

PLAN VIEW
SCALE: 1"=40'

RANGE USA

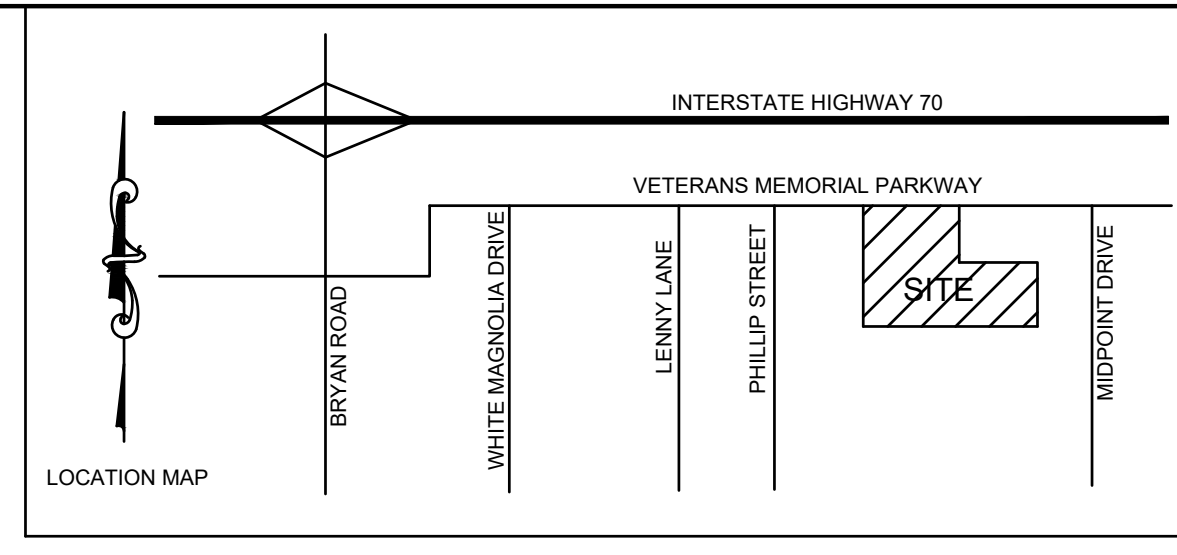
RANGE USA

INDOOR GUN RANGE

9100 Veterans Memorial Parkway
O'Fallon, Missouri 63366

PREPARED FOR:
PRIMAX PROPERTIES, LLC
1100 E. Morehead Street
Charlotte, NC 28204-2815

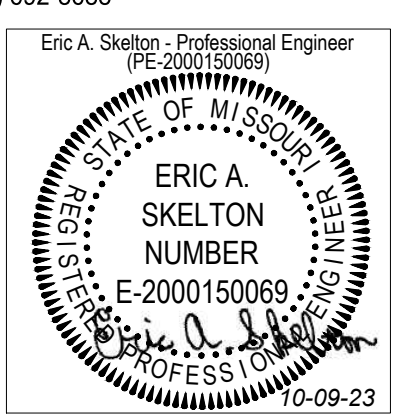
PREPARED BY:
the clayton engineering company, inc.
ENGINEERS • SURVEYORS • PLANNERS
2268 WELSCH INDUSTRIAL COURT
ST. LOUIS, MISSOURI 63146
(314) 692-8888 FAX: (314) 692-8688



ABBREVIATIONS	SYMBOLS
AI Area Inlet	○ Clean Out
Asph Asphalt	○ Catch Basin/Curb Inlet/Area Inlet
BW Back to Back	○ Double Catch Basin/Curb Inlet
CB Catch Basin	○ Flared End Section
ChB Chord Bearing	○ Grated Inlet
CI Curb Inlet	○ Manhole
CL or t Centerline	○ Grated Manhole
CMP Corrugated Metal Pipe	○ HDS Unit
Conc Concrete	○ Drain
CTV Underground Cable TV	○ Fire Hydrant
DB Deed Book	○ Valve or Meter (Gas or Water)
DCB Double Catch Basin	○ Cable TV Box
DCI Double Curb Inlet	○ Electric Co. Box
DIP Ductile Iron Pipe	○ Electric Meter
DS Downspout	○ Telephone Co Box
FES Flared End Section	○ Traffic Signal
FF Finished Floor	○ Traffic Signal Box
FL or t Flow Line	○ Deciduous Tree
FO Underground Fiber Optic	○ Evergreen Tree
GM Gas Meter	○ Bush
GV Gas Valve	○ Test Hole/ Soil Boring
GI Grated Inlet	○ ADA Parking Space
HDPE High Density Polyethylene Pipe	○ Parking Space Court
L Length of Curve	
MH Manhole	
NF Now or Formerly	
OH or OHW Overhead Electric or Wires	
OIP Old Iron Pipe	
PG Page	
PB Plat Book	
PL or t Property Line	
PVC Polyvinyl Chloride Pipe	
Pvmt Pavement	
R Radius	
RCP Reinforced Concrete Pipe	
R/W Right of Way	
Trans Transformer	
TW Top of Wall	
Typ Typical	
UG Underground Electric	
UGFO Underground Fiber Optic	
UGT Underground Telephone	
VCP Vitrified Clay Pipe	
WM Water Meter	
WV Water Valve	
SWT Sewer Identification #	

FINAL ASBUILT MEASUREMENTS

THE EXISTING SEWER LENGTHS, SIZES, FLOW LINES, DEPTH OF STRUCTURES & SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED CONDITIONS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS. SINCE THE PROFILE UTILITY LOCATIONS HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY THE SEWER CONTRACTOR OR OTHER SOURCES, I DISCLAIM ANY RESPONSIBILITY FOR THAT SPECIFIC INFORMATION.



