

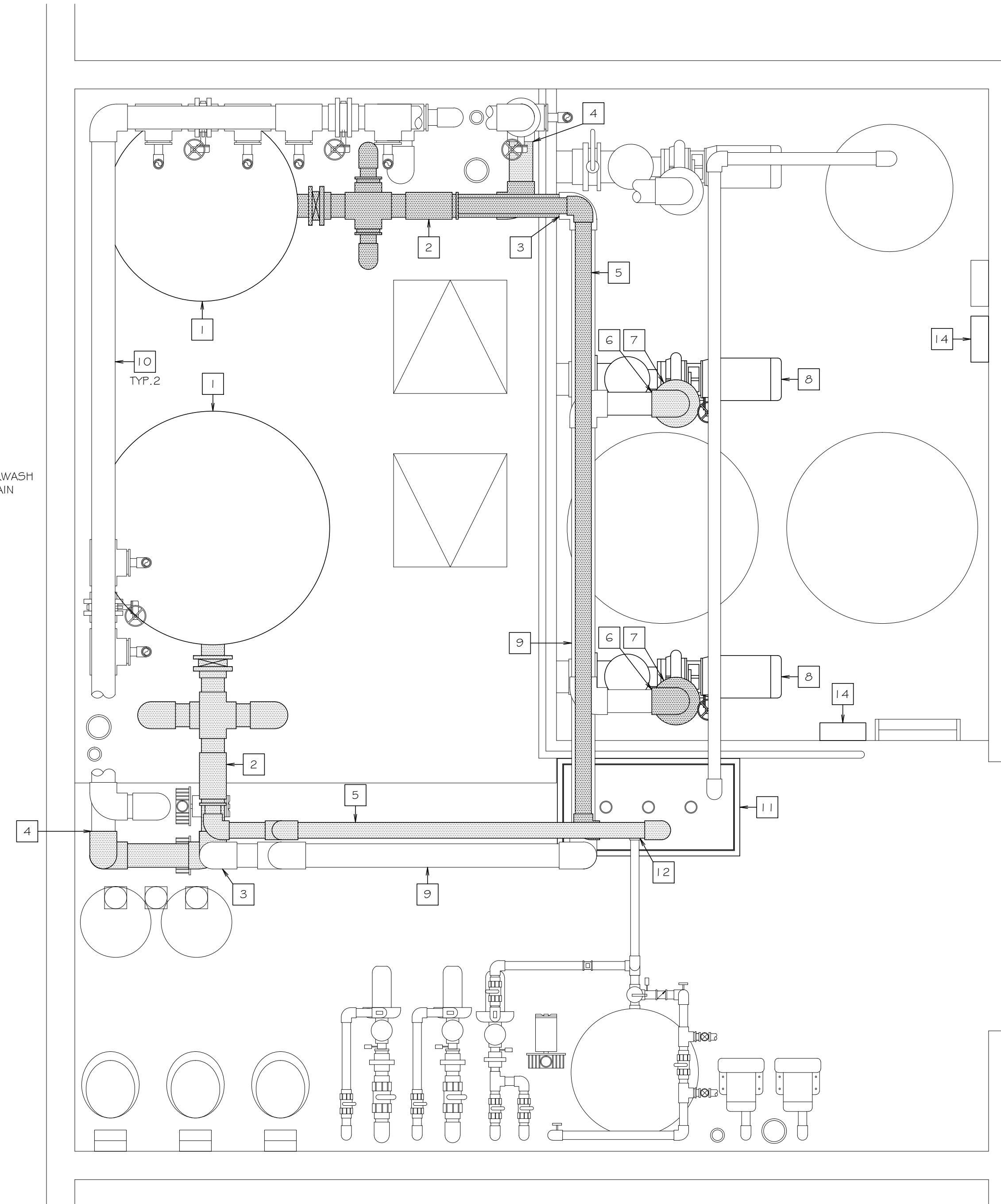
PRAIRIE STONE
 RECREATION CENTER
 FILTER RENOVATION

KEY NOTES:

