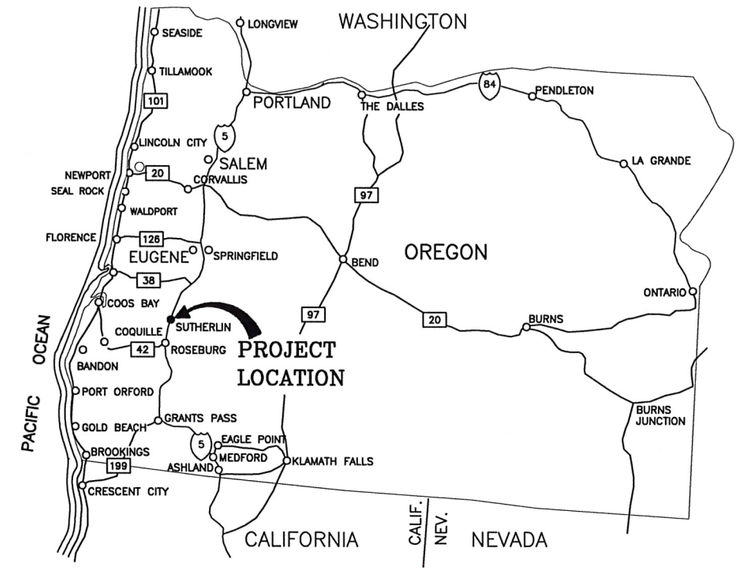
WASTEWATER TREATMENT PLANT IMPROVEMENTS - PRE DESIGN REPORT



LOCATION MAP
NOT TO SCALE

CITY OF SUTHERLIN
DOUGLAS COUNTY, OREGON

PROJECT NO. 146.38

THIS PROJECT IS FUNDED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY CLEAN WATER STATE REVOLVING FUND AGREEMENT NO. R89540

MAY 2016

ENGINEER:

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 Teakwood Avenue / Coos Bay, Oregon 97420
(541) 269-0732 / WWW.DYERPART.COM

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY - NOT FOR CONSTRUCTION

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DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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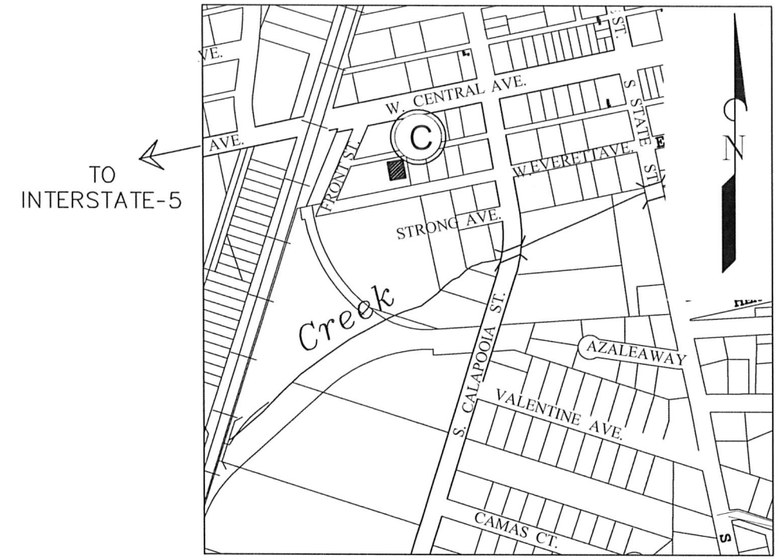
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

GENERAL
INDEX TO DRAWINGS

PROJECT NO. 146.38
DRAWING NO. G1
DATE MAY 2016
SHEET NO. 1 OF 70

SUTHERLIN WWTP VICINITY MAP

SCALE: 1" = 500'



EVERETT AVE. PUMP STATION VICINITY MAP

SCALE: 1" = 500'

(A) WWTP IMPROVEMENTS

(B) FORDS POND

(C) EVERETT AVE. PUMP STATION

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16

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CITY OF SUTHERLIN

GENERAL VICINITY MAP

PROJECT NO.	DRAWING NO.
146.38	G2
DATE	SHEET NO.
MAY 2016	2 OF 70

\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\GENERAL\G2 VICINITY MAP.dwg, 11/30/2015 3:25:40 PM PLOT DATE May 5, 2016

ABBREVIATIONS

A	AIR
AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
ADPTR	ADAPTER
AGG	AGGREGATE
AL	ALUMINUM
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
AUX	AUXILIARY
BKFL	BACKFILL
BLDG	BUILDING
BM	BENCH MARK
BWL	BOTTOM WATER LEVEL
C	CONDUIT
CARV	
CB	CATCH BASIN
	CAST IRON
CFM	CUBIC FEET PER MINUTE
CL	CHLORINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROL
CO	CLEAN OUT
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORP	CORPORATION
CPLG	COUPLING
CTR	CENTER
CUL	CULVERT
D	DRAIN
DB	DIGESTED BIOSOLIDS
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DR	DRAIN
DS	DIGESTED SLUDGE
DWG	DRAWING
EA	EACH
EFF	EFFLUENT
EL/ELEV	ELEVATION
ELB	ELBOW
ELEC	ELECTRICAL
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST'G	EXISTING
EXT	EXTERIOR
FCA	FLANGE COUPLING ADAPTER
FD	FLOOR DRAIN
FE	FINAL EFFLUENT
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FLG	FLANGED
FM	FORCE MAIN
FO	FIBER OPTIC
FOC	FACE OF CURB
FT	FEET
FTG	FOOTING
G	GRIT
GALV	GALVANIZED
GIP	GALVANIZED IRON PIPE
GND	GROUND (ELEC)
GPD,H,M	
GV	GATE VALVE
HB	HOSE BIB
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HORSE POWER
HPT	HIGH POINT
HT	HEIGHT
HW	HOT WATER
HWL	HIGH WATER LEVEL
IE	INVERT ELEVATION
INT	INTERIOR
INV	INVERT
JB	JUNCTION BOX
LAT	LATERAL
L	LENGTH
LF	LINEAR FEET
LG	LONG
LPT	LOWPOINT
LT	LEFT
LWL	LOW WATER LEVEL
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MSTR	MASTER
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
NIC	NOT IN CONTRACT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
P	PHASE (ELEC)/PUMP
PC	POINT OF CURVATURE
PD	PUMPED DRAINAGE
PE	PLAIN END
PERF	PERFORATED
PI	POWER INPUT
PL	PLATE
POL	POLYMER
PV	PLUG VALVE
PM	PRESSURE MAIN
P/P	POWER POLE/UTILITY POLE
PRESS.	PRESSURE
P/S	PUMPING STATION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PST	PRESSATE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RCL	RECLAIMED WATER
RDCR	REDUCER
REINF	REINFORCING
REQ'D	REQUIRED
ROW	RIGHT OF WAY
RS	RAW SEWAGE
RT	RIGHT
RW	REUSE WATER
SA	SERVICE AIR
SCH	SCHEDULE
SD	SANITARY DRAIN
SE	SECONDARY EFFLUENT
SEC	SECTION
SHWL	STORM HIGH WATER LEVEL
SN	SUPERNATANT
SPEC	SPECIFICATIONS
SQ	SQUARE
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STORM DRAIN
STL	STEEL
SUBM	SUBMERSION
SOG	SLAB-ON-GRADE
SVC	SERVICE
TBC	TOP BACK CURB
TBM	TEMPORARY BENCH MARK
TCPLG	TRANSITION COUPLING
TD	TANK DRAIN
TE	TERTIARY EFFLUENT
TF	TERTIARY FILTER
TOB	TOP OF BANK
TOE	TOE OF BANK
TOF	TOP OF FOOTING
TOW	TOP OF WALL
THD	THREADED
TRANS	TRANSITION
TS	TRANSFER SLUDGE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VENT
VLV	VALVE
VAR	VARIES
W	CITY WATER POTABLE
WAS	WASTE ACTIVATED SLUDGE
W/	WITH
W/O	WITHOUT
YD	YARD
(W)	WEST
(E)	EAST
(N)	NORTH
(S)	SOUTH
ø	DIAMETER

GENERAL NOTES

1. VERTICAL DATUM BASED ON BM V495. (EL. = 445.49' - 1988 NAVD). [DOUGLAS COUNTY SURVEYOR'S OFFICE (DCSO) FILE #CS66/024 DATE 2000]
2. HORIZONTAL CONTROL IS SPC OREGON SOUTH @ NGS "UMPQUA NE BASE" N: 642,917.20 E: 4,168,902.82.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON FIELD LOCATES AND RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE MEASUREMENTS IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT "ONE-CALL" AT 811. THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987. FOR UTILITY LOCATES AT LEAST 48 HOURS BEFORE ANY EXCAVATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS ESPECIALLY AT CONNECTIONS AND AT POTENTIAL UTILITY CONFLICTS.
4. THE OVERHEAD ELECTRIC LOCAL DISTRIBUTION SYSTEMS AND INDIVIDUAL SERVICE LINES ARE NOT SPECIFICALLY INDICATED ON THE DRAWINGS BUT DO EXIST ALONG THE PIPELINE ROUTES. THE CONTRACTOR SHALL EXERCISE CAUTION WHILE WORKING NEAR, OR UNDER, ALL ELECTRIC LINES.

CONTRACTORS NOTIFICATION REQUIREMENTS LAW

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR-952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER.

REFERENCE SYMBOLS

A / C5 — SECTION DESIGNATION; DRAWN ON DWG NO. C5

2 / D3 — DETAIL DESIGNATION; DRAWN ON DWG NO. D3

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

LEGEND

EXISTING

GRAVITY SEWERLINE	
STORM DRAIN/ CULVERT	
WATER LINE	
WATER VALVE	
FIRE HYDRANT	
POWER POLE	
POWER POLE W/GUY WIRE	
UNDERGROUND TELEPHONE LINE	
ELECTRICAL PEDESTAL	
TELEPHONE PEDESTAL	
MAILBOX	
WATER METER	
BUILDING	
EDGE A.C. PAVEMENT	
EDGE OF GRAVEL	
STREET SIGN	
STREAM/DITCH	
FENCE	
PROPERTY CORNER	
PROPERTY LINE/ROW	
SIDEWALK, CURB & GUTTER	
CATCH BASIN	
STORM DRAIN MANHOLE = DR	
SANITARY SEWER MANHOLE = SS	
SANITARY SEWER CLEANOUT	
SURVEY CONTROL POINT	
UNDERGROUND TELEVISION	
UNDERGROUND ELECTRIC	
OVERHEAD POWER LINE	

NEW

LINES AND NOTATIONS USED TO IDENTIFY NEW CONSTRUCTION OR IMPROVEMENTS TO EXISTING FACILITIES VARY.

REFER TO SITE SPECIFIC PLAN DRAWING SHEETS FOR IDENTIFICATION OF NEW CONSTRUCTION AND/OR IMPROVEMENTS IN THAT PARTICULAR AREA.

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ---- DRAWN: ----

APPROVED BY: _____ DATE: _____

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CITY OF SUTHERLIN

GENERAL
ABBREVIATIONS, GENERAL NOTES, AND LEGEND

PROJECT NO.	DRAWING NO.
146.38	G3
DATE	SHEET NO.
MAY 2016	3 OF 70

\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\GENERAL\G3 ABR-SYM-LEGEND.dwg, 5/3/2016 9:04:57 AM PLOT DATE May 5, 2016

DESIGN DATA

DESIGN BASIS

PARAMETER	YEAR 2012	YEAR 2037
POPULATION	7905	12,100
WASTEWATER FLOWS, MGD		
BASE SEWAGE	0.617	0.72
BASE INFILTRATION	0.11	0.16
ADWF	0.72	0.88
AWWF	1.37	2.01
$MMDWF_{10}$	1.23	1.80
$MMWWF_5$	1.70	2.70
PEAK AVERAGE MONTH		
PEAK AVERAGE WEEK	2.94	4.07
$PDAF_5$	5.57	7.00
PIF	7.30	8.80
WASTE WATER LOADS, LB/D		
BOD		
AVERAGE LOAD		2,154
MAXIMUM LOAD		3,222
TSS		
AVERAGE LOAD		2345
MAXIMUM LOAD		3,180

EFFLUENT QUALITY (MONTHLY AVERAGE)

EPA RELIABILITY

BOD_5 (20°C)

SUSPENDED SOLIDS

NH_3-N

TOTAL NITROGEN

TOTAL PHOSPHOROUS

(1) MAY 1 TO JUNE 30
(2) JULY 1 TO OCTOBER 30
(3) OCTOBER 16 TO OCTOBER 31 (RIVER GAUGE ≥ 100 cfs)

EPA

RELIABILITY CLASS I

DESIGN BASIS CONTINUED

NPDES PERMIT WASTE DISCHARGE LIMITATIONS

JUNE 1 TO OCTOBER 31 - NO DISCHARGE OF WATERS OF THE STATE

NOVEMBER 1 TO NOVEMBER 30 - WEEKLY AND DAILY LIMITS BASED ON STREAM FLOW IN CALAPOOYA CREEK

PARAMETER	STREAM FLOW	AVERAGE EFFLUENT CONCENTRATIONS MONTHLY	AVERAGE EFFLUENT CONCENTRATIONS WEEKLY	MONTHLY AVERAGE LB/DAY	WEEKLY AVERAGE LB/DAY	DAILY MAXIMUM LBS
BOD_5,TSS	<45 CFS	30 MG/L	45 MG/L	440	170	260
BOD_5,TSS	45-60 CFS	30 MG/L	45 MG/L	440	320	480
BOD_5,TSS	60-96 CFS	30 MG/L	45 MG/L	440	440	660
BOD_5,TSS	>96 CFS	30 MG/L	45 MG/L	440	660	880

DECEMBER 1 TO MAY 31 - DISCHARGE IN MAY ALLOWED ONLY WHILE THE DAILY FLOW IN CALAPOOYA CREEK EXCEEDS 82 CFS

PARAMETER	AVERAGE EFFLUENT CONCENTRATIONS MONTHLY	AVERAGE EFFLUENT CONCENTRATIONS WEEKLY	MONTHLY AVERAGE LB/DAY	WEEKLY AVERAGE LB/DAY	DAILY MAXIMUM LBS
BOD_5	30 MG/L	45 MG/L	560	840	1,100
TSS	30 MG/L	45 MG/L	560	840	1,100

OTHER PARAMETERS (NOVEMBER-MAY)

MINUMUM REMOVAL EFFICIENCY	85% FOR CBOD & TSS
E. COLI BACTERIA ORGANISMS / 100ml	126 MONTHLY GEO. MEAN. NO SINGLE SAMPLE>406
pH	6<pH<9
AMMONIA. NITROGEN	SHALL NOT EXCEED 21 MG/L DAILY MAXIMUM AND 7.8 MG/L MONTHLY AVERAGE
TOTAL CHLORINE RESIDUAL	SHALL NOT EXCEED 0.04 MG/L DAILY MAXIMUM AND 0.01 MG/L MONTHLY AVERAGE

PROCESS AREA 600: INFLUENT SCREENING FACILITY

SCREENING

TYPE	SHAFTLESS SPIRAL SCREEN
NUMBER	2
OPENING SIZE	0.25 INCHES
CAPACITY (EACH SCREEN)	6.0 MGD
MOTOR HP	2.0
NON-POTABLE WASH WATER	15 GMP @ 60 PSI (PER SCREEN)
NON-POTABLE WATER SCREEN	250 MICRONS
LEVEL SENSOR	ULTRA SONIC
FREEZE PROTECTION	YES

BYPASS SCREENING

TYPE	HAND RAKED BAR SCREEN
OPENINGS	1.0 INCH

INFLUENT SAMPLING

TYPE	TBD
NUMBER	TBD

BYPASS SCREENING

TYPE	TBD

PROCESS AREA 700: INFLUENT PUMP STATION

PUMP STATION

STATION TYPE	PENTAPLEX TRIPLE SUBMERSIBLE WINTER FLOW & DOUBLE SUBMERSIBLE SUMMER FLOW
PUMP TYPE	VARIABLE SPEED NON CLOG CENTRIFUGAL

WET WELL

DEPTH	20 FEET
SIZE	8 FEET x 14 FEET RECTANGULAR
VOLUME	2,240 CUFT
LEVEL CONTROL TYPE	PRESSURE TRANSDUCER W/ FLOAT BACKUP
OVERFLOW WET WELL ELEVATION	400.2 FEET
OVERFLOW DISCHARGE POINT	TBD
AVE. TIME TO OVERFLOW	12 MINUTES (AWWF)
AUXILIARY POWER	PLANT STANDBY GENERATOR
ALARM TELEMETRY	AUTODIALER
EPA CLASS	1

WET WEATHER PUMP SYSTEM

TOTAL NUMBER OF PUMPS	3
PUMP HORSEPOWER	45 HP EACH
ONE PUMP OPERATING CAPACITY	4.2 MGD @ 43.7 FEET TDH
TWO PUMP OPERATING CAPACITY	7.76 MGD @ 47.9 FEET TDH
FIRM CAPACITY W/ 3 PUMPS OPERATING	10.44 MGD @ 52.8 FEET TDH
AVERAGE DETENTION TIME	5.2 MINUTES (AWWF)

DRY WEATHER PUMP SYSTEM

TOTAL NUMBER OF PUMPS	2
PUMP HORSEPOWER	20 HP EACH
ONE PUMP OPERATING CAPACITY	1.81 MGD @ 46.2 FEET TDH
FIRM CAPACITY W/ 2 PUMPS OPERATING	3.0 MGD @ 54 FEET TDH
AVERAGE DETENTION TIME	13.9 MINUTES (ADWF)

WET WEATHER FORCE MAIN

LENGTH	390 FEET
TYPE	18 INCH DI
PROFILE	CONTINUOUSLY ASCENDING
DISCHARGE	WWTP HEADWORKS
AIR RELEASE VALVES	YES
VACUUM RELEASE VALVES	YES
AVERAGE DETENTION TIME	5.0 MINUTES (AWWF)
SULFIDE CONTROL	NONE

DRY WEATHER FORCE MAIN

LENGTH	390 FEET
TYPE	10 INCH DI
PROFILE	CONTINUOUSLY ASCENDING
DISCHARGE	WWTP HEADWORKS
AIR RELEASE VALVES	YES
VACUUM RELEASE VALVES	YES
AVERAGE DETENTION TIME	2.2 MINUTES (ADWF)
SULFIDE CONTROL	NONE

ELEVATIONS

RIM ELEVATION	400.2 FEET
HIGH WATER LEVEL ALARM	397.0 FEET
8"ø FM OUT I.E. (TYP. OF 2)	396.0 FEET
12"ø FM OUT I.E. (TYP. OF 3)	396.0 FEET
27"ø INLET I.E.	389.08
6"ø INLET I.E. (TBD)	TBD
HWL ALARM	389.5 FEET
DRY WEATHER PUMP #1 ON	385.0 FEET
DRY WEATHER PUMP #2 ON	386.0 FEET
WET WEATHER PUMP #1 ON	387.0 FEET
WET WEATHER PUMP #2 ON	388.0 FEET
WET WEATHER PUMP #3 ON	389.0 FEET
ALL PUMPS OFF	382.0 FEET
LWL ALARM	381.5 FEET
BOTTOM OF WELL	380.0 FEET

*TWO 20-HP PUMPS SERVE AS A REDUNDANT BACKUP FOR ONE 45-HP PUMP

PROCESS AREA 800: HEADWORKS

HAND RAKED BAR SCREEN (BYPASS)

TYPE	ONE INCH BAR SPACED SCREEN
NUMBER	ONE
CAPCAITY	9.0 MGD

GRIT REMOVAL

TYPE	VORTEX GRIT CONCENTRATOR
NUMBER	ONE
PEAK FLOW	9.0 MGD
GRIT PUMP HP	TBD

GRIT CLASSIFIER

TYPE	SHAFTLESS CLASSIFIER
NUMBER	ONE
DRIVE HP	0.5 HP
INCOMING FLOW RATE	250 GPM @ 6-8 PSI
POUNDS PER HOUR	TBD

GRIT BASIN

VOLUME	TBD

FLOW SPLITTING TO SBR

TYPE	CONCRETE DROP BOX
NUMBER	ONE
OUTLET PIPE QUANTITY	FOUR
OUTLET PIPE SIZE	12 INCH
FLOW RANGE (PER OUTLET PIPE)	0.45 MGD TO 2.25 MGD

INFLUENT FLOW MEASURMENT

TYPE	MAG METER
NUMBER	FOUR
SIZE	12 INCH
FLOW RANGE	0.45 MGD TO 2.25 MGD

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GENERAL DESIGN DATA

PROJECT NO.	DRAWING NO.
146.38	G4
DATE	SHEET NO.
MAY 2016	4 OF 70

DESIGN DATA

PROCESS AREA 900: SEQUENCING BATCH REACTOR

SEQUENCING BATCH REACTOR

TYPE	CONTINUOUS FEED
NUMBER OF TANKS	FOUR
LENGTH	83.0 FEET EACH
WIDTH	38.0 FEET EACH
TOP WATER LEVEL	18.0 FEET EACH
BOTTOM WATER LEVEL	11.92 FEET EACH
TREATMENT CAPACITY	5.25 MGD (4.0HR NORMAL CYCLE)
TREATMENT CAPACITY	7.0 MGD (3.0HR STORM CYCLE)
FREE BOARD	2.50 FEET
FOOD TO MICROORGANISM RATIO	0.046 LBS BOD5/LB MLSS/DAY
SLUDGE VOLUME INDEX	150 ml/g
BIOSOLIDS PRODUCED	481 LBS/DAY/BASIN
NORMAL DECANT RATE	3,646 GPM
PEAK DECANT RATE	4,861 GPM
BASIN WORKING VOLUME	7,588 CUFT/BASIN
DECANTER DRAW DOWN	6.08 FEET
HYDRAULIC RETENTION TIME	0.61 DAYS

WASTE ACTIVATED SLUDGE (WAS) PUMP

WASTE SLUDGE PUMPS	CONSTANT SPEED, NON-CLOG
TYPE	CENTRIFUGAL SUBMERSIBLES
NUMBER	FOUR
HORSEPOWER	2.4
CAPACITY	110 GPM @ TBD TDH

WAS FLOWMETER

WAS FLOWMETER	1
TYPE	MAG
NUMBER	1
CAPACITY	0-250 GPM

MIXERS

TYPE	SUBMERSIBLE
NUMBER	TBD
HP	TBD

BLOWERS

TYPE	ROTARY POSITIVE DISP., VFD
NUMBER	THREE (TWO DUTY, ONE STANDBY)
CAPACITY	900 SCFM AT 8.0 PSIG
HORSEPOWER	75
DIFFUSERS	FINE BUBBLE
CONTROL	DO PROBE

DECANTER

TYPE	VARIABLE LEVEL
NUMBER	FOUR
LENGTH	30 FEET WEIR LENGTH
DECANTER DRIVE UNIT	3/4 HP
LEVEL CONTROL	PRESSURE TRANSDUCER/FLOATS

PROCESS AREA 1000: TERTIARY FILTER

TERTIARY FILTER

TYPE	ROTATING DISK FILTER
NUMBER	TWO
CAPACITY (EACH)	1.80 MGD
FILTER PERFORMANCE	>5 mg/L TSS EFFLUENT

PROCESS AREA 1100: ULTRAVIOLET DISINFECTION

ULTRAVIOLET DISINFECTION

TYPE	HORIZONTAL
NUMBER	ONE
CAPACITY	7.3 MGD
UV DOSAGE	30,000 WS/CM2
UV TRANSMITTANCE @ 254 NM	65%
EFFLUENT FECAL COLIFORM	2.2 MPN/100ml
REACTORS	1
BANKS PER REACTOR	2
LAMP RACKS PER BANK	5
LAMPS PER BANK	12
POWER CONSUMPTION	145 WATTS PER LAMP
UV INTENSITY METERS	2
LAMP CONTROL	FLOW PACED DIMMING/SHUT OFF
ELECTRICAL	480VAC, 3 PHASE, 4 WIRE, 60 Hz
LAMP TYPE	LOW PRESSURE HIGH OUTPUT
LENGTH	64-INCHES
NUMBER:	120

HYPO CHLORIDE SYSTEM

STORAGE CAPACITY	6,100 GALS
METER PUMPS	(3) 8 GPH EACH
DOSE	2.8 mg/L

PROCESS AREA 1200: EFFLUENT DISPOSAL

OUTFALL TO CALAPOOYA CREEK

SIZE	27 INCH
LENGTH	3,200 FEET
METERING	MAGNETIC FLOW
DISCHARGE POINT	NEAR ROCHESTER BRIDGE
DISINFECTION	UV
MAXIMUM FLOW	7.0 MGD
CREEK FLOW MONITORING	OWRD STATION 14320700
MIN CREEK FLOW FOR DISCHARGE	82 CFS

IRRIGATION TANK PUMPS

TYPE	VERTICAL TURBINE, VFD
NUMBER	TWO
PUMP HP	TWO 50 HP, ONE 20HP
50 HP PUMP CAPACITY	1,200 GPM @ TBD TDH
20 HP PUMP CAPACITY	450 GPM @ TBD TDH
CONTROLS	PRESSURE TRANSDUCER W/ FLOAT
OVERFLOW DISCHARGE POINT	CALAPOOYA CREEK
AUXILIARY POWER	STANDBY DIESEL GENERATOR
ALARM TELEMETRY	SCADA

FORCE MAIN

NUMBER	1
LENGTH TO GOLF COURSE	6,250 FEET
LENGTH TO FORD'S POND	1,200 FEET
SIZE & TYPE	18 INCH DI
PROFILE	ASCENDING
DETENTION TIME	TBD
SULFIDE CONTROL	TBD

PROCESS AREA 1300: BIOSOLIDS TREATMENT

AEROBIC DIGESTER BASIN

1N/1S CAPACITY @ 13.5' SWD	95,900 GALLONS
2N/2S CAPACITY @ 13.5' SWD	191,900 GALLONS
3N/3S CAPACITY @ 13.5' SWD	95,900 GALLONS
4N/4S CAPACITY @ 13.5' SWD	139,900 GALLONS
DIGESTER FREE BOARD	2.0 FEET
BASIN 1N/1S AIR REQUIREMENT	385 SCFM
BASIN 2N/2S AIR REQUIREMENT	770 SCFM
BASIN 3N/3S AIR REQUIREMENT	385 SCFM
BASIN 4N/4S AIR REQUIREMENT	561 SCFM
DECANTER TYPE	4 INCH TELESCOPING

BIOSOLIDS TRANSFER BASIN

BASIN VOLUME	37,310 GALLON
PUMP TYPE	SUBMERSIBLE NON-CLOG
NUMBER OF PUMPS	FOUR
TRANSFER PUMP CAPACITY	288 GPM @ 24.8 FEET TDH
TRANSFER PUMP HP	5
CONTROLS	PRESSURE TRANSDUCER W/ FLOAT
OVERFLOW DISCHARGE POINT	CALAPOOYA CREEK
AUXILIARY POWER	STANDBY DIESEL GENERATOR
ALARM TELEMETRY	SCADA

BIOSOLIDS BLOWERS

BLOWER TYPE	ROTARY POSITIVE DISPLACEMENT
SPEED	VARIABLE
NUMBER	FOUR
DECIBELS OUTSIDE OF ENCLOSURE	80 dB
INTERIOR DIGESTER BASIN POWER	3 @ 20 HP
INTERIOR DIGESTER	457 SCFM @ 4.9 PSI
EXTERIOR DIGESTER BASIN POWER	3 @ 50 HP
EXTERIOR DIGESTER	1,565 SCFM @ 5.0 PSI

BIOSOLIDS DEWATERING PRESS FEED PUMPS

PUMP TYPE	ROTARY LOBE
NUMBER OF PUMPS	TWO
CAPACITY BIOSOLIDS TRANSFER PUMP	150 GPM @ 25 FEET TDH
BIOSOLIDS TRANSFER PUMP HP	TBD

SCREW PRESS

TYPE	SCREW PRESS
NUMBER	ONE
CAPACITY	55 GPM @ 2% SOLIDS
SCREW PRESS MOTOR	5 HP
CAKE SOLIDS CONTENT	12% - 16%
SIZE	550 LBD/DAY (6.6 TONS/DAY)
POLYMER FEED CAPACITY	TBD
POLYMER FEED HP	TBD

PROCESS AREA 1400: EVERETT AVE. PUMP STATION

PUMP STATION

STATION TYPE	TRIPLEX SUBMERSIBLE
PUMP TYPE	NON CLOG CENTRIFUGAL, VFD
PUMP STATION FLOW 2037 ADWF	368 GPM
PUMP STATION FLOW 2037 AWWF	698 GPM
PUMP STATION FLOW 2037 PDAF	2,430 GPM
PUMP STATION FLOW 2037 PIF	3,055 GPM
TOTAL NUMBER OF PUMPS	3
ONE PUMP OPERATING CAPACITY	1,925 GPM @ 68 FEET TDH
TWO PUMP OPERATING CAPACITY	2,500 MGD @ 98 FEET TDH
PUMP HP	60 HP EACH
LEVEL CONTROL TYPE	PRESSURE TRANSDUCER W/ FLOAT BACKUP
OVERFLOW MANHOLE, ELEVATION	VALLEY COURT MH, 512 FEET
OVERFLOW DISCHARGE POINT	SUTHERLIN CREEK
AVE. TIME TO OVERFLOW	36 MIN. @ 2012 ADWF
AVE. TIME TO OVERFLOW	19 MIN. @ 2012 AWWF
AVE. TIME TO OVERFLOW	24 MIN. @ 2037 ADWF
AVE. TIME TO OVERFLOW	13 MIN. @ 2037 AWWF

