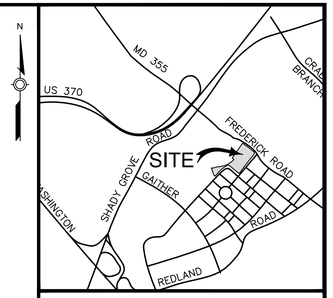
KING FARM FARMSTEAD

SPRINKLER SYSTEM CONCEPTUAL DESIGN FOR THE DAIRY BARNS AND THE MANSE

CITY OF ROCKVILLE, MARYLAND



VICINITY MAP

SCALE 1" = 2,000'

GENERAL NOTES - CITY OF ROCKVILLE

1. The Applicant is the entity for which the City of Rockville has issued a permit. For City projects where a permit is not applicable, the entity for which the City contract is issued shall be considered the Applicant in these notes. The Applicant is responsible for all contractors, agents, subcontractors, or other entities completing work under this permit and/or approved plan.

2. The Applicant must arrange a pre-construction meeting prior to commencing any work. Provide at least 48 hours of notice to the following: City Project Inspector listed in the permit, City Forestry Inspector at 240-314-8713, if required by either a DPW and/or Forestry permit, or DPW Sediment Control Inspector at 240-314-8879, if required by permit.

3. The Applicant must contact Miss Utility at 1-800-257-7777 or #811 or missutility.net so that utilities are marked prior to holding any pre-construction meeting.

4. Information concerning existing underground utilities was obtained from available records. The Contractor must determine the exact location and elevation of existing utilities by digging test pits at the utility crossings well in advance of trenching. If clearance is less than shown on this plan, contact the Professional Engineer who stamped the design plans before proceeding with construction.

5. Maintain a minimum one-foot vertical clearance between all City utilities crossing any other utility. Unless otherwise noted, maintain a five-foot horizontal clearance with between a City utility with any other utility or structure. The only exception is that there shall be a ten-foot horizontal clearance between City water and sewer mains.

6. At the end of each day, all trenches shall be backfilled, all equipment secured, and the area left in a safe condition. Steel plates are allowed to remain no longer than seven days. Plates are to be notched (recessed) and pinned to the roadway. Plates must be large enough to allow a minimum of one-foot bearing on all four sides of the pavement surrounding the excavation. The steel plate requirements only apply to public streets.

7. The public road utility patch shall be in accordance with City Standard Detail #60, or as shown on the plans. All trenches in public streets shall be filled with compacted Graded Aggregate Base (GAB) from below the pavement to the top of the pipe embedment zone or to a depth of five-feet, whichever is less.

8. The City's normal working hours are Monday through Friday, except holidays, from 7 a.m. to 5 p.m. The City observes the following holidays: New Year's Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Thanksgiving Friday, and Christmas Day, and all days of general and congressional elections throughout the State.

   The Contractor will not be permitted to close lanes or do any work that requires the services of the City forces, outside of the normal working hours, unless listed in the permit or authorized by the City in writing. However, the Contractor, with verbal permission of the City may be permitted to work outside of the normal work hours for clean-up activities or other such items that do not adversely impact traffic, residents or City services.

9. Traffic must be maintained on all roadways within the construction area as directed by the City. No lane closure shall be permitted between 7:00-9:00 A.M. or 3:30-6:00 P.M. Monday through Friday. An exception is that lane closures are permitted on secondary residential streets at any time during normal working hours. Deployment and design of all traffic control devices shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devises (MUTCD). If required, traffic control plans shall be reviewed and approved by the Chief of the Traffic and Transportation Division. The City may suspend lane closure or other traffic controls at any time during, or in advance of, inclement weather events.

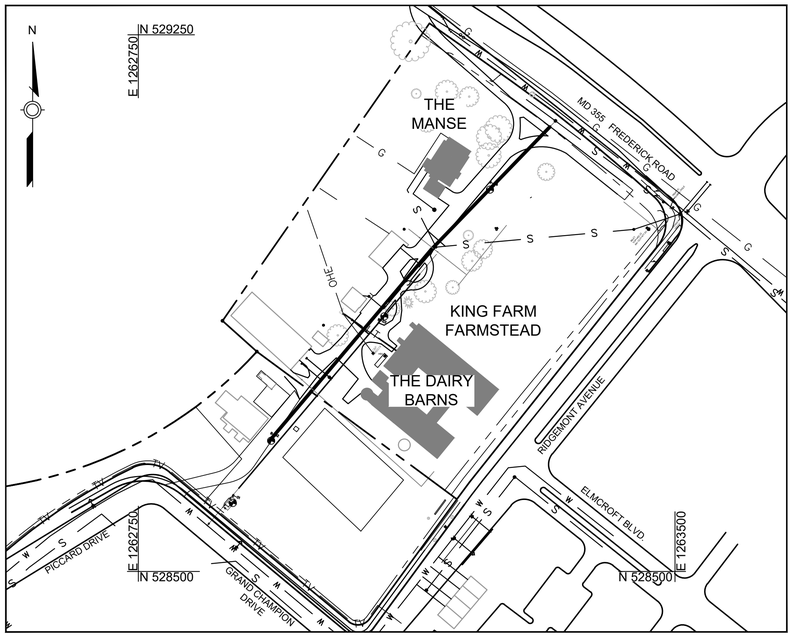
10. Sheeting and shoring is the total responsibility of the Applicant. A Professional Engineer licensed in the State of Maryland shall seal these drawings. Provide three copies to the City for informational proposes only.

11. In addition to all City permits, the Applicant is responsible to ensure that all necessary Federal, State and/or Montgomery County approvals and/or permits have been obtained in association with this approved plan.

12. Shop drawings must be prepared and sealed by a Professional Engineer licensed in the State of Maryland prior to fabrication. The Professional Engineer who sealed the design plans (but not the shop drawings) must approve the shop drawings for conformance to the approved design. Provide three copies of approved shop drawings to DPW prior to construction. Standard pre-cast structures previously approved by the Maryland State Highway Administration, Montgomery County and Washington Suburban Sanitation Commission do not require a shop drawing submission. Use actual field soils data for design of pipes and structures. All pipes and structures in paved areas shall be designed for HS-20 vehicle loading.

13. Upon completion of construction, the Applicant shall provide three sets of red lined As-Built prints (24" x 36") for review and approval by DPW. The drawings must contain the original approval signatures and Professional Engineer's seal and signature (a scanned image of the original mylar is acceptable). The As-Built shall be sealed by a Professional Engineer or Professional Surveyor, as appropriate and must be licensed by the State of Maryland. The seal shall note that it is only for the As-Built and shall include an as-built certification acceptable to DPW. Upon receipt of written approval, the Applicant shall provide approved As-Built mylar drawings along with the original mylars (with all original signatures) to DPW prior to the release of the permit.

14. The Applicant must comply with the Montgomery County Noise Control Ordinance. Please refer to the Montgomery County Department of Environmental Protection at 240-777-7770, askdep@montgomerycountymd.gov, or www.montgomerycountymd.gov/DEP.



PROJECT AREA MAP
SCALE: 1" = 100'

SITE: KING FARM FARMSTEAD
LIBER 15705 FOLIO 193
(16100 FREDERICK ROAD)

SHEET INDEX		
SHEET NO.	DRAWING NO.	SHEET NAME
1	G-001	TITLE SHEET
2	FP-001	FIRE PROTECTION COVER SHEET
3	FP-002	FIRE PROTECTION SPECIFICATIONS
4	FP-101	BARN FLOOR 1
5	FP-102	BARN FLOOR 2
6	FP-201	MANSE HOUSE
7	FP-501	FIRE SUPPRESSION DETAILS
8	P-100	PLUMBING PLAN

0 1 2
100 50 0 100
SCALE: 1" = 100'

0 1 2
2,000 1,000 0 2,000
SCALE: 1" = 2,000'

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
License No. 45808
Expiration Date: 6/3/2022
Jordan E. Rang
NAME

STATE OF MARYLAND · JORDAN E. RANG · No. 45808 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

DESIGNED
DRAFTED
CHECKED

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS
PLAN APPROVAL DATE
PWK# SCP#
SMP#

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT
PLAN APPROVAL DATE

G-001
TITLE SHEET

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 06/17/2021

SCALE: AS SHOWN

SHEET NO. 1 OF 8

FILE #

Jun 17, 2021 - 11:10am User: jordan.rang M:\2019\121906247.01\Drawings\G-01 TITLE SHEET.dwg

SCOPE OF WORK

CONTRACTOR SHALL INSTALL NEW NFPA 13 SPRINKLER SYSTEMS FOR THE CITY OF ROCKVILLE AT 16100 FREDERICK ROAD ROCKVILLE, MD. THESE BUILDINGS CONTAIN ASSEMBLY, STORAGE, AND BUSINESS SPACES.

FURNISH AND INSTALL TWO DRY PIPE SPRINKLER SYSTEMS IN THE BARNS AND ONE WET PIPE SPRINKLER SYSTEM IN THE MANSE HOUSE THAT MEETS THE REQURIEMENTS OF THIS DESIGN. SPRINKLER PROTECTION SHALL BE SPECIFIED THROUGHOUT THE BUILDINGS. FURNISH AND INSTALL SPRINKLERS IN ALL SPACES. WORK SHALL BEGIN AT THE SUPPLY CONNECTION IN EACH STRUCTURE.

A STANDPIPE SYSTEM IS NOT REQUIRED AS THE HIGHEST STORY IS LESS THAN 30 FEET PER IBC: 905.3.1.

CONTRACTOR IS RESPONSIBLE FOR ALL DESIGN, SPRINKLER SYSTEM LAYOUTS, HYDRAULIC CALCULATIONS AND SHOP DRAWING PREPARATION. THE CONTRACTOR SHALL OBTAIN FLOW TEST DATA NOT OLDER THAN 1 YEAR AS REQUIRED BY LOCAL CODES AND STANDARDS.

CONTRACTOR SHALL COORDINATE AND INTEGRATE NEW SPRINKLER SYSTEMS INTO EXISTING FIRE ALARM AS REQUIRED PER NFPA 72.

ALL SPRINKLER WORK IS PART OF A DELEGATED DESIGN PROCESS. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHOP DRAWING SUBMISSIONS AND PERMITS.

APPLICABLE CODES AND STANDARDS

STATE CODE

MARYLAND FIRE PREVENTION CODE

MARYLAND BUILDING PERFORMANCE STANDARDS

INTERNATIONAL CODE COUNCIL

IBC - INTERNATIONAL BUILDING CODE - 2018 EDITION AS ADOPTED AND AMENDED BY THE CITY OF ROCKVILLE

IEBC - INTERNATIONAL EXISTING BUILDING CODE - 2018 EDITION AS ADOPTED AND AMENDED BY THE CITY OF ROCKVILLE

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 1 - FIRE CODE - 2018 EDITION

NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLERS - 2016 EDITION

NFPA 25 - STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS - 2014 EDITION

NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE - 2016 EDITION

WATER SUPPLY DATA

THE BASIS OF DESIGN WATER SUPPLY FOR THE PROJECT IS BEING UPGRADED AS PART OF NEW WORK. THE MINIMUM SUPPLY PIPE SIZE FOR BOTH BARNS IS 6-INCH. THE MINIMUM SUPPLY PIPE SIZE FOR THE MANSE HOUSE IS 4-INCH.