- 1 REMOVE AND DISPOSE OF EXISTING HI-RATE SAND FILTER
- 2 REMOVE AND DISPOSE OF EXISTING FILTER FACE PIPING
- 3 DISCONNECT EXISTING FILTER FACE PIPING FROM EXISTING 6" PUMP DISCHARGE PIPE
- 4 DISCONNECT EXISTING FILTER FACE PIPING FROM EXISTING 6" FILTERED WATER SUPPLY PIPE
- 5 REMOVE AND DISPOSE OF EXISTING BACKWASH PIPE
- 6 DISCONNECT EXISTING PUMP DISCHARGE PIPE FROM EXISTING 6" PUMP DISCHARGE PIPE
- 7 REMOVE AND DISPOSE OF EXISTING 6" PUMP DISCHARGE PIPE
- 8 REMOVE AND DISPOSE OF EXISTING FILTRATION PUMP AND MOTOR
- 9 EXISTING FILTRATION PUMP DISCHARGE PIPE TO REMAIN
- 10 EXISTING FILTERED WATER SUPPLY PIPE TO REMAIN
- 11 REMOVE AND DISPOSE OF EXISTING STAINLESS STEEL BACKWASH PIT EXTENSION COLLAR, CONCRETE BACKWASH PIT TO REMAIN
- 12 EXISTING HYDROTHERAPY POOL BACKWASH PIPE TO REMAIN
- 13 REMOVE AND DISPOSE OF EXISTING PUMP MOTOR STARTER AND DISCONNECT

NOTES:

- 1. ALL EXISTING HEATER AND DEHUMIDIFIER INFLUENT AND EFFLUENT PIPES TO REMAIN
- 2. ALL EXISTING FLOW METERS AND THERMOMETERS TO REMAIN
- 3. ALL EXISTING CHEMICAL SYSTEMS TO REMAIN
- 4. ALL EXISTING WATER LEVEL CONTROLLER SYSTEMS TO REMAIN



1 EXISTING FILTER EQUIPMENT LAYOUT
 SCALE: 1/2" = 1'-0"

DATE	REVISION

DESCRIPTION:
 EXISTING FILTER
 EQUIPMENT LAYOUT

DATE: 03.29.16
 DRAWN BY: RRD
 JOB NO. A16033

SP-1

MY SEAL AND SIGNATURE
 SHALL ENCOMPASS DRAWINGS
 SP-1 THRU SP-4.
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UTILITY REQUIREMENTS:

FILTER BACKWASH REQUIREMENTS

ACTIVITY POOL

THERE WILL BE ONE FILTER THAT WILL DRAIN 159 GALLONS BY GRAVITY THRU A 3" PIPE TO WASTE.

LAP POOL

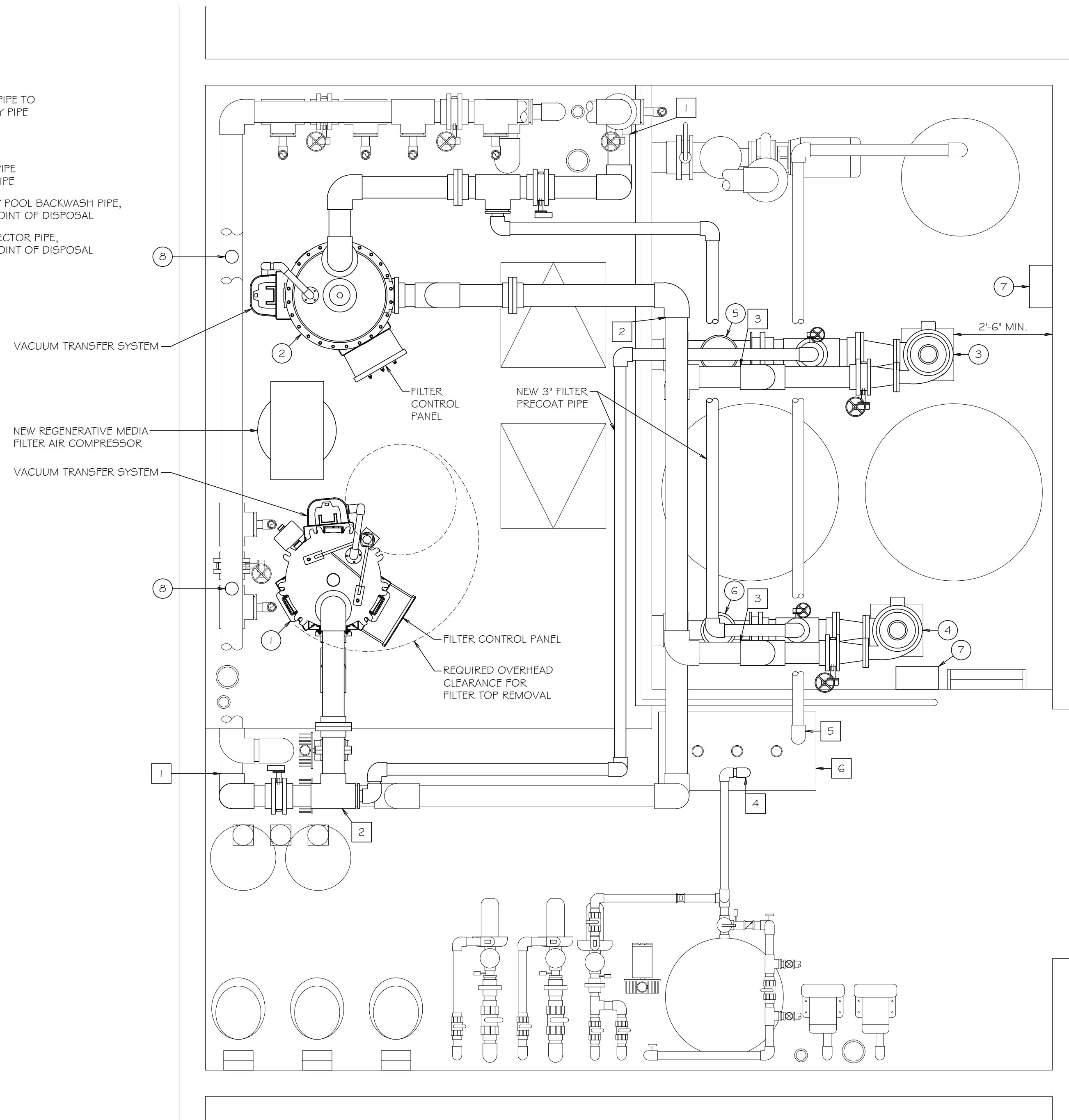
THERE WILL BE ONE FILTER THAT WILL DRAIN 181 GALLONS BY GRAVITY THRU A 3" PIPE TO WASTE.

