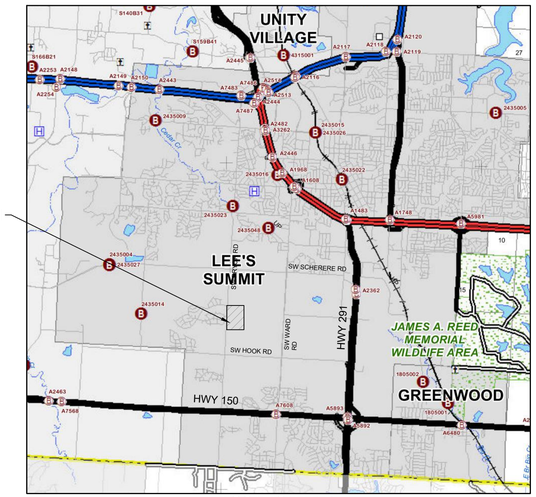
CONSTRUCTION PLANS
FOR
WHISPERING WOODS AMENITY AREA
CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

DESCRIPTION

PROPERTY DESCRIPTION
CONTAINING 105,623 SQUARE FEET OR 2.42 ACRES

TRACT C OF WHISPERING WOODS, 1ST PLAT, LOTS 1-33



LOCATION MAP
N.T.S.

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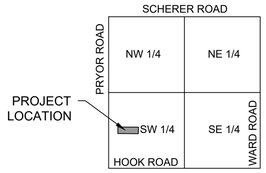
UTILITY SERVICE NUMBERS	
SPECTRUM	886-874-2389
EVERGY	816-220-5213
SPIRE GAS	816-399-9633
LEE'S SUMMIT PUBLIC WORKS	816-969-1800
CITY PLANNING & DEVELOPMENT	816-969-1600
FIRE DEPARTMENT	816-969-1300

CALL OR CLICK BEFORE YOU DIG
1-800-DIG-RITE or 811
1-800-344-7483
MISSOURI ONE CALL SYSTEM
mo1call.com



VICINITY MAP
N.T.S.

APPROVED:

City Engineer _____ Date _____

DEVELOPER:

WHISPERING WOODS LAND, L.L.C.
803 P.C.A. ROAD
WARRENSBURG, MO 64093
AGENT: RICK FRYE
PHONE: 816.564.2230
FAX: 660.429.1801

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" =	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

Sheet C1.0

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE - 2013006489
PROFESSIONAL ENGINEER
3/3/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA
TITLE SHEET
LEE'S SUMMIT, MO

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802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
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Project No: 120.0484.11
Sheet C1.0

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LEE'S SUMMIT NOTES:

1. CONTRACTOR SHALL REFER TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION (D&C) MANUAL.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THESE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION WAS PERFORMED ON THIS PROJECT.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.
7. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT A LOCATION TO BE SELECTED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SUCH LOCATION TO BE ON THE SITE.
8. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING AL PHASES OF CONSTRUCTION, HE SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS AND FOLLOW THE EROSION CONTROL PLAN PREPARED BY THE DESIGN ENGINEER.
9. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
10. SUBGRADE SOIL FOR ALL CONCRETE STRUCTURES, REGARDLESS OF THE TYPE OR LOCATION, SHALL BE FIRM, DENSE AND THOROUGHLY COMPACTED AND CONSOLIDATED; SHALL BE FREE FROM MUCK AND MUD; AND SHALL BE SUFFICIENTLY STABLE TO REMAIN FIRM AND INTACT UNDER THE FEET OF THE WORKMAN OR MACHINERY ENGAGED IN SUBGRADE, LAYING REINFORCING STEEL, AND DEPOSITING CONCRETE THEREON. IN ALL CASES WHERE SUBSOIL IS MUCKY OR WORKS INTO MUD OR MUCK DURING SUCH OPERATION, A SEAL COURSE OF EITHER CONCRETE OR ROCK SHALL BE PLACED BELOW SUBGRADE TO PROVIDE A FIRM BASE FOR WORKING AND FOR PLACING THE FLOOR SLAB.
11. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET (10') SHALL BE MAINTAINED BETWEEN PARALLEL WATER AND SANITARY SEWER LINES. AT ANY POINT WHERE SANITARY SEWER LINES CROSS WATER MAIN, THE SANITARY SEWER SHALL BE CONSTRUCTED OF CAST IRON PIPE OR PIPE ENCASED IN CONCRETE FOR A DISTANCE OF TEN FEET (10') IN EACH DIRECTION FROM THE CROSSING UNLESS THE WATER IS A MINIMUM OF EIGHTEEN INCHES (18") ABOVE THE TOP OF THE SANITARY SEWER LINE.
12. CONTRACTOR SHALL PROVIDE TESTING AND INSPECTION PER SECTION 3500 - SANITARY SEWERS CITY OF LEE'S SUMMIT, MISSOURI STANDARD SPECIFICATIONS.
13. DEVELOPMENT PLANS ARE APPROVED INITIALLY FOR ONE (1) YEAR, AFTER WHICH THEY AUTOMATICALLY BECOME VOID AND MUST BE UPDATED AND APPROVED BY THE CITY ENGINEER BEFORE ANY CONSTRUCTION WILL BE PERMITTED.
14. ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND STAKED ON SITE BEFORE THE CONSTRUCTION OF SANITARY SERVICE STUBS.
15. THE CITY OF LEE'S SUMMIT PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF LEE'S SUMMIT DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OR DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF LEE'S SUMMIT THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.
16. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEE'S SUMMIT) AND ONE (1) COPY OF THE APPROPRIATE CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
17. CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE CITY ENGINEER IS NOTIFIED OF SUCH INTENT AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND PERMIT FEES ARE RECEIVED AND APPROVED BY THE CITY ENGINEER.
18. ALL STUB LINES SHALL BE LAID ON 2.00% MINIMUM GRADE UNLESS APPROVED OTHERWISE.
19. CONTRACTOR SHALL NOT BE ALLOWED TO WORK ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT PRIOR APPROVAL OF THE CITY ENGINEER.
20. RELOCATION OF ANY WATER LINE, SEWER LINE OR SERVICE LINE THEREOF REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT HIS EXPENSE.
21. 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.
22. THE CONTRACTOR SHALL CONSTRUCT MANHOLES PLACING ECCENTRIC CONE SECTION IN SUCH A MANNER THAT MANHOLE COVERS ARE ADJACENT TO THE PROPOSED SIDEWALKS. IN LOCATIONS WHERE MANHOLES ARE NOT NEAR PROPOSED SIDEWALKS THE MANHOLE COVERS SHALL GENERALLY BE PLACED ON THE UPSTREAM SIDE OF THE MANHOLES WHENEVER POSSIBLE.
23. STUB LINES, LOCATIONS, AND MINIMUM BASEMENT FLOOR ELEVATIONS ARE LOCATED IN THE TABLE LABELED "TABLE OF SERVICE LOCATIONS."
24. CONSTRUCTION PERMITS WILL NOT BE ISSUED UNTIL THE CITY OF LEE'S SUMMIT RECEIVES A SEWER EXTENSION PERMIT FROM MDNR.
25. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED AND CONNECTED WITH A WATERTIGHT FERNCO GASKET OR APPROVED EQUAL. THE GASKET IS TO BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
26. ALL AREAS WHERE UTILITIES ARE TO BE INSTALLED IN FILL SHALL BE COMPACTED TO 95% TO 18 INCHES ABOVE THE LINE THEN EXCAVATED FOR CONSTRUCTION OF THE LINE.
27. THE CONTRACTOR WILL BE RESPONSIBLE FOR TESTING OF MANHOLES AND PIPES TO THE CITY OF LEE'S SUMMIT DESIGN & CONSTRUCTION MANUAL REQUIREMENTS.
28. THE ENDS OF ALL SANITARY SEWER STUBS SHALL BE SURVEYED AND MARKED BEFORE CONSTRUCTION.
28. ALL UTILITY STREET CROSSINGS SHALL BE BACKFILLED WITH FLOWABLE FILL, OR AB-3. IF CONTRACTOR CHOOSES TO USE OTHER SUITABLE MATERIALS, EXTENSIVE SOIL TESTING REQUIREMENTS WILL BE REQUIRED.
30. TRENCH CHECKS SHALL BE USED FOR ALL SANITARY SEWER STUBS.

PROJECT NOTES:

1. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTORS 48 HOURS PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
2. GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION.
3. PRIOR TO ORDERING PRECAST STRUCTURES: SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL. UPON APPROVAL THESE SHALL BE SUBMITTED TO THE CITY OF LEE'S SUMMIT FOR REVIEW.
4. ALL WATER LINES, SANITARY SEWER LINES, AND STORM WATER DRAINAGE CROSSINGS SHALL BE IN PLACE OR A CASING PIPE PROVIDED FOR FUTURE INSTALLATION PRIOR TO BASE AND SURFACE ASPHALT COURSES.
5. SIDEWALKS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY UNLESS OTHERWISE NOTES. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDICAP RAMP CONSTRUCTION IN CURBS.
6. REFER TO GRADING AND EROSION CONTROL SHEETS IN STREET AND STORM PLANS.
7. SITE TOPOGRAPHY TAKEN FROM SURVEY COMPLETED BY R.L BUFORD & ASSOCIATES. CONTRACTOR TO VERIFY EXISTING CONDITIONS OF THE SITE THAT MAY NOT BE REPRESENTATIVE OF CONSTRUCTION PLANS.
8. PROTECT EXISTING TREES, SHRUBS, FENCE AND LANDSCAPING UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS. REPLACE ANY FENCE, TREES, SHRUBS, LANDSCAPING ITEMS, OR OTHER VEGETATION NOT SCHEDULED FOR REMOVAL THAT ARE DAMAGED DURING CONSTRUCTION OPERATIONS WITHOUT ADDITIONAL COMPENSATION.
9. NO OIL/GAS WELLS ARE PRESENT ON PROPERTY, PER MoDNR.

LAND USE SCHEDULE:

TOTAL LOT AREA = 2.43 AC

TOTAL DISTURBED AREA = 0.47 AC

TOTAL BUILDING AREA = 0.016 AC

REQUIRED PARKING SPACES = 9

PROPOSED PARKING SPACES = 11

IMPERVIOUS COVERAGE = .293 AC = 12.06% OF TOTAL AREA

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 20'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

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Missouri State Certificate of Authority #2006008544

Sheet C1.1

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE - 2013006489
PROFESSIONAL ENGINEER
3/3/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

GENERAL NOTES

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Project No: 120.0484.11

Sheet C1.1

WHISPERING WOODS AMENITY AREA

OVERALL SITE PLAN

LEE'S SUMMIT, MO

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SHAWN DUKE - ENGINEER
MO PE#2013006489

MARK	REVISION	DATE	BY

Engineer: SD	Checked By: SD	Scale: 1" = 30'
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24

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Project No: 120.0484.11

Sheet C2.0

Sheet C2.0

CONTRACTOR TO CONNECT TO EXISTING SIDEWALK

20.0'

5.0'

20.0'

24.0' SANITARY SEWER EASEMENT

D

: TO INSTALL TRUNCATED DOMES

20.0'

4.0'

8.0'

24.5'

C

24.0'

6

B

17.5'

8.0'

C

CONTRACTOR TO INSTALL
4' WIDE DRAINAGE FLUME
WITH 1' CURB TAPER
AND 4' X 4' SCOURSTOP MAT

A

20.0'

D

9.0' (TYP)

CONTRACTOR TO CONNECT TO EXISTING SIDEWALK

PROPOSED GOLF CART PARKING

3

5

5.0'

9.5'

CONTRACTOR TO INSTALL
4' WIDE DRAINAGE FLUME
WITH 1' CURB TAPER
AND 4' X 4' SCOURSTOP MAT

2

17.5' (TYP)

PORTION OF STREAM BUFFER WITH PROPOSED WAIVER FOR PARKING LOT CONSTRUCTION. AREA IS LOCATED INSIDE AREA OF STREAM THAT WAS DISTURBED DURING CONSTRUCTION OF ROAD AND BOX CULVERT.

PARKING RESERVED FOR GOLF CARTS ONLY SIGNAGE

PORTION OF STREAM BUFFER WITH IMPLIED WAIVER DUE TO ROAD AND BOX CULVERT CONSTRUCTION.

CONTRACTOR TO INSTALL
4' WIDE DRAINAGE FLUME
WITH 1' CURB TAPER
AND 4' X 4' SCOURSTOP MAT

PROPOSED
RETAINING WALL
AVE. HEIGHT = 2.0'

100 YEAR FLOOD PLAIN BASED ON SNYDER & ASSOCIATES FLOOD MODEL OF MOUSE CREEK FOR WHISPERING WOODS 3RD PLAT ELEVATION = 953.92'

GATED ENTRANCE
CONTRACTOR TO INSTALL COMPLIANT PANIC TYPE HARDWARE
SWINGING IN DIRECTION OF TRAVEL

13.0'

13.0'

13.0'

X

20.0'

18.0'

(4) 7.25" TYPICAL STEPS

LED LIGHTS

50.0'

SKIMMER

RETURN INLETS

DRAINS

POOL
30'X50'

FOUNTAINS

30.0'

PROPOSED
BUILDING

38.0'

38.0'

61.9'

70.0'

3.0'

5.0'

3.0'

3.0'

EMERGENCY EXIT
CONTRACTOR TO INSTALL
COMPLIANT PANIC TYPE HARDWARE
SWINGING IN DIRECTION OF TRAVEL

LADDER

SKIMMER

LED LIGHTS

21.1'

24.0'

18.0'

8" WALLS
8" FLOORS
$\frac{3}{4}$" REBAR ON 16" CENTERS
4000 PSI CONCRETE

108.0'

STREAM BUFFER LINE

100 YEAR FLOOD PLAIN PER FEMA FIRM MAP 29095C0531G
EFFECTIVE DATE: JANUARY 20, 2017

LEGEND:
PROPOSED:

= STANDARD ASPHALT PAVEMENT (SEE DETAIL SHEET)

= CONCRETE POOL DECK

= CONCRETE SIDEWALK

= 8" THICK KCMMB CONCRETE PAVING

= CG-1 CURB AND GUTTER

(11) = NUMBER OF PARKING STALLS

= PROPERTY BOUNDARY

SITE PLAN - CONSTRUCTION NOTES:

(A) PROPOSED ACCESSIBLE SIGNAGE AND STRIPING. SEE DETAIL SHEETS

(B) PROPOSED PAVEMENT MARKINGS

(C) PROPOSED CURB AND GUTTER

(D) PROPOSED CURB RAMPS

0 10
FEET

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 10'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

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Sheet C2.1

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE-2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

SITE PLAN

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

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Project No: 120.0484.11

Sheet C2.1

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GRADING PLAN - GENERAL NOTES

A. UTILITY WARNING:
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES, AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.

C. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.

D. ALL STORM SEWER PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND INCLUDE FLARED END SECTION.

E. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RE-SPREAD TO MINIMUM 8" DEPTH TO FINISH GRADES.

F. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES.

G. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTH PRIOR TO WALL CONSTRUCTION TO DETERMINE ALL POSSIBLE CONFLICTS.

CONTRACTOR TO CONNECT TO EXISTING SIDEWALK

CONTRACTOR TO INSTALL TRUNCATED DOMES

CONTRACTOR TO INSTALL 4' WIDE DRAINAGE FLUME WITH 1' CURB TAPER AND 4' X 4' SCOURSTOP MAT

CONTRACTOR TO CONNECT TO EXISTING SIDEWALK

PROPOSED GOLF CART PARKING

CONTRACTOR TO INSTALL 4' WIDE DRAINAGE FLUME WITH 1' CURB TAPER AND 4' X 4' SCOURSTOP MAT

PORTION OF STREAM BUFFER WITH PROPOSED WAIVER FOR PARKING LOT CONSTRUCTION. AREA IS LOCATED INSIDE AREA OF STREAM THAT WAS DISTURBED DURING CONSTRUCTION OF ROAD AND BOX CULVERT.

PARKING RESERVED FOR GOLF CARTS ONLY SIGNAGE

PORTION OF STREAM BUFFER WITH IMPLIED WAIVER DUE TO ROAD AND BOX CULVERT CONSTRUCTION.

CONTRACTOR TO INSTALL 4' WIDE DRAINAGE FLUME WITH 1' CURB TAPER AND 4' X 4' SCOURSTOP MAT

PROPOSED RETAINING WALL AVE. HEIGHT = 2.0'

100 YEAR FLOOD PLAIN BASED ON SNYDER & ASSOCIATES FLOOD MODEL OF MOUSE CREEK FOR WHISPERING WOODS 3RD PLAT ELEVATION = 953.92'

GATED ENTRANCE
CONTRACTOR TO INSTALL COMPLIANT PANIC TYPE HARDWARE SWINGING IN DIRECTION OF TRAVEL

EMERGENCY EXIT
CONTRACTOR TO INSTALL COMPLIANT PANIC TYPE HARDWARE SWINGING IN DIRECTION OF TRAVEL

POOL 30'X50'

PROPOSED BUILDING

STREAM BUFFER LINE

100 YEAR FLOOD PLAIN PER FEMA FIRM MAP 29095C0531G EFFECTIVE DATE: JANUARY 20, 2017

LEGEND:

870 = EXISTING INDEX CONTOUR

870 = NEW INDEX CONTOUR

0 10 FEET

MARK	REVISION	DATE	BY
Engineer: SD			
Checked By: SD			
Technician: JS			
Date: 04-26-2022			
Scale: 1" = 10'			
T-R-S: 47N-32W-24			

Sheet C3.0

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STATE OF MISSOURI
SHAWN DUKE
NUMBER PE-2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

GRADING PLAN

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

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Project No: 120.0484.11

Sheet C3.0

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LEGEND:

-870- = EXISTING INDEX CONTOUR

870 = NEW INDEX CONTOUR

POOL 30'X50'

PROPOSED BUILDING

(4) 7.25" TYPICAL STEPS

LED LIGHTS

RETURN INLETS

SKIMMER

FOUNTAINS

DRAINS

LADDER

8" WALLS
8" FLOORS
#4 REBAR ON 16" CENTERS
4000 PSI CONCRETE

0 10 FEET

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 10'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

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Sheet C3.1

STATE OF MISSOURI
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MO PE - 2013006489
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3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

SPOT ELEVATION PLAN

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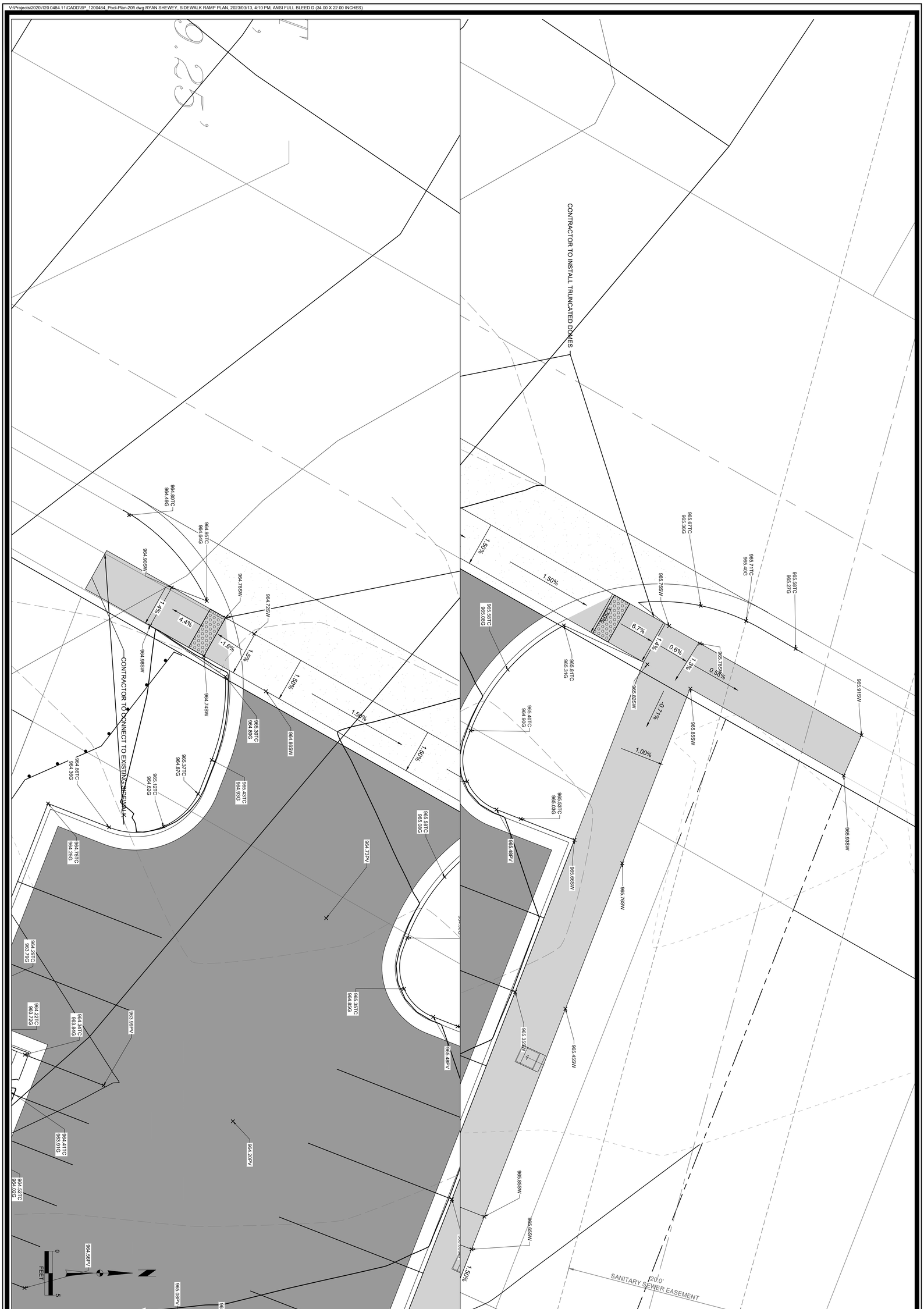
Sheet C3.1



WHISPERING WOODS AMENITY AREA

SIDEWALK RAMP PLAN

LEE'S SUMMIT, MO

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ST. JOSEPH, MISSOURI 64501
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SHAWN DUKE - ENGINEER
MO PE#2013006489

MARK	REVISION	DATE	BY

Engineer: SD	Checked By: SD	Scale: 1" = 5'
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24

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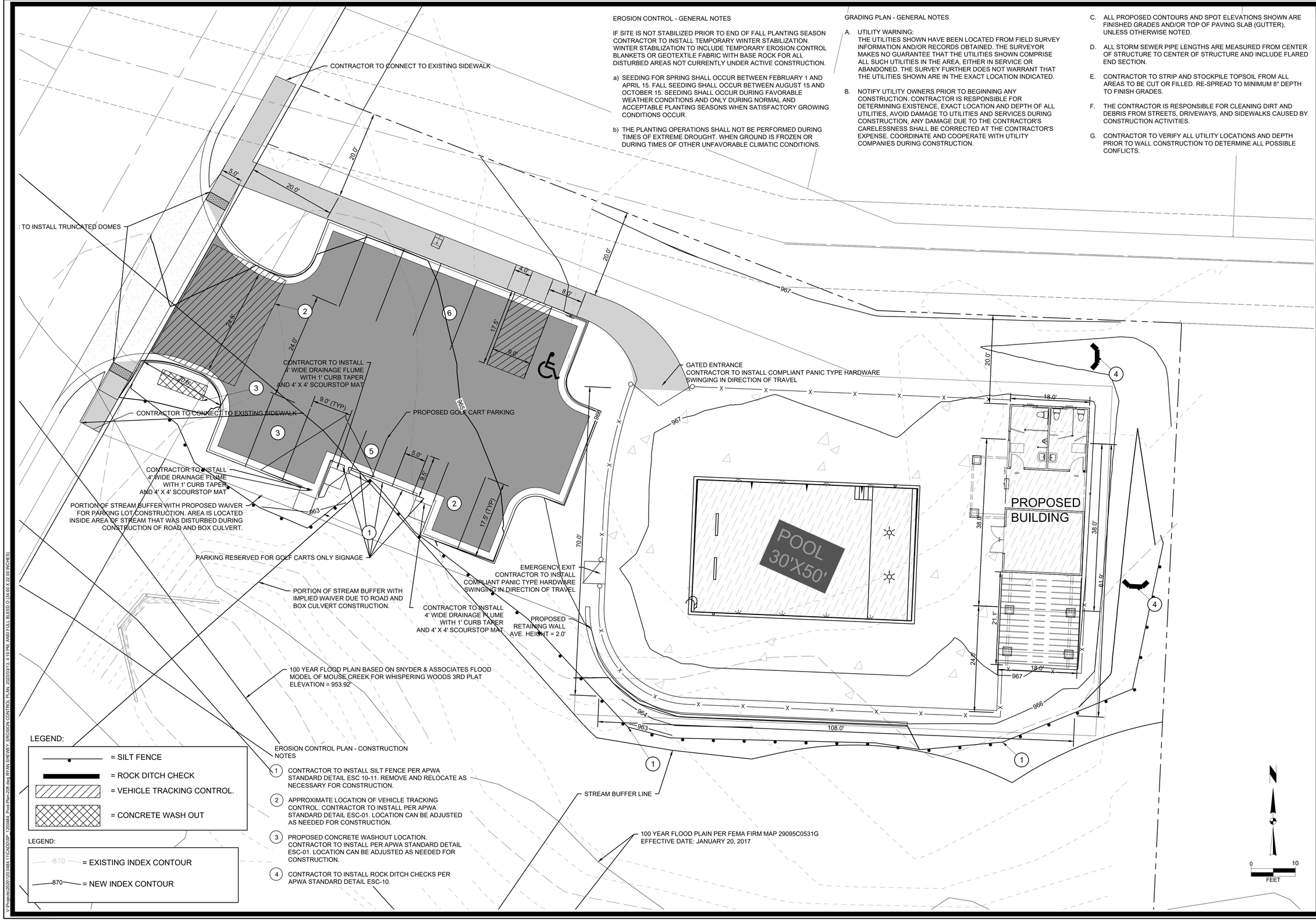
Missouri State Certificate of Authority #2006008544

Project No: 120.0484.11

Sheet C3.2

Sheet C3.2



EROSION CONTROL - GENERAL NOTES

IF SITE IS NOT STABILIZED PRIOR TO END OF FALL PLANTING SEASON CONTRACTOR TO INSTALL TEMPORARY WINTER STABILIZATION. WINTER STABILIZATION TO INCLUDE TEMPORARY EROSION CONTROL BLANKETS OR GEOTEXTILE FABRIC WITH BASE ROCK FOR ALL DISTURBED AREAS NOT CURRENTLY UNDER ACTIVE CONSTRUCTION.

a) SEEDING FOR SPRING SHALL OCCUR BETWEEN FEBRUARY 1 AND APRIL 15. FALL SEEDING SHALL OCCUR BETWEEN AUGUST 15 AND OCTOBER 15. SEEDING SHALL OCCUR DURING FAVORABLE WEATHER CONDITIONS AND ONLY DURING NORMAL AND ACCEPTABLE PLANTING SEASONS WHEN SATISFACTORY GROWING CONDITIONS OCCUR.

b) THE PLANTING OPERATIONS SHALL NOT BE PERFORMED DURING TIMES OF EXTREME DROUGHT. WHEN GROUND IS FROZEN OR DURING TIMES OF OTHER UNFAVORABLE CLIMATIC CONDITIONS.

GRADING PLAN - GENERAL NOTES

A. UTILITY WARNING:
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES, AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.

C. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.

D. ALL STORM SEWER PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND INCLUDE FLARED END SECTION.

E. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE CUT OR FILLED. RE-SPREAD TO MINIMUM 8" DEPTH TO FINISH GRADES.

F. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES.

G. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTH PRIOR TO WALL CONSTRUCTION TO DETERMINE ALL POSSIBLE CONFLICTS.

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 10'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

Sheet C3.3

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE - 2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

EROSION CONTROL PLAN

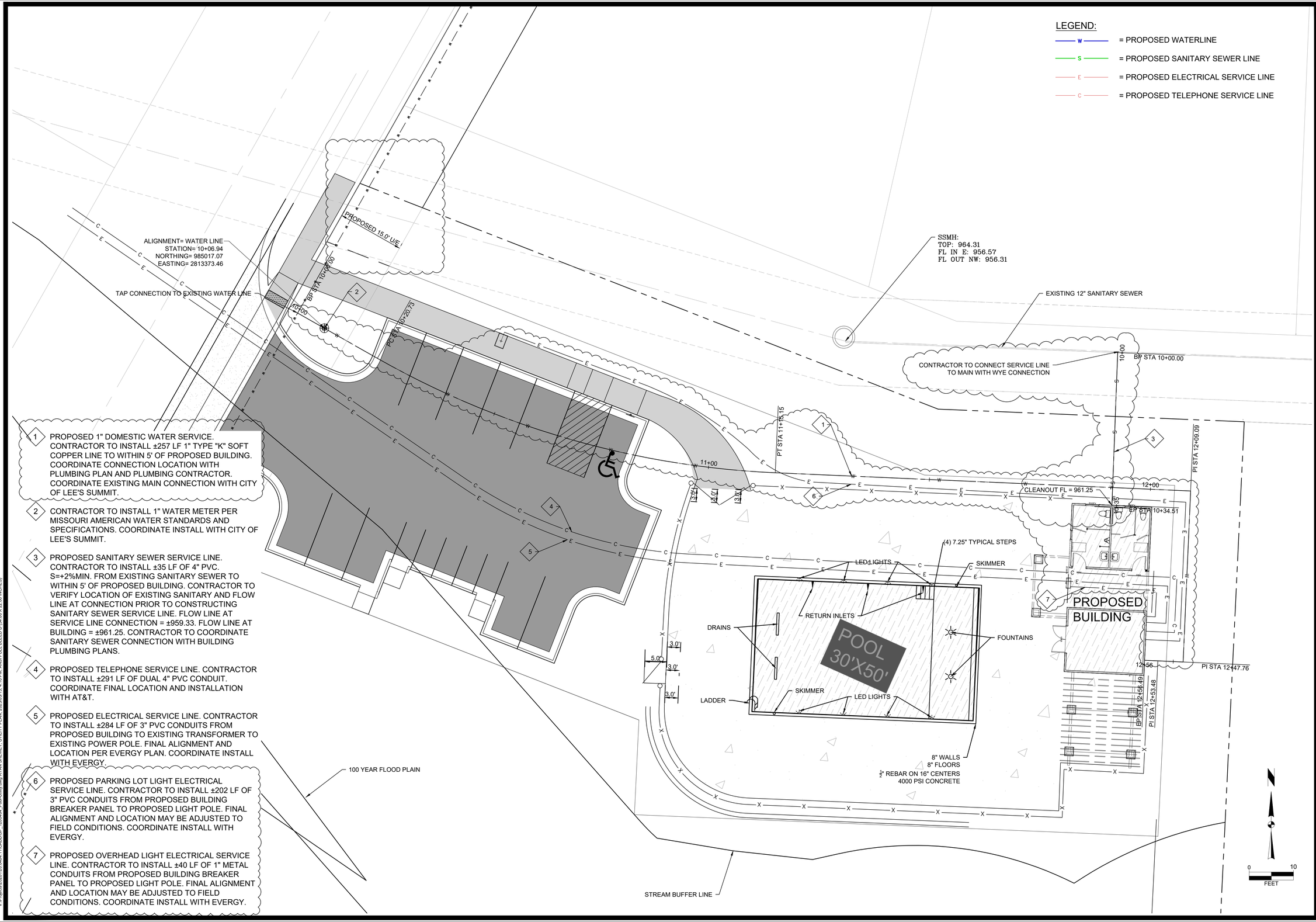
LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
816-364-5222 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 120.0484.11

Sheet C3.3



1. PROPOSED 1" DOMESTIC WATER SERVICE. CONTRACTOR TO INSTALL ±257 LF 1" TYPE "K" SOFT COPPER LINE TO WITHIN 5' OF PROPOSED BUILDING. COORDINATE CONNECTION LOCATION WITH PLUMBING PLAN AND PLUMBING CONTRACTOR. COORDINATE EXISTING MAIN CONNECTION WITH CITY OF LEE'S SUMMIT.
2. CONTRACTOR TO INSTALL 1" WATER METER PER MISSOURI AMERICAN WATER STANDARDS AND SPECIFICATIONS. COORDINATE INSTALL WITH CITY OF LEE'S SUMMIT.
3. PROPOSED SANITARY SEWER SERVICE LINE. CONTRACTOR TO INSTALL ±35 LF OF 4" PVC. S=+2%MIN. FROM EXISTING SANITARY SEWER TO WITHIN 5' OF PROPOSED BUILDING. CONTRACTOR TO VERIFY LOCATION OF EXISTING SANITARY AND FLOW LINE AT CONNECTION PRIOR TO CONSTRUCTING SANITARY SEWER SERVICE LINE. FLOW LINE AT SERVICE LINE CONNECTION = ±959.33. FLOW LINE AT BUILDING = ±961.25. CONTRACTOR TO COORDINATE SANITARY SEWER CONNECTION WITH BUILDING PLUMBING PLANS.
4. PROPOSED TELEPHONE SERVICE LINE. CONTRACTOR TO INSTALL ±291 LF OF DUAL 4" PVC CONDUIT. COORDINATE FINAL LOCATION AND INSTALLATION WITH AT&T.
5. PROPOSED ELECTRICAL SERVICE LINE. CONTRACTOR TO INSTALL ±284 LF OF 3" PVC CONDUITS FROM PROPOSED BUILDING TO EXISTING TRANSFORMER TO EXISTING POWER POLE. FINAL ALIGNMENT AND LOCATION PER EVERGY PLAN. COORDINATE INSTALL WITH EVERGY.
6. PROPOSED PARKING LOT LIGHT ELECTRICAL SERVICE LINE. CONTRACTOR TO INSTALL ±202 LF OF 3" PVC CONDUITS FROM PROPOSED BUILDING BREAKER PANEL TO PROPOSED LIGHT POLE. FINAL ALIGNMENT AND LOCATION MAY BE ADJUSTED TO FIELD CONDITIONS. COORDINATE INSTALL WITH EVERGY.
7. PROPOSED OVERHEAD LIGHT ELECTRICAL SERVICE LINE. CONTRACTOR TO INSTALL ±40 LF OF 1" METAL CONDUITS FROM PROPOSED BUILDING BREAKER PANEL TO PROPOSED LIGHT POLE. FINAL ALIGNMENT AND LOCATION MAY BE ADJUSTED TO FIELD CONDITIONS. COORDINATE INSTALL WITH EVERGY.