SIGNED: Eric A. Skelton
DATE: 10/09/2023

Drawing Index

SHEET INDEX	COVER SHEET
C0.0	CONSTRUCTION NOTES
C1.0	DEMOLITION PLAN
C2.0	DIMENSION PLAN
C3.0	GRADING PLAN
C3.1	ENLARGED ENTRANCE DETAILS & SIGHT DISTANCE PROFILES
C4.0	UTILITY PLAN
C5.0	SEWER PROFILES
C6.0	STORMWATER MANAGEMENT FACILITIES 1 (HDS UNIT, AND DETENTION METERING STRUCTURE)
C7.0	CONSTRUCTION DETAILS 1
C7.1	CONSTRUCTION DETAILS 2
C7.2	CONSTRUCTION DETAILS 3
C7.3	CONSTRUCTION DETAILS 4
C7.4	CONSTRUCTION DETAILS 5
C8.0	STORMWATER POLLUTION PREVENTION PLAN
C8.1	SWPPP DETAILS 1
C8.2	SWPPP DETAILS 2
C8.3	SWPPP DETAILS 3
C9.0	EXISTING DRAINAGE AREA MAP
C9.1	PROPOSED DRAINAGE AREA MAP
C9.2	DMP DRAINAGE AREA MAP
L-0	LANDSCAPE PLANNING & ZONING EXHIBIT (OMIT FOR CONSTRUCTION)
L-1	LANDSCAPE PLANTINGS PLAN
L-2	PLANTING SPECIFICATIONS
	LIGHTING PLAN

* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in Section 500.420 of the Municipal Code of the City of O'Fallon are as follows:

October 1 through May 31
7:00 A.M. to 7:00 P.M. Monday Through Sunday
June 1 Through September 30
6:00 A.M. to 8:00 P.M. Monday Through Friday
7:00 A.M. to 8:00 P.M. Saturday and Sunday

* The area of this phase of development is 0.83 Acres
The area of land disturbance is 2.19 Acres
Number of proposed lots is 2

* Tree preservation calculations (See Landscape Plan)

Site Benchmark:
TBM#655
NAVD88 Elev.=626.67 FtUS
"O" in Open on fire Hydrant in Northwest corner of property.

Conditions of Approval From Planning and Zoning

ON JANUARY 6, 2022, THE PLANNING AND ZONING COMMISSION APPROVED AN AMENDED SITE PLAN, CONDITIONAL USE PERMIT, AND REZONING FOR (21-010865) REQUEST FOR CONSIDERATION AND MOTION FOR ACTION ON A SITE PLAN FOR PROPERTY LOCATED ON VETERANS MEMORIAL PARKWAY NORTH OF THE JEWEL APARTMENTS - TIGER HOLDINGS XI, LLC, PROPERTY OWNER - PRIMAX PROPERTIES, CONTRACT PURCHASER - PROPOSED USE: INDOOR FIRING RANGE WITHIN THE I-1 LIGHT INDUSTRIAL DISTRICT.

THE APPROVAL IS CONDITIONAL UPON THE FOLLOWING STAFF RECOMMENDATIONS BEING MET:

CONDITIONAL USE PERMIT ITEMS:

- THE HOLDER OF THIS CONDITIONAL USE PERMIT SHALL BE AND REMAIN FULLY LICENSED WITH THE STATE OF MISSOURI AND THE CITY OF O'FALLON. BOTH LICENSES SHALL REMAIN IN GOOD STANDING THROUGHOUT THE TERM OF THIS CONDITIONAL USE PERMIT.
- THIS CONDITIONAL USE PERMIT IS GRANTED SOLELY TO THE OWNER OF RANGE USA. SHOULD OWNERSHIP TRANSFER IN THE FUTURE, THE NEW OWNER SHALL BE REQUIRED TO APPLY FOR A TRANSFER OF A CONDITIONAL USE PERMIT THROUGH THE PLANNING AND DEVELOPMENT DEPARTMENT.
- THIS CONDITIONAL USE PERMIT SHALL BE REVOKED UPON: I) BREACH OR FAILURE TO COMPLY WITH THE CONDITIONS OF THIS PERMIT, II) DISCIPLINARY ACTION OR OTHER ACTION AFFECTING THE STATUS OF THE HOLDER'S STATE OR CITY LICENSES, AND III) AS OTHERWISE PROVIDED BY ORDINANCE OR OTHER APPLICABLE LAW.
- THE OCCURRENCE OF ACTIVITIES WHICH ARE DEEMED TO DISTURB THE PEACE IS DEFINED IN TITLE II. PUBLIC HEALTH, SAFETY AND WELFARE OF THE MUNICIPAL CODE SHALL PROMPT THE CITY TO REVOKE THE CONDITIONAL USE PERMIT.
- SHOULD THE CONDITIONAL USE CEASE OPERATIONS FOR A PERIOD OF ONE (1) YEAR, THE CUP SHALL BE REVOKED.
- PROVIDE INFORMATION REGARDING THE SOUND DAMPENING. THE FIRING RANGE SHALL NOT PRODUCE ANY NOISE BEYOND THEIR PROPERTY LINE THAT WOULD BE DEEMED A NUISANCE PER CODE SECTION 220.020(A)(13)
- THE APPLICANT MUST ADHERE TO ALL APPLICABLE STATE AND FEDERAL REGULATIONS CONCERNING THE SALE OF FIREARMS.
- THE APPLICANT SHALL DISCUSS THE PROPOSED SECURITY MEASURES WITH CHIEF NESKE IN THE POLICE DEPARTMENT PRIOR TO INSTALLATION. ADDITIONAL SECURITY MEASURES MAY BE REQUIRED, INCLUDING:
 - INSTALLING A 24-HOUR MONITORED SECURITY SYSTEM WITH MOTION ALARMS, GLASS BREAK ALARMS, AND STROBES AND SIRENS ON THE EXTERIOR PORTION OF THE BUILDING.
 - INSTALLING COMMERCIAL GRADE SECURITY CAMERA SYSTEM COVERING ALL ANGLES OF THE EXTERIOR OF THE BUILDING AS WELL AS THE INTERIOR OF THE UNIT.
 - SECURING ALL OF THE WINDOWS WITH COMMERCIAL GRADE SECURITY FILM AND REINFORCING THE FRAMES.
 - THE INTERIOR OF THE UNIT WILL CONTAIN SECURITY GATES AS AN ADDITIONAL PREVENTATIVE MEASURE IF A BREAK IN OCCURS.

