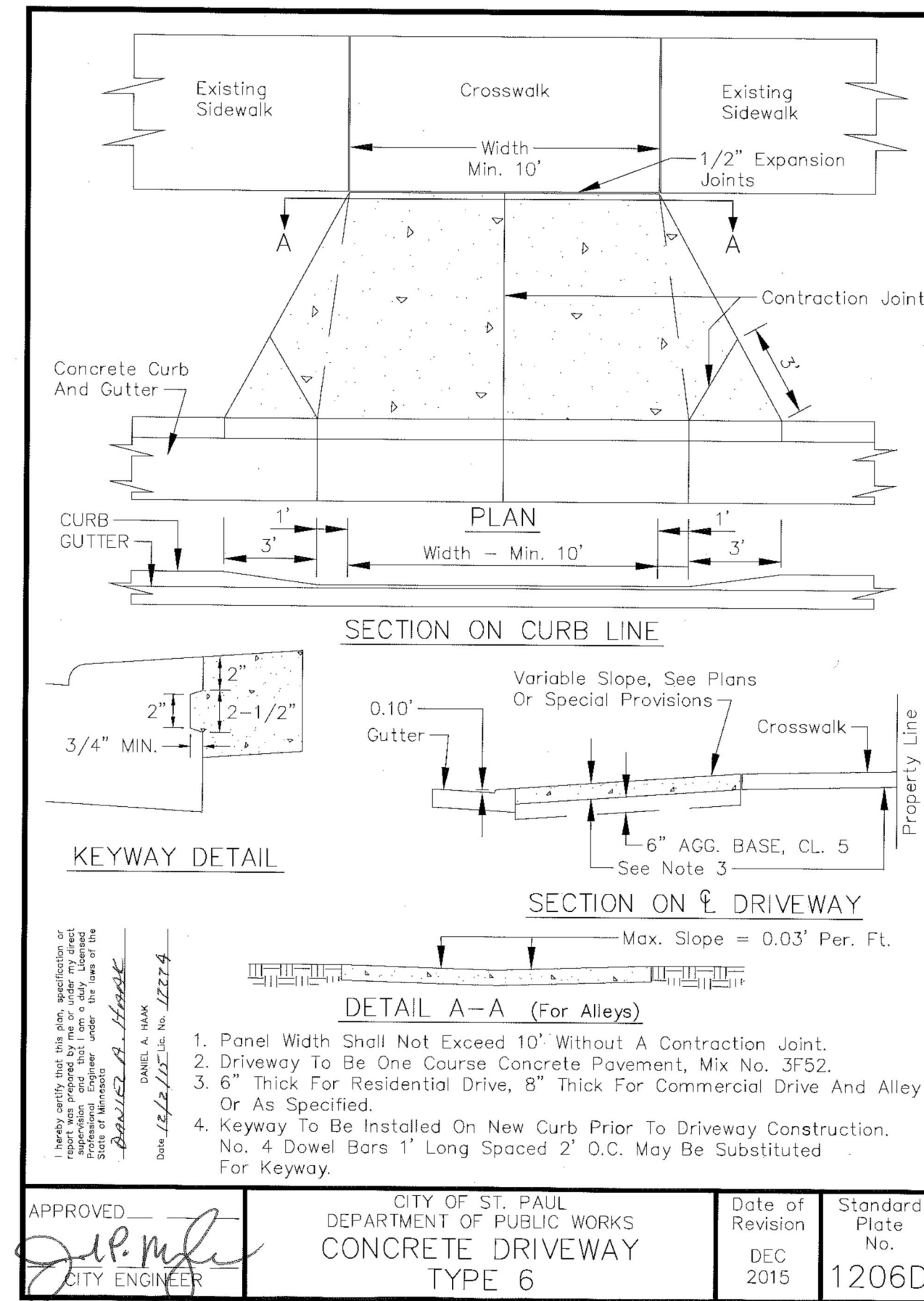
3 CONCRETE SLAB - GARBAGE



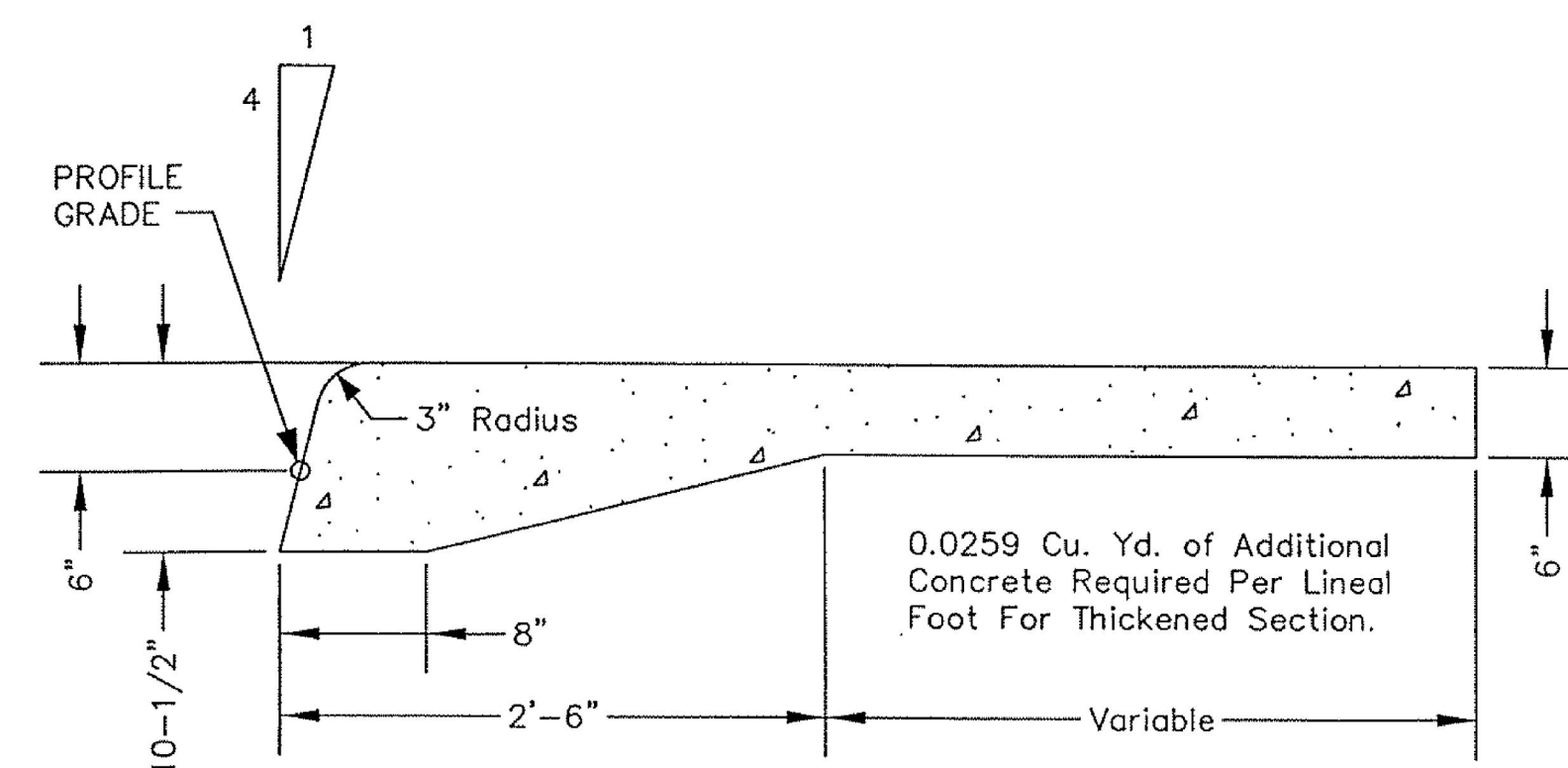
4 ADA HANDICAP SIGN & POST



5 CONCRETE CURB & GUTTER, B612



6 CONCRETE DRIVEWAY APRON



7 CONCRETE WALK WITH INTEGRAL CURB

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
DRAWN: DMP
CHECKED: KEB

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DAVID M POGGI
DATE: 11-02-2020
LIC. #: 44573

CIVIL METHODS, INC.
1551 Livingston Avenue, Ste. 104
West St. Paul, MN 55118
PH: 763.210.5713 www.civilmethods.com

OWNER:

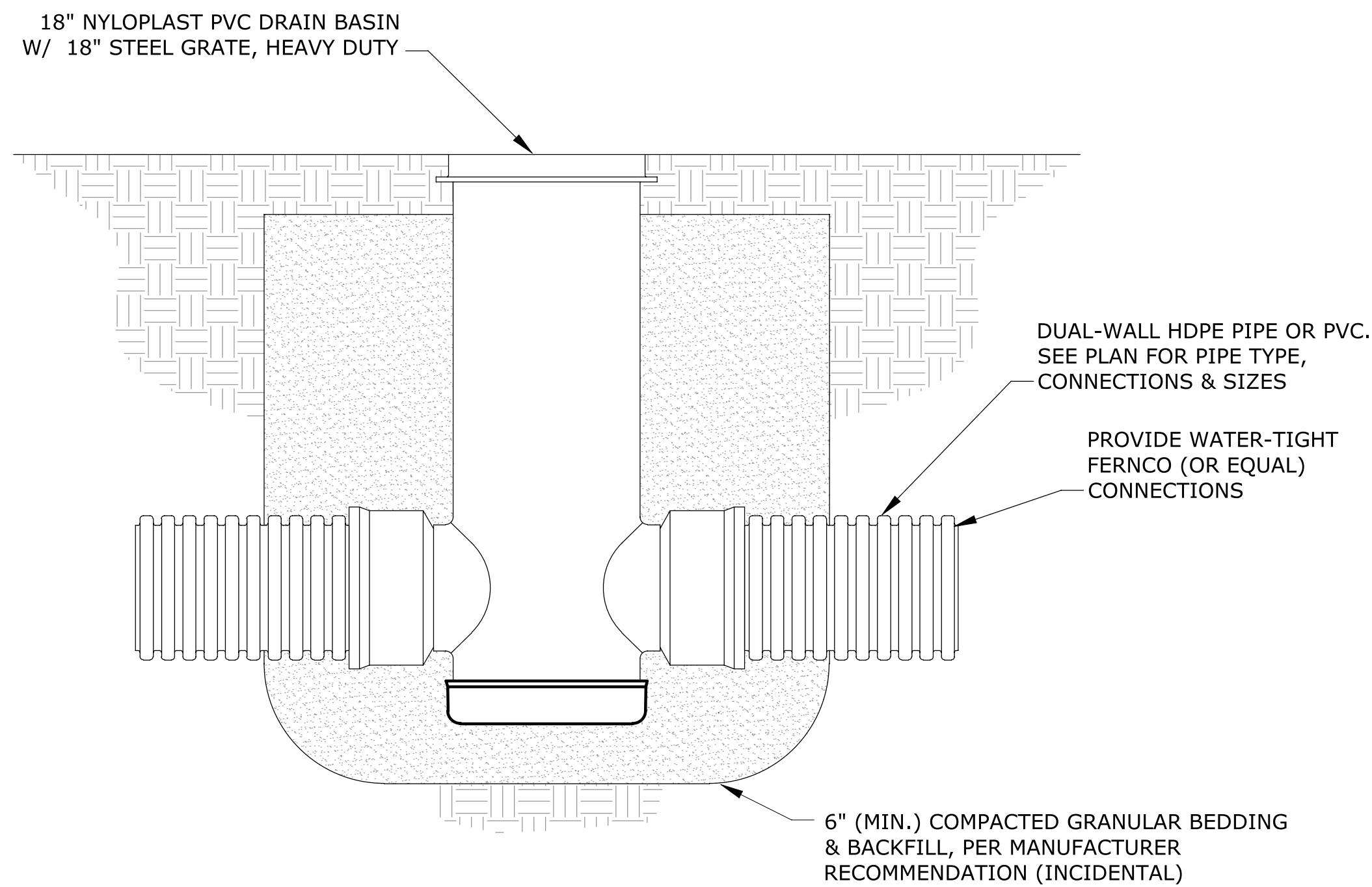
PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

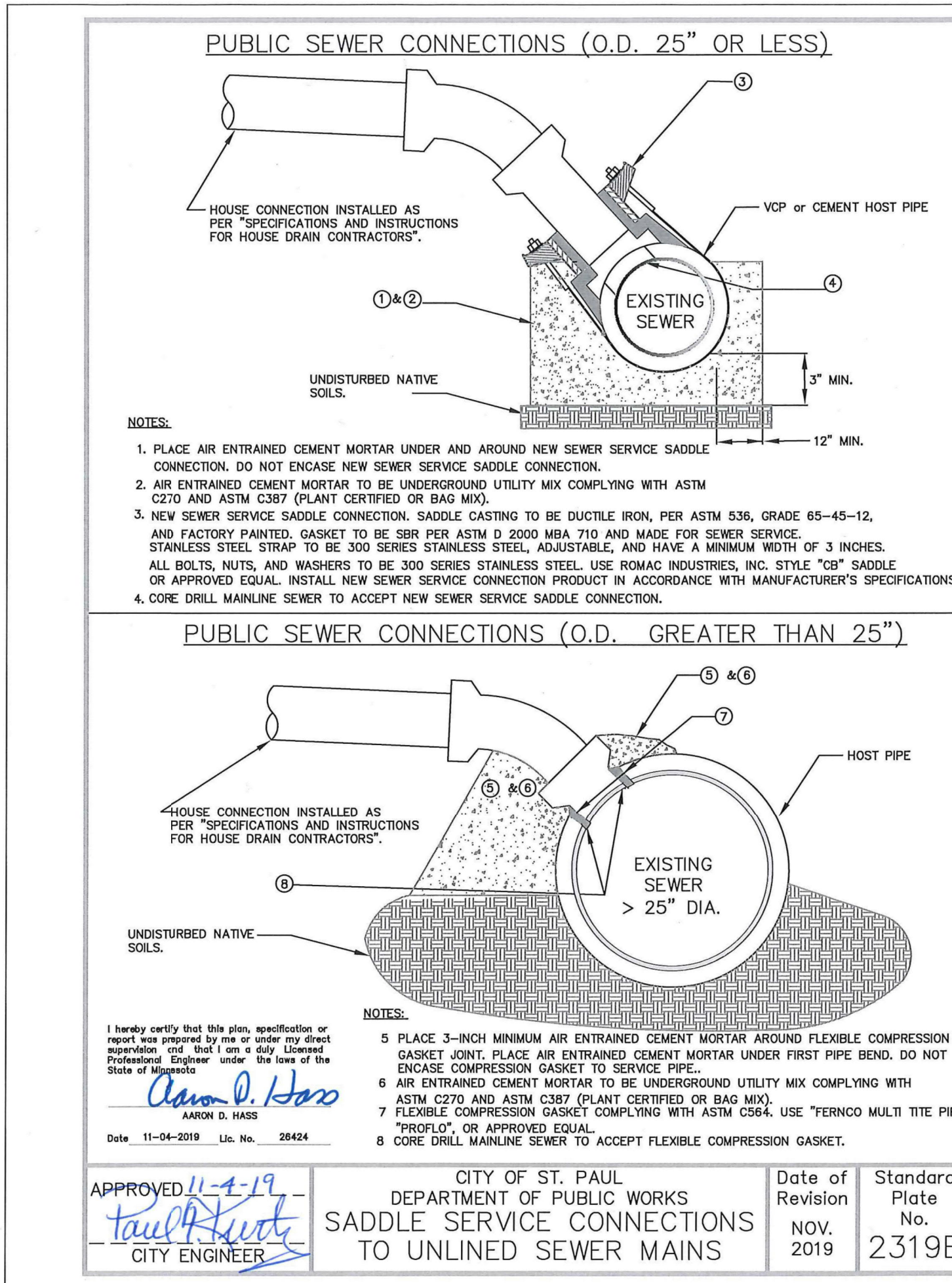
SHEET:
DETAILS

SHEET NO.:
C05

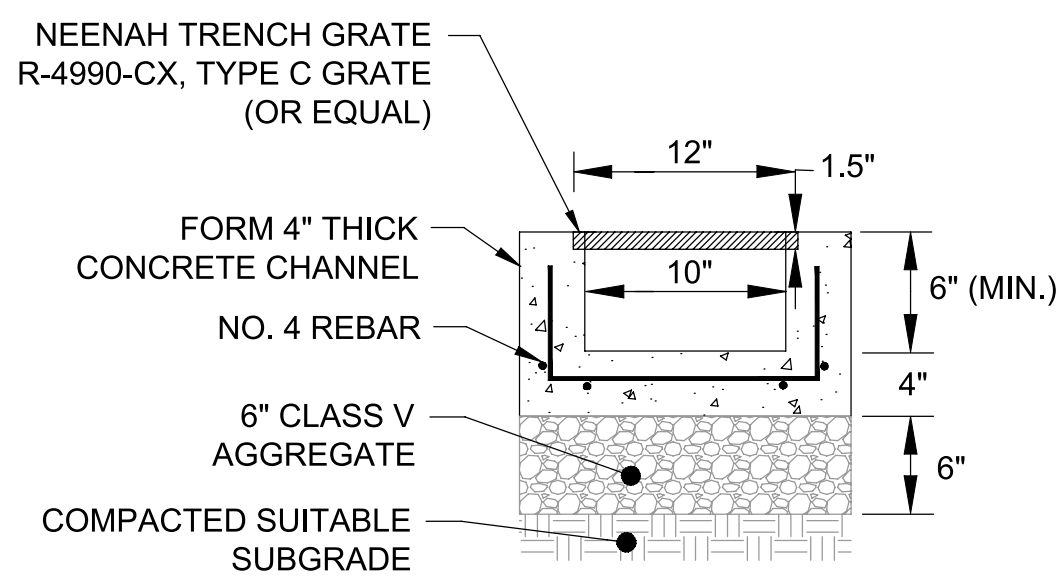
NOTE: DETAILS ARE NOT TO SCALE



1 PVC DRAINAGE BASIN, NON-TRAFFIC

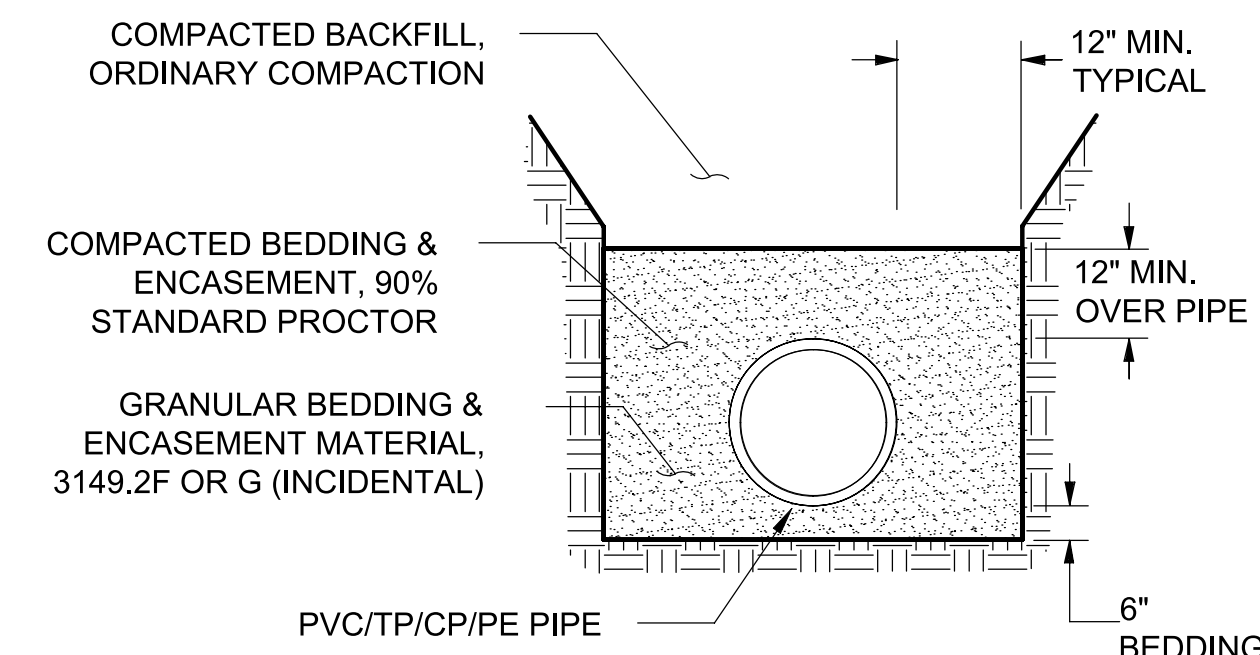


4 SANITARY SERVICE CONNECTION

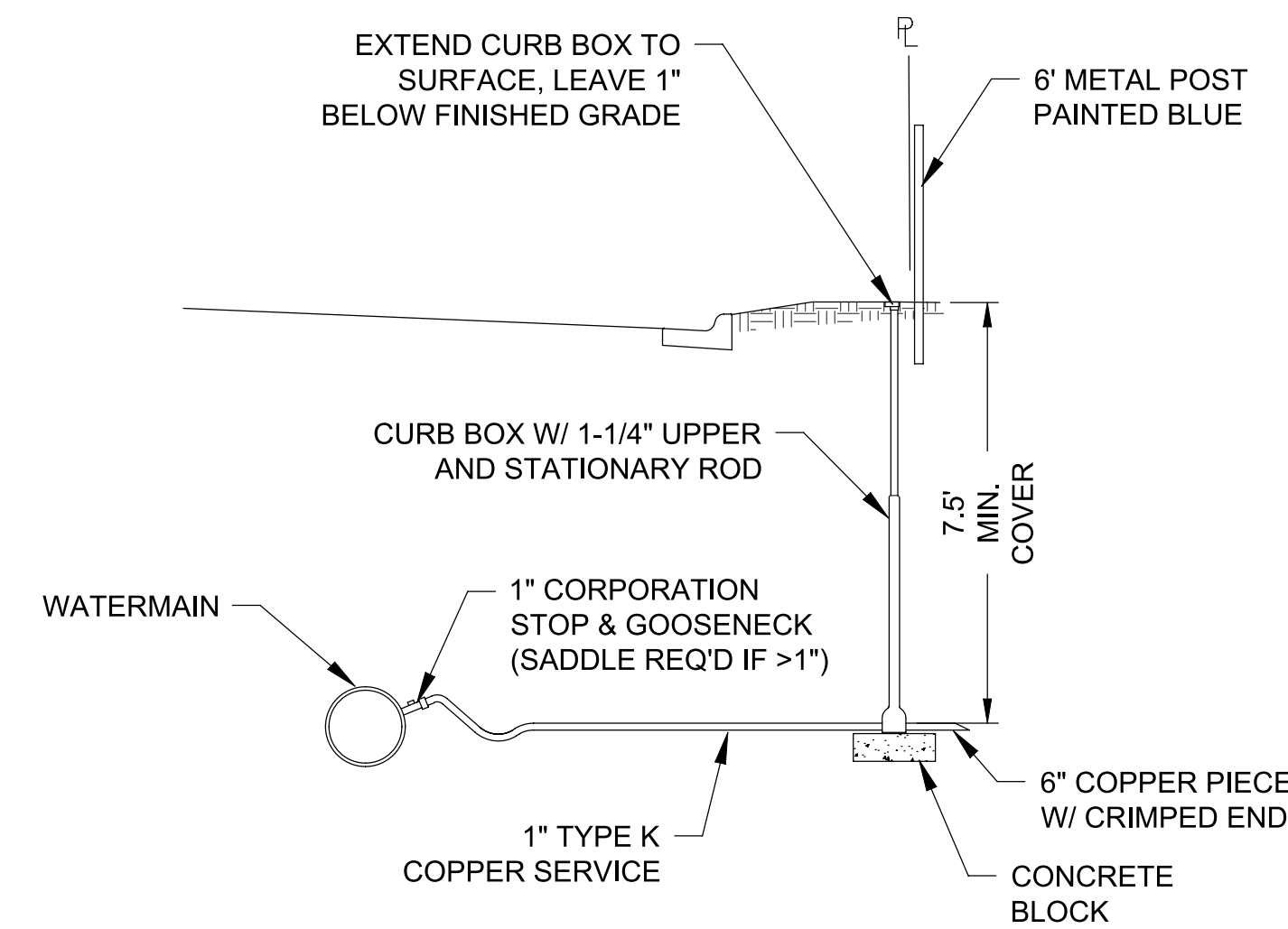


- NOTES:
1. CONCRETE CHANNEL TO BE MIX 3F52 (2461) WITH 50% OF COARSE AGGREGATE TO BE CLASS A (3137).
 2. PLACE AND QUALITY COMPACT CLASS 5 AGGREGATE MATERIAL. (2211)
 3. SUITABLE MATERIAL SHALL BE SANDY, SILTY SAND, OR LOW-PLASTICITY CLAY SOILS WITH NO ORGANIC CONTENT.

2 TRENCH DRAIN, CONCRETE



3 PIPE TRENCH - FLEXIBLE & DIP



- NOTES:
1. CURB STOP AND BOX SHALL BE MINNEAPOLIS STYLE THREADED.
 2. CURB BOX SHALL EXTEND FROM 78° TO 90°.
 3. WHEN CURB BOX FALLS IN DRIVEWAY, CONTRACTOR SHALL INSTALL FORD A-1 CASTING W/ LID MARKED "WATER".
 4. COPPER SERVICE PIPE SHALL BE ONE CONTINUOUS PIECE OF COPPER TO CURB BOX.
 5. SERVICE TAPPING SADDLE IS REQUIRED FOR LARGER THAN 1" SERVICE. SADDLE SHALL BE STAINLESS STEEL WRAP-AROUND STYLE SMITH-BLAIR TYPE 372 OR APPROVED EQUAL.

5 WATER SERVICE CONNECTION

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
 DRAWN: DMP
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CIVIL METHODS, INC.
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OWNER:

PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

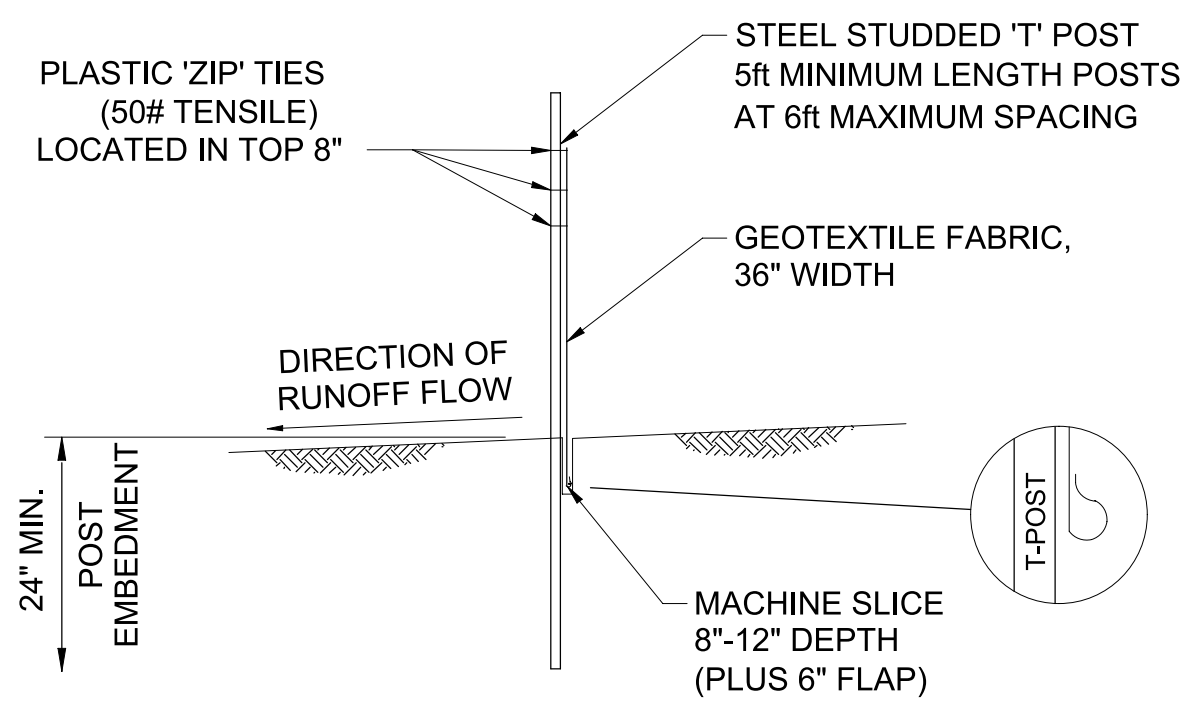
SHEET:

DETAILS

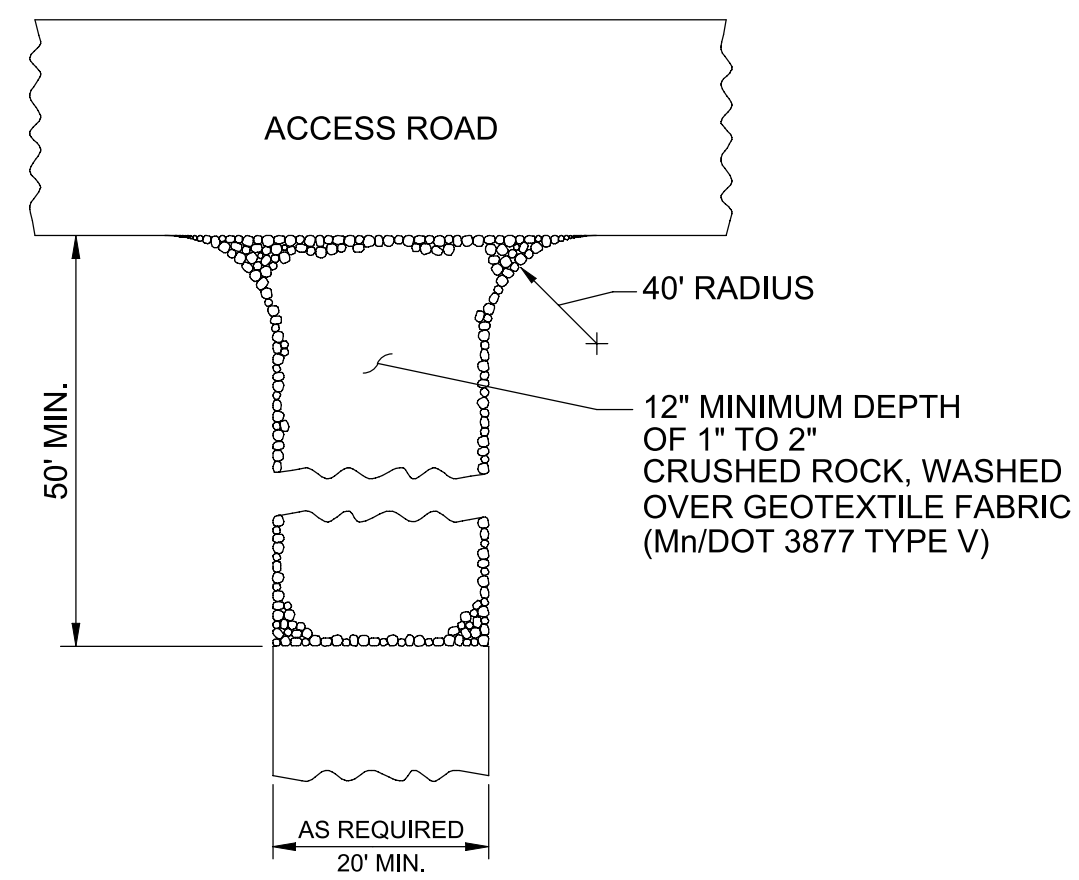
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C06

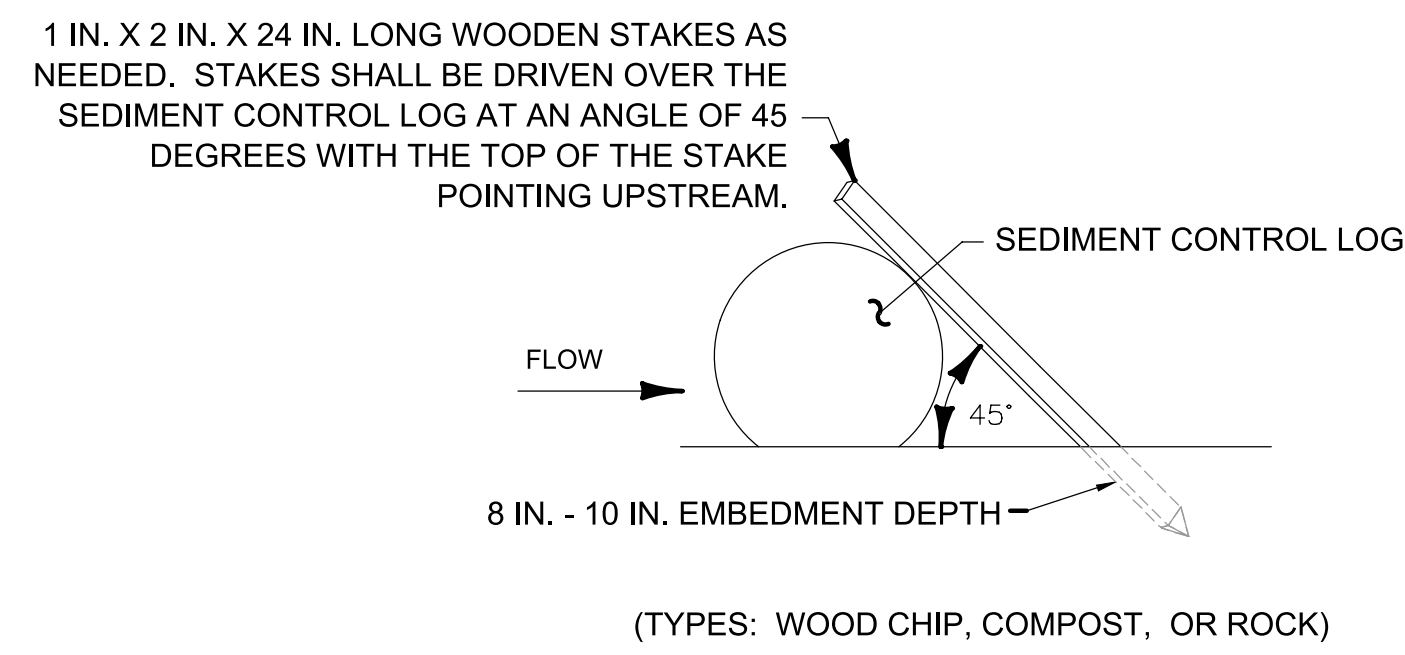
NOTE: DETAILS ARE NOT TO SCALE



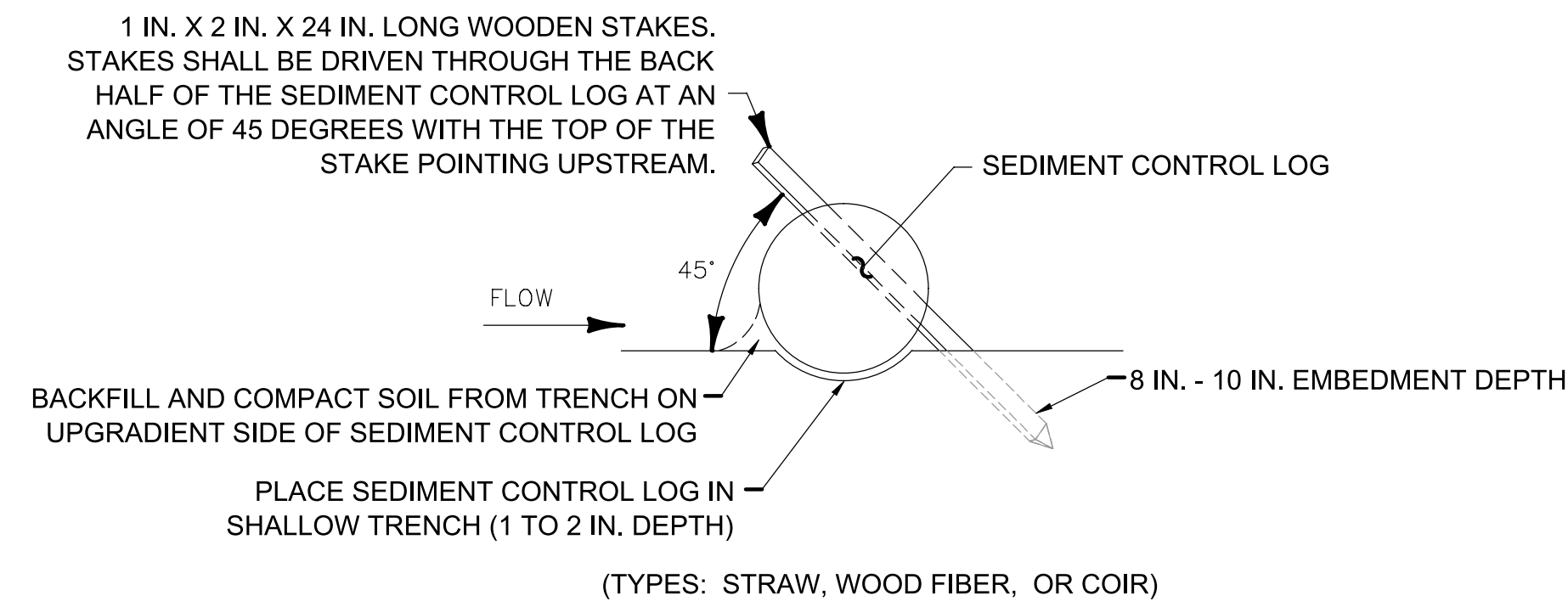
1 SILT FENCE - MACHINE SLICED



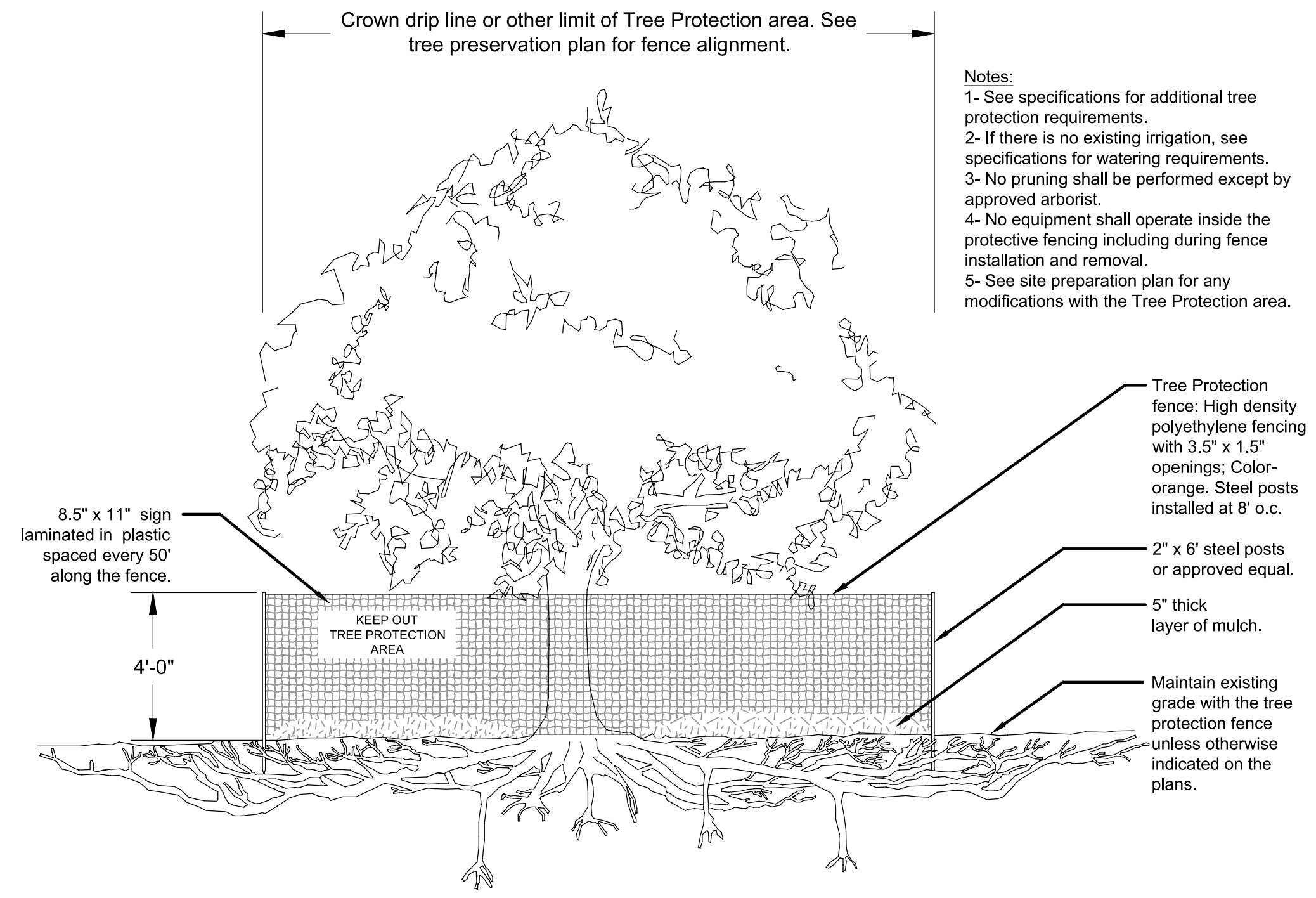
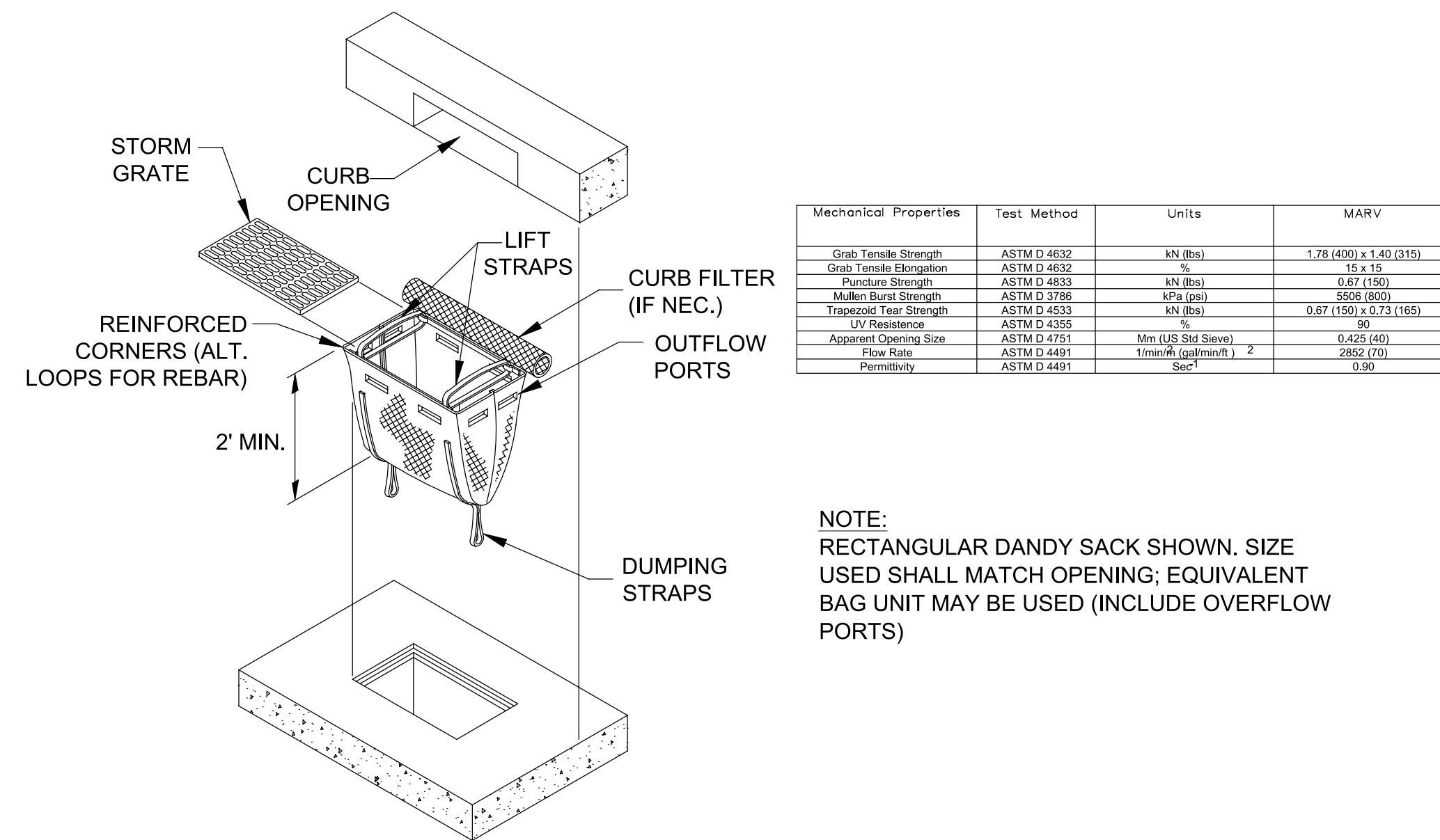
2 ROCK CONSTRUCTION ENTRANCE