OWNER'S CERTIFICATE

NAME OF OWNER: CITY OF ROCKVILLE, MARYLAND
ADDRESS: 16100 FREDERICK ROAD ROCKVILLE, MD
CONSTRUCTION: COMBUSTIBLE WITH CONCEALED SPACES
OCCUPANCY CLASSIFICATION: BUSINESS/ASSEMBLY
SPECIAL OCCUPANCIES/MATERIALS/HAZARDS: NONE
STORAGE OVER 12 FT IN HEIGHT: NONE
PLASTIC STORAGE OVER 5 FT IN HEIGHT: NONE

FP - FIRE PROTECTION SHEET LIST

SHEET NUMBER	SHEET NAME
FP-001	FIRE PROTECTION COVER SHEET
FP-002	FIRE PROTECTION SPECIFICATIONS
FP-101	BARN FLOOR 1
FP-102	BARN FLOOR 2
FP-201	MANSE HOUSE
FP-501	FIRE SUPPRESSION DETAILS

FIRE PROTECTION LEGEND

- NEW WORK
- EXISTING WORK
- DEMOLITION WORK
- SPRINKLER ZONE BOUNDARY
- 1-HR RATED SEPARATION
- 2-HR RATED SEPARATION
- PENDENT SPRINKLER
- UPRIGHT SPRINKLER
- SIDEWALL SPRINKLER
- PIPE BREAK

FIRE ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AS	AUTOMATIC SPRINKLER
CD	CANDELA
CFM	CUBIC FEET PER MINUTE
CRAC	COMPUTER ROOM AIR CONDITIONING
ESFR	EARLY SUPPRESSION FAST RESPONSE
FA	FIRE ALARM
FACU	FIRE ALARM CONTROL UNIT
FP	FIRE PROTECTION
FSD	FIRE SMOKE DAMPER
FT	FEET
GPM	GALLONS PER MINUTE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
IDC	INITIATING DEVICE CIRCUIT
IN	INCHES
LED	LIGHT EMITTING DIODE
MAX	MAXIMUM
MIN	MINIMUM
MTG	MEETING
MULTI.	MULTI-PERSON OFFICE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OFF	OFFICE
PSI	POUNDS PER SQUARE INCH
RR	RESTROOM
RSCP	RELEASING SERVICE CONTROL PANEL
RTU	ROOF TOP UNIT
SLC	SIGNALING LINE CIRCUIT
SQFT	SQUARE FEET
STOR	STORAGE
V	VOLTS
VAC	VOLT, ALTERNATING CURRENT
VDC	VOLT, DIRECT CURRENT
W	WATTS

FIRE PROTECTION GENERAL NOTES

(THESE NOTES APPLY TO ALL FIRE SPRINKLER DRAWINGS.)

1. DESIGN AND INSTALL THE FIRE SPRINKLER SYSTEM TO MEET THE SCOPE INDICATED ON THIS SHEET. COMPLY WITH REQUIREMENTS OF ALL CODES AND STANDARDS AS APPLICABLE AND AS LISTED ON THIS SHEET.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND TEST THE BACKFLOW PREVENTER.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL A TEE AND CAP UPSTREAM OF THE BACKFLOW PREVENTER FOR FUTURE DOMESTIC WATER CONNECTION.
4. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL MANUFACTURER REQUIREMENTS. WHERE A MANUFACTURER RECOMMENDS A CERTAIN ARRANGEMENT OR PRACTICE, THIS RECOMMENDATION SHALL BE CONSIDERED A REQUIREMENT OF THESE DOCUMENTS.
5. BASIS OF DESIGN EQUIPMENT INDICATED IN THESE DRAWINGS IS INTENDED TO CONVEY THE MINIMUM FUNCTIONAL AND PERFORMANCE ATTRIBUTES REQUIRED FOR THIS WORK. EQUIVALENT PRODUCTS ARE ALLOWABLE WHERE APPROVED BY OWNER OR OWNER'S DESIGNATED REPRESENTATIVE.
6. PROVIDE MINIMUM 24-SPARE SPRINKLER CABINET WITH SPARE SPRINKLERS AND COMPATIBLE WRENCHES FOR THE NEW SYSTEM (NFPA §6.2.9.5). AFFIX PERMANENT PLACARD TO INSIDE COVER LISTING QUANTITIES OF EACH COMPONENT WITHIN.
7. BEFORE PROCEEDING WITH BID, OBTAIN OWNER'S WRITTEN APPROVAL IN CASE OF DISPUTE AS TO INTENT OF ANY DESIGN DOCUMENTS.
8. ALL MATERIALS AND EQUIPMENT SHALL BE NEW. EACH COMPONENT SHALL BE LISTED AS A PRODUCT BY THE MANUFACTURER UNDER THE APPROPRIATE CATEGORY FOR THE INTENDED USE BY UNDERWRITERS LABORATORIES, INC. (UL) AND SHALL BEAR THE 'UL' LABEL.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING TRADE PERMIT(S). THE CONTRACTOR SHALL PREPARE AND SUBMIT PERMIT PACKAGE(S) TO THE LOCAL AHJ. THE CONTRACTOR IS RESPONSIBLE FOR ALL FEE AND SCHEDULE IMPACTS ASSOCIATED WITH PERMITTING.
10. DELEGATED DESIGN: ALL PIPE SIZES SHALL BE DETERMINED VIA HYDRAULIC CALCULATIONS PERFORMED BY SPRINKLER CONTRACTOR. IN ADDITION, ALL COMPONENTS NECESSARY FOR A COMPLETE SPRINKLER SYSTEM ARE NOT SHOWN. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL EQUIPMENT NECESSARY FOR A NFPA 13 COMPLIANT SYSTEM THAT IS SATISFACTORY TO THE AHJ.
11. SHOP DRAWINGS, SUPPORTING HYDRAULIC CALCULATIONS, AND PRODUCT DATA FOR EACH PLANNED SYSTEM COMPONENT SHALL BE SUBMITTED TO AND APPROVED BY THE AHJ AND/OR OWNER'S REPRESENTATIVE PRIOR TO FABRICATION AND INSTALLATION EFFORTS.
12. ALL EQUIPMENT SHALL BE NEW, UNLESS OTHERWISE NOTED.
13. THIS PROJECT IS NOT DESIGNED TO FM GLOBAL STANDARDS.
14. SEISMIC PROTECTION IS NOT REQUIRED.

COMPONENTS AND HARDWARE

15. EACH COMPONENT OF THE FIRE SPRINKLER SYSTEM SHALL BE LISTED FOR THE INTENDED USE BY UNDERWRITERS LABORATORIES, INC. (UL) OR OTHER NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL). EACH COMPONENT SHALL BEAR A LABEL OF THE LISTING AGENCY.
16. UNLESS OTHERWISE INDICATED, ABOVEGROUND SPRINKLER PIPING SHALL BE BLACK STEEL FERROUS PIPING OR CPVC AND SHALL MEET OR EXCEED THE STANDARDS IN NFPA 13 ABOVEGROUND PIPE AND TUBE REQUIREMENTS. SPRINKLER PIPING 2.5-INCHES AND LARGER MAY BE SCHEDULE 10 ON WET-PIPE SYSTEMS. SPRINKLER PIPING SMALLER THAN 2.5-INCHES IS TO BE SCHEDULE 40.
17. ALL FITTINGS SHALL MEET OR EXCEED THE STANDARDS IN NFPA 13. SPRINKLER PIPING 2.5-INCHES AND LARGER SHALL HAVE GROOVED FITTINGS. SPRINKLER PIPING 1.25-INCHES AND SMALLER SHALL HAVE THREADED FITTINGS. FLANGED FITTINGS ARE ONLY ACCEPTABLE UPSTREAM OF THE BACKFLOW PREVENTER OR ON PIPES 8-INCHES OR LARGER. CPVC FITTINGS AND ADHESIVES SHALL COMPLY WITH MANUFACTURER REQUIREMENTS. FIRESTOP CPVC PENETRATIONS WITH APPROVED MATERIALS.
18. ALL MECHANICAL BRANCH TEES SHALL BE THE BOLTED SADDLE TYPE. ANY MECHANICAL TEES USING U-BOLTS, GRIPPING FITTING, OR DEVICES THAT BITE INTO THE PIPE OR RELY ON FRICTION ARE NOT ALLOWED, EVEN IF THEY ARE LISTED PRODUCTS.
19. FLEXIBLE SPRINKLER DROPS/CONNECTIONS ARE PERMITTED. ALL FLEXIBLE SPRINKLER DROPS SHALL USE STAINLESS STEEL, BRAIDED HOSE. CORRUGATED HOSE IS NOT PERMITTED. FLEXIBLE SPRINKLER HOSE SHALL BE INCLUDED IN THE HYDRAULIC CALCULATIONS. INSTALL PER ALL MANUFACTURER'S INSTRUCTION, INCLUDING LENGTH AND BENDING REQUIREMENTS. USE VIKING/ANVIL OR VICTAULIC OR EQUIVALENT.
20. GALVANIZED PIPING IS NOT PERMITTED. BRASS PIPE AND STAINLESS STEEL PIPING IS ALSO NOT PERMITTED. COPPER TUBE IS NOT PERMITTED, EXCEPT WHERE NOTED.
21. PIPE, FITTINGS, VALVES, AND DEVICES TO BE JOINED WITH GROOVED COUPLINGS SHALL CONTAIN ROLLED, CUT OR CAST GROOVES THAT ARE DIMENSIONALLY COMPATIBLE WITH THE COUPLINGS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THE GROOVES AND THEIR FINAL INSTALLATION MEET ALL MANUFACTURER REQUIREMENTS ON-SITE. AT A MINIMUM, THE CONTRACTOR SHALL ENSURE THE FOLLOWING: (1) ALL GROOVES ARE SIZED CORRECTLY WITH A PIPE TAPE OR EQUIVALENT (2) ALL GASKET ARE LUBRICATED TO MANUFACTURER REQUIREMENTS. EXCESSIVE OR UNEVEN LUBRICATION IS NOT ALLOWED. (3) THE NUTS ARE TIGHTEN EVENLY/UNIFORMLY ON EACH SIDE BY ALTERNATING SIDES UNTIL PROPER ASSEMBLY IS COMPLETE. (4) THE NUT/BOLTED CONNECTIONS ARE TIGHTENED/SECURED PER MANUFACTURER REQUIREMENTS. [(5) FOR GROOVED COUPLINGS INSTALLED OUTSIDE OR IN EXTREME CONDITIONS, THE GROOVES SHALL BE INSTALLED TO ALLOW FOR EXPANSION AND/OR CONTRACTION.] SUBMIT CURRENT FIELD INSTALLATION INSTRUCTIONS FROM THE MANUFACTURER WITH THE PRODUCT DATA.
22. PLAIN END FITTINGS ARE NOT ALLOWED.
23. NO WELDING IS ALLOWED ON-SITE. ALL WELD PIPE AND FITTINGS SHALL BE SHOP WELDED PER NFPA 13.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR WELDING PIPE TO NFPA 13: 6.5.2. FULL PENETRATION WELDS, PARTIAL PENETRATION GROOVE WELDS, OR FILLET WELDS ARE ALLOWED. AT MINIMUM, COMPLY WITH THE FOLLOWING: (1) HOLES IN PIPING FOR OUTLETS SHALL BE CUT TO THE FULL INSIDE DIAMETER OF FITTINGS PRIOR TO WELDING IN PLACE OF THE FITTINGS (2) OPENINGS CUT INTO PIPING SHALL BE SMOOTH BORE, AND ALL INTERNAL SLAG AND WELDING RESIDUE SHALL BE REMOVED. (3) FITTINGS SHALL NOT PENETRATE THE INTERNAL DIAMETER OF THE PIPING. (4) COMPLETED WELDS SHALL BE FREE FROM CRACKS, INCOMPLETE FUSION, SURFACE POROSITY, AND DEEP UNDERCUTS. (5) COMPLETED CIRCUMFERENTIAL BUTT WELD REINFORCEMENT SHALL NOT EXCEED 3/32-INCHES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING ALL WELDING REQUIREMENTS ARE MET FOR PIPE IS INSTALLED ON-SITE.
25. A WELDING PROCEDURE SHALL BE PREPARED AND QUALIFIED BY THE CONTRACTOR OR FABRICATOR BEFORE ANY WELDING IS DONE PER NFPA 13: 6.5.2. ALL WELDERS AND WELDING MACHINE OPERATORS SHALL BE CERTIFIED AND POSSESS WELDING IDENTIFICATION. RECORDS SHALL BE KEPT OF ALL WELDS. WELDING CAN BE PERFORMED BY THE CONTRACTOR OR THIRD PARTY FABRICATION FACILITY. SUBMIT WELDING PROCEDURES AND ALL INDIVIDUAL WELDING IDENTIFICATIONS WITH PRODUCT DATA.
26. INSTALL SPRINKLER GUARDS ON ALL SPRINKLERS INSTALLED BELOW 8-FT AFF, WHERE SUBJECT TO MECHANICAL DAMAGED, OR WHERE INDICATED.
27. FURNISH AND INSTALL PERMANENTLY MARKED WEATHERPROOF METAL OR RIGID PLASTIC IDENTIFICATION SIGNS FOR ALL CONTROL, DRAIN, VENTING, AND TEST CONNECTION VALVES. SECURE WITH CORROSION-RESISTANT WIRE, CHAIN, OR OTHER APPROVED MEANS. CONTROL VALVE SIGNS SHALL IDENTIFY THE PORTION OF THE BUILDING SERVED.