DATA	ACTIVITY POOL
CAPACITY:	44,745 GALLONS
FILTER FLOWRATE:	498 G.P.M.
TURNOVER RATE:	1 HOUR 30 MIN.

DATA	LAP POOL
CAPACITY:	73,782 GALLONS
FILTER FLOWRATE:	308 G.P.M.
TURNOVER RATE:	FOUR HOURS

KEY NOTES:

- 1 CONNECT NEW FILTER EFFLUENT PIPE TO EXISTING FILTERED WATER SUPPLY PIPE
- 2 CONNECT NEW FILTRATION PUMP DISCHARGE PIPE TO EXISTING
- 3 CONNECT NEW FILTER INFLUENT PIPE TO EXISTING PUMP DISCHARGE PIPE
- 4 EXTEND EXISTING HYDROTHERAPY POOL BACKWASH PIPE, PROVIDE A MIN. 6" AIR GAP AT POINT OF DISPOSAL
- 5 EXTEND EXISTING DECK DRAIN EJECTOR PIPE, PROVIDE A MIN. 6" AIR GAP AT POINT OF DISPOSAL
- 6 EXISTING RECESSED CONCRETE BACKWASH PIT



1 NEW FILTER EQUIPMENT LAYOUT
SCALE: 1/2" = 1'-0"

NEW FILTRATION EQUIPMENT LIST

THE EQUIPMENT MANUFACTURERS AND CATALOG NUMBERS LISTED BELOW, AND NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS, ARE SHOWN TO PROVIDE A STANDARD. EQUIPMENT BY OTHER MANUFACTURERS WILL BE APPROVED IF SAID EQUIPMENT IS SHOWN TO BE EQUAL TO THAT SPECIFIED.

