

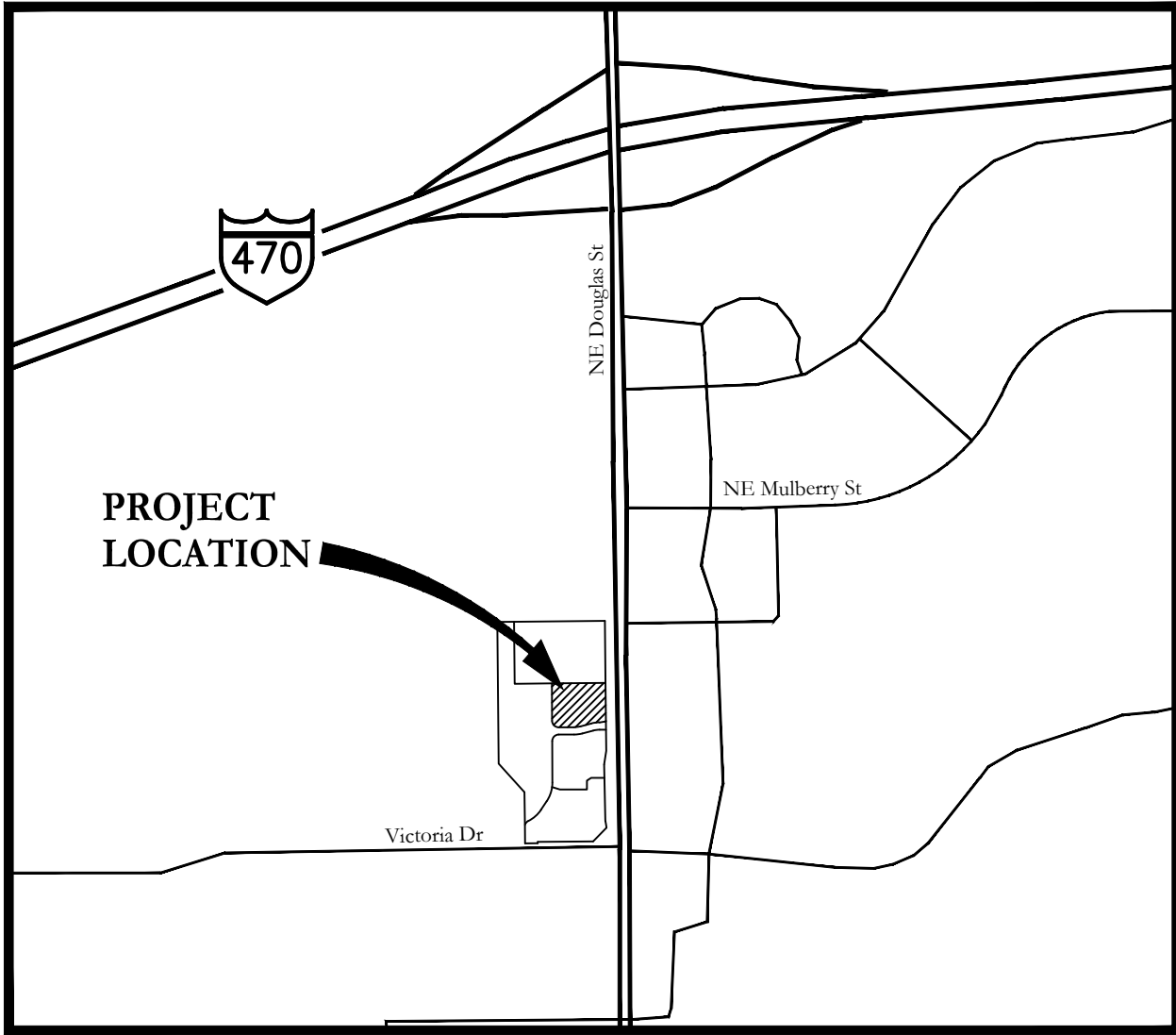
OAKVIEW - LOT 4

FINAL DEVELOPMENT PLANS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
NE 1/4 OF SEC. 31-48-31

LEGAL DESCRIPTION

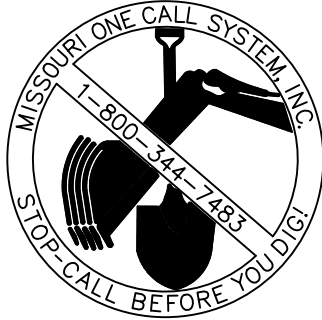
LOT 4 OF THE FINAL PLAT OF OAKVIEW - LOTS 1-5, A REPLAT OF LOT 2, "MINOR PLAT, POLYTAINERS ADDITION, LOTS 1 AND 2" AND PART OF NE DOUGLAS STREET ALL IN THE NE 1/4 OF SEC. 31-48-31 IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



LOCATION MAP
NOT TO SCALE

UTILITIES AND PUBLIC AGENCIES

CITY OF LEE'S SUMMIT PUBLIC WORKS	Dena Mezger	(816) 969-1800
WATER UTILITIES	Mark Schaufler	(816) 969-1900
ELECTRIC EVERGY	Ron Dejarnette	(816) 347-4316
GAS SPIRE	Brent Jones	(816) 399-9633
TELEPHONE AT&T	Marty Loper Mark Manion	(816) 275-1550 (816) 325-6516
CABLE COMCAST	Barbara Brown	(816) 795-2255



NOTE:

Contractor shall be responsible for determining the exact locations of all underground utilities or appurtenances prior to commencing construction. Existing underground utilities shown on the drawings are for reference only, and their accuracy and completeness are not guaranteed. Contractor shall be responsible for repair or replacement of all underground utilities damaged during construction.

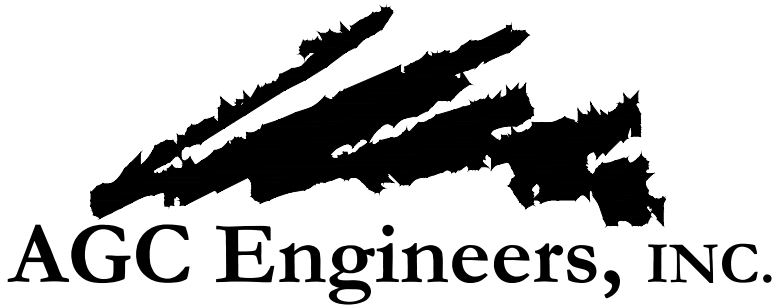
CONTACTS

ENGINEERING

Engineering Alternate Ronald L. Cowger, PE	781-4200
Engineering Primary Art Akin, PE	781-4200

DEVELOPER

STAR ACQUISITIONS AND DEVELOPMENT, LLC
TIM HARRIS
244 W. MILL STREET, SUITE 101
LIBERTY, MISSOURI, 64068
(816) 781.3322



405 S. Leonard St., Suite D
Liberty, Missouri 64068
www.agcengineers.com
816.781.4200 ■
fax 792.3666

STATUS

- ☒ FOR PERMIT
☐ FOR CONSTRUCTION
☐ PLANS CONFORMING TO
CONSTRUCTION RECORDS

DATE:

12-23-20

BY	REVISION	DATE
RC/ACA	FOR REVIEW	12-23-20

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS
4	SITE PLAN
5	GRADING & EROSION CONTROL PLAN
6	GRADING PLAN - CUT & FILL
7	RETAINING WALL DETAILS
8	UTILITY PLAN
9	SPOT ELEVATION PLAN
10	DRAINAGE AREA MAP & CALCS
11	STORM PLAN & PROFILE
12	DETAILS
13	DETAILS
14	DETAILS
15	DETAILS
L100	LANDSCAPE PLAN
	LIGHTING PLAN

SEE ADDITIONAL PLANS PREPARED BY SCHARHAG ARCHITECTS.

McLAUGHLIN MUELLER, INC. HAS SOLE RESPONSIBILITY FOR SHEET 3, VSR DESIGN HAS SOLE RESPONSIBILITY FOR SHEET L100 AND PREMIER LIGHTING AND CONTROLS HAS SOLE RESPONSIBILITY FOR THE LIGHTING PLAN.

ENGINEER'S CERTIFICATION:

I hereby certify that this project has been designed, and these plans prepared, to meet or exceed the design criteria of City of Lee's Summit, Missouri, in current usage, except as indicated below.

- Exceptions: 1. _____
2. _____
3. _____
4. _____

I have not been retained to coordinate as-built drawings for this project.



Ronald L. Cowger, PE
AGC Engineers, Inc.

GENERAL PROJECT NOTES:

1. The Contractor shall, at a minimum, have the following document(s) at the job site at all times:
Signed approved plans,
Contract Documents and Project Specifications,
Standard Specifications (Kansas City Metro Chapter-APWA)
Storm Water Pollution Plan (SWPPP)
All required permits
2. The Contractor shall reference the City of Lee's Summit Design Criteria, Standard Specifications, Standard Details, Approved Products Lists found at the following website
https://cityofls.net/development-services/design/design-criteria/design-construction -manual-infrastructure
3. This Project shall be constructed in accordance with these Plans, City of Lee's Summit criteria and specifications (listed above), and their absence the Kansas City Metro Chapter of American Public Works Association (most current version) "APWA".
4. All work required to complete the project and that is not specifically itemized in the Contractor's proposal shall be considered subsidiary to other work itemized in the proposal.
5. All materials and workmanship associated with this project shall be subject to inspection by the City of Lee's Summit and the Owner. The City and/or Owner reserves the right to accept or reject any such materials and workmanship that does not conform to the Standards and Technical Specifications.
6. RESERVED
- 7 The Contractor shall notify the Engineer immediately of any discrepancies in the Plans.
8. By use of these Plans the Contractor agrees that he shall be solely responsible for the safety and protection of the construction workers and the public.
9. Contractor is to obtain the necessary permits for all construction activities.
10. Contractor shall be responsible for determining the exact locations of all underground utilities or appurtenances prior to commencing construction. Existing underground utilities shown on the drawings are for reference only, and their accuracy and completeness are not guaranteed. Contractor shall be responsible for repair or replacement of all underground utilities damaged during construction.
11. RESERVED
12. It shall be the responsibility of the Contractor to control erosion and siltation during all phases of construction.
13. Any sidewalk, curb & gutter or pavement disturbed, damaged or destroyed during construction shall be replaced by Contractor at no additional cost to Owner.
14. Modified curb shall be used at all locations where pavement drains away from curb.

GRADING NOTES:

1. Erosion protection shall be in place prior to any land disturbance.
2. Contours shown are to finished grade.
3. The construction area shall be cleared, grubbed, and stripped of topsoil and organic matter from all areas. Excess topsoil shall be stockpiled separately from compactable material. Stripping existing topsoil and organic matter shall be to a minimum depth of six (6) inches.
4. Areas to receive fill shall be striped of top soil and other organic material, scarified, and the top eight (8) inch depth compacted to 98% standard proctor density prior to the placement of any fill material. Any unsuitable areas shall be undercut and replaced with suitable material before any fill material can be placed.
5. Fill material shall be made in lifts not to exceed nine (9) inches depth compacted to 98% standard proctor density (per ASTM D-698) with a moisture content -3% and +2% optimum moisture. Contractor shall provide (at his/her sole cost) an independent geotechnical report certifying compaction at a sample interval of one (1) sample per 5000 square feet per lift or more frequent if required/recommended by the geotechnical firm. Geotechnical firm shall be approved by Owner prior to beginning fill operations. Fill material may include rock from on-site excavation if carefully placed so that large stones are well disturbed and voids are completely filled with smaller stones, earth, sand or gravel to furnish a solid embankment. No rock larger than three (3) inches in any dimension nor any shale shall be placed in the top 12 inches of embankment.
6. In all areas of excavation, if unsuitable soil conditions are encountered, a qualified Geotechnical engineer shall recommend to the Owner on the methods of undercutting and replacement of property compacted, approved fill material.
7. All slopes are to be 3:1 or flatter unless otherwise indicated.
8. All slopes and areas disturbed by construction shall be graded smooth and a minimum four (4) inches of topsoil applied. If adequate topsoil is not available on-site, the Contractor shall provide topsoil, approved by the Owner, as needed. Any areas disturbed for any reason shall be corrected by the Contractor at no additional cost to the Owner prior to final acceptance of the project.
9. All disturbed areas shall be seeded, fertilized and mulched or sodded in accordance with the standards and specifications adopted by the reviewing governing agency and good engineering practices.

EROSION CONTROL NOTES:

1. Control of sediment is a very dynamic (ever changing) process. These plans are provided as a basis of anticipated erosion control measures. The Contractor shall modified add or delete with the Owner's permission the erosion control measure shown to prevent the migration of sediment off of the Owner's property and/or into jurisdictional waters/waterways.
2. Any sediment deposited on public streets shall be removed immediately by Contractor at his sole expense.
3. Stockpile excavation materials away from existing channels and grade to drain to adequate erosion control measures.
4. Remove silt build up in temporary sediment basins (if applicable), inlet protection devices and/or silt fence until site is completely stabilized. Verify grade prior to final seeding, lining or rip-rap installation.
5. All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Kansas City Metro Chapter of American Public Works Association. Seeding/Sodding shall be completed within 14 days after completing the work, in any area. If this is outside of the recommended seeding period, erosion control measures or other similarly effective measure shall remain and be maintained by Contractor until such time that the areas can be seeded and a stand of grass established per Missouri DNR or MoDOT Section 805.4 standards.
6. When sediment deposits reach approximately one-half the height of the BMP, the sediment shall be removed or a second BMP shall be installed. All costs associated with this work, including related incidents, shall be the Contractor's responsibility and shall be included in the bid for the proposed work.
7. Contractor shall perform BMP inspection once a week and after each rainfall event, and provide Owner a copy of report within 48 hrs. Faulty or inadequate erosion control measures shall be remediated or modified the same day of inspection so as to minimize the risk of sediment discharge from the Owner's property or jurisdictional waters/waterways.
8. Contractor shall protect and maintain erosion control measures until a complete stand of grass as defined by Missouri DNR has been established.
9. Concrete Washout Areas will be determined onsite by the Job Superintendent.
10. At a minimum the following permits/approvals shall be posted on site or as required by the permit terms and conditions:
City of Lee's Summit Land Disturbance Permit.
11. Permanent fertilizing, seeding (Type "A") and mulch shall be in accordance with Kansas City Metro Chapter of American Public Works Association. Final acceptance per MoDOT Sections 805.4
12. The Contractor shall install Erosion Control Blanket (ECB) on all slopes with 3:1 slope or greater. ECB shall be Landlok CS2 or approved equal.
13. Provide temporary silt fencing at all pipe entrances until all site seeding and sodding has been established. Maintain as necessary.
14. Immediately remove sediments or other materials tracked onto public roadways.
15. Provide and maintain stabilized roadway construction entrance (or entrances as may be required).
16. Coordinate site grading with existing and proposed utilities.
17. Stock pile waste excavation materials away from existing channels and grade to drain.
18. Remove silt build up in basin and verify grade prior to final seeding, lining or rip-rap installation and clean up.
19. All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Standards and Specifications adopted by the City of Lee's Summit, MoDOT, MoDNR or other governing agency and good engineering practices.
20. Silt fences, whether straw bales or filter fabric, require maintenance to preserve their effectiveness. All silt fences shall be inspected immediately after each heavy rainstorm and at least daily during prolonged rainfall. Any required repairs shall be made immediately. When sediment deposits reach approximately one-half the height of the silt fence, the sediment shall be removed or a second silt fence shall be installed. All costs associated with this work, including related incidentals, shall be the contractor's responsibility and shall be included in the bid for the proposed work.

WATER NOTES:

1. Reference MEP Plans to confirm fire protection main size, domestic water and meter sizes. If a discrepancy exists between the Plans contact the Engineer prior to ordering material.
2. Domestic water shall be 2-inch "k" copper conforming to the latest federal specifications.
3. Minimum cover for water lines shall be 42 inches.
4. Install fittings as required. maximum pipe deflection per manufacturers recommendations.
5. Install 2 " water meter at property line (on private property side).
6. All water service installation, including back-flow devices, are subject to field verification and approval by City inspector.
7. Install 6" Fire Protection Line including outside vault with Double Check Detector assembly Backflow Protection Device and shut off valves for assembly removal.

REFERENCE DOCUMENTS & DRAWINGS:

Contractor shall reference the following documents prior to beginning Work
1. Architectural Plans (including but not limited to MEP and Structural Plans)
2. Landlord Work Order list from Star Acquisitions and Development, LLC

STORM NOTES:

1. All HDPE pipe shall be Water-Tight
2. All High Density Polyethylene (HDPE) pipe shall conform to AASHTO M294 Type S. Acceptable pipe must come from a Plastic Pipe Institute (PPI) certified manufacturer and have passed the PPI 3rd Party Certification testing. Each individual section of pipe shall be marked in accordance with AASHTO M294 and shall be affixed with the PPI Certification label. HDPE pipe shall be joined with water tight joints meeting the requirements of AASHTO M294 Paragraph 7.9.3.
3. Pipe lengths are from inside face to inside face.
4. End sections for HDPE pipe shall be metal with concrete toe wall unless noted otherwise.

ELECTRIC:

1. Contractor to coordinate with Evergy Electric for electrical service.
2. Contractor to coordinate with Evergy Electric for location of transformer pad and transformer if required.

GAS:

1. Contractor to coordinate with Spire for gas service, and location of meter.

TELEPHONE:

1. Site contractor to install PVC conduit(s) for use by telephone company. Site contractor to coordinate with telephone company for installation of service and location of proposed pedestals, etc. Telephone conduit shall have a minimum cover of 30". Site contractor shall coordinate location with telephone company representative and locate PVC crossings as necessary. See building plans for entrance locations.

LEGEND

EXISTING

- ⦿ SET MONUMENT AS NOTED STAMPED LS 1999141096
- FOUND 1/2" REBAR LS 1989
- FOUND MONUMENT AS NOTED
- (M) MEASURED DISTANCE
- ⊙ CONTROL POINT
- GUY DOWN
- ⦿ FIRE HYDRANT
- ⊕ LIGHT POLE
- ⦿PP POWER POLE
- POST
- ⦿ MANHOLE
- ⦿ WATER VALVE
- B/L BUILDING LINE
- D/E DRAINAGE EASEMENT
- OHP— AERIAL UTILITY
- S/E SANITARY SEWER EASEMENT
- U/E UTILITY EASEMENT
- UGG— UNDERGROUND GAS
- UGP— UNDERGROUND POWER
- UGT— UNDERGROUND TELEPHONE
- UCW— UNDERGROUND WATER

SANITARY NOTES:

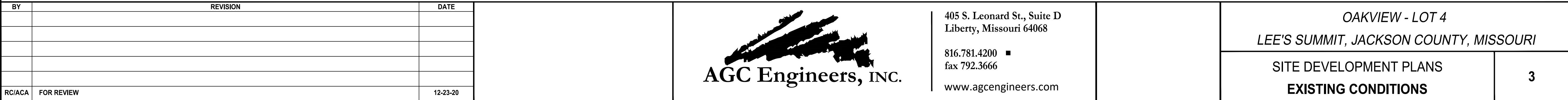
1. All sanitary stub lines shall be laid on 2.00% grade unless approved otherwise.
2. The Contractor shall install and properly maintain a mechanical plug at all connection points with existing lines until such time that the new line is tested and approved.
3. Where sanitary sewer lines are to be installed over and across water lines, a minimum of 24 inches of clearance shall be provided. Where clearance is not provided, construct sanitary sewer line of ductile iron pipe for a distance of at least 10 feet in each direction from crossing, with no joint within 6 feet of crossing.
4. Performance testing in accordance with APWA Section 2508. Witness and acceptance by City is required before placing in service.
5. All service lines shall be schedule 40 PVC.
6. All pre-cast manholes shall meet or exceed standards and specifications as set forth in ASTM C-478.
7. All PVC pipe shall meet or exceed standards and specifications as set forth in ASTM D-3034.
8. All proposed and existing street crossings shall be tamped granular backfill (Type 3) from the bottom of the trench to a point that is 15" below the finished grade of the street. All existing street crossings shall be filled with flowable fill per detail STR-011.
9. Mandrel testing is required and shall be performed in accordance with APWA 2508.5, at a minimum of 30 days after installation.
10. All inspection of sanitary sewer construction shall be performed by the City of Lone Jack.
11. It is the responsibility of the contractor to have sanitary sewer lines air tested and sanitary sewer manholes vacuum tested for new construction and modifications to existing. Contractor shall provide city with test results upon completion of construction.
12. Areas with less than three (3) feet of depth from existing grade to proposed top of pipe shall be filled to an elevation of three (3) feet above the proposed top of pipe, compacted to 95% density +/-2% prior to trenching or laying of any pipe.
13. Sanitary sewer piping material shall be as follows:

0 to 15' depth; SDR-35 PVC
15' to 22' depth; SDR-26 PVC
22' to 30' depth; SDR-21 PVC
greater than 30' depth; D.I.P.
6" service laterals; SDR-35 PVC at 2.0% minimum.
14. All manholes, catch basins, utility valves, and meter pits shall be adjusted or rebuilt to grade as required.
15. Service lines shall be extended a minimum of 1 foot past the house side of all utility easements.
16. Insert Tee's or Saddles for service lines are not allowed except in special cases with prior City approval and City observation of installation.

PROPOSED

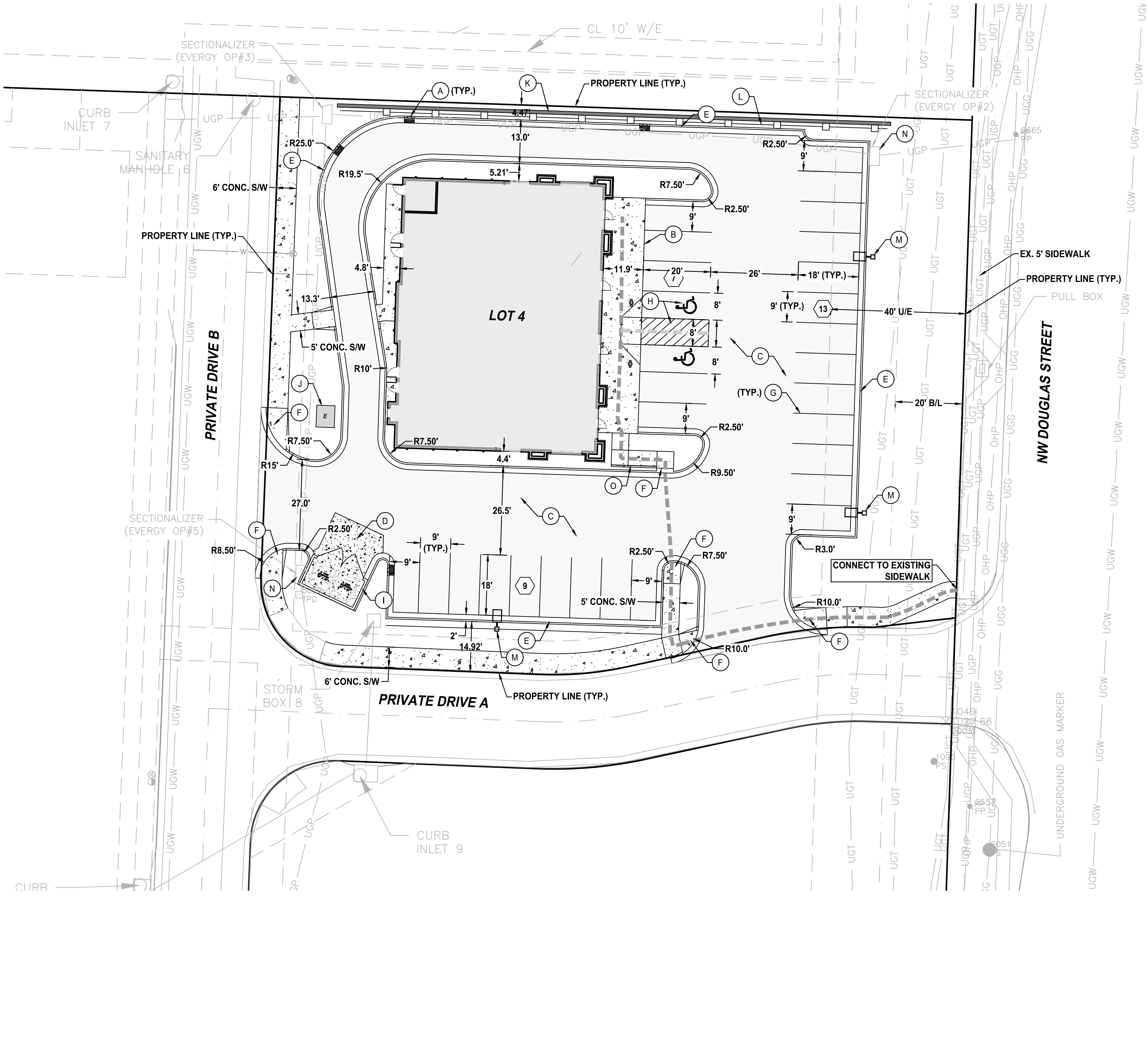
- SANITARY STRUCTURE
- SAN — SANITARY SEWER
- STORM STRUCTURE
- ==== STORM SEWER
- W — WATERLINE
- WM ● WATER METER
- WATER VALVE
- G — GAS LINE
- CO ◦ CLEANOUT
- ⑬ PARKING COUNT
- 780 — CONTOUR
- LIGHT POLE (SITE PARKING)
- D/E DRAINAGE EASEMENT
- GM GAS METER
- WM WATER METER
- E/E ELECTRIC EASEMENT
- U/E UTILITY EASEMENT
- B/L BUILDING LINE SETBACK
- MH MANHOLE
- R RADIUS OR RAMP (as it relates to sidewalks)
- L LANDING (as it relates to sidewalks)
- S/W or SW SIDEWALK
- AC AIR CONDITIONER
- MEP MECHANICAL, ELECTRICAL & PLUMBING
- WSD WATER SERVICES DEPARTMENT
- D.S. DOWN SPOUT
- TC TOP OF CURB
- G GROUND
- P PAVEMENT
- LP LOW POINT
- HP HIGH POINT

BY	REVISION	DATE	<div><div></div><div>AGC Engineers, INC.</div></div>	405 S. Leonard St., Suite D Liberty, Missouri 64068 816.781.4200 ■ fax 792.3666 www.agcengineers.com	<div><div></div><div>FOR REVIEW</div><div>12-23-20</div></div>	OAKVIEW - LOT 4 LEE'S SUMMIT, JACKSON COUNTY, MISSOURI		
						SITE DEVELOPMENT PLANS		
						GENERAL NOTES & LEGEND		
						2		
RC/ACA	FOR REVIEW	12-23-20						



SITE DATA:

											Land Area (sf)								Parking Data				Impervious Area		
Lot No.	Address	Existing Zoning	Proposed Zoning	Proposed Use	Anticipated Schedule	Gross	R/W	POS ⁽¹⁾	POS ⁽²⁾	Parkland	Net	Proposed Building Area (sf)	No. Stories	FAR	Criteria Used		as compared to UDO	required parking	provided parking	Acreage Impervious / % Impervious					
4	1440 NE Douglas St	CP-2	CP-2	restaurant/retail	2020-2022	33,292.26	0.000	0.000	0.000	0.000	33,292.26	4,800	1	0.14	25% Smoothie King (primarily drive thru - use 12.5/1000) 75% retail/office (use 3.9/1000)		reduced 1.5/1000 (2 stalls) reduced 1.1/1000 (4 stalls)	15.00 14.04	29 29	0.25 AC / 32%					
Legend						totals																			
						POS ⁽¹⁾ = Private Open Space not intended to be counted toward parkland dedication POS ⁽²⁾ = Private Open Space to be counted toward parkland dedication FAR = Floor Area Ratio										Special Parking Notes: 1. UDO parking ratios drive thru/sit down 14/1000 drive thru only 2/1000 + 1/employee at max shift office 4/1000 retail 5/1000									
Notes:						1. At the election of the Developer the units may be FOR SALE or FOR RENT/LEASE.										2. See parking generation letter dated August 27, 2020.									



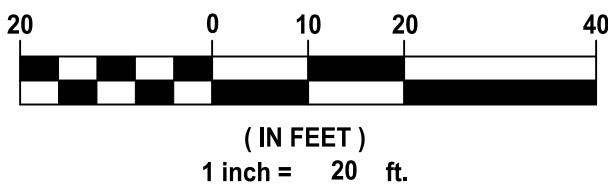
LEGEND:

- — — — — ADA PEDESTRIAN ROUTE
- ⬡ PARKING STALL COUNTS

KEY LEGEND

- A CURB INLET - 2'X3' NYLOPLAST
- B INTEGRAL SIDEWALK / CURB
- C CONCRETE PAVEMENT
- D HEAVY DUTY CONCRETE
- E CG-1 CURB & GUTTER (RE: SPOT ELEVATION PLANS)
- F ADA RAMP
- G PARKING STRIPING - 4" YELLOW
- H STRIPING - (RE: ADA ACCESSIBLE STRIPING LAYOUT)
- I TRASH ENCLOSURE (RE: ARCH)
- J ELECTRICAL TRANSFORMER
- K SEGMENTAL BLOCK WALL (RE: SHEET 7)
- L 4' STEEL FENCE (RE: SHEET 7)
- M LIGHT POLE (RE: MEP)
- N RELOCATE EVERGY FACILITIES
- O HANDRAIL

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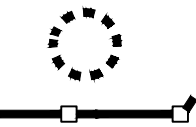


OAKVIEW - LOT 4
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SITE DEVELOPMENT PLANS
SITE PLAN

LEGEND:

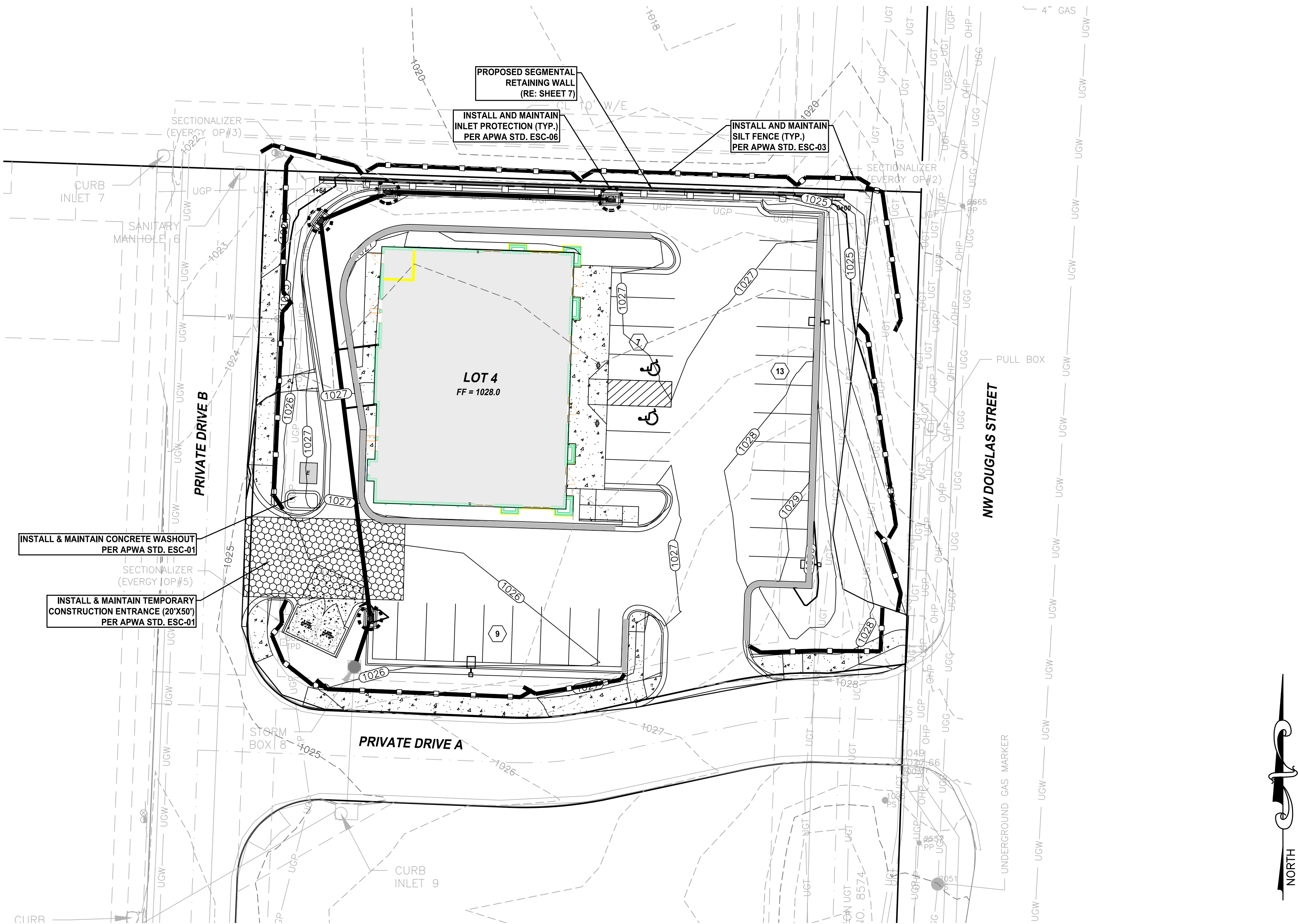
EROSION CONTROL



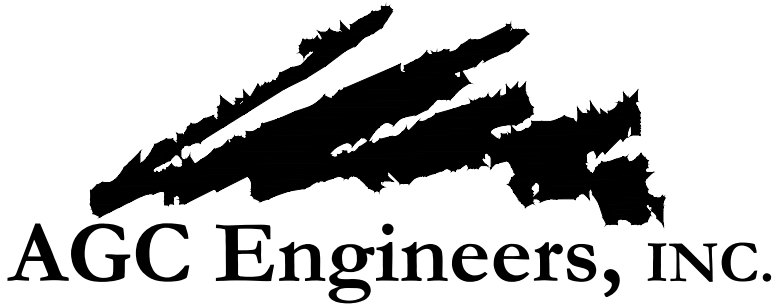
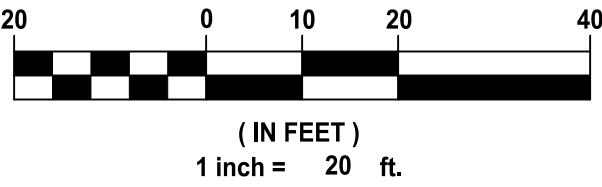
INLET PROTECTION PER APWA STD. DWG ESC-06
SILT FENCE PER APWA STD. DWG ESC-03

NOTES:

1. INSTALL. TEMPORARY CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE BEFORE GRADING.
2. REMOVE TEMPORARY BMPs AFTER PAVING IS COMPLETED AND PERMANENT GRASS IS ESTABLISHED.
3. DISTURBED AREA = 0.71 AC



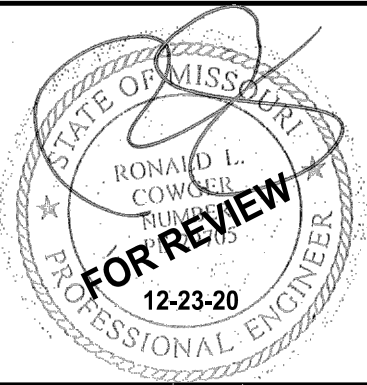
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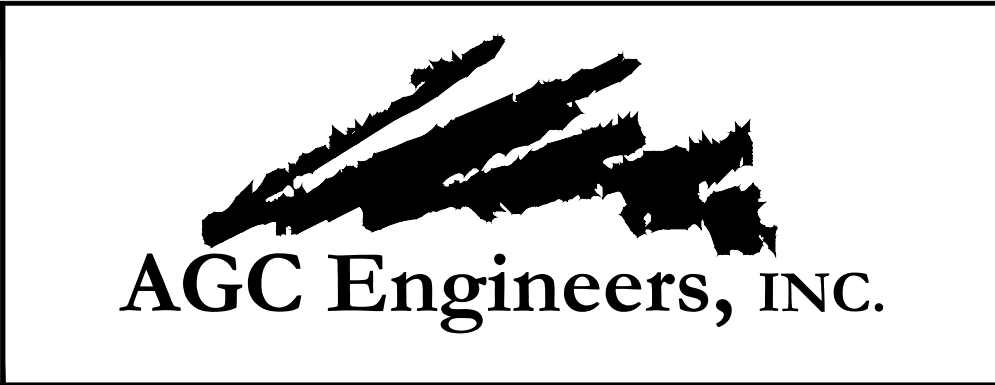
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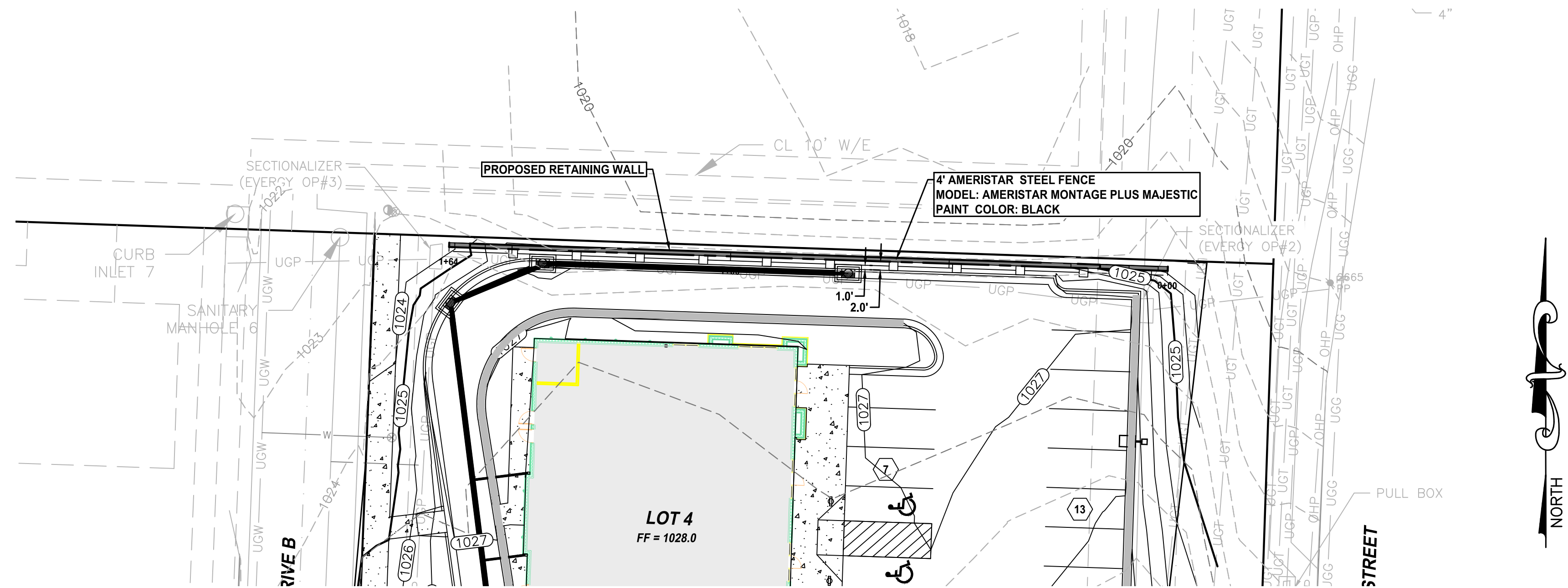
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OAKVIEW - LOT 4 LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
SITE DEVELOPMENT PLANS GRADING & EROSION CONTROL PLAN	5



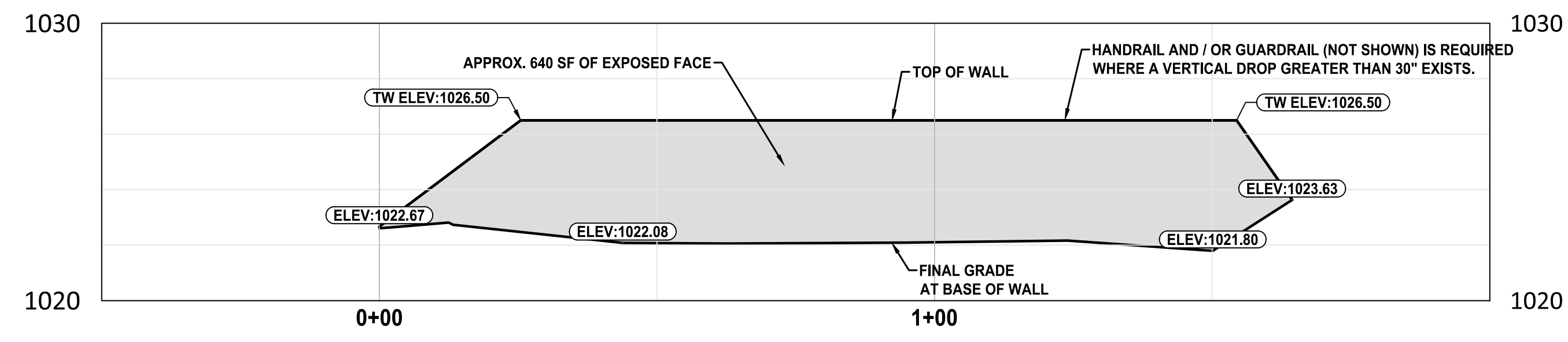
6



- RETAINING WALL NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR WALL DESIGN DEPENDING ON THE WALL SYSTEM PROPOSED. COST OF SEALED ENGINEERING DESIGN, CALCULATIONS AND DETAILS SHALL BE INCLUDED IN BASE BID. BASE BID SHALL INCLUDE ALL APPURTENANCES FOR A COMPLETE INSTALLATION. INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

ENGINEERING
CONSTRUCTION LAYOUT
EXCAVATION
LEVELING PAD / FOOTER
GRAVEL, BACKFILL AND GEOGRID (AS REQUIRED)
PIN OR OTHER ANCHORING SYSTEMS
CAP BLOCKS
CLEAN-UP AND BLOCK CLEANING (AS REQUIRED)
 - GRADE AT BOTTOM OF WALL REPRESENTS THE FINAL GRADE AT BASE OF WALL. CONTRACTOR SHOULD UNDERSTAND THAT REQUIRED FOUNDATIONS AND / OR FOOTERS REQUIRED TO THE WALL SYSTEM SUPPLIED IS NOT SHOWN OR ACCOUNTED FOR IN THE AREAS SHOWN. DUE TO THE BLOCK CHOSEN, LAYOUT AREAS MAY VARY.
 - HANDRAIL AND / OR GUARDRAIL IS REQUIRED WHERE A VERTICAL DROP GREATER THAN 30" EXISTS.
 - WALL LOCATIONS ARE SHOWN TO EXPOSED FRONT FACE.