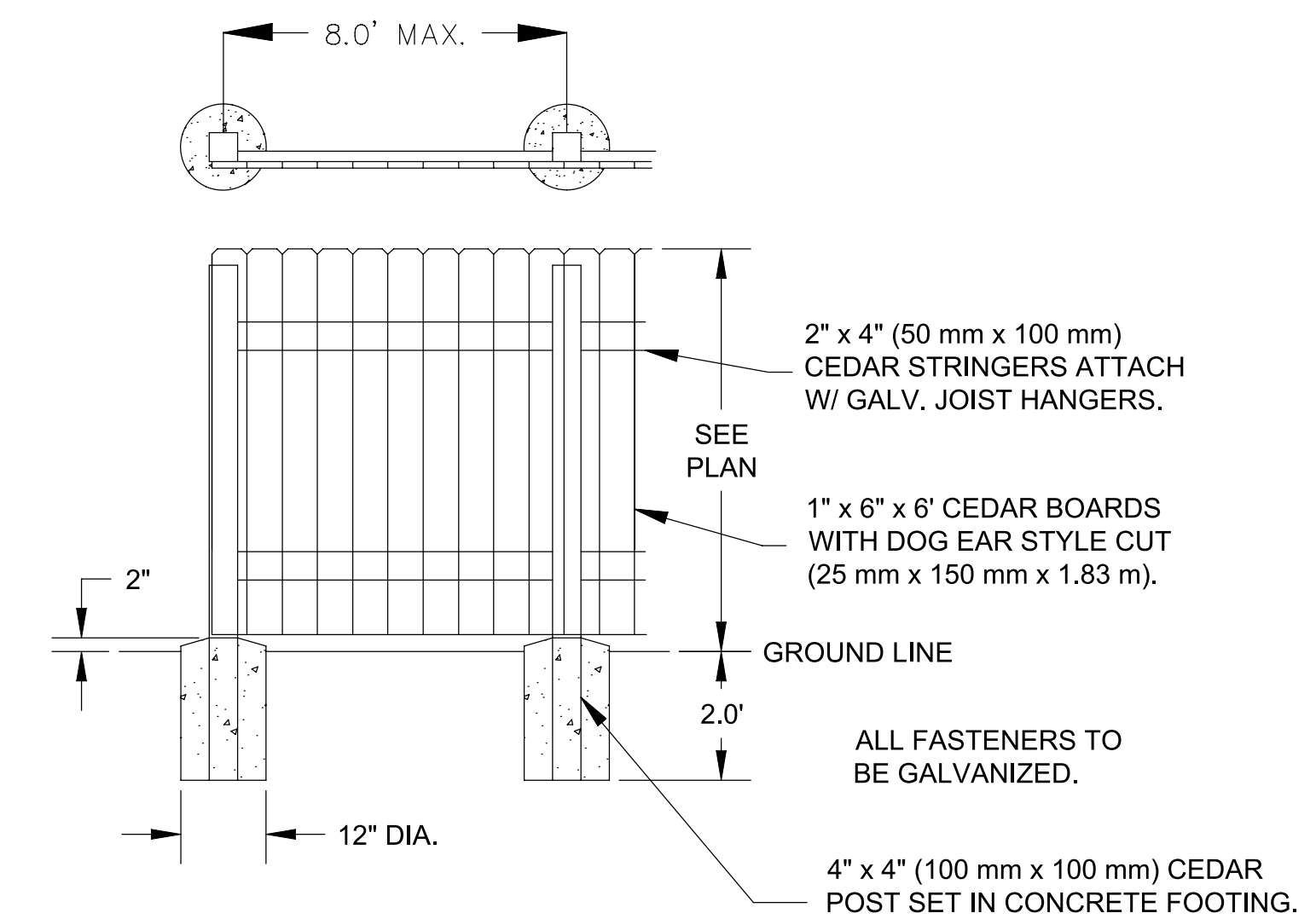
3 SEDIMENT CONTROL LOGS



4 INLET PROTECTION - SEDIMENT SACK



5 TREE PROTECTION FENCING



6 CEDAR FENCE DETAIL

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
2	PRICING SET	11/2/2020

DESIGNED: DMP
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DAVID M POGGI
DATE: 11-02-2020
LIC. #: 44573

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West St. Paul, MN 55118
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OWNER:

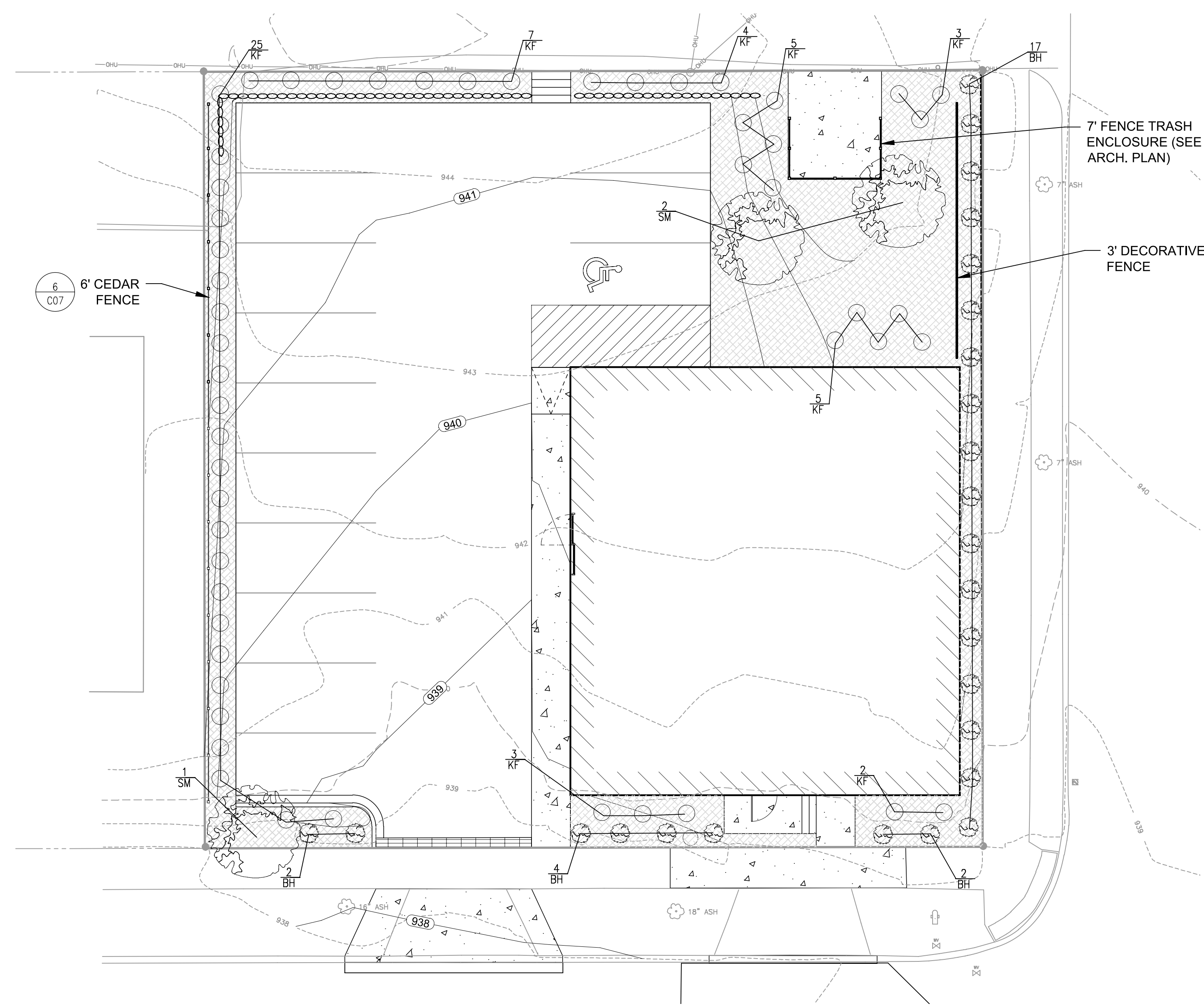
PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

SHEET:
DETAILS

SHEET NO.:
C07

NOTE: DETAILS ARE NOT TO SCALE



LANDSCAPING SUMMARY:
 ZONE: B2 - BUSINESS
 1 SHADE TREE PER 5 PARKING STALLS
 REQUIRED: 13 / 5 = 2.6 TREES
 PROVIDED: 3 TREES

N

BENCHMARK
TNH: NW INTERSECTION
ELEV. = 942.05

811
Know what's below.
Call before you dig.

PLANT SCHEDULE

TREES					
KEY	QTY	COMMON NAME	BOTANICAL NAME	ROOT	CAL/SIZE
SM	3	Sienna Glen Maple	Acer freemanii 'Sienna Glen'	B&B	2.5"

SHRUBS & PLANTS					
KEY	QTY	COMMON NAME	BOTANICAL NAME	ROOT	CAL/SIZE
BH	25	Boxwood Hedge	Buxus microphylla	CONT.	#3
KF	54	Karl Foerster	Calamagrostis acutiflora	CONT.	#2

LEGEND:

- PROPERTY LINE ————
- SETBACK - - - - -
- EASEMENT - - - - -
- CONTOUR - - - - -
- RETAINING WALL ————
- MULCHED PLANTING / SHRUB [Symbol]
- CALLOUT [Symbol]
- TREE [Symbol]
- SHRUB / PLANTING [Symbol]

NO.	ISSUE	DATE
1	SITE PLAN REVIEW	10/21/2020
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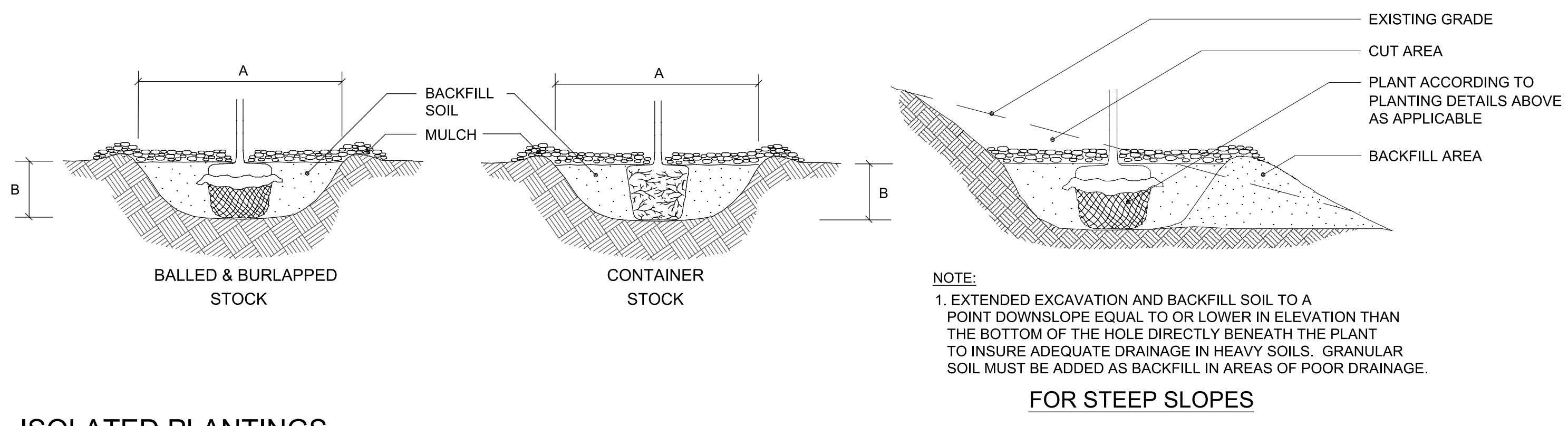
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 West St. Paul, MN 55118
 PH: 763.210.5713 www.civilmethods.com

- BALLED & BURLAPPED STOCK**
- SCARIFY SIDES AND BOTTOM OF HOLE.
 - PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
 - SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
 - PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED. INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12" OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
 - PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
 - APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
 - WATER THOROUGHLY WITHIN 2 HOURS.
 - PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
 - BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.
- CONTAINER STOCK**
- SCARIFY SIDES AND BOTTOM OF HOLE. AS DIRECTED BY ENGINEER.
 - REMOVE CONTAINER AND SCORE OR PRUNE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
 - SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
 - APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
 - WATER THOROUGHLY WITHIN 2 HOURS.
 - PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

PLANTING HOLE DIMENSIONS
(MINIMUM WIDTH DOES NOT APPLY IN MASS PLANTING BEDS)

PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM APPROXIMATE HOLE WIDTH HOLE DEPTH (INCHES)	
		A	B
CONIFEROUS TREES	3' B.B.	42	11
	4' B.B.	51	13
	5' B.B.	60	13
	6' B.B.	66	15
	7' B.B.	72	16
	8' B.B.	81	18
CONTAINER GROWN PLANTS	#1 cont.	18	6
	#2 cont.	23	7.5
	#3 cont.	29	8.5
	#5 cont.	30	11
	#7 cont.	37	11
	#10 cont.	44	14
	#15 cont.	45	15
	#20 cont.	60	17
	#25 cont.	72	16

- NOTES:**
- ALL TREES SHALL BE 2.5" CALIPER AND SHRUBS SHALL BE 15-18" HIGH, MINIMUM, UPON INSTALL.
 - TREES AND SHRUBS SHALL BE WARRANTED FOR A PERIOD OF 1 YEAR AFTER INSTALLATION. DEAD OR DISEASED PLANTS WITHIN THIS PERIOD SHALL BE REPLACED AT CONTRACTOR EXPENSE.
 - THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS. THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS.
 - ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
 - PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 4" OF SOIL IN THE TOP OF THE BALL.
 - DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.
 - ALL OTHER AREAS TO BE SEEDDED OR SOD PER EROSION CONTROL PLAN.



1 ISOLATED PLANTINGS

2 MASS PLANTING BEDS

OWNER:

PROJECT:
EASTSIDE FAMILY LAUNDROMAT

ST. PAUL, MN

SHEET:
LANDSCAPING PLAN

SHEET NO.:
L01

DOOR HARDWARE

HARDWARE GROUP 1.0
 3 HINGES PER LEAF
 OFFICE FUNCTION
 DOOR LEVER
 KEYPAD LEVER WITH FLEX LOCK
 CLOSER
 SILENCERS

HARDWARE GROUP 3.0
 TOP, BOTTOM & INTERMEDIATE
 OFFSET PIVOTS
 PUSH & PULL BARS
 DEAD LATCH WITH INTERIOR LEVER
 CLOSER
 EXTERIOR SEALS AND GASKETS
 THRESHOLD

HARDWARE GROUP 4.0
 3 HINGES PER LEAF
 STORAGE ROOM FUNCTION
 DOOR LEVER
 CLOSER
 SILENCERS

HARDWARE GROUP 5.0
 MNF'S STANDARD HARDWARE
 DEADBOLT WITH TWO-POINT LOCKING
 THUMB TURN WITH LOCK INDICATOR



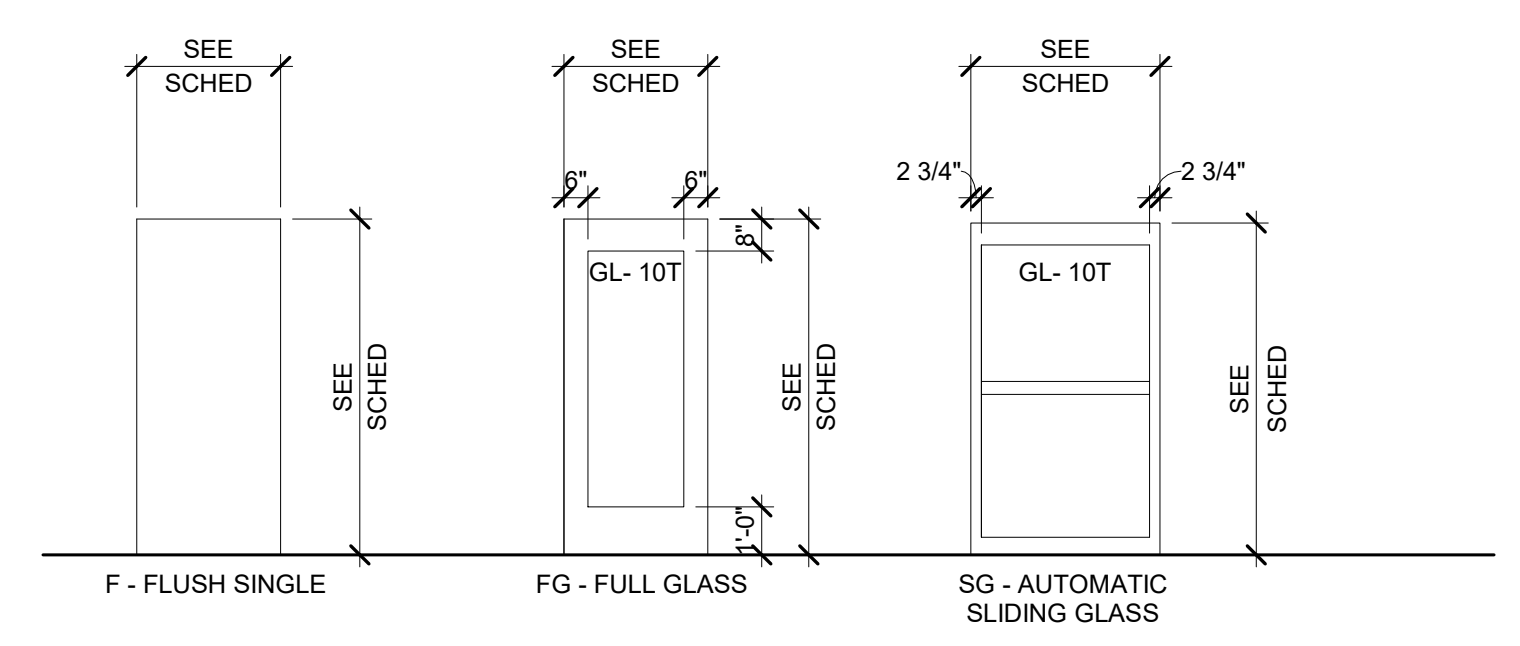
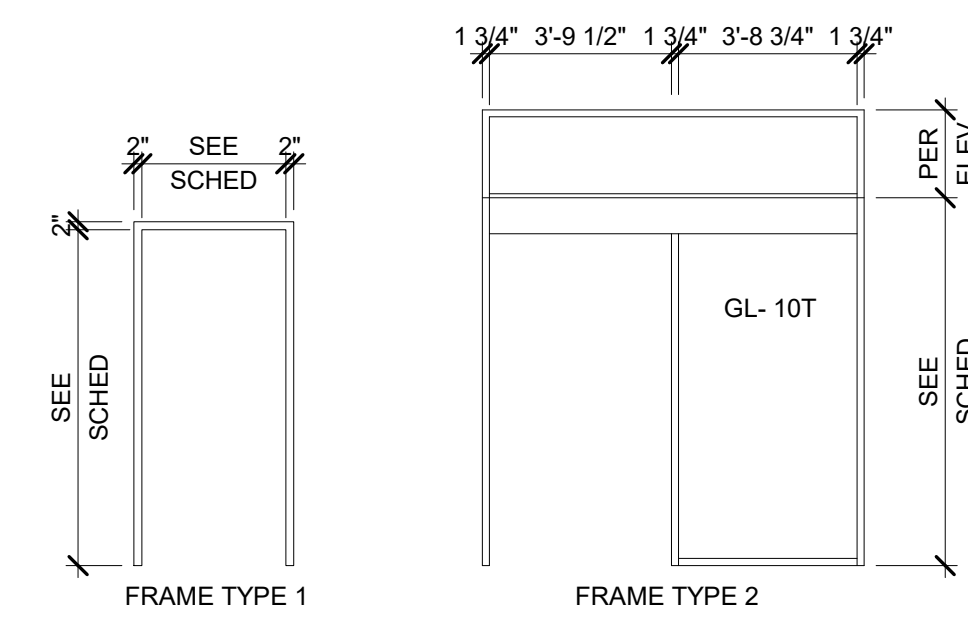
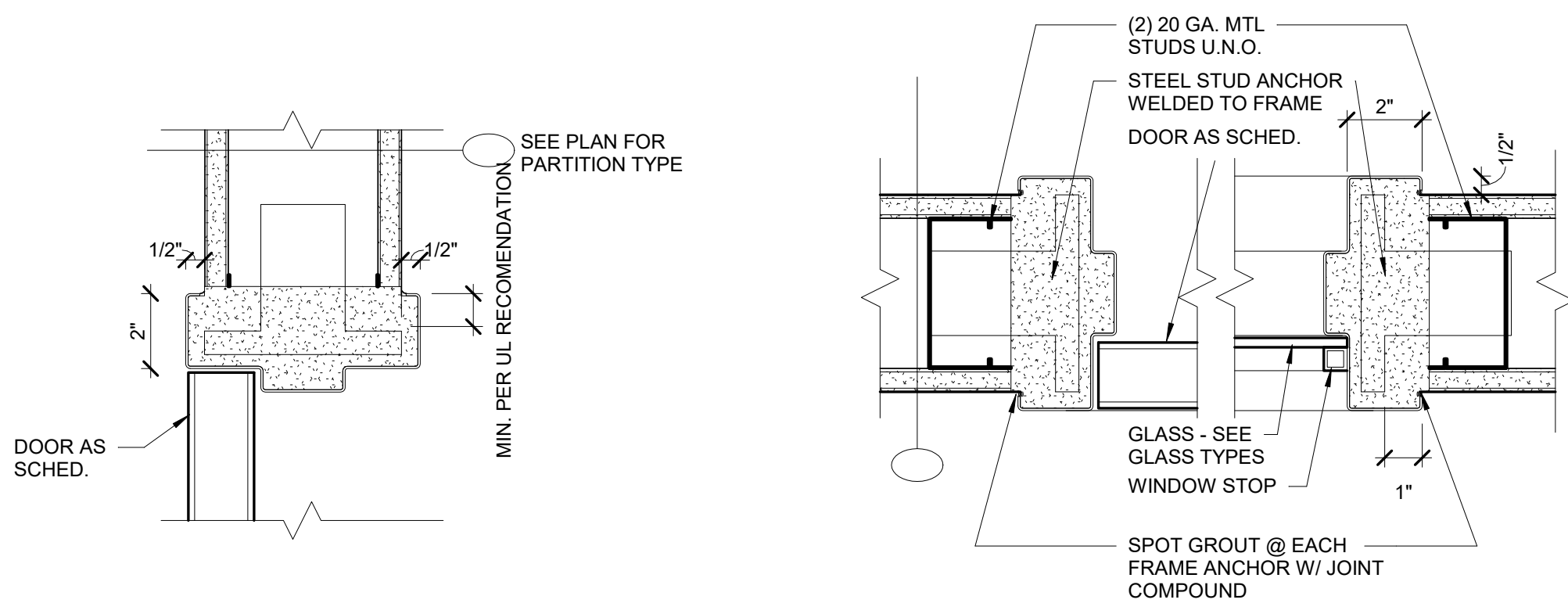
DOOR SCHEDULE

ROOM	NUMBER	DIMENSIONS			DOOR			GLAZING		FRAME			FIRE RATING	HARDWARE	REMARKS
		WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	TYPE	MATERIAL	FINISH				
FIRST FLOOR															
LAUNDRY AREA	100.1	3'-4"	7'-0"	1 3/4"	FG	ALUM	ANODIZED	GL-10T	1	ALUM	ANODIZED			3.0	
LAUNDRY AREA	100.2	7'-8 1/2"	7'-0"	1 3/4"		ALUM	ANODIZED	GL-10T	2	ALUM	ANODIZED				
RESTROOM	102	3'-0"	7'-0"	1 3/4"	F	HM	P	-	1	HM	P			4.0	
STORAGE	103	3'-0"	7'-0"	1 3/4"	F	HM	P	-	1	HM	P			2.0	
MECHANICAL	104	3'-0"	7'-0"	1 3/4"	F	HM	P	-	1	HM	P			1.0	
DRYER ENCLOSURE	104.1	2'-6"	7'-0"	1 3/4"	F	HM	P	-	1	HM	P			2.0	
DRYER ENCLOSURE	104.2	1'-10"	7'-0"	1 3/4"	F	HM	P	-	1	HM	P			2.0	



**Eastside Family
Laundromat**

1773 SIMS AVENUE
ST. PAUL, MN 55106

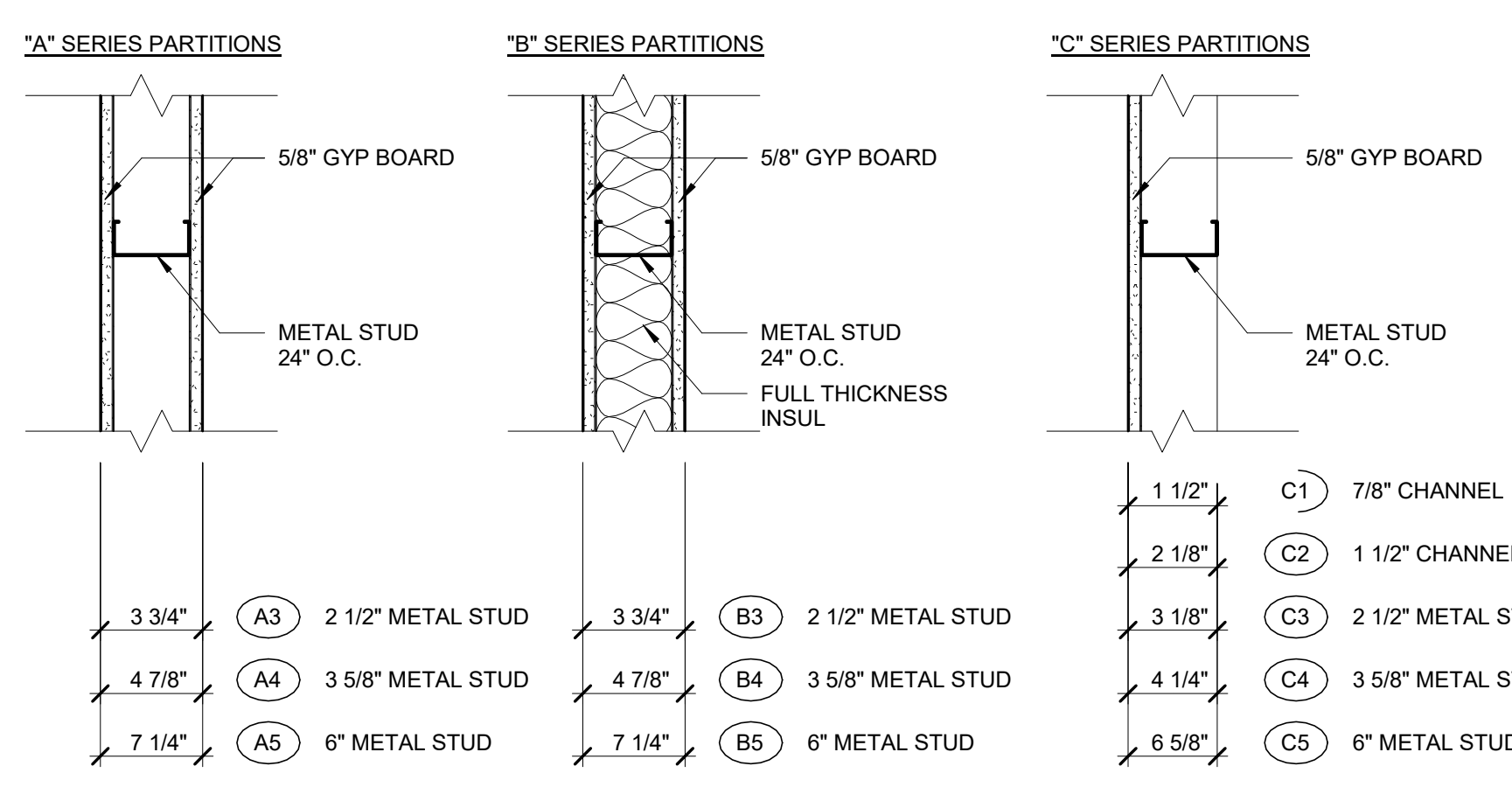


C5 HM HEAD - INT STUD
3" = 1'-0"

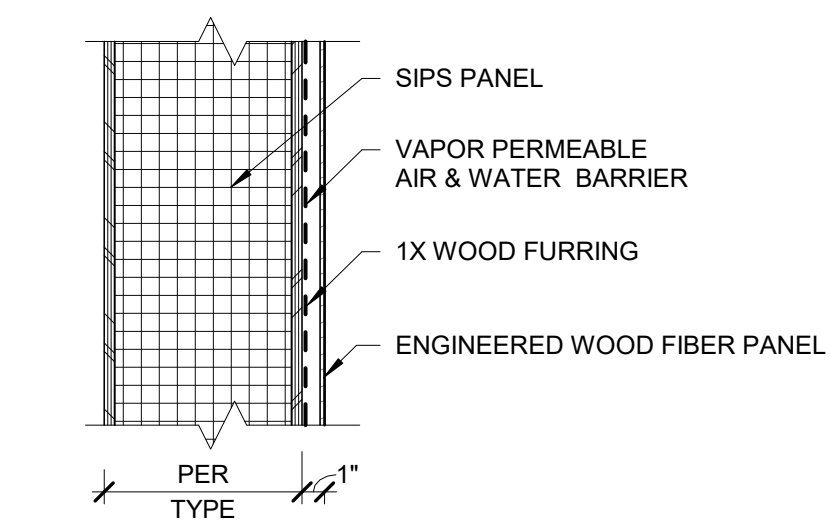
C4 HM JAMB - INT STUD
3" = 1'-0"

C3 FRAME TYPES
1/4" = 1'-0"

C2 DOOR TYPES
1/4" = 1'-0"



B5 INTERIOR WALL TYPES
1 1/2" = 1'-0"



A5 EXTERIOR WALL TYPES
1 1/2" = 1'-0"

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				REMARKS
				EAST	NORTH	SOUTH	WEST	
FIRST FLOOR								
100	LAUNDRY AREA	SC-1	RB-1	FRP-1	FRP-1	FRP-1	FRP-1	
101	KID'S PLAY AREA	SC-1	RB-1	FRP-1	P-1	FRP-1	P-1	
102	RESTROOM	SC-1	RB-1	FRP-1 / P-1	FRP-1	FRP-1 / P-1	FRP-1	FRP TO 48" AFF ON SOUTH AND EAST WALLS
103	STORAGE	SC-1	RB-1	P-1	P-1	P-1	P-1	
104	MECHANICAL	SC-1	RB-1	FRP-1	FRP-1	FRP-1	P-1	
104.1	DRYER ENCLOSURE	SC-1	RB-1	P-1	P-1	P-1	P-1	
104.2	DRYER ENCLOSURE	SC-1	RB-1	P-1	P-1	P-1	P-1	

MATERIAL IDENTIFICATION

ABBREVIATION	DESCRIPTION
APC	ACOUSTICAL PANEL CEILING APC-1: 24"X48"
FE	FIRE EXTINGUISHER FE-1: 10 LB EXTINGUISHER, DRY CHEM ABC FE-2: 10 LB EXTINGUISHER, TYPE K (KITCHEN)
FEC	FIRE EXTINGUISHER FEC-1: SEMI-RECESSED, GLASS DOOR
FRP	FIBERGLASS REINFORCED PANELS FRP-1: 4X8 SHEET, TEXTURED SURFACE, COLOR: WHITE
GYP.BD.	GYPSUM BOARD GYP.BD-11: 5/8" FIRE-RATED TYPE "X" WALLBOARD GYP.BD-12: 5/8" FIRE-RATED TYPE "X" WATER-RESISTANT WALLBOARD
INS.PW	INSULATED PIPE WRAP INS.PW-1: ADA UNDERSINK PIPE INSULATION, WHITE
P	PAINT P-1: INTERIOR PAINT, TYP P-2: INTERIOR PAINT, ACCENT P-10: EXTERIOR PAINT
GL	GLAZING GL-10: INSULATED GLAZING, CLEAR GL-10T: INSULATED GLAZING, CLEAR, TEMPERED

MATERIAL IDENTIFICATION

ABBREVIATION	DESCRIPTION
PLUMB	PLUMBING FIXTURES PLUMB-1: MOP SINK PLUMB-2: FLOOR MOUNTED TOILET, ADA COMPLIANT PLUMB-3: WALL MOUNTED SINK, ADA COMPLIANT PLUMB-4: HI-LO WATER FOUNTAIN, ADA COMPLIANT
RB	RESILIENT BASE RB-1: JOHNSONITE SHOE MOULDING, THERMOPLASTIC RUBBER, 4" TALL X 1/4" THICK, COLOR: TBD
SC	CONCRETE SEALER SC-1: CLEAR LIQUID SEALER
SDG	FIBER CEMENT LAP SIDING SDG-1: LAP SIDING, MATCH EXISTING COLOR: MATCH EXISTING
TA	TOILET ACCESSORIES TA-1: GRAB BAR AT ACCESSIBLE TOILET TA-2: TOILET PAPER W/ SHELF TA-3: PAPER TOWEL DISPENSER TA-4: SOAP DISPENSER TA-5: MOP HOLDER AND SHELF TA-6: HOOK TA-7: MIRROR TA-8A: SURFACE MOUNTED SANITARY NAPKIN DISPOSAL TA-11: BABY CHANGING STATION TA-12: RECESSED WASTE RECAPTACLE

MATERIAL IDENTIFICATION

ABBREVIATION	DESCRIPTION
WFP	ENGINEERED WOOD FIBER PANEL SIDING WFS-1: WOOD FIBER PANEL SIDING PATTERN: VERTICAL RUNNING BOND COLOR: TBD WFS-2: WOOD FIBER PANEL SIDING PATTERN: PER ELEVATIONS

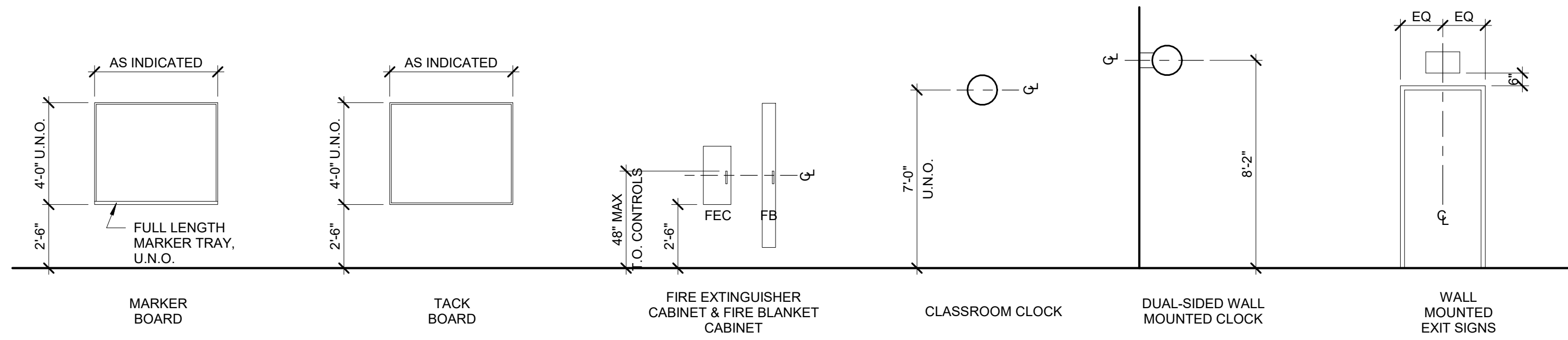
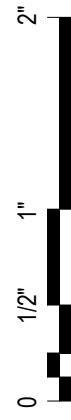
PRICING SET

