

INDIANA DEPARTMENT OF NATURAL RESOURCES
CHAIN O'LAKES STATE PARK
PROJECT NO. E030277-B

WATERWORKS IMPROVEMENTS



DEC. 3, 2014

CERTIFIED BY: *Robert E. Curry*



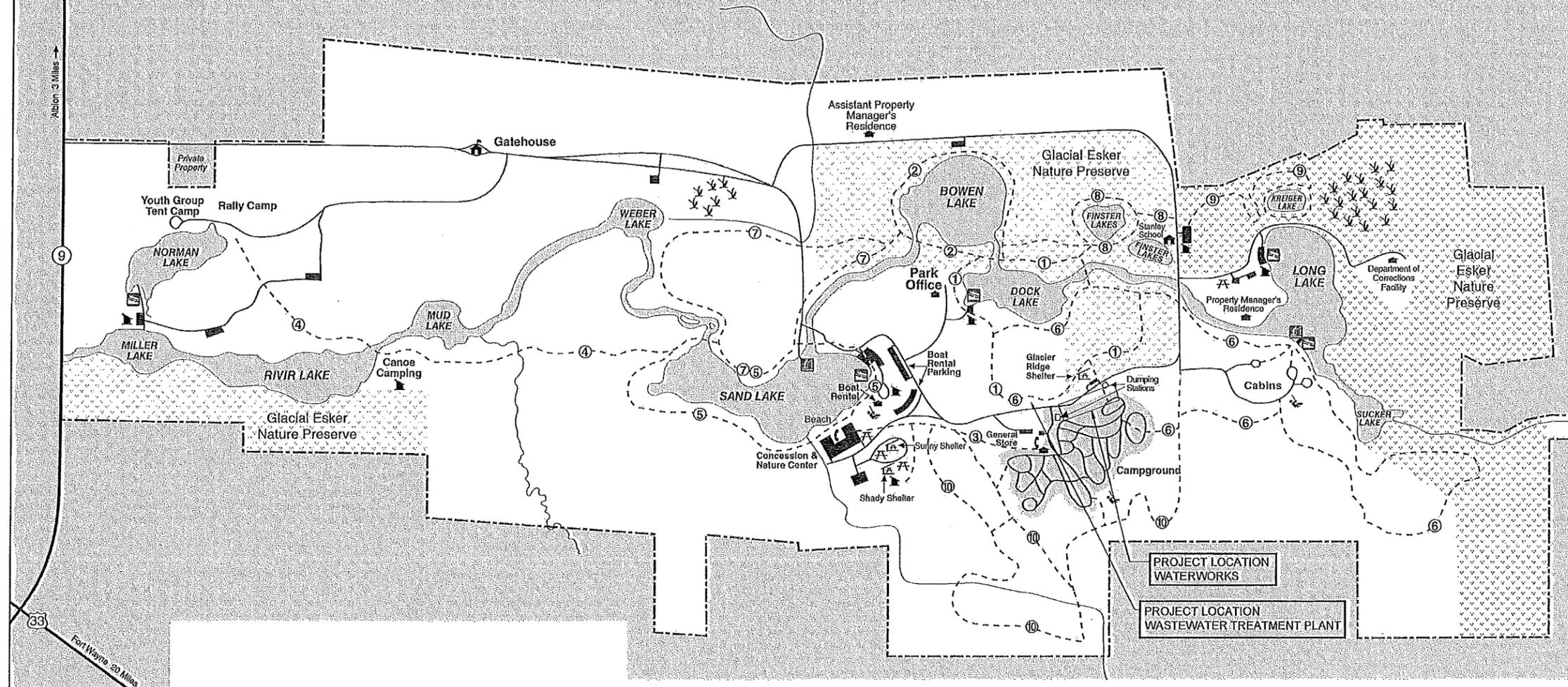
CURRY & ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
110 COMMERCE DRIVE DANVILLE, IN 46122
317.745.6995 FAX: 317.745.6985

DRAWING INDEX	
SHEET NO.	SHEET TITLE
1	COVER & INDEX
2	LOCATION MAP
3	DEMOLITION PLAN
4	1-1/2" FORCE MAIN & 6" RAW WATER MAIN
5	PIPING PLAN & SECTIONS
6	EQUIPMENT SCHEDULE & DETAILS
7	WATER SOFTENER DETAILS
8	ELECTRICAL PLAN
9	WWTP FLOW SPLITTING STRUCTURE (BY DNR)

MIKE PENCE -- GOVERNOR
CAMERON F. CLARK -- DIRECTOR OF DNR
MICHAEL J. MATHIAS -- CHIEF OF SANITARY SECTION

CHAIN O'LAKES STATE PARK

2355 E. 75 South • Albion, Indiana 46701 • (260) 636-2654
2,718 Acres Established 1960



CRITICALLY IMPORTANT STATE PARK OPERATIONAL NOTE:
CHAIN O-LAKES STATE PARK MUST HAVE A FULLY OPERATIONAL WATER SUPPLY SYSTEM BY APRIL 20, 2015. CONTRACTOR MUST PERFORM ALL WORK NECESSARY TO ASSURE WATER SYSTEM IS FULLY FUNCTIONAL. CONTRACTOR SHALL HAVE ALL UNDERGROUND PIPING, PLANT PIPING, ELECTRICAL WORK AND DISINFECTION PERFORMED BEFORE APRIL 1, 2015. INTERRUPTION OF WATER SUPPLY AFTER THE ABOVE SCHEDULE CAN NOT BE TOLERATED BY OWNER. WATER WATER SYSTEM MAY BE OPERATED USING THE WATER SOFTENER BY-PASS PIPING UNTIL MAY 1, 2015

CHAIN O'LAKES STATE PARK MAP PROVIDED BY DNR & IS NOT A PART OF DRAWING CERTIFICATION. ROBERT E. CURRY, P.E. DRAWING CERTIFICATION OF LOCATION ONLY.

S:\ENGINEERING PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK\CONSTRUCTION PLANS\2 LOCATION MAP.DWG 12/11/14

REVISIONS	DRAWN BY:			CURRY & ASSOCIATES, INC. CONSULTING ENGINEERS & ARCHITECTS 110 COMMERCE DRIVE DANVILLE, IN 46122 317.745.6995 FAX: 317.745.6985	INDIANA DEPARTMENT OF NATURAL RESOURCES CHAIN O'LAKES STATE PARK PROJECT NO. E030277-B WATERWORKS IMPROVEMENTS	LOCATION MAP	JOB NO.	SHEET NO.	
	DATE:								
	CERTIFIED BY:						Robert E. Curry		2
	DATE:						DEC. 3, 2014		SCALE: AS NOTED

**SCHEDULE OF ALTERNATE BIDS
TO BE INCLUDED ON QUOTATION**

ALTERNATE BID NUMBER	DESCRIPTION OF ALTERNATE BID WORK	REFERENCE
1	Install new standby power receptacle and manual transfer switch	Plan Sheet No. 8
2	Install new fluorescent lighting fixtures as specified	Plan Sheet No. 8
3	Demolition inside water treatment plant	Plan Sheet No. 3
4	WWTP Flow splitter structure	Plan Sheet No. 9