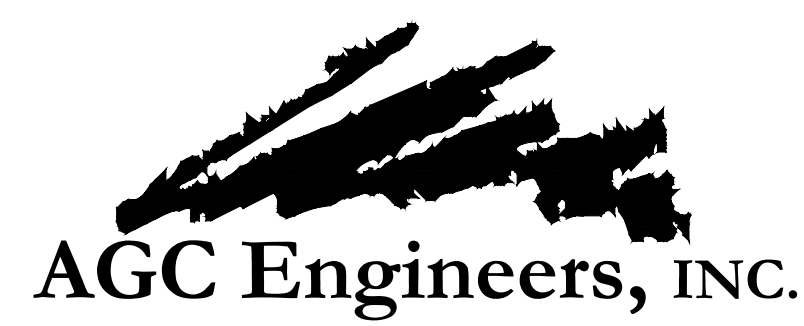
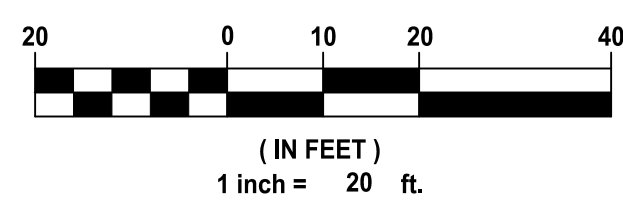
RETAINING WALL (FRONT FACE)



SCALE:
1" = 20' HORIZ
1" = 4' VERTICAL

NOTE:
GRADE AT BOTTOM OF WALL REPRESENTS THE EXPOSED WALL. CONTRACTOR SHOULD UNDERSTAND THAT REQUIRED FOUNDATIONS AND / OR FOOTERS REQUIRED FOR THE WALL SYSTEM SUPPLIED IS NOT SHOWN OR ACCOUNTED FOR IN THE WALL AREAS SHOWN. DUE TO THE BLOCK CHOSEN, LAYOUT AREAS MAY VARY.

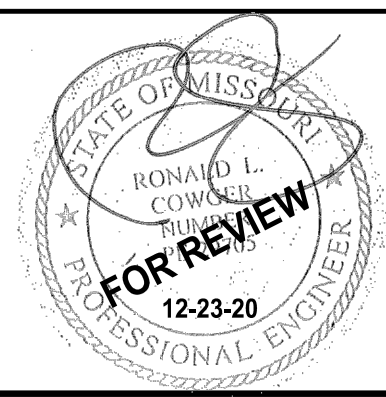
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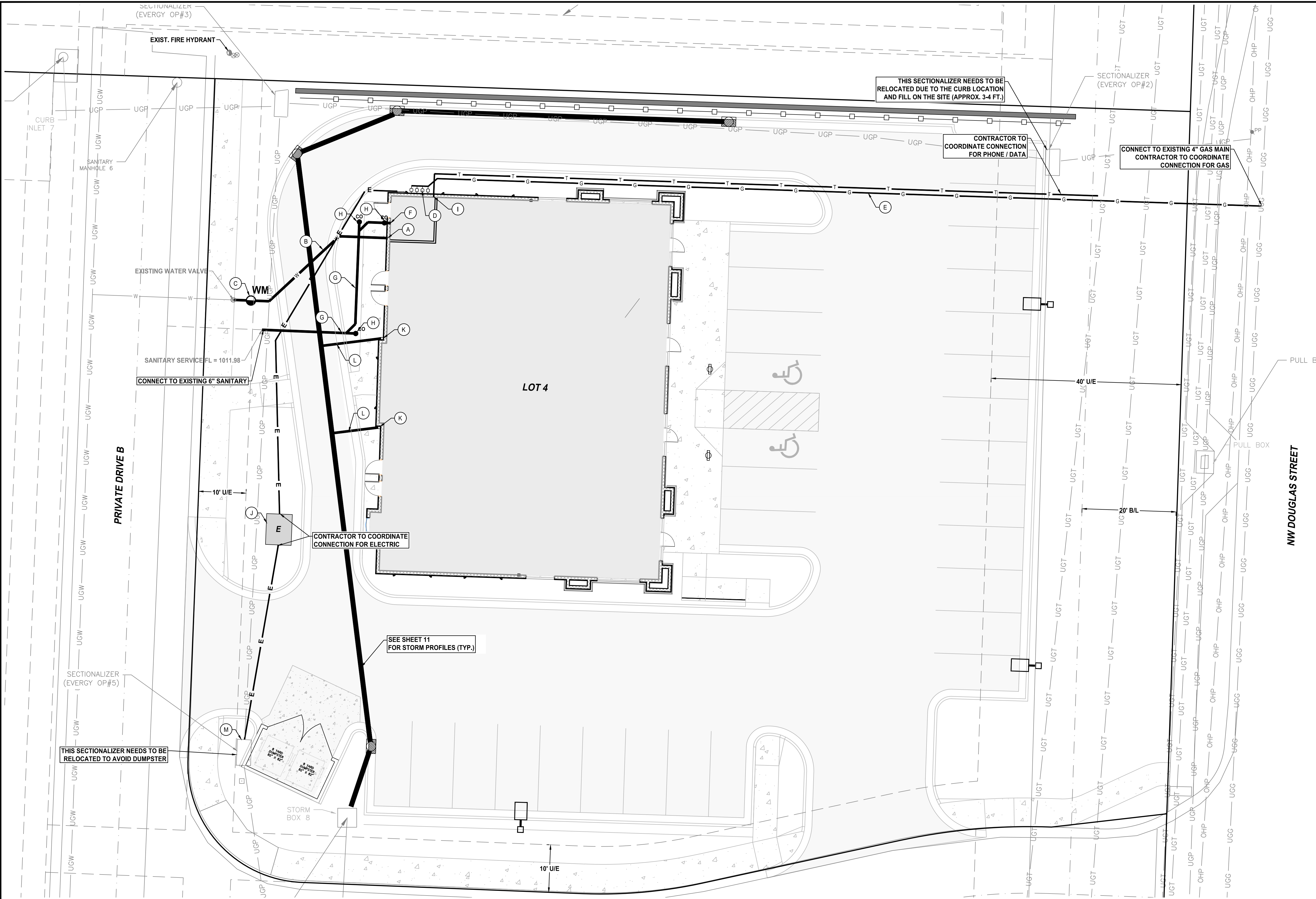
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OAKVIEW - LOT 4 LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
SITE DEVELOPMENT PLANS RETAINING WALL DETAILS	7

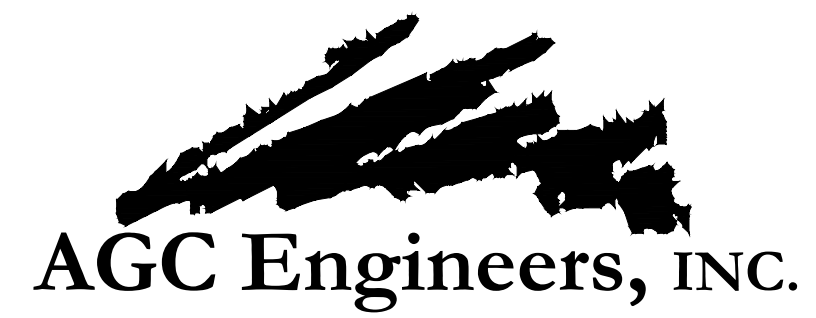
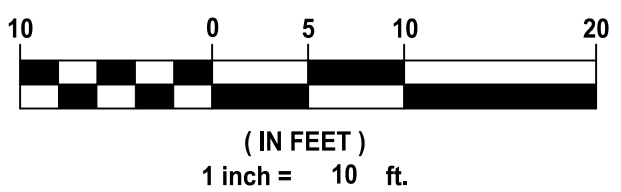


NOTE:

CONTRACTOR SHALL COORDINATE WITH STAR DEVELOPMENT CORP. PRIOR TO BEGINNING UNDERGROUND UTILITIES TO VERIFY SPECIFIC TENANT REQUIREMENTS SUCH AS DOMESTIC WATER, WATER METER AND FIRE LINE SIZES, CONDUITS TO / FROM MESSAGE BOARDS, AND GROUND LOOP DETECTION SYSTEMS

- KEY LEGEND**
- (A) DOMESTIC WATER ENTRY (RE: MEP)
 - (B) 1" DOMESTIC WATER LINE (CONFIRM WITH MEP PRIOR TO INSTALLATION)
 - (C) 1" WATER METER AND METER PIT
 - (D) GAS ENTRY (RE: MEP)
 - (E) 1" GAS LINE (RE: MEP FOR GAS SIZE AND MATERIAL)
 - (F) SANITARY SEWER ENTRY (RE: MEP)
 - (G) 6" SANITARY SEWER LINE (2% MIN. SLOPE)
 - (H) CLEANOUT
 - (I) PHONE / DATA SERVICE ENTRY (RE: ARCH)
 - (J) ELECTRICAL TRANSFORMER (RE: MEP)
 - (K) DOWNSPOUT (RE: ARCH) (SEE DOWNSPOUT DRAIN DETAIL)
 - (L) 6" PVC DOWNSPOUT STORM LINE (MIN. 4% SLOPE)
 - (M) CONNECT TO EXISTING SECTIONALIZER (CONTRACTOR TO COORDINATE WITH EVERGY)

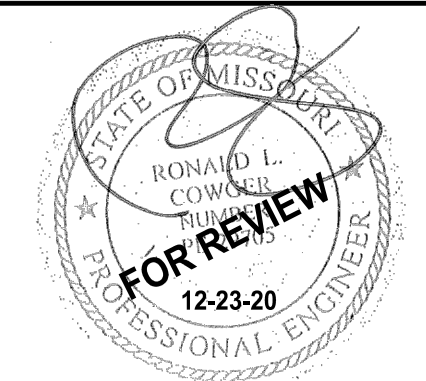
BY	REVISION	DATE
RC/ACA	FOR REVIEW	12-23-20



405 S. Leonard St., Suite D
Liberty, Missouri 64068

816.781.4200 ■
fax 792.3666

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OAKVIEW - LOT 4 LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
SITE DEVELOPMENT PLANS UTILITY PLAN	8

LEGEND

EXISTING

PROPOSED

EX800

EXISTING GROUND ELEVATION

G800

GROUND ELEVATION

P800

PAVEMENT ELEVATION

TC800

TOP OF CURB ELEVATION

TW800

TOP OF WALL ELEVATION

LP800

LOW POINT

HP800

HIGH POINT

SW800

SIDEWALK ELEVATION

SW/TC800

SIDEWALK/TOP OF CURB

SW/P800

SIDEWALK/TOP OF PAVEMENT

CG-1 CURB AND GUTTER

CG-1 MODIFIED CURB AND GUTTER

R

RAMP

L

LANDING

T

TRANSITION

GRADE BREAK

BY	REVISION	DATE
RC/ACA	FOR REVIEW	12-23-20

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OAKVIEW - LOT 4

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SITE DEVELOPMENT PLANS

SPOT ELEVATION PLAN

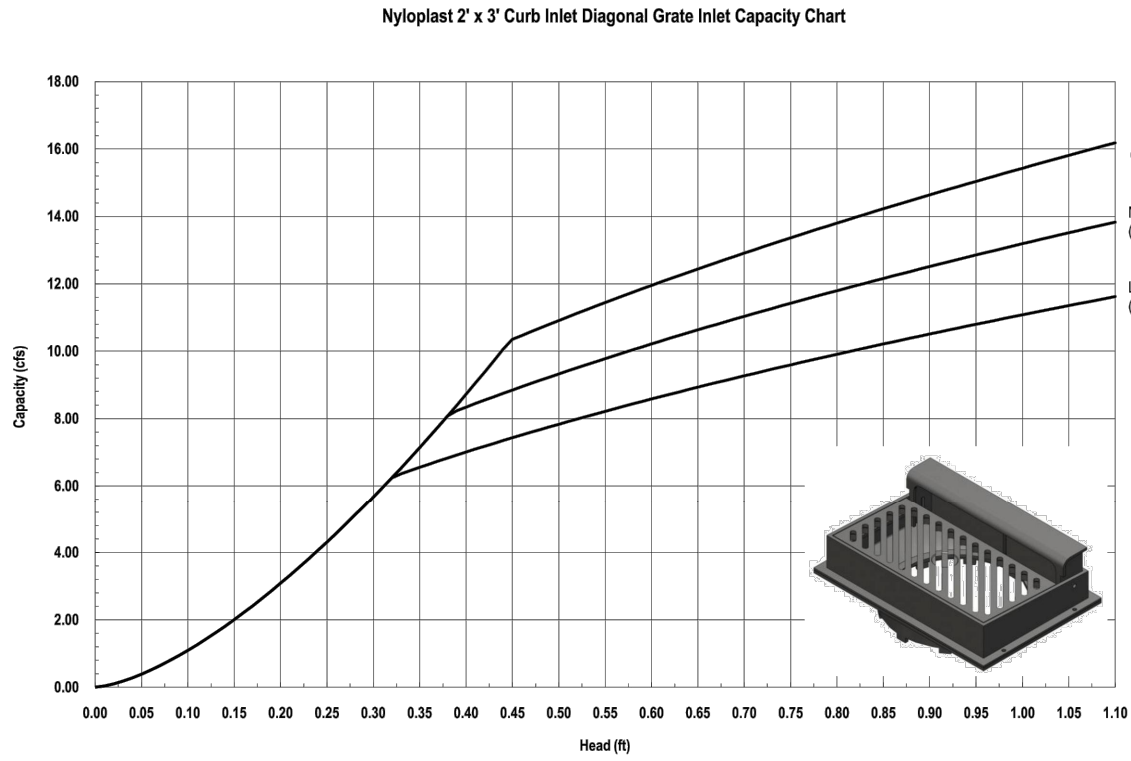
9

CURB INLET DESIGN TABLE																											
Return Frequency 10 yr													Gutter Capacity					Inlet Capacity									
Inlet Struct. #	Overland Flow (Ti)			Gutter Flow (Ti)			Inlet Time			K	I	Area	Q	Back of Curb to Back of Curb Gutter Type (1 = CG-1 or 2 = CG-2)	Allowable Gutter Spread				Gutter Cap.	Gutter Bypass (positive # = bypass)	Slope	Siz. Size		Inlet Bypass (positive # = bypass)			
	L	S	C	L	S	Mannings	Ti	Ti	Tc						Inlet	Label	Inlet	Inlet				(ft)	(ft)		(%)	(ft)	(ft)
	(ft)	(%)		(ft)	(%)		(min)	(min)	(min)						(ft)	(ft)	(%)	(ft)	(ft)	(%)							
10	10	2	0.9	140	2	0.014	0.91	0.42	5.00	1.00	7.35	A	0.28	1.9	28	1	10.5	2.08	0.24	1.04	4.1	-2.2	2	5	6.80	5.44	-3.59
11	10	2	0.9	50	2	0.014	0.91	0.15	5.00	1.00	7.35	B	0.04	0.3	28	1	10.5	2.08	0.24	1.04	4.1	-3.8	2	5	6.80	5.44	-5.18
12	10	2	0.9	30	2	0.014	0.91	0.09	5.00	1.00	7.35	C	0.03	0.2	28	1	10.5	2.08	0.24	1.04	4.1	-3.9	2	5	6.80	5.44	-5.24
13	10	2	0.9	80	2	0.014	0.91	0.24	5.00	1.00	7.35	D	0.12	0.8	28	1	10.5	2.08	0.24	1.04	4.1	-3.3	2	5	6.80	5.44	-4.65
RD	55	0.5	0.9	5	0.5	0.014	3.36	0.00	5.00	1.00	7.35	E	0.12	0.8													

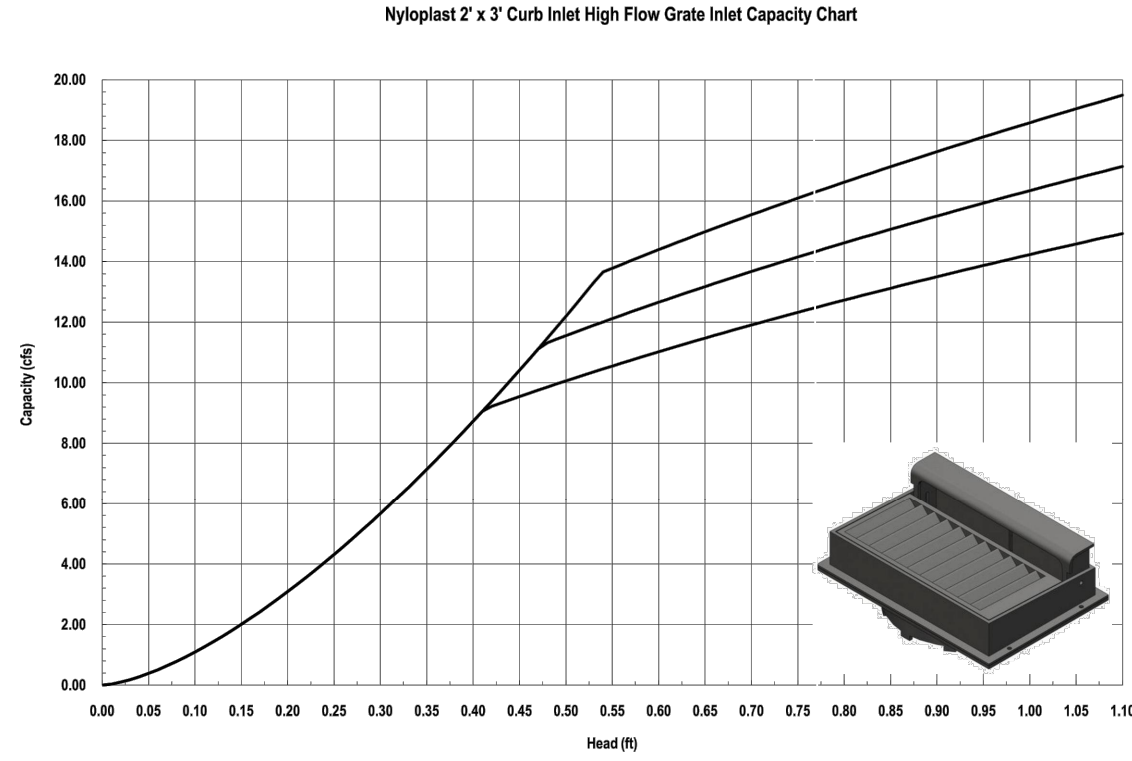
Inlet Struct. #	Return Frequency 100 yr										Gutter Capacity										Inlet Capacity																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Overland Flow (Ti)					Gutter Flow (Ti)					Inlet Time					K					I					Area					Q					Back of Curb to Back of Curb					Gutter Type (1 = CG-1 or 2 = CG-2)					Allowable Gutter Spread					Street Cross Slope					Max. Gutter Depth					Max. Gutter Area					Gutter Cap					Gutter Bypass (positive # = bypass)					Use a slope of 0.5% for sump conditions					Inlet Bypass (positive # = bypass)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

PIPE DESIGN TABLE																			
Return Frequency 10 yr										Pipe Capacity									
Line	Inlet Struct. #	Inlet Type	Inlet	Pipe	K	C	I	A	A	Pipe	Pipe	Full Pipe	Full Pipe Velocity	Gravity Flow Pipe Velocity	Pressure Flow Pipe Velocity	Gravity Pipe Flow Depth	Minor Head Loss Coefficient	Gravity kV/2g	Pressure kV/2g
			Tc	Tc			Pipe	Inlet	Total	Pipe	dia.	Capacity	(ft/s)	(ft/s)	(ft/s)	feet		feet	feet
			(min)	(min)			(in/hr)	(ac)	(ac)	(in)	"n"	(%)	(cfs)	(ft/s)	(ft/s)	(ft/s)			
1	13	CI	5.00	5.00	1.00	0.84	7.35	0.12	0.12	0.7	15	0.012	0.60	5.4	4.4	3.0	0.6	0.30	0.14
	12	CI	5.00	5.39	1.00	0.84	7.24	0.03	0.15	0.9	15	0.012	0.60	5.4	4.4	3.2	0.7	0.34	0.07
	11	CI	5.00	5.50	1.00	0.84	7.20	0.04	0.31	1.9	15	0.012	1.00	7.0	5.7	4.8	1.5	0.44	0.01
	10	CI	5.00	5.94	1.00	0.84	7.07	0.28	0.59	3.5	15	0.012	1.00	7.0	5.7	5.7	2.9	0.61	0.20
EX-2	JB	N/A					7.06	0	0.59	3.5			2.9					1.01	0.40
EX-1	CI																		

Return Frequency 100 yr										Pipe Capacity									
Line	Inlet Struct. #	Inlet Type	Inlet	Pipe	K	C	I	A	A	Pipe	Pipe	Full Pipe	Full Pipe Velocity	Gravity Flow Pipe Velocity	Pressure Flow Pipe Velocity	Gravity Pipe Flow Depth	Minor Head Loss Coefficient	Gravity kV/2g	Pressure kV/2g
			Tc	Tc			Pipe	Inlet	Total	Pipe	dia.	Capacity	(ft/s)	(ft/s)	(ft/s)	feet		feet	feet
			(min)	(min)			(in/hr)	(ac)	(ac)	(in)	"n"	(%)	(cfs)	(ft/s)	(ft/s)	(ft/s)			
1	13	CI	5.00	5.00	1.25	0.84	10.32	0.12	0.12	1.3	15	0.012	0.60	5.4	4.4	3.6	1.1	0.41	0.2
	12	CI	5.00	5.39	1.25	0.84	10.16	0.03	0.15	1.6	15	0.012	0.60	5.4	4.4	3.8	1.3	0.46	0.1
	11	CI	5.00	5.50	1.25	0.84	10.12	0.04	0.31	3.3	15	0.012	1.00	7.0	5.7	5.6	2.7	0.60	0.2
	10	CI	5.00	5.94	1.25	0.84	9.95	0.28	0.59	6.2	15	0.012	1.00	7.0	5.7	6.4	5.0	0.90	0.3
EX-2	JB	N/A					9.93	0	0.59	6.2			2.9					#VALUE!	0.16
EX-1	CI																		

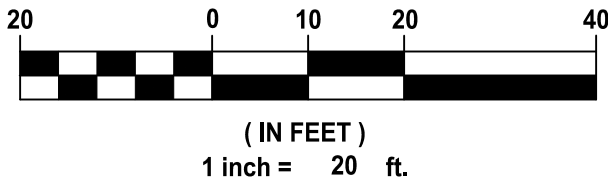


Nyloplast
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BY	REVISION	DATE
RC/ACA	FOR REVIEW	12-23-20



AGC Engineers, INC.

405 S. Leonard St., Suite D
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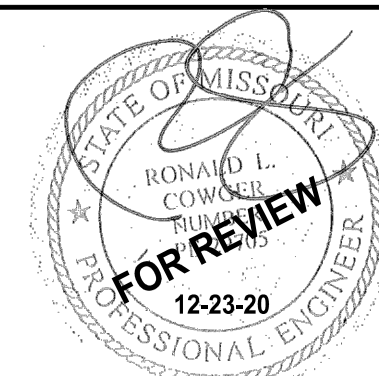
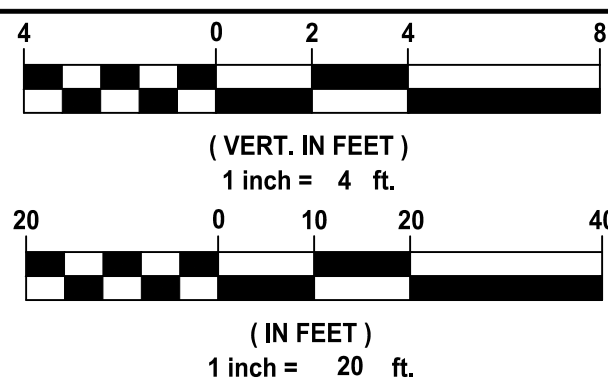
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OAKVIEW - LOT 4
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

SITE DEVELOPMENT PLANS
DRAINAGE AREA MAP & CALCS



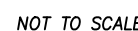
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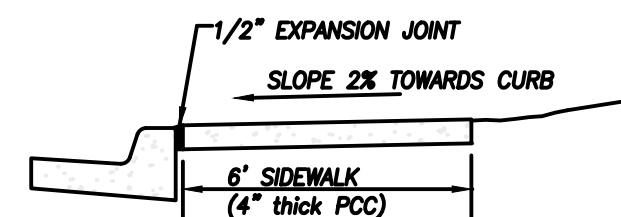
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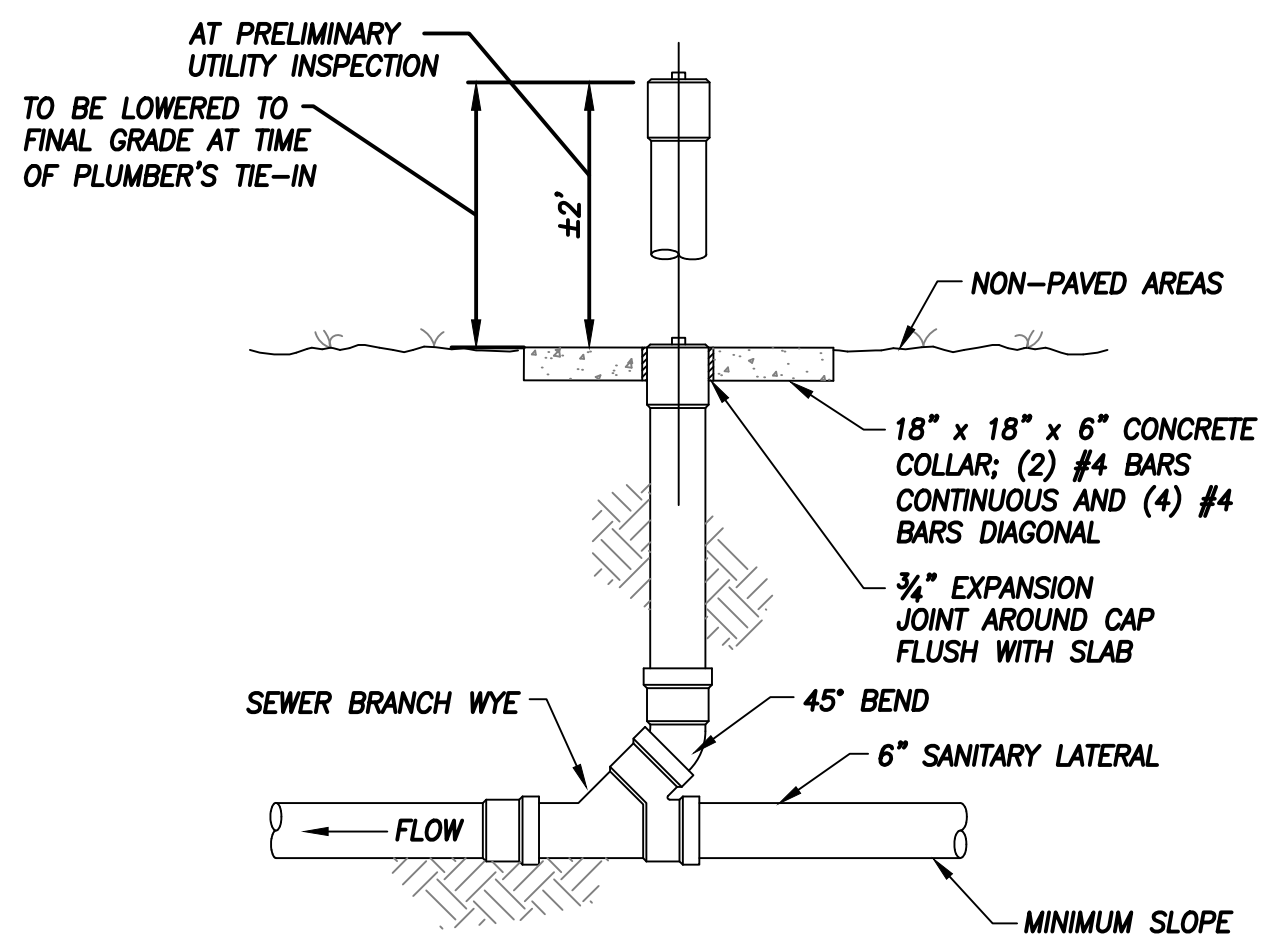


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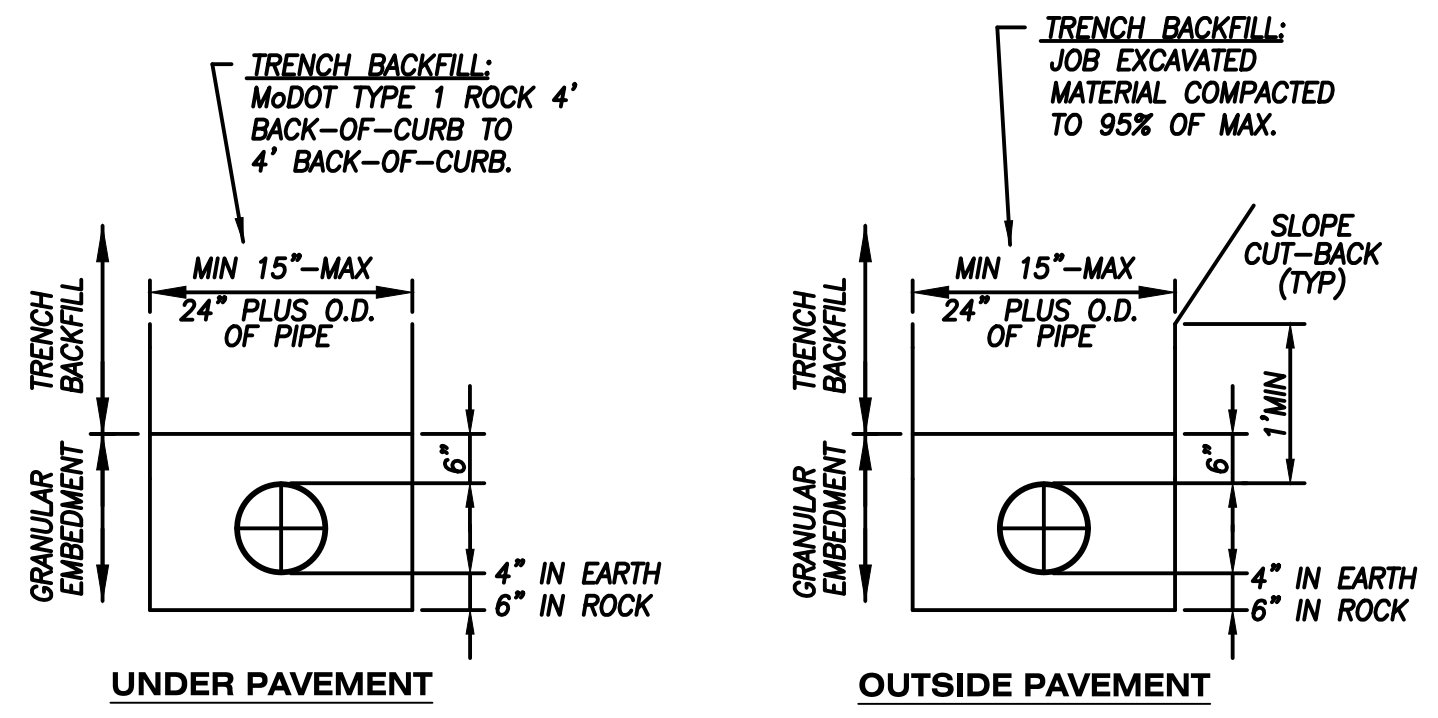


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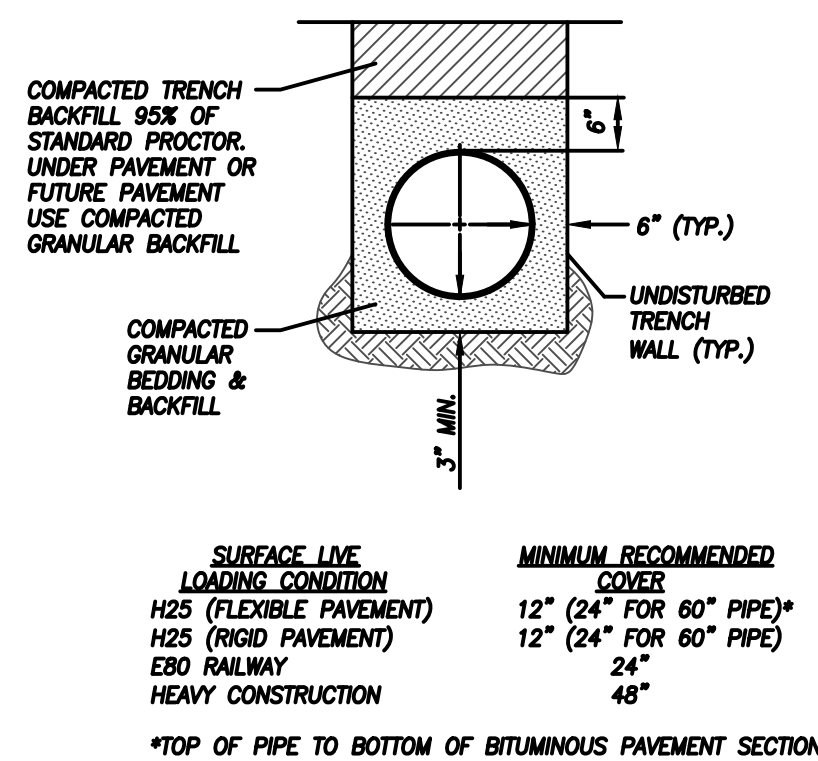




CLEAN-OUT DETAIL
NOT TO SCALE



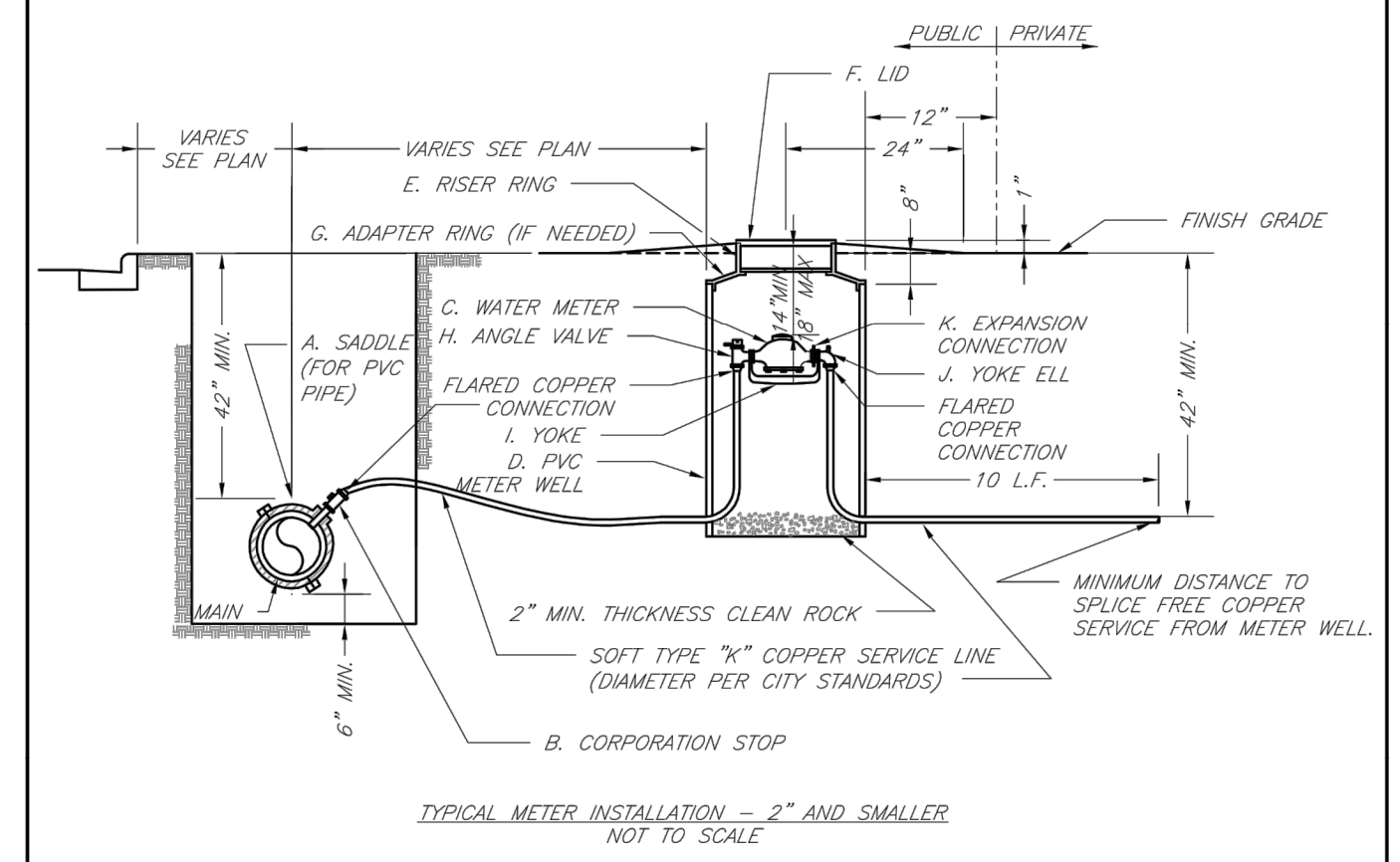
EMBEDMENT AND BACKFILL FOR
SANITARY SEWERS
NOT TO SCALE



1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION: AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4"; FOR 4"-24" DIA. HDPE; 6" FOR 30"-60" DIA. HDPE.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL DIA.	MIN. RECOMMENDED TRENCH WIDTH
4	21
6	23
8	25
10	28
12	31
15	34
18	39
24	48
30	66
36	78
42	83
48	89
60	102
5. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF THE PIPE TO THE GROUND SURFACE.