SITE PLAN ITEMS:

- SHOW THE FALL ZONE OF THE BILLBOARD. THE FALL ZONE IS CALCULATED AS THE HEIGHT OF THE BILLBOARD PLUS 10 FEET.
- ANY ROOFTOP MECHANICAL UNITS SHALL BE PROPERTY SCREENED PER CODE SECTION 400.278.
- WHEN LOT 2B DEVELOPS A SIDEWALK WILL BE REQUIRED ALONG THE DRIVE AISLE TO THE APARTMENTS.
- PROVIDE DETENTION AND WATER QUALITY FOR LOT 2B IN THE BASIN. THE DETENTION BASIN/WATER QUALITY AREA WILL NEED TO BE DESIGNED FOR THE 100-YEAR/20-MINUTE STORM.
- PROVIDE TRAIL AND SIDEWALK DETAILS.
- REDUCE THE LIGHTING VALUES ON THE PHOTOMETRIC LIGHTING PLAN TO BE BETWEEN 0.4 AND 0.7 FOOT CANDLES AT THE PROPERTY LINE.
- PROVIDE THE OVERALL HEIGHT OF THE BUILDING.

DEVELOPER:
PRIMAX PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204

PROPERTY OWNER
PRIMAX PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204

CIVIL ENGINEERING COMPANY:
THE CLAYTON ENGINEERING CO., INC.
2268 WELSCH INDUSTRIAL COURT
ST. LOUIS, MO 63146
314-692-8888

EXISTING ZONING:
C-2 "GENERAL BUSINESS DISTRICT"

PROPOSED ZONING:
I-1 "LIGHT INDUSTRIAL DISTRICT"

SCHOOL DISTRICT:
FORT ZUMWALT SCHOOL DISTRICT

SITE ADDRESS:
15 CASTLE LANE

PARCEL I.D. NUMBER:
2-0141-D020-00-0002.0000000

Utility Contacts

Sanitary Sewers	Gas
City of O'Fallon 100 N. Main St. O'Fallon, MO. 63366 636-240-2000	Spire Gas 6400 Graham Road St. Louis, MO. 63134 314-522-2297
Water	Telephone
City of O'Fallon Water District 100 N. Main St. O'Fallon, MO. 63366 636-240-2000	Lumen 1 Solutions Pkwy Town and Country, MO. 63017 636-237-6750
Storm Sewer	Fire District
City of O'Fallon 100 N. Main St. O'Fallon, MO. 63366 636-240-2000	O'Fallon Fire Protection District 111 Laura K. Drive O'Fallon, MO. 63366 636-272-3493
City of O'Fallon Contact Information:	Electric
Water Main Locates: 636-281-2858 Sanitary Sewer Locates: 636-281-2858 Storm Sewer Locates: 636-281-2858 Traffic Locates: 636-379-5602 Engineering Division: 636-379-5556 Construction Inspection Division: 636-379-5596	Ameren Missouri 200 Callahan Road Wentzville, MO. 63385 636-639-8312

CITY OF O'FALLON
ENGINEERING DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Karl Ebert DATE 10/09/2023
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

PLANNING AND ZONING COMMISSION APPROVAL DATE - FEBRUARY 24, 2022 FOR A SITE PLAN, CONDITIONAL USE PERMIT AND REZONING FOR (21-010865) REQUEST FOR CONSIDERATION AND MOTION FOR ACTION ON A SITE PLAN FOR PROPERTY LOCATED ON VETERANS MEMORIAL PARKWAY NORTH OF THE JEWEL APARTMENTS - TIGER HOLDINGS XI, LLC, PROPERTY OWNER - PRIMAX PROPERTIES, CONTRACT PURCHASER - PROPOSED USE: INDOOR FIRING RANGE WITHIN THE I-1 LIGHT INDUSTRIAL DISTRICT.