ALTERNATE BID NUMBER THREE

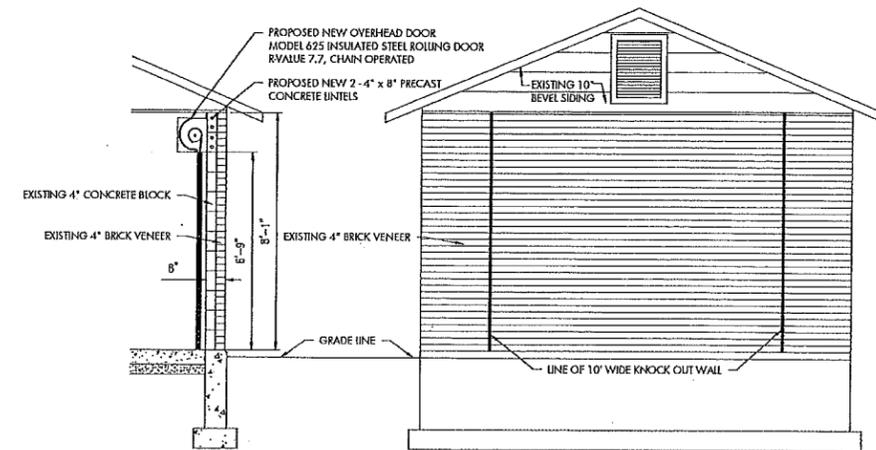
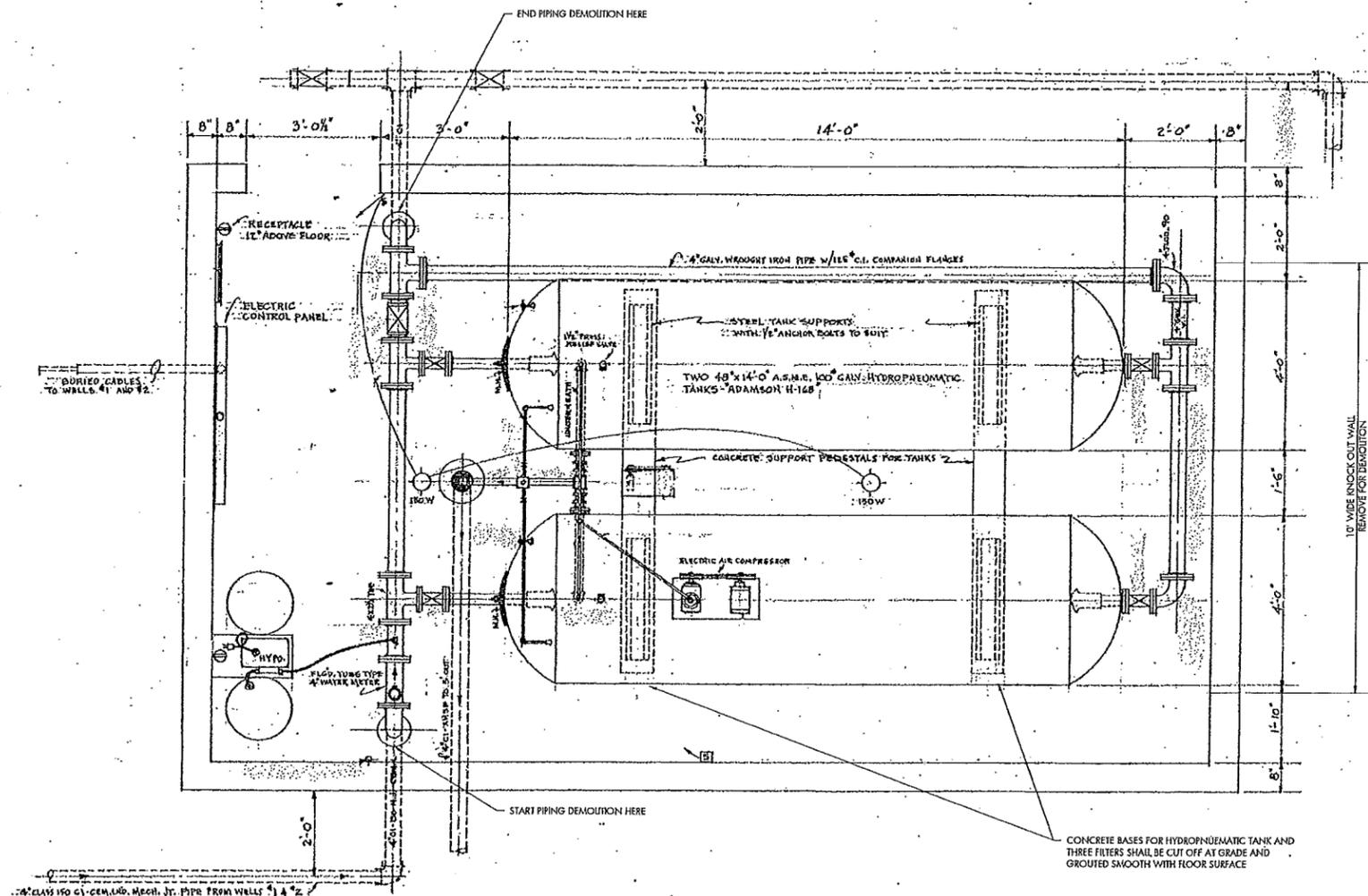
DEMOLITION NOTES FOR PLAN OF EXISTING WATER TREATMENT PLANT DEMOLITION

MATERIALS AND WATER TREATMENT PLANT COMPONENTS TO BE REMOVED BY CONTRACTOR AND DISPOSED OF OFF SITE

- All water process piping from 4" flanged inlet to 4" flanged outlet where treated water exits building.
- Both horizontal hydro pneumatic tank plus all inlet and outlet piping including valves and fittings.
- All miscellaneous piping associated with hydro pneumatic tank.
- Water meter
- Air Compressor shall be removed and disposed of by contractor.

MATERIALS AND WATER TREATMENT PLANT COMPONENTS TO BE REMAIN IN PLACE OR TURNED OVER TO OWNER

- All water service lines in building and for inside or outside hose bibs shall remain in place.
- Existing door shall remain in place.
- All electrical conduit, wiring and switches associated with building lighting shall remain in place.
- Floor drain covers shall remain in place.
- Concrete bases for hydro pneumatic tank and three filters shall be cut off at grade and grouted smooth with floor surface.



**SECTION THRU PROPOSED
ROLL-UP DOOR**

SCALE: 3/8" = 1'-0"

EAST ELEVATION EXISTING WATER PLANT

SCALE: 3/8" = 1'-0"

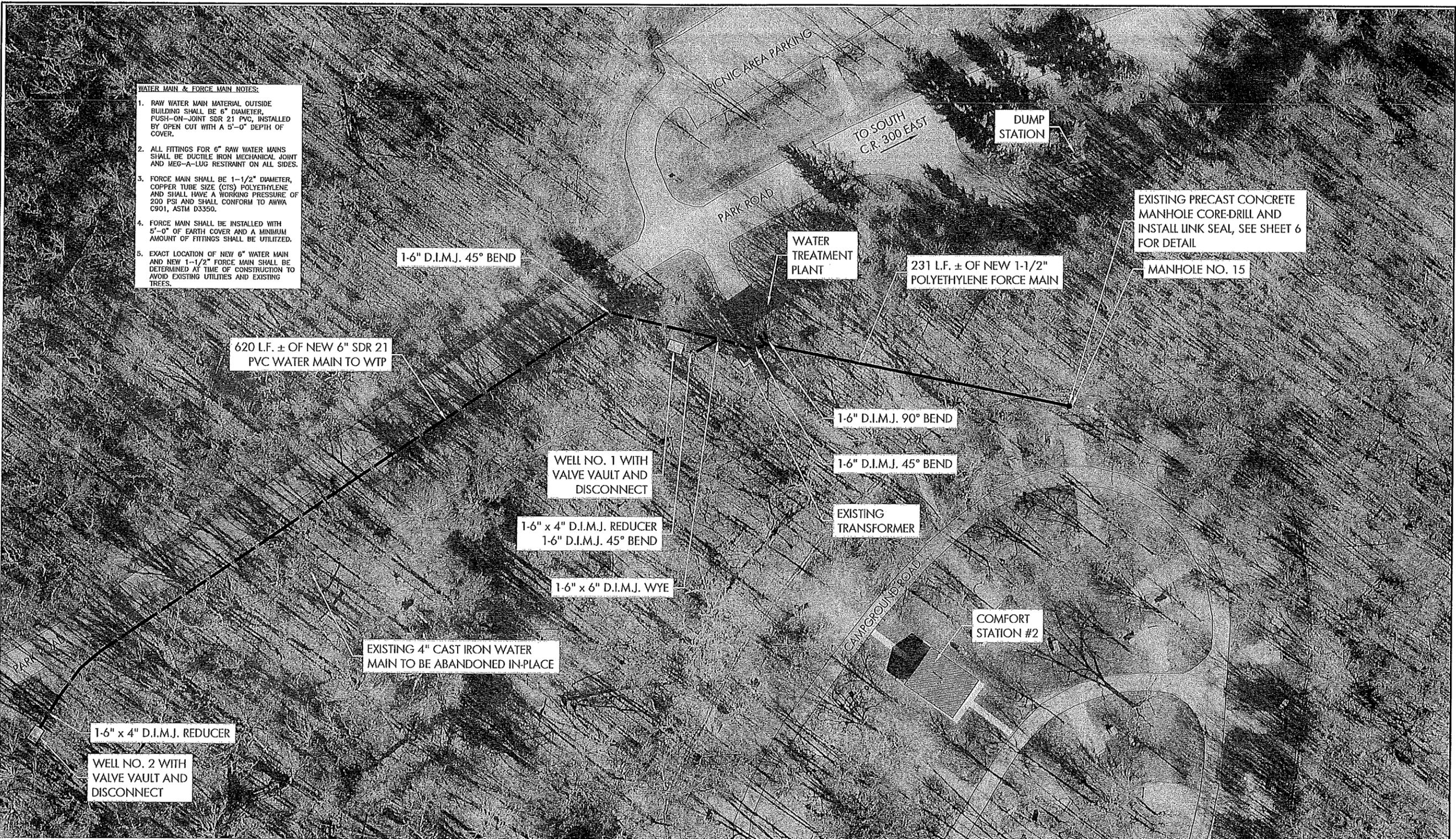


DEMOLITION PLAN
NO SCALE

S:\ENGINEERING\PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK CONSTRUCTION PLANS\3 DEMOLITION PLANS\3 DEMOLITION PLANS\12/11/14

REVISIONS	DRAWN BY:				CURRY & ASSOCIATES, INC. CONSULTING ENGINEERS & ARCHITECTS 110 COMMERCE DRIVE DANVILLE, IN 46122 317.745.6995 FAX: 317.745.6985	INDIANA DEPARTMENT OF NATURAL RESOURCES CHAIN O'LAKES STATE PARK PROJECT NO. E030277-B WATERWORKS IMPROVEMENTS	OLD WATER PLANT DEMOLITION PLAN	JOB NO.	SHEET NO.
	DATE:								3
	CERTIFIED BY:	<i>Robert E. Curry</i>							
	DATE:	DEC. 3, 2014						SCALE: AS NOTED	