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 10'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

Sheet C3.4

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE-2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

UTILITY PLAN

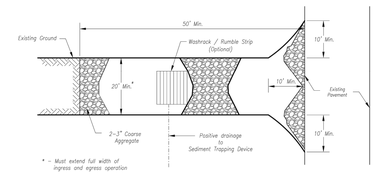
SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
816-364-5222 | www.snyder-associates.com

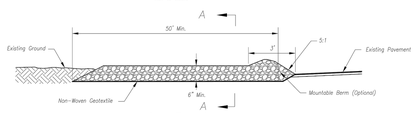
SNYDER & ASSOCIATES

Project No: 120.0484.11
Sheet C3.4

V:\Projects\2020\120.0484.11\CAD\SP 120484_Pool-Utility.dwg RYAN SHEWEY, UTILITY PLAN, 2023/03/13, 4:10 PM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)



Plan View
Not to Scale



Side Elevation
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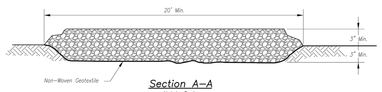


Section A-A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3H:1V side slopes across the foundation approximately 15 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

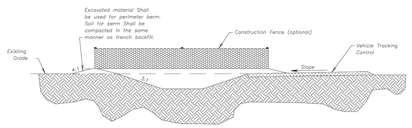
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout areas shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking control is required at the access point to all concrete washout areas.
4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

Maintenance for Concrete Washout:

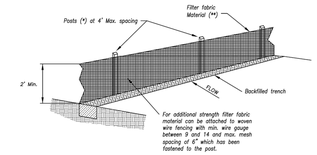
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
4. Concrete washout areas shall remain in place until all concrete for the project is placed.
5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

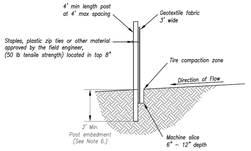


CONCRETE WASHOUT

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

AMERICAN PUBLIC WORKS ASSOCIATION		
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER	
CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT	STANDARD DRAWING NUMBER ESC-01	ADOPTED: 10/24/2016





(*) POSTS
- MIN. LENGTH 4'
- HARDWOOD 1 ⅜" x 1 ⅜"
- NO.2 SOUTHERN PINE 2 ⅜" x 2 ⅜"
- STEEL 1.33 LB/FT

(**) - Geotextile Fabric shall meet the requirements of AASHTO M288

Notes:

1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
4. Attach fabric to upstream side of post.
5. Install posts a minimum of 2' into the ground.
6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

SILT FENCE DETAILS
Not to Scale

Maintenance:

1. Remove and dispose of sediment deposits when the deposit approaches ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

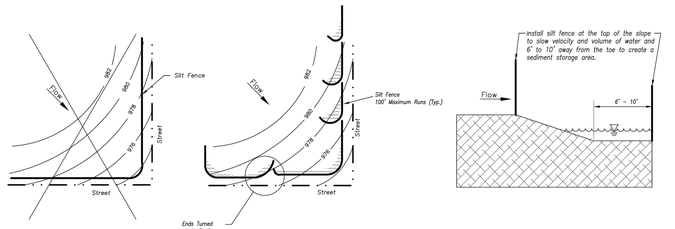
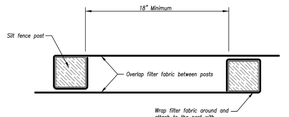


Figure A

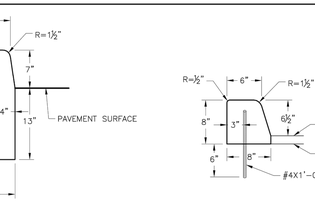
SILT FENCE LAYOUT
Not to Scale



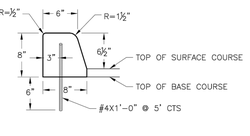
JOINING FENCE SECTIONS
Not to Scale

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

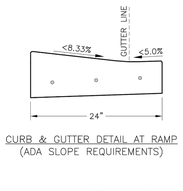
AMERICAN PUBLIC WORKS ASSOCIATION		
Kansas City Metro Chapter APWA American Public Works Association	KANSAS CITY METRO CHAPTER	
SILT FENCE	STANDARD DRAWING NUMBER ESC-03	ADOPTED: 10/24/2016



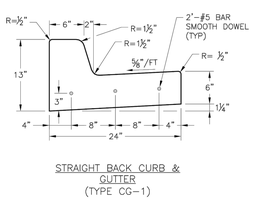
STRAIGHT CURB
(TYPE C-1)



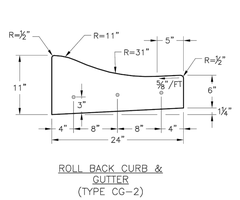
DOWELLED CURB
(TYPE DC)



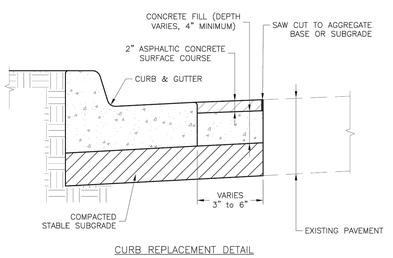
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



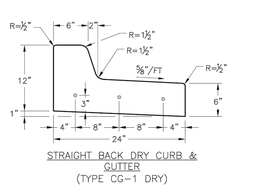
STRAIGHT BACK CURB & GUTTER
(TYPE CG-1)



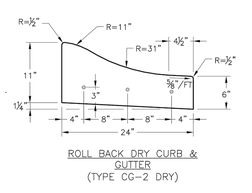
ROLL BACK CURB & GUTTER
(TYPE CG-2)



CURB REPLACEMENT DETAIL



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG-1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG-2 DRY)

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'-#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

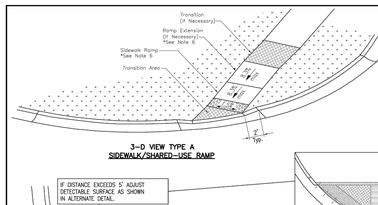
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

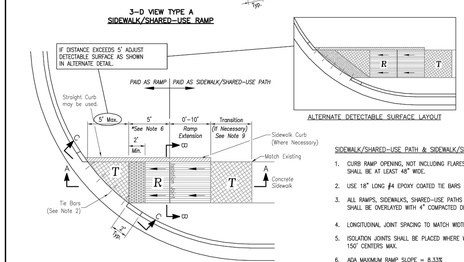
Sheet Name: CURB & GUTTER DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #

GEN-4



3-D VIEW TYPE A
SIDEWALK/SHARED-USE RAMP



TYPE A SIDEWALK/SHARED-USE RAMP
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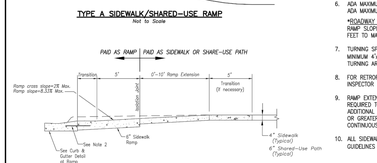
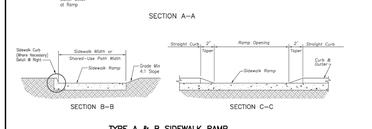


SECTION A-A



SECTION B-B SECTION C-C

TYPE A & B SIDEWALK RAMP
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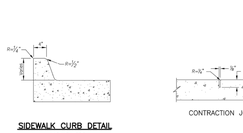

SIDEWALK CURB DETAIL
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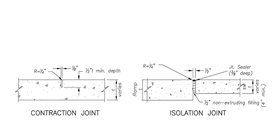
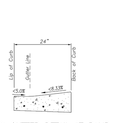


CONTRACTION JOINT ISOLATION JOINT

JOINT DETAILS
Not to Scale



CURB & GUTTER DETAIL AT RAMP
Not to Scale

3-D VIEW TYPE B
SIDEWALK/SHARED-USE RAMP

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 150' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
   ADA MAXIMUM CROSS SLOPE = 2.0%
   *ROADWAY EXCEPTION: WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5% SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

TYPE B SIDEWALK/SHARED-USE RAMP
Not to Scale

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STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #

GEN-3A

MARK	REVISION	DATE	BY

Engineer: SD
Technician: JS
Checked By: SD
Date: 04-26-2022
Scale: 1" = 20'
T-R-S: 47N-32W-24

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Missouri State Certificate of Authority #2006008544

Sheet C4.0

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SHAWN DUKE
NUMBER
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SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

DETAILS

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ENGINEERS & PLANNERS, INC.

802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
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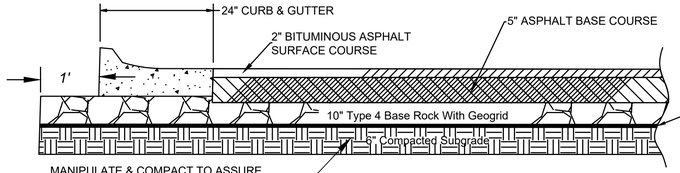
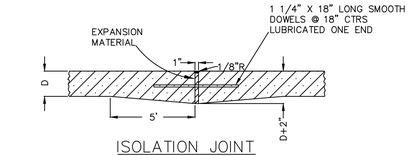
Project No: 120.0484.11
Sheet C4.0

V:\Projects\2020\120.0484.11\CAD\DSP 120484 Pool-Plan-2DR.dwg RYAN SHEWEY DETAILS, 2023/03/13, 4:10 PM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)

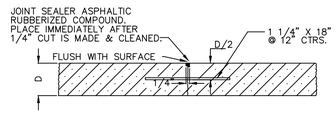


ASPHALT SECTION

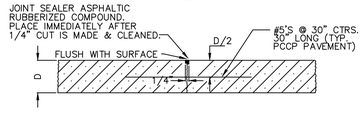
NO SCALE



ISOLATION JOINT
TYPE A



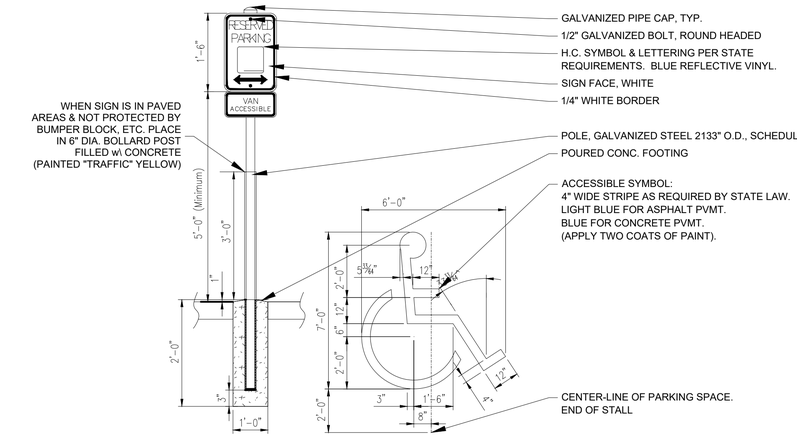
TRANSVERSE CONTRACTION JOINT
TYPE C



LONGITUDINAL JOINT
TYPE F

JOINT PAVING DETAILS

NOT TO SCALE

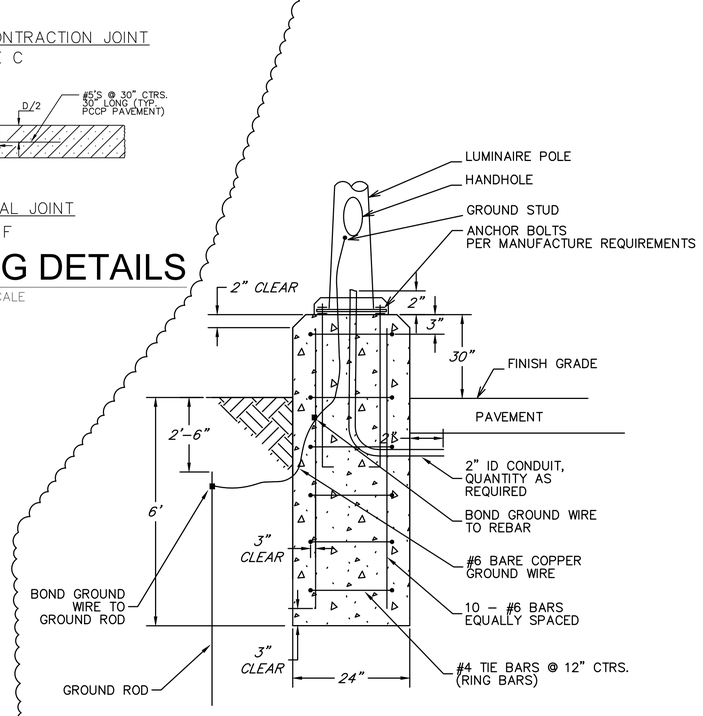


ELEVATION LOGO DETAIL (PLAN)

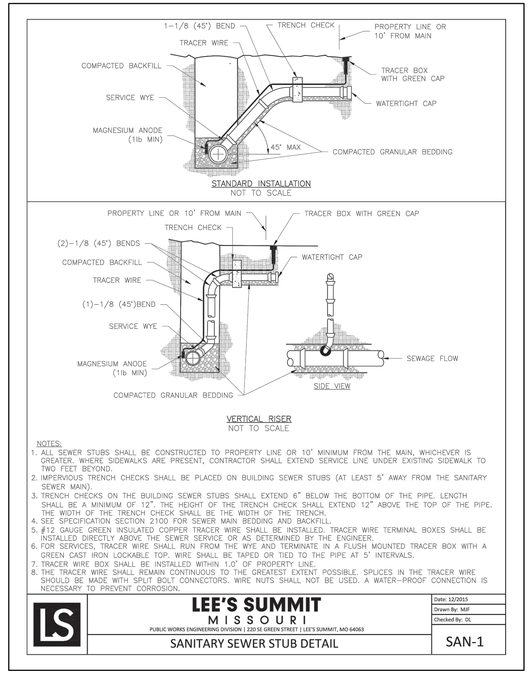
NO SCALE NO SCALE

ACCESSIBLE SIGN & SYMBOL DETAILS

NO SCALE



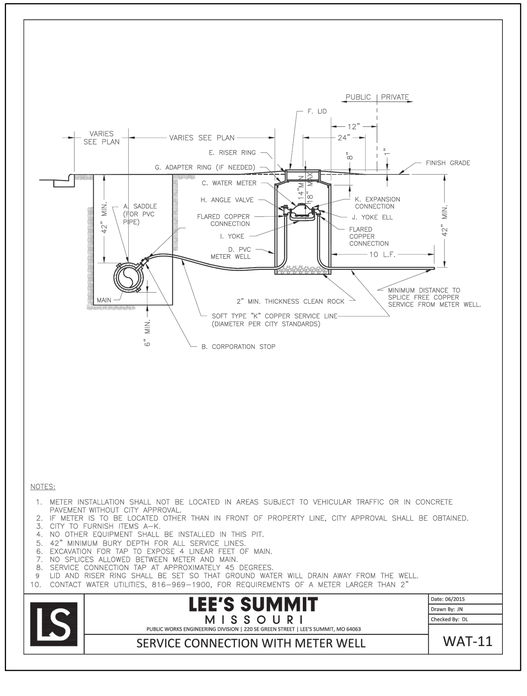
LIGHT POLE BASES



NOTES:

1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
3. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
4. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
5. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
6. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
7. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
8. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

LS	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 12/2015 Drawn By: MJF Checked By: DL
	SANITARY SEWER STUB DETAIL	SAN-1



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"

LS	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063	Date: 06/2015 Drawn By: JN Checked By: DL
	SERVICE CONNECTION WITH METER WELL	WAT-11

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 20'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

Sheet C4.1

STATE OF MISSOURI
SHAWN DUKE
NUMBER PE-2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

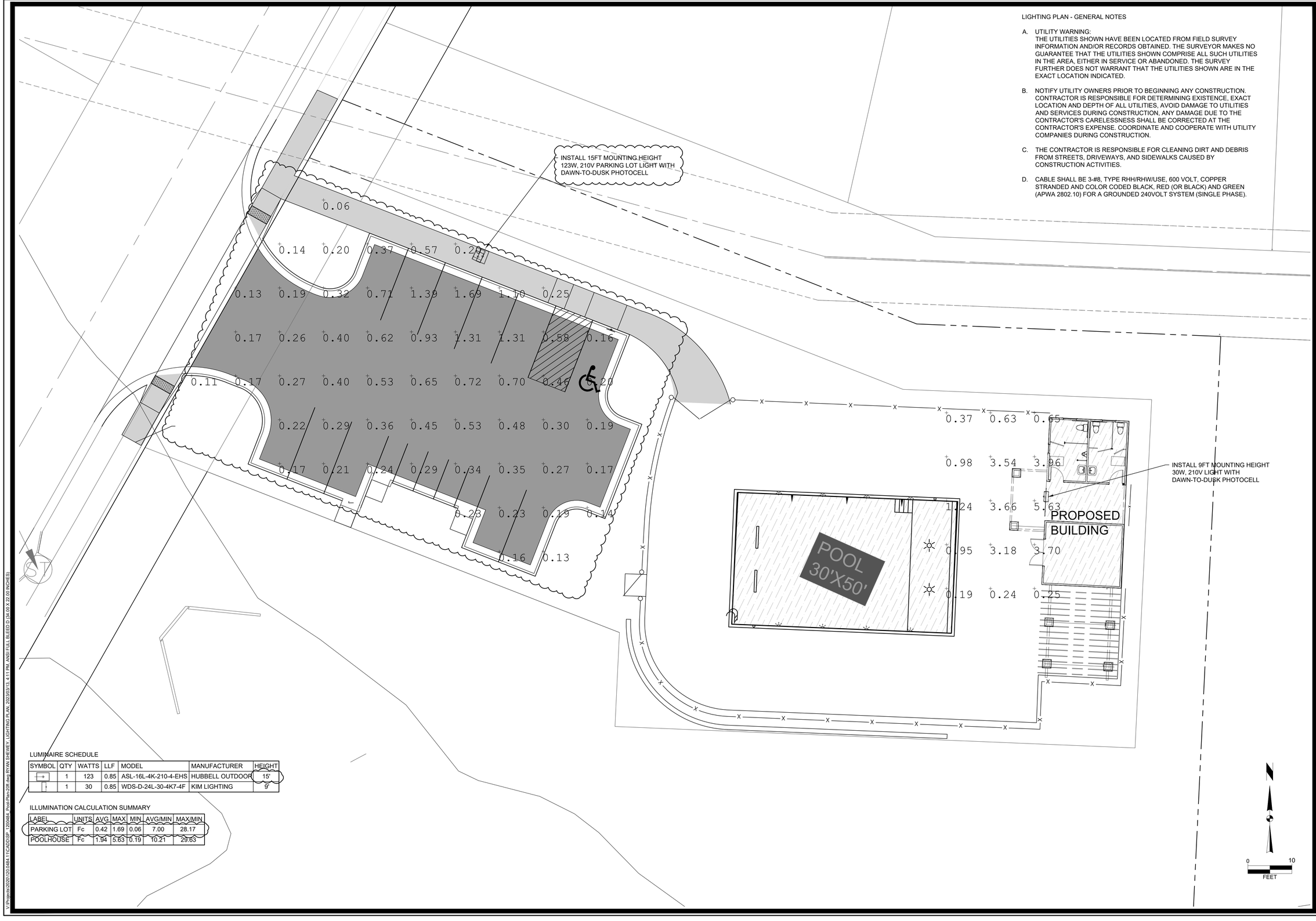
DETAILS

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.
802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
816-364-5222 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 120.0484.11

Sheet C4.1



LIGHTING PLAN - GENERAL NOTES

A. UTILITY WARNING:
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION AND DEPTH OF ALL UTILITIES, AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION, ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.

C. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES.

D. CABLE SHALL BE 3-#8, TYPE RHH/RHW/USE, 600 VOLT, COPPER STRANDED AND COLOR CODED BLACK, RED (OR BLACK) AND GREEN (APWA 2802.10) FOR A GROUNDED 240VOLT SYSTEM (SINGLE PHASE).

LUMINAIRE SCHEDULE

SYMBOL	QTY	WATTS	LLF	MODEL	MANUFACTURER	HEIGHT
	1	123	0.85	ASL-16L-4K-210-4-EHS	HUBBELL OUTDOOR	15'
	1	30	0.85	WDS-D-24L-30-4K7-4F	KIM LIGHTING	9'

ILLUMINATION CALCULATION SUMMARY

LABEL	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
PARKING LOT	Fc	0.42	1.69	0.06	7.00	28.17
POOLHOUSE	Fc	1.94	5.63	0.19	10.21	29.63

MARK	CHANGES PER CITY COMMENTS	12-16-22	JR
	REVISION	DATE	BY

Engineer: SD | Checked By: SD | Scale: 1" = 10'
Technician: JS | Date: 04-26-2022 | T-R-S: 47N-32W-24

Sheet C5.0

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE-2013006489
PROFESSIONAL ENGINEER
5/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LEE'S SUMMIT, MO

LIGHTING PLAN

SNYDER & ASSOCIATES
ENGINEERS & PLANNERS, INC.

802 FRANCIS STREET
ST. JOSEPH, MISSOURI 64501
816-364-5222 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 120.0484.11
Sheet C5.0

V:\Projects\2020\120.0484.11\CAD\SP 120484 Pool Plan-239.dwg RYAN SHEWEY, LIGHTING PLAN, 2023/03/13, 4:11 PM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)

BUFFER AREA = 4,285 S.F.
STREET FRONTAGE = 80 FT

LANDSCAPE REQUIRED	LANDSCAPE PROVIDED
1 SHADE TREE PER 1,000 S.F. = 4.29 TREES	5 TREES
1 ORNAMENTAL TREE PER 500 S.F. = 8.57 TREES	9 TREES
1 EVERGREEN TREE PER 300 S.F. = 14.28 TREES	15 TREES
1 SHRUB PER 200 S.F. = 21.43 SHRUBS	22 SHRUBS
1 STREET TREE PER 30 FT STREET FRONTAGE = 3 STREET TREES	3 STREET TREES
1 SHRUB PER 20 FT STREET FRONTAGE = 4 STREET SHRUBS	4 STREET SHRUBS
2 SHRUBS PER 5000 S.F. OPEN AREA = 3.63 SHRUBS	4 OPEN AREA SHRUBS
1 TREE PER 5000 S.F. OPEN AREA = 1.81 TREES	2 OPEN AREA TREES
12 SHRUBS PER 40 FT PARKING LOT SCREENING	14 SCREENING SHRUBS

POOL
30'X50'

PROPOSED
BUILDING

SHADE TREES	QUANTITY	SIZE
COMMON HACKBERRY	3	3" CAL.
SKYLINE HONEY LOCUST	2	3" CAL.

ORNAMENTAL TREES	QUANTITY	SIZE
FLOWERING DOGWOOD	4	3" CAL.
SERVICEBERRY	4	3" CAL.
CRAB APPLE	6	3" CAL.

EVERGREEN TREES	QUANTITY	HEIGHT
BALD CYPRUS	5	8 FT
EASTERN RED CEDAR	5	8 FT
EASTERN WHITE PINE	5	8 FT

SHRUBS	QUANTITY	SIZE
AMERICAN HAZELNUT	10	24" B&B
ARROWWOOD VIBURNUM	8	24" B&B
FRAGRANT SUMAC	9	24" B&B
MEADOW WILLOW	9	24" B&B
NINEBARK	8	24" B&B

= AREA TO BE SODDED

0 10
FEET

MARK	REVISION	DATE	BY
Engineer: SD	Checked By: SD	Scale: 1" = 10'	
Technician: JS	Date: 04-26-2022	T-R-S: 47N-32W-24	

Snyder & Associates Engineers & Planners, Inc.
Missouri State Certificate of Authority #2006008544

Sheet L1.0

STATE OF MISSOURI
SHAWN DUKE
NUMBER
PE-2013006489
PROFESSIONAL ENGINEER
3/13/23

SHAWN DUKE - ENGINEER
MO PE#2013006489

WHISPERING WOODS AMENITY AREA

LANDSCAPE PLAN

LEE'S SUMMIT, MO

SNYDER & ASSOCIATES
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Project No: 120.0484.11

Sheet L1.0

STONE AND MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH R703.7, TABLE R703.4 AND FIGURE R703.7. THESE VENEERS INSTALLED OVER A BACKING OF WOOD SHALL BE LIMITED TO THE FIRST STORY ABOVE-GRADE AND SHALL NOT EXCEED 5 INCHES IN THICKNESS. COMPLY WITH SECTION R602.12 FOR WALL BRACING REQUIREMENTS FOR MASONRY VENEER FOR WOOD FRAMED CONSTRUCTION.

R703.6.2 SIDING TO BE PORTLAND CEMENT PLASTER APPLIED TO METAL LATH, THREE COATS - 7/8 INCH THICKNESS ON A VAPOR-PERMEABLE, WATER-RESISTANT BUILDING PAPER OVER SHEATHING AND FRAMING.

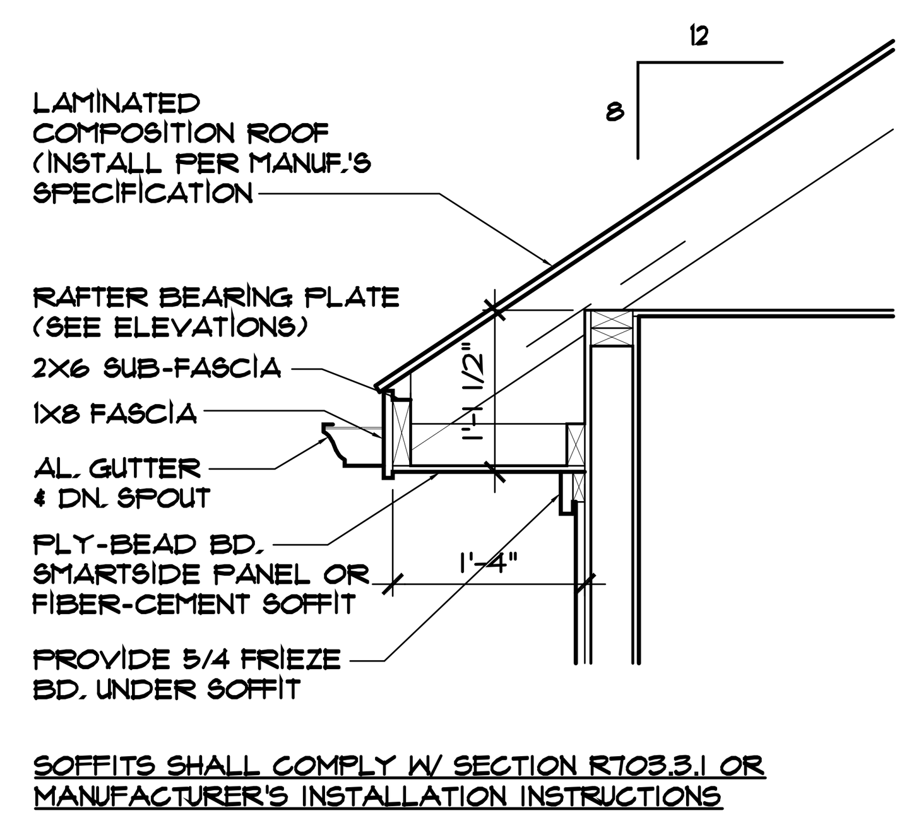
INSTALLATION OF EXTERIOR PLASTER SHALL BE IN COMPLIANCE WITH ASTM C 926 AND ASTM C 1063 AND THE PROVISIONS OF R703.6.

R703.6.1 LATH.
ALL LATH AND LATH ATTACHMENTS SHALL BE OF CORROSION-RESISTANT MATERIALS. EXPANDED METAL OR WOVEN WIRE LATH SHALL BE ATTACHED WITH 7/8" 16 GA. STAPLES SPACED 6" APART.

R703.2 WEATHER-RESISTANT SHEATHING PAPER.
ASPHALT SATURATED FELT FREE FROM HOLES AND BREAKS, WEIGHING NOT LESS THAN 14 POUNDS PER 100 SQUARE FEET AND COMPLYING WITH ASTM D 226 OR OTHER APPROVED WEATHER-RESISTANT MATERIAL SHALL BE APPLIED OVER STUDS OR SHEATHING OF ALL EXTERIOR WALLS AS REQUIRED BY TABLE R703.4. SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER NOT LESS THAN 2 INCHES. WHERE JOINTS OCCUR, FELT SHALL BE LAPPED NOT LESS THAN 6 INCHES.

R703.3.1 WOOD SIDING. JOINTS IN WOOD, WOOD STRUCTURAL PANEL SIDING SHALL BE MADE AS FOLLOWS UNLESS OTHERWISE APPROVED. VERTICAL JOINTS IN PANEL SIDING SHALL OCCUR OVER FRAMING MEMBERS, UNLESS WOOD OR WOOD STRUCTURAL PANEL SHEATHING IS USED, AND SHALL BE SHIPLAPPED OR COVERED WITH A BATTEN. HORIZONTAL JOINTS IN PANEL SIDING SHALL BE LAPPED A MINIMUM OF 1 INCH OR SHALL BE SHIPLAPPED OR SHALL BE FLASHED WITH Z-FLASHING AND OCCUR OVER SOLID BLOCKING, WOOD OR WOOD STRUCTURAL PANEL SHEATHING.

FIBER-CEMENT PANELS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C1186, TYPE A, MINIMUM GRADE II. PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION EITHER PARALLEL OR PERPENDICULAR TO FRAMING. VERTICAL AND HORIZONTAL JOINTS SHALL OCCUR OVER FRAMING MEMBERS AND SHALL BE SEALED WITH CAULKING, COVERED WITH BATTENS OR SHALL BE DESIGNED TO COMPLY WITH SECTION R703.1. PANEL SIDING SHALL BE INSTALLED WITH FASTENERS ACCORDING TO TABLE R703.4 OR APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS.