2	PRICING	11.03.20
NO	ISSUE	DATE
JOB NUMBER		20.027.0322

**WALL TYPES,
DOOR SCHEDULE
& DETAILS,
FINISH
SCHEDULE &
MATERIALS**

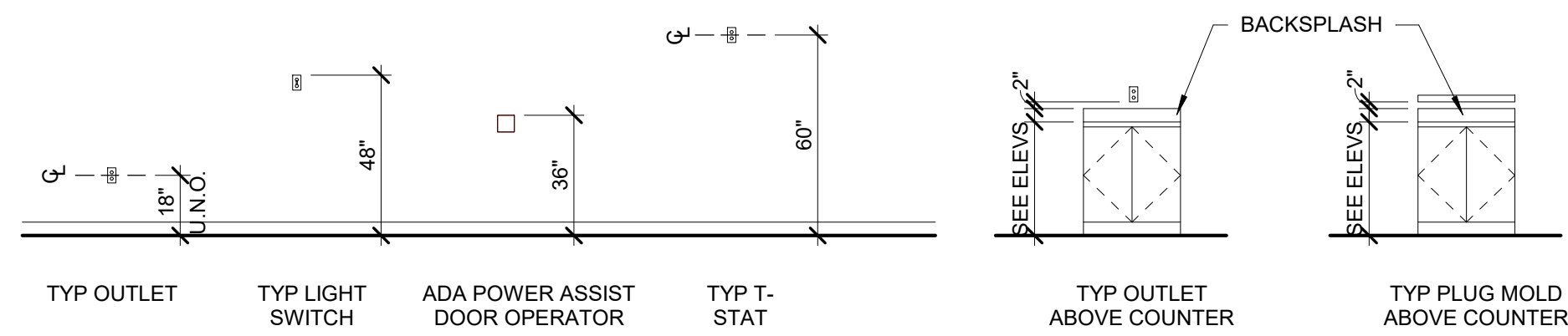
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NOT FOR CONSTRUCTION



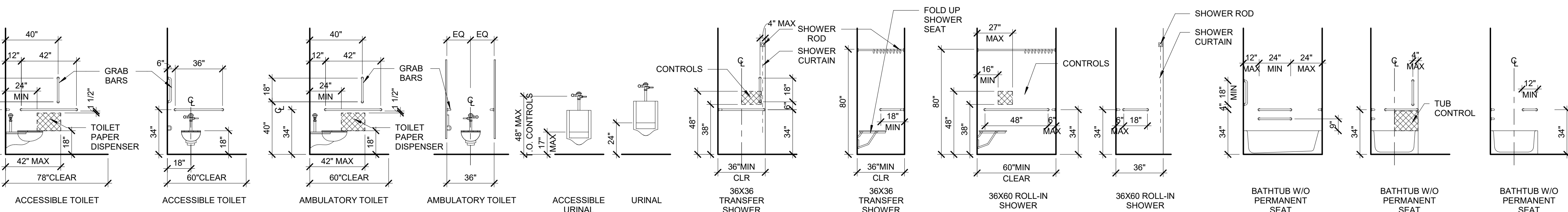
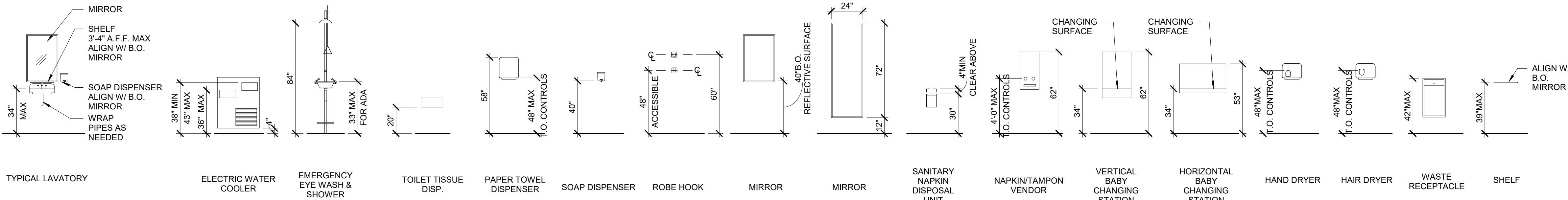
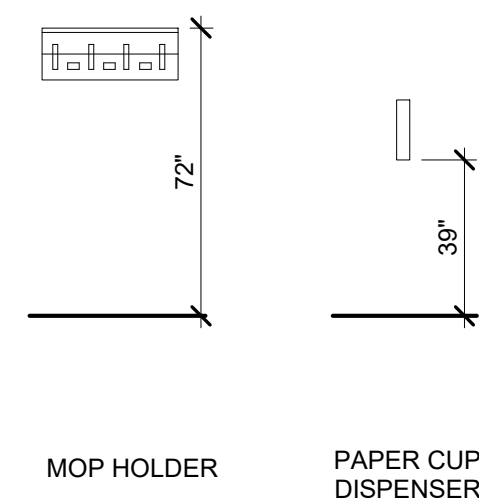
D5 MOUNTING HEIGHTS

1/4" = 1'-0"



C5 ELECTRICAL MOUNTING HEIGHTS

1/4" = 1'-0"



A5 BATHROOM MOUNTING HEIGHTS

1/4" = 1'-0"



9232 68th St North
Stillwater, MN 55082
1612.532.4147

Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106

NOT FOR CONSTRUCTION

PRICING SET

2	PRICING	11.03.20
NO	ISSUE	DATE
JOB NUMBER		20.027.0322

GENERAL INFORMATION - MOUNTING HEIGHTS

A00.13

11/13/2020, 4:22:00 PM P:\01 Projects\HW\2020\027\0322 - White Bear Laundromat\BIM\20\027\0322 - Eastside Family Laundromat.rvt


5	
DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS	
00 70 00 CONDITIONS OF THE CONTRACT	
1. DEFINED BY PROJECT OWNER	
DIVISION 01 - GENERAL REQUIREMENTS	
01 11 00 SUMMARY OF WORK	
1. CONSTRUCTION OF A NEW 2,770 SQ. FT. SELF-SERVICE LAUNDROMAT AND ASSOCIATE SITE WORK ON A PREVIOUSLY UNDEVELOPED LOT AT THE NORTHWEST CORNER OF SIMS AVENUE AND WHITE BEAR AVENUE. THE NEW BUILDING WILL CONSIST OF STRUCTURAL INSULATED PANELS (SIPS) WITH ENGINEERED WOOD FIBER CLADDING AND ALUMINUM STOREFRONT FENESTRATION. SITE WORK INCLUDES NEW UTILITY CONNECTIONS, PAVING OF A NEW PARKING LOT, NEW CONCRETE WALKS, LANDSCAPING, AND SITE FENCING & SCREENS.	
01 33 00 SUBMITTALS	
1. PROVIDE SUBMITTALS OF EACH PRODUCT AND SYSTEM REQUIRED ON THE PROJECT TO THE ARCHITECT AND OWNER FOR REVIEW AND COMMENT. COLLECT INFORMATION INTO SINGLE SUBMITTAL FOR EACH ELEMENT OF CONSTRUCTION AND TYPE OF PRODUCT OR EQUIPMENT. CLEARLY MARK EACH COPY OF EACH SUBMITTAL TO SHOW WHICH PRODUCTS AND OPTIONS ARE APPLICABLE.	
A. PRODUCT CERTIFICATES: PREPARE WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT PRODUCT COMPLIES WITH REQUIREMENTS.	
B. MATERIAL CERTIFICATES: PREPARE WRITTEN STATEMENTS ON MANUFACTURER'S LETTERHEAD CERTIFYING THAT MATERIAL COMPLIES WITH REQUIREMENTS.	
C. RESEARCH/TESTING REPORTS: PREPARE WRITTEN EVIDENCE FROM A MODEL CODE ORGANIZATION ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, THAT PRODUCT COMPLIES WITH BUILDING CODE IN EFFECT FOR PROJECT.	
D. MAINTENANCE DATA: PREPARE WRITTEN AND GRAPHIC INSTRUCTIONS AND PROCEDURES FOR OPERATION AND NORMAL MAINTENANCE OF PRODUCTS AND EQUIPMENT.	
E. DESIGN DATA: PREPARE WRITTEN AND GRAPHIC INFORMATION, INCLUDING, BUT NOT LIMITED TO, PERFORMANCE AND DESIGN CRITERIA, LIST OF APPLICABLE CODES AND REGULATIONS, AND CALCULATIONS AND DESIGN CRITERIA AND A SUMMARY OF LOADS. INCLUDE LOAD DIAGRAMS IF APPLICABLE. PROVIDE NAME AND VERSION OF SOFTWARE, IF ANY, USED FOR CALCULATIONS. INCLUDE PAGE NUMBERS.	
F. MANUFACTURER'S INSTRUCTIONS: PREPARE WRITTEN OR PUBLISHED INFORMATION THAT DOCUMENTS MANUFACTURER'S RECOMMENDATIONS, GUIDELINES, AND PROCEDURES FOR INSTALLING OR OPERATING A PRODUCT OR EQUIPMENT. INCLUDE NAME OF PRODUCT AND NAME, ADDRESS, AND TELEPHONE NUMBER OF MANUFACTURER.	
G. SHOP DRAWINGS: PREPARE PROJECT-SPECIFIC INFORMATION, DRAWN ACCURATELY TO SCALE. DO NOT BASE SHOP DRAWINGS ON REPRODUCTIONS OF THE CONTRACT DOCUMENTS OR STANDARD PRINTED DATA.	
H. MATERIAL SAMPLES: SUBMIT PHYSICAL SAMPLES FOR REVIEW OF KIND, COLOR, PATTERN, AND TEXTURE. CHECK OF THESE CHARACTERISTICS WITH OTHER ELEMENTS AND FOR A COMPARISON OF THESE CHARACTERISTICS BETWEEN FINAL SUBMITTAL AND ACTUAL COMPONENT AS DELIVERED AND INSTALLED. MAINTAIN SETS OF APPROVED SAMPLES AT PROJECT SITE, AVAILABLE FOR QUALITY-CONTROL COMPARISONS THROUGHOUT THE COURSE OF CONSTRUCTION ACTIVITY.	
01 40 00 QUALITY REQUIREMENTS	
1. QUALITY-ASSURANCE: ACTIVITIES, ACTIONS, AND PROCEDURES PERFORMED BEFORE AND DURING EXECUTION OF THE WORK TO GUARD AGAINST DEFECTS AND DEFICIENCIES AND SUBSTANTIATE THAT PROPOSED CONSTRUCTION WILL COMPLY WITH REQUIREMENTS.	
A. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING PRODUCTS OR SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS. AS APPLICABLE, PROCURE PRODUCTS FROM MANUFACTURERS ABLE TO MEET QUALIFICATION REQUIREMENTS, WARRANTY REQUIREMENTS, AND TECHNICAL OR FACTORY-AUTHORIZED SERVICE REPRESENTATIVE REQUIREMENTS.	
B. FABRICATOR QUALIFICATIONS: A FIRM EXPERIENCED IN PRODUCING PRODUCTS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS.	
C. INSTALLER QUALIFICATIONS: A FIRM OR INDIVIDUAL EXPERIENCED IN INSTALLING, ERECTING, OR ASSEMBLING WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT, WHOSE WORK HAS RESULTED IN CONSTRUCTION WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE.	
D. PROFESSIONAL ENGINEER QUALIFICATIONS: A PROFESSIONAL ENGINEER WHO IS LEGALLY QUALIFIED TO PRACTICE IN JURISDICTION WHERE PROJECT IS LOCATED AND WHO IS EXPERIENCED IN PROVIDING ENGINEERING SERVICES OF THE KIND INDICATED. ENGINEERING SERVICES ARE DEFINED AS THOSE PERFORMED FOR INSTALLATIONS OF THE SYSTEM, ASSEMBLY, OR PRODUCT THAT IS SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS PROJECT.	
E. TESTING AGENCY QUALIFICATIONS: AN NRTL, AN NVLAP, OR AN INDEPENDENT AGENCY WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT TESTING AND INSPECTING INDICATED, AS DOCUMENTED ACCORDING TO ASTM E 329; AND WITH ADDITIONAL QUALIFICATIONS SPECIFIED IN INDIVIDUAL SECTIONS; AND, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION, THAT IS ACCEPTABLE TO AUTHORITIES.	
F. MANUFACTURER'S REPRESENTATIVE QUALIFICATIONS: AN AUTHORIZED REPRESENTATIVE OF MANUFACTURER WHO IS TRAINED AND APPROVED BY MANUFACTURER TO OBSERVE AND INSPECT INSTALLATION OF MANUFACTURER'S PRODUCT THAT ARE SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS PROJECT.	
G. MOCKUPS: BEFORE INSTALLING PORTIONS OF THE WORK REQUIRING MOCKUPS, BUILD MOCKUPS FOR EACH FORM OF CONSTRUCTION AND FINISH REQUIRED TO COMPLY WITH THE FOLLOWING REQUIREMENTS. USING MATERIALS INDICATED FOR THE COMPLETED WORK.	
a. BUILD MOCKUPS IN LOCATION AND OF SIZE INDICATED OR, IF NOT INDICATED, AS DIRECTED BY ARCHITECT.	
b. NOTIFY ARCHITECT SEVEN DAYS IN ADVANCE OF DATES AND TIMES WHEN MOCKUPS WILL BE CONSTRUCTED.	
c. DEMONSTRATE THE PROPOSED RANGE OF AESTHETIC EFFECTS AND WORKMANSHIP.	
d. ALLOW SEVEN DAYS FOR INITIAL REVIEW AND EACH RE-REVIEW OF EACH MOCKUP.	
e. MAINTAIN MOCKUPS DURING CONSTRUCTION IN AN UNDISTURBED CONDITION AS A STANDARD FOR JUDGING THE COMPLETED WORK.	
f. MOCKUPS MAY BE INCORPORATED INTO FINAL WORK UPON WRITTEN APPROVAL OF ARCHITECT.	
2. QUALITY-CONTROL: TESTS, INSPECTIONS, PROCEDURES, AND RELATED ACTIONS DURING AND AFTER EXECUTION OF THE WORK TO EVALUATE THAT ACTUAL PRODUCTS INCORPORATED INTO THE WORK AND COMPLETED CONSTRUCTION COMPLY WITH REQUIREMENTS.	
A. OWNER RESPONSIBILITIES: WHERE QUALITY-CONTROL SERVICES ARE INDICATED AS OWNER'S RESPONSIBILITY, OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM THESE SERVICES. OWNER WILL FURNISH CONTRACTOR WITH CONTACT INFORMATION OF TESTING AGENCIES ENGAGED AND A DESCRIPTION OF TYPES OF TESTING AND INSPECTING THEY ARE ENGAGED TO PERFORM. COSTS FOR RETESTING AND RE-INSPECTING CONSTRUCTION THAT REPLACES OR IS NECESSITATED BY WORK THAT FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS WILL BE CHARGED TO CONTRACTOR.	

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01 40 00 QUALITY REQUIREMENTS (CONTINUED)	
B. CONTRACTOR RESPONSIBILITIES: TESTS AND INSPECTIONS NOT EXPLICITLY ASSIGNED TO OWNER ARE CONTRACTOR'S RESPONSIBILITY. PERFORM ADDITIONAL QUALITY CONTROL ACTIVITIES REQUIRED TO VERIFY THAT THE WORK COMPLIES WITH REQUIREMENTS, WHETHER SPECIFIED OR NOT. SUBMIT A CERTIFIED WRITTEN REPORT, IN DUPLICATE, OF EACH QUALITY-CONTROL SERVICE. SUBMIT ADDITIONAL COPIES OF EACH WRITTEN REPORT DIRECTLY TO AUTHORITIES HAVING JURISDICTION, WHEN THEY SO DIRECT.	
C. MANUFACTURER'S FIELD SERVICES: WHERE INDICATED, ENGAGE A MANUFACTURER'S REPRESENTATIVE TO OBSERVE AND INSPECT THE WORK. MANUFACTURER'S REPRESENTATIVE'S SERVICES INCLUDE EXAMINATION OF SUBSTRATES ABOVE QUALITY CONTROL MATERIALS, INSPECTION OF COMPLETED PORTIONS OF THE WORK, AND SUBMITTAL OF WRITTEN REPORTS.	
D. RETESTING/REINSPECTING: REGARDLESS OF WHETHER ORIGINAL TESTS OR INSPECTIONS WERE CONTRACTOR'S RESPONSIBILITY, PROVIDE QUALITY-CONTROL SERVICES, INCLUDING RETESTING AND REINSPECTING, FOR CONSTRUCTION THAT REPLACED WORK THAT FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH RETESTING OR REINSPECTION.	
01 50 00 TEMPORARY FACILITIES AND CONTROLS	
1. USE CHARGES: INSTALLATION AND REMOVAL OF AND USE CHARGES FOR TEMPORARY FACILITIES SHALL BE AS INDICATED IN THE CONTRACT. ALLOW OTHER ENTITIES ENGAGED IN THE PROJECT TO USE TEMPORARY SERVICES AND FACILITIES WITHOUT COST, INCLUDING, BUT NOT LIMITED TO, OWNER'S CONSTRUCTION FORCES, ARCHITECT, OCCUPANTS OF PROJECT, TESTING AGENCIES, AND AUTHORITIES HAVING JURISDICTION.	
2. TEMPORARY FACILITIES: LOCATE TEMPORARY FACILITIES IN AN AREA THAT IS AGREED UPON BY THE OWNER.	
A. FIELD OFFICES: CONTRACTOR AND SUB-CONTRACTOR FIELD OFFICES SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE NEEDS OF OWNER, ARCHITECT, AND CONSTRUCTION PERSONNEL OFFICE ACTIVITIES. KEEP OFFICE CLEAN AND ORDERLY.	
B. SANITARY FACILITIES: PROVIDE TEMPORARY TOILETS, WASH FACILITIES, AND DRINKING WATER FOR USE OF CONSTRUCTION PERSONNEL. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR TYPE, NUMBER, LOCATION, OPERATION, AND MAINTENANCE OF FIXTURES AND FACILITIES.	
C. PARKING: COORDINATE ONSITE PARKING WITH OWNER. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR OFFSITE PARKING.	
D. STORAGE AND FABRICATION SHEDS: PROVIDE SHEDS SIZED, FURNISHED TO AND ACCOMMODATE MATERIALS AND EQUIPMENT FOR CONSTRUCTION OPERATIONS.	
E. WASTE DISPOSAL FACILITIES: PROVIDE WASTE-COLLECTION CONTAINERS IN SIZES ADEQUATE TO HANDLE WASTE FROM CONSTRUCTION OPERATIONS. COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR OFFSITE WASTE-COLLECTION CLEANING REQUIREMENTS IN SECTION 01 73 00 EXECUTION.	
3. TEMPORARY SERVICES: INSTALL TEMPORARY SERVICE OR CONNECT TO EXISTING SERVICE. ARRANGE WITH UTILITY COMPANY, OWNER, AND EXISTING USERS FOR TIME WHEN SERVICE CAN BE INTERRUPTED, IF NECESSARY, TO MAKE CONNECTIONS FOR TEMPORARY SERVICES.	
4. TEMPORARY SECURITY AND PROTECTION FACILITIES: PROTECT EXISTING FACILITIES AND REPAIR DAMAGE TO EXISTING FACILITIES.	
A. SECURITY ENCLOSURE AND LOCKUP: INSTALL TEMPORARY ENCLOSURE AROUND PARTIALLY COMPLETED AREAS OF CONSTRUCTION. PROVIDE LOCKABLE ENTRANCES TO PREVENT UNAUTHORIZED ENTRANCE, VANDALISM, THEFT, AND SIMILAR VIOLATIONS OF SECURITY. LOCK ENTRANCES AT END OF EACH WORK DAY.	
B. TEMPORARY FIRE PROTECTION: INSTALL AND MAINTAIN TEMPORARY FIRE-PROTECTION FACILITIES OF TYPES NEEDED TO PROTECT AGAINST REASONABLY PREDICTABLE AND CONTROLLABLE FIRE LOSSES. COMPLY WITH NFPA 241; MANAGE FIRE PREVENTION PROGRAM. REVIEW NEEDS WITH LOCAL FIRE DEPARTMENT AND ESTABLISH PROCEDURES TO BE FOLLOWED BY CONSTRUCTION PERSONNEL IN METHODS AND PROCEDURES, POST WARNINGS AND INFORMATION.	
a. PROHIBIT SMOKING IN CONSTRUCTION AREAS.	
b. SUPERVISE WELDING OPERATIONS, COMBUSTION-TYPE TEMPORARY HEATING UNITS, AND SIMILAR SOURCES OF FIRE IGNITION ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.	
c. WHERE APPLICABLE, PROVIDE TEMPORARY STANDPIPES AND HOSES FOR FIRE PROTECTION. HANG HOSES WITH A WARNING SIGN STATING THAT HOSES ARE FOR FIRE-PROTECTION PURPOSES ONLY AND ARE NOT TO BE REMOVED.	
d. PROVIDE PORTABLE, UL-RATED FIRE EXTINGUISHERS WITH CLASS AND EXTINGUISHING AGENT AS REQUIRED BY LOCATIONS AND CLASSES OF FIRE EXPOSURES.	
5. TERMINATION AND REMOVAL: REMOVE EACH TEMPORARY FACILITY WHEN NEED FOR ITS SERVICE HAS ENDED, WHEN IT HAS BEEN REPLACED BY AUTHORIZED USE OF A PERMANENT FACILITY, OR NO LATER THAN SUBSTANTIAL COMPLETION, COMPLETE OR, IF NECESSARY, RESTORE PERMANENT CONSTRUCTION THAT MAY HAVE BEEN DELAYED BECAUSE OF INTERFERENCE WITH CONSTRUCTION OF DAMAGED WORK. CLEAN EXPOSED SURFACES, AND REPLACE CONSTRUCTION THAT CANNOT BE SATISFACTORILY REPAIRED.	
01 60 00 PRODUCT REQUIREMENTS	
1. GENERAL PRODUCT REQUIREMENTS: PROVIDE PRODUCTS THAT COMPLY WITH THE CONTRACT DOCUMENTS, ARE UNDAMAGED AND, UNLESS OTHERWISE INDICATED, ARE NEW AT TIME OF INSTALLATION.	
2. PRODUCT SELECTION PROCEDURES: COMPARABLE PRODUCTS OR SUBSTITUTIONS FOR CONTRACTOR'S CONVENIENCE WILL NOT BE CONSIDERED.	
A. PRODUCT: WHERE SPECIFICATIONS NAME A SINGLE MANUFACTURER AND PRODUCT, PROVIDE THE NAMED PRODUCT THAT COMPLIES WITH REQUIREMENTS.	
B. RESTRICTED LIST: WHERE SPECIFICATIONS INCLUDE A LIST OF NAMES OF BOTH MANUFACTURERS AND PRODUCTS, PROVIDE ONE OF THE PRODUCTS LISTED THAT COMPLIES WITH REQUIREMENTS.	
C. NONRESTRICTED LIST: WHERE SPECIFICATIONS INCLUDE A LIST OF NAMES OF BOTH MANUFACTURERS AND PRODUCTS, PROVIDE ONE OF THE PRODUCTS LISTED, OR AN UNNAMED PRODUCT, THAT COMPLIES WITH REQUIREMENTS.	
D. BASIS-OF-DESIGN PRODUCT: WHERE SPECIFICATIONS NAME A PRODUCT, OR REFER TO A PRODUCT INDICATED ON DRAWINGS, AND INCLUDE A LIST OF NAMED OR UNNAMED MANUFACTURERS, PROVIDE THE SPECIFIED INDICATED PRODUCT OR A COMPARABLE PRODUCT BY ONE OF THE OTHER NAMED MANUFACTURERS. DRAWINGS AND SPECIFICATIONS INDICATE SIZES, PROFILES, DIMENSIONS, AND OTHER CHARACTERISTICS THAT ARE BASED ON THE PRODUCT NAMED.	
3. COMPARABLE PRODUCTS: ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR COMPARABLE PRODUCT WHEN THE FOLLOWING CONDITIONS ARE SATISFIED.	
A. EVIDENCE THAT THE PROPOSED PRODUCT DOES NOT REQUIRE REVISIONS TO THE CONTRACT DOCUMENTS, THAT IT IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND WILL PRODUCE THE INDICATED RESULTS, AND THAT IT IS COMPATIBLE WITH OTHER PORTIONS OF THE WORK.	
B. DETAILED COMPARISON OF SIGNIFICANT QUALITIES OF PROPOSED PRODUCT WITH THOSE NAMED IN THE CONTRACT DOCUMENTS. SIGNIFICANT QUALITIES INCLUDE ATTRIBUTES SUCH AS PERFORMANCE, WEIGHT, SIZE, DURABILITY, VISUAL EFFECT, AND SPECIFIC FEATURES AND REQUIREMENTS INDICATED.	
C. EVIDENCE THAT PROPOSED PRODUCT PROVIDES SPECIFIED WARRANTY.	
D. SAMPLES, IF REQUESTED.	

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01 73 00 EXECUTION	
1. EXISTING CONDITIONS: BEFORE BEGINNING CONSTRUCTION, INVESTIGATE AND VERIFY THE EXISTENCE AND LOCATION OF UTILITIES, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTING THE WORK.	
2. EXAMINATION AND ACCEPTANCE OF CONDITIONS: BEFORE PROCEEDING WITH EACH COMPONENT OF THE WORK, EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER OR APPLICATOR PRESENT WHERE INDICATED, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION PERFORMANCE AND OTHER CONDITIONS AFFECTING PERFORMANCE. RECORD OBSERVATIONS.	
3. FIELD MEASUREMENTS: TAKE FIELD MEASUREMENTS AS REQUIRED TO FIT THE WORK PROPERLY. RECHECK MEASUREMENTS BEFORE INSTALLING EACH PRODUCT.	
4. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS: IMMEDIATELY ON DISCOVERY OF THE NEED FOR CLARIFICATION OF THE CONTRACT DOCUMENTS CAUSED BY DIFFERING FIELD CONDITIONS OUTSIDE THE CONTROL OF CONTRACTOR, SUBMIT A REQUEST FOR INFORMATION TO THE ARCHITECT.	
5. CUTTING AND PATCHING: COMPLY WITH REQUIREMENTS FOR AND LIMITATIONS ON CUTTING AND PATCHING OF CONSTRUCTION ELEMENTS.	
A. STRUCTURAL ELEMENTS: WHEN CUTTING AND PATCHING STRUCTURAL ELEMENTS, NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF LOCATIONS AND DETAILS OF CUTTING AND AWAIT DIRECTION/CONFIRMATION FROM BOTH ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING. SHORE, BRACE, AND SUPPORT STRUCTURAL ELEMENTS DURING CUTTING AND PATCHING. DO NOT CUT AND PATCH STRUCTURAL ELEMENTS IN A MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY OR INCREASE DEFLECTION OPERATIONAL LIFE OR SAFETY.	
B. OTHER CONSTRUCTION ELEMENTS: DO NOT CUT AND PATCH OTHER CONSTRUCTION ELEMENTS OR COMPONENTS IN A MANNER THAT COULD CHANGE THEIR LOAD-CARRYING CAPACITY, THAT RESULTS IN REDUCING THEIR CAPACITY TO PERFORM AS INTENDED, OR THAT RESULTS IN INCREASED MAINTENANCE OR DECREASED OPERATIONAL LIFE OR SAFETY.	
C. VISUAL ELEMENTS: DO NOT CUT AND PATCH CONSTRUCTION IN A MANNER THAT RESULTS IN VISUAL EVIDENCE OF CUTTING AND PATCHING. DO NOT CUT AND PATCH EXPOSED CONSTRUCTION IN A MANNER THAT WOULD, IN ARCHITECT'S OPINION, REDUCE THE BUILDING'S AESTHETIC QUALITIES. REMOVE AND REPLACE CONSTRUCTION THAT HAS BEEN CUT AND PATCHED IN A VISUALLY UNSATISFACTORY MANNER.	
6. IN-PLACE MATERIALS: USE MATERIALS FOR PATCHING IDENTICAL TO IN-PLACE MATERIALS. FOR EXPOSED SURFACES, USE MATERIALS THAT VISUALLY MATCH IN-PLACE ADJACENT SURFACES TO THE FULLEST EXTENT POSSIBLE.	
7. INSTALLATION: LOCATE THE WORK AND COMPONENTS OF THE WORK ACCURATELY, IN CORRECT ALIGNMENT AND ELEVATION, AS INDICATED.	
A. CONDUCT CONSTRUCTION OPERATIONS SO NO PART OF THE WORK IS SUBJECT TO DAMAGING OPERATIONS OR LOADING IN EXCESS OF THAT EXPECTED DURING NORMAL CONDITIONS OF OCCUPANCY.	
B. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLING PRODUCTS IN APPLICATIONS INDICATED.	
C. INSTALL PRODUCTS AT THE TIME AND UNDER CONDITIONS THAT WILL INSURE THE BEST POSSIBLE RESULTS. MAINTAIN CONDITIONS REQUIRED FOR PRODUCT PERFORMANCE UNTIL SUBSTANTIAL COMPLETION.	
D. PROVIDE BLOCKING AND ATTACHMENT PLATES AND ANCHORS AND FASTENERS OF ADEQUATE SIZE AND NUMBER TO SECURELY ANCHOR EACH COMPONENT IN PLACE, ACCURATELY LOCATED AND ALIGNED WITH OTHER PORTIONS OF THE WORK.	
E. MAKE JOINTS OF UNIFORM WIDTH, WHERE JOINT LOCATIONS IN EXPOSED WORK ARE NOT INDICATED, COORDINATE WITH ARCHITECT TO ARRANGE JOINTS FOR THE BEST VISUAL EFFECT. FIT EXPOSED CONNECTIONS TOGETHER TO FORM HAIRLINE JOINTS.	
01 77 00 CLOSEOUT PROCEDURES	
1. PROJECT RECORD DOCUMENTS: CONTRACTOR SHALL MAINTAIN ON SITE, ONE SET OF THE FOLLOWING RECORD DOCUMENTS; RECORD ACTUAL REVISIONS TO THE WORK:	
A. CONTRACT DRAWINGS.	
B. SPECIFICATIONS.	
C. ADDENDA.	
D. CHANGE ORDERS AND OTHER MODIFICATIONS TO THE CONTRACT.	
E. REVIEWED SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.	
2. OPERATION AND MAINTENANCE DATA: CONTRACTOR SHALL SUBMIT OPERATION AND MAINTENANCE MANUALS NEATLY EDITED, WITH SIMILAR EQUIPMENT GROUPED, TABBED AND INDEXED. MATERIALS SHALL BE PRINTED OR TYPEWRITTEN.	
3. WARRANTY: CONTRACTOR SHALL EXECUTE AND ASSEMBLE DOCUMENTS FROM SUBCONTRACTORS, SUPPLIERS, AND MANUFACTURERS. DUPLICATE NOTORIZED COPIES SHALL BE PROVIDED.	
4. FINAL CLEANING: COMPLETE THE FOLLOWING CLEANING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATION OF SUBSTANTIAL COMPLETION FOR ENTIRE PROJECT OR FOR A DESIGNATED PORTION OF PROJECT.	
A. CLEAN PROJECT SITE IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES OF RUBBISH, WASTE MATERIAL, LITTER, AND OTHER FOREIGN SUBSTANCES.	
B. SWEEP PAVED AREAS BROOM CLEAN. REMOVE PETROCHEMICAL SPILLS, STAINS, AND OTHER FOREIGN DEPOSITS.	
C. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, AND SURPLUS MATERIAL FROM PROJECT SITE.	
D. CLEAN EXPOSED HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS, AND SIMILAR FOREIGN SUBSTANCES.	
E. REMOVE DEBRIS AND SURFACE DUST FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, PLENUMS, SHAFTS, TRENCHES, EQUIPMENT VAULTS, MANHOLES, ATTICS, AND SIMILAR SPACES.	
F. SWEEP COMPLETE FLOORS BROOM CLEAN IN UNOCCUPIED SPACES.	
G. VACUUM CARPET AND SIMILAR SOFT SURFACES; REMOVE DEBRIS AND EXCESS WAX. CLEAN ACCORDING TO MANUFACTURER'S RECOMMENDATIONS IF VISIBLE SOIL OR STAINS REMAIN.	
H. CLEAN TRANSPARENT MATERIALS, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS. REMOVE GLAZING COMPOUNDS AND OTHER NOTICEABLE, VISION-OBSCURING MATERIALS. REPLACE CHIPPED OR BROKEN GLASS AND OTHER DAMAGED TRANSPARENT MATERIALS. POLISH MIRRORS AND GLASS, TAKING CARE NOT TO SCRATCH SURFACES.	
I. REMOVE LABELS THAT ARE NOT PERMANENT.	
J. CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION, FREE OF STAINS, INCLUDING STAINS RESULTING FROM WATER EXPOSURE. REPLACE DISPOSABLE AIR FILTERS AND CLEAN PERMANENT AIR FILTERS. CLEAN EXPOSED SURFACES OF DIFFUSERS, REGISTERS, AND GRILLS.	
K. CLEAN LIGHT FIXTURES, LAMPS, GLOBES, AND REFLECTORS TO REMOVAL OF STAINS AND INEFFICIENCY.	
L. LEAVE PROJECT CLEAN AND READY FOR OCCUPANCY.	
5. REPAIR OF THE WORK: COMPLETE REPAIR AND RESTORATION OPERATIONS BEFORE REQUESTING INSPECTION FOR DETERMINATION OF SUBSTANTIAL COMPLETION.	
A. REPAIR OR REMOVE AND REPLACE DEFECTIVE CONSTRUCTION. REPAIRING INCLUDES REPLACING DEFECTIVE PARTS, REFINISHING DAMAGED SURFACES, TOUCHING UP WITH MATCHING MATERIALS, AND PROPERLY ADJUSTING OPERATING EQUIPMENT, WHERE DAMAGED OR WORN ITEMS CANNOT BE REPAIRED OR RESTORED, PROVIDE REPLACEMENTS.	
B. REMOVE AND REPLACE CHIPPED, SCRATCHED, AND BROKEN GLASS, REFLECTIVE SURFACES, AND OTHER DAMAGED TRANSPARENT MATERIALS.	

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01 77 00 CLOSEOUT PROCEDURES (CONTINUED)	
C. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED OR EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT THAT ALREADY SHOW EVIDENCE OF REPAIR OR RESTORATION.	
D. DO NOT PAINT OVER "UL" AND OTHER REQUIRED LABELS AND IDENTIFICATION, INCLUDING MECHANICAL AND ELECTRICAL NAMEPLATES. REMOVE PAINT APPLIED TO REQUIRED LABELS AND IDENTIFICATION.	
E. REPLACE PARTS SUBJECT TO OPERATING CONDITIONS DURING CONSTRUCTION THAT MAY IMPEDE OPERATION OR REDUCE LONGEVITY.	
F. REPLACE BURNED-OUT BULBS, BULBS NOTICEABLY DIMMED BY HOURS OF USE, AND DEFECTIVE AND NOISY STARTERS IN FLUORESCENT AND MERCURY VAPOR FIXTURES TO COMPLY WITH REQUIREMENTS FOR NEW FIXTURES.	
5. SUBSTANTIAL COMPLETION: SUBMIT A WRITTEN REQUEST FOR INSPECTION TO DETERMINE SUBSTANTIAL COMPLETION OF 10 DAYS PRIOR TO DATE THE WORK WILL BE COMPLETED AND READY FOR FINAL INSPECTION AND TESTS.	
A. SUBMITTALS PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION. LIST ITEMS BELOW THAT ARE INCOMPLETE AT TIME OF REQUEST.	
a. OBTAIN AND SUBMIT RELEASES FROM AUTHORITIES HAVING JURISDICTION PERMITTING OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES. INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES, AND SIMILAR RELEASES.	
b. SUBMIT PROJECT RECORD DOCUMENTS IN A SINGLE, INDEXED PACKAGE TO THE ARCHITECT FOR REVIEW OF COMPLETENESS AND APPROVAL. PROJECT RECORD DOCUMENTS SHALL BE TRANSMITTED IN ELECTRONIC FORMAT ON A USB, UNLESS OTHERWISE AGREED UPON.	
c. SUBMIT OPERATION AND MAINTENANCE DATA IN A SINGLE, INDEXED PACKAGE TO THE ARCHITECT FOR REVIEW OF COMPLETENESS AND APPROVAL. O&M DATA SHALL BE TRANSMITTED IN ELECTRONIC FORMAT ON A USB, UNLESS OTHERWISE AGREED UPON.	
d. SUBMIT WARRANTIES IN A SINGLE, INDEXED PACKAGE TO THE ARCHITECT FOR REVIEW OF COMPLETENESS AND APPROVAL. WARRANTIES SHALL BE TRANSMITTED IN ELECTRONIC FORMAT ON A USB, UNLESS OTHERWISE AGREED UPON.	
e. SUBMIT ATTIC STOCK SPECIFIED IN INDIVIDUAL SECTIONS AND DELIVER TO LOCATION DESIGNATED BY OWNER, LABEL WITH MANUFACTURER'S NAME AND MODEL NUMBER WHERE APPLICABLE.	
f. SUBMIT TEST/ADJUST/BALANCE RECORDS.	
g. SUBMIT CHANGES AND NOTICES RELATED TO OWNER'S OCCUPANCY, USE, OPERATION, AND MAINTENANCE.	
B. PROCEDURES PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION. LIST ITEMS BELOW THAT ARE INCOMPLETE AT TIME OF REQUEST.	
a. ADVISE OWNER OF PENDING INSURANCE CHANGEOVER REQUIREMENTS.	
b. MAKE FINAL CHANGEOVER OF PERMANENT LOCKS AND DELIVER KEYS TO OWNER. ADVISE OWNER'S PERSONNEL OF CHANGEOVER IN SECURITY PROVISIONS.	
c. COMPLETE STARTUP AND TESTING OF SYSTEMS AND EQUIPMENT.	
d. PERFORM PREVENTIVE MAINTENANCE ON EQUIPMENT USED PRIOR TO SUBSTANTIAL COMPLETION.	
e. INSTRUCT OWNER'S PERSONNEL IN OPERATION, ADJUSTMENT, AND MAINTENANCE OF PRODUCTS, EQUIPMENT, AND SYSTEMS.	
f. ADVISE OWNER OF CHANGEOVER IN HEAT AND OTHER UTILITIES.	
g. PARTICIPATE WITH OWNER IN CONDUCTING INSPECTION AND WALKTHROUGH WITH LOCAL EMERGENCY RESPONDERS.	
h. TERMINATE AND REMOVE TEMPORARY FACILITIES FROM PROJECT SITE, ALONG WITH MOCKUPS, CONSTRUCTION TOOLS, AND SIMILAR ELEMENTS.	
i. COMPLETE CLEANING REQUIREMENTS, INCLUDING TOUCHUP PAINTING.	
j. TOUCH UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES TO ELIMINATE VISUAL DEFECTS.	
6. LIST OF INCOMPLETE ITEMS (PUNCH LIST): INCLUDE NAME AND IDENTIFICATION OF EACH SPACE AND AREA AFFECTED BY CONSTRUCTION OPERATIONS FOR INCOMPLETE ITEMS AND ITEMS NEEDING CORRECTION INCLUDING, IF NECESSARY, AREAS DISTURBED BY CONTRACTOR THAT ARE OUTSIDE THE LIMITS OF CONSTRUCTION.	
A. ORGANIZE LIST OF SPACES IN SEQUENTIAL ORDER, STARTING WITH EXTERIOR AREAS FIRST AND PROCEEDING FROM LOWEST FLOOR TO HIGHEST FLOOR.	
B. ORGANIZE ITEMS APPLYING TO EACH SPACE BY MAJOR ELEMENT, INCLUDING CATEGORIES FOR CEILING, INDIVIDUAL WALLS, FLOORS, EQUIPMENT, AND BUILDING SYSTEMS.	
C. SUBMIT LIST OF INCOMPLETE ITEMS IN ELECTRONIC FORMAT. ARCHITECT WILL RETURN ANNOTATED COPY.	
7. FINAL COMPLETION INSPECTION: SUBMIT A WRITTEN REQUEST FOR FINAL INSPECTION TO DETERMINE ACCEPTANCE. ON RECEIPT OF REQUEST, ARCHITECT WILL EITHER PROCEED WITH INSPECTION OR NOTIFY CONTRACTOR OF UNFULFILLED REQUIREMENTS. ARCHITECT WILL PREPARE A FINAL CERTIFICATE FOR PAYMENT AFTER INSPECTION OR WILL NOTIFY CONTRACTOR OF CONSTRUCTION THAT MUST BE COMPLETED OR CORRECTED BEFORE CERTIFICATE WILL BE ISSUED. BEFORE REQUESTING FINAL INSPECTION FOR DETERMINING FINAL COMPLETION, COMPLETE THE FOLLOWING:	
A. CERTIFIED LIST OF INCOMPLETE ITEMS: SUBMIT CERTIFIED COPY OF ARCHITECT'S SUBSTANTIAL COMPLETION INSPECTION LIST OF ITEMS TO BE COMPLETED OR CORRECTED (PUNCH LIST), ENDORSED AND DATED BY ARCHITECT. CERTIFIED COPY OF THE LIST SHALL STATE THAT EACH ITEM HAS BEEN COMPLETED OR OTHERWISE RESOLVED FOR ACCEPTANCE.	
B. CERTIFICATE OF INSURANCE: SUBMIT EVIDENCE OF FINAL, CONTINUING INSURANCE COVERAGE COMPLYING WITH INSURANCE REQUIREMENTS.	
C. INSTRUCT OWNER'S PERSONNEL IN OPERATION, ADJUSTMENT, AND MAINTENANCE OF PRODUCTS, EQUIPMENT, AND SYSTEMS. SUBMIT DEMONSTRATION AND TRAINING VIDEO RECORDINGS AS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS.	

