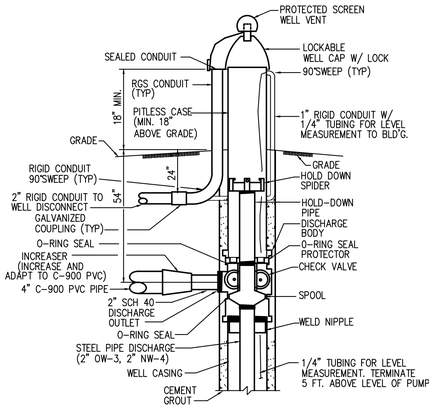
NOTES:

1. WELL HEAD VENTS SHALL BE 18" MIN. ABOVE GRADE WITH GROUND SLOPING AWAY FOR DRAINAGE.
2. WELLS SHALL BE DISINFECTED AND FLUSHED ONCE SANITARY CAP IS IN PLACE.
3. NEW WATER MAINS AND APPURTENANCES SHALL BE DISINFECTED AND FLUSHED PER THE REQUIREMENTS OF ANSI/AWWA C651 PRIOR TO BEING PLACED INTO SERVICE.
4. WATER SAMPLES SHALL BE TAKEN PER AWWA STANDARD C601 AND D102 BEFORE SYSTEM IS PLACED INTO SERVICE.
5. WELLS SHALL HAVE A MEANS OF LEVEL CONTROL MEASUREMENT (AIR TUBING). LEVEL MEASUREMENT TUBING SHALL TERMINATE 5 FT. ABOVE PUMP SETTING ELEVATION. AIR TUBING SHALL BE TERMINATED AND CAPPED AT WELL HEAD.
6. WATER METERS – PROVIDE TWO (2) 2" AND ONE (1) 3" OCTAVE ULTRASONIC METERS, OR EQUAL. METERS MUST CONFORM TO AWWA STANDARD C715–18.
7. PRESSURE GAUGES AND VACUUM/PRESSURE GAUGES SHALL HAVE A RANGE OF 0 – 200 P.S.I. AND A 3 1/2" DIAL MIN.
8. ALL PIPES, FITTINGS, VALVES, AND WATER SUPPLY FACILITIES SHALL BE NSF 60 OR 61 CERTIFIED AS APPLICABLE. FILTER UNITS SHALL BE NSF 53 CERTIFIED AS APPLICABLE. UV UNITS SHALL BE NSF 55 CERTIFIED AS APPLICABLE.
8. BOOSTER PUMP DISCHARGE PRESSURE SETTINGS (ADJUST AS NEEDED AFTER START–UP): = 88 P.S.I. PRESSURE RELIEF VALVE SETTING = 100 P.S.I. (ON PUMP DISCHARGE SIDE)
9. USE WATTS NO. 909 SERIES 3/4" BACKFLOW PREVENTER AND APOLLO DCLF 4A SERIES DOUBLE CHECK VALVE 4" BACKFLOW PREVENTER
10. BOOSTER PUMP STATION, CONTROL PANEL AND VFDS SHALL BE A SKID MOUNTED PACKAGE. USE GOULDS AQUAFORCE e–MT PACKAGE 2–STAGE DUPLEX VARIABLE SPEED SYSTEM WITH MODEL V2VHE4K20E PUMPS, 15 H.P., 3500 RPM. W/ 3–PHASE, 460V MOTORS, OR EQUAL. THE STATION SHALL BE CAPABLE OF SUPPLYING 205 GPM AT 190' TDH. CONSTANT PRESSURE SHALL BE MAINTAINED ON THE DISCHARGE (88 PSI).
11. PRESSURE TRANSMITTER – EMERSON ROSEMOUNT MODEL 2088 LOW POWER PRESSURE TRANSMITTER, OR EQUAL. TRANSMITTER SHALL BE CAPABLE OF READING INCHES OF WATER, AND SHALL BE CAPABLE OF WALL MOUNTING.
12. METERING PUMPS – PROVIDE TWO (2) PROMINENT MODEL GMXA1602NPE9 METERING PUMPS, OR EQUAL. ONE (1) PUMP SHALL BE A SPARE. ALSO, PROVIDE ONE (1) MINIMUM 50 GALLON CHEMICAL TANK AND ADEQUATE TUBING TO OPERATE PUMP. ALSO PROVIDE ONE (1) 1/2" IN–LINE ANTISIPHON VALVE BETWEEN THE DISCHARGE OF THE PUMP AND THE INJECTION POINT.
13. FIRE STORAGE TANK – PROVIDE AND ERECT A CST INDUSTRIES, INC. AQUASTORE BOLTED STEEL TANK, 314,100 GALLON MINIMUM CAPACITY, OR EQUAL. TANK SHALL CONFORM TO AWWA STANDARD D103 AND C652. FOUNDATION DESIGN SHALL BE SUPPLIED BY THE CONTRACTOR OR THE MANUFACTURER, AND SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.