- WATER MAIN & FORCE MAIN NOTES:**
1. RAW WATER MAIN MATERIAL OUTSIDE BUILDING SHALL BE 6" DIAMETER, PUSH-ON-JOINT SDR 21 PVC, INSTALLED BY OPEN CUT WITH A 5'-0" DEPTH OF COVER.
 2. ALL FITTINGS FOR 6" RAW WATER MAINS SHALL BE DUCTILE IRON MECHANICAL JOINT AND MEG-A-LUG RESTRAINT ON ALL SIDES.
 3. FORCE MAIN SHALL BE 1-1/2" DIAMETER, COPPER TUBE SIZE (CTS) POLYETHYLENE AND SHALL HAVE A WORKING PRESSURE OF 200 PSI AND SHALL CONFORM TO AWWA C901, ASTM D3350.
 4. FORCE MAIN SHALL BE INSTALLED WITH 5'-0" OF EARTH COVER AND A MINIMUM AMOUNT OF FITTINGS SHALL BE UTILIZED.
 5. EXACT LOCATION OF NEW 6" WATER MAIN AND NEW 1-1/2" FORCE MAIN SHALL BE DETERMINED AT TIME OF CONSTRUCTION TO AVOID EXISTING UTILITIES AND EXISTING TREES.



1-1/2" FORCE MAIN & 6" RAW WATER MAIN
SCALE: 1" = 30'-0"

NOTE:
PROVIDE #12 COPPER TRACER WIRE SIMILAR TO ENCORE
ON ALL NEW BURIED PVC & HDPE PIPING

G:\ENGINEERING\PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK\CONSTRUCTION PLANS\1. FORCE MAIN & RAW WATER MAIN.DWG 12/2/14

REVISIONS	

DRAWN BY:	
DATE:	
CERTIFIED BY:	<i>Robert E. Curry</i>
DATE:	DEC. 3, 2014

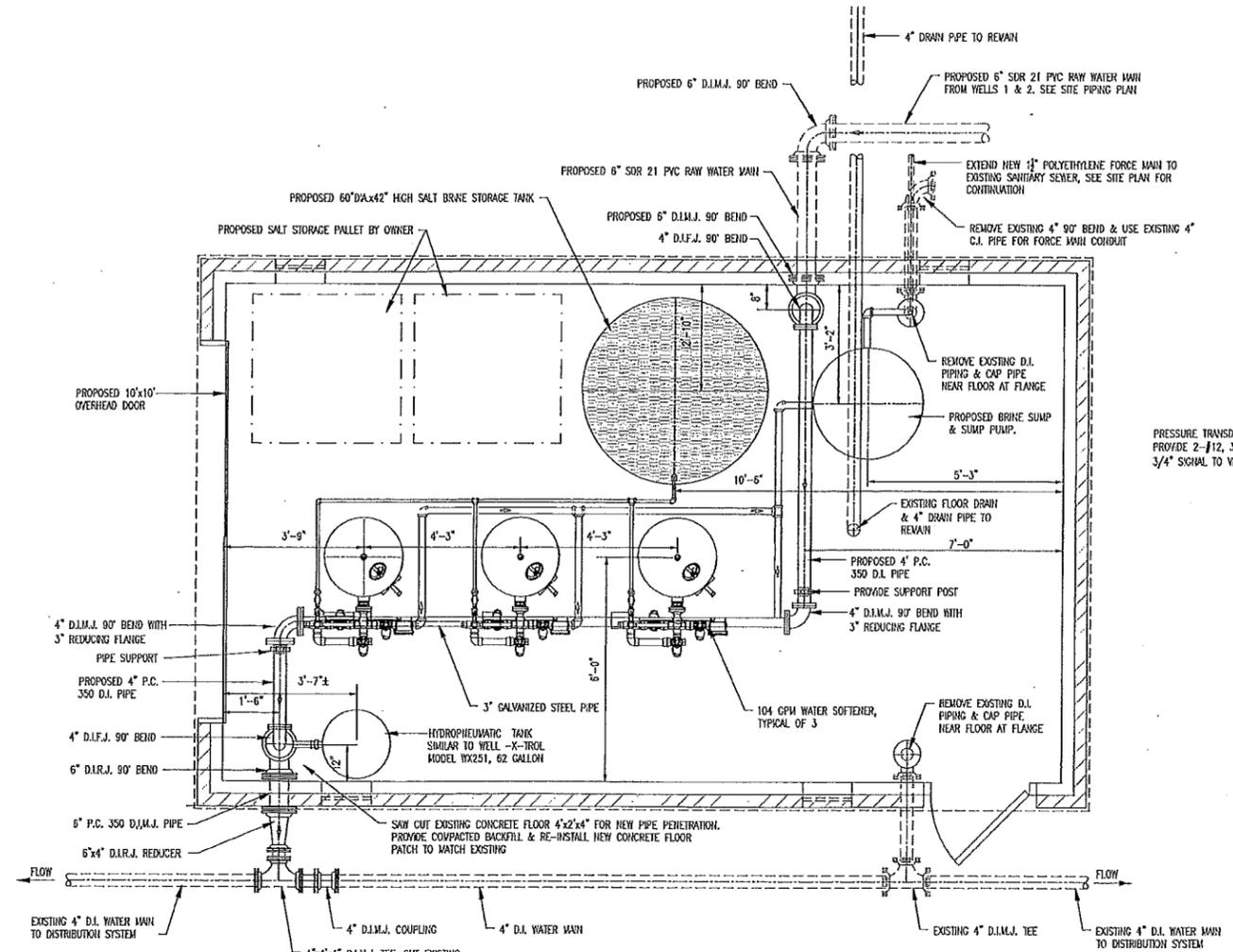


CURRY & ASSOCIATES, INC.
CONSULTING ENGINEERS & ARCHITECTS
110 COMMERCE DRIVE DANVILLE, IN 46122
317.745.6995 FAX: 317.745.6985

INDIANA DEPARTMENT OF NATURAL RESOURCES
CHAIN O'LAKES STATE PARK
PROJECT NO. E030277-B
WATERWORKS IMPROVEMENTS

1-1/2" FORCE MAIN PLAN
6" RAW WATER MAIN PLAN

JOB NO.	SHEET NO.
	4
SCALE: AS NOTED	

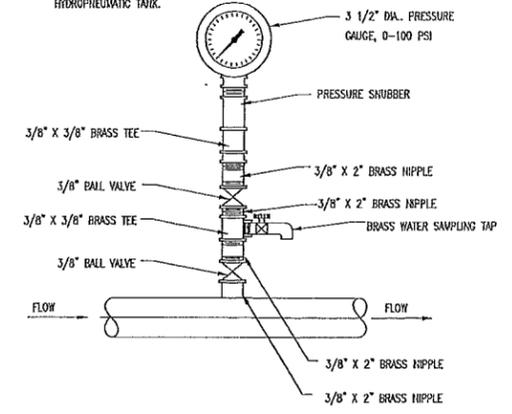


PIPING PLAN

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

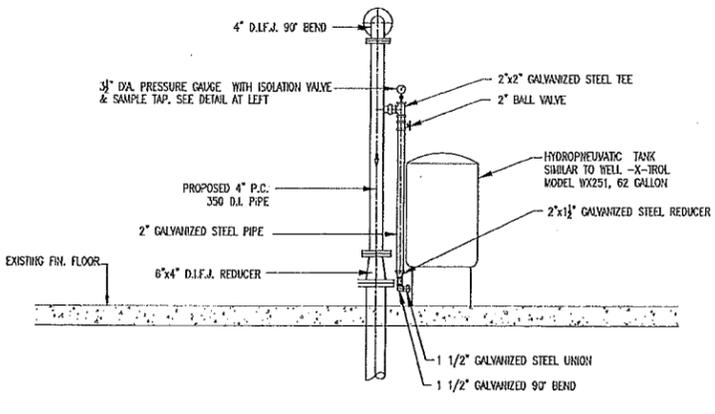
NOTES:

1. ALL FITTINGS & PIPE SHALL BE BRASS
2. PROVIDE ONE PRESSURE GAUGE & SAMPLING TAP AHEAD OF WATER METER
3. PROVIDE ONE PRESSURE GAUGE & SAMPLING TAP NEAR HYDRO-PNEUMATIC TANK.