1	
DIVISION 03 - CONCRETE	
03 10 00 CONCRETE FORMING AND ACCESSORIES	
WORK IN THIS SECTION APPLIES TO BELOW GRADE CONCRETE CONCEALED BY EARTH AND ABOVE GRADE CONCRETE CONCEALED IN THE FINISHED WORK. WORK WILL ALSO APPLY TO CONCRETE EXPOSED IN THE VIEW IN UTILITARIAN ROOMS AND SPACES WHICH WILL REMAIN UNDECORATED.	
1. REFERENCE STANDARDS: AMERICAN CONCRETE INSTITUTE, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, ASTM INTERNATIONAL, AND THE 2019 MINNESOTA BUILDING CODE. COMPLY WITH ACI 117, ACI 301 AND ACI 347.	
2. SUBMIT SHOP DRAWINGS TO SHOW LAYOUT OF FORMWORK FOR HIGH RISE FORMWORK AND SHOW TYPICAL SECTIONS UNDER UNUSUAL CONDITIONS, AND TREATMENT OF JOINTS. ARCHITECT'S ACCEPTANCE OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY DESIGN AND CONSTRUCTING THE PROPER FORMS.	
3. REFER TO STRUCTURAL'S CONCRETE SPECIFICATION FOR ADDITIONAL INFORMATION.	
03 20 00 CONCRETE REINFORCING	
WORK IN THIS SECTION APPLIES TO THE FABRICATION AND PLACEMENT FOR REINFORCING STEEL, INCLUDING BAR SIZES, LENGTHS, MATERIALS, GRADE, BAR SCHEDULES, STIRRUP SPACING, BENT BAR DIAGRAMS, BAR ARRANGEMENT, SPICES AND LAPS, MECHANICAL CONNECTIONS, THE SPACING, HOOP SPACING, AND SUPPORTS FOR CONCRETE PLACEMENT.	
1. REFERENCE STANDARDS: AMERICAN CONCRETE INSTITUTE, AMERICAN WELDING SOCIETY, ASTM INTERNATIONAL, AND THE CONCRETE REINFORCING INSTITUTE, COMPLY WITH ACI 301, ACI 318, ACI SP DETAILING MANUAL, AND AWS D1.4 OF THE STRUCTURAL WELDING CODE.	
2. REFER TO STRUCTURAL'S CONCRETE SPECIFICATION FOR ADDITIONAL INFORMATION.	
03 30 00 CAST-IN-PLACE CONCRETE	
WORK IN THIS SECTION APPLIES TO THE FABRICATION AND PLACEMENT OF CONCRETE IN FORMWORK AND FLATWORK ON THE SITE.	
1. REFERENCE STANDARDS: AMERICAN CONCRETE INSTITUTE, AMERICAN WELDING SOCIETY, ASTM INTERNATIONAL, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND THE 2020 MINNESOTA BUILDING CODE.	
2. CONCRETE PRODUCTS SHALL BE PROVIDED BY A FIRM EXPERIENCED IN MANUFACTURING READY-MIXED CONCRETE PRODUCTS AND THAT COMPLIES WITH ASTM C94-C94 M REQUIREMENTS FOR A PRODUCTION FACILITY AND EQUIPMENT.	
3. AN INDEPENDENT AGENCY, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, SHALL TEST AND CERTIFY ACCORDING TO ASTM C 329 FOR TESTING INDICATED AS DOCUMENTED ACCORDING TO ASTM E548. SHALL COMPLETE REQUIRED TESTING.	
4. FORM-FACING PANELS THAT WILL PROVIDE CONTINUOUS, TRUE AND SMOOTH CONCRETE SURFACES SHALL BE USED. ANY IMPERFECTIONS SHALL BE GROUND SMOOTH.	
5. COMMERCIALY FORMULATED FORM-RELEASE AGENTS THAT WILL NOT BE USED WITH STAIN, OR ADVERSELY AFFECT CONCRETE SURFACE AND WILL NOT IMPAIR SUBSEQUENT TREATMENTS OF CONCRETE SURFACE SHALL BE USED.	
6. CONCRETE SLAB-ON-GRADES: SEE STRUCTURAL DRAWINGS FOR THICKNESS AND REINFORCING.	
A. SHEET VAPOR RETARDER: POLYETHYLENE SHEET, ASTM D 4397, NOT LESS THAN 10 MILS (0.25 MM) THICK.	
B. FINE-GRADED FILL: CLEAN MIXTURE OF CRUSHED GRANITE, CRUSHED GRAVEL, AND MANUFACTURED OR NATURAL SAND, ASTM D 448, SIZE 10, WITH 100 PERCENT PASSING A 3/8-INCH (9.5-MM) SIEVE, 10 TO 30 PERCENT PASSING A NO. 100 (0.15-MM) SIEVE, AND AT LEAST 3 PERCENT PASSING NO. 200 (0.075-MM) SIEVE; COMPLY WITH THE PREVIOUS SUBSTANCE LIMITS OF ASTM C 33 FOR FINE AGGREGATES.	
7. FOLLOW INDUSTRY STANDARDS FOR PROTECTING FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE TEMPERATURES. CURE EXPOSED SURFACES ACCORDING TO INDUSTRY STANDARDS, USING CURING COMPOUNDS ONLY TO ENSURE THE PROPER WORK QUALITY.	
9. CONTROL JOINTS SHALL BE SPACED AND INSTALLED PER INDUSTRY STANDARDS, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. SUBMIT A JOINT LAYOUT TO ARCHITECT TO COORDINATE WITH OTHER FINISH MATERIALS.	
DIVISION 04 - MASONRY	
04 22 00 CONCRETE UNIT MASONRY	
WORK IN THIS SECTION APPLIES TO THE INSTALLATION OF CONCRETE MASONRY UNITS, MORTAR AND GROUT, STEEL REINFORCING BARS, MASONRY JOINT REINFORCEMENT, AND MISCELLANEOUS MASONRY ACCESSORIES.	
1. REFERENCE STANDARDS: AMERICAN CONCRETE INSTITUTE, ASTM INTERNATIONAL, MASONRY INDUSTRY COUNCIL, NATIONAL CONCRETE MASONRY ASSOCIATION, AND PORTLAND CEMENT ASSOCIATION, COMPLY WITH ACI 530.1 AND ASTM C 1093.	
2. COLD-WEATHER AND HOT-WEATHER PROCEDURES: PROVIDE DETAILED DESCRIPTION OF SURFACES, MATERIALS, AND EQUIPMENT TO BE USED TO COMPLY WITH REQUIREMENTS.	
3. CONCRETE MASONRY UNITS: CONCRETE BLOCK SHALL BE MOISTURE-CONTROLLED UNITS MEETING THE REQUIREMENTS OF ASTM C 90-99A, GRADE N, TYPE 1.	
A. UNIT COMPRESSIVE STRENGTH: PROVIDE UNITS WITH MINIMUM AVERAGE NET-AREA COMPRESSIVE STRENGTH OF 2150 OR AS REQUIRED BY PROJECT PSI (14.8 MPa). REFER TO STRUCTURAL DRAWINGS.	
B. WEIGHT CLASSIFICATION: NORMAL WEIGHT UNLESS OTHERWISE INDICATED.	
C. SIZE (WIDTH): MANUFACTURED TO DIMENSIONS 3/8 INCH LESS THAN NOMINAL DIMENSIONS.	
D. SHAPES: PROVIDE SHAPES INDICATED AND AS FOLLOWS, WITH EXPOSED SURFACES TO BE FINISHED WITH EXPOSED FACES OF ADJACENT UNITS UNLESS OTHERWISE INDICATED.	
a. PROVIDE SPECIAL SHAPES FOR LINTELS, CORNERS, JAMBS, SASHES, MOVEMENT JOINTS, HEADERS, BONDING, AND OTHER SPECIAL CONDITIONS.	
b. PROVIDE SQUARE-EDGED UNITS FOR OUTSIDE CORNER UNLESS OTHERWISE INDICATED.	
4. MORTAR FOR UNIT MASONRY: COMPLY WITH ASTM C 270, PROPORTION SPECIFICATION. PROVIDE THE FOLLOWING TYPES OF MORTAR FOR APPLICATIONS STATED UNLESS ANOTHER TYPE IS INDICATED OR REQUIRED TO PROVIDE REQUIRED COMPRESSIVE STRENGTH FOR MASONRY.	
A. FOR REINFORCED MASONRY, USE TYPE S.	
B. FOR EXTERIOR, ABOVE-GRADE, LOAD-BEARING AND NON-LOAD-BEARING WALLS AND PARAPET WALLS; FOR INTERIOR LOAD-BEARING WALLS; FOR INTERIOR NON-LOAD-BEARING PARTITIONS; AND FOR OTHER APPLICATIONS WHERE ANOTHER TYPE IS NOT INDICATED, USE TYPE N.	
5. GROUT FOR UNIT MASONRY: COMPLY WITH ASTM C 476.	
A. USE GROUT OF TYPE INDICATED OR, IF NOT OTHERWISE INDICATED, OF TYPE (FINE OR COARSE) THAT WILL COMPLY WITH ASTM C 476 AND ACI 530.1/ASTM 602 FOR DIMENSIONS OF GROUT SPACES.	
B. POUR HEAVY.	
C. PROPORTION GROUT IN ACCORDANCE WITH ASTM C 476, PARAGRAPH 4.2.2 FOR SPECIFIED 28-DAY COMPRESSIVE STRENGTH INDICATED BUT NOT LESS THAN 2000 PSI (14 MPa).	
C. PROVIDE GROUT WITH A SLUMP OF 8 TO 11 INCHES (203 to 279 mm) MEASURED ACCORDING TO ASTM C 143/C 143M.	



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5	<p>04 22 00 CONCRETE UNIT MASONRY (CONTINUED)</p> <p>6. UNCOATED STEEL REINFORCING BARS: ASTM A 615/A 615M OR ASTM A 996/A 996M, GRADE 60 (GRADE 420).</p> <p>7. JOINT REINFORCEMENT: LADDER OR TRUSS TYPE COMPLYING WITH ASTM A951, FABRICATED FROM ASTM A951 COLD DRAWN STEEL WIRE, HOT-DIP GALVANIZED TO COMPLY WITH ASTM A153, CLASS B-2 COATING, WITH MINIMUM 9-GAGE DEFORMED SIDE RODS AND CROSS RODS, OR DIAGONALS.</p> <p>A. WIDTH: 2" LESS THAN WALL THICKNESS.</p> <p>B. LENGTH: PROVIDE 10-FOOT LENGTHS.</p> <p>C. SPACING OF CROSS RODS: NOT MORE THAN 16" O.C.</p> <p>1. PROVIDE PREFABRICATED CORNERS AND TEE SECTIONS. SPECIAL INSPECTION OF MASONRY IS REQUIRED DURING PREPARATION OF MASONRY WALL PRIMERS OR TEST SPECIMENS, SAMPLING AND PLACING OF MASONRY UNITS, PLACEMENT OF STRUCTURAL REINFORCEMENT, CLEANOUT OF GROUT SPACE IMMEDIATELY PRIOR TO CLOSING OF ELEMENTS, AND DURING GROUTING OPERATIONS.</p> <p>A. REFER TO STRUCTURAL DRAWINGS FOR SCHEDULE.</p> <p>2. CONVENTIONAL TESTING: SUBMIT FIELD TEST REPORTS FOR TENSILE BOND STRENGTH BETWEEN FACE BRICK AND MORTAR IN EXTERIOR WALLS.</p> <p>DIVISION 05 – METALS</p> <p>05 50 00 METAL FABRICATIONS</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION OF STEEL ELEMENTS FROM IRON AND STEEL SHAPES, PLATES, BARS, STRIPS, TUBES, AND PIPES WHICH ARE NOT PART OF THE STRUCTURAL FRAMEWORK SYSTEMS.</p> <p>1. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, ASTM INTERNATIONAL, AMERICAN WELDING SOCIETY, SOCIETY OF PROTECTIVE COATINGS, AND BUILDING CODE.</p> <p>2. PROVIDE SHOP DRAWING AND PRODUCT DATA TO SHOW THE INSTALLATION OF MISCELLANEOUS METAL FABRICATIONS AS SHOWN AND SPECIFIED.</p> <p>3. FABRICATE AND ASSEMBLE LOOSE ITEMS IN THE SHOP AND IF NECESSARY, MARK TO ENSURE PROPER INSTALLATION AT THE PROJECT SITE. EASE EXPOSED EDGES OF STEEL SHAPES. GALVANIZE PRODUCT AFTER FABRICATION. ASTM A123.</p> <p>4. FOR METAL FABRICATIONS EXPOSED TO VIEW IN THE COMPLETED WORK, PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES. DO NOT USE MATERIALS WITH EXPOSED PITTING, SEAM MARKS, ROLLER MARKS, WELDS, SCALE, ROLLED TRADE NAMES, OR ROUGHNESS.</p> <p>5. POST-INSTALLED ANCHORS IN CONCRETE: FABRICATED FROM CORROSION-RESISTANT MATERIALS CAPABLE OF SUSTAINING, WITHOUT FAILURE, THE LOAD IMPOSED WITHIN A SAFETY FACTOR OF 4, AS DETERMINED BY TESTING PER ASTM E 488.</p> <p>05 52 13 PIPE AND TUBE RAILINGS</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION OF STEEL PIPE RAILINGS. SEE SECTION 05 50 00 'METAL FABRICATIONS' FOR MISCELLANEOUS METAL FABRICATIONS ASSOCIATED WITH INSTALLATION.</p> <p>1. PERFORMANCE STANDARDS: UNIFORM LOAD OF 50 LBF/FT. (0.73 KN/M) APPLIED IN ANY DIRECTION, AND CONCENTRATED LOAD 200 LBF (0.89 KN) APPLIED IN ANY DIRECTION. UNIFORM AND CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.</p> <p>2. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, ASTM INTERNATIONAL, AMERICAN WELDING SOCIETY, SOCIETY OF PROTECTIVE COATINGS, AND BUILDING CODE.</p> <p>3. STEEL AND IRON:</p> <p>A. TUBING: ASTM A 500 (COLD FORMED) OR ASTM A 513, TYPE 5 (MANDREL DRAWN).</p> <p>B. PIPE: ASTM A 53/A 53M, TYPE F OR TYPE 5, GRADE A, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER GRADE AND WEIGHT ARE REQUIRED BY STRUCTURAL LOADS.</p> <p>C. PLATES, SHAPES, AND BARS: ASTM A 36/A 36M.</p> <p>D. CASTINGS: EITHER GRAY OR MALLEABLE IRON, UNLESS OTHERWISE INDICATED.</p> <p>a. GRAY IRON: ASTM A 48/A 48M, CLASS 30, UNLESS ANOTHER CLASS IS INDICATED OR REQUIRED BY STRUCTURAL LOADS.</p> <p>b. MALLEABLE IRON: ASTM A 47/A 47M.</p> <p>E. EXPANDED METAL: ASTM F 1267, TYPE II (EXPANDED AND FLATTENED), CLASS 1 (UNCOATED).</p> <p>4. BRACKETS, FLANGES, AND ANCHORS: CAST OR FORMED METAL OF SAME TYPE OF MATERIAL AND FINISH AS SUPPORTED RAILS, UNLESS OTHERWISE INDICATED.</p> <p>5. FASTENERS: PROVIDE CONCEALED FASTENERS, UNLESS UNAVOIDABLE OR STANDARD FOR RAILINGS INDICATED.</p> <p>A. STEEL RAILINGS: PLATED STEEL FASTENERS COMPLYING WITH ASTM B 633, CLASS FE/ZN 25 FOR ELECTRODEPOSITED ZINC COATING.</p> <p>6. ANCHORS: PROVIDE CAST-IN-PLACE, CHEMICAL OR TORQUE-CONTROLLED EXPANSION ANCHORS, FABRICATED FROM CORROSION-RESISTANT MATERIALS WITH CAPABILITY TO SUSTAIN, WITHOUT FAILURE, A LOAD EQUAL TO SIX TIMES THE LOAD IMPOSED WHEN INSTALLED IN UNIT MASONRY AND EQUAL TO FOUR TIMES THE LOAD IMPOSED WHEN INSTALLED IN CONCRETE, AS DETERMINED BY TESTING PER ASTM E 488.</p> <p>7. GROUT AND ANCHORING CEMENT: FACTORY-PACKAGED, NON-SHRINK, NONMETALLIC GROUT COMPLYING WITH ASTM C 1107, OR WATER-RESISTANT, NON-SHRINK ANCHORING CEMENT, RECOMMENDED BY MANUFACTURER FOR EXTERIOR USE.</p> <p>8. FABRICATION: FABRICATE RAILINGS TO COMPLY WITH DESIGN, DIMENSIONS, AND DETAILS INDICATED, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS.</p> <p>A. WELDED CONNECTIONS: COPE COMPONENTS AT CONNECTIONS TO PROVIDE CLOSE FIT, OR USE FITTINGS DESIGNED FOR THIS PURPOSE. WELD ALL AROUND AT CONNECTIONS, INCLUDING AT FITTINGS.</p> <p>B. NON-WELDED CONNECTIONS: CONNECT MEMBERS WITH CONCEALED MECHANICAL FASTENERS AND FITTINGS.</p> <p>C. FORM CHANGES IN DIRECTION BY INSERTING PREFABRICATED ELBOW FITTINGS.</p> <p>D. BEND CURVES BY BENDING IN JIGS TO PRODUCE UNIFORM CURVATURE. MAINTAIN CROSS SECTION OF MEMBER THROUGHOUT BEND WITHOUT CRACKING OR OTHERWISE DEFORMING EXPOSED SURFACES.</p> <p>E. CLOSE EXPOSED ENDS OF RAILING MEMBERS WITH PREFABRICATED END FITTINGS.</p> <p>9. FINISH: SHOP-PRIMED STEEL FINISH: PREPARE TO COMPLY WITH SSPC-SP 6/NACE NO. 3, "COMMERCIAL BLAST CLEANING" OR SSPC-SP 7/NACE NO. 4, "BRUSH-OFF BLAST CLEANING" AND APPLY PRIMER TO COMPLY WITH SSPC-PA 1.</p>
4	<p>DIVISION 06 – WOODS, PLASTICS, AND COMPOSITES</p> <p>06 10 00 ROUGH CARPENTRY</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF ROOFTOP EQUIPMENT BASES AND SUPPORT CURBS, WOOD BLOCKING AND NAILERS, WOOD FURRING, AND PLYWOOD BACKING PANELS.</p> <p>1. MATERIAL REQUIREMENTS:</p> <p>A. FOREST CERTIFICATION: 50% OF WOOD SHALL BE FSC-CERTIFIED.</p> <p>B. LUMBER: DOC PS 20.</p> <p>C. MAXIMUM MOISTURE CONTENT OF LUMBER: 19 PERCENT UNLESS OTHERWISE INDICATED.</p> <p>D. SOFTWOOD PLYWOOD: DOC PS 1.</p> <p>E. HARDBOARD: ANSI A135.4.</p> <p>F. PRESERVATIVE TREATMENT BY PRESSURE PROCESS: AWPA C2, EXCEPT THAT LUMBER THAT IS NOT IN CONTACT WITH THE GROUND AND IS CONTINUOUSLY PROTECTED FROM LIQUID WATER MAY BE TREATED ACCORDING TO AWPA C31 WITH INORGANIC BORON (SXB).</p> <p>G. FIRE-RETARDANT-TREATED MATERIALS: AWPA C20 (LUMBER) AND AWPA C27 (PLYWOOD).</p> <p>2. SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED. FIT ROUGH CARPENTRY TO OTHER CONSTRUCTION; SCRIBE AND COPE AS NEEDED FOR ACCURATE FIT. LOCATE, FURRING, NAILERS, BLOCKING, GROUND, AND SIMILAR SUPPORTS TO COMPLY WITH REQUIREMENTS FOR ATTACHING OTHER CONSTRUCTION.</p> <p>3. PROVIDE FIRE BLOCKING IN FURRED SPACES AND OTHER CONCEALED CAVITIES AS INDICATED.</p> <p>06 12 00 STRUCTURAL INSULATED PANELS</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF STRUCTURAL INSULATED PANELS (SIP)S AND ACCESSORIES. SEE 06 10 00 'ROUGH CARPENTRY' FOR MISCELLANEOUS FRAMING, BLOCKING, AND NAILERS ASSOCIATED WITH INSTALLATION.</p> <p>1. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, ASTM INTERNATIONAL, DEPARTMENT OF COMMERCE PERFORMANCE STANDARDS, INTERNATIONAL CODE COUNCIL.</p> <p>2. PERFORMANCE REQUIREMENTS: MANUFACTURER SHALL ENGAGE A QUALIFIED PROFESSIONAL ENGINEER TO DESIGN STRUCTURAL COMPONENTS PER DESIGN LOADS INDICATED ON DRAWINGS.</p> <p>3. PANEL CONSTRUCTION: EXPANDED POLYSTYRENE INSULATION CORE COMPLYING WITH ASTM C578 TYPE I, ORIENTED STRAND BOARD (OSB) FACING IN CONFORMANCE WITH DOC PS 2 AND COMPLYING WITH ANSI/APA PRS 610, TABLE 2, AND ADHESIVE COMPLYING WITH THE REQUIREMENTS OF ASTM D7446 OR ICC-ES AC05.</p> <p>A. THICKNESS: PER DRAWINGS.</p> <p>B. R-VALUE: PER DRAWINGS.</p> <p>4. ACCESSORIES: SPLINES, SEALANT, SCREWS, NAILS, TAPE, BLOCKING, AND SIMILAR ITEMS SHALL BE SUPPLIED BY THE MANUFACTURER.</p> <p>5. INSTALL SIPs IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION OF WALL PANELS ON CONCRETE OR MASONRY FOUNDATIONS.</p> <p>DIVISION 07 – MOISTURE AND THERMAL PROTECTION</p> <p>07 21 00 THERMAL INSULATION</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF BELOW-GRADE THERMAL INSULATION. SEE SECTION 06 10 00 'STRUCTURAL INSULATED PANELS' FOR WALL PANEL INSULATION AND SECTION 07 55 53 'EPDM ROOFING' FOR ROOF INSULATION.</p> <p>1. FOAM-PLASTIC BOARD INSULATION: EXTRUDED-POLYSTYRENE BOARD INSULATION: ASTM C 578, OF TYPE AND MINIMUM COMPRESSIVE STRENGTH INDICATED BELOW, WITH MAXIMUM FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES OF 75 AND 450, RESPECTIVELY, PER ASTM E 84.</p> <p>A. TYPE IV, 25 PSI.</p> <p>B. ADHESIVE FOR BONDING INSULATION: PRODUCT WITH DEMONSTRATED CAPABILITY TO BOND INSULATION SECURELY TO SUBSTRATES WITHOUT DAMAGING INSULATION AND SUBSTRATES.</p> <p>2. INSTALLATION OF BELOW-GRADE INSULATION: ON VERTICAL FOOTING AND FOUNDATION WALL SURFACES, SET INSULATION UNITS USING MANUFACTURER'S RECOMMENDED ADHESIVE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.</p> <p>A. IF NOT OTHERWISE INDICATED, EXTEND INSULATION A MINIMUM OF 48 INCHES BELOW EXTERIOR GRADE LINE.</p> <p>07 46 23 ENGINEERED WOOD SIDING</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF ENGINEERED WOOD SIDING.</p> <p>1. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, APA - THE ENGINEERED WOOD ASSOCIATIONS.</p> <p>2. ACCEPTABLE MANUFACTURER: LP BUILDING PRODUCTS, WHICH IS LOCATED AT: 414 UNION ST., SUITE 2000; NASHVILLE, TN 37219; TOLL FREE TEL: 888-820-0325; FAX: 877-523-7192; EMAIL: REQUEST INFO (CUSTOMER.SUPPORT@LPCORP.COM); WEB: HTTPS://LPCORP.COM</p> <p>1. SUBSTITUTIONS: NOT PERMITTED.</p> <p>3. BASIS OF DESIGN: STRAND VERTICAL SIDING; AS MANUFACTURED BY LP BUILDING PRODUCTS.</p> <p>A. DESCRIPTION: EXTERIOR-GRADE, PHENOLIC RESIN-SATURATED, PAPER OVERLAY LAMINATED TO EPA-REGISTERED ZINC-BORATE PRESERVATIVE-TREATED ENGINEERED WOOD SIDING, EDGES BEVELED AND SEALED FOR MOISTURE RESISTANCE.</p> <p>B. FINISH: ACRYLIC LATEX PRIMER.</p> <p>C. THICKNESS, 38 SERIES: 0.315 INCH (8 MM) MINIMUM.</p> <p>D. STYLE: EMBOSSED CEDAR TEXTURE.</p> <p>E. LENGTH: 8 FEET (2438 MM).</p> <p>F. WIDTH: 48 INCHES (1219 MM), NOMINAL.</p> <p>4. NON-COMPRESSIBLE, DRAINABLE HOUSEWRAP: WILL NOT ALLOW THE MINIMUM 1 MM DRAINAGE GAP TO BE REDUCED BY THE FORCE OF FASTENING DURING THE INSTALLATION OF SIDING.</p> <p>A. AIR PENETRATION: 0.0082 L/(SM2) AT 75 PSI, WHEN TESTED IN ACCORDANCE WITH ASTM E2178.</p> <p>B. WATER VAPOR TRANSMISSION: 16.1 PERMS, WHEN TESTED IN ACCORDANCE WITH ASTM E 96, METHOD A.</p> <p>C. WATER PENETRATION RESISTANCE: 55 CM FOR 5 HOURS WHEN TESTED IN ACCORDANCE WITH AATCC TEST METHOD 127.</p> <p>D. TENSILE STRENGTH: 58.0 MD, 50.6 CD, WHEN TESTED IN ACCORDANCE WITH ASTM D5034.</p> <p>E. SURFACE BURNING CHARACTERISTICS: CLASS A, WHEN TESTED IN ACCORDANCE WITH ASTM E84.</p> <p>F. FLAME SPREAD: 0, SMOKE DEVELOPED: 75.</p> <p>G. DRAINAGE EFFICIENCY 96%, WHEN TESTED IN ACCORDANCE WITH ASTM E2273.</p> <p>5. FLASHING: PROVIDE AT WINDOW AND DOOR HEADS AND WHERE INDICATED ON DRAWINGS. REFER TO DIVISION 07 FOR SHEET METAL FLASHING.</p> <p>6. FASTENERS, SEALANTS, AND MISCELLANEOUS ACCESSORIES: PER MANUFACTURER'S STANDARDS.</p> <p>7. INSTALLATION: PER MANUFACTURER'S WRITTEN INSTRUCTIONS.</p>
3	<p>07 54 23 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF MECHANICALLY FASTENED THERMOPLASTIC POLYOLEFIN (TPO) ROOFING.</p> <p>1. PERFORMANCE REQUIREMENTS:</p> <p>A. ACCELERATED WEATHERING: ROOFING SYSTEM SHALL WITHSTAND 2000 HOURS OF EXPOSURE WHEN TESTED ACCORDING TO ASTM G 152, ASTM G 154, OR ASTM G 155.</p> <p>B. IMPACT RESISTANCE: ROOFING SYSTEM SHALL RESIST IMPACT DAMAGE WHEN TESTED ACCORDING TO ASTM D 3746 OR ASTM D 4272.</p> <p>C. ROOFING SYSTEM DESIGN: DOUBLE-WELDED SEAMS DESIGNED AND INSTALLED FOR WIND LOADS PER IBC SECTION 1504.5 AND CHAPTER 16.</p> <p>D. SOLAR REFLECTANCE INDEX: NOT LESS THAN 78 WHEN CALCULATED ACCORDING TO ASTM E 1980, BASED ON TESTING IDENTICAL PRODUCTS BY A QUALIFIED TESTING AGENCY.</p> <p>E. ENERGY STAR LISTING: ROOFING SYSTEM SHALL BE LISTED ON THE DOE'S ENERGY STAR "ROOF PRODUCTS QUALIFIED PRODUCT LIST" FOR LOW-SLOPE ROOF PRODUCTS.</p> <p>F. ENERGY PERFORMANCE: ROOFING SYSTEM SHALL HAVE AN INITIAL SOLAR REFLECTANCE OF NOT LESS THAN 0.70 AND AN EMISSIVITY OF NOT LESS THAN 0.75 WHEN TESTED ACCORDING TO CRCR-1.</p> <p>2. FABRIC-REINFORCED TPO SHEET: ASTM D 6878, INTERNALLY FABRIC- OR SCIRM-REINFORCED, UNIFORM, FLEXIBLE TPO SHEET.</p> <p>A. THICKNESS: 60 MILS, NOMINAL.</p> <p>B. EXPOSED FACE COLOR: WHITE.</p> <p>3. AUXILIARY ROOFING MATERIALS: RECOMMENDED BY ROOFING SYSTEM MANUFACTURER FOR INTENDED USE AND COMPATIBLE WITH ROOFING.</p> <p>A. SHEET FLASHING: MANUFACTURER'S STANDARD UNREINFORCED TPO SHEET FLASHING, 55 MILS THICK, MINIMUM, OF SAME COLOR AS TPO SHEET.</p> <p>B. BONDING ADHESIVE: MANUFACTURER'S STANDARD.</p> <p>C. SLIP SHEET: MANUFACTURER'S STANDARD, OF THICKNESS REQUIRED FOR APPLICATION.</p> <p>D. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES COMPLYING WITH CORROSION-RESISTANCE PROVISIONS IN FM GLOBAL 4470, DESIGNED FOR FASTENING ROOFING TO SUBSTRATE, AND ACCEPTABLE TO ROOFING SYSTEM MANUFACTURER.</p> <p>E. MISCELLANEOUS ACCESSORIES: PROVIDE METAL TERMINATION BARS, METAL BATTENS, POURABLE SEALERS, PREFORMED CONE AND VENT SHEET FLASHINGS, PREFORMED INSIDE AND OUTSIDE CORNER SHEET FLASHINGS, JOINT COVERS, LAP SEALANTS, TERMINATION REGLETS, AND OTHER ACCESSORIES.</p> <p>4. ROOF INSULATION: POLYISOCYANURATE BOARD INSULATION, ASTM C 1289, TYPE II, CLASS 1, GRADE 3, FELT OR GLASS-FIBER MAT Facer ON BOTH MAJOR SURFACES.</p> <p>A. TAPERED INSULATION: PROVIDE FACTORY-TAPERED INSULATION BOARDS FABRICATED TO A MINIMUM SLOPE OF 1/4 INCH PER 12 INCHES UNLESS OTHERWISE INDICATED.</p> <p>B. PROVIDE PREFORMED SADDLES, CRICKETS, TAPERED EDGE STRIPS, AND OTHER INSULATION SHAPES WHERE INDICATED FOR SLOPING TO DRAIN. FABRICATE TO SLOPES INDICATED.</p> <p>5. FLEXIBLE WALKWAYS (WPD-1): FACTORY-FORMED, NONPOROUS, HEAVY-DUTY, SLIP-RESISTING, SURFACE-TEXTURED WALKWAY PADS OR ROLLS, APPROXIMATELY 3/16 INCH THICK AND ACCEPTABLE TO ROOFING SYSTEM MANUFACTURER.</p> <p>6. ROOFING INSTALLATION, GENERAL: INSTALL ROOFING SYSTEM ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.</p> <p>A. COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM AT THE END OF THE WORKDAY OR WHEN RAIN IS FORECAST. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFING.</p> <p>7. PROVIDE MANUFACTURER'S STANDARD WARRANTY.</p> <p>07 62 00 SHEET METAL FLASHING AND TRIM</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF PRE-FINISHED METAL FLASHINGS, COPINGS AND DOWNSPOUTS.</p> <p>1. PERFORMANCE REQUIREMENTS:</p> <p>A. WIND DESIGN STANDARD: MANUFACTURE AND INSTALL PRODUCTS TESTED ACCORDING TO SPRI ES-1 AND CAPABLE OF RESISTING THE DESIGN PRESSURE INDICATED ON THE DRAWINGS.</p> <p>B. THERMAL MOVEMENTS: MANUFACTURE AND INSTALL PRODUCTS FOR TEMPERATURE CHANGE RANGE OF 120 DEG F, AMBIENT, AND 180 DEG F, METAL SURFACES.</p> <p>2. MATERIALS: PROTECT MECHANICAL AND OTHER FINISHES ON EXPOSED SURFACES FROM DAMAGE BY APPLYING STRIPPABLE, TEMPORARY PROTECTIVE FILM BEFORE SHIPPING.</p> <p>A. METALLIC-COATED STEEL SHEET: PROVIDE ZINC-COATED (GALVANIZED) STEEL SHEET ACCORDING TO ASTM A 653/A 653M, G90 COATING DESIGNATION; PREPARED BY COIL-COATING PROCESS TO COMPLY WITH ASTM A 755/A 755M.</p> <p>a. SURFACE: SMOOTH, FLAT AND WITH MANUFACTURER'S STANDARD CLEAR ACRYLIC COATING ON BOTH SIDES.</p> <p>b. EXPOSED COIL-COATED FINISH: TWO-COAT FLUOROPOLYMER, AAMA 621, FLUOROPOLYMER FINISH CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT. PREPARE, PRETREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURER'S WRITTEN INSTRUCTIONS.</p> <p>c. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.</p> <p>d. CONCEALED FINISH: PRETREAT WITH MANUFACTURER'S STANDARD WHITE OR LIGHT-COLORED ACRYLIC OR POLYESTER BACKER FINISH, CONSISTING OF PRIME COAT AND WASH COAT WITH MINIMUM TOTAL DRY FILM THICKNESS OF 0.5 MIL.</p> <p>B. SELF-ADHERING, HIGH-TEMPERATURE SHEET: MINIMUM 30 MILS THICK, CONSISTING OF A SLIP-RESISTANT POLYETHYLENE- OR POLYPROPYLENE-FILM TOP SURFACE LAMINATED TO A LAYER OF BUTYL- OR SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE-PAPER BACKING; SPECIFICALLY DESIGNED TO WITHSTAND HIGH METAL TEMPERATURES BENEATH METAL ROOFING. PROVIDE PRIMER ACCORDING TO WRITTEN RECOMMENDATIONS OF UNDERLAYMENT MANUFACTURER.</p> <p>a. THERMAL STABILITY: ASTM D 1970; STABLE AFTER TESTING AT 240 DEG F OR HIGHER.</p> <p>C. SLIP SHEET: ROSIN-SIZED BUILDING PAPER, 3 LB/100 SQ. FT. MINIMUM.</p> <p>D. MISCELLANEOUS: PROVIDE MATERIALS AND TYPES OF FASTENERS, TAPES, SEALANTS, AND OTHER MISCELLANEOUS ITEMS REQUIRED BY MANUFACTURER FOR COMPLETE INSTALLATION.</p> <p>3. FABRICATION: CUSTOM FABRICATE SHEET METAL FLASHING AND TRIM TO COMPLY WITH DETAILS SHOWN AND RECOMMENDATIONS IN CITED SHEET METAL STANDARD THAT APPLY TO DESIGN, DIMENSIONS, GEOMETRY, METAL THICKNESS, AND OTHER CHARACTERISTICS OF ITEM REQUIRED. FABRICATE SHEET METAL FLASHING AND TRIM IN SHOP TO GREATEST EXTENT POSSIBLE.</p> <p>A. FABRICATE SHEET METAL FLASHING AND TRIM IN THICKNESS OR WEIGHT NEEDED TO COMPLY WITH PERFORMANCE REQUIREMENTS, BUT NOT LESS THAN THAT SPECIFIED FOR EACH APPLICATION AND METAL.</p> <p>B. OBTAIN FIELD MEASUREMENTS FOR ACCURATE FIT BEFORE SHOP FABRICATION.</p> <p>C. FORM SHEET METAL FLASHING AND TRIM TO FIT SUBSTRATES WITHOUT EXCESSIVE OIL CANNING, BUCKLING, AND TOOL MARKS; TRUE TO LINE, LEVELS, AND SLOPES; AND WITH EXPOSED EDGES FOLDED BACK TO FORM HEMS.</p> <p>D. CONCEAL FASTENERS AND EXPANSION PROVISIONS WHERE POSSIBLE. DO NOT USE EXPOSED FASTENERS ON FACES EXPOSED TO VIEW.</p>
2	<p>07 62 00 SHEET METAL FLASHING AND TRIM</p> <p>E. FABRICATION TOLERANCES: FABRICATE SHEET METAL FLASHING AND TRIM THAT IS CAPABLE OF INSTALLATION TO A TOLERANCE OF 1/4 INCH IN 20 FEET ON SLOPE AND LOCATION LINES INDICATED ON DRAWINGS AND WITHIN 1/8-INCH OFFSET OF ADJOINING FACES AND OF ALIGNMENT OF MATCHING PROFILES.</p> <p>F. EXPANSION PROVISIONS: FORM METAL FOR THERMAL EXPANSION OF EXPOSED FLASHING AND TRIM.</p> <p>a. FORM EXPANSION JOINTS OF INTERMESHING HOOKED FLANGES, NOT LESS THAN 1 INCH DEEP, FILLED WITH BUTYL SEALANT CONCEALED WITHIN JOINTS.</p> <p>b. USE LAPPED EXPANSION JOINTS ONLY WHERE INDICATED ON DRAWINGS.</p> <p>G. SEALANT JOINTS: WHERE MOVABLE, NON-EXPANSION-TYPE JOINTS ARE REQUIRED, FORM METAL TO PROVIDE FOR PROPER INSTALLATION OF ELASTOMERIC SEALANT ACCORDING TO CITED SHEET METAL STANDARD.</p> <p>H. FABRICATE CLEATS AND ATTACHMENT DEVICES FROM SAME MATERIAL AS ACCESSORY BEING ANCHORED OR FROM COMPATIBLE, NONCORROSIVE METAL.</p> <p>I. SEAMS: FABRICATE NONMOVING SEAMS WITH FLAT-LOCK SEAMS. FORM SEAMS AND SEAL WITH ELASTOMERIC SEALANT UNLESS OTHERWISE RECOMMENDED BY SEALANT MANUFACTURER FOR INTENDED USE. RIVET JOINTS WHERE NECESSARY FOR STRENGTH.</p> <p>4. DOWNSPOUTS: FABRICATE RECTANGULAR OPEN-FACE DOWNSPOUTS TO DIMENSIONS INDICATED, COMPLETE WITH MITERED ELBOWS. FURNISH WITH METAL HANGERS FROM SAME MATERIAL AS DOWNSPOUTS AND ANCHORS. SHOP FABRICATE ELBOWS.</p> <p>A. STYLE AS DETAILED AND ACCORDING TO SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL."</p> <p>B. GALVANIZED STEEL: 0.024 INCH THICK.</p> <p>5. PARAPET SCUPPERS: FABRICATE SCUPPERS TO DIMENSIONS REQUIRED, WITH CLOSURE FLANGE TRIM TO EXTERIOR, 4-INCH-WIDE WALL FLANGES TO INTERIOR, AND BASE EXTENDING 4 INCHES BEYOND CANT OR TAPERED STRIP INTO FIELD OF ROOF. FABRICATE FROM THE FOLLOWING MATERIALS:</p> <p>A. GALVANIZED STEEL: 0.024 INCH THICK.</p> <p>6. CONDUCTOR HEADS: FABRICATE CONDUCTOR HEADS WITH FLANGED BACK AND STIFFENED TOP EDGE AND OF DIMENSIONS AND SHAPE REQUIRED, COMPLETE WITH OUTLET TUBES, EXTERIOR FLANGE TRIM, AND BUILT-IN OVERFLOWS. FABRICATE FROM THE FOLLOWING MATERIALS:</p> <p>A. GALVANIZED STEEL: 0.024 INCH THICK.</p> <p>7. COPINGS: FABRICATE IN MINIMUM 96-INCH-LONG, BUT NOT EXCEEDING 12-FOOT-LONG, SECTIONS. FABRICATE JOINT PLATES OF SAME THICKNESS AS COPINGS. FURNISH WITH CONTINUOUS CLEATS TO SUPPORT EDGE OF EXTERIOR SURFACES.</p> <p>A. MITER CORNERS, FASTEN AND SEAL WATERTIGHT. SHOP FABRICATE INTERIOR AND EXTERIOR CORNERS.</p> <p>a. COPING PROFILE: AS INDICATED ON DRAWINGS, ACCORDING TO NRCA STANDARDS.</p> <p>B. JOINT STYLE: BUTTED WITH EXPANSION SPACE AND 6-INCH-WIDE, EXPOSED COVER PLATE.</p> <p>C. GALVANIZED STEEL: 0.024 INCH THICK.</p> <p>8. COUNTERFLASHING: SHOP FABRICATE INTERIOR AND EXTERIOR CORNERS. FABRICATE FROM THE FOLLOWING MATERIALS:</p> <p>A. GALVANIZED STEEL: 0.024 INCH THICK.</p> <p>B. FLASHING RECEIVERS, ROOF-PENETRATION FLASHING, EQUIPMENT SUPPORTS, AND MISCELLANEOUS FLASHING: FABRICATE FROM GALVANIZED STEEL 0.024 INCH THICK.</p> <p>9. INSTALLATION, GENERAL: WHERE DISSIMILAR METALS CONTACT EACH OTHER, OR WHERE METAL CONTACTS PRESSURE-TREATED WOOD OR OTHER CORROSIVE SUBSTRATES, PROTECT AGAINST GALVANIC ACTION OR CORROSION BY PAINTING CONTACT SURFACES WITH BITUMINOUS COATING OR BY OTHER PERMANENT SEPARATION AS RECOMMENDED BY SHEET METAL MANUFACTURER OR CITED SHEET METAL STANDARD.</p> <p>10. INSTALLATION, UNDERLAYMENT: PER MANUFACTURER'S WRITTEN INSTRUCTIONS.</p> <p>11. INSTALLATION, FLASHING AND TRIM: ANCHOR IN PLACE, WITH PROVISIONS FOR THERMAL AND STRUCTURAL MOVEMENT. USE FASTENERS, PROTECTIVE COATINGS, SEPARATORS, SEALANTS, AND OTHER MISCELLANEOUS ITEMS AS REQUIRED TO COMPLETE SHEET METAL FLASHING AND TRIM SYSTEM.</p> <p>A. INSTALL SHEET METAL FLASHING AND TRIM TRUE TO LINE, LEVELS, AND SLOPES. PROVIDE UNIFORM, NEAT SEAMS WITH MINIMUM EXPOSURE OF SOLDER, WELDS, AND SEALANT.</p> <p>B. INSTALL SHEET METAL FLASHING AND TRIM TO FIT SUBSTRATES AND TO RESULT IN WATERTIGHT PERFORMANCE. VERIFY SHAPES AND DIMENSIONS OF SURFACES TO BE COVERED BEFORE FABRICATING SHEET METAL.</p> <p>C. SPACE CLEATS NOT MORE THAN 12 INCHES APART. ATTACH EACH CLEAT WITH AT LEAST TWO FASTENERS. BEND TABS OVER FASTENERS.</p> <p>D. PROVIDE CONCEALED FASTENERS WHERE POSSIBLE.</p> <p>E. INSTALL EXPOSED SHEET METAL FLASHING AND TRIM WITH LIMITED OIL CANNING, AND FREE OF BUCKLING AND TOOL MARKS.</p> <p>F. TORCH CUTTING OF SHEET METAL FLASHING AND TRIM IS NOT PERMITTED.</p> <p>12. INSTALLATION, ROOF-DRAINAGE SYSTEM: INSTALL SHEET METAL ROOF-DRAINAGE SYSTEM TO PROTECT CLEAR ACRYLIC COATING ON BOTH SIDES. COORDINATE INSTALLATION OF ROOF PERIMETER FLASHING WITH INSTALLATION OF ROOF-DRAINAGE SYSTEM.</p> <p>A. DOWNSPOUT: JOIN SECTIONS WITH 1-1/2 INCH TELESCOPING JOINTS AND LOCATE HANGERS AT TOP AND BOTTOM AND AT APPROXIMATELY 60 INCHES ON CENTER.</p> <p>B. PARAPET SCUPPERS: CONTINUOUSLY SUPPORT SCUPPER, SET TO CORRECT ELEVATION, AND SEAL FLANGES TO INTERIOR WALL FACE, OVER CANTS OR TAPERED EDGE STRIPS, AND UNDER ROOFING MEMBRANE.</p> <p>C. CONDUCTOR HEADS: ANCHOR SECURELY TO WALL, WITH ELEVATION OF CONDUCTOR HEAD RIM AT MINIMUM OF 1 INCH BELOW SCUPPER DISCHARGE.</p> <p>D. EXPANSION-JOINT COVERS: INSTALL EXPANSION-JOINT COVERS AT LOCATIONS AND OF CONFIGURATION INDICATED. LAP JOINTS MINIMUM OF 4 INCHES IN DIRECTION OF WATER FLOW.</p> <p>07 71 00 ROOF ACCESSORIES</p> <p>1. PERFORMANCE REQUIREMENTS:</p> <p>A. WIND DESIGN STANDARD: MANUFACTURE AND INSTALL PRODUCTS TESTED ACCORDING TO SPRI ES-1 AND CAPABLE OF RESISTING THE DESIGN PRESSURE INDICATED ON THE DRAWINGS.</p> <p>B. THERMAL MOVEMENTS: MANUFACTURE AND INSTALL PRODUCTS FOR TEMPERATURE CHANGE RANGE OF 120 DEG F, AMBIENT, AND 180 DEG F, METAL SURFACES.</p> <p>2. ROOF SCREEN: VERTICAL PANELS ON SPACE FRAME ATTACHED DIRECTLY TO EQUIPMENT.</p> <p>A. PANELS</p> <p>a. STYLE: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD PRODUCTS.</p> <p>b. MATERIAL: ACRYLIC BUTYLENE STYRENE</p> <p>c. WALL THICKNESS: 0.1875 INCHES</p> <p>d. COLOR: AS SELECTED BY ARCHITECT FROM FULL RANGE OF MANUFACTURER'S STANDARD COLORS.</p> <p>B. EXTRUDED ALUMINUM SUPPORTS: NUMBER AND SPACING AS REQUIRED PER WIND LOADS.</p> <p>a. ONE PIECE 6005-T5 ALLOY.</p> <p>b. MATERIAL THICKNESS: 0.125 INCH, NOMINAL.</p> <p>c. SUPPORTS AND PANELS SHALL BE JOINED BY STAINLESS STEEL MECHANICAL FASTENER.</p> <p>d. FINISH: MANUFACTURER'S STANDARD, FACTORY-APPLIED COATING SYSTEM. COLOR AS SELECTED FROM FULL RANGE OF MANUFACTURER'S STANDARD COLORS.</p> <p>3. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.</p>
1	<p>07 92 00 JOINT SEALANT</p> <p>1. PROVIDE JOINT SEALANTS FOR EXTERIOR APPLICATIONS THAT ESTABLISH AND MAINTAIN AIRTIGHT AND WATER-RESISTANT CONTINUOUS JOINT SEALS WITHOUT STAINING OR DETERIORATING JOINT SUBSTRATES.</p> <p>2. MILDEW RESISTANT SILICONE RUBBER SEALANT: AS PER MANUFACTURER'S INSTRUCTIONS.</p> <p>3. CYLINDRICAL SEALANT BACKING: AS PER MANUFACTURE INSTRUCTIONS.</p> <p>4. INSTALL JOINT SEALANT IN COMPLIANCE WITH ASTM C1193 FOR USE OF SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.</p> <p>07 95 00 EXPANSION CONTROL</p> <p>WORK IN THIS SECTION APPLIES TO THE INSTALLATION OF EXTERIOR AND INTERIOR EXPANSION CONTROL SYSTEMS.</p> <p>1. SOURCE LIMITATIONS: OBTAIN EXPANSION CONTROL SYSTEMS FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.</p> <p>2. EXTERIOR EXPANSION CONTROL SYSTEMS:</p> <p>A. WALL TO WALL - ABOVE GRADE: PREFORMED, PRE-COMPRESSED EXPANDING FOAM.</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: AS INDICATED ON DRAWINGS. MOVEMENT CAPABILITY: +/- 50% (100% TOTAL) TYPE OF MOVEMENT: THERMAL COLOR: SELECT FROM MANUFACTURER'S STANDARD COLORS. MATCH TO ADJACENT FINISH MATERIALS. <p>B. ROOF TO ROOF: MANUFACTURER'S RECOMMENDED MATERIAL OR ADJACENT ROOF TYPE.</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: AS INDICATED ON DRAWINGS. MOVEMENT CAPABILITY: +/- 50% (100% TOTAL) TYPE OF MOVEMENT: THERMAL COLOR: SELECT FROM MANUFACTURER'S STANDARD COLORS. MATCH ADJACENT ROOF. <p>3. INTERIOR EXPANSION CONTROL SYSTEMS</p> <p>A. FLOOR TO FLOOR: CLEAR ANODIZED ALUMINUM, SURFACE MOUNT WITH FLUSH FIT TO ADJACENT FLOORING MATERIAL.</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: AS INDICATED ON DRAWINGS. MOVEMENT CAPABILITY: +/- 25% (50% TOTAL) TYPE OF MOVEMENT: THERMAL LOAD: PEDESTRIAN SEAL COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. FIRE-RESISTANCE RATING: PROVIDE EXPANSION CONTROL SYSTEM AND FIRE-BARRIER ASSEMBLY WITH A RATING NOT LESS THAN THAT OF ADJACENT CONSTRUCTION. <p>B. WALL TO WALL: CLEAR ANODIZED ALUMINUM, MUD-IN WALL OR CEILING COVER.</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: AS INDICATED ON DRAWINGS. MOVEMENT CAPABILITY: +/- 25% (50% TOTAL) TYPE OF MOVEMENT: THERMAL SEAL COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. FIRE-RESISTANCE RATING: PROVIDE EXPANSION CONTROL SYSTEM AND FIRE-BARRIER ASSEMBLY WITH A RATING NOT LESS THAN THAT OF ADJACENT CONSTRUCTION. <p>C. WALL TO CORNER: CLEAR ANODIZED ALUMINUM, MUD-IN WALL OR CEILING CORNER COVER.</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: AS INDICATED ON DRAWINGS. MOVEMENT CAPABILITY: +/- 25% (50% TOTAL) TYPE OF MOVEMENT: THERMAL SEAL COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. FIRE-RESISTANCE RATING: PROVIDE EXPANSION CONTROL SYSTEM AND FIRE-BARRIER ASSEMBLY WITH A RATING NOT LESS THAN THAT OF ADJACENT CONSTRUCTION. <p>D. CEILING GRID: CLEAR ANODIZED ALUMINUM</p> <ul style="list-style-type: none"> NOMINAL JOINT WIDTH: 2 3/8" MINIMUM JOINT WIDTH: 1 1/8" MAXIMUM JOINT WIDTH: 3 5/8" TYPE OF MOVEMENT: THERMAL <p>DIVISION 08 – OPENINGS</p> <p>08 11 13 HOLLOW-METAL DOORS AND FRAMES</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF EXTERIOR AND INTERIOR HOLLOW-METAL DOOR AND FRAMES.</p> <p>1. REFERENCE STANDARDS: STEEL DOOR INSTITUTE, ASTM INTERNATIONAL, NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS.</p> <p>2. SOURCE LIMITATIONS: OBTAIN HOLLOW-METAL WORK FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.</p> <p>3. MINIMUM THICKNESS OF BASE METAL WITHOUT COATINGS SHALL FOLLOW NAAMM-HMMA 803 OR SDI A250.8.</p> <p>4. HEAVY DUTY DOORS AND FRAMES SHALL FOLLOW SDI A250.8, LEVEL 2. PHYSICAL PERFORMANCE SHALL FOLLOW LEVEL B ACCORDING TO SDI 250.4.</p> <p>5. THE TYPES AND SIZES ARE SHOWN ON THE DOOR SCHEDULE.</p> <p>A. FACE: UNCOATED, COLD ROLLED SHEET, MINIMUM THICKNESS 0.042 INCH.</p> <p>B. EDGE CONSTRUCTION, MODEL 2, SEAMLESS</p> <p>C. CORE: MANUFACTURER'S STANDARD KRAFT-PAPER HONEYCOMB</p> <p>D. FRAME: UNCOATED, STEEL SHEET, MINIMUM THICKNESS OF 0.051 INCH</p> <p>E. CONSTRUCTION: FACE WELDED.</p> <p>F. THERMAL PERFORMANCE: THERMAL-RESISTANCE VALUE (R-VALUE) AS SHOWN ON THE DOOR SCHEDULE.</p> <p>6. PRIMED FINISH TO BE CLEAN, PRETREATED AND APPLY MANUFACTURER'S STANDARD PRIMER. THE FACTORY FINISH SHALL FOLLOW SDI A250.8. SHALL BE GLOSS AND MATCH ADJACENT WALL.</p> <p>7. JAMB ANCHORS FOR STUD-WALL TYPE SHALL BE DESIGNED TO ENGAGE STUD, WELDED TO BACK OF FRAMES, NOT LESS THAN 0.042 INCH THICK.</p> <p>8. HARDWARE PREPARATION: FACTORY PREPARE HOLLOW-METAL WORK TO RECEIVE TEMPLATED MORTISED HARDWARE; INCLUDE CUTOUTS, REINFORCEMENT, MORTISING, DRILLING, AND TAPPING ACCORDING TO SDI A250.8, THE DOOR HARDWARE SCHEDULE, AND TEMPLATES.</p> <p>A. REINFORCE DOORS AND FRAMES TO RECEIVE NON-TEMPLATED, MORTISED, AND SURFACE-MOUNTED DOOR HARDWARE.</p> <p>B. COMPLY WITH APPLICABLE REQUIREMENTS IN SDI A250.6 AND BHMA A156.115 FOR PREPARATION OF HOLLOW-METAL WORK FOR HARDWARE.</p> <p>9. INSTALL HOLLOW-METAL FRAMES OF SIZE AND PROFILE INDICATED. COMPLY WITH SDI A250.11 OR NAAMM-HMMA 840 AS REQUIRED BY STANDARDS SPECIFIED.</p> <p>10. FIT HOLLOW-METAL DOORS ACCURATELY IN FRAMES, WITHIN CLEARANCES SPECIFIED BELOW, SHALL BE NECESSARY.</p> <p>11. GLAZING: COMPLY WITH INSTALLATION REQUIREMENTS IN SECTION 08 11 13.00 GLAZING AND WITH HOLLOW-METAL MANUFACTURER'S WRITTEN INSTRUCTIONS.</p>