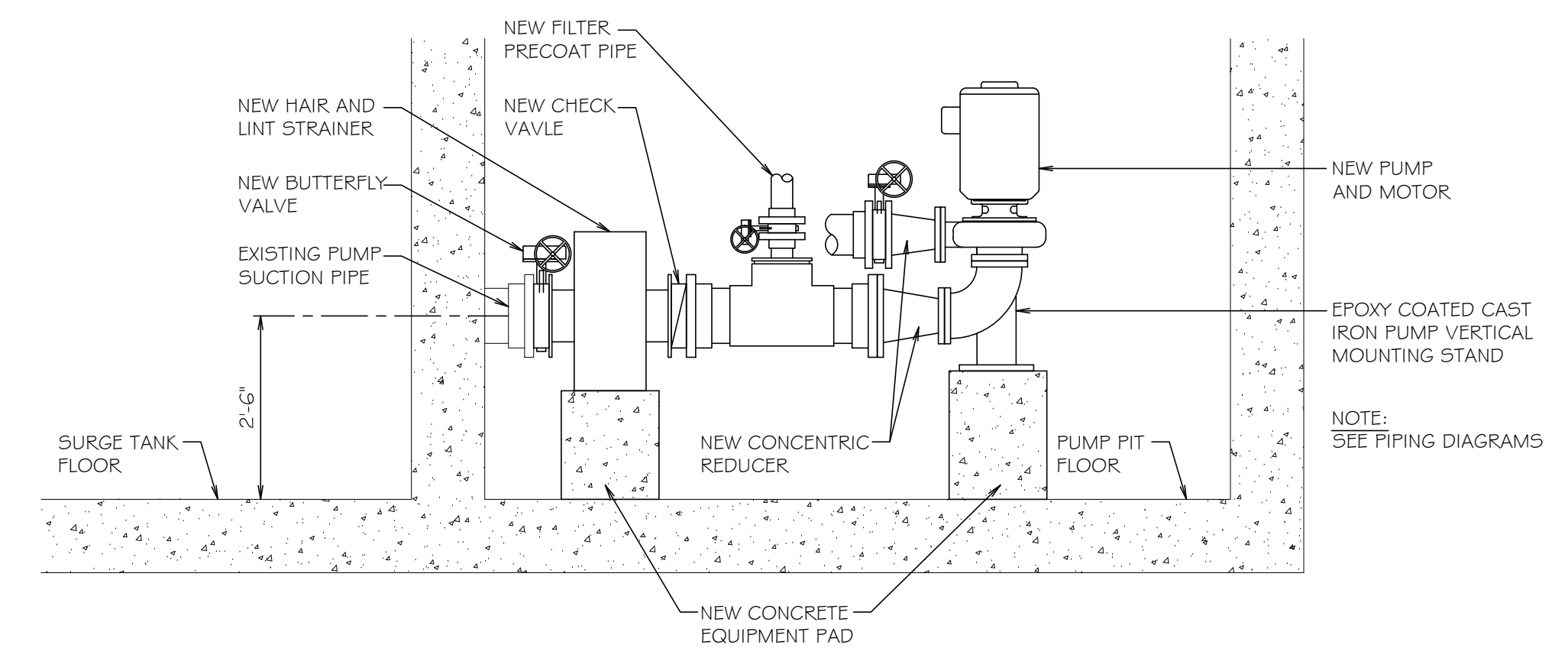
ITEM	DESCRIPTION	MANUFACTURER	CATALOG NO.	QTY.
1	ACTIVITY POOL FILTER, REGENERATIVE "PERLITE" MEDIA, W/ 381 SQ. FT. OF FILTER AREA, 1.31 G.P.M. / SQ. FT. OF FILTER AREA FILTRATION RATE, STEEL TANK W/ CONTROL PANEL, AIR COMPRESSOR, MEDIA VACUUM TRANSFER SYSTEM AND PNEUMATIC VALVES. "R" = REDUCED HEIGHT MODEL.	NEPTUNE BENSON	SP-27-48-487-R	1
2	LAP POOL FILTER, REGENERATIVE "PERLITE" MEDIA, W/ 263 SQ. FT. OF FILTER AREA, 1.17 G.P.M. / SQ. FT. OF FILTER AREA FILTRATION RATE, STEEL TANK W/ CONTROL PANEL, AIR COMPRESSOR, MEDIA VACUUM TRANSFER SYSTEM AND PNEUMATIC VALVES.	NEPTUNE BENSON	SP-29-36-450	1
3	ACTIVITY POOL FILTRATION PUMP AND MOTOR, FLOODED SUCTION, 498 G.P.M. @ 80 FT. TDH, 20 H.P., 480 VOLT, 3-PHASE, 1750 RPM, W/ EPOXY COATING ON ALL INTERIOR CAST IRON PARTS.	PACO	40957 LC	1
4	LAP POOL FILTRATION PUMP AND MOTOR, FLOODED SUCTION, 308 G.P.M. @ 80 FT. TDH, 15 H.P., 480 VOLT, 3-PHASE, 1750 RPM, W/ EPOXY COATING ON ALL INTERIOR CAST IRON PARTS.	PACO	30957 LC	1
5	STRAINER, FIBERGLASS, 8" W/ TWO STAINLESS STEEL BASKETS.	NEPTUNE BENSON	1500NBF08R1	1
6	STRAINER, FIBERGLASS, 6" W/ TWO STAINLESS STEEL BASKETS.	NEPTUNE BENSON	1500NBF06R1	1
7	VARIABLE FREQUENCY DRIVE, 480 VOLT, 3-PHASE, 60 Hz, W/ DIGITAL READOUT, NIEMA 1 ENCLOSURE, INTEGRAL DISCONNECT AND LINE REACTOR.	ABB	ACS550 SERIES	2
8	FLOW SENSOR, 6", FOR FILTRATION PUMP AND MOTOR VARIABLE FREQUENCY DRIVE CONTROL.	SIGNET	3-2551-P1-42	2
9	VACUUM / PRESSURE GAUGE, 0" - 30" AND 0 - 60 PSI, 2 1/2" DIAL, LIQUID FILLED, WITH STAINLESS STEEL TUBE AND SOCKET, SNUBBER NO. 872-2 AND GAUGE COCK NO. 865MFG.	TRERICE	700	2
10	PRESSURE GAUGE, 0 - 60 PSI, 2 1/2" DIAL, LIQUID FILLED, WITH STAINLESS STEEL TUBE AND SOCKET, SNUBBER NO. 872-2 AND GAUGE COCK NO. 865MFG.	TRERICE	700	2