AUXILIARY POWER

TYPE	STANDBY GENERATOR
OUTPUT	125 KW
FUEL	NATURAL GAS
ALARM TELEMETRY	SCADA
EPA CLASS	1

EXISTING FORCE MAIN

LENGTH	920 FEET
TYPE	10 INCH CAST IRON
PROFILE	CONTINUOUSLY ASCENDING
DISCHARGE	MH#M5, OAK ST.
AIR RELEASE VALVES	NONE
VACUUM RELEASE VALVES	NONE
AVERAGE DETENTION TIME	15.0 MIN. @ 2012 ADWF
AVERAGE DETENTION TIME	10.2 MIN. @ 2037 ADWF
SULFIDE CONTROL	NONE

PROPOSED FORCE MAIN

LENGTH	750 FEET EXISTING 10 INCH, 2,750 NEW 12 INCH
TYPE	EXIST. 10 IN. C.I., NEW 12 IN. D.I.
PROFILE	ASCENDING TO A HIGH POINT NEAR PINE ST. (522.03'), THEN DESCENDING TO A LOW POINT NEAR ASH ST. (517.39'), THEN ASCENDING TO A SECOND HIGH POINT AT MILLER ST. (525.14'), AND THEN DESCENDING DOWN MILLER ST. TO MANHOLE L5 (515.0').
DISCHARGE	MH#L5, MILLER ST.
AIR RELEASE VALVES	YES
VACUUM RELEASE VALVES	YES
AVERAGE DETENTION TIME	76.8 MIN. @ 2012 ADWF
AVERAGE DETENTION TIME	52.2 MIN. @ 2037 ADWF
AVERAGE PUMP CYCLE TIME	70.3 MIN @ 2012 ADWF
SULFIDE CONTROL	TBD

ELEVATIONS

TOP OF WETWELL	516.0 FEET
OVERFLOW ALARM	511.5 FEET
10"ø FM OUT I.E.	512.0 FEET
GRAVITY SEWER	501.92 FEET
HWL ALARM	501.7 FEET
LAG PUMP ON	500.9 FEET
LEAD PUMP ON	499.9 FEET
ALL PUMPS OFF	496.9 FEET
LWL ALARM	496.4 FEET
BOTTOM OF WELL	495.0 FEET

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 BRIAN J. SPEAKMAN EXPIRES 06/30/16
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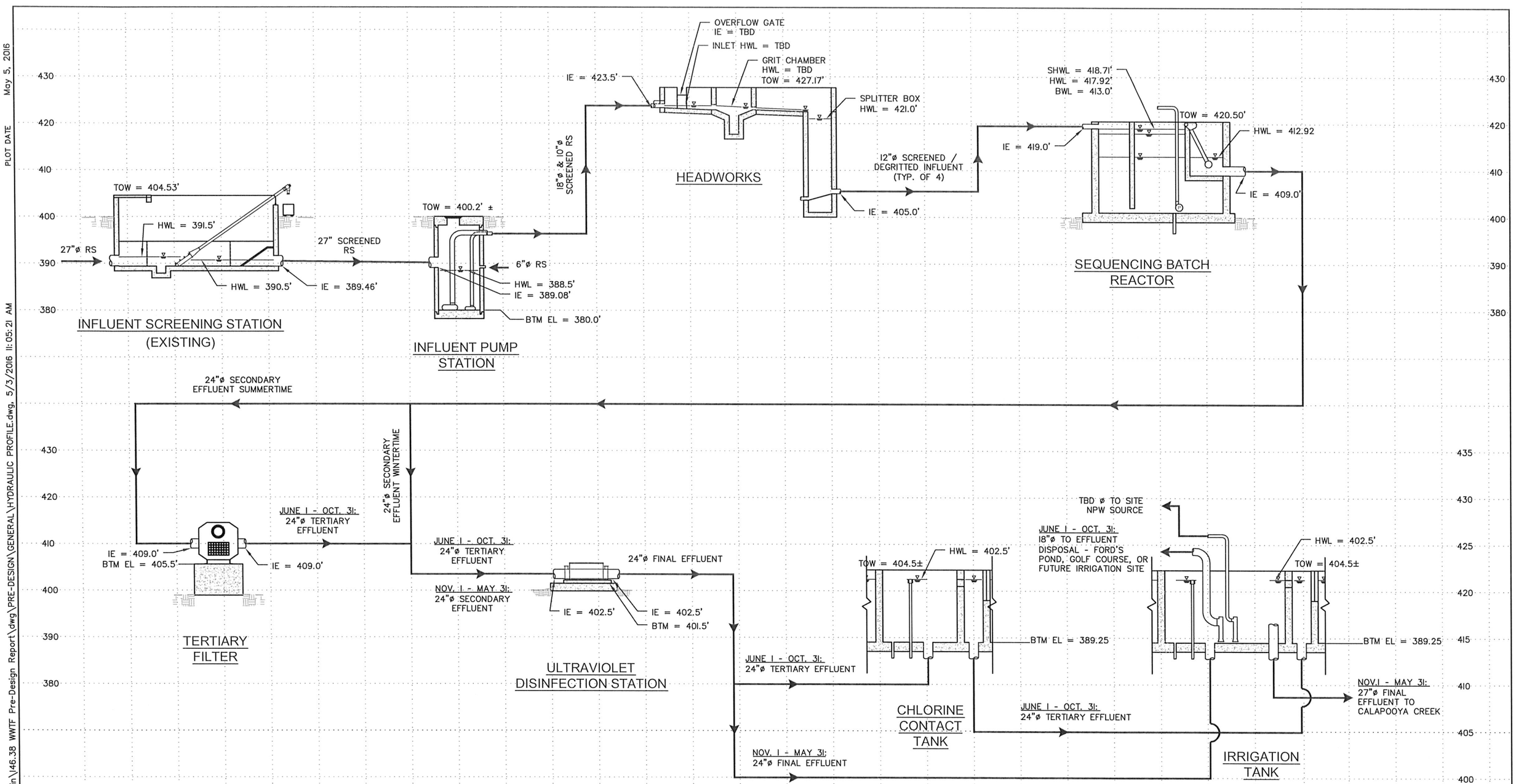
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

GENERAL
DESIGN DATA CONT.

PROJECT NO.	DRAWING NO.
146.38	G5
DATE	SHEET NO.
MAY 2016	5 OF 70



NOTE: FACILITIES LOCATED OUTSIDE 100YR FLOOD PLAIN.

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OREGON
JULY 11, 2006
AARON J. SPEAKMAN
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CITY OF SUTHERLIN

GENERAL
OVERALL HYDRAULIC PROFILE- LIQUID STREAM

PROJECT NO.	DRAWING NO.
146.38	G6
DATE	SHEET NO.
MAY 2016	6 OF 70

PLOT DATE May 5, 2016
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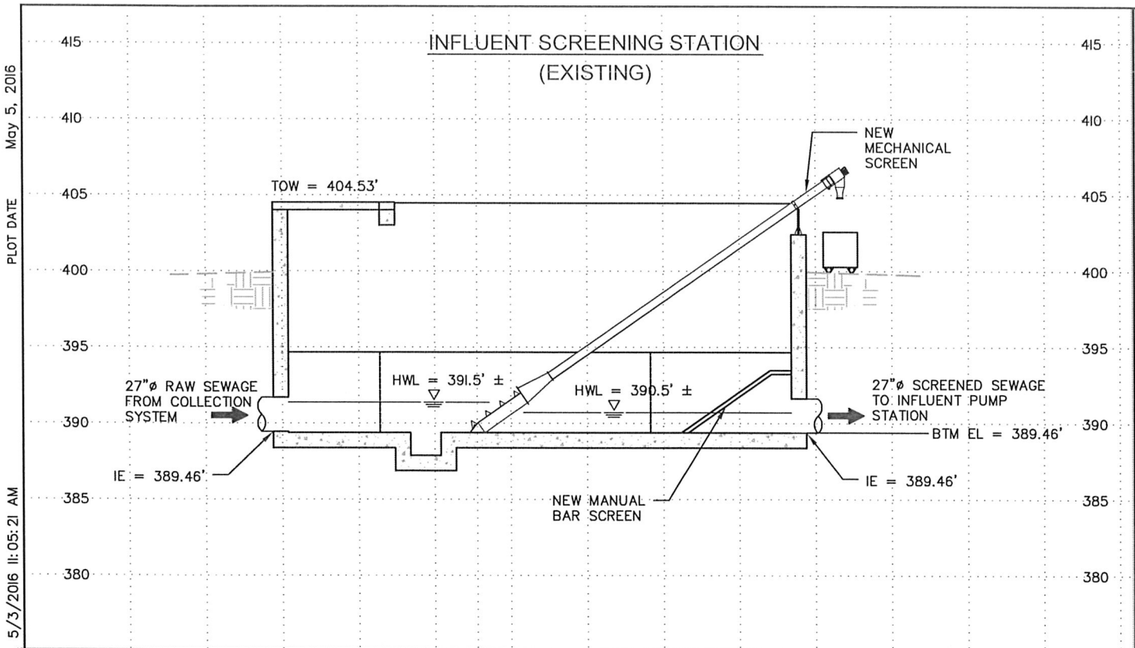

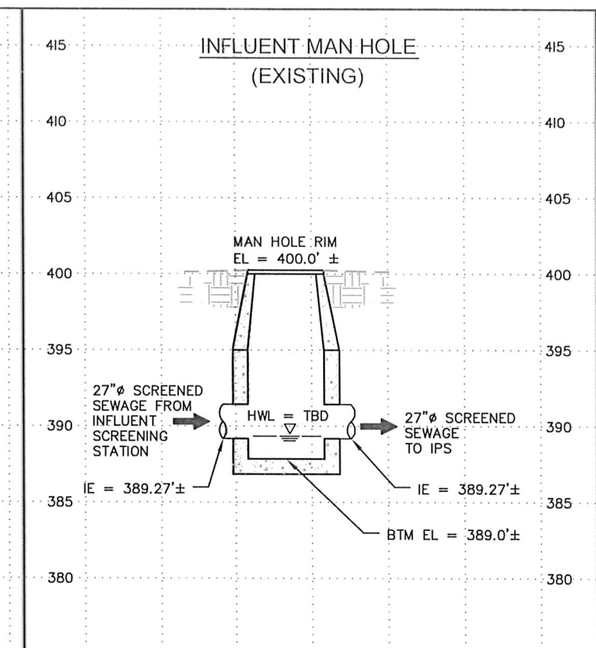

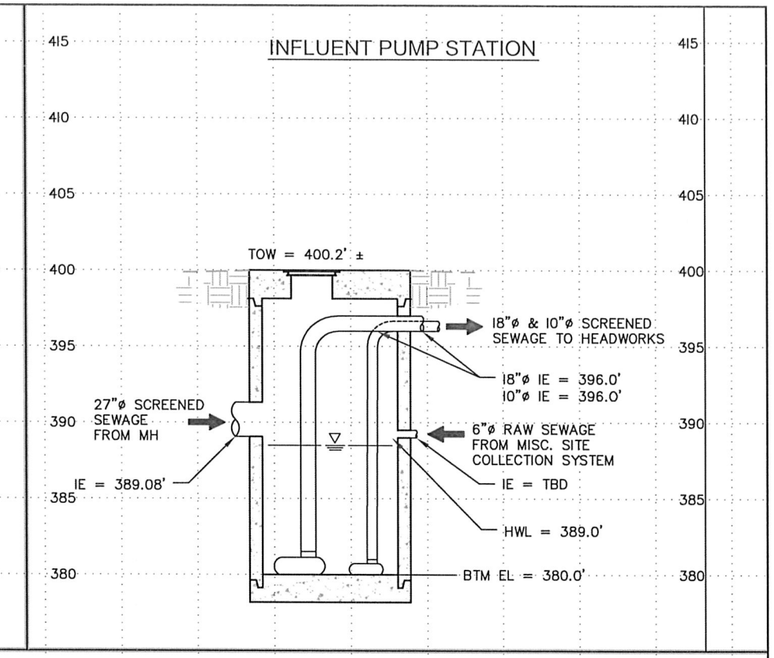

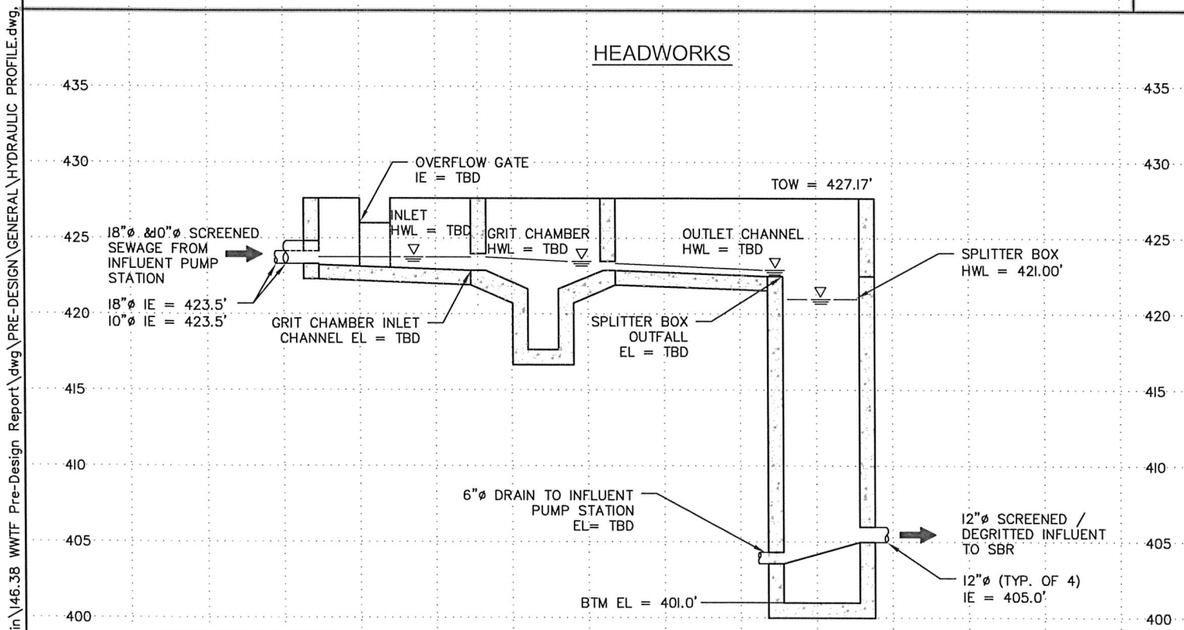

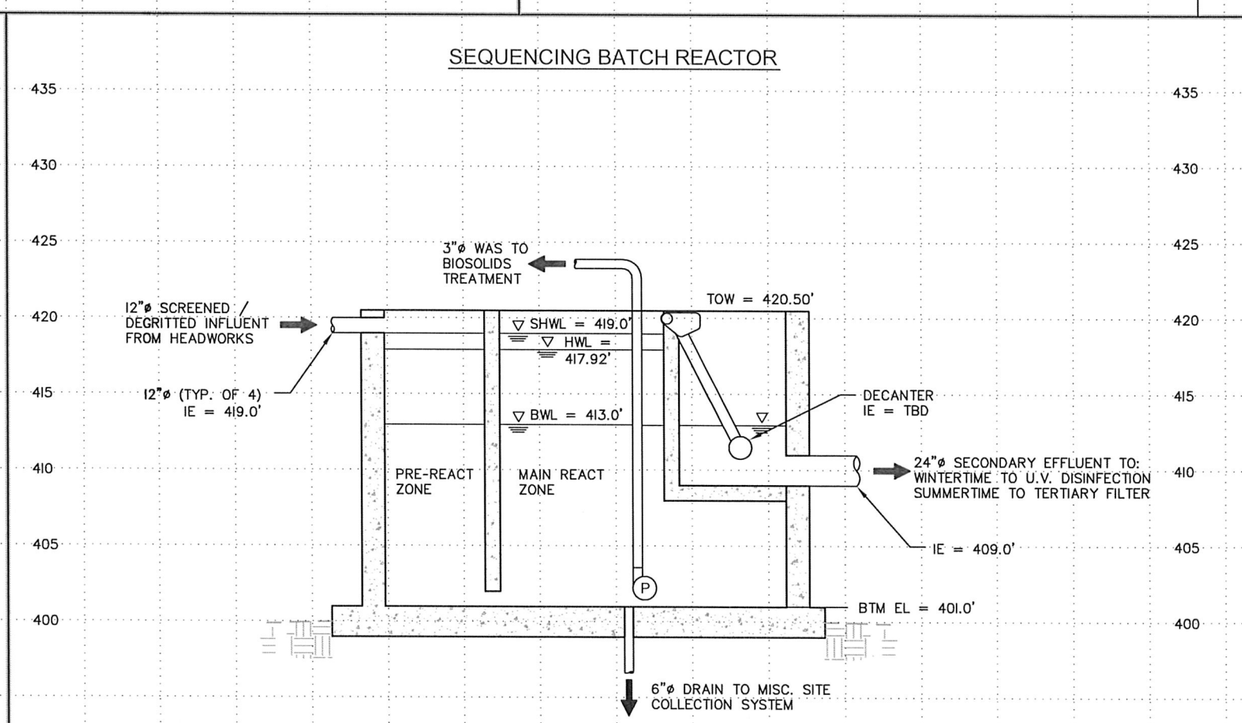

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OREGON
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BRION J. SPEAKMAN
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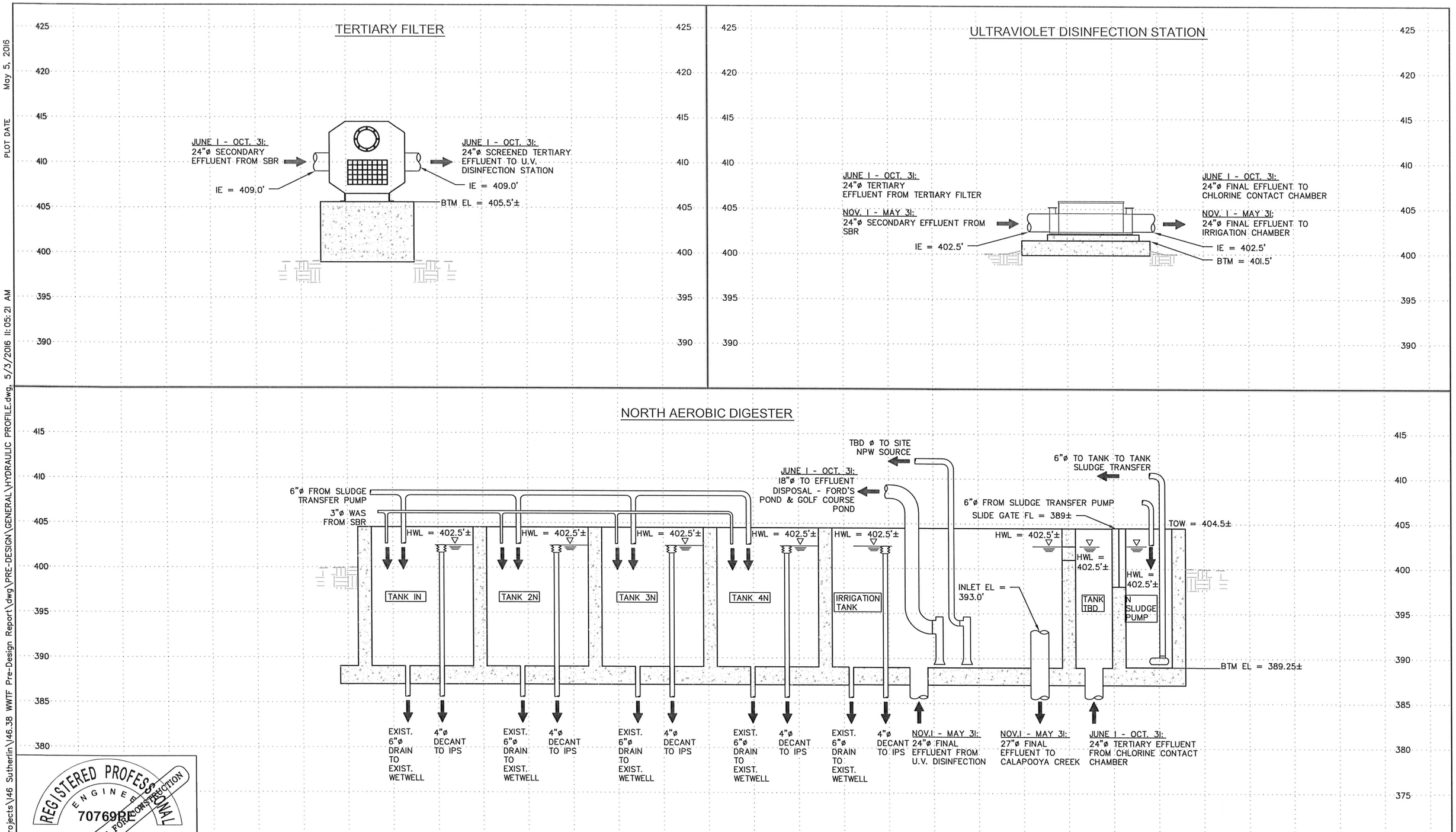
GENERAL
HYDRAULIC PROFILE

PROJECT NO.	DRAWING NO.
146.38	G7
DATE	SHEET NO.
MAY 2016	7 OF 70



PLOT DATE May 5, 2016

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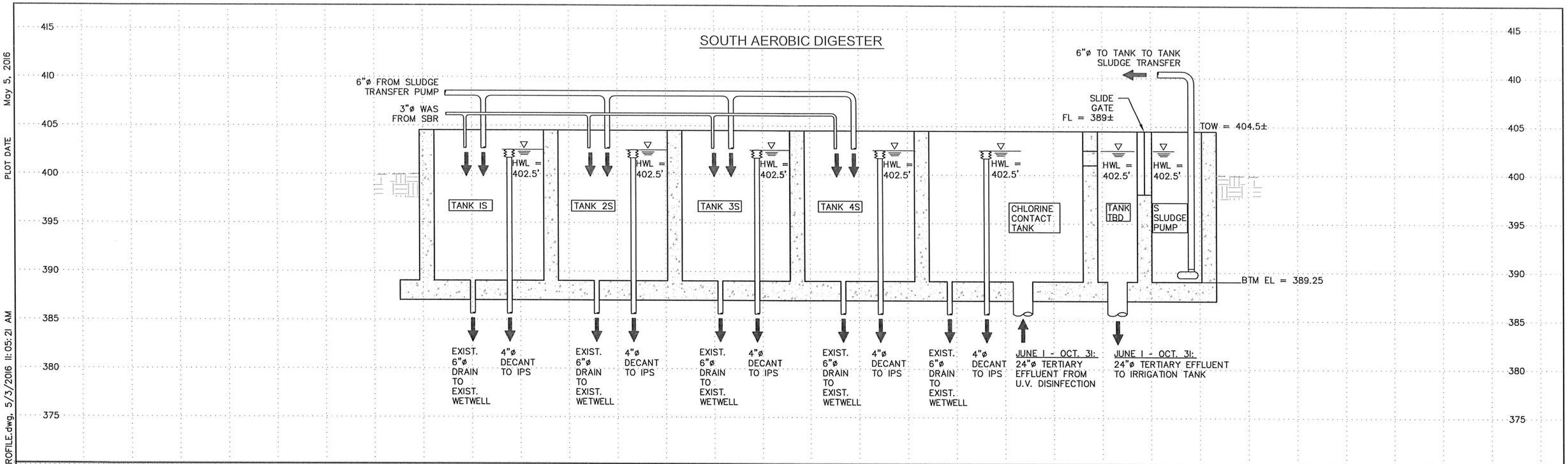
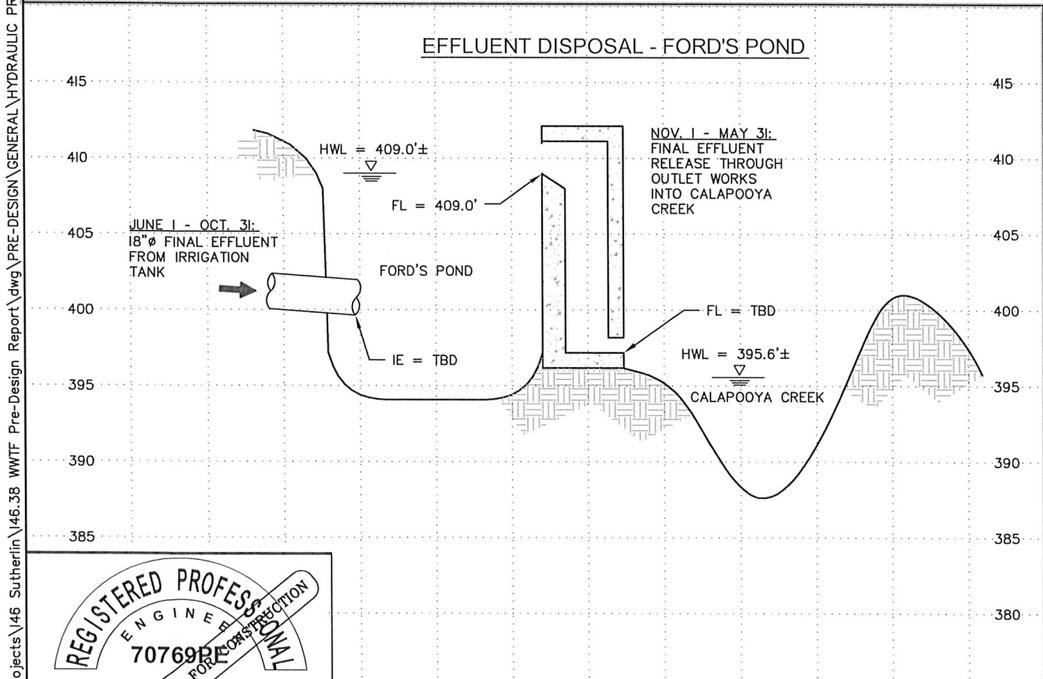
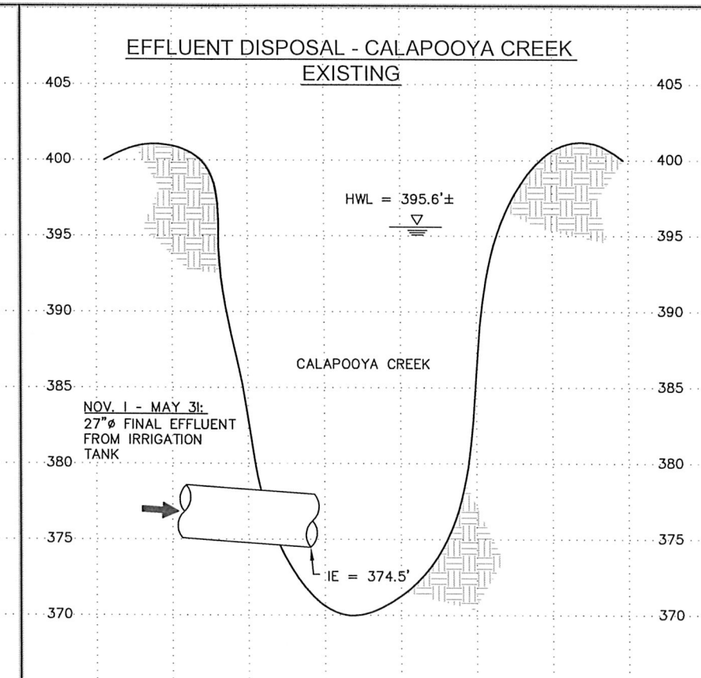
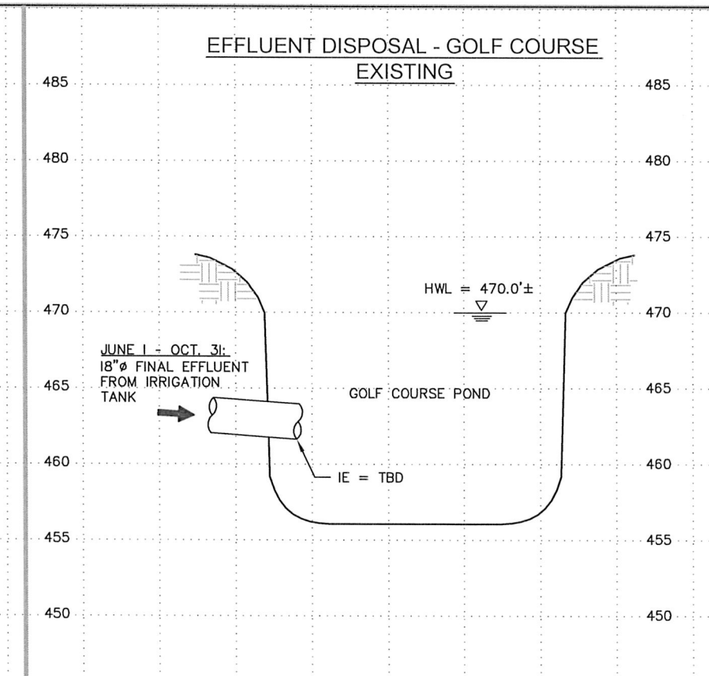
GENERAL HYDRAULIC PROFILE

PROJECT NO.	DRAWING NO.
146.38	G8
DATE	SHEET NO.
MAY 2016	8 OF 70









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GENERAL HYDRAULIC PROFILE

PROJECT NO.	DRAWING NO.
146.38	G9
DATE	SHEET NO.
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PLOT DATE May 5, 2016

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MECHANICAL EQUIPMENT SYMBOLS