5	<p>04 22 00 CONCRETE UNIT MASONRY (CONTINUED)</p> <p>6. UNCOATED STEEL REINFORCING BARS: ASTM A 615/A 615M OR ASTM A 996/A 996M, GRADE 60 (GRADE 420).</p> <p>7. JOINT REINFORCEMENT: LADDER OR TRUSS TYPE COMPLYING WITH ASTM A951, FABRICATED FROM ASTM A951 COLD DRAWN STEEL WIRE, HOT-DIP GALVANIZED TO COMPLY WITH ASTM A153, CLASS B-2 COATING, WITH MINIMUM 9-GAGE DEFORMED SIDE RODS AND CROSS RODS, OR DIAGONALS.</p> <p>A. WIDTH: 2" LESS THAN WALL THICKNESS.</p> <p>B. LENGTH: PROVIDE 10-FOOT LENGTHS.</p> <p>C. SPACING OF CROSS RODS: NOT MORE THAN 16" O.C.</p> <p>1. PROVIDE PREFABRICATED CORNERS AND TEE SECTIONS. SPECIAL INSPECTION OF MASONRY IS REQUIRED DURING PREPARATION OF MASONRY WALL PRIMERS OR TEST SPECIMENS, SAMPLING AND PLACING OF MASONRY UNITS, PLACEMENT OF STRUCTURAL REINFORCEMENT, CLEANOUT OF GROUT SPACE IMMEDIATELY PRIOR TO CLOSING OF ELEMENTS, AND DURING GROUTING OPERATIONS.</p> <p>A. REFER TO STRUCTURAL DRAWINGS FOR SCHEDULE.</p> <p>2. CONVENTIONAL TESTING: SUBMIT FIELD TEST REPORTS FOR TENSILE BOND STRENGTH BETWEEN FACE BRICK AND MORTAR IN EXTERIOR WALLS.</p> <p>DIVISION 05 – METALS</p> <p>05 50 00 METAL FABRICATIONS</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION OF STEEL ELEMENTS FROM IRON AND STEEL SHAPES, PLATES, BARS, STRIPS, TUBES, AND PIPES WHICH ARE NOT PART OF THE STRUCTURAL FRAMEWORK SYSTEMS.</p> <p>1. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, ASTM INTERNATIONAL, AMERICAN WELDING SOCIETY, SOCIETY OF PROTECTIVE COATINGS, AND BUILDING CODE.</p> <p>2. PROVIDE SHOP DRAWING AND PRODUCT DATA TO SHOW THE INSTALLATION OF MISCELLANEOUS METAL FABRICATIONS AS SHOWN AND SPECIFIED.</p> <p>3. FABRICATE AND ASSEMBLE LOOSE ITEMS IN THE SHOP AND IF NECESSARY, MARK TO ENSURE PROPER INSTALLATION AT THE PROJECT SITE. EASE EXPOSED EDGES OF STEEL SHAPES. GALVANIZE PRODUCT AFTER FABRICATION. ASTM A123.</p> <p>4. FOR METAL FABRICATIONS EXPOSED TO VIEW IN THE COMPLETED WORK, PROVIDE MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES. DO NOT USE MATERIALS WITH EXPOSED PITTING, SEAM MARKS, ROLLER MARKS, WELDS, SCALE, ROLLED TRADE NAMES, OR ROUGHNESS.</p> <p>5. POST-INSTALLED ANCHORS IN CONCRETE: FABRICATED FROM CORROSION-RESISTANT MATERIALS CAPABLE OF SUSTAINING, WITHOUT FAILURE, THE LOAD IMPOSED WITHIN A SAFETY FACTOR OF 4, AS DETERMINED BY TESTING PER ASTM E 488.</p> <p>05 52 13 PIPE AND TUBE RAILINGS</p> <p>WORK IN THIS SECTION APPLIES TO THE FABRICATION OF STEEL PIPE RAILINGS. SEE SECTION 05 50 00 'METAL FABRICATIONS' FOR MISCELLANEOUS METAL FABRICATIONS ASSOCIATED WITH INSTALLATION.</p> <p>1. PERFORMANCE STANDARDS: UNIFORM LOAD OF 50 LBF/FT. (0.73 KN/M) APPLIED IN ANY DIRECTION, AND CONCENTRATED LOAD 200 LBF (0.89 KN) APPLIED IN ANY DIRECTION. UNIFORM AND CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.</p> <p>2. REFERENCE STANDARDS: AMERICAN NATIONAL STANDARDS INSTITUTE, ASTM INTERNATIONAL, AMERICAN WELDING SOCIETY, SOCIETY OF PROTECTIVE COATINGS, AND BUILDING CODE.</p> <p>3. STEEL AND IRON:</p> <p>A. TUBING: ASTM A 500 (COLD FORMED) OR ASTM A 513, TYPE 5 (MANDREL DRAWN).</p> <p>B. PIPE: ASTM A 53/A 53M, TYPE F OR TYPE 5, GRADE A, STANDARD WEIGHT (SCHEDULE 40), UNLESS ANOTHER GRADE AND WEIGHT ARE REQUIRED BY STRUCTURAL LOADS.</p> <p>C. PLATES, SHAPES, AND BARS: ASTM A 36/A 36M.</p> <p>D. CASTINGS: EITHER GRAY OR MALLEABLE IRON, UNLESS OTHERWISE INDICATED.</p> <p>a. GRAY IRON: ASTM A 48/A 48M, CLASS 30, UNLESS ANOTHER CLASS IS INDICATED OR REQUIRED BY STRUCTURAL LOADS.</p> <p>b. MALLEABLE IRON: ASTM A 47/A 47M.</p> <p>E. EXPANDED METAL: ASTM F 1267, TYPE II (EXPANDED AND FLATTENED), CLASS 1 (UNCOATED).</p> <p>4. BRACKETS, FLANGES, AND ANCHORS: CAST OR FORMED METAL OF SAME TYPE OF MATERIAL AND FINISH AS SUPPORTED RAILS, UNLESS OTHERWISE INDICATED.</p> <p>5. FASTENERS: PROVIDE CONCEALED FASTENERS, UNLESS UNAVOIDABLE OR STANDARD FOR RAILINGS INDICATED.</p> <p>A. STEEL RAILINGS: PLATED STEEL FASTENERS COMPLYING WITH ASTM B 633, CLASS FE/ZN 25 FOR ELECTRODEPOSITED ZINC COATING.</p> <p>6. ANCHORS: PROVIDE CAST-IN-PLACE, CHEMICAL OR TORQUE-CONTROLLED EXPANSION ANCHORS, FABRICATED FROM CORROSION-RESISTANT MATERIALS WITH CAPABILITY TO SUSTAIN, WITHOUT FAILURE, A LOAD EQUAL TO SIX TIMES THE LOAD IMPOSED WHEN INSTALLED IN UNIT MASONRY AND EQUAL TO FOUR TIMES THE LOAD IMPOSED WHEN INSTALLED IN CONCRETE, AS DETERMINED BY TESTING PER ASTM E 488.</p> <p>7. GROUT AND ANCHORING CEMENT: FACTORY-PACKAGED, NON-SHRINK, NONMETALLIC GROUT COMPLYING WITH ASTM C 1107, OR WATER-RESISTANT, NON-SHRINK ANCHORING CEMENT, RECOMMENDED BY MANUFACTURER FOR EXTERIOR USE.</p> <p>8. FABRICATION: FABRICATE RAILINGS TO COMPLY WITH DESIGN, DIMENSIONS, AND DETAILS INDICATED, BUT NOT LESS THAN THAT REQUIRED TO SUPPORT STRUCTURAL LOADS.</p> <p>A. WELDED CONNECTIONS: COPE COMPONENTS AT CONNECTIONS TO PROVIDE CLOSE FIT, OR USE FITTINGS DESIGNED FOR THIS PURPOSE. WELD ALL AROUND AT CONNECTIONS, INCLUDING AT FITTINGS.</p> <p>B. NON-WELDED CONNECTIONS: CONNECT MEMBERS WITH CONCEALED MECHANICAL FASTENERS AND FITTINGS.</p> <p>C. FORM CHANGES IN DIRECTION BY INSERTING PREFABRICATED ELBOW FITTINGS.</p> <p>D. BEND CURVES BY BENDING IN</p>
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08 52 29.33 SLIDING AUTOMATIC ENTRANCES

WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF EXTERIOR SINGLE SLIDE SLIDING AUTOMATIC ENTRANCES.

- MATERIALS
 - ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY MANUFACTURER FOR TYPE OF USE AND FINISH INDICATED.
 - HEADERS, STILES, RAILS, AND FRAMES: 6063-T6
 - EXTRUDED BARS, RODS, PROFILES, AND TUBES: ASTM B 221.
 - SHEET AND PLATE: ASTM B 209.
 - CLASS II, CLEAR ANODIC FINISH: AA-M12C22A31 MECHANICAL FINISH; AS FABRICATED; CHEMICAL FINISH: ETCHED, MEDIUM MATTE; ANODIC COATING: ARCHITECTURAL, CLASS II, CLEAR COATING 0.40 MILS MINIMUM COMPLYING WITH AAMA 611-98, AND THE FOLLOWING: AAMA 607.1 AND APPLICATOR MUST BE FULLY COMPLIANT WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND PERMITS, INCLUDING WASTEWATER AND HEAVY METAL DISCHARGE.
 - SEALANTS AND JOINT FILLERS: PERFORMED UNDER DIVISION 7 SECTION "JOINT SEALANTS".
- AUTOMATIC ENTRANCE DOOR ASSEMBLIES: PROVIDE MANUFACTURER'S STANDARD AUTOMATIC ENTRANCE DOOR ASSEMBLIES INCLUDING DOORS, SIDELIGHTS, FRAMING, HEADERS, CARRIER ASSEMBLIES, ROLLER TRACKS, DOOR OPERATORS, ACTIVATION AND SAFETY DEVICES, AND ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
 - SINGLE SLIDE ENTRANCES:
 - CONFIGURATION: ONE SLIDING LEAF AND ONE FULL SIDELIGHT
 - TRAFFIC PATTERN: TWO-WAY
 - EMERGENCY BREAKAWAY CAPABILITY: SLIDING LEAF ONLY
 - MOUNTING: BETWEEN JAMBS
 - COMPONENTS
 - FRAMING MEMBERS: MANUFACTURER'S STANDARD EXTRUDED ALUMINUM, REINFORCED AS REQUIRED TO SUPPORT IMPOSED LOADS.
 - STILE AND RAIL DOORS AND SIDELIGHTS: MANUFACTURER'S STANDARD EXTRUDED ALUMINUM, REINFORCED AS REQUIRED TO SUPPORT IMPOSED LOADS.
 - GLAZING: FURNISHED UNDER DIVISION 8 SECTION GLAZING.
 - HEADERS: FABRICATED FROM EXTRUDED ALUMINUM AND EXTENDING FULL WIDTH OF AUTOMATIC ENTRANCE DOOR UNITS TO CONCEAL DOOR OPERATORS, CARRIER ASSEMBLIES, AND ROLLER TRACKS. PROVIDE HINGED OR REMOVABLE ACCESS PANELS FOR SERVICE AND ADJUSTMENT OF DOOR OPERATORS AND CONTROLS. SECURE PANELS TO PREVENT UNAUTHORIZED ACCESS.
 - CARRIER ASSEMBLIES AND OVERHEAD ROLLER TRACKS: MANUFACTURER'S STANDARD CARRIER ASSEMBLY THAT ALLOWS VERTICAL ADJUSTMENT OF AT LEAST 1/8 INCH (3 MM). THRESHOLDS: MANUFACTURER'S STANDARD CONTINUOUS STANDARD TAPERED EXTRUSION DOUBLE BEVEL ALL THRESHOLDS TO CONFORM TO DETAILS AND REQUIREMENTS FOR CODE COMPLIANCE.
 - FASTENERS AND ACCESSORIES: MANUFACTURER'S STANDARD CORROSION-RESISTANT, NON-STAINING, NON-BLEEDING FASTENERS AND ACCESSORIES COMPATIBLE WITH ADJACENT MATERIALS.
 - SIGNAGE: PROVIDE SIGNAGE IN ACCORDANCE WITH ANSIBHMA A156.10.
- DOOR OPERATORS: PROVIDE DOOR OPERATORS OF SIZE RECOMMENDED BY MANUFACTURER FOR DOOR SIZE, WEIGHT, AND MOVEMENT, FOR CONDITION OF EXPOSURE, AND FOR LONG-TERM OPERATION UNDER NORMAL TRAFFIC LOAD FOR TYPE OF OCCUPANCY INDICATED.
 - ELECTRICAL SERVICE TO DOOR OPERATORS SHALL BE PROVIDED UNDER DIVISION 26 ELECTRICAL. MINIMUM SERVICE TO BE 120 VAC, 5 AMPS.
- ELECTRICAL CONTROLS: ELECTRICAL CONTROL SYSTEM SHALL INCLUDE A MICROPROCESSOR CONTROLLER AND A HIGH-RESOLUTION POSITION ENCODER. THE ENCODER SHALL MONITOR REVOLUTIONS OF THE OPERATOR SHAFT AND SEND SIGNALS TO MICROPROCESSOR CONTROLLER TO DEFINE DOOR POSITION AND SPEED. MICROPROCESSOR CONTROLLER SHALL BE FIELD PROGRAMMABLE.
- COMBINED ACTIVATION AND SAFETY SENSORS: COMBINED ACTIVATION AND SAFETY SENSORS SHALL, IN A SINGLE HOUSING, DETECT MOTION AND PRESENCE IN ACCORDANCE WITH ANSIBHMA A156.10. MOTION SHALL BE DETECTED USING K-BAND MICROWAVE TECHNOLOGY, PRESENCE BY ACTIVE INFRARED REFLECTION TECHNOLOGY.
- HARDWARE: PROVIDE UNITS IN SIZES AND TYPES RECOMMENDED BY AUTOMATIC ENTRANCE DOOR AND HARDWARE MANUFACTURERS FOR ENTRANCES AND USES INDICATED.
- INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

08 43 00 ALUMINUM-FRAMED STOREFRONTS

WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF STOREFRONT FRAMING, PRE-FINISHED WINDOW SILL FLASHING, AND STAINLESS STEEL DRIP EDGES.

- SPECIAL WARRANTY: INSTALLER AGREES TO REPAIR OR REPLACE COMPONENTS OF ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS THAT DO NOT COMPLY WITH REQUIREMENTS OR THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - STRUCTURAL FAILURES INCLUDING, BUT NOT LIMITED TO, EXCESSIVE DEFLECTION.
 - NOISE OR VIBRATION CREATED BY WIND AND THERMAL AND STRUCTURAL MOVEMENTS.
 - DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
 - WATER PENETRATION THROUGH FIXED GLAZING AND FRAMING AREAS.
 - FAILURE OF OPERATING COMPONENTS.
 - WARRANTY PERIOD: 5 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
- SPECIAL FINISH WARRANTY: STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISHES OR REPLACE ALUMINUM THAT SHOWS EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.
 - WARRANTY PERIOD: 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
- DESIGN CRITERIA:
 - DELEGATED DESIGN: ENGAGE A QUALIFIED PROFESSIONAL ENGINEER, AS DEFINED IN SECTION 01 40 00 "QUALITY REQUIREMENTS," TO DESIGN ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS.
 - WIND LOADS: AS INDICATED ON DRAWINGS.
 - OTHER DESIGN LOADS: AS INDICATED ON DRAWINGS.
 - ENERGY PERFORMANCE: CERTIFY AND LABEL ENERGY PERFORMANCE ACCORDING TO NFRC.
 - WINDBORNE-DEBRIS IMPACT RESISTANCE: PASS MISSILE-IMPACT AND CYCLIC-PRESSURE TESTS WHEN TESTED ACCORDING TO ASTM E 1886 AND TESTING INFORMATION IN ASTM E 1996 FOR WIND ZONE 4.
 - THERMAL MOVEMENTS: ALLOW FOR THERMAL MOVEMENTS RESULTING FROM AMBIENT AND SURFACE TEMPERATURE CHANGES FOR PROJECT LOCATION WEATHER.
- SOURCE LIMITATIONS: OBTAIN ALL COMPONENTS OF ALUMINUM-FRAMED ENTRANCE AND STOREFRONT SYSTEM, INCLUDING FRAMING VENTING WINDOWS AND ACCESSORIES, FROM SINGLE MANUFACTURER.
- STOREFRONT SYSTEM: PROVIDE PRODUCT SHOWN ON DRAWINGS.
- PRE-FINISHED WINDOWSILL FLASHING: PROVIDE PREFINISHED SILL FLASHING IN PROFILES SHOWN ON DRAWINGS OF 0.090-INCH-THICK PRESSED ALUMINUM PLATE IN FINISH TO MATCH STOREFRONT FRAMING COMPONENTS.

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08 43 00 ALUMINUM-FRAMED STOREFRONTS (CONTINUED)

- STAINLESS STEEL DRIP EDGE: PROVIDE METAL FLASHING IN PROFILES SHOWN ON DRAWINGS FABRICATED FROM STAINLESS STEEL, COMPLYING WITH SMACNA'S "ARCHITECTURAL SHEET METAL MANUAL." EXTEND AT LEAST 3-INCHES INTO WALL AND 1/2-INCH OUT FROM WALL, WITH OUTER EDGE BENT DOWN 30 DEGREES AND HEMMED.
- INSTALL COMPONENTS IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. DO NOT INSTALL DAMAGED COMPONENTS. FIT JOINTS TO PRODUCE HAIRLINE JOINTS FREE OF BURRS AND DISTORTION. RIGIDLY SECURE NON-MOVEMENT JOINTS. SEAL PERIMETER AND OTHER JOINTS WATERTIGHT UNLESS OTHERWISE INDICATED.
- METAL PROTECTION: WHERE ALUMINUM IS IN CONTACT WITH DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTACT SURFACES WITH MATERIALS RECOMMENDED BY MANUFACTURER FOR THIS PURPOSE OR BY INSTALLING NONCONDUCTIVE SPACERS. WHERE ALUMINUM IS IN CONTACT WITH CONCRETE OR MASONRY, PROTECT AGAINST CORROSION BY PAINTING CONTACT SURFACES WITH BITUMINOUS PAINT.

08 70 00 DOOR HARDWARE

WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF DOOR HARDWARE.

SEE DRAWINGS FOR HARDWARE TYPES.

08 80 00 GLAZING

WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF GLASS FOR WINDOWS, DOORS, AND INTERIOR BORROWED LITES AND GLAZING SEALANTS AND ACCESSORIES.

SEE DRAWINGS FOR GLAZING TYPES.

DIVISION 09 - FINISHES

09 22 16 NON-STRUCTURAL METAL FRAMING

- FIRE-TEST-RESPONSE CHARACTERISTICS: FOR FIRE-RESISTANCE-RATED ASSEMBLIES THAT INCORPORATE NON-LOAD BEARING STEEL FRAMING, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E119 BY AN INDEPENDENT TESTING AGENCY.
- FRAMING MEMBERS, GENERAL: ASTM C754, STEEL SHEET COMPONENTS COMPLYING WITH ASTM C645.
- STEEL STUDS, RUNNERS, FURRING CHANNELS: ASTM C645, NOT LESS THAN 18 MILS (0.0188") THICK.
- INSTALLATION STANDARDS: STM C754.

09 29 00 GYPSUM BOARD

- FIRE-RESISTANCE-RATED ASSEMBLIES: FOR FIRE-RESISTANCE-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM C119 BY AN INDEPENDENT TESTING AGENCY.
- STC-RATED ASSEMBLIES: FOR STC-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 90 AND CLASSIFIED ACCORDING TO ASTM E 413 BY AN INDEPENDENT TESTING AGENCY.
- PROVIDE IN MAXIMUM LENGTHS AND WIDTHS AVAILABLE THAT WILL MINIMIZE JOINTS IN EACH AREA AND THAT CORRESPOND WITH SUPPORT SYSTEM INDICATED.
- GYPSUM WALL BOARD: ASTM C36, MADE WITH 100 PERCENT RECYCLED AND UNBLEACHED PAPER FACINGS BONDED WITHOUT ADHESIVES; GYPSUM CORE CONSISTING OF RECYCLED GYPSUM OR POST-INDUSTRIAL FLU-GAS DESULFURIZATION (FGS) SYNTHETIC GYPSUM. MANUFACTURING OF GYPSUM WALL BOARD TO BE <500 MILES FROM PROJECT SITE.
 - 5/8" THICK, FIRE-RATED BOARD; TYPE X
 - 5/8" THICK MOISTURE RESISTANT BOARD; TYPE X, ASTM C30 OR ASTM C1396
 - CEMENTITIOUS BACKER UNITS: ANSI A118.9, 1/2" THICK.
 - TRIM: ASTM C1047
 - GYPSUM BOARD TRIM AND REVEALS: EXTRUDED ACCESSORIES OF PROFILES AND DIMENSIONS AS INDICATED.
- STEEL DRILL SCREWS: ASTM C1002.
- SOUND ATTENUATION BLANKETS: ASTM C665, TYPE I (BLANKETS WITHOUT MEMBRANE FACING) PRODUCED BY COMBINING THERMOSETTING RESINS WITH MINERAL FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. AT FIRE-RESISTANCE-RATED ASSEMBLIES: COMPLY WITH MINERAL-FIBER REQUIREMENTS OF ASSEMBLY.
- ACOUSTICAL JOINT SEALANT: MANUFACTURER'S STANDARD NON-SAG, PAINTABLE, NON-STAINING LATEX SEALANT COMPLYING WITH ASTM C 834. PRODUCT EFFECTIVELY REDUCES AIRBORNE SOUND TRANSMISSION THROUGH PERIMETER JOINTS AND OPENINGS IN BUILDING CONSTRUCTION AS DEMONSTRATED BY TESTING REPRESENTATIVE ASSEMBLIES ACCORDING TO ASTM E 90.
- CONTROL JOINTS: INSTALL CONTROL JOINTS ACCORDING TO ASTM C840 AND IN SPECIFIC LOCATIONS APPROVED BY ARCHITECT FOR VISUAL EFFECT.
- PROVIDE LEVEL 4 FINISH ON ALL GYP.BD. SURFACES UNLESS NOTED OTHERWISE.