LAP POOL NOTES:

- 1.) THE EXISTING LAP POOL MAIN DRAIN MEET ASME / ANSI A112.19.8 2007 STANDARDS. THE EXISTING 18" X 18" MAIN DRAIN FRAME AND GRATE ARE TO REMAIN.
- 2.) THE EXISTING LAP POOL 18" X 18" MAIN DRAIN IS A BLOCKABLE SUBMERGED SUCTION OUTLET WITH AN 8" PIPE. THE 8" PIPE CONNECTS TO A SURGE TANK THAT A FILTRATION PUMP DRAWS FROM. THE NEW 1.5 H.P. FILTRATION PUMP IS MANUFACTURED BY PACO, MODEL #30957 LC (DESIGN FLOW RATE: 308 G.P.M. AT 80' T.D.H. - 1,750 R.P.M.).
- 3.) THE MAXIMUM FLOW CAPABILITY OF THE FILTRATION PUMP IS 570 G.P.M.
- 4.) THE MAXIMUM APPROVED FLOW RATE FOR THE EXISTING AQUASTAR #WAV1810, 18" X 18" GRATE IS 628 G.P.M.
- 5.) THE MAXIMUM FLOW CAPABILITY OF THE FILTRATION PUMP WILL NOT EXCEED THE MAXIMUM FLOW RATE OF THE NEW DRAIN COVER.

ACTIVITY POOL NOTES:

- 1.) THE (2) EXISTING ACTIVITY POOL MAIN DRAINS MEET ASME / ANSI A112.19.8 2007 STANDARDS. THE (2) EXISTING UNBLOCKABLE 30" X 30" DRAIN COVERS ARE TO REMAIN.
- 2.) THE (2) EXISTING ACTIVITY POOL 18" X 18" MAIN DRAINS ARE BLOCKABLE SUBMERGED SUCTION OUTLETS, EACH WITH AN 8" PIPE. THE 8" PIPES COMBINE TO A 12" PIPE THAT CONNECTS TO A SURGE TANK. THE FILTRATION PUMP AND PLAY FEATURE PUMP DRAW FROM THE SURGE TANK. THE NEW 20 H.P. FILTRATION PUMP IS MANUFACTURED BY PACO, MODEL #40957 LC (DESIGN FLOW RATE: 498 G.P.M. AT 80' T.D.H. - 1,750 R.P.M.). THE EXISTING 10 H.P. PLAY FEATURE PUMP IS MANUFACTURED BY PACO, MODEL #40957 LC (DESIGN FLOW RATE: 710 G.P.M. AT 40' T.D.H. - 1,750 R.P.M.).
- 3.) THE MAXIMUM FLOW CAPABILITY OF THE NEW FILTRATION PUMP IS 1,075 G.P.M.
- 4.) THE MAXIMUM FLOW CAPABILITY OF THE EXISTING PLAY FEATURE PUMP IS 940 G.P.M.
- 5.) THE TOTAL MAXIMUM FLOW CAPABILITY OF THE TWO PUMPS IS 2,015 G.P.M.
- 6.) THE MAXIMUM APPROVED FLOW RATE FOR EACH OF THE EXISTING NEPTUNE-BENSON #3030AEC, 30" X 30" DRAIN COVER IS 1,504 G.P.M. THE TOTAL MAXIMUM APPROVED FLOW RATE FOR (2) DRAIN COVERS IS 3,008 G.P.M.
- 7.) THE TOTAL MAXIMUM FLOW CAPABILITY OF THE TWO PUMPS WILL NOT EXCEED THE MAXIMUM FLOW RATE OF THE NEW DRAIN COVERS.