A EAVE SECTION 8:12 PITCH
SCALE: 3/4" = 1'-0"

(ISPSC) TABLE 608.1 OCCUPANT LOAD					
ROOM	NET AREA		AREA/OCCUPANT	OCCUPANCY	
EQUIPMENT/STORAGE	176 SQ. FT.		300 SQ. FT. / PERSON	1	
POOL - WADING AREA	300 SQ. FT.		8 SQ. FT. / PERSON	37	
POOL - DEEP AREA	1,200 SQ. FT.		10 SQ. FT. / PERSON	120	
DECK AREA	4,695 SQ. FT.		15 SQ. FT. / PERSON	313	
TOTAL OCCUPANCY				471	
MALE				236	
FEMALE				235	
609.2 NUMBER OF FIXTURES (609.2.1 WATER AREA LESS THAN 7,500 SQ. FT.)					
OCCUPANT	FIXTURES	SECTION 609.2.1		REQUIRED	PROVIDED
MALE	URINAL	1		1 - REQUIRED	1
MALE	WATER CLOSETS	1		1 - REQUIRED	1
FEMALE	WATER CLOSETS	2		2 - REQUIRED	2
MALE	LAVATORIES	1		1 - REQUIRED	1
FEMALE	LAVATORIES	1		1 - REQUIRED	1
MALE	DECK SHOWER	1		1 - REQUIRED	
FEMALE	DECK SHOWER	1		1 - REQUIRED	
(IPC) TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES					
DRINKING FOUNTAIN		1 PER 1,000		1 - REQUIRED	1
SERVICE SINK				1 - REQUIRED	1

REFERENCE:
(IPC) TABLE 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES
(ISPSC) TABLE 608.1 OCCUPANT LOAD
(ISPSC) SECTION 609.2.1

WHISPERING WOODS POOL
1901 SW RIVER RUN DR, LEES SUMMIT, MO 64082

LEGAL DESCRIPTION:
TRACT C OF WHISPERING WOODS, 1ST PLAT

CODE REFERENCE:
2018 INTERNATIONAL BUILDING CODES
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2017 NATIONAL ELECTRIC CODE NFPA 70
2018 INTERNATION SWIMMING POOL AND SPA CODE
2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES ICC/ANSI A117.1

CONSTRUCTION TYPE:
V-B (PROPOSED POOL HOUSE)
NON-SPRINKLERED, SINGLE-STORY BUILDING

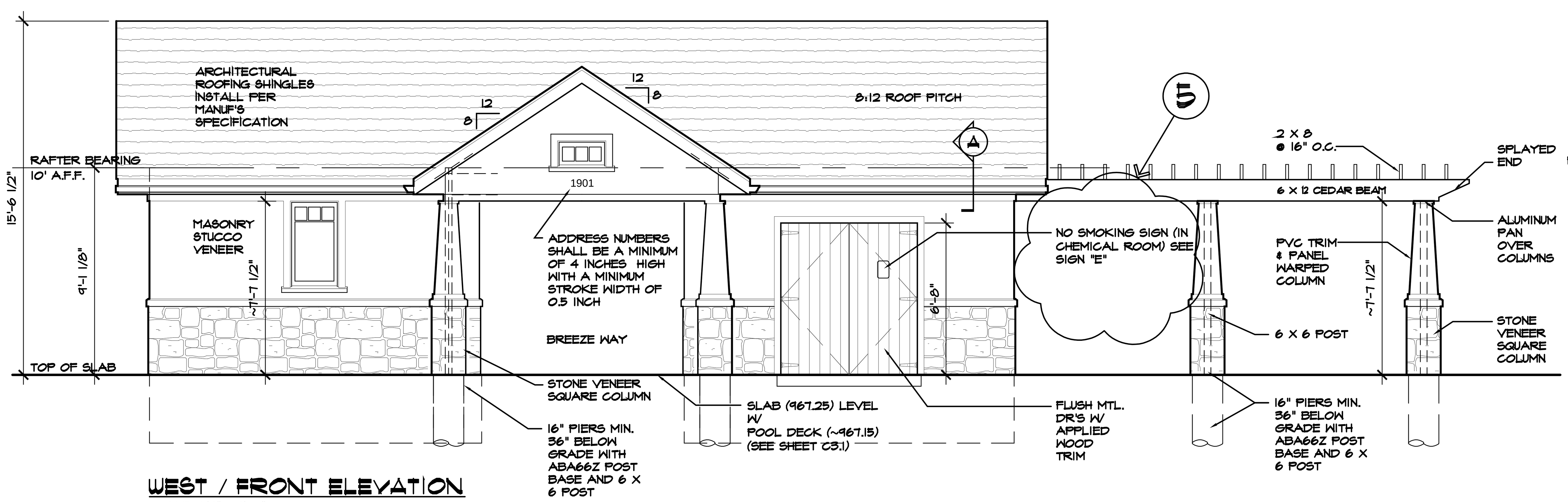
OCCUPANCY TYPE: ASSEMBLY A-5 & S-1 (PROPOSED POOL HOUSE); PARTICIPATION IN OUTDOOR ACTIVITIES

OCCUPANCY LOAD: (ISPSC) TABLE 608.1 OCCUPANT LOAD
TOTAL: 470 USERS
EQUIPMENT/STORAGE - (1 USER) 176 SQ. FT. / 300 PER USER
POOL DECK - (313 USERS) 4,695 SQ. FT. / 15 S.F. PER USER
POOL WADING AREA - (37 USERS) 300 SQ. FT. / 8 S.F. PER USER
POOL DEEP AREA - (120 USERS) 1,200 SQ. FT. / 10 S.F. PER USER

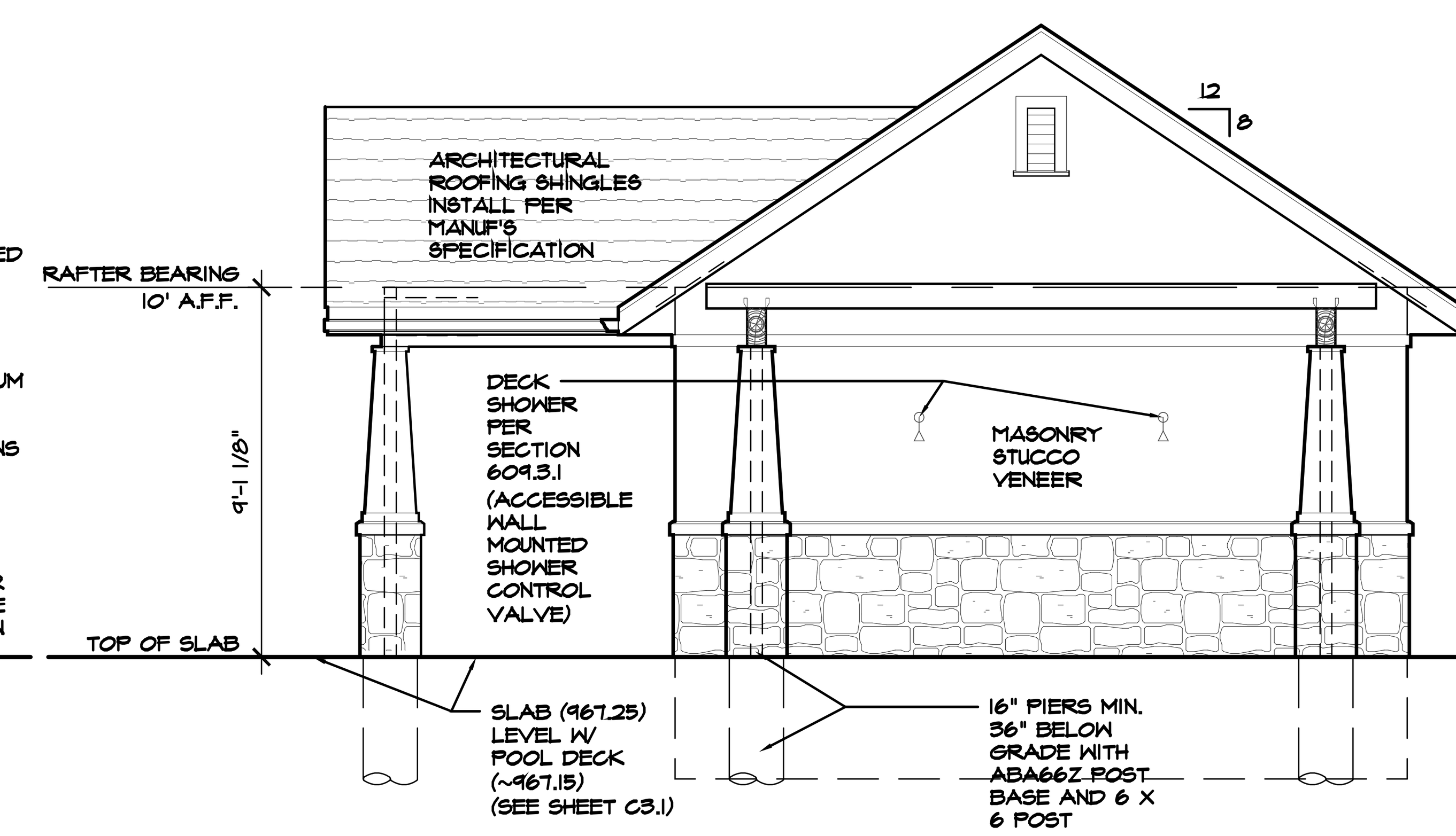
ZONING:
R-1 SINGLE FAMILY RESIDENTIAL

PARKING SPACES:
TABLE 8-1 (UNIFIED DEVELOPMENT ORDINANCE OF THE CITY OF LEE'S SUMMIT, MISSOURI)
1 FOR EVERY 16 LOTS IN SUBDIVISION OR MINIMUM OF 6 PARKINGS
TOTAL PROVIDED: 11 PARKINGS
10 - STANDARD PARKING PROVIDED
1 - VAN ACCESSIBLE PARKING PROVIDED
5 - DESIGNATED GOLF CART PARKING

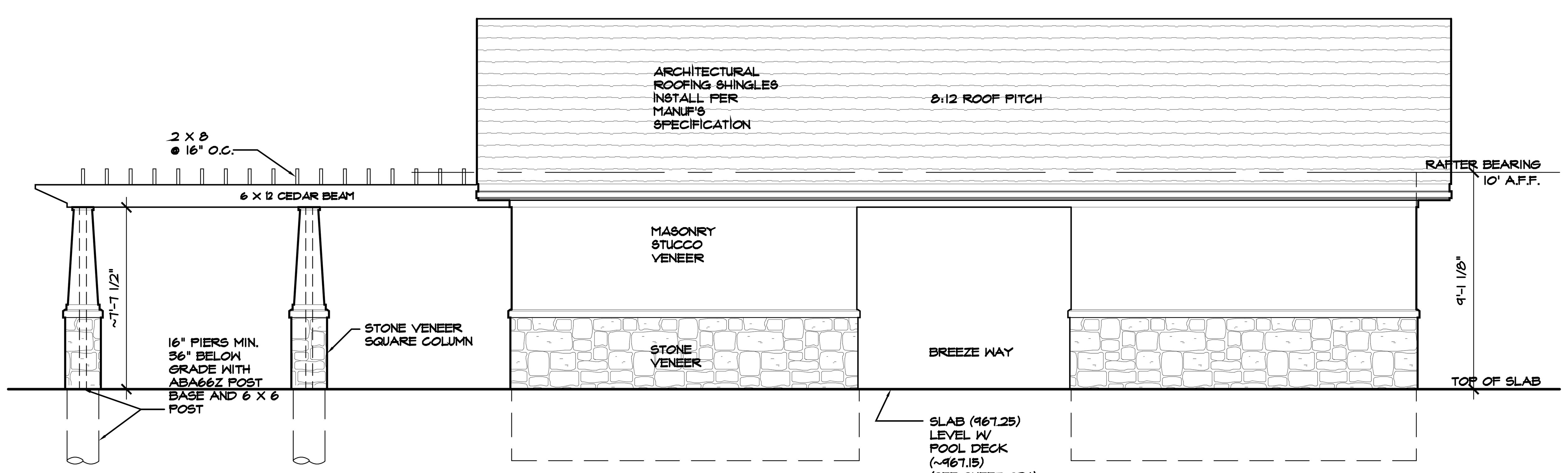
ROOF SNOW LOAD: 20 POUNDS PER SQUARE FOOT
WIND SPEED: 115 MILES PER HOUR
TOPOGRAPHIC EFFECTS: NO
SEISMIC DESIGN CATEGORY: A
WEATHERING: SEVERE
FROST LINE DEPTH: 36 INCHES
TERMITE: MODERATE TO HEAVY
DECAY: SLIGHT TO MODERATE
WINTER DESIGN TEMPERATURE: SIX DEGREES FAHRENHEIT
ICE BARRIER UNDERLAYMENT REQUIRED: YES
FLOOD HAZARDS: LATEST ADOPTED FIRM AND FBFM DOCUMENTS.
AIR FREEZING INDEX: 1000
MEAN ANNUAL TEMPERATURE: 54.7 DEGREES FAHRENHEIT



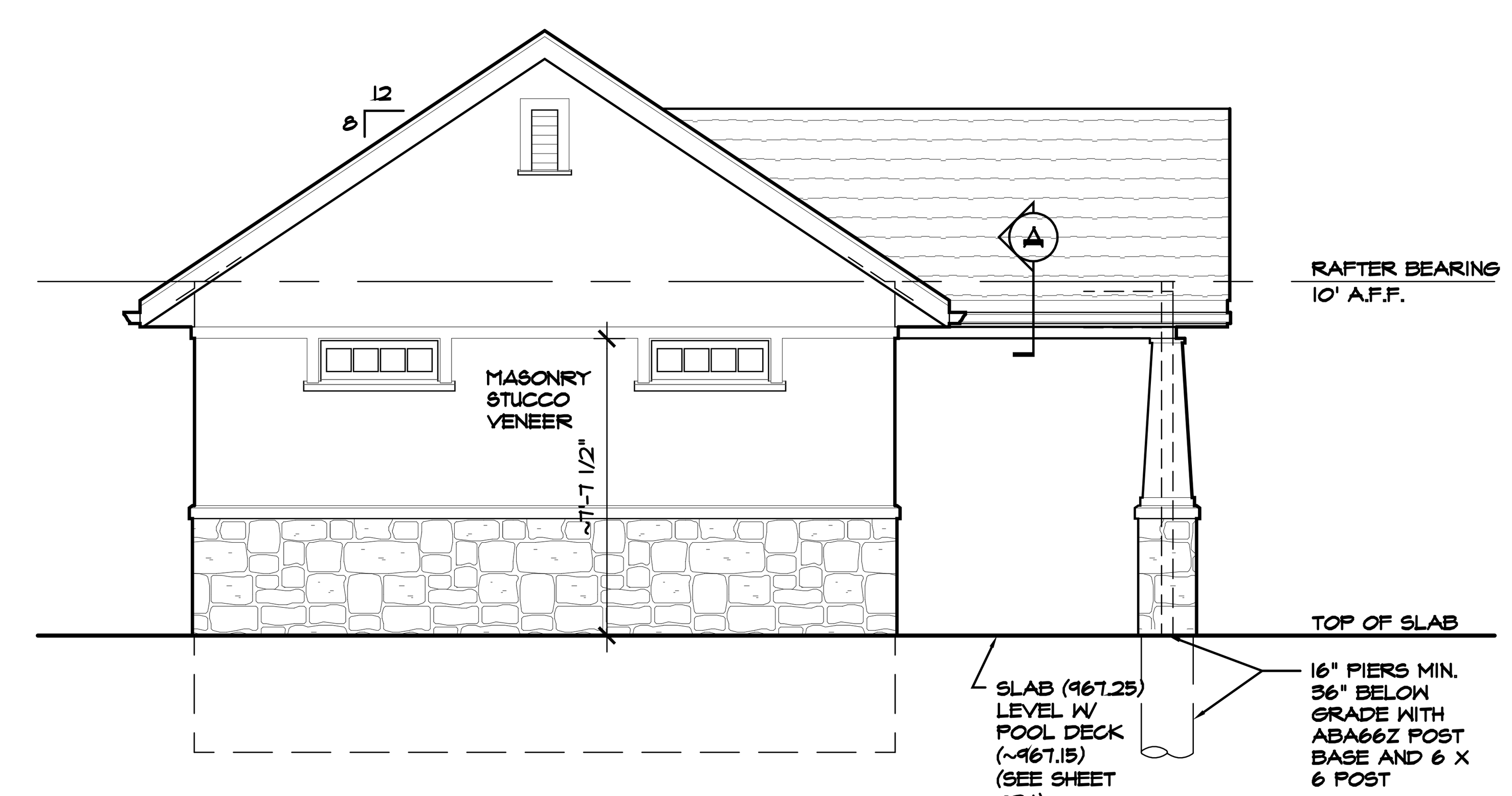
WEST / FRONT ELEVATION
SCALE: 1/4" = 1'-0"



SOUTH / SIDE ELEVATION
SCALE: 1/4" = 1'-0"



EAST / REAR ELEVATION
SCALE: 1/4" = 1'-0"



NORTH / SIDE ELEVATION
SCALE: 1/4" = 1'-0"

BUILD IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE AND LOCAL CODES

POOL HOUSE
1901 SW RIVER RUN DR
LEE SUMMIT MO

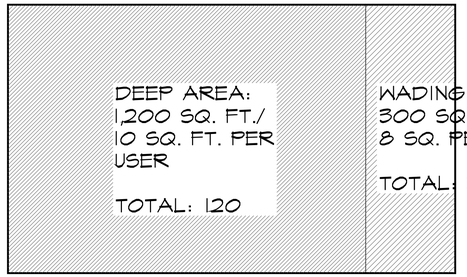
SCALE
1/4"=1-0

DATE 4-3-23
4-12-23

PERMIT NO.
PRCOM20226005

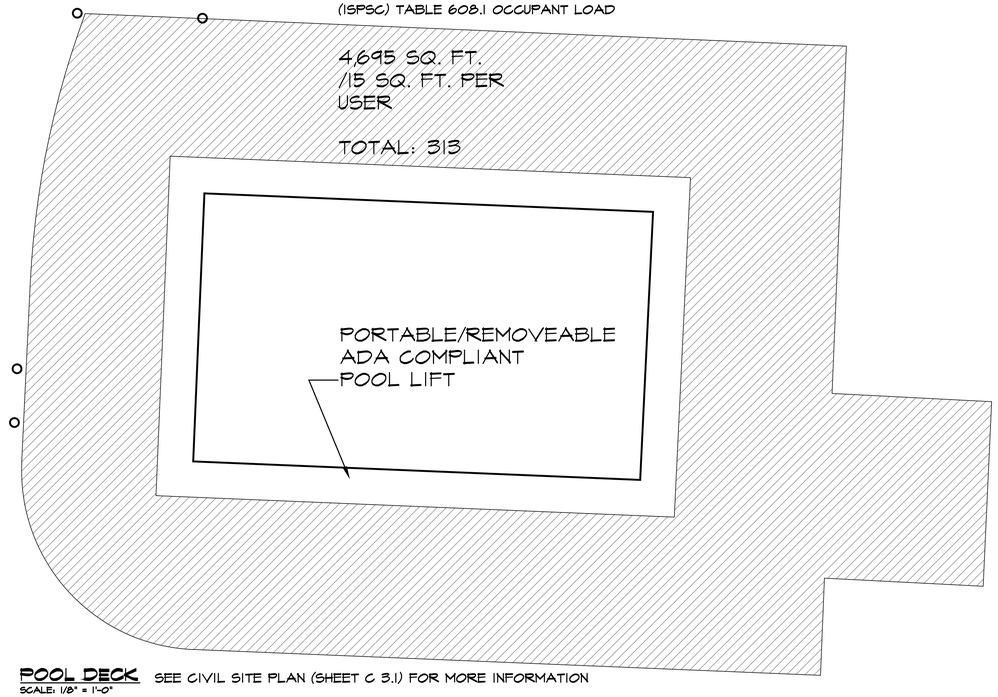
SHEET NO.
1 OF 5

REFERENCE:
(ISPSC) TABLE 608.1 OCCUPANT LOAD

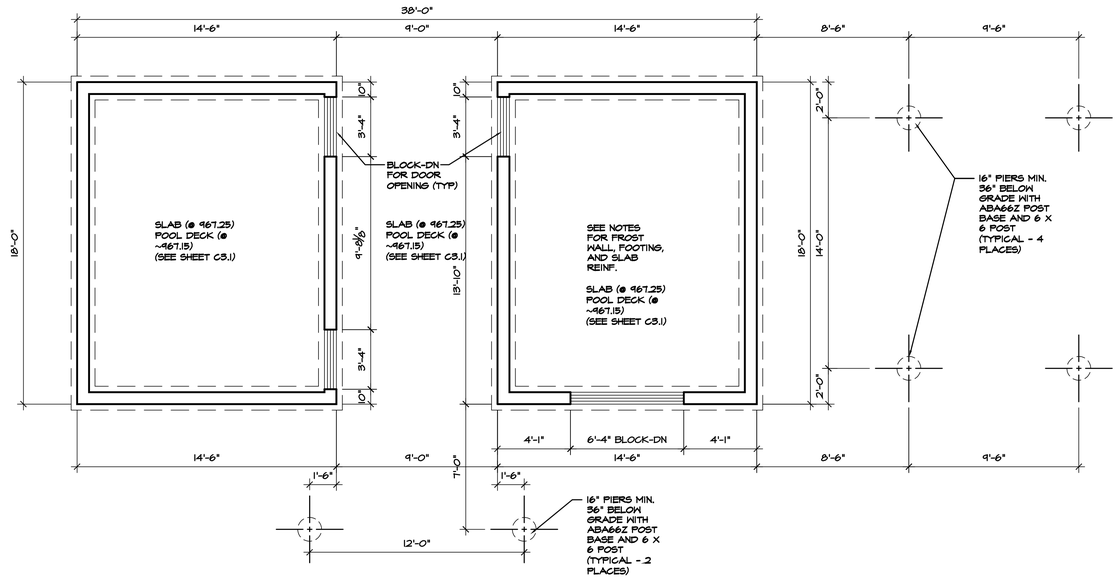


SWIMMING POOL SEE CIVIL SITE PLAN (SHEET C 3.1) FOR MORE INFORMATION
SCALE: 1/8" = 1'-0"

REFERENCE:
(ISPSC) TABLE 608.1 OCCUPANT LOAD



POOL DECK SEE CIVIL SITE PLAN (SHEET C 3.1) FOR MORE INFORMATION
SCALE: 1/8" = 1'-0"



POOL HOUSE FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

BUILD IN ACCORDANCE WITH
2018 INTERNATIONAL
BUILDING CODE AND LOCAL
CODES

POOL HOUSE
1901 SW RIVER RUN DR
LEE SUMMIT MO

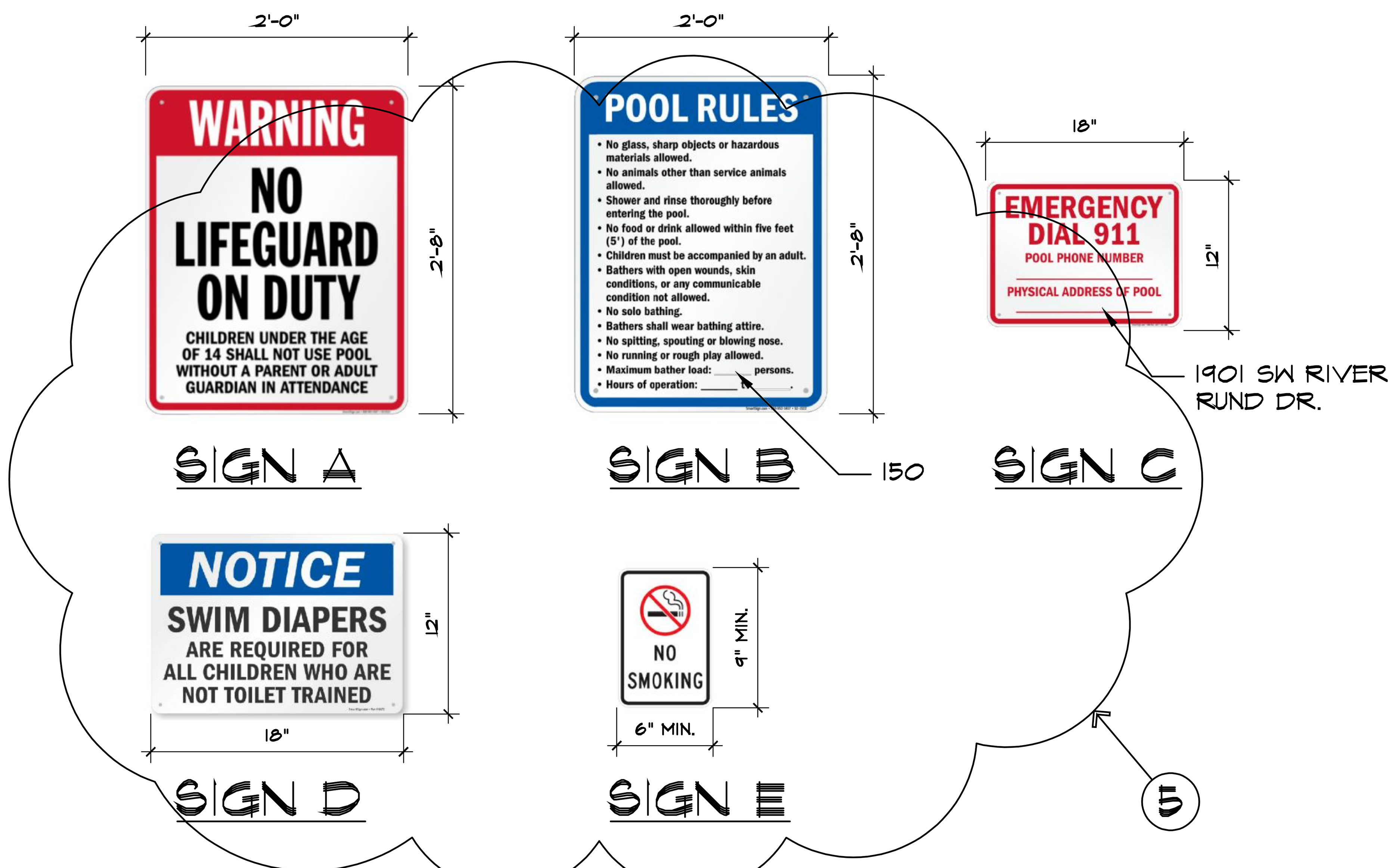
SCALE
1/4"=1-0

DATE 4-3-23
4-12-23

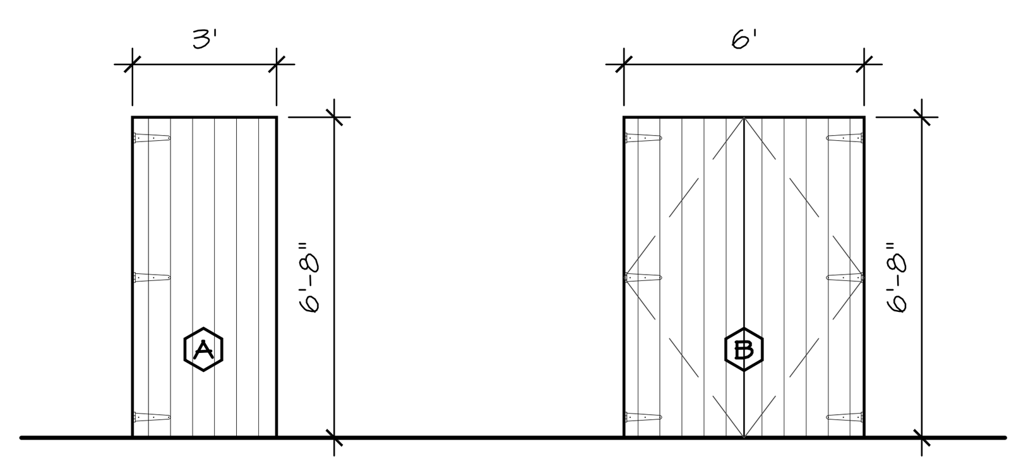
PERMIT NO.
PRCOM20226005

STATE OF MISSOURI
WOLFGANG
ANDREATHS
NUMBER
A-4638
REGISTERED ARCHITECT
4-13-23

SHEET NO.
2 OF 5



DOORS SCHEDULE



EXTERIOR QTY-3 FLUSH MTL. DR'S. HINGE: 2-LEFT; 1-RIGHT (RESTRM. W/ SELF-CLOSER)

EXTERIOR QTY-1 FLUSH DOUBLE (W/ APPLIED WD. TRIM) MTL. DOOR

NOTE: ADA COMPLIANCE HARDWARES FOR ALL DOORS.

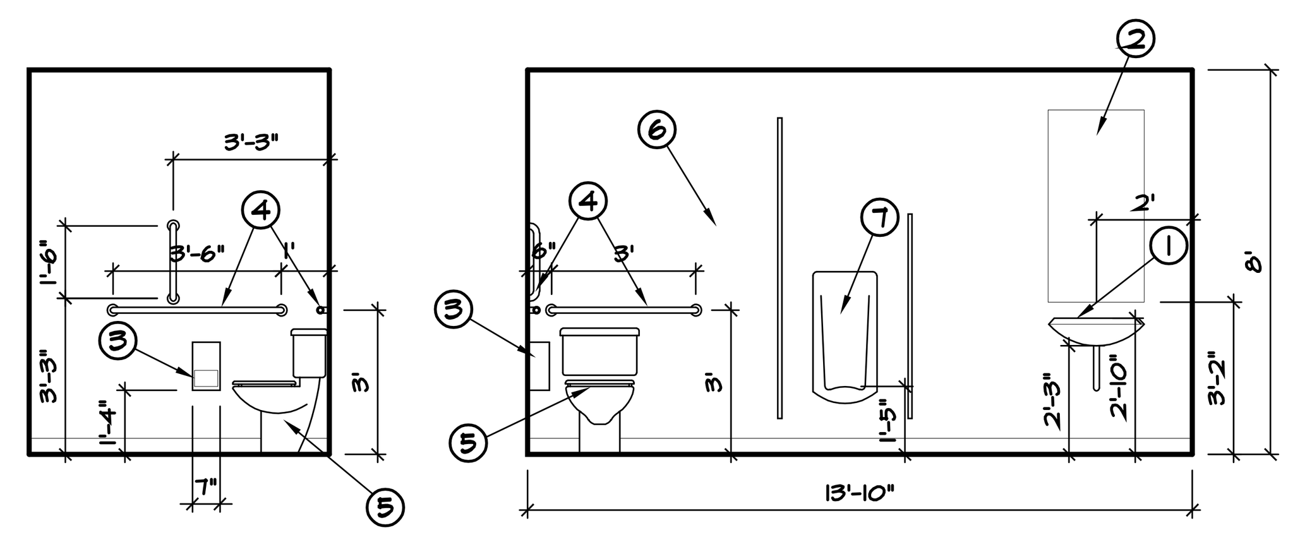
RESTROOM FIXTURE LEGEND

1. WALL MOUNTED LAVATORY W/ INSULATED PIPING BELOW
2. MIRROR
3. DUAL ROLL TOILET PAPER DISPENSER.
4. STAINLESS STEEL GRAB BAR per ANSI SPEC'S.
5. FLOOR MOUNTED ACCESSIBLE WATER CLOSET
6. EPOXY PAINT AS REQ.
7. WALL MOUNTED URINAL

TOILET (ADA COMPLIANCE UNIT)

WALL MOUNTED LAVATORY (ADA COMPLIANCE UNIT)

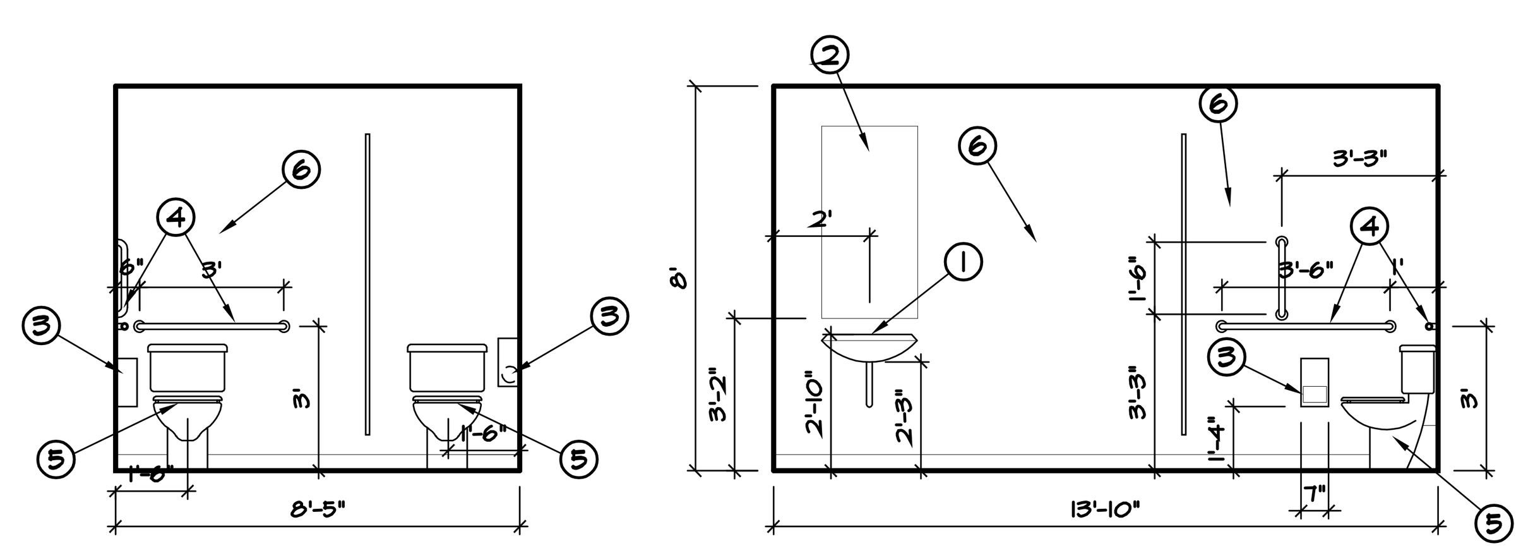
WALL MOUNTED URINAL (ADA COMPLIANCE UNIT)



ELEVATION A　　ELEVATION B

MEN RESTROOM ELEVATIONS

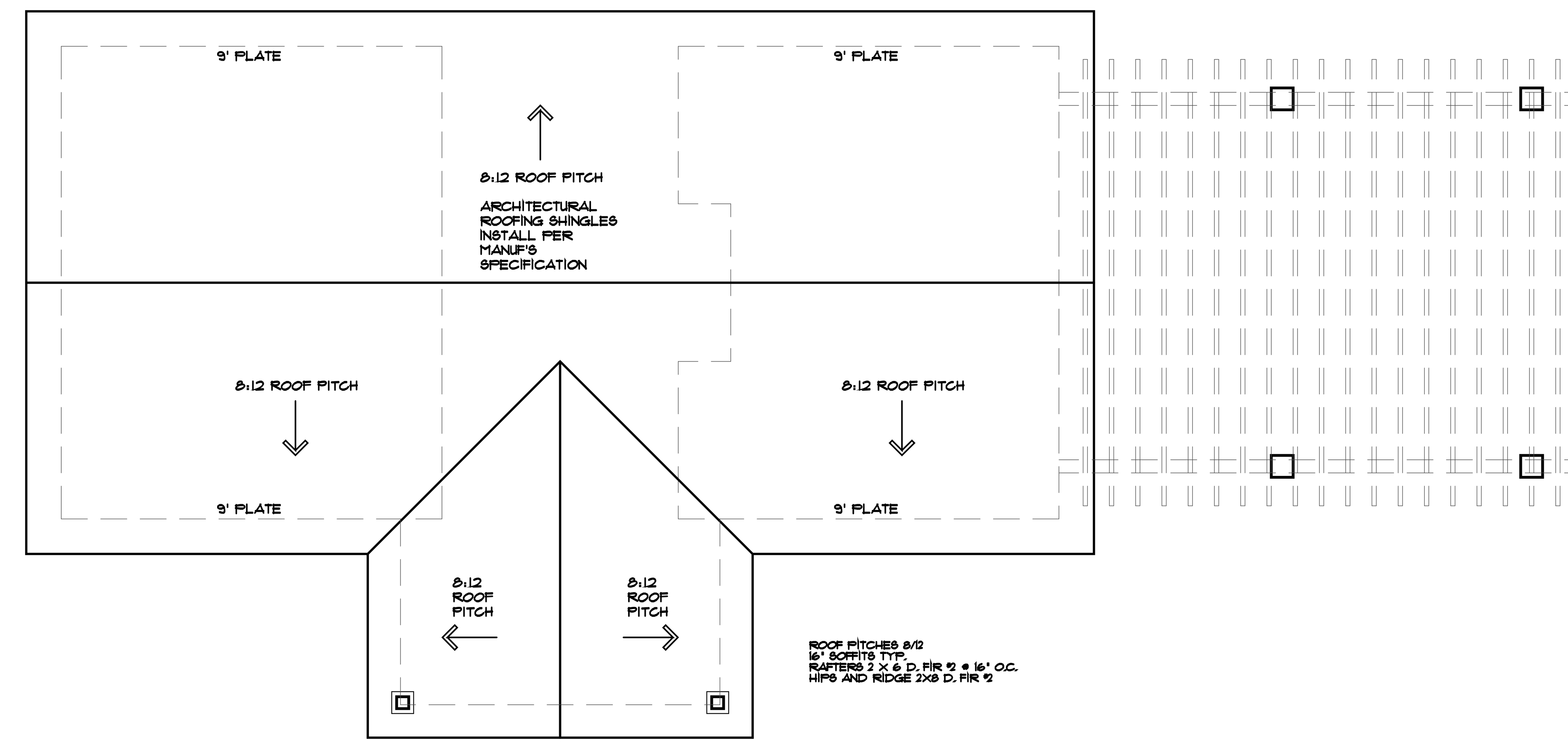
SCALE: 1/4" = 1'-0"



