



NOT FOR CONSTRUCTION

Project Owner
CITY OF MADISON WATER UTILITY
119 E OLIN AVE
MADISON, WI 53713

LAND USE / PLAN COMMISSION SUBMITTAL

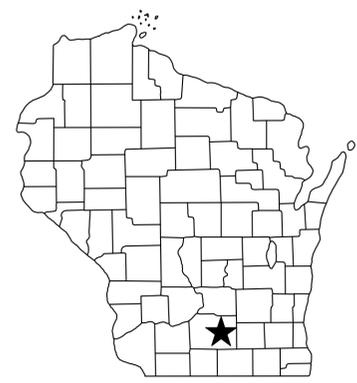
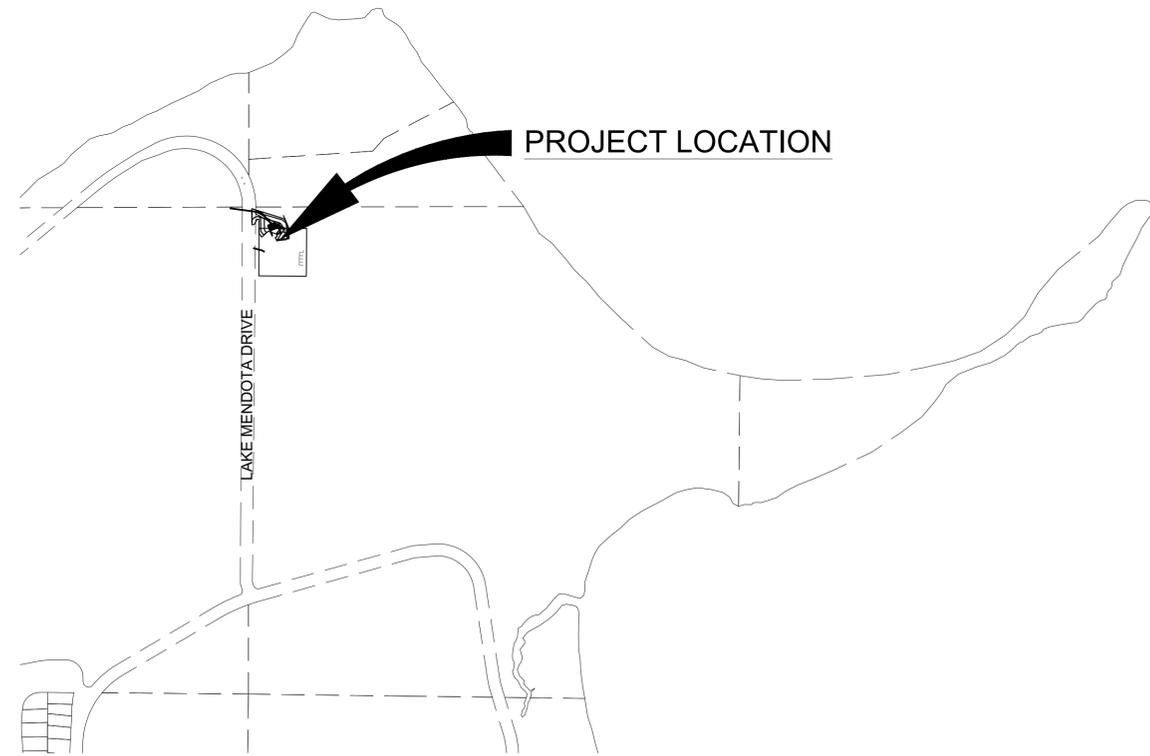
UNIT WELL 19

TREATMENT SYSTEM ADDITION

MADISON WATER UTILITY

MADISON, WISCONSIN

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CITY OF MADISON WATER UTILITY
UNIT WELL 19 TREATMENT SYSTEM ADDITION
2526 LAKE MENDOTA DRIVE
MADISON, WISCONSIN

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SEH Project MADWU 167818
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Project Status Issue Date
PLAN COMMISSION SUBMITTAL 10/31/2022

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REV. # DESCRIPTION DATE

TITLE

G100

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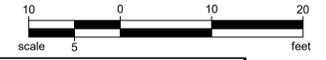
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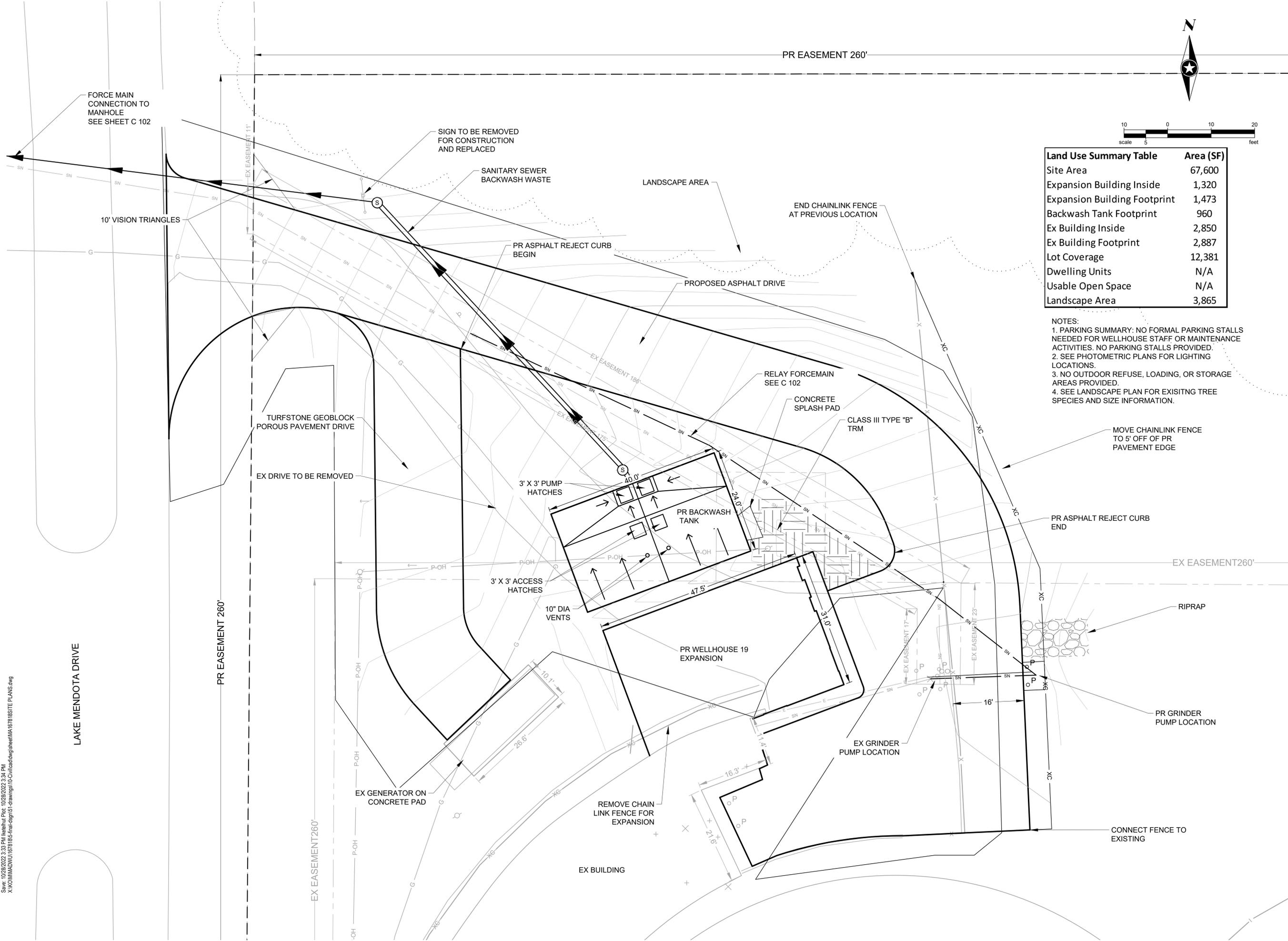
SITE PLAN

C 100



Land Use Summary Table	Area (SF)
Site Area	67,600
Expansion Building Inside	1,320
Expansion Building Footprint	1,473
Backwash Tank Footprint	960
Ex Building Inside	2,850
Ex Building Footprint	2,887
Lot Coverage	12,381
Dwelling Units	N/A
Usable Open Space	N/A
Landscape Area	3,865

- NOTES:
1. PARKING SUMMARY: NO FORMAL PARKING STALLS NEEDED FOR WELLHOUSE STAFF OR MAINTENANCE ACTIVITIES. NO PARKING STALLS PROVIDED.
 2. SEE PHOTOMETRIC PLANS FOR LIGHTING LOCATIONS.
 3. NO OUTDOOR REFUSE, LOADING, OR STORAGE AREAS PROVIDED.
 4. SEE LANDSCAPE PLAN FOR EXISTING TREE SPECIES AND SIZE INFORMATION.



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UTILITY PLAN



EX SAN MH
RIM 914.38
EX 8" N 896.95
EX 8" S 896.93
EX 8" W 897.58
EX 8" W 904.73
PR 8" E = 905.0

CONNECT 8" BACKWASH WASTE,
DIP TO EX SAN MH

AIR RELEASE MANHOLE

(2) 4" DUCTILE IRON
BACKWASH WASTE PIPES

RELAY
FORCEMAIN
AROUND TANK
FOUNDATION
124 LF

FORCEMAIN DEFLECTION

RELAY SECTION
OF 1.5"
FORCEMAIN TO
NEW GRINDER
PUMP LOCATION

EXTEND
UNDERGROUND
ELECTRIC AND
SANITARY FORCE
MAIN TO THE NEW
GRINDER PUMP
LOCATION. 24 LF

PR GRINDER
PUMP LOCATION
WITH CONCRETE
PAD

REMOVE THE
EXISTING BOLLARDS
AND PLACE 2 OF
THEM IN FRONT OF
THE RELOCATED
PUMP

EX GRINDER
PUMP LOCATION

PR WELLHOUSE 19
EXPANSION

PR BACKWASH TANK

48" METER MANHOLE

EX GENERATOR ON
CONCRETE PAD

EX BUILDING

6" C-900 PVC HYDRANT LEAD
MAINTAIN 6' OF COVER AT ALL TIMES

PR HYDRANT
STEAMER EL=908.95

6" GATE VALVE

CONNECT TO EX 20" WATER MAIN WITH
A LIVE TAP AND TEE
6" IE=890+/-

14 LF

46 LF

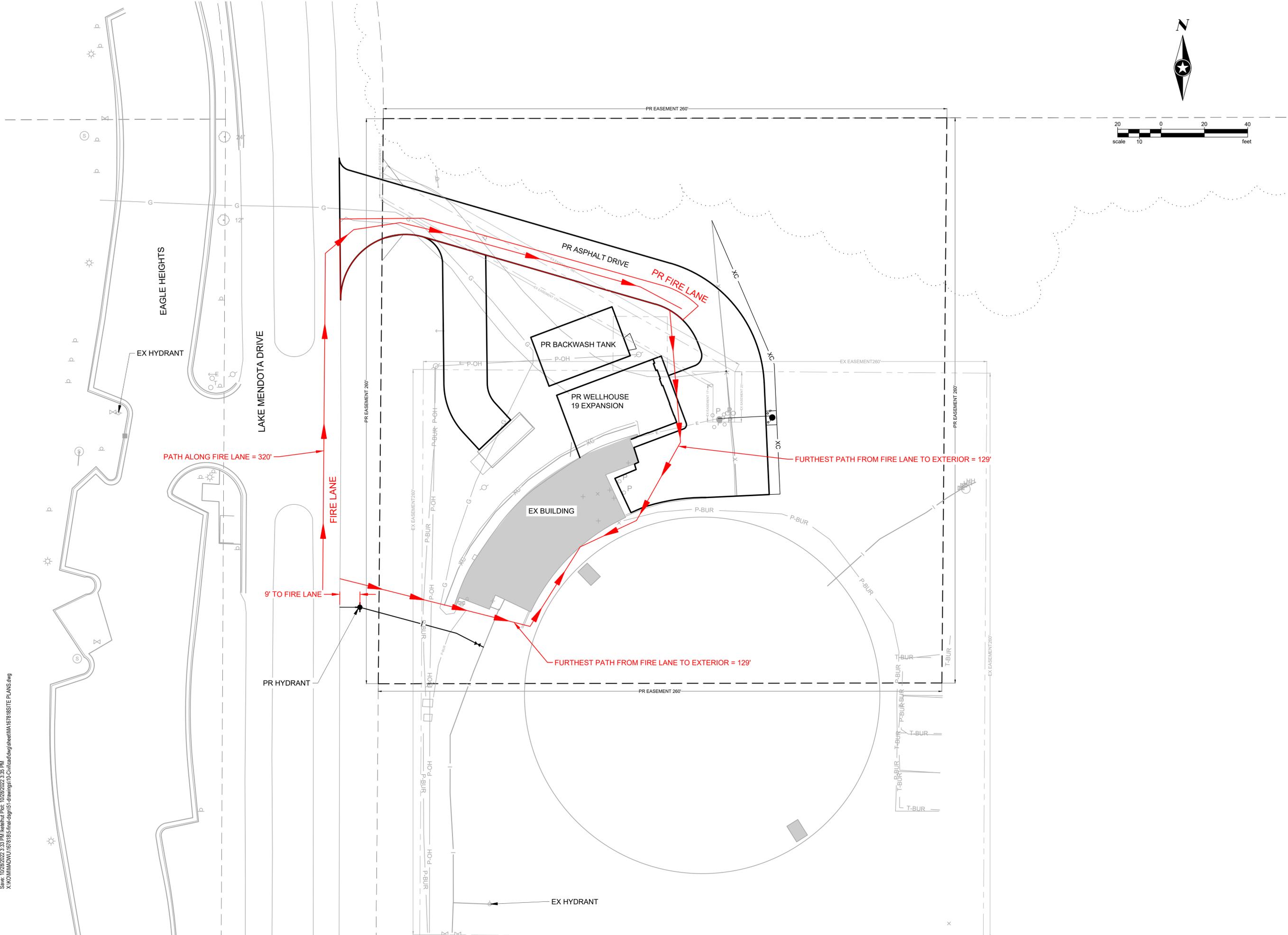
NOTE:
1. SEE ARCHITECTURAL PLANS FOR
ROOFTOP HVAC LOCATIONS.