HDPE (HIGH DENSITY POLYETHYLENE)
PIPE INSTALLATION DETAIL
NOT TO SCALE

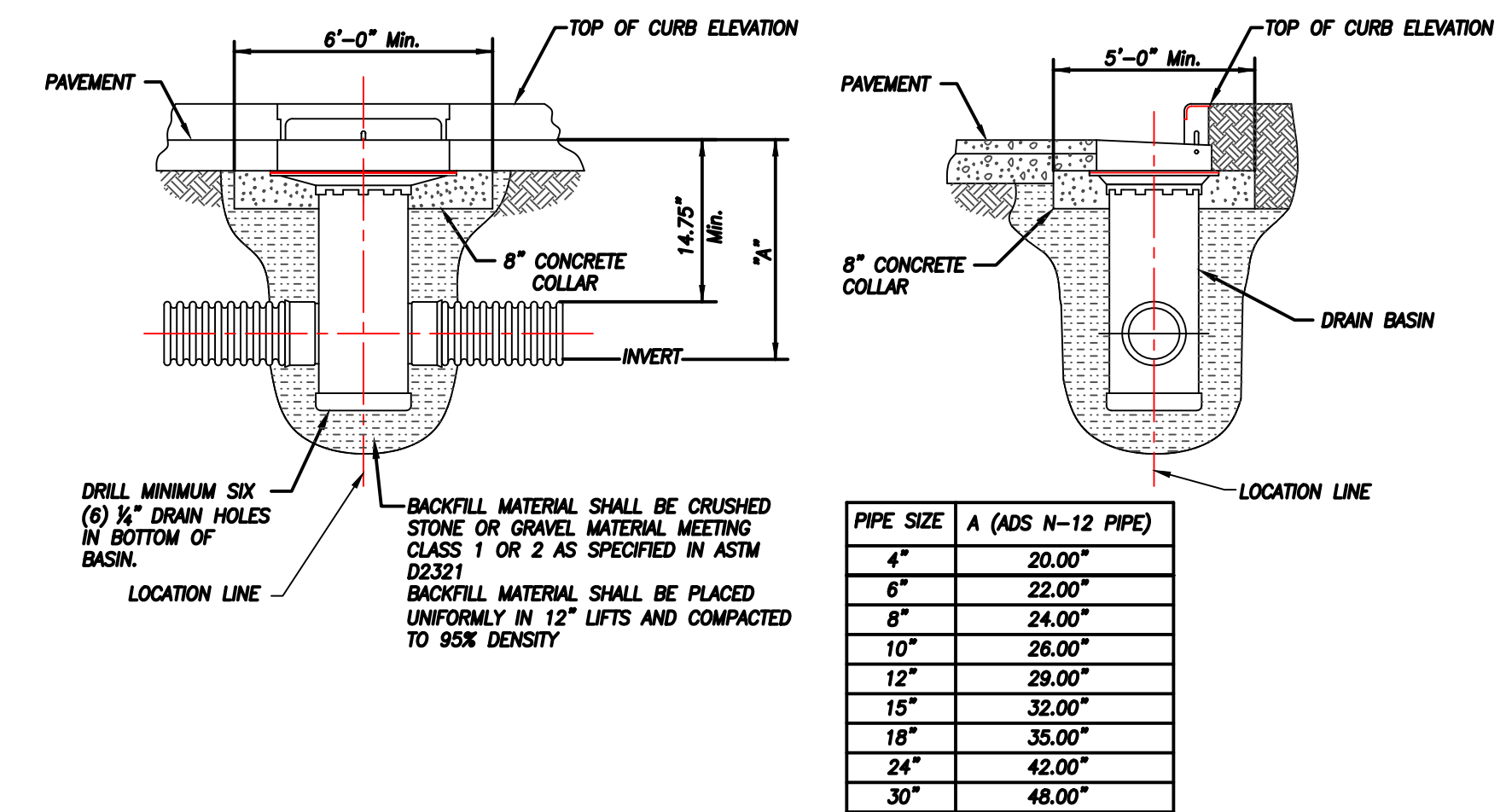


- NOTES:
1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
 2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
 3. CITY TO FURNISH ITEMS A-K.
 4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
 5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
 6. EXCAVATION FOR TAP TO EXPOSE 4' LINEAR FEET OF MAIN.
 7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
 8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
 9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
 10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2".



LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 DE GREEN STREET | LEE'S SUMMIT, MO 64063
SERVICE CONNECTION/METER WELL



Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-11
Rev: 1/14
Rev:

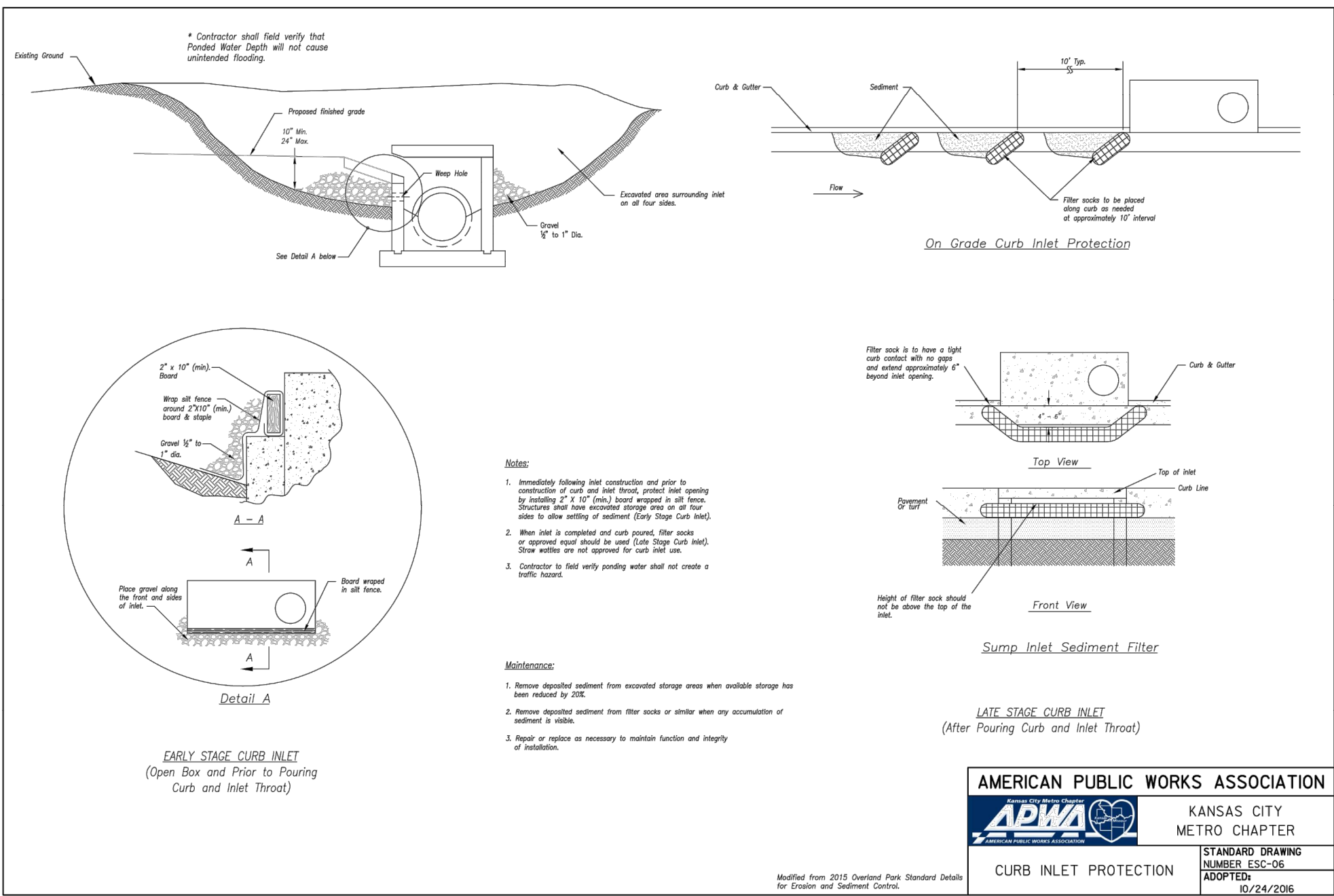
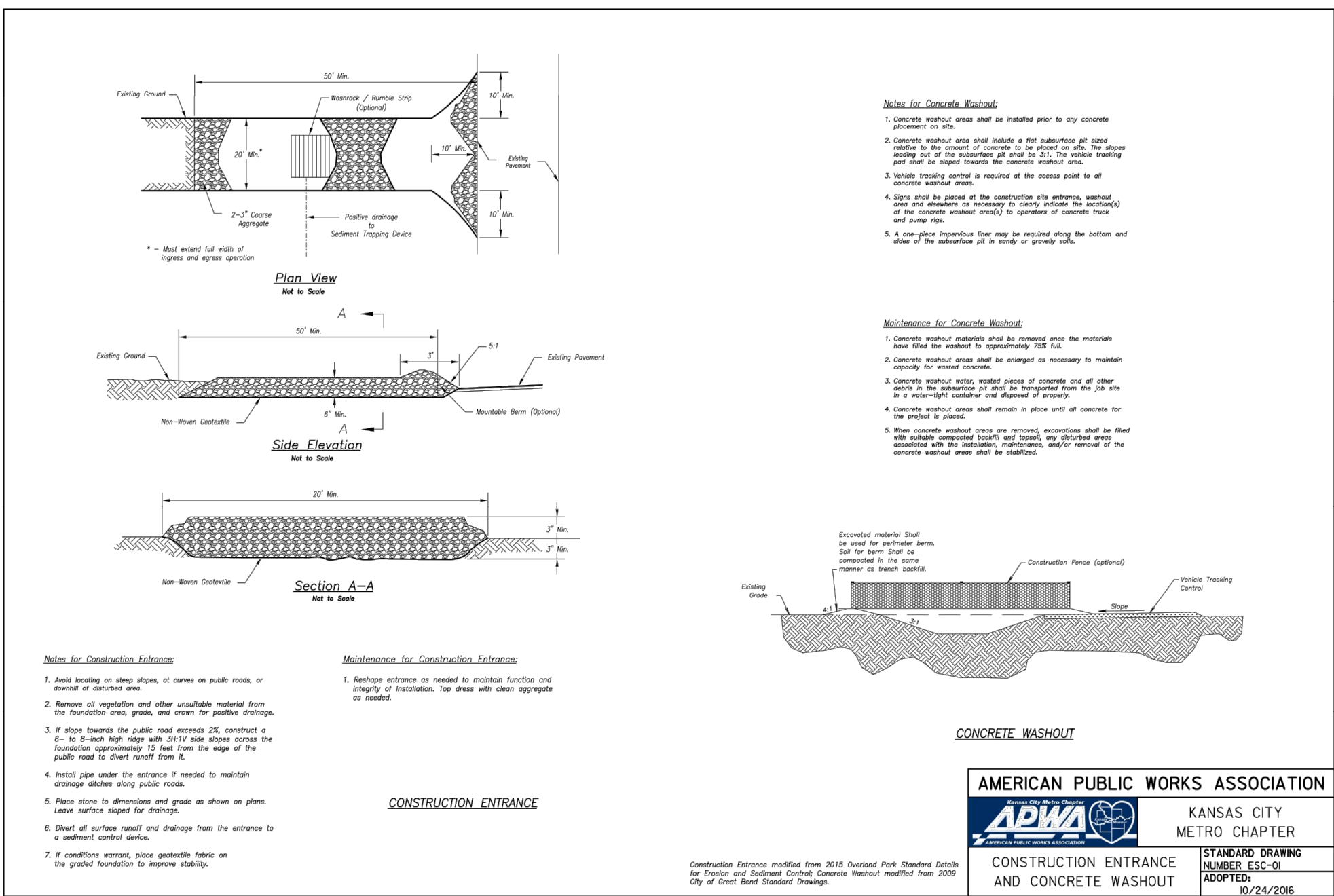
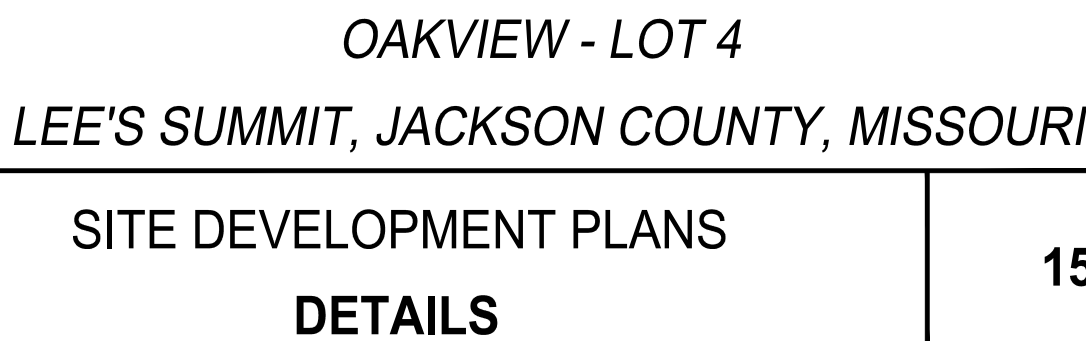
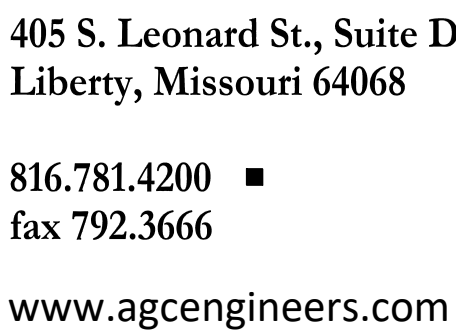


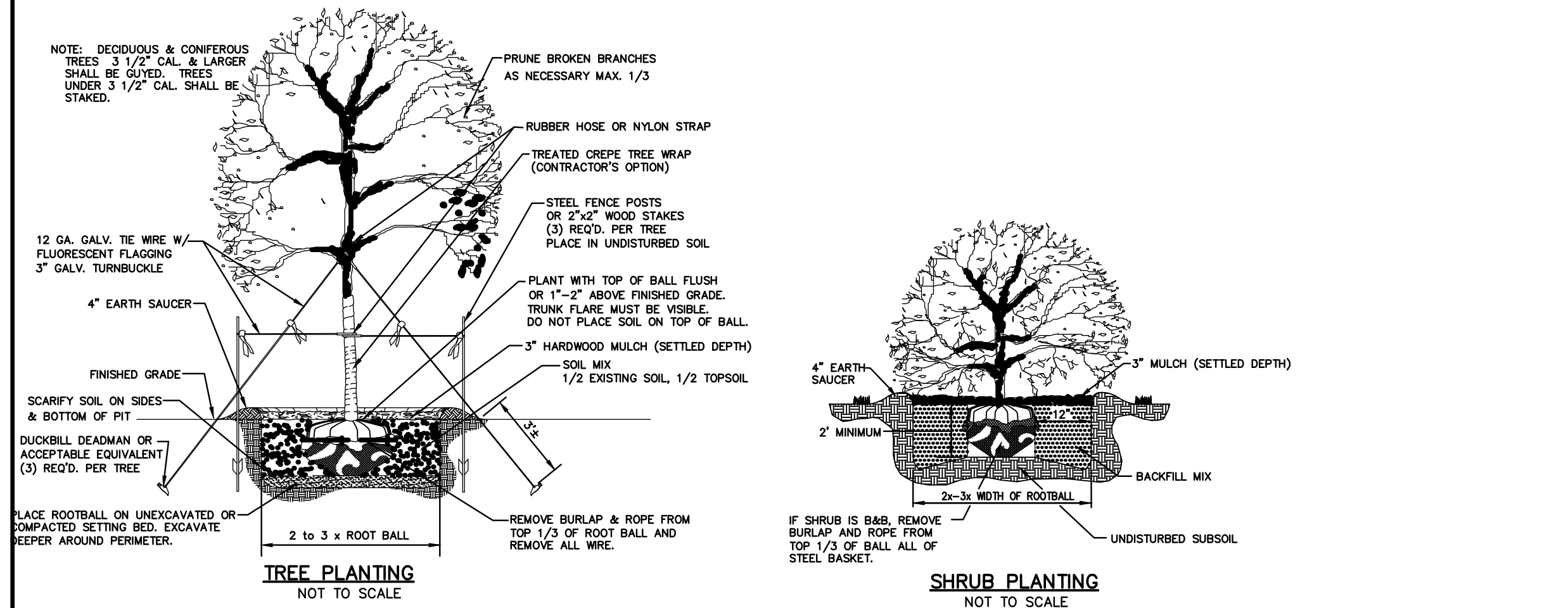
NYLOPLAST DRAIN BASIN - TYPICAL INSTALLATION
NOT TO SCALE



1. SUBGRADE MUST BE OBTAINABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADE AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KOWNE 4"X8" CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS OR AS APPROVED BY THE CITY INSPECTOR.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (CROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 150 FT. CONSTRUCTION JOINTS SHALL BE PLACED AT THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

BY		REVISION	DATE	 AGC Engineers, INC.	405 S. Leonard St., Suite D Liberty, Missouri 64068 816.781.4200 ■ fax 792.3666 www.agcengineers.com		OAKVIEW - LOT 4	
							LEE'S SUMMIT, JACKSON COUNTY, MISSOURI	
RC/ACA		FOR REVIEW	12-23-20				SITE DEVELOPMENT PLANS DETAILS	






KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/REMARKS
TREES				
CSM	5	ACER SACHARUM 'AUTUMN SPLENDOR'	CADDO SUGAR MAPLE	3" CAL. B&B
HL	2	GLEDITISA TRIACANTHOS 'SKYLINE'	SKYLINE HONEYLOCUST	3" CAL. B&B
RO	4	QUERCUS RUBRA	RED OAK	3" CAL. B&B
PJ	28	JUNIPEROUS CHINENSIS 'PERFECTA'	PERFECTA JUNIPER	6' HT. B&B
SHRUBS/GRASSES/GROUNDCOVER				
SGJ	18	JUNIPEROUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	5 GAL
DY	26	TAXUS x MEDIA 'DENSIFORMIS'	DENSIFORMIS YEW	5 GAL

SUBMIT AS-BUILT DRAWING IN FULL SIZE DRAWING FORM AS WELL AS PDF ELECTRONIC FORMAT. (SCANNING FULL SIZE COPY OF PLAN IS ACCEPTABLE IF IT CAN BE PRINTED TO SCALE)

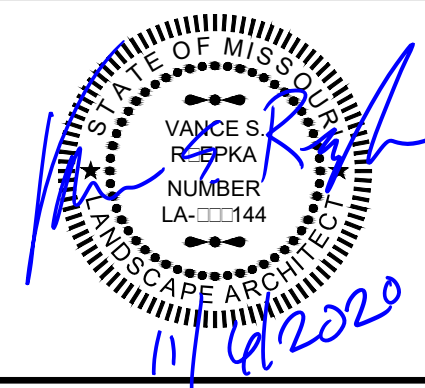
1. LOCATE ALL UTILITIES BEFORE LANDSCAPE CONSTRUCTION BEGINS.
2. NOTIFY OWNER REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES.
3. ALL EXTERIOR GROUND WITHIN THE LIMITS OF THE CONTRACT, EXCEPT FOR SURFACES OCCUPIED BY BUILDINGS, STRUCTURES, PAVING, AND AS DIRECTED ON THE DRAWINGS AS UNDISTURBED, SHALL BE FILLED WITH SIX INCHES (6") OF TOPSOIL.
4. ALL DISTURBED AREAS NOT DESIGNATED FOR OTHER PLANTING SHALL BE SODDED. SOD SHALL CONSIST OF 90% TURF TYPE TALL FESCUE 10% BLUEGRASS.
5. WEED MAT SHALL BE USED UNDER ALL PLANTING AREAS NOT TO BE SODDED OR AS DIRECTED ON THE DRAWINGS. THE MAT SHALL BE COVERED WITH A CHAIN LINK SECURED IN-PLACE BY A SOIL ANCHOR.
6. QUANTITIES INDICATED IN PLANT LIST ARE FOR CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR PLANT QUANTITIES AS ILLUSTRATED ON THE PLAN.
7. SHREDDED HARDWOOD MULCH SHALL BE USED AS THREE INCH (3") TOP DRESSING IN ALL PLANT BEDS AND AROUND ALL TREES. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO THE OUTSIDE EDGE OF SAUCER OR LANDSCAPE ISLAND (SEE PLANTING DETAILS).
8. PROVIDE STEEL EDGING AROUND ALL SHRUB AND GROUND COVER BEDS. STEEL EDGING SHALL BE 1/8" x 4" WITH CLIPS AND REBAR STAKES FIVE FEET(5') ON CENTER.
9. FERTILIZE ALL PLANTS AT THE TIME OF PLANTING WITH TIME-RELEASE FERTILIZER(3-4 SLOW-RELEASE TABLETS/PELLETS).
10. IF LEANING CROWS WITHIN ONE YEAR, TREES SHALL BE RE-STAKED (SEE PLANTING DETAILS).
11. CONTRACTOR SHALL STAKE ALL PLANT MATERIALS PRIOR TO INSTALLATION FOR THE PURPOSE OF DETERMINING CONFLICTS WITH ROCK, UTILITIES, ETC. NO PLANTS CAN BE PLANTED DIRECTLY ON ROCK OR UTILITIES. NOTIFY ARCHITECT/ENGINEER/OWNER AT ONCE IF ANY CONFLICTS OCCUR. CONTRACTOR WILL BE REQUIRED TO ADJUST PLANT LOCATIONS AT NO ADDITIONAL COST.
12. CONTRACTOR IS RESPONSIBLE FOR WATERING ALL SOD UNTIL ROOTS HAVE KNOTTED INTO SOIL AND OWNER HAS OCCUPIED THE BUILDING.
13. PROVIDE "GATOR" BAGS ON ALL TREES. REFILL AS NECESSARY UNTIL OWNER OCCUPIES THE BUILDING.
14. PROVIDE ROLLED EROSION CONTROL MAT, NORTH AMERICAN GREEN SC150BN OR APPROVED EQUIV OVER ALL NATIVE GRASS SEEDED AREAS.
15. 12" GRAVEL MOW STRIP - PROVIDE AND INSTALL: 1/4" x 5" STEEL EDGING (SURE-LOC OR EQ.). ANCHOR IN PLACE WITH STAKES PER MANUFACTURER. PROVIDE AND INSTALL HEAVY DUTY WEED BARRIER FABRIC UNDER GRAVEL. PROVIDE AND INSTALL 3" DEPTH OF 1"-2" MULTI-COLORED WASHED RIVER GRAVEL. SUBMIT COLOR SAMPLE TO OWNER FOR APPROVAL.

	ORDINANCE REQUIREMENT	REQUIRED FOR THIS SITE	PROPOSED (EXISTING AND NEW LANDSCAPE)
8.720.A.1 Street Frontage Trees (NW Douglas)	1 tree per 30 feet of street frontage	148 ft. of street frontage /30= 5 trees required	5 trees
8.720.A.2 Street Frontage Green Strip (NW Douglas)	20 feet	20 feet	20 feet
8.720.A.3 Street Frontage Shrubs (NW Douglas)	1 shrub per 20 feet of street frontage	148 ft. of street frontage /20= 8 shrubs required	8 shrubs
8.790.B.1 Open Yard Shrubs	2 shrubs per 5000 sq. ft. of total lot area excluding building footprint.	28,137 sq. ft./5000 x 2=11.25 shrubs.	12 Upright Junipers
8.790.B.2 Open Groundcover	Open area not covered with other materials shall be covered with sod.		Sod
8.790.B.3 Open Yard Trees	1 tree per 5000 sq. ft. of total lot area excluding building and parking.	12,674 sq. ft./5000=2.5 trees.	3
8.810.A Parking Lot Landscape Islands	5% of entire parking area (spaces, aisles & drives); 1 island at end of every parking bay, min. 9' wide	15,463 sq.ft. of parking area x .05 = 773 sq.ft. of landscape parking lot islands required	822 sq.ft.
8.820 Screening of Parking Lot, NW Douglas	12 shrubs per 40 linear feet (must be 2.5 feet tall; berms may be combined with shrubs)	118 linear feet/40 x 12 35.4 shrubs required	36 shrubs



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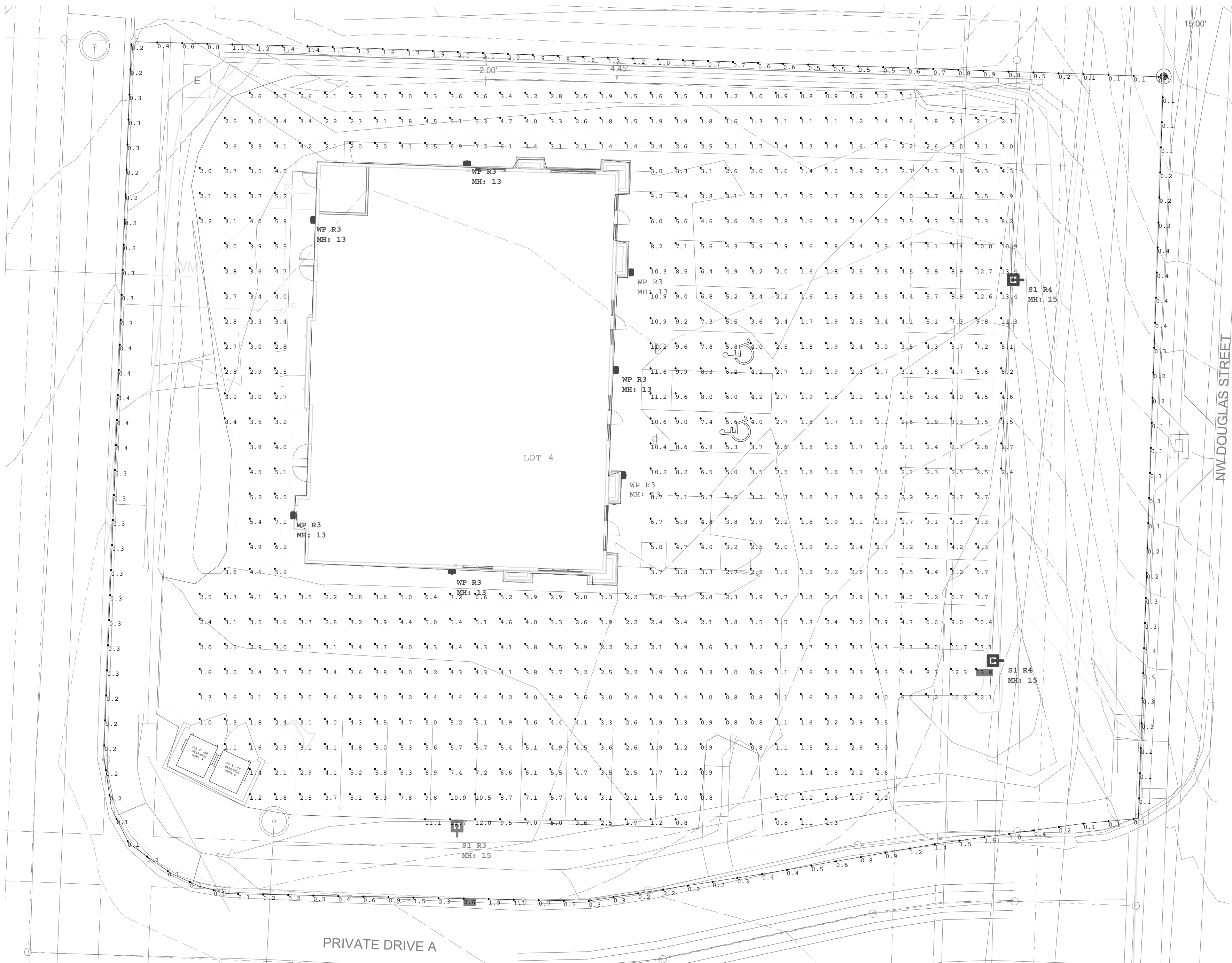
L100



#	Date	Comments
Revisions		

Drawn By:	Checked By:
	Date:11/2/2020
	Scale:

Oakview Lot 4	Lees Summit, Mo
---------------	-----------------



DOUGLAS STREET
H VARIES

Luminaire Schedule					
Symbol	Qty	Label	Lum. Lumens	LLF	Description
	1	S1 R3	16359	0.950	RSX1 LED P4 40K R3
	2	S1 R4	16573	0.950	RSX1 LED P4 40K R4
	7	WP R3	7524	0.950	WDGE3 LED P1 70CRI R3 40K

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING LOT_Planar	Fc	3.78	13.8	0.8	4.73	17.25
Property Line	Fc	0.57	2.6	0.1	5.70	26.00

BUILDING CODE ANALYSIS

APPLICABLE CODES
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2017 NATIONAL ELECTRICAL CODE
2009 ICC/ANSI A117.1

SUMMARY OF WORK
NEW SHELL BUILDING. NO C.O. IS REQUESTED WITH
THIS SUBMITTAL. JUST A FINAL INSPECTION.
SEPARATE TENANT FINISH PLANS WILL BE SUBMITTED
AT A LATER DATE.

OCCUPANCY CLASSIFICATION
M (RETAIL), (B) OFFICE, A2 (RESTAURANT)

TYPE OF CONSTRUCTION
V-B, NON - SPRINKLED

FLOOR AREA
TOTAL BUILDING AREA: 4,818 SQ.FT.

OCCUPANT LOAD
TO BE DETERMINED

EXITS REQUIRED
TO BE DETERMINED

EXITS PROVIDED
EIGHT

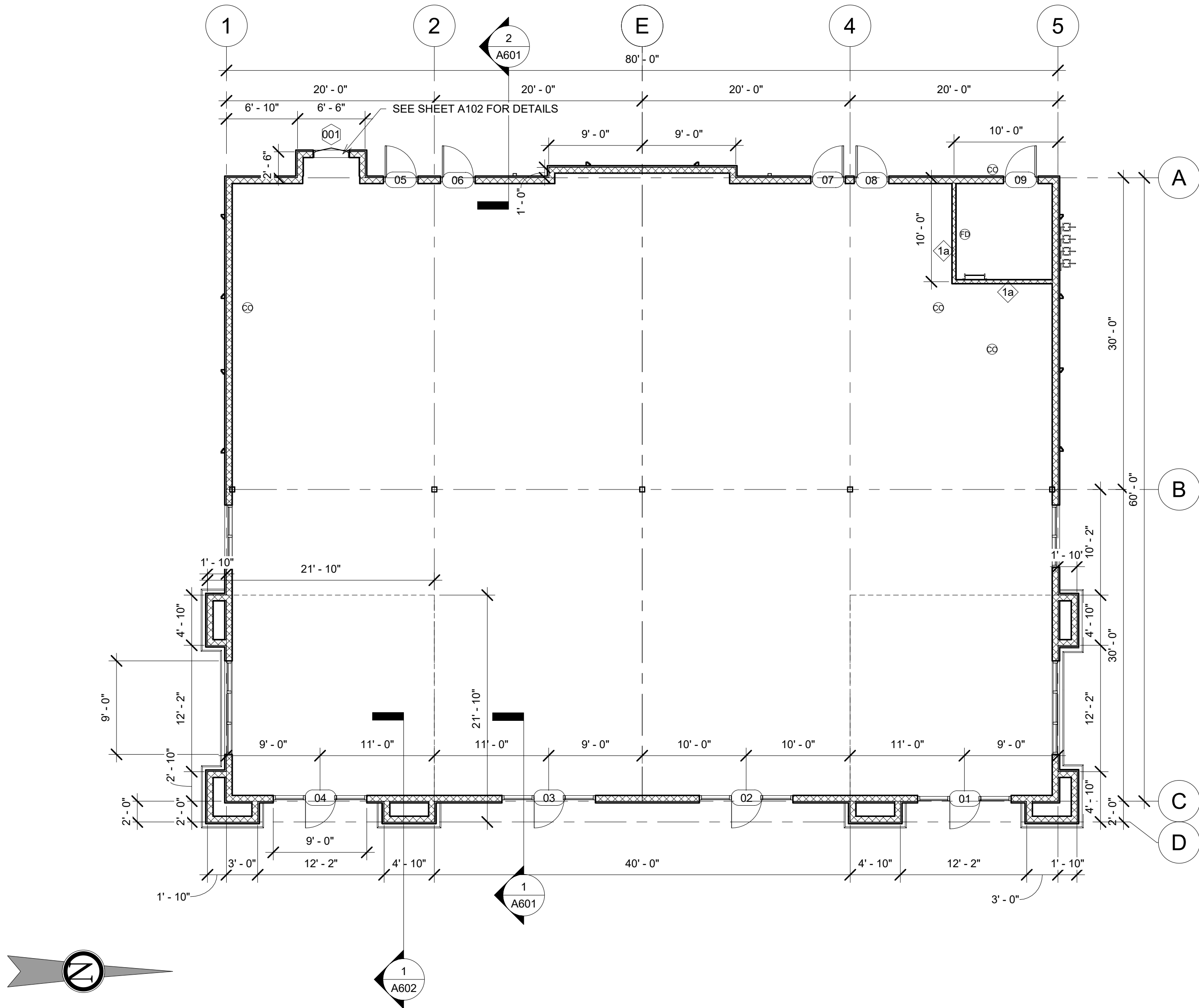
TOILET FACILITIES REQUIRED
TO BE DETERMINED

TOILET FACILITIES PROVIDED
NONE WITH SHELL. TENANT FINISH PLANS WILL SHOW
ANY TOILET FACILITIES.

DEFERRED SUBMITTALS TO BE COMPLETED BY OTHERS
ROOF TRUSS PLANS (PLANS BY SUBCONTRACTOR)

EGRESS DOORS SHALL BE READILY OPENABLE FROM
THE EGRESS SIDE WITHOUT THE USE OF A KEY OR
SPECIAL KNOWLEDGE OR EFFORT. (THUMBTURN IS
ACCEPTABLE)

PREMISES SHALL BE IDENTIFIED ON ALL EXTERIOR DOORS, WITH
NUMBERS AND/OR LETTERS. EACH CHARACTER SHALL BE NOT
LESS THAN 6" HIGH WITH A MINIMUM STROKE WIDTH OF 1.0" INCHES.
THEY SHOULD BE INSTALLED ON A CONTRASTING BACKGROUND.
STREET FACING DOORS SHALL HAVE ADDRESSES THAT ARE PLAINLY
LEGIBLE AND VISIBLE FROM THE STREET FRONTING THE PROPERTY.
ADDRESS NUMBERS AND/OR LETTERS SHALL BE ARABIC NUMBERS
OR ALPHABETIC LETTERS.



1 Floor Plan
1/8" = 1'-0"

Wall Schedule		
Type Mark	Type	Type Comments
1a	Interior Partition - Wood Stud	2x6 Wood studs @ 16" o.c. w/ 6" batt insulation and (1) layer 5/8" gyp. board each side. To Roof deck

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NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4
NE VICTORIA DRIVE & NE DOUGLAS ST.

J. Jeffrey Schroeder Mo. Licence A-4226
Herman Scharhag Co., Arch. Cert. of Authority A-22

No.	Description	Date
Revision Schedule		

Floor Plan

Project number 2222
Date 03.01.2021

A101

Scale 1/8" = 1'-0"

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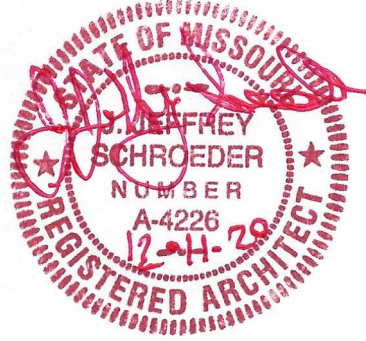
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No.	Description	Date
Revision Schedule		

Architectural
Details

Project number 2222
Date 12.11.2020

A102

Scale As indicated

Door Schedule					
Mark	Family	Type	Door Finish	Frame Finish	Hardware type
01	Storefront Entry Single	Store Front Single Door	AL	AL	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
02	Storefront Entry Single	Store Front Single Door	AL	AL	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
03	Storefront Entry Single	Store Front Single Door	AL	AL	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
04	Storefront Entry Single	Store Front Single Door	AL	AL	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
05	Door Single-Flush	36" x 84" Exterior	HM	HM	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
06	Door Single-Flush	36" x 84" Exterior	HM	HM	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
07	Door Single-Flush	36" x 84" Exterior	HM	HM	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
08	Door Single-Flush	36" x 84" Exterior	HM	HM	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep
09	Door Single-Flush	36" x 84" Exterior	HM	HM	Lockset w/ lever handles, strike plate, 1 1/2 pair hinges, closer, drip cap, gasketing, bottom sweep

HM = 16 GA. HOLLOW METAL, PAINTED
WD = SOLID CORE RED OAK, STAINED
AL = ANODIZED ALUMINUM
IRP = IMPACT RESISTANT PLASTIC

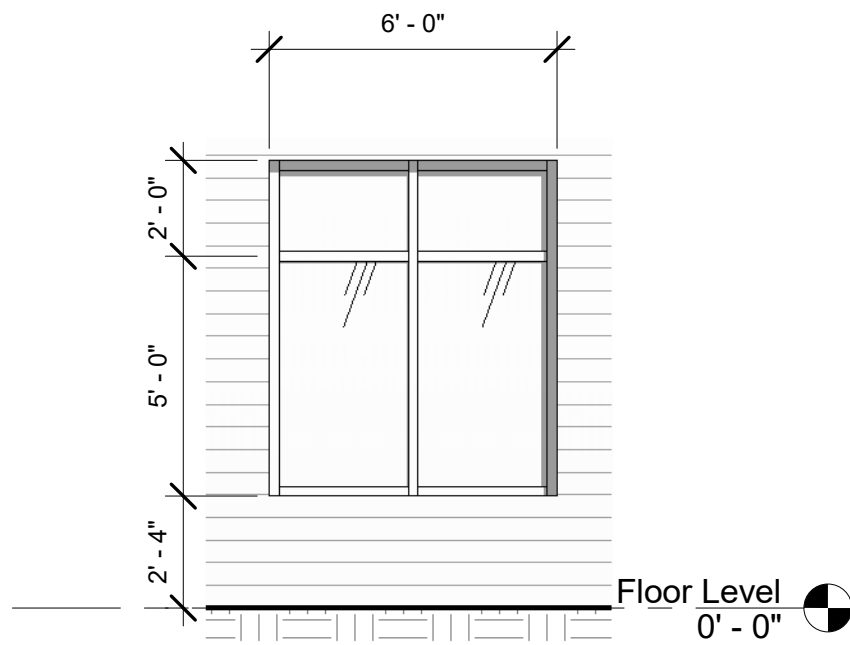
HARDWARE SHALL BE MEDIUM DUTY COMMERCIAL GRADE. DOOR HARDWARE SHALL CONSIST OF BUTTS, LATCHSET OR LOCKSET, SILENCERS, SMOKE GASKETING FOR RATED DOORS, CLOSERS WHERE NOTED, PANIC DEVICES WHERE NOTED. EXTERIOR DOORS SHALL ALSO HAVE THRESHOLD, WEATHERSTRIPPING, SWEEP AND KEYED LOCK. CONTRACTOR SHALL COORDINATE ALL LATCH/LOCK FUNCTIONS AND KEYING OF LOCKS WITH OWNER. MAX. THRESHOLD = 1/2". ALL HARDWARE TO BE LEVER TYPE OR PUSH/PULL. ALL DOORS IN EGRESS PATHWAYS SHALL BE FREE TURNING FOR EXITING. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. FURTHER, ALL EGRESS DOORS FROM ROOMS AND EXTERIOR EGRESS DOORS, FOR GROUP A AND GROUP E OCCUPANCIES SHALL NOT HAVE A LOCK OR LATCH OTHER THAN PANIC HARDWARE. ALL DOOR THRESHOLDS SHALL BE A MAX. OF 1/2" ABOVE FLOOR LEVEL AND BOTH SIDES SHALL BE BEVELED AT A SLOPE OF 1:2. SCHLAGE OR EQUAL STANDARD DUTY HARDWARE (SATIN CHROME) WITH LEVERS.