14. PRESSURE RELIEF VALVES SHALL BE EMERSON 918 W/ 1" ORIFICE, OR EQUAL. INCLUDE DOWNTURN ELBOW FOR INSTALLATION.
15. POTABLE STORAGE TANK – PROVIDE AND ERECT A CST INDUSTRIES, INC. AQUASTORE BOLTED STEEL TANK, 14,950 GALLON MINIMUM CAPACITY, OR EQUAL. TANK SHALL CONFORM TO AWWA STANDARD D103 AND C652. FOUNDATION DESIGN SHALL BE SUPPLIED BY THE CONTRACTOR OR THE MANUFACTURER, AND SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER.
16. FIRE PUMP SHALL BE PENTAIR AURORA PUMP MODEL 10–481–18D, 1770 RPM WITH DIESEL ENGINE DRIVE, COMPLETE WITH PUMP CONTROLLER, OR EQUAL. THE PUMP SHALL BE CAPABLE OF DELIVERING 4,250 GPM AT 210' TDH. DISCHARGE PRESSURE SHALL BE 96 PSI, AND THE PUMP SYSTEM SHALL CONFORM TO NFPA 20 STANDARDS. JOCKEY PUMP TO BE PROVIDED AS APPLICABLE TO MAINTAIN SYSTEM PRESSURE.
17. SPECIFIED FIRE PUMP INCLUDES AIR RELEASE VALVE. PRESSURE RELIEF NOT INCLUDED, EMERSON 918 W/ 1" ORIFICE MAY BE USED. COORDINATE SET PRESSURE WITH PUMP MANUFACTURER. BOTH MOUNTED ON PUMP CASE, MAY REQUIRE ADDITIONAL PIPING NOT SHOWN ON DRAWINGS.
18. FILTRATION UNITS SHALL BE HARMSCO MUNICIPAL MODEL MUNI 90 MP WITH PLEATED MICROGLASS CARTRIDGE FILTERS. INCLUDES 1/4" FNPT PORT ON INLET AND OUTLET FOR SAMPLE AND PRESSURE GAUGE (SAMPLE AND PRESSURE GAUGE BY OTHERS).
19. CARTRIDGES TO BE REMOVED AND REPLACED ONCE PRESSURE DIFFERENTIAL CALLS FOR REPLACEMENT. FILTER BACKWASH IS NOT REQUIRED.
20. ULTRAVIOLET DISINFECTION UNITS SHALL BE UV PURE TECHNOLOGIES, INC. HALLET 1000P UNITS, OR EQUAL. DESIGN AS SHOWN IS FOR THREE UNITS RATED AT 19 GPM EACH AT 95% UVT. ONE UNIT IS INTENDED TO BE AN IN–LINE SPARE. PROVIDE AN INTENSITY METER W/ READOUT AND AN AUDIBLE ALARM. ALSO PROVIDE A SOLENOID VALVE TO SHUT DOWN FORWARD FLOW TO SYSTEM IF INADEQUATE DISINFECTION IS ALARMED.
21. BOOSTER SKID SYSTEM TO BE SUPPLIED WITH HYDRO–PNEUMATIC TANK OF AQEQUATE SIZE TO LIMIT THE EFFECTS OF WATER HAMMER. SIZING TO BE BY THE MANUFACTURER.
22. BOOSTER SKID SYSTEM TO BE SUPPLIED WITH A PRESSURE TRANSDUCER TO SENSE THE PRESSURE IN THE DISCHARGE LINE AND CONTROL THE MOTOR SPEED OF THE PUMPS TO MAINTAIN CONSTANT DISCHARGE PRESSURE.
23. WELL PUMPS SHALL ALTERNATE AND SHALL NOT BE CAPABLE OF BEING RUN AT THE SAME TIME.
24. FIRE STORAGE TANK TO BE PROVIDED WITH AN ACTIVE MIXER, OR SIMILAR MEANS, TO LIMIT THE POTENTIAL FOR FREEZING.