- SITE NOTES:**
- WE HAVE EXAMINED FLOOD INSURANCE RATE MAPS (COMMUNITY PANEL NUMBER 290316-0240-G), MAP NUMBER 291830240G, AND FLOOD INSURANCE RATE MAP (COMMUNITY PANEL NUMBER 290316-0240-G), MAP NUMBER 291830240G, BOTH HAVING AN EFFECTIVE DATE OF DECEMBER 15, 1992, LAST REVISED ON JANUARY 20, 2016 OF THE NATIONAL FLOOD INSURANCE PROGRAM PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE AREA CONTAINING THE SUBJECT PROPERTY. BY GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY IS LOCATED WITHIN ZONE "X" (UNSHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS NOTE IS FOR THE PURPOSE OF PROVIDING INFORMATION AS INDICATED ON THE CURRENT FLOOD INSURANCE RATE MAPS FOR THIS AREA, AND SHOULD NOT BE CONSTRUED AS AN INDICATION AS TO WHETHER FLOOD INSURANCE SHOULD, OR SHOULD NOT BE PURCHASED.
 - ALL DIMENSIONS TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.
 - STORMWATER RUNOFF WILL FOLLOW SIMILAR DRAINAGE PATTERNS TO THE EXISTING STORMWATER COLLECTION & DETENTION SYSTEM. A STORMWATER DETENTION BASIN WITH WATER QUALITY TREATMENT WILL BE INSTALLED WITH THIS PROJECT.
 - ALL HVAC AND MECHANICAL UNITS ON SITE SHALL BE PROPERLY SCREENED AS REQUIRED BY CITY CODE 400.278. ROOFTOP UNITS SHALL BE SCREENED BY A PARAPET WALL AT LEAST AS HIGH AS TALLEST MOUNTED UNIT ON ROOF.
 - ALL SIGNAGE SHALL BE APPROVED THROUGH PLANNING AND DEVELOPMENT VIA A SEPARATE PERMITTING PROCESS. ANY SIGNS SHOWN ON THIS SITE DEVELOPMENT PLAN ARE NOT A PART OF THIS SITE PLAN APPROVAL.
 - PARCEL ID: 2-0141-D020-00-0002.0000000
 - EXISTING ZONING = C-2
 - PROPOSED ZONING = I-1
 - DEVELOPER:
PRIMAX PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204
 - OWNER:
PRIMAX PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204
 - PROPOSED SITE COVERAGES:
TOTAL SITE AREA = 2.92 ACRES (LOT 2A=2.32 AC., LOT 2B = 0.60 AC.)
TOTAL DISTURBED: 1.87 AC (LOT 2A=1.77 AC., LOT 2B = 0.15 AC., R/W=0.19 AC.)
BUILDING AREA: 0.34 AC (11.6% OF TOTAL SITE)
LOT 2A=0.34 AC (14.7% OF 2A), LOT 2B = 0 AC (0% OF 2B)
PAVEMENT AREA: 1.14 AC (40.1% OF TOTAL SITE)
LOT 2A=1.04 AC (44.8% OF 2A), LOT 2B = 0.06 AC (10% OF 2B)
GREEN SPACE: 1.44 AC (48.3% OF TOTAL SITE)
LOT 2A=0.94 AC (40.5% OF 2A), LOT 2B = 0.54 AC (90% OF 2B)
 - EXISTING BUILDING SETBACKS LOT 2B (C-2 GENERAL BUSINESS ZONING DISTRICT):
FRONT YARD: NOT LESS THAN TWENTY-FIVE (25) FEET.
SIDE YARD: NO SIDE YARD IS REQUIRED EXCEPT THAT WHERE A SIDE LINE OF A LOT IN THIS DISTRICT ABUTS THE SIDE LINE OF A LOT IN ANY RESIDENTIAL OR OFFICE DISTRICT, A SIDE YARD SHALL THEN BE PROVIDED THE SAME AS REQUIRED IN THE DISTRICT IT ABUTS. A SIDE YARD OF NOT LESS THAN TWENTY-FIVE (25) FEET SHALL BE PROVIDED ON THE STREET SIDE OF A CORNER LOT.
REAR YARD: NO REAR YARD IS REQUIRED EXCEPT THAT WHERE A REAR LINE OF A LOT IN THIS DISTRICT ABUTS LOTS ZONED RESIDENTIAL OR OFFICE A REAR YARD OF NOT LESS THAN TEN (10) FEET SHALL BE PROVIDED.
 - PROPOSED BUILDING SETBACKS LOT 2A (I-1 LIGHT INDUSTRIAL ZONING DISTRICT):
FRONT YARD: NOT LESS THAN THIRTY (30) FEET.
SIDE YARD: LEAST WIDTH OF EITHER YARD SHALL NOT BE LESS THAN TWENTY (20) FEET, EXCEPT IN THE CASE OF A CORNER LOT OR PARCEL WHERE THE SIDE YARD ON THE ROAD OR STREET SIDE SHALL NOT BE LESS THAN THIRTY (30) FEET.
REAR YARD: NOT LESS THAN THIRTY-FIVE (35) FEET.
 - PROPOSED BUILDINGS:
INDOOR GUN RANGE:
GROSS SQUARE FOOTAGE INDOOR GUN RANGE
= 14,989 SF GROSS (14,643 SF INTERIOR)
BUILDING HEIGHT = 21'-4"
HOURS OF OPERATION: 10AM-7PM SUNDAY-THURSDAY,
10AM-8PM FRIDAY-SATURDAY.
 - PARKING MINIMUM REQUIREMENT CALCULATIONS:
(INDOOR GUN RANGE)
REQUIRED: 1 SPACE PER 250 SQ.FT. OF FLOOR AREA
14,643 SQ. FT. / 250 SQ. FT.
= 58.6 = 59 SPACES REQUIRED
PROVIDED = 85 SPACES (INCLUDES 4 ADA)
 - BICYCLE PARKING MINIMUM REQUIREMENT CALCULATION:
1 BIKE SPACE PER 15 PARKING SPACES (4 MINIMUM PER BUILDING) REQUIRED =
(86 SPACES) / 15 = 5.7 = 6 BIKE SPACES
PROVIDED = 3 BIKE RACKS (6 BIKE SPACES)



Underground facilities, structures & utilities have been plotted from available surveys, records & information, and therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number of, or location of these facilities, structures, & utilities.

The Contractor shall be responsible for verifying the actual location of all underground facilities, structures, & utilities, either shown or not shown on these plans. The underground facilities, structures, & utilities shall be located in the field prior to any grading, excavation or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act.

PRINTED ON 24" x 36" SHEET

The original signed and sealed of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release said The Clayton Engineering Company, the Engineer and/or Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications. The signed and sealed original is the official document and shall take precedence over any digital version.

Copyright 2021
All Rights Reserved

the clayton engineering company, inc.
ENGINEERS • SURVEYORS • PLANNERS
2268 WELSCH INDUSTRIAL COURT
ST. LOUIS, MISSOURI 63146-4222
314.692.8888 FAX: (314) 692.8688
1100 Callahan Road - Wentzville, MO 63385
636.639.8312
E-Design, Professional Print, Plot, Copy, Design, Engineering, Survey, GIS, CAD

REVISIONS

NO.	DATE	DESCRIPTION
1	04-01-22	EAS Minor building/parking lot revisions, address HDS info
2	04-26-22	EAS City of O'Fallon comments
3	05-03-22	EAS MxDOT comments
4	05-13-22	EAS BID SET