INSTALLATION REQUIREMENTS

28. THE WATER SUPPLY IS BEING UPGRADED AS PART OF THIS PROJECT. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF INCOMING WATER MAIN TO EACH BUILDING WITH OWNER.
29. THE FOLLOWING CLASSIFICATION OF OCCUPANCIES AND COMMODITIES ARE APPLICABLE TO THIS PROJECTS:
    A. LIGHT HAZARD: RESTROOMS, ALL AREAS WITHIN THE MANSE HOUSE.
    B. ORDINARY HAZARD GROUP 2: ALL BARN AREAS AND WALKWAYS.
30. THE FOLLOWING WATER DEMAND REQUIREMENTS ARE APPLICABLE TO THIS PROJECTS:
    A. LIGHT HAZARD: 0.10 GPM/SQFT OVER 1,500 SQFT, 100 GPM OUTSIDE HOSE
    B. ORDINARY HAZARD GROUP 2: 0.20 GPM/SQFT OVER 1,500 SQFT, 250 GPM OUTSIDE HOSE
    C. STORAGE OF CLASS I-IV COMMODITIES SHALL NOT EXCEED 12-FT IN HEIGHT
    D. DESIGN AREA ADDITION FOR DRY PIPE AND SLOPED CEILINGS IS APPLICABLE PER NFPA 13: 11.2.3.2.4 AND 11.2.3.2.5.
    E. PERFORM HYDRAULIC CALCULATIONS FOR THE PROPOSED SPRINKLER SYSTEM BASED ON WATER SUPPLY TEST DATA. SUBMIT CALCULATIONS IN NFPA 13 FORMAT FOR APPROVAL TO AHJ PRIOR TO SYSTEM INSTALLATION.
31. GRIDDED SPRINKLER SYSTEMS ARE NOT ALLOWED, WHICH INCLUDE PARTIAL GRIDS WHERE THERE ARE MORE THAN TWO CONNECTIONS BETWEEN ANY MAINS OR ANY CONNECTIONS OF A LOOPED MAIN.
32. SUPPORT SPRINKLER PIPING IN ACCORDANCE WITH NFPA 13 - SECTION 9.1 REQUIREMENTS. COMPONENTS OF HANGER ASSEMBLIES THAT DIRECTLY ATTACH TO THE PIPE OR TO THE BUILDING SHALL BE UL LISTED. SPRINKLER MAINS MUST BE SUPPORTED ON NEW STRUCTURAL STEEL IN BARNS.
33. DO NOT INSTALL ANY HANGERS INTO OR THROUGH THE ROOF ASSEMBLY AS THE ROOF CAN NOT SUPPORT STRUCTURAL LOADS AND ANY PENETRATIONS WILL BREAK THE WEATHER-SEAL.
34. HANGERS ON MAINS SHALL BE LOCATED AS REQUIRED BY NFPA 13, BETWEEN EACH BRANCH LINE, OR ON EACH SECTION OF PIPE, WHICHEVER IS THE LESSER DIMENSION. HANGERS ON BRANCH LINES SHALL BE LOCATED PER NFPA 13.
    A. ALL MAINS WITHIN THE BARNS MUST BE SUPPORTED BY STRUCTURAL STEEL.
35. AS THE MAXIMUM PRESSURE CAN EXCEED 100 PSI, INSTALL SURGE RESTRAINTS AS REQUIRED BY NFPA 13. ALL END SPRINKLERS IN A PENDENT POSITION BELOW THE CEILING SHALL HAVE A HANGER ASSEMBLY THAT PREVENTS UPWARD MOVEMENT OF THE PIPE. THIS SURGE RESTRAINT CAN BE FURNISHED BY CLIPS OR EXTENDING THE HANGER ROD OR AS OTHERWISE APPLICABLE. THE SURGE RESTRAINT SHALL BE WITHIN 12-INCHES OF THE END SPRINKLER ON BRANCH LINES AND 24-INCHES ON ARMOVERS.
36. ALL HANGER ROD SHALL EXTEND ONE FULL THREAD TURN OR A MINIMUM OF A 1/8-INCH THROUGH THE HANGER RING.
37. ALL HANGERS SHALL BE INSTALLED PLUMB. BENT OR CROOKED HANGERS SHALL BE REPLACED.
38. CONCEAL ALL SPRINKLER PIPING IN FINISHED AREAS. EXPOSED SECTIONS OF PIPE SHALL NOT BE PERMITTED IN FINISHED AREAS.
39. FURNISH AND INSTALL A 1/2-INCH PRESSURE RELIEF VALVE ON EACH WET-PIPE SPRINKLER SYSTEM.
40. INSTALL A MEANS DOWNSTREAM OF ALL BACKFLOW PREVENTION VALVES FOR FORWARD FLOW TESTS AT A MINIMUM FLOW RATE OF THE SYSTEM DEMAND INCLUDING HOSE ALLOWANCE WHERE APPLICABLE PER NFPA 13: 8.17.4.5.
41. FURNISH AND INSTALL ALL SPRINKLER PRESSURE SWITCHES, WATER FLOW SWITCHES, AND VALVE TAMPER DEVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING AND PROGRAMMING NEW DEVICES INTO EXISTING FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 72.
42. FREEZE PROTECTION: FURNISH AND INSTALL ENCLOSURE FOR INCOMING WATER MAIN, BACKFLOW PREVENTION ASSEMBLIES, AND DRY-VALVE. ADDITIONALLY, FURNISH AND INSTALL ELECTRIC UNIT HEATER CAPABLE OF PROVIDING PROTECTION AGAINST FREEZING OF WET-SUPPLY PIPE AND DRY-VALVE LOCATION. LOCATION TO BE DETERMINED BY CONTRACTOR AND COORDINATED WITH OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTION TO ELECTRICAL SERVICE.
43. ALL EXPRESS DRAINS MUST TERMINATE 2 FEET ABOVE GRADE AND BE PROVIDED WITH CONCRETE SPLASH BLOCKS. ALTERNATIVELY, PIPE TO AN AVAILABLE OPEN SITE DRAIN.
44. CONTRACTOR SHALL SEAL ALL NEW PENETRATIONS OF CONSTRUCTION WITH LIKE-IN-KIND FINISHING MATERIAL IN WORKMANLIKE MANNER. ALL FIRESTOP SYSTEMS SHALL BE LISTED BY A NRTL. REPAIRS TO EXISTING SURFACES, PATCHING, AND PAINT ARE RESPONSIBILITY OF THE CONTRACTOR.
45. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED CONSTRUCTION.
46. CORE DRILL ALL PENETRATIONS IN MASONRY / CONCRETE FLOORS OR WALLS. COORDINATE ALL CORE DRILLING WITH A LICENSED STRUCTURAL ENGINEER.

KEY SPECIFICATION REQUIREMENTS

47. ENSURE A MINIMUM CLEARANCE OF 3-FEET ACCESS TO AND IN FRONT OF ALL EQUIPMENT AND 6-INCHES BEHIND THE EQUIPMENT (E.G., CONTROL VALVES, BACKFLOW PREVENTER, CHECK VALVES, FLOOR CONTROL VALVE ASSEMBLIES, WATERFLOW SWITCHES, ETC.).
48. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING ALL DOCUMENTATION REQUIRED BY NFPA 13 CHAPTER 23.
49. THE CONTRACTOR SHALL PRODUCE SHOP DRAWINGS, WHICH AT A MINIMUM MUST INCLUDE A RISER, MAKE/TYPE/MODEL/SIZE OF ALL COMPONENTS/HARDWARE, K-FACTORS OF SPRINKLERS, INFORMATION ON BACKFLOW PREVENT, TYPES/LOCATIONS OF HANGERS, WATER SUPPLY INFORMATION, HYDRAULIC REFERENCE POINTS. THE INFORMATION ON THE HYDRAULIC DATA NAMEPLATE, AND NOMINAL PIPE SIZE/CUTTING LENGTHS OF PIPE (OR CENTER-TO-CENTER DIMENSIONS).
50. ALL SYMBOLS ON SHOP DRAWINGS SHALL MATCH SYMBOLS IN NFPA 170.
51. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING A PRODUCT SUBMITTAL. THE PRODUCT SUBMITTAL SHALL INCLUDE CATALOG CUT SHEETS FOR ALL COMPONENTS AND HARDWARE. WHERE MORE THAN ONE PRODUCT IS INDICATED ON A SHEET, HIGHLIGHT THE APPLICABLE PRODUCT AND STRIKE-OUT ALL OTHER PRODUCTS.
52. PERFORM SYSTEM HYDROSTATIC TESTING OF NEW SYSTEM. PRESSURE SYSTEM TO 200 PSI OR HIGHEST WORKING STATIC PRESSURE PLUS 50 PSI, WHICHEVER IS HIGHER. MAINTAIN PRESSURE WITHOUT LOSSES FOR 2 HOURS. SYSTEM SHALL BE CONSIDERED DEFECTIVE IF TESTING DOES NOT MEET THIS REQUIREMENT. SUBMIT NFPA 13 "CONTRACTORS MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING" FOR APPROVAL.
53. CONTRACTOR SHALL COMPLETE ALL BACKFLOW PREVENTER TESTING, WHICH SHALL INCLUDE A FORWARD FLOW TEST. THE PERSON CONDUCTING THE BACKFLOW PREVENTER TESTING SHALL POSSESS A VALID PLUMBING LICENSE. SUBMIT A COPY OF THE PLUMBING LICENSE WITH THE PRODUCT DATA.
54. THE CONTRACTOR SHALL MAINTAIN ACCURATE RED-LINE CONSTRUCTION WORKING DRAWINGS ON SITE. FOLLOWING COMMISSIONING, CONTRACTOR SHALL PREPARE "AS-BUILT" DRAWINGS IN ELECTRONIC PDF AND REPRODUCIBLE DRAWING FORMAT , REFLECTING ACCURATE FIELD CONDITIONS.
55. THE CONTRACTOR IS SPECIFICALLY RESPONSIBLE FOR ALL MEANS AND METHODS OF JOB SAFETY IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
License No. 38890,
Expiration Date: 1/2/2023
CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D KOCH · 38890 · PROFESSIONAL ENGINEER
6/16/2021