GLASS IN DOORS AND SIDELIGHTS SHALL BE SAFETY GLASS PER IBC SEC. 2406.1

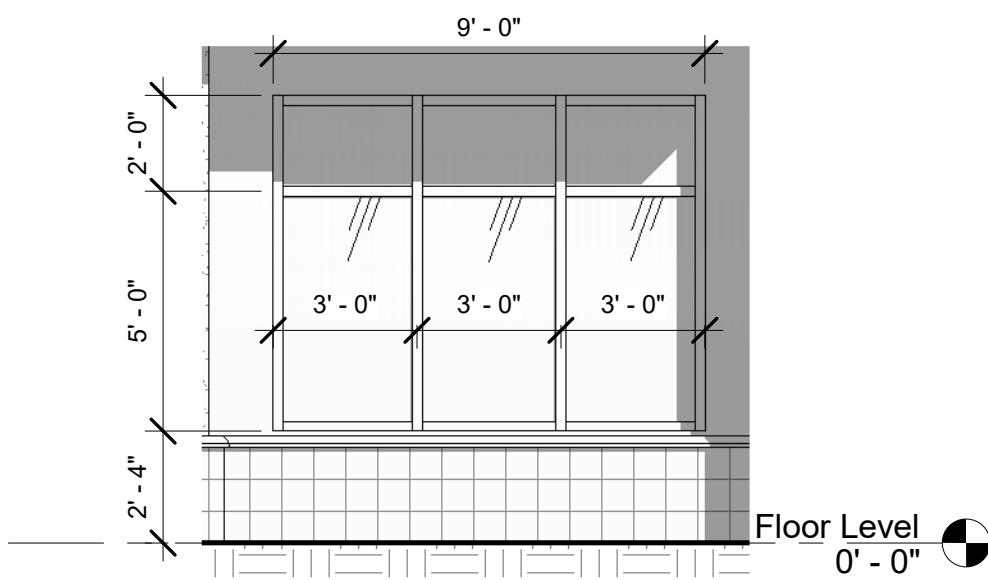
ALL ALUMINUM ENTRY DOORS TO BE KAWNEER NARROW STYLE 250, SINGLE ACTING, WITH WEATHERSTRIPPING, LCN 4041 CLOSER, MAX. 1/2" THRESHOLD, TYPE 'B' PUSH/PULL AND 1/4" CLEAR TEMPERED DOOR GLASS. DOOR #009 SHALL HAVE HAGAR 4500 SERIES WITH 45NL ARC US26D AND SHALL HAVE EXTERIOR KEYED ACCESS. DOORS FOR THE WEST BUILDING SECTION, THE CENTER BUILDING SECTION AND THE EAST BUILDING SECTION SHALL ALL HAVE DIFFERENT KEYING FOR THREE DIFFERENT TENANTS. DOOR #006 SHALL BE KEYED FOR A FOURTH TYPE OF KEY.

ALL ALUMINUM STOREFRONT AND ENTRY FRAMING WILL BE KAWNEER DARK BRONZE TRIFAB VERSAGLAZE 451T FRAMING SYSTEM WITH 1" INSULATED CLEAR GLAZING. ALL GLAZING WITHIN 18" OF FLOOR OR WITHIN 18" OF ANY DOOR SHALL BE TEMPERED GLAZING.

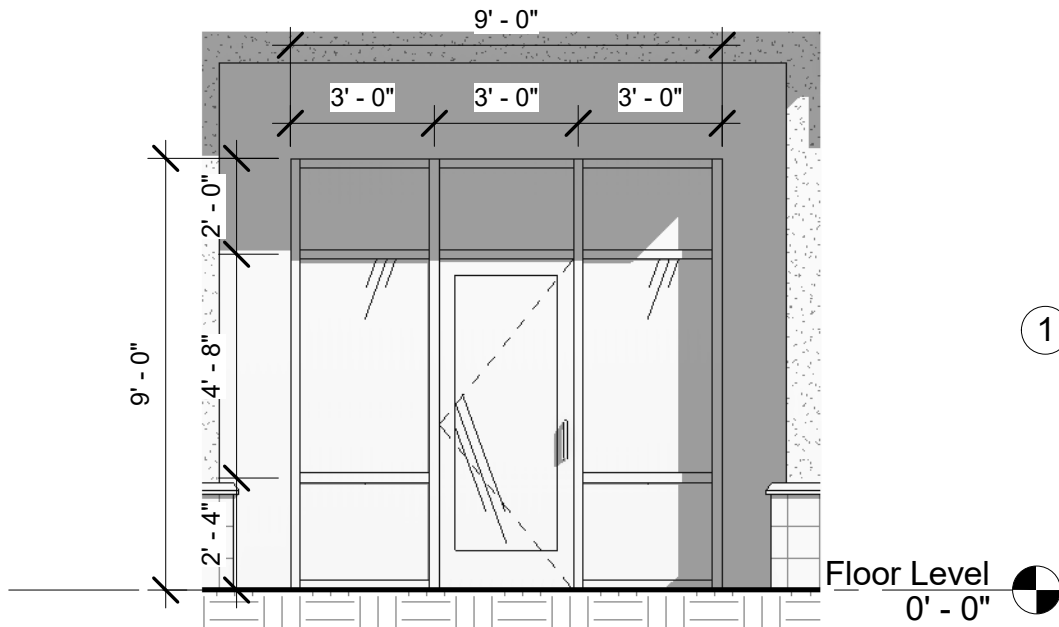
Window Schedule					
Type Mark	Type	Height	Width	Sill Height	Count
001	Drive Up Window	2' - 3"	3' - 6"	3' - 0"	1
002	high windows	2' - 0"	3' - 6"	0' - 8"	20



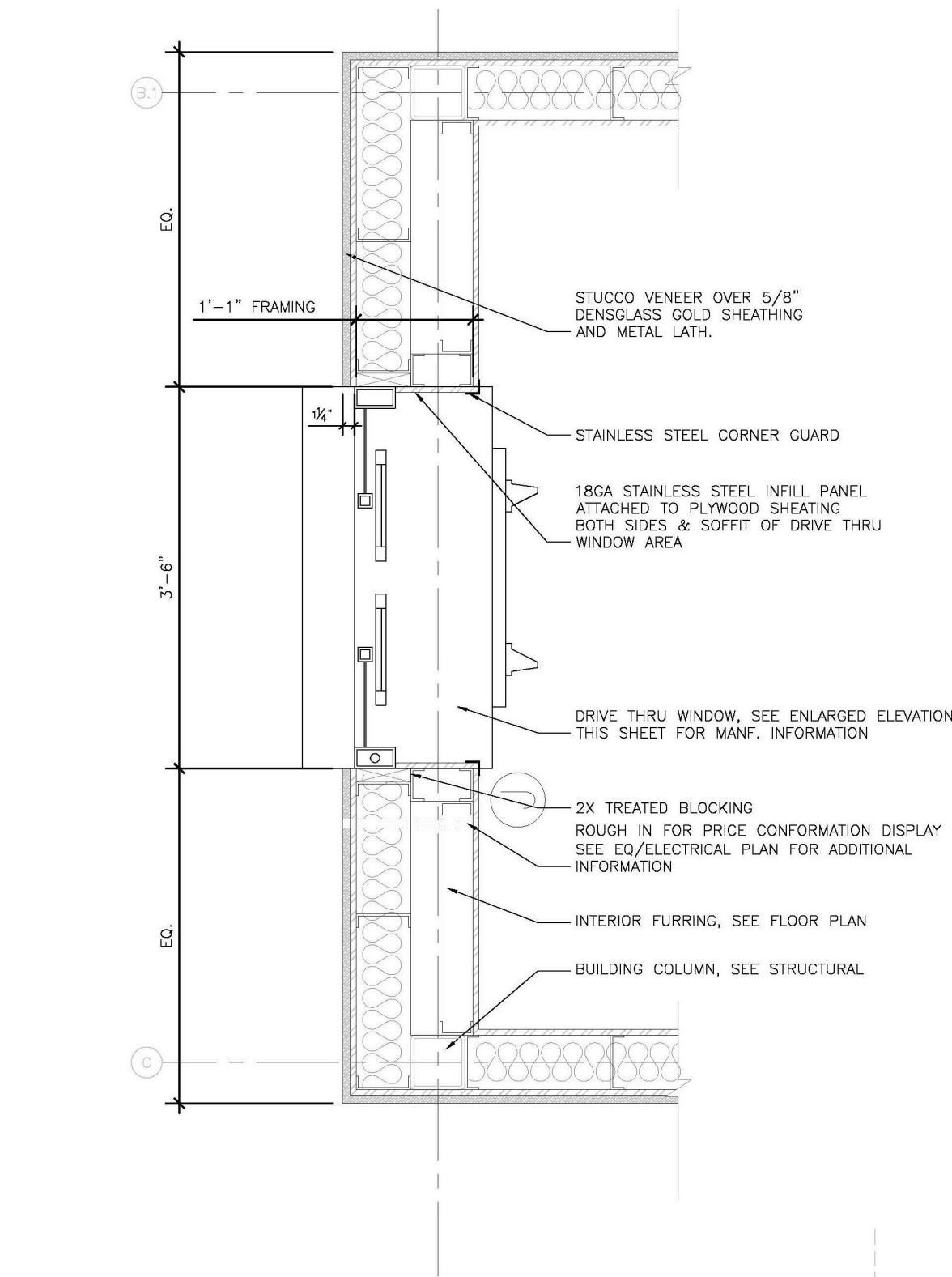
3 South Elevation - Callout 1
1/4" = 1'-0"



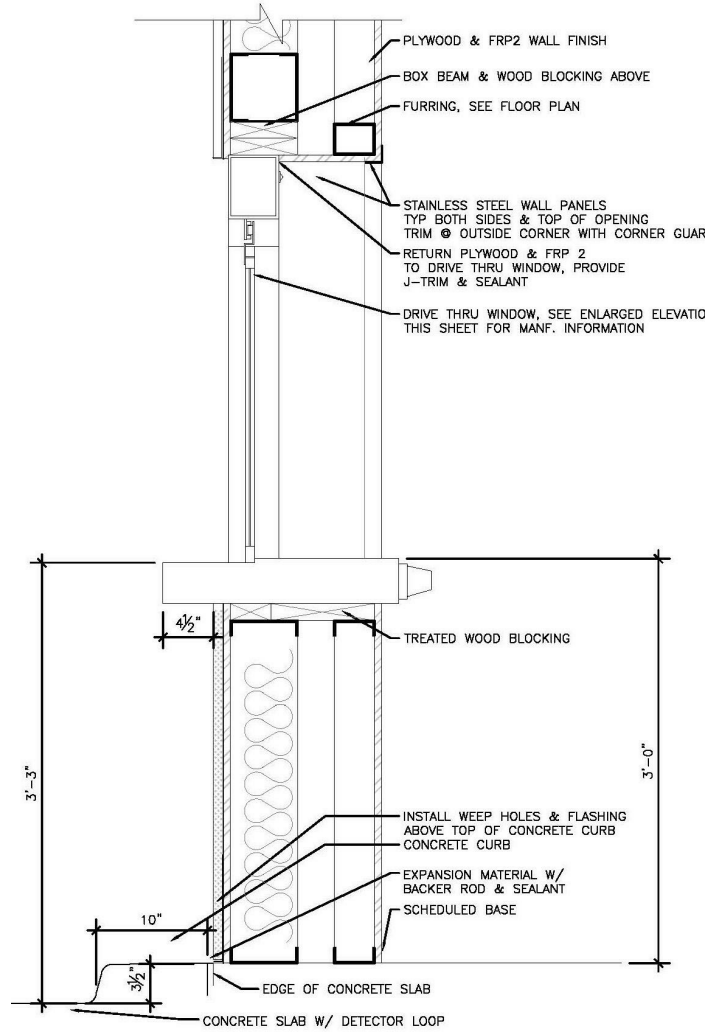
4 South Elevation - Callout 2
1/4" = 1'-0"



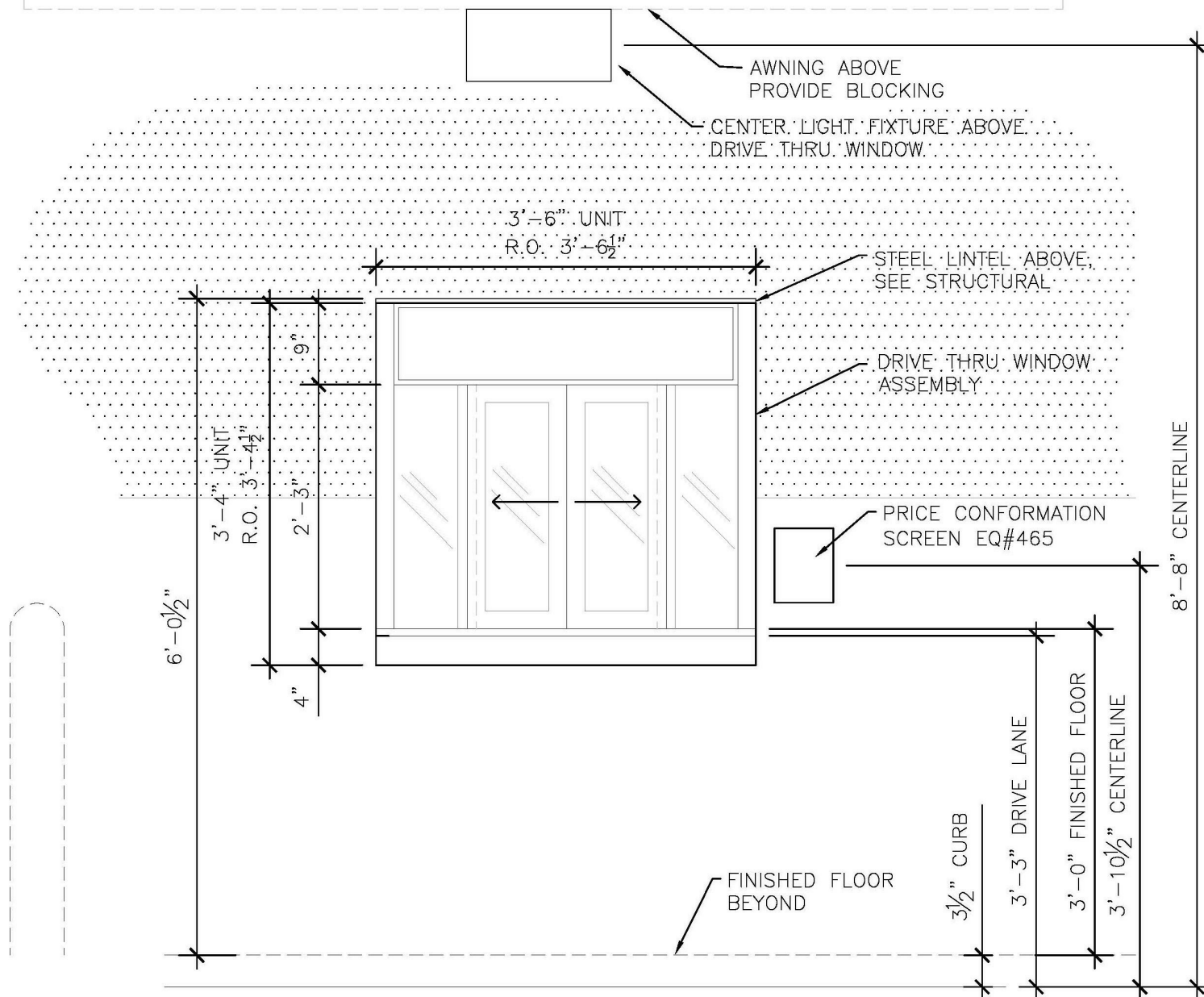
5 East Elevation - Callout 1
1/4" = 1'-0"



GENERAL CONTRACTOR TO COORDINATE
MOUNTING HEIGHTS OF BLOCKING FOR
AWNINGS/SIGNAGE/GOOSENECK FIXTURES
WITH SIGNAGE VENDOR AND ELECTRICAL
CONTRACTOR PRIOR TO INSTALLATION



1 Drive Up window Detail
1/2" = 1'-0"



NOTES: QUICKSERV CORP DRIVE THRU WINDOW ASSEMBLY
MODEL #: FM-42E WITH THRU-BEAM PHOTO ELECTRIC EYE BAR
AND 3/8" INSULATED TEMPERED GLAZING (BRONZE TINT)

FRAME SHALL BE INSULATED & HAVE A CLEAR ANODIZED ALUM FINISH

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NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4

NE VICTORIA DRIVE & NE DOUGLAS ST.

J. Jeffrey Schroeder Mo. Licence A-4226
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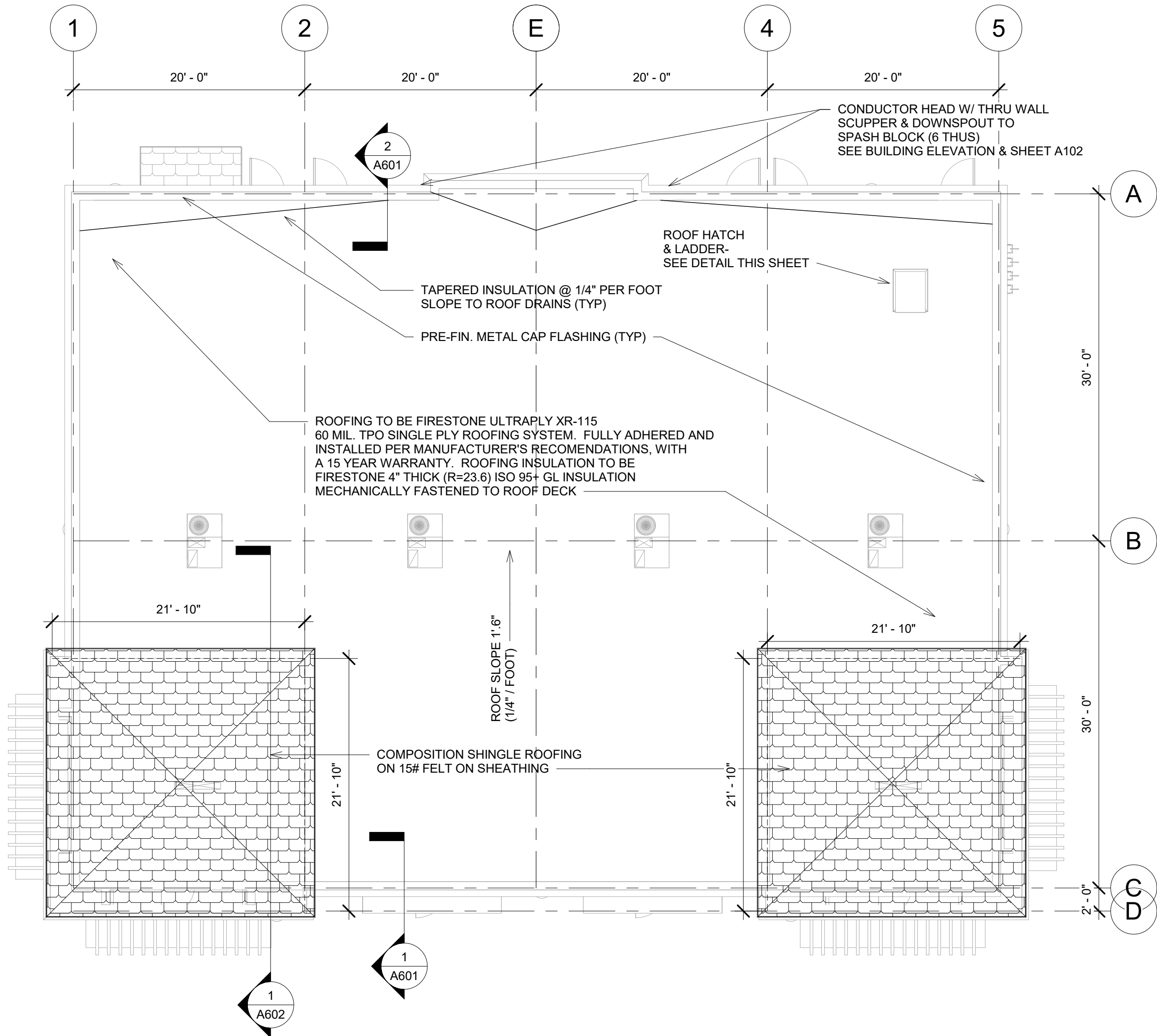
No.	Description	Date
Revision Schedule		

Roof Plan

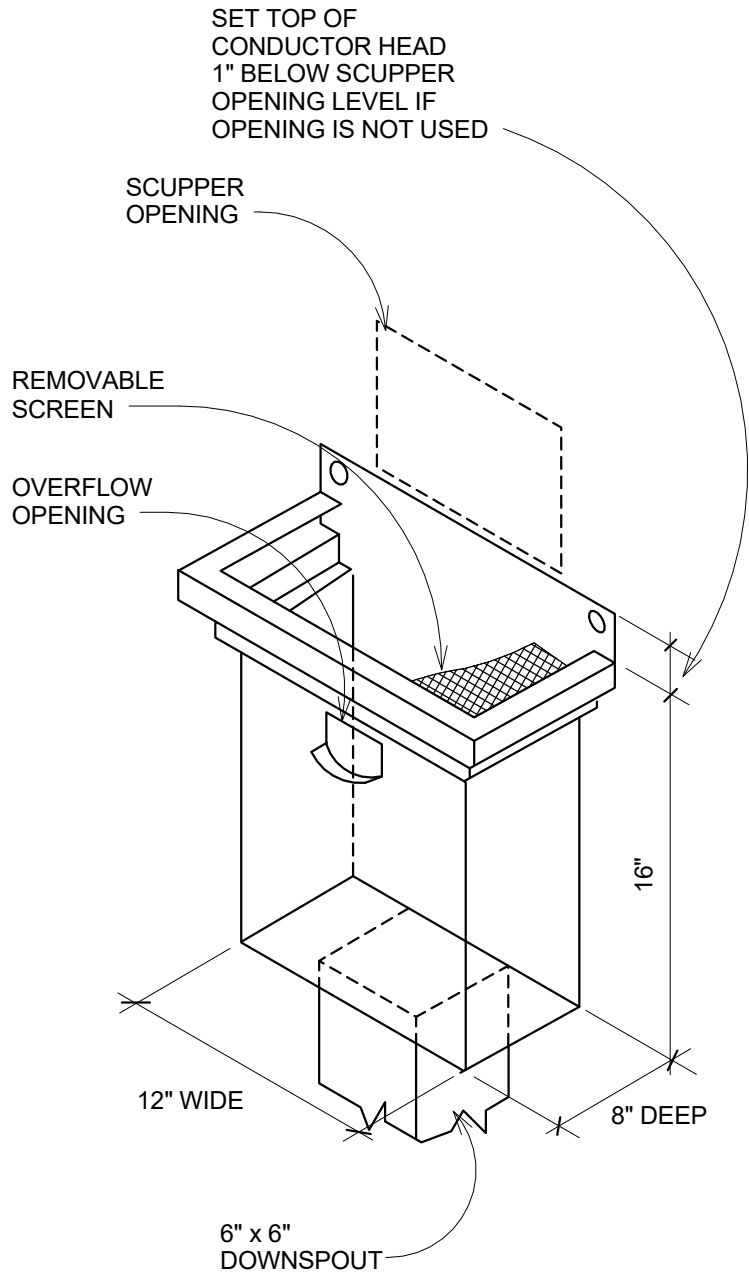
Project number 2222
Date 03.01.2021

A103

Scale As indicated

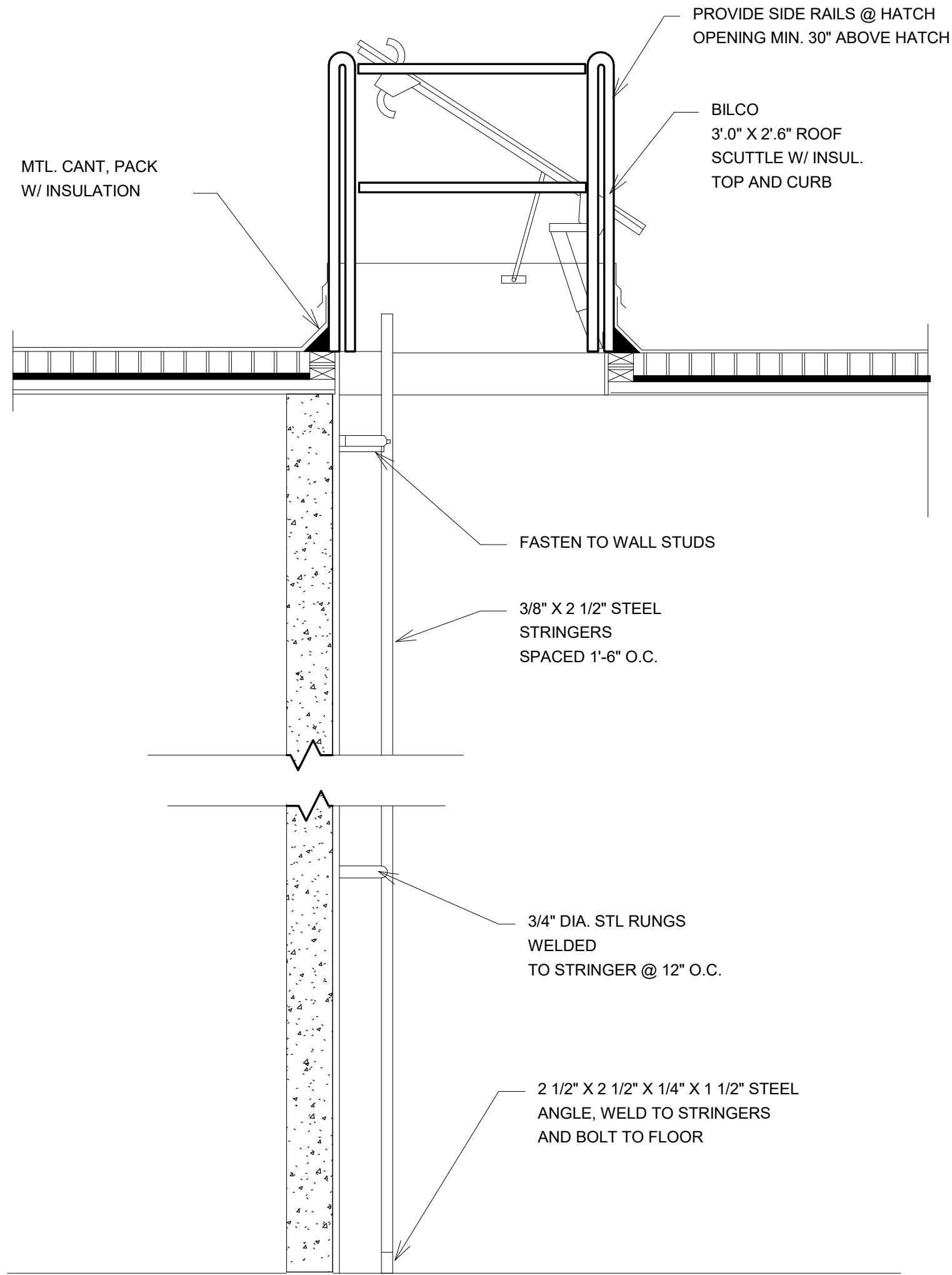


1 Roof Plan
1/8" = 1'-0"



NOTE:
CONDUCTOR HEADS AND DOWNSPOUTS SHOULD BE FABRICATED OF 24 GA. PRE-FINISHED METAL

SCUPPER DETAIL AT PARAPET WALL
NOT TO SCALE



ALL ROOF PARAPETS ARE MIN. 30" ABOVE ROOF AND WILL ACT AS FALL PROTECTION.

3 Roof hatch w/ guard rail
1" = 1'-0"

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No.	Description	Date
Revision Schedule		

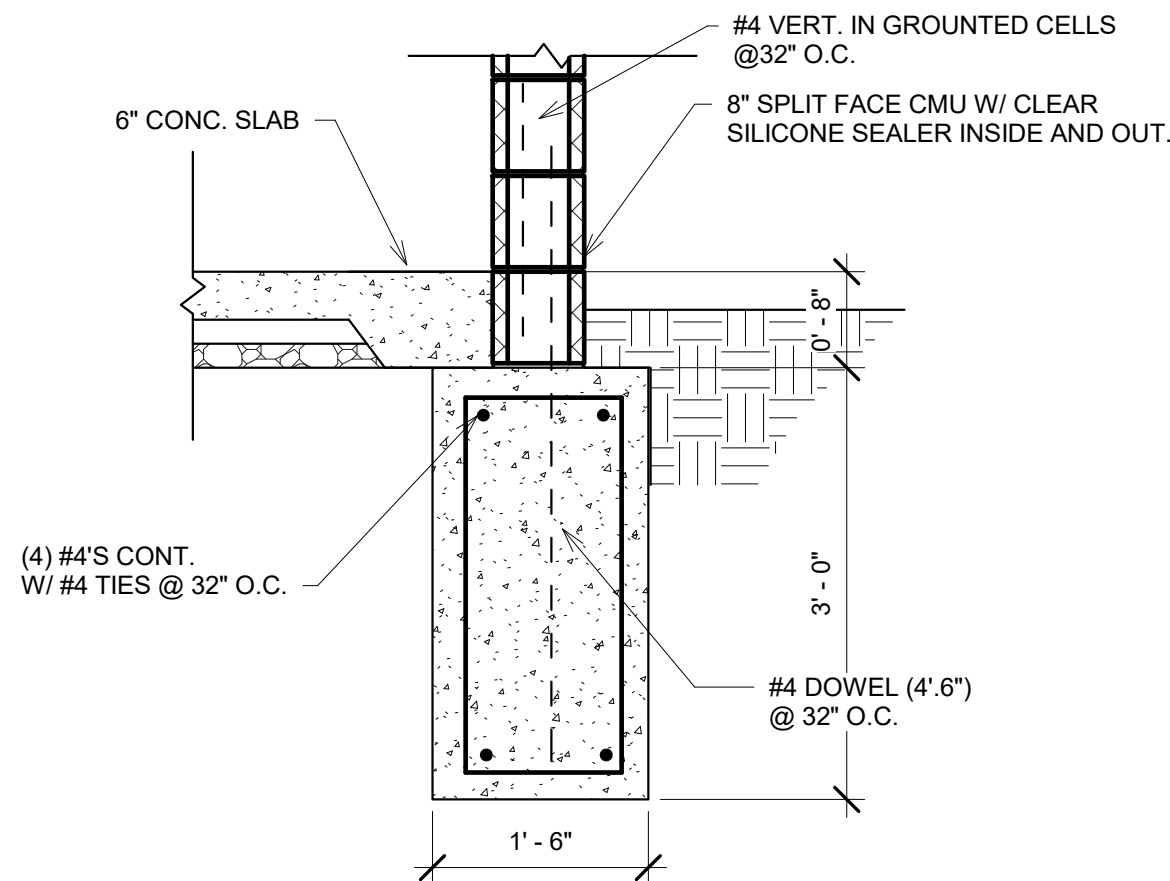
Trash Dumpster
Details- 11x10

Project number	2222
Date	03.01.2021

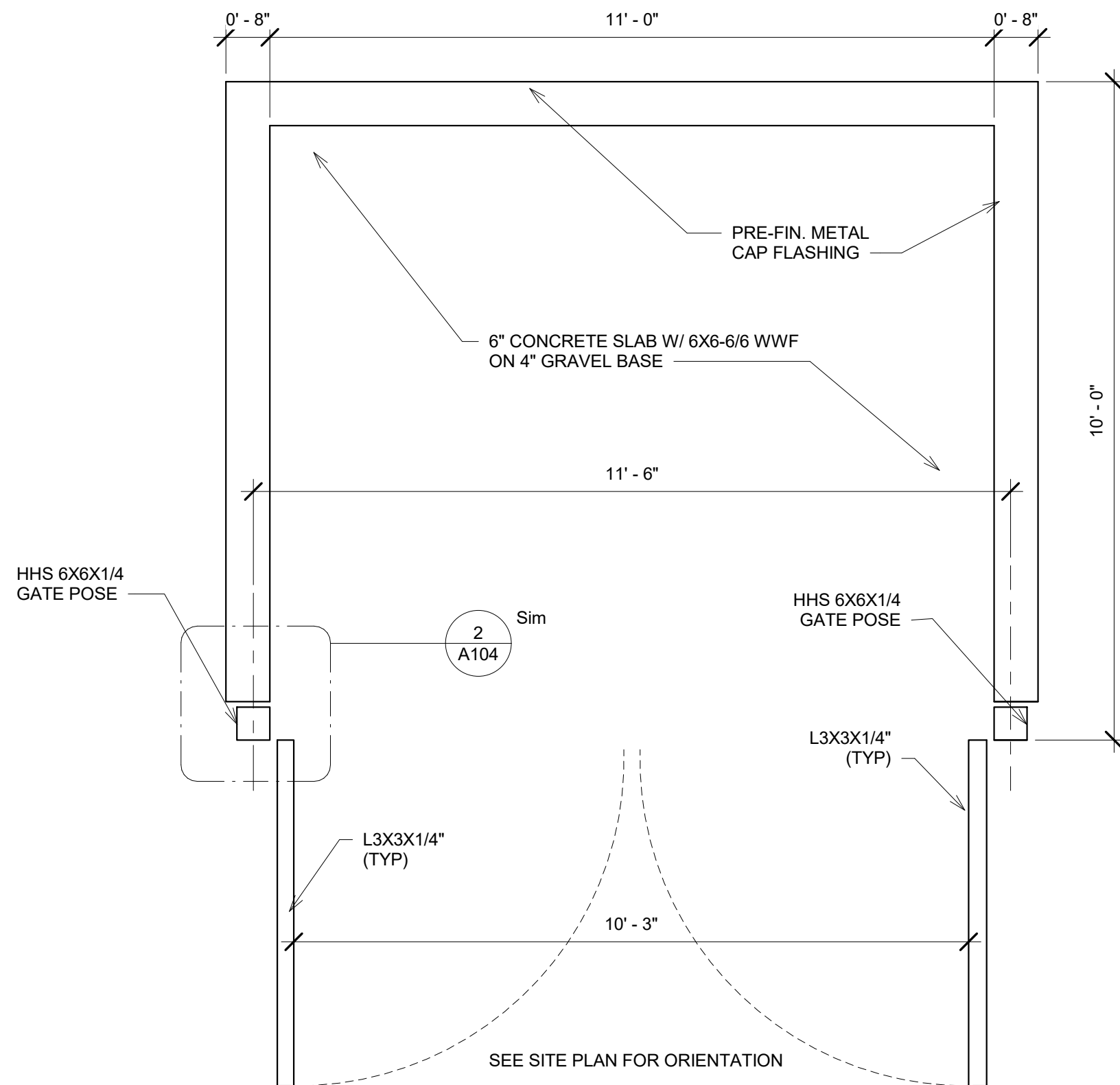
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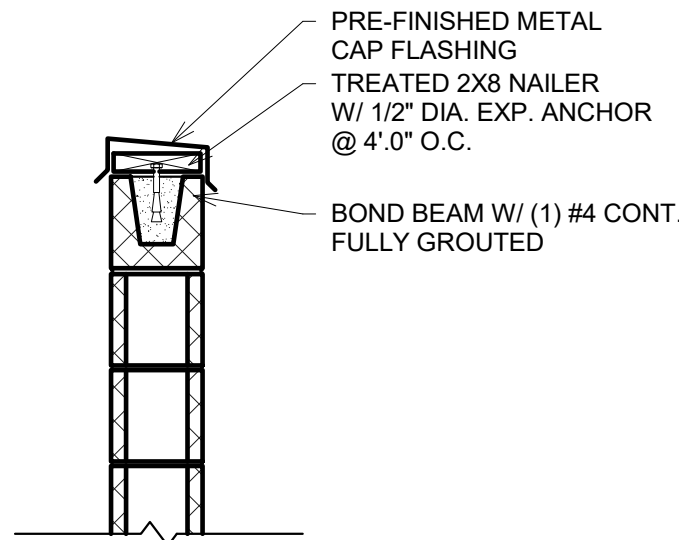
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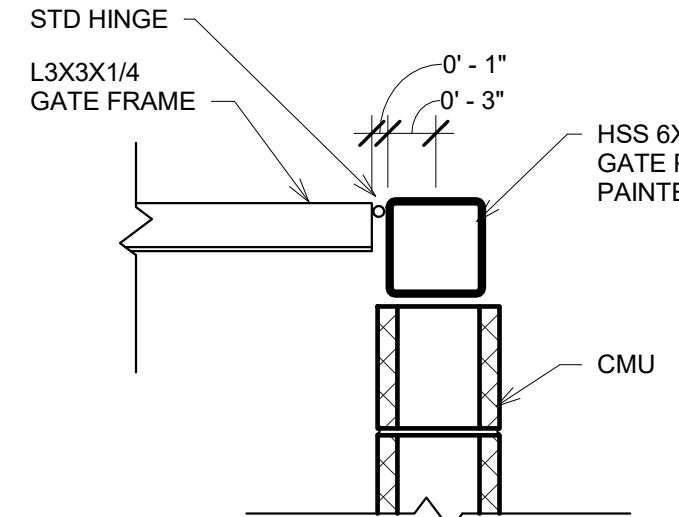
4 Trash Dumpster Detail Wall Section
3/4" = 1'-0"