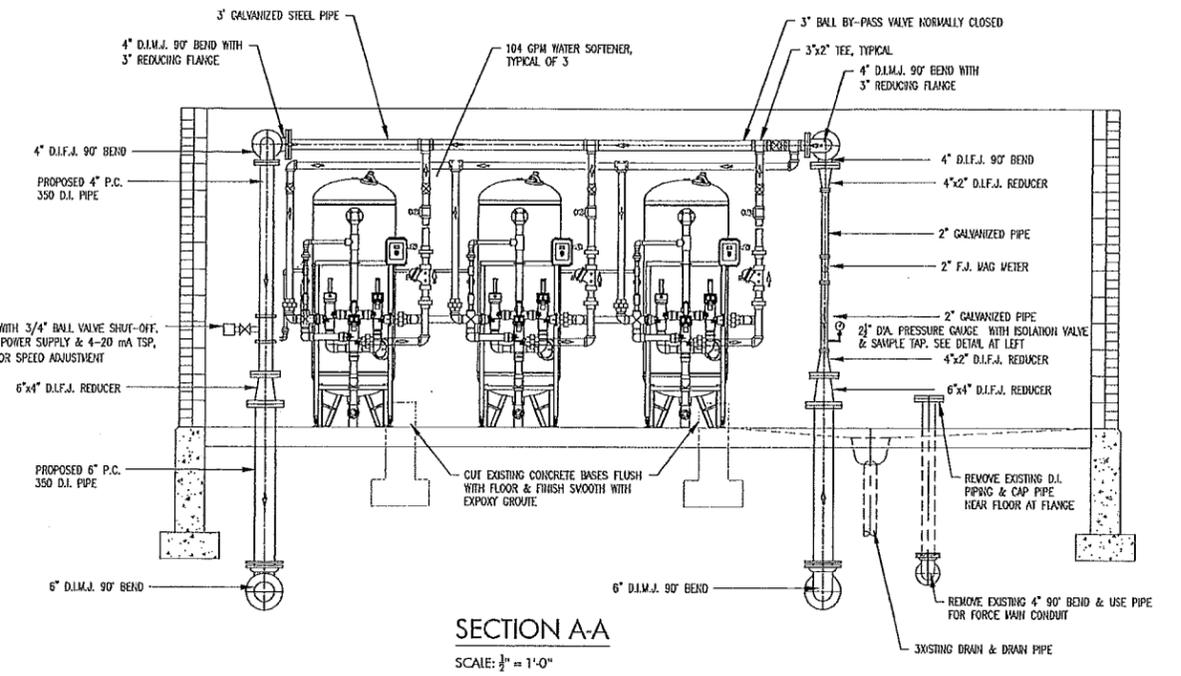
PRESSURE GAUGE & SAMPL. COCK DETAIL

NO SCALE



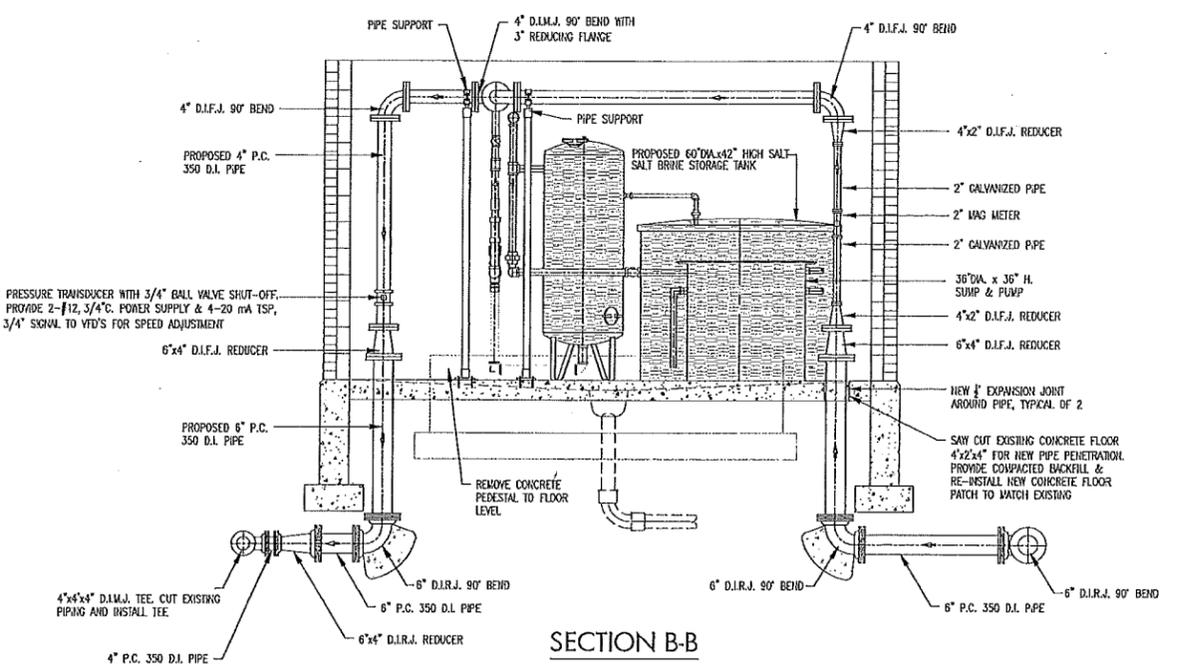
HYDRO-PNEUMATIC TANK DETAIL

SCALE: 1/2" = 1'-0"



SECTION A-A

SCALE: 1/2" = 1'-0"



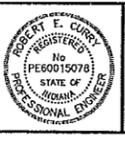
SECTION B-B

SCALE: 1/2" = 1'-0"

Q:\ENGINEERING\PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK CONSTRUCTION PLANS\B PIPING FLOORING 2/4/13

REVISIONS	DRAWN BY:	DATE:

CERTIFIED BY:	<i>Robert E. Curry</i>
DATE:	DEC. 3, 2014



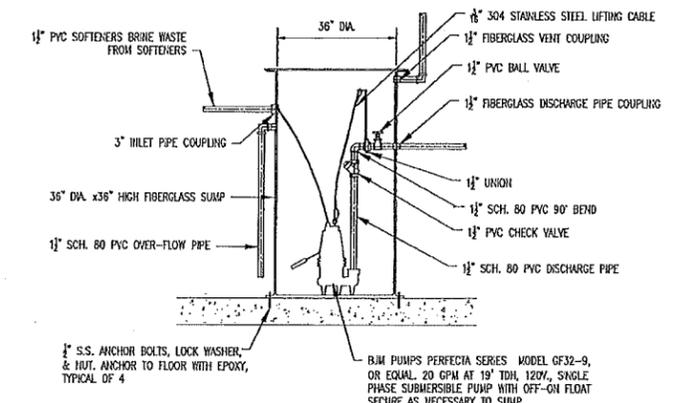
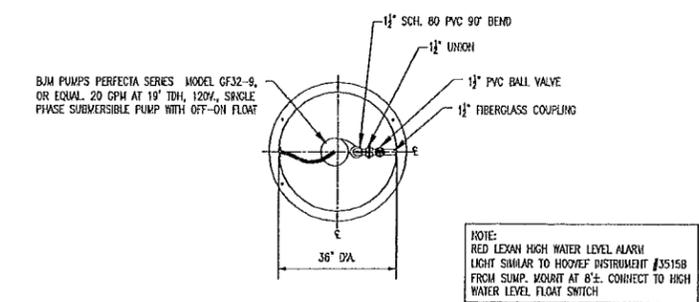
CURRY & ASSOCIATES, INC.
 CONSULTING ENGINEERS & ARCHITECTS
 110 COMMERCIAL DRIVE DANVILLE, IN 46122
 317.745.6995 FAX: 317.745.6985