2 NEW PUMP PIT SECTION
SCALE: 1/2" = 1'-0"

PRAIRIE STONE
RECREATION CENTER
FILTER RENOVATION

DATE	REVISION

DESCRIPTION:
NEW FILTER EQUIPMENT LAYOUT, EQUIPMENT LIST, DATA AND DETAIL

DATE: 03.29.16
DRAWN BY: RRD
JOB NO.: A16033

VALVE LEGEND

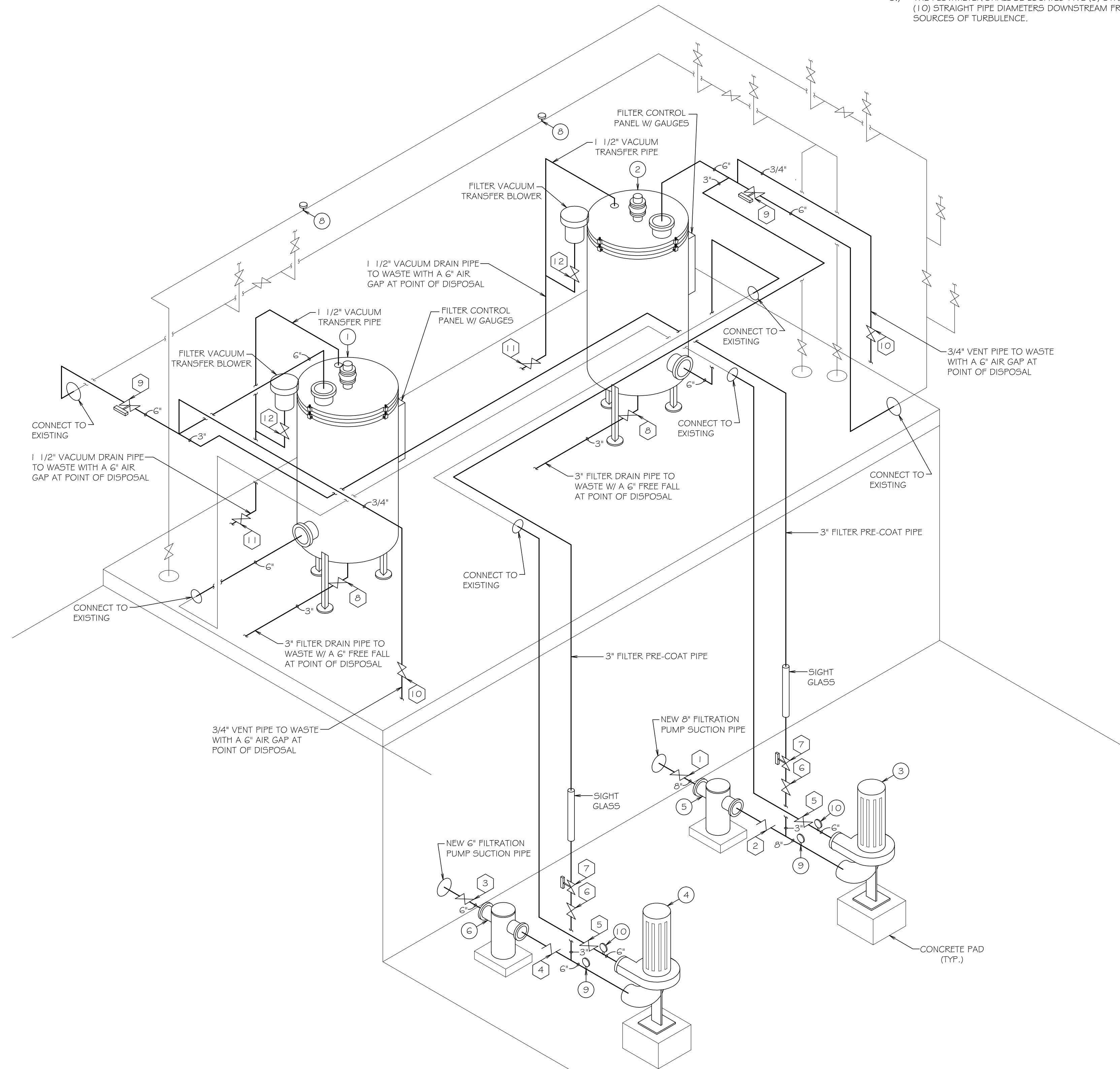
KEY

NO.	VALVE DESCRIPTION	TYPE	SIZE	QUANTITY
1.	FILTRATION PUMP SUCTION	B.F. GEAR	8"	1
2.	FILTRATION PUMP SUCTION	CHECK	8"	1
3.	FILTRATION PUMP SUCTION	B.F. GEAR	6"	1
4.	FILTRATION PUMP SUCTION	CHECK	6"	1
5.	FILTRATION PUMP DISCHARGE	B.F. GEAR	6"	2
6.	RECIRCULATION PRECOAT ISOLATION	B.F. GEAR	3"	2
7.	RECIRCULATION PRECOAT	B.F. AIR	3"	2
8.	FILTER DRAIN	B.F. LEVER	3"	2
9.	FILTERED WATER SUPPLY	B.F. AIR	6"	2
10.	PRECOAT LINE VENT	T.U. BALL	3/4"	2
11.	VACUUM DRAIN	T.U. BALL	1 1/2"	2
12.	VACUUM TRANSFER	T.U. BALL	1 1/2"	2

T.U. = TRUE UNION B.F. = BUTTERFLY

PLUMBING NOTES:

- ALL PLUMBING WORK, THROUGHOUT THE ENTIRE SWIMMING POOL PROJECT, SHALL COMPLY AND BE IN ACCORDANCE WITH THE ILLINOIS STATE PLUMBING CODE.