- BLOWER OR COMPRESSOR, ROTARY LOBE
- COMPRESSOR, PISTON
- AIR BUBBLE DIFFUSER
- SILENCER
- FILTER OR FILTER-SILENCER, INLET AIR
- RECEIVER OR PRESSURE VESSEL
- REDUCED PRESSURE BACKFLOW PREVENTER
- UTILITY STATION/HOSEBIB
- DECANT ARM
- GENERATOR
- MIXER
- MECHANICAL SCREEN
- SCREENING CONTAINER

PUMP SYMBOLS

- PUMP, CENTRIFUGAL
- PUMP, ROTARY LOBE POSITIVE DISPLACEMENT
- PUMP, SUBMERSIBLE
- PUMP, VERTICAL TURBINE
- METERING PUMP
- MOTOR

VALVE SYMBOLS

- THREE WAY VALVE
- AIR RELIEF VALVE
- GATE VALVE (NORMALLY OPEN)
- GATE VALVE (NORMALLY CLOSED)
- PLUG VALVE (NORMALLY OPEN)
- PLUG VALVE (NORMALLY CLOSED)
- BALL VALVE (NORMALLY OPEN)
- BALL VALVE (NORMALLY CLOSED)
- BUTTERFLY VALVE
- GLOBE VALVE (NORMALLY OPEN)
- GLOBE VALVE (NORMALLY CLOSED)
- DIAPHRAGM VALVE
- NEEDLE VALVE
- DOUBLE LEAF CHECK VALVE
- CHECK VALVE
- BALL CHECK VALVE
- MUD VALVE
- SOLENOID
- MOTOR ACTUATOR
- TELESCOPING VALVE

GATE SYMBOLS

- SLIDE GATE (NORMALLY CLOSED)
- SLIDE GATE (NORMALLY OPEN)
- SLUICE GATE, CANAL GATE (NORMALLY CLOSED)
- SLUICE GATE, CANAL GATE (NORMALLY OPEN)

PIPING LEGEND

A	AERATION AIR
BW	BACKWASH WATER
CL	CHLORINE
D	DRAIN
DB	DIGESTED BIOSOLIDS
FE	FINAL EFFLUENT
FM	FILTER MEDIA
G	GRIT SLURRY
NPW	NON-POTABLE WATER
OF	OVERFLOW
POL	POLYMER
PST	PRESSATE
RS	RAW SEWAGE
RW	REUSE WATER
SS	SANITARY SEWER
SE	SECONDARY EFFLUENT
SA	SERVICE AIR
STD	STORM DRAIN
SN	SUPERNATANT
TD	TANK DRAIN
TE	TERTIARY EFFLUENT
V	VENT
W	CITY WATER (POTABLE)
WAS	WASTE ACTIVATED SLUDGE

PROCESS LINES

- PRIMARY PROCESS FLOW
- SECONDARY PROCESS FLOW
- EXISTING
- VENDOR PACKAGE BOUNDARY
- ENCLOSURE BOUNDARY
- ELECTRICAL SIGNAL

MEASUREMENT AND CONTROL SYMBOLS

FLOW (LIQUID, GAS)

- M — GENERAL FLOW METER
- A — AIR FLOW METER

LEVEL

- ULTRASONIC
- FLOAT
- STAFF GAUGE
- PRESSURE TRANSDUCER

PRESSURE

- GAUGE WITH DIAPHRAGM CHEMICAL SEAL
- V — VACUUM INDICATOR
- P — PRESSURE SENSOR

TEMPERATURE

- TS — TEMPERATURE SENSOR
- MS — MOISTURE SENSOR

ANALYZER

- CI — CHLORINE RESIDUAL
- TB — TURBIDITY
- DO — DISSOLVED OXYGEN
- TSS — TOTAL SUSPENDED SOLIDS

GENERAL SYMBOLISM

- PNL NORTH — INSTRUMENT OR ELECTRICAL PANEL (PNL)
- FLUME
- WEIR
- S — AUTOMATIC SAMPLER
- W — WASHDOWN STATION
- XXX-NNNN — EQUIPMENT IDENTIFICATION
- XXX NNNN — INSTRUMENT IDENTIFICATION
- VFD — VARIABLE FREQUENCY DRIVE
- AIR BLOWOFF
- PROPELLER/TURBINE METER
- A — AIR FLOW SWITCH
- P — PRESSURE SWITCH
- DIAPHRAGM CHEMICAL SEAL

CROSS REFERENCE SYSTEM

ON DRAWING PI01 CONTINUATION IS SHOWN AS:

P102

ON DRAWING PI02 THIS CONTINUATION IS SHOWN AS:

P101

SYSTEM NOT DESCRIBED BY PROCESS AND INSTRUMENTATION DRAWING:

CONTINUATION SHOWING DATA INTERCHANGE:

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PROCESS STANDARD SYMBOLS

PROJECT NO.	DRAWING NO.
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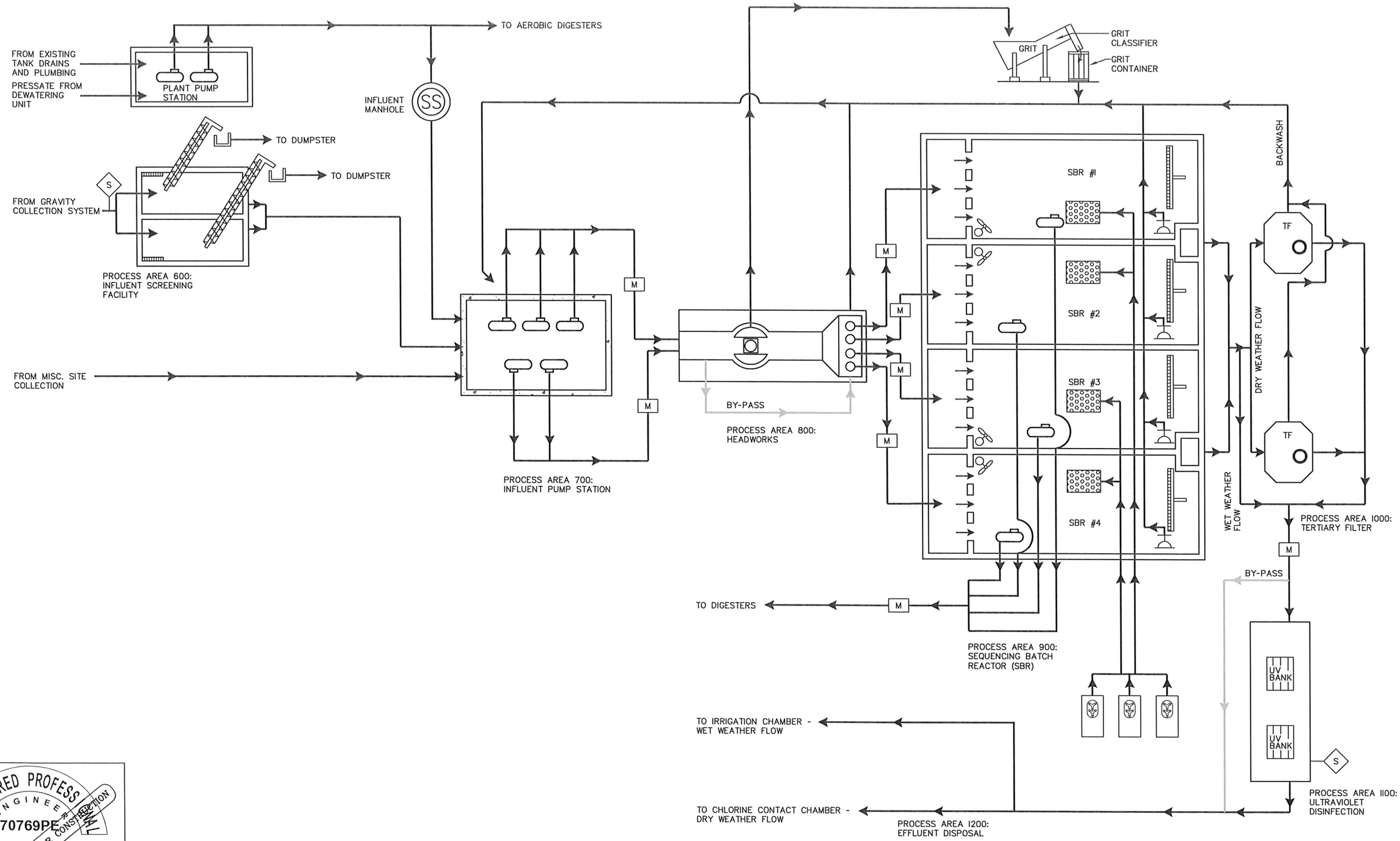

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AARON J. SPEAKMAN
11, 2006
EXPIRES 06/30/16
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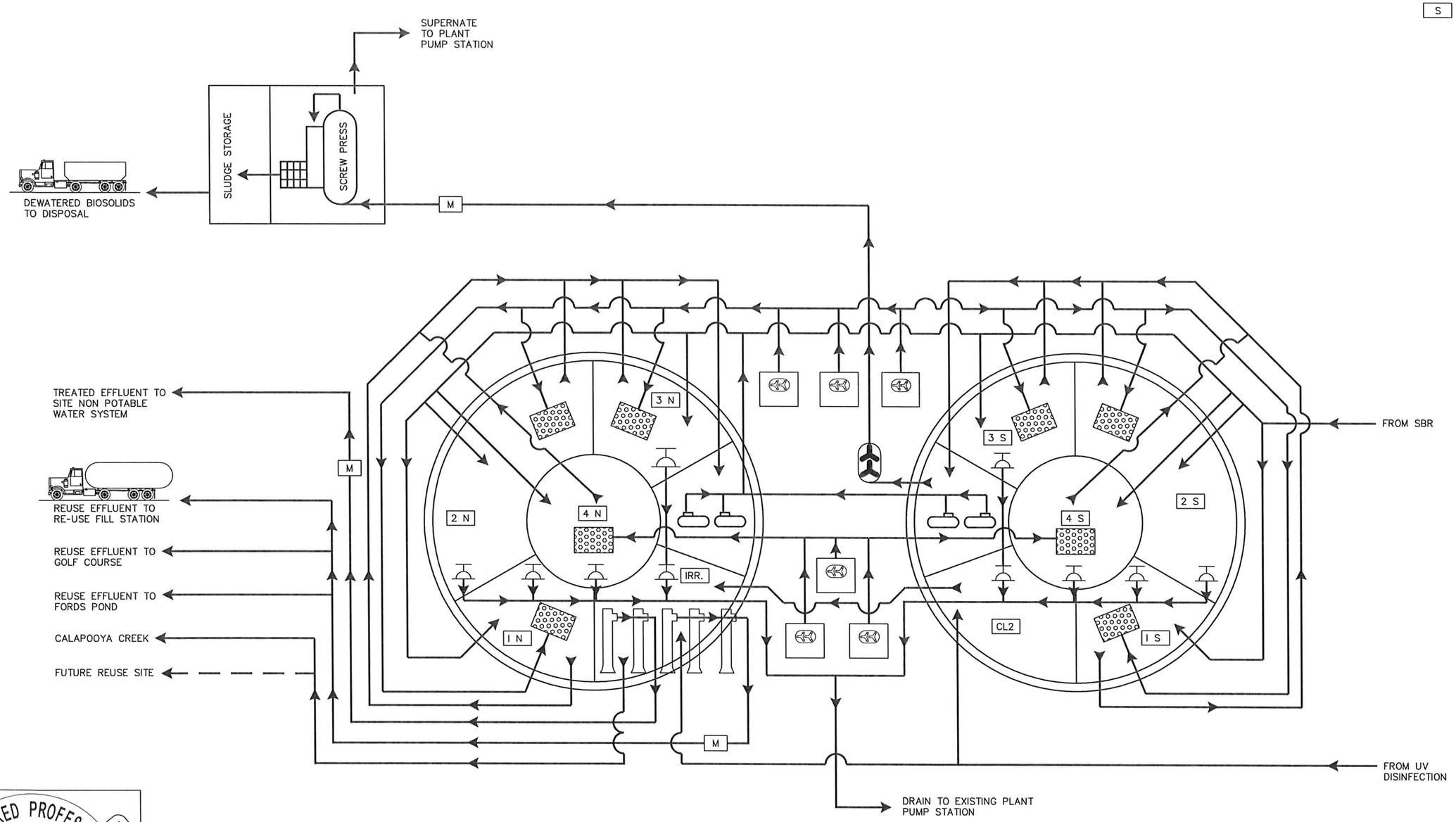
PROCESS
GENERAL PROCESS DIAGRAM - LIQUID STREAM

PROJECT NO.	DRAWING NO.
146.38	P2
DATE	SHEET NO.
MAY 2016	11 OF 70



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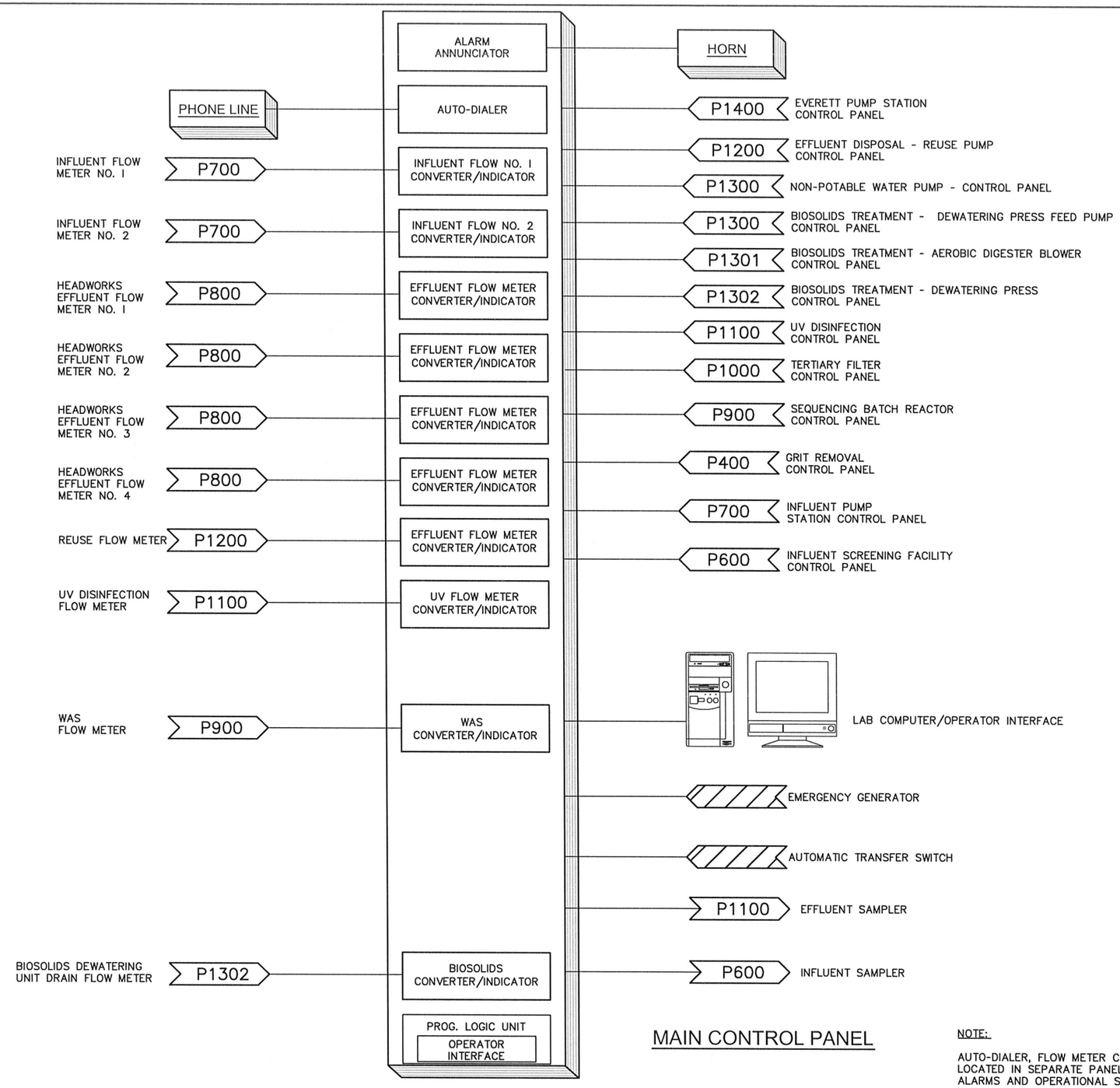
CITY OF SUTHERLIN

PROCESS
GENERAL PROCESS DIAGRAM - WASTE STREAM

PROJECT NO.	DRAWING NO.
146.38	P3
DATE	SHEET NO.
MAY 2016	12 OF 70



MAIN CONTROL PANEL

NOTE:

AUTO-DIALER, FLOW METER CONVERTERS, AND OTHER DEVICES MAY BE LOCATED IN SEPARATE PANELS, BUT WILL ALL TRANSMIT INFORMATION, ALARMS AND OPERATIONAL STATUS TO MAIN CONTROL PANEL PLC.

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CITY OF SUTHERLIN

PROCESS
MAIN CONTROL PANEL

PROJECT NO.	DRAWING NO.
146.38	P4
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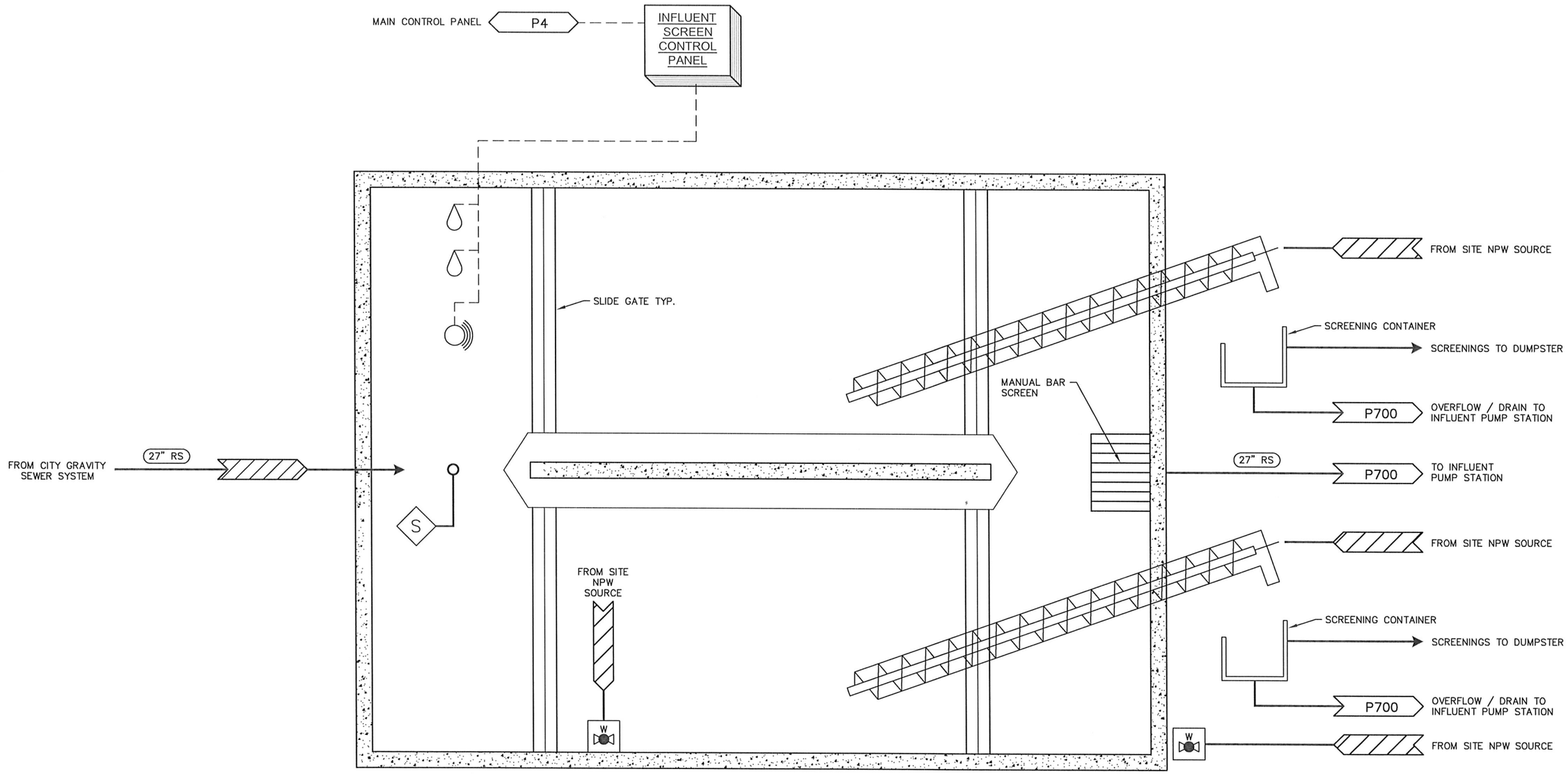

INFLUENT SCREENING STATION

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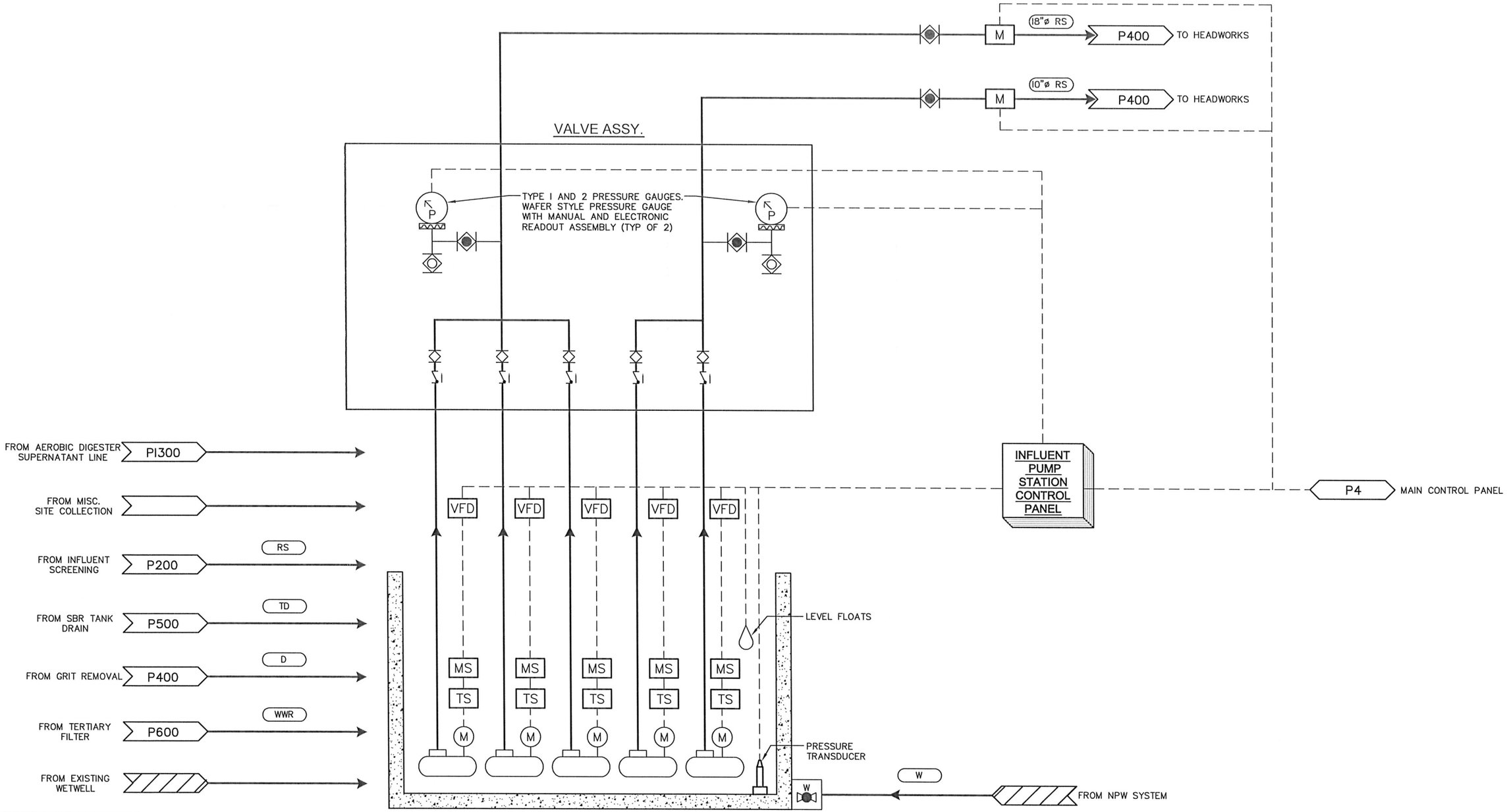
CITY OF SUTHERLIN

PROCESS
INFLUENT SCREENING FACILITY

PROJECT NO.	DRAWING NO.
146.38	P600
DATE	SHEET NO.
MAY 2016	14 OF 70



INFLUENT PUMP STATION

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70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

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REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

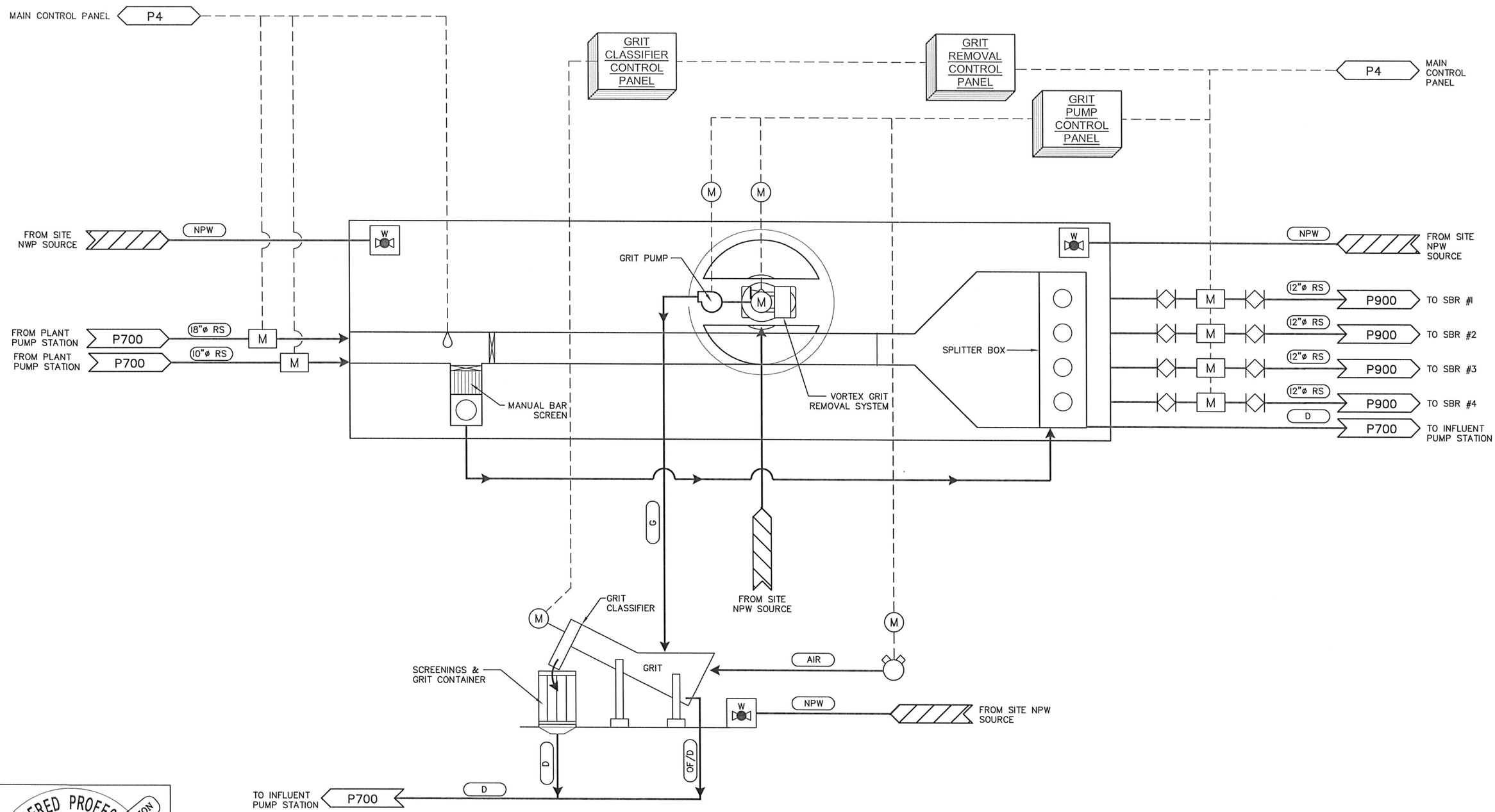
THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
INFLUENT PUMP STATION