INDIANA DEPARTMENT OF NATURAL RESOURCES
 CHAIN O'LAKES STATE PARK
 PROJECT NO. E030277-B
 WATERWORKS IMPROVEMENTS

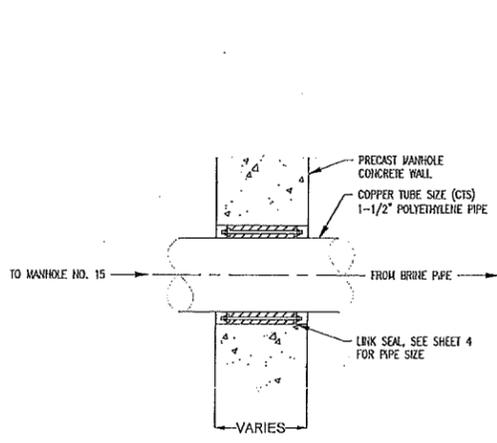
PIPING FLOOR PLAN

JOB NO.	SHEET NO.
	5
SCALE: AS NOTED	

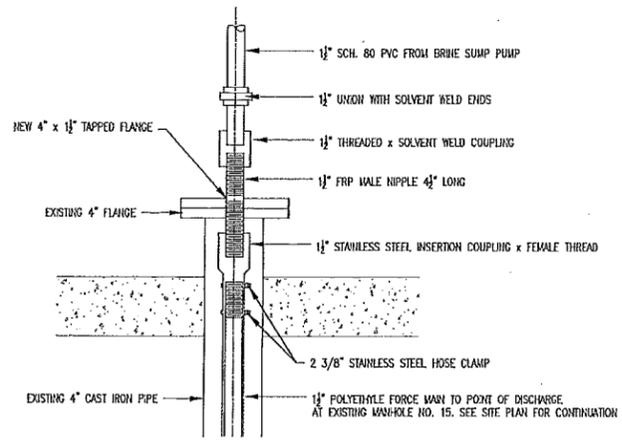
CHAIN-O-LAKES STATE PARK WATERWORKS IMPROVEMENTS EQUIPMENT LIST				
ITEM No.	EQUIPMENT NAME	MANUFACTURER OR SUPPLIER	MODEL NUMBER	EQUIPMENT CHARACTERISTICS
1	3-WATER SOFTENER UNITS	Culligan	HFXN-210CD Triplex	All face piping Sch. 80 PVC
2	TRI-PLEX PROGRESSIVE FLOW SYSTEM	Culligan		Flow control device
3	BRINE RECLAIM SYSTEM	Culligan		Tri-plex for all three units
4	BRINE SATURATION TANK	Chem-Tainer	AA Series, TC6046AA	60" Dia. X 46" Tall, With top cover, 575 Gal.
5	BRINE WATER DISCHARGE SUBMERSIBLE PUMP	BJM Pumps, LLC	GF32-9	0.4 H.P., 20 gpm @ 19' tdh
6	POLYETHYLENE BRINE PUMP BASIN & COVER	TOPP Industries, Inc.	BM5100 & C3655A	154 Gal, Polyethylene, Wall Thickness .3125"
7	2" MAG. METER AND REGISTER	Badger	M-2000	110 V power supply
8	1-1/2" POLYETHYLENE FORCE MAIN	Various	Black roll stock	Rated for 200 psi operating pressure
9	6" SDR 21 PVC RAW WATER MAIN	Various	SDR 21	Rated for 200 psi operating pressure
10	TWO ELECTRIC WALL MOUNTED UNIT HEATERS	EMERSON	MUH-07-4	480 Volt, 3 phase including unit mounted thermostat
11	TWO CONSTANT PRESSURE VFD WELL PUMP DRIVES	Franklin Motor Co.	CIE3R-SUBP015-P2-3	N3R, 15 H.P., 230V, 3 phase, VFD, MCCB, LR, OR
12	ONE PRESSURE TRANSDUCER	Franklin Motor Co.	Supplied by Franklin	1/4" MNPT, mounted vertically
13	SURFACE MOUNTED FLUORESCENT LIGHT FIXTURES	Colombia	4VS24-432SM-FSAT12187 4EV-TP4-F0741	110 Volt, using existing wiring
14	ONE DEHUMIDIFIER UNIT	Therma-Stor LLC	HI-E DRY Model 100	110 volts, 106 pints/day removal
15	10' WIDE CAN TYPE ROLL-UP INSULATED DOOR	Overhead Door	Model 625	Chain Operated



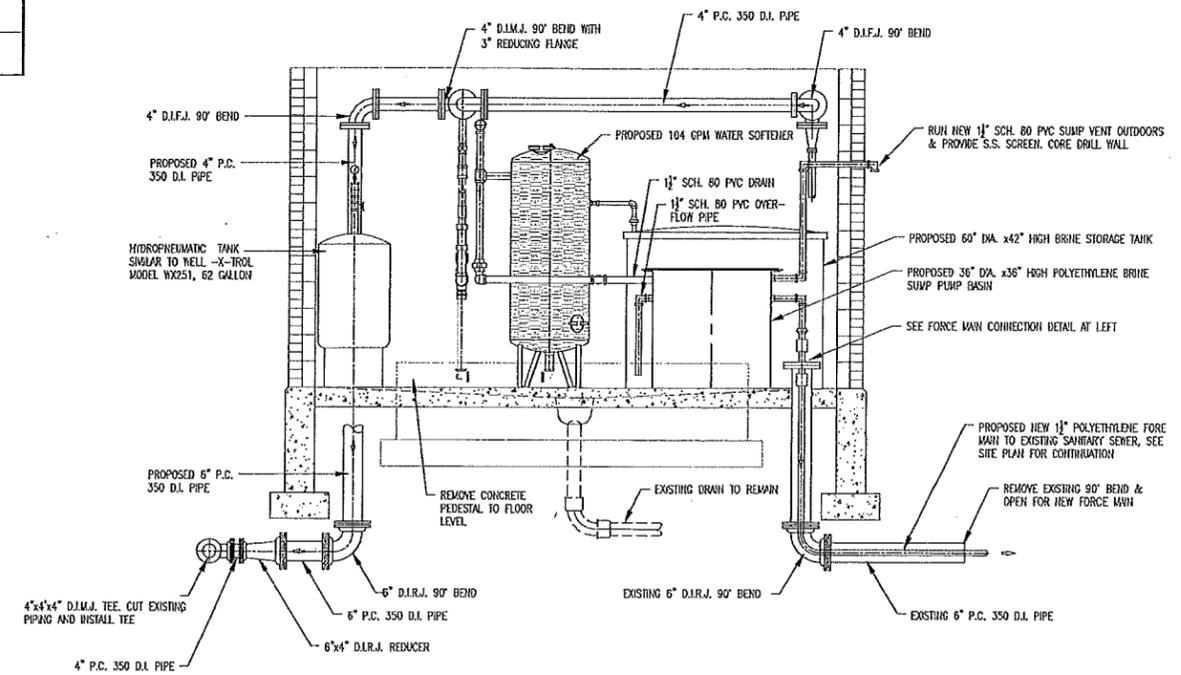
BRINE SUMP PUMP & BASIN DETAIL
SCALE: 1/2" = 1'-0"



LINK SEAL DETAIL
NO SCALE:



FORCE MAIN CONNECTION DETAIL
NO SCALE:



PIPING SECTION
SCALE: 1/2" = 1'-0"

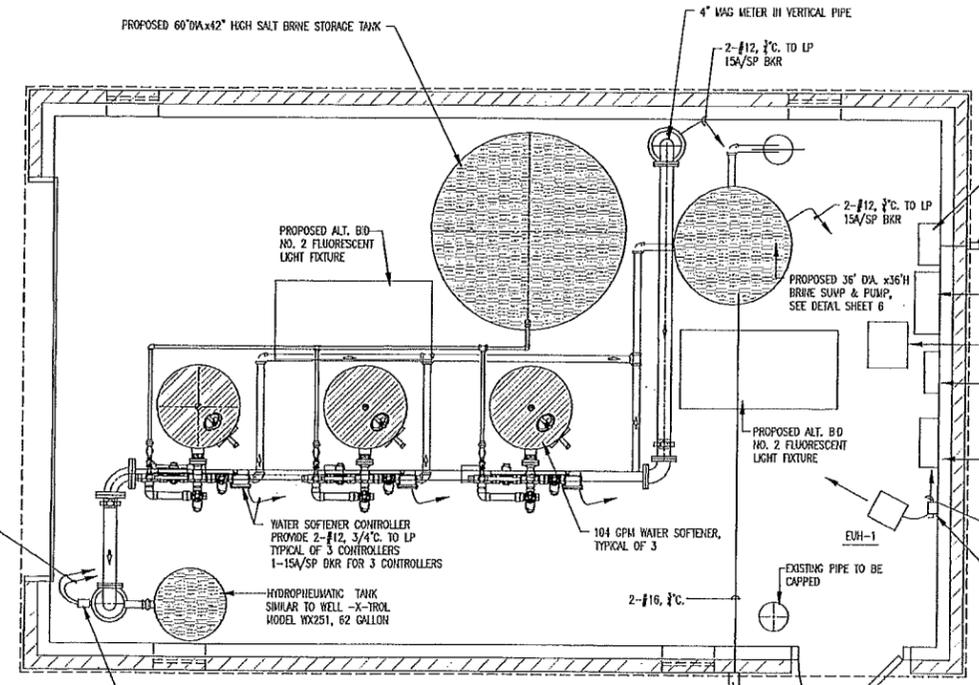
G:\ENGINEERING PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK_CONSTRUCTION PLANS\6 EQUIPMENT SCHEDULE.DWG 2/4/13

REVISIONS	DRAWN BY:			CURRY & ASSOCIATES, INC. CONSULTING ENGINEERS & ARCHITECTS 110 COMMERCE DRIVE DANVILLE, IN 46122 317.745.6995 FAX: 317.745.6985	INDIANA DEPARTMENT OF NATURAL RESOURCES CHAIN O'LAKES STATE PARK PROJECT NO. E030277-B WATERWORKS IMPROVEMENTS	EQUIPMENT SCHEDULE AND DETAILS	JOB NO.	SHEET NO.	
	DATE:								
	CERTIFIED BY:						<i>Robert E. Curry</i>		6
	DATE:						DEC. 3, 2014		
							SCALE: AS NOTED		

O:\ENGINEERING\PROJECTS\WATER\2014-CHAIN O'LAKES STATE PARK CONSTRUCTION PLANS\B ELECTRICAL PLAN\DWG 2/4/13

ELECTRIC UNIT HEATER AND WALL HEATER SCHEDULE						
NO.	DESCRIPTION	KW	VOLT	PHASE	AMPS	MODEL NO.
EUH-1	ELECTRIC UNIT HEATER	7.5	480	3	9	EQUAL TO EMERSON MUH-07-04

NOTES:
 1. ALL UNIT HEATERS SHALL BE SUPPLIED WITH SELF CONTAINED THERMOSTAT
 2. PROVIDE WALL MOUNTING BRACKET FOR ALL UNIT HEATERS.
 3. PROVIDE DISCONNECT FOR ALL UNIT HEATERS



ALTERNATE 1: PROPOSED NEW SERVICE ENTRANCE RATED 200A, 480V, 3 PHASE MANUAL TRANSFER SWITCH

ALTERNATE 1: PROPOSED NEW 200A, 480V, 3 PHASE, 4 POLE PIN & CORD WALL MOUNTED GENERATOR CONNECTION, SIMILAR TO APPELTON ADJ20034-200 WITH AP20034E PLUG. PROVIDE PLUG LOOSE TO OWNER.