EAGLE HEIGHTS

LAKE MEDOTA DRIVE

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FIRE ACCESS PLAN

C 103

LANDSCAPE PLAN NOTES:

1. SEE LANDSCAPE DETAILS AND NOTES ON SHEET L201.
2. SEE CITY OF MADISON LANDSCAPE CALCULATIONS ON SHEET L201.
3. ORNAMENTAL AND SHADE TREE ROOTS SHALL BE B&B.
4. SHRUBS AND PERENNIALS SHALL BE CONTAINER GROWN.
5. ALL PLANTING AREAS SHALL BE MULCHED WITH SHREDDED HARDWOOD, NATURAL COLOR ACCORDING TO LANDSCAPE DETAILS

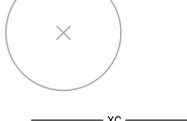
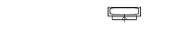
PLANT SCHEDULE

ORNAMENTAL TREES	BOTANICAL / COMMON NAME	SIZE	QTY
PV	Prunus virginiana / Chokecherry	1.5" Cal	11
VL	Viburnum lentago / Nannyberry	1.5" Cal	4
SHADE TREES	BOTANICAL / COMMON NAME	SIZE	QTY
CR	Carpinus caroliniana / American Hornbeam	2.5" CAL	3
QB	Quercus bicolor / Swamp White Oak	2.5" CAL	3
QM	Quercus macrocarpa / Burr Oak	2.5" CAL	3
SHRUBS	BOTANICAL / COMMON NAME	SIZE	QTY
AR	Aralia racemosa / American Spikenard	3 gal.	13
AM	Aronia melanocarpa 'Iroquois Beauty' TM / Black Chokeberry	3 gal.	11
CO	Cornus racemosa / Gray Dogwood	3 gal.	6
CA	Corylus americana / American Hazelnut	3 gal.	8
DI	Diervilla lonicera / Dwarf Bush Honeysuckle	3 gal.	3
PERENNIALS	BOTANICAL / COMMON NAME	SIZE	QTY
cn	Conoclinium coelestinum / Wild Ageratum	1 gal.	16
ep	Echinacea pallida / Pale Purple Coneflower	1 gal.	7
pn	Panicum virgatum 'Northwind' / Northwind Switch Grass	1 gal.	2

SEED MIXES

	NO MOW TURF MIX BASIS OF DESIGN: PRAIRIE NURSERY NO MOW LAWN SEED MIX	589 sf
	REINFORCED TURF GRASS SEE 2/L201. TURF SEED TO MATCH TURF GRASS SEEDING AREA.	1,817 sf
	NATIVE PRAIRIE SEED MIX BASIS OF DESIGN: TAYLOR CREEK NURSERIES HERBICIDE TOLERANT TALLGRASS AND WILDFLOWER PRAIRIE SEED MIX	2,492 sf
	TURF GRASS BASIS OF DESIGN: WISCONSIN DOT NO. 40 SEED MIX	4,936 sf

LEGEND

	EXISTING TREE TO REMAIN
	EXISTING TREE TO REMOVE
	BLACK CHAIN LINK FENCE
	PROPERTY BOUNDARY
	EXISTING UTILITY EASEMENT
	DEVELOPED AREA 10,265 SF AS DEFINED BY CITY OF MADISON ZONING CODE ORD. 28.142 (4)
	BUILDING MOUNTED LIGHT
	POST MOUNTED LIGHT

LIGHT LOCATIONS SHOWN FOR REFERENCE ONLY. SEE PHOTOMETRIC PLANS FOR LIGHTING SCHEDULE.



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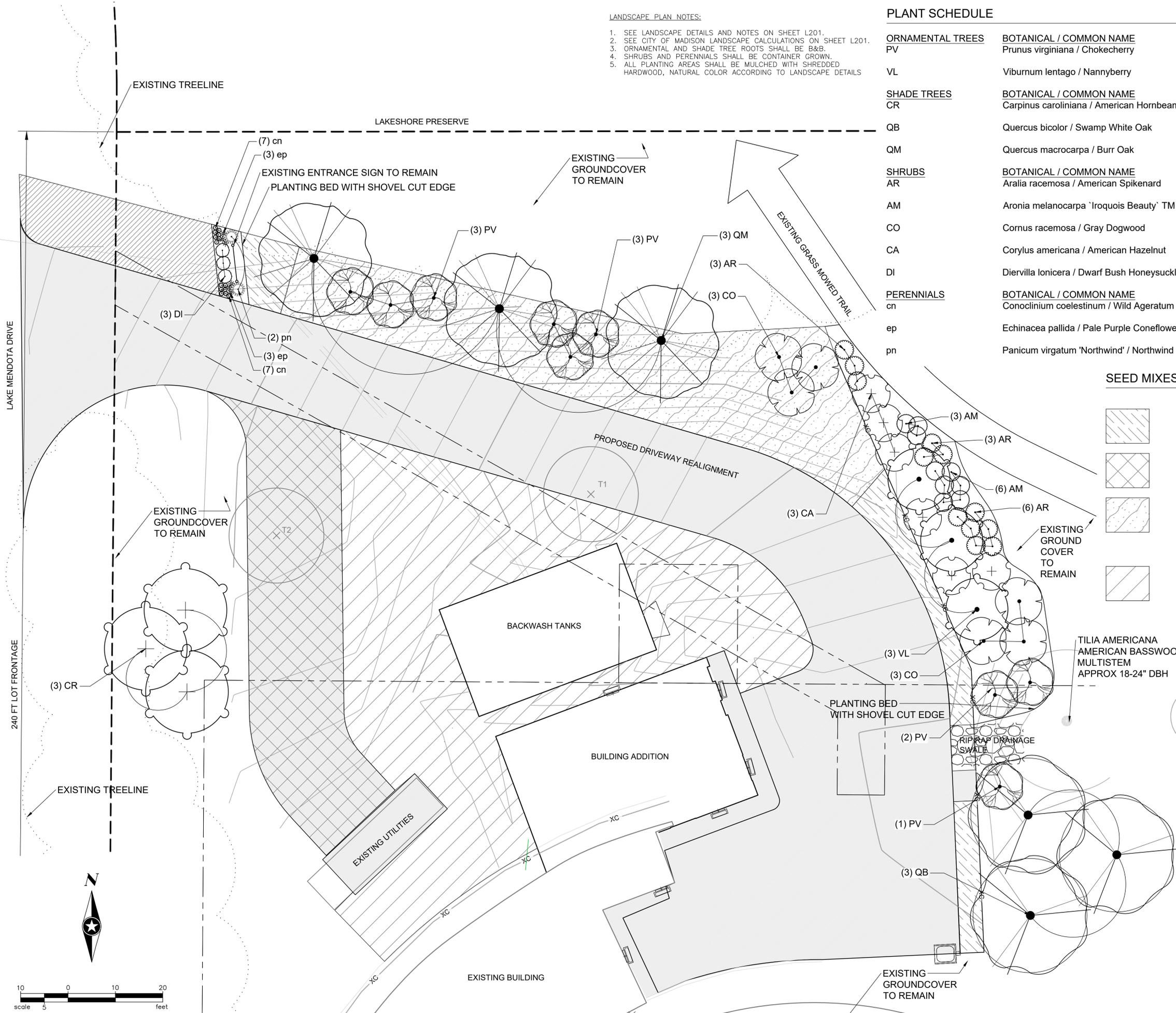
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REV. #	DESCRIPTION	DATE

LANDSCAPE PLAN

L101

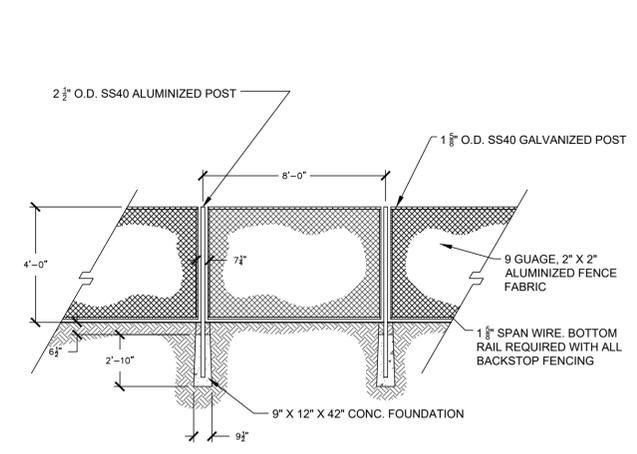


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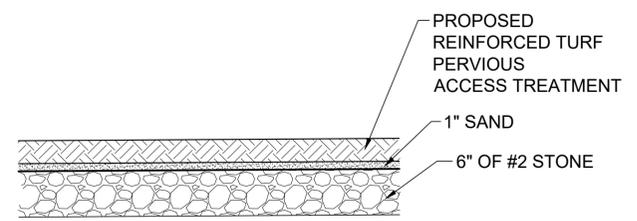


TREE REMOVAL TABLE		
NO.	SPECIES	SIZE
T1	Picea pungens / Blue Spruce	APPROX 12" DBH, >20 FT HT
T2	Acer sp. / Maple	APPROX 10" DBH, >15 FT HT

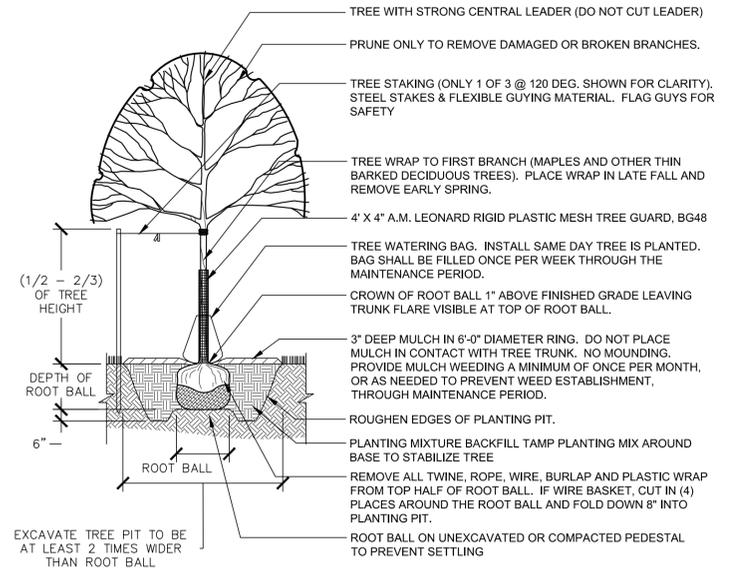
Notes
Incidental clearing of small diameter Tilia americana, (American Basswood/Linden), Fraxinus spp (Ash), and Acer negundo (boxwood) may occur in conjunction with driveway construction and hydrant installation. UW Madison Facilities & Development staff have reviewed these locations with the Design Team on-site and determined that no heritage trees exist in these locations.
Tree locations estimated through review of 2020 aerial photography and confirmed by staff site visits. Trees were not included in site survey but locations will be confirmed prior to construction.



NOTE: ALL TERMINAL POSTS SHALL BE 3" O.D. SS40 GALVANIZED.



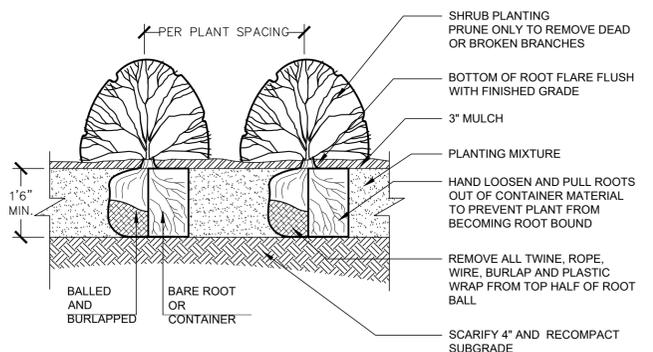
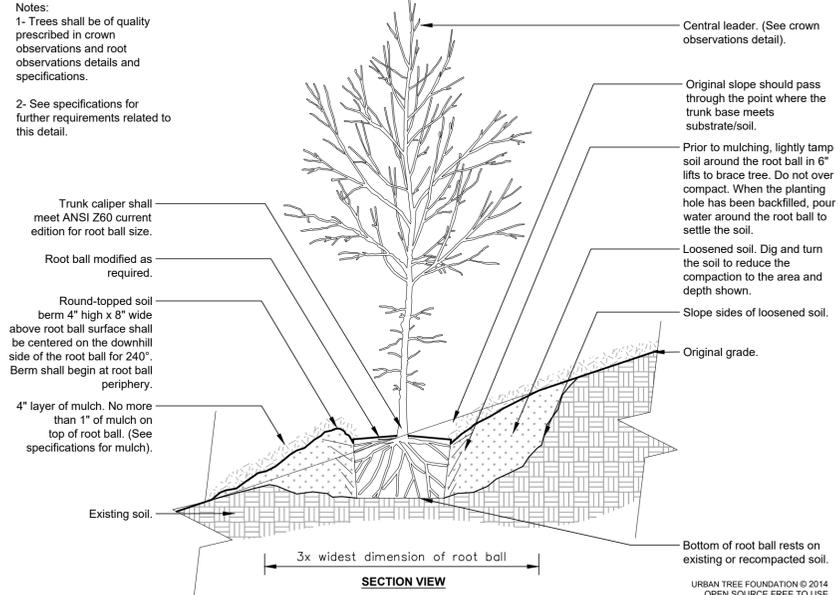
NOTE:
PROPOSED PERVIOUS ACCESS TREATMENT TO BE UNILOCK TURFSTONE, GB-5150 GEOBLOCK POROUS PAVEMENT SYSTEM OR EQUAL INSTALLED PER MANUFACTURER SPECIFICATIONS FOR HEAVY TRUCK ACCESS AND H-20 LOADING.