FILE: G:\100\2023\1-RANGE\10023\10023\10023.dwg
PLOTTED: 10/09/2023 10:39 AM

O'Fallon, MO 63366

COVER SHEET

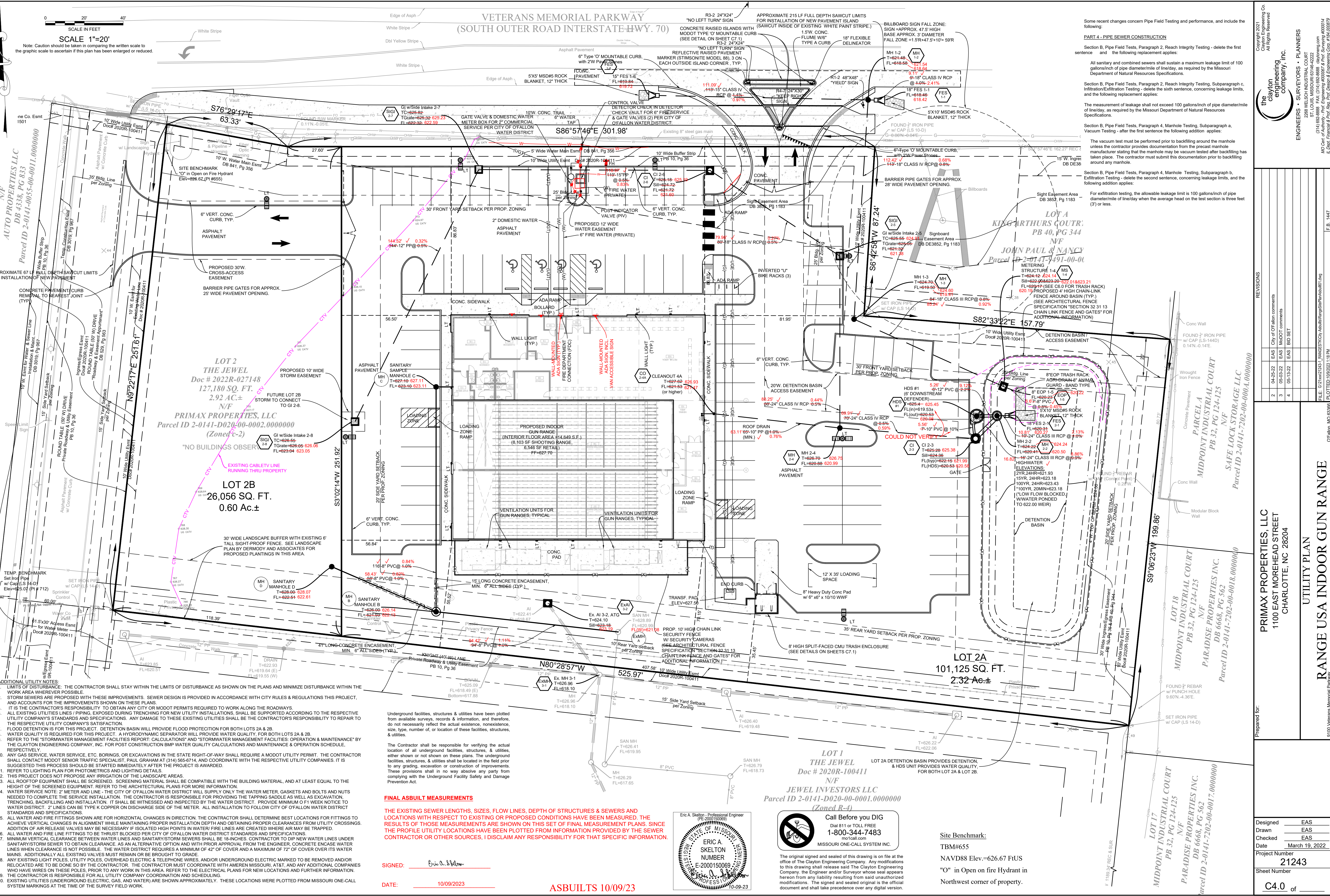
PRIMAX PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204

RANGE USA INDOOR GUN RANGE

Prepared for:

Designed: EAS
Drawn: EAS
Checked: EAS
Date: March 19, 2022

Project Number: 21243
Sheet Number: C0.0 of



SCALE IN FEET
SCALE 1"=20'
Note: Caution should be taken in comparing the written scale to the graphic scale to ascertain if this plan has been enlarged or reduced.

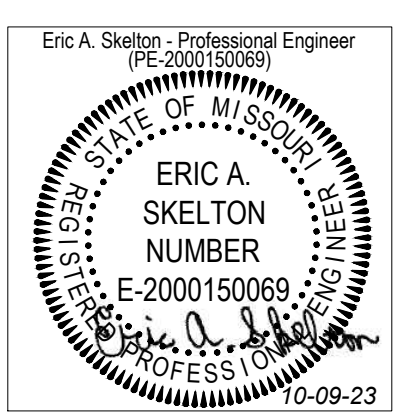
ADDITIONAL UTILITY NOTES:

- LIMITS OF DISTURBANCE: THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
- STORM SEWERS ARE PROPOSED WITH THESE IMPROVEMENTS. SEWER DESIGN IS PROVIDED IN ACCORDANCE WITH CITY RULES & REGULATIONS THIS PROJECT.
- AND ACCOUNTS FOR THE IMPROVEMENTS SHOWN ON THESE PLANS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY CITY OR MUDOT PERMITS REQUIRED TO WORK ALONG THE ROADWAYS.
- ALL EXISTING UTILITIES LINES / PIPING EXPOSED DURING TRENCHING FOR NEW UTILITY INSTALLATIONS, SHALL BE SUPPORTED ACCORDING TO THE RESPECTIVE UTILITY COMPANIES STANDARDS AND SPECIFICATIONS. ANY DAMAGE TO THESE EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR TO THE RESPECTIVE UTILITY COMPANY'S SATISFACTION.
- FLOOD DETENTION IS FOR THIS PROJECT. DETENTION BASIN WILL PROVIDE FLOOD PROTECTION FOR BOTH LOTS 2A & 2B.
- WATER QUALITY IS REQUIRED FOR THIS PROJECT. A HYDRODYNAMIC SEPARATOR WILL PROVIDE WATER QUALITY. FOR BOTH LOTS 2A & 2B.
- REFER TO THE "STORMWATER MANAGEMENT FACILITIES REPORT, CALIBRATION AND STORMWATER MANAGEMENT FACILITIES: OPERATION & MAINTENANCE" BY THE CLAYTON ENGINEERING COMPANY, INC. FOR POST CONSTRUCTION BMP WATER QUALITY CALCULATIONS AND MAINTENANCE & OPERATION SCHEDULE, RESPECTIVELY.
- ANY GAS SERVICE, WATER SERVICE, ETC. BORINGS, OR EXCAVATIONS IN THE STATE RIGHT-OF-WAY SHALL REQUIRE A MUDOT UTILITY PERMIT. THE CONTRACTOR SHALL CONTACT MUDOT SENIOR TRAFFIC SPECIALIST, PAUL GRAHAM AT (314) 565-6714, AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES. IT IS SUGGESTED THIS PROCESS SHOULD BE STARTED IMMEDIATELY AFTER THE PROJECT IS AWARDED.
- REFER TO LIGHTING PLAN FOR PHOTOMETRICS AND LIGHTING DETAILS.
- THIS PROJECT DOES NOT PROPOSE ANY IRRIGATION OF THE LANDSCAPE AREAS.
- ALL ROOFTOP EQUIPMENT SHALL BE SCREENED. SCREENING MATERIAL SHALL BE COMPATIBLE WITH THE BUILDING MATERIAL, AND AT LEAST EQUAL TO THE HEIGHT OF THE SCREENED EQUIPMENT. REFER TO THE ARCHITECTURAL PLANS FOR MORE INFORMATION.
- WATER SERVICE NOTE: 2" WATER AND LINE - THE CITY OF OFALLON WATER DISTRICT WILL SUPPLY ONLY THE WATER METER, GASKETS AND BOLTS AND NUTS NEEDED TO COMPLETE THE SERVICE INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE TAPPING SALES AS WELL AS EXCAVATION, TRENCHING, BACKFILLING AND INSTALLATION. IT SHALL BE WITNESSED AND INSPECTED BY THE WATER DISTRICT. PROVIDE MINIMUM OF 1" WEEK NOTICE TO WATER DISTRICT. 2" LINES CAN BE TYPE K COPPER ON DISCHARGE SIDE OF THE METER. ALL INSTALLATION TO FOLLOW CITY OF OFALLON WATER DISTRICT STANDARDS AND SPECIFICATIONS.
- ALL WATER AND FIRE FITTINGS SHOWN ARE FOR HORIZONTAL CHANGES IN DIRECTION. THE CONTRACTOR SHALL DETERMINE BEST LOCATIONS FOR FITTINGS TO ACHIEVE VERTICAL CHANGES IN ALIGNMENT WHILE MAINTAINING PROPER INSTALLATION DEPTH AND OBTAINING PROPER CLEARANCES FROM UTILITY CROSSINGS. ADDITION OF AIR RELEASE VALVES MAY BE NECESSARY IF ISOLATED HIGH POINTS IN WATER FIRE LINES ARE CREATED WHERE AIR MAY BE TRAPPED.
- ALL WATER AND FIRE LINE FITTINGS TO BE THRU-BLOCKED PER CITY OF OFALLON WATER DISTRICT STANDARDS AND SPECIFICATIONS.
- MINIMUM VERTICAL CLEARANCE BETWEEN WATER LINES AND SANITARY/STORM SEWERS SHALL BE 18-INCHES. CONTRACTOR TO DIP NEW WATER LINES UNDER SANITARY/STORM SEWER TO OBTAIN CLEARANCE. AS AN ALTERNATIVE OPTION AND WITH PRIOR APPROVAL FROM THE ENGINEER, CONCRETE ENCASE WATER LINES WHEN CLEARANCE IS NOT POSSIBLE. THE WATER DISTRICT REQUIRES A MINIMUM OF 42" OF COVER AND A MAXIMUM OF 72" OF COVER OVER ITS WATER MAINS. ADDITIONALLY ALL EXISTING VALVES MUST REMAIN OR BE BROUGHT TO GRADE.
- ANY EXISTING LIGHT POLES, UTILITY POLES, OVERHEAD ELECTRIC & TELEPHONE WIRES, AND/OR UNDERGROUND ELECTRIC MARKED TO BE REMOVED AND/OR RELOCATED ARE TO BE DONE SO BY THE CONTRACTOR. THE CONTRACTOR MUST COORDINATE WITH AMEREN MISSOURI, AT&T, AND ANY ADDITIONAL COMPANIES WHO HAVE WIRES ON THESE PIPES. PRIOR TO ANY WORK IN THIS AREA. REFER TO THE ELECTRICAL PLANS FOR NEW LOCATIONS AND FURTHER INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY COORDINATION AND SCHEDULING.
- EXISTING UTILITIES (UNDERGROUND ELECTRIC, GAS, AND WATER) ARE SHOWN APPROXIMATELY. THESE LOCATIONS WERE PLOTTED FROM MISSOURI ONE-CALL SYSTEM MARKINGS AT THE TIME OF THE SURVEY FIELD WORK.

FINAL ASBUILT MEASUREMENTS
THE EXISTING SEWER LENGTHS, SIZES, FLOW LINES, DEPTH OF STRUCTURES & SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED CONDITIONS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS. SINCE THE PROFILE UTILITY LOCATIONS HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY THE SEWER CONTRACTOR OR OTHER SOURCES, I DISCLAIM ANY RESPONSIBILITY FOR THAT SPECIFIC INFORMATION.

SIGNED: *Eric A. Skelton*
DATE: 10/09/2023

ASBUITS 10/09/23



Call Before you DIG
Dial 811 or TOLL FREE
1-800-344-7483
notcall.com
MISSOURI ONE-CALL SYSTEM INC.

The original signed and sealed of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release said The Clayton Engineering Company, the Engineer and/or Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications. The signed and sealed original is the official document and shall take precedence over any digital version.

Site Benchmark:
TBM#655
NAVD88 Elev.=626.67 FTUS
"O" in Open on fire Hydrant in Northwest corner of property.

Some recent changes concern Pipe Field Testing and performance, and include the following:
PART 4 - PIPE SEWER CONSTRUCTION
Section B, Pipe Field Tests, Paragraph 2, Reach Integrity Testing - delete the first sentence and the following replacement applies:
All sanitary and combined sewers shall sustain a maximum leakage limit of 100 gallons/mile of pipe diameter/mile of line/day, as required by the Missouri Department of Natural Resources Specifications.
Section B, Pipe Field Tests, Paragraph 2, Reach Integrity Testing, Subparagraph c, Infiltration/Exfiltration Testing - delete the sixth sentence, concerning leakage limits, and the following replacement applies:
The measurement of leakage shall not exceed 100 gallons/mile of pipe diameter/mile of line/day, as required by the Missouri Department of Natural Resources Specifications.
Section B, Pipe Field Tests, Paragraph 4, Manhole Testing, Subparagraph a, Vacuum Testing - after the first sentence the following addition applies:
The vacuum test must be performed prior to backfilling around the manhole unless the contractor provides documentation from the precast manhole manufacturer stating that the manhole may be vacuum tested after backfilling has taken place. The contractor must submit this documentation prior to backfilling around any manhole.
Section B, Pipe Field Tests, Paragraph 4, Manhole Testing, Subparagraph b, and the following addition applies:
For infiltration testing, the allowable leakage limit is 100 gallons/mile of pipe diameter/mile of line/day when the average height on the test section is three feet (3') or less.