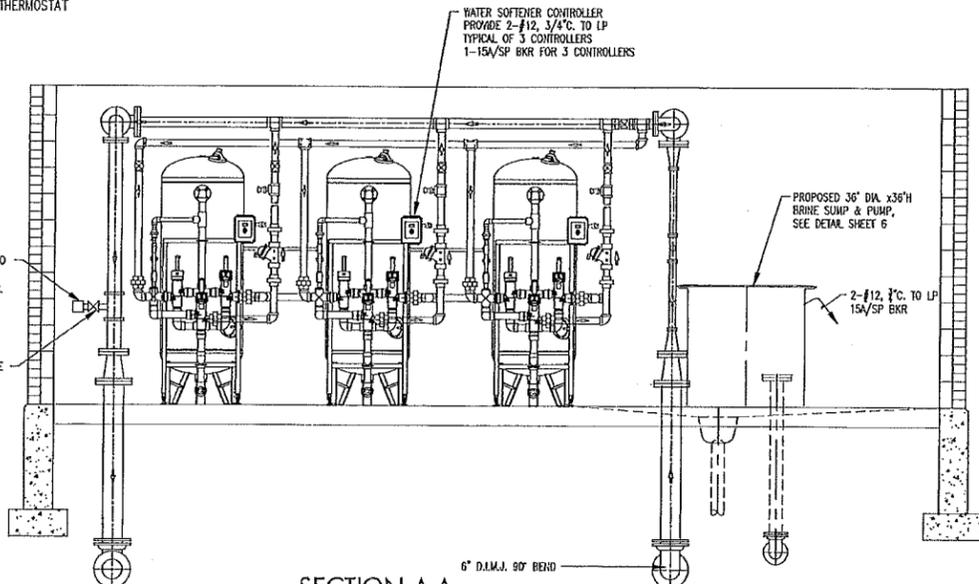
EXISTING 480V, 3 PHASE WELL NO. 2 STARTER TO BE REPLACED WITH NEW 20 HP VFD

EXISTING 480V x 150V TRANSFORMER

EXISTING 480V, SINGLE PHASE LIGHTING PANEL LP TO REMAIN

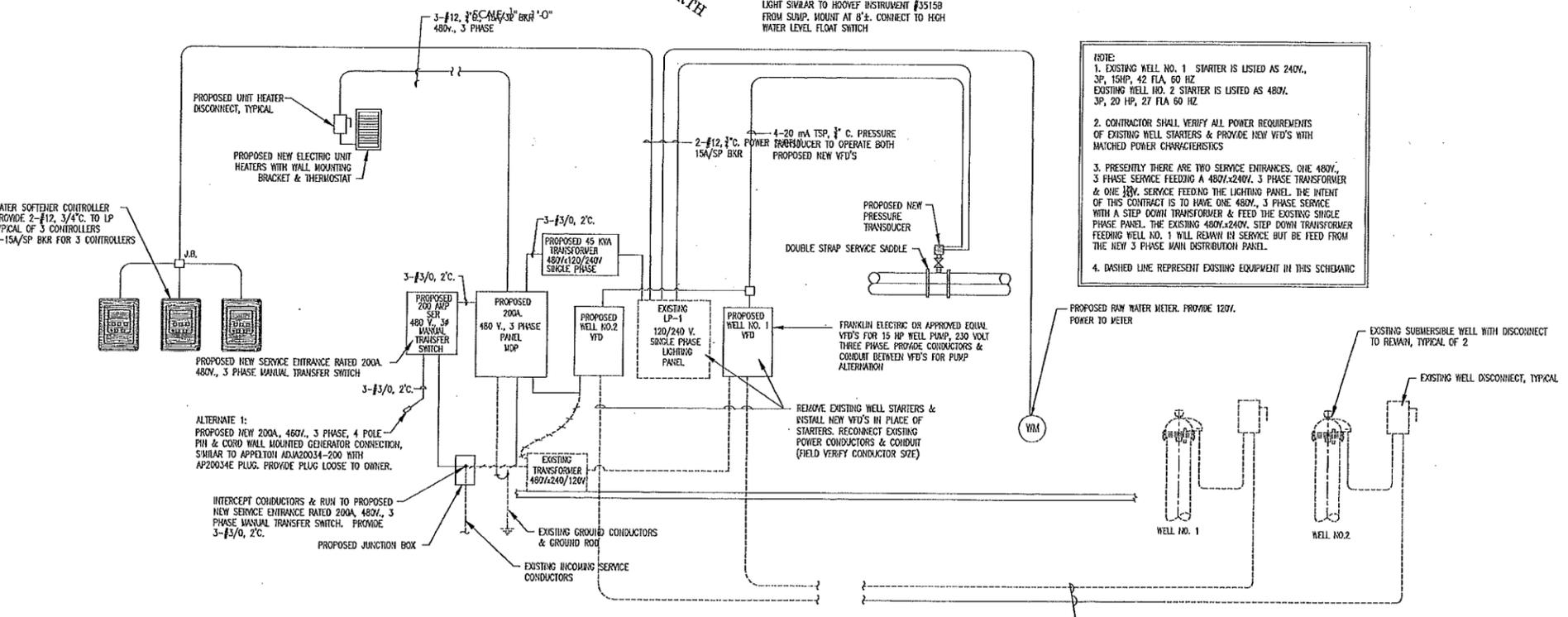
EXISTING 240V, 3 PHASE WELL NO. 1 STARTER TO BE REPLACED WITH NEW 20 HP VFD

3-#12, 3/4\"/>



SECTION A-A
 SCALE: 1/2" = 1'-0"

ELECTRICAL PLAN
 NORTH



NOTE:
 1. EXISTING WELL NO. 1 STARTER IS LISTED AS 240V, 3P, 15HP, 42 FLA, 60 HZ
 EXISTING WELL NO. 2 STARTER IS LISTED AS 480V, 3P, 20 HP, 27 FLA 60 HZ

2. CONTRACTOR SHALL VERIFY ALL POWER REQUIREMENTS OF EXISTING WELL STARTERS & PROVIDE NEW VFD'S WITH MATCHED POWER CHARACTERISTICS

3. PRESENTLY THERE ARE TWO SERVICE ENTRANCES, ONE 480V, 3 PHASE SERVICE FEEDING A 480V/240V, 3 PHASE TRANSFORMER & ONE 15KV SERVICE FEEDING THE LIGHTING PANEL. THE INTENT OF THIS CONTRACT IS TO HAVE ONE 480V, 3 PHASE SERVICE WITH A STEP DOWN TRANSFORMER & FEED THE EXISTING SINGLE PHASE PANEL. THE EXISTING 480V/240V, STEP DOWN TRANSFORMER FEEDING WELL NO. 1 WILL REMAIN IN SERVICE BUT BE FEED FROM THE NEW 3 PHASE MAIN DISTRIBUTION PANEL.

4. DASHED LINE REPRESENT EXISTING EQUIPMENT IN THIS SCHEMATIC

**ALTERNATE BID NUMBER TWO
 REPLACEMENT LIGHTING FIXTURES
 CHAIN-O-LAKES S.P. WATER TREATMENT PLANT**

This alternate consists of furnishing and installing two (2) surface mounted light fixtures with four 32 watt bulbs each and one (1) sealed fluorescent fixture with two 32 watt bulbs

FOUR FLOURESCENT FIXTURES CEILING MOUNTED LIGHT FIXTURES
 DIMENSIONS: 48" LONG X 24" WIDE X 4-1/2" TALL
 LAMPS: 4 - 32 WATT BULBS
 MOUNTING: CEILING MOUNT
 BALLAST: 4 LAMP, ELECTRONIC T8 INSTANT START
 EQUAL TO: COLUMBIA LIGHTING AVS24-4325M-FSAT12187-4EU-TP4-F0741