1 4 FT FENCE
1/4" = 1'-0"
323113-02

2 TYPICAL REINFORCED TURF GRASS SECTION
1" = 1'-0"
321413-14

3 TREE PLANTING
1/4" = 1'-0"
329343-01

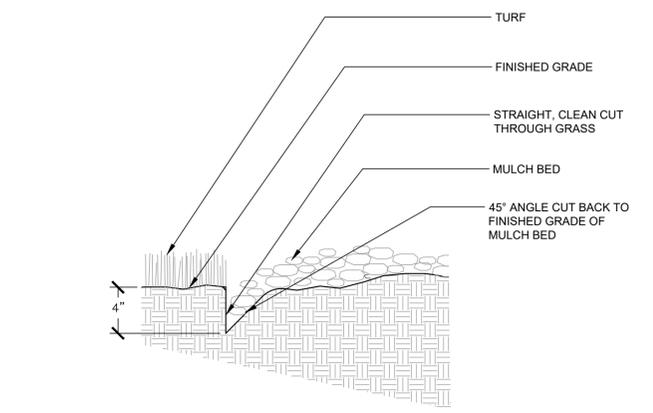


LANDSCAPE PLAN NOTES:

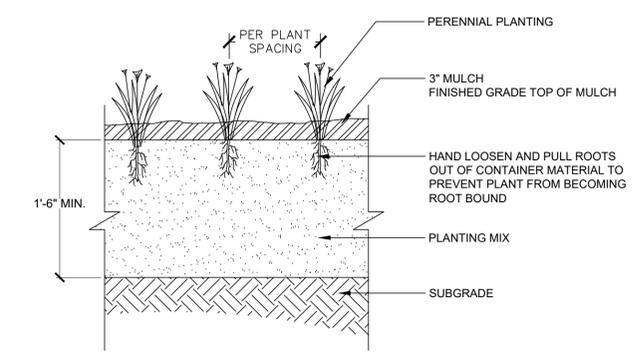
- CONTRACTOR TO VERIFY PLANTS REQUIRED AS REFLECTED ON PLAN. QUANTITIES LISTED IN PLANT SCHEDULE ARE FOR REFERENCE ONLY. IF THERE IS A DISCREPANCY BETWEEN QUANTITIES LISTED IN PLANT SCHEDULE AND QUANTITIES SHOWN ON PLAN SHEETS, PLAN SHEETS SHALL GOVERN.
- CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS PRIOR APPROVAL IS REQUESTED OF THE LANDSCAPE ARCHITECT BY THE LANDSCAPE CONTRACTOR PRIOR TO THE SUBMISSION OF A BID AND/OR QUOTATION.
- CONTRACTOR SHALL VISIT AND INSPECT SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK PRIOR TO SUBMITTING BID.
- ALL PLANT BEDS SHALL BE EDGED USING SPADED GARDEN EDGE UNLESS OTHERWISE NOTED ON PLANS.
- MULCH SHALL BE INCIDENTAL TO PLANT MATERIALS.
- ALL PLANTING AREAS SHALL RECEIVE 6" DEPTH OF PREPARED TOPSOIL.
- TREE SHALL BE PLANTED IN PITS 3 TIMES THE WIDTH OF THE ROOT BALL WITH ROOT CROWN SET 2" ABOVE FINAL GRADE. BACKFILL WITH TOPSOIL AS SPECIFIED.

4 TREE ON SLOPE - UNMODIFIED SOIL
1/2" = 1'-0"
SLOPE 5% (20:1) TO 50% (2:1)
FX-PL-FX-TREE-08
329333-04

5 SHRUB PLANTING
1/2" = 1'-0"
329333-04



6 TRENCHED EDGE DETAIL
N.T.S.
329413.23-02



7 PERENNIAL PLANTING DETAIL
1" = 1'-0"
3293-01

LANDSCAPING & SCREENING CALCULATIONS PER MADISON ORDINANCE 28.142
LANDSCAPING AND SCREENING REQUIREMENTS

Required	Provided
Landscape Calculations & Distribution: Provide 5 landscape points for each three hundred square feet of developed area	
Developed Area = 10,265 SF (10,265 SF/300) x 5 = 172 Required landscape points	748 Points (See City of Madison Landscape Worksheet)
Planting beds must have at least 75% vegetative cover	Planting beds will have at least 75% vegetative cover as shown on sheet L101.
No single tree species may comprise more than 33% of trees used to meet screening requirements	Maximum percentage of a single tree species: 33%

Development Frontage Landscaping
1 overstory canopy tree and five shrubs shall be planted for each thirty lined feet of lot frontage.

243 LF Lot Frontage, 1 x (243/30)=8 canopy trees; 5 x (243/30) = 40 shrubs
9 canopy trees, 15 ornamental trees, and 41 shrubs are provided along site perimeter are provided in addition to existing mature tree canopy and woodland understory along road frontage. Trees and shrubs are located to provide maximum screening for adjacent trail uses as well as views from roadway.

Interior Parking Lot Landscaping: Pavement is for maintenance access only, no formal parking spaces provided. Plantings at pavement perimeter screen driveway from adjacent trails

Foundation Plantings
Foundation plantings shall be installed along building facades
Maintenance activities associated with well infrastructure and filtration equipment preclude planting against building foundations. The existing building currently does not have any foundation plantings. Instead planting has been shifted to the driveway perimeter to more effectively screen the building and site without sacrificing well operations and maintenance,



LEGEND	
TREES	
	BOTANICAL / COMMON NAME EXISTING TREE
ORNAMENTAL TREES	
	BOTANICAL / COMMON NAME Prunus virginiana / Chokecherry
	BOTANICAL / COMMON NAME Viburnum lentago / Nannyberry
SHADE TREES	
	BOTANICAL / COMMON NAME Carpinus caroliniana / American Hornbeam
	BOTANICAL / COMMON NAME Quercus bicolor / Swamp White Oak
	BOTANICAL / COMMON NAME Quercus macrocarpa / Burr Oak
SHRUBS	
	BOTANICAL / COMMON NAME Aralia racemosa / American Spikenard
	BOTANICAL / COMMON NAME Aronia melanocarpa 'Iroquois Beauty' TM / Black Chokeberry
	BOTANICAL / COMMON NAME Cornus racemosa / Gray Dogwood
	BOTANICAL / COMMON NAME Corylus americana / American Hazelnut
	BOTANICAL / COMMON NAME Diervilla lonicera / Dwarf Bush Honeysuckle
PERENNIALS	
	BOTANICAL / COMMON NAME Conoclinium coelestinum / Wild Ageratum
	BOTANICAL / COMMON NAME Echinacea pallida / Pale Purple Coneflower
	BOTANICAL / COMMON NAME Panicum virgatum 'Northwind' / Northwind Switch Grass
GROUND COVERS	
	BOTANICAL / COMMON NAME NO MOW TURF MIX
	BOTANICAL / COMMON NAME REINFORCED TURF GRASS
	BOTANICAL / COMMON NAME NATIVE PRAIRIE SEED MIX
	BOTANICAL / COMMON NAME TURF GRASS



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LANDSCAPE PLAN
RENDERING

L301

Prairie Seeding



Mixed Tallgrass Prairie

Native Ornamental Plantings



Echinacea pallida
Pale Purple Coneflower



Conoclinium coelestinum
Blue mistflower



Diervilla lonicera
Dwarf Bush Honeysuckle



Panicum virgatum 'Northwid'
Switchgrass

Shrub Border



Aralia racemosa
American Spikenard



Cornus racemosa
Gray Dogwood



Corylus americana
American Filbert



Aronia melanocarpa 'Morton'
Iroquois Beauty Black Chokeberry

Reinforced Turf



concrete block

Trees



Carpinus carolinian
American Hornbeam



Viburnum lentago
Nannyberry Viburnum



Quercus bicolor
Swamp White Oak



Prunus virginiana
Chokecherry

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LANDSCAPE PHOTOS &
RENDERINGS

Existing Site Photos



Existing entrance sign



Existing tree screening along L. Mendota Drive. Looking South



View of site from Lake Mendota Drive, looking east



View from site to Lake Mendota Drive, looking west



Site viewed from existing driveway, looking southeast



View from driveway entrance, looking southeast



View from Biocore Prairie, looking West



View from just outside site boundary, looking west



View toward Lakeshore Preserve Woodland, looking north



Existing driveway and building, looking south



View of existing building from Lakeshore Preserve Trail, looking southwest



View of site through Lakeshore Preserve Woodland, looking southwest



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LANDSCAPE PHOTOS & RENDERINGS

L303

Concept Rendering: View from Trail



Before: June 2022



After: Mature Landscape Screening



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PLAN COMMISSION SUBMITTAL 10/31/2022

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE
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LANDSCAPE PHOTOS & RENDERINGS

Concept Rendering: View from Near Entrance



Before: September 2022



After: Mature Landscape Screening



**NOT FOR
CONSTRUCTION**

Project Owner
CITY OF MADISON WATER UTILITY
119 E OLIN AVE
MADISON, WI 53713

CITY OF MADISON WATER UTILITY
UNIT WELL 19 TREATMENT SYSTEM ADDITION
2526 LAKE MENDOTA DRIVE
MADISON, WISCONSIN

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SEH Project MADWU 167818
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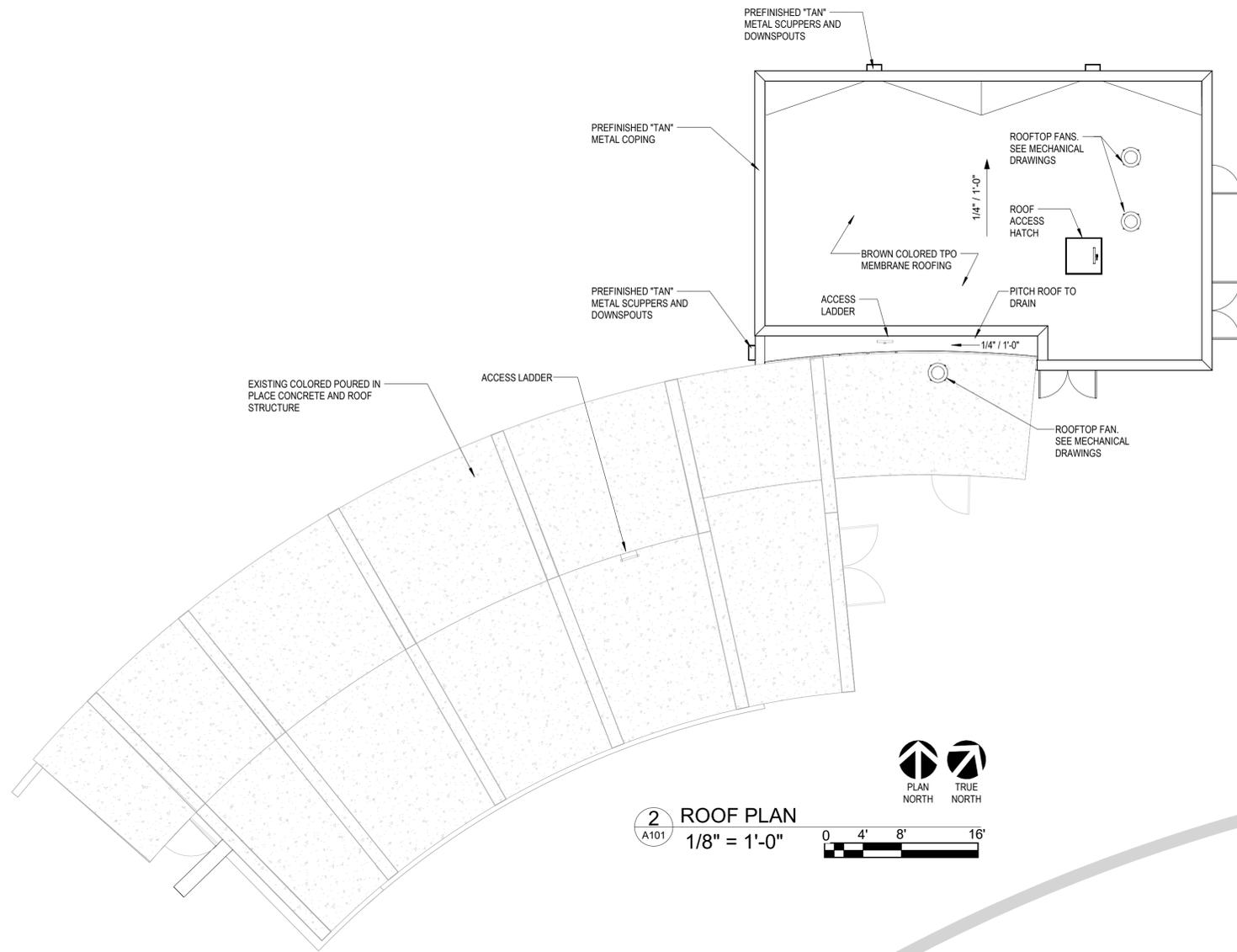
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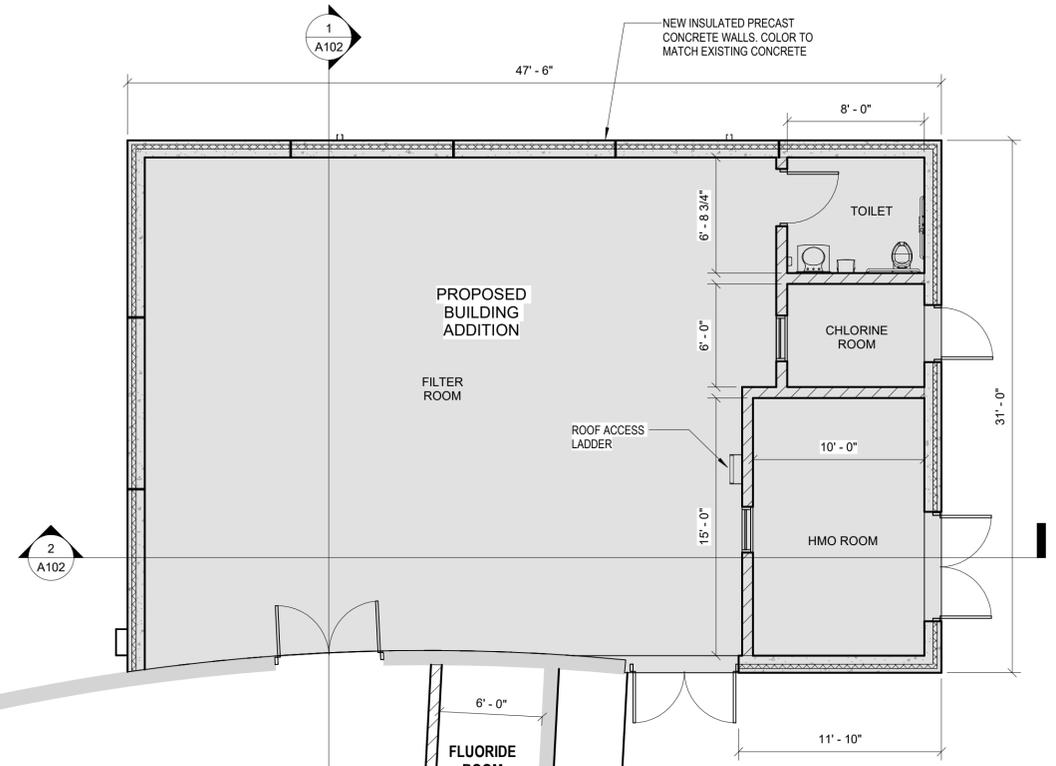
REV. #	DESCRIPTION	DATE