Copyright 2021
All Rights Reserved

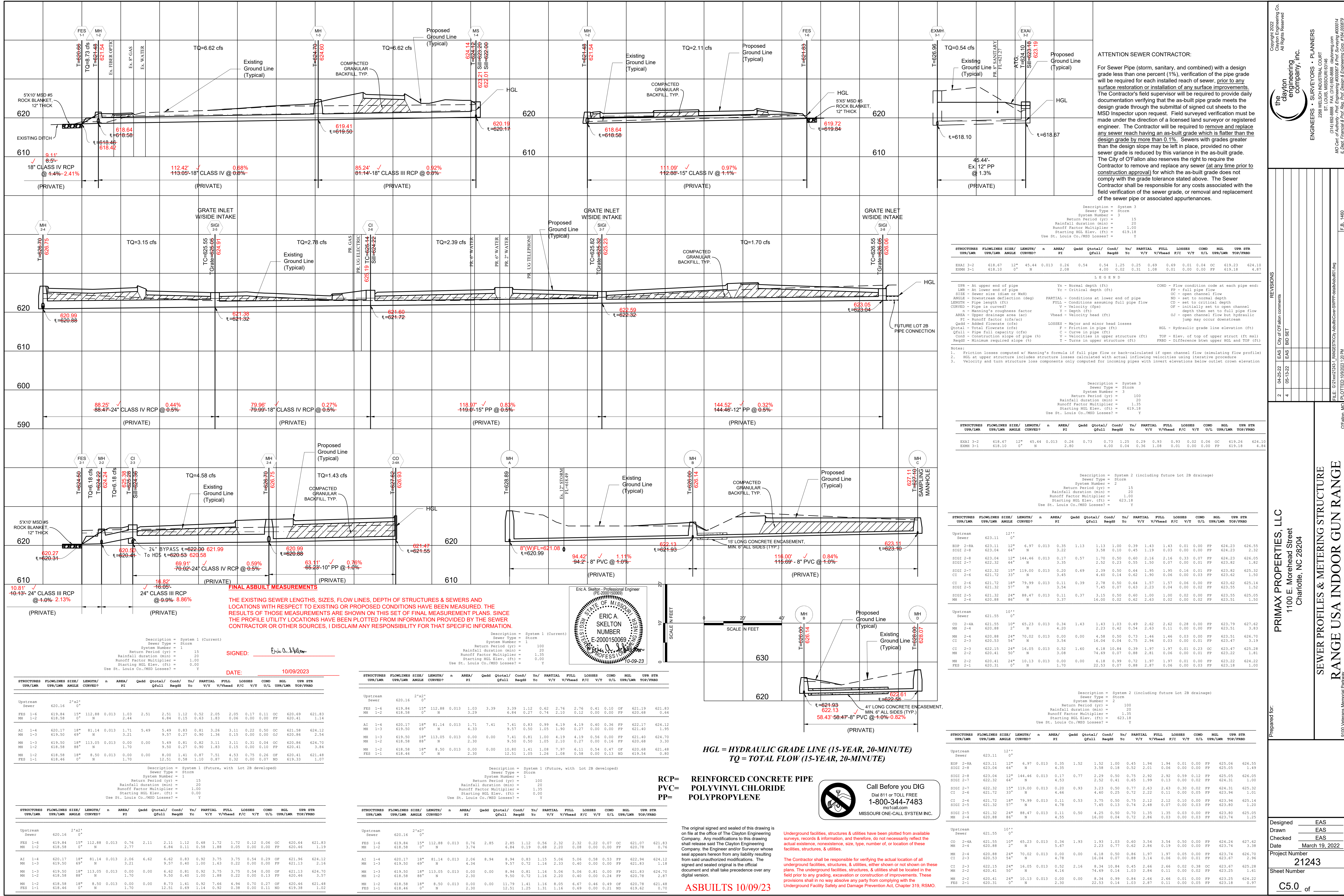
the clayton engineering company, inc.
ENGINEERS • SURVEYORS • PLANNERS
228 W. SCHULZ INDUSTRIAL COURT
ST. LOUIS, MISSOURI 63146-4222
(314) 692-8888 FAX: (314) 692-8888 dayton@claytoneng.com
1400 Carondelet Avenue, Suite 200, St. Louis, Missouri 63104
E-Design, Professional Engineering, Surveying, Planning, and Construction Services, Inc. License No. 0000029

NO.	DATE	REVISIONS
1	04-25-22	EAS City of Ofallon comments
2	05-03-22	EAS MUDOT comments
3	05-03-22	EAS BID SET
4	05-03-22	EAS

Prepared for:
PRIMA PROPERTIES, LLC
1100 EAST MOREHEAD STREET
CHARLOTTE, NC 28204

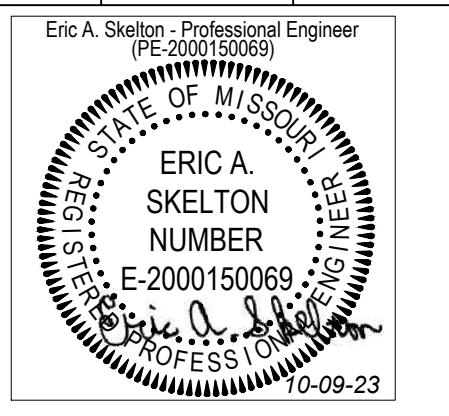
UTILITY PLAN
RANGE USA INDOOR GUN RANGE

Designed: EAS
Drawn: EAS
Checked: EAS
Date: March 19, 2022
Project Number: 21243
Sheet Number: C4.0 of



FINAL ASBUILT MEASUREMENTS
 THE EXISTING SEWER LENGTHS, SIZES, FLOW LINES, DEPTH OF STRUCTURES & SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED CONDITIONS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS. SINCE THE PROFILE UTILITY LOCATIONS HAVE BEEN PLOTTED FROM INFORMATION PROVIDED BY THE SEWER CONTRACTOR OR OTHER SOURCES, I DISCLAIM ANY RESPONSIBILITY FOR THAT SPECIFIC INFORMATION.

