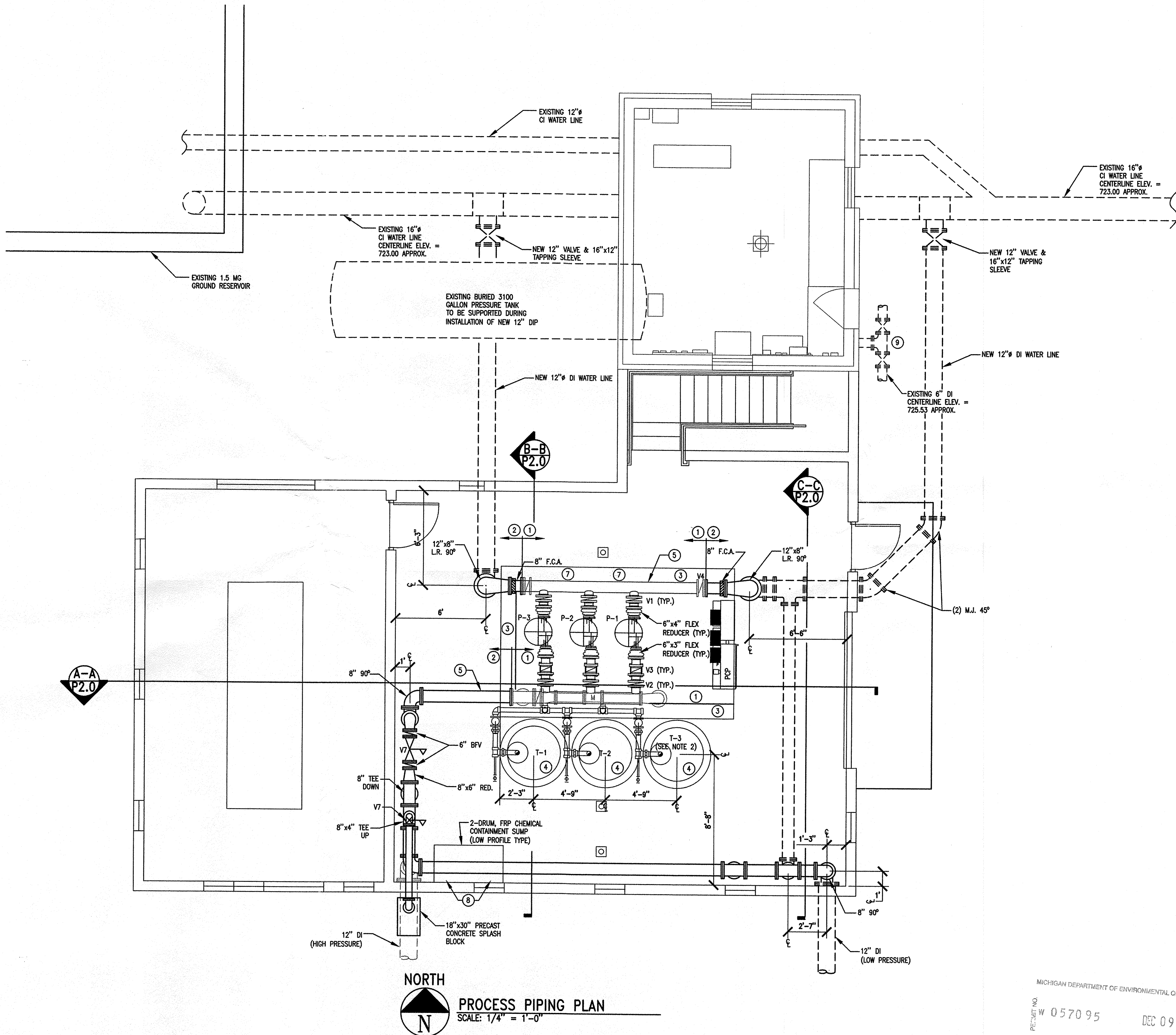


ID	QTY	ITEM	DESCRIPTION	COMMENT
	1	SKID UNIT	ALC Lift-Pac FACTORY MANUFACTURED SKID MOUNTED PUMPING STATION TO INCLUDE:	BY INTEGRATED CONTROLS 231-941-1030
P-1, 2, 3	3	PUMPS	75 HP AURORA SPLIT CASE PUMP, 2-STAGE 423-1800 3x4x14A 500 USGPM @ 315' TDH VERTICAL MOUNT	SKID MNT
T-1, 2, 3	3	PRESSURE TANKS	726 GAL HYDRO PNEUMATIC TANKS (SEE NOTE 2)	INST BY MC
V1	3	6" BUTTERFLY VALVE	P-1, 2, 3 PUMP SUCTION VALVES	SKID MNT
V2	3	6" BUTTERFLY VALVES	P-1,2,3 PUMP DISCHARGE VALVES	SKID MNT
V3	3	6" CHECK VALVES	P-1,2,3 PUMP DISCHARGE VALVES	SKID MNT
V4	2	8" BUTTERFLY VALVES	SKID ISOLATION VALVES	SKID MNT
V5	2	8" BUTTERFLY VALVES	MAG-METER SERVICE BYPASS	SKID MNT
V6	1	8" BUTTERFLY VALVE	MAG-METER EMERGENCY SERVICE BYPASS	SKID MNT
FT-1	1	6" MAG-METER	ABB 100X3111	SKID MNT
PT-1	1	PRESSURE TRANSMITTER	ABB 0-300 PSI TRANSMITTER	SKID MNT, NOT SHOWN FOR CLARITY
PT-2	1	PRESSURE TRANSMITTER	ABB 0-300 PSI TRANSMITTER	SKID MNT, NOT SHOWN FOR CLARITY
PS-1	1	PRESSURE SWITCH	LOW SUCTION PRESSURE ALARM SWITCH	SKID MNT, NOT SHOWN FOR CLARITY
PS-2	1	PRESSURE SWITCH	HIGH PRESSURE ALARM SWITCH	SKID MNT, NOT SHOWN FOR CLARITY
PG-1 THRU 6	6	PRESSURE GAUGES	PUMP SUCT & DISC GAUGES 0-150 PSI	SKID MNT, NOT SHOWN FOR CLARITY
PG-7-10	4	PRESSURE GAUGES	PRV INLET & OUTLET GAUGES (0-150 PSI)	INST BY MC
PCP	1	PUMP CONTROL PANEL		SKID MNT
VFD-1,2,3	3	VARIABLE FREQ DRIVES		SKID MNT
V7	1	4" SURGE VALVE	GOLDEN ANDERSON FIG 6600-D ANGLE VALVE (PRESET TO 140 PSI), OR EQUAL	INST BY MC
V8	2	6" PRESSURE RED. VALVE	CLA-VAL MODEL 90-48 W/ LOW FLOW BYPASS, OR EQUAL	INST BY MC