LANDSCAPE PHOTOS &
RENDERINGS

L305

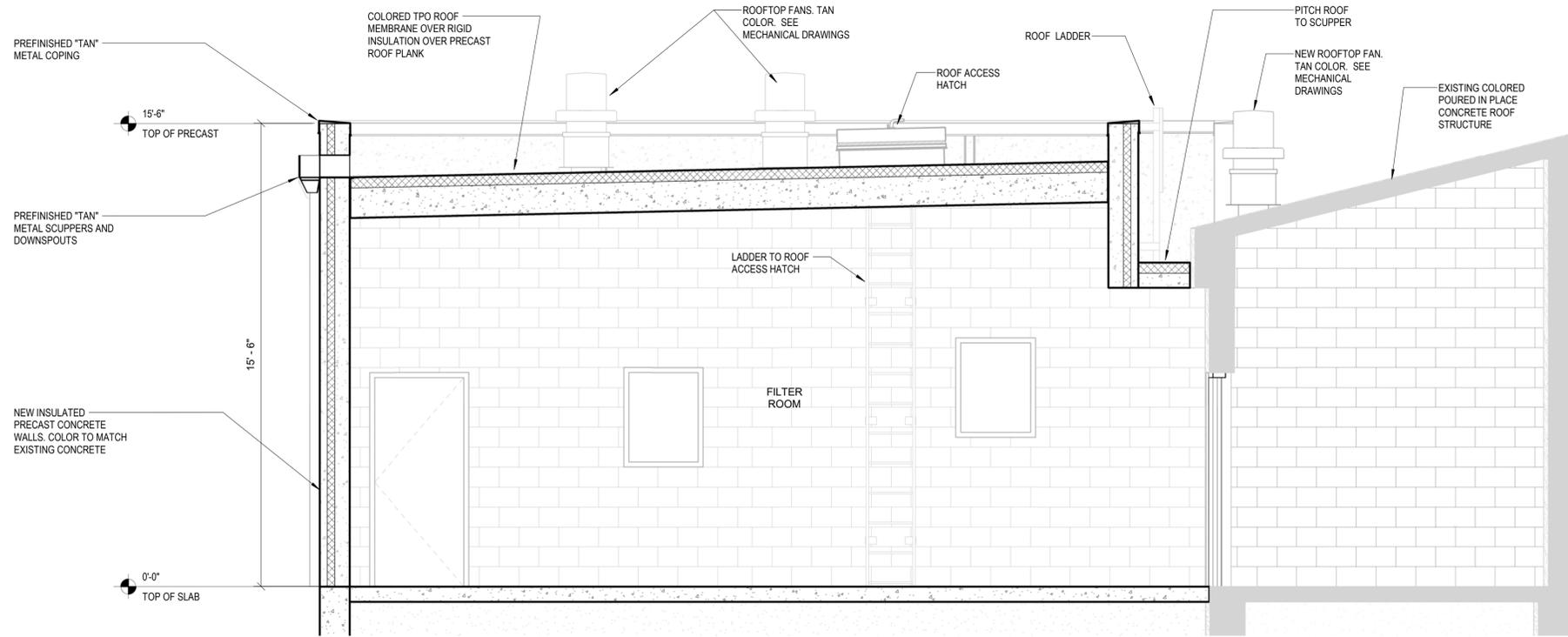


2 ROOF PLAN
A101 1/8" = 1'-0"
0 4' 8' 16'
PLAN NORTH TRUE NORTH

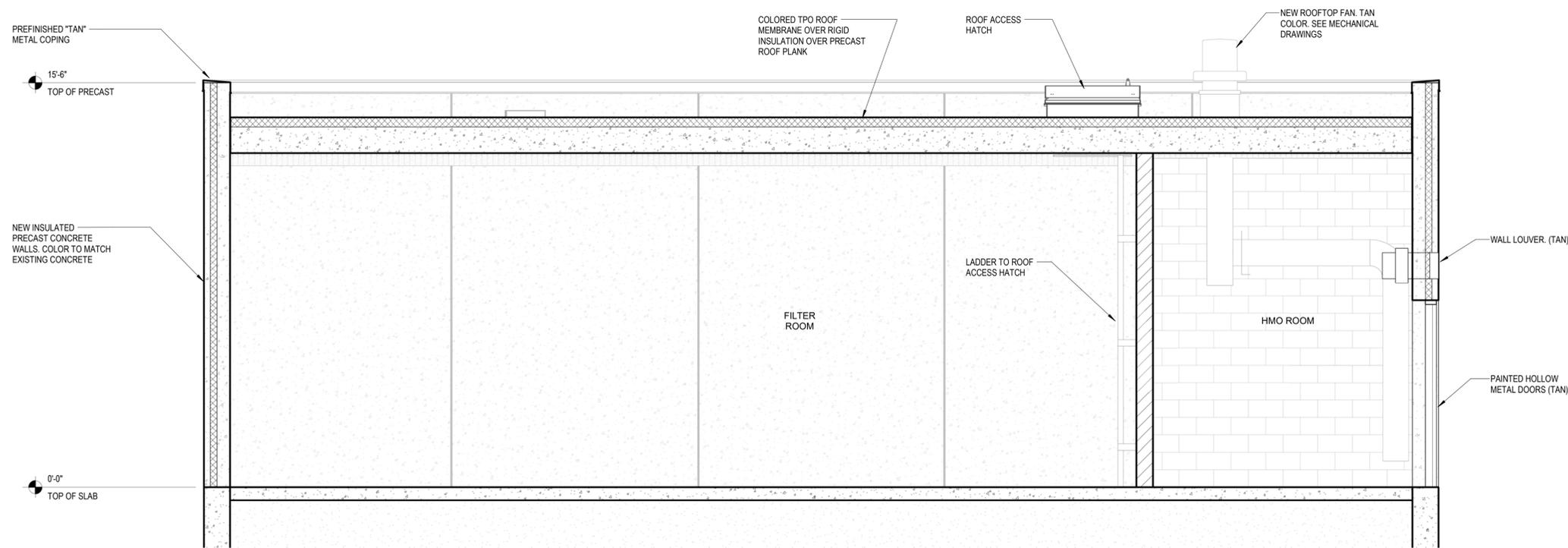


1 GROUND LEVEL PLAN
A101 3/16" = 1'-0"
0 2' 4' 6'
PLAN NORTH TRUE NORTH

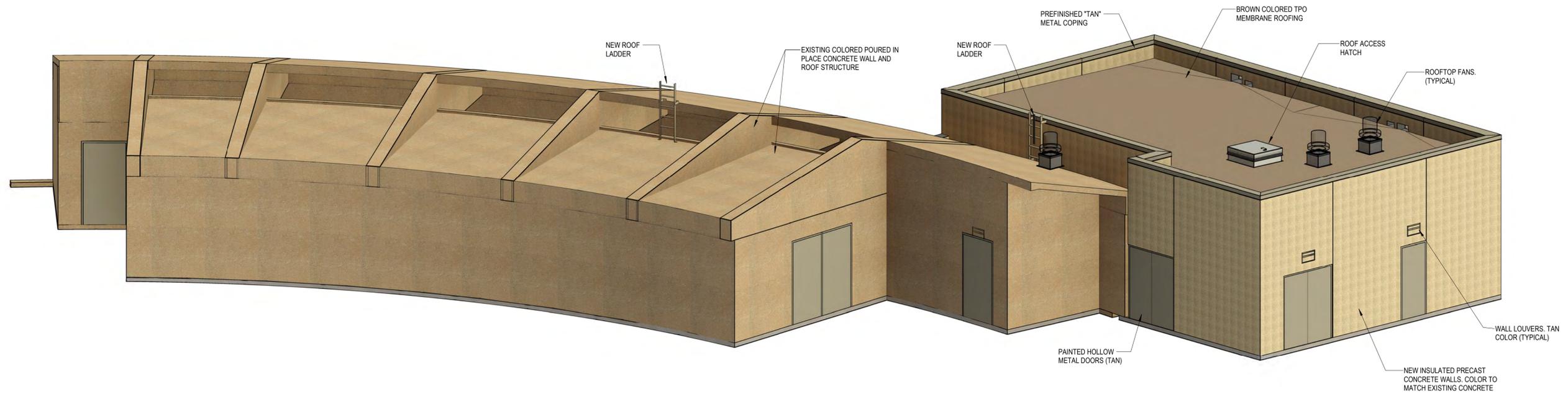
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1 BUILDING SECTION
 A102 3/8" = 1'-0"
 0 2' 4' 6'



2 BUILDING SECTION
 A102 3/8" = 1'-0"
 0 2' 4' 6'



1 3D VIEW FROM SOUTHEAST
 A103

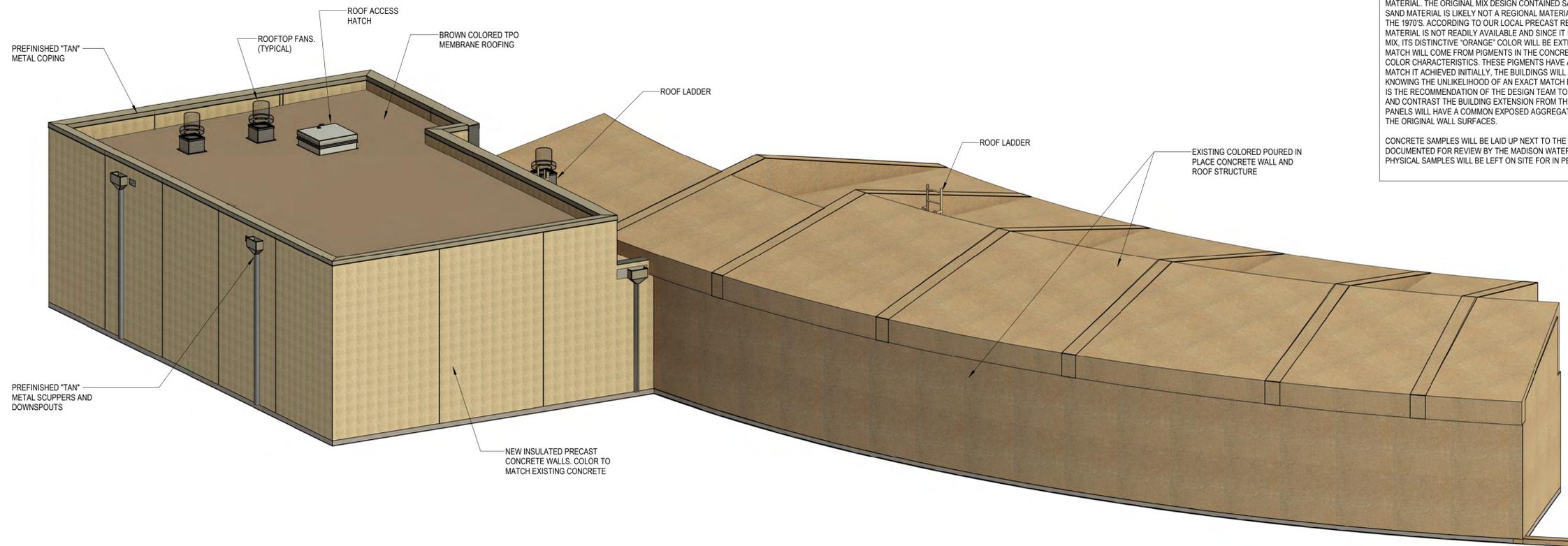
MADISON WATER UTILITY WELL 19 PRECAST CONCRETE MATCH STRATEGY

THE ARCHITECTS AT SEH WERE WORKING WITH THE LOCAL REPRESENTATIVE FROM WELLS CONCRETE TO DEVELOP A COLOR MATCH FOR THE NEW CONCRETE WALL PANELS IN AN ATTEMPT TO CREATE A SEAMLESS TRANSITION BETWEEN THE EXISTING 1972 WELL BUILDING AND THE NEW ADDITION.