SIGNED: *Eric A. Skelton*
 DATE: 10/09/2023



STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR	
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD		
Upstream Sewer	620.16	2'x2'	0"														
FES 1-6	619.84	15"	112.88	0.013	1.03	2.51	2.51	1.12	0.52	2.05	2.05	0.17	0.11	OC	620.69	621.83	
MH 1-2	618.58	0"	N		2.44			6.84	0.13	0.63	1.83	0.06	0.00	0.00	FF	620.41	1.14

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR	
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD		
Upstream Sewer	620.16	2'x2'	0"														
FES 1-6	619.84	15"	112.88	0.013	1.03	3.39	3.39	1.12	0.62	2.76	2.76	0.41	0.10	OF	621.19	621.83	
MH 1-2	618.58	0"	N		3.29			6.84	0.27	0.74	2.10	0.12	0.00	0.00	FF	620.68	0.64

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.35	1.13	1.13	1.00	0.39	1.43	1.43	0.01	0.00	FF	624.23	626.55
SI01 2-8	623.04	64"	N		3.22			3.98	0.10	0.45	1.19	0.03	0.00	FF	624.23	2.32

Description = System 3
 Sewer Type = Storm
 System Number = 3
 Return Period (yr) = 15
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.00
 Starting HGL Elev. (ft) = 619.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR	
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD		
EXAI 3-2	618.67	12"	45.44	0.013	0.26	0.54	0.54	1.25	0.25	0.69	0.69	0.01	0.04	OC	619.23	624.10	
EXH 3-1	618.10	0"	N		2.08			4.00	0.02	0.31	1.08	0.01	0.00	0.00	FF	619.18	4.87

Description = System 3
 Sewer Type = Storm
 System Number = 3
 Return Period (yr) = 100
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.35
 Starting HGL Elev. (ft) = 619.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR	
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD		
EXAI 3-2	618.67	12"	45.44	0.013	0.26	0.73	0.73	1.25	0.29	0.93	0.93	0.02	0.06	OC	619.26	624.14	
EXH 3-1	618.10	0"	N		2.80			4.00	0.04	0.36	1.08	0.01	0.00	0.00	FF	619.18	4.88

Description = System 2 (including future Lot 2B drainage)
 Sewer Type = Storm
 System Number = 2
 Return Period (yr) = 15
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.00
 Starting HGL Elev. (ft) = 623.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.35	1.13	1.13	1.00	0.39	1.43	1.43	0.01	0.00	FF	624.23	626.55

Description = System 2 (including future Lot 2B drainage)
 Sewer Type = Storm
 System Number = 2
 Return Period (yr) = 100
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.35
 Starting HGL Elev. (ft) = 623.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.34	1.43	1.43	1.03	0.49	2.62	2.62	0.02	0.00	FF	623.79	627.62

Description = System 2 (including future Lot 2B drainage)
 Sewer Type = Storm
 System Number = 2
 Return Period (yr) = 100
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.35
 Starting HGL Elev. (ft) = 623.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.34	1.93	1.93	1.03	0.60	3.54	3.54	0.00	0.00	FF	624.24	627.62

Description = System 2 (including future Lot 2B drainage)
 Sewer Type = Storm
 System Number = 2
 Return Period (yr) = 100
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.35
 Starting HGL Elev. (ft) = 623.18
 Use St. Louis Co./MSD Losses? = Y

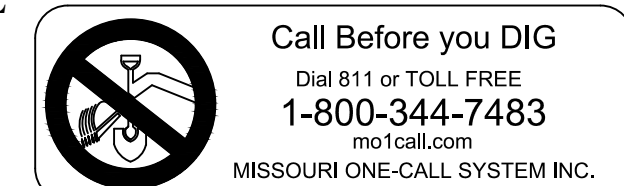
STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.35	1.52	1.52	1.00	0.45	1.94	1.94	0.01	0.00	FF	625.06	626.55

Description = System 2 (including future Lot 2B drainage)
 Sewer Type = Storm
 System Number = 2
 Return Period (yr) = 100
 Rainfall duration (min) = 20
 Runoff Factor Multiplier = 1.35
 Starting HGL Elev. (ft) = 623.18
 Use St. Louis Co./MSD Losses? = Y

STRUCTURES	FLOWLINES	SIZE/	LENGTH/	n	AREA/	Qadd	Qtotal/	Cons/	Yn/	PARTIAL	FULL	LOSSES	COND	HGL	UPR	STR
UPR/LMR	UPR/LMR	ANGLE	CURVED?		PI	Qfull	Reqds	Yo	V/Y	V/Head	F/C	V/T	U/L	UPR/LMR	TOP/FRSD	
Upstream Sewer	623.11	12"	0"													
EOP 2-8A	623.11	12"	6.97	0.013	0.34	1.93	1.93	1.03	0.60	3.54	3.54	0.00	0.00	FF	624.24	627.62

HGL = HYDRAULIC GRADE LINE (15-YEAR, 20-MINUTE)
 TQ = TOTAL FLOW (15-YEAR, 20-MINUTE)

RCP = REINFORCED CONCRETE PIPE
 PVC = POLYVINYL CHLORIDE
 PP = POLYPROPYLENE



The original signed and sealed of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release The Clayton Engineering Company, the Engineer and/or Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications. The signed and sealed original is the official document and shall take precedence over any digital version.

ASBUILTS 10/09/23

Copyright 2022
 the Clayton Engineering Company, Inc.
 ENGINEERS • SURVEYORS • PLANNERS
 2288 WELSH INDUSTRIAL COURT
 ST. LOUIS, MISSOURI 63146
 (314) 692-8888 FAX: (314) 692-8888
 110 Car. La. Avenue P.O. Box 10000 St. Louis, MO 63143
 E-Design: 636.222.2222 Fax: 636.222.2222

REVISIONS
 1 04-26-22 EAS City of Fallon comments
 2 05-13-22 EAS BID SET
 3 05-13-22 EAS
 4 05-13-22 EAS

Prepared for:
 PRIMAX PROPERTIES, LLC
 1100 E. Morehead Street
 Charlotte, NC 28204

SEWER PROFILES & METERING STRUCTURE
 RANGE USA INDOOR GUN RANGE
 9100 Veterans Memorial Parkway

Designed: EAS
 Drawn: EAS
 Checked: EAS
 Date: March 19, 2022

Project Number: 21243
 Sheet Number: C5.0 of