PROJECT NO.	DRAWING NO.
146.38	P700
DATE	SHEET NO.
MAY 2016	15 OF 70



HEADWORKS

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

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REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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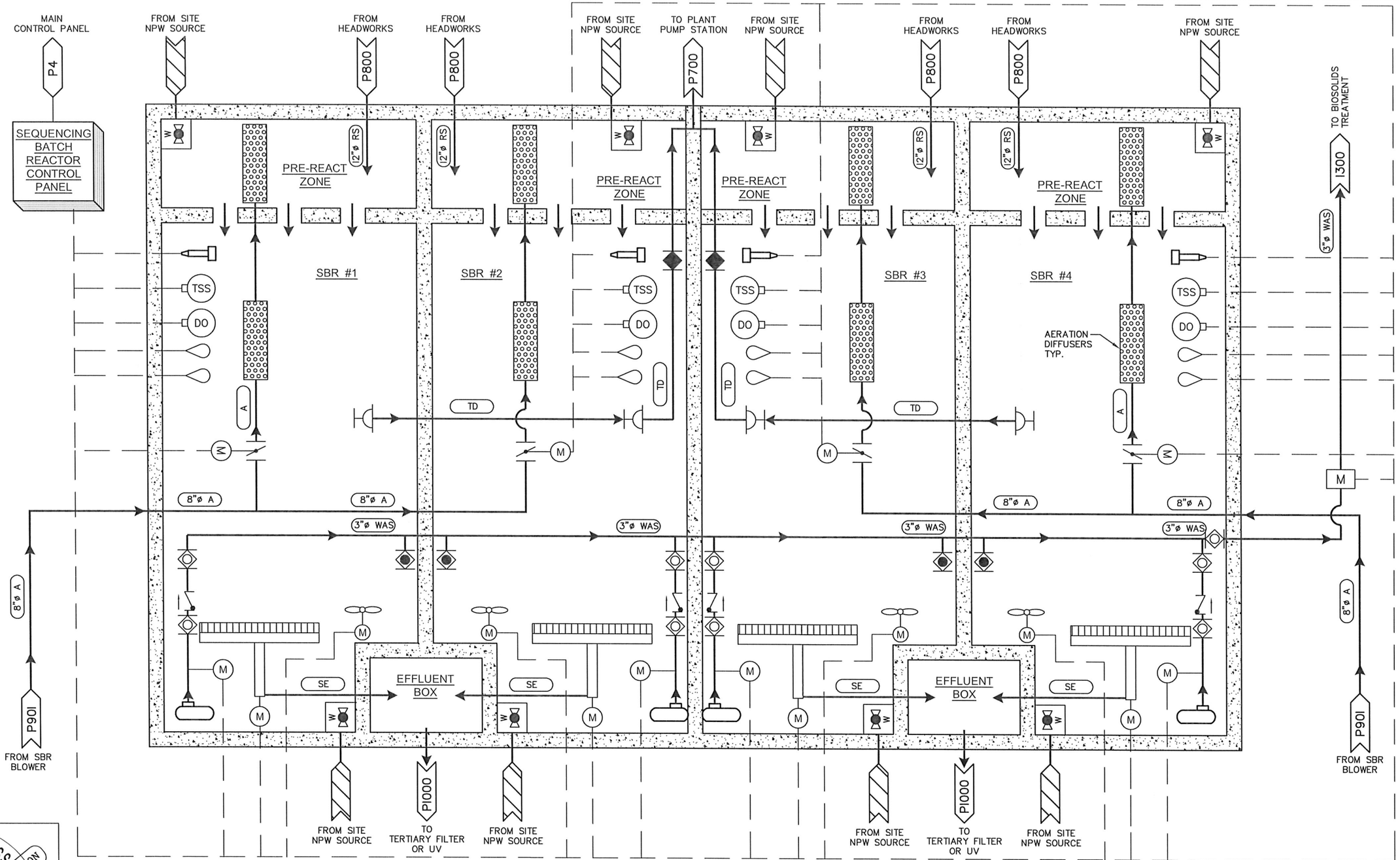
CITY OF SUTHERLIN

PROCESS
HEADWORKS

PROJECT NO.	DRAWING NO.
146.38	P800
DATE	SHEET NO.
MAY 2016	16 OF 70



SEQUENCING BATCH REACTOR (SBR)

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2008 ANTHONY J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
SBR

PROJECT NO.	DRAWING NO.
146.38	P900
DATE	SHEET NO.
MAY 2016	17 OF 70

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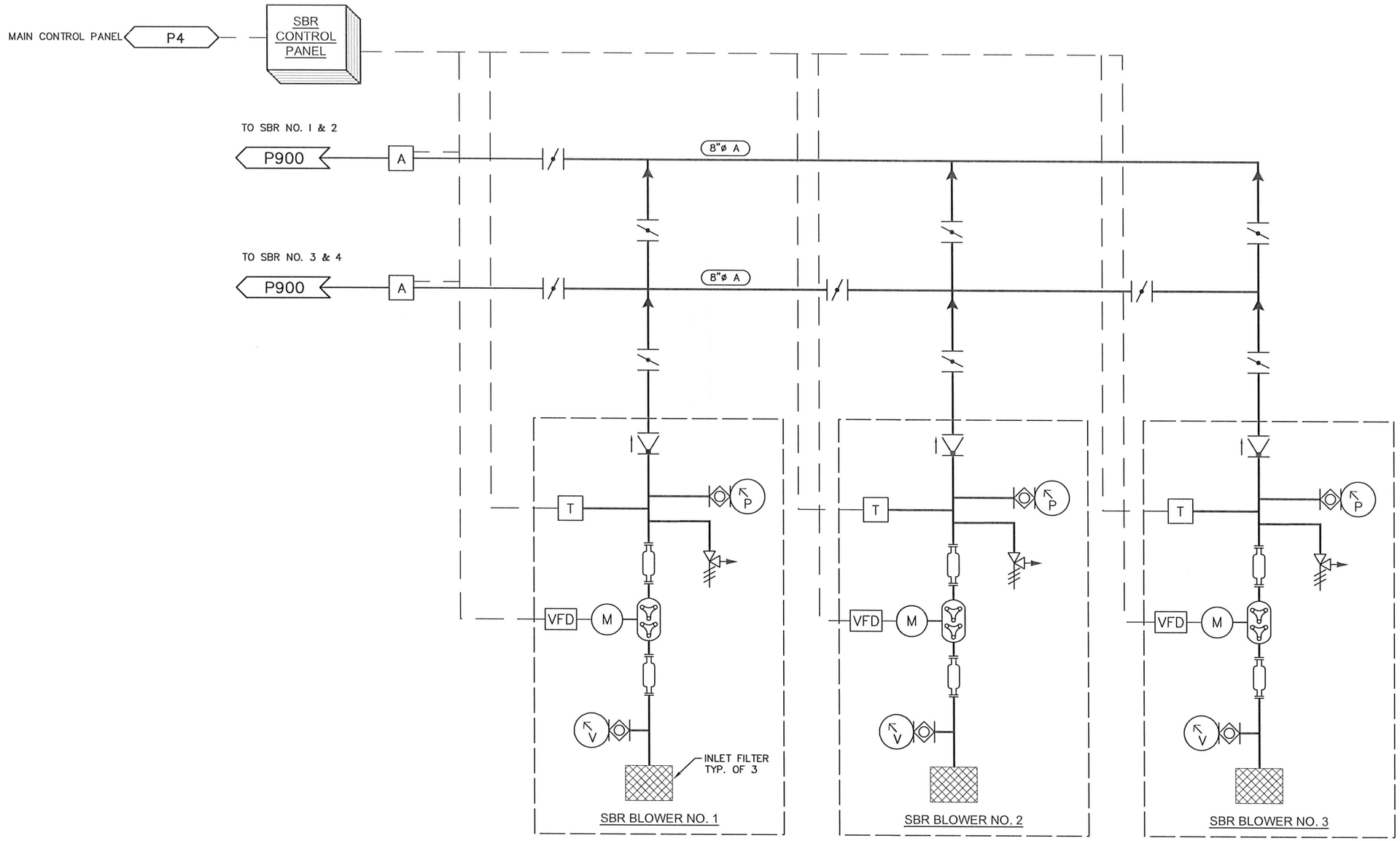

SBR BLOWERS

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
BRYON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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TELEPHONE: (541) 269-0732
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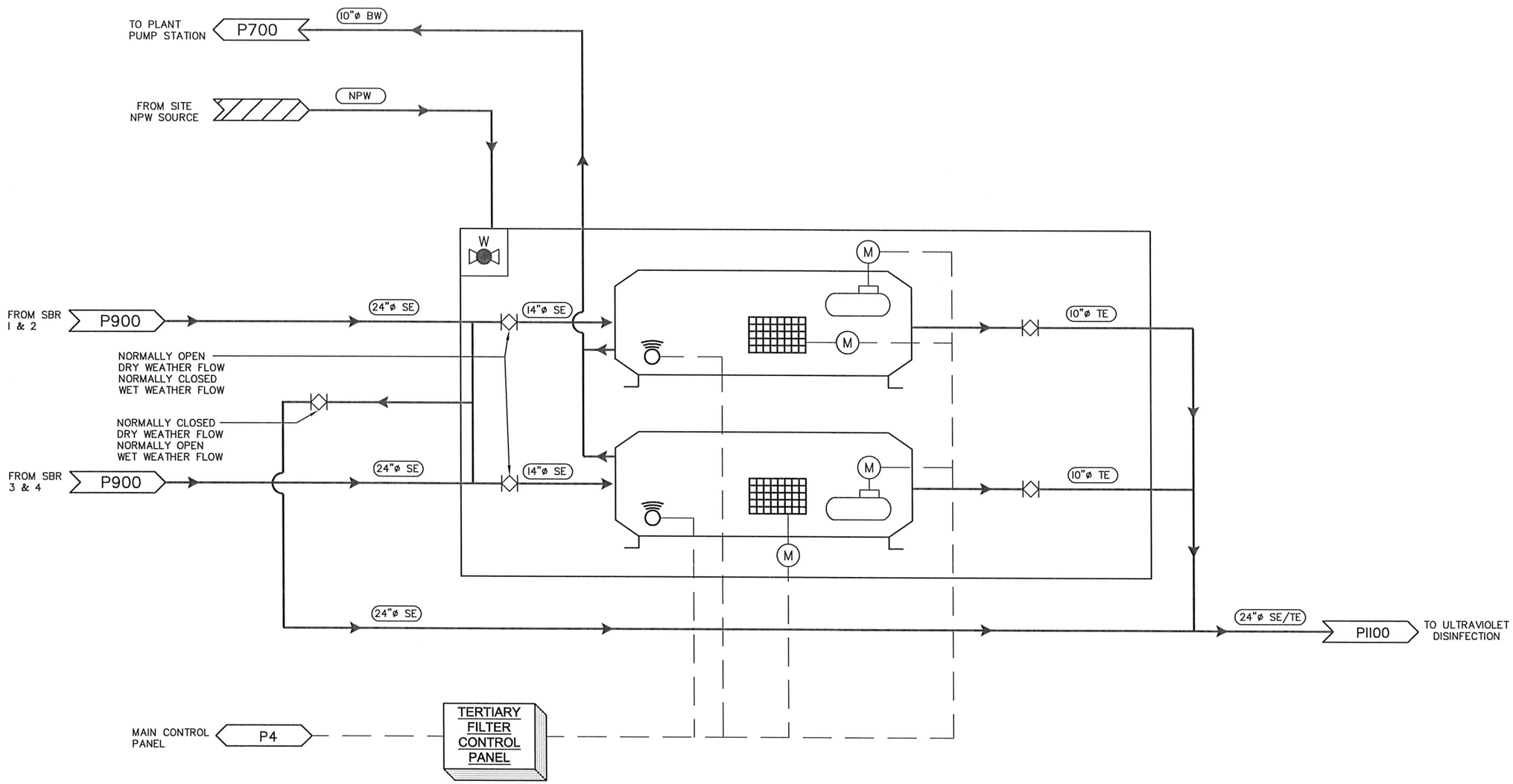
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
SBR BLOWERS

PROJECT NO.	DRAWING NO.
146.38	P901
DATE	SHEET NO.
MAY 2016	18 OF 70



TERTIARY FILTER

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
RYAN J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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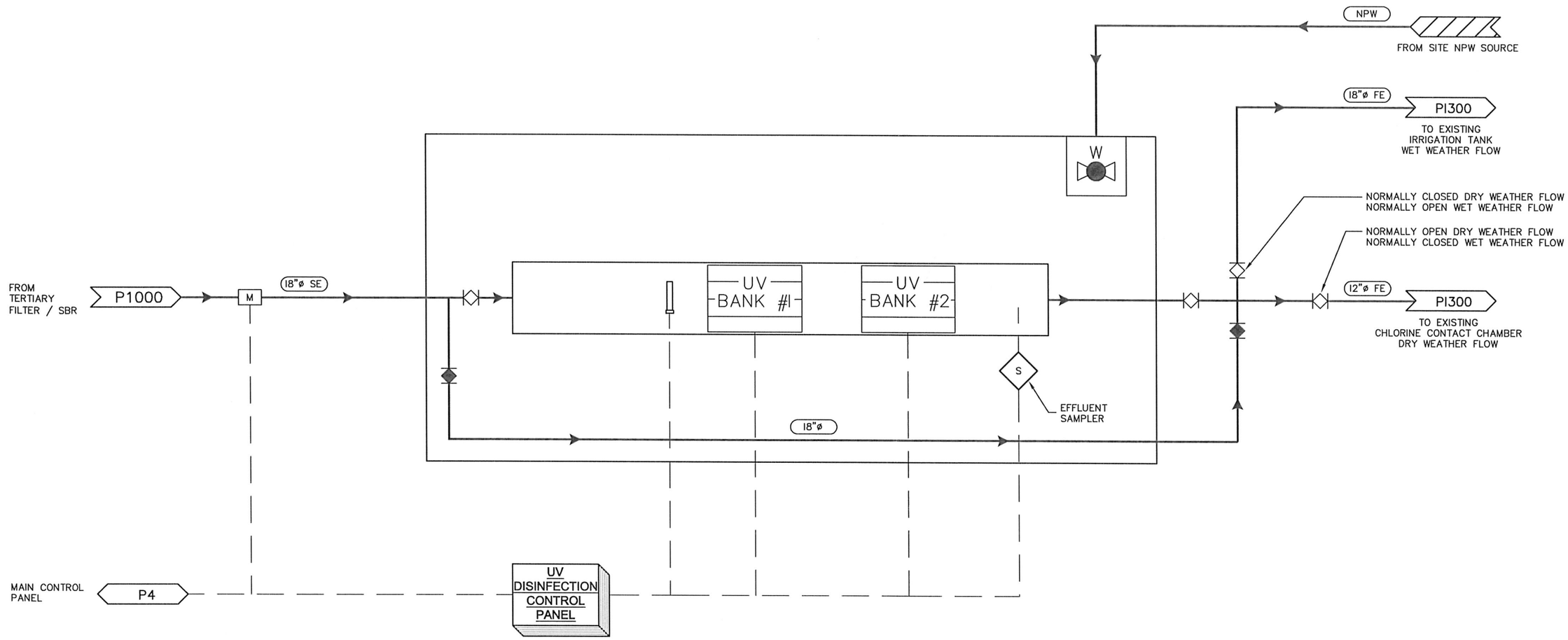
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
TERTIARY FILTERS

PROJECT NO.	DRAWING NO.
146.38	P1000
DATE	SHEET NO.
MAY 2016	19 OF 70

\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\PROCESS AREA 1000 TERIARY FILTERS\P1000.dwg, 12/1/2015 10:22:03 AM PLOT DATE May 5, 2016



ULTRAVIOLET DISINFECTION

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
AARON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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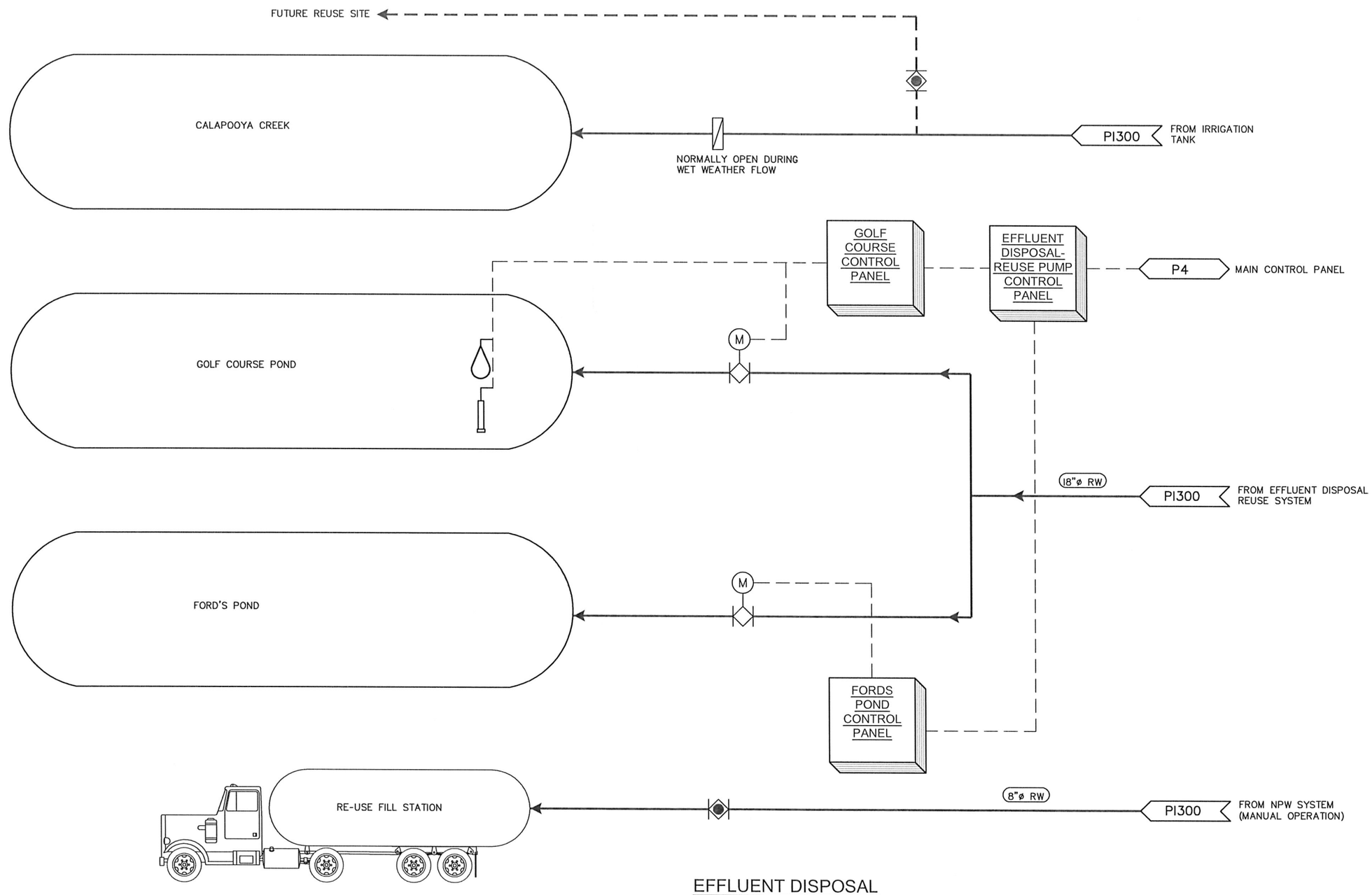
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
ULTRAVIOLET DISINFECTION

PROJECT NO.	DRAWING NO.
146.38	P1100
DATE	SHEET NO.
MAY 2016	20 OF 70



EFFLUENT DISPOSAL

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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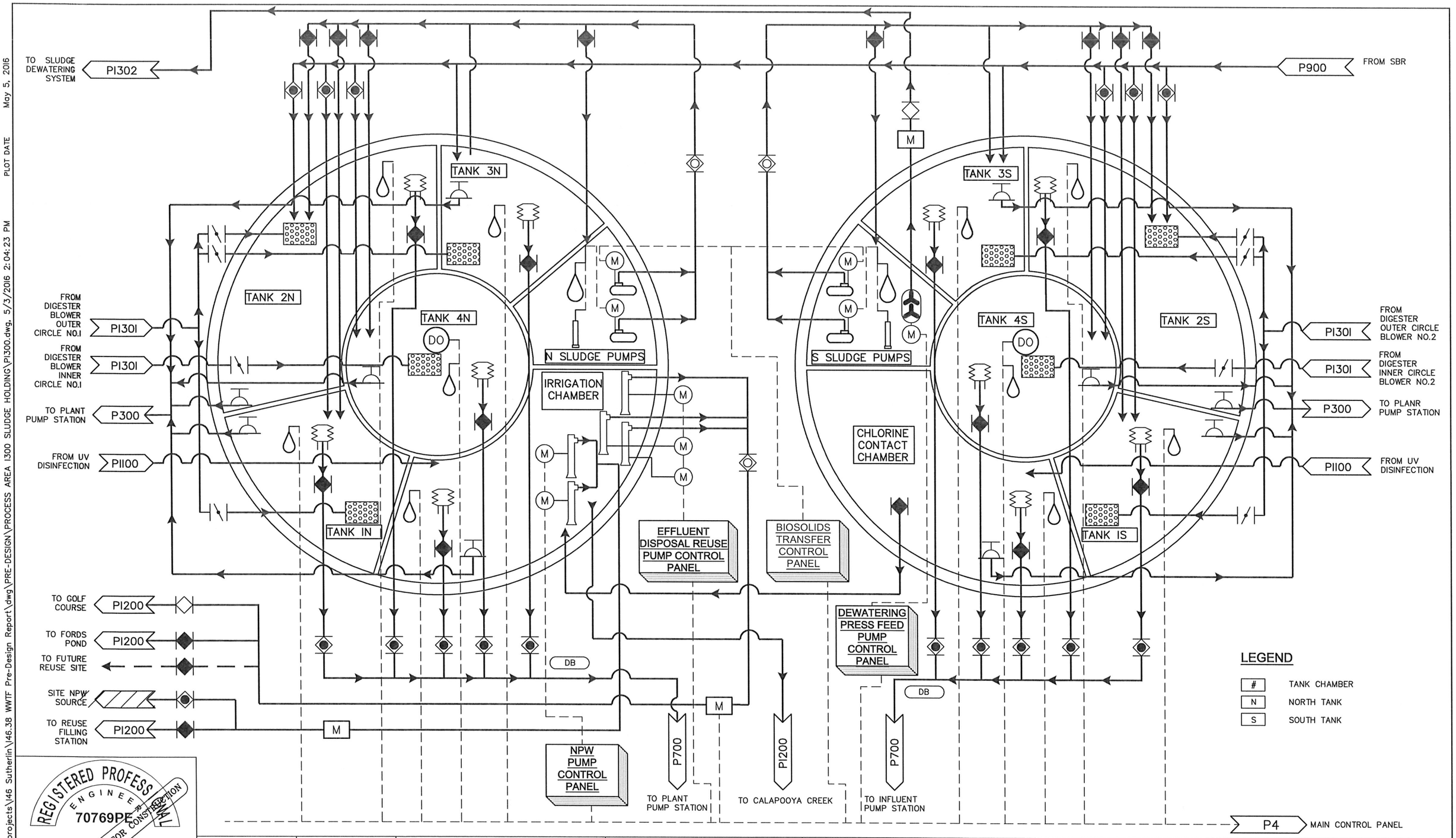
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
EFFLUENT DISPOSAL - REUSE

PROJECT NO.	DRAWING NO.
146.38	P1200
DATE	SHEET NO.
MAY 2016	21 OF 70



REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
APRIL 11, 2006
JOHN J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
BIOSOLIDS TREATMENT

PROJECT NO.	DRAWING NO.
146.38	P1300
DATE	SHEET NO.
MAY 2016	22 OF 70

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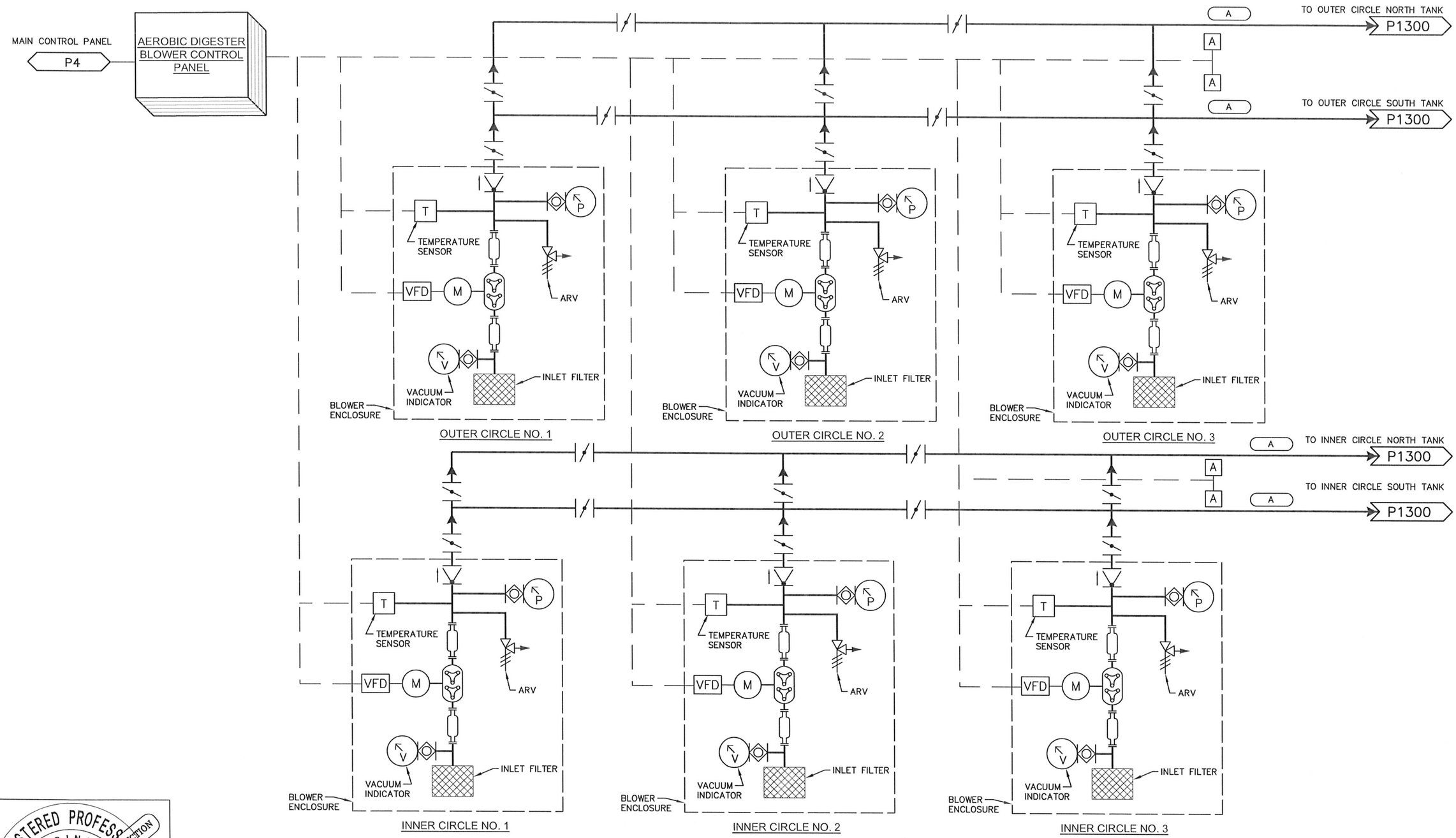

SLUDGE HOLDING TANK BLOWERS

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
ANTHONY J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
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IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
BIOSOLIDS TREATMENT BLOWERS

PROJECT NO.	DRAWING NO.
146.38	P1301
DATE	SHEET NO.
MAY 2016	23 OF 70

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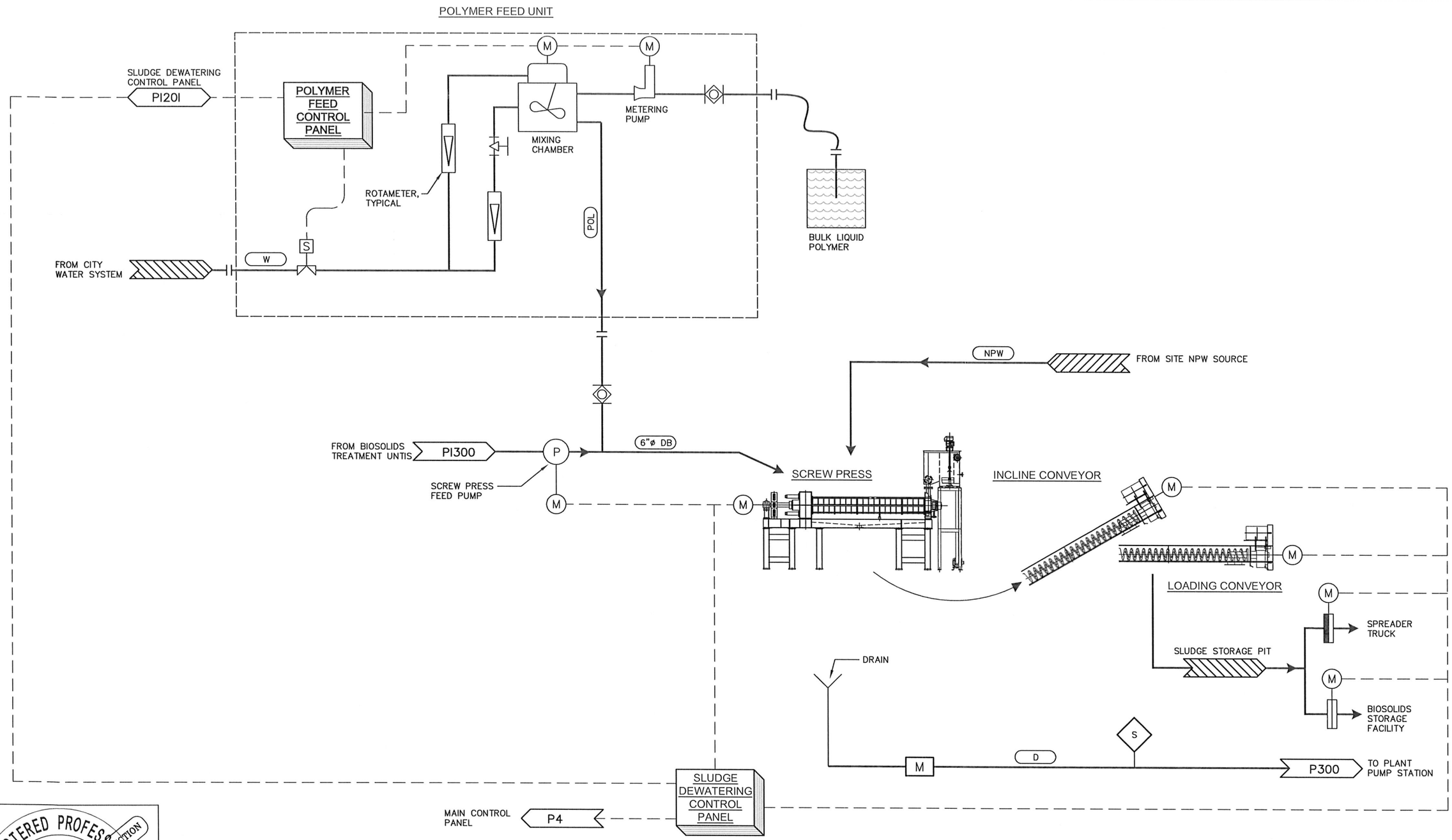