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
	APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL				

DESIGNED AQL
DRAFTED AQL
CHECKED CDK

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PWK# — SCP#
SMP#
PLAN APPROVAL DATE

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT
PLAN APPROVAL DATE

FP-001
FIRE PROTECTION COVER SHEET

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 06/16/21

SCALE AS SHOWN

SHEET NO. 2 OF 8

FILE #

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

1. SUMMARY

   A. SYSTEM DESCRIPTION: COMPLETE WET-PIPE AUTOMATIC SPRINKLER SYSTEM PROTECTION THROUGHOUT.

2. QUALITY ASSURANCE

   PROVIDE COMPLETE SYSTEM FULLY COMPLIANT WITH ALL APPLICABLE CODES AND STANDARDS AS APPLICABLE AND AS LISTED ON THE COVER SHEET OF THIS DRAWING PACKAGE.

   A. SHOP DRAWING PREPARATION QUALIFICATIONS: INDIVIDUAL IN RESPONSIBLE CHARGE OF ALL RELEVANT DESIGN ACTIVITIES SHALL:

      a. HOLD A VALID MINIMUM NICET LEVEL III CERTIFICATION IN WATER-BASED (AUTOMATIC SPRINKLERS) SYSTEMS LAYOUT, -OR-
      b. BE A LICENSED PROFESSIONAL ENGINEER.

   B. LEAD INSTALLER QUALIFICATIONS: INDIVIDUAL SHALL HOLD A VALID MINIMUM LEVEL III NICET CERTIFICATION IN WATER-BASED (AUTOMATIC SPRINKLER) SYSTEMS LAYOUT. THE INDIVIDUAL SHALL BE ON SITE THROUGHOUT THE PROJECT DURATION TO LEAD INSTALLATION EFFORTS, INCLUDING COORDINATION, QUALITY CONTROL, TROUBLE-SHOOTING, COMMISSIONING, AND DEMONSTRATION ACTIVITIES.

3. REQUIRED SUBMITTALS

   THE FOLLOWING CONTRACTOR-PREPARED SUBMITTALS REQUIRE WRITTEN APPROVAL:

   A. SHOP DRAWING PACKAGE. SHOP DRAWINGS WITH SUPPORTING HYDRAULIC CALCULATIONS SHALL BE SUBMITTED TO AND APPROVED BY THE AHJ PRIOR TO FABRICATION AND INSTALLATION EFFORTS. THE PACKAGE SHALL COMPLY WITH ALL REQUIREMENTS OF THE AHJ AND SHALL BE SIGNED AND SEALED BY THE INDIVIDUAL IN RESPONSIBLE CHARGE OF SHOP DRAWING PREPARATION EFFORTS.
      a. AT A MINIMUM, SHOP DRAWINGS MUST INCLUDE:
         1. A RISER
         2. MAKE/TYPE/MODEL/SIZE OF ALL COMPONENTS/HARWARE
         3. K-FACTORS OF SPRINKLERS
         4. INFORMATION ON BACKFLOW PREVENTION
         5. TYPES/LOCATIONS OF HANGERS
         6. WATER SUPPLY INFORMATION
         7. THE INFORMATION ON THE HYDRAULIC DATA NAMEPLATE
         8. AND NOMINAL PIPE SIZE/CUTTING LENGTHS OF NEW PIPE (OR CENTER-TO-CENTER DIMENSIONS)

   B. PRODUCT DATA. SHALL BE SUBMITTED FOR EACH PLANNED SYSTEM COMPONENT. INCLUDE ALL DESIGNER AND INSTALLER QUALIFICATION DOCUMENTATION. THE PRODUCT DATA SHALL BE ANNOTATED/RED-LINE TO INDICATE SPECIFICALLY WHICH PRODUCT IS BEING PROVIDED.

   C. FIELD TEST REPORTS AND CERTIFICATES. SUBMIT DOCUMENTATION IN STANDARD NFPA 13 FORMAT FOR ALL REQUIRED SYSTEMS TESTS AND CERTIFICATIONS, INCLUDING:

      a. HYDROSTATIC TEST(S),
      b. CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING.

   D. CLOSEOUT DOCUMENTS.

      a. RECORD DRAWINGS. PREPARE POST-CONSTRUCTION RECORD DRAWINGS REFLECTIVE OF AS-BUILT CONDITIONS FOR ALL SYSTEM COMPONENTS. INCLUDE UPDATED HYDRAULIC CALCULATIONS WHERE SYSTEM CONFIGURATION HAS BEEN MODIFIED AND WOULD EFFECT RESULTS. DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE OWNER IN BOTH AUTOCAD AND PDF FORMAT. EACH DRAWING SHALL BE SIGNED AND SEALED BY THE LEAD INSTALLER.
      b. O&M DOCUMENTS. COMPILE AND SUBMIT OPERATION AND MAINTENANCE DATA FOR ALL INSTALLED SYSTEM COMPONENTS. SUBMIT THREE (3) BOUND HARD COPIES AND TWO (2) ELECTRONIC PDF COPIES (E.G., PROVIDED ON COMPACT DISCS IN AN ORGANIZED FASHION).

4. PIPING MATERIALS

   A. COMPLY WITH ALL MATERIAL STANDARDS AS ALLOWED BY NFPA 13.

   B. STANDARD-PRESSURE, WET-PIPE SPRINKLER SYSTEM, NPS 2 (DN 50) AND SMALLER:

      a. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH THREADED ENDS WITH CAST OR MALLEABLE IRON FITTINGS.
      b. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH CUT- OR ROLL-GROOVED ENDS AND UNCOATED FITTINGS.

   C. STANDARD-PRESSURE, WET-PIPE SPRINKLER SYSTEM, NPS 2-1/2 (DN 65) AND LARGER:

      a. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH CUT- OR ROLL-GROOVED ENDS AND UNCOATED FITTINGS.
      b. SCHEDULE 10 BLACK-STEEL PIPE WITH ROLL-GROOVED ENDS AND UNCOATED FITTINGS.

5. SPRINKLER MATERIALS

   A. SPRINKLER TYPES:

      a. ROOMS WITH SUSPENDED CEILINGS: CONCEALED SPRINKLERS. CENTER-OF-TILE WHERE ACOUSTICAL CEILING TILE IS PRESENT.
      b. ROOMS WITHOUT CEILINGS: UPRIGHT SPRINKLERS.
      c. WALL MOUNTING: SIDEWALL SPRINKLERS.
      d. K-FACTOR: 5.6 MINIMUM.

   B. SPRINKLER FINISHES:

      a. CONCEALED SPRINKLERS: ROUGH BRASS, WITH WHITE PAINTED COVER PLATE.
      b. UPRIGHT PENDENT AND SIDEWALL SPRINKLERS: ROUGH BRASS IN UNFINISHED SPACES NOT EXPOSED TO VIEW. WAX COATED WHERE EXPOSED TO ACIDS, CHEMICALS, OR OTHER CORROSIVE FUMES.

6. HOSE CONNECTIONS

   A. NONADJUSTABLE-VALVE HOSE CONNECTIONS

      a. STANDARD: UL 668 HOSE VALVE FOR CONNECTING FIRE HOSE.
      b. PRESSURE RATING: 300-PSIG MINIMUM.
      c. MATERIAL: BRASS OR BRONZE
      d. SIZE: NPS 1-1/2 OR NPS 2-1/2
      e. INLET: FEMALE PIPE THREADS.
      f. OUTLET: MALE HOSE THREADS WITH LUGGED CAP, GASKET, AND CHAIN. INCLUDE HOSE VALVE THREADS IN ACCORDANCE WITH NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT THREADS.

      FINISH: ROUGH BRASS OR BRONZE

7. BACKFLOW PREVENTER

   A. DOUBLE-CHECK, BACKFLOW PREVENTION ASSEMBLIES

      a. STANDARD: AWWA C510
      b. OPERATION: CONTINUOUS PRESSURE APPLICATIONS.
      c. SIZE: NPS 6
      d. END CONNECTIONS: FLANGED
      e. CONFIGURATION: DESIGNED FOR STRAIGHT THROUGH FLOW
      f. ACCESSORIES: OS&Y GATE VALVES WITH FLANGED ENDS ON INLET AND OUTLET.

8. HANGERS AND SEISMIC

   A. SUPPORT ALL PIPING IN ACCORDANCE WITH NFPA 13. LOCATION IS NOT SUBJECT TO SEISMIC PROVISIONS.

9. EXECUTION

   A. PERFORM FIRE-HYDRANT FLOW TEST ACCORDING TO NFPA 13 AND NFPA 291. USE RESULTS FOR SYSTEM DESIGN CALCULATIONS REQUIRED IN "QUALITY ASSURANCE" ARTICLE.

   B. ALL MECHANICAL BRANCH TEES SHALL BE THE BOLTED SADDLE TYPE. ANY MECHANICAL TEES USING U-BOLTS, GRIPPING FITTING, OR DEVICES THAT BITE INTO THE PIPE OR RELY ON FRICTION ARE NOT ALLOWED, EVEN IF THEY ARE LISTED PRODUCTS.

   C. COORDINATE LAYOUT AND INSTALLATION OF SPRINKLERS WITH OTHER CONSTRUCTION THAT PENETRATES CEILINGS, INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT, AND PARTITION ASSEMBLIES.

   D. ALL HANGER ROD SHALL EXTEND ONE FULL THREAD TURN OR A MINIMUM OF A 1/8-INCH THROUGH THE HANGER RING.

   E. ALL HANGERS SHALL BE INSTALLED PLUMB. BENT OR CROOKED HANGERS SHALL BE REPLACED.

   F. INSTALL SPRINKLER PIPING WITH DRAINS FOR COMPLETE SYSTEM DRAINAGE.

10. MAINTENANCE SERVICE

    A. 12 MONTHS FULL MAINTENANCE ON ALL INSTALLED AND MODIFIED SYSTEM COMPONENTS.

11. CALCULATIONS

    A. HYDRAULIC CALCULATIONS SHALL INCORPORATE A MINIMUM 10% SAFETY FACTOR.

12. WORKING HOURS

    A. WEEKDAYS (MONDAY-FRIDAY), 7 A.M. TO 5 P.M.

END OF SECTION 211313

SECTION 211119 - FIRE DEPARTMENT CONNECTIONS

1. SUMMARY

   A. SECTION INCLUDES: EXPOSED-TYPE FIRE DEPARTMENT CONNECTIONS.

2. ACTION SUBMITTALS

   A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT
      a. INCLUDE CONSTRUCTION DETAILS, MATERIALS DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES FOR EACH FIRE DEPARTMENT CONNECTION.