NOTES:

1. WELL No. OW–3 TO BE EQUIPPED WITH GOULDS MODEL 25GS50CBM, 26 STAGE, 5 HP SUBMERSIBLE PUMP W/ 3 PHASE 460V MOTOR (4"). SET AT A MINIMUM DEPTH OF 500 FT., OR AS DETERMINED BY INSTALLER.
2. OW–3 CAPACITY DESIRED IS 30 GPM AT 331 FT. TDH.
3. WELL No. NW–4 TO BE EQUIPPED WITH GOULDS MODEL 25GS50CBM, 26 STAGE, 5 HP SUBMERSIBLE PUMP W/ 3 PHASE 460V MOTOR (4"). SET AT A MINIMUM DEPTH OF 400 FT., OR AS DETERMINED BY INSTALLER.
4. NW–4 CAPACITY DESIRED IS 30 GPM AT 280 FT. TDH.
5. USE A 6" ID BAKER MONITOR PS STANDARD INDUSTRIAL PITLESS UNIT FOR: OW–3: XPS67NBWE24T4 NW–4: XPS67NBWE23T3
6. EACH WELL SHALL BE ENCLOSED INSIDE OF A 8' HIGH CHAIN LINK FENCE WITH LOCKABLE GATE.

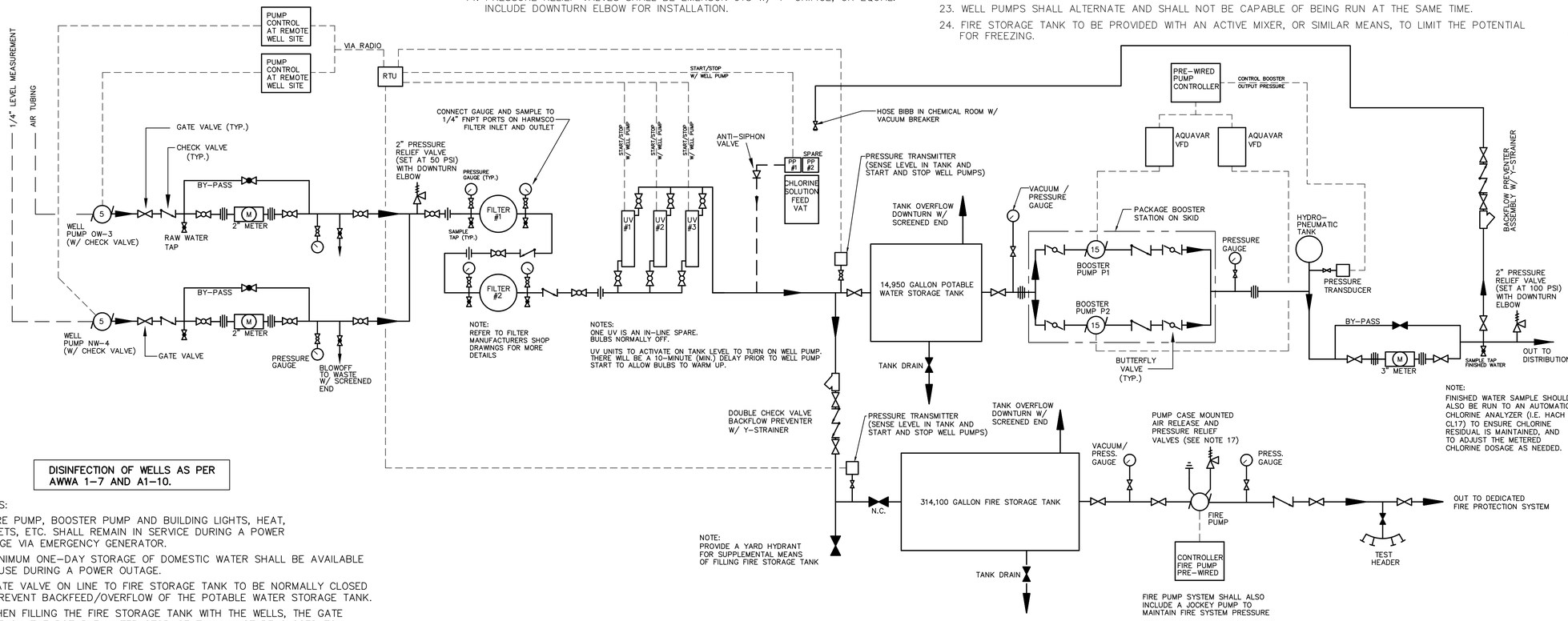


WELL HEAD DETAIL

N.T.S.