SLUDGE DEWATERING

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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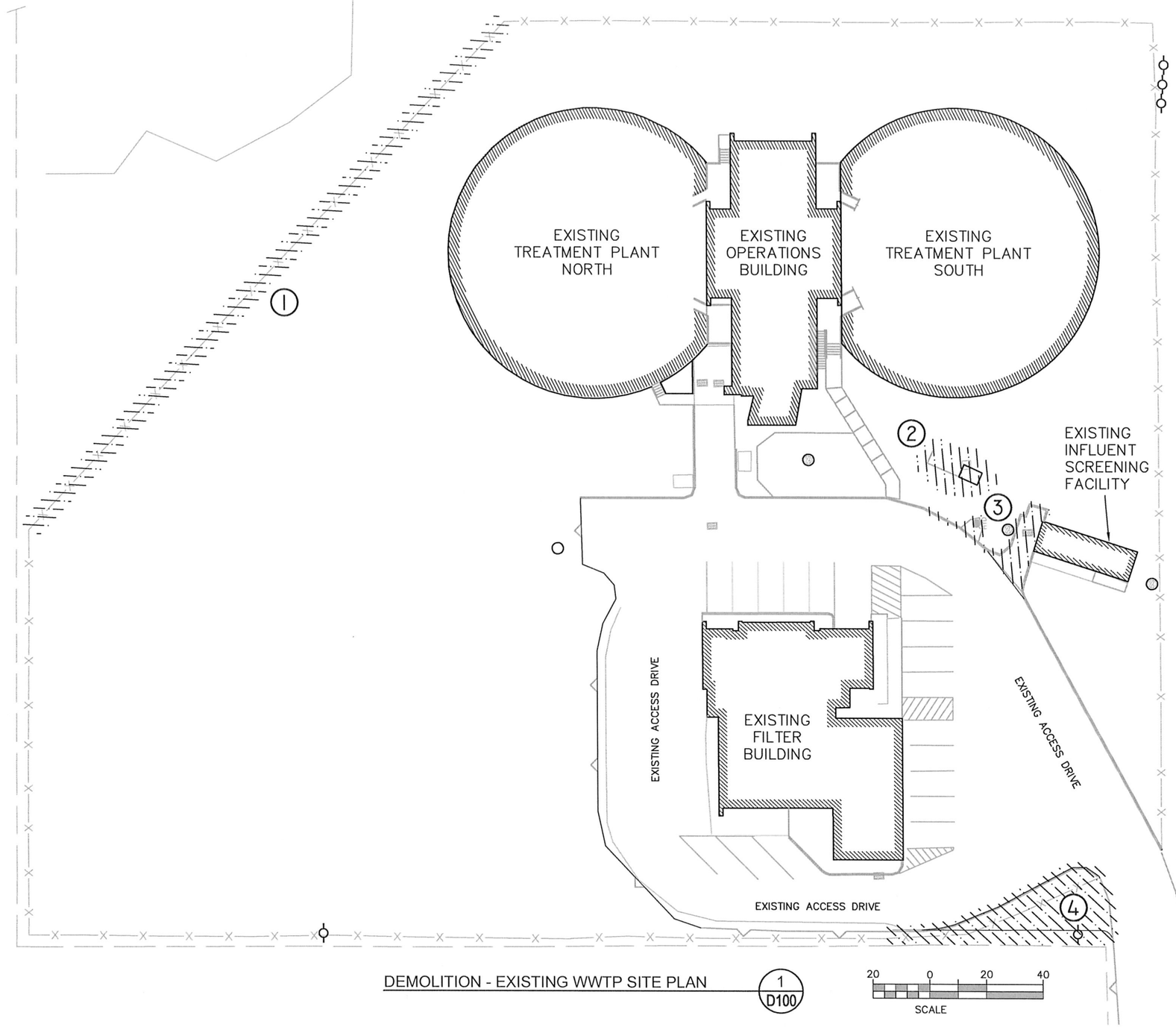
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

PROCESS
EFFLUENT DISPOSAL - SLUDGE DEWATERING

PROJECT NO.	DRAWING NO.
146.38	P1302
DATE	SHEET NO.
MAY 2016	24 OF 70



DEMOLITION - EXISTING WWTP SITE PLAN (1 / D100)

LEGEND

DEMO EXISTING

NO.	DEMOLITION NOTES
1	**CHAIN-LINK FENCE;** REMOVE EXISTING FENCE AND SALVAGE TO OWNER FOR REUSE.
2	**VAULT;** REMOVE AND RELOCATE EXISTING VAULT.
3	**CONC. SIDEWALK;** REMOVE EXISTING CONCRETE SIDEWALK. DISPOSE OF DEBRIS. **CURB;** REMOVE EXISTING CURB. DISPOSE OF DEBRIS. **FIRE HYDRANT;** REMOVE AND RELOCATE EXISTING FIRE HYDRANT.
4	**CHAIN-LINK FENCE;** REMOVE EXISTING FENCE AND SALVAGE TO OWNER FOR REUSE. **CURB;** REMOVE EXISTING CURB. DISPOSE OF DEBRIS.

GENERAL DEMOLITION NOTES:

1. THIS DEMOLITION PLAN ILLUSTRATES DEMOLITION WORK REQUIRED FOR THE COMPLETION OF THIS PROJECT. THE NUMERICAL ORDER PRESENTED BELOW DOES NOT REPRESENT A DEMOLITION SEQUENCE. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION REGARDING SEQUENCE OF WORK AND RELATED WORK CONSTRAINTS REGARDING ON SITE DEMOLITION.
2. COORDINATE WORK WITH SECTION 01014.

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

DEMOLITION
EXISTING SITE

PROJECT NO.	DRAWING NO.
146.38	D100
DATE	SHEET NO.
MAY 2016	25 OF 70

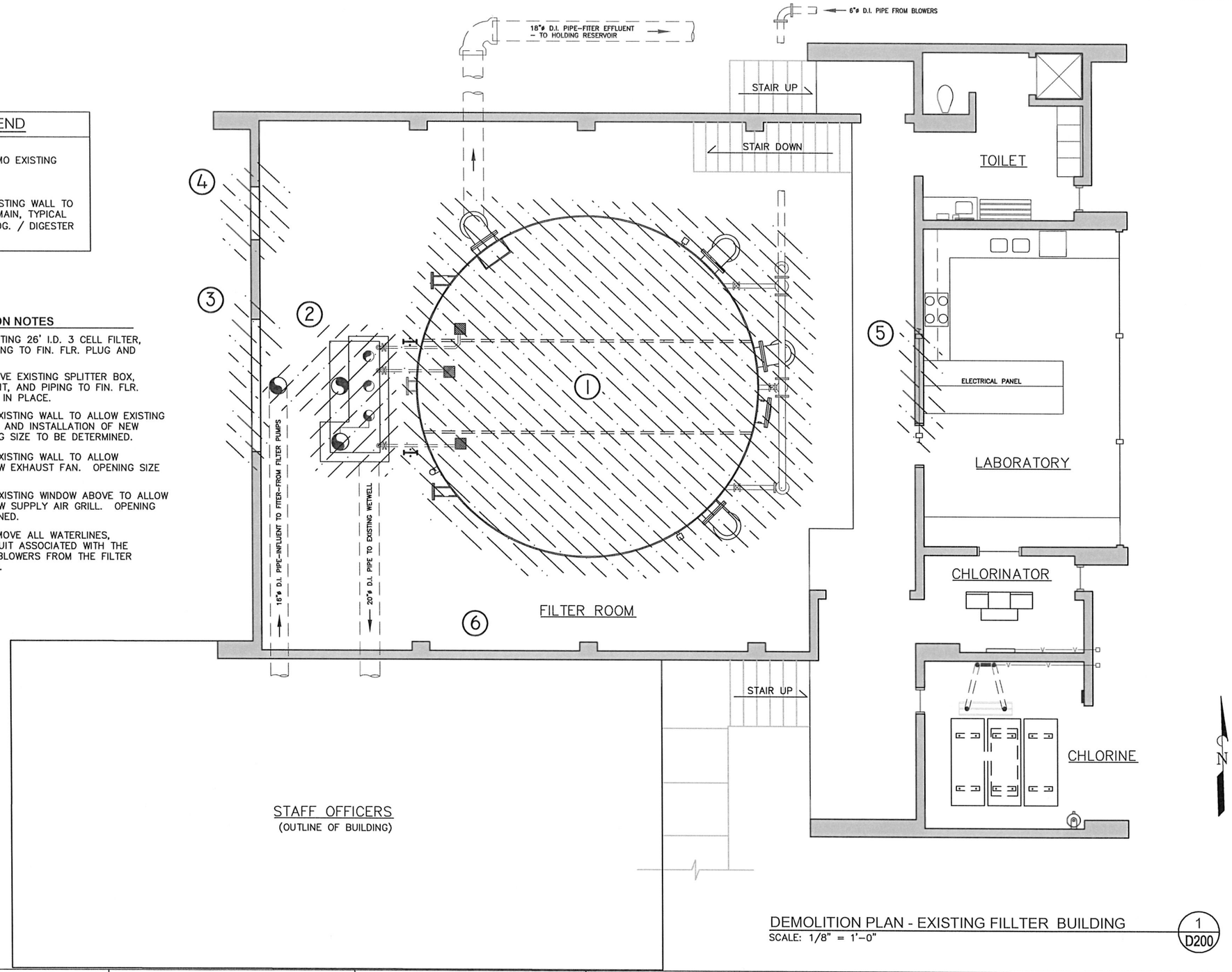
\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\CIVIL\SITE LAYOUT.dwg, 5/3/2016 4:39:27 PM PLOT DATE May 5, 2016

LEGEND

- DEMO EXISTING
- EXISTING WALL TO REMAIN, TYPICAL BLDG. / DIGESTER

NO. DEMOLITION NOTES

1. FILTER; REMOVE EXISTING 26' I.D. 3 CELL FILTER, EQUIPMENT, AND PIPING TO FIN. FLR. PLUG AND ABANDON IN PLACE.
2. SPLITTER BOX; REMOVE EXISTING SPLITTER BOX, SUPPORTS, EQUIPMENT, AND PIPING TO FIN. FLR. PLUG AND ABANDON IN PLACE.
3. BUILDING; REMOVE EXISTING WALL TO ALLOW EXISTING EQUIPMENT REMOVAL AND INSTALLATION OF NEW EQUIPMENT. OPENING SIZE TO BE DETERMINED.
4. BUILDING; REMOVE EXISTING WALL TO ALLOW INSTALLATION OF NEW EXHAUST FAN. OPENING SIZE TO BE DETERMINED.
5. BUILDING; REMOVE EXISTING WINDOW ABOVE TO ALLOW INSTALLATION OF NEW SUPPLY AIR GRILL. OPENING SIZE TO BE DETERMINED.
6. MISCELLANEOUS; REMOVE ALL WATERLINES, AIRLINES, AND CONDUIT ASSOCIATED WITH THE OPERATION OF THE BLOWERS FROM THE FILTER TO PLACE OF ORIGIN.



DEMOLITION PLAN - EXISTING FILLTER BUILDING (1 / D200)
SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 BRYON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY: _____ DATE: _____

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ENGINEERS & PLANNERS, INC.
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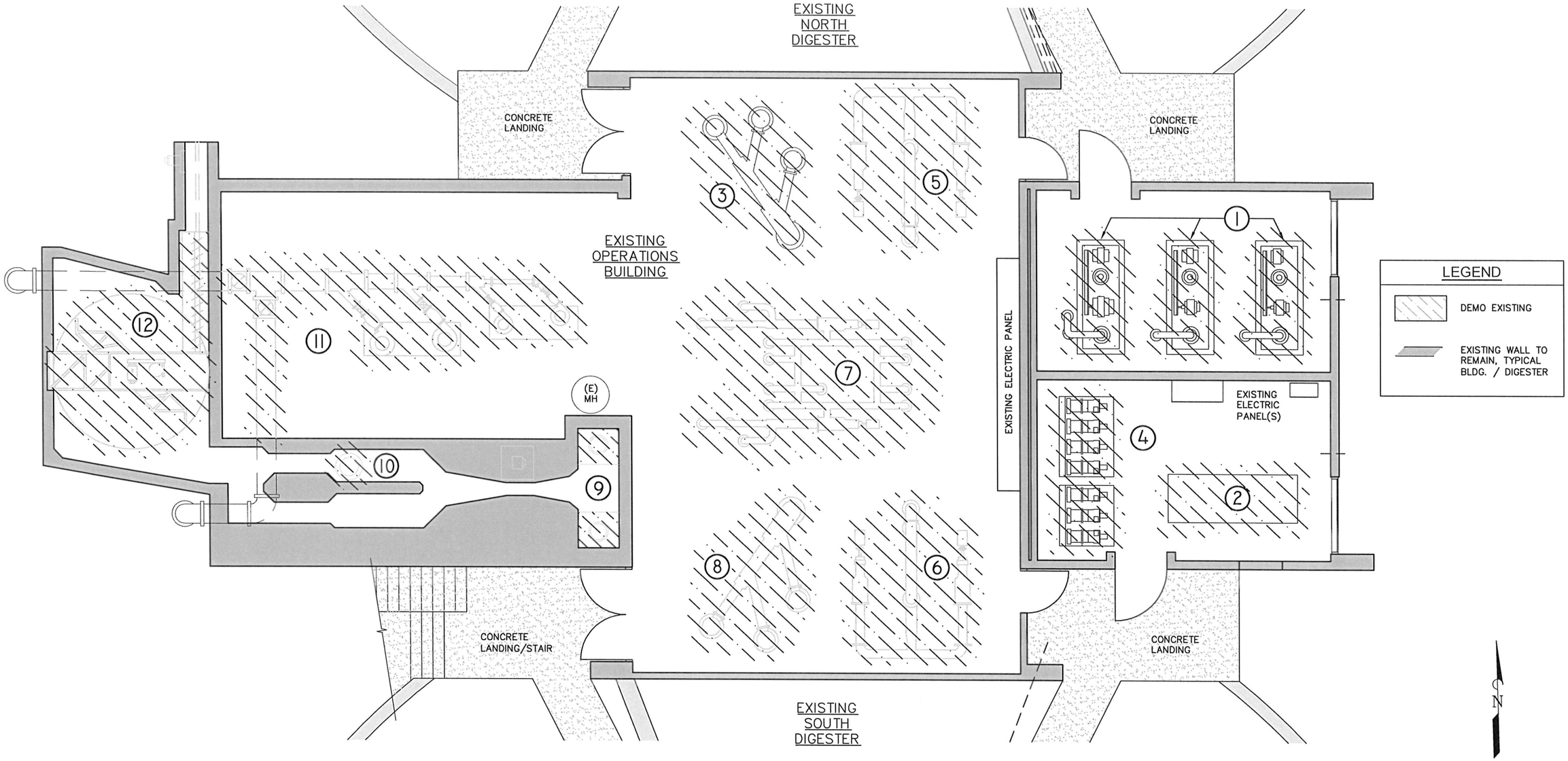
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

DEMOLITION
EXISTING FILTER BUILDING

PROJECT NO.	DRAWING NO.
146.38	D200
DATE	SHEET NO.
MAY 2016	26 OF 70



DEMOLITION PLAN - EXISTING OPERATIONS BUILDING

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

1 / D300

NO.	DEMOLITION NOTES
1	BLOWERS; REMOVE AND REPLACE EXISTING BLOWER.
2	GENERATOR; REMOVE AND REPLACE EXISTING GENERATOR.
3	REUSE PUMPS; REMOVE AND REPLACE EXISTING IRRIGATION PUMPS.
4	REUSE PUMP; REMOVE.
5	RAS PUMP NORTH; REMOVE EXISTING PUMPS AND PIPING TO FINISH FLOOR.
6	RAS PUMP SOUTH; REMOVE EXISTING PUMPS AND PIPING TO FINISH FLOOR.
7	SCUM PUMP; REMOVE EXISTING PUMPS AND PIPING TO FINISH FLOOR.
8	FILTER PUMP; REMOVE EXISTING PUMPS AND PIPING TO FINISH FLOOR.
9	FLOW SPLITTER; PLUG AND ABANDON.
10	COMMINUTOR; REMOVE EXISTING.
11	INFLUENT PUMP; REMOVE EXISTING PUMPS AND PIPING TO FINISH FLOOR.
12	GRIT AND REMOVAL SYSTEM; REMOVE EXISTING.

NOTE:
1. SEE M1300 FOR EXISTING PIPING TO REMAIN
2. REMOVE ALL EQUIPMENT AND PIPE CONCRETE PADS TO FINISH FLOOR ELEVATION
3. DEMOLITION THIS BUILDING CAN NOT START UNTIL NEW TREATMENT SYSTEM IS OPERATIONAL.

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

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REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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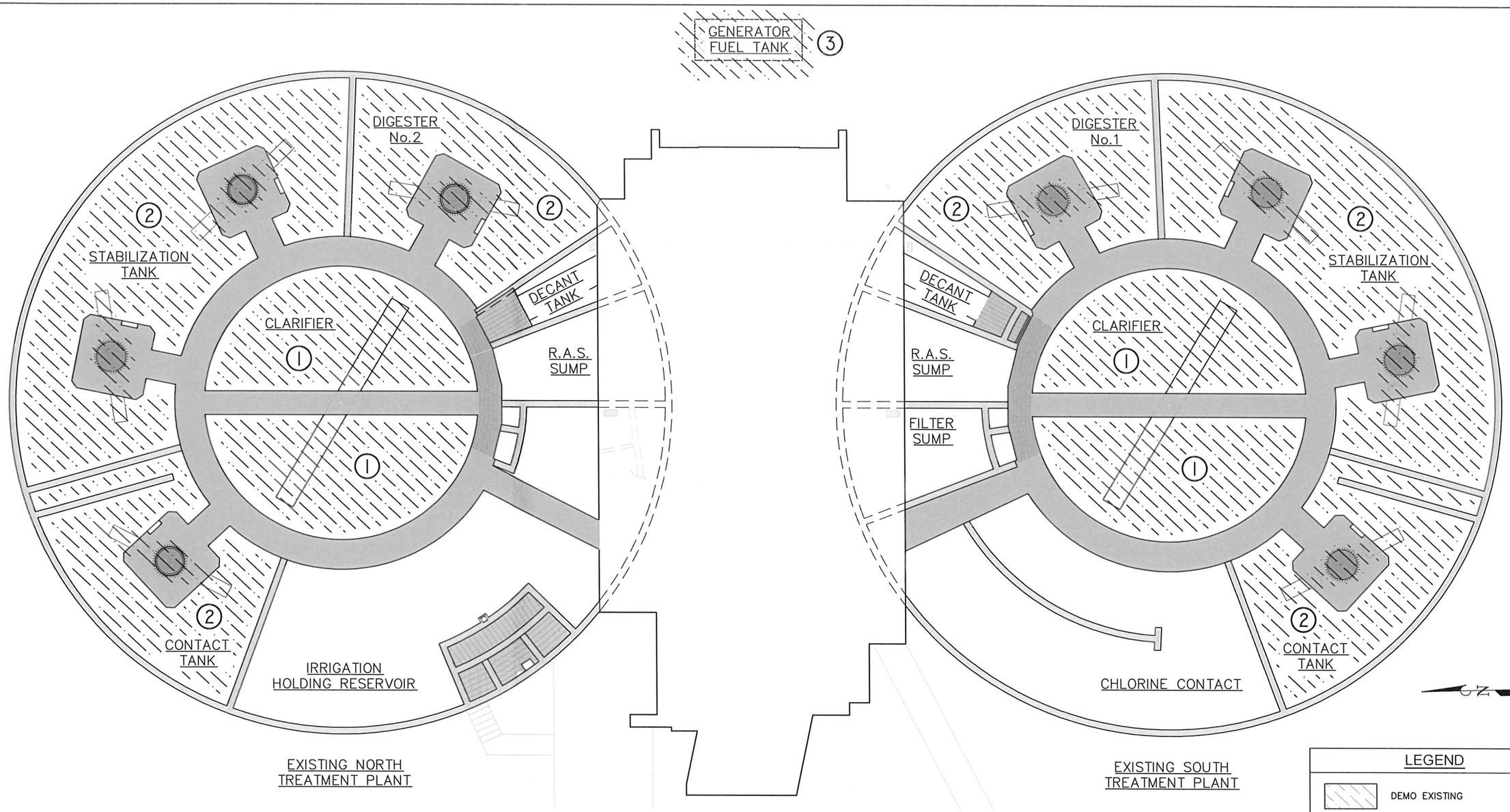
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

DEMOLITION
EXISTING OPERATIONS BUILDING

PROJECT NO.	DRAWING NO.
146.38	D300
DATE	SHEET NO.
MAY 2016	27 OF 70



LEGEND

- DEMO EXISTING
- EXISTING WALL / ACCESS TO REMAIN, TYPICAL.

NO.	DEMOLITION NOTES
1	CLARIFIER; REMOVE ALL EXISTING CLAIRIFIER, EQUIPMENT, AND PIPING TO FIN. FLR. PLUG AND ABANDON IN PLACE.
2	AERATION; REMOVE EXISTING PIPING, SUPPORTS, AND EQUIPMENT TO FIN. FLR. PLUG AND ABANDON IN PLACE. MIXER; REMOVE EXISTING MIXER, EQUIPMENT, AND PIPING TO FIN. FLR. PLUG AND ABANDON IN PLACE.
3	FUEL TANK; REMOVE EXISTING FUEL TANK, PIPING, SUPPORTS, AND EQUIPMENT TO BE RELOCATED.

NOTE:
1. SEE M1300 FOR EXISTING PIPING TO REMAIN
2. REMOVE ALL CONDUITS NOT TO BE USED FOR FUTURE.
3. DEMOLITION OF TREATMENT UNITS CAN NOT START UNTIL NEW TREATMENT SYSTEM IS OPERATIONAL.

DEMOLITION PLAN - EXISTING TREATMENT PLANT (NORTH & SOUTH) 1 D1300

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

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ---- DRAWN: ----

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

DEMOLITION
EXISTING TREATMENT PLANT

PROJECT NO.	DRAWING NO.
146.38	D1300
DATE	SHEET NO.
MAY 2016	28 OF 70

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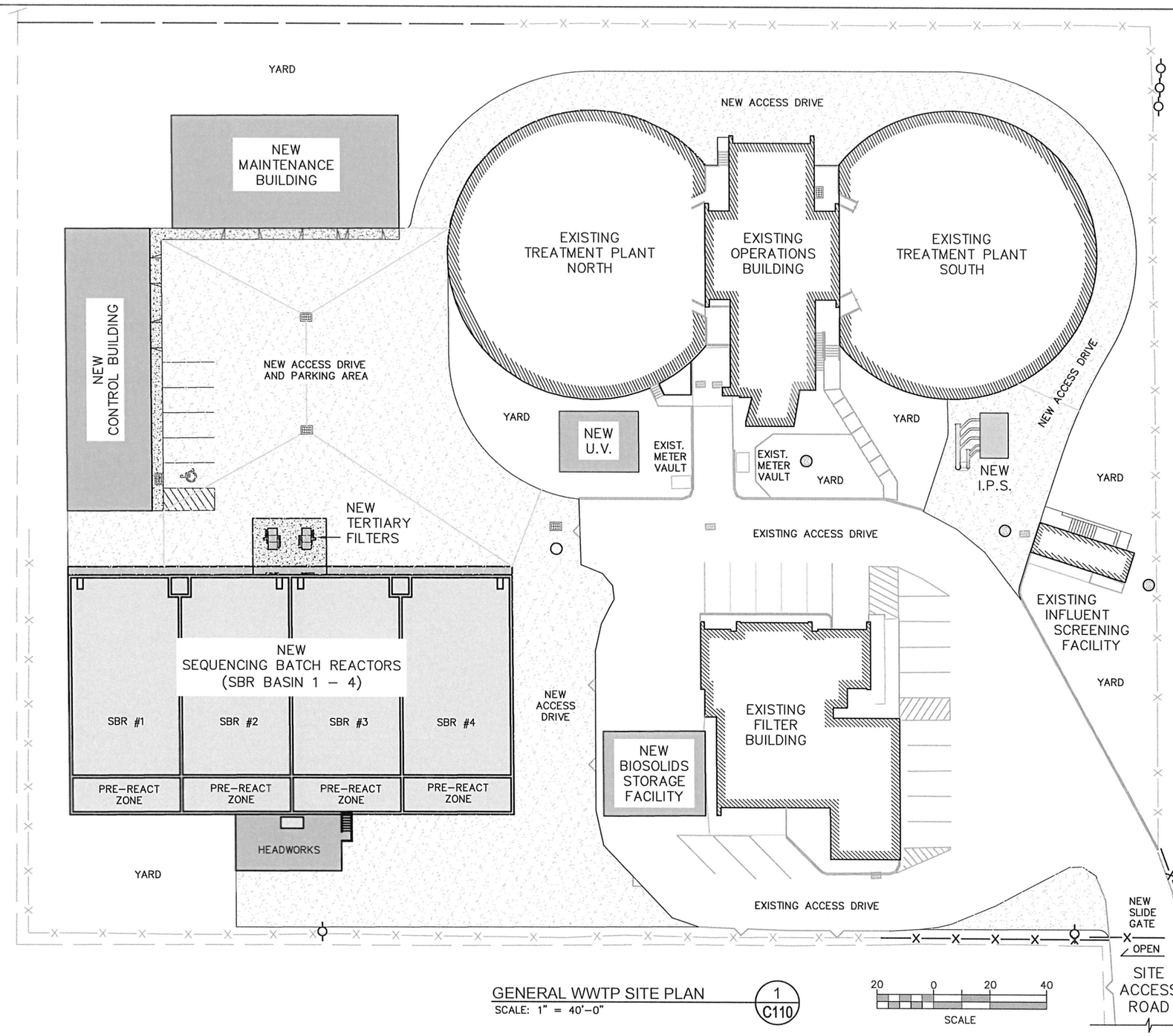

GENERAL WWTP SITE PLAN (1 / C110)
SCALE: 1" = 40'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2008 RYAN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

CIVIL
NEW WWTP SITE PLAN

PROJECT NO.	DRAWING NO.
146.38	C100
DATE	SHEET NO.
MAY 2016	29 OF 70

PLOT DATE May 5, 2016

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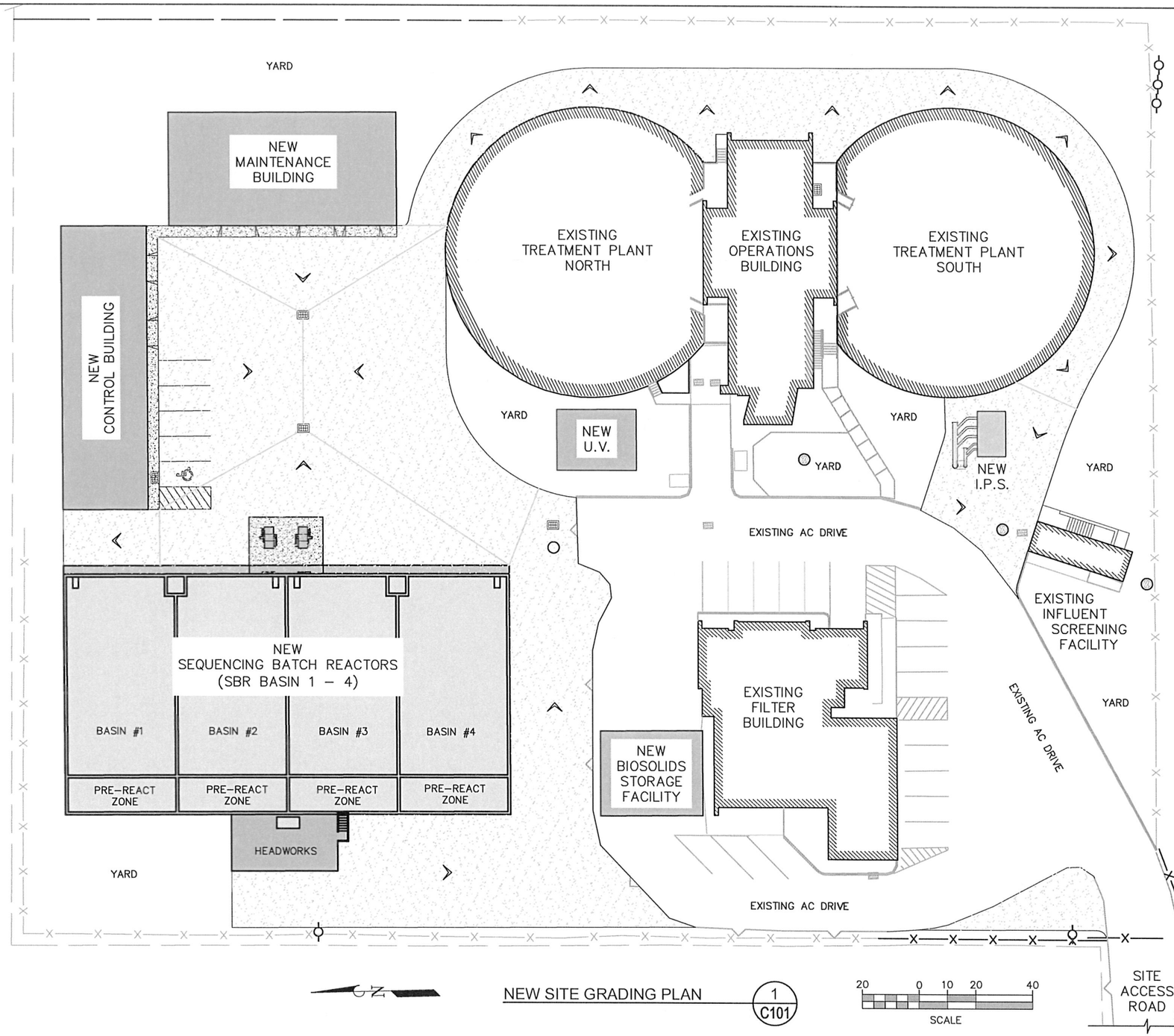


NEW SITE GRADING PLAN 1 C101

POINT	ELEVATION	DESCRIPTION
1000	X	X
1001		
1002		
1003		
1004		
1005		
1006		
1007		
1008		
1009		
1010		
1011		
1012		
1013		
1014		
1015		

NOTE:

1. CONTRACTOR TO INSTALL ORANGE CONSTRUCTION FENCING ALONG WETLANDS. CONFIRM EXACT LOCATION INFIELD W/ENGINEER. APPROXIMATE LENGTH OF FENCING ALONG WETLANDS IS 700 FEET.
2. ELEVATIONS ON THIS SHEET REPRESENT EXISTING CONDITIONS.