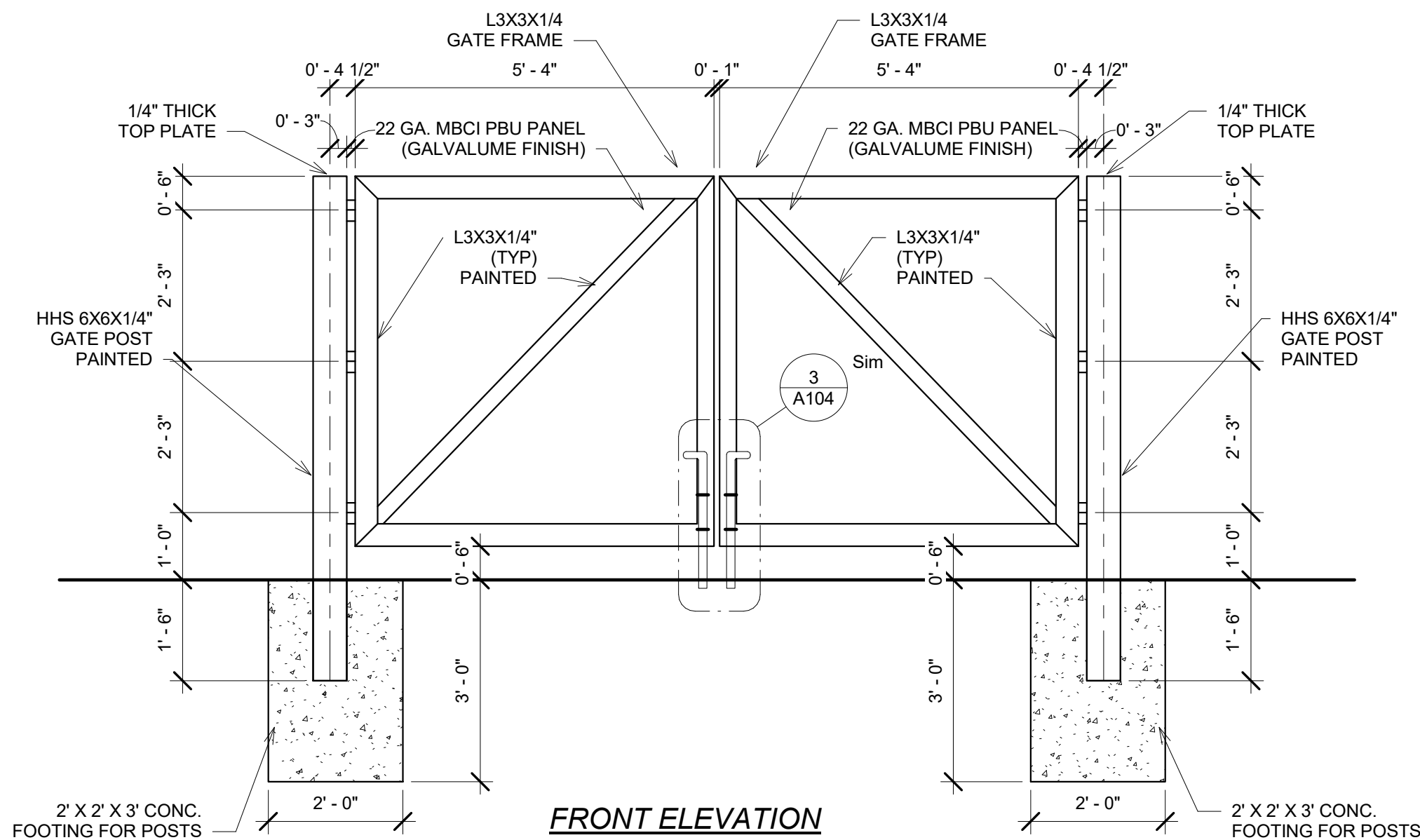
PLAN VIEW



5 Cap Flashing Detail
3/4" = 1'-0"



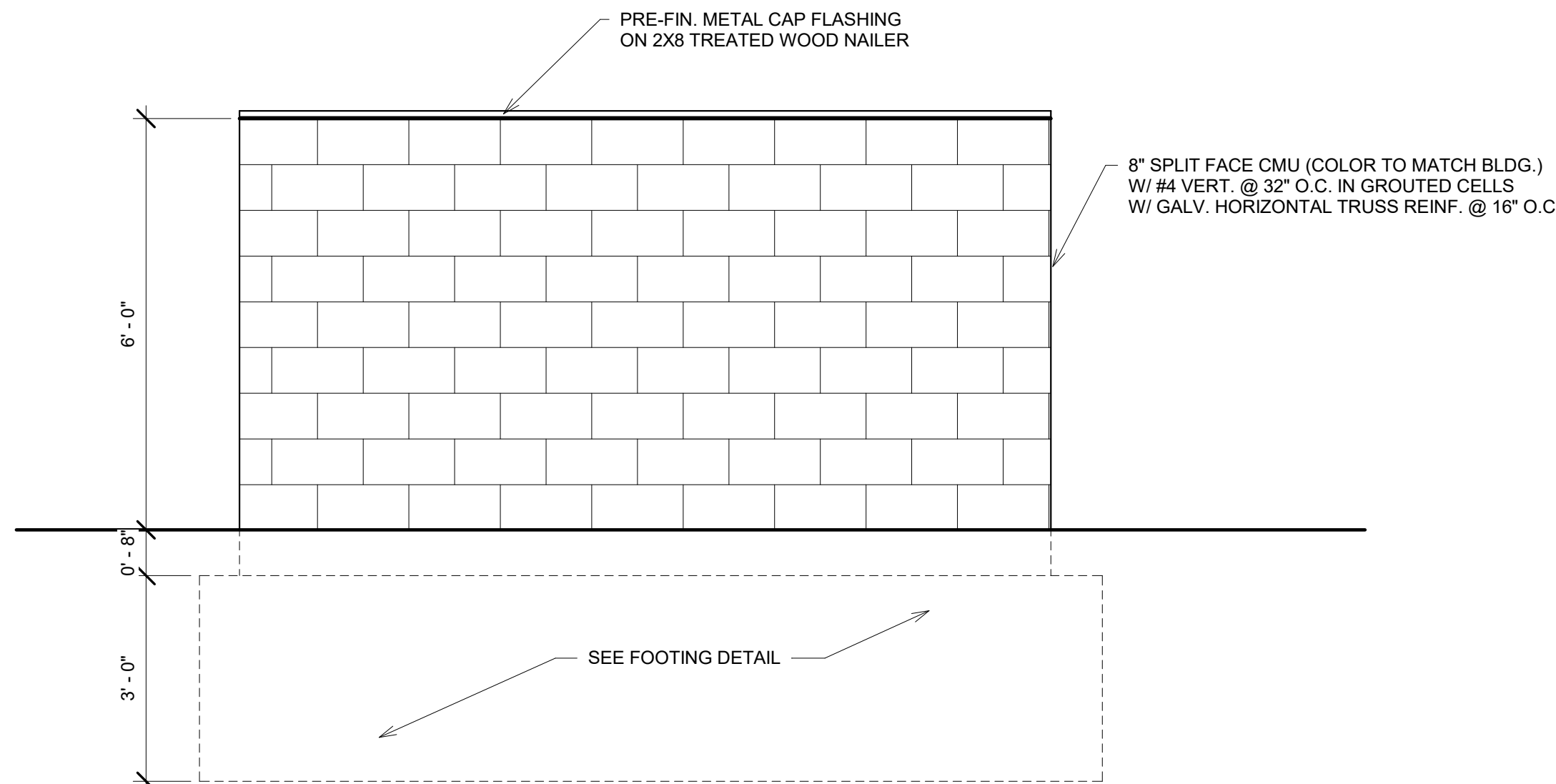
2 Hinge Detail Plan 12x1
1" = 1'-0"



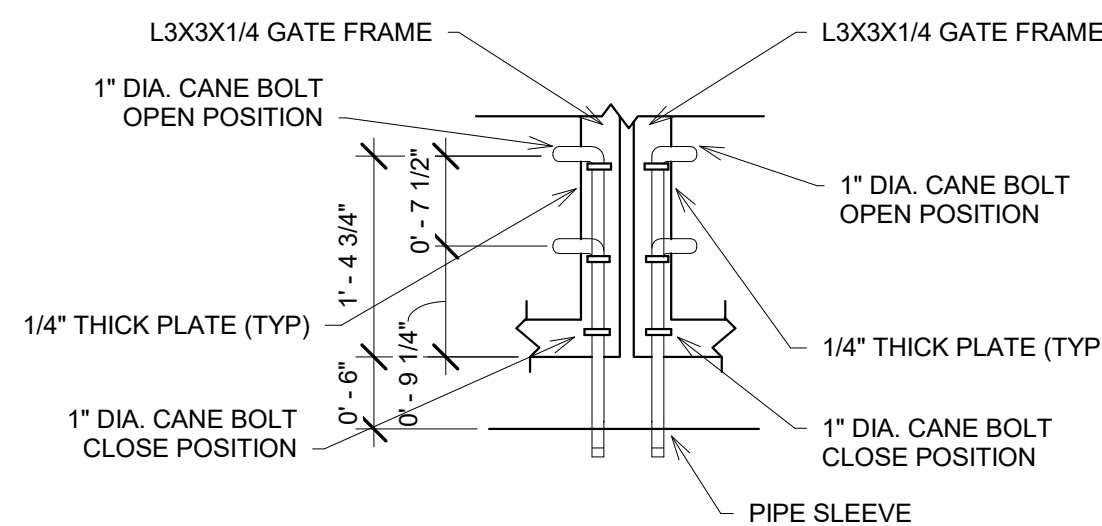
FRONT ELEVATION

ALL STEEL TO BE PAINTED
ALL CMU TO BE RECEIVE CLEAR SILICONE SEALANT @ EXTERIOR

1 Trash Dumpster Detail 11x12
1/2" = 1'-0"



SIDE ELEVATION



3 Trash Dumpster Detail - Hinge Detail2
3/4" = 1'-0"

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No.	Description	Date
Revision Schedule		

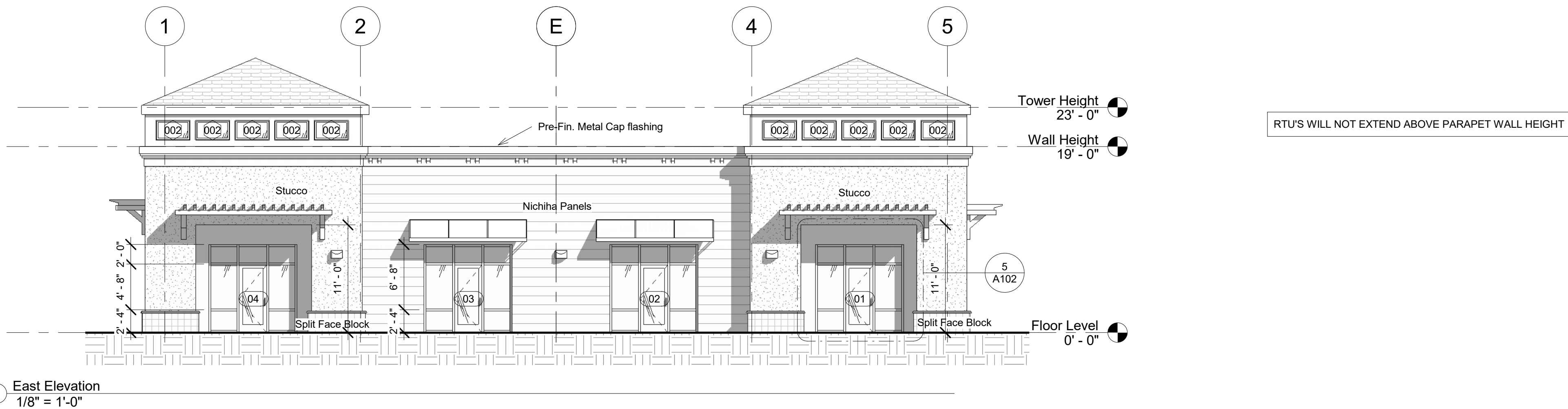
Elevations

Project number 2222
Date 03.01.2021

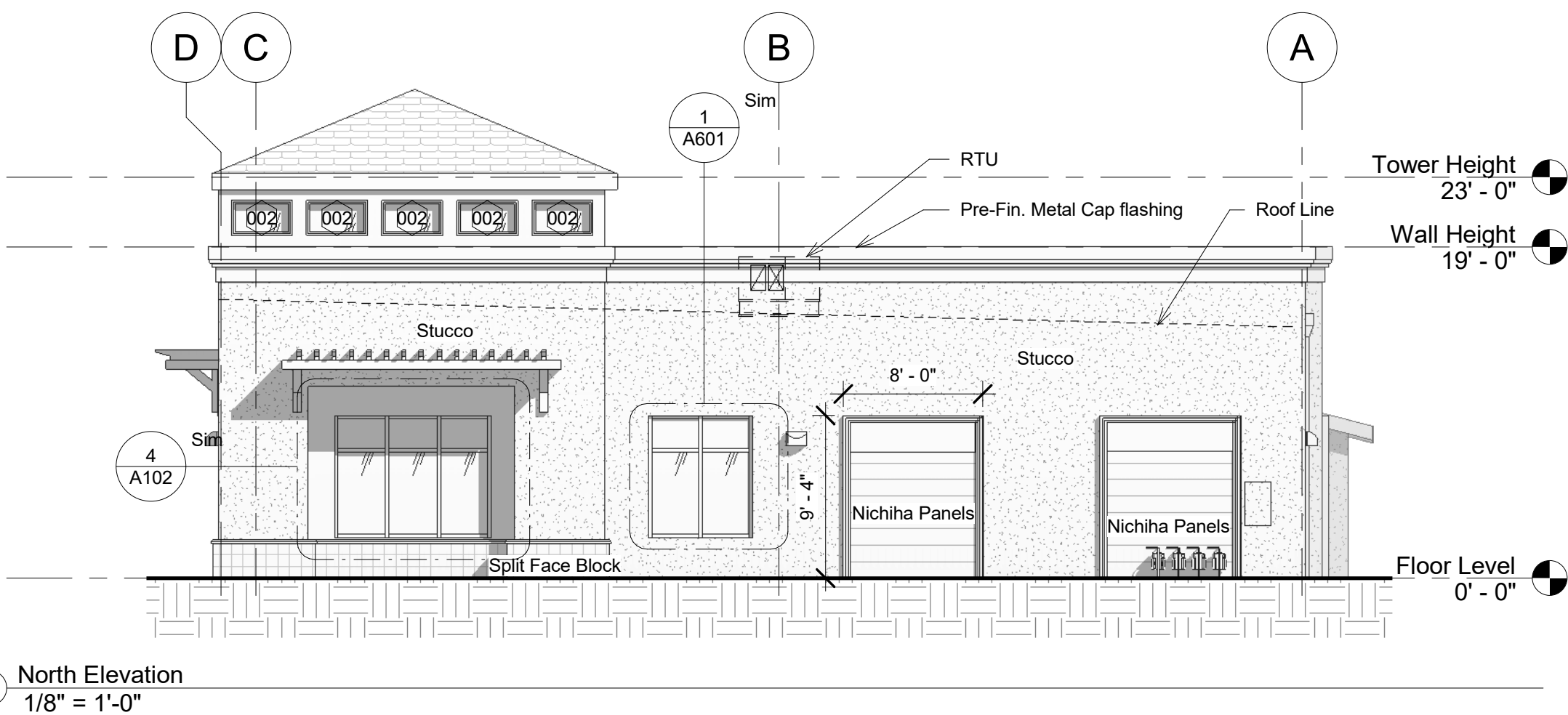
A201

Scale 1/8" = 1'-0"

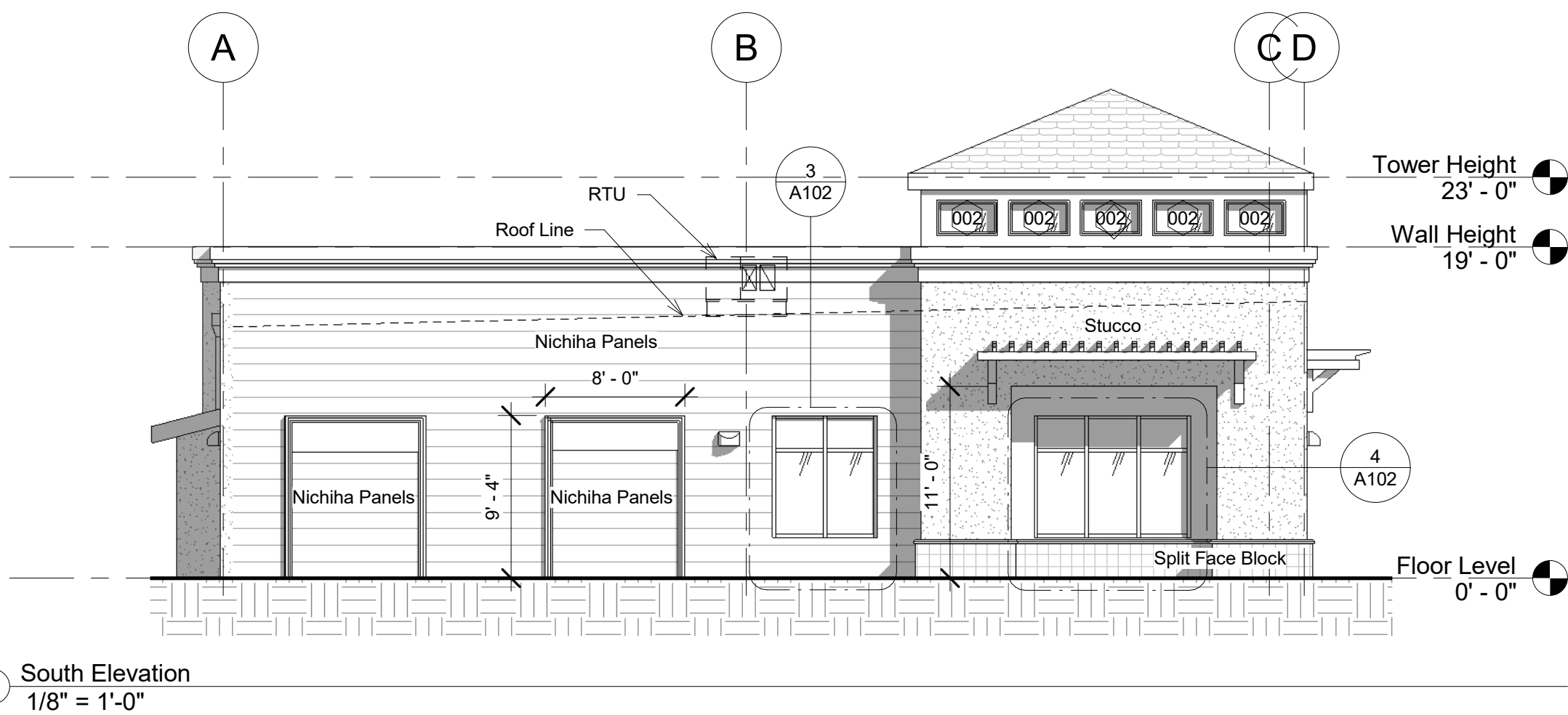
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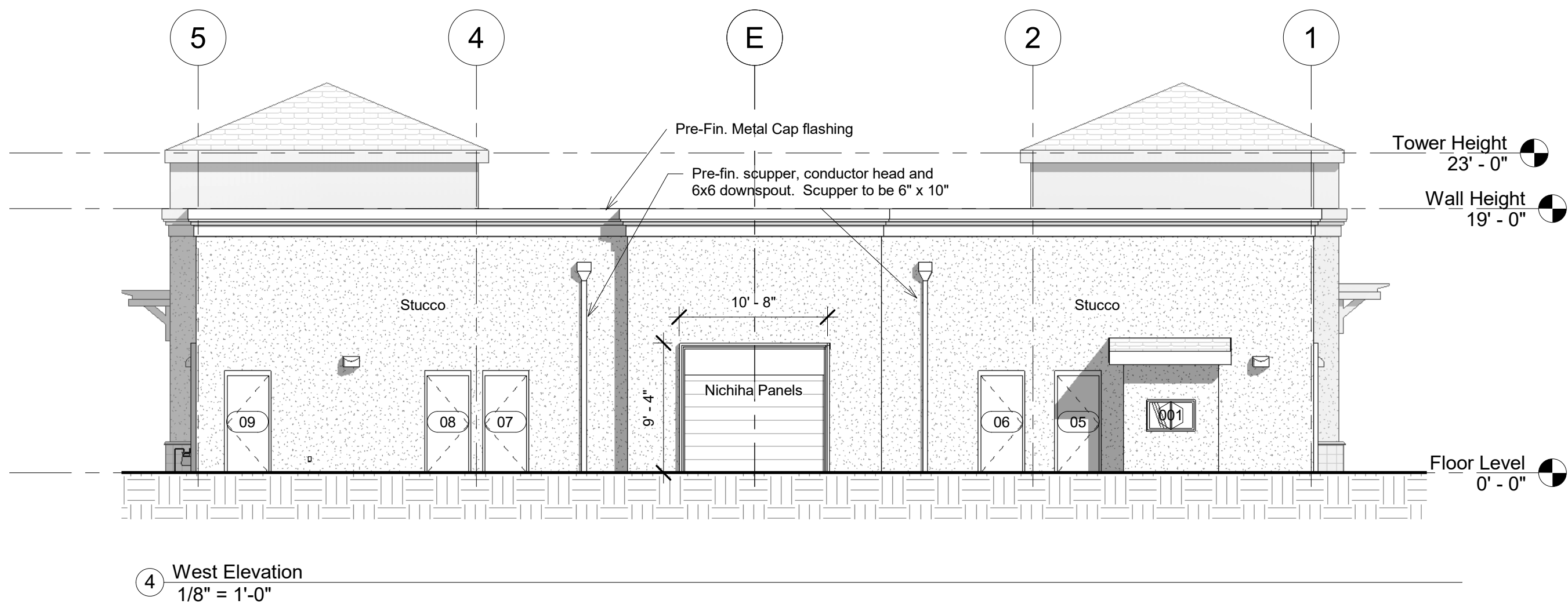
1 East Elevation
1/8" = 1'-0"



2 North Elevation
1/8" = 1'-0"



3 South Elevation
1/8" = 1'-0"



4 West Elevation
1/8" = 1'-0"

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1	No.	Description	Date
		Revision Schedule	

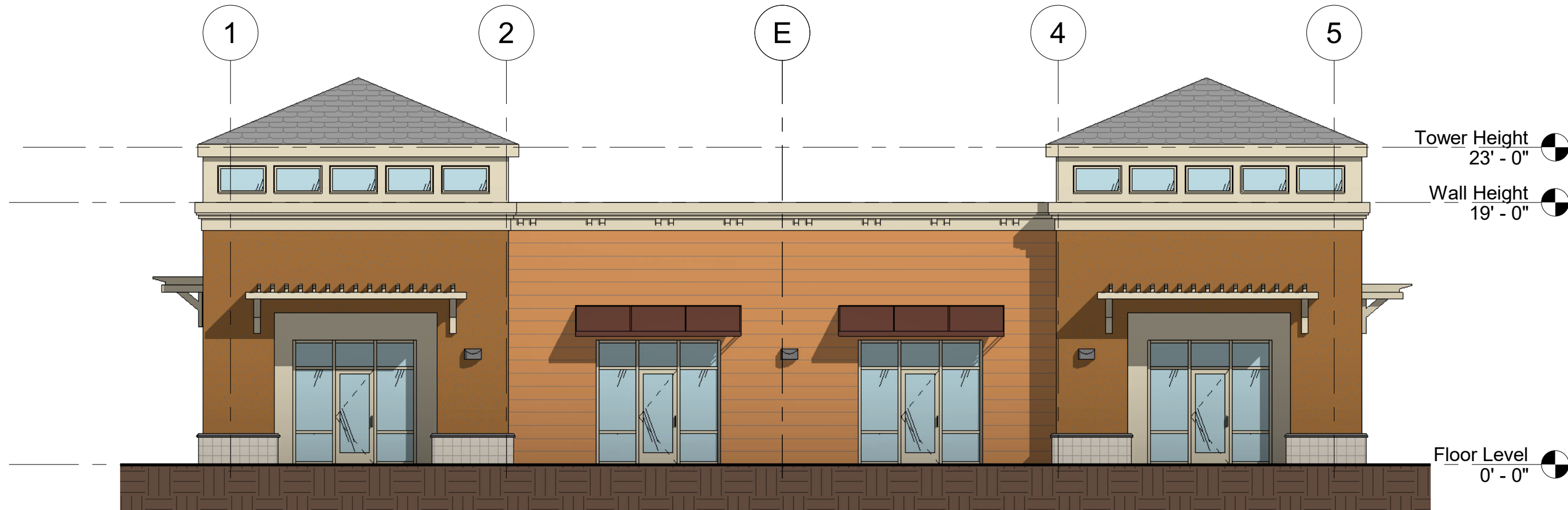
Colored
Elevations

Project number 2222
Date 03.01.2021

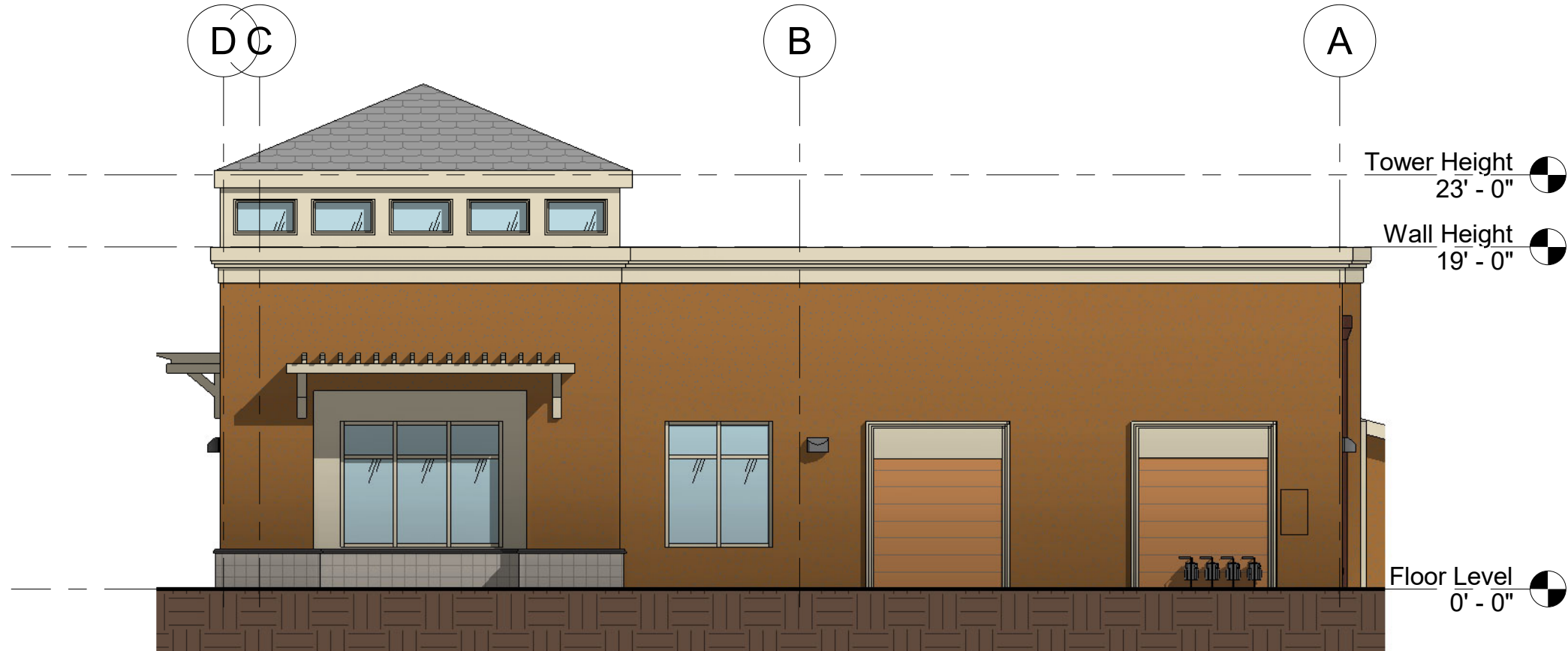
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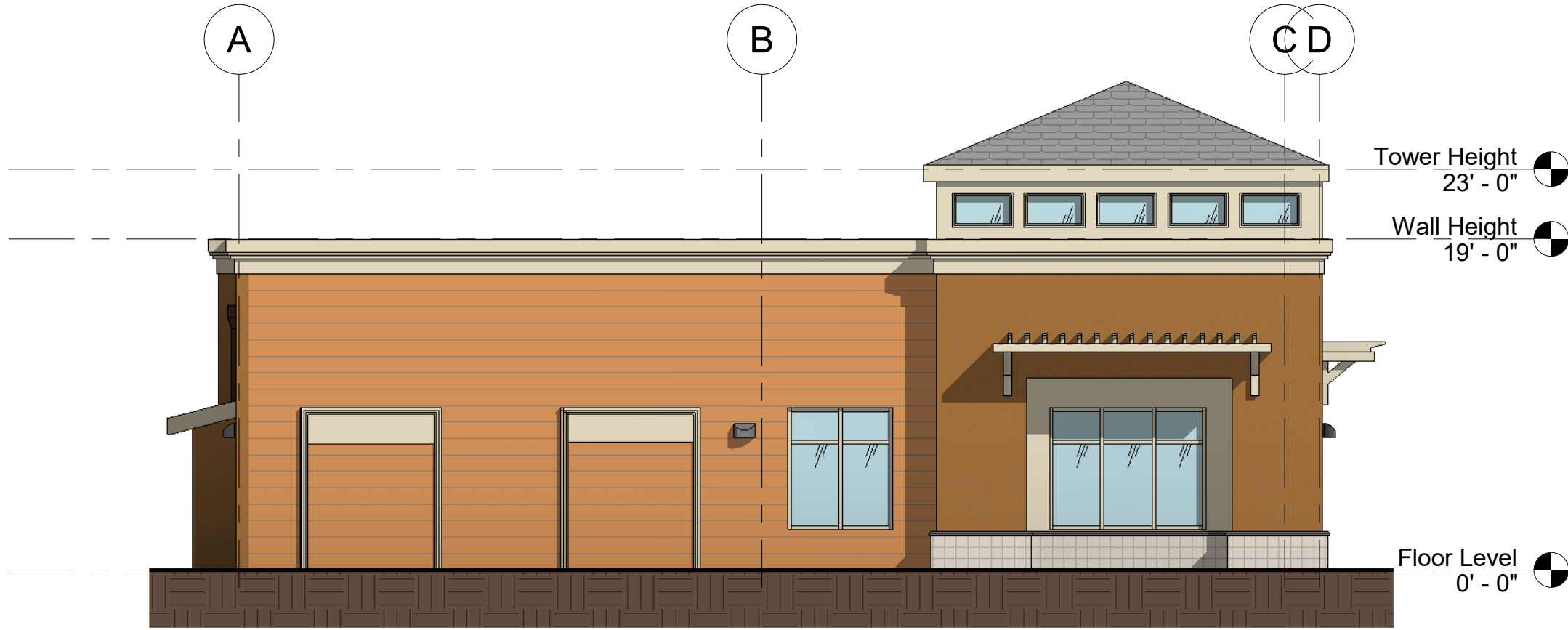
3/7/2021 11:53:44 AM



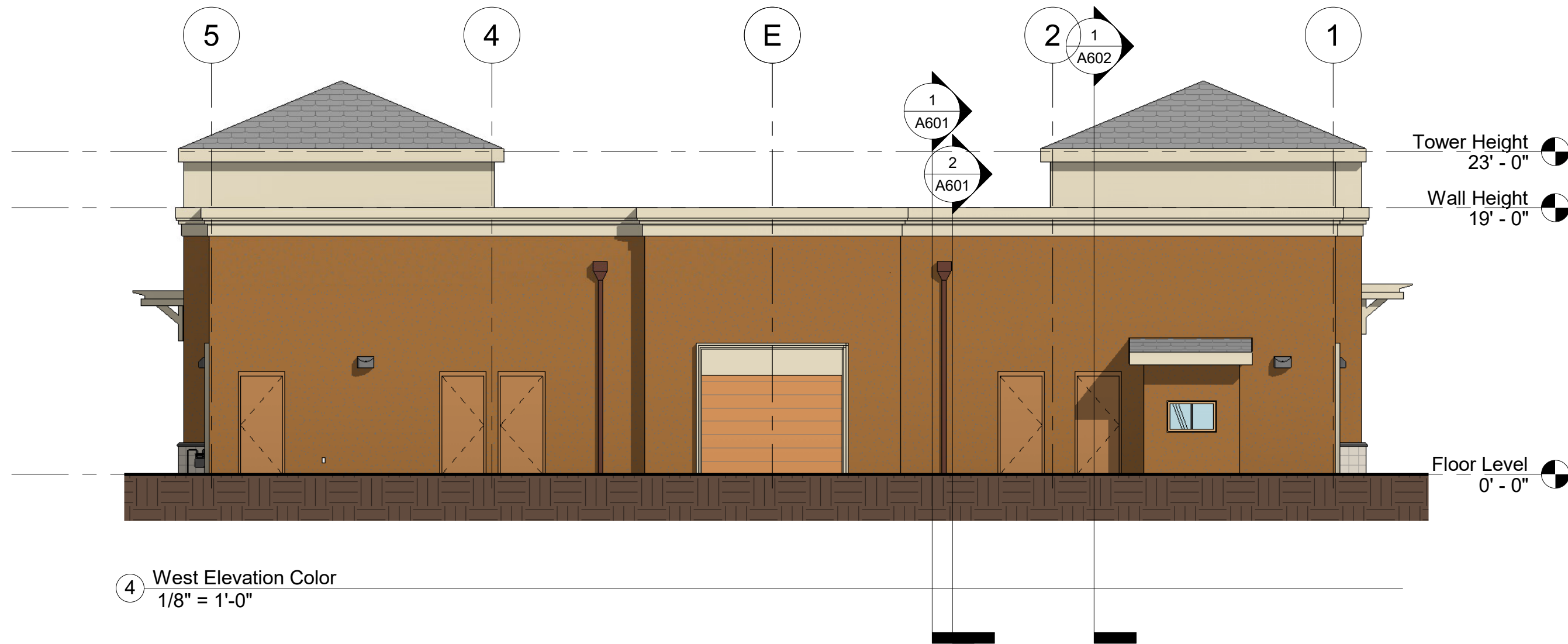
1 East Elevation Color
1/8" = 1'-0"



2 North Elevation Color
1/8" = 1'-0"



3 South Elevation Color
1/8" = 1'-0"



4 West Elevation Color
1/8" = 1'-0"

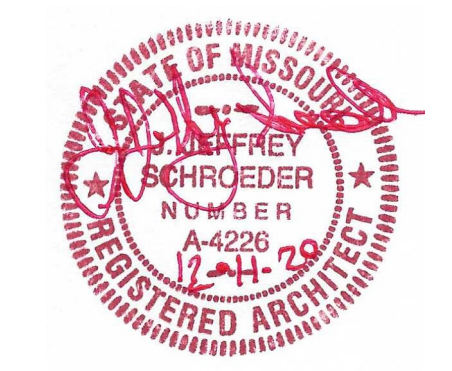
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No.	Description	Date
Revision Schedule		