THE EXISTING FACILITY WAS PRESSURE WASHED TO EXPOSE THE CURRENT AGED CONDITION OF THE CAST IN PLACE CONCRETE MATERIAL. THE REPRESENTATIVE FROM WELLS VISITED THE SITE AND GATHERED PHOTO DOCUMENTATION OF THE EXISTING BUILDING. COLOR SAMPLES WILL BE DEVELOPED IN AN ATTEMPT TO MATCH THE EXISTING CAST IN PLACE CONCRETE AS CLOSE AS POSSIBLE FOR BOTH COLOR AND MATERIAL FINISH.

THE EXISTING FACILITY WAS BUILT AS A CAST IN PLACE MONOLITHIC CONCRETE STRUCTURE IN 1972. MATCHING THE COLOR EXACTLY WILL BE DIFFICULT BASED ON THE AGING OF THE CURRENT MATERIAL. THE ORIGINAL MIX DESIGN CONTAINED SAND KNOWN AS MERRIMACK ORANGE. THIS SAND MATERIAL IS LIKELY NOT A REGIONAL MATERIAL BUT WAS POPULAR IN CONCRETE MIXES IN THE 1970'S. ACCORDING TO OUR LOCAL PRECAST REPRESENTATIVE FROM WELLS, THIS SAND MATERIAL IS NOT READILY AVAILABLE AND SINCE IT IS A LARGE PERCENTAGE OF THE CONCRETE MIX, ITS DISTINCTIVE 'ORANGE' COLOR WILL BE EXTREMELY DIFFICULT TO MATCH. A COLOR MATCH WILL COME FROM PIGMENTS IN THE CONCRETE AS OPPOSED TO ACTUAL MATERIAL COLOR CHARACTERISTICS. THESE PIGMENTS HAVE A TENDENCY TO FADE OVER TIME AND IF A MATCH IT ACHIEVED INITIALLY, THE BUILDINGS WILL AGE DIFFERENTLY OVER TIME. KNOWING THE UNLIKELIHOOD OF AN EXACT MATCH BETWEEN THE NEW AND OLD STRUCTURES, IT IS THE RECOMMENDATION OF THE DESIGN TEAM TO PROVIDE A DELIBERATE VISUAL DEPARTURE AND CONTRAST THE BUILDING EXTENSION FROM THE EXISTING FACILITY. THE NEW PRECAST PANELS WILL HAVE A COMMON EXPOSED AGGREGATE FINISH BUT THE COLOR WILL DEPART FROM THE ORIGINAL WALL SURFACES.

CONCRETE SAMPLES WILL BE LAID UP NEXT TO THE EXISTING FACILITY AND PHOTOGRAPHICALLY DOCUMENTED FOR REVIEW BY THE MADISON WATER UTILITY AND THE CITY OF MADISON. PHYSICAL SAMPLES WILL BE LEFT ON SITE FOR IN PERSON REVIEW BY ANY INTERESTED PARTIES.



2 3D VIEW FROM NORTHWEST
 A103

GENERAL NOTES

MECHANICAL GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CURRENT STATE BUILDING, PLUMBING, MECHANICAL, FUEL GAS, FIRE AND ENERGY CODES, ALL LOCAL CODES, STANDARDS, AND REGULATIONS GOVERNING THE WORK.
- ALL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE MECHANICAL DRAWINGS AND SPECIFICATIONS PRIOR TO BID. PROVIDE ALL EQUIPMENT, MATERIALS, AND LABOR AS REQUIRED FOR THE COMPLETE INSTALLATION FOR ALL WORK AS SHOWN AND PROVIDE FOR A COMPLETE, OPERABLE SYSTEM. ALL WORK SHALL BE PERFORMED IN A CLEAN, RECTILINEAR AND WORKMANLIKE MANNER.
- THE DRAWINGS ARE DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND TO INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE ROUTING. CERTAIN BASIC ITEMS SUCH AS OFFSETS, FITTINGS, ACCESS PANELS, HANGERS, AND SLEEVES MAY NOT BE SHOWN. WHERE SUCH ITEMS ARE REQUIRED FOR PROPER INSTALLATION OF THE WORK, SUCH ITEMS SHALL BE INCLUDED. CONTRACTOR SHALL VERIFY CONNECTIONS, CLEARANCES, AND SERVICES PRIOR TO INSTALLATION.
- COORDINATE FINAL LOCATIONS OF DUCTWORK, PIPING AND MECHANICAL EQUIPMENT WITH OTHER TRADES PRIOR TO BEGINNING WORK TO AVOID INTERFERENCES WITH EQUIPMENT, STRUCTURE, PIPING, LIGHTING, CONDUIT, ETC. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCES. NO PIPING SHALL BE RUN OVER THE TOP OF ANY ELECTRICAL PANELS OR ELECTRICAL EQUIPMENT.
- EQUIPMENT AND MATERIALS SHALL BE PROTECTED FROM WEATHER, PAINTING, PLASTER, ETC. UNTIL THE PROJECT IS COMPLETE. DAMAGE FROM RUST, PAINT, SCRATCHES, ETC., SHALL BE REPAIRED AS REQUIRED TO RESTORE EQUIPMENT TO ORIGINAL CONDITION AT NO COST TO OWNER.
- CONTRACTOR SHALL COORDINATE ALL WALL AND ROOF OPENINGS AS IT RELATES TO THEIR WORK. CUTTING OF STRUCTURAL SUPPORT MEMBERS WILL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. EXTENT OF CUTTING SHALL BE MINIMIZED TO PROVIDE THE NEAT MINIMUM OPENING REQUIRED PATCHING SHALL MATCH ADJACENT MATERIALS AND SURFACES.
- TEMPORARY SHUT DOWNS OF MECHANICAL SYSTEMS, IF REQUIRED, SHALL BE COORDINATED WITH THE OWNER IN ORDER TO MINIMIZE THE INTERRUPTIONS TO THE OWNER.
- NO MECHANICAL SERVICES OR EQUIPMENT SHALL BE LOCATED OVER ELECTRICAL EQUIPMENT, ELEVATOR EQUIPMENT, OR TELEPHONE EQUIPMENT ROOM.
- CONTRACTOR SHALL INSTALL AS MUCH OF THE NEW SYSTEM AS POSSIBLE, PRIOR TO REMOVING EXISTING SYSTEMS IN ORDER TO MINIMIZE THE AMOUNT OF DOWNTIME. REFER TO SPECIFICATIONS.

PLUMBING GENERAL NOTES

- PIPE OPENINGS THROUGH FIRE RATED WALLS SHALL BE CAULKED WITH AN INTUMESCENT MATERIAL.
- EXCAVATE UNDER FLOOR TRENCH, INSTALL PIPING AND BACK FILL WITH CLEAN SAND. COMPACT AND REPLACE FLOOR TO MATCH EXISTING.
- PIPING SHOWN IS SCHEMATIC TO SHOW SIZES AND GENERAL LOCATIONS. ROUTE PIPING AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS.
- INSTALL PIPING TO MAINTAIN HEADROOM, CONSERVE SPACE, AND NOT INTERFERE WITH USE OF SPACE. GROUP PIPING WHERE PRACTICAL AT COMMON ELEVATIONS. ROUTE PIPING IN A RECTILINEAR, ORDERLY MANNER AND MAINTAIN GRADIENT. ROUTE PIPING PARALLEL AND PERPENDICULAR TO WALL IN CEILING SPACE.
- COORDINATE ROUGH-IN AND FINAL LOCATIONS OF NEW AND RELOCATED PIPING WITH EXISTING LIGHTING, STRUCTURE, PROCESS, PIPING AND DUCTWORK, ETC. PROVIDE OFFSETS AND/OR EASEMENTS AS REQUIRE TO AVOID CONFLICTS WITH WORK OF ALL OTHER TRADES.
- INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTION PIPING.
- PROVIDE CLEARANCE IN HANGERS AND FROM STRUCTURE AND OTHER EQUIPMENT FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
- ROUGH-IN AND CONNECT ALL PLUMBING TO FIXTURES AND EQUIPMENT FURNISHED AND INSTALLED BY OTHERS.
- PROVIDE SHUT-OFF VALVES AT ALL EQUIPMENT AND ALL BRANCH PIPING OFF OF THE MAINS.

HVAC GENERAL NOTES

- FABRICATE AND SUPPORT ALL DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE, CURRENT EDITION.
- ALL DUCTWORK IS SHOWN IN SCHEMATIC FORM. NOT ALL RISES AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCES WITH OTHER TRADES.
- ELBOWS SHALL BE SQUARE ELBOWS CONSTRUCTED WITH TURNING VANES. RADIUS ELBOWS WITH CENTERLINE RADIUS OF NOT LESS THAN 1.5 TIMES THE DUCT WIDTH MAY BE USED WHERE SPACE CONDITIONS PERMIT OR WHERE INDICATED ON DRAWINGS.
- ALL BRANCH DUCT TAPS SHALL BE CONICAL FITTINGS ON ROUND MAINS AND SHALL BE 45 DEG ENTRY FITTINGS ON RECTANGULAR MAINS.
- MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 5'-0" FLEXIBLE DUCT SHALL BE METAL FLEXIBLE DUCT WITH 1" EXTERNAL FIBERGLASS INSULATION AND VAPOR BARRIER JACKET.
- MANUAL VOLUME DAMPERS SHALL BE PROVIDED ON ALL RETURN, SUPPLY AND EXHAUST BRANCH DUCTS.
- SUPPORT ALL DUCTWORK, EQUIPMENT, ETC., FROM TOP CHORD OF BAR JOISTS OR STEEL FRAMING BEAMS.
- ALL DUCTWORK IN CHEMICAL STORAGE ROOMS SHALL BE FIBERGLASS (FRP) WITH FIBERGLASS HANGERS AND HARDWARE.
- ALL DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS. INCREASE SHEET METAL SIZE TO ACCOMMODATE DUCT LINER AS REQUIRED BY THE SPECIFICATIONS.
- ALL SHEET METAL CONNECTIONS AND JOISTS SHALL BE SEALED TO SMACNA CLASS A.
- DIFFUSER, GRILLE, AND REGISTER LOCATIONS. SHALL BE COORDINATED WITH THE ARCHITECT'S REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLAN.
- CHANGE DUCT SIZES GRADUALLY. LIMIT SLOPES FOR TRANSITIONS TO A MAXIMUM OF 1 INCH CHANGE IN WIDTH FOR EVERY 3 INCHES OF LENGTH OF APPROXIMATELY 15 DEG. A MAXIMUM OF 30 DEG IS ACCEPTABLE DIRECTLY ADJACENT TO EQUIPMENT.

GENERAL ABBREVIATIONS

ABV ABOVE	LB POUND
AC AIR CONDITIONING	LBHR POUNDS PER HOUR
ADD AREA DRAIN ADDENDUM	LWT LEAVING WATER TEMPERATURE
AFV ABOVE FINISHED FLOOR	MAT MIXED AIR TEMPERATURE
AFUE ANNUAL FUEL UTILIZATION EFF.	MAX MAXIMUM
ALT ALTERNATE	MBH THOUSAND BTUH
AP ACCESS PANEL	MCF THOUSAND CUBIC FEET
APD AIR PRESSURE DROP	MD MOTORZED DAMPER
ARCH ARCHITECT/ARCHITECTURAL	MECH MECHANICAL
BCO BUILDING CLEANOUT	MFR MANUFACTURER
BFF BELOW FINISHED FLOOR	MIN MINIMUM
BLW BELOW	MISC MISCELLANEOUS
BTU BTU PER HOUR	MTR MOTOR
BTU BRITISH THERMAL UNITS	MUA MAKE-UP AIR
BTUH BTU PER HOUR	NC NOISE CRITERIA
CAP CAPACITY	NC NORMALLY CLOSED
CB CATCH BASIN	NIC NOT IN CONTRACT
CC COOLING COIL	NO NORMALLY OPEN
CFM CUBIC FEET PER MINUTE	NTS NOT TO SCALE
CLG CEILING	O OXYGEN
CO CLEAN OUT	Ø ROUND
D DEGREE	OA OUTSIDE AIR
DB DRY BULB	ORD OVERFLOW ROOF DRAIN
DIA DIAMETER	PD PRESSURE DROP
DN DOWN	PIV POST INDICATOR VALVE
E, EX EXISTING	PLBG PLUMBING
EA EXHAUST AIR	PRESS PRESSURE
EAT ENTERING AIR TEMPERATURE	PRV PRESSURE REDUCING VALVE
ELEC ELECTRICAL	PSI POUNDS PER SQUARE INCH
ELECC EQUIP	PSIG POUNDS PER SQUARE INCH GAUGE
EWT ENTERING WATER TEMP.	RA RETURN AIR
F DEGREES FAHRENHEIT	RD ROOF DRAIN
FCO FLOOR CLEAN OUT	RH RELATIVE HUMIDITY
FD FLOOR DRAIN	RM ROOM
FD FIRE DAMPER	RPM REVOLUTIONS PER MINUTE
FDV FIRE DEPARTMENT VALVE	SA SUPPLY AIR
FL FLOOR	SD SMOKE DAMPER
FFM FEET PER MINUTE	SF SQUARE FOOT
FS FLOOR SINK	SP STATIC PRESSURE
FSD FIRE SMOKE DAMPER	T THERMOSTAT
FT FEET	TD TEMPERATURE DROP
FT HD FEET OF HEAD	TRD TRENCH DRAIN
FTR FIN TUBE RADIATION	TEMP TEMPERATURE
GA GAUGE	TYP TYPICAL
GAL GALLON	UG UNDERGROUND
GC GENERAL CONTRACTOR	V VENT
GPH GALLONS PER HOUR	VAC VACUUM
GPM GALLONS PER MINUTE	VTR VENT THROUGH ROOF
HB HOSE BIB	WB WET BULB
HP HORSE POWER	WC WATER COLUMN
IN INCH	WCO WALL CLEAN OUT
INV INVERT	WG WATER GAUGE
LAT LEAVING AIR TEMPERATURE	WPD WATER PRESSURE DROP