3. PRODUCTS

   A. EXPOSED-TYPE SIAMESE FIRE DEPARTMENT CONNECTION
      a. STANDARD: UL 405
      b. TYPE: EXPOSED, PROJECTING FOR WALL MOUNTING
      c. BODY MATERIAL: CORROSION RESISTANT
      d. INLETS: BRASS WITH THREADS ACCORDING TO NFPA 1983 AND MATCHING LOCAL FIRE DEPARTMENT SIZES AND THREADS. INCLUDE EXTENSION PIPE NIPPLES, BRASS LUGGED SWIVEL CONNECTIONS AND CHECK DEVICES OR CLAPPERS.
      e. CAPS: BRASS, LUGGED TYPE, WITH GASKET AND CHAIN.
      f. ESTUCHEON PLATE: ROUND, BRASS, WALL TYPE
      g. OUTLET: BACK, WITH PIPE THREADS.
      h. NUMBER OF INLETS: TWO
      i. ESTUCHEON PLATE MARKING: SIMILAR TO AUTO SPRK.
      j. FINISH: CHROME OR BRASS.

4. INSTALLATION

   A. INSTALL WALL TYPE FIRE DEPARTMENT CONNECTIONS
   B. INSTALL AUTOMATIC (BALL DRIP) DRAIN VALVE AT EACH CHECK VALVE FOR FIRE DEPARTMENT CONNECTION.

END OF SECTION 211119

SECTION 211316 - DRY-PIPE SPRINKLER SYSTEMS

1. SUMMARY

   A. SYSTEM DESCRIPTION: COMBINATION COMPLETE DRY-PIPE AUTOMATIC SPRINKLER.

2. QUALITY ASSURANCE

   PROVIDE COMPLETE SYSTEM FULLY COMPLIANT WITH ALL APPLICABLE CODES AND STANDARDS AS APPLICABLE AND AS LISTED ON THE COVER SHEET OF THIS DRAWING PACKAGE.

   A. SHOP DRAWING PREPARATION QUALIFICATIONS: INDIVIDUAL IN RESPONSIBLE CHARGE OF ALL RELEVANT DESIGN ACTIVITIES SHALL:

      a. HOLD A VALID MINIMUM NICET LEVEL III CERTIFICATION IN WATER-BASED (AUTOMATIC SPRINKLERS) SYSTEMS LAYOUT, -OR-
      b. BE A LICENSED PROFESSIONAL ENGINEER.

   B. LEAD INSTALLER QUALIFICATIONS: INDIVIDUAL SHALL HOLD A VALID MINIMUM LEVEL III NICET CERTIFICATION IN WATER-BASED (AUTOMATIC SPRINKLER) SYSTEMS LAYOUT. THE INDIVIDUAL SHALL BE ON SITE THROUGHOUT THE PROJECT DURATION TO LEAD INSTALLATION EFFORTS, INCLUDING COORDINATION, QUALITY CONTROL, TROUBLE-SHOOTING, COMMISSIONING, AND DEMONSTRATION ACTIVITIES.

3. REQUIRED SUBMITTALS

   THE FOLLOWING CONTRACTOR-PREPARED SUBMITTALS REQUIRE WRITTEN APPROVAL:

   A. SHOP DRAWING PACKAGE. SHOP DRAWINGS WITH SUPPORTING HYDRAULIC CALCULATIONS SHALL BE SUBMITTED TO AND APPROVED BY THE AHJ PRIOR TO FABRICATION AND INSTALLATION EFFORTS. THE PACKAGE SHALL COMPLY WITH ALL REQUIREMENTS OF THE AHJ AND SHALL BE SIGNED AND SEALED BY THE INDIVIDUAL IN RESPONSIBLE CHARGE OF SHOP DRAWING PREPARATION EFFORTS.
      a. AT A MINIMUM, SHOP DRAWINGS MUST INCLUDE:
         1. A RISER
         2. MAKE/TYPE/MODEL/SIZE OF ALL COMPONENTS/HARWARE
         3. K-FACTORS OF SPRINKLERS
         4. INFORMATION ON BACKFLOW PREVENTION
         5. TYPES/LOCATIONS OF HANGERS
         6. WATER SUPPLY INFORMATION
         7. THE INFORMATION ON THE HYDRAULIC DATA NAMEPLATE
         8. AND NOMINAL PIPE SIZE/CUTTING LENGTHS OF NEW PIPE (OR CENTER-TO-CENTER DIMENSIONS)

   B. PRODUCT DATA. SHALL BE SUBMITTED FOR EACH PLANNED SYSTEM COMPONENT. INCLUDE ALL DESIGNER AND INSTALLER QUALIFICATION DOCUMENTATION. THE PRODUCT DATA SHALL BE ANNOTATED/RED-LINE TO INDICATE SPECIFICALLY WHICH PRODUCT IS BEING PROVIDED.

   C. FIELD TEST REPORTS AND CERTIFICATES. SUBMIT DOCUMENTATION IN STANDARD NFPA 13 FORMAT FOR ALL REQUIRED SYSTEMS TESTS AND CERTIFICATIONS, INCLUDING:

      a. HYDROSTATIC TEST(S),
      b. CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING.
      c. DRY-SYSTEM AIR AND TRIP TEST(S)

   D. CLOSEOUT DOCUMENTS.

      a. RECORD DRAWINGS. PREPARE POST-CONSTRUCTION RECORD DRAWINGS REFLECTIVE OF AS-BUILT CONDITIONS FOR ALL SYSTEM COMPONENTS. INCLUDE UPDATED HYDRAULIC CALCULATIONS WHERE SYSTEM CONFIGURATION HAS BEEN MODIFIED AND WOULD EFFECT RESULTS. DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE OWNER IN BOTH AUTOCAD AND PDF FORMAT. EACH DRAWING SHALL BE SIGNED AND SEALED BY THE LEAD INSTALLER.
      b. O&M DOCUMENTS. COMPILE AND SUBMIT OPERATION AND MAINTENANCE DATA FOR ALL INSTALLED SYSTEM COMPONENTS. SUBMIT THREE (3) BOUND HARD COPIES AND TWO (2) ELECTRONIC PDF COPIES (E.G., PROVIDED ON COMPACT DISCS IN AN ORGANIZED FASHION).

4. PIPING MATERIALS

   A. COMPLY WITH ALL MATERIAL STANDARDS AS ALLOWED BY NFPA 13.

   B. STANDARD-PRESSURE, WET-PIPE SPRINKLER SYSTEM, NPS 2 (DN 50) AND SMALLER:

      a. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH THREADED ENDS WITH CAST OR MALLEABLE IRON FITTINGS.
      b. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH CUT- OR ROLL-GROOVED ENDS AND UNCOATED FITTINGS.

   C. STANDARD-PRESSURE, WET-PIPE SPRINKLER SYSTEM, NPS 2-1/2 (DN 65) AND LARGER:

      a. STANDARD-WEIGHT, BLACK-STEEL PIPE WITH CUT- OR ROLL-GROOVED ENDS AND UNCOATED FITTINGS.
      b. SCHEDULE 10 BLACK-STEEL PIPE WITH ROLL-GROOVED ENDS AND UNCOATED FITTINGS.

5. SPRINKLER MATERIALS

   A. SPRINKLER TYPES:

      a. ROOMS WITH SUSPENDED CEILINGS: CONCEALED SPRINKLERS. CENTER-OF-TILE WHERE ACOUSTICAL CEILING TILE IS PRESENT.
      b. ROOMS WITHOUT CEILINGS: UPRIGHT SPRINKLERS.
      c. WALL MOUNTING: SIDEWALL SPRINKLERS.
      d. K-FACTOR: 5.6 MINIMUM.

   B. SPRINKLER FINISHES:

      a. CONCEALED SPRINKLERS: ROUGH BRASS, WITH WHITE PAINTED COVER PLATE.
      b. UPRIGHT PENDENT AND SIDEWALL SPRINKLERS: ROUGH BRASS IN UNFINISHED SPACES NOT EXPOSED TO VIEW.

6. HOSE CONNECTIONS

   A. NONADJUSTABLE-VALVE HOSE CONNECTIONS

      a. STANDARD: UL 668 HOSE VALVE FOR CONNECTING FIRE HOSE.
      b. PRESSURE RATING: 300-PSIG MINIMUM.
      c. MATERIAL: BRASS OR BRONZE
      d. SIZE: NPS 1-1/2 OR NPS 2-1/2
      e. INLET: FEMALE PIPE THREADS
      f. OUTLET: MALE HOSE THREADS WITH LUGGED CAP, GASKET, AND CHAIN. INCLUDE HOSE VALVE THREADS IN ACCORDANCE WITH NFPA 1963 AND MATCHING LOCAL FIRE-DEPARTMENT THREADS.
      g. FINISH: ROUGH BRASS OR BRONZE

7. BACKFLOW PREVENTER

   A. DOUBLE-CHECK, BACKFLOW PREVENTION ASSEMBLIES

      a. STANDARD: AWWA C510
      b. OPERATION: CONTINUOUS PRESSURE APPLICATIONS.
      c. SIZE: NPS 6
      d. END CONNECTIONS: FLANGED
      e. CONFIGURATION: DESIGNED FOR STRAIGHT THROUGH FLOW
      f. ACCESSORIES: OS&Y GATE VALVES WITH FLANGED ENDS ON INLET AND OUTLET.

8. AIR SUPPLY

   A. COMPLY WITH REQUIREMENTS LISTED IN NFPA 13 7.2.6

9. HANGERS AND SEISMIC

   A. SUPPORT ALL PIPING IN ACCORDANCE WITH NFPA 13. LOCATION IS NOT SUBJECT TO SEISMIC PROVISIONS.

10. EXECUTION

    A. PERFORM FIRE-HYDRANT FLOW TEST ACCORDING TO NFPA 13 AND NFPA 291. USE RESULTS FOR SYSTEM DESIGN CALCULATIONS REQUIRED IN "QUALITY ASSURANCE" ARTICLE.

    B. ALL MECHANICAL BRANCH TEES SHALL BE THE BOLTED SADDLE TYPE. ANY MECHANICAL TEES USING U-BOLTS, GRIPPING FITTING, OR DEVICES THAT BITE INTO THE PIPE OR RELY ON FRICTION ARE NOT ALLOWED, EVEN IF THEY ARE LISTED PRODUCTS.

    C. COORDINATE LAYOUT AND INSTALLATION OF SPRINKLERS WITH OTHER CONSTRUCTION THAT PENETRATES CEILINGS, INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT, AND PARTITION ASSEMBLIES.