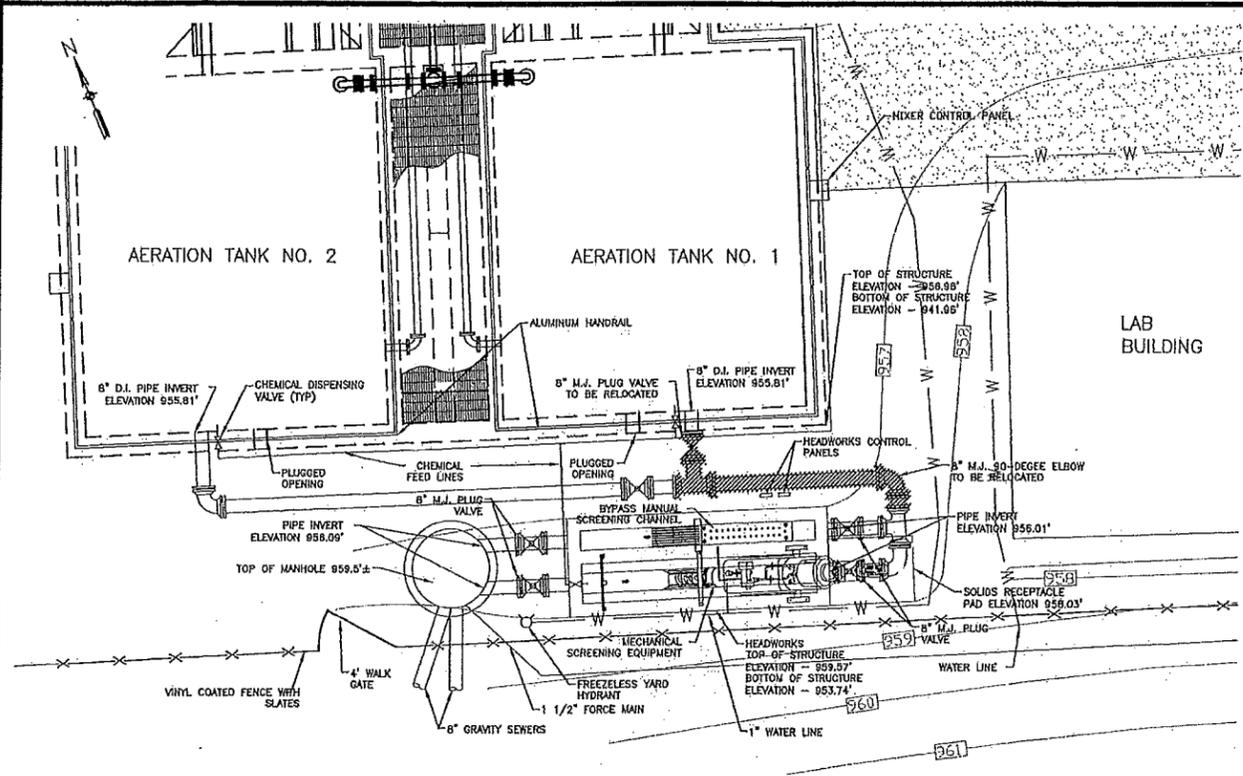
Note: New light fixtures shall be used to replace existing light fixtures and shall be installed at same location or close proximity to existing light fixtures to make use of existing switches, wires and conduits.

GENERAL ELECTRIC NOTES:

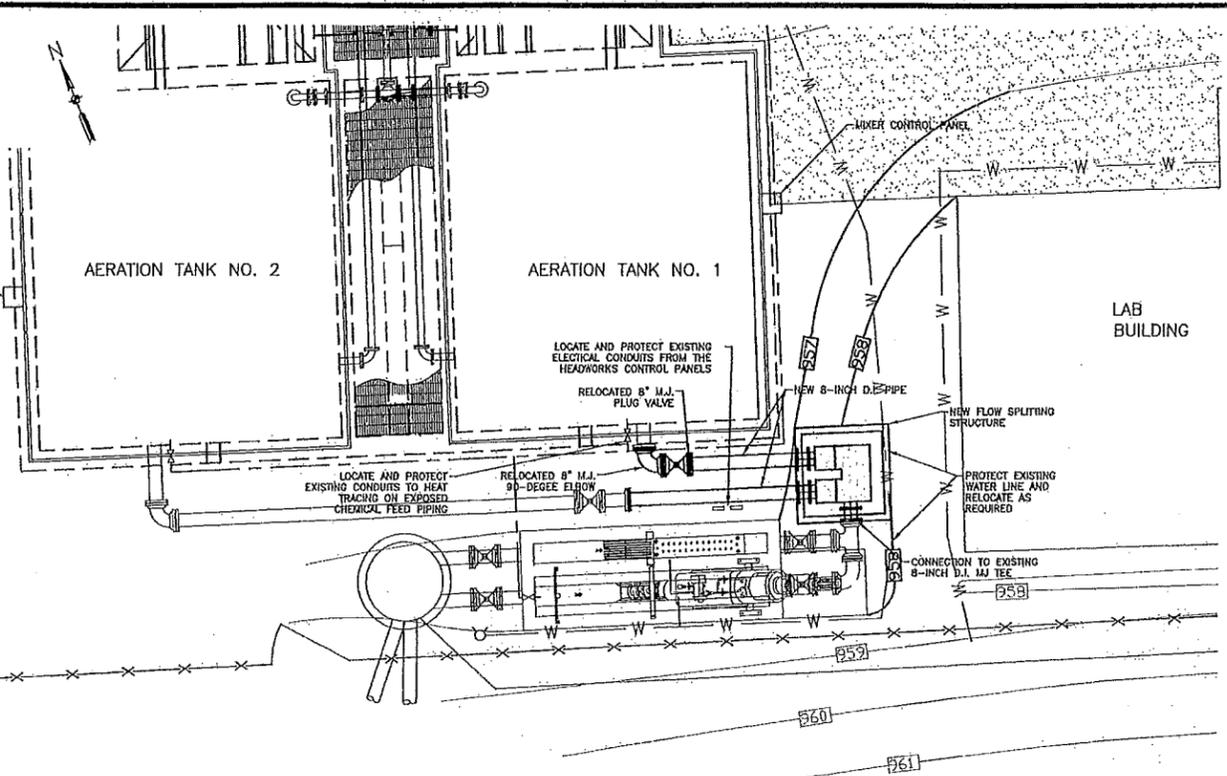
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL CODES & ORDINANCES, & IN NO INSTANCES SHALL THE ELECTRICAL WORK BE LESS THAN THE REQUIREMENTS OF THE LATEST PRINTED EDITION OF THE NATIONAL ELECTRIC CODE.
- MINIMUM WIRE SIZE SHALL BE #12 COPPER UNLESS SHOWN OTHERWISE
- GROUND ALL EQUIPMENT, FIXTURE & SYSTEMS AS PER THE REQUIREMENTS OF THE NEC & NFPA.
- CONTRACTOR SHALL PROVIDE CIRCUITS, GROUND CONDUCTORS, GROUNDS, CONDUIT, BREAKERS, MOTOR STARTERS, AND SIGNAL CIRCUITS FOR ALL EQUIPMENT FURNISHED BY CONTRACTOR AS PART OF CONTRACT. SOME ITEMS MAY NOT BE SHOWN.
- ALL CONDUCTORS SHALL BE COPPER.

ELECTRICAL SCHEMATIC
 NO SCALE

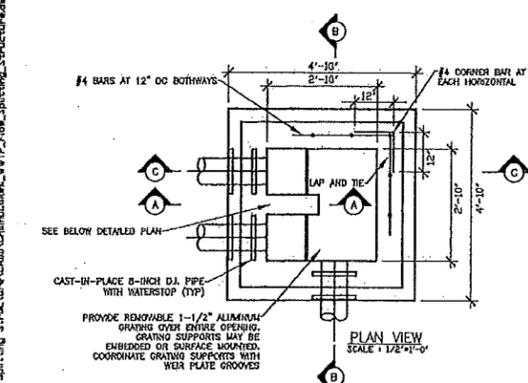
REVISIONS DRAWN BY: DATE: CERTIFIED BY: Robert E. Curry DATE: DEC. 3, 2014		CURRY & ASSOCIATES, INC. CONSULTING ENGINEERS & ARCHITECTS 110 COMMERCE DRIVE DANVILLE, IN 46122 317.745.6995 FAX: 317.745.6985	INDIANA DEPARTMENT OF NATURAL RESOURCES CHAIN O'LAKES STATE PARK PROJECT NO. E030277-B WATERWORKS IMPROVEMENTS	ELECTRICAL PLAN & SCHEMATIC	JOB NO.	SHEET NO.
					SCALE: AS NOTED	
					8	



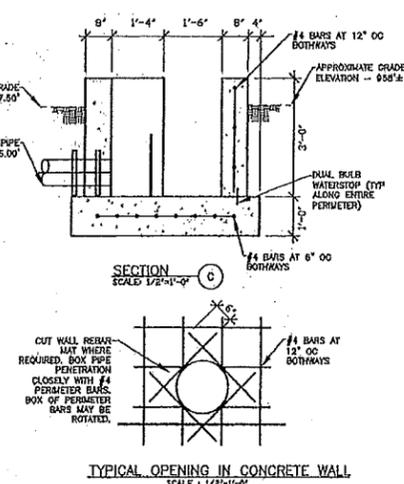
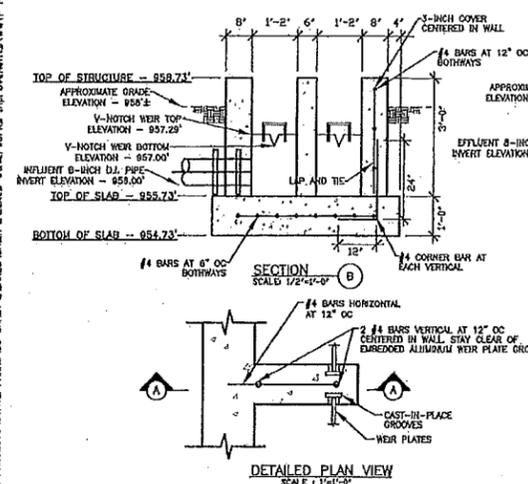
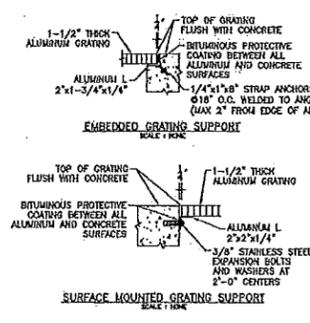
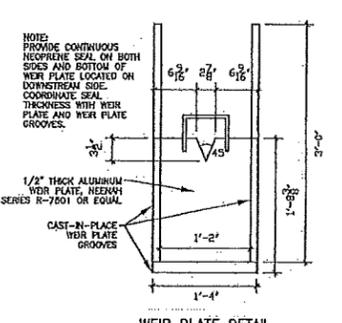
EXISTING SITE PLAN/DEMOLITION PLAN
SCALE: 1/4"=1'-0"