MECHANICAL EQUIPMENT

MECHANICAL EQUIPMENT TAG

EQUIPMENT TYPE (SEE TABLE BELOW) **XXX-1** EQUIPMENT NUMBER

AC AIR COMPRESSOR	GI GREASE INTERCEPTOR
ACC AIR COOLED CONDENSER	GRH GAS FIRED RADIANT HEATER
ACCH AIR COOLED CHILLER	GRV GRAVITY ROOF VENTILATOR
AHU AIR HANDLING UNIT	GUH GAS FIRED UNIT HEATER
AS AIR SEPARATOR	HB HOSE BIB
B BOILER	HP HEAT PUMP UNIT (AIR-AIR)
BC BOOSTER COIL (HOT WATER)	HS HAND SINK
CH CHILLER	HWC HW CONNECTOR
CHWC CHILLED WATER COIL	HWHC HOT WATER HEATING COIL
CHWP CHILLED WATER PUMP	HWHU HOT WATER UNIT HEATER
CP CONDENSATE PUMP	HX HEAT EXCHANGER
CRU COMPUTER ROOM UNIT	HYD WALL HYDRANT
CT COOLING TOWER	L LAVATORY
CUH CABINET UNIT HEATER	L LOUVER
CWP CONDENSER WATER PUMP	LBG LINEAR BAR GRILLE
DBP DOMESTIC WATER BOOSTER PUMP	MAU MAKEUP AIR UNIT
DCP DOMESTIC WATER CIRC. PUMP	P PUMP
DSF DESTRATIFICATION FAN	PRV POWER ROOF VENTILATOR
DG DOOR GRILLE	RTU ROOFTOP AIR HANDLING UNIT
DL DRUM LOUVER	RCP RECIRCULATING PUMP
DRP DOMESTIC RECIRCULATION PUMP	RD ROUND DIFFUSER
DS DUCT SILENCER	RG RETURN GRILLE
DU DEHUMIDIFICATION UNIT	RTF RETURN FAN
DXC DX COIL	RTU ROOFTOP UNIT
EBB ELECTRIC BASE BOARD HEATER	RV ROOF VENT
ECH ELECTRIC COVE HEATER	SD SLOT DIFFUSER
EDH ELECTRIC DUCT HEATER	SEP SEWAGE EJECTOR PUMP
EF EXHAUST FAN	SF SUPPLY FAN
EG EXHAUST GRILLE	SG SUPPLY GRILLE
EHMD ELECTRIC HUMIDIFIER	SP SUMP PUMP
ERV ENERGY RECOVERY VENTILATOR	TF TRANSFER FAN
ET EXPANSION TANK	TG TRANSFER GRILLE
EUH ELECTRIC UNIT HEATER	UH UNIT HEATER
EVAP REMOTE EVAPORATOR	UV UNIT VENTILATOR
EWC ELECTRIC WATER COOLER	VAV VAV BOX (WITH OR WITHOUT COIL)
EWL ELECTRIC WALL HEATER	VP VACUUM PUMP
EWH ELECTRIC WATER HEATER	WH WATER HEATER
F FURNACE	WS WATER SOFTENER
FCU FAN COIL UNIT	
FP FIRE PUMP	
FTR FINNED TUBE RADIATION	
GHMD GAS FIRED HUMIDIFIER	

MECHANICAL EQUIPMENT TAG

FIXTURE TYPE (SEE TABLE BELOW AND PLUMBING FIXTURE SCHEDULE) **XXX-1** FIXTURE NUMBER

BT BEAUTY SINK	MB MOP BASIN
BS BATH TUB	SH SHOWER
DF DRINKING FOUNTAIN	SK SINK
DW DISHWASHER	SS SAFETY SHOWER
EW EYE WASH STATION	SSEW SAFETY SHOWER EYE WASH
EWC ELECTRIC WATER COOLER	SSK SERVICE SINK
FDC FIRE DEPARTMENT CONN.	UR URINAL
GD GARBAGE DISPOSAL	W LAUNDRY WASHER BOX
HB HOSE BIB	WC WATER CLOSET
HS HAND SINK	WDF WASH DOWN FAUCET
L LAVATORY	WDR WASH DOWN REEL
LS LAB SINK	WF WASH FOUNTAIN
LT LAUNDRY TUB	WH WALL HYDRANT
	WO WALL OUTLET (LAMB'S TONGUE)

HVAC SYMBOLS

	SUPPLY AIR DUCT UP/DOWN
	RETURN AIR DUCT UP/DOWN
	EXHAUST AIR DUCT UP/DOWN
	RECTANGULAR DUCT SIZE TAG (WIDTH / HEIGHT)
	ROUND DUCT SIZE TAG (DIAMETER)
	SUPPLY AIR DIFFUSER
	RETURN AIR/EXHAUST AIR GRILLE
	LINEAR DIFFUSER
	TEMPERATURE SENSOR / THERMOSTAT
	HUMIDISTAT
	SPEED SWITCH
	CO2 SENSOR
	FIRE DAMPER
	SMOKE DAMPER
	FIRE/SMOKE DAMPER
	CEILING RADIATION DAMPER
	VOLUME DAMPER
	MOTORIZED DAMPER
	FLEXIBLE DUCT
	TURNING VANES

AIR DEVICES TAGS

ABBREVIATIONS	TYPICAL SUPPLY DIFFUSER TAG
CD CEILING DIFFUSER	DUCT CONNECTION SIZE
DG DOOR GRILLE	DIFFUSER MARK
DL DRUM LOUVER	AIRFLOW
EG EXHAUST GRILLE	CD1 8"
L LOUVER	200 CFM
LBG LINEAR BAR GRILLE	
LD ROUND DIFFUSER	TYPICAL GRILLE TAG
RG RETURN GRILLE	GRILLE SIZE
SD SLOT DIFFUSER	GRILLE MARK
SG SUPPLY GRILLE	RG1 8/8
TG TRANSFER GRILLE	AIRFLOW
	200 CFM

PLUMBING FIXTURES

PLUMBING FIXTURE TAG

FIXTURE TYPE (SEE TABLE BELOW AND PLUMBING FIXTURE SCHEDULE) **XXX-1** FIXTURE NUMBER

AD AREA DRAIN	MB MOP BASIN
DW DISHWASHER	SH SHOWER
FD FLOOR DRAIN	SK SINK
FS FLOOR SINK	SS SAFETY SHOWER
FFD FUNNEL FLOOR DRAIN	SSEW SAFETY SHOWER EYE WASH
ORD OVERFLOW ROOF DRAIN	SSK SERVICE SINK
OSD OPEN SIGHT DRAIN	UR URINAL
RD ROOF DRAIN	W LAUNDRY WASHER BOX
TD TRENCH DRAIN	WC WATER CLOSET
TTFD TELL-TALE FLOOR DRAIN	WDF WASH DOWN FAUCET
	WDR WASH DOWN REEL
	WF WASH FOUNTAIN
	WH WALL HYDRANT
	WO WALL OUTLET (LAMB'S TONGUE)

DRAIN TAGS

DRAIN CONNECTION SIZE **X" XX-1** DRAIN TYPE (SEE TABLE BELOW AND PLUMBING FIXTURE SCHEDULE)

AD AREA DRAIN	MB MOP BASIN
DW DISHWASHER	SH SHOWER
FD FLOOR DRAIN	SK SINK
FS FLOOR SINK	SS SAFETY SHOWER
FFD FUNNEL FLOOR DRAIN	SSEW SAFETY SHOWER EYE WASH
ORD OVERFLOW ROOF DRAIN	SSK SERVICE SINK
OSD OPEN SIGHT DRAIN	UR URINAL
RD ROOF DRAIN	W LAUNDRY WASHER BOX
TD TRENCH DRAIN	WC WATER CLOSET
TTFD TELL-TALE FLOOR DRAIN	WDF WASH DOWN FAUCET
	WDR WASH DOWN REEL
	WF WASH FOUNTAIN
	WH WALL HYDRANT
	WO WALL OUTLET (LAMB'S TONGUE)

PLUMBING AND PIPING SYMBOLS

	NEW CONSTRUCTION
	EXISTING PIPE TO BE REMOVED
	EXISTING PIPE TO REMAIN
	UNDERGROUND PIPING
HWS HYDRONIC HOT WATER SUPPLY	HWS HYDRONIC HOT WATER SUPPLY
HWR HYDRONIC HOT WATER RETURN	HWR HYDRONIC HOT WATER RETURN
CHWS CHILLED WATER SUPPLY	CHWS CHILLED WATER SUPPLY
CHWR CHILLED WATER RETURN	CHWR CHILLED WATER RETURN
REF REFRIGERANT SUCTION / LIQUID	REF REFRIGERANT SUCTION / LIQUID
CD CONDENSATE	CD CONDENSATE
CW COLD WATER	CW COLD WATER
H-CW HARD COLD WATER	H-CW HARD COLD WATER
S-CW SOFTENED COLD WATER	S-CW SOFTENED COLD WATER
HW DOMESTIC HOT WATER	HW DOMESTIC HOT WATER
RHW RECIRCULATED HOT WATER	RHW RECIRCULATED HOT WATER
RO REVERSE OSMOSIS WATER	RO REVERSE OSMOSIS WATER
T TEMPERED EYEWASH WATER	T TEMPERED EYEWASH WATER
G NATURAL GAS	G NATURAL GAS
NPW NON-POTABLE WATER	NPW NON-POTABLE WATER
W1 POTABLE WATER	W1 POTABLE WATER
W2 NON-POTABLE WATER	W2 NON-POTABLE WATER
W3 PLANT EFFLUENT	W3 PLANT EFFLUENT
OSD OVERFLOW STORM DRAIN	OSD OVERFLOW STORM DRAIN
SD STORM DRAIN	SD STORM DRAIN
SAN SANITARY SEWER DRAIN	SAN SANITARY SEWER DRAIN
V VENT	V VENT
CWV COMBINATION WASTE AND VENT	CWV COMBINATION WASTE AND VENT
IW INDIRECT WASTE	IW INDIRECT WASTE
PD PUMP DISCHARGE	PD PUMP DISCHARGE

SCHEMATIC SYMBOLS

	ELBOW UP
	ELBOW DOWN
	TEE UP
	TEE DOWN
	CAPPED OR PLUGGED PIPE
	FLUID FLOW
	UNION
	STRAINER
	PIPE ANCHOR
	PIPE EXPANSION JOINT
	PIPE PITCH DOWN
	BALL VALVE
	GATE VALVE
	STOP VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	BACKFLOW PREVENTER
	RELIEF VALVE
	PRESSURE REDUCING VALVE
	PRESSURE GAUGE
	PIPE THERMOMETER
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	BALANCING VALVE
	DRAIN VALVE
	FIN-TUBE RADIATION
	FIN-TUBE RADIATION IN CABINET
	CABINET ONLY
	PUMP
	FLOOR SINK SYMBOL
	FLOOR DRAIN SYMBOL
	STORM DRAIN SYMBOL

GENERAL MECHANICAL SYMBOLS

	REVISION NUMBER
	REVISION CLOUD
	PLAN KEYNOTE
	CONTINUATION SYMBOL
	ROOM NAME AND NUMBER
	CONNECT TO EXISTING
	NUMBER OF DETAIL ON SHEET
	SHEET WHERE DETAIL APPEARS