LEGEND

NEW AC PAVEMENT

SYMBOLS

SLOPE FINISH SURFACE TO DRAIN

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
BRYON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

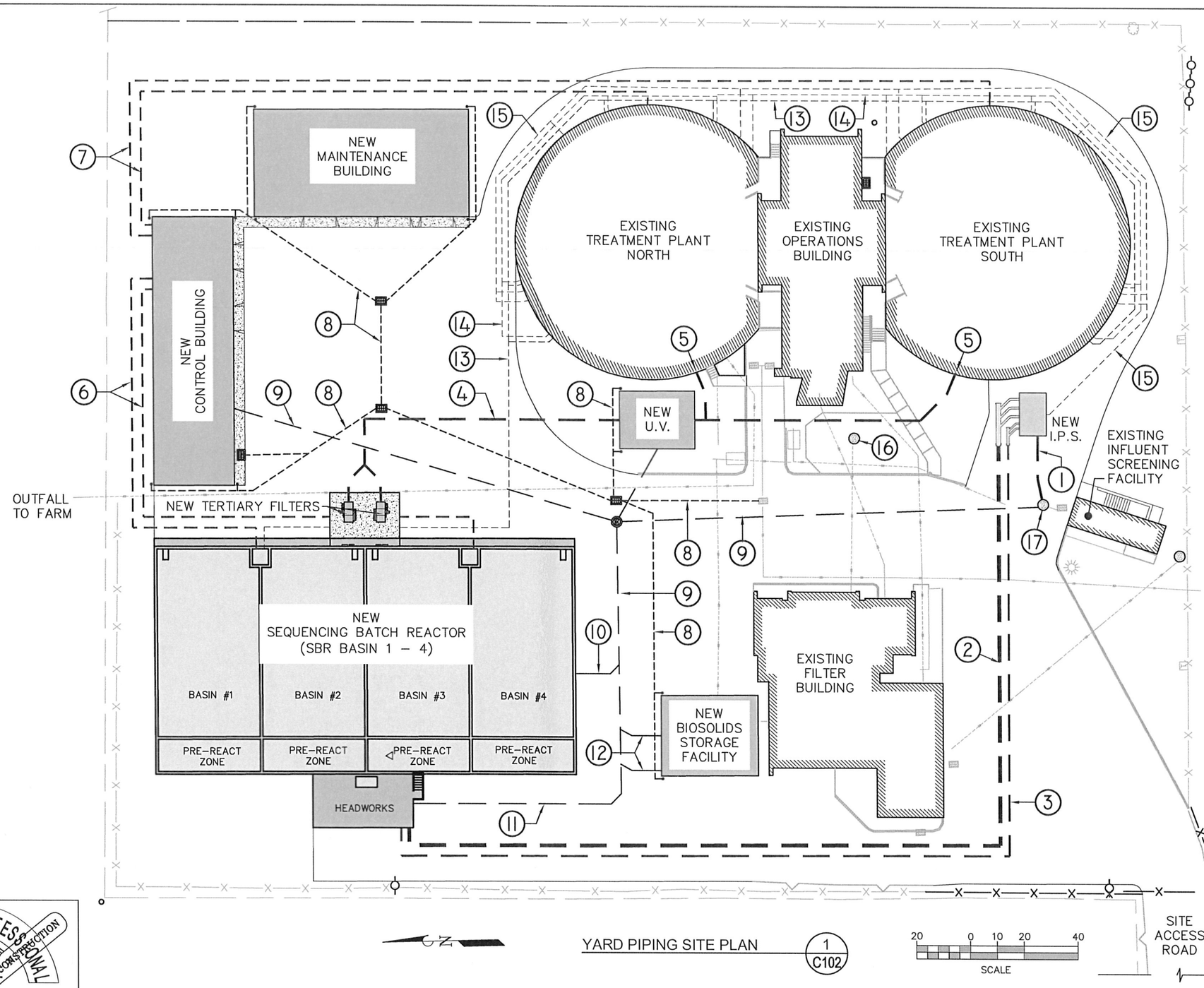
THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

CIVIL
NEW SITE GRADING PLAN

PROJECT NO.	DRAWING NO.
146.38	C101
DATE	SHEET NO.
MAY 2016	30 OF 70



YARD PIPING SITE PLAN 1 C102

NO.	NEW CONSTRUCTION NOTES
1	27"ø RAW SEWAGE PIPE FROM EXISTING INFLUENT SCREENING FACILITY TO INFLUENT PUMP STATION (IPS).
2	18"ø FORCE MAIN FROM INFLUENT PUMP STATION (IPS) TO HEADWORKS.
3	10"ø FORCE MAIN FROM INFLUENT PUMP STATION (IPS) TO HEADWORKS.
4	24"ø SECONDARY EFFLUENT / TERTIARY EFFLUENT TO ULTRAVIOLET DISINFECTION (UV).
5	24"ø FINAL EFFLUENT FROM ULTRAVIOLET DISINFECTION (UV) TO IRRIGATION CHAMBER LOCATED IN EXISTING TREATMENT PLANT NORTH AND CHLORINE CONTACT CHAMBER LOCATED IN EXISTING TREATMENT PLANT SOUTH.
6	8"ø AIR SUPPLY LINE FROM BLOWER ROOM TO SBR.
7	8"ø AIR SUPPLY LINE FROM BLOWER ROOM TO DIGESTERS.
8	STORM DRAIN PIPING
9	CONTROL BUILDING DRAIN / SANITARY LINE
10	SBR BASIN TANK DRAIN LINE
11	HEADWORKS DRAIN LINE
12	BIOSOLIDS STORAGE FACILITY DRAIN LINE
13	WASTE ACTIVATED SLUDGE (WAS) LINE
14	SLUDGE TRANSFER PIPING
15	DIGESTER SUPERNATANT DRAIN LINE
16	EXISTING INFLUENT MANHOLE
17	EXISTING INFLUENT SCREENING FACILITY MANHOLE

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 RYAN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
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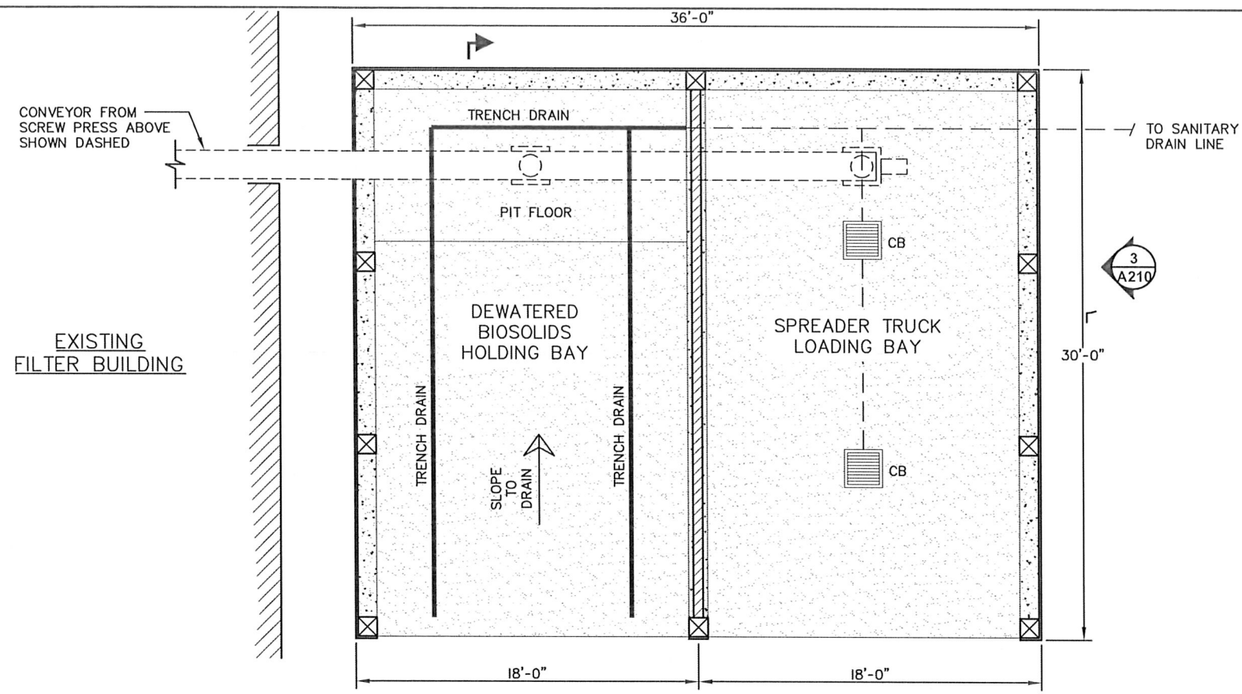
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

CIVIL
NEW YARD PIPING SITE PLAN

PROJECT NO.	DRAWING NO.
146.38	C102
DATE	SHEET NO.
MAY 2016	31 OF 70

\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\CIVIL\SITE LAYOUT.dwg, 5/3/2016 4:39:27 PM PLOT DATE May 5, 2016



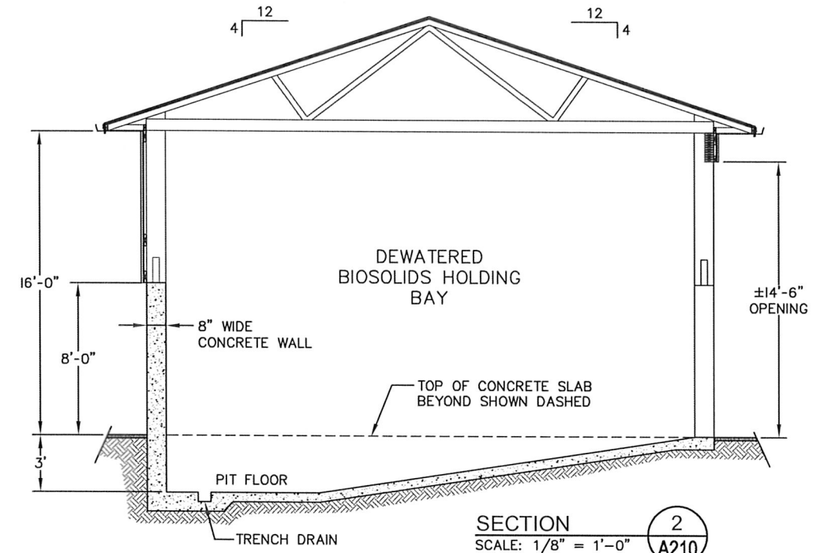
PLAN VIEW 1 A210
SCALE: 1/8" = 1'-0"

WALL LEGEND

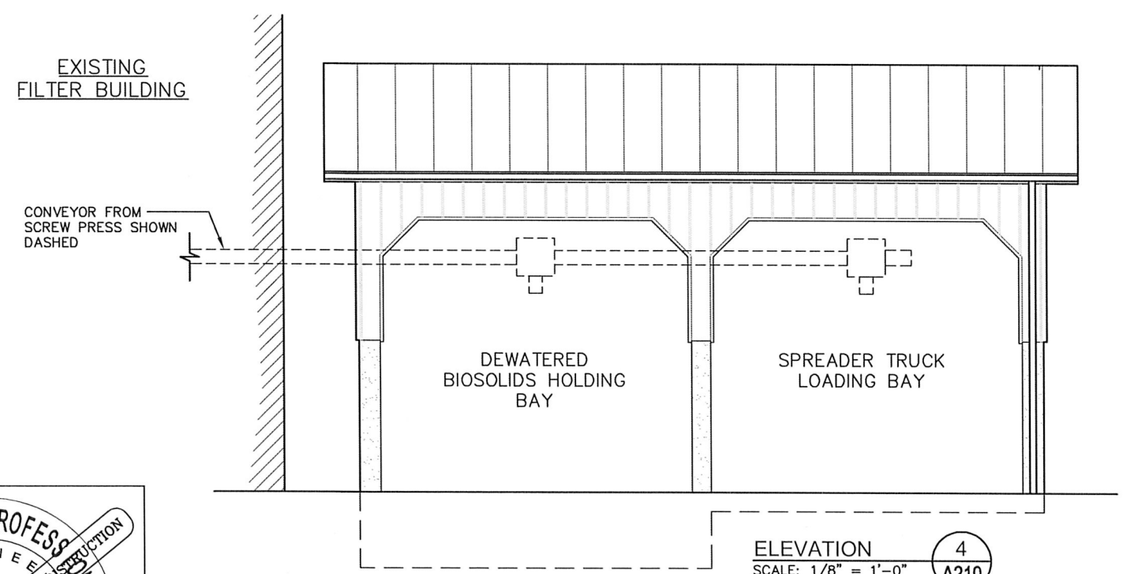
2x6 @ 16"O.C.

BUILDING INFORMATION

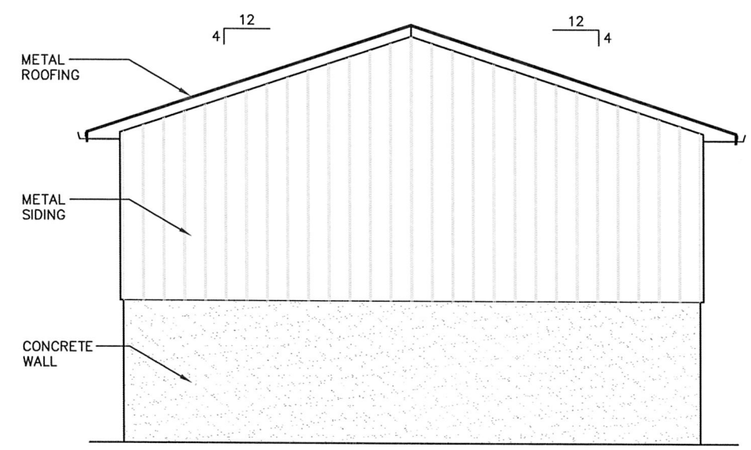
OCCUPANCY: S-1
TYPE OF CONSTRUCTION: TYPE V FRAMING/ SLAB ON GRADE
BUILDING AREA: 1080 SQ. FT.



SECTION 2 A210
SCALE: 1/8" = 1'-0"



ELEVATION 4 A210
SCALE: 1/8" = 1'-0"



ELEVATION (OPPOSITE END SIM.) 4 A210
SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JANUARY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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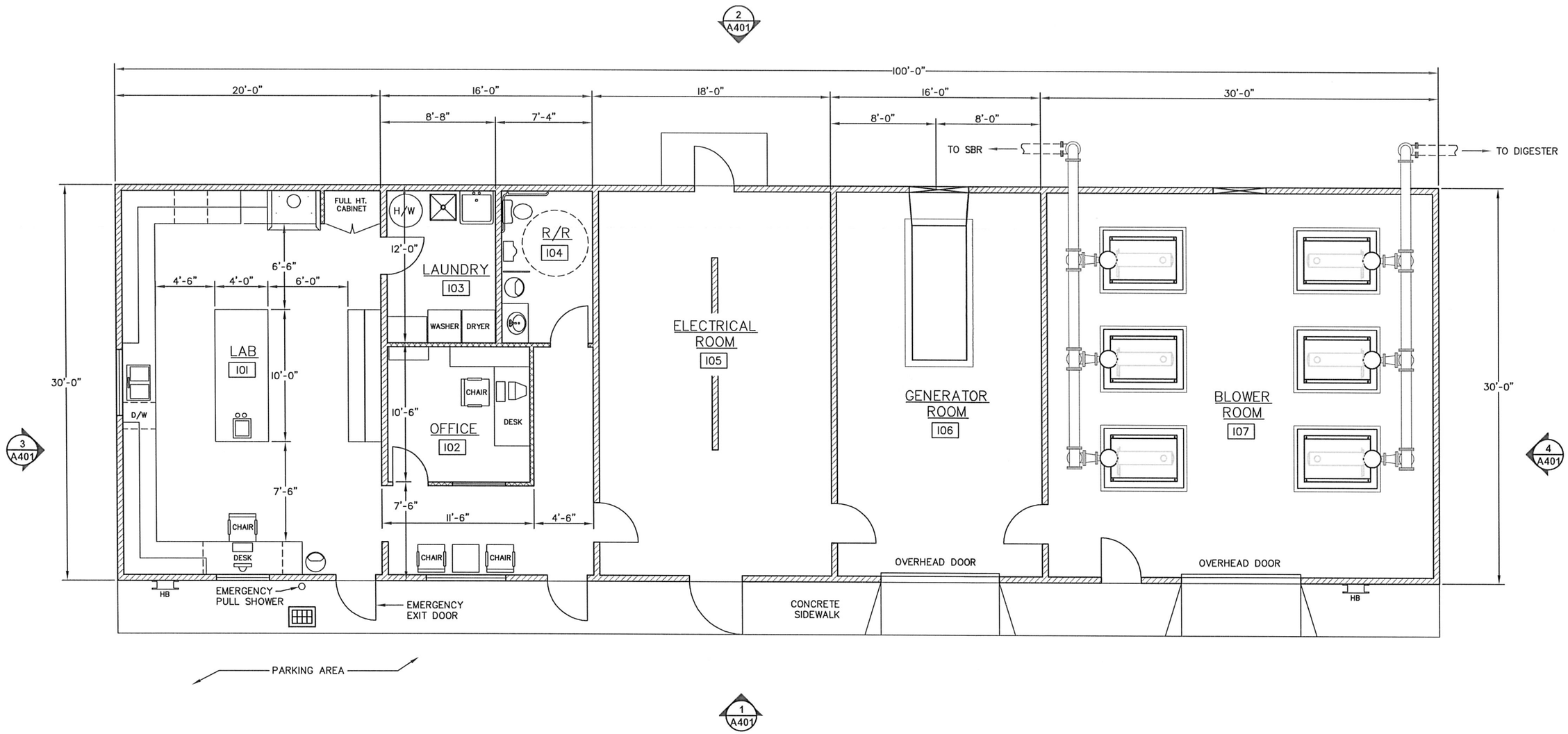
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

ARCHITECTURAL
BIOSOLIDS STORAGE FACILITY

PROJECT NO. 146.38
DRAWING NO. A210
DATE MAY 2016
SHEET NO. 32 OF 70



N

FLOOR PLAN — A / A400
SCALE: 1/8" = 1'-0"

WALL LEGEND

▨	2x6 @ 16"O.C.
▤	2x4 @ 16"O.C.

BUILDING INFORMATION

OCCUPANCY: B

TYPE OF CONSTRUCTION: TYPE V FRAMING/ SLAB ON GRADE

BUILDING AREA:

LAB:	600 SQ. FT.
OFFICE:	480 SQ. FT.
ELECTRIC:	540 SQ. FT.
GENERATOR:	480 SQ. FT.
BLOWER:	900 SQ. FT.
TOTAL:	3000 SQ. FT.

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
NOT FOR CONSTRUCTION
PRELIMINARY

DESIGNED: ----
DRAWN: ----
APPROVED BY:
DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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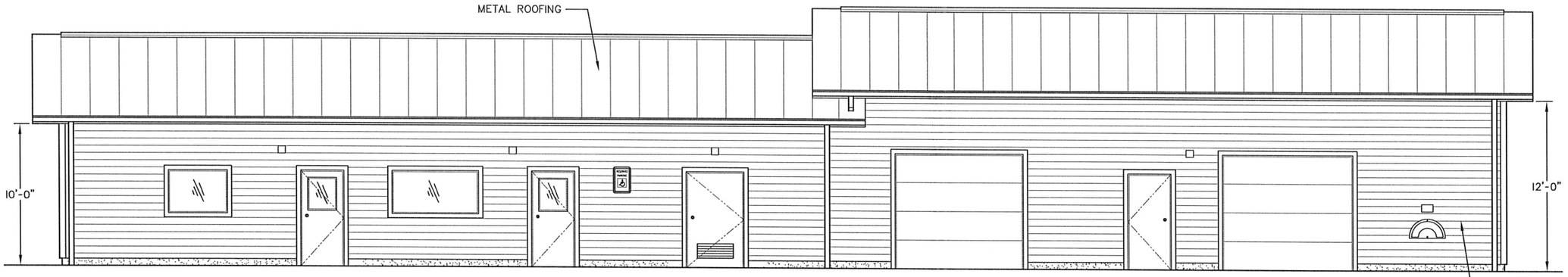
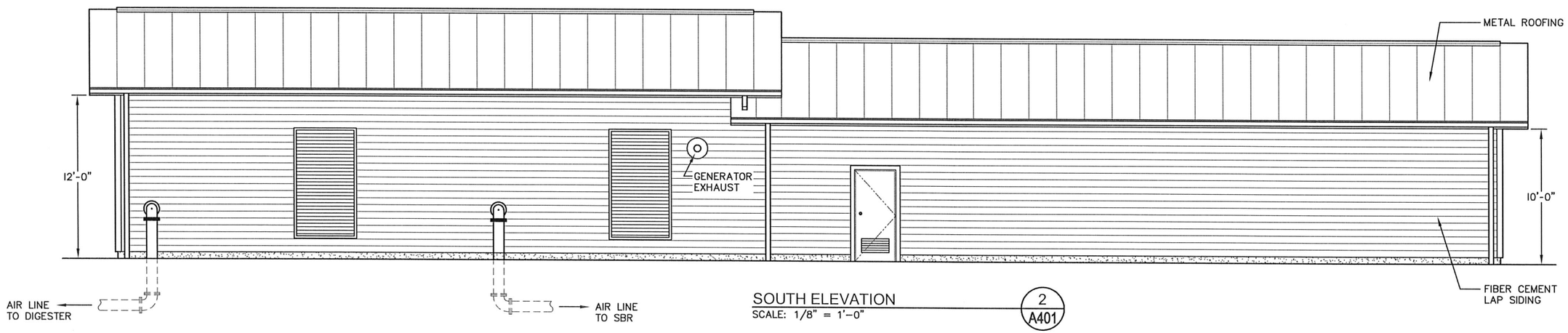
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

ARCHITECTURAL
CONTROL BUILDING - FLOOR PLAN

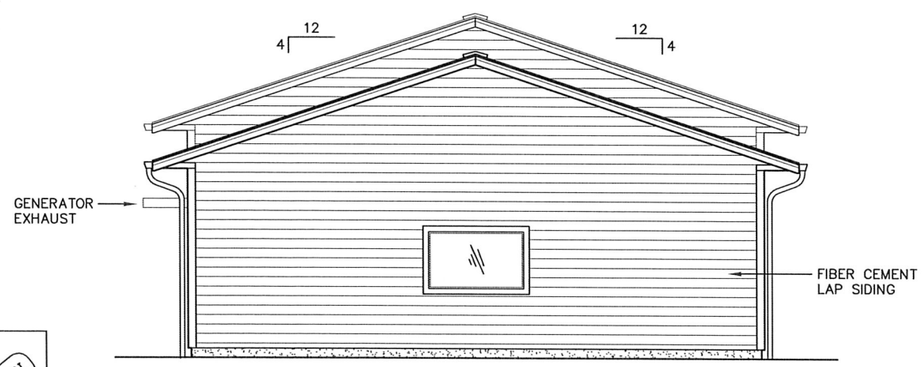
PROJECT NO.	DRAWING NO.
146.38	A400
DATE	SHEET NO.
MAY 2016	33 OF 70



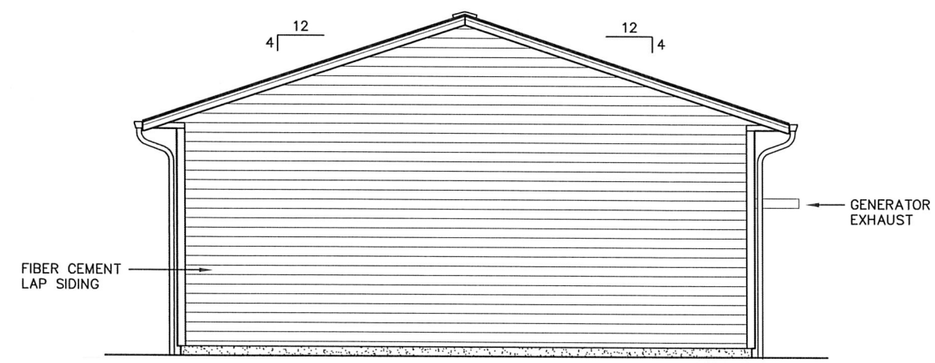
NORTH ELEVATION (1 / A401)
SCALE: 1/8" = 1'-0"



SOUTH ELEVATION (2 / A401)
SCALE: 1/8" = 1'-0"



WEST ELEVATION (3 / A401)
SCALE: 1/8" = 1'-0"



EAST ELEVATION (4 / A401)
SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
NOT FOR CONSTRUCTION
PRELIMINARY
OREGON
JULY 11, 2006
ALLYSON J. SPEAKMAN
EXPIRES 06/30/16

DESIGNED:	DRAWN:
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APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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TELEPHONE: (541) 269-0732
www.dyerpart.com

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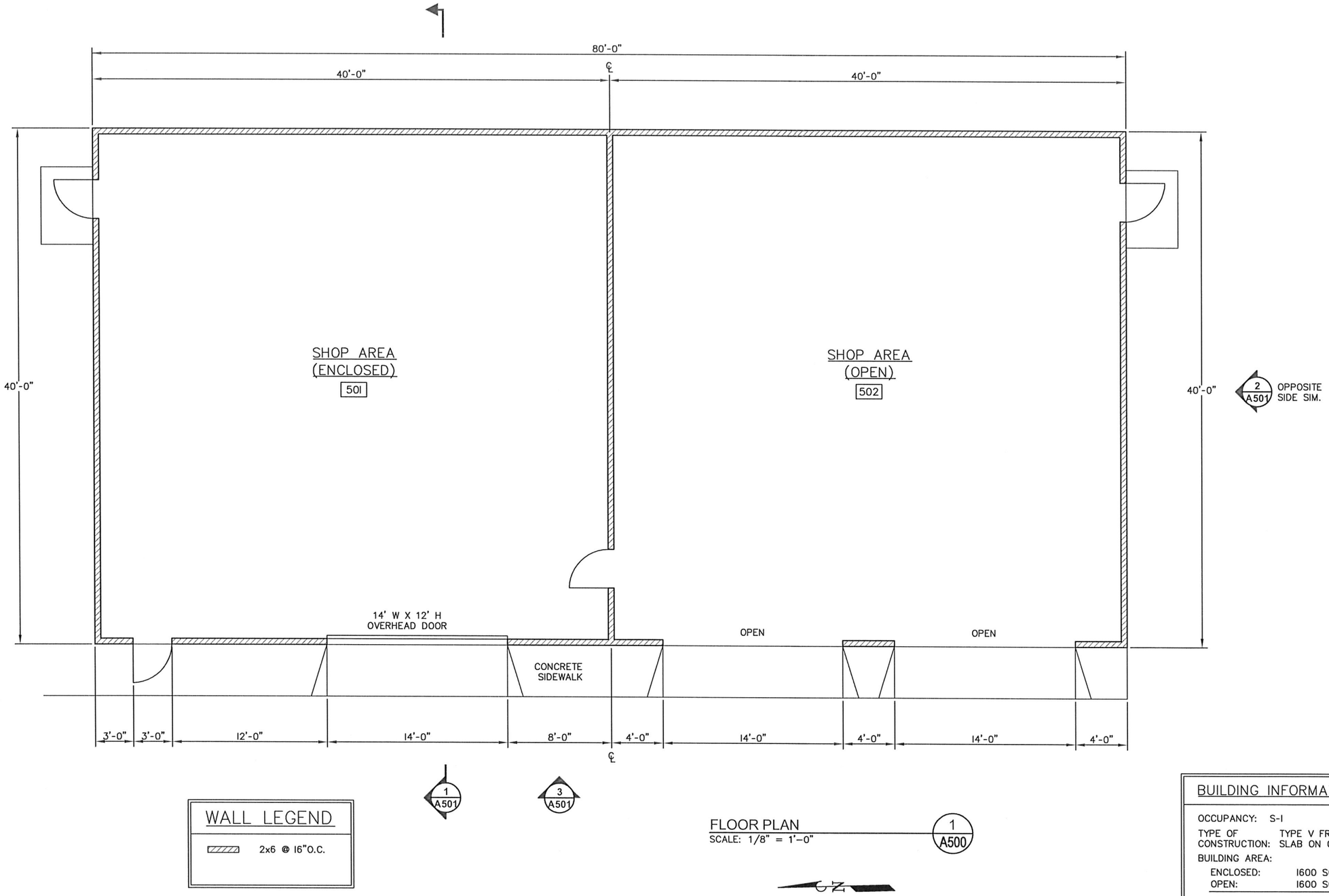
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

ARCHITECTURAL
CONTROL BUILDING - ELEVATIONS

PROJECT NO.	DRAWING NO.
146.38	A401
DATE	SHEET NO.
MAY 2016	34 OF 70



WALL LEGEND

2x6 @ 16"O.C.