    D. ALL HANGER ROD SHALL EXTEND ONE FULL THREAD TURN OR A MINIMUM OF A 1/8-INCH THROUGH THE HANGER RING.

    E. ALL HANGERS SHALL BE INSTALLED PLUMB. BENT OR CROOKED HANGERS SHALL BE REPLACED.

    F. INSTALL SPRINKLER PIPING WITH DRAINS FOR COMPLETE SYSTEM DRAINAGE.

11. MAINTENANCE SERVICE

    A. 12 MONTHS FULL MAINTENANCE ON ALL INSTALLED AND MODIFIED SYSTEM COMPONENTS.

12. CALCULATIONS

    A. HYDRAULIC CALCULATIONS SHALL INCORPORATE A MINIMUM 10% SAFETY FACTOR.

    B. HYDRAULIC CALCULATIONS SHALL INCLUDE A 30% INCREASE TO THE AREA.

13. WORKING HOURS

    A. WEEKDAYS (MONDAY-FRIDAY), 7 A.M. TO 5 P.M.

END OF SECTION 211316

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
at
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
License No. 38890,
Expiration Date: 1/2/2023
CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D KOCH · 38890 · PROFESSIONAL ENGINEER
6/16/2021

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
	APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL				

DESIGNED AQL
DRAFTED AQL
CHECKED CDK

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PLAN APPROVAL DATE
PWK# SCP# SMP#

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT — PLAN APPROVAL DATE

FP-002
FIRE PROTECTION SPECIFICATIONS

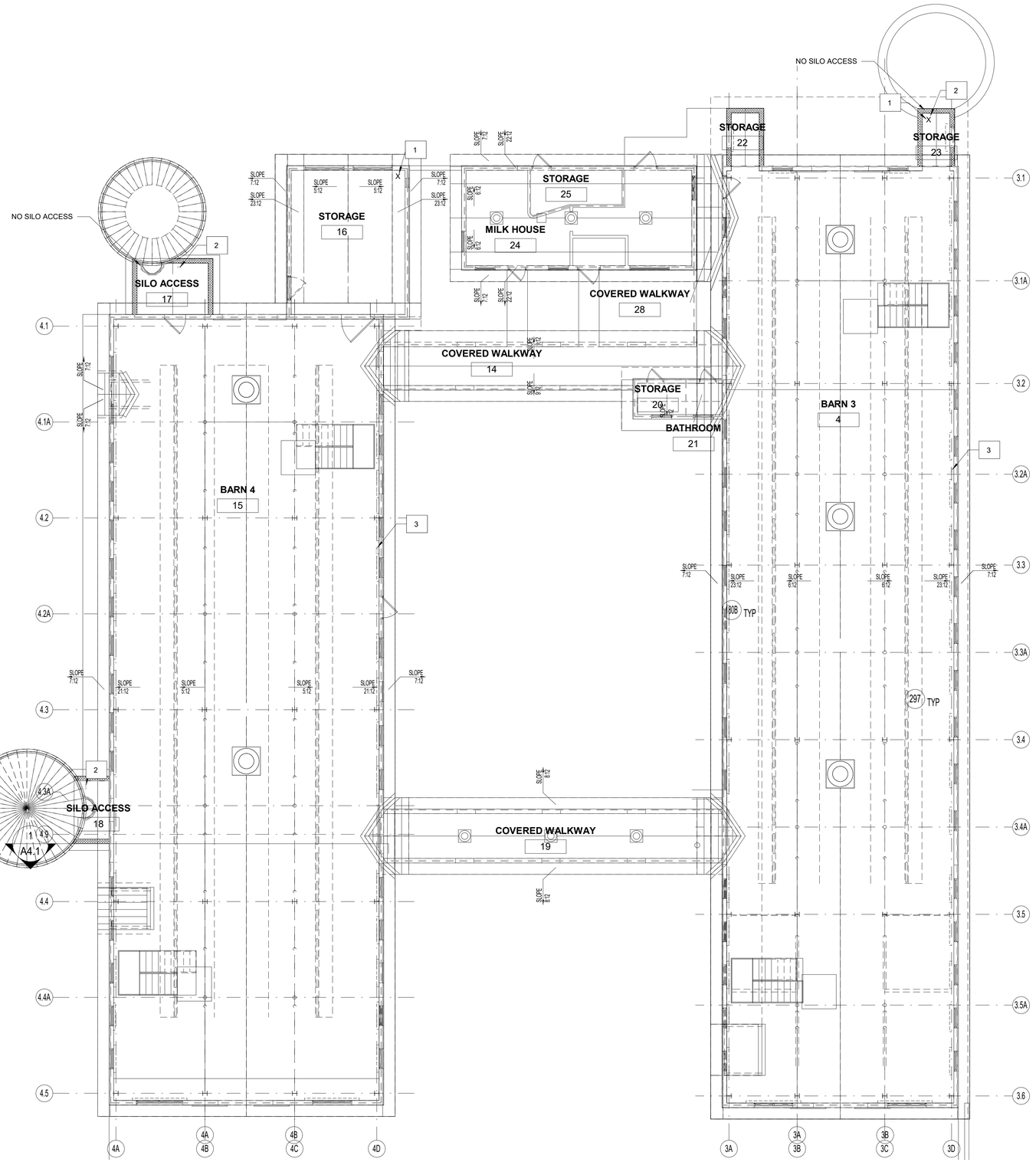
KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 06/10/21

SCALE AS SHOWN

SHEET NO. 3 OF 8

FILE #



1 FIRE PROTECTION BARN LEVEL 1
1/8" = 1'-0"

HAZARD CLASSIFICATION LEGEND

- Light Hazard
- Ordinary Hazard Group 1
- Ordinary Hazard Group 2

KEYNOTE LEGEND	
#	NOTE
1	X INDICATES PROPOSED PIPE RISER LOCATION. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OWNER.
2	SILOS ARE NOT PART OF THE SPRINKLER SYSTEM AND ARE OUT OF SCOPE.
3	MAINS MUST BE SUPPORTED ON NEW STRUCTURAL STEEL.

0 4' 8' 16'
SCALE: 1/8" = 1' - 0"

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
@
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
License No. 38890,
Expiration Date: 1/2/2023
CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D KOCH · 38890 · PROFESSIONAL ENGINEER
6/16/2021

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DEPARTMENT OF PUBLIC WORKS
CITY OF
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111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PLAN APPROVAL DATE
PWK# SCP# SMP#

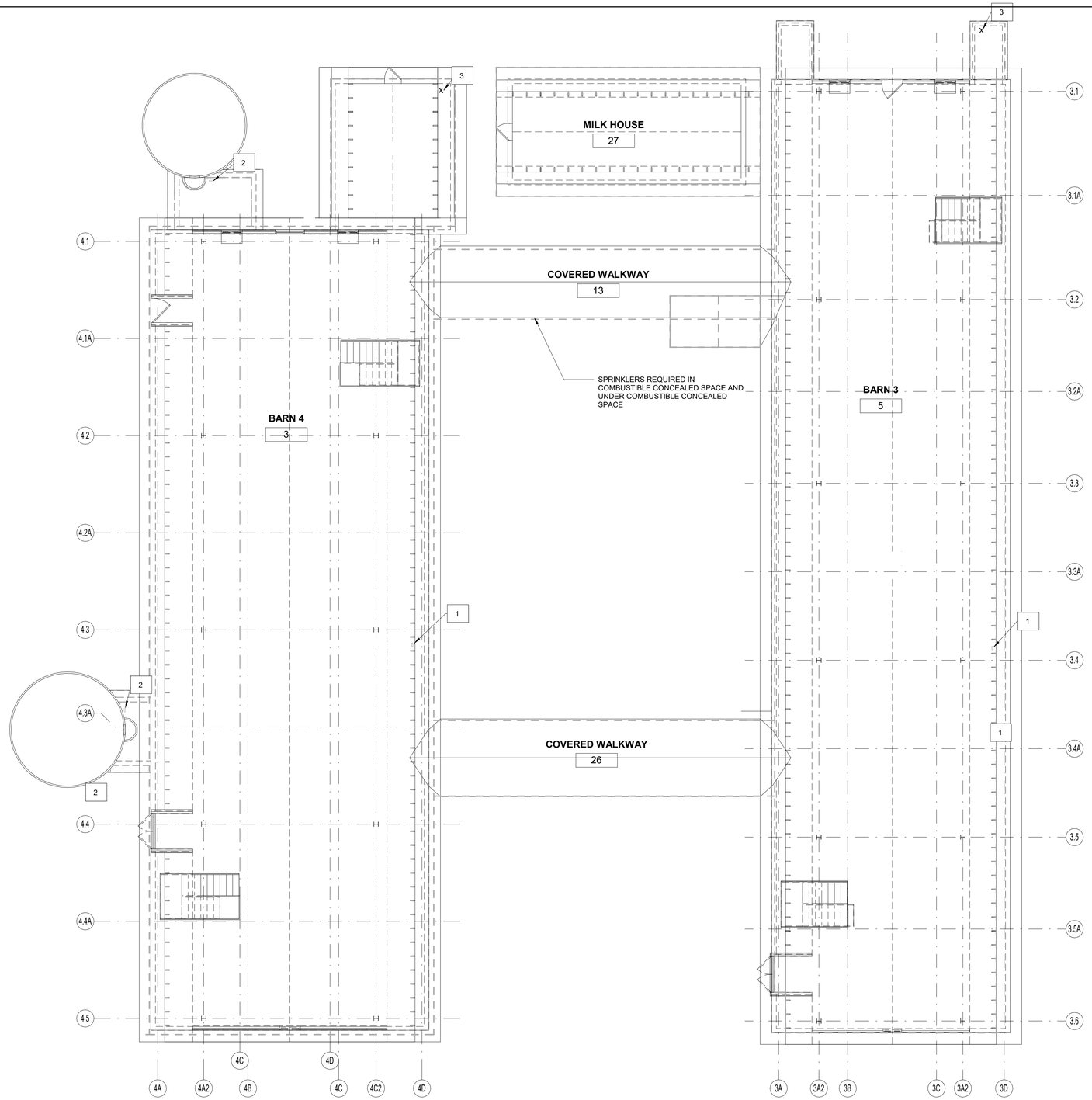
AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT — PLAN APPROVAL DATE

FP-101
BARN FLOOR 1

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 06/16/21
SCALE: AS SHOWN
SHEET NO. 4 OF 8
FILE #

Apr 07, 2021 - 4:01pm User: Adam.Levengard \\corp.kci.com\Sparks-Projects\2019\121906247.01\Drawings\121906247.01_Rockville Border.dwg



HAZARD CLASSIFICATION LEGEND

- Light Hazard
- Ordinary Hazard Group 1
- Ordinary Hazard Group 2

KEYNOTE LEGEND	
#	NOTE
1	MAINS MUST BE SUPPORTED ON NEW STRUCTURAL STEEL.
2	SILOS ARE NOT PART OF THE SPRINKLER SYSTEM AND ARE OUT OF SCOPE.
3	X INDICATES PROPOSED PIPE RISER LOCATION. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OWNER.