- ALL PIPING TO BE SCHEDULE 80 PVC PIPE (ASTM D 1785), UNLESS OTHERWISE SPECIFIED. ALL PIPE FITTINGS TO BE SCHEDULE 80 PVC (ASTM D2467), UNLESS OTHERWISE SPECIFIED. ALL TRUE UNION BALL VALVES TO BE SCHEDULE 80 PVC (ASTM F 1970), UNLESS OTHERWISE SPECIFIED. PVC PIPING SHALL BE STAMPED WITH N.S.F. SEAL OF APPROVAL.
- THESE DRAWINGS ARE INTENDED FOR SCHEMATIC USE ONLY. FINAL PIPE LOCATIONS TO BE FIELD VERIFIED BY POOL CONTRACTOR. REFER TO EXISTING ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTURAL DRAWINGS AS REQUIRED.
- PIPING SUPPORTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE ILLINOIS PLUMBING CODE.
- ALL PIPE ELEVATIONS TO BE FIELD VERIFIED TO ALLOW FOR PROPER PITCH AND DRAINAGE. PIPE PITCH TO BE APPROXIMATELY 1" PER 10'-0". POOL CONTRACTOR TO MINIMIZE THE USE OF FITTINGS WHEREVER POSSIBLE.
- THE FLOWMETER SHALL BE LOCATED FIVE (5) STRAIGHT PIPE DIAMETERS UPSTREAM AND TEN (10) STRAIGHT PIPE DIAMETERS DOWNSTREAM FROM ANY VALVES, ELBOWS OR OTHER SOURCES OF TURBULENCE.