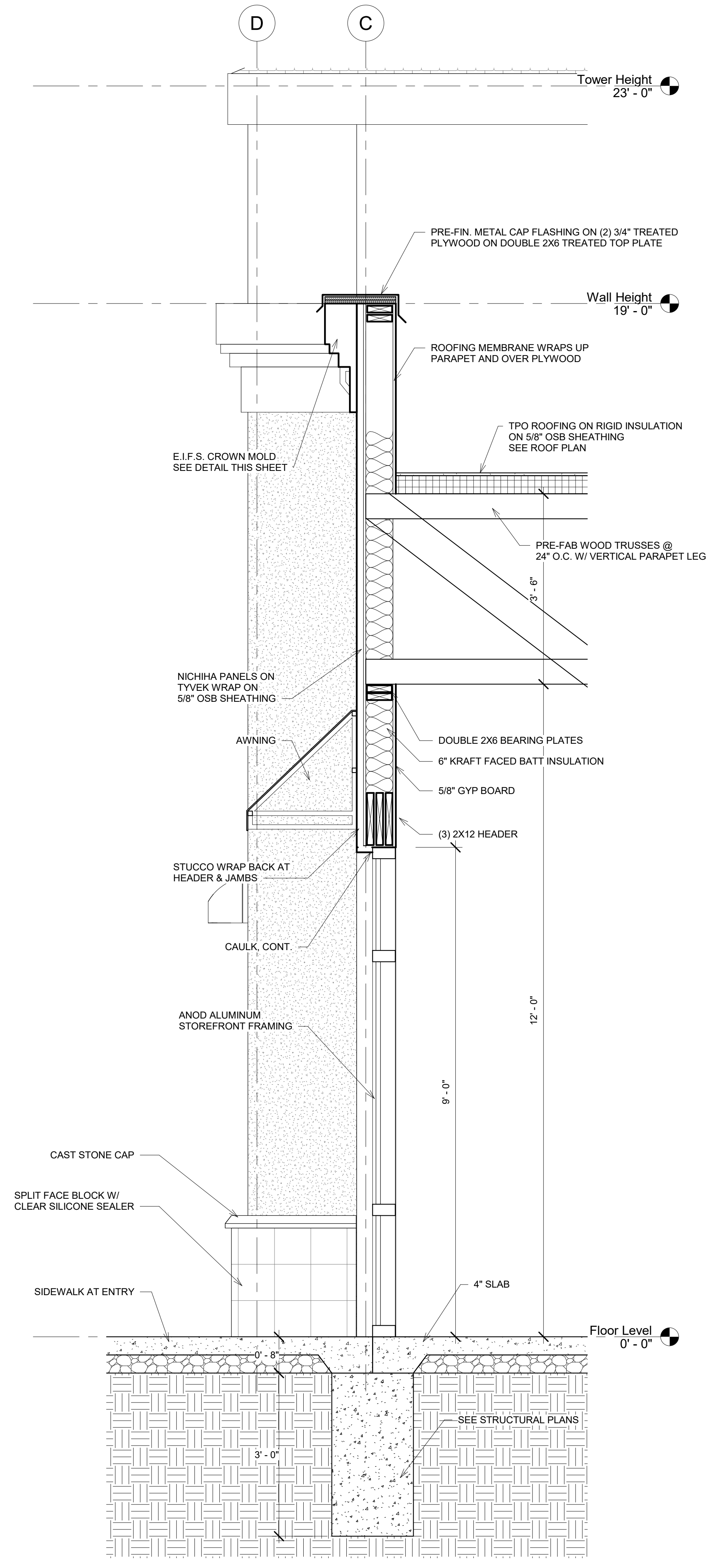
Wall Sections

Project number	2222
Date	12.11.2020

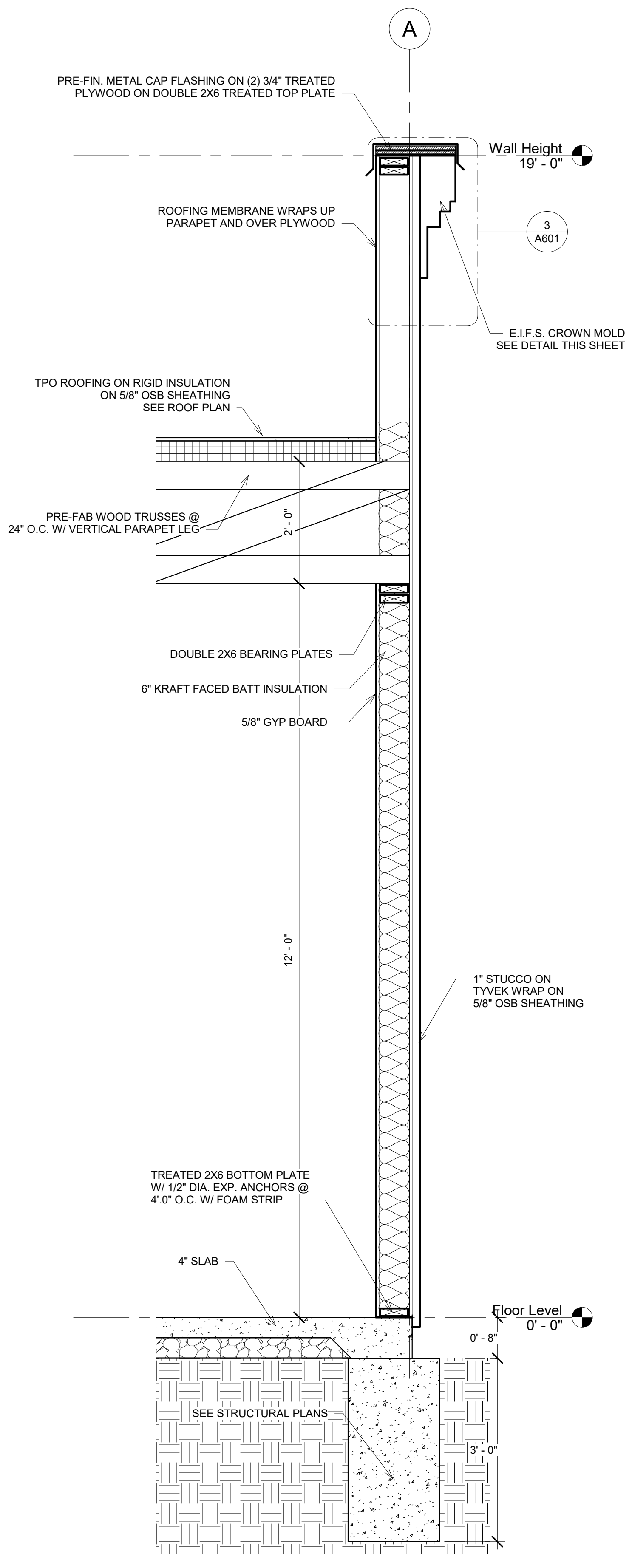
A601

Scale	As indicated
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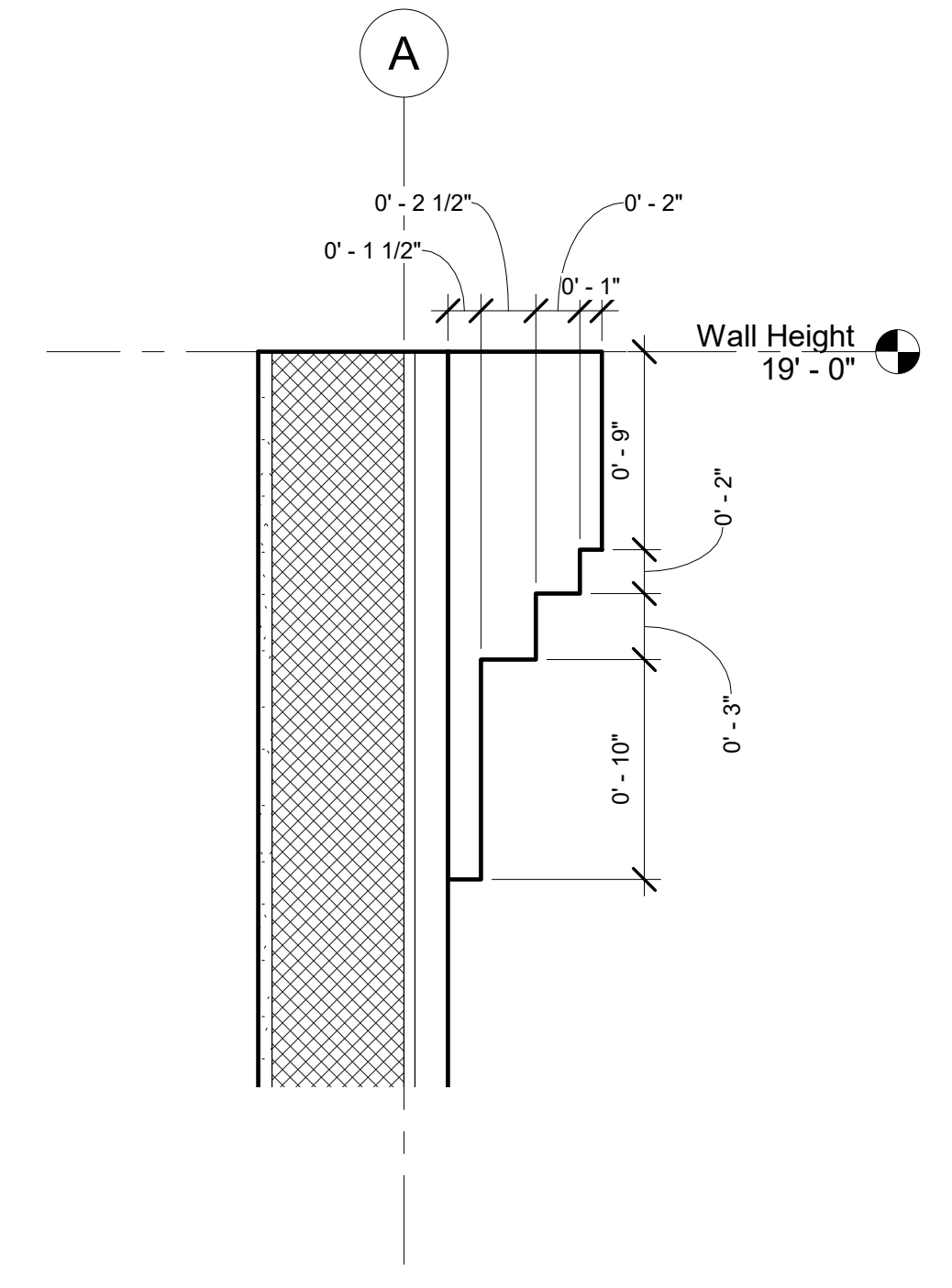
12/11/2020 12:31:44 PM



① Section 1
3/4" = 1'-0"



② Section 2
3/4" = 1'-0"



③ Section 2 - Callout 1
1 1/2" = 1'-0"

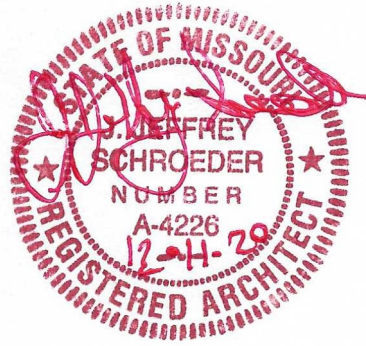
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No.	Description	Date
Revision Schedule		

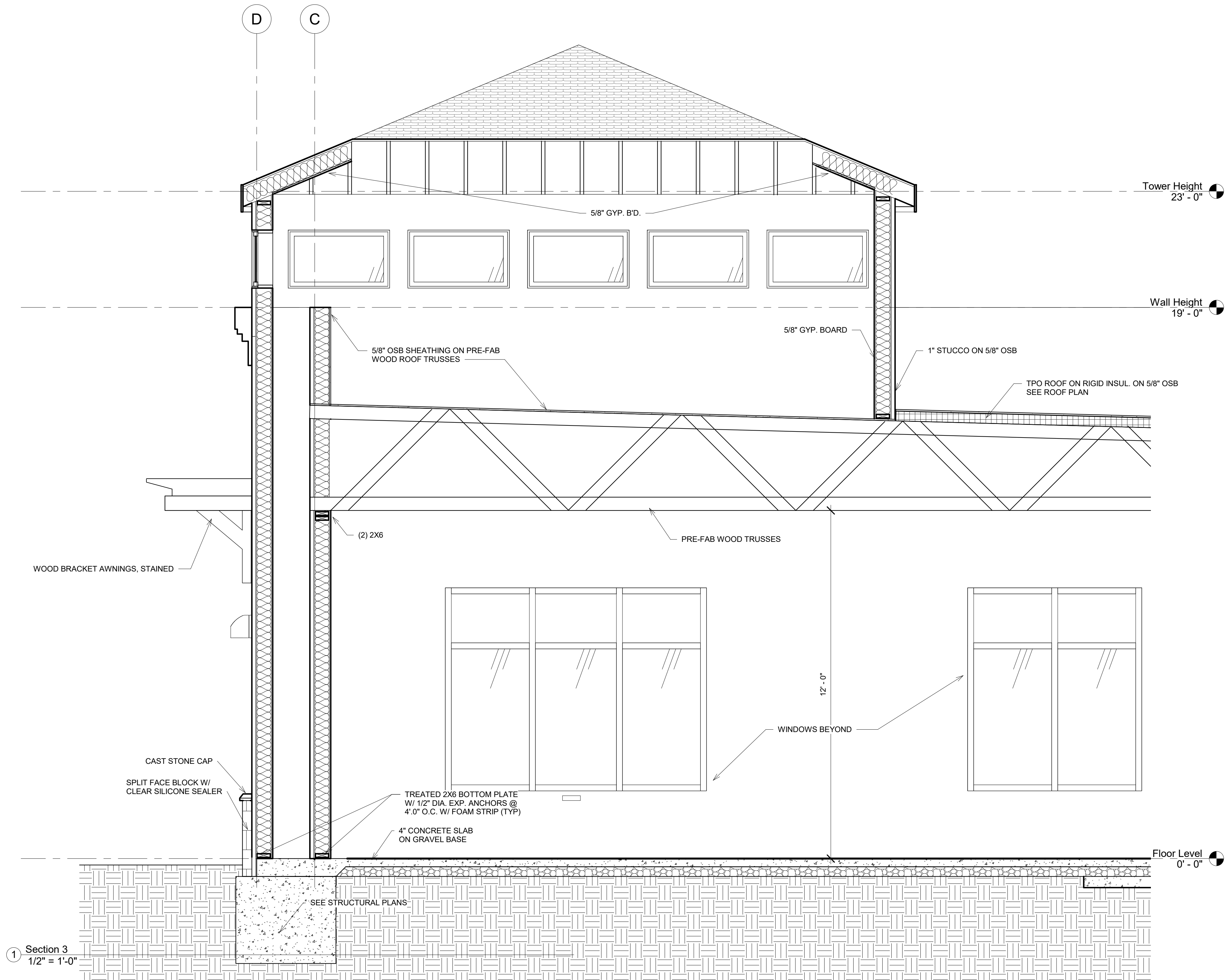
Wall Sections

Project number	2222
Date	12.11.2020

A602

Scale 1/2" = 1'-0"

12/11/2020 12:31:44 PM



DIVISION 4 - MASONRY

MASONRY

A. IN GENERAL:

- Includes furnishing, setting and laying of materials for all masonry walls built of face brick, common brick, concrete blocks or combinations, that are shown on the plans.
- Build in all lintels, flashings, reinforcing, inserts, ties and accessories as required on the plans.

B. MATERIALS:

- Brick:
 - Face Brick - for veneer of exterior walls and certain interior facings as indicated on the drawings. Brick shall be hard-burned modular sized to match approved samples. Clinkers, warped or underburned bricks will not be accepted. Provide a cash allowance of \$500 per M for the purchase and delivery to the job site of all face brick.
 - Exterior 18" walls are to be built of 12" block backup and 4" face brick veneer with a 2" cavity.
 - Concrete Block:
 - Load Bearing Block - shall conform to the Standard Specifications of ASTM C-90, latest edition, (fm = 2250 psi)
 - Aggregate of all blocks to be left exposed to view shall be Haydite. Blocks made with other lightweight aggregate of similar characteristics may be used only with the approval, prior to bidding, of the Architect.
 - All blocks to have nominal 8" x 16" face dimension.
 - Miscellaneous:
 - Galvanized Blok-Mesh Ladder type for bonding face brick veneer to concrete block backup, with drip. Bloc-Mesh selected of proper width for wall to be bonded. Lap all joints and corners.
 - Galvanized adjustable wall ties at min. 18" o.c. each way
 - Reinforcing in grouted cells per plans
 - Mortar for Brick of Concrete Masonry:
 - Materials:
 - Portland Cement - Standard Spec. of ASTM C-15-Type 1.
 - Lime-Standard Spec. of the ASTM C-6, latest edition.
 - Sand - Clean, washed sand, free from lignite, clay, etc. 100% of the sand shall pass a #4 mesh sieve.
 - Mortar to be type N.
 - Use type S mortar for all masonry below grade.

- General Bricks and Blocks:
 - Face brick and blocks have been figured modular sizes. Horizontal joints for block or brick have been figured as follows: 3 courses of brick equal one course of block equals 8" in height. Vertical joints are figured at 3/8".
 - Brick facing:
 - Brick shall be laid in running bond in general. See elevations for pattern work or stack bond on certain walls.
 - Lay all face brick in full mortar beds and butter all head joints fully with mortar to produce a tight, shoved joint.
 - Brick work shall be pointed at time wall is laid up. Face of joints shall be concave.
 - Block Backup:
 - Shall be laid up with progress of facing following parge coat. Facings shall be laid not more than one wall tie ahead of backup.
 - Head joints of blocks shall be buttered fully to produce a tight shoved joint.
 - All outside masonry work shall be covered on top surface at completion of each days work. Use tarpaulins as protection against rain or snow.
 - Masonry walls shall be properly braced against wind damage until proper ties are made integrally with remainder of structure, and the roof deck has been installed and all connections have been completed.
 - Protect work as necessary from the work of the other sections of these specifications.
 - Point all masonry work as required to eliminate holes from string pins and rake out and point any defective joints at completion of work.
 - Clean all masonry work as follows: Brush down all brickwork with Sure-Kleen Solvent by Process Solvent Co., Kansas City, Mo. All washing solution shall be taken that masonry work is not damaged by the cleaning process.

D. SAMPLE:

- Contractor shall submit brick samples to architect for approval.

E. MASONRY WATER REPELLANT:

- After masonry is thoroughly cleaned, all exposed surfaces shall be treated with a silicone water repellent material. Surfaces to be thoroughly dry and free of all surface dirt, efflorescence and construction stains. Masonry water repellent shall be Sure Klean "Weather Seal 201-CP" or similar. Application shall be in strict accordance with manufacturer's printed instructions.

DIVISION 6 - WOOD AND PLASTICS

CARPENTRY AND MILLWORK

A. IN GENERAL:

- Furnish materials, complete all rough carpentry work which includes blocking plates, grounds, etc.
- Furnish and install all finished carpentry, and millwork shown on the drawings and described herein, consisting generally of the following: shelving, interior and exterior wood trim, wood paneling, doors, etc.
- Coordinate work with the erection and installation of all laminated beams and arches and adjoining wood framing if any.

B. ROUGH CARPENTRY MATERIALS:

- Provide nails, bolts, screws, and fastenings required to properly support blocking, framing, furrings, etc. required for the completion of finish carpentry and cabinet work.
- Miscellaneous blocking, plates, etc. required in the support of roof overhangs, cant strips, nellers, for all purposes shall be #1 grade dimensional Douglas Fir.
- Furring, plaster grounds, etc. shall be #2 grade Douglas Fir or White Pine.
- Studs, plates, bucks, etc. shall be Douglas Fir Standard grade with fiber stress of 1200 psi (S4S).
- All plywood shall bear the D.F.P.A. grade and trademark. Secure to wood framing members with 3d common cement coated nails @ 6" o.c. at panel edges and 10" o.c. at intermediate framing members. Or as otherwise noted.
- Plywood sheathing shall be C-C EXT-DFFA plywood. Or as otherwise noted.
- Structural Lumber - Flexural 2" thick WD members and all WD studs other than those specifically designated as #1 or better shall be Douglas Fir - larch #2 or better (Fb=1,250 psi, Fv=95 psi, E=1,700,000 psi.)
- Roofing Deck - Plywood - Roof sheathing shall be 5/8" plywood - Structural 11 with exterior glue, C-C exterior, or better.

C. FINISH MATERIALS:

- Interior trim shall be as noted on the drawings out of the following materials.
 - Oak Trim - all oak trim as shown on the drawings shall be premium grade white oak.
 - White Pine Trim - all white pine trim as shown on the drawings shall be C select or better.
 - Birch Trim - all birch trim as shown on the drawings shall be clear red birch.
 - Redwood Trim - all redwood trim as shown on the drawings shall be clear all heart redwood.
- Plywood roof deck shall be thickness shown on the drawings, structural 1, C-C EXT-APA with application in accordance with American Plywood Assoc. requirements.
- Exterior trim shall be clear white pine treated with WOODLIFE PRESERVER. Wood soffits and fascia of extended roofs shall be exterior grade, fir plywood, thickness as noted on the drawings. Erect in lengths as indicated on the drawings with close fitting joints.

D. WORKMANSHIP AND INSTALLATION:

- Doors shall be fabricated in accordance with details of approved shop drawings. They shall be fitted to the frames so as to leave uniform margins approximately 1/8" at head and jams and 1/4" at thresholds.
- Door frames shall be set plumb and true and in line with partition.
- Interior trim around cabinets, etc. shall be set square and true. Joints shall be lap mitered. Drill pilot holes as necessary to prevent splitting. Nail securely with finish nails and counter sink heads.
- Exterior trim shall be installed plumb, true and in proper planes. Fascia joints shall be butt mitered, securely nailed with casing nails set below the finish surface.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

CAULKING

A. IN GENERAL:

- Furnish all labor and materials to complete all caulking work shown on the drawings or specified herein, or both.

B. MATERIALS:

- Caulking compound shall be a two-part polyurethane terpolymer sealant with movement capable of 40% extension and 25% compression. Sealant to be "DYMERIC" as manufactured by Tremco Manufacturing Co.
- Joint Backing shall be closed-cell polyethylene joint backing as manufactured by Tremco.

C. INSTALLATION:

- All joints shall be clean, dry and free from foreign matter.
- Depth of joint should not exceed width of joint from 1/4" to 1/2". For joints larger than 1/2", the depth of joints should be no more than 50% of the width.
- Use Tremco backing to control depth of joint to within 1/2" of surface.
- Mix according to manufacturers instruction (minimum 8 minutes).
- Apply with conventional caulking equipment, tooling immediately.
- Tool all exposed joints neatly.
- Caulk around all exterior windows and doors.
- Caulk at intersection of 2 dissimilar exterior materials.
- Set all thresholds in full bed of caulking.
- Caulk all expansion joints.
- Caulk all Aluminum Flashing where detailed on the drawings.
- Caulk at all locations shown on drawings, but not listed here.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

SINGLE MEMBRANE ROOFING SYSTEM

A. IN GENERAL:

- The scope of work covered by this specification shall include installation of a fully adhered, single-ply roof membrane, complete and in place, including flashings, separation barrier, walkways and associated items to provide the Owner with a watertight roofing system. All installation shall be per manufacturer's instructions.

B. MATERIALS:

- Roofing system shall be a fully adhered roof membrane. The roofing system shall be Firestone Building Products Ultraply TPO XR with .060 in thickness, white in color.
- Vapor barrier under base layer of insulation to be woven tri-laminate high density polyethylene top surface factory laminated to SBS modified bitumen tape adhesive.
- Insulation shall be polyisocyanurate foam board with min. R-30, installed in two layers with staggered joints, with cold adhesive attachment. Provide insulation cover board of high density polyisocyanurate foam board 1/2" thick with cold adhesive.
- Adhesive shall be per manufacturer's requirements.
- Splicing shall be as directed by manufacturer.
- Materials shall be delivered in their original, un-opened containers, clearly labeled with the manufacture's brand name, and appropriate identifying numbers. All materials shall be stored between 60 degrees F and 80 degrees F.

C. SHOP DRAWINGS / SAMPLES:

- Prior to beginning application, contractor shall submit shop drawings covering integral flashings, expansion joints (if any), walkways, separation layer, tapered insulation and any other appropriate items.

E. GUARANTEE:

- The roofing contracting firm shall have experience with work related to the roofing work and shall be factory trained for installation.
- Roofing system shall carry a 20 year Red Shield Limited Warranty.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

FLASHINGS & SHEET METAL

A. IN GENERAL:

- Furnish and install flashings and sheet metal work as indicated on the drawings and specified herein.
- Includes the following general items: Flashings, metal fascias, gravel stops, cap flashings, thru wall scuppers, gutters, standing seam roofs and downspouts.
- Coordinate work of flashing with the work of other sections of the specifications.

B. MATERIALS:

- Counter or cap flashings at intersections of roof and vertical sections or intersections of any horizontal surface with vertical surface to be 28 ga. G.I. made in two sections.
- Gravel stops and Caps-Berridge 24 ga. or approved equal. Color as selected by Architect.
- Over all windows and doors in masonry walls, not protected by canopies or extended roofs - 2 oz. Cop-R-Tax by Wasco.
- Wall window sills - 2 oz. Cop-R-Tax by Wasco

C. FABRICATION & INSTALLATION:

- Coordinate all flashing and metal work with roofing contractor.
- All flashings shall be installed in accord with details of the drawings. Where dimensions are not specifically shown, contact the architect for such dimensions.
- Counter to cap flashings shall be built in with progress of work.
- Fascia and gravel stops shall be erected square, plumb, true and straight. Provide concealed joint strips as required. No exposed screws or nails shall show on face of metal. Allow expansion and contraction of metal.
- All window and door flashings shall be built in single pieces

E. GUARANTEE:

- Full manufacturer's guarantee shall be provided, but in no case shall guarantee be less than one year for parts and labor.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

BELOW GRADE WATERPROOFING

A. IN GENERAL:

- Provide all below grade waterproofing on exterior side on concrete foundation walls as shown and indicated on the plans and details.

B. MATERIAL:

- Waterproofing material shall be a single ply of Grace Bluthene System 4000.

C. INSTALLATION:

- Concrete surface to be clean, dry, and free from dust, with all holes filled and all high spots removed.
- Apply membrane waterproofing per manufacturer's recommendations.
- Care shall be taken to prevent excessive material from showing above grade. Work shall be taken to finish grade line around the building, plus 2".
- Apply Hydrotect 220 protection and cover board at completion of membrane installation, prior to any back fill.

D. WARRANTY:

- Contractor shall guarantee system to be waterproof for a period of 2 years from date of substantial completion.

DIVISION 7 - E.I.F.S.

DRYVIT OUTSULATION PLUS MD SYSTEM

PART I - GENERAL

1.01 SUMMARY

- A. This document is to be used in preparing specifications for projects utilizing the Dryvit Outsulation Plus MD System. For complete product description and usage refer to:
- Dryvit Outsulation Plus MD System Data Sheet, [DS445](#)
 - Dryvit Outsulation Plus MD System Application Instructions, [DS218](#)
 - Dryvit Outsulation Plus MD System Installation Details, [DS110](#)

1.02 SYSTEM DESCRIPTION

- A. General: The Dryvit Outsulation Plus MD System is an Exterior Insulation and Finish System (EIFS), Class PB, consisting of an air/water-resistive barrier, an adhesive, expanded polystyrene insulation board, base coat, reinforcing mesh(es) and finish.
- B. Methods of Installation:
- Field Applied: The Outsulation Plus MD System is applied to the substrate system in place.

C. Requirements:

- Acceptable substrates for the Outsulation Plus MD System shall be:
 - Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water resistant core or Type X core at the time of application of the Outsulation Plus MD System.
 - Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
 - Exterior fiber reinforced cement or calcium silicate boards.
- APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
- APA Exterior or Exposure 1 Fire Retardant Treated (FRT) Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
- APA Exposure 1 Rated Oriented Strand Board (OSB) nominal 1/2 in (12.7 mm), minimum. NOTE: Applications over OSB sheathing requires a minimum of 2 coats of Backstop NT - Smooth or Spray. Backstop NT - Texture is not recommended for the field of wall application over OSB.
- Un glazed brick, cement plaster, concrete or masonry.
- Pre-engineered metal building panels with an acceptable substrate as noted in Section 1.04 C.1.a through 1.
- Deflection of the substrate systems shall not exceed 1/240 times the span.
- The substrate shall be flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
- The slope of inclined surfaces shall not be less than 6:12 (27°) and the length shall not exceed 12 in (305 mm).
- Expansion Joints:
 - Design and location of expansion joints in the Outsulation Plus MD System is the responsibility of the project designer and shall be noted on the project drawings. As a minimum, expansion joints shall be placed at the following locations:
 - Where expansion joints occur in the substrate system

- Outsulation Plus MD System Specifications** **DS137**
- Where building expansion joints occur
 - At floor lines in wood frame construction
 - At floor lines of non-wood framed buildings where significant movement is expected
 - Where the Outsulation Plus MD System abuts dissimilar materials
 - Where the substrate type changes
 - Where prefabricated panels abut one another
 - In continuous elevations at intervals not exceeding 75 ft (23 m)
 - Where significant structural movement occurs, such as changes in roof line, building shape or structural system
6. Terminations:
 - Prior to applying the Dryvit Outsulation Plus MD System, wall openings shall be treated with Dryvit AquaFlash System, Backstop® Flash & Fill or Flashing Tape. Refer to Dryvit Outsulation Plus MD Installation Details, [DS110](#).
 - The Outsulation Plus MD System shall be held back from adjoining materials around openings and penetrations such as windows, doors, and mechanical equipment a minimum of 3/4 in (19 mm) for sealant application. See Dryvit's Outsulation Plus MD System Installation Details, [DS110](#).
 - The system shall be terminated a minimum of 8 in (203 mm) above finished grade.
 - Sealants:
 - Shall be manufactured and supplied by others.
 - Shall be compatible with the Outsulation Plus MD System materials. Refer to current Dryvit Publication [DS153](#) for listing of sealants tested by sealant manufacturer for compatibility.
 - The sealant backer rod shall be closed cell.
- Flashing: Shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies and other areas as necessary to prevent water from entering behind the Outsulation Plus MD System.
 - Site Coated EPS Shapes and Starter Boards: Shall be coated on site utilizing the same materials (EPS, base material mixture, reinforcing mesh, and finish) as specified for the project.
 - Pre Base Coated EPS Shapes and Starter Boards: Shall be supplied by Acrocore or other approved shape manufacturer.

1.03 QUALITY ASSURANCE

A. Qualifications

- System Manufacturer: Shall be Dryvit Systems, Inc. All materials shall be manufactured or sold by Dryvit and shall be purchased from Dryvit or its authorized distributors.
- Materials shall be manufactured at a facility covered by a current ISO 9001:2015 and ISO 14001:2015 certification. Certification of the facility shall be done by a registrar accredited by the American National Standards Institute, Registrar Accreditation Board (ANSI-RAB).
- Contractor: Shall be knowledgeable in the proper installation of the Dryvit Outsulation Plus MD System and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. Additionally, the contractor shall possess a current Outsulation Plus MD System Trained Contractor Certificate issued by Dryvit Systems, Inc.
- Insulation Board Manufacturer: Shall be listed by Dryvit Systems, Inc., shall be capable of producing the Expanded Polystyrene (EPS) in accordance with the current Dryvit

- Outsulation Plus MD System Specifications** **DS137**
- Specification for Insulation Board, [DS131](#), and shall subscribe to the Dryvit Third Party Certification and Quality Assurance Program.
- B. Regulatory Requirements:
- The EPS shall be separated from the interior of the building by a minimum 15-minute thermal barrier.
 - The use and maximum thickness of EPS shall be in accordance with the applicable building code(s).

1.04 DELIVERY, STORAGE AND HANDLING

- A. All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact.
- B. Upon arrival, materials shall be inspected for physical damage, freezing or overheating. Questionable materials shall not be used.
- Materials shall be stored at the job site, and at all times, in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be as follows:
 - DPR, PMR®, HDP™, Weatherlastic® and E™ Finishes, Color Prime™, Primus®, Genesis® and NCB™, 40 °F (4 °C).
 - For other products, refer to specific product data sheets.
 - Maximum storage temperature shall not exceed 100 °F (38 °C). **NOTE: Minimize exposure of materials to temperatures over 90 °F (32 °C). Finishes exposed to temperatures over 110 °F (43 °C) for even short periods may exhibit skinning, increased viscosity and should be inspected prior to use.**
 - Protect all products from inclement weather and direct sunlight.

1.05 PROJECT CONDITIONS

A. Environmental Requirements

- Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
- At the time of Dryvit product application, the air and wall surface temperatures shall be from 40 °F (4 °C) minimum to 100 °F (38 °C) maximum for the following products:
 - DPR, PMR, HDP, Weatherlastic and E Finishes, Color Prime, Primus, Genesis and NCB.
 - For other products, refer to specific product data sheets.
- These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours (48 hours for Weatherlastic Finishes, Ameristone, TerraNeo and Limestone) thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.

1.06 WARRANTY

- A. Dryvit Systems, Inc. shall provide a written moisture drainage and limited materials warranty against defective material. Dryvit shall make no other warranties, expressed or implied. Dryvit does not warrant workmanship. Full details are available from Dryvit Systems, Inc.
- B. The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with installation of the Outsulation Plus MD System.

Outsulation Plus MD System Specifications **DS137**

2.01 MANUFACTURER

- A. All components of the Outsulation Plus MD System shall be supplied or obtained from Dryvit or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

2.02 MATERIALS

- Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
- Water: Shall be clean and free of foreign matter.

2.03 COMPONENTS

- A. Air/Water-Resistive Barrier Components:
- Dryvit Backstop NT: A vapor permeable, flexible, polymer-based noncementitious water-resistive and air barrier coating available in Texture, Smooth, and Spray. See [DS180](#) and [DS181](#).
 - Dryvit Backstop NT-VB: A Class 1 vapor retarder, available in trowel and spray versions. When specified, consider having a WVT analysis performed. See [DS830](#) and [DS831](#).
 - Dryvit Grid Tape™: An open weave fiberglass mesh tape with pressure sensitive adhesive available in rolls 4 in (102 mm), 6 in (152 mm) and 9 in (229 mm) wide by 75 ft (23 m) long.
 - Dryvit Backstop DMS: A sprayable single step water-resistive membrane/air barrier and adhesive.
- NOTE: Backstop DMS is not approved for use over wood based substrates.
- B. Flashing Materials: Used to protect substrate edges at terminations.
- Shall be AquaFlash and AquaFlash Mesh
 - Gun Applied: A flexible waterproof material, ready for use.
 - Sheet Type:
 - Shall be Flashing Tape and Surface Conditioner
 - Dryvit Flashing Tape™: A high density polyethylene film backed with a rubberized asphalt adhesive available in rolls 4 in (102 mm), 6 in (152 mm) and 9 in (229 mm) wide by 75 ft (23 m) long.
 - Dryvit Flashing Tape Surface Conditioner™: A water-based surface conditioner and adhesion promoter for the Dryvit Flashing Tape.

- C. Dryvit AP Adhesive™: A moisture cure, urethane-based adhesive used to adhere the Dryvit Drainage Strip™ and Drainage Track.
- D. Drainage Track: UV treated PVC "J" channel perforated with weep holes, complying with ASTM D 1784 and ASTM C 1063. Drainage track usage is limited to the base of the system at finished grade level when installing system in noncombustible construction. All other horizontal terminations shall utilize the Dryvit Drainage Strip as shown in Outsulation Plus MD Installation Details, [DS110](#). Shall be one of the following:
- Starter Trac STWP—without drip edge by Plastic Components, Inc.
 - Starter Trac STDE—with drip edge by Plastic Components, Inc.
 - Universal Starter Track by Wind-lock Corporation
 - Sloped Starter Strip with Drip by Vinyl Corp.
- E. Dryvit Drainage Strip: A corrugated plastic sheet material, which provides drainage.

- Outsulation Plus MD System Specifications** **DS137**
- F. Adhesives: Used to adhere the EPS to the air/water-resistive barrier, shall be compatible with the water-resistive barrier and the EPS.
- Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
 - Shall be Primus, or Genesis
 - Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
 - Shall be Primus® DM, Genesis® DM, Genesis® DMS, Rapidity DM 35-50 or Rapidity DM 50-75
 - Insulation Board: Expanded Polystyrene meeting Dryvit Specification for Insulation Board, [DS131](#).
 - Thickness of insulation board shall be minimum 1 in (25 mm).
 - The insulation board shall be manufactured by a board supplier listed by Dryvit Systems, Inc.
 - Machine Coated Dryvit EPS Shapes and Starter Boards: Shall be supplied by Acrocore or other approved manufacturer that subscribes to the Dryvit third party certification and quality assurance program.
- I. Base Coat: Shall be compatible with the EPS insulation board and reinforcing mesh(es).
- Cementitious: A liquid polymer-based material, which is field mixed with Portland cement.
 - Shall be Primus, or Genesis
 - Noncementitious: A factory-mixed, fully formulated, water-based product.
 - Shall be NCB
 - Ready mixed: A dry blend cementitious, copolymer-based product, field mixed with water.
 - Shall be Primus DM, Genesis DM, Genesis DMS, Rapidity DM 35-50 or Rapidity DM 50-75
 - Shieldit™: A 2-pass base coat used over existing EIFS or a Dryvit reinforced base coat to All improve impact resistance against woodpeckers when specified.
 - Reinforcing Mesh: A balanced, open weave, glass fiber fabric treated for compatibility with other system materials.
 - Shall be Standard, Standard Plus, Intermediate, Panzer 15, Panzer 20, Detail and Corner Mesh
 - Shall be colored blue for product identification bearing the Dryvit logo.
 - Finish: Shall be the type, color and texture as selected by the architect/owner and shall be one or more of the following:
 - Standard DPR (Dirt Pickup Resistance): Water-based, acrylic coating with integral color and texture and formulated with DPR chemistry.
 - Quarzput® DPR: Open-texture

3.01 EXAMINATION

- A. Prior to installation of the Outsulation Plus MD System, the contractor shall verify that the substrate:
- Is a type listed in Section 1.04 C.1.
 - Is flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
 - Is sound, dry, connections are tight; has no surface voids, projections, or other conditions that may interfere with the Outsulation Plus MD System installation or performance.
- B. Prior to installation of the Outsulation Plus MD System, the general contractor shall insure that all needed flashings and other waterproofing details have been completed, if such
- Outsulation Plus MD System Specifications** **DS137**
- completion is required prior to the Outsulation Plus MD application. Additionally, the Contractor shall ensure that:
- Metal roof flashing has been installed in accordance with the manufacturer's requirements, Asphalt Roofing Manufacturers Association (ARMA) Standards and Dryvit Outsulation Plus MD Installation Details, [DS110](#), or as otherwise necessary to maintain a watertight envelope.
 - Openings are flashed in accordance with the Outsulation Plus MD System Installation Details, [DS110](#), or as otherwise necessary to prevent water penetration.
 - Chimneys, balconies and decks have been properly flashed.
 - Windows, doors, etc. are installed and flashed per manufacturer's requirements and the Outsulation Plus MD System Installation Details, [DS110](#)
- C. Prior to the installation of the Outsulation Plus MD System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

- A. The Outsulation Plus MD materials shall be protected by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following application until completely dry.
- B. Protect adjoining work and property during Outsulation Plus MD installation.
- C. The substrate shall be prepared as to be free of foreign materials, such as oil, dust, dirt, form-release agents, efflorescence, paint, wax, water repellants, moisture, frost, and any other condition that may inhibit adhesion.
- 3.03 INSTALLATION
- A. The system shall be installed in accordance with the Dryvit Outsulation Plus MD System Application Instructions, [DS218](#).
- B. The overall minimum base coat thickness shall be sufficient to fully embed the mesh. The recommended method is to apply the base coat in two (2) passes.
- C. Sealant shall not be applied directly to textured finishes or base coat surfaces. Dryvit Outsulation Plus MD System surfaces in contact with sealant shall be coated with Demanid Smooth or Color Prime.
- D. High impact meshes shall be installed as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage.

3.04 FIELD QUALITY CONTROL

- A. The contractor shall be responsible for the proper storage and application of the Outsulation Plus MD materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
- D. If required, the contractor shall certify in writing that the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
- E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Dryvit's recommendations.

3.05 CLEANING

- A. All excess Outsulation Plus MD System materials shall be removed from the job site by the contractor in accordance with contract provisions and as required by applicable law.

- Outsulation Plus MD System Specifications** **DS137**
- B. All surrounding areas, where the Dryvit Outsulation Plus MD System has been applied, shall be left free of debris and foreign substances resulting from the contractor's work.

3.06 PROTECTION

- A. The Outsulation Plus MD System shall be protected from inclement weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4

NE VICTORIA DRIVE & NE DOUGLAS ST.

Scharhag

HERMAN A. SCHARHAG COMPANY ARCHITECTS

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No.	Description	Date
Revision Schedule		

Specs

Project number	2222
Date	11.02.2020

SPEC001

Scale	As indicated
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DIVISION 8 - DOORS AND WINDOWS

GLASS AND GLAZING

A. IN GENERAL:

1. Furnish and install materials required to complete glass and glazing work shown on the drawings and described herein. Work includes glazing of aluminum frames, wood frames, sidelights, metal doors, mirrors, etc.
2. Consult door schedules, window schedules, exterior elevations and details for specific types of glass to be used.

B. SETTING:

1. Set all glass in aluminum frames in accordance with mfg. recommendations using neoprene glazing gasket and sealant as required.
2. Openings with wood or metal stops - Set glass in bet of putty; apply thin bed of putty stops; set stops with counter-sunk nails or screws as per details.

C. BREAKAGE:

1. Replace all glass broken after setting. Breakage due to imperfect setting or imperfections in the material will be replaced without charge.
2. Breakage due to accidents or carelessness of others will be charged to the trade at fault.

D. CLEANING:

1. At the completion of the work, remove all dirt, stains, putty, etc. and wash and polish all glass.

F. MATERIALS:

1. Aluminum frames, sidelights, and windows, 1" solar bronze, insulating glass 1/4" thick light inside and out with 1/2" air space between. (Tempered where required by I.B.C. or as indicated on drawings.)
2. Aluminum entry doors - 1/4" solar bronze tempered.

DIVISION 8 - DOORS AND WINDOWS

HOLLOW METAL DOORS AND FRAMES

A. IN GENERAL:

1. Furnish and erect hollow metal door frames, shown on the drawings and hereinafter specified. Refer to Door Schedule for types and sizes.

B. DOORS AND FRAMES:

1. Frames:

a. Made of 16 ga. cold rolled, pickled and annealed steel welded assembly with welds ground smooth for finishing. Exterior frames to be 16 ga. steel.

b. Provide 14 ga. anchors and clips for fastening to masonry jambs and drywall anchors for sheet rock walls.

c. Frames shall be adequately reinforced on inside to support metal doors without sagging.

d. Frames shall be cleaned free from scale, rust and rough spots and receive one coat of rust inhibitive paint before shipment.

e. Frames shall be prepared to receive mortiss-type hardware in accordance with the type of hardware specified. See hardware specifications.
2. Frames are as manufactured by Overly Mfg. Co., Steel Craft or approved equal. See door schedule for types, width, plaster flanges, etc.
3. Template for hardware to be supplied by hardware manufacturers.
4. Doors shall be 16 ga. cold rolled, pickled and annealed steel welded assembly with welds ground smooth.