0 4' 8' 16'

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

1 FIRE PROTECTION BARN LEVEL 2
1/8" = 1'-0"

BEFORE BEGINNING CONSTRUCTION
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AT
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OR
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CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D. KOCH · 38890 · PROFESSIONAL ENGINEER

6/16/2021

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111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PWK# — SCP#
SMP#
PLAN APPROVAL DATE

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT
PLAN APPROVAL DATE

FP-102
BARN FLOOR 2

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

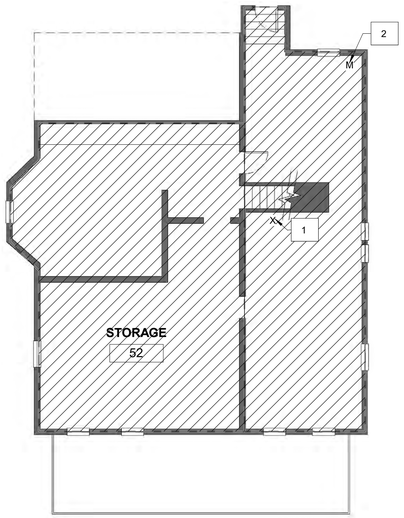
DATE SUBMITTED: 06/16/21

SCALE AS SHOWN

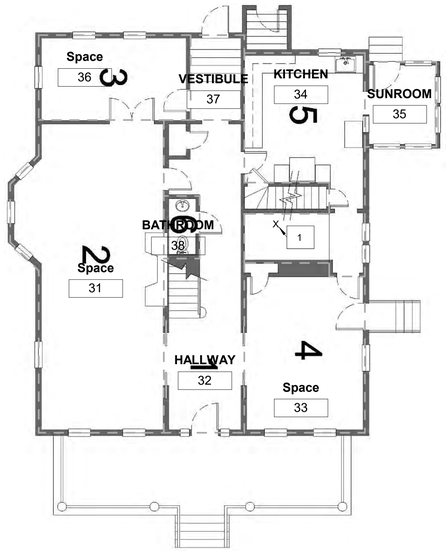
SHEET NO. 5 OF 8

FILE #

Apr 07, 2021 - 4:01pm User: Adam.Levengard \\corp.kci.com\Sparks-Projects\2019\121906247.01\Drawings\121906247.01_Rockville Border.dwg



1 MANSE HOUSE BASEMENT
1/8" = 1'-0"



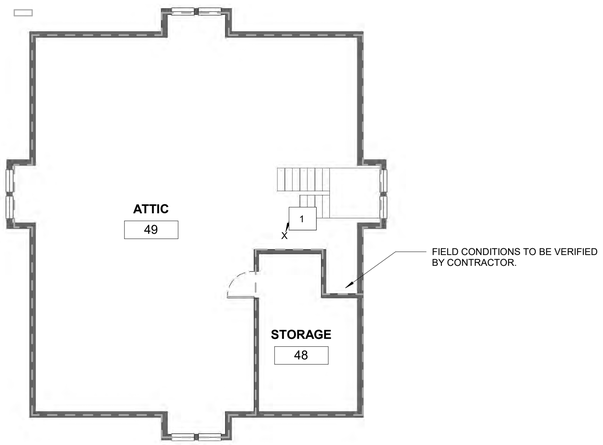
2 MANSE HOUSE LEVEL 1
1/8" = 1'-0"

HAZARD CLASSIFICATION LEGEND

- Light Hazard
- Ordinary Hazard Group 1
- Ordinary Hazard Group 2

KEYNOTE LEGEND	
#	NOTE
1	X INDICATES PROPOSED PIPE RISER LOCATION. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OWNER.
2	M INDICATES PROPOSED LOCATION OF INCOMING MAIN.

3 MANSE HOUSE LEVEL 2
1/8" = 1'-0"



4 MANSE HOUSE ATTIC
1/8" = 1'-0"

0 4' 8' 16'

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

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
License No. 38890,
Expiration Date: 1/2/2023
CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D. KOCH · 38890 · PROFESSIONAL ENGINEER
6/16/2021

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DESIGNED AQL
DRAFTED AQL
CHECKED CDK

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS
PLAN APPROVAL DATE
PWK# SCP#
SMP#

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT
PLAN APPROVAL DATE

FP-201
MANSE HOUSE

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

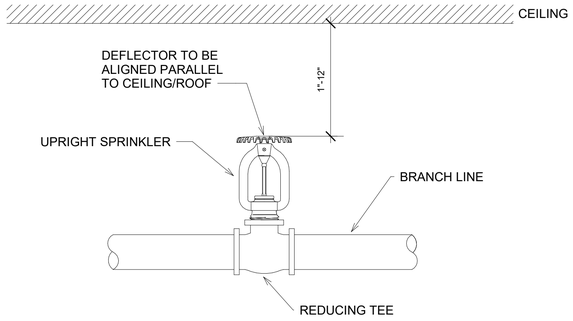
DATE SUBMITTED: 06/16/21

SCALE AS SHOWN

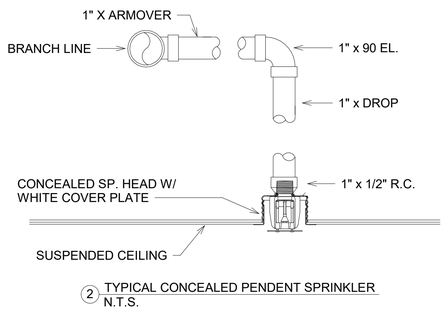
SHEET NO. 6 OF 8

FILE #

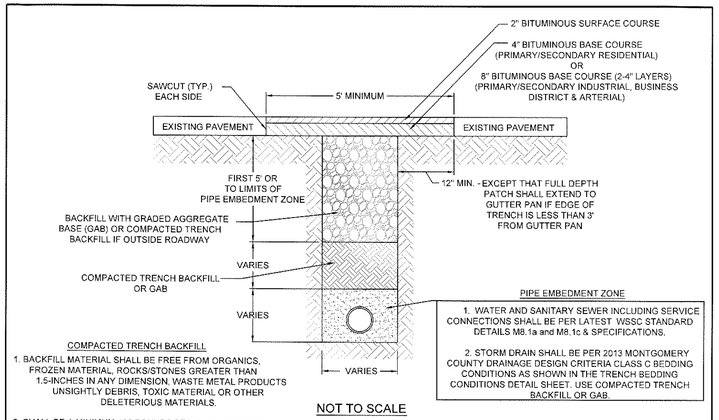
Apr 07, 2021 - 4:01pm User: Adam.Levengard \\corp.kci.com\Sparks-Projects\2019\121906247.01\Drawings\121906247.01_Rockville Border.dwg



1 DETAIL - TYPICAL UPRIGHT SPRINKLER
N.T.S.



2 TYPICAL CONCEALED PENDENT SPRINKLER
N.T.S.



NOT TO SCALE

06-03-2014
4-96
REVISION

APPROVED BY: G. T. Hanna
DATE: 6-3-2014

PIPE TRENCH DETAIL

DETAIL 60

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland,
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CHRISTOPHER D KOCH
NAME

STATE OF MARYLAND · CHRISTOPHER D. KOCH · 38890 · PROFESSIONAL ENGINEER
6/16/2021

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE
	APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL				

DESIGNED MDP
DRAFTED AQL
CHECKED Checker

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PWK# — SCP#
PLAN APPROVAL DATE — SMP#

AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT
PLAN APPROVAL DATE

FP-501
FIRE SUPPRESSION DETAILS

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

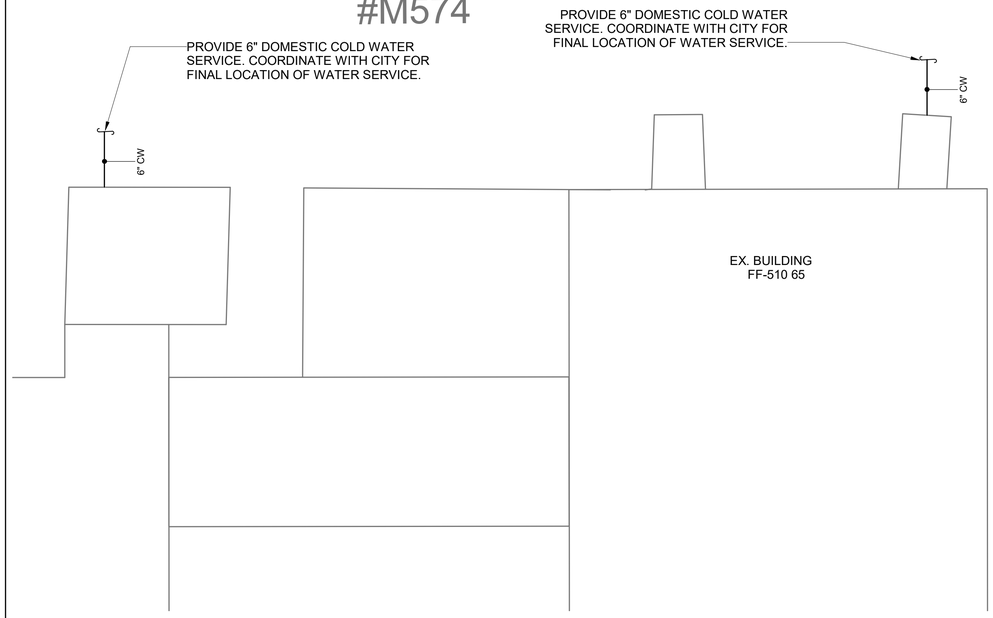
DATE SUBMITTED: 06/16/21

SCALE AS SHOWN

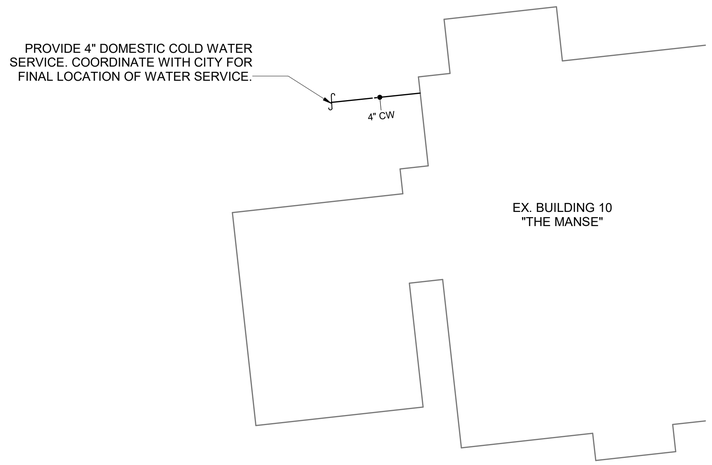
SHEET NO. 7 OF 8

FILE #

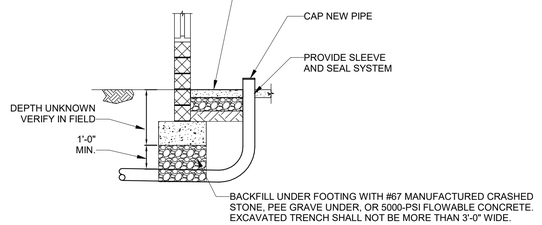
#M574



1 EX. BARN DOMESTIC WATER PLAN
1/8" = 1'-0"



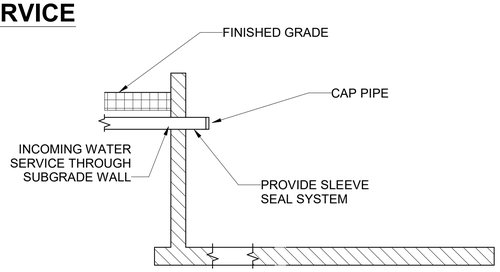
2 EX. MANSE BUILDING DOMESTIC WATER PLAN
1/8" = 1'-0"



DETAIL NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE EXISTING STRUCTURE DURING CONSTRUCTION. THE DESIGN OF ALL TEMPORARY BRACING AND SHORING IS THE CONTRACTORS RESPONSIBILITY.
2. THE CONTRACTOR SHALL MONITOR THE EXISTING STRUCTURE DURING CONSTRUCTION. IMMEDIATELY NOTIFY THE ENGINEER OF AREAS EXHIBITING DISTRESS OR FAILURE.
3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE AND CONDITION OF ALL EXISTING FRAMING. SHOULD THE SIZE OR CONDITION OF THE EXISTING FRAMING DIFFER FROM THAT SHOWN ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

6 BARN INSIDE WATER SERVICE
NOT TO SCALE



7 MANSE INSIDE WATER SERVICE
NOT TO SCALE

PLUMBING SPECIFICATIONS

SECTION 02510 WATER DISTRIBUTION SYSTEM

1. PROVIDE PIPE AND FITTINGS OF SAME SIZE AND MATERIAL BY SAME MANUFACTURER, MARKED WITH MANUFACTURER'S NAME OR TRADEMARK.