09 53 00 ACOUSTICAL CEILING SUSPENSION ASSEMBLIES

- SEISMIC STANDARD: PROVIDE ACOUSTICAL CEILING PANEL CEILINGS DESIGNED AND INSTALLED TO WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS ACCORDING TO AUTHORITIES HAVING JURISDICTION.
- ACOUSTICAL CEILING PANEL STANDARD: PROVIDE MANUFACTURER'S STANDARD PANEL OF CONFIGURATION INDICATED THAT COMPLY WITH ASTM E1264 CLASSIFICATIONS AS DESIGNATED BY THE PES, PATTERNS, ACOUSTICAL RATING, AND LIGHT REFLECTANCE, UNLESS OTHERWISE INDICATED.
- COLORS, TEXTURES AND PATTERNS: REFER TO DRAWINGS.
- METAL SUSPENSION SYSTEM STANDARD: PROVIDE MANUFACTURER'S STANDARD METAL SUSPENSION SYSTEM OF TYPES, STRUCTURAL CLASSIFICATIONS, AND FINISHES INDICATED THAT COMPLY WITH APPLICABLE REQUIREMENTS IN ASTM C635.
- ATTACHMENT DEVICES: SIZE FOR FIVE TIMES THE DESIGN LOAD INDICATED IN ASTM C635, TABLE 1, "DIRECT HUNG," UNLESS OTHERWISE INDICATED. COMPLY WITH SEISMIC DESIGN REQUIREMENTS.
- INSTALL ACOUSTICAL TILE CEILINGS TO COMPLY WITH ASTM C636 AND SEISMIC DESIGN REQUIREMENTS INDICATED, PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND CISCA'S "CEILING SYSTEMS HANDBOOK."

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09 77 20 FIBERGLASS REINFORCED WALL PANELS

- COLORS AND SIZE AS SHOWN ON DRAWINGS.
- PREFINISHED POLYESTER GLASS REINFORCED PLASTIC SHEETS ADHERED TO UNFINISHED GYPSUM WALLBOARD, PROVIDE PVC TRIM COMPLYING WITH ASTM D5319.
- FASTENING WITH ADHESIVE FOLLOWING CONSTRUCTION ADHESIVES COMPLYING WITH ASTM C557.
- COMPLY WITH MANUFACTURER'S RECOMMENDED PROCEDURES AND INSTALLATION SEQUENCE.

09 91 23 INTERIOR PAINTING

- COLORS: REFER TO DRAWINGS.
- INTERIOR PAINT SYSTEM: LATEX ZERO VOC, LOW ODOR SYSTEM CONSISTING OF ZERO VOC, LOW ODOR LATEX FINISH OVER ZERO VOC, LOW ODOR LATEX PRIMER - ZERO VOC PER LITER, MEETING GREEN SEAL'S ENVIRONMENTAL STANDARD CLASS A FOR VOLATILE ORGANIC COMPOUNDS, GS-11 CERTIFIED.
 - PRIMER: 1 COAT INTERIOR LATEX PRIMER
 - FINISH: 2 COATS INTERIOR EGGSHELL LATEX
- INSTALLATION. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI ARCHITECTURAL PAINTING SPECIFICATION MANUAL" APPLICABLE TO SUBSTRATES AND PAINT SYSTEMS INDICATED.

09 97 23 CONCRETE AND MASONRY COATINGS

WORK IN THIS SECTION APPLIES TO THE FABRICATION AND INSTALLATION OF GLASS FOR WINDOWS, DOORS, AND INTERIOR BORROWED LITES AND GLAZING SEALANTS AND ACCESSORIES.

SEE DRAWINGS FOR GLAZING TYPES.

DIVISION 09 - FINISHES

09 22 16 NON-STRUCTURAL METAL FRAMING

- FIRE-TEST-RESPONSE CHARACTERISTICS: FOR FIRE-RESISTANCE-RATED ASSEMBLIES THAT INCORPORATE NON-LOAD BEARING STEEL FRAMING, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E119 BY AN INDEPENDENT TESTING AGENCY.
- FRAMING MEMBERS, GENERAL: ASTM C754, STEEL SHEET COMPONENTS COMPLYING WITH ASTM C645.
- STEEL STUDS, RUNNERS, FURRING CHANNELS: ASTM C645, NOT LESS THAN 18 MILS (0.0188") THICK.
- INSTALLATION STANDARDS: STM C754.

09 29 00 GYPSUM BOARD

- FIRE-RESISTANCE-RATED ASSEMBLIES: FOR FIRE-RESISTANCE-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM C119 BY AN INDEPENDENT TESTING AGENCY.
- STC-RATED ASSEMBLIES: FOR STC-RATED ASSEMBLIES, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 90 AND CLASSIFIED ACCORDING TO ASTM E 413 BY AN INDEPENDENT TESTING AGENCY.
- PROVIDE IN MAXIMUM LENGTHS AND WIDTHS AVAILABLE THAT WILL MINIMIZE JOINTS IN EACH AREA AND THAT CORRESPOND WITH SUPPORT SYSTEM INDICATED.
- GYPSUM WALL BOARD: ASTM C36, MADE WITH 100 PERCENT RECYCLED AND UNBLEACHED PAPER FACINGS BONDED WITHOUT ADHESIVES; GYPSUM CORE CONSISTING OF RECYCLED GYPSUM OR POST-INDUSTRIAL FLU-GAS DESULFURIZATION (FGS) SYNTHETIC GYPSUM. MANUFACTURING OF GYPSUM WALL BOARD TO BE <500 MILES FROM PROJECT SITE.
 - 5/8" THICK, FIRE-RATED BOARD; TYPE X
 - 5/8" THICK MOISTURE RESISTANT BOARD; TYPE X, ASTM C30 OR ASTM C1396
 - CEMENTITIOUS BACKER UNITS: ANSI A118.9, 1/2" THICK.
 - TRIM: ASTM C1047
 - GYPSUM BOARD TRIM AND REVEALS: EXTRUDED ACCESSORIES OF PROFILES AND DIMENSIONS AS INDICATED.
- STEEL DRILL SCREWS: ASTM C1002.
- SOUND ATTENUATION BLANKETS: ASTM C665, TYPE I (BLANKETS WITHOUT MEMBRANE FACING) PRODUCED BY COMBINING THERMOSETTING RESINS WITH MINERAL FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. AT FIRE-RESISTANCE-RATED ASSEMBLIES: COMPLY WITH MINERAL-FIBER REQUIREMENTS OF ASSEMBLY.
- ACOUSTICAL JOINT SEALANT: MANUFACTURER'S STANDARD NON-SAG, PAINTABLE, NON-STAINING LATEX SEALANT COMPLYING WITH ASTM C 834. PRODUCT EFFECTIVELY REDUCES AIRBORNE SOUND TRANSMISSION THROUGH PERIMETER JOINTS AND OPENINGS IN BUILDING CONSTRUCTION AS DEMONSTRATED BY TESTING REPRESENTATIVE ASSEMBLIES ACCORDING TO ASTM E 90.
- CONTROL JOINTS: INSTALL CONTROL JOINTS ACCORDING TO ASTM C840 AND IN SPECIFIC LOCATIONS APPROVED BY ARCHITECT FOR VISUAL EFFECT.
- PROVIDE LEVEL 4 FINISH ON ALL GYP.BD. SURFACES UNLESS NOTED OTHERWISE.

09 53 00 ACOUSTICAL CEILING SUSPENSION ASSEMBLIES

- SEISMIC STANDARD: PROVIDE ACOUSTICAL CEILING PANEL CEILINGS DESIGNED AND INSTALLED TO WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS ACCORDING TO AUTHORITIES HAVING JURISDICTION.
- ACOUSTICAL CEILING PANEL STANDARD: PROVIDE MANUFACTURER'S STANDARD PANEL OF CONFIGURATION INDICATED THAT COMPLY WITH ASTM E1264 CLASSIFICATIONS AS DESIGNATED BY THE PES, PATTERNS, ACOUSTICAL RATING, AND LIGHT REFLECTANCE, UNLESS OTHERWISE INDICATED.
- COLORS, TEXTURES AND PATTERNS: REFER TO DRAWINGS.
- METAL SUSPENSION SYSTEM STANDARD: PROVIDE MANUFACTURER'S STANDARD METAL SUSPENSION SYSTEM OF TYPES, STRUCTURAL CLASSIFICATIONS, AND FINISHES INDICATED THAT COMPLY WITH APPLICABLE REQUIREMENTS IN ASTM C635.
- ATTACHMENT DEVICES: SIZE FOR FIVE TIMES THE DESIGN LOAD INDICATED IN ASTM C635, TABLE 1, "DIRECT HUNG," UNLESS OTHERWISE INDICATED. COMPLY WITH SEISMIC DESIGN REQUIREMENTS.
- INSTALL ACOUSTICAL TILE CEILINGS TO COMPLY WITH ASTM C636 AND SEISMIC DESIGN REQUIREMENTS INDICATED, PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND CISCA'S "CEILING SYSTEMS HANDBOOK."

DIVISION 10 - SPECIALTIES

10 28 13 TOILET ACCESSORIES

- TYPE AND FINISH SHOWN ON DRAWINGS.
- MOUNTING DEVICES: ASTM A 153/A 153M, HOT-DIP GALVANIZED AFTER FABRICATION, SCREWS, BOLTS, AND OTHER DEVICES OF SAME MATERIAL AS ACCESSORY UNIT, TAMPER AND THEFT RESISTANT WHEN EXPOSED, AND OF GALVANIZED STEEL WHEN CONCEALED.
- INSTALL ACCESSORIES USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER.
- INSTALL ACCESSORIES LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS INDICATED AND AT HEIGHTS IN ACCORDANCE WITH AMERICAN'S WITH DISABILITIES ACT.
- INSTALL GRAB BARS TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO METHOD IN ASTM F-446.
- ADJUST ACCESSORIES FOR UNENCUMBERED, SMOOTH OPERATION AND VERIFY THAT MECHANISMS FUNCTION PROPERLY. REPLACE DAMAGED OR DEFECTIVE ITEMS. REMOVE TEMPORARY LABELS AND PROTECTIVE COATINGS.

10 44 00 FIRE PROTECTION SPECIALTIES

- FIRE EXTINGUISHERS: 10-LB NOMINAL CAPACITY UL RATED 4A:60B:C MULTI-PURPOSE DRY CHEMICAL TYPE FOR EACH CABINET AND OTHER LOCATIONS INDICATED. PROVIDE BRACKETS FOR EXTINGUISHERS NOT LOCATED IN CABINETS.
- FIRE EXTINGUISHER CABINETS: PROVIDE CABINET BOXES CONSTRUCTED OF COLD ROLLED STEEL WITH BAKED PAINTED FINISH AND SIZED TO PROPERLY FIT EXTINGUISHER. PROVIDE CABINET DOORS CONSTRUCTED OF COLD ROLLED STEEL AND HAVING 180-DEGREE CONCEALED HINGE DOOR RETAINING CLEAR SAFETY GLASS WINDOW OPENING, AND MANUFACTURERS STANDARD PULL. FINISH DOOR IN MANUFACTURER'S STANDARD BAKED ENAMEL. IN COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
- INCLUDE MANUFACTURER'S STANDARD 1-INCH LETTER HEIGHT VINYL OR STENCILED LETTERING CONTRASTING WITH BACKGROUND COLOR OF CABINET READING "FIRE EXTINGUISHER".
- INSTALL IN LOCATIONS AS DIRECTED BY ARCHITECT AND AUTHORITIES HAVING JURISDICTION. INSTALL AT MOUNTING HEIGHTS INDICATED OR, IF NOT INDICATED, AT HEIGHTS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND ACCESSIBILITY CODES.

DIVISION 11 - EQUIPMENT

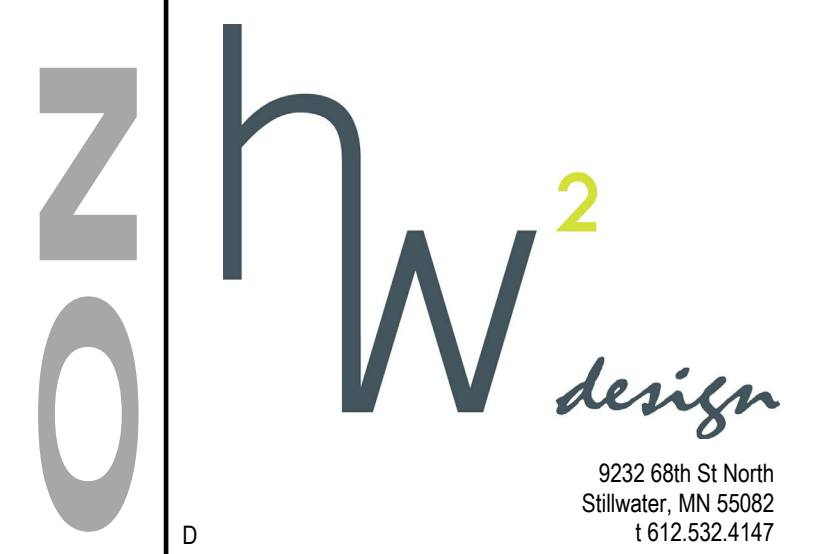
11 23 00 COMMERCIAL LAUNDRY AND DRY CLEANING EQUIPMENT

- COMMERCIAL LAUNDRY EQUIPMENT: FURNISHED BY OWNER.
- INSTALL COMMERCIAL LAUNDRY EQUIPMENT WHERE INDICATED ON EQUIPMENT CONSULTANTS DRAWINGS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

END OF SPECIFICATIONS

2

1



Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106

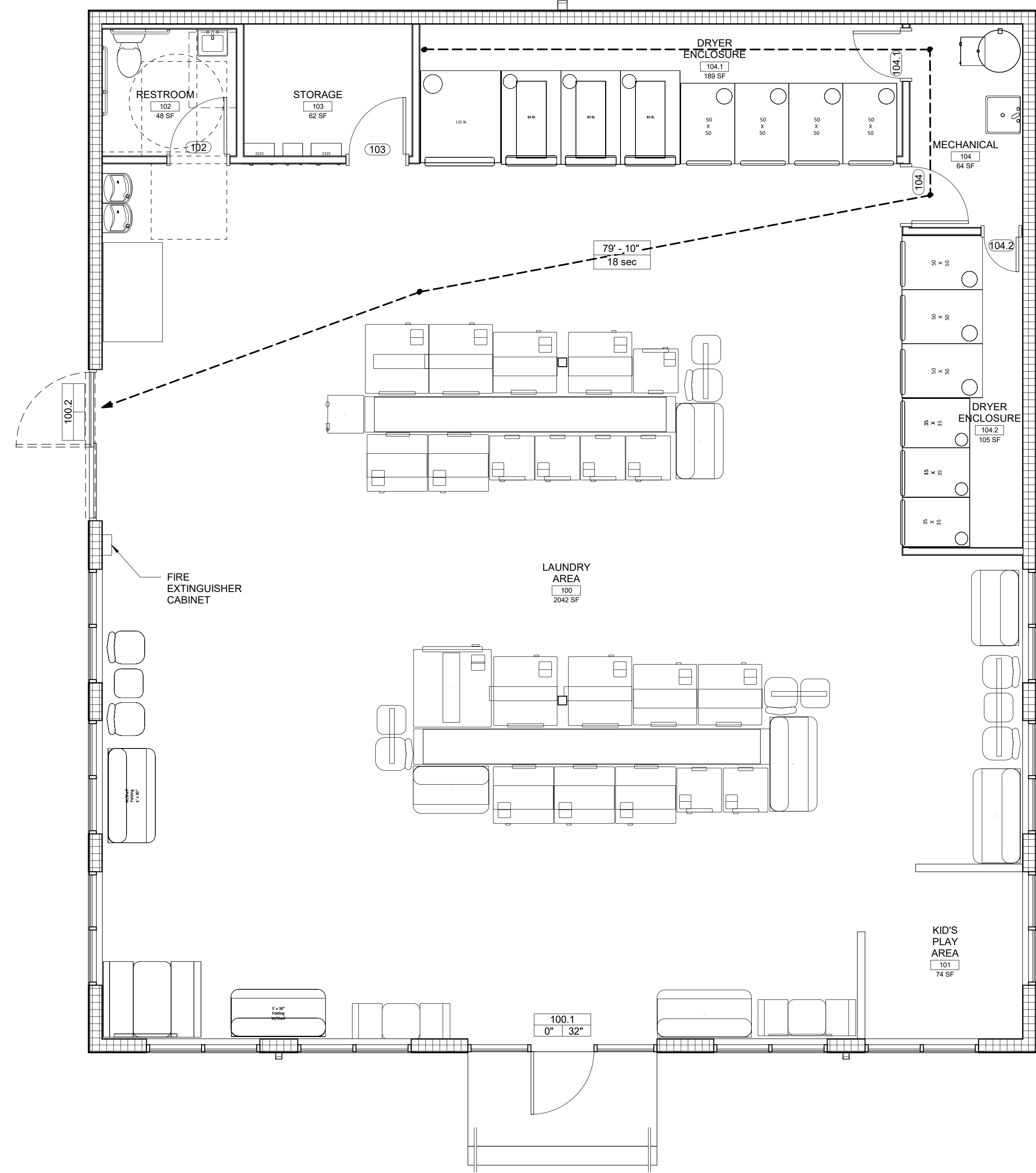
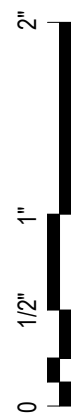
PRICING SET

2	PRICING	11.03.20
NO	ISSUE	DATE
JOB NUMBER		20.027.0322

SPECIFICATION

A00.22

NOT FOR CONSTRUCTION



CODE ANALYSIS

APPLICABLE CODES:

BUILDING: 2020 MINNESOTA STATE BUILDING CODE (MSBC). THE 2020 MSBC INCLUDES THE 2018 INTERNATIONAL BUILDING CODE (IBC) WITH MINNESOTA AMENDMENTS.

USE AND OCCUPANCY CLASSIFICATIONS

PRIMARY OCCUPANCY - BUSINESS GROUP B

BUILDING CONSTRUCTION TYPE

TYPE VB
NON-SPRINKLERED

GENERAL BUILDING HEIGHTS AND AREAS

ALLOWABLE HEIGHT: 40'-0" / 2 STORIES (TABLES 504.3 & 504.4)
ACTUAL HEIGHT: 17'-6"+1 / 1 STORY

ALLOWABLE AREA: 9,000 SQ.FT. (TABLE 506.2)
ACTUAL AREA: 2,773 SQ.FT.

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601)

PRIMARY STRUCTURAL FRAME: 0 HOURS
BEARING WALLS: 0 HOURS
NONBEARING WALLS: 0 HOURS
FLOOR CONSTRUCTION: 0 HOURS
ROOF CONSTRUCTION: 0 HOURS

MEANS OF EGRESS

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT (TABLE 1004.5)

BUSINESS: 150 GROSS
MECHANICAL/STORAGE: 300 GROSS

OCCUPANT LOAD TABLE

Table with 8 columns: ROOM, ROOM NAME, OCC CLASS, USE DESCRIPTION, AREA, AREA/OCC, GROSS/NET, LOAD. Rows include LAUNDRY AREA, KID'S PLAY AREA, RESTROOM, STORAGE, MECHANICAL, DRYER ENCLOSURE, and TOTAL.

NUMBER OF EXITS

REQUIRED: 1 (TABLE 1006.2.1)
PROVIDED: 2

EXIT AND EXIT ACCESS CONFIGURATION

SEPERATION OF EXITS NOT APPLICABLE WHERE ONLY 1 EXIT IS REQUIRED.

TRAVEL DISTANCE

COMMON PATH OF EGRESS TRAVEL DISTANCE: 100' (TABLE 1006.2.1)
EXIT ACCESS TRAVEL DISTANCE: 200' (TABLE 1017.2)

EGRESS WIDTH

STAIRWAYS: 0.3 INCHES/OCCUPANT (19 x 0.3 = 5.7", DEFAULT TO 48" PER 1009.3.2)
OTHER: 0.2 INCHES/OCCUPANT (19 x 0.2 = 3.8", DEFAULT TO MINIMUMS PER ELEMENT)

MINIMUM PLUMBING FACILITIES

OCCUPANCY TYPE B, TABLE 2902.1

Table with 4 columns: WATERCLOSETS M/F, SINKS M/F, DRINKING FOUNTAINS, OTHER (SERVICE SINK). Rows for REQUIRED and PROVIDED.

SEPERATE FACILITIES

2902.2. EXCEPTION 2. SEPERATE FACILITIES SHALL NOT BE REQUIRED IN STRUCTURES OR TENANT SPACES WITH A TOTAL OCCUPANT LOAD, INCLUDING EMPLOYEES AND CUSTOMERS, OF 25 OR LESS.

NOT FOR CONSTRUCTION

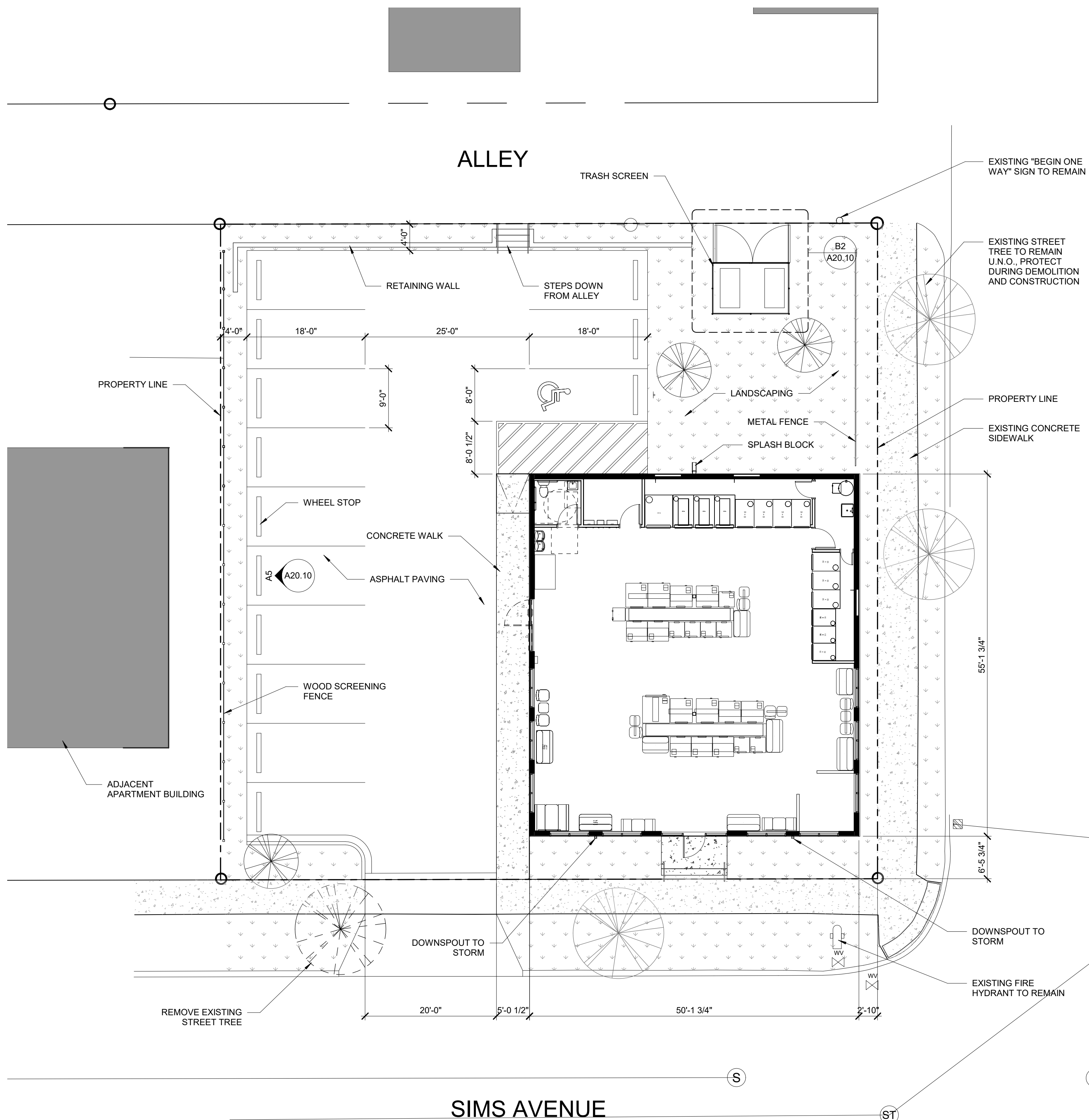
PRICING
SET

Table with 3 columns: NO, PRICING ISSUE, DATE. Row 2: 2, PRICING ISSUE, 11.03.20. JOB NUMBER: 20.027.0322

LIFE SAFETY
PLAN

A10.00

1 LIFE SAFETY PLAN
1/4" = 1'-0"



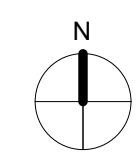
NOT FOR CONSTRUCTION

PRICING SET

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ARCHITECTURAL SITE PLAN

A20.00





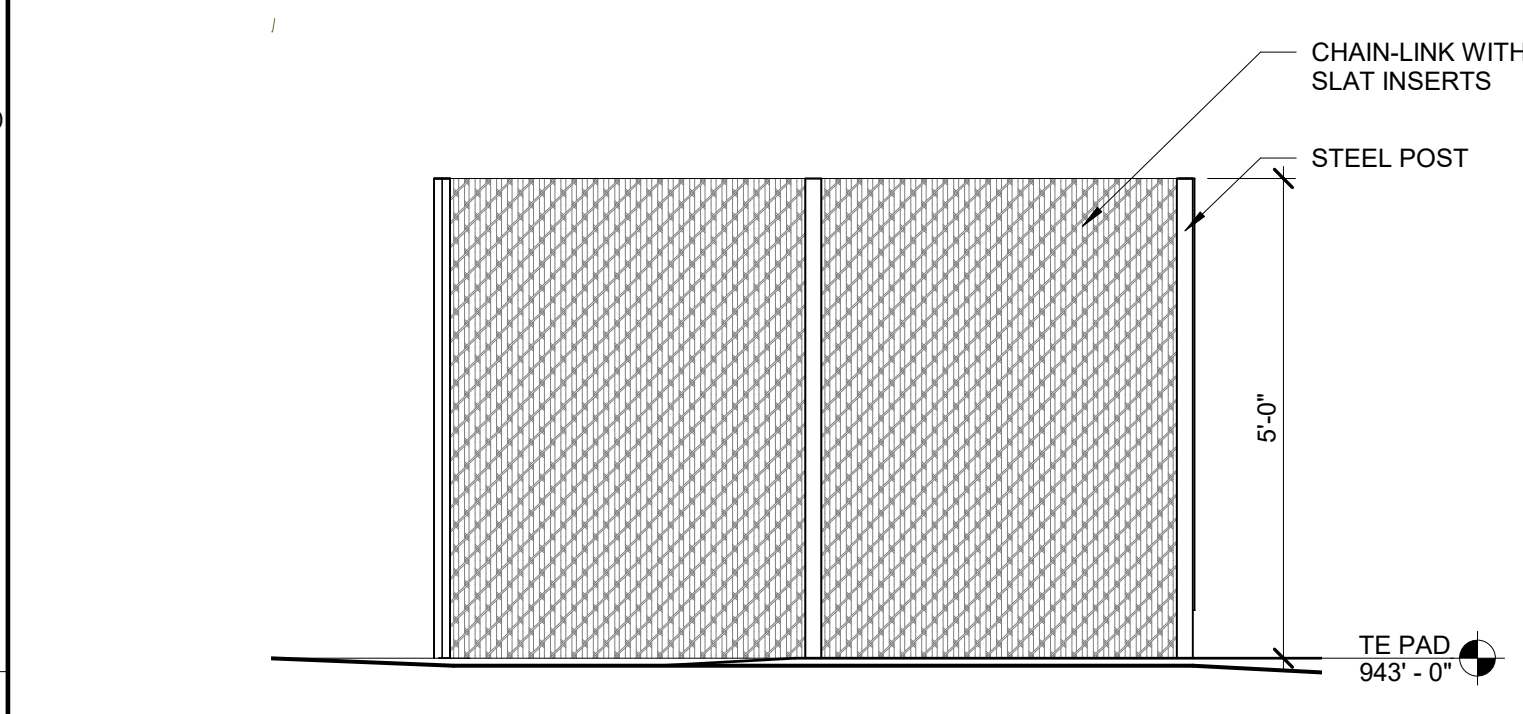
NOT FOR CONSTRUCTION

**PRICING
 SET**

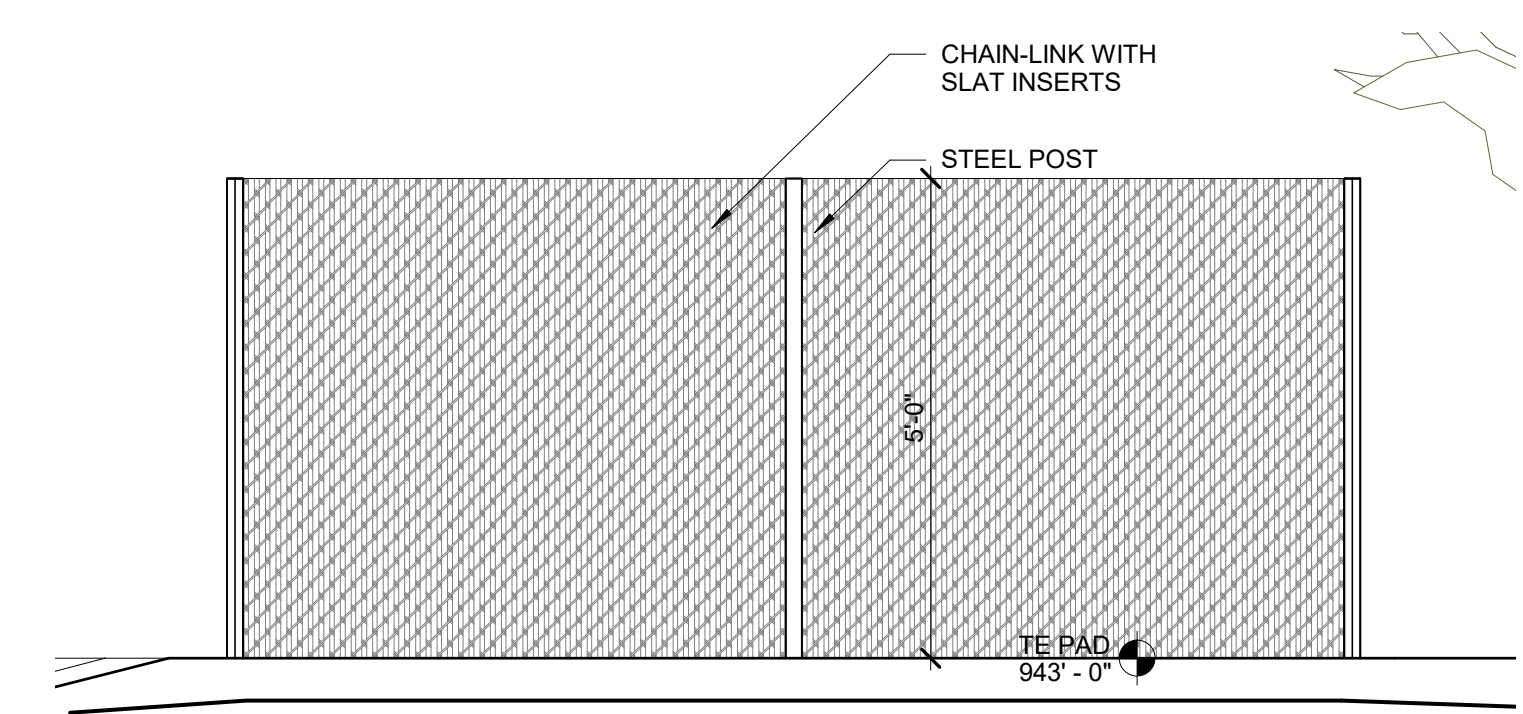
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SITE DETAILS

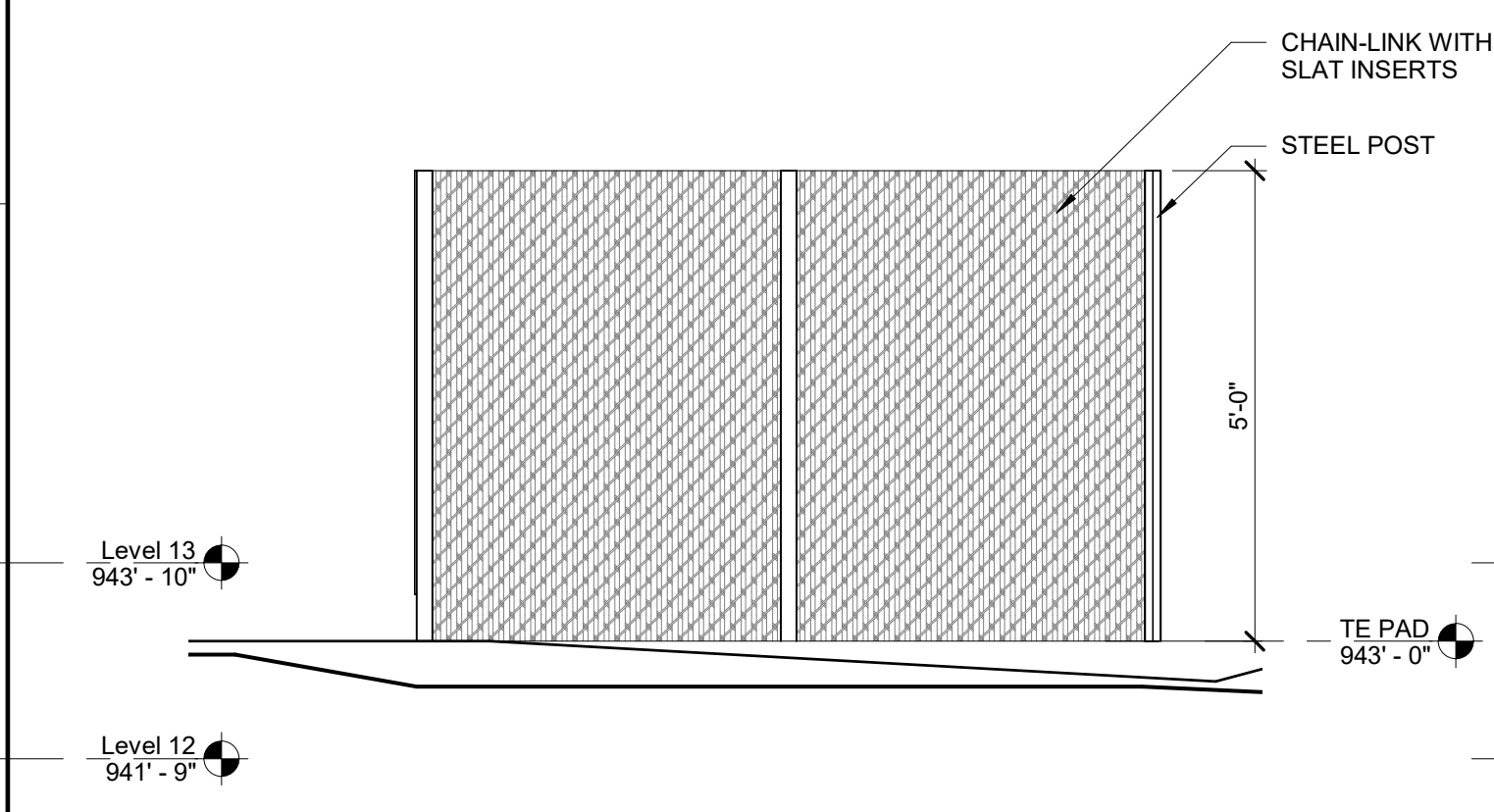
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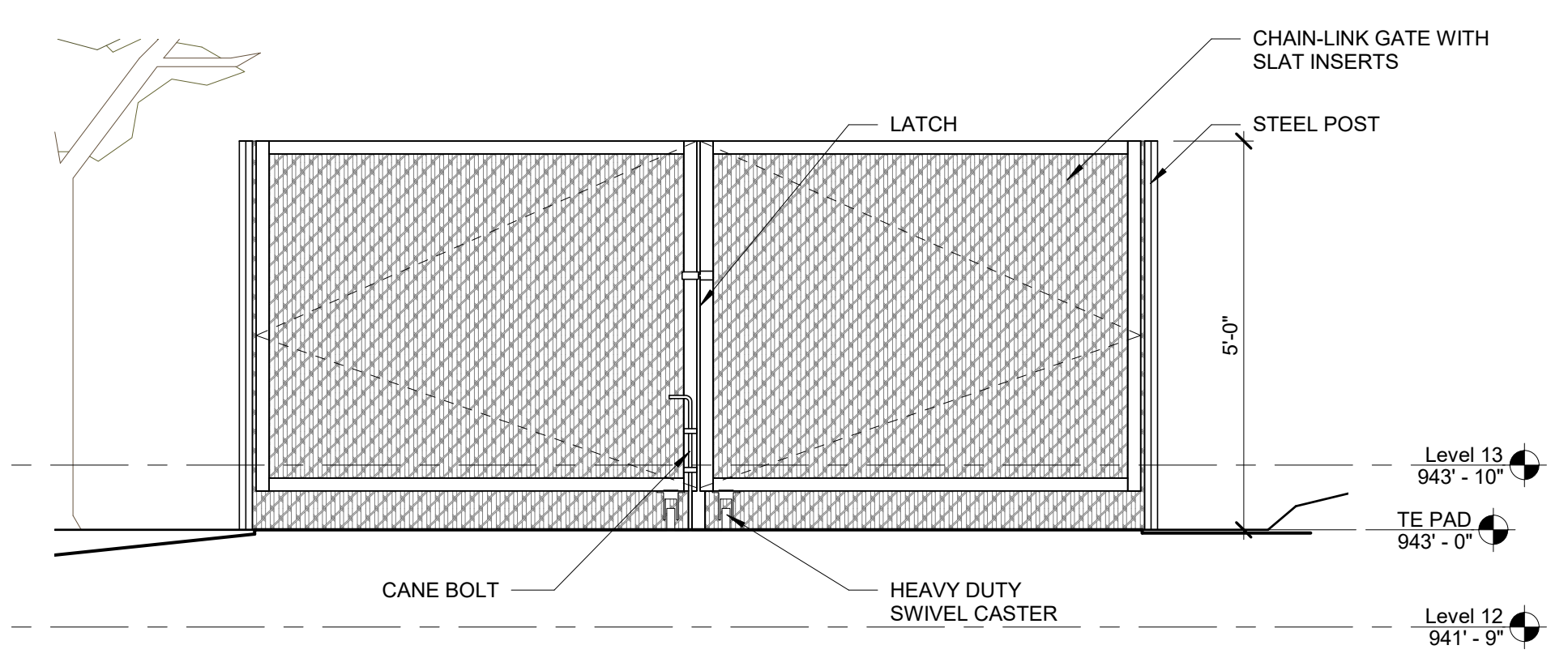
C5 TRASH SCREEN ELEVATION - EAST
 1/2" = 1'-0"



C4 TRASH SCREEN ELEVATION - SOUTH
 1/2" = 1'-0"



B5 TRASH SCREEN ELEVATION - WEST
 1/2" = 1'-0"