ELEVATION C　　ELEVATION D

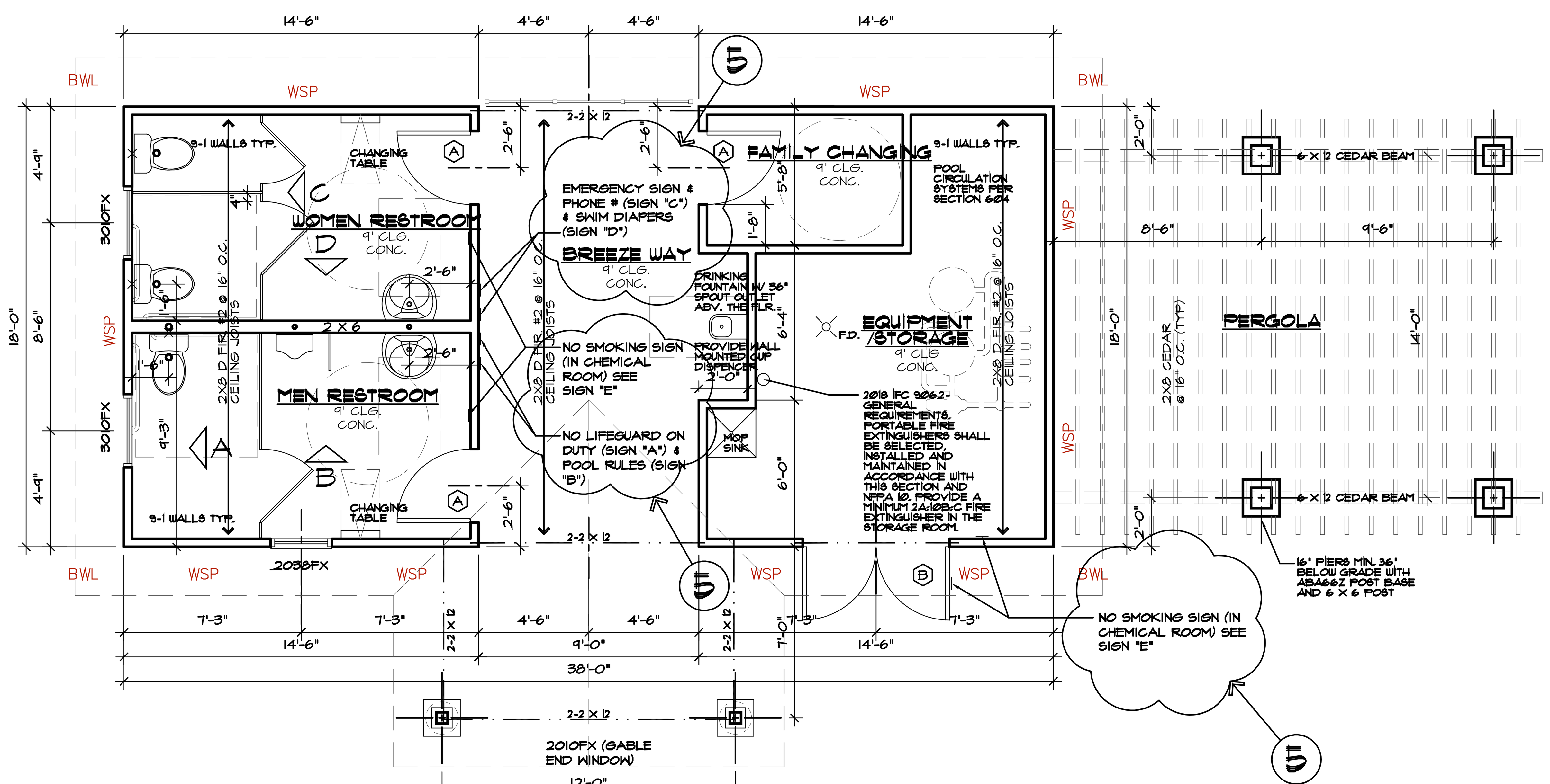
WOMEN RESTROOM ELEVATIONS

SCALE: 1/4" = 1'-0"



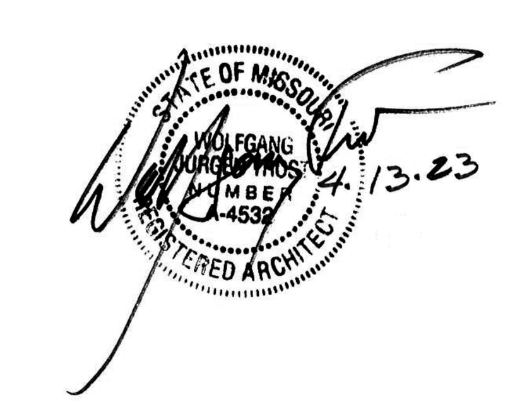
POOL HOUSE ROOF PLAN

SCALE: 1/4" = 1'-0"



POOL HOUSE FLOOR PLAN SEE CIVIL SITE PLAN (SHEET C 3.1) FOR MORE INFORMATION

SCALE: 1/4" = 1'-0"



BUILD IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE AND LOCAL CODES

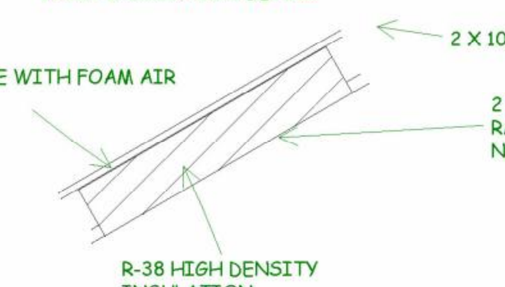
POOL HOUSE
1901 SW RIVER RUN DR
LEE SUMMIT MO

SCALE
1/4"=1-0

DATE 4-3-23
4-12-23

PERMIT NO.
PRCOM20226005

SHEET NO.
3 OF 5



ENERGY CONSERVATION CODE
THE FOLLOWING VALUES ARE NEEDED.

R-15 IN WALLS

R-49 IN ATTICS

R-38 IN VAULTS
R-30 REDUCTION FOR VAULTS IS ONLY FOR 500 SF PF AREA

R-19 IN FLOORS OVER UNCONDITIONED SPACES

R-10 IN CRAWL SPACE WALLS

BASEMENT WALLS R-13 CAVITY OR R-10 CONTINOUS

SLABS SHALL BE R-10 FOR A DEPTH OF 2 FOOT

A WINDOW U FACTOR OF .35 OR BETTER

DUCTWORK NEEDS TO HAVE AN R-8 VALUE

INTERCONNECTED HARD WIRED SMOKE DETECTORS SHALL BE INSTALLED IN EACH BEDROOM AND OUTSIDE OF EACH BEDROOM

ALL PLUMBING IF EXISITING SHALL BE CAPPED AND AIR TESTED PRIOR TO ROUGH-IN INSPECTION FOR LEAK VERIFICATION

1. DWELLING / GARAGE OPENINGS BETWEEN GARAGE AND SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS SHALL BE EQUIPPED WITH SOLID WOOD OR STELL DOORS NOT LESS THAN 1-3/8" THICK OR 20 MINUTE RATED DOORS, WITH SELF CLOSING DEVICES REQUIRED FOR GARAGE / DWELLING SEPERATION DOORS R302.5.1

2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM IS REQUIRED FOR ANY DWELLING IN COMPLIANCE WITH IRC M 1505

3. CARBON MONOXIDE DETECTORS REQUIRED IRC R 315

4. STEEL COLUMNS SHALL BE MINIMUM SCHEDULE 40 R407.3

5. DECK SHALL BE BUILT PER TABLES 507.2 , 507.2.1, 507.3, 507.6, 507.5.1(1)&(2), 507.5, AND 507.6

6. STUDS SHALL BE CONTINUOUS BETWEEN FLOOR, CEILING AND OR ROOF DIAPHRAGMS R602.3

7. ADDED REQUIREMENTS FOR WINDOW FALL PROTECTION R312.2

8. NEW PROVISIONS FOR ATTACHMENT OF RAFTERS, TRUSSES AND ROOF BEAMS R802.3.1. R802.11

9. INSULATION REQUIRED FOR ALL BASEMENT WALLS (INCLUDING UNFINISHED BASEMENTS) N1102.1

10. EXTERIOR WINDOWS/DOORS SHALL HAVE U-FACTOR 0.35 AND GLAZING SHALL HAVE SOLAR HEIGHT GAIN FACTOR OF 0.40 N1102.1

11. HOUSE LEAKAGE AND DUCT LEAKAGE PERFORMANCE STANDARDS EFFECTIVE JANUARY 1, 2014. A SAMPLE TESTING PROGRAM WILL BE IMPLEMENTED OCTOBER 1, 2012 KCBRC N1102.4.1.2 N1103.2.2

12. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE (E.G. CAN LIGHTS IN ATTIC) SHALL BE IC- RATED, LEAKAGE- RATED AND SEALED TO THE GYPSUM WALLBOARD N1102.4.4

13.PROGRAMMABLE THERMOSTAT REQUIRED N1103.1.1

14. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2 % AIR LEAKAGE RATE N1103.2.2.1

15. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE KCBRC N1103.2.2

16. CERTAIN HOT WATER PIPES SHALL BE INSULATED N1103.4

17. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR M1507.2

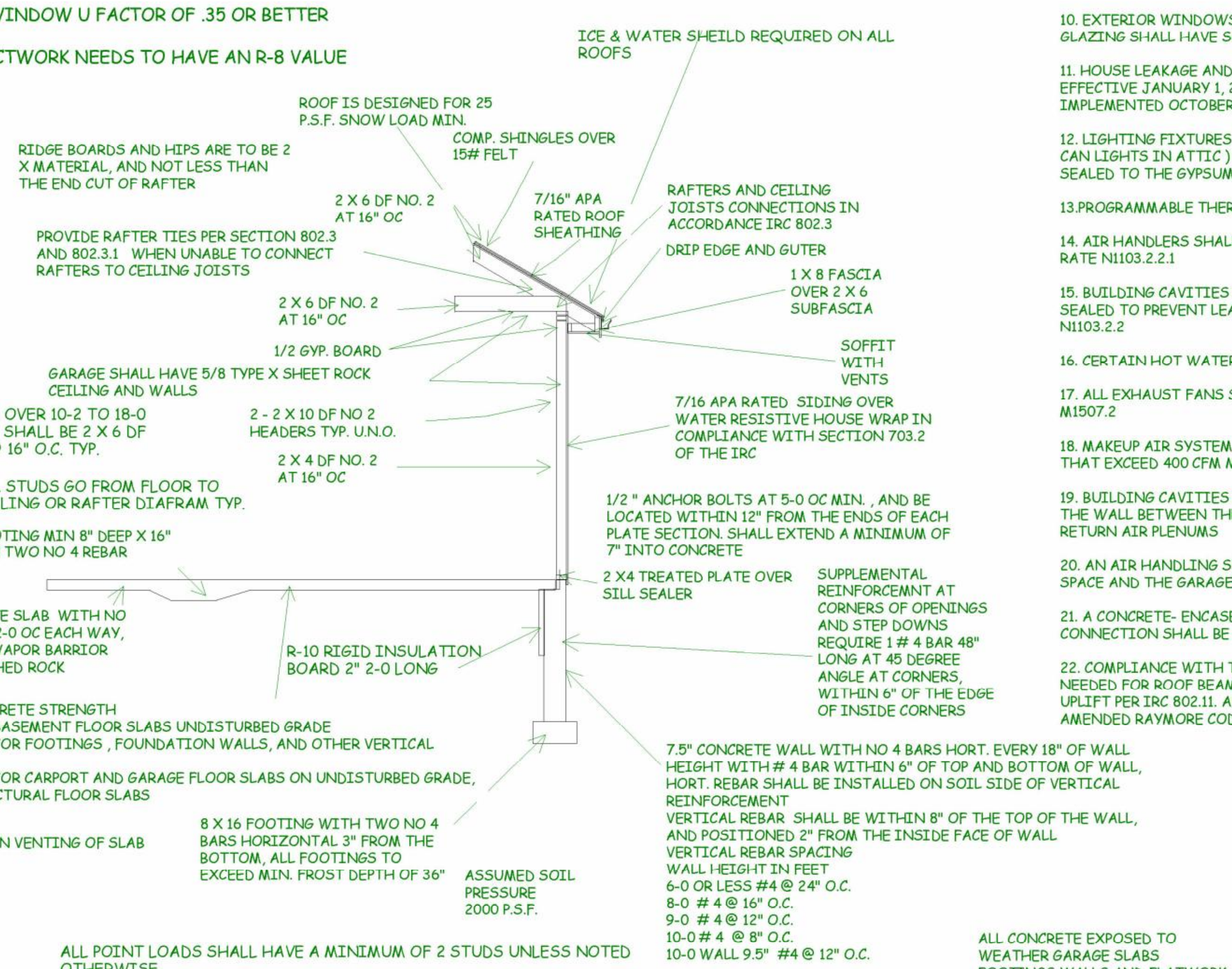
18. MAKEUP AIR SYSTEM REQUIRED FOR KITHCHEN EXHAUST HOODS THAT EXCEED 400 CFM M1503.4

19. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL (INCLUDING THE WALL BETWEEN THE HOUSE AND GARAGE) SHALL NOT BE USED AS RETURN AIR PLENUMS

20. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE M1601.6

21. A CONCRETE- ENCASED GROUNDING ELECTRODE ('UFER' GROUND) CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE E3608.1

22. COMPLIANCE WITH THE REQUIRMENT AND SHOW CONNECTION AS NEEDED FOR ROOF BEAM, TRUS, RAFTER, AND GIRDER CONNECTION FOR UPLIFT PER IRC 802.11. ALL RAFTERS BE IN COMPLIANCE WITH IRC 502.11 AMENDED RAYMORE CODE

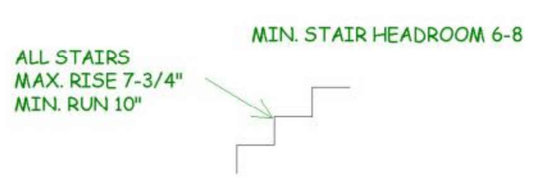


ALL POINT LOADS SHALL HAVE A MINIMUM OF 2 STUDS UNLESS NOTED OTHERWISE

ALL CONCRETE EXPOSED TO WEATHER GARAGE SLABS FOOTINGS WALLS AND FLATWORK MUST HAVE 6% AIR ENTRAINMENT

ALL REBAR GRADE 40 TYP.

TYP VAULT WITH STRAPS



TYPICAL WALL SECTION

PIER PADS

TYP. U.N.O. 3-0 X 3-0 X 12" PEIR PADS MIN. WITH # 4 REBAR, 6 EACH WAY

STUDS OVER 10-0 SHALL HAVE BLOCKING ALONG WALL MAX OF 6-0 O.C.

WINDOW SAFETY GLAZING PER 308

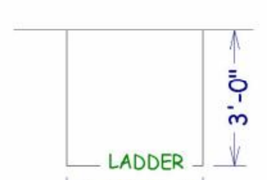
SAFETY GLAZING REQUIRED ALONG WALKING SURFACES AND STAIRS LOCATED WITHIN 36 INCHES HORIZONTALLY OF THE STEPS. SAFETY GLAZING REQUIRED IF EXPOSED SINGLE PANEL IS IN EXCESS OF 9 SQUARE FEET OR THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR.

SAFETY GLAZING REQUIRD WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN 24 INCHES OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE, SAFETY OR TEMPERED GLAZING IS REQUIRED.

WINDOWS ARE TO HAVE FALL PROTECTION PER IRC 312.2

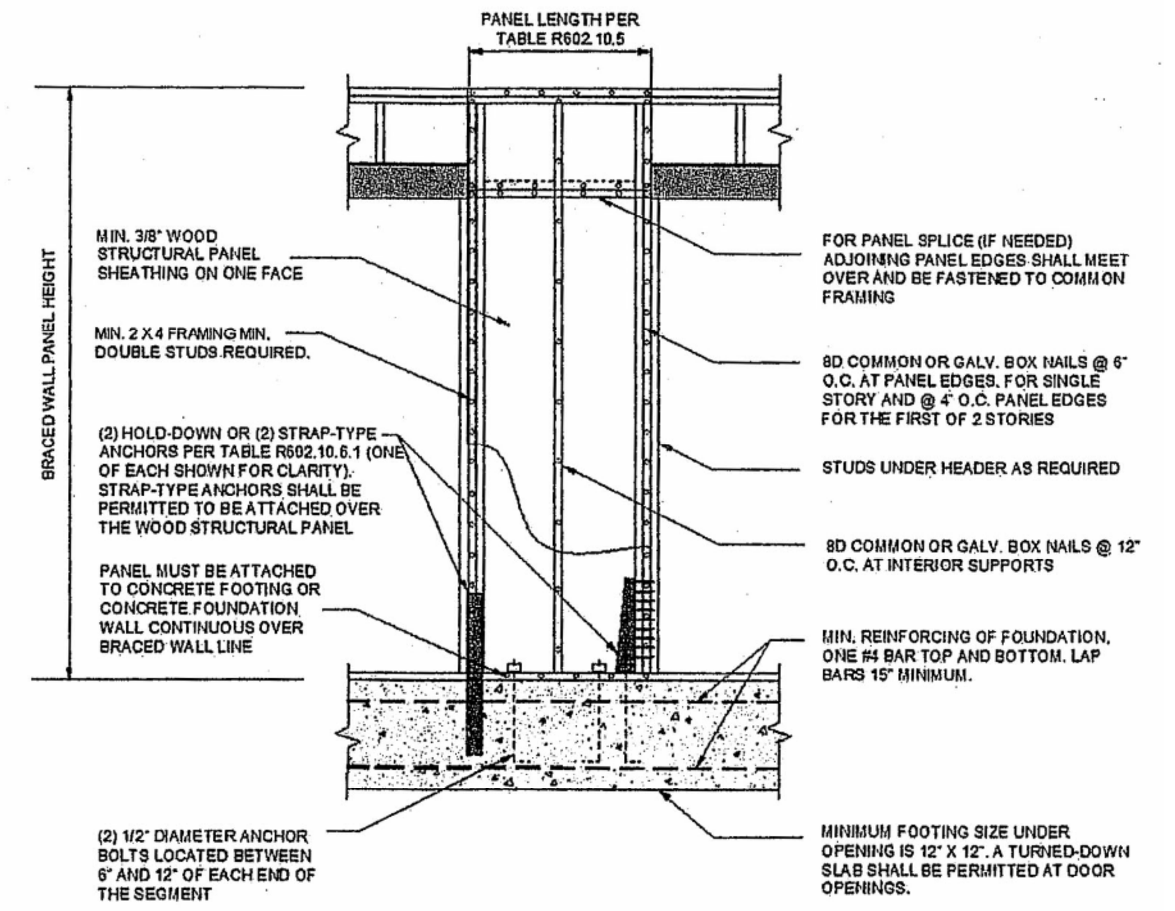
WINDOW EGRESS REQUIREMENTS

BEDROOM WINDOW EGRESS MINIMUM FOR A DOUBLE HUNG WINDOW IS 34 INCH CLEAR WIDTH MIN. AND 24 INCH CLEAR HEIGHT MIN. WITH A CLEAR OPENABLE AREA OF 5.7 SQUARE FEET MIN.
A CASEMENT OR SLIDER WINDOW MINIMUMS ARE 20 INCH CLEAR WIDTH MINIMUM AND 41 INCH CLEAR HEIGHT MINIMUM. WITH A MINIMUM 5.7 SQUARE FOOT OF OPENABLE AREA.
OPENING OF EGRESS WINDOW NOT MORE THAN 42" FROM THE FLOOR



EGRESS WINDOW WELL AS NEEDED PER SECTION 308 MIN 3-0 X 3-0 WITH LADDER

OVERHEAD GARAGE DOORS MUST MEET DASMA 115 MPH OR IRC 2018 REQUIRMENTS



25.4 mm.

FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

TABLE R602.10.4
BRACING METHODS

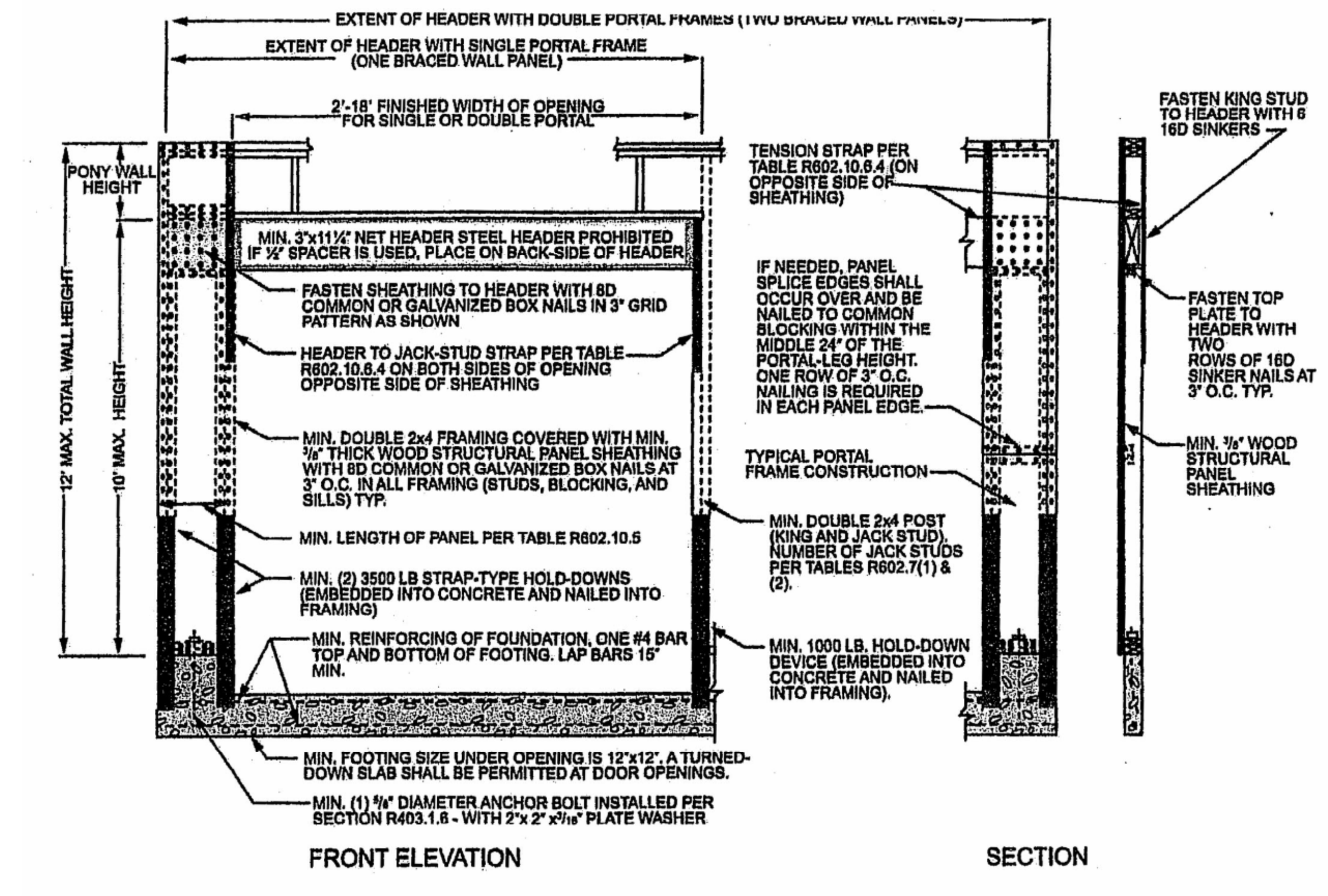
METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA[a] Fasteners	CONNECTION CRITERIA[a] Spacing
Intermittent Bracing Methods	LIB Let-in-bracing	1 × 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Wood: 2-8d common nails or 3-8d (2½" long x 0.113" dia.) nails	Wood: per stud and top and bottom plates
				Metal strap: per manufacturer	Metal: per manufacturer
	DWB Diagonal wood boards	¾" (1" nominal) for maximum 24" stud spacing		2-8d (2½" long × 0.113" dia.) nails or 2 - 1¾" long staples	Per stud
	WSP Wood structural panel (See Section R604)	⅜"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener
	BV-WSP[e] Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	7/16"	See Figure R602.10.6.5	8d common (2½" × 0.131) nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts
	SFB Structural fiberboard sheathing	½" or 25/32" for maximum 16" stud spacing		1½" long × 0.12" dia. (for ½" thick sheathing) 1¾" long × 0.12" dia. (for 25/32" thick sheathing) galvanized roofing nails	3" edges 6" field
	GB Gypsum board	½"		Nails or screws per Table R602.3(1) for exterior locations	For all braced wall panel locations: 7" edges (including top and bottom plates) 7" field
				Nails or screws per Table R702.3.5 for interior locations	
	PBS Particleboard sheathing (See Section R605)	⅜" or ½" for maximum 16" stud spacing		For ⅜", 6d common (2" long × 0.113" dia.) nails For ½", 8d common (2½" long × 0.131" dia.) nails	3" edges 6" field
	PCP Portland cement plaster	See Section R703.7 for maximum 16" stud spacing		1½" long, 11 gage, 7/16" dia. head nails or ⅞" long, 16 gage staples	6" o.c. on all framing members
	HPS Hardboard panel siding	7/16" for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate 1½" penetration into studs	4" edges 8" field
	ABW Alternate braced wall	⅜"		See Section R602.10.6.1	See Section R602.10.6.1

TABLE R602.10.5
MINIMUM LENGTH OF BRACED WALL PANELS

METHOD (See Table R602.10.4)		MINIMUM LENGTH[a] (inches) Wall Height: 8 feet	9 feet	10 feet	11 feet	12 feet	CONTRIBUTING LENGTH (inches)
DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP		48	48	48	53	58	Actual[b]
GB		48	48	48	53	58	Double sided = Actual Single sided = 0.5 × Actual
LIB		55	62	69	NP	NP	Actual[b]
ABW	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	38	42	48
	SDC D_0, D_1 and D_2, ultimate design wind speed < 140 mph	32	32	34	NP	NP	
CS-G		24	27	30	33	36	Actual[b]
CS-WSP, CS-SFB	Adjacent clear opening height (inches)						
	≤ 64	24	27	30	33	36	Actual[b]
	68	26	27	30	33	36	
	72	27	27	30	33	36	
	76	30	29	30	33	36	
	80	32	30	30	33	36	
	84	35	32	32	33	36	
	88	38	35	33	33	36	
	92	43	37	35	35	36	
	96	48	41	38	36	36	
	100	—	44	40	38	38	
	104	—	49	43	40	39	
	108	—	54	46	43	41	
	112	—	—	50	45	43	
	116	—	—	55	48	45	
	120	—	—	60	52	48	
	124	—	—	—	56	51	
	128	—	—	—	61	54	
	132	—	—	—	66	58	
	136	—	—	—	—	62	
	140	—	—	—	—	66	
	144	—	—	—	—	72	
METHOD (See Table R602.10.4)		Portal header height: 8 feet	9 feet	10 feet	11 feet	12 feet	
PFH	Supporting roof only	16	16	16	Note c	Note c	48
	Supporting one story and roof	24	24	24	Note c	Note c	
PFG		24	27	30	Note d	Note d	1.5 × Actual[b]
CS-PF	SDC A, B and C	16	18	20	Note e	Note e	1.5 × Actual[b]
	SDC D_0, D_1 and D_2	16	18	20	Note e	Note e	Actual[b]

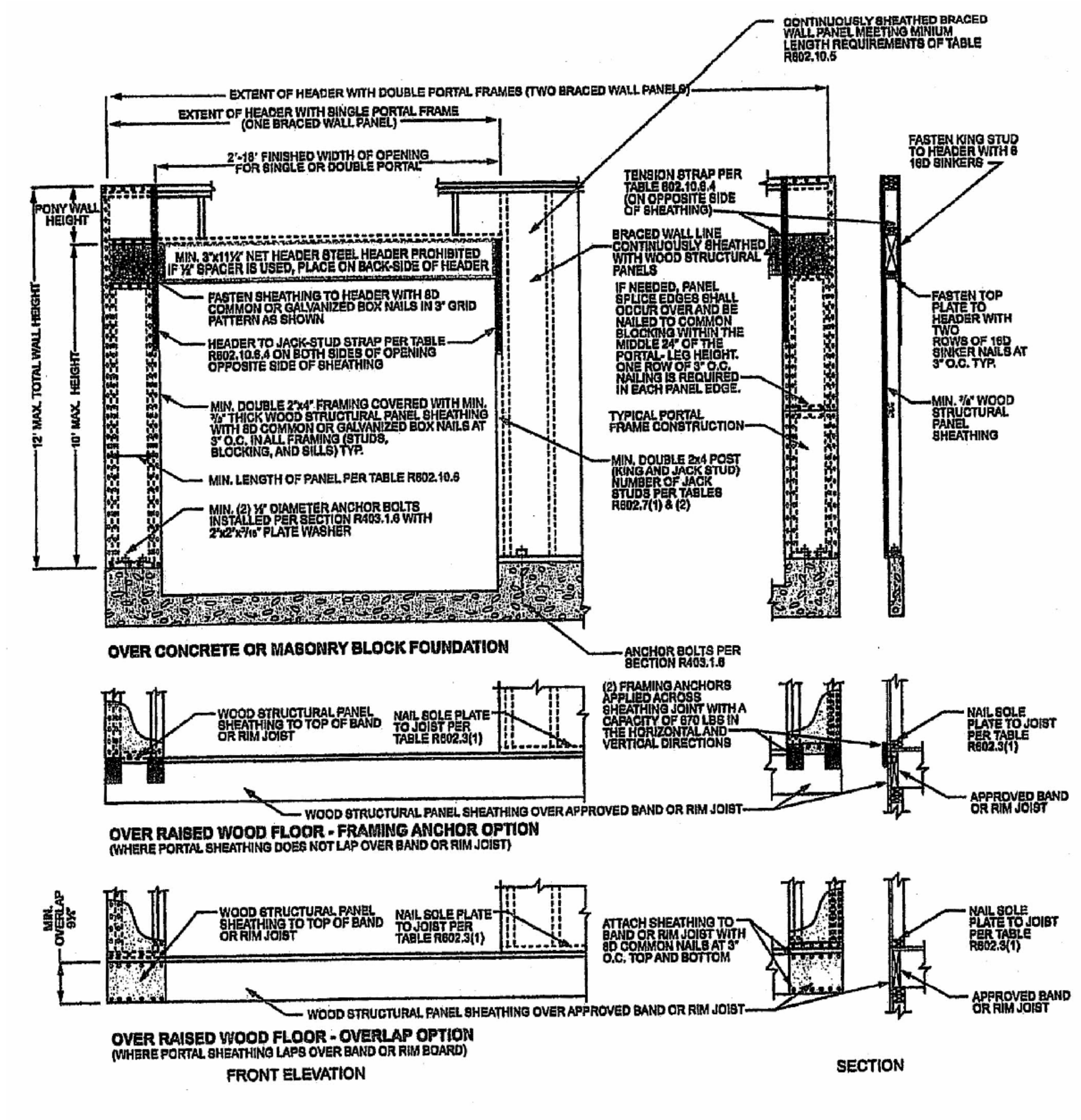
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.
NP = Not Permitted.
a. Linear interpolation shall be permitted.
b. Use the actual length where it is greater than or equal to the minimum length.
c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height shall be permitted to be increased to 12 feet with pony wall.
d. Maximum header height for PFG is 10 feet in accordance with Figure R602.10.6.3, but wall height shall be permitted to be increased to 12 feet with pony wall.
e. Maximum header height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height shall be permitted to be increased to 12 feet with pony wall.

BRACE WALL DETAILS
WIND SPEED 115 MPH
WIND EXPOSURE A
SEISMIC DESIGN CAEGORY A



4 mm, 1 foot = 304.8 mm.

FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE R602.10.6.4
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION

TABLE R602.10.3(1)
BRACING REQUIREMENTS BASED ON WIND SPEED

- EXPOSURE CATEGORY B
- 30-FOOT MEAN ROOF HEIGHT
- 10-FOOT WALL HEIGHT
- 2 BRACED WALL LINES

MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE[a]

Ultimate Design Wind Speed (mph)	Story Location	Braced Wall Line Spacing[c] (feet)	Method LIB[b]	Method GB	Methods DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP, ABW, PFH, PFC, CS-SFB	Methods CS-WSP, CS-G, CS-PF
≤ 115		10	3.5	3.5	2.0	2.0
		20	6.5	6.5	3.5	3.5
		30	9.5	9.5	5.5	4.5
		40	12.5	12.5	7.0	6.0
		50	15.0	15.0	9.0	7.5
		60	18.0	18.0	10.5	9.0
		10	7.0	7.0	4.0	3.5
		20	12.5	12.5	7.5	6.5
		30	18.0	18.0	10.5	9.0
		40	23.5	23.5	13.5	11.5
		50	29.0	29.0	16.5	14.0
		60	34.5	34.5	20.0	17.0
		10	NP	10.0	6.0	5.0
		20	NP	18.5	11.0	9.0
		30	NP	27.0	15.5	13.0
		40	NP	35.0	20.0	17.0
		50	NP	43.0	24.5	21.0
		60	NP	51.0	29.0	25.0

TABLE R602.10.4—continued
BRACING METHODS

METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA[a] Fasteners	CONNECTION CRITERIA[a] Spacing
Intermittent Bracing Methods	PFH Portal frame with hold-downs	⅜"		See Section R602.10.6.2	See Section R602.10.6.2
	PFG Portal frame at garage	7/16"		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	⅜"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener
	CS-G[b,c] Continuously sheathed wood structural panel adjacent to garage openings	⅜"		See Method CS-WSP	See Method CS-WSP
	CS-PF Continuously sheathed portal frame	7/16"		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB[d] Continuously sheathed structural fiberboard	½" or 25/32" for maximum 16" stud spacing		1½" long × 0.12" dia. (for ½" thick sheathing) 1¾" long × 0.12" dia. (for 25/32" thick sheathing) galvanized roofing nails	3" edges 6" field

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m^2, 1 mile per hour = 0.447 m/s.
a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D_0, D_1 and D_2.
b. Applies to panels next to garage door opening where supporting gable end wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D_0, D_1 and D_2 roof covering dead load shall not exceed 3 psf.
c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R602.7(1). A full-height clear opening shall not be permitted adjacent to a Method CS-G panel.
d. Method CS-SFB does not apply in Seismic Design Categories D_0, D_1 and D_2.
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D_0 through D_2 only.

BUILD IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE AND LOCAL CODES

POOL HOUSE
1901 SW RIVER RUN DR
LEE SUMMIT MO

SCALE
1/4"=1-0

DATE 4-3-23
4-12-23

PERMIT NO.
PRCOM20226005

SHEET NO.
4 OF 5

4051. AQUATIC VENUE REGULATIONS.

AQUATIC VENUES SHALL BE LICENSED AND INSPECTED PURSUANT TO THIS SECTION. (ORD. 5008, EFF. 09/05/2017)

4051.1 OPERATING PERMIT.

A. NO PERSON SHALL OPERATE ANY AQUATIC VENUE UNLESS THE FACILITY HOLDS A VALID OPERATING PERMIT FROM THE HEALTH OFFICER FOR EACH AQUATIC VENUE BEING OPERATED.
B. ALL APPLICANTS FOR AN OPERATING PERMIT OF AN AQUATIC VENUE SHALL PROVIDE PROOF OF THE LICENSED AQUATIC VENUE OPERATOR WHO WILL SUPERVISE THAT FACILITY.
C. EACH OPERATING PERMIT SHALL BE ISSUED FOR ONE YEAR FROM THE DATE OF ISSUANCE.
D. NO OPERATING PERMIT SHALL BE TRANSFERABLE.
E. EACH OPERATING PERMIT SHALL BE CONSPICUOUSLY POSTED AT THE PERMITTED FACILITY.

4051.2 PLANS AND SPECIFICATIONS.

A. NO PERSON SHALL BEGIN CONSTRUCTION, INSTALLATION OR STRUCTURAL RENOVATION OF ANY AQUATIC VENUE WITHOUT FIRST HAVING SUBMITTED PLANS TO THE HEALTH OFFICER FOR REVIEW.
B. PLANS SHALL INCLUDE THE FOLLOWING:
I. ILLUSTRATIONS SHOWING THE AQUATIC VENUE, BATHHOUSE, AND EQUIPMENT ROOM;
II. SPECIFICATIONS AND LAYOUT OF ALL TREATMENT EQUIPMENT;
III. PIPING SCHEMATIC;
IV. LAYOUT OF CHEMICAL STORAGE ROOM;
V. SPECIFICATIONS FOR THE WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS; AND
VI. CERTIFICATION BY A PROFESSIONAL ENGINEER, ARCHITECT, OR OTHER PROFESSIONAL.
C. NO PERMIT FOR OPERATION OF AN AQUATIC VENUE SHALL BE ISSUED UNTIL AN INSPECTION OF THE COMPLETED AQUATIC VENUE IS MADE BY THE HEALTH OFFICER AND COMPLIANCE WITH THE REQUIREMENTS OF THIS CHAPTER IS SATISFIED.
D. EXISTING AQUATIC VENUES CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF THIS SECTION MAY CONTINUE IN USE SO LONG AS EQUIPMENT, WATER QUALITY, SAFETY, SUPERVISION, OPERATION, AND MAINTENANCE CAN COMPLY WITH THIS CHAPTER.

4051.3 VARIANCES.

A. A VARIANCE FROM A REQUIREMENT OF THIS CHAPTER MAY BE CONSIDERED AND GRANTED BY THE HEALTH OFFICER IF THE VARIANCE DOES NOT JEOPARDIZE PUBLIC HEALTH OR SAFETY.
B. ANY REQUEST FOR VARIANCE MUST BE SUBMITTED IN WRITING TO THE HEALTH OFFICER.

4051.4 SHOWER ROOMS, SHOWERS, TOILETS, AND LAVATORIES

A. SHOWER FACILITIES ARE REQUIRED FOR ALL CATEGORY I AQUATIC VENUES. SHOWERS SHALL BE SUPPLIED WITH HOT AND COLD RUNNING WATER FROM AN APPROVED SOURCE.
B. THE NUMBER OF SHOWERS, TOILETS, DRINKING FOUNTAINS, AND LAVATORIES SHALL COMPLY WITH APPLICABLE BUILDING PERMIT REQUIREMENTS.
C. AT ALL AQUATIC VENUES, IF SHOWER ROOMS ARE PROVIDED, THEY SHALL BE MAINTAINED IN GOOD REPAIR, IN A CLEAN CONDITION AT ALL TIMES, WITH SANITARY SUPPLIES PROVIDED, AND FREE FROM DIRT, STANDING WATER, MOLD, AND/OR ALGAE.
D. IF TOWELS ARE FURNISHED, THEY SHALL BE THOROUGHLY WASHED WITH DETERGENT AND WATER, RINSED, DRIED, AND STORED IN A CLEAN PLACE.

4051.5 LICENSED AQUATIC VENUE OPERATORS

A. LICENSING SHALL BE ACHIEVED BY SUCCESSFULLY COMPLETING A HEALTH OFFICER APPROVED COURSE, EXAMINATION, AND PAYMENT OF ANY APPLICABLE FEES. ANY LICENSE SHALL BE VALID FOR NOT MORE THAN FIVE (5) YEARS FROM THE DATE OF ISSUANCE.
B. ANY LICENSE MAY BE SUSPENDED OR REVOKED BY THE HEALTH OFFICER IF:
I. THE AQUATIC VENUE THAT THE LICENSED AQUATIC VENUE OPERATOR IS SUPERVISING IS CLOSED BY THE HEALTH OFFICER TWO OR MORE TIMES WITHIN A 365-DAY PERIOD; OR
II. THE LICENSED AQUATIC VENUE OPERATOR IS NOT READILY AVAILABLE, REACHABLE BY PHONE GENERALLY WITHIN 30 MINUTES, AT THE TIME OF HEALTH OFFICER'S INSPECTION.

4051.6 SUPERVISION.

A. EACH AQUATIC VENUE SHALL BE UNDER THE SUPERVISION OF A LICENSED AQUATIC VENUE OPERATOR WHO SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THIS CHAPTER. THE LICENSED AQUATIC VENUE OPERATOR IS NOT REQUIRED TO BE PRESENT ON SITE AT ALL TIMES, BUT SHALL BE READILY AVAILABLE DURING ALL TIMES THE FACILITY IS OPEN. THE LICENSED AQUATIC VENUE OPERATOR'S CONTACT INFORMATION MUST BE POSTED IN A CONSPICUOUS PLACE AT THE PERMITTED FACILITY. THE LICENSED AQUATIC VENUE OPERATOR SHALL HAVE HIS/HER LICENSE READILY ACCESSIBLE AT THE TIME OF INSPECTION. IF AN AQUATIC VENUE HAS A HISTORY OF VIOLATIONS, THE HEALTH OFFICER MAY REQUIRE THE LICENSED AQUATIC VENUE OPERATOR BE PRESENT ON SITE DURING ALL TIMES THE AQUATIC VENUE IS OPEN.
B. EACH CATEGORY I AQUATIC VENUE MUST PROVIDE QUALIFIED LIFEGUARDS. WHEN QUALIFIED LIFEGUARDS ARE USED THE STAFFING PLAN SHALL INCLUDE DIAGRAMMED ZONES OF PATRON SURVEILLANCE FOR EACH AQUATIC VENUE SUCH THAT:
I. A QUALIFIED LIFEGUARD IS CAPABLE OF VIEWING THE ENTIRE AREA OF THE ASSIGNED ZONE OF PATRON SURVEILLANCE;
II. A QUALIFIED LIFEGUARD IS ABLE TO REACH THE FURTHEST EXTENT OF THE ASSIGNED ZONE OF PATRON SURVEILLANCE WITHIN 20 SECONDS;
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III. THE DIAGRAM SHALL IDENTIFY WHETHER EACH QUALIFIED LIFEGUARD IS IN AN ELEVATED STAND, WALKING, IN-WATER, AND/OR OTHER APPROVED POSITION;
IV. THE DIAGRAM SHALL IDENTIFYING ANY ADDITIONAL RESPONSIBILITIES FOR EACH ZONE; AND
V. ALL AREAS OF EACH AQUATIC VENUE ARE ASSIGNED A ZONE OF PATRON SURVEILLANCE.
C. EACH CATEGORY II AQUATIC VENUES IS RECOMMENDED TO HAVE LIFEGUARD SERVICES BUT IT IS NOT REQUIRED. IF NO LIFEGUARD IS PRESENT, A PROPER "WARNING -NO LIFEGUARD ON DUTY" SIGNAGE SHALL BE PLACED THROUGHOUT THE POOL.
D. THE MINIMUM QUALIFICATIONS FOR A LIFEGUARD SHALL BE SATISFACTORY COMPLETION AND CURRENT CERTIFICATION FROM A NATIONALLY RECOGNIZED LIFEGUARD TRAINING PROGRAM. EACH LIFEGUARD SHALL HAVE CURRENT CPR AND FIRST AID CERTIFICATION.
E. ALL LIFEGUARDS SHALL WEAR DISTINGUISHING SWIMSUITS OR EMBLEMS WHILE ON DUTY.
F. EACH CATEGORY I AND CATEGORY II AQUATIC VENUE THAT HAS A WATER SURFACE AREA IN EXCESS OF 2,000 SQUARE FEET AND A DEPTH OF SIX FEET SHALL PROVIDE AT LEAST ONE ELEVATED LIFEGUARD CHAIR OR PLATFORM. ONE (1) ADDITIONAL ELEVATED LIFEGUARD CHAIR OR PLATFORM SHALL BE PROVIDED FOR EACH ADDITIONAL 2,000 SQUARE FEET OF WATER SURFACE AREA AND A DEPTH OF SIX FEET.
G. EACH CATEGORY II AQUATIC VENUE WHERE LIFEGUARD SERVICE IS NOT REQUIRED OR CONTINUOUSLY PROVIDED, SHALL DISPLAY A WARNING SIGN STATING "WARNING -NO LIFEGUARD ON DUTY" IN LETTERS AT LEAST FOUR (4) INCHES HIGH THAT SHALL BE CONSPICUOUSLY PLACED AT THE ENTRANCE TO THE VENUE.
H. EACH CATEGORY I AND II AQUATIC VENUE SHALL HAVE "POOL/ SPA RULES" POSTED IN A CONSPICUOUS PLACE, WHICH RULES SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
I. NO PERSON WITH OPEN CUTS, SORES, LESIONS, INFECTIONS, OBVIOUS COMMUNICABLE DISEASE, OR DIARRHEA SHALL USE THE SWIMMING POOL;
II. ANIMALS ARE NOT ALLOWED IN OR AROUND THE SWIMMING POOL, EXCEPT THAT SERVICE ANIMALS AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT MUST BE ALLOWED ON POOL DECKS AND ANY OTHER PLACES THE PUBLIC IS ALLOWED. SERVICE ANIMALS ARE NOT ALLOWED IN THE WATER, ON DIVING BOARDS, ON WATER SLIDES, ON FLOATATION RAFTS, ETC;
III. GLASS CONTAINERS ARE NOT ALLOWED IN OR AROUND THE SWIMMING POOL;
IV. CHILDREN WHO ARE NOT TOILET TRAINED SHALL WEAR TIGHT FITTING PLASTIC UNDERWEAR OR SWIM DIAPERS THAT WILL PREVENT LEAKAGE;
V. NO DIVING (AT SWIMMING POOLS WITHOUT AN APPROVED DIVING WELL CONFIGURATION);
VI. CHILDREN, AS DEFINED BY THE AQUATIC VENUE, SHALL BE ACCOMPANIED BY AN ADULT; AND
VII. THE FOLLOWING ONLY APPLY TO SPAS, HOT-TUBS AND WHIRLPOOL BATHS:
(1) DUE TO HIGH TEMPERATURE AND HUMIDITY THE SPA CAN BE DANGEROUS TO YOUR HEALTH, SO CONSULT YOUR PHYSICIAN BEFORE USE;
(2) OBSERVE REASONABLE TIME LIMITS (NO LONGER THAN 15 MINUTES), THEN LEAVE THE WATER AND COOL DOWN BEFORE RETURNING.
I. EACH CATEGORY III AQUATIC VENUE SHALL DISPLAY "SPRAY GROUND RULES" POSTED IN A CONSPICUOUS PLACE, WHICH RULES SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING:
I. NO PERSON WITH OPEN CUTS, SORES, LESIONS, INFECTIONS, OBVIOUS COMMUNICABLE DISEASE, OR DIARRHEA SHALL USE THE SPRAY GROUND;
II. ANIMALS ARE NOT ALLOWED IN OR AROUND THE SPRAY GROUND;
III. GLASS CONTAINERS ARE NOT ALLOWED IN OR AROUND THE SPRAY GROUND;
IV. CHILDREN WHO ARE NOT TOILET TRAINED SHALL WEAR TIGHT FITTING PLASTIC UNDERWEAR OR SWIM DIAPERS THAT WILL PREVENT LEAKAGE;
V. SPRAY FEATURES USE RECIRCULATED WATER, DO NOT DRINK THE WATER; AND
VI. CHILDREN SHALL BE ACCOMPANIED BY AN ADULT.
J. EACH CATEGORY I AND CATEGORY II AQUATIC VENUE SHALL POST ITS MAXIMUM DESIGN PATRON LOAD AND SHALL NOT PERMIT MORE PATRONS THAN INDICATED. PATRON LOAD SHALL BE CALCULATED AS FOLLOWS:
(1) ONE (1) PERSON PER 20 SQUARE FEET OF WATER SURFACE AREA FOR SWIMMING POOLS AND AQUATIC PLAY FEATURES;
(2) ONE (1) PERSON PER 10 SQUARE FEET OF WATER SURFACE AREA FOR SPAS, HOT-TUBS, AND WHIRLPOOL BATHS.

4051.7 SAFETY REQUIREMENTS.

A. THE FOLLOWING SHALL BE PROVIDED AT EACH CATEGORY I AND CATEGORY II AQUATIC VENUE:

I. A LIFE POLE OR SHEPHERD'S CROOK 12-FEET LONG OR A REACH BEYOND HALF THE DISTANCE OF THE WIDTH OF THE POOL;
II. A RING BUOY, COAST GUARD APPROVED OR EQUIVALENT, FITTED WITH A ¼ INCH-DIAMETER LINE ATTACHED WITH A LENGTH OF 1.5 TIMES THE MAXIMUM WIDTH OF THE SWIMMING POOL OR 50 FEET, WHICHEVER IS LESS;
III. A BLANKET; AND
IV. A FIRST AID KIT WITH THE FOLLOWING MINIMUM SUPPLIES:
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(1) TRIANGULAR BANDAGES;
(2) ONE ROLL 1-INCH TAPE;
(3) PLAIN GAUZE PADS, 3" X 3" AND 4" X 4";
(4) ONE ROLL 2-INCH GAUZE BANDAGE;
(5) ONE TUBE OR BOTTLE OF ANTISEPTIC;
(6) FIRST AID BOOK;
(7) SCISSORS; AND
(8) ASSORTED BAND-AIDS.

B. ALL LIFESAVING EQUIPMENT SHALL BE MOUNTED IN A CONSPICUOUS PLACE, READILY ACCESSIBLE, AND IN A CONDITION READY FOR USE, EXCEPT THAT THE BLANKET AND FIRST AID KIT MAY BE KEPT IN A DESIGNATED PLACE APPROVED BY THE HEALTH OFFICER.

C. EACH CATEGORY I AND II AQUATIC VENUE SHALL HAVE A READILY ACCESSIBLE EMERGENCY TELEPHONE OR OTHER MEANS OF EMERGENCY COMMUNICATION THAT IS OPERATIONAL AND ONLY FOR EMERGENCY USE. DIRECTIONS FOR USE OF THE EMERGENCY TELEPHONE SHALL BE CLEARLY POSTED. EMERGENCY PHONE NUMBERS ALONG WITH THE VENUE'S ADDRESS MUST BE PROMINENTLY POSTED.

D. ALL CHEMICALS USED IN AN AQUATIC VENUE'S MAINTENANCE SHALL BE STORED UNDER CONDITIONS WHERE THEY ARE ONLY ACCESSIBLE TO AUTHORIZED PERSONS, IN A DRY, WELL-VENTILATED STORAGE ROOM ACCORDING TO MANUFACTURERS' INSTRUCTIONS. THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL BE OBSERVED:

I. CHEMICALS SHALL BE STORED IN THEIR ORIGINAL CONTAINERS, TIGHTLY CLOSED. ALL CHEMICAL CONTAINERS, DRUMS, BOXES, AND BAGS SHALL BE STORED AT LEAST 6 INCHES OFF THE FLOOR OR IN A MANOR TO ELIMINATE CONTACT WITH STANDING WATER. OVERHEAD STORAGE OF CHEMICALS IS PROHIBITED;
II. INCOMPATIBLE CHEMICALS SHALL BE STORED AWAY FROM EACH OTHER IN SPECIFICALLY IDENTIFIED LOCATIONS IN THE CHEMICAL STORAGE ROOM;
III. "NO SMOKING" SIGNS SHALL BE POSTED IN THE CHEMICAL STORAGE ROOM; AND
IV. SWIMMING POOL CHEMICALS AND TEST KIT REAGENTS SHALL BE STORED OUT OF DIRECT SUNLIGHT.
E. IN EACH CATEGORY I AND CATEGORY II AQUATIC VENUE THE DEPTH OF THE WATER SHALL BE PLAINLY MARKED AT OR ABOVE THE WATER SURFACE ON THE VERTICAL WALL OF THE AQUATIC VENUE, AND ON THE EDGE OF THE DECK NEXT TO THE AQUATIC VENUE. WHERE DEPTH MARKERS CANNOT BE PLACED ON THE VERTICAL WALLS ABOVE THE WATER LEVEL, OTHER MEANS SHALL BE USED SO THAT MARKINGS SHALL BE PLAINLY VISIBLE TO PERSONS IN THE AQUATIC VENUE. MARKERS SHALL BE AT LEAST 4-INCH HIGH NUMBERS AND OF A COLOR CONTRASTING WITH THE BACKGROUND. DEPTH MARKERS SHALL BE:
I. LOCATED AT THE POINTS OF MAXIMUM AND MINIMUM DEPTHS;
II. ON BOTH SIDES AND BOTH ENDS OF THE AQUATIC VENUE;
III. SPACED SO THAT THE DISTANCE BETWEEN ADJACENT MARKERS IS NOT GREATER THAN 25 FEET WHEN MEASURED PERIPHERALLY; AND
IV. AT APPROPRIATE POINTS AS TO DENOTE WATER DEPTH IN DIVING AREAS, IF THE SWIMMING POOL IS DESIGNED FOR DIVING (SWIMMING POOLS WITHOUT AN APPROVED DIVING WELL CONFIGURATION SHALL ALSO HAVE "NO DIVING" INCLUDED IN THE POSTED POOL RULES).

F. THE POINT OF TRANSITION WITH AN ABRUPT CHANGE BETWEEN THE DEEP AND THE SHALLOW AREAS SHALL BE IDENTIFIED BY A BUOYED LIFELINE THAT SEPARATES THE DEEP AREA FROM THE SHALLOW AREA AND IS LOCATED 2-FEET TOWARD THE SHALLOW END FROM THE POINT OF TRANSITION OR BY A LINE OF CONTRASTING COLOR ON THE FLOOR AND WALLS OF THE POOL, PRESENT AT THE POINT OF TRANSITION.

G. IF NIGHT SWIMMING IS PERMITTED, DECK AND UNDERWATER LIGHTING SHALL BE PROVIDED TO ILLUMINATE ALL UNDERWATER AREAS SO THAT WATER CLARITY REQUIREMENTS WILL BE MAINTAINED.

H. ELECTRICAL EQUIPMENT AND WIRING IN OR ADJACENT TO ANY AQUATIC VENUE SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC 70), ARTICLE 680 AND ANY ADDITIONAL LOCAL REQUIREMENTS.

I. STEPS, LADDERS, STAIRS, OR RAMPS SHALL BE PROVIDED AT THE SHALLOW AND DEEP ENDS OF THE AQUATIC VENUE. IF THE AQUATIC VENUE IS OVER 30 FEET WIDE STEPS, LADDERS, STAIRS, OR RAMPS SHALL BE INSTALLED ON EACH SIDE. RAMPS SHALL NOT EXCEED A SLOPE OF 1:12. HANDRAILS SHALL BE PROVIDED FOR USE WITH ALL LADDERS, STEPS, AND STAIRS. HANDRAILS SHALL BE MAINTAINED IN SOUND WORKING CONDITION.

J. ALL STEPS, RAMPS, AND DIVING BOARDS ARE TO BE OF NON-SLIP CONSTRUCTION OR BE COVERED WITH NON-SLIP MATERIALS.

K. AN AQUATIC VENUE SHALL BE IMMEDIATELY CLOSED AND THE SWIMMERS REMOVED FROM THE WATER WHEN ANY OF THE FOLLOWING OCCURS. CLOSURE RESULTING FROM AN INSPECTION WILL REQUIRE A RE-INSPECTION BEFORE THE AQUATIC VENUE BEGINS OPERATING AGAIN.
I. FAILURE TO MEET REQUIRED DISINFECTANT CONCENTRATIONS;
II. FAILURE TO MEET WATER CLARITY REQUIREMENTS;
III. THE GRATE ON THE MAIN DRAIN IS MISSING OR BROKEN;
IV. FAILURE TO MEET LIFEGUARD REQUIREMENTS;
V. A RECIRCULATION OR FILTER PUMP IS NON-OPERATIONAL;
VI. THE WATER TEMPERATURE EXCEEDS 104° FAHRENHEIT;
VII. A FECAL OR VOMIT INCIDENT (DOCUMENTATION OF THE INCIDENT AND MEASURES TAKEN MUST BE DOCUMENTED AND SUBMITTED TO THE HEALTH OFFICER);
VIII. THE PRESENCE OF AN ELECTRICAL STORM AT AN OUTDOOR VENUE; OR
IX. READILY ACCESSIBLE EMERGENCY TELEPHONE/COMMUNICATIONS DEVICE IS INOPERABLE.

L. EACH AQUATIC VENUE SHALL BE IN COMPLIANCE WITH ALL CURRENT AND ANY FUTURE STATE AND FEDERAL REGULATIONS. THIS INCLUDES BUT NOT LIMITED TO THE VIRGINIA GRAEME BAKER POOL AND SPA SAFETY ACT AND THE AMERICANS WITH DISABILITIES ACT (ADA).

M. A LICENSED AQUATIC VENUE OPERATOR SHALL NOTIFY THE HEALTH OFFICER AS SOON AS POSSIBLE IN THE EVENT OF A DROWNING THAT RESULT IN A DEATH OR FECAL/VOMIT INCIDENT. EACH AQUATIC VENUE SHALL HAVE AND FOLLOW AN APPROVED CONTAMINATION RESPONSE PLAN FOR DEALING WITH FECAL, BLOOD, AND VOMIT CONTAMINATION. THE AQUATIC VENUE SHALL DOCUMENT EACH FECAL, BLOOD, AND VOMIT INCIDENT. DOCUMENTATION OF FECAL, BLOOD, AND VOMIT INCIDENTS SHALL BE RETAINED FOR AT LEAST ONE (1) YEAR AFTER THE INCIDENT.

N. THE WATER SUPPLY FOR EACH AQUATIC VENUE SHALL BE FROM A WATER SOURCE APPROVED BY THE HEALTH OFFICER. NO PIPING ARRANGEMENTS SHALL EXIST WHICH, UNDER ANY CONDITIONS, WILL PERMIT SEWAGE OR WASTEWATER TO ENTER THE AQUATIC VENUE'S WATER SYSTEM OR PERMIT WATER FROM AN AQUATIC VENUE TO ENTER THE MAKE-UP WATER SUPPLY.

O. BECAUSE OF SERIOUS SAFETY CONSIDERATIONS, THE USE OF GAS CHLORINE IS NOT RECOMMENDED AND MAY NOT BE APPROVED. WHEN USED, THE OPERATION MUST BE IN COMPLIANCE WITH ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

4051.8 WATER QUALITY OF SWIMMING POOLS.

A. THE WATER SHALL HAVE SUFFICIENT CLARITY AT ALL TIMES SO THAT EITHER A BLACK DISC SIX (6) INCHES IN DIAMETER IS READILY VISIBLE IN THE DEEPEST PORTION OF THE SWIMMING POOL OR THE BOTTOM DRAIN AT THE DEEPEST POINT IS CLEARLY VISIBLE.
B. THE WATER SHALL BE FREE OF ALL SCUM AND FLOATING MATTER ON THE SURFACE AND DIRT AND OTHER MATERIAL ON THE FLOOR OF THE SWIMMING POOL.
C. DISINFECTION SHALL BE PROVIDED BY MECHANICAL FEEDERS. THE WATER IN ALL PARTS OF THE SWIMMING POOL SHALL HAVE A MINIMUM FREE AVAILABLE CHLORINE (FAC) CONTENT OF AT LEAST 1.0 PPM, BUT FAC SHALL NOT EXCEED 10.0 PPM.
I. BROMINE USED AS A DISINFECTANT SHALL BE MAINTAINED AT A RESIDUAL LEVEL OF NOT LESS THAN 2.0 PPM BUT SHALL NOT EXCEED 10.0 PPM; AND
II. OTHER DISINFECTING MATERIALS OR METHODS MUST BE APPROVED BY THE HEALTH OFFICER.
D. IF CYANURIC ACID OR CHLORINATED ISOCYANURATES ARE USED, THE CONCENTRATION OF CYANURIC ACID IN THE WATER SHOULD BE AT LEAST 30 PPM TO 50 PPM AND SHALL NOT EXCEED 1000 PPM AND THE FREE AVAILABLE CHLORINE (FAC) SHALL BE AT LEAST 2.0 PPM.
E. THE WATER SHALL BE MAINTAINED AT A PH OF NOT LESS THAN 7.2 AND NOT OVER 7.8.
F. THE TOTAL ALKALINITY IS RECOMMENDED TO BE WITHIN THE RANGE OF 60 PPM TO 180 PPM.
G. NO HARSH OR IRRITATING CHEMICAL IN CONCENTRATED FORM SHALL BE ADDED MANUALLY AND DIRECTLY TO THE WATER OF ANY SWIMMING POOL WHILE ANY PERSON IS PRESENT IN THE WATER. WHEN CHEMICALS ARE ADDED, USE OF THE SWIMMING POOL SHALL CEASE UNTIL SUCH TIME AS THE CHEMICAL IS COMPLETELY DISSOLVED AND IS THOROUGHLY DIFFUSED THROUGHOUT THE SWIMMING POOL WATER.
H. THE WATER IN A SWIMMING POOL SHALL BE CONTINUOUSLY RECIRCULATED. THE CIRCULATION SYSTEM FOR SWIMMING POOLS SHALL ACHIEVE A TURNOVER RATE OF SIX (6) HOURS OR LESS. THE CIRCULATION SYSTEM FOR ANY WADING POOL SHALL ACHIEVE A TURNOVER RATE OF TWO (2) HOURS OR LESS. EACH CATEGORY I AND CATEGORY II SWIMMING/WADING POOL SHALL HAVE A FLOW METER INSTALLED THAT IS CAPABLE OF MEASURING FROM ½ TO AT LEAST 1-1/2 TIMES THE DESIGNED FLOW OF THE CIRCULATION SYSTEM.

4051.13 OPERATING RECORDS.

A. EACH CATEGORY I, II, OR III AQUATIC VENUE SHALL MAINTAIN RECORDS SHOWING:
I. DISINFECTANT RESIDUALS TESTING A MINIMUM OF TWO TIMES DAILY OR AS OFTEN AS NEEDED TO MAINTAIN THE WATER QUALITY AS INDICATED IN THIS SECTION;
II. PH READING TESTING A MINIMUM OF TWO TIMES DAILY OR AS OFTEN AS NEEDED TO MAINTAIN THE WATER QUALITY AS INDICATED IN THE SECTION;
III. CHEMICALS USED DURING THE OPERATION PERIOD;
IV. CYANURIC ACID LEVEL TESTING AT LEAST ONCE A WEEK;
V. ALKALINITY TESTING AT LEAST ONCE A WEEK; AND
VI. ALL FECAL, BLOOD, AND VOMIT INCIDENTS.
B. N/A
C. ALL RECORDS SHALL BE RETAINED FOR AT LEAST ONE (1) YEAR FROM DATE OF TEST.

4051.14 TESTING EQUIPMENT.

A. THE FOLLOWING TEST EQUIPMENT SHALL BE MAINTAINED AT EACH SWIMMING POOL, WADING POOL, SPA, HOT-TUB, OR WHIRLPOOL BATH:
I. A DPD CHLORINE TESTER OR BROMIDE TESTER, CAPABLE OF MEASURING RESIDUALS IN THE RANGE OF 0 TO 10.0 PPM. WHEN CHLORINE IS USED, THE TEST EQUIPMENT SHALL BE CAPABLE OF MEASURING BOTH FREE AVAILABLE CHLORINE AND TOTAL COMBINED CHLORINE;
II. A PH TESTER CAPABLE OF MEASURING PH BETWEEN 6.8 AND 8.2;
III. AN ALKALINITY TESTER CAPABLE OF MEASURING THE RANGE OF 50 TO 200 PPM;
IV. A CYANURIC ACID TEST KIT (WHERE APPLICABLE); AND
V. A CALCIUM HARDNESS TESTER CAPABLE OF MEASURING THE RANGE OF 150 TO 500 PPM. (REQUIRED FOR EACH SPA, HOT-TUB, OR WHIRLPOOL BATH, RECOMMENDED FOR ALL AQUATIC VENUES)

4051.15 FENCES/ENCLOSURES/SAFETY COVERS.

A. EACH CATEGORY I, II, OR III AQUATIC VENUE SHALL BE PROTECTED BY A FENCE, WALL, BUILDING, OR OTHER ENCLOSURE, OR ANY COMBINATION THEREOF WHICH COMPLETELY ENCLOSES THE AQUATIC VENUE AREA SUCH THAT ALL THE FOLLOWING CONDITIONS ARE MET:
I. CONSTRUCTED SO AS TO AFFORD NO EXTERNAL HANDHOLDS OR FOOTHOLDS;
II. CONSTRUCTED OF DURABLE MATERIALS;
III. A FOUR (4) FOOT MINIMUM HEIGHT IS PROVIDED ENTIRELY AROUND THE AQUATIC VENUE;
IV. THE HORIZONTAL SPACE BETWEEN VERTICAL MEMBERS OF THE ENCLOSURE SHALL NOT EXCEED FOUR (4) INCHES;
V. THE HEIGHT OF ANY OPENING UNDER THE BOTTOM OF THE ENCLOSURE SHALL NOT EXCEED TWO (2) INCHES; AND
VI. WHERE NO LIFEGUARDS ARE PRESENT, ALL GATES AND DOORS SHALL BE EQUIPPED WITH SELF-CLOSING AND POSITIVE SELF-LATCHING CLOSURE MECHANISMS WHICH SHALL BE LOCATED AS HIGH AS POSSIBLE AND COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.
D. IF A SAFETY COVER IS USED IT MUST MEET ASTM STANDARD F1346-91 STANDARD PERFORMANCE SPECIFICATION FOR SAFETY COVERS AND LABELING REQUIREMENTS FOR ALL COVERS FOR SWIMMING POOLS, SPAS, AND HOT TUBS.

4051.16 WASTEWATER DISPOSAL.

ALL WASTEWATER FROM ANY CATEGORY I, II, OR III AQUATIC VENUE SHALL BE DISPOSED OF IN A MANNER WHICH WILL NOT CREATE A NUISANCE AND IS IN ACCORDANCE WITH APPLICABLE LOCAL REGULATIONS.

4051.17 GENERAL MAINTENANCE.

EACH CATEGORY I, II, OR III AQUATIC VENUE MUST BE MAINTAINED IN SUCH A WAY AS NOT TO CREATE A NUISANCE OR PUBLIC HEALTH RISK.