1 NEW FILTRATION PIPING DIAGRAM
NOT TO SCALE

PRAIRIE STONE RECREATION CENTER FILTER RENOVATION

DATE	REVISION

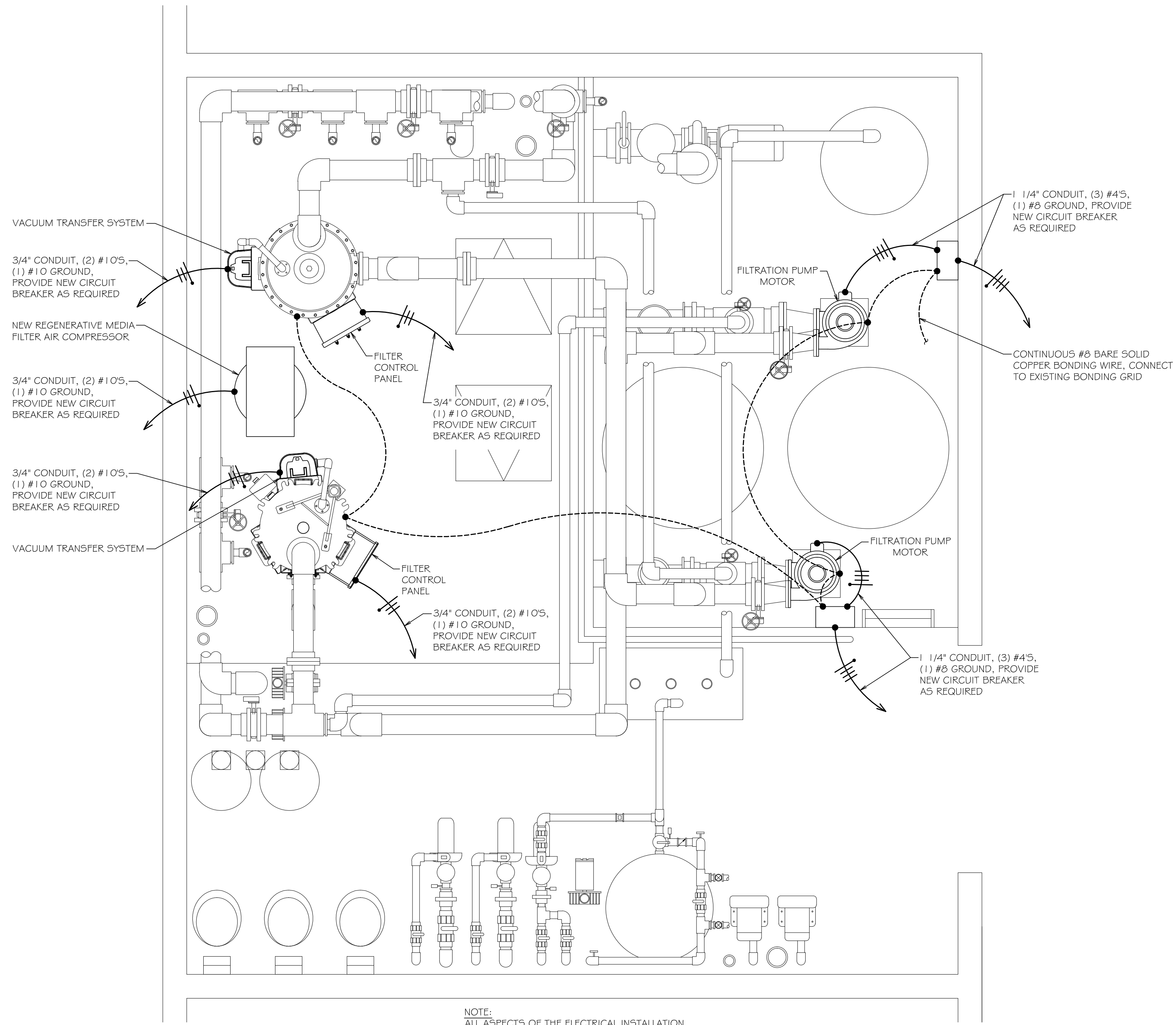
DESCRIPTION:
NEW PIPING DIAGRAM,
VALVE LEGEND AND NOTES

DATE: 03.29.16
DRAWN BY: RRD
JOB NO. A16033

PRAIRIE STONE
 RECREATION CENTER
 FILTER RENOVATION

ELECTRICAL REQUIREMENTS					
ITEM OF EQUIPMENT	VOLTAGE	PHASE	H.P. / AMPS	QUANTITY	CONTROLS & INTERLOCKS
FILTER CONTROL PANEL	120	1	30 AMPS	TWO	WIRED TO VFD AND WIRED TO RUN CONFIRM CONTACT
FILTER VACUUM TRANSFER BLOWER	120	1	1 1/2 H.P.	TWO	PRE-WIRED TO FILTER CONTROL PANEL
FILTER AIR COMPRESSOR	120	1	15 AMPS	ONE	WIRED TO FILTER REGULATOR AND FILTER CONTROL PANEL
ACTIVITY POOL FILTRATION PUMP	480	3	20 H.P.	ONE	WIRED TO VFD, INTERLOCK WITH CHEMICAL CONTROLLER
LAP POOL FILTRATION PUMP	480	3	15 H.P.	ONE	WIRED TO VFD, INTERLOCK WITH CHEMICAL CONTROLLER

* NOTE: VARIABLE FREQUENCY DRIVE TO BE PROVIDED BY PUMP AND MOTOR SUPPLIER - FIELD VERIFY VOLTAGE BEFORE ORDERING



NOTE:
 ALL ASPECTS OF THE ELECTRICAL INSTALLATION
 TO BE IN COMPLIANCE WITH THE 2008 NEC

1 NEW FILTER EQUIPMENT ELECTRICAL PLAN
 SCALE: 1/2" = 1'-0"

DATE	REVISION

DESCRIPTION:
 NEW FILTER EQUIPMENT
 ELECTRICAL PLAN AND
 ELECTRICAL REQUIREMENTS

DATE: 03.29.16
 DRAWN BY: RRD
 JOB NO. A16033

SP-4