C. SHOP DRAWINGS:

1. Shop drawings showing all door frames shall be prepared and submitted to Architect for approval.

DIVISION 8 - DOORS & WINDOWS

ALUMINUM GLAZING FRAMES AND DOORS

A. IN GENERAL:

1. Furnish labor and materials for entrance frames including all accessories and related items. Coordinate the work of this section with that of Glass and Glazing as required for the complete installation.

B. MATERIALS:

1. Aluminum entrance frames shall be as manufactured by "Kawneer" or equal.
2. Door frames shall be 4-1/2" deep by 1-3/4", reinforced as required for overall height, with flush glazing.
3. Sections shall be of 6063-T5 extruded aluminum alloy.
4. Finish shall be "Permanodic" anodic color coating and seal per ASTM B-136. Color as selected from standard finishes.
5. Doors shall be narrow style "190", finish to match.
6. Hardware shall be furnished and installed under this section. Hardware includes exposed streamline closer (color anodized), M-S lock, Style "F" push pull, butt hinges, weather stripping, threshold and bottom sweep.

C. ERECTION:

1. Entrance frames shall be installed all in accordance with the manufacturers recommendations. After erection and glazing, this contractor shall check and adjust as required, all items or operating hardware. Coordinate the erection with that of Glass and Glazing. All joint between frames and adjacent framing shall be caulked.

D. PERFORMANCE:

1. The Grid framing system shall not leak when tested in accordance with ASTM E331-69 at test pressure of 7.5 psf.
2. Per ASTM E330, maximum deflection of any member shall not exceed 1/175th of its span and there shall be no permanent deformation or damage upon removal of load. Test for wind loads as required by local building code load requirements.

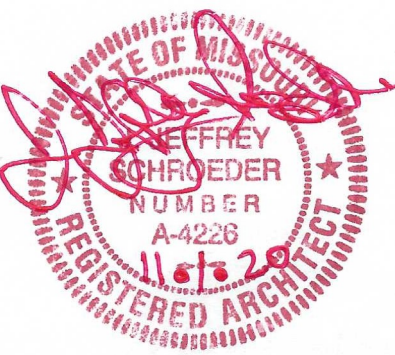


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NEW BUILDING FOR
DOUGLAS ROAD CENTER Lot 4
NE VICTORIA DRIVE & NE DOUGLAS ST.

J.Jeffry Schroeder Mo. Licence A-4226
Herman Scharhag Co., Arch. Cert. of Authority A-22



No.	Description	Date
Revision Schedule		

Specs

Project number	2222
Date	11.02.2020

SPEC002

Scale	1/16" = 1'-0"
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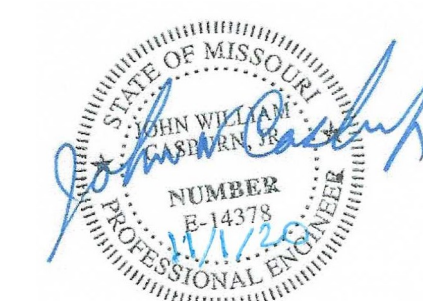
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NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4

NE VICTORIA DRIVE & NE DOUGLAS ST.



No.	Description	Date
Revision Schedule		

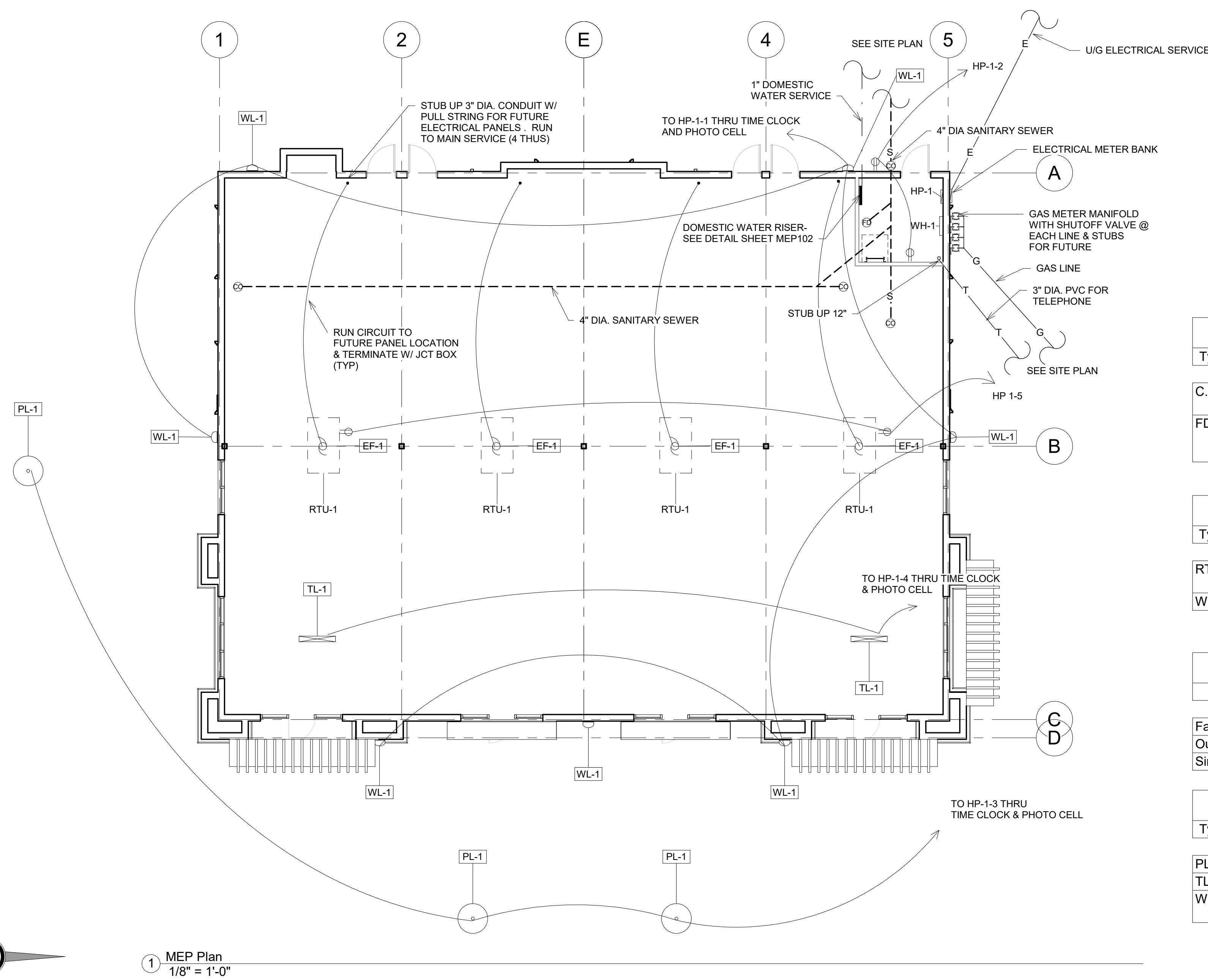
MEP Plan

Project number 2222
Date 11.02.2020

MEP101

Scale 1/8" = 1'-0"

11/3/2020 1:25:18 PM

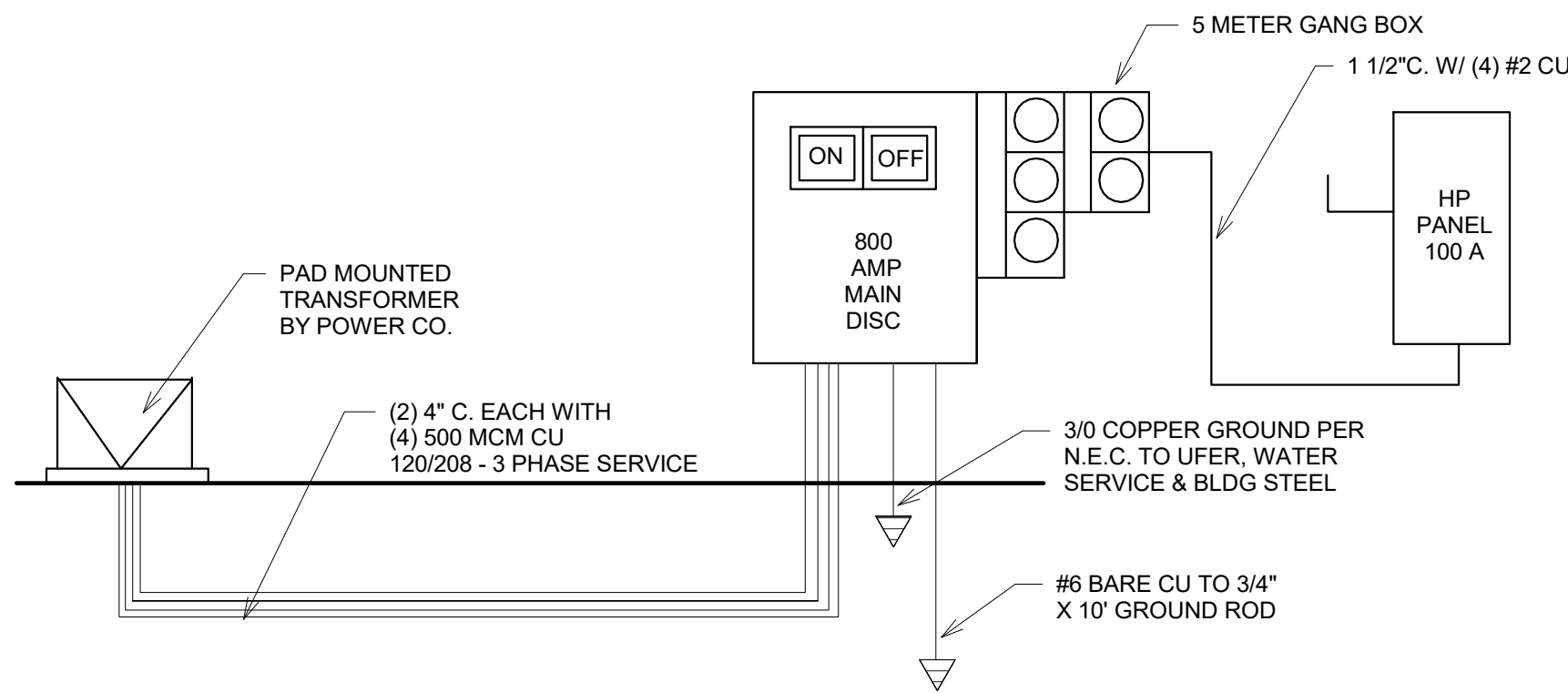


Plumbing Fixture Schedule		
Type Mark	Type	Description
C.O.	Clean Out	Ancon #CO-200-R Universal floor clean out w/ lacquered all cast iron body. Neoprene secondary "O" ring and adjustable satin nickel bronze combined access cover and plug
FD	Floor Drain	Anco #FD-1000-ER. Extended rim drain w/ lacquered allcast iron body. serrated clamping flange w/ integral double drainage weep holes and adjustable satin nickel brone strainer w/ extended rim. provide "P" trap size as shown on plans.

Mechanical Equipment Schedule			
Type Mark	Type	Type Comments	Count
RTU-1	New RTU	5 Ton electric cooling and gas heat 1,900 CFM w/ roof curb, economizer, and thermostat	4
WH-1	Wall Heater	5 KW Electric heater w/ thermostat	1

Electrical Fixture Schedule		
Type	Description	Count
Fan		4
Outlet		2
Single Outlet	110 V. duplex outlet	2

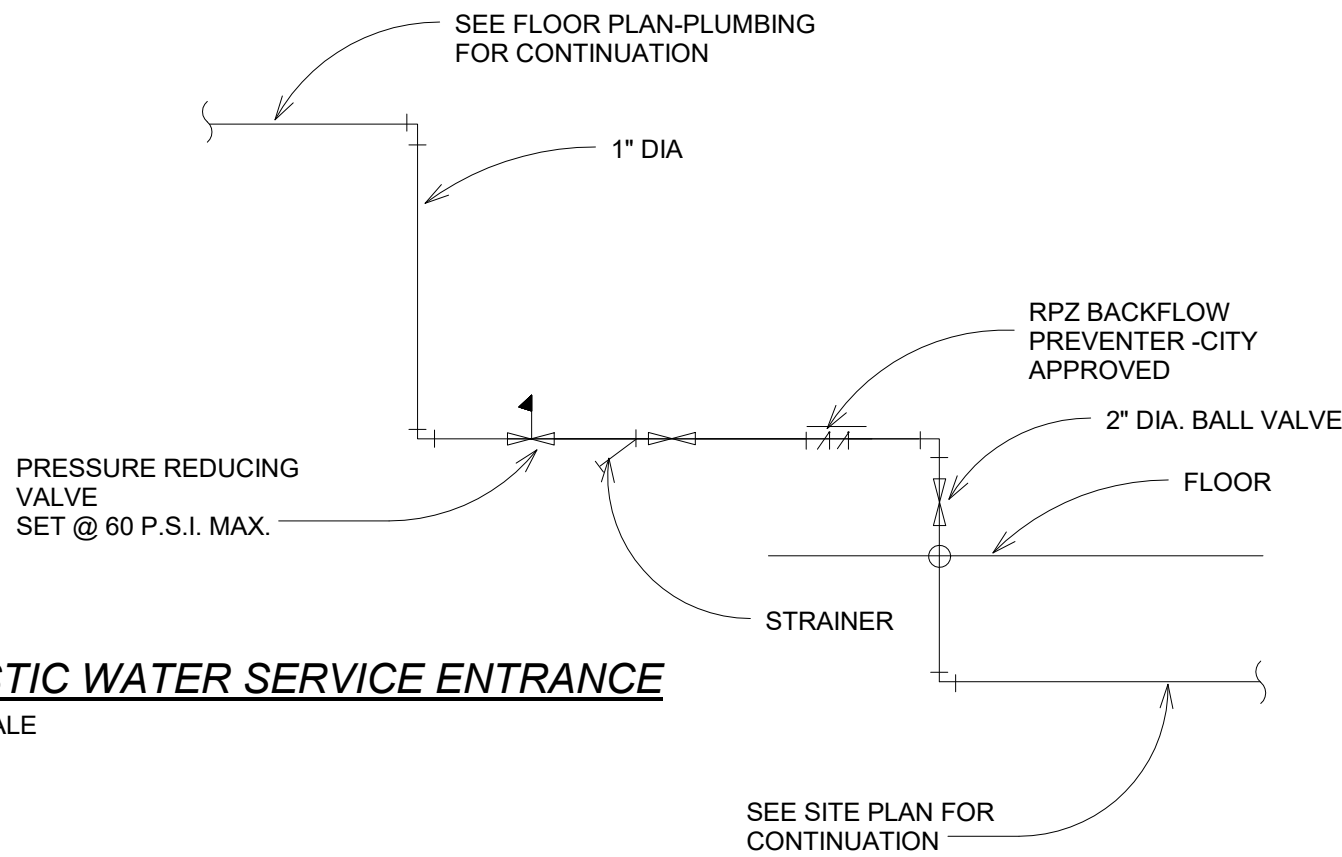
Lighting Fixture Schedule			
Type Mark	Type	Type Comments	Count
PL-1	Pole Light	Lithonia RSx1 LED Pole light w/ 180 degree cutoff. 72W with 15' Pole	3
TL-1	Lithonia LED strip Light	CDSL48 MVOLT DM 40K 80CRI w/ two lamps	2
WL-1	Lithonia Exterior Wall Mounted LED Fixture	Lithonia WDGE3 LED Wall light w/ 180 degree cutoff, 18W	7



MULTI-TENANT ELECTRIC RISER

MAXIMUM ANTICIPATED LOAD = 800 AMPS, 120/208V., 3 PHASE

GROUNDING AND BONDING SHALL BE IN COMPLIANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE. GROUND CONNECTION AT THE MAIN SERVICE EQUIPMENT SHALL BE MADE TO THE METALLIC WATER SERVICE AND TO A COPPER CLAD ROD 3/4" DIA. BY 10' LONG. WHEN AVAILABLE BOND TO A METAL UNDERGROUND WATER PIPE, THE METAL FRAME OF THE BUILDING, A CONCRETE ENCASED ELECTODE, GROUND RING, AND ANY MADE ELECTRODE. MAXIMUM RESISTANCE OF THE GROUNDING SYSTEM IS FIVE (5) CHMS.



DOMESTIC WATER SERVICE ENTRANCE

NOT TO SCALE

PLUMBING NOTES:

PIPING DRAWINGS ARE SCHEMATIC ONLY. PLUMBING CONTRACTOR TO DETERMINE EXACT ROUTING AND LOCATIONS OF ALL PIPING ON JOB SITE IN COMPLETE COORDINATION WITH ALL OTHER TRADES INVOLVED. HE SHALL ALSO VERIFY EXACT FLOOR PLAN LAYOUT, FIXTURE LOCATIONS, STRUCTURAL CONDITIONS AND ALL DIMENSIONS ON ARCHITECTURAL DRAWINGS.

PROVIDE ALL FIXTURES SHOWN ON THE DRAWINGS. COMPLETE WITH HOT AND COLD WATER, WASTE AND VENT CONNECTIONS AS REQUIRED. EACH FIXTURE SHALL HAVE SHUTOFF VALVES FOR HOT AND COLD WATER. HOT AND COLD WATER LINES TO HAVE WATER HAMMER ARRESTOR CONFORMING TO ASSE 1010. PIPING SHALL BE INSTALLED PROPERLY TO ELIMINATE CROSS CONTAMINATION OR SIPHONING OF WASTE MATERIAL INTO THE SUPPLY WATER SYSTEM. PIPING SHALL BE PITCHED TO VENT AND/OR DRAIN. VERIFY EXACT LOCATIONS AND REQUIREMENTS BEFORE BEGINNING THE INSTALLATION.

ALL VENTS SHALL BE INCREASED TO A MIN. OF 3" BEFORE PASSING THROUGH THE ROOF.

THOROUGHLY CLEAN ALL ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL FOR SANITARY JOINT.

TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE FOR FOUR HOURS MINIMUM. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CODE.

PIPING MATERIALS:

DOMESTIC WATER BELOW GRADE: TYPE 'K' SOFT TEMPER COPPER WITH FLARE FITTING CONNECTIONS, EXCEPT NO FITTINGS TO BE USED BELOW FLOOR SLAB. USE LONG RADIUS BENDS ONLY.

DOMESTIC WATER BELOW SLAB: TYPE 'K' SOFT TEMPER COPPER WITH FLARE FITTING CONNECTIONS, EXCEPT NO FITTINGS TO BE USED BELOW FLOOR SLAB. USE LONG RADIUS BENDS ONLY.

DOMESTIC WATER ABOVE SLAB: TYPE 'L' HARD TEMPER COPPER WITH SWEAT SOLDER CONNECTIONS. USE NO-LEAD TYPE SOLDER. PEX MAY BE USED IF ALLOWED BY JURISTITION.

ALL WATER LINES ABOVE SLAB SHALL BE INSULATED WITH EXPANDED CELL OR MOLDED SECTIONAL FIBEROUS GLASS WITH FACTORY APPLIED UL LISTED VAPOR BARRIER JACKET. FLAME SPREAD FOR INSULATION SHALL BE 25 OR LESS.

SANITARY WASTE AND VENT: CAST IRON NO-HUB CONNECTIONS ABOVE SLAB. CAST IRON WITH SLIP CONNECTIONS BELOW SLAB. SCHEDULE 40 PVC PIPING MAY BE USED IN ALL LOCATIONS WHERE PERMITTED BY LOCAL AUTHORITIES, HOWEVER PVC MAY NOT BE USED IN ABOVE CEILING PLENUM RETURN AREAS.

GAS PIPING TO BE TYPE 'S' SEAMLESS GRADE B SCHEDULE 40 BLACK OR ASTM A53 STEEL PIPE, TYPE 'E' ELECTRIC RESISTANT WELDED. WHERE INSTALLED BELOW GRADE, PIPE MUST BE COATED AND WRAPPED AND HAVE CATHODIC PROTECTION. ALL CAST IRON PIPE THAT IS OVER 3" DIAMETER AND NOT EXPOSED, MUST BE WELDED PIPE

ELECTRICAL NOTES:

ALL ELECTRICAL LIGHT AND POWER WIRE SHALL NOT BE SMALLER THAN #12 AWG. ALL LIGHTING AND POWER WIRING #10 AWG AND SMALLER SHALL BE SOLID. ALL CONDUCTORS SHALL BE COPPER ONLY. NO ALUMINUM IS ALLOWED

ALL CONDUITS SHALL BE SIZED IN ACCORDANCE WITH THE LATEST NEC TABLES. MINIMUM CONDUIT SIZES SHALL BE 3/4". ALL CONDUIT IN AND UNDER FLOOR SLAB SHALL BE SCHEDULE 40 PVC

ALL POWER WIRING IN ALL AREAS SHALL BE IN EMT CONDUIT, BOTH IN WALLS AND THROUGH EXPOSED JOISTS. MC CABLE AND ARMORED CABLE ARE ALSO ALLOWABLE IN AREAS WHERE CONDUITS ARE NOT EXPOSED

ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT, FOR WORK DESIGNATED AS HIS RESPONSIBILITY, ALL WIRE, WIRE WAY, CONDUIT, CONNECTORS, OUTLETS, ETC. NECESSARY TO ACHIEVE A COMPLETE ELECTRICAL INSTALLATION. WHERE AN ELECTRICAL DEVICE IS REQUIRED BY CODE BUT NOT SHOWN, IT SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS THOUGH FULLY SHOWN AND SPECIFIED. ALL LABOR, TOOLS, MATERIALS, EQUIPMENT SHALL BE PROVIDED AS NECESSARY TO PROVIDE AND INSTALL A COMPLETE SYSTEM. ALL WORK SHALL BE PER CURRENT CODE. COORDINATE ALL WORK WITH OTHER TRADES

ELECTRICAL CONTRACTOR SHALL CIRCUIT FIXTURES AND SHALL PROVIDE AND INSTALL CIRCUIT DIRECTORY WITH TYPED CIRCUIT DESIGNATION CARD UNDER PLASTIC COVER ON THE INSIDE OF EACH PANEL DOOR. ELECTRICAL CONTRACTOR SHALL ALSO FURNISH AND INSTALL NAMEPLATES ON ALL DISCONNECT SWITCHES AND PANEL BOARDS

ALL CONDUIT, JUNCTION BOXES, ETC. ABOVE CEILINGS SHALL BE SUPPORTED FROM STRUCTURE

ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING, ALL CONTROL WIRING AND ALL STARTERS, DISCONNECTS AND THERMAL OVERLOAD SWITCHES NOT SUPPLIED WITH THE EQUIPMENT

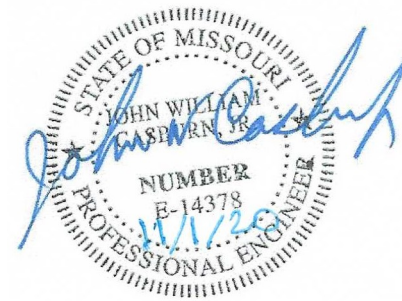
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NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4
NE VICTORIA DRIVE & NE DOUGLAS ST.



No.	Description	Date
Revision Schedule		

MEP Notes

Project number	2222
Date	11.02.2020

MEP102

Scale	As indicated
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NEW BUILDING FOR
DOUGLAS ROAD CENTER Lot 4
NE VICTORIA DRIVE & NE DOUGLAS ST.

JOSEPH A. TOWNS MO. LIC. E 22017
LORAC DESIGN GROUP
CERT. OF AUTHORITY E-2005032846-D

STATE OF MISSOURI
JOSEPH ALAN TOWNS
REGISTERED PROFESSIONAL ENGINEER
NUMBER 12012

Revision Schedule

Structural Notes

Project number 2222
Date 11.02.2020

S100

Scale As indicated

GENERAL NOTES

- A. GENERAL
- These notes shall be read in conjunction with the Specifications and the Drawings. In the event of a conflict, notify the Architect for clarification.
 - Before executing anything herein shown, examine actual job conditions. Report any discrepancy, dimensional or otherwise, between architectural and structural Drawings and any other error, omission, or difficulty affecting the work to the Architect and to the Structural Engineer for review.
 - The Owner or his Representative reserves the right to inspect any material, fabrication, or workmanship at any time in field or shop for conformance to the Specifications and Drawings.
 - All details and sections are intended to be typical and shall be construed to apply to any similar situation elsewhere, except where a different detail is shown.

- B. DESIGN
- Codes, specifications and standards (latest editions, U.N.O.)
 - All design and construction shall conform to the International Building Code (currently adopted edition) as amended and adopted by the City of jurisdiction.
 - All construction shall comply with the provisions of the following codes, specifications and standards, except where noted to the contrary on drawings and specifications or where more stringent requirements are specified or shown:
 - ACI 117 "Standard Specifications for Tolerance for Concrete Construction and Materials"
 - ACI 301 "Specifications for Structural Concrete for Buildings"
 - ACI 318 "Building Code Requirements for Reinforced Concrete"
 - ACI 530 "Building Code Requirements for Masonry Structures"
 - AISC "Load and Resistance Factor Design (LRFD) Specification for Structural Steel Buildings"
 - SDI "Steel Deck Manual for Floor Decks and Roof Decks"
 - AWS D1.1 "Structural Welding Code - Steel"
 - Design Loads:
 - Roof - Snow (incl. rain on snow)
 - Pf = 20 psf
 - Ce = 1.00
 - I = 1.00
 - Ct = 1.00
 - Wind
 - Basic Wind Speed = 115 mph
 - I = 1.00
 - Wind Exposure B
 - Internal Pressure Coefficient = 0.3
 - Floor Live Load - Office
 - Entrances (exits), stairs 50 psf
 - Light Storage 100 psf
 - Heavy Storage 125 psf
 - Heavy storage 250 psf
 - Canopy Roof Design Dead Loads:
 - Roof Panels 30 psf
 - Steel Framing 5 psf
 - Roofing 5 psf
 - Total 40 psf

- Foundations are designed for the following net allowable bearing capacities:
 - Isolated Footings: 2 ksf
 - Continuous Footings: 2 ksf
 - Foundations and retaining walls have been designed for an equivalent fluid pressure of 100 pcf.
- C. CONCRETE
- Concrete used in the Work shall have the following minimum 28-day ultimate compressive strengths:
 - Columns 4000 psi
 - Retaining walls, slabs on grade, and footings 4000 psi
 - Framed slabs 4000 psi
 - Air entrain all exterior concrete (admixure: ASTM C 260).
 - Do not use calcium chloride admixtures under any circumstances.
 - Reinforcing bars: ASTM A 615 Specifications, Grade 60, deformed. Bend bars cold.
 - Welded wire fabric (WWF): ASTM A 185.
 - Maintain minimum concrete coverage for reinforcing as indicated, unless noted otherwise. Reference details 17/S1.0 and 18/S1.0 for placement of reinforcement in typical framed slabs.
 - 3 in. clear where concrete is deposited directly against earth.
 - 2 in. clear where concrete is exposed to earth or weather but poured against forms for bars larger than #5.
 - 1-1/2 in. clear where concrete is exposed to earth or weather, but poured against forms for bars #5 or smaller.
 - 3/4 in. clear for slabs and walls formed above grade not exposed to weather.
 - 1-1/2 in. clear for beam and columns formed above grade and not exposed to weather.
 - Lap all bars at splices in accordance with ACI 318, unless specifically noted otherwise.
 - Top and bottom bars in continuous grade beams shall run continuous through multiple spans, where possible. Otherwise, top bars shall splice within the middle 1/3 span and bottom bars shall splice over supports.
 - Four columns, walls, and pilasters to be monolithic.
 - All concrete walls shall be properly braced and held in line until supporting slabs or floors are in place.
 - All bar steel and WWF shall be properly supported and held accurately in place as recommended by the Concrete Reinforcing Steel Institute, except that maximum spacing of any bar or mesh support shall be 3 feet.
 - Support top slab bars with continuous high chairs.
 - Support beam bars on heavy beam bolsters.
 - Support footing and grade beam bottom reinforcing on concrete bricks, concrete blocks, or mounds of poured concrete.
 - Support WWF in slab-on-grade properly at the mid-depth of the slab. Hooking and pulling up mesh after concrete has started to take its initial set is prohibited.
 - Supports for reinforcement for exposed-to-view concrete surfaces shall have legs that are in contact with forms plastic protected (CRSI, Class 1) or stainless steel (CRSI, Class 2).
 - Where slabs-on-grade make an abrupt change in direction, such as at doors and corners or ends of walls, provide 2-#4 by 4 feet across the reentrant corner.
 - Provide the following minimum concrete cover for fire rating:

Interior load bearing walls and columns	2 hrs	1 1/2" cover
Concrete beams	2 hrs	1 1/2" cover
Concrete joists	2 hrs	1 1/2" cover
Floor slab	2 hrs	3/4" cover

- D. MASONRY
- Concrete masonry units (CMU): ASTM C 90, lightweight units (105 pcf or less), with the minimum net area compressive strength of 2200 psi.
 - Mortar: Portland cement and lime, and proportioned in accordance with ASTM C 270 for the following types:
 - Type N - for all walls above grade
 - Type S - for all walls below grade, in contact with earth
 - f'm = 1500 psi.
 - Provide mortar bed on webs between grouted cells and hollow cells.
 - Grout: ASTM C 476, 3000 psi minimum 28-day compressive strength.
 - Grout all vertical cells and spaces containing reinforcing bars (as detailed) bond beams, and lintels.
 - Vertically reinforce walls as shown on drawings. However, if not indicated on the drawing, reinforce wall as indicated below, at each corner, at ends of 48 inches horizontally throughout the wall, of walls, each side of control joints and openings, and at a maximum spacing unless noted otherwise.

8" or 6" wall	#6
12" or 10" wall	(2) #6

- Horizontally provide continuous bond beam with 2 #5 minimum for 12" or 10" CMU; 1 #5 minimum for 8" or 6" CMU at floor/roof, near midheight (10'-0 maximum spacing) and top of wall, unless noted otherwise. Provide #5 corner bar for each horizontal bond beam corners.
- Place reinforcement prior to grouting. Hold vertical reinforcement in position with rebar positioner.
- Provide horizontal joint reinforcement as indicated on the drawings and specifications, at a minimum provide at 16" o.c.
- Lap joint reinforcement a minimum of 12 in.
- In no case shall shores and forms at lintels be removed until it is certain that the masonry has hardened sufficiently to carry its own weight and all other reasonable temporary loads that may be placed on it during construction.
- Do not wet concrete masonry units.
- Do not use calcium chloride.
- Do not use masonry cement.
- Keep masonry walls shored during construction until the roof deck and floor slabs are in place to provide lateral stability.

- E. STEEL
- Qualifications for Welding Work:
 - Perform all welding by a certified welder.
 - Quality welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
 - Provide certifications that welders to be employed in work have satisfactorily passed AWS qualification tests within previous 12 months.
 - If recertification of welders is required, retesting will be Contractor's responsibility.
 - Erector must examine areas and conditions under which structural steel work is to be installed, and notify Contractor in writing of conditions detrimental to proper and timely completion of Work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Erector.
 - Submit shop drawings prepared under supervision of a registered professional engineer, including complete details and schedules for fabrication and assembly of structural steel members procedures and diagrams. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by standard AWS symbols, and show size, length, and type of each weld. Show size and type of bolt for all bolted connections.
 - Provide setting drawings, templates, and directions for installation of anchor bolts and other anchorages to be installed by others.
 - Paragraph 4.2.1 of the (AISC) "Code of Standard Practice for Steel Buildings and Bridges" is hereby modified by deletion of the following sentence: "This approval constitutes the owner's acceptance of all responsibility for the design adequacy of any detail configuration of connections developed by the fabricator as a part of his preparation of these shop drawings."
 - If required cut edges of backing strips, extension bars, or run-off plates flush with edge of abutting parts.
 - Where framing members and/or connections for steel stairs are not indicated on either structural or architectural drawings, Design the members and/or connections and submit calculations or supporting data to verify their adequacy. A live load of 125 psf shall be used in the design. Fully detail stair connections, including attachments to supporting members.
 - Structural steel: ASTM A 572 - wide flange sections, ASTM A 36 - angles, channels, and plates, ASTM A 501 - pipes, and ASTM A 500, Grade B - tubes.
 - High Strength Bolts (steel-to-steel connections): ASTM A 325N, with twist-off load indicator type heads.
 - Anchor bolts: ASTM A 307, sizes indicated are based on preliminary reactions and spacing.
 - Welded connections: AWS Standards and Specifications using E70xx electrodes, unless noted otherwise.
 - Expansion Bolts: Stud type expansion anchors. (Hilti Kwik Bolt II).
 - Injection Adhesive: Hilti Dowelling Anchor (HY-150); Rawl/Sika Foli-Fast; Ramset/Redhead Epcon Ceramic 6.
 - Drill holes for anchors using a bit incapable of cutting steel. Do not cut existing concrete reinforcing steel. If, while drilling, reinforcing steel is encountered, notify the Structural Engineer for approval of new location. Cleaned and patch the abandoned hole grout.
 - Ends of beams which have copes to the extent that allowable shear or bending stress of steel is exceeded shall have web plates of sufficient size welded to the beam to reduce such stresses.
 - Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as shown on final shop drawings.
 - Do not flame cut holes or enlarge holes by burning.
 - Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming apart of a complete frame or structure before permanently fastening. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy line to achieve proper alignment of structure as erection proceeds. Clean bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base plates.
 - Grout plates are prohibited. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base plate prior to packing with grout.
 - Nonshrink grout: CRD-621 Type A, premixed, nonmetallic, noncorrosive, nonstaining.
 - Provide open-web joists (K-series), longspan joists (LH-series), and joist girders as indicated on the Drawings and in accordance with specifications of SJI.
 - Weld K-series joists to supporting steel with 1/8 in. fillet welds in, long, each side, u.n.o.
 - Weld LH-series joists to supporting steel with 1/4 in. fillet welds 2 in. long, each side, u.n.o.
 - Bolt joists at or nearest a column to supporting steel in conformance with O.S.H.A. with erection bolts.
 - Provide continuous horizontal bridging for joists (u.n.o.) and bottom chord braces for joist girders as required by SJI, except where the net uplift loading requires additional bridging.
 - Provide horizontal bridging to resist 10psf uplift for main roof at service building and main building penthouse.
 - Extend bottom cord to brace beam bottom flange at mid-span of beams in service building.

- Form deck: 9/16 in. galvanized deck with the following minimum properties:

Minimum thickness	0.0295
Moment of Inertia	0.024 in ⁴
Section Modulus	0.070 in ³
- Composite floor deck: 1-1/2 in. galvanized deck with the following minimum properties:

Minimum thickness	0.0358
Moment of Inertia	0.195 in ⁴
Section Modulus	0.240 in ³
- Roof deck: 1-1/2" painted wide rib deck with the following minimum properties:

Minimum thickness	0.3358
Moment of Inertia	0.212 in ⁴
Section Modulus	0.234 in ³
- Roof deck shall be welded to supports to resist a net uplift of 20 PSF.
- Provide 2-1/2" x 2-1/2" x 1/4" angles as required to support deck at columns, ends of beams, around openings, etc. Except as noted otherwise.
- Provide 1,500 # misc. steel for use by Engineer, as needed.

E. EPOXY AND MECHANICAL ANCHORS

- For concrete, grouted CMU, and solid masonry use Hilti HIT HY 150 two-part hybrid adhesive. For hollow CMU and masonry use Hilti HIT HY20 two-part hybrid adhesive with screen tubes. Equivalent adhesives may be used with prior written approval by the Structural Engineer.
- Thoroughly clean holes with nylon brush and pressurized air per manufacturers instructions.
- Drill holes to the embedment depths indicated on the drawings. If no depths are indicated, use 9 bolt or bar diameters with HY150 and 12 bolt diameters for HY 20.
- "Wedge" or "Expansion" anchors shall be Hilti Kwik bolt II expansion anchors. Embed anchor 7 bolt diameters unless noted otherwise. Equivalent anchors may be substituted with prior written approval of the Structural Engineer.

F. METAL STUDS

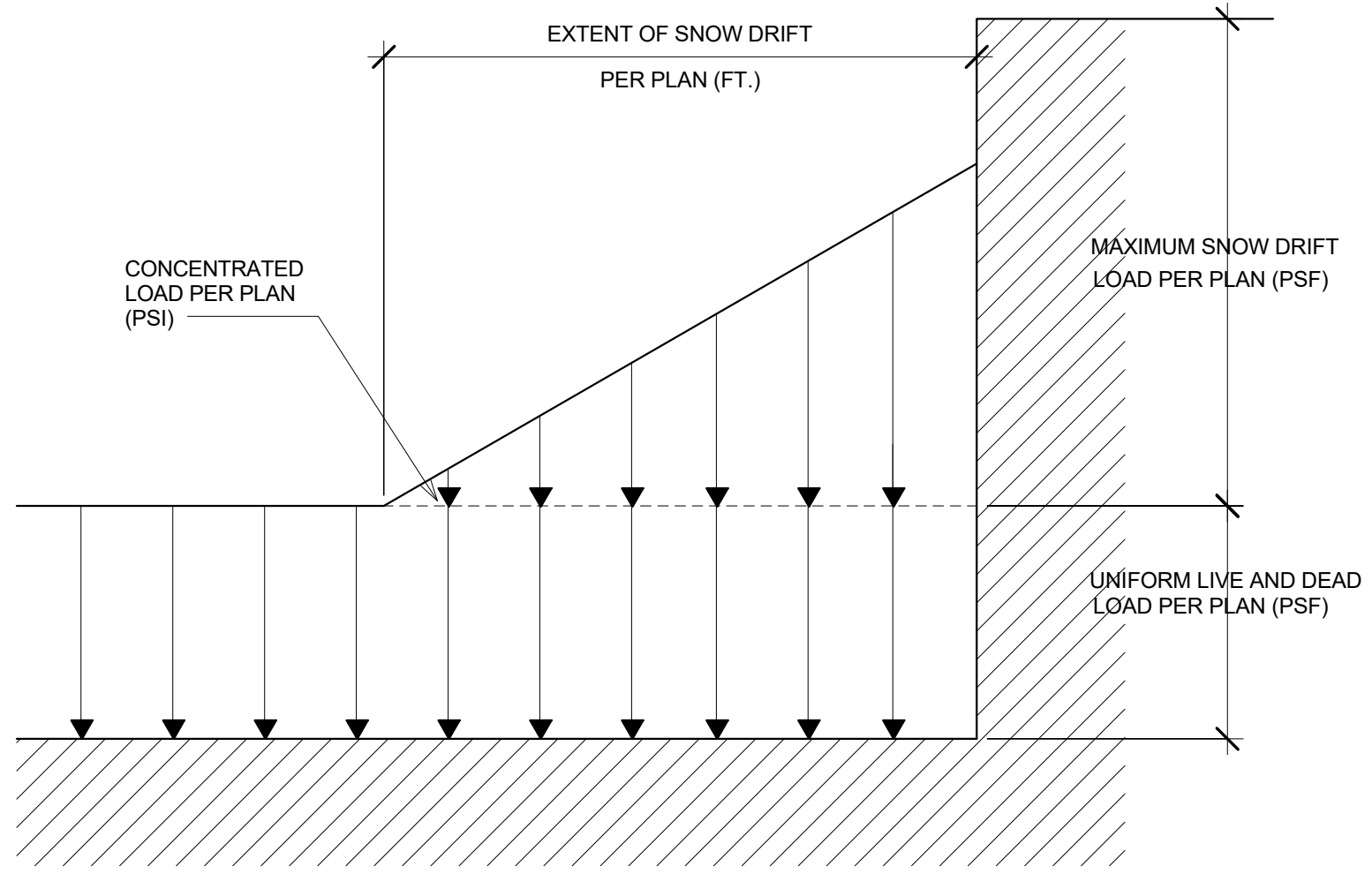
- Install cold-formed metal studs per drawings and manufacturer's recommendations. See Structural Plan for sizes and gauges.