4051.18 INSPECTIONS.

A. THE HEALTH OFFICER SHALL CONDUCT SUCH INSPECTIONS AS OFTEN AS DEEMED NECESSARY TO ENSURE COMPLIANCE WITH ALL THE PROVISIONS OF THIS CHAPTER AND HE/SHE SHALL HAVE RIGHT OF ENTRY AT ANY REASONABLE TIME TO THE AQUATIC VENUE, ITS RECORDS, AND ACCOMPANYING FACILITIES.
B. UPON INVESTIGATION OR INSPECTION OF AN AQUATIC VENUE, THE HEALTH OFFICER DETERMINES THAT CONDITIONS EXIST THAT WARRANT THE CLOSING OF THE FACILITY, THE HEALTH OFFICER SHALL ISSUE A WRITTEN CLOSING ORDER TO THE OWNER OR OPERATOR OF THE AQUATIC VENUE, NOTING THE VIOLATIONS. A "NOTICE OF CLOSURE" SIGN SHALL BE CONSPICUOUSLY PLACED AT THE ENTRANCE TO THE FACILITY. IT SHALL BE UNLAWFUL FOR ANY PERSON TO REMOVE A "NOTICE OF CLOSURE" SIGN UNLESS AUTHORIZED TO DO SO BY THE HEALTH OFFICER. THE OWNER OR OPERATOR, THEREAFTER, SHALL BE RESPONSIBLE FOR PROHIBITING ANY PERSON FROM USING THE FACILITY UNTIL THE VIOLATIONS HAVE BEEN ABATED. IF THE HEALTH OFFICER NOTES VIOLATIONS, WHICH DO NOT WARRANT CLOSING THE FACILITY, A WRITTEN NOTICE SHALL BE PROVIDED TO THE OWNER OR OPERATOR WITH REASONABLE TIMES FOR COMPLIANCE. IF THE NOTED VIOLATIONS ARE NOT ABATED WITHIN THE TIME SET FORTH IN THE NOTICE, THE FACILITY SHALL THEN BE AUTOMATICALLY CLOSED UNLESS THE HEALTH OFFICER, UPON GOOD CAUSE, EXTENDS THE TIME FOR COMPLIANCE.

C. THE FOLLOWING VIOLATIONS SHALL WARRANT IMMEDIATE CLOSURE BY THE HEALTH OFFICER. CLOSURE RESULTING FROM AN INSPECTION WILL REQUIRE A RE-INSPECTION BEFORE THE AQUATIC VENUE BEGINS OPERATIONS AGAIN.
I. ANY HAZARDOUS CONDITION THAT MAY CREATE AN IMMEDIATE DANGER TO LIFE, HEALTH, OR SAFETY;
II. FAILURE OF THE AQUATIC VENUE'S EQUIPMENT OR STRUCTURE THAT MAY JEOPARDIZE THE HEALTH OR SAFETY OF THE PERSONS USING OR OPERATING IT;
III. FAILURE TO MEET REQUIRED DISINFECTANT CONCENTRATIONS;
IV. FAILURE TO MEET WATER CLARITY REQUIREMENTS;
V. THE GRATE ON THE MAIN DRAIN IS MISSING OR BROKEN;
VI. FAILURE TO MEET LIFEGUARD REQUIREMENTS;
VII. A SPA'S WATER TEMPERATURE EXCEEDS 104° FAHRENHEIT;
VIII. READILY ACCESSIBLE EMERGENCY TELEPHONE/COMMUNICATIONS DEVICE IS INOPERABLE;
IX. FAILURE TO HAVE ALL ENTRANCES EQUIPPED WITH SELF-CLOSING AND SELF-LATCHING DOOR/GATE;
X. LACK OF REQUIRED SAFETY EQUIPMENT;
XI. FAILURE TO MEET THE LICENSED AQUATIC VENUE OPERATOR REQUIREMENT;
XII. REPEAT VIOLATIONS FROM PREVIOUS INSPECTION(S); OR
XIII. IF AN AQUATIC VENUE HAS BEEN LINKED TO A RECREATIONAL WATER ILLNESS OUTBREAK CONFIRMED BY A LICENSED PHYSICIAN.

D. THE HEALTH OFFICER SHALL CONDUCT A FOLLOW-UP INSPECTION TO INSURE ALL VIOLATIONS FROM THE INITIAL INVESTIGATION(S)/INSPECTION(S) HAVE BEEN ABATED. FEES SHALL APPLY FOR ALL FOLLOW-UP INSPECTIONS.
E. IF VIOLATION(S) ARE CORRECTED AT THE TIME OF THE INITIAL INVESTIGATION/INSPECTION A FOLLOW-UP INSPECTION WILL NOT BE REQUIRED.
G. CLOSING ORDERS SHALL BE REPEALED ONCE ALL VIOLATIONS THAT WARRANTED THE CLOSING ORDER HAVE BEEN ABATED AND INSPECTED BY THE HEALTH OFFICER.

4052. ENFORCEMENT OF MISSOURI STATE PUBLIC HEALTH RULES AND REGULATIONS.

THE HEALTH OFFICER SHALL HAVE AUTHORITY TO ISSUE GENERAL ORDINANCE SUMMONSES TO PERSONS FOR ALLEGED VIOLATIONS OF SECTIONS 192.300 AND .320, RSMO, AND CORRESPONDING PROVISIONS OF THE MISSOURI CODE OF STATE REGULATIONS WHICH, UPON CONVICTION, ARE PUNISHABLE PURSUANT TO SECTION 4054. OF THIS CHAPTER.

4053. MORE RESTRICTIVE PROVISION SHALL GOVERN.

IN THE CASE OF A CONFLICT BETWEEN ANY PROVISION OF THIS CHAPTER AND A PROVISION OF ANY OTHER RULE, REGULATION, AND STATUTE OR LAW, WHETHER FEDERAL, STATE, OR LOCAL, THE MORE RESTRICTIVE PROVISION SHALL GOVERN.

4054. PENALTY PROVISION.

ANY PERSON, FIRM, PARTNERSHIP, OR CORPORATION WHO VIOLATES ANY PROVISION OF THIS CHAPTER SHALL, ON CONVICTION, BE FINED NOT MORE THAN ONE THOUSAND DOLLARS ($1,000.00) OR SENTENCED TO NOT MORE THAN ONE (1) YEAR IN THE COUNTY JAIL, OR BOTH. (ORD. 3168, EFF. 08/31/01)

4054.1 SEPARATE OFFENSE.

EACH DAY THAT A VIOLATION OF THIS CHAPTER EXISTS SHALL CONSTITUTE A SEPARATE OFFENSE. (ORD. 3168, EFF. 08/31/01)

4055. PAYMENT OF PROPERTY TAXES.

NOTWITHSTANDING ANYTHING CONTAINED IN THIS CHAPTER TO THE CONTRARY, THE ISSUANCE OF A PERMIT UNDER THIS CHAPTER TO ANY APPLICANT MAY BE WITHHELD AND ANY PERMIT PREVIOUSLY ISSUED UNDER THIS CHAPTER TO ANY APPLICANT MAY BE SUSPENDED OR REVOKED, IF PROPERTY TAX DUE TO THE COUNTY ON ANY APPLICANT PROPERTY (DEFINED BELOW) IS OR BECOMES DELINQUENT. AS USED HEREIN, THE TERM "APPLICANT PROPERTY" SHALL MEAN ANY REAL OR PERSONAL PROPERTY THAT IS OWNED BY SUCH APPLICANT OR THAT IS USED IN THE ACTIVITY FOR WHICH THE PERMIT IS REQUIRED AND OWNED BY ANY PARTY RELATED TO SUCH APPLICANT OR OWNED BY ANY ENTITY OWNED OR CONTROLLED BY OR UNDER COMMON OWNERSHIP OR CONTROL WITH SUCH APPLICANT. (ORD. 4327, EFF. 08/09/11; ORD. 4390, EFF. 02/27/12)

BUILD IN ACCORDANCE WITH
2018 INTERNATIONAL
BUILDING CODE AND LOCAL
CODES

POOL HOUSE
1901 SW RIVER RUN DR
LEE SUMMIT MO

SCALE
1/4"=1-0

DATE 4-3-23
4-12-23

PERMIT NO.
PRCOM20226005

SHEET NO.
5 OF 5

4.13.23

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	TYPE	CFM	ESP (IN)	DRIVE	POWER	OPERATION	ELECTRICAL VOLTS	ELECTRICAL PHASE	WEIGHT
EF-1	MEN R.R.	PANASONIC	FV-08-11VFL5	CEILING	110	0.25	DIRECT	26.5w	LIGHT SWITCH	120	1	12
EF-2	WOMEN R.R.	PANASONIC	FV-08-11VFL5	CEILING	110	0.25	DIRECT	26.5w	LIGHT SWITCH	120	1	12
EF-3	EQUIPMENT ROOM	FANTECH	FR-160	IN-LINE	225	0.5	DIRECT	125w	BREAKER	120	1	8

MECHANICAL & PLUMBING SPECIFICATIONS

1. GENERAL PROVISIONS:
   A. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE PLUMBING SYSTEMS OUTLINED.
   B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR APPROVAL AS REQUIRED BY AUTHORITIES.
   C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
   D. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
   E. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
   F. INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGS, SPECIFICATIONS, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTS, OR OBSTRUCTIONS THAT AFFECT HIS BID.
   G. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGS REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGS. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE MECHANICAL WORK INTERFACES WITH OTHER TRADES.
   H. INCLUDE ALL BASIC MATERIALS AND CONSTRUCTION METHODS INCLUDING PIPES, PIPE FITTINGS, AND SPECIALTIES AND SUPPORTING DEVICES, VALVES, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.

2. PLUMBING
   A. PROVIDE AND APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.
   B. ALL EXPOSED PIPE SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE.
   C. PROVIDE CLEANOUTS AT EACH CHANGE IN DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUNS.
   D. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.
   E. CLEANOUTS:
      1. UNFINISHED FLOOR (FCO): JR SMITH #4020, OR EQUAL.
      2. WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.
      3. GRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.
   F. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS.
   G. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.
      1. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.
      2. INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.
   F. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.
      1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.
      2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.

3. PIPING
   A. DOMESTIC COLD, AND HOT.
      1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS.
      2. BALL VALVE: CRANE #932 OR EQUAL.
   B. SANITARY SEWER AND VENTS.
      1. SCHEDULE 40 PVC SOLID PLASTIC PIPE WITH DWV FITTINGS.

4. INSULATION:
   A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPMENT RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.
   B. PIPE INSULATION (ABOVE GRADE):
      1. THE PIPE INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 BTU PER IN/HR*SQ-FT*F OR LESS.
      2. FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.
      3. INSULATION SCHEDULE:
         a. DOMESTIC HOT WATER: 1"

5. TESTING, BALANCING AND CLEANING:
   A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR COVERED WITH INSULATION.
   B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.
   C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS, WITH NO LEAKS.

GENERAL NOTES

A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

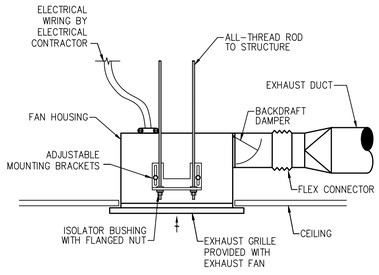
B. COORDINATE INSTALLATION OF MECHANICAL SYSTEM WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION AND AVOID CONFLICTS. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. VERIFY DUCT SPACE AVAILABLE ABOVE ALL CEILINGS PRIOR TO ANY FABRICATION OF INSTALLATION.

C. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.

D. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE HVAC EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

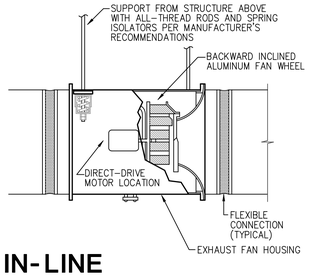
(#) KEYED PLAN NOTES

1. CEILING MOUNT EXHAUST FAN WITH 4"ø DUCT UP THROUGH ROOF. DUCT SHALL TERMINATE 16" ABOVE ROOF WITH WEATHERPROOF RAIN CAP. SEAL ROOF PENETRATION WEATHER TIGHT.
2. 6"ø PVC EXHAUST DUCT UP THROUGH ROOF. DUCT SHALL TERMINATE 16" ABOVE ROOF WITH PVC WEATHER CAP.
3. 6"ø PVC EXHAUST DUCT DOWN. TERMINATE EXHAUST DUCT 12" A.F.F. COVER OPENING WITH 1/4"X1/4" WIRE MESH SCREEN. COORDINATE LOCATION WITH POOL CONSULTANT.
4. LOUVERED DOOR BY GENERAL CONTRACTOR.



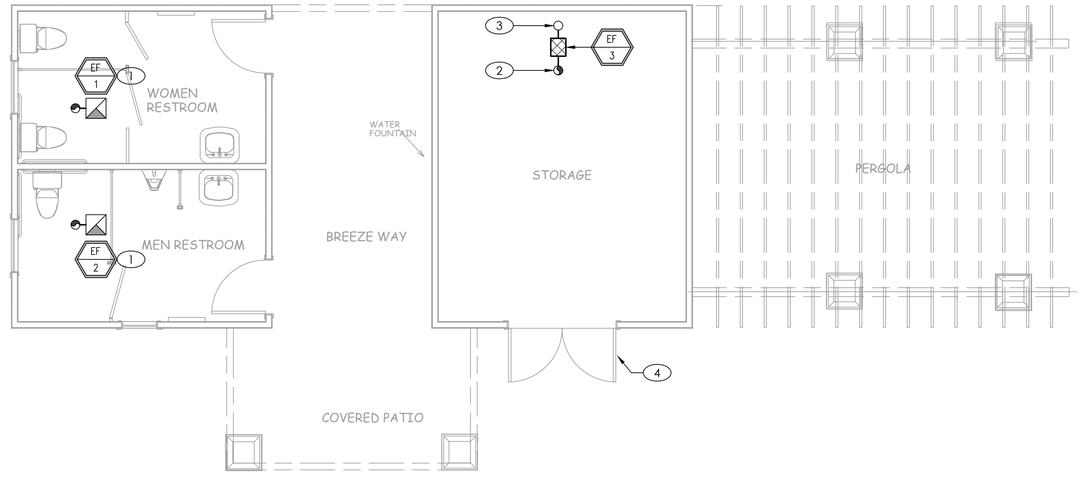
CEILING MOUNTED EXHAUST FAN 3

SCALE : NO SCALE



IN-LINE EXHAUST FAN 2

SCALE : NO SCALE



MECHANICAL PLAN 1

SCALE: 1/4" = 1'-0"

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STATE OF MISSOURI
JUSTIN R. SMOTHERS
NUMBER PE-2012003568
PROFESSIONAL ENGINEER
05-20-2022

PROJECT:
POOL HOUSE STRUCTURE
LEE'S SUMMIT, MO

REVISIONS: DATE / DESCRIPTION
1
2
3
4
5

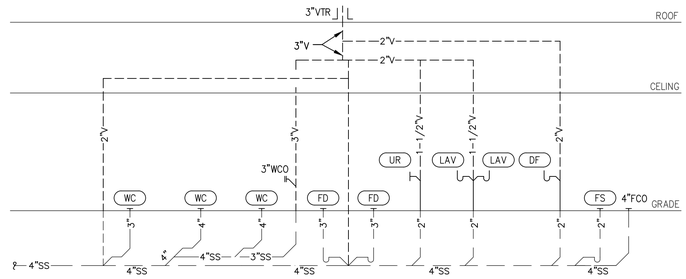
ISSUED:
PERMIT

SHEET TITLE:
MECHANICAL PLAN AND SPECIFICATIONS

DATE: 05.20.2022
JOB NO.: 22-133
SHEET:
MP1.1

PLUMBING FIXTURE SCHEDULE

LAV	HANDICAP ACCESSIBLE WALL MOUNT LAVATORY WITH CARRIER, PROFLO MODEL PF5411WH, VITREOUS CHINA, WHITE, SELF-RIMMING COUNTER TOP, PROFLOW PFWS3006 ADA COMPLIANT FAUCET, SS FLEX SUPPLY RISERS WITH CHROME PLATED STOP VALVES, P-TRAP WITH CLEANOUT AND ESCUTCHEONS. INSULATE WITH "HANDI-LAV-GLUARD" MODEL 102, OR EQUAL.
WC	FLOOR-MOUNTED ADA WATER CLOSET: PROFLO MODEL PF1503WH, HANDICAP ACCESSIBLE, VIREOUS CHINA, 1.28 GPF, ELONGATED BOWL, FLOOR MOUNTED, WHITE, VITREOUS CHINA TANK AND COVER CONTAINING FLUSHOMETER/TANK WITH BUILT-IN PRESSURE REGULATOR AND BACKFLOW PREVENTER, WHITE OPEN FRONT SEAT, CHROME STOPS, C.P. FLEXIBLE RISER TUBE, BOLT CAPS, AND ESCUTCHEON
FD	FLOOR DRAIN: SOUIX CHIEF 842-3PNR, FLOOR DRAIN, PVC BODY AND CLAMPING COLLAR, ADJUSTABLE 5-1/2" ROUND NICKEL BRONZE STRAINER. PROVIDE WITH PROSET SYSTEMS "TRAP GUARD" INSERT FOR ACTUAL FLOOR DRAIN MODEL AND SIZE PROVIDED.
FS	FLOOR SINK, JOSAM 49420-LF-NB SERIES SQUARE CAST IRON 12-1/4" DEEP SUPER FLO-SEPTOR® FLOOR SINK WITH ACID-RESISTING INTERIOR, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER, NIKALOY SANITARY SLOPED RIM AND NIKALOY, LIGHT-DUTY, ANTI-TILTING, SUPER-FLO® GRATE. 16x16 SQUARE TOP, 4" OUTLET.
DF	DRINKING FOUNTAIN. ELKAY EZH20. ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION. ADA COMPLIANT. COLOR BY OWNER/ARCHITECT. MOUNT AT HEIGHT DETERMINED BY ARCHITECT. 115V/1PH, 4.2 FLA, 370 WATTS, 71 LBS.
RPZ1	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: 1", WATTS # LF009QT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND # 909AG AIR GAP FITTING.
RPZ2	REDUCED PRESSURE ZONE BACKFLOW PREVENTER: 3/4", WATTS # LF009QT, MEETING ASSE 1013, LEAD FREE CAST BRONZE BODY, QUARTER TURN TESTING COCKS, QUARTER TURN BALL VALVES, AND # 909AG AIR GAP FITTING.
FPWH	FREEZE-PROOF WALL HYDRANT: PRIER PRODUCTS #C-6341, 3/4" FPT INET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE HYDRANT LENGTH AS REQUIRED FOR INSTALLATED WALL THICKNESS, ADJUSTABLE WALL CLAMP, BRASS BOX WITH SATIN NICKEL PLATED FINISH AND INTEGRAL ASSE 1052 DOUBLE CHECK VACUUM BREAKER.
UR1	URINAL: SLOAN WEUS1000.1001, WHITE, VITREOUS CHINA, WASHOUT WALL URINAL, 0.1 GALLONS PER FLUSH, 27"H X 17"W, FURNISH WITH FLUSHOMETER, VANDAL RESISTANT CHROME PLATED HOUSING, ADJUSTABLE TAILPIECE AND VANDAL RESISTANT OUTLET STRAINER. MOUNT NON-ADA AT 24" FROM FINISHED FLOOR, MOUNT ADA URINAL 17" FROM FINISHED FLOOR. TRIM: SUITABLE CARRIER WITH STANCHIONS TO FLOOR.
EWH1	ELECTRIC WATER HEATER, EEMAX, MODEL SP2412, 2.4KW, 20 AMP, 110 VOLT, POINT OF USE WATER HEATER. SET HW SUPPLY TEMP SET TO 110F.
EWH2	ELECTRIC WATER HEATER, EEMAX, MODEL SP2412, 2.4KW, 20 AMP, 110 VOLT, POINT OF USE WATER HEATER. SET HW SUPPLY TEMP SET TO 110F.



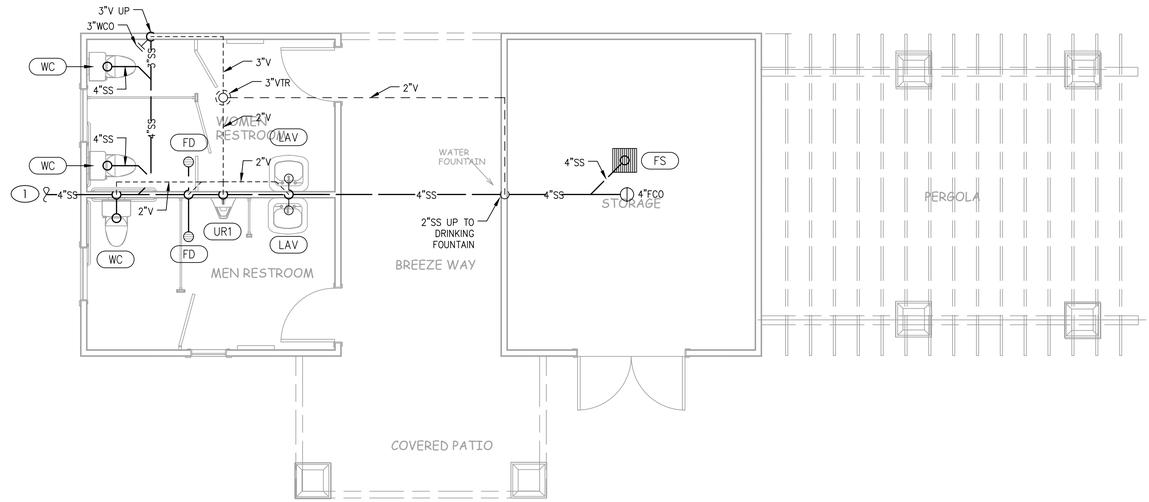
PLUMBING RISER DIAGRAM

SCALE : NO SCALE

3

KEYED PLAN NOTES

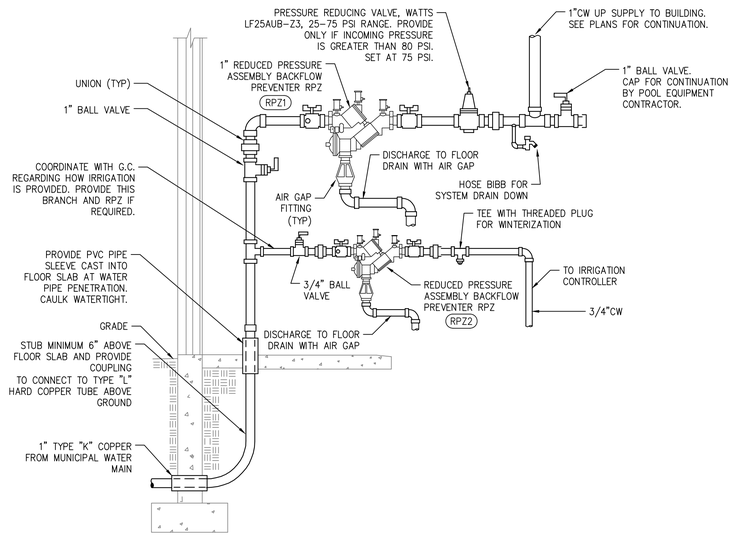
1. 4" SANITARY TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH LOCAL WASTE WATER AUTHORITY FOR INSTALLATION OF A NEW SEWER LINE CONNECTING INTO THE SEWER MAIN FOR A COMPLETE INSTALLATION. REFER TO CIVIL PLANS FOR CONTINUATION. COORDINATE INVERT ELEVATION WITH SITE CIVIL CONTRACTOR PRIOR TO START OF WORK.
2. 1" DOMESTIC COLD WATER TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH THE WATER COMPANY FOR THE INSTALLATION OF A NEW WATER MAIN ENTRANCE, INCLUDING TAP, METER, METER PIT, PIPING, ETC. FOR A COMPLETE INSTALLATION. REFER TO CIVIL PLANS FOR CONTINUATION.
3. 1"CW VALVED AND CAPPED FOR FUTURE USE BY POOL EQUIPMENT.
4. 1/2"CW TO WATER CLOSET.
5. 1/2" CW DOWN IN WALL. PROVIDE 1/2"CW TO LAV AND 1/2"CW TO INSTANTANEOUS WATER HEATER UNDER SINK. CONTINUE WITH 1/2"HW TO LAV. SET HW SUPPLY TEMPERATURE TO 110°F.
6. 1/2" CW TO DRINKING FOUNTAIN.
7. COORDINATE PLACEMENT OF RPZ WITH POOL CONSULTANT PRIOR TO INSTALLATION. ALSO COORDINATE WITH ELECTRICAL CONTRACTOR. DO NOT ROUTE PIPING ABOVE OR WITHIN WORKING SPACE OF ELECTRICAL PANEL.
8. 3/4CW DOWN TO URINAL.



WASTE & VENT PLAN

SCALE: 1/4" = 1'-0"

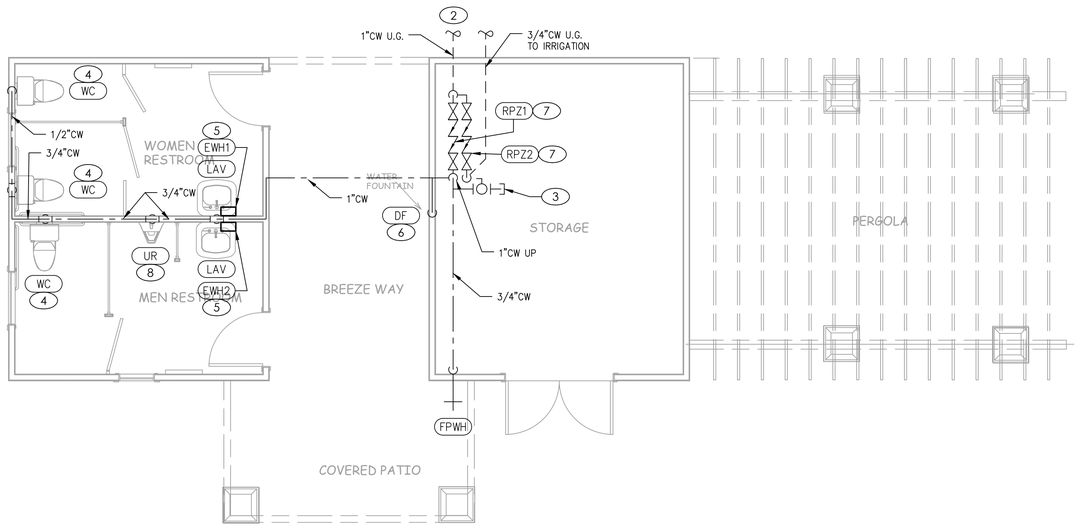
2



DOMESTIC WATER ENTRY

SCALE : NONE

4



WATER PLAN

SCALE: 1/4" = 1'-0"

1

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JUSTIN R. SMOTHERS
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PROFESSIONAL ENGINEER
05-20-2022

PROJECT:
POOL HOUSE STRUCTURE
LEE'S SUMMIT, MO

REVISIONS:	DATE / DESCRIPTION
1	
2	
3	
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ISSUED:
PERMIT

SHEET TITLE:
PLUMBING PLANS

DATE: 05.20.2022
JOB NO.: 22-133
SHEET:
MP1.2

ELECTRICAL SPECIFICATIONS

PART I – GENERAL

A. CONDITIONS

1. FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS.
   A. LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
   B. ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.
   C. TELEPHONE, TELEVISION, AND FIRE ALARM. OUTLETS AND CONDUIT AS INDICATED.

2. OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH–IN.

3. OBTAIN SUBMITTAL AND SHOP DRAWINGS FROM OTHER TRADES AND EQUIPMENT TO COORDINATE INSTALLATION ACCORDINGLY.

4. INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.

5. FIRE ALARM SYSTEM, IF REQUIRED PER IBC, SHALL BE DESIGN–BUILD BY OWNER'S/GC'S FIRE ALARM CONTRACTOR. DESIGN SHALL BE IN ACCORDANCE WITH NFPA 72. FIRE ALARM CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS TO AHJ FOR REVIEW AND APPROVAL. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING THAT THE AUDIBILITY OF THE FIRE ALARM SYSTEM MEETS A MINIMUM OF 15 DBA ABOVE AMBIENT NOISE LEVELS. ADD HORNS WHERE REQUIRED TO MAINTAIN MINIMUM LEVELS.

6. PROVIDE FIRE STOP ON ALL PIPING THAT PENETRATES RATED WALLS. METHOD OF FIRE STOP SHALL MEET WALL RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS. THIS CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH–IN BOXES, PANELS, ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENINGS IN RATED ASSEMBLIES.

B. RELATED WORK BY OTHERS

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE COORDINATE WITH LOCAL UTILITY COMPANIES.

C. CODES, REGULATIONS, AND STANDARDS

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
2. THE LATEST EDITIONS OF THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS:
   A. THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
   B. THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS.
   C. UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
   D. AMERICAN NATIONAL STANDARDS INSTITUTE.
   E. INTERNATIONAL BUILDING CODE.

D. INSPECTION OF SITE

1. PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING.
2. ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

E. STORAGE AND HANDLING OF MATERIAL

1. DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD.
2. ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.
3. COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

F. CLEANUP

1. KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES BROOM–CLEAN.

G. EXCAVATION, CUTTING, AND FITTING

1. PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY.
2. PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

H. DRAWINGS

1. THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.

I. COOPERATION WITH OTHER CONTRACTORS

1. COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE VERIFIED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.
2. CAREFULLY VERIFY THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.
3. COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.
4. COORDINATE HVAC AND PLUMBING EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTORS.

J. RECORD DRAWINGS

1. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.
2. AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL RECORD CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

PART II – PRODUCTS AND EXECUTION

A. MATERIALS

1. ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

B. SHOP DRAWINGS AND APPROVALS

1. THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.
2. THE CONTRACTOR SHALL SUBMIT SEVEN (7) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS:
   A. LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
   B. OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD, LOAD CENTERS, AND DISTRIBUTION PANELS.
   C. OUTLINE DRAWINGS OF ALL SWITCH GEAR COMPONENTS.
   D. WIRING DEVICES AND COVERPLATES.
   E. ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS, LOAD CENTERS, AND DISTRIBUTION PANELS.
3. SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL SUBMITTALS WILL NOT BE ACCEPTABLE.

C. SYSTEM GROUNDING

1. GROUNDING SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, GROUNDING CONDUCTOR OF NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC RACEWAYS, AND GROUNDED CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED.
2. GROUNDING CONDUCTOR (NEUTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM GROUNDING CONDUCTOR AT A SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED ACCORDING TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE. THE GROUNDED CONDUCTOR (NEUTRAL) TO THE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE ENCLOSURE FOR THE SYSTEM'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE PLANS OR SPECIFICATIONS.
3. A GROUND BUS SEPARATE FROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL DISTRIBUTION PANELS AND PANELBOARDS. PROPER TORQUE ON GROUND BUS SHALL BE VERIFIED, PER MANUFACTURER'S RECOMMENDATIONS, PRIOR TO ENERGIZING EQUIPMENT.
4. GROUND BUSES AND NEUTRAL BUSES IN ALL DISTRIBUTION PANELS, LOAD CENTERS, PANELBOARDS, AND THOSE PROVIDED IN ANY EQUIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED AS SPECIFIED ABOVE FOR THE SERVICE ENTRANCE
5. WHEN INDICATED ON THE DRAWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM THE GROUND BUS IN THE DISTRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE THEY ARE PROVIDED. WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT REMOVAL OF THE RECEPTACLE, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND BUSING SHALL NOT AFFECT THE GROUND SYSTEM.
6. RACEWAYS MAY NOT BE USED AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. ALL CONDUIT SHALL HAVE SEPARATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INSURE A CONTINUOUS GROUNDING PATH.
7. IN INACCESSIBLE LOCATIONS, MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS.
8. IN ACCESSIBLE LOCATIONS, CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED SOLDERLESS BRONZE GROUNDING DEVICES.

D. WIRE

1. CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW OR SE FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG, TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER.
2. ALUMINUM CONDUCTORS MAY BE UTILIZED FOR SERVICE ENTRANCE AND PANEL FEEDERS. CONDUCTORS SHALL BE ALUMINUM ALLOW AA–8000 SERIES.
3. THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 120V–WHITE, AND LIVE WIRES 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). CIRCUIT SHALL BE LABELED IN EACH J–BOX.
4. ALL CONDUCTORS SHALL BE RATED 600 VOLT.
5. SPLICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.
6. PROVIDE SOLID CONDUCTOR FOR 12 AWG AND SMALLER.
7. ALL WIRING WITHIN RESIDENTIAL UNITS ONLY MAY BE TYPE NM CABLE.
8. NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERALAC NO. 100 OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.
9. MC CABLE WITH COPPER CONDUCTORS AND GROUND WIRE MAY BE USED WHERE PERMITTED.

E. CONDUIT

1. ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED IN OTHER SECTIONS. RGS, WITH A 20 MIL PVC COATING WILL BE USED WHEN IN CONTACT WITH EARTH. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH THE EARTH. EMT MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO DAMAGE. PVC MAY BE USED IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR INDOOR FINAL CONNECTIONS TO EQUIPMENT IN LENGTHS NOT TO EXCEED 72". LIQUID–TIGHT FLEXIBLE STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 48".
2. WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR GRC. ALL CONNECTIONS SHALL HAVE BUSHINGS OR INSULATED THROAT CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLETON, OR EQUAL).
3. COVER METALLIC CONDUIT IN CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 LAPPED TO PROVIDE 20 MIL. THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300–5. MAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.
4. SCHEDULE 40 PVC CONDUIT SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS, ALL UL APPROVED AND CEMENTED JOINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN 22° SHALL BE WRAPPED RIGID GALVANIZED STEEL ELBOWS.
5. FITTINGS AND CONDUIT BODIES SHALL BE STEEL. DIECAST FITTINGS ARE NOT ACCEPTABLE.
6. CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED.
7. ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A 200 LB. TEST NYLON PULL STRING TO FACILITATE INSTALLATION OF FUTURE WIRE.
8. WIRING, CONDUITS, AND OUTLETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS.
9. CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.
10. CONDUITS SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

F. OUTLET, PULL, AND JUNCTION BOXES

1. EACH SWITCH, LIGHT. RECEPTACLE OR OTHER OUTLET, INSTALLED IN RESIDENTIAL UNITS, SHALL BE PROVIDED WITH A CODE SIZED, PLASTIC OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE CODE SIZED, PLASTIC OR METAL OUTLET BOX. ALL OTHER OUTLET BOXES SHALL BE STEEL
2. BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.
3. BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.
4. BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 2–1/8" DEEP.