FLOOR PLAN
SCALE: 1/8" = 1'-0"
1
A500

BUILDING INFORMATION

OCCUPANCY:	S-I
TYPE OF CONSTRUCTION:	TYPE V FRAMING/ SLAB ON GRADE
BUILDING AREA:	
ENCLOSED:	1600 SQ. FT.
OPEN:	1600 SQ. FT.
TOTAL:	3200 SQ. FT.

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
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REVISIONS

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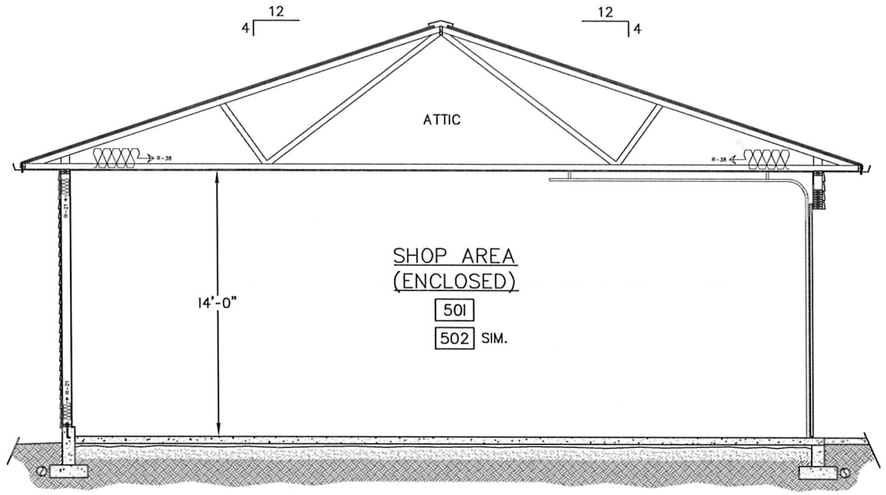
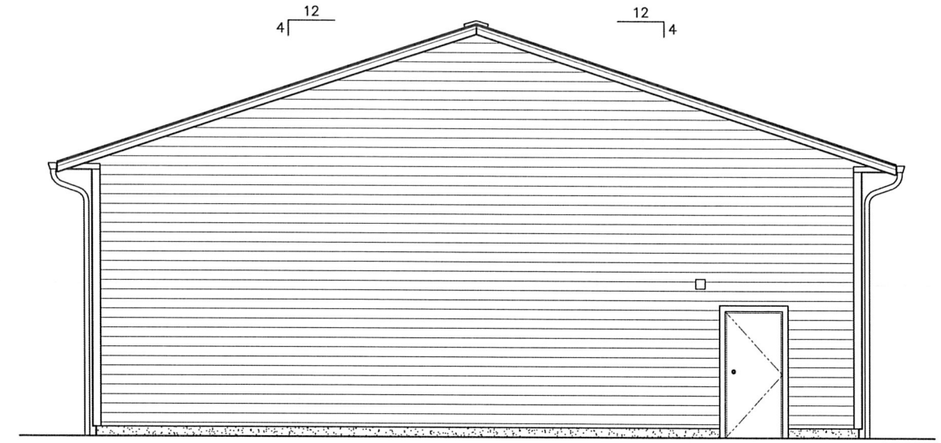
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

ARCHITECTURAL
SHOP BUILDING - FLOOR PLAN

PROJECT NO.	DRAWING NO.
146.38	A500
DATE	SHEET NO.
MAY 2016	35 OF 70



SECTION 1/A501
SCALE: 1/8" = 1'-0"



NORTH ELEVATION 2/A501
SCALE: 1/8" = 1'-0" (OPPOSITE SIDE SIM.)

EAST ELEVATION 3/A501
SCALE: 1/8" = 1'-0" (OPPOSITE SIDE SIM.)

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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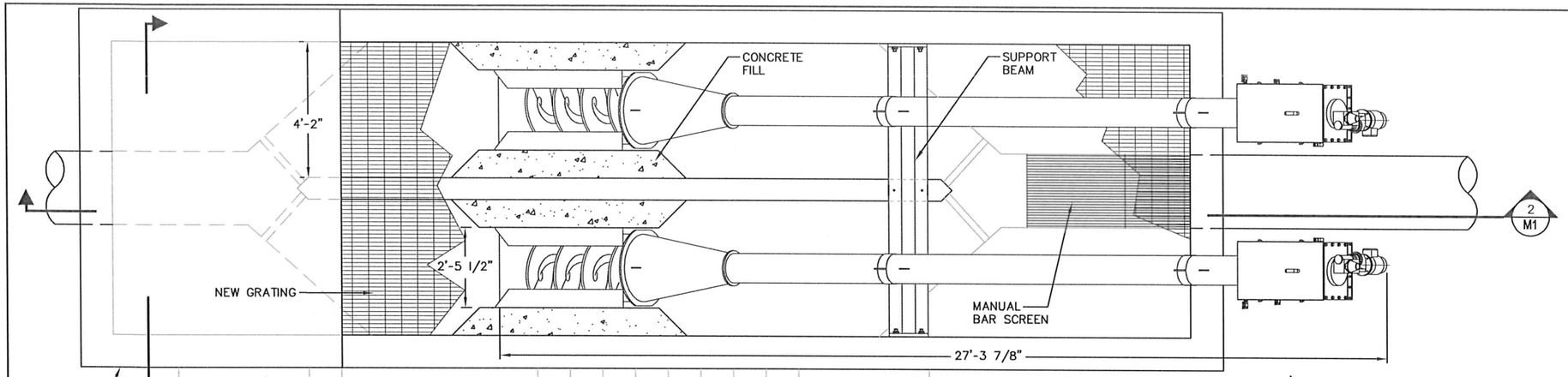
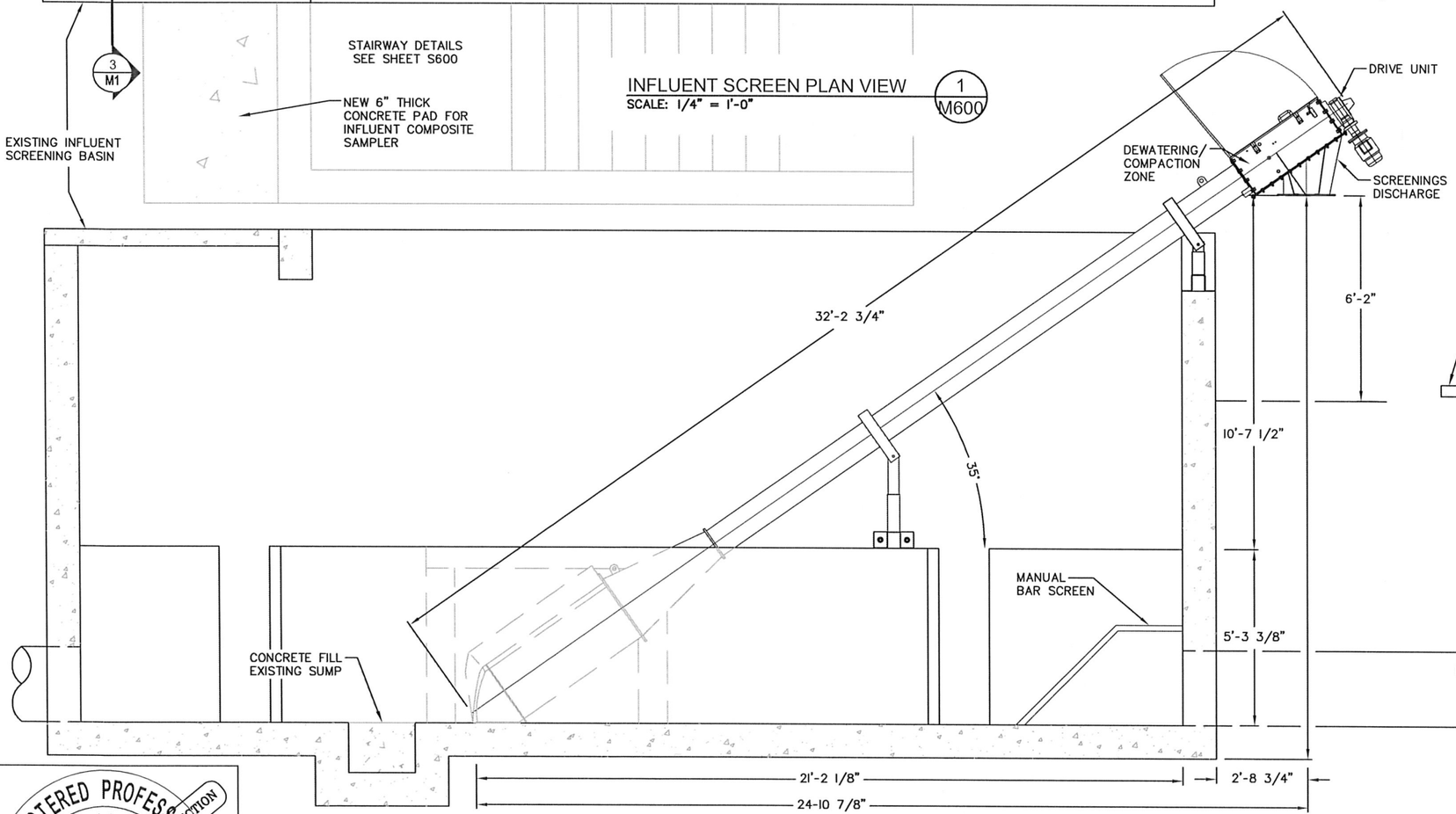
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

ARCHITECTURAL
SHOP BUILDING - SECTIONS & ELEVATIONS

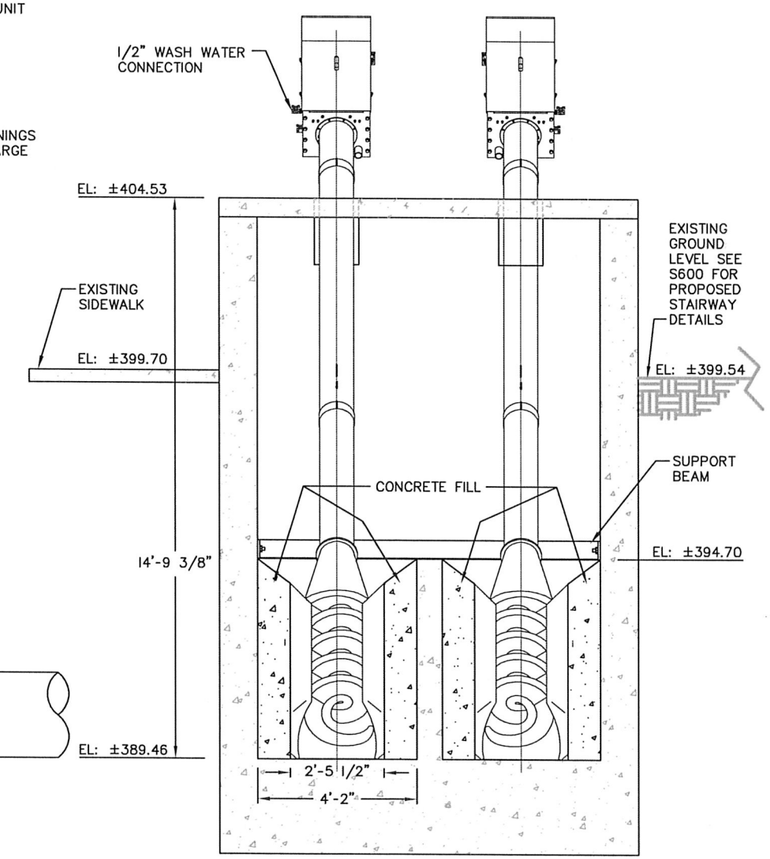
PROJECT NO.	DRAWING NO.
146.38	A501
DATE	SHEET NO.
MAY 2016	36 OF 70



INFLUENT SCREEN PLAN VIEW (1 / M600)
SCALE: 1/4" = 1'-0"



INFLUENT SCREEN SIDE ELEVATION (2 / M600)
SCALE: 1/4" = 1'-0"



INFLUENT SCREEN FRONT ELEVATION (3 / M600)
SCALE: 1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
BRYON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

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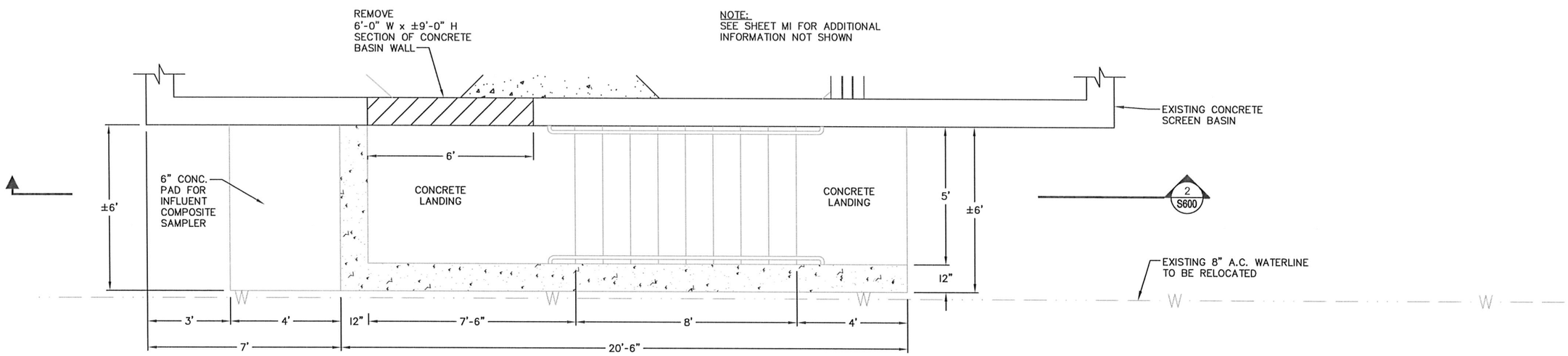
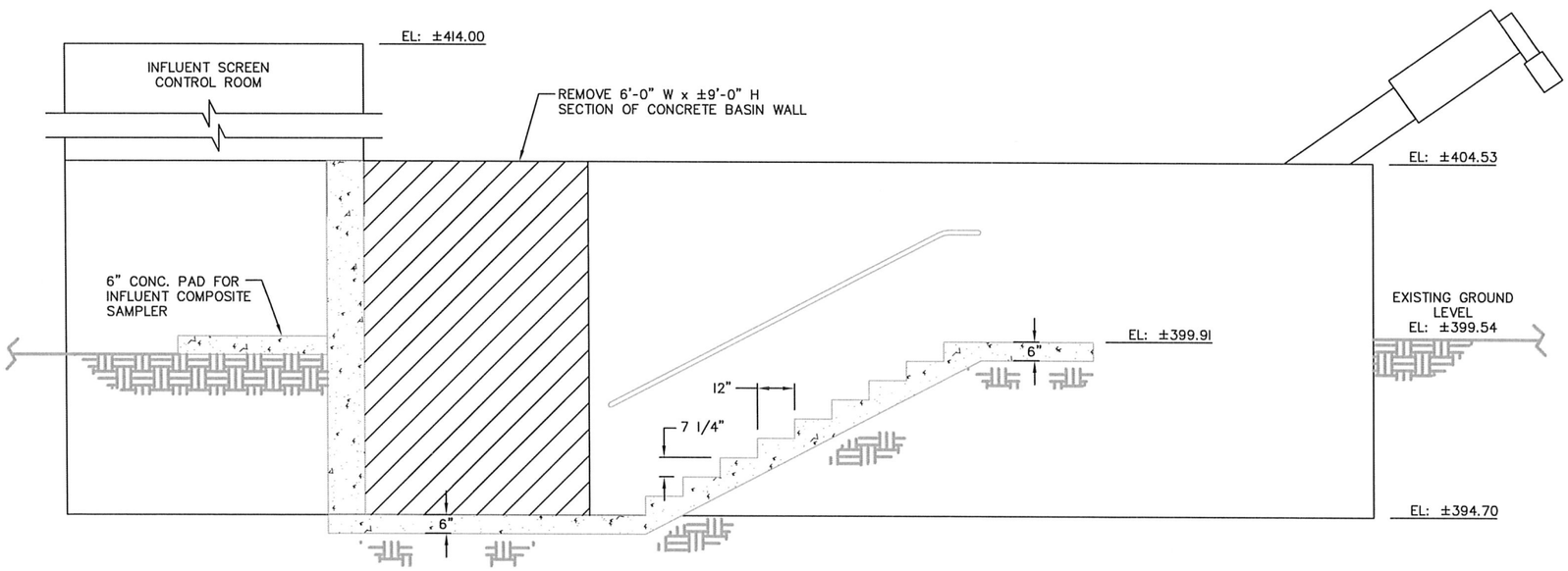
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
SCREENING FACILITY
INFLUENT SCREEN PLAN AND SECTIONS

PROJECT NO.	DRAWING NO.
146.38	M600
DATE	SHEET NO.
MAY 2016	37 OF 70



INFLUENT SCREEN - STAIRWAY PLAN (1 / S600)

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



INFLUENT SCREEN - STAIRWAY SECTION (2 / S600)

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

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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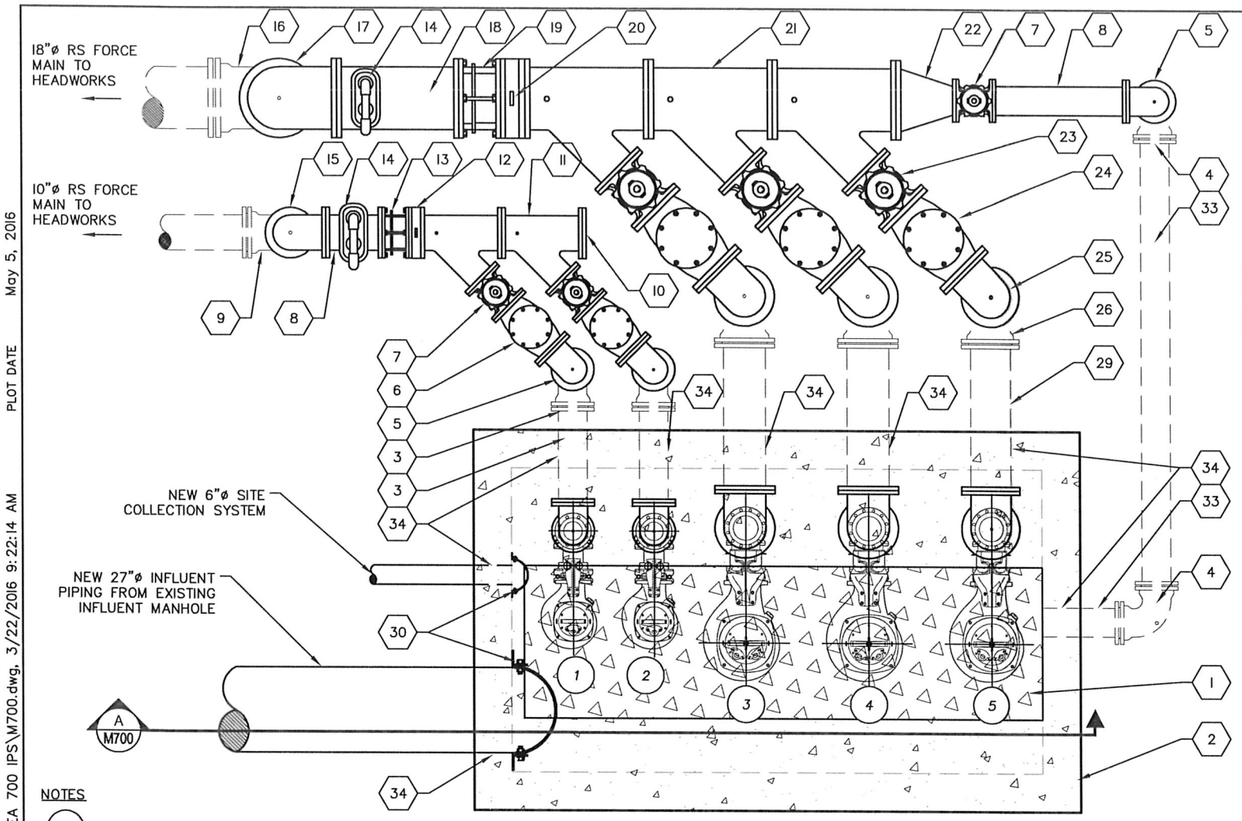
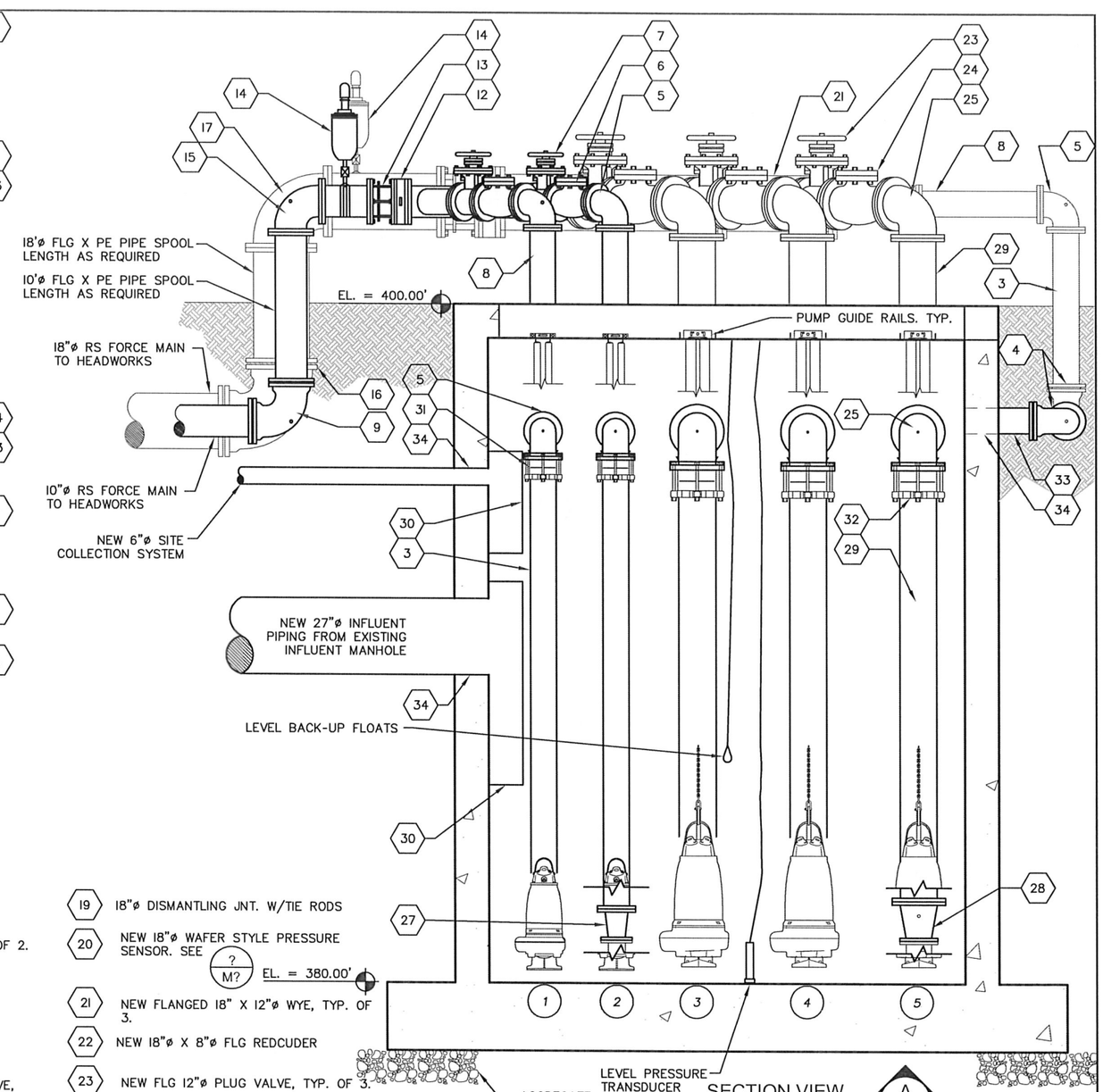
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

SCREENING FACILITY
INFLUENT SCREEN STAIRCASE DETAIL

PROJECT NO.	DRAWING NO.
146.38	S600
DATE	SHEET NO.
MAY 2016	38 OF 70





SECTION VIEW A/M700
SCALE: 1/4" = 1'-0"

NOTES

(#) DENOTES PUMP #

PIPE SUPPORTS NOT SHOWN FOR CLAIRITY. PROVIDE PIPE SUPPORTS AS REQUIRED.