MECHANICAL SHEET INDEX

M101	MAIN LEVEL HVAC PLAN
M102	ROOF HVAC PLAN
M001	MECHANICAL SYMBOLS AND ABBREVIATIONS

NOTE

ALL GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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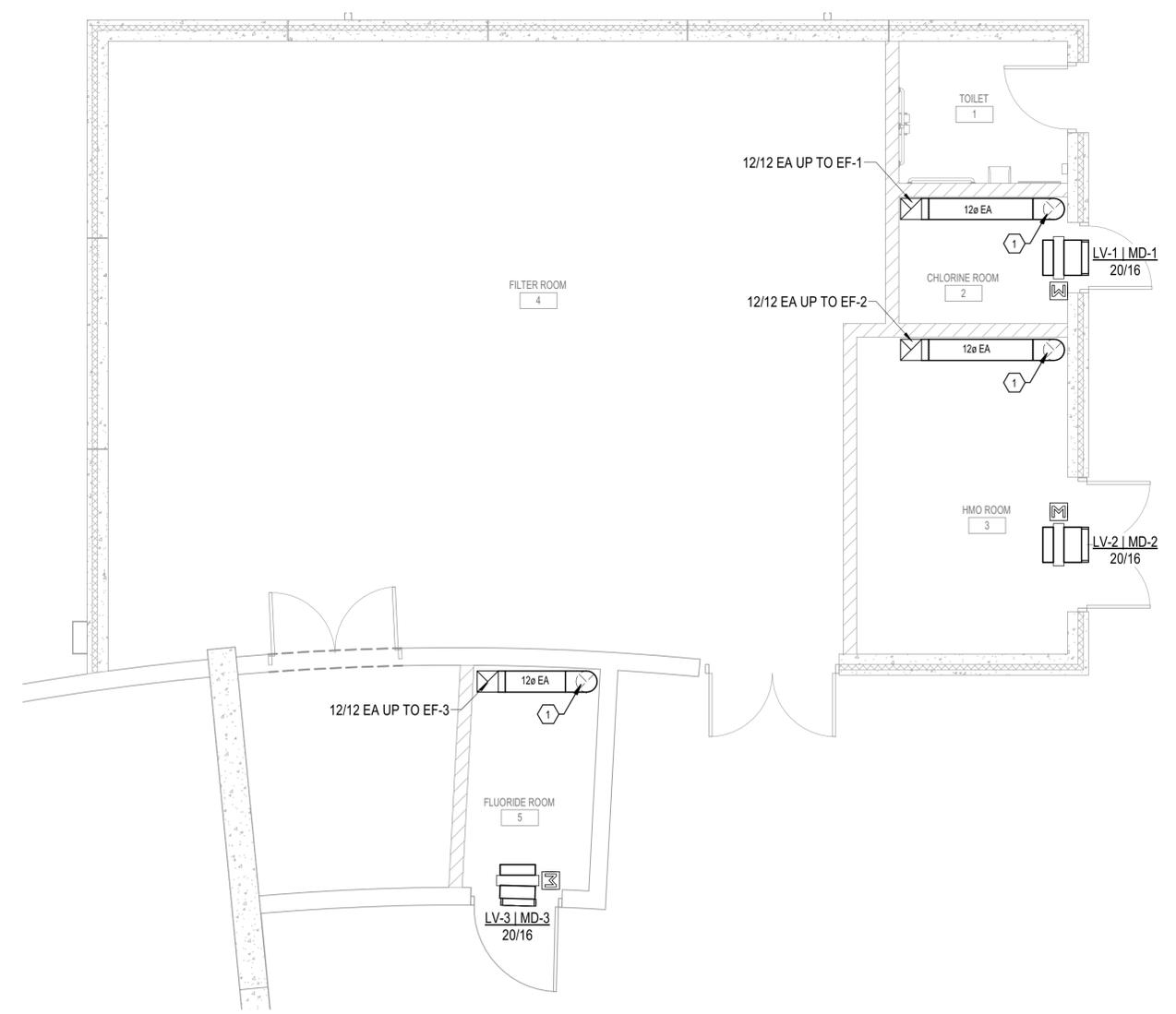
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Issue Date 10/31/2022

REVISION SCHEDULE
REV. # DESCRIPTION DATE

M101

KEYNOTES:

- FRP EXHAUST DUCT DWON TO 12" AFF WITH MANUAL BALANCING DAMPERS IN VERTICAL DROP. BALANCE TO INDICATED AIR FLOW RATE. PROVIDE ALUMINUM SCREEN MESH AND FRP VOLUME DAMPER.



1
M101
PROJECT NORTH
1/4" = 1'-0"
0 6" 1' 2'

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119 E OLIN AVE
MADISON, WI 53713

CITY OF MADISON WATER UTILITY
UNIT WELL 19 TREATMENT SYSTEM ADDITION
2526 LAKE MENDOTA DRIVE
MADISON, WISCONSIN

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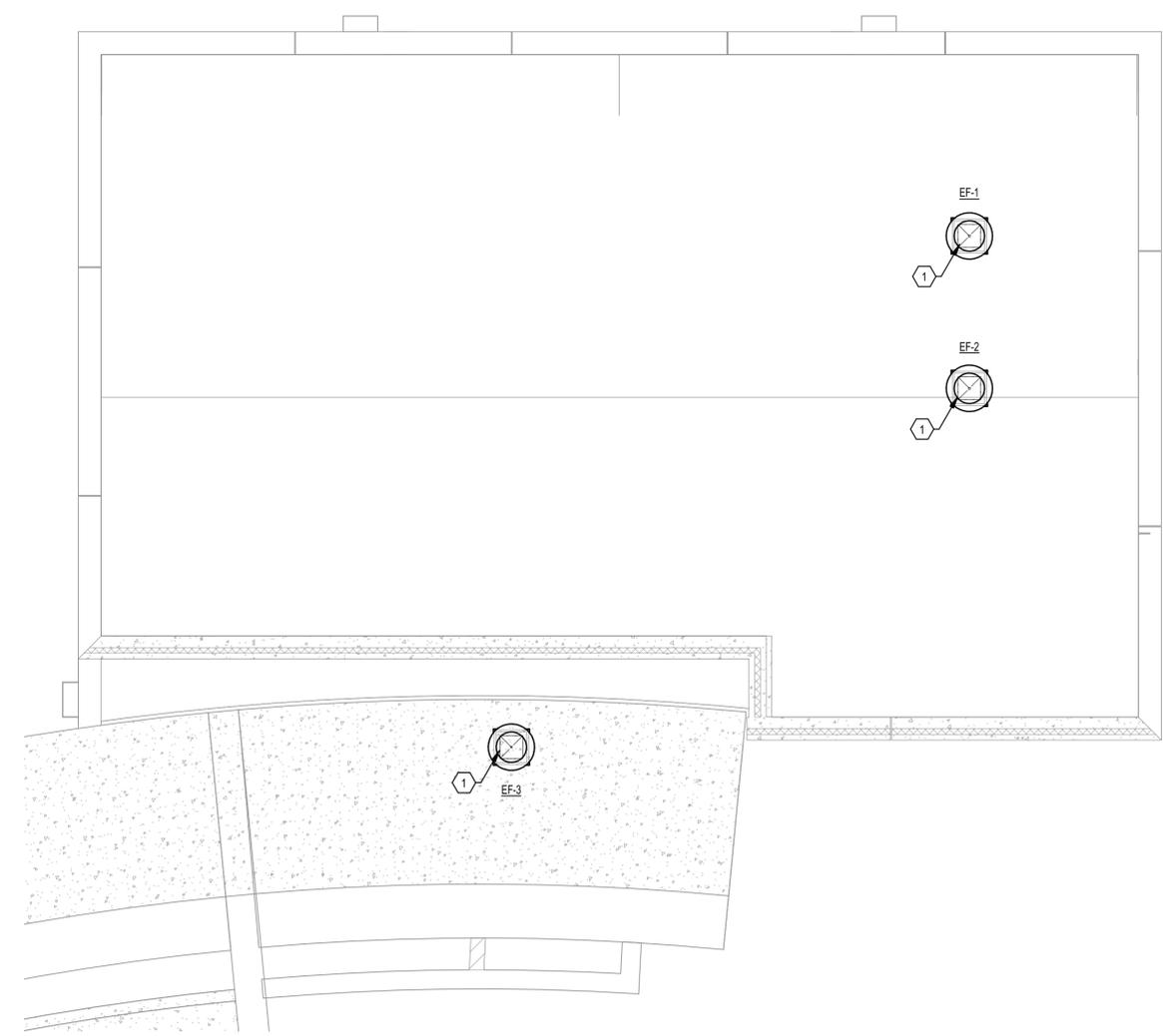
SEH Project	MADWU 167818
Checked By	
Drawn By	
Project Status	Issue Date
PLAN COMMISSION SUBMITTAL	10/31/2022

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

KEYNOTES:

1. ROOF MOUNTED UPBLAST EXHAUST FAN. PROVIDE 18" ROOF CURB.





City of Madison Fire Department

314 W Dayton Street, Madison, WI 53703
Phone: 608-266-4420 • Fax: 608-267-1100 • E-mail: fire@cityofmadison.com

Project Address: 2526 Lake Mendota Drive - Madison Water Utility Well 19

Contact Name & Phone #: Kelly Miess, 608-261-9640

FIRE APPARATUS ACCESS AND FIRE HYDRANT WORKSHEET

1. Is the building completely protected by an NFPA 13 or 13R automatic fire sprinkler system? If non-sprinklered , fire lanes extend to within 150-feet of all portions of the exterior wall? If sprinklered , fire lanes are within 250-feet of all portions of the exterior wall?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
2. Is the fire lane constructed of concrete or asphalt, designed to support a minimum load of 85,000 lbs? a) Is the fire lane a minimum unobstructed width of at least 20-feet? b) Is the fire lane unobstructed with a vertical clearance of at least 13½-feet? c) Is the minimum inside turning radius of the fire lane at least 28-feet? d) Is the grade of the fire lane not more than a slope of 8%? e) Is the fire lane posted as fire lane? (Provide detail of signage.) f) Is a roll-able curb used as part of the fire lane? (Provide detail of curb.) g) Is part of a sidewalk used as part of the required fire lane? (Must support +85,000 lbs.)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A
3. Is the fire lane obstructed by security gates or barricades? If yes: a) Is the gate a minimum of 20-feet clear opening? b) Is an approved means of emergency operations installed, key vault, padlock or key switch?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A
4. Is the Fire lane dead-ended with a length greater than 150-feet? If yes, does the area for turning around fire apparatus comply with IFC D103?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A
5. Is any portion of the building to be used for high-piled storage in accordance with IFC Chapter 3206.6 If yes, see IFC 3206.6 for further requirements.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
6. Is any part of the building <u>greater than 30-feet</u> above the grade plane? If yes, answer the following questions: a) Is the aerial apparatus fire lane parallel to one entire side of the building and covering at least 25% of the perimeter? b) Is the near edge of the aerial apparatus fire lane between 15' and 30' from the building? c) Are there any overhead power or utility lines located across the aerial apparatus fire lane? d) Are there any tree canopies expected to grow across the aerial fire lane? (Based on mature canopy width of tree species) e) Does the aerial apparatus fire lane have a minimum unobstructed width of 26-feet? f) Is the space between the aerial lane and the building free of trees exceeding 20' in heights?	<input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A
7. Are all portions of the required fire lanes within 500-feet of at least (2) hydrants? <i>Note: Distances shall be measured along the path of the hose lay as it comes off the fire apparatus.</i> a) Is the fire lane at least 26' wide for at least 20-feet on each side of the hydrants? b) Is there at least 40' between a hydrant and the building? c) Are the hydrant(s) setback no less than 5-feet nor more than 10-feet from the curb or edge of the street or fire lane? d) Are hydrants located in parking lot islands a minimum of 3½-feet from the hydrant to the curb? e) Are there no obstructions, including but not limited to: power poles, trees, bushes, fences, posts located, or grade changes exceeding 1½-feet, within 5-feet of a fire hydrant?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	<input type="checkbox"/> N/A <input type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A

Note: Hydrants shall be installed and in-service prior to combustible construction on the project site.

Attach an additional sheet if further explanation is required for any answers.

This worksheet is based on **MGO 34.503** and **IFC 2021 Edition Chapter 5 and Appendix D**; please see the codes for further information.

FIRE APPARATUS ACCESS AND FIRE HYDRANT ATTACHMENT

1. We are claiming the portion of Lake Mendota Drive adjacent to the site as a fire lane.
2. D) The site driveway slope is over 8% but less than 10%. The greater than 8% but less than 10% slope is acceptable per 10/18/2022 phone conversation with Bill Sullivan.
E) Signage is not required unless there are issues with blockage of the fire lane per 10/18/2022 email from Bill Sullivan.
3. No additional comments.
4. We are claiming Lake Mendota Drive as a portion of the fire lane. Though the site driveway is longer than 150 feet and is dead-ended, Lake Mendota Drive is not dead-ended.
5. No additional comments.
6. No additional comments.
7. We are claiming the portion of Lake Mendota Drive adjacent to the site as a fire lane.



CITY OF MADISON LANDSCAPE WORKSHEET

Section 28.142 Madison General Ordinance

Project Location / Address 2526 Lake Mendota Drive, Madison, WI, 53713
 Name of Project Unit Well 19 Treatment System Addition
 Owner / Contact Board of Regents of the University of Wisconsin System
 Contact Phone 608-263-3023 Contact Email aaron.williams@wisc.edu

**** Landscape plans for zoning lots greater than ten thousand (10,000) square feet in size MUST be prepared by a registered landscape architect. ****

Applicability

The following standards apply to all exterior construction and development activity, including the expansion of existing buildings, structures and parking lots, except the construction of detached single-family and two-family dwellings and their accessory structures. The entire development site must be brought up to compliance with this section unless **all** of the following conditions apply, in which case only the affected areas need to be brought up to compliance:

- (a) The area of site disturbance is less than ten percent (10%) of the entire development site during any ten-(10) year period.
- (b) Gross floor area is only increased by ten percent (10%) during any ten-(10) year period.
- (c) No demolition of a principal building is involved.
- (d) Any displaced landscaping elements must be replaced on the site and shown on a revised landscaping plan.

Landscape Calculations and Distribution

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveways and docking/loading facilities, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot. There are three methods for calculating landscape points depending on the size of the lot and Zoning District.

- (a) For all lots except those described in (b) and (c) below, five (5) landscape points shall be provided for each three hundred (300) square feet of developed area.

Total square footage of developed area 10,265 SF

Total landscape points required 172

- ~~(b)~~ For lots larger than five (5) acres, points shall be provided at five (5) points per three hundred (300) square feet for the first five (5) developed acres, and one (1) point per one hundred (100) square feet for all additional acres.

Total square footage of developed area _____

Five (5) acres = 217,800 square feet

First five (5) developed acres = 3,630 points

Remainder of developed area _____

Total landscape points required _____

- ~~(c)~~ For the Industrial – Limited (IL) and Industrial – General (IG) districts, one (1) point shall be provided per one hundred (100) square feet of developed area.

Total square footage of developed area _____

Total landscape points required _____

Tabulation of Points and Credits

Use the table to indicate the quantity and points for all existing and proposed landscape elements.