G WIRING DEVICES

1. WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A 120/277 VOLT.
2. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE. NEMA5–20R, 20 AMPERE, 120VOLT GROUNDED TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE GROUND DOWN.
3. DEVICE PLATES SHALL BE EQUAL TO SIERRA SMOOTH–LINE PLASTIC WALL PLATES. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
4. RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, EQUAL TO TAYMAC SPECIFICATION GRADE.

H. SERVICE ENTRANCE SECTION

1. THE SERVICE ENTRANCE EQUIPMENT SHALL BE AS INDICATED ON THE DRAWINGS. EQUIPMENT SHALL CARRY THE U.L. LABEL AND SHALL CONFORM TO THE POWER COMPANY REGULATIONS.
2. SERVICE ENTRANCE EQUIPMENT SHALL BE PROVIDED WITH A FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTALLY TAPERED BUSSING SHALL NOT BE ALLOWED.

I. DISTRIBUTION PANELS

1. DISTRIBUTION PANELS SHALL BE PROVIDED WITH FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTAL TAPERED BUSSING SHALL NOT BE ALLOWED
2. ACCEPTABLE MANUFACTURERS – CUTLER HAMMER, SEIMENS, SQUARE D OR GENERAL ELECTRIC
3. FACTORY ASSEMBLED DEAD FRONT, METAL ENCLOSED, AND SELF–SUPPORTING SWITCH BOARD ASSEMBLY CONFORMING T NEMA PB 2 AND UL 891, AND COMPLETE FROM INCOMING LINE TERMINALS TO LOAD SIDE TERMINATIONS.
4. LINE AND LOAD TERMINATIONS: ACCESSIBLE FROM FRONT ONLY OF THE SWITCH BOARD. SUITABLE FOR CONDUCTOR MATERIALS AND NUMBER OF CONDUCTORS USED.
5. BUS CONNECTIONS: BOLTED. ACCESSIBLE FROM FRONT FOR MAINTENANCE. PROVIDE BELLEVILLE WASHERS FOR PROPERLY TORQUE ALL CONNECTIONS
6. PROVIDE FULLY–RATED NEUTRAL BUS AND FULLY RATED GROUND BUS MATCHING MATERIAL USED FOR MAIN BUS.
7. FUTURE PROVISIONS: FULLY EQUIP SPACES FOR FUTURE DEVICES WITH BUSSING AND BUS CONNECTIONS SUITABLY INSULATED AND BRACED FOR SHORT CIRCUIT CURRENTS. CONTINUOUS CURRENT RATING AS INDICATED ON DRAWINGS.
8. ALL CIRCUIT BREAKERS SHALL BE BOLT–ON TYPE.

J. PANEL BOARDS

1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT–ON CIRCUIT BREAKERS FOR 3ø PANELS
2. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER–HAMMER WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
3. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE–POLE, DOUBLE–POLE, AND THREE–POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAN TERMINALS SHALL BE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI–POLE BREAKERS NOT ACCEPTABLE.

K. LOAD CENTER

1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SIEMENS, CUTLER–HAMMER/EATON WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
2. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE–POLE AND DOUBLE–POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI–POLE BREAKERS NOT ACCEPTABLE.
   A. CIRCUIT BREAKERS SHALL BE PLUG–IN TYPE
3. WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 DEGREES C.
4. PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.
5. PANEL BOARDS/LOAD CENTERS TO BE PROVIDED WITH COPPER BUSSIING ONLY.

L. LIGHTING FIXTURES

1. PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND BALLASTS TO MEET THE EXISTING CEILING CONDITION.

M. LIGHTING CONTROL

1. FURNISH AND INSTALL TIME SWITCHES, PHOTOCELLS, CONTRACTORS AND FULL LIGHTING CONTROL SYSTEMS AS REQUIRED FOR LIGHTING CONTROLS INDICATED ON THE DRAWINGS.
2. TIME SWITCHES SHALL BE EQUAL TO PARAGON, GENERAL ELECTRIC, TORK, OR INTERMATIC AND SHALL HAVE SIZE AND NUMBER OF POLES AS REQUIRED.
3. PHOTOCELLS SHALL BE EQUAL TO TORK OR INTERMATIC WITH VOLTAGE AS INDICATED.

N. TELEPHONE AND CABLE TELEVISION SYSTEMS

1. TELEPHONE WALL OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.
2. CABLE TELEVISION OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

O. GUARANTEE

1. GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

SYMBOLS LEGEND

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC,
ARE NECESSARILY USED ON THE DRAWINGS.

LIGHTING FIXTURES – SYMBOL/LETTER INDICATES LIGHT FIXTURE AS INDICATED ON FIXTURE SCHEDULE

▭	LED FIXTURE (SEE LIGHTING FIXTURE SCHEDULE)
▭	↓
├─┤	↓
◪	FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
⊥	TRACK LIGHT
⊘	DOWNLIGHT FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
⊘⊣	WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
⊠	PENDANT MOUNTED FIXTURE WITH EMERGENCY BATTERY DRIVER UNIT
○	DOWNLIGHT FIXTURE
○⊣	WALL MOUNTED FIXTURE
⌑	PENDANT MOUNTED FIXTURE
◐	WALL WASHER
⊗	SINGLE FACE EXIT SIGN – UNIVERSAL MOUNTED
↑⊗	SINGLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
↑⊗↑	DOUBLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD
◁▭▷	DUAL HEADED EMERGENCY UNIT
◁⧓▷	COMBO DUAL HEADED EMERGENCY AND EXIT SIGN UNIT

LIGHTING CONTROLS

S	SINGLE POLE SWITCH @ +48" UNLESS NOTED
S_{abc}	SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.
S_3	3–WAY SWITCH @ +48" UNLESS NOTED
S_4	4–WAY SWITCH @ +48" UNLESS NOTED
S_D	DIMMER SWITCH – SIZE AS REQUIRED @ +48" UNLESS NOTED
S_M	MANUAL MOTOR STARTER
S_{OS}	WALL SWITCH WITH OCCUPANCY SENSOR. DIGITAL LOW VOLTAGE WALL SWITCH. SWITCH @ +48" UNLESS NOTED.
S_{LV}	TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF/0–10V DIMMING. SWITCH @ +48" UNLESS NOTED. PROVIDE EXTRA CONTROL CABLES NEEDED TO FIXTURE CONTROLLED.
(OS)	LIGHTING CONTROLS CEILING MOUNT OCCUPANCY SENSOR
(PP)	LIGHTING CONTROLS POWER PACK
[PC]	PHOTOCELL
[TC]	TIMECLOCK

POWER DISTRIBUTION

▨	SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD
▨	277/480V, 3 PHASE, 4 WIRE PANELBOARD, UNO
▬	120/208V, 3 PHASE, 4 WIRE PANELBOARD, UNO
◺	120/240V, 1 PHASE, 3 WIRE PANELBOARD, UNO
[T]	TRANSFORMER

POWER DEVICES

⊜	SPECIAL HEAVY DUTY RECEPTACLE – SIZE AS NOTED. @ +18" UNLESS NOTED
⊖	1/2 SWITCHED RECEPTACLE @ +18" UNLESS NOTED
⊙	FIRE RATED POKE THRU WITH TYPE INDICATED
⊡	FLUSH FLOOR BOX WITH TYPE INDICATED
⊖	SINGLE RECEPTACLE @ +18" UNLESS NOTED
⊜	DUPLEX RECEPTACLE @ +18" UNLESS NOTED
⊕	DOUBLE DUPLEX RECEPTACLE @ +18" UNLESS NOTED
⊕	DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
⊜ GFI	GFCI–RATED DUPLEX RECEPTACLE
⊜ AF	ARC FAULT RATED DUPLEX RECEPTACLE
⊜ TR	TAMPER RESISTANT RATED DUPLEX RECEPTACLE
⊜ WP	DUPLEX RECEPTACLE WITH WEATHERPROOF COVERPLATE @ 18" UNLESS NOTED
Ⓙ	JUNCTION BOX
☐	DISCONNECT SWITCH – SIZE AND TYPE NOTED
☒	COMBINATION FUSED STARTER DISCONNECT SWITCH FUSE SIZE AS INDICATED, STARTER SIZE '1'

AUXILIARY SYSTEMS

⬡ EF 1	MECHANICAL EQUIP. CONNECTION, SEE SCHED. ON MECH. PLAN
▶	TELEPHONE OUTLET@ +18" UNLESS NOTED
▷	DATA OUTLET @ +18" UNLESS NOTED
▶	COMBINATION TELEPHONE/DATA OUTLET @ +18" UNLESS NOTED
[TV]	TELEVISION OUTLET @ +60" UNLESS NOTED
◑	SMOKE DETECTOR
(!)	HEAT DETECTOR
◑—	DUCT SMOKE DETECTOR
[RT]	REMOTE TEST STATION WITH INDICATING LIGHT. MOUNT AT 48" AFF UNO.
⊠	AUXILIARY SYSTEM TERMINAL CABINET

GENERAL

———	CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING
———	CONDUIT RUN BELOW FLOOR OR GRADE
P1–3,5,7 ←	HOMERUN TO PANELBOARD, INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO ASSOCIATED NOTE FOR BRANCH CIRCUIT CONDUCTOR SIZES.
∫———∫	INDICATES 1/2" CONDUIT CONCEALED IN CEILING OR WALL WITH (3) CONDUCTORS. (1) PHASE, (1) NEUTRAL AND (1) GROUND WIRE. ALL ARE #12 AWG UNLESS NOTED OTHERWISE.
(E) OR ETR:	DENOTES EXISTING ITEM/EQUIPMENT TO REMAIN

JSC ENGINEERS

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STATE OF MISSOURI
JUSTIN R. SMOTHERS
NUMBER PE-2012003568
PROFESSIONAL ENGINEER
05-20-2022

PROJECT:
POOL HOUSE STRUCTURE
LEE'S SUMMIT, MO

REVISIONS:	DATE / DESCRIPTION
1	
2	
3	
4	
5	

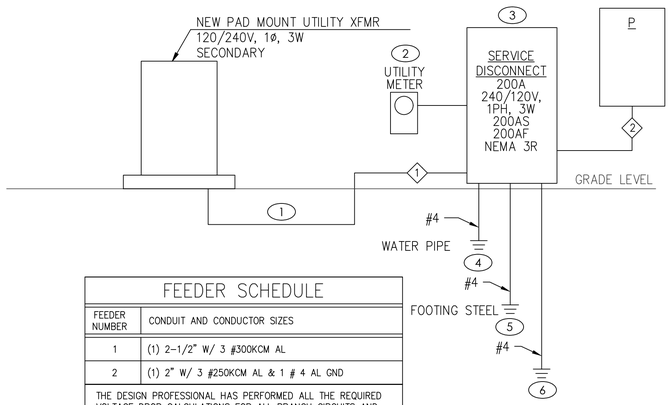
ISSUED:
PERMIT

SHEET TITLE:
ELECTRICAL SPECIFICATIONS

DATE: 05.20.2022
JOB NO.: 22-133
SHEET:
E0.1

ELECTRICAL LIGHTING SCHEDULE

FIXTURE TYPE	MANUFACTURER NAME	MANUFACTURER CATALOG NUMBER	VOLT AMPS	MOUNTING	LAMP TYPE	REMARKS	VOLT
A	LITHONIA	VAP-6000LM-FST-MD-MVOLT-40K-80CRI-VAPSMB-WLF-DL-STSL-MSI102L3VWL	50	SURFACE CEILING	INCLUDED LED 4000K	VANDAL RESISTANT LED 4' DAMP LOCATION STRIP LUMINAIRE	120
B	LITHONIA	LDN6-30/15-L06-LSS-MVOLT-30K	17.5	RECESSED CEILING	INCLUDED LED 3000K	6" LED RECESSED DOWNLIGHT - WET LOCATION LISTED	120
W	EXTERIOR SCONCE	OWNER SELECTED	60	WALL SURFACE	INCLUDED LED 3000K	WET LOCATION RATED SCONCE - MAX 60W/FIXTURE	120
	LITHONIA	WLTU LED	5	SURFACE CEILING	INCLUDED	LED COMBO EXIT SIGN EMERGENCY LUMINAIRE WITH 90 MIN BATT. PACK WET LOCATION	120
	LITHONIA	ELA LED TWP M12	3	WALL	INCLUDED	OUTDOOR DOUBLE REMOTE HEAD EMERGENCY EGRESS LUMINAIRE	120



FEEDER SCHEDULE

FEEDER NUMBER	CONDUIT AND CONDUCTOR SIZES
1	(1) 2-1/2" W/ 3 #300KCM AL
2	(1) 2" W/ 3 #250KCM AL & 1 # 4 AL GND

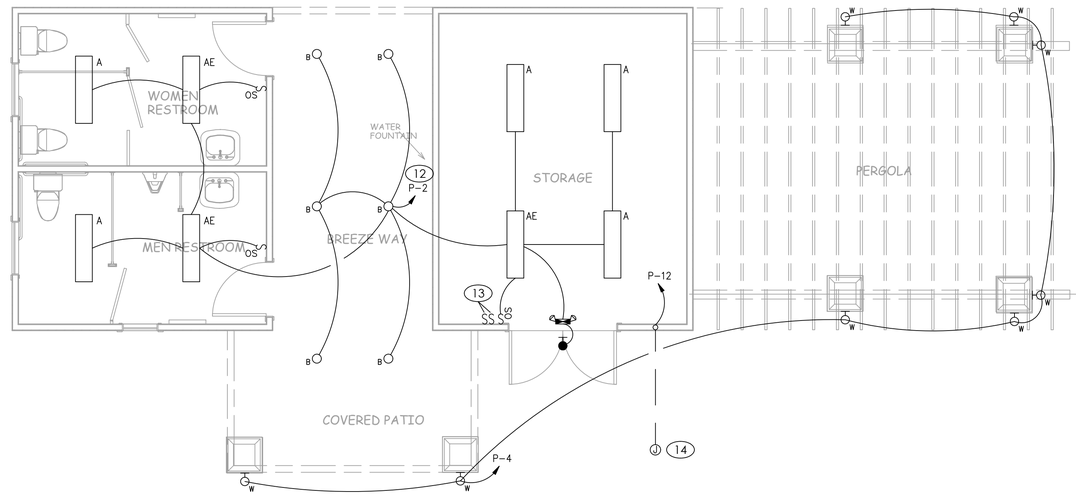
THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER THE NATIONAL ELECTRICAL CODE, ARTICLE 210.19(A)(1) FPN NO. 4.

THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATING INDICATED FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

SINGLE LINE DIAGRAM

SCALE: NO SCALE

4



ELECTRICAL LIGHTING PLAN

SCALE: 1/4" = 1'-0"

2

NORTH

PANEL: P — LOCATION: EQUIPMENT ROOM — SHEET/ 1 LINE: E1.1 — AIC RATING: 42,000 — VOLTAGE: 240/120V 1PH, 3W — BUS: 200 AMPS — MAIN: M.L.O — MOUNTING: SURFACE — CIRCUIT CODES: 1=(CONTINUOUS LOAD) 2=(NON-CONTINUOUS LOAD) 3=(RECEPTACLES) 4=(KITCHEN EQUIPMENT)

CKT NO.	CB NOTE	CB TRIP	CB POLE	LOAD DESIGNATION DESCRIPTION	MISC	REC	LITE	LOAD VA	PHASES A	PHASES B	LOAD VA	LITE	REC	MISC	LOAD DESIGNATION DESCRIPTION	CB POLE	CB TRIP	CKT NOTE	CKT NO.
1	2	30	1	EWH-1	X			2400	2914	////////	514	X			INDOOR LIGHTING/EXHAUST FANS	1	20	1	2
3	2	30	1	EWH-2	X			2400	////////	2800	400	X			OUTDOOR LIGHTING	1	20	1	4
5	3	20	1	RESTROOM/BREEZWAY OUTLETS		X		360	730	////////	370		X		"GF" RCPT - DRINKING FOUNTAIN	1	20	1	6
7	1	15	1	EF-3	X			72	////////	612	540		X		EQUIPMENT ROOMS OUTLETS	1	20	3	8
9				SPACE					500	////////	500		X		RCPT - PERGOLA STRING LIGHTS	1	20	2	10
11				SPACE					////////	500	500	X			PWR - SITE FIXTURE	1	20	2	12
13				SPACE					0	////////					SPARE	1	20	2	14
15				SPACE					////////	0					SPACE			2	16
17				SPACE					0	////////					SPACE			2	18
19				SPACE					////////	0					SPACE			2	20
21				SPACE					0	////////					SPACE			2	22
23				SPACE					////////	0					SPACE			2	24
25				SPACE					0	////////					SPACE			2	26
27				SPACE					////////	0					SPACE			2	28
29				SPACE					0	////////					SPACE			2	30
31				SPACE					////////	0					SPACE			2	32
33				SPACE					0	////////					SPACE			2	34
35				SPACE					////////	0					SPACE			2	36
37				SPACE					0	////////					SPACE			2	38
39				SPACE					////////	0					FUTURE POOL PANEL		100	2	40
41				SPACE					0	////////					/ (SHUNT TRIP TYPE BREAKER)	2		2	42
								TOTAL	4144	3912									

NOTES:
"GF" = GFCI TYPE BREAKER

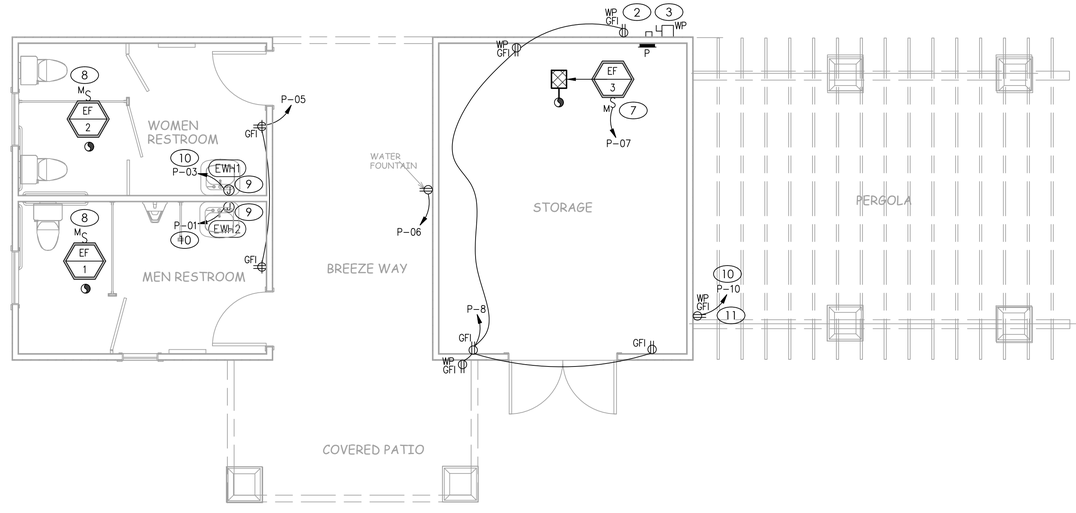
CONNECTED KVA	8.1
CONN.KVA (CODE 1)	1.4
CONN.KVA (CODE 2)	5.8
CONN.KVA (CODE 3)	0.9
CONN.KVA (CODE 4)	0.0
FEEDER DEMAND KVA	8.4
FEEDER DEMAND AMPS	35.0

JOB NAME: LSMO POOLHOUSE
ISSUE DATE: 05.18.22

PANELBOARD SCHEDULES

SCALE: NO SCALE

3



ELECTRICAL POWER PLAN

SCALE: 1/4" = 1'-0"

1

NORTH

GENERAL NOTES

A. REFER TO LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.

B. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT COORDINATION AND CONFLICT ISSUES BE RESOLVED PRIOR TO INSTALLATION OF LIGHT FIXTURES.

D. ROUTE ALL EXPOSED, RIGID CONDUIT TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN UNISTRUT CABLE/PIPE TRAY WHERE POSSIBLE. COORDINATE CONDUIT ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN. SUPPORT CONDUIT FROM STRUCTURE NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING CONDUITS.

E. THROUGH WIRING OF RECESSED LIGHT FIXTURES, IN SUSPENDED CEILINGS, IS NOT PERMITTED. CONNECT EACH LIGHT FIXTURE BY A WHIP TO A JUNCTION BOX. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTH TO ALLOW FOR RELOCATING EACH LIGHT FIXTURE WITHIN A 5-FOOT RADIUS OF ITS INSTALLED LOCATION, BUT NOT EXCEEDING 6 FEET IN UNSUPPORTED LENGTH.

F. ALL INTERNALLY ILLUMINATED SIGNS SHALL BE PROVIDED WITH AN ACCESSIBLE DISCONNECTION MEANS. VERIFY EACH SIGN IS FURNISHED WITH AN INTEGRAL DISCONNECT SWITCH. PROVIDE WEATHERPROOF DISCONNECT SWITCHES WITHIN SIGHT OF ALL SIGNS AS REQUIRED. MAKE FINAL CONNECTION AS REQUIRED.

(#) KEYED PLAN NOTES

1. PROVIDE NEW CONDUCTORS TO UTILITY SOURCE. VERIFY EXACT LOCATION AND REQUIREMENTS WITH UTILITY PRIOR TO ROUGH-IN.
2. PROVIDE NEW UTILITY METER PER UTILITY REQUIREMENTS.
3. NEW DISCONNECT PER UTILITY REQUIREMENTS.
4. PROVIDE NEW GROUND PER NEC 250.52(A)(1).
5. PROVIDE NEW GROUND PER NEC 250.52(A)(2).
6. PROVIDE NEW GROUND PER NEC 250.52(A)(3).
7. PROVIDE MOTOR RATED SWITCH DESIGNED TO OPERATE CONTINUOUSLY.
8. PROVIDE MOTOR RATED SWITCH DESIGNED TO OPERATE CONTINUOUSLY. CONNECT TO LIGHTING CIRCUIT FOR SIMULTANEOUS OPERATION.
9. CONNECT TO INSTA-HOT PER MECHANICAL PLANS AND MANUFACTURER REQUIREMENTS.
10. (1) 1/2"C W/ 2 #10 & 1 #12 GND.
11. MOUNT RECEPTACLE TO PERGOLA STRUCTURE AND ROUTE CONDUIT IN DISCRETE MANNER FOR AVAILABILITY FOR PLUG-IN PERGOLA LIGHTING. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECT.
12. PROVIDE PHOTOCELL MOUNTED TO ROOF STRUCTURE AND POINTED NORTH. COORDINATE EXACT LOCATION WITH ARCHITECT. ROUTE CIRCUIT THROUGH PHOTOCELL EN ROUTE TO BREAKER TERMINATION.
13. NORMALLY-CLOSED OVERRIDE SWITCHES FOR EXTERIOR CANOPY LIGHTING (CKT P-4) AND PLUG-IN CANOPY LIGHTING (CKT P-10). ROUTE CIRCUITS THROUGH RESPECTIVE OVERRIDE SWITCHES EN ROUTE TO BREAKER TERMINATION.
14. PROVIDE CONDUIT UNDERGROUND TO JUNCTION BOX FOR FUTURE SITE POLE BY OTHERS. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO CONSTRUCTION.

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1925 CENTRAL ST. SUITE #201
KANSAS CITY, MO 64108
phone: (816) 272-5289
email: jsmothers@jscengineers.com

STATE OF MISSOURI
JUSTIN R. SMOTHERS
NUMBER PE-2012003568
PROFESSIONAL ENGINEER
05-20-2022

PROJECT:
POOL HOUSE STRUCTURE
LEE'S SUMMIT, MO

REVISIONS: DATE / DESCRIPTION
1
2
3
4
5

ISSUED:
PERMIT

SHEET TITLE:
ELECTRICAL PLANS

DATE: 05.20.2022
JOB NO.: 22-133
SHEET:
E1.1

WHISPERING WOODS POOL
1901 SW. RIVER RUN DR.

PROJECT INFORMATION

STATE: MISSOURI
COUNTY: JACKSON
CITY: LEE'S SUMMIT
TYPE:INGROUND POOL
CONSTRUCTION METHOD: CAST-IN-PLACE
SANITATION: CHLORINE
HEATHED: NO

GENERAL NOTES

- ANY CHANGES IN CONSTRUCTION PLANS OR EQUIPMENT MUST BE APPROVED BY THE GOVERNING HEALTH DEPARTMENT. CHANGES MAY REQUIRE ADDITIONAL PLAN CHECK FEES AND RE-SUBMITTAL.
- POOL PLAN APPROVAL DOES NOT AUTHORIZE THE VIOLATION OF ANY LAW, ORDINANCE, OR REGULATION AND FINAL APPROVAL IS SUBJECT TO FIELD INSPECTION.
- ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
- ALL EQUIPMENT AND MATERIALS NOT SHOWN ON SPECIFIED ON THESE PLANS, BUT REQUIRED TO COMPLETE THIS PROJECT, SHALL BE SUPPLIED BY THE POOL CONTRACTOR AS PART OF THIS CONTRACT WORK.
- REINFORCING STILL OF ALL AQUATIC FEATURES SHALL BE BONDED WITH #8 COPPER WIRE. TIED BOND TO EACH MECHANICAL SYSTEM AND ALL RAIL ANCHORS AND METAL WITHIN 5 FT OF POOL EDGE
- CRUSHED ROCK BELOW POOL FLOOR TO BE 1/2" CLEAN MINIMUM OF 4" DEPTH
- ALL STEEL TO BE GRADE 40, #4 BAR AND A MINIMUM OF 12" ON CENTER EACH WALL HORIZONTAL AND VERTICAL. BELOW 6" WATER DEPTH REBAR SHALL BE 6" EACH WALL IN THE WALL
- REINFORCING STEEL TO BE PLACED A MINIMUM OF 2" BELOW EXPOSED FACE OF CONCRETE

LOCATION MAP

POOL DETA

PERIMETER: 160'-0"
SURFACE AREA: 1500-SQFT
APPROXIMATE VOLUME: 42,200 GALLONS
MINIMUM TURN OVER: 6-HOURS
MINIMUM FLOW RATE: 116-GPM
MAXIMUM FLOW RATE: 60-GPM
MINIMUM DEPTH OF POOL: 1'-0"
MAXIMUM DEPTH OF POOL: 5'-0"

GENERAL AREAS

POOL	1500 SF/
POOL DECK	6225 SF/
COVERED CABANA	360 SF/
LAVATORIES	400 SF/
EQUIPMENT ROOM	240 SF/

POOL CLASSIFICATION, CLASS B PUBLIC POOL
BATHER LOAD (PER 2018 ISPSC TABLE 403.1):

- WATER SURFACE AREA = 1500 SF
- BATHER LOAD 1500/10 = 150 PERSONS

POOL WATER MAINTAINED BY A LICENSED CPO/AFO OPERATOR
- TEST KIT MUST READ CHLORINE TO 10 ppm

SHEET INDEX

CODE COMPLIANCE

- ANSI POOL AND SPA STANDARD TO PREVENT SUCTION ENTRAPMENT
- VIRGINIA GRAEME BAKER SAFETY ACT
- LEE'S SUMMIT BUILDING CODE
- BONDING SHALL BE PERFORMED IN ACCORDANCE WITH NEC

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/21/2023

DATE: 4/12/2023
BY: MEJ
JOB:
SHEET NO. P0.0

VAN DEURZEN & ASSOCIATES, P.A.
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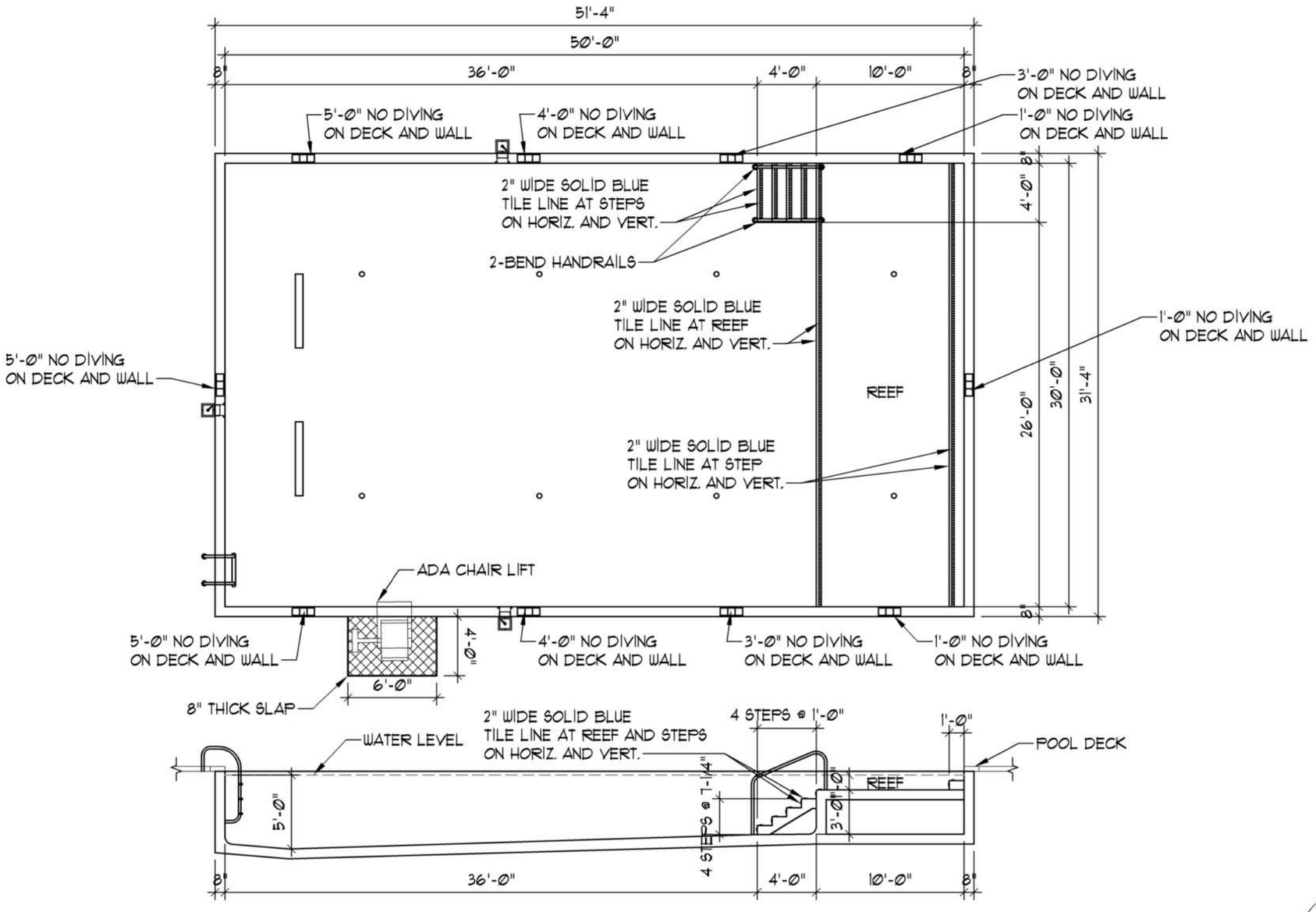
SWIMMING POOL FOR:
WHISPERING WOODS
1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI



SWIMMING POOL LAYOUT PLAN

SCALE: 1/8"=1'-0"

NORTH

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/12/2023

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DATE: 4/12/2023
BY: MEJ
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SITE PLAN FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

EQUIPMENT

EQUIPMENT NAME	MANUFACTURER PART #	WAREHOUSE PART #	QTY.	POWER REQUIREMENTS	HOOP UP RESPONSIBILITY	NOTES
BADU PRO UVS 4 HP PUMP	Ø15583		1	110/230 V	POOL CONTRACTOR-PLUMBING ELECTRICIAN-HIGH VOLTAGE	
TRITON II SAND FILTER	TR 60 CP		1	NA	POOL CONTRACTOR	
FLOVIS FLOW GAUGE	FV-C		1	NA	POOL CONTRACTOR	
SKIMMER	SP1082		3	NA	POOL CONTRACTOR	
PENTAIR MICROBRITE LED WHITE LIGHT			8	15W 12V	POOL CONTRACTOR	
300W TRANSFORMER	PX300		1	300W	POOL CONTRACTOR	
MAIN DRAIN SUCTION FITTING VGB APROVED	25506-320		1	NA	POOL CONTRACTOR	
STAINLESS STEEL ENTRY LADDER	SR SMITH PLF-245-4C-MG		1	NA	POOL CONTRACTOR	
HANDRAIL	SR SMITH 316 STAINLESS CUSTOM RAILING		2	NA	POOL CONTRACTOR	

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
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EQUIPMENT SCHEDULE FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