			-COORD. SETTING W/ CITY	

- KEYED NOTES:**
- PACKAGE SUPPLIED BY SKID MFG. TO INCLUDE:
PUMPS, MOTORS
VALVES (ON SKID AS DESCRIBED IN DRAWINGS)
SUCTION AND DISCHARGE PIPING AS SHOWN
TANKS; PRESSURE RELIEF VALVES; ISOLATION VALVES (INSTALLED AT SITE)
SURGE VALVE (INSTALLED AT SITE).
PRESSURE REDUCING VALVE (INSTALLED AT SITE).
ALL EQUIPMENT DELIVERED AND ASSEMBLED.
CONTRACTOR RESPONSIBLE FOR INSTALLATION OF THE SKID UNIT AT THE JOB SITE.
 - CONTRACTOR TO SUPPLY PIPING NECESSARY TO TRANSITION FROM SKID UNIT TO SUCTION AND DISCHARGE PIPING.
 - CONCRETE PAD SHALL EXTEND 12" BEYOND BOOSTER PUMP SKID ON ALL SIDES EXCEPT SHALL BE FLUSH WITH PCP ON EAST SIDE. COORDINATE DIMENSIONS W/ MECHANICAL TRADES AND BOOSTER PUMP SKID MANUFACTURER REQUIREMENTS.
 - TANKS DELIVERED LOOSE WITH SKID. PIPING REQUIRED AT JOB SITE.
 - PROVIDE TWO (2) SAMPLE TAPS (ONE FOR RAW WATER; ONE FOR FINISHED WATER) CONSISTING OF A 1/4" BRASS BALL VALVE AND SMOOTH COPPER OR STAINLESS STEEL TUBING (UNTHREADED TYPE). LOCATE MINIMUM OF 18" ABOVE F.F. AND ORIENTATE SO THAT THEY DO NOT INFRINGE ON 60" MIN. CLEARANCE.
 - PROVIDE 3/4" SERVICE TAP, DOUBLE STRAP SADDLE, TYPE K COPPER, 3/4" SHUT-OFF VALVE AND 3/4" HOSE BIBB, MTD 30" AFF.
 - PROVIDE PORTABLE DAVIT CRANE AND MOUNTING SOCKETS SUITABLE FOR REMOVING PUMPS FROM SKID TO FLOOR (OVER THE SUCTION HEADER).
 - COORDINATE LOCATION OF (2) PLUGS ON SEPARATE CIRCUITS FOR FUTURE CHEMICAL FEED WITH E.C.
 - FIELD VERIFY LOCATION OF EXISTING 6" WATERMAIN AND MAINTAIN SERVICE DURING CONSTRUCTION.