2. DUCTILE IRON PIPE WITH ZINC COATING. PUSH ON JOINTS: AWWA C151 AND AWWA C111. COATINGS AND LININGS: EXTERIOR: ASPHALT COATED: AWWA C151. INTERIOR: LINED WITH DOUBLE THICKNESS CEMENT AND SEAL COATED: AWWA C104. PRESSURE CLASS: 350. APPROVED MANUFACTURERS: AMERICAN CAST IRON PIPE CO., ATLANTIC STATE CAST IRON PIPE CO. (DIVISION OF MCWANE, INCORPORATED), CLOW WATER SYSTEMS COMPANY; (DIVISION OF MCWANE INCORPORATED), GRIFFIN PIPE PRODUCTS COMPANY, INC., MCWANE CAST IRON PIPE COMPANY (DIVISION OF MCWANE INCORPORATED), UNITED STATES PIPE AND FOUNDRY CO. (U.S. PIPE), PACIFIC STATES CAST IRON PIPE COMPANY (DIVISION OF MCWANE INCORPORATED).

3. PUSH ON RESTRAINED JOINT GASKET FOR 4 INCH THROUGH 24 INCH DIP. APPROVED MANUFACTURERS: UNITED STATES PIPE AND FOUNDRY CO., FIELD LOK 350□ FOR USE WITH TYTON JOINT PIPE, AMERICAN CAST IRON PIPE CO., FAST-GRIP FOR USE WITH FASTITE PIPE, MCWANE CAST IRON PIPE CO., SURE STOP 350□ FOR USE WITH TYTON JOINT PIPE, GRIFFIN PIPE PRODUCTS COMPANY, INC., TALON RJ GASKET FOR USE WITH TYTON JOINT PIPE SIZES 4 THROUGH 16 INCH DIP.

4. HANDLING OF PIPE AND FITTINGS: DUCTILE IRON PIPE AND FITTINGS, VALVES, AND APPURTENANCES FOLLOWING AWWA C600.

SECTION 220517 - SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING

1. CAST-IRON PIPE SLEEVES: CAST OR FABRICATED OF CAST OR DUCTILE IRON AND EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL WATERSTOP COLLAR.

2. SLEEVE-SEAL SYSTEMS: MODULAR SEALING-ELEMENT UNIT, DESIGNED FOR FIELD ASSEMBLY, FOR FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVE. DESIGNED TO FORM A HYDROSTATIC SEAL OF 20 PSIG. SEALING ELEMENTS: EPDM-RUBBER INTERLOCKING LINKS SHAPED TO FIT SURFACE OF PIPE. STAINLESS STEEL PRESSURE PLATES, NUTS AND BOLTS.

3. ASTM C1107/C1107M, GRADE B, POST-HARDENING AND VOLUME-ADJUSTING, DRY, HYDRAULIC-CEMENT GROUT. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

4. INSTALL SLEEVES AND SLEEVE SEAL SYSTEMS FOR PIPING PASSING THROUGH BELOW GRADE WALLS AND SLAB ON GRADE.

PLUMBING GENERAL NOTES

1. SCOPE OF WORK:

   PROVIDE DOMESTIC COLD WATER SERVICE PIPING TO EXISTING BARN AND "MANSE" HOUSE. SCOPE OF WORK SHALL BE 5' FROM BUILDING STRUCTURE IN THROUGH TO FLOOR SLAB/BELOW GRADE WALL PENETRATION. CAP COLD WATER PIPE INSIDE BUILDING.

2. COMPLY WITH THE FOLLOWING CODES AND STANDARDS:
   ROCKVILLE CITY CODE
   2021 INTERNATIONAL BUILDING CODE
   2021 INTERNATIONAL PLUMBING CODE

3. OBTAIN ALL LICENSES AND PERMITS REQUIRED BY STATE AND LOCAL JURISDICTIONAL AUTHORITIES FOR PERFORMANCE OF WORK, INCLUDING WSSC PERMITTING REQUIREMENTS AND PUBLIC WORKS PERMIT FROM CITY OF ROCKVILLE.

4. CONTACT MISS UTILITY AT 1-800-257-7777 PRIOR TO TRENCHING. CONFIRM EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK.

5. COORDINATE WITH SITE CONTRACTOR FOR CONNECTION TO SITE UTILITIES PRIOR TO INSTALLATION, MAINTAIN MINIMUM 2 FEET 6 INCHES OF COVER.

6. PROVIDE CERTIFICATES OF APPROVAL ISSUED UPON THE SATISFACTORY COMPLETION AND TESTING OF A PIPING.

7. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GENERAL SPECIFICATIONS AND STANDARD DETAILS OF THE WASHINGTON SUBURBAN SANITARY COMMISSION (WSSC) AND THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW).

8. DRAWINGS ARE DIAGRAMMATIC AND NOT ALL APPURTENANCES ARE SHOWN. ALLOW FOR ADDITIONAL PIPE OFFSETS, AS REQUIRED. PROVIDE ALL MATERIALS AND LABOR TO PROVIDE A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH THE CONTRACT DRAWINGS, SPECIFICATIONS, AND AUTHORITY HAVING JURISDICTION.

9. COORDINATE INSTALLATION OF WORK WITH ALL OTHER TRADES.

10. SUBMIT WRITTEN REQUEST FOR INFORMATION WHERE CONSTRUCTABILITY ISSUES ARE ENCOUNTERED IN THE FIELD. PROVIDE A FULL DESCRIPTION OF THE ISSUE AND RECOMMENDED SOLUTIONS. INCLUDE SKETCHES FOR EACH OPTION ALONG WITH ANY ASSOCIATED CHANGE ORDER COST ESTIMATES.

11. ANY DEVIATIONS FROM THE DRAWINGS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD. ANY CHANGES OR MODIFICATIONS MADE WITHOUT CONSENT MAY RESULT IN WORK BEING REMOVED AND INSTALLED ACCORDING TO THE PLANS.

12. PROVIDE ONLY NEW MATERIALS AND EQUIPMENT FROM REPUTABLE MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS. PERFORM ALL WORK IN A PROFESSIONAL MANNER BY WORKERS SKILLED IN THE TYPE OF WORK BEING PERFORMED.

13. KEEP THE WORK SITE AND SURROUNDING AREA FREE FROM ACCUMULATION OF WASTE MATERIALS GENERATED BY WORK PERFORMED UNDER THIS CONTRACT. REMOVE CONSTRUCTION DEBRIS FROM THE WORK SITE DAILY AND DISPOSE OF IT IN A LEGAL MANNER.

14. PROVIDE WARRANTY FOR ALL WORK (MATERIALS, LABOR, AND EQUIPMENT) FOR A PERIOD OF ONE YEAR COMMENCING WITH THE DATE OF ACCEPTANCE OF ALL WORK BY THE OWNER UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.

15. MAINTAIN A RED LINE SET OF RECORD DRAWINGS AT THE JOB SITE THAT REFLECT ACTUAL EXECUTION OF THE WORK.

16. THE PRODUCT OF A SINGLE MANUFACTURER SHALL BE USED FOR EACH ITEM OF THE SAME EQUIPMENT TYPE.PROVIDE SLEEVES AT ALL FLOOR AND WALL PENETRATIONS.

17. ALL PIPE SIZES SHOWN ARE NOMINAL SIZES.

18. SCOPE OF WORK FOR UNDERGROUND PIPING EXTENDS TO A POINT APPROXIMATELY 5 FEET OUTSIDE THE BUILDING FOOTPRINT UNLESS OTHERWISE INDICATED.

19. ELEVATIONS SHOWN ON THE DRAWINGS ARE TO THE UNDERSIDE OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING UNLESS OTHERWISE NOTED.

20. PRESSURE TEST, CLEAN, FLUSH, AND DISINFECT ALL PIPING BEFORE PUTTING INTO SERVICE.

21. COORDINATE ALL CONSTRUCTION ACTIVITY WITH THE OWNER OR THEIR REPRESENTATIVE TO MINIMIZE DISRUPTION TO BUILDING OPERATIONS.

22. VISIT THE SITE AND FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK. COORDINATE WORK WITH EXISTING CONDITIONS. SUBMIT WRITTEN REQUEST FOR INFORMATION IF ANY DISCREPANCIES OR INTERFERENCES ARE DETECTED.

23. PROTECT ALL EXISTING WORK WHICH IS TO REMAIN IN PLACE. ANY EXISTING WORK TO REMAIN WHICH IS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. THE QUALITY OF REPLACED WORK SHALL MATCH THE EXISTING CONDITIONS.

24. REMOVE AND REINSTALL OR RELOCATE ANY MOVEABLE OBSTRUCTIONS THAT MAY IMPEDE WORK UNDER THIS CONTRACT. THESE INCLUDE, BUT ARE NOT LIMITED TO EQUIPMENT, PIPING, AND ANY SUPPORTING APPURTENANCES. ANY CONSTRUCTION REQUIRING WORK STATED ABOVE, SHALL BE RECONNECTED AFTER THE END OF CONSTRUCTION TO PROVIDE A FULLY FUNCTIONAL SYSTEM(S), AS FOUND PRIOR TO COMMENCING CONTRACT WORK.

25. XRAY EXISTING STRUCTURE AND LOCATE REINFORCEMENTS PRIOR TO CORE DRILLING/CUTING.

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
WWW.MISSUTILITY.NET
OR
1-800-257-7777
OR 811
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

ENGINEER

NAME: KCI TECHNOLOGIES, INC.
REGISTRATION #:
ADDRESS: 936 RIDGEBROOK ROAD, SPARKS, MD 21152
PHONE: 410-316-7800
CONTACT: BEN BECKER, P.E.
CONTACT EMAIL: BEN.BECKER@KCI.COM

PROFESSIONAL CERTIFICATION:
I hereby certify that these documents were prepared or approved by me, and that I am duly licensed Professional Engineer under the laws of the State of Maryland, License No. 35130, Expiration Date: 01/06/2023

BEN BECKER
NAME

STATE OF MARYLAND · BENJAMIN P. BECKER · No. 35130 · PROFESSIONAL ENGINEER

NO.	DESCRIPTION OF REVISION	P.E. INITIAL	DATE	DPW	DATE

APPROVAL OF REVISIONS AFTER INITIAL PLAN APPROVAL

DESIGNED BPB
DRAFTED TAO
CHECKED BPB

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
111 MARYLAND AVE. ROCKVILLE, MARYLAND

DESIGN PLAN APPROVAL
DIRECTOR OF PUBLIC WORKS — PLAN APPROVAL DATE
PWK# SCP#
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AS BUILT PLAN APPROVAL
CHIEF, CONSTRUCTION MANAGEMENT — PLAN APPROVAL DATE

P-100
PLUMBING PLAN

KING FARM FARMSTEAD
PARCELS A & CX
Election District No. 4 City of Rockville, Maryland

DATE SUBMITTED: 06/16/2021

SCALE AS SHOWN

SHEET NO. 8 OF 8

FILE #

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