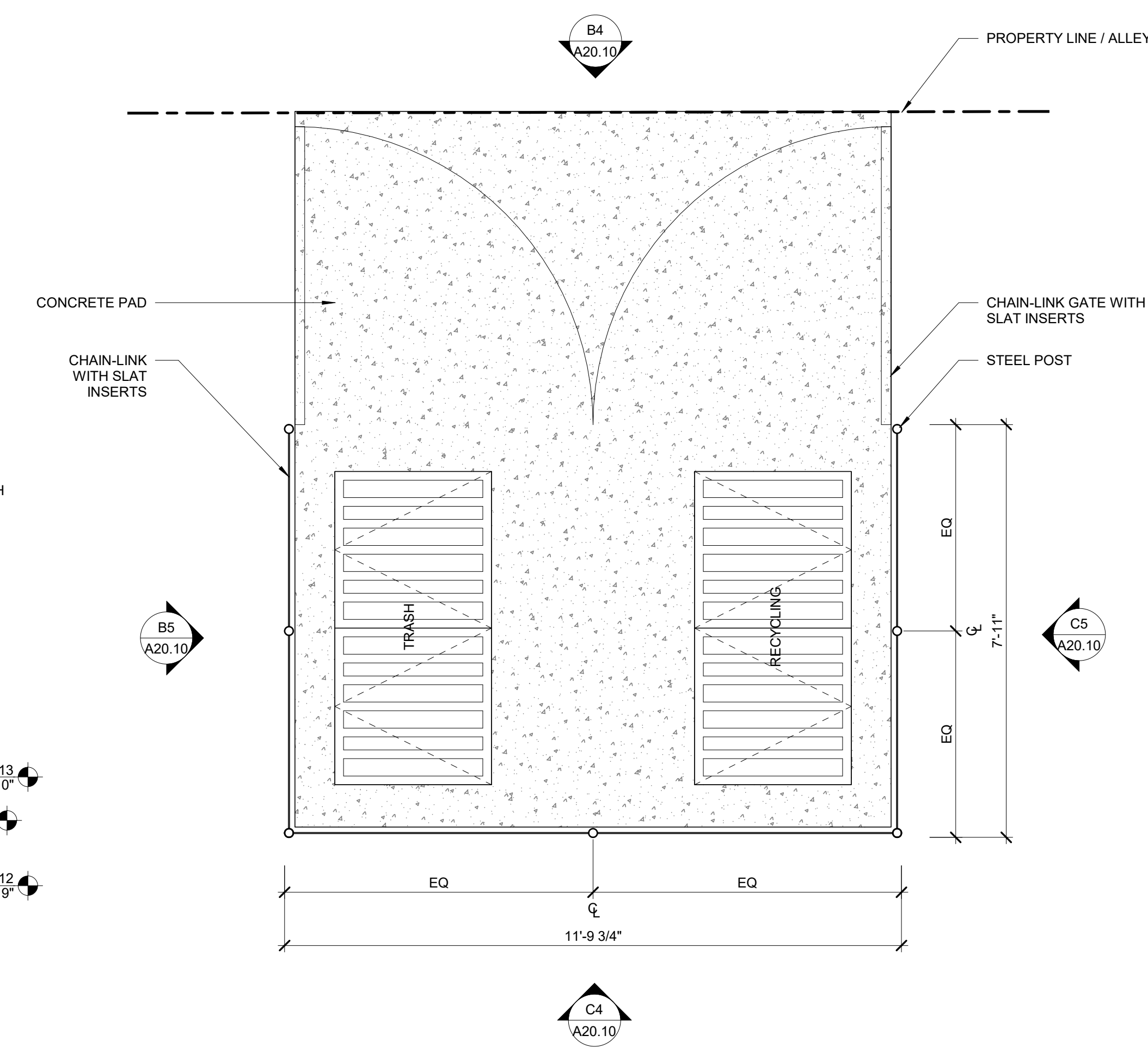
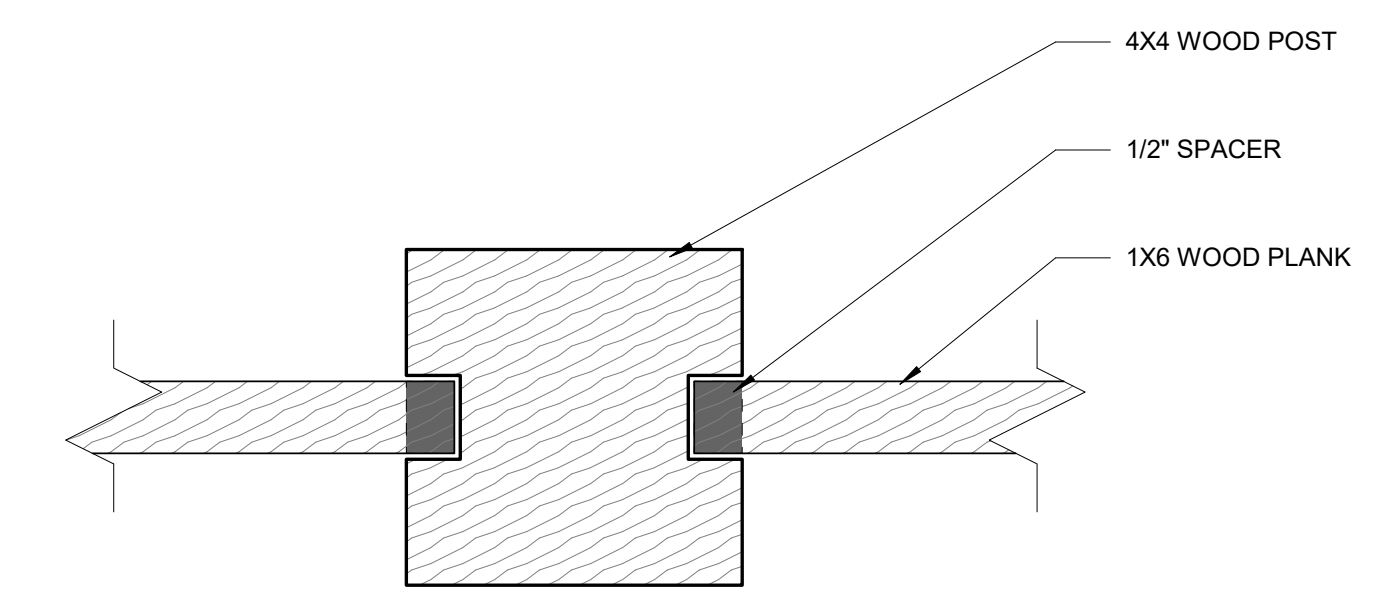


B4 TRASH SCREEN ELEVATION - NORTH
 1/2" = 1'-0"



A5 SCREENING FENCE ELEVATION
 1/4" = 1'-0"

D2 SCREEN DETAIL
 6" = 1'-0"



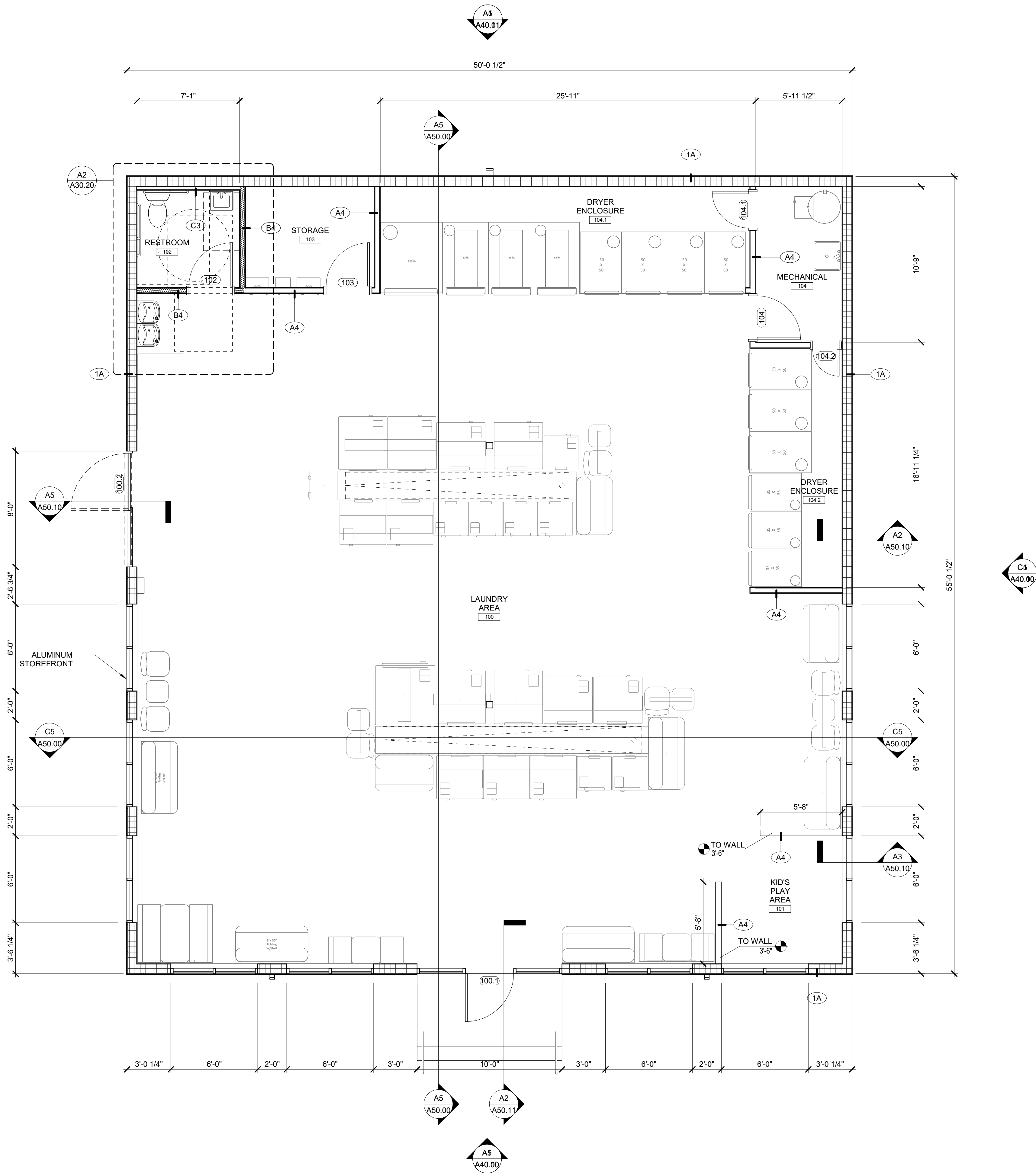
B2 TRASH SCREEN PLAN
 1/2" = 1'-0"

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1/13/2020 4:22:13 PM P:\01 Projects\HW\20.027.0322 - White Bear Laundromat\HW\20.027.0322 - Eastside Family Laundromat.rvt

4A FLOOR PLAN
1/4" = 1'-0"



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Eastside Family Laundromat

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ST. PAUL, MN 55106

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JOB NUMBER 20.027.0322

PLAN - FIRST FLOOR

A30.00



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 Laundromat**

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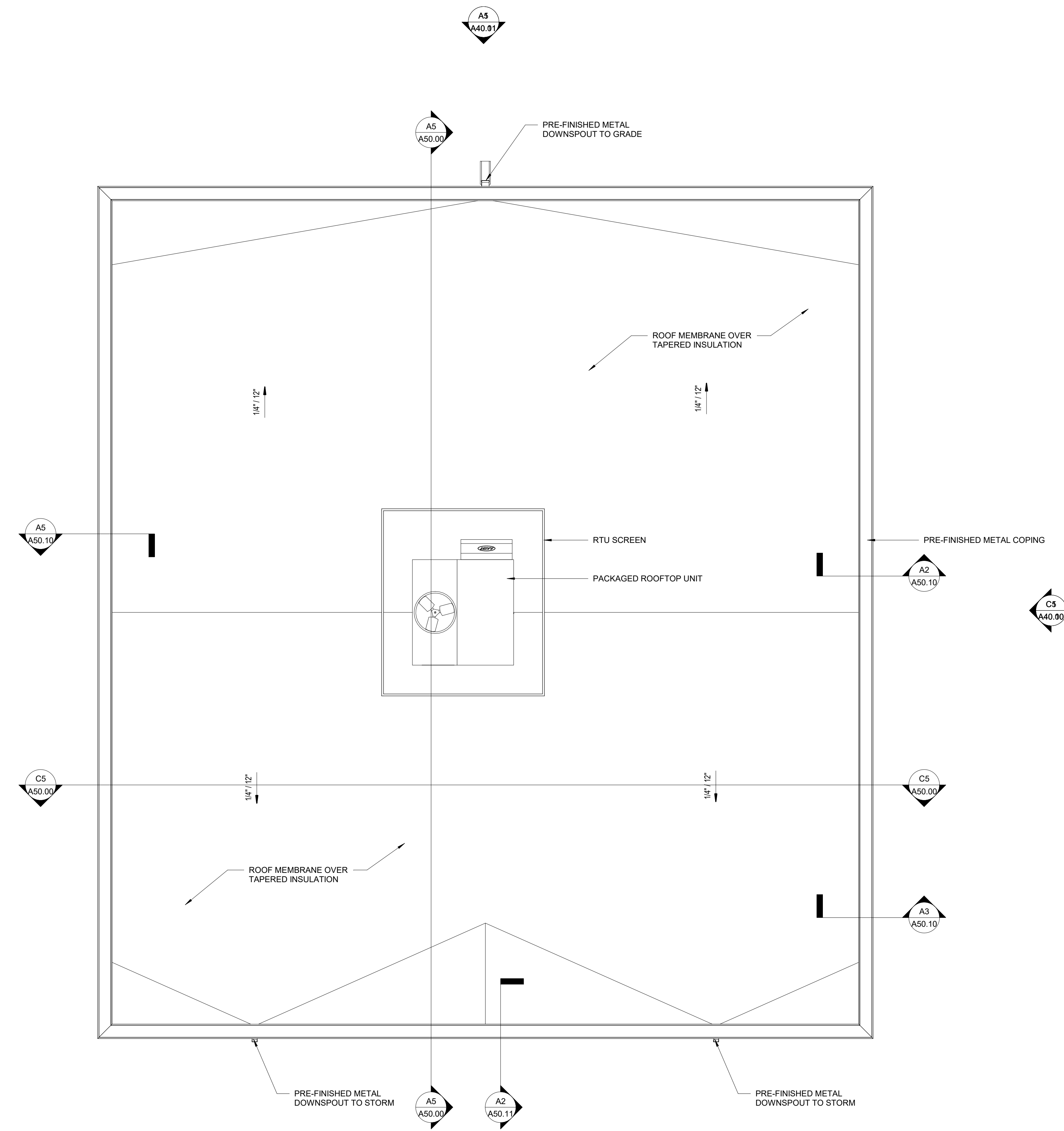
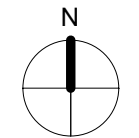
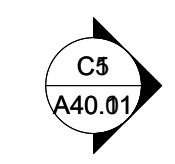
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 SET**

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ROOF PLAN

A30.10

4A ROOF PLAN
 1/4" = 1'-0"





**Eastside Family
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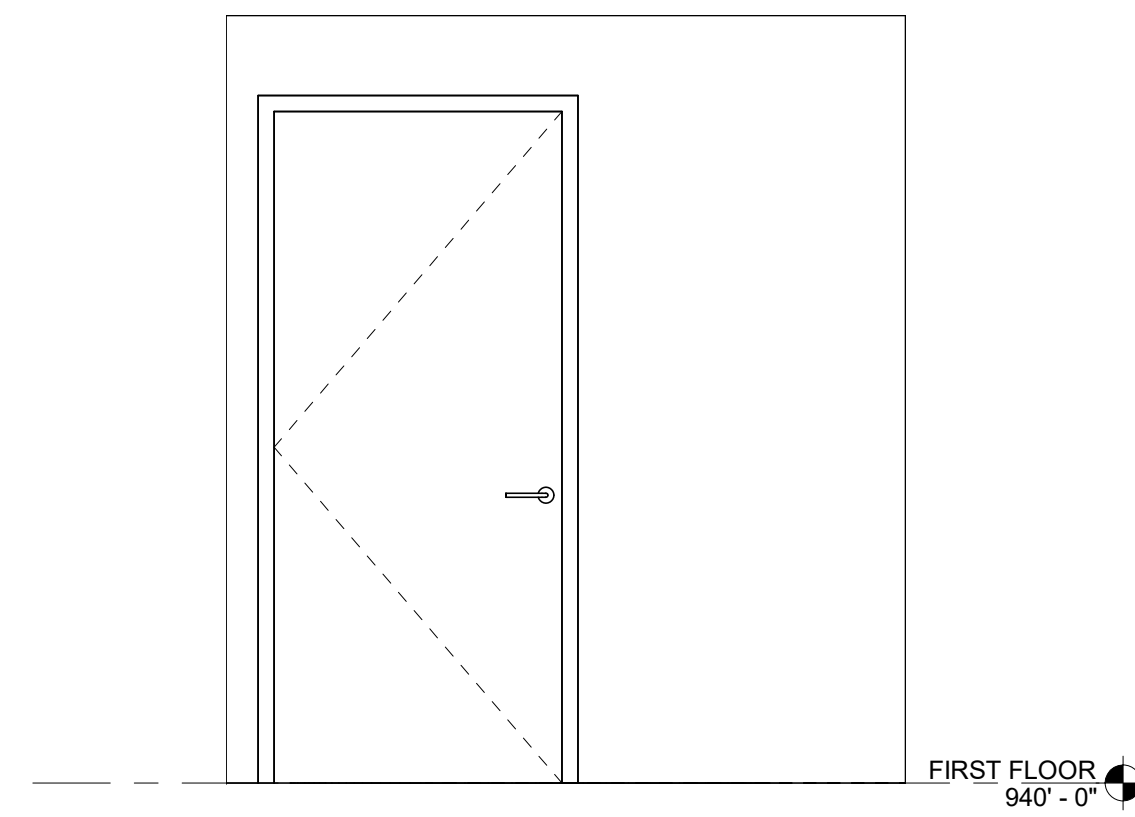
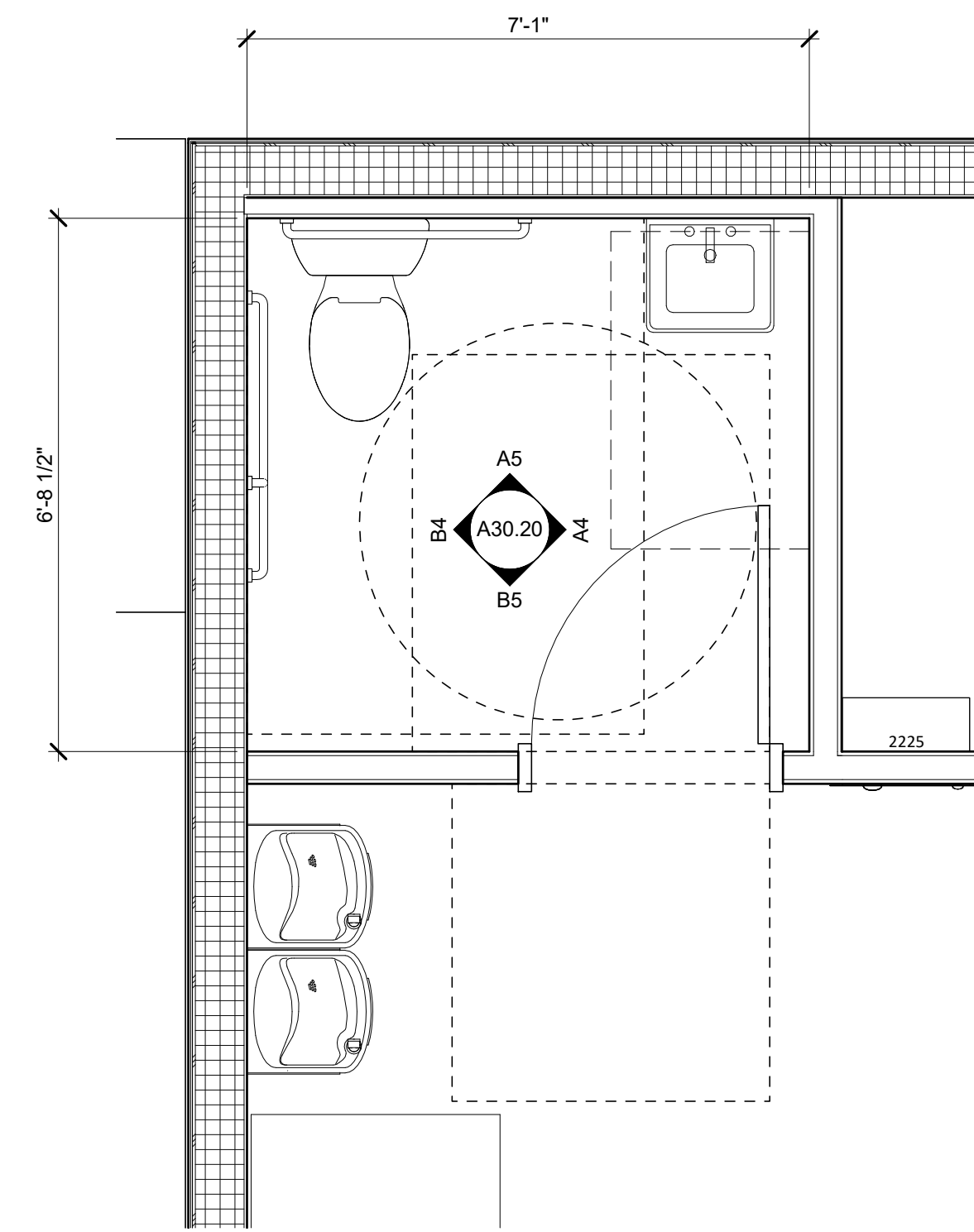
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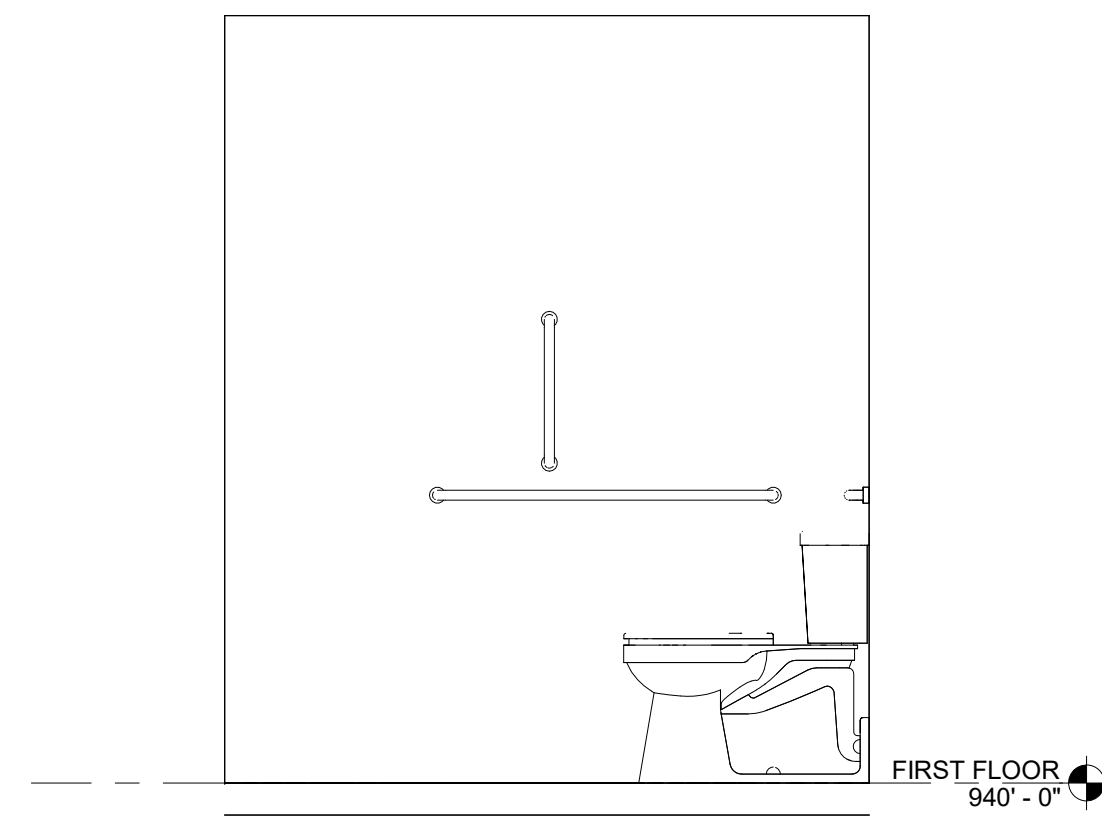
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**PLAN -
 ENLARGED**

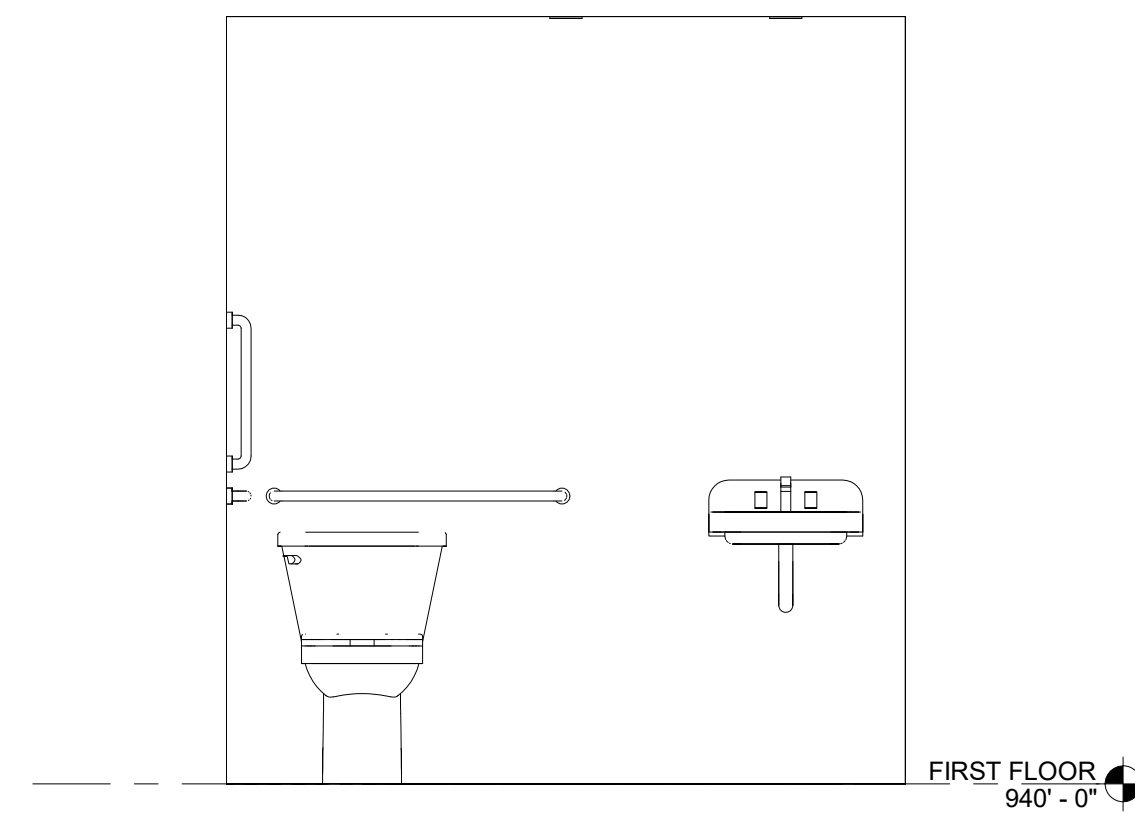
A30.20



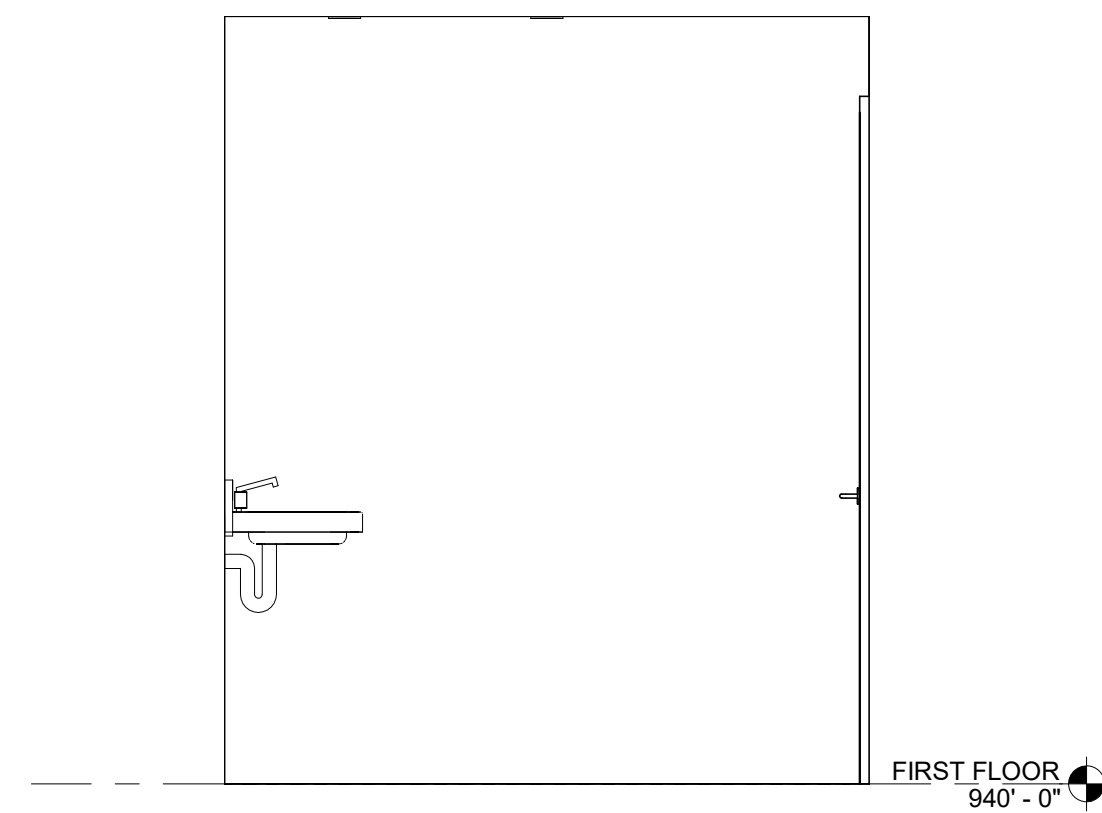
B5 RESTROOM ELEVATION - SOUTH
 1/2" = 1'-0"



B4 RESTROOM ELEVATION - WEST
 1/2" = 1'-0"

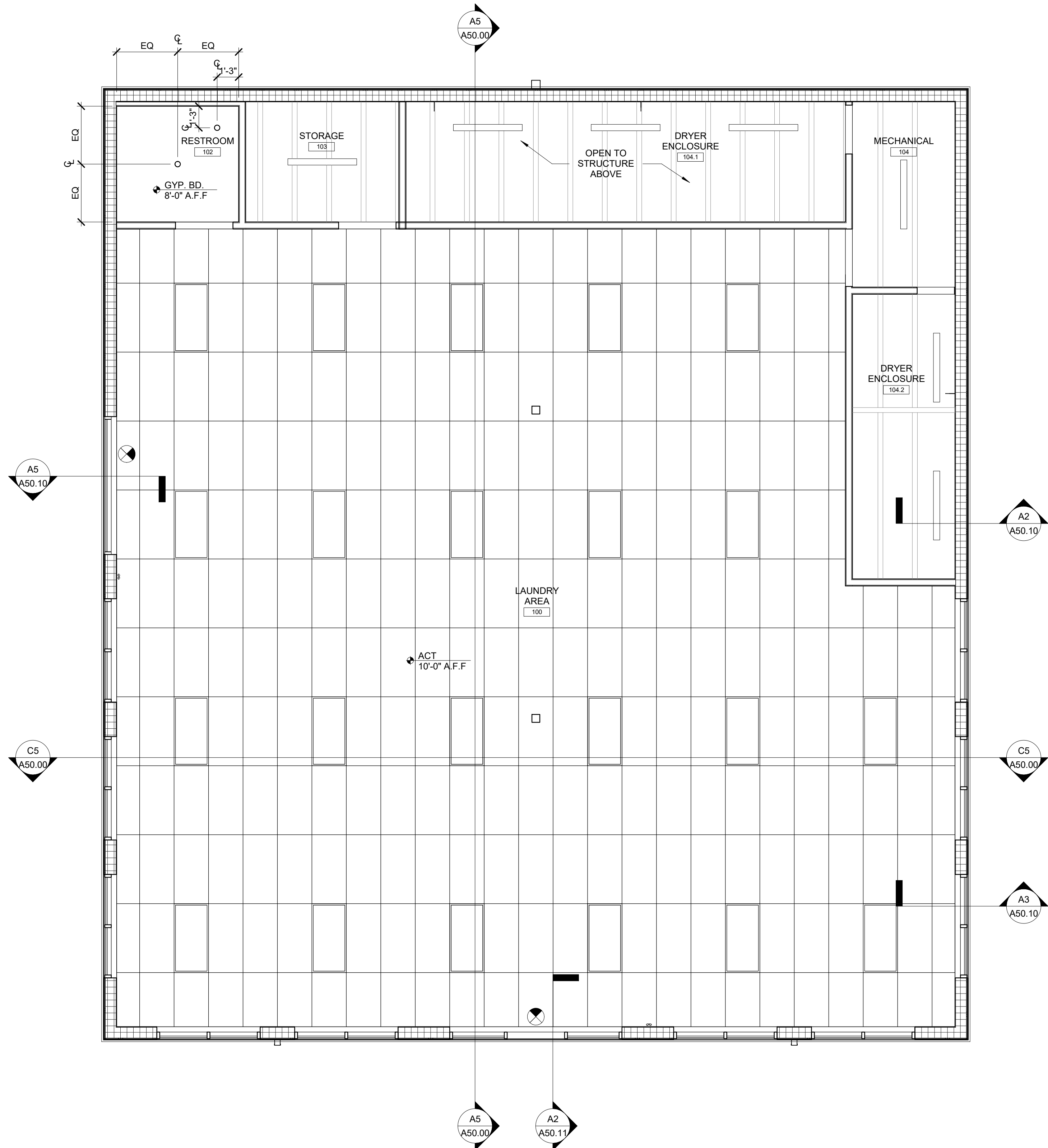


A5 RESTROOM ELEVATION - NORTH
 1/2" = 1'-0"



A4 RESTROOM ELEVATION - EAST
 1/2" = 1'-0"

A2 ENLARGED RESTROOM PLAN
 1/2" = 1'-0"



REFLECTED CEILING NOTES

- A. NOTIFY THE ARCHITECT IMMEDIATELY FOR CONFLICTS WITH THE CONSTRUCTION DOCUMENTS PRIOR TO THE START OF THE WORK.
- B. SEE MECHANICAL DRAWINGS FOR DUCTWORK, ACCESS PANEL LAYOUTS / TYPES. NOTIFY THE ENGINEER OF ANY CONFLICTS WITH THE ARCHITECTURAL DRAWINGS.
- C. SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPES, LOCATIONS, AND MOUNTING HEIGHT INSTRUCTIONS. NOTIFY THE ENGINEER OF ANY CONFLICTS WITH THE ARCHITECTURAL DRAWINGS.
- D. ALL CEILING HEIGHTS ARE DIMENSIONED FOR THE FLOOR LINE DESIGN ELEVATION TO THE CEILING FINISH ELEVATION.
- E. SEE FINISH SCHEDULE FOR FURTHER INFORMATION.