NOTES:

- SUBMIT SHOP DRAWINGS AND MANUFACTURER'S PRODUCT DATA SHEETS FOR ALL PROCESS COMPONENTS INCLUDING BUT NOT LIMITED TO THE PUMPS, MOTORS, VALVES, PIPING SPECIALTIES, FLOW METER, PRESSURE TRANSMITTERS/SWITCHES/GAUGES, PRESSURE TANKS, VARIABLE FREQUENCY DRIVES, AND PUMP CONTROL PANEL. ALL BUTTERFLY VALVES SHALL BE THE PRODUCT OF THE SAME MANUFACTURER INCLUDING THOSE ON THE BOOSTER PUMP SKID AND THOSE FURNISHED AND INSTALLED BY THE M.C.
- PROVIDE AND INSTALL PRESSURE TANKS (MINIMUM 2) ADAMSON MODEL HP-11 -54" DIAMETER BY 84" HEIGHT HYDRO-PNEUMATIC TANKS TOTALING 1,452 GALLONS COMPLETE WITH 12" BASE RING. HYDRO-PNEUMATIC BLADDER STYLE TANKS SHALL BE ASME CONSTRUCTED, NSF APPROVED, AND LABELED FOR 150 PSI WORKING PRESSURE, FACTORY PRE-CHARGED TO 110 PSI AND FIELD ADJUSTABLE. TANKS SHALL BE FACTORY COATED ON EXTERIOR WITH NSF 60 APPROVED EPOXY COATING AND FURNISHED WITH AN AIR PURGE VALVE. THIRD TANK (T-3) SHALL BE AN ADD ALTERNATE BID ITEM AT THE DISCRETION OF THE CITY.
- PRIOR TO BEING PUT ON-LINE, THE PIPING SHALL BE DISINFECTED AND TESTED ACCORDING TO AWWA SPECIFICATIONS. (AWWA C 651 - WATER MAIN FLUSHING, DISINFECTION AND BACTERIOLOGICAL TESTING, AWWA C 600 - WATER MAIN PRESSURE TESTING AND ALLOWABLE LEAKAGE, AWWA C 653 - DISINFECTION OF WATER TREATMENT PLANTS). AWWA C653 SHOULD BE USED AS A GUIDE FOR DISINFECTION OF THE INDIVIDUAL TANKS. ONCE EACH TANK HAS BEEN DISINFECTED IT MUST BE SAMPLED TWICE FOR BACTERIOLOGICAL ANALYSIS. THESE SAMPLES MUST BE TAKEN 24 HOURS APART AND GOOD RESULTS RECEIVED PRIOR TO PLACING ONLINE. TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF TRAVERSE CITY.
- ALL POTABLE WATER PIPING MAY BE CARBON STEEL BUT MUST COMPLY WITH 10 STATE STANDARDS FOR POTABLE WATER.
- SUBMIT (4) BOUND COPIES OF OPERATION AND MAINTENANCE MANUALS TO CITY OF TRAVERSE CITY. O & M MANUALS SHALL BE IN ACCORDANCE WITH SECTION 01300 OF THE SPECIFICATIONS AND SHALL INCLUDE ALL MECHANICAL PROCESS EQUIPMENT.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PERMIT NO. W 0570 95 DEC 09 105
EXAMINED AND APPROVED FOR COMPLIANCE WITH 1-27-2003 PA-1218

CITY OF TRAVERSE CITY
WAYNE HILL
WATER BOOSTER STATION UPGRADE
PROCESS PLAN

ISSUED FOR:	DATE:	BY:
CITY REVIEW	10/17/05	KSC
PERMITTING	10/28/05	KSC
JOB NO.	TVC3302-01C	
SHEET	P1.0	

NOT VALID FOR CONSTRUCTION
UNLESS SIGNED AND DATED:

WADETRIM

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