NEW SITE PLAN
SCALE: 1/4"=1'-0"

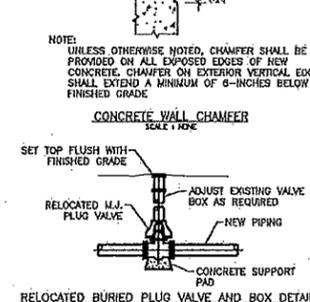
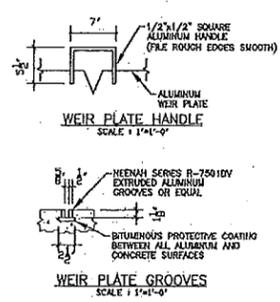


- STRUCTURAL GENERAL NOTES**
1. PROVIDE MINIMUM STEEL COVER OF 3-INCH.
 2. ALL REINFORCEMENT BARS #4.
 3. PROVIDE MINIMUM 12-INCH COMPACTED #53 STONE BASE BELOW STRUCTURE SLAB.
 4. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



NEW FLOW SPLITTING STRUCTURE
SCALE: 1/2"=1'-0"

CONSTRUCTION DETAILS



MATERIAL REQUIREMENTS

DUCTILE IRON PIPE SHALL BE AWWA C-151/C-111 CLASS 51 MECHANICAL JOINT WITH AWWA C-104 CEMENT MORTAR LINING.

REMOVABLE ALUMINUM GRATING SHALL BE RECTANGULAR WITH BEARING BARS SPACED NOT MORE THAN 1-3/16" ON CENTERS AND TRANSVERSE BARS SPACED NOT MORE THAN 2" ON CENTERS. BEARING BARS SHALL BE ALUMINUM ALLOY 6061-T6 AND TRANSVERSE BARS SHALL BE ALUMINUM ALLOY 6063-T42 OR 6060-T5. THE PANELS SHALL BE SYMMETRICALLY SHAPED AND REVERSIBLE. BOTH THE TOP AND BOTTOM SURFACE OF THE BARS SHALL BE SERRATED.

LEAKAGE TESTING (WATER HOLDING CONCRETE STRUCTURES AND PIPING)

WHEN THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH AND BEFORE THE WATER HOLDING STRUCTURES ARE PLACED IN SERVICE, THEY SHALL BE FILLED WITH WATER AND TESTED FOR WATERTIGHTNESS. ANY IMPERFECTIONS, LEAKS OR COMBINATION OF LEAKS WHICH CAUSE THE SURFACE OF THE WATER TO DROP MORE THAN ONE-QUARTER (1/4) INCH IN TWENTY-FOUR (24) HOURS SHALL BE SATISFACTORILY REPAIRED. ANY VISIBLE LEAKS SHALL BE MADE WATERTIGHT.

ANY CRACKS OR IMPERFECTIONS DEVELOPING AT ANY POINT THE WORK SHALL BE THOROUGHLY REPAIRED IN A MANNER SATISFACTORY TO THE ENGINEER. THE CONTRACTOR SHALL TAKE EXTRAORDINARY PRECAUTIONS TO PREVENT THE POSSIBILITY OF WATER LEAKAGE ALONG CONSTRUCTION JOINTS. ALL SPECIAL TREATMENT OF THE CONCRETE AND JOINTS NECESSARY TO FULFILL THE SPECIFICATIONS FOR WATER TIGHTNESS SHALL BE AT THE CONTRACTOR'S EXPENSE.

ALL NEW SEWERS SEGMENTS MUST BE TESTED FOR WATERTIGHTNESS WITH AN AIR TEST AS DESCRIBED BELOW BEFORE BEING ACCEPTED FOR USE.

EACH SEWER LINE SHALL BE SEALED AT EACH END OF THE SECTION TO BE TESTED AND PRESSURIZED TO 4 PSIG. ALLOW PRESSURE TO STABILIZE BETWEEN 4 PSIG TO 3.5 PSIG FOR A PERIOD OF NOT LESS THAN 5 MINUTES. ADDITIONAL AIR MAY BE ADDED DURING THIS PERIOD TO MAINTAIN THE MINIMUM PRESSURE AT 3.5 PSIG.

THE AIR VALVE SHALL BE CLOSED AFTER THE STABILIZATION PERIOD. THE AMOUNT OF TIME, WHICH ELAPSES BEFORE THE PRESSURE DROPS 1.0 PSIG, SHALL BE MEASURED AND RECORDED. THIS TIME PERIOD SHALL BE A MINIMUM OF 3 MINUTES FOR A 4" PIPE, 4 MINUTES FOR A 6" PIPE, 5 MINUTES FOR AN 8" PIPE, OR 6 MINUTES FOR A 10" PIPE. IF THE PIPE SECTION FAILS THE TEST, THE CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS TO ENABLE THAT SECTION TO PASS THE TEST.

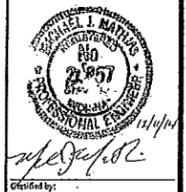
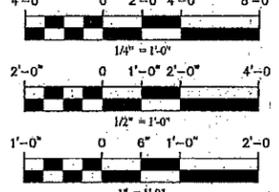
BYPASS PUMPING REQUIREMENTS

CONTRACTOR TO PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, POWER, MAINTENANCE, ETC. TO IMPLEMENT A TEMPORARY BYPASS PUMPING SYSTEM FOR THE PURPOSE OF DIVERTING THE EXISTING FLOW AROUND THE WORK AREA FOR THE DURATION OF THE PROJECT. THE DESIGN, INSTALLATION AND OPERATION OF THE TEMPORARY BYPASS PUMPING SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL IMMEDIATELY REMOVE AND DISPOSE OF ALL SPILLED OR OVERFLOW MATERIAL DURING THE BYPASS PUMPING OPERATIONS AT THEIR OWN EXPENSE AND ALSO BE RESPONSIBLE FOR ANY FINES IMPOSED AS A RESULT OF SPILLS OR OVERFLOWS THAT OCCUR AS A RESULT OF THE BYPASS PUMPING OPERATIONS.

CONTRACTOR SHALL PERFORM LEAKAGE AND PRESSURE TESTING ON ALL BYPASS PUMPING DISCHARGE PIPING USING CLEAN WATER PRIOR TO THE ACTUAL OPERATION. THE PRESSURE AND LEAKAGE TEST SHALL BE CONDUCTED AT A MINIMUM OF 1.5 TIMES THE MAXIMUM PRESSURE THE PIPING SYSTEM WILL EXPERIENCE FOR A PERIOD OF TWO HOURS. NO LEAKAGE IS PERMITTED DURING THE TEST. ALL LEAKS MUST BE LOCATED AND CORRECTED PRIOR TO THE ACTUAL OPERATION.

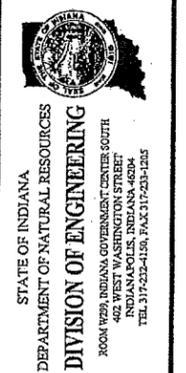
BYPASS PUMPING SUCTION LOCATION MUST BE LOCATED DOWNSTREAM OF THE EXISTING MECHANICAL SCREENING EQUIPMENT AND NOT IMPACT THE OPERATION OF THE HEADWORKS FACILITY. FLOW FROM THE HEADWORKS FACILITY SHALL BE EQUALLY DISTRIBUTED BETWEEN AERATION TANKS NO. 1 AND NO. 2. CONTRACTOR MAY USE EXISTING FACILITY ISOLATION VALVES IN BYPASS PUMPING EFFORTS. CONTRACTOR SHALL ESTABLISH ADEQUATE BYPASS PUMPING FOR THE FLOWING FLOW DATA AT A MINIMUM: AVERAGE DAILY FLOW 0.02 MGD, MAXIMUM DAILY FLOW 0.03 MGD.

GRAPHIC SCALES



Created by: *[Signature]*

CHAIN O' LAKES STATE PARK
WWTP FLOW SPLITTING STRUCTURE
INDIANA DEPARTMENT OF NATURAL RESOURCES
2355 EAST 75 SOUTH
ALBION, INDIANA 46701



Project Number:
Acquisition Number:
Designer: WSP
Drawing Date: 12-10-2014
Checker: WSP
Drawing Scale: AS NOTED
Date Approved:
Client Approval:
File Number:
Drawing Number: 9
Sheet 9 of 9