NOTE:

WELL PUMPS WILL BE CONTROLLED BY RADIO SIGNAL FROM REMOTE PUMP BUILDING. LOCATE ANTENNA ON POLE AT WELL SITES AND WIRE TO LOCAL PUMP STARTERS.



NOTE:
REFER TO FILTER MANUFACTURERS SHOP DRAWINGS FOR MORE DETAILS

NOTES:
ONE UV IS AN IN–LINE SPARE. BULBS NORMALLY OFF.

UV UNITS TO ACTIVATE ON TANK LEVEL TO TURN ON WELL PUMP. THERE WILL BE A 10–MINUTE (MIN.) DELAY PRIOR TO WELL PUMP START TO ALLOW BULBS TO WARM UP.

NOTE:
FINISHED WATER SAMPLE SHOULD ALSO BE RUN TO AN AUTOMATIC CHLORINE ANALYZER (I.E. HACH CL17) TO ENSURE CHLORINE RESIDUAL IS MAINTAINED, AND TO ADJUST THE METERED CHLORINE DOSAGE AS NEEDED.

NOTE:
PROVIDE A YARD HYDRANT FOR SUPPLEMENTAL MEANS OF FILLING FIRE STORAGE TANK

FIRE PUMP SYSTEM SHALL ALSO INCLUDE A JOCKEY PUMP TO MAINTAIN FIRE SYSTEM PRESSURE

DISINFECTION OF WELLS AS PER AWWA 1–7 AND A1–10.

NOTES:

1. FIRE PUMP, BOOSTER PUMP AND BUILDING LIGHTS, HEAT, OUTLETS, ETC. SHALL REMAIN IN SERVICE DURING A POWER OUTAGE VIA EMERGENCY GENERATOR.
2. MINIMUM ONE–DAY STORAGE OF DOMESTIC WATER SHALL BE AVAILABLE FOR USE DURING A POWER OUTAGE.
3. GATE VALVE ON LINE TO FIRE STORAGE TANK TO BE NORMALLY CLOSED TO PREVENT BACKFEED/OVERFLOW OF THE POTABLE WATER STORAGE TANK.
4. WHEN FILLING THE FIRE STORAGE TANK WITH THE WELLS, THE GATE VALVE ON THE POTABLE WATER STORAGE TANK MUST BE CLOSED TO PREVENT OVERFLOW OF THE POTABLE WATER TANK.
5. WHEN FILLING THE FIRE STORAGE TANK WITH THE WELLS, THE CHEMICAL FEED PUMPS ARE TO BE SHUT DOWN.
6. THE FIRE PROTECTION SYSTEM SHOWN IS PRELIMINARY AND FOR GENERAL INFORMATIONAL PURPOSES ONLY. FINAL FIRE SYSTEM DESIGN TO BE COMPLETED BY OTHERS ONCE MORE INFORMATION IS KNOWN ABOUT THE ACTUAL SYSTEM REQUIREMENTS.

FLOW DIAGRAM

NOT TO SCALE

LEGEND

- PUMP
- UNION
- FLANGED UNION
- VALVE NORMALLY CLOSED
- BALL VALVE
- GATE VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- PRESSURE RELIEF VALVE (PRV)
- AIR RELEASE VALVE (ARV)
- Y–STRAINER
- METER
- HOSE BIBB
- GAUGE

DRAWING NOTES:

PRELIMINARY- NOT FOR CONSTRUCTION

REV.	DESCRIPTION	BY	DATE	APP'D.
2	PER NYSDOH 10/21/21 COMMENTS	MPG	11/15/21	
1	PER NYSDOH 7/14/21 COMMENTS	MPG	8/3/21	

SEAL

MILNES ENGINEERING INC.
PLANNING • DESIGNING • ENGINEERING
SURVEYING • CONSTRUCTION SERVICES
12 FREAR HILL ROAD
TUNKHANNOCK, PA 18657
(570) 836–2145

TITLE:
WATER SUPPLY SCHEMATIC
COMMERCIAL CAMPUS AT FIELDS CORNER
PUBLIC WATER SUPPLY PERMIT
TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWN: MPG	DATE: 4/2021	CHK'D:	DATE:
SCALE: NTS		APP'D:	DATE:
AUTOCAD FILE G:/E–2121/CAMPUS		DRAWING NUMBER W–1	REV. 2
PROJECT NUMBER E–2121			