G. CONSTRUCTION

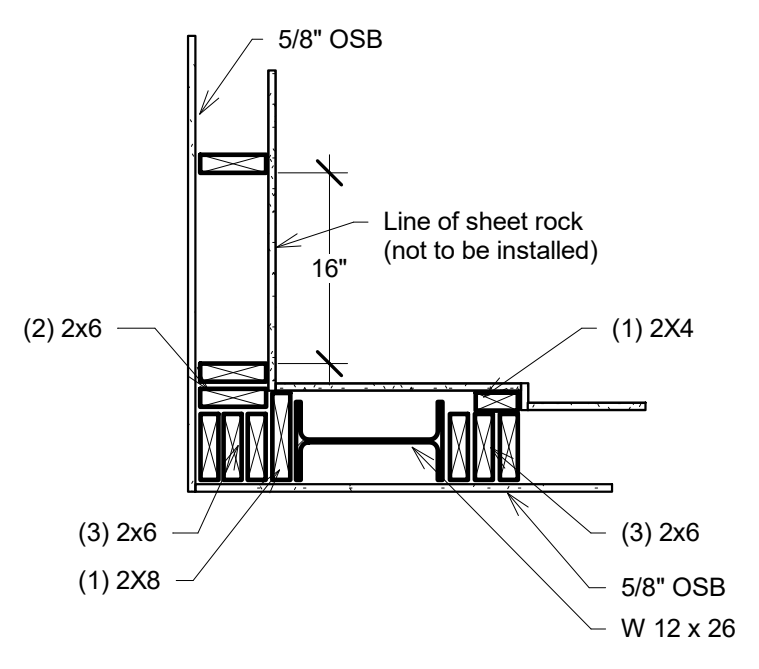
- See architectural and mechanical requirements for embedded items not shown herein and to verify size and location of all openings.
- Coordinate the sizes and locations of all miscellaneous metal items required for mechanical and electrical.
- Requirements for embedded items, sleeves, block outs, duct openings, etc., in the concrete frame shall be submitted (plans and details) to the structural engineer for approval at least two weeks prior to the proposed date of casting concrete. No such items, other than those shown, shall be provided in the structure without the approval of the structural engineer.
- Provide adequate shoring or bracing during construction to resist forces such as wind and unbalanced loading due to construction.
- Field verify the location and depth (or height) of all utilities prior to beginning construction in order to provide adequate clearances and to insure noninterruption of service.

STRUCTURAL NOTES

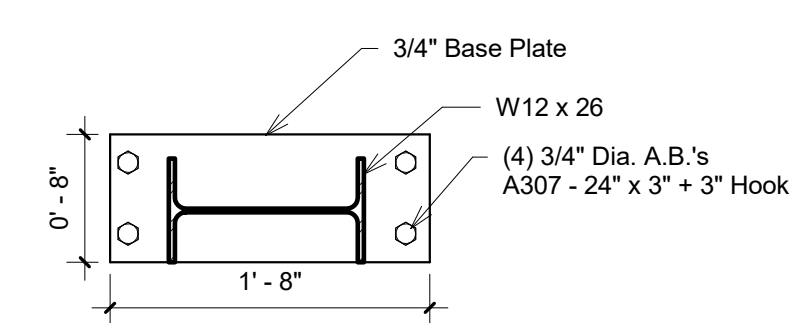
- TRUSS MANUFACTURER TO FURNISH ALL HOLD DOWNS AND CLIPS FOR WOOD TRUSSES
- PROVIDE HEAVY DUTY CLIPS AT ALL PANEL EDGES PERPENDICULAR TO TRUSSES AT 2'-0" O.C. STAGGER END OF PANELS AND GAP ALL PANELS 1/16" AT ALL EDGES
- PROVIDE SIMPSON H1 HOLD DOWN CLIPS FOR EACH TRUSS
- ROOF SHEATHING TO BE 5/8" EXTERIOR APA PLYWOOD, NAILED WITH 10d NAILS AT 6" O.C. ALL AROUND PLYWOOD EDGES (BLOCKING AS REQUIRED) AND ALL AROUND ROOF PERIMETER WITH 10d NAILS AT 6" O.C. AT ALL INTERMEDIATE SUPPORTS
- BRACING DESIGN BY TRUSS MANUFACTURER
- TRUSS MANUFACTURER TO PROVIDE DESIGN DRAWINGS AND CALCULATIONS AND LAYOUT PLAN, SEALED BY REGISTERED ENGINEER, FOR REVIEW, AND FOR APPROVAL BY THE CITY
- WALL SHEATHING TO BE 5/8" OSB, NAILED WITH 8d NAILS AT 6" O.C. AT ALL STUDS AND FULL PERIMETER OF EACH PLYWOOD SHEET (BLOCKING AS REQUIRED) AND ALL AROUND PERIMETER OF WALL AND AROUND ALL OPENINGS
- SEE ARCHITECTURAL SHEETS FOR ALL OPENING HEIGHTS AND WIDTHS



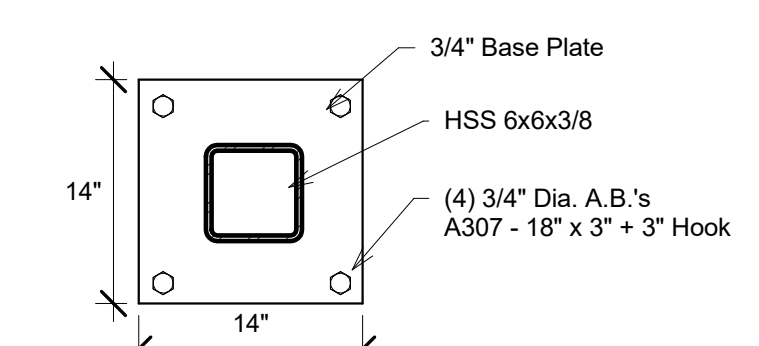
5 Snow load
1/2" = 1'-0"



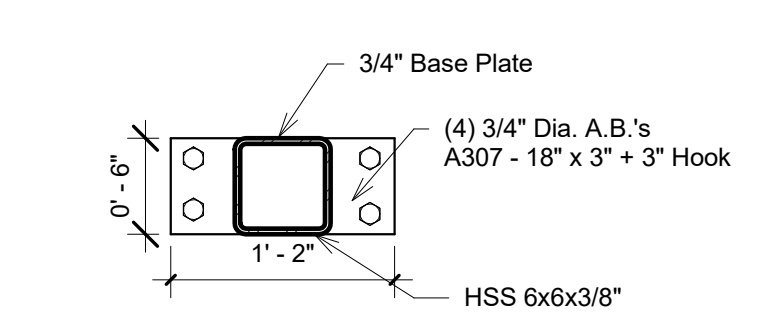
4 Wind Post Detail
3/4" = 1'-0"



BASE PLATE 'A'

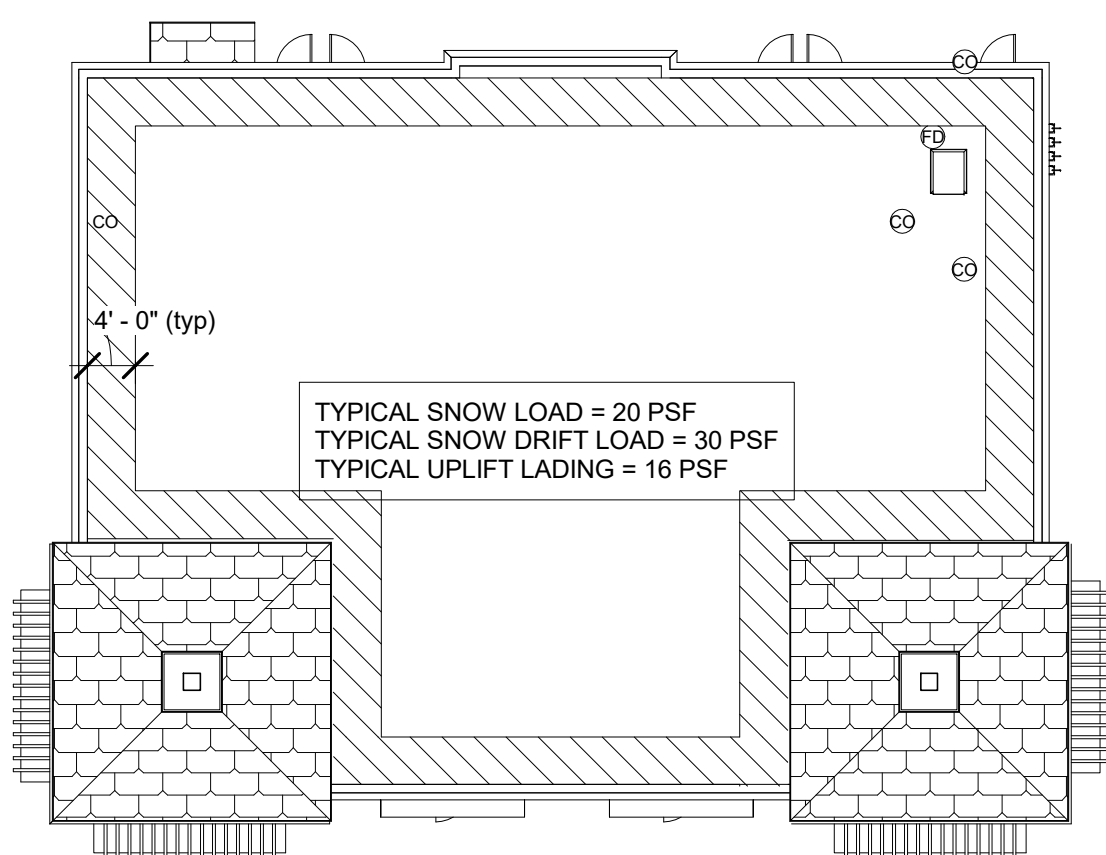


BASE PLATE 'B'



BASE PLATE 'C'

3 Base Plate Details
1" = 1'-0"



6 Snow Load Plan
1/16" = 1'-0"

scharhag
HERMAN A. SCHARHAG COMPANY ARCHITECTS

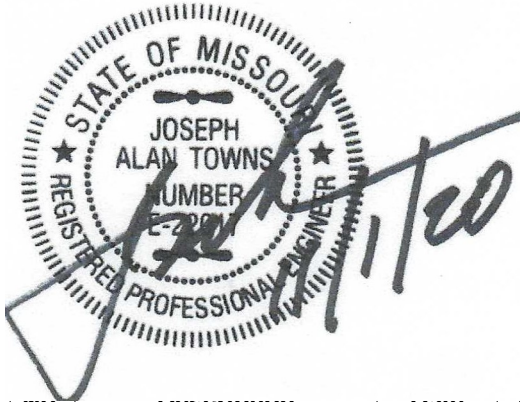
6247 Brookside Blvd, #204 Kansas City, Mo 64113
Phone: 816-656-5055 Scharhagarch@gmail.com

NEW BUILDING FOR

DOUGLAS ROAD CENTER Lot 4

NE VICTORIA DRIVE & NE DOUGLAS ST.

JOSEPH A. TOWNS - MO. LIC. E 22017
LORAC DESIGN GROUP
CERT. OF AUTHORITY E-2005032846-D



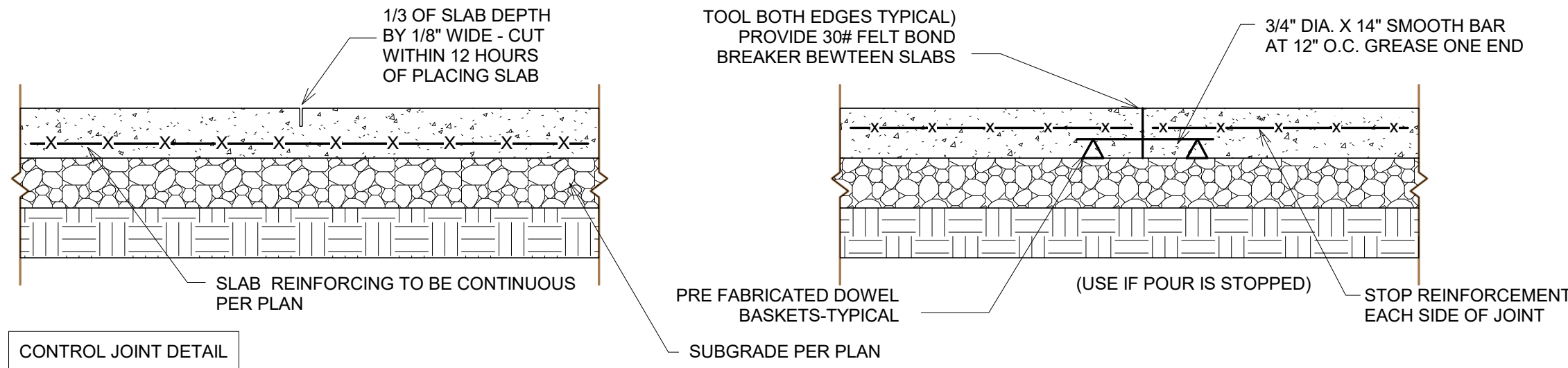
Revision Schedule

Foundation

Project number 2222
Date 11.02.2020

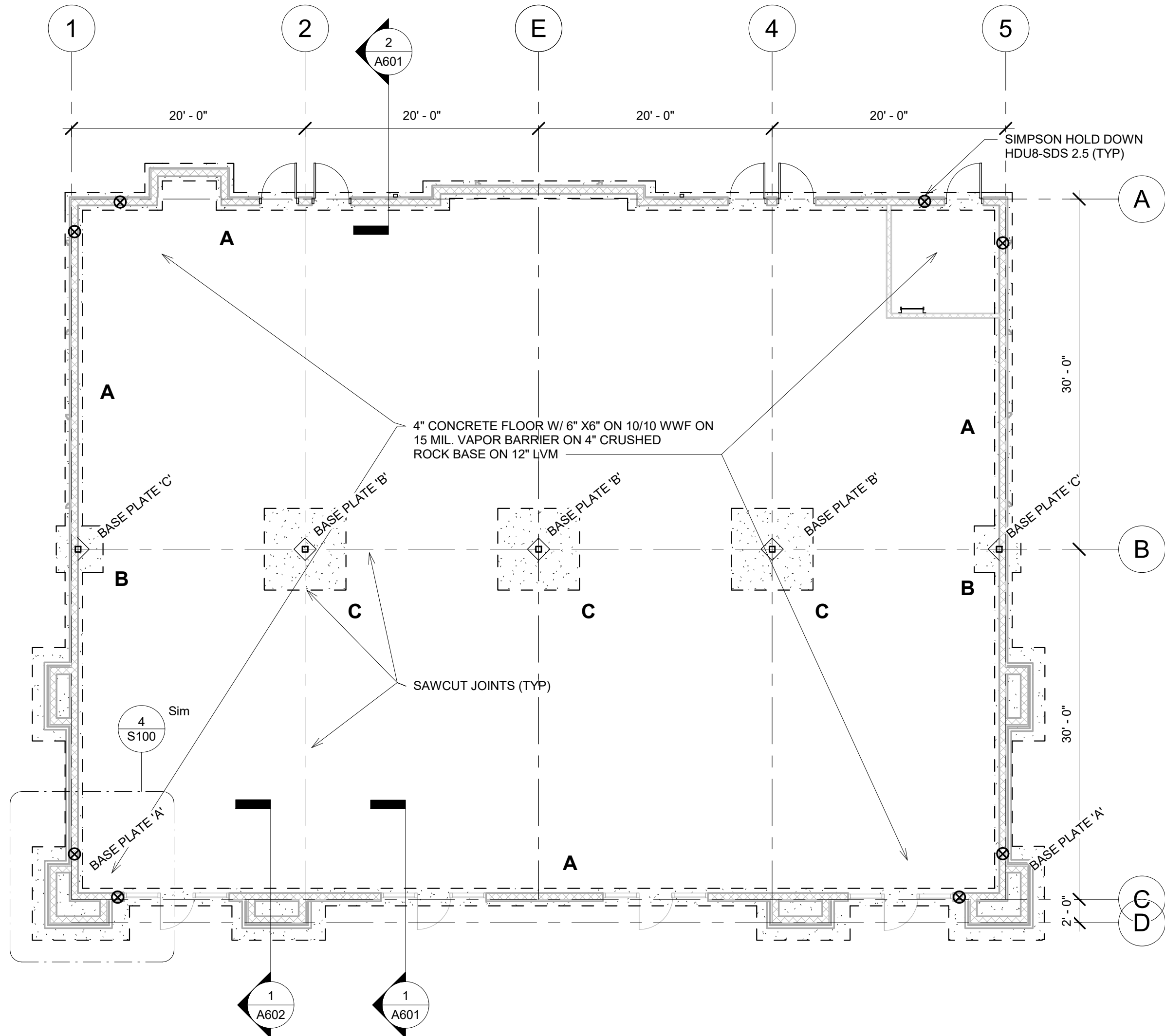
S101

Scale As indicated

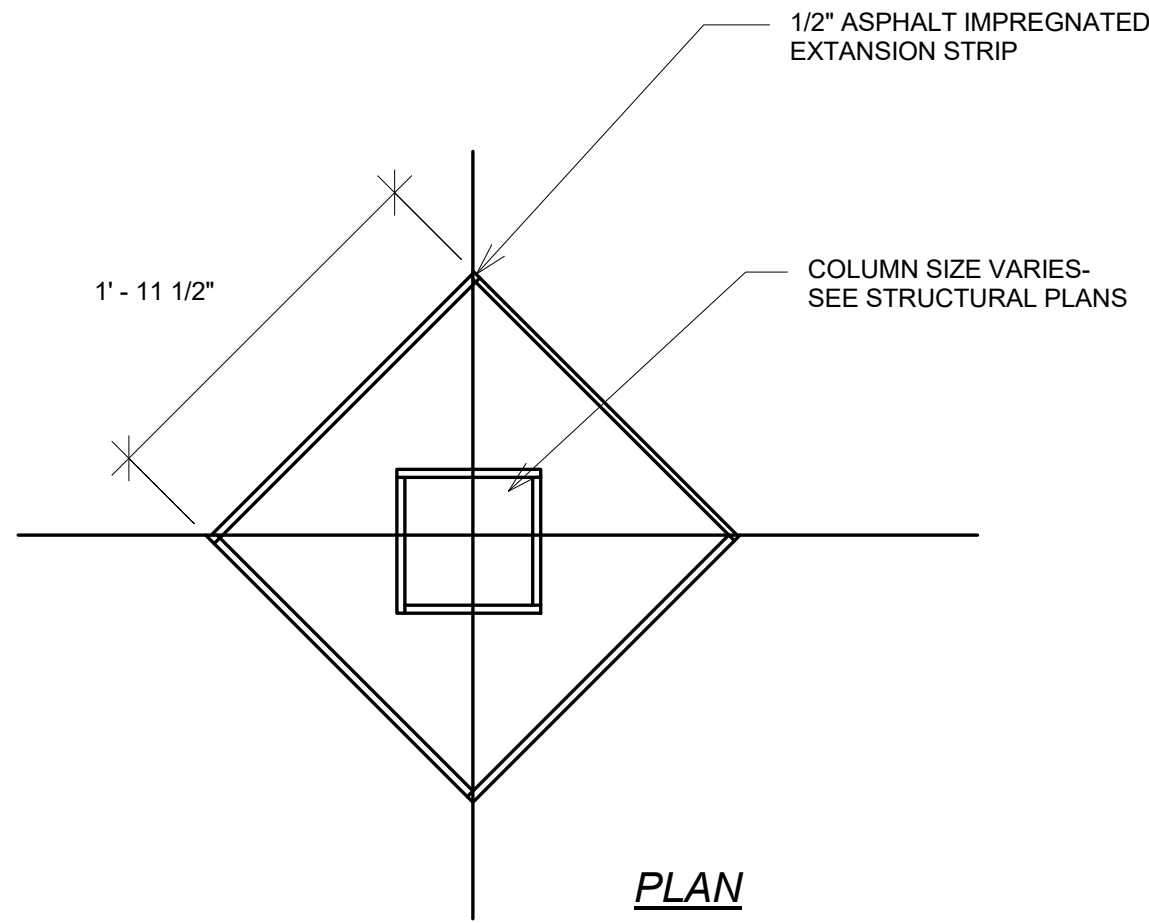


2 Sawcut Floor Slab
3/4" = 1'-0"

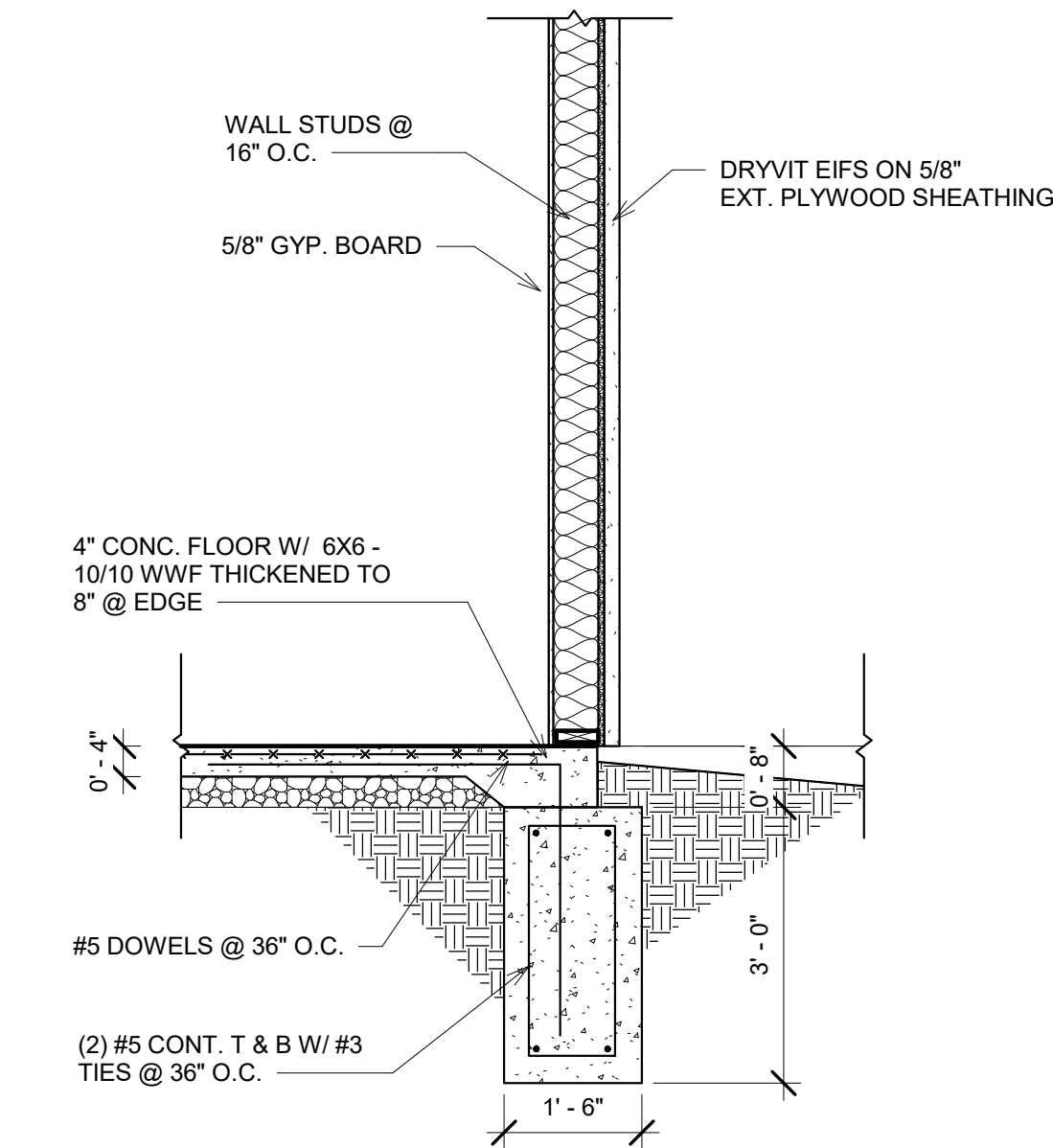
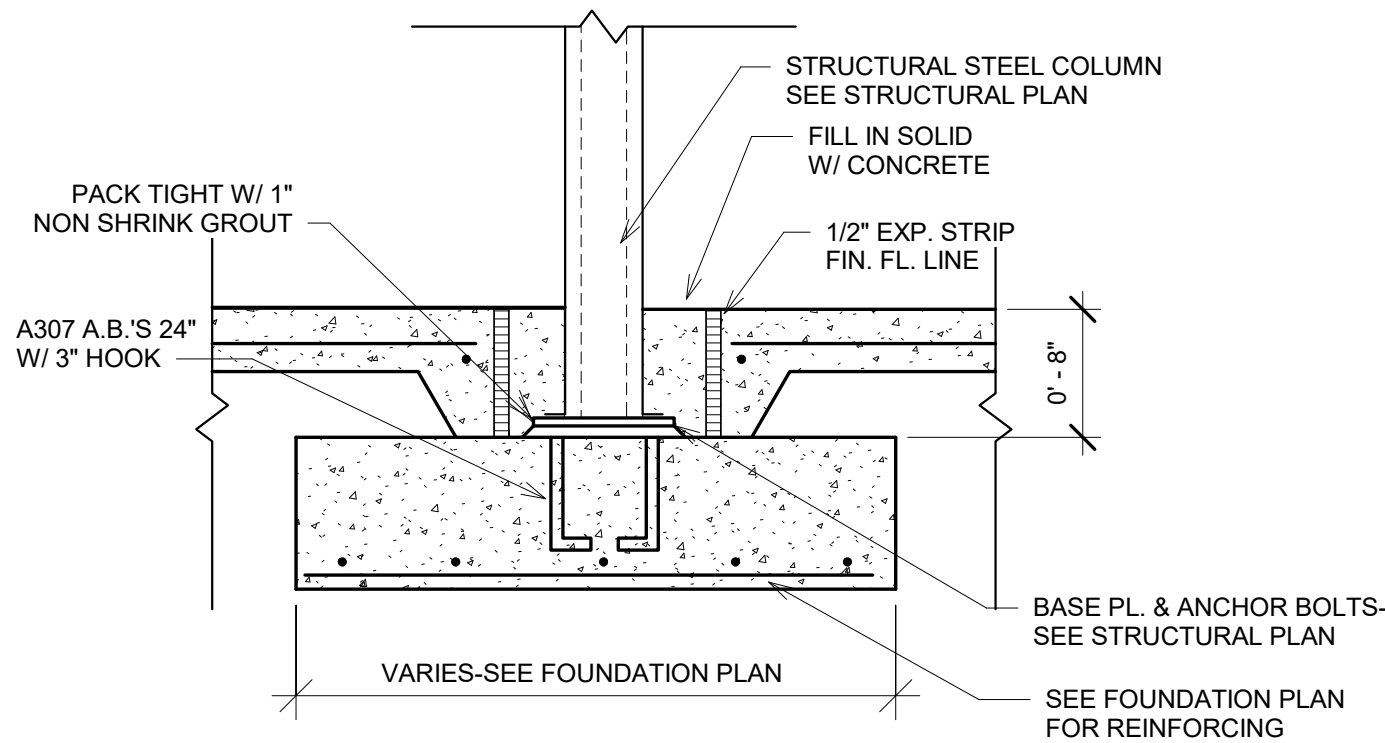
Structural Foundation Schedule		
Type Mark	Type	Type Comments
A	1'6 x 3'.0" deep	
B	4' x 4' x 3'.0" deep	(6) #6's Each way at top and bottom w/ (1) #6 @ each corner
C	7' x 7' x 2'.0" deep	(7) #6's each way at bottom



4 Foundation Plan
1/8" = 1'-0"



1 Column Detail
1" = 1'-0"



3 Footing 3
1/2" = 1'-0"

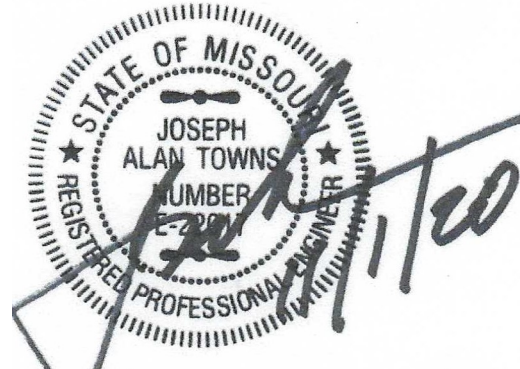
HERMAN A. SCHARHAG COMPANY ARCHITECTS

Phone: 816-656-5055 Scharhagarch@gmail.com

DOUGLAS ROAD CENTER Lot 4

NE VICTORIA DRIVE & NE DOUGLAS ST.

JOSEPH A. TOWNS MO. LIC. E 22017
LORAC DESIGN GROUP
CERT. OF AUTHORITY E-2005032846-D



Revision Schedule

Framing

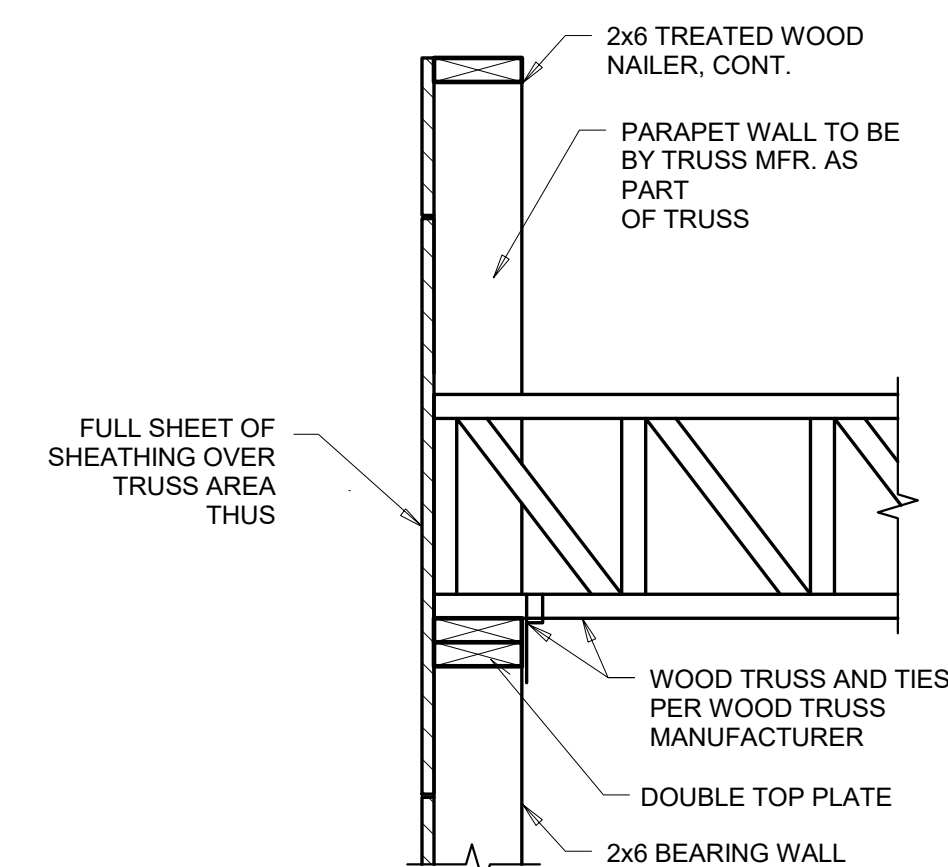
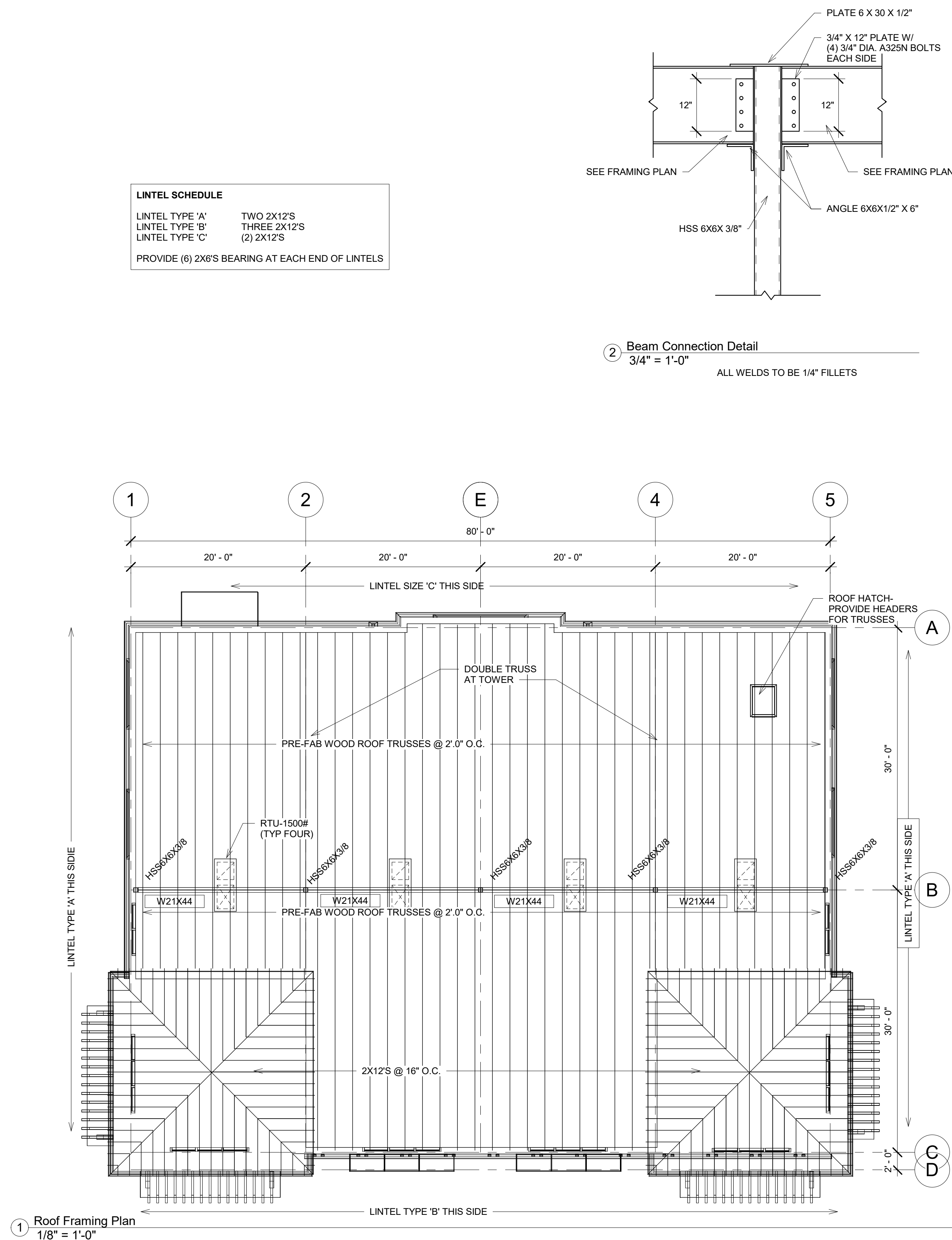
Project number	2222
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Date	11.02.2020
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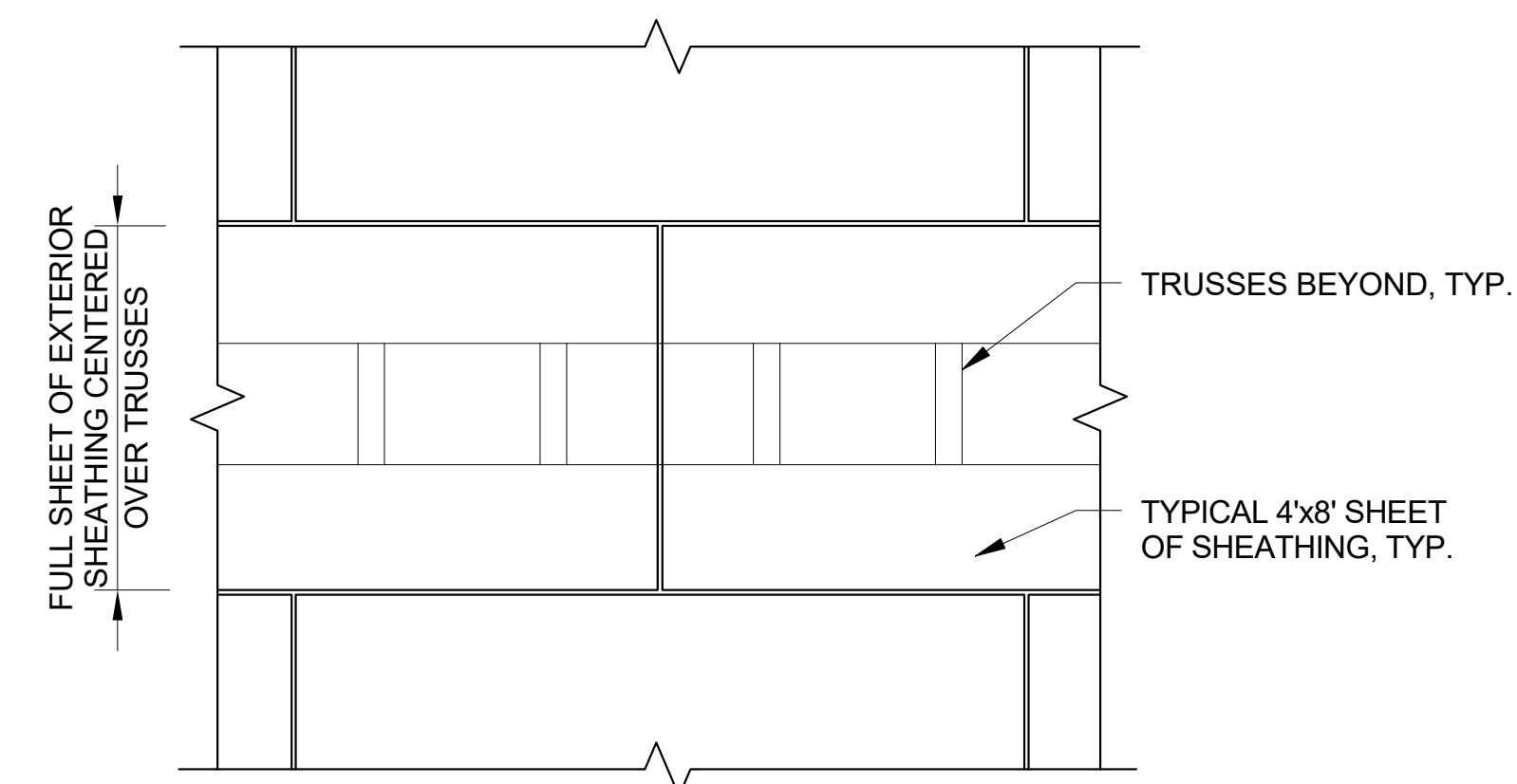
S102

Scale	As indicated
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11/5/2020 9:44:23 AM



NOTE: FOR TYPICAL SHEATHING DETAIL RE: 1/S001



NOTE: ALL EXTERIOR SHEATHING TO HAVE NAILS @ 4" O.C.
AROUND EDGE AND 6" O.C. INFIELD.