Plant Type/ Element	Minimum Size at Installation	Points	Credits/ Existing Landscaping		New/ Proposed Landscaping	
			Quantity	Points Achieved	Quantity	Points Achieved
Overstory deciduous tree	2½ inch caliper measured diameter at breast height (dbh)	35	1	35	9	315
Tall evergreen tree (i.e. pine, spruce)	5-6 feet tall	35	-	-	-	-
Ornamental tree	1 1/2 inch caliper	15	-	-	15	225
Upright evergreen shrub (i.e. arborvitae)	3-4 feet tall	10	-	-	-	-
Shrub, deciduous	#3 gallon container size, Min. 12"-24"	3	-	-	41	123
Shrub, evergreen	#3 gallon container size, Min. 12"-24"	4	-	-	-	-
Ornamental grasses/ perennials	#1 gallon container size, Min. 8"-18"	2	-	-	25	50
Ornamental/ decorative fencing or wall	n/a	4 per 10 lineal ft.	-	-	-	-
Existing significant specimen tree	Minimum size: 2 ½ inch caliper dbh. *Trees must be within developed area and cannot comprise more than 30% of total required points.	14 per caliper inch dbh. Maximum points per tree: 200	-	-	-	-
Landscape furniture for public seating and/or transit connections	* Furniture must be within developed area, publically accessible, and cannot comprise more than 5% of total required points.	5 points per "seat"	-	-	-	-
Sub Totals				35		713

Total Number of Points Provided 748

* As determined by ANSI, ANLA- American standards for nursery stock. For each size, minimum plant sizes shall conform to the specifications as stated in the current American Standard for Nursery Stock.

Landscaping shall be distributed throughout the property along street frontages, within parking lot interiors, as foundation plantings, or as general site landscaping. The total number of landscape points provided shall be distributed on the property as follows.

Total Developed Area

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveways and docking/loading facilities, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot.

Development Frontage Landscaping

Landscaping and/or ornamental fencing shall be provided between buildings or parking areas and the adjacent street(s), except where buildings are placed at the sidewalk. Landscape material shall include a mix of plant materials.

Interior Parking Lot Landscaping

The purpose of interior parking lot landscaping is to improve the appearance of parking lots, provide shade, and improve stormwater infiltration. All parking lots with twenty (20) or more parking spaces shall be landscaped in accordance with the interior parking lot standards.

Foundation Plantings

Foundation plantings shall be installed along building facades, except where building facades directly abut the sidewalk, plaza, or other hardscape features. Foundation plantings shall consist primarily of shrubs, perennials, and native grasses.

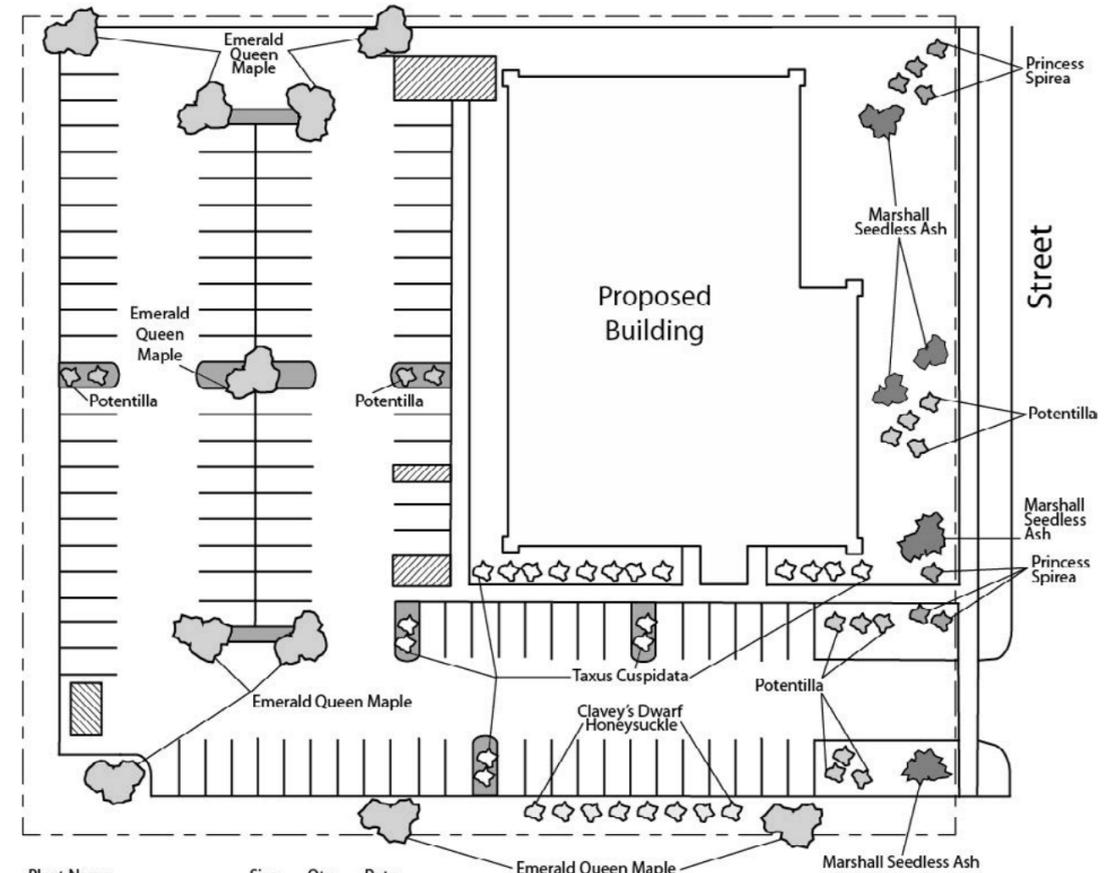
Screening Along District Boundaries

Screening shall be provided along side and rear property boundaries between commercial, mixed use or industrial districts and residential districts.

Screening of Other Site Elements

The following site elements shall be screened in compatibility with the design elements, materials and colors used elsewhere on the site: refuse disposal areas, outdoor storage areas, loading areas, and mechanical equipment.

Example Landscape Plan



Plant Name	Size	Qty.	Pnts.
Emerald Queen Maple	2-2.5"	9	-
Marshall Seedless Ash	2-2.5"	4	450
Clavey's Dwarf Honeysuckle	1 Gal	8	24
Princess Spirea	1 Gal	7	21
Potentilla	1 Gal	10	30
Taxus Cuspidata	2 Gal	12	60
TOTAL			585

Call City Zoning, 266-4551, with your questions about this type of plan

LANDSCAPE PLAN AND LANDSCAPE WORKSHEET INSTRUCTIONS

Refer to Zoning Code Section 28.142 LANDSCAPING AND SCREENING REQUIREMENTS for the complete requirements for preparing and submitting a Landscape Plan and Landscape Worksheet.

Applicability.

The following standards apply to all exterior construction and development activity, including the expansion of existing buildings, structures and parking lots, except the construction of detached single-family and two-family dwellings and their accessory structures. The entire development site must be brought up to compliance with this section unless all of the following conditions apply, in which case only the affected areas need to be brought up to compliance:

- (a) The area of site disturbance is less than ten percent (10%) of the entire development site during any ten-(10) year period.
- (b) Gross floor area is only increased by ten percent (10%) during any ten-(10) year period.
- (c) No demolition of a principal building is involved.
- (d) Any displaced landscaping elements must be replaced on the site and shown on a revised landscaping plan.

Landscape Plan and Design Standards.

Landscape plans shall be submitted as a component of a site plan, where required, or as a component of applications for other actions, including zoning permits, where applicable. Landscape plans for zoning lots greater than ten thousand (10,000) square feet in size must be prepared by a registered landscape architect.

- (a) Elements of the landscape plan shall include the following:
 1. Plant list including common and Latin names, size and root condition (i.e. container or ball & burlap).
 2. Site amenities, including bike racks, benches, trash receptacles, etc.
 3. Storage areas including trash and loading.
 4. Lighting (landscape, pedestrian or parking area).
 5. Irrigation.
 6. Hard surface materials.
 7. Labeling of mulching, edging and curbing.
 8. Areas of seeding or sodding.
 9. Areas to remain undisturbed and limits of land disturbance.
 10. Plants shall be depicted at their size at sixty percent (60%) of growth.
 11. Existing trees eight (8) inches or more in diameter.
 12. Site grading plan, including stormwater management, if applicable.
- (b) Plant Selection. Plant materials provided in conformance with the provisions of this section shall be nursery quality and tolerant of individual site microclimates.
- (c) Mulch shall consist of shredded bark, chipped wood or other organic material installed at a minimum depth of two (2) inches.

Landscape Calculations and Distribution.

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area, for the purpose of this requirement, is defined as that area within a single contiguous boundary which is made up of structures, parking driveways and docking/loading facilities, but **excluding** the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot.

- (a) Landscaping shall be distributed throughout the property along street frontages, within parking lot interiors, and as foundation plantings, or as general site landscaping.
- (b) Planting beds or planted areas must have at least seventy-five percent (75%) vegetative cover.
- (c) Canopy tree diversity requirements for new trees:
 1. If the development site has fewer than 5 canopy trees, no tree diversity is required.
 2. If the development site has between 5 and 50 canopy trees, no single species may comprise more than 33% of trees.
 3. If the development site has more than 50 canopy trees, no single species may comprise more than 20% of trees.

Development Frontage Landscaping.

Landscaping and/or ornamental fencing shall be provided between buildings or parking areas and the adjacent street(s), except where buildings are placed at the sidewalk. Landscape material shall include a mix of plant material meeting the following minimum requirements:

- (a) One (1) overstory deciduous tree and five (5) shrubs shall be planted for each thirty (30) lineal feet of lot frontage. Two (2) ornamental trees or two (2) evergreen trees may be used in place of one (1) overstory deciduous tree.
- (b) In cases where building facades directly abut the sidewalk, required frontage landscaping shall be deducted from the required point total.
- (c) In cases where development frontage landscaping cannot be provided due to site constraints, the zoning administrator may waive the requirement or substitute alternative screening methods for the required landscaping.
- (d) Fencing shall be a minimum of three (3) feet in height, and shall be constructed of metal, masonry, stone or equivalent material. Chain link or temporary fencing is prohibited.

Interior Parking Lot Landscaping.

The purpose of interior parking lot landscaping is to improve the appearance of parking lots, provide shade, and improve stormwater infiltration. **All parking lots with twenty (20) or more parking spaces** shall be landscaped in accordance with the following interior parking lot standards.

- (a) For new development on sites previously undeveloped or where all improvements have been removed, a minimum of eight percent (8%) of the asphalt or concrete area of the parking lot shall be devoted to interior planting islands, peninsulas, or landscaped strips. For changes to a developed site, a minimum of five percent (5%) of the asphalt or concrete area shall be interior planting islands, peninsulas, or landscaped strips. A planting island shall be located at least every twelve (12) contiguous stalls with no break or alternatively, landscaped strips at least seven (7) feet wide between parking bays.
- (b) The primary plant materials shall be shade trees with at least one (1) deciduous canopy tree for every one hundred sixty (160) square feet of required landscaped area. Two (2) ornamental deciduous trees may be substituted for one (1) canopy tree, but ornamental trees shall constitute no more than twenty-five percent (25%) of the required trees. No light poles shall be located within the area of sixty percent (60%) of mature growth from the center of any tree.
- (c) Islands may be curbed or may be designed as uncurbed bio-retention areas as part of an approved low impact stormwater management design approved by the Director of Public Works. The ability to maintain these areas over time must be demonstrated. (See Chapter 37, Madison General Ordinances, Erosion and Stormwater Runoff Control.)

Foundation Plantings.

Foundation plantings shall be installed along building facades, except where building facades directly abut the sidewalk, plaza, or other hardscape features. Foundation plantings shall consist primarily of shrubs, perennials, and native grasses. The Zoning Administrator may modify this requirement for development existing prior to the effective date of this ordinance, as long as improvements achieve an equivalent or greater level of landscaping for the site.

Screening Along District Boundaries.

Screening shall be provided along side and rear property boundaries between commercial, mixed use or industrial districts and residential districts. Screening shall consist of a solid wall, solid fence, or hedge with year-round foliage, between six (6) and eight (8) feet in height, except that within the front yard setback area, screening shall not exceed four (4) feet in height. Height of screening shall be measured from natural or approved grade. Berms and retaining walls shall not be used to increase grade relative to screening height.

Screening of Other Site Elements.

The following site elements shall be screened in compatibility with the design elements, materials and colors used elsewhere on the site, as follows:

- (a) Refuse Disposal Areas. All developments, except single family and two family developments, shall provide a refuse disposal area. Such area shall be screened on four (4) sides (including a gate for access) by a solid, commercial-grade wood fence, wall, or equivalent material with a minimum height of six (6) feet and not greater than seven (7) feet.
- (b) Outdoor Storage Areas. Outdoor storage areas shall be screened from abutting residential uses with a by a building wall or solid, commercial-grade wood fence, wall, year-round hedge, or equivalent material, with a minimum height of six (6) feet and not greater than seven (7) feet. Screening along district boundaries, where present, may provide all or part of the required screening.
- (c) Loading Areas. Loading areas shall be screened from abutting residential uses and from street view to the extent feasible by a building wall or solid, commercial-grade wood fence, or equivalent material, with a minimum height of six (6) feet and not greater than seven (7) feet. Screening along district boundaries, where present, may provide all or part of the required screening.
- (d) Mechanical Equipment. All rooftop and ground level mechanical equipment and utilities shall be fully screened from view from any street or residential district, as viewed from six (6) feet above ground level. Screening may consist of a building wall or fence and/or landscaping as approved by the Zoning Administrator.

Maintenance.

The owner of the premises is responsible for the watering, maintenance, repair and replacement of all landscaping, fences, and other landscape architectural features on the site. All planting beds shall be kept weed free. Plant material that has died shall be replaced no later than the upcoming June 1.