FLOW CALCULATIONS		
PUMP (S)	1	PENTAIR LINTELLIFLOW
POOL CAPACITY GALLONS	42,200	
REQUIRED TURN OVER (6 HOURS OR 4 TIMES PER DAY)	4	
REQUIRED GALLONS PER 24 HOURS	168,800	
REQUIRED GALLONS PER HOUR	7030	
REQUIRED GALLONS PER MINUTE	117	
REQUIRED PER PUMP	60	
FILTER (S)	2	
FILTER SQ. FT. (EACH)	520	
FILTER RATE PER GALLON	13	
FILTER RATE AT MAX. PUMP (SQ. FT. PER GALLON)	8.66	
MAX. PUMP FLOW GPM	120	FROM PUMP CHART
MAX. PUMP VELOCITY SUCTION ALLOWED	6 FPS	
MAX. VELOCITY AT MAX. PUMP FLOW FEET PER SECOND (SUCTION)	5.74	
MAX. VELOCITY RETURN REQUIRED	8 FPS	
MAX. VELOCITY AT MAX. (RETURN)	5.74	
MINIMUM PIPE SIZE SUCTION	3"	
MINIMUM PIPE SIZE RETURN	2.5"	
MINIMUM PIPE SIZE SUCTION (AFTER FIRST TEE ON SUCTION)	2"	
MINIMUM PIPE SIZE RETURN (AFTER FIRST TEE ON RETURN)	2"	
MAX. FLOW REQUIREMENTS FOR MAIN DRAIN SPECIFIED	60	
FLOOR GALLONS PER MINUTE	309	
WALL GALLONS PER MINUTE	212	

STATE OF MISSOURI
CHAD M. STREETER
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PROFESSIONAL ENGINEER
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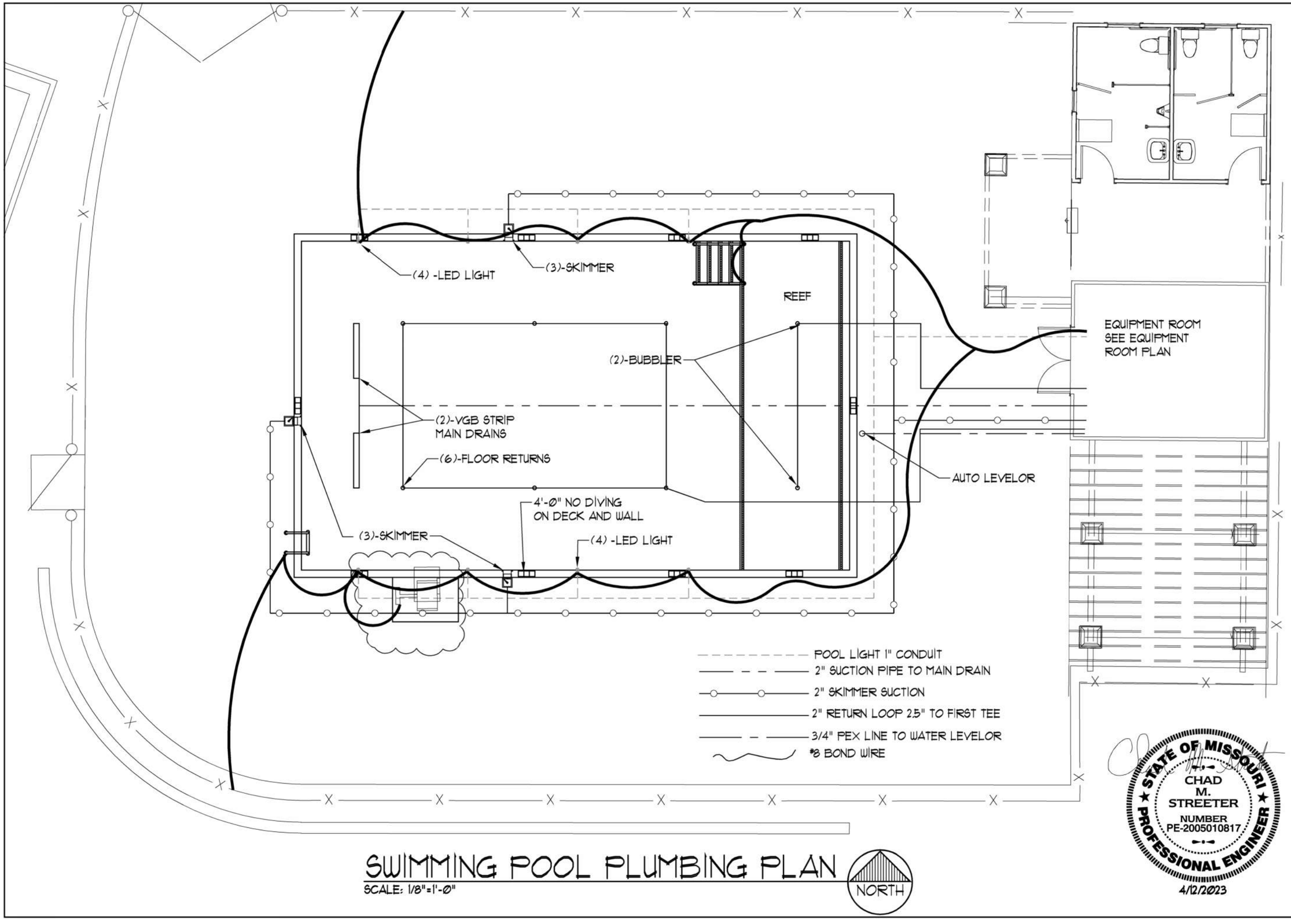
FLOW CALCULATIONS FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI



SWIMMING POOL PLUMBING PLAN

SCALE: 1/8"=1'-Ø"

NORTH

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/12/2023

DATE: 4/12/2023
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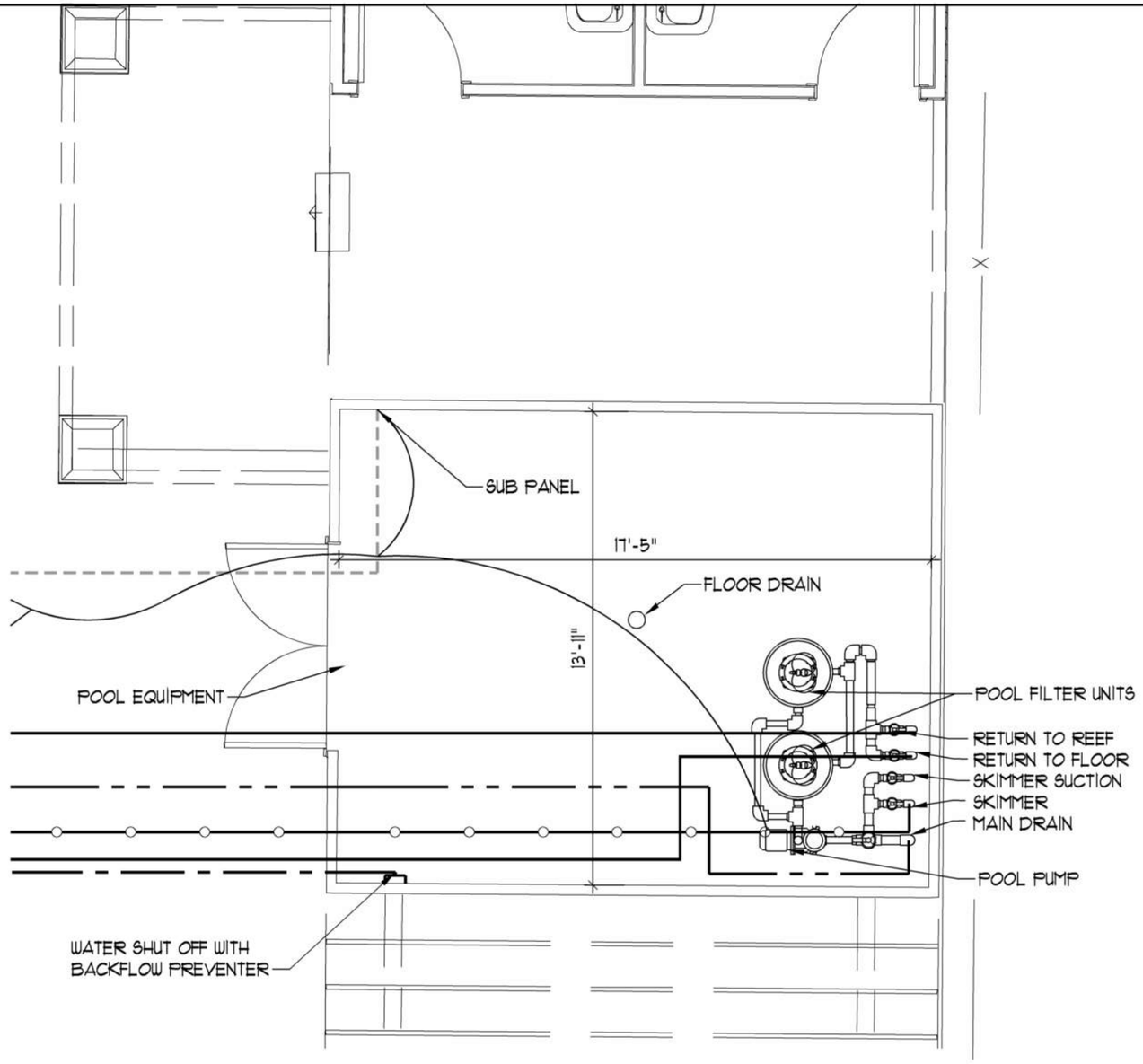
POOL PLUMBING PLAN FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI



3/4" PEX LINE TO WATER LEVELOR

POOL LIGHT 1" CONDUIT

2" SUCTION PIPE TO MAIN DRAIN

2" SKIMMER SUCTION

2" RETURN LOOP 2.5" TO FIRST TEE

#8 BOND WIRE

SWIMMING POOL EQUIPMENT LAYOUT PLAN

SCALE: 1/4"=1'-0"

STATE OF MISSOURI
CHAD M. STREETER
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PROFESSIONAL ENGINEER
4/12/2023

EQUIPMENT ROOM LAYOUT FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

DATE: 4/12/2023
BY: MEJ
JOB:
SHEET NO. P3.1

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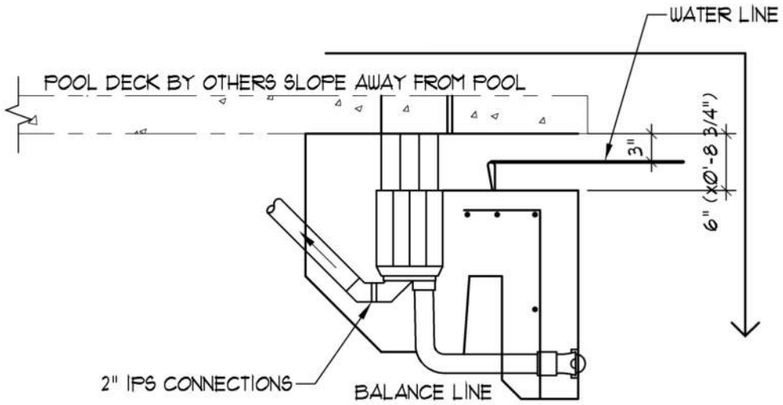
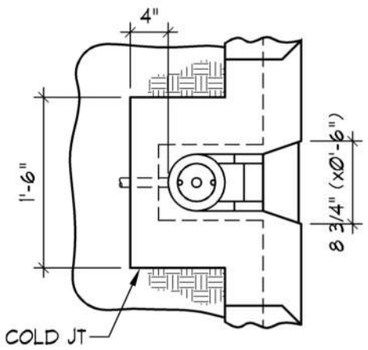
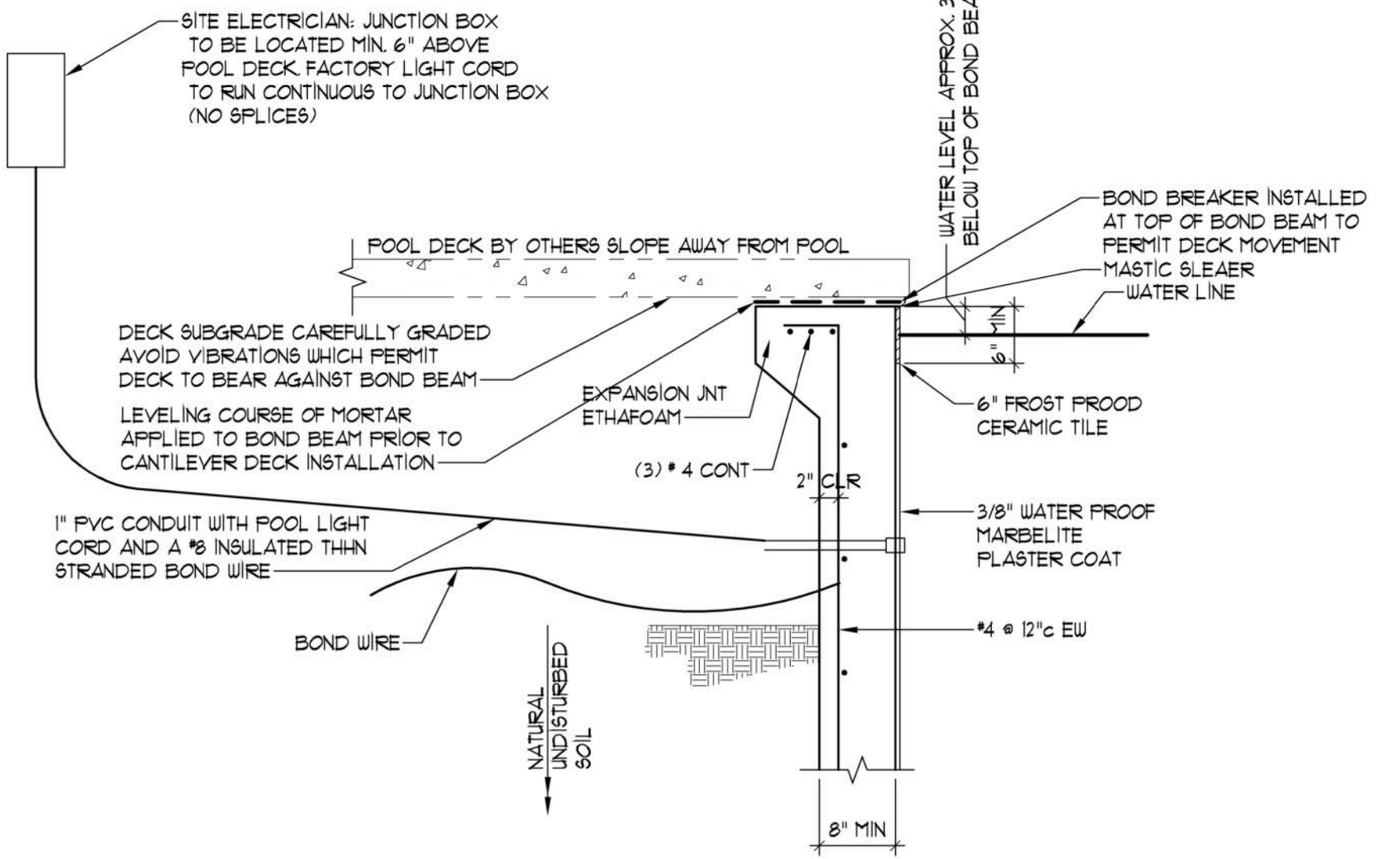




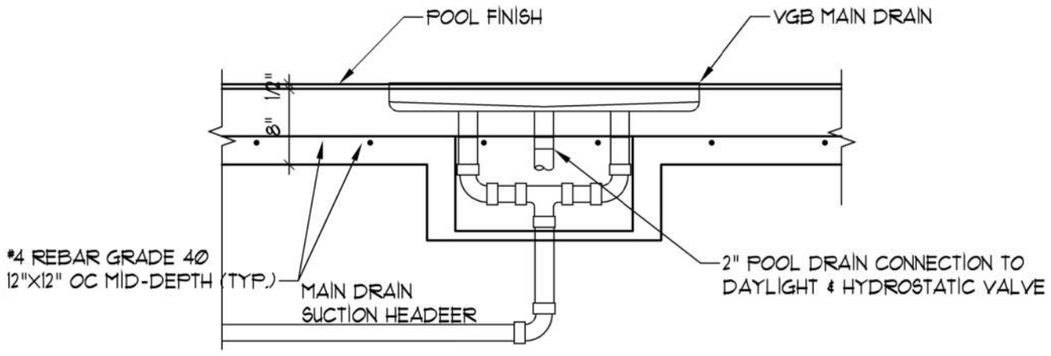
POOL TYPICAL SKIMMER SECTION

SCALE: 3/4"=1'-Ø"



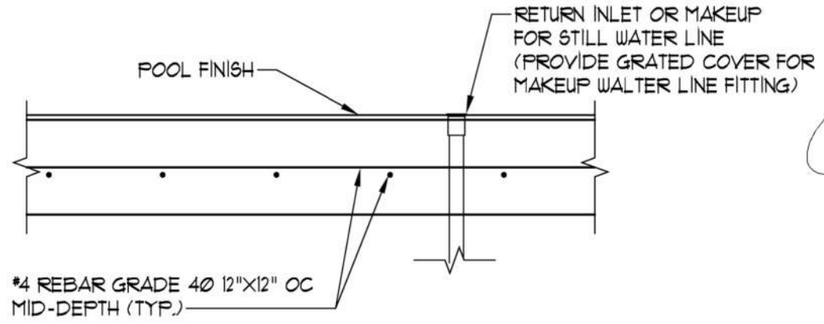
POOL TYPICAL WALL SECTION

SCALE: 3/4"=1'-Ø"



POOL MAIN DRAIN SECTION

SCALE: 3/4"=1'-Ø"



POOL FLOOR RETURN INLET SECTION

SCALE: 3/4"=1'-Ø"

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/12/2023

DATE: 4/12/2023
BY: MEJ
JOB:
SHEET NO. P4.Ø

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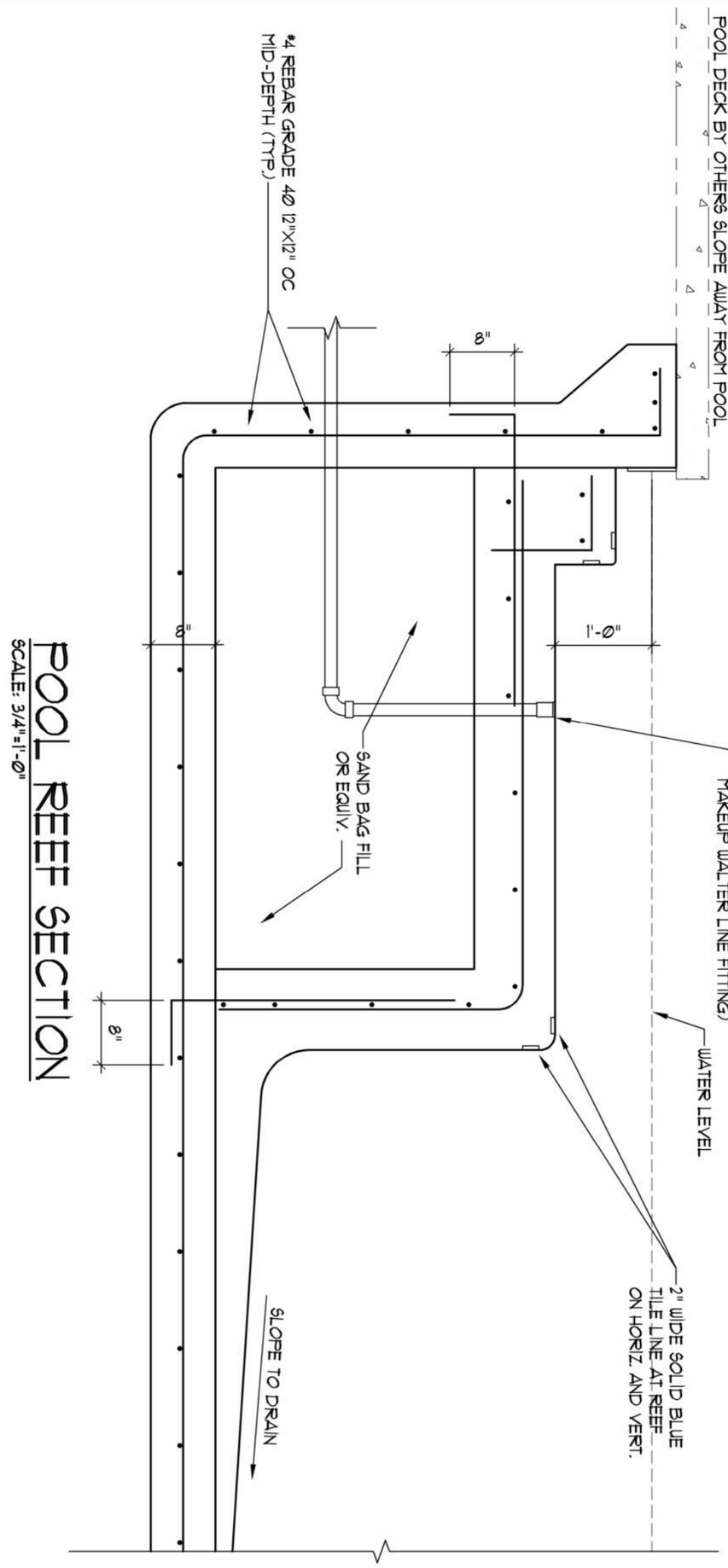
DETAILS FOR:

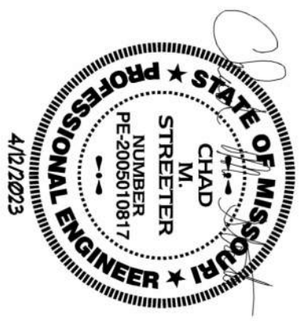
WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI



POOL REEF SECTION

SCALE: 3/4"=1'-0"



DETAILS FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

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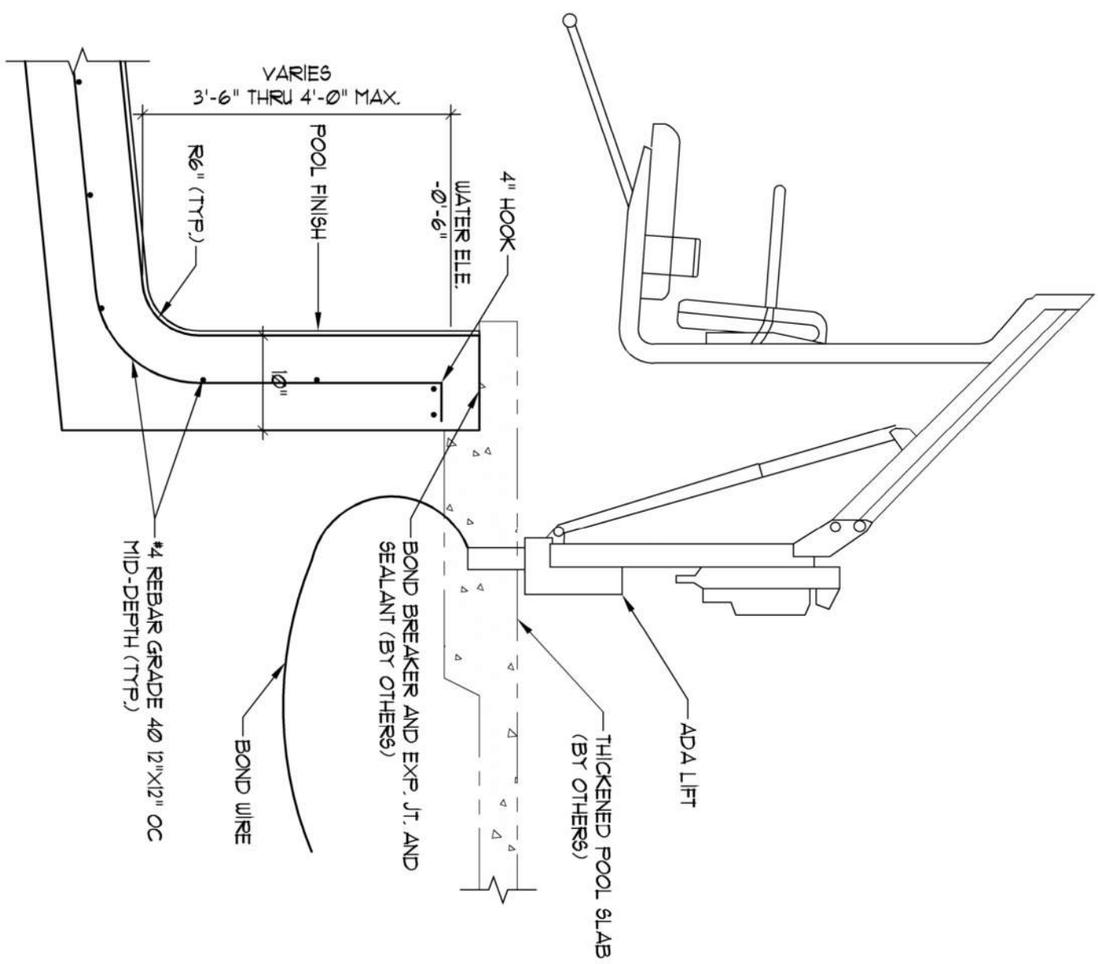
DATE:	4/12/2023
BY:	MEJ
JOB:	
SHEET NO.	P4.1

POOL ADA LIFT SECTION

SCALE: 3/4"=1'-0"



DETAILS FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

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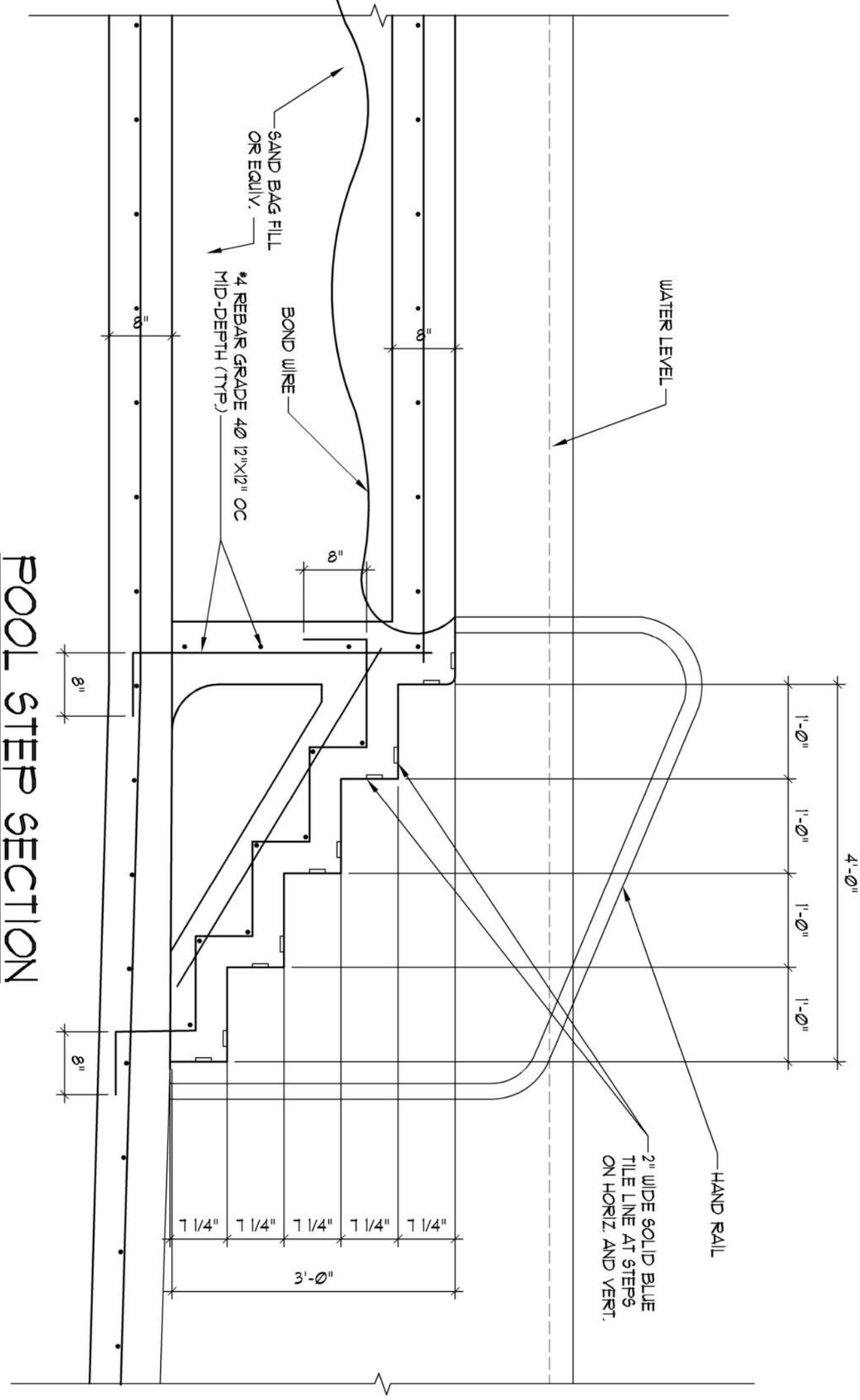
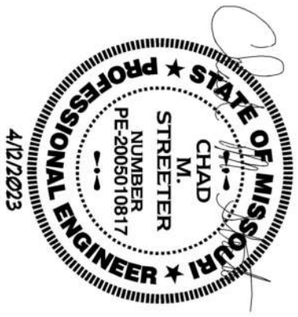
DATE:	4/12/2023
BY:	CMS
JOB:	
SHEET NO.	P4.2



POOL STEP SECTION

SCALE: 3/4"=1'-Ø"



DETAILS FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

VAN DEURZEN & ASSOCIATES, P.A.
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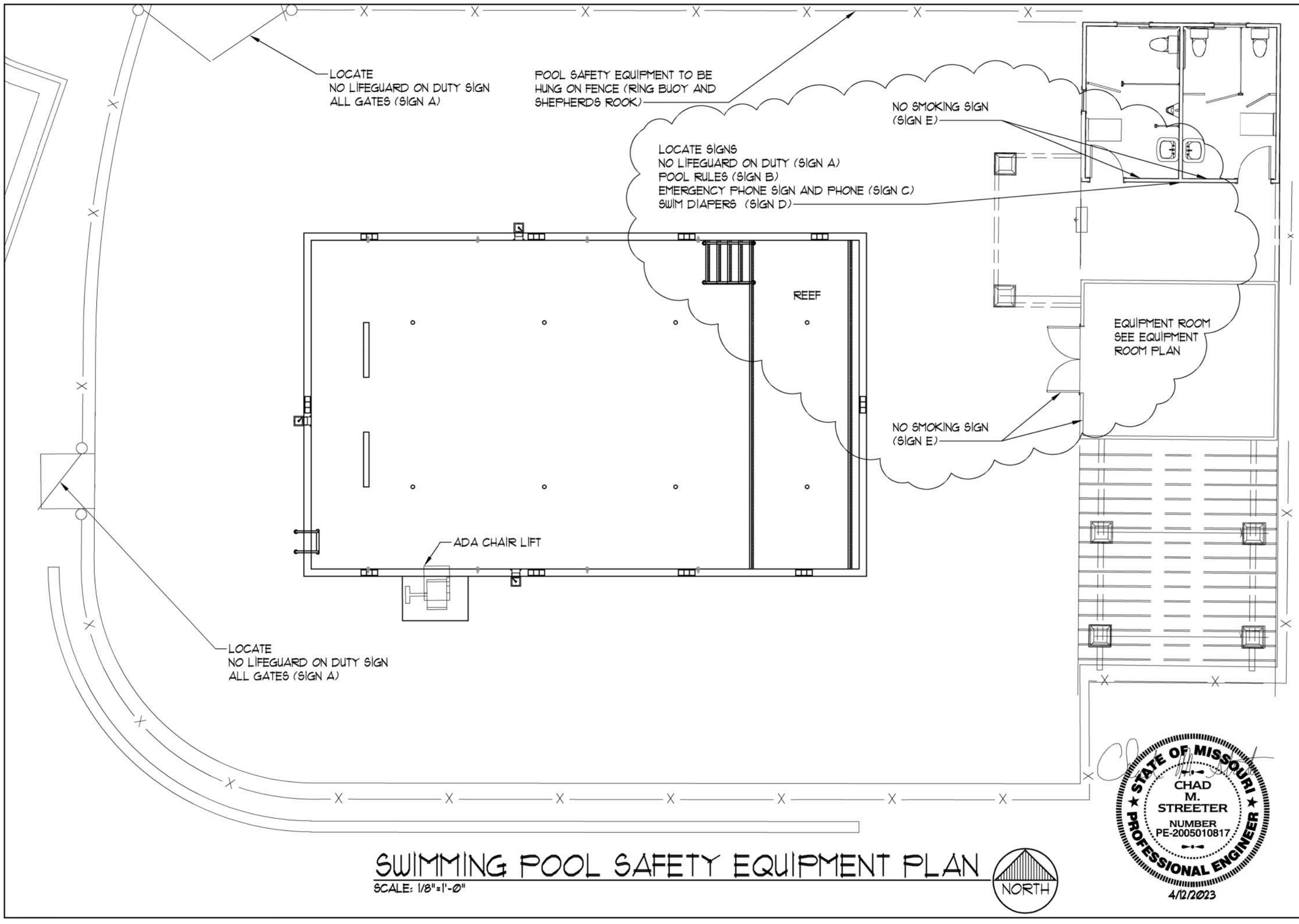
DATE:	4/12/2023
BY:	MEJ
JOB:	
SHEET NO.	P4.3



SWIMMING POOL SAFETY EQUIPMENT PLAN

SCALE: 1/8"=1'-Ø"

NORTH

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/12/2023

SAFETY PLAN FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

DATE: 4/12/2023
BY: MEJ
JOB:
SHEET NO. P5.0

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SIGN A

SIGN B

SIGN C

SIGN D

SIGN E

STATE OF MISSOURI
CHAD M. STREETER
NUMBER PE-2005010817
PROFESSIONAL ENGINEER
4/12/2023

SAFETY PLAN FOR:

WHISPERING WOODS

1901 SW. RIVER RUN DR.
LEE'S SUMMIT, MISSOURI

DATE: 4/12/2023
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JOB:
SHEET NO. P5.1

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