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Eastside Family Laundromat

1773 SIMS AVENUE
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REFLECTED CEILING PLAN - FIRST FLOOR

A30.50

A5 FIRST FLOOR
 1/4" = 1'-0"

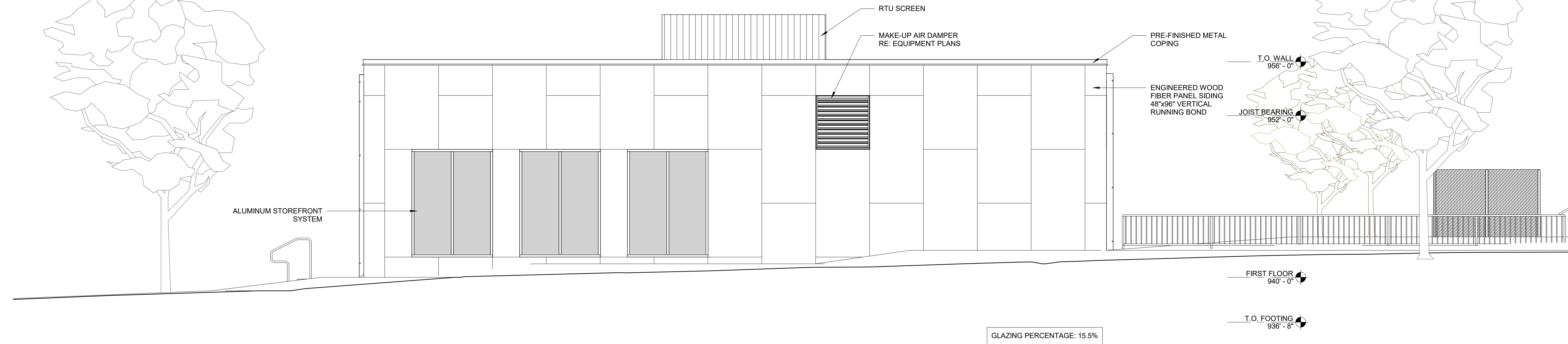


**Eastside Family
 Laundromat**

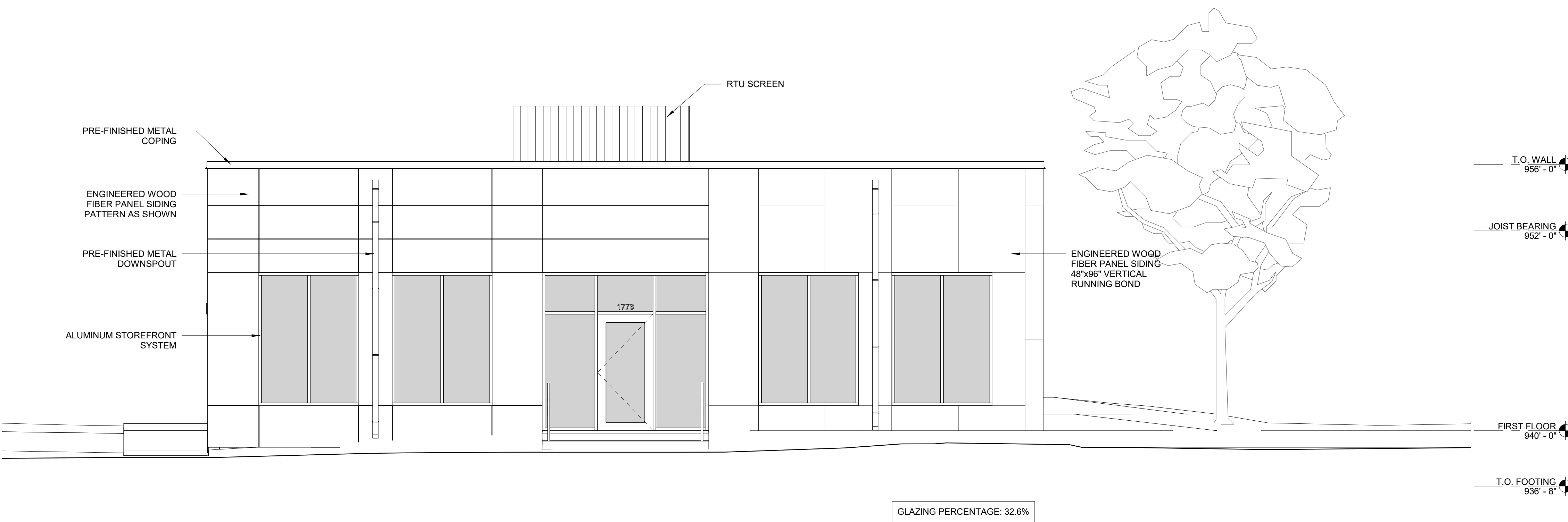
1773 SIMS AVENUE
 ST. PAUL, MN 55106

Level 13
 943' - 10"

Level 12
 941' - 9"



C1 EXTERIOR ELEVATION - EAST
 1/4" = 1'-0"



A1 EXTERIOR ELEVATION - SOUTH
 1/4" = 1'-0"

NOT FOR CONSTRUCTION

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**EXTERIOR
 ELEVATIONS**

A40.00



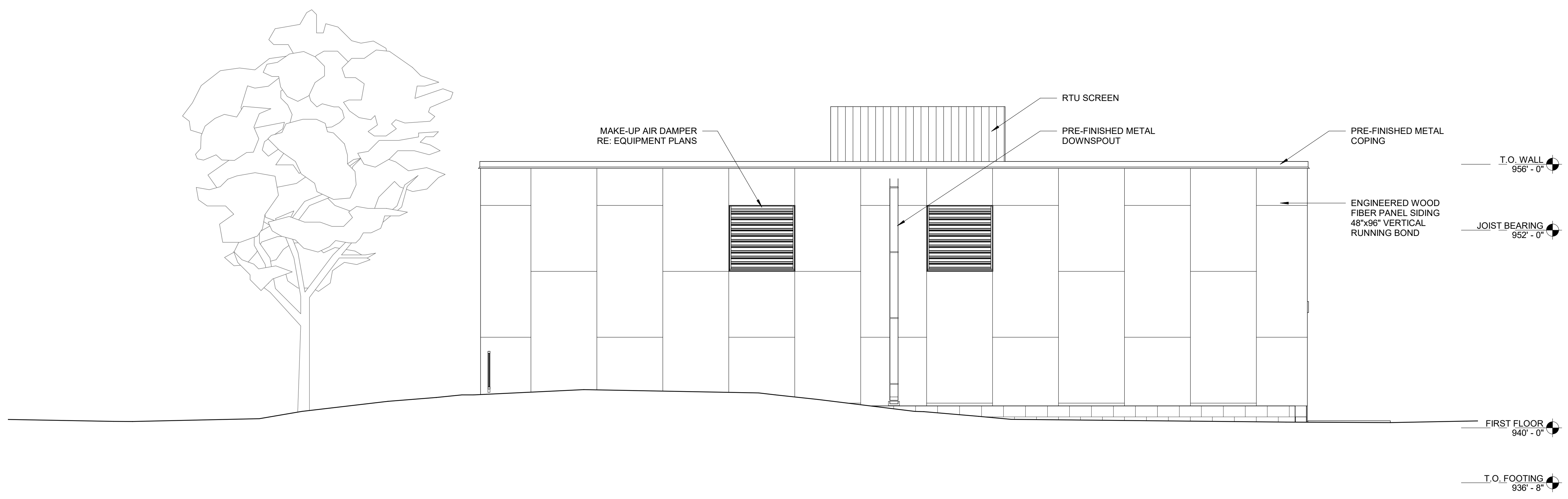
**Eastside Family
 Laundromat**

1773 SIMS AVENUE
 ST. PAUL, MN 55106

NOT FOR CONSTRUCTION



C1 EXTERIOR ELEVATION - WEST
 1/4" = 1'-0"



A1 EXTERIOR ELEVATION - NORTH
 1/4" = 1'-0"

**PRICING
 SET**

2	PRICING	11.03.20
1	SITE PLAN REVIEW	10.21.20
NO	ISSUE	DATE
JOB NUMBER		20.027.0322

**EXTERIOR
 ELEVATIONS**

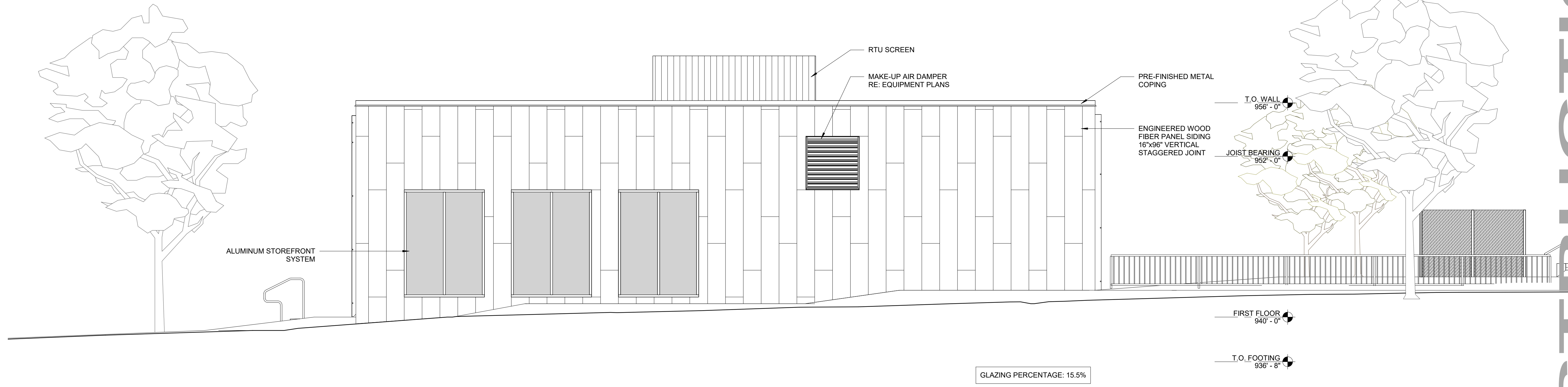
A40.01



**Eastside Family
 Laundromat**

1773 SIMS AVENUE
 ST. PAUL, MN 55106

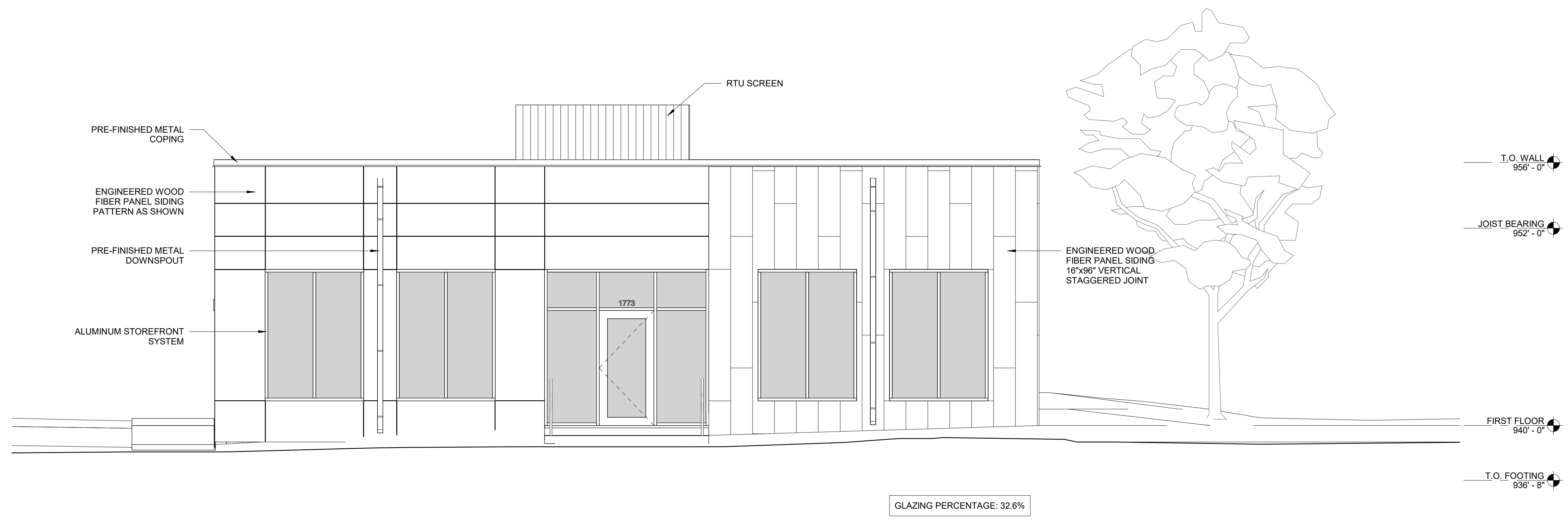
NOT FOR CONSTRUCTION



GLAZING PERCENTAGE: 15.5%

FIRST FLOOR
940' - 0"
 T.O. FOOTING
936' - 8"

C5 EXTERIOR ELEVATION - EAST ALTERNATE
 1/4" = 1'-0"



GLAZING PERCENTAGE: 32.6%

T.O. WALL
956' - 0"
 JOIST BEARING
952' - 0"
 FIRST FLOOR
940' - 0"
 T.O. FOOTING
936' - 8"

**PRICING
 SET**

2	PRICING	11.03.20
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**EXTERIOR
 ELEVATIONS -
 ALTERNATE**

A40.10

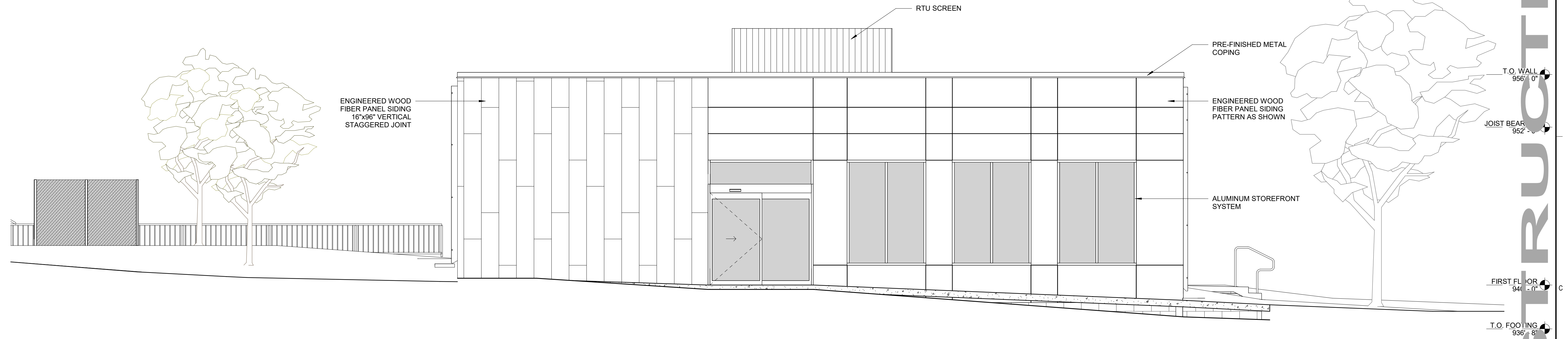
A5 EXTERIOR ELEVATION - SOUTH ALTERNATE
 1/4" = 1'-0"



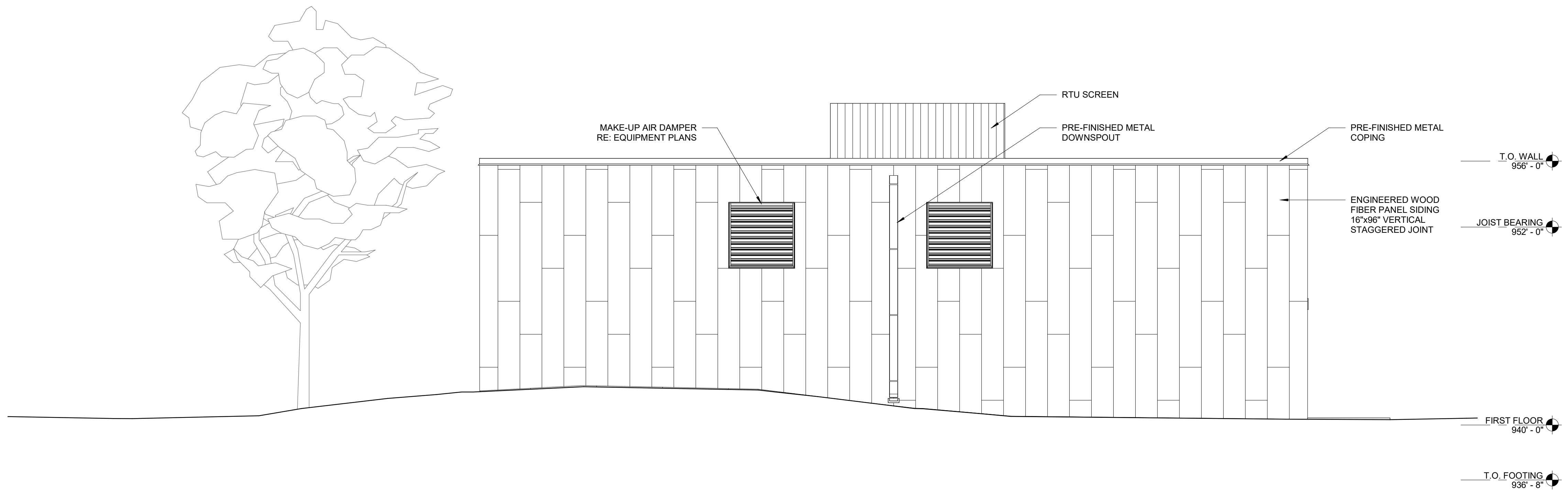
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ST. PAUL, MN 55106

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C5 EXTERIOR ELEVATION - WEST ALTERNATE
1/4" = 1'-0"



A5 EXTERIOR ELEVATION - NORTH ALTERNATE
1/4" = 1'-0"

**PRICING
SET**

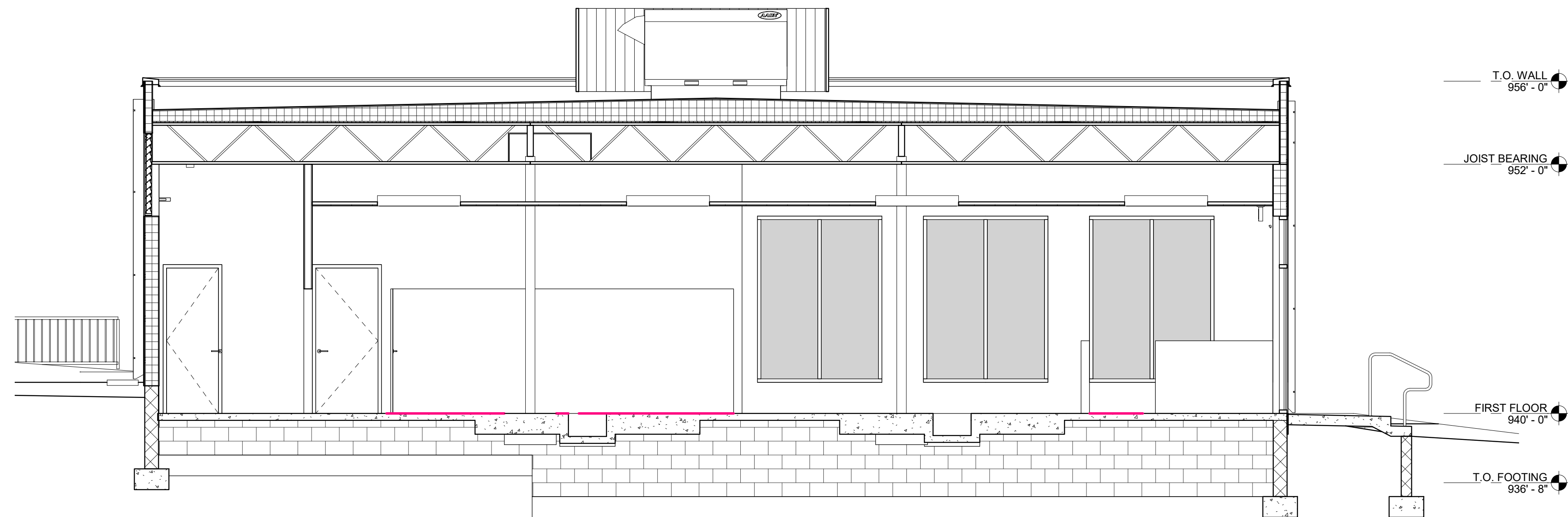
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NO	ISSUE	DATE
JOB NUMBER		20.027.0322

**EXTERIOR
ELEVATIONS -
ALTERNATE**

A40.11



C5 BUILDING SECTION - EAST/WEST
1/4" = 1'-0"



A5 BUILDING SECTION - NORTH/SOUTH
1/4" = 1'-0"



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Laundromat**

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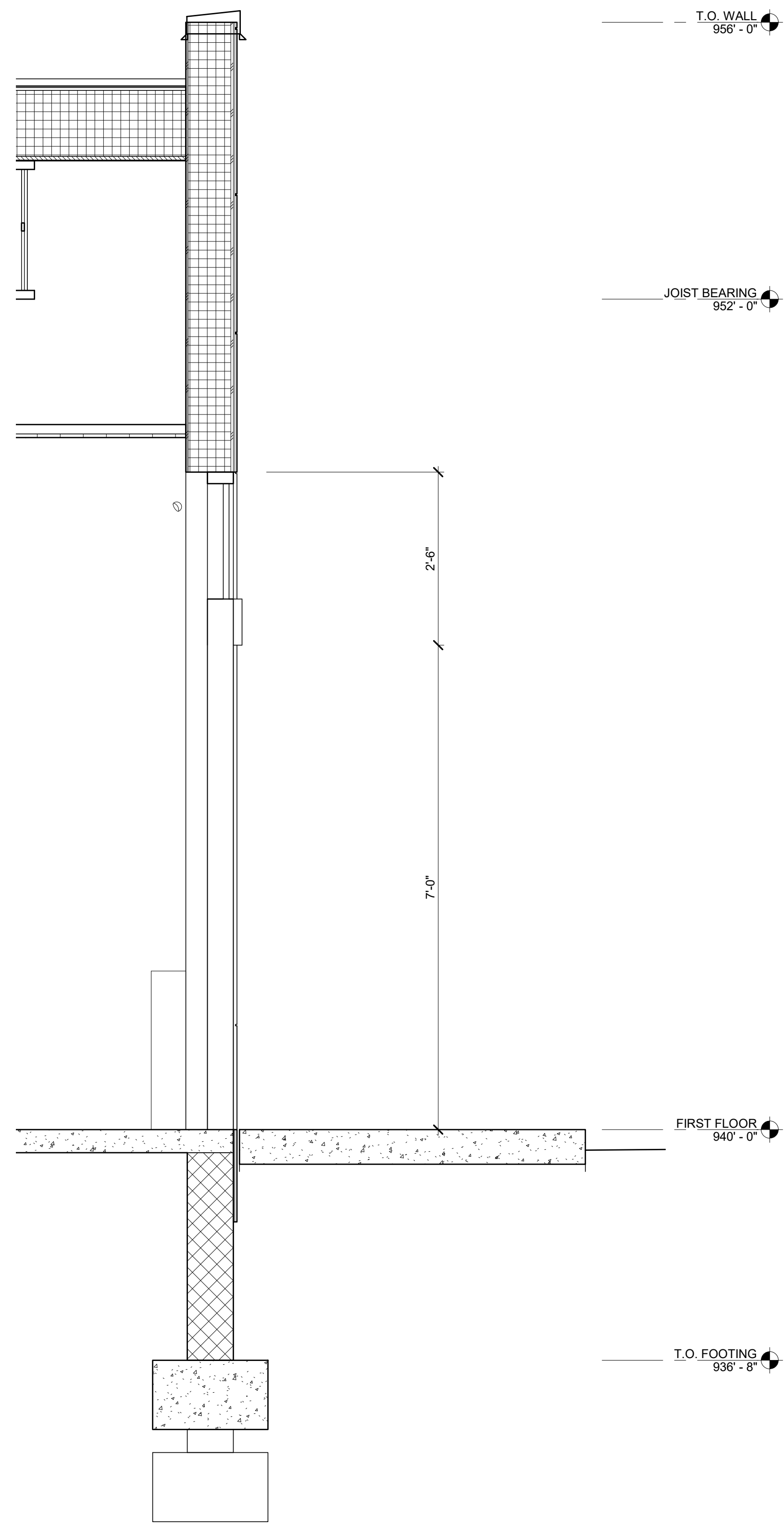
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**PRICING
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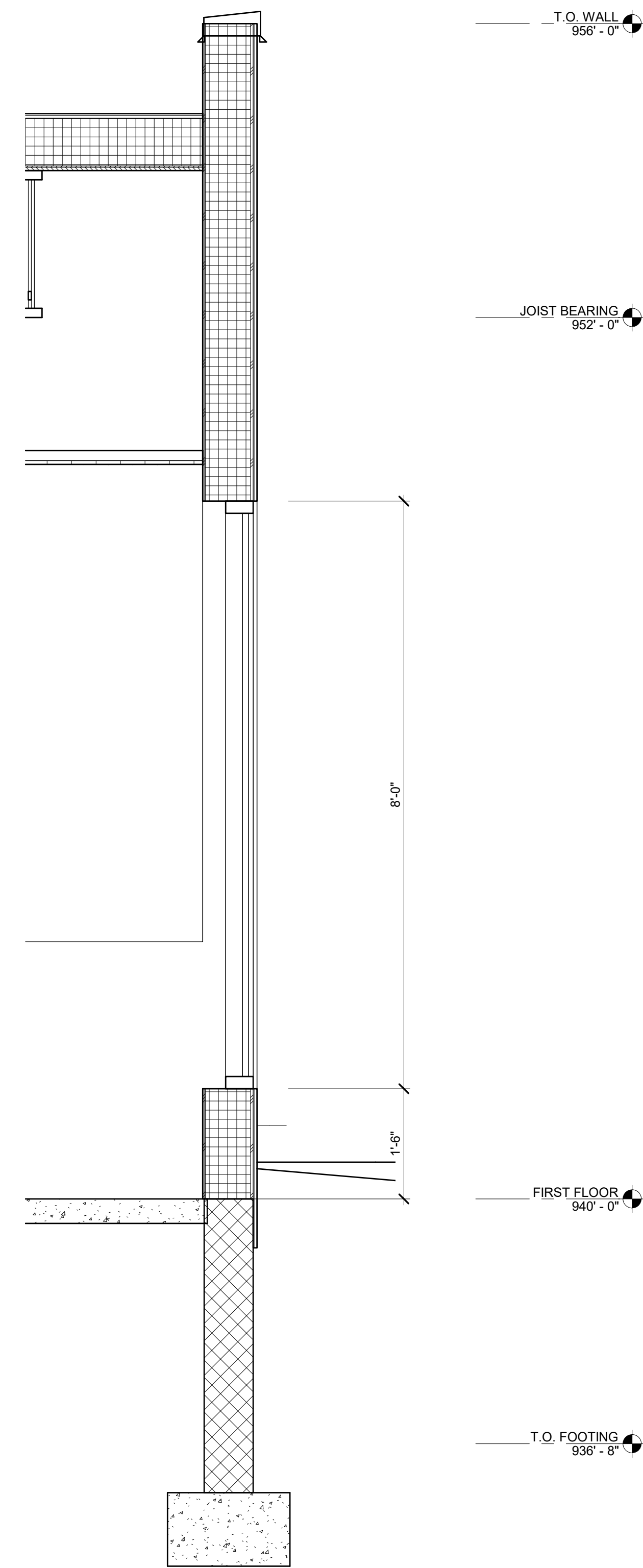
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**BUILDING
SECTIONS**

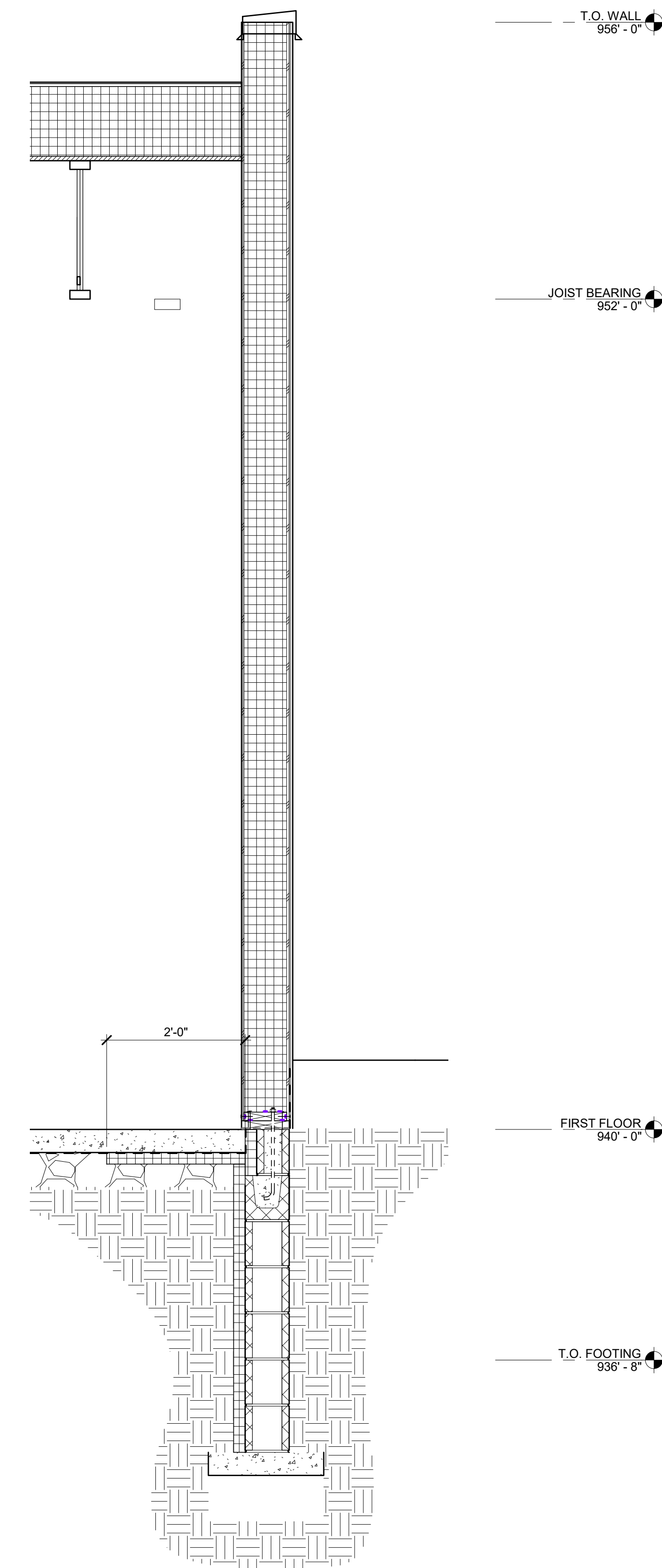
A50.00



A5 WALL SECTION AT WEST ENTRANCE
3/4" = 1'-0"



A3 WALL SECTION @ STOREFRONT
3/4" = 1'-0"



A2 WALL SECTION @ SIPS
3/4" = 1'-0"

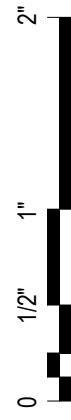
NOT FOR CONSTRUCTION

**PRICING
SET**

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NO	ISSUE	DATE
JOB NUMBER		20.027.0322

WALL SECTIONS

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**Eastside Family
 Laundromat**

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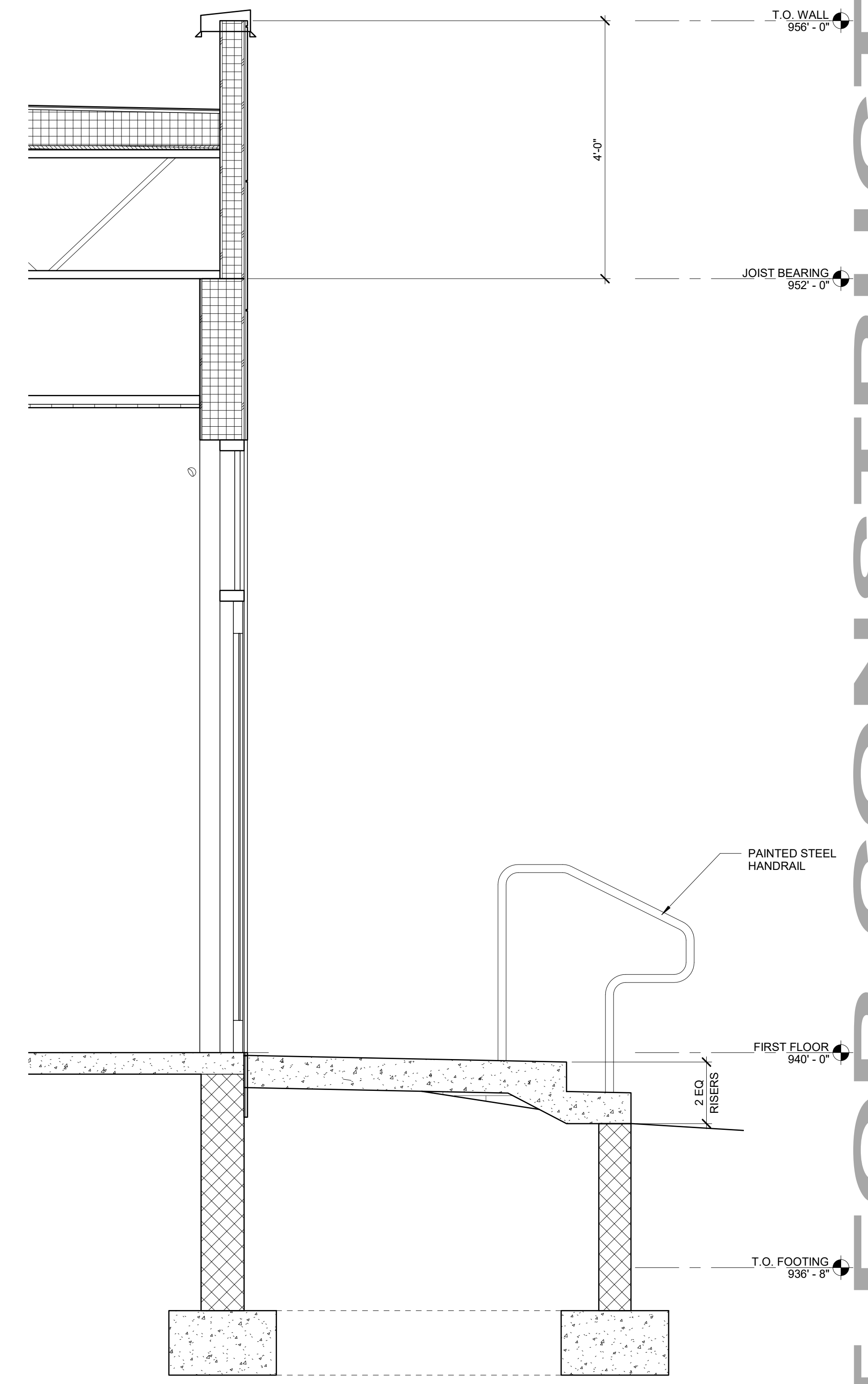
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JOB NUMBER		20.027.0322

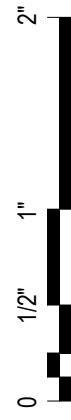
WALL SECTIONS

A50.11

NOT FOR CONSTRUCTION



A2 WALL SECTION @ SOUTH ENTRANCE
 3/4" = 1'-0"

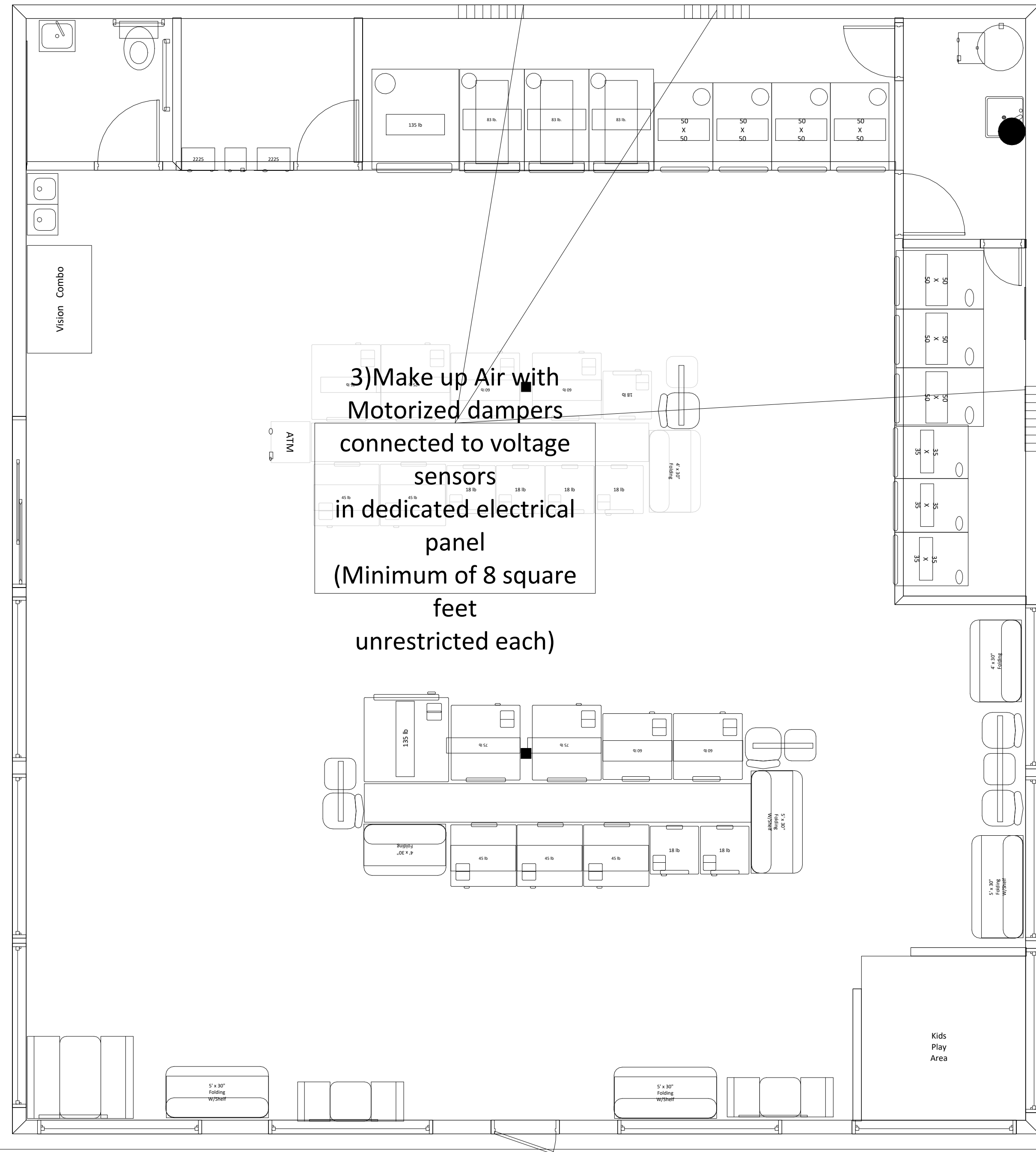


Qty.	Capacity	Model No.
7	18 lb	W575H
5	45 lb	W5180H
4	60 lb	W5240H
4	75 lb	W5300H
1	135 lb	W5600X

Washers

Qty	Capacity	Model No.
3	35 lb (stack)	T5300S
7	50 lb (stack)	T5425S
3	83	T5675
1	135	T41200

Drying Tumblers



Revisions		
Date	By	

BDS Laundry Systems
2100 Exchange Dr.
St. Paul, MN 55120
800-688-0020

Drawing Title:
Dillon - White Bear Ave.

Date: 10/2/20
Scale: 3/8" = 1'
Drawn: JEG
Job: Dillon - White Bear

HVAC

ISSUED FOR
REFERENCE
ONLY

**PRICING
SET**

NOT FOR CONSTRUCTION

NO	PRICING	11.03.20
NO	ISSUE	DATE
2		

JOB NUMBER 20.027.0322

**EQUIPMENT PLAN
- HVAC**

Q30.20



Qty.	Capacity	Model No.
7	18 lb	WS75H
5	45 lb	WS180H
4	60 lb	WS240H
4	75 lb	WS300H
1	135 lb	WS600X

Washers

Qty	Capacity	Model No.
3	35 lb (stack)	T5300S
7	50 lb (stack)	T5425S
3	83	T5675
1	135	T41200

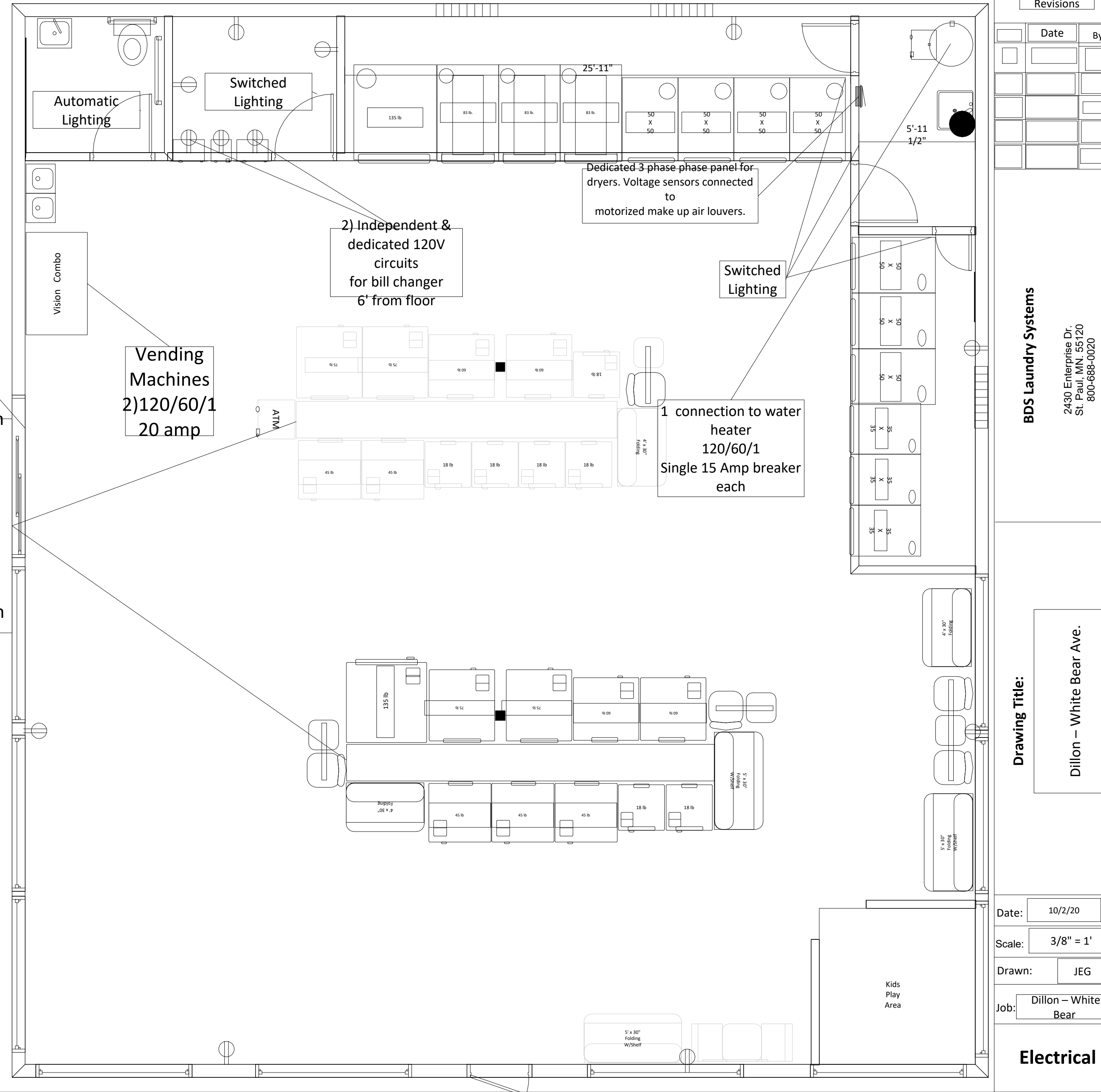
Drying Tumblers

Multiple electrical connections where bulkheads were split for shipping. All wires are color-coded and marked in junction boxes

Stack dryer pockets to be wired completely independent bulkheads to be in floor. Nothing overhead

Connect electrical to automatic sliding door.

Single connection to horizontally-mounted 125 amp sub-panel supplied with each UL Listed bulkhead, 208-240/60/3 (see stub up plan for location)



Revisions		
No.	Date	By

BDS Laundry Systems
2420 Enterprise Dr.
St. Paul, MN 55120
800-688-0020

Drawing Title:
Dillon - White Bear Ave.

Date: 10/2/20
Scale: 3/8" = 1'
Drawn: JEG
Job: Dillon - White Bear

Electrical

Eastside Family Laundromat

1773 SIMS AVENUE
ST. PAUL, MN 55106

NOT FOR CONSTRUCTION

ISSUED FOR REFERENCE ONLY

PRICING SET

NO	PRICING	11.03.20
	ISSUE	DATE
2		

EQUIPMENT PLAN - ELECTRICAL

Q30.30