SEE SHEET C??? FOR PLAN VIEW ELEVATIONS

PUMP STATION PLAN VIEW 1/M700
SCALE: 1/4" = 1'-0"

HEADWORKS PUMP STATION WETWELL DESIGN DATA	
RIM ELEVATION:	400.00'
WETWELL DIMENSION:	14'-0" X 8'-00"
OVERFLOW ALARM:	394.50"
8"ø FM OUT I.E.:(TYP. OF 2)	396.00'
12"ø FM OUT I.E.:(TYP. OF 3)	396.00'
6"ø INLET (N)	39X.XX'
27"ø INLET I.E. (N):	389.08'
HWL: ALARM:	389.50'
SMALL PUMP #1 ON:	385.00'
SMALL PUMP #2 ON:	386.00'
LARGE PUMP #1 ON	387.00'
LARGE PUMP #1 & #2 ON	388.00'
LARGE PUMP #1, #2 & #3 ON	389.00'
ALL PUMPS OFF:	382.00'
LWL: ALARM:	381.50'
BOTTOM OF WELL:	380.00'

KEY NOTES:

1. NEW H-20 LOAD RATED WETWELL HATCH SEE (?/M?)
2. NEW 14'-0" X 8'-0" CONCRETE VAULT
3. NEW 8"ø FLG x PE PIPE SPOOL LENGTH AS REQUIRED, TYP. OF 2.
4. NEW 8"ø MJ 90° ELBOW, TYP. OF 4
5. NEW 8" ø FLG 90° ELBOW. TYP. OF 3.
6. NEW FLG 8"ø CHECK VALVE, TYP. OF 2.
7. NEW FLG 8"ø PLUG VALVE, TYP. OF 3.
8. NEW 8"ø FLG PIPE SPOOL, LENGTH AS REQUIRED
9. NEW 10"ø MJ 90° ELBOW
10. NEW 10"ø BLIND FLANGE
11. NEW FLANGED 10" X 8"ø WYE, TYP. OF 2.
12. NEW 10"ø WAFER STYLE PRESSURE SENSOR. SEE (?/M?)
13. 10"ø DISMANTLING JNT. W/TIE RODS
14. NEW COMBINATION AIR RELEASE VALVE, TYP. OF 2.
15. NEW 10"ø FLG 90° ELBOW.
16. NEW 18"ø MJ 90° ELBOW
17. NEW 18"ø FLG 90° ELBOW
18. NEW 18"ø FLG PIPE SPOOL, LENGTH AS REQUIRED
19. 18"ø DISMANTLING JNT. W/TIE RODS
20. NEW 18"ø WAFER STYLE PRESSURE SENSOR. SEE (?/M?)
21. NEW FLANGED 18" X 12"ø WYE, TYP. OF 3.
22. NEW 18"ø X 8"ø FLG REDCUDER
23. NEW FLG 12"ø PLUG VALVE, TYP. OF 3.
24. NEW FLG 12"ø CHECK VALVE, TYP. OF 3.
25. NEW 12"ø FLG 90° ELBOW. TYP. OF 3.
26. NEW 12"ø MJ 90° ELBOW, TYP. OF 3
27. NEW 8" x 6" FLG REDUCER, TYP. OF 2.
28. NEW 12" X 8" FLG REDUCER, TYP. OF 3
29. NEW 12"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
30. INFLUENT DEFLECTOR, SEE (?/M?)
31. NEW 8"ø FLANGED COUPLING ADAPTOR, TYP. OF 2.
32. NEW 12"ø FLANGED COUPLING ADAPTOR, TYP. OF 3
33. NEW 8"ø PIPE SPOOL, LENGTH AS REQUIRED
34. PIPE PENETRATION, SEE (?/M?) TYPICAL FOR ALL PIPES

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: CGP
DRAWN: CGP
CHECKED: AJS
APPROVED: SBM

THE DYER PARTNERSHIP ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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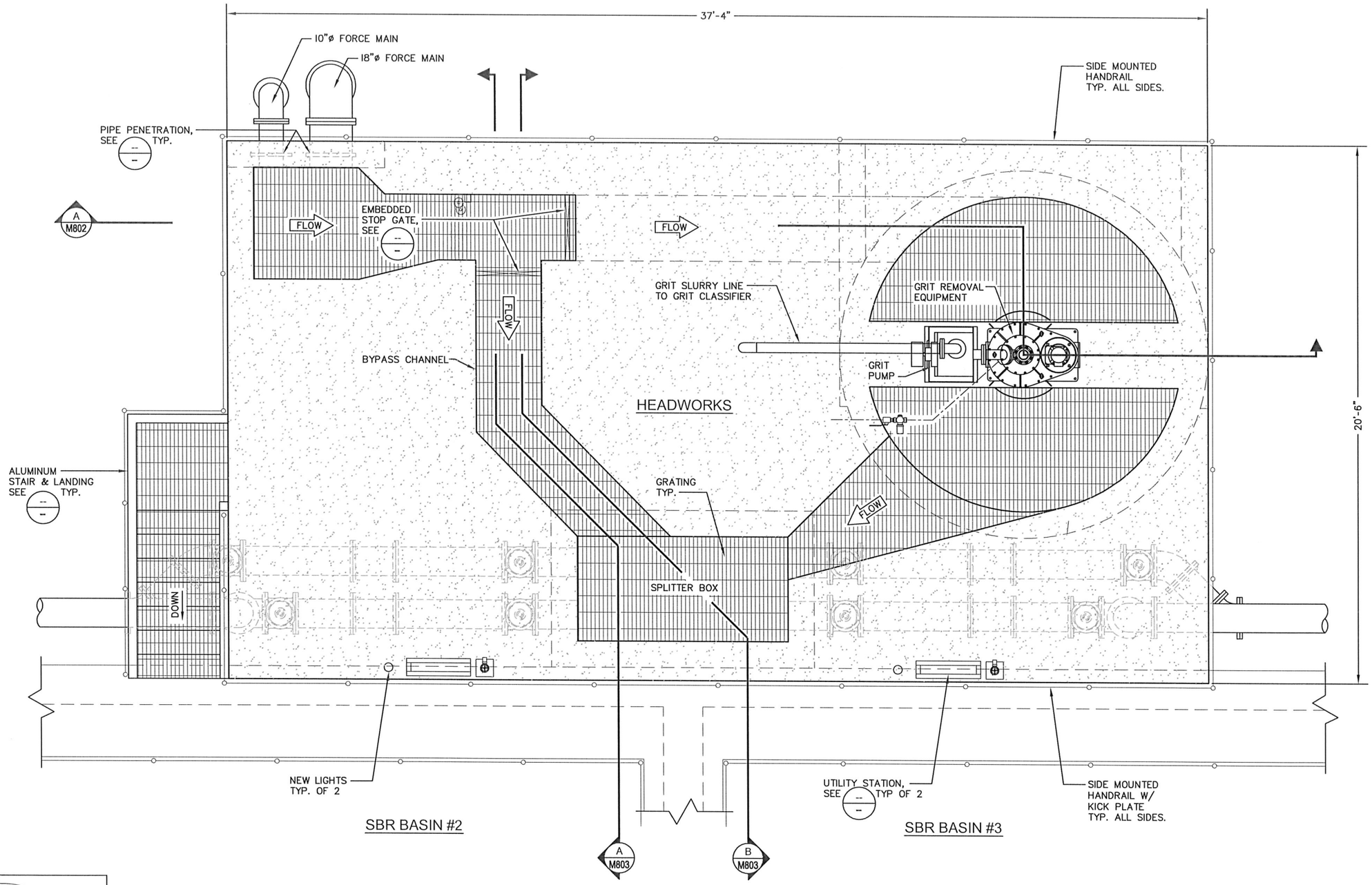
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
INFLUENT PUMP STATION
MECHANICAL PLAN AND ELEVATION VIEW

PROJECT NO. 146.38
DRAWING NO. M700
DATE MAY 2016
SHEET NO. 39 OF 70



HEADWORKS - UPPER PLAN (1 / M800)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2008 ALLAN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
APPROVED:

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

HEADWORKS
MECHANICAL-UPPER PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	M800
DATE	SHEET NO.
MAY 2016	40 OF 70

PLOT DATE May 5, 2016

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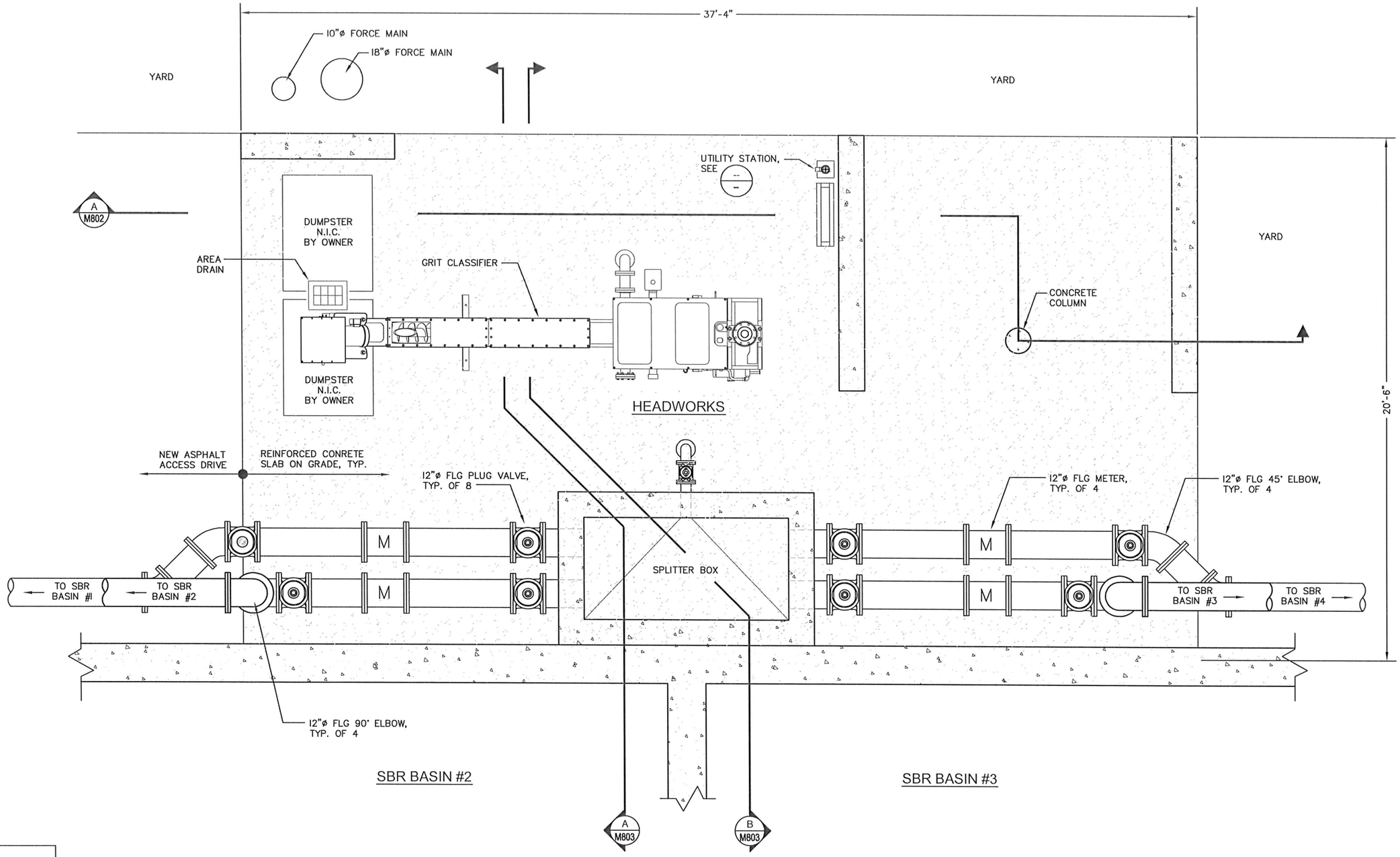

HEADWORKS - LOWER PLAN (1 / M801)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 BRYAN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
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CHECKED: SBM
APPROVED:

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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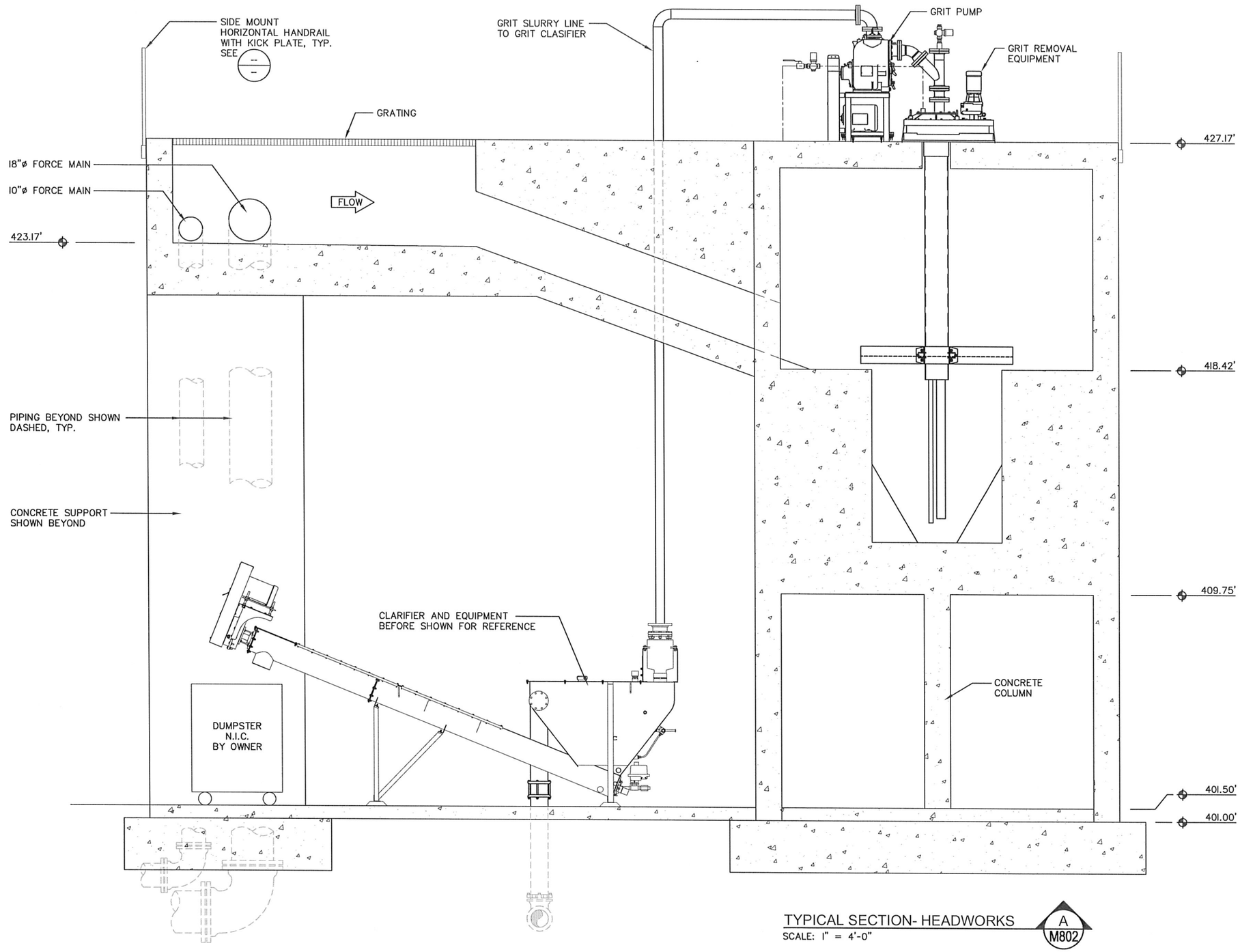
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
HEADWORKS
MECHANICAL- LOWER PLAN VIEW

PROJECT NO. 146.38
DRAWING NO. M801
DATE MAY 2016
SHEET NO. 41 OF 70

\\dyer\dyer-part\AAprojects\146 Sutherlin\146.38 WWTF Pre-Design Report\dwg\PRE-DESIGN\PROCESS AREA 800 HEADWORKS\M800.dwg, 5/4/2016 2:53:40 PM PLOT DATE May 5, 2016



TYPICAL SECTION- HEADWORKS
SCALE: 1" = 4'-0"

A
M802

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY:	DATE:
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
APPROVED:

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

HEADWORKS
MECHANICAL- TYPICAL SECTION

PROJECT NO.	DRAWING NO.
146.38	M802
DATE	SHEET NO.
MAY 2016	42 OF 70

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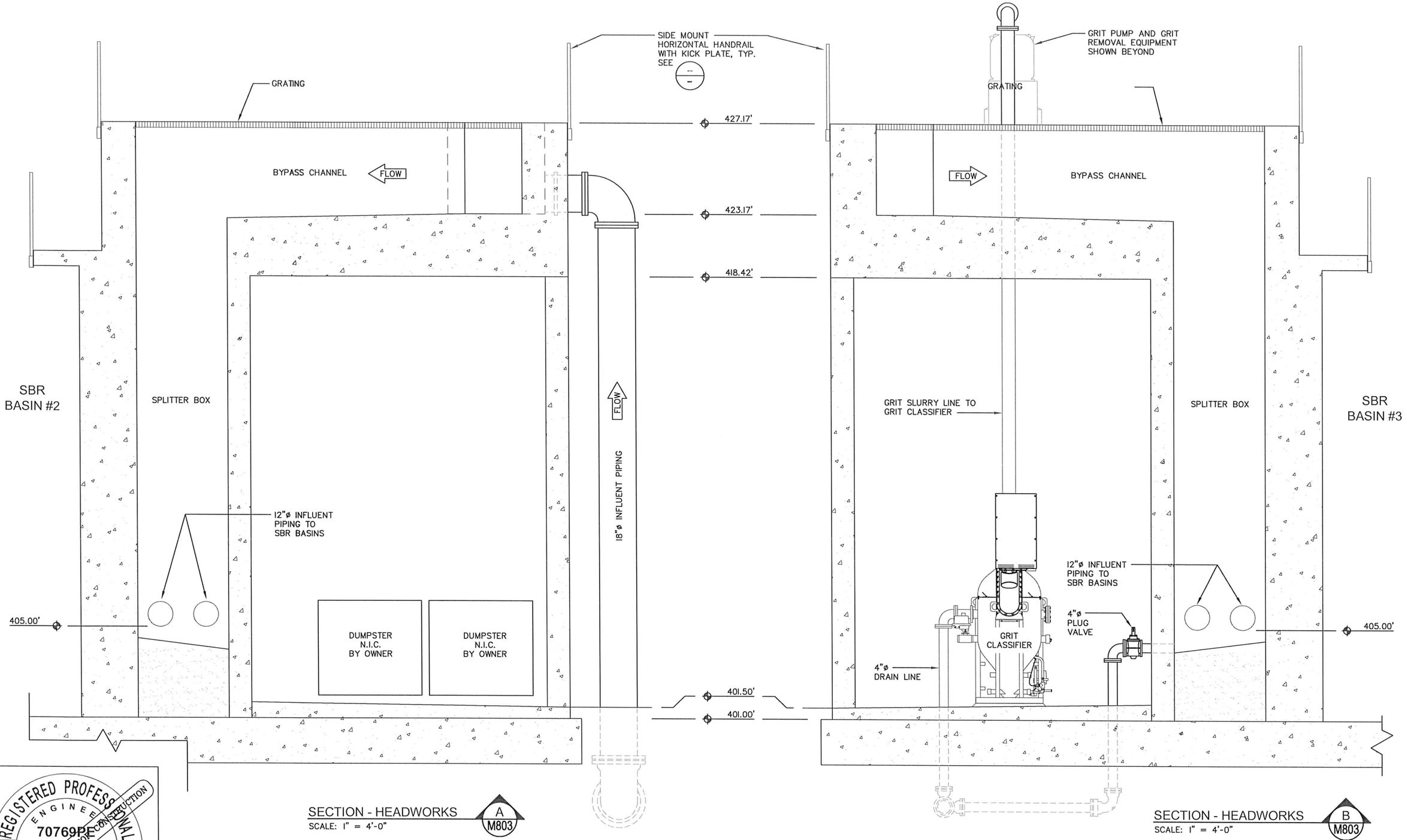
PLOT DATE May 5, 2016



SECTION - HEADWORKS A M803
SCALE: 1" = 4'-0"

SECTION - HEADWORKS B M803
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 ALLYN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
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1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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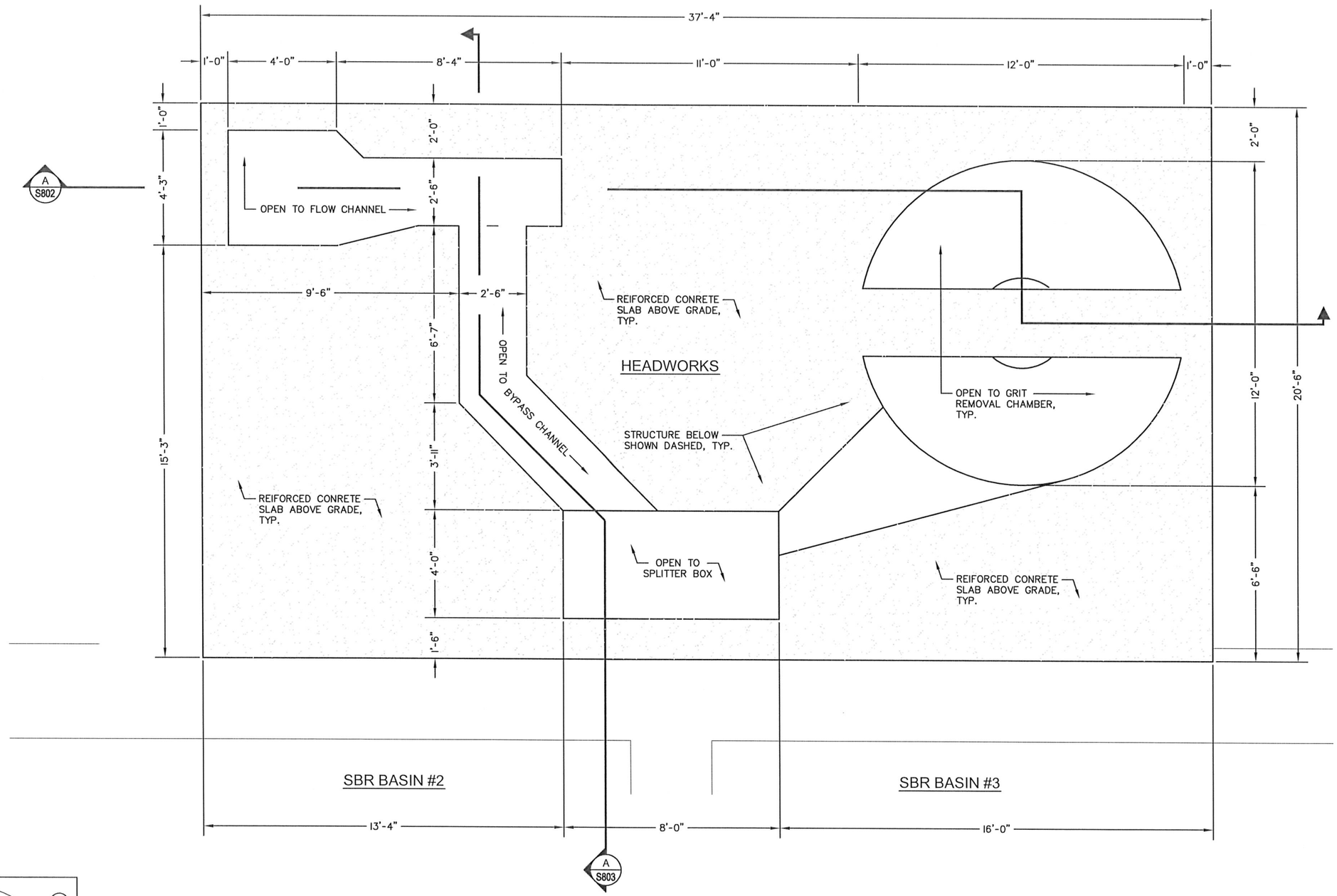
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
HEADWORKS
MECHANICAL- TYPICAL SECTION

PROJECT NO. 146.38
DRAWING NO. M803
DATE MAY 2016
SHEET NO. 43 OF 70



HEADWORKS - UPPER PLAN (1 / S800)

SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 ANTHONY J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
APPROVED:

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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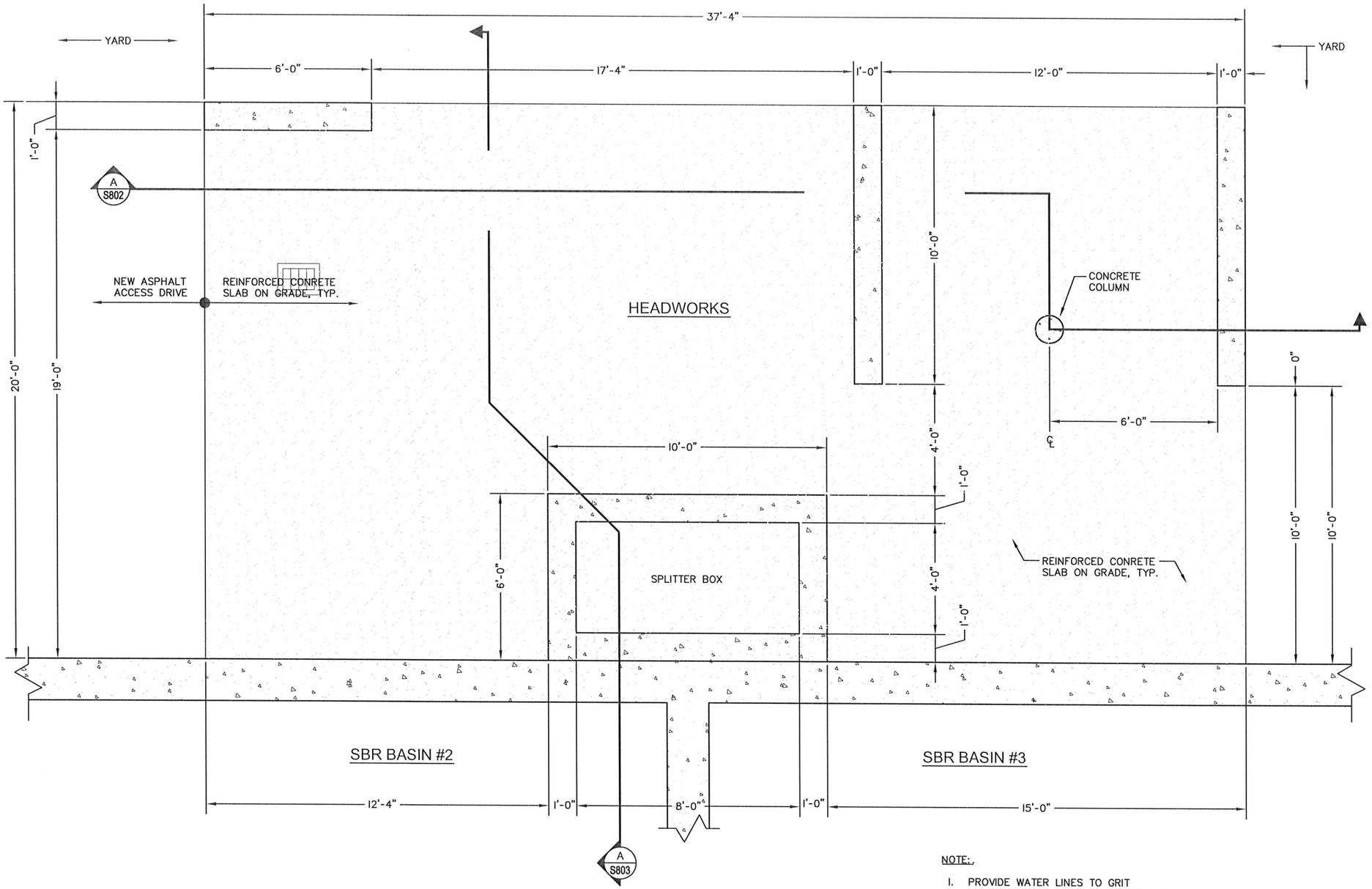
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
HEADWORKS
STRUCTURAL- UPPER PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	S800
DATE	SHEET NO.
MAY 2016	44 OF 70



HEADWORKS - LOWER PLAN (1 / S801)
SCALE: 1" = 4'-0"

NOTE:

1. PROVIDE WATER LINES TO GRIT CLASSIFIER AND VORTEX GRIT REMOVAL EQUIPMENT. COORDINATE WITH MANUFACTURER.
2. PROVIDE MIN. OF TWO TRANSITION COUPLINGS ON ALL PIPES TRANSITIONING FROM SBR TO GROUND FOR SEISMIC ADJUSTMENT, TYPICAL.

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
ALLYSON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
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CHECKED: SBM
APPROVED:

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1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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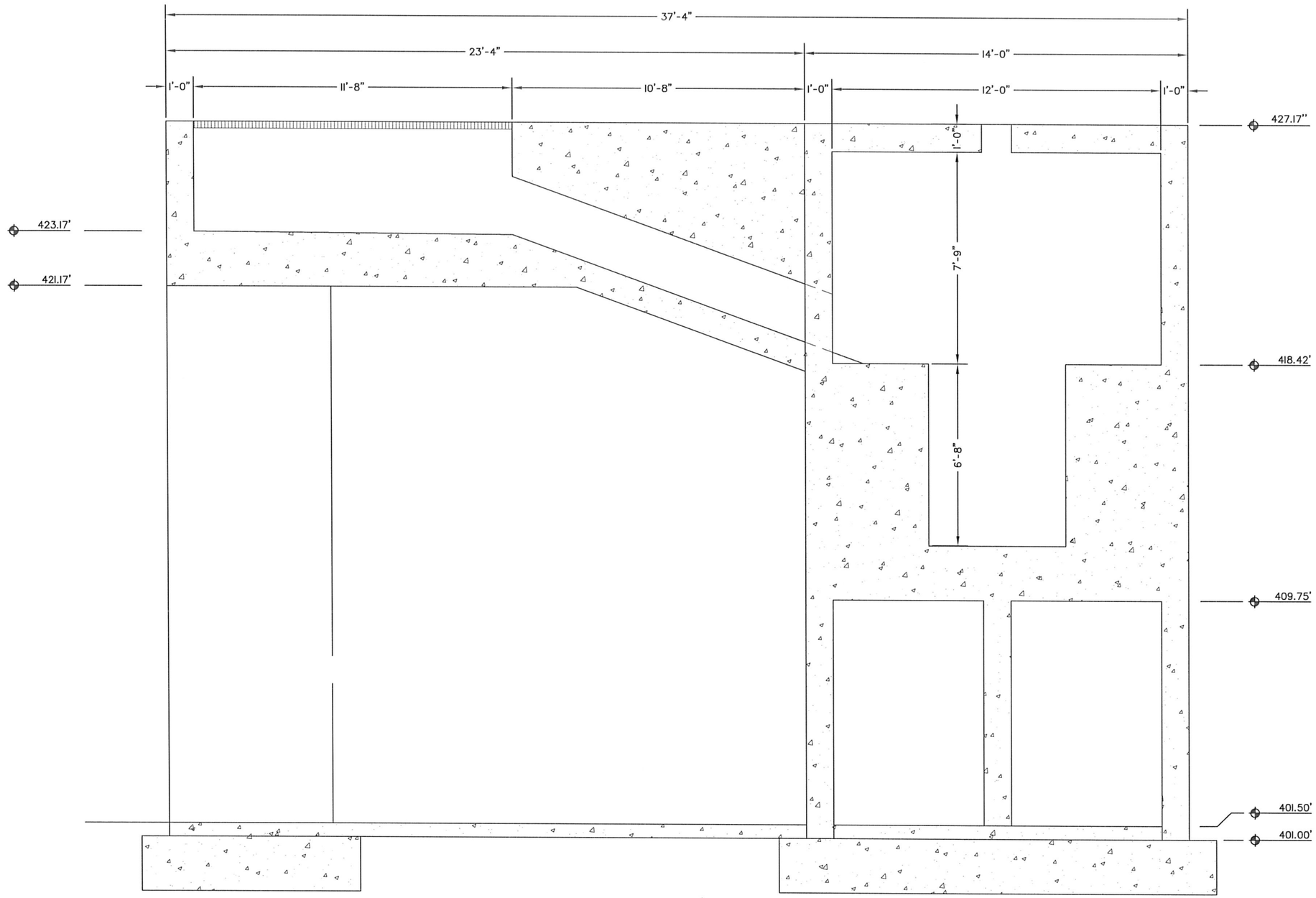
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
HEADWORKS
STRUCTURAL- LOWER PLAN VIEW

PROJECT NO. 146.38
DRAWING NO. S801
DATE MAY 2016
SHEET NO. 45 OF 70



TYPICAL SECTION- HEADWORKS

SCALE: 1" = 4'-0"

A
S802

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
PRELIMINARY NOT FOR CONSTRUCTION
ALLYSON J. SPEAKMAN
EXPIRES 06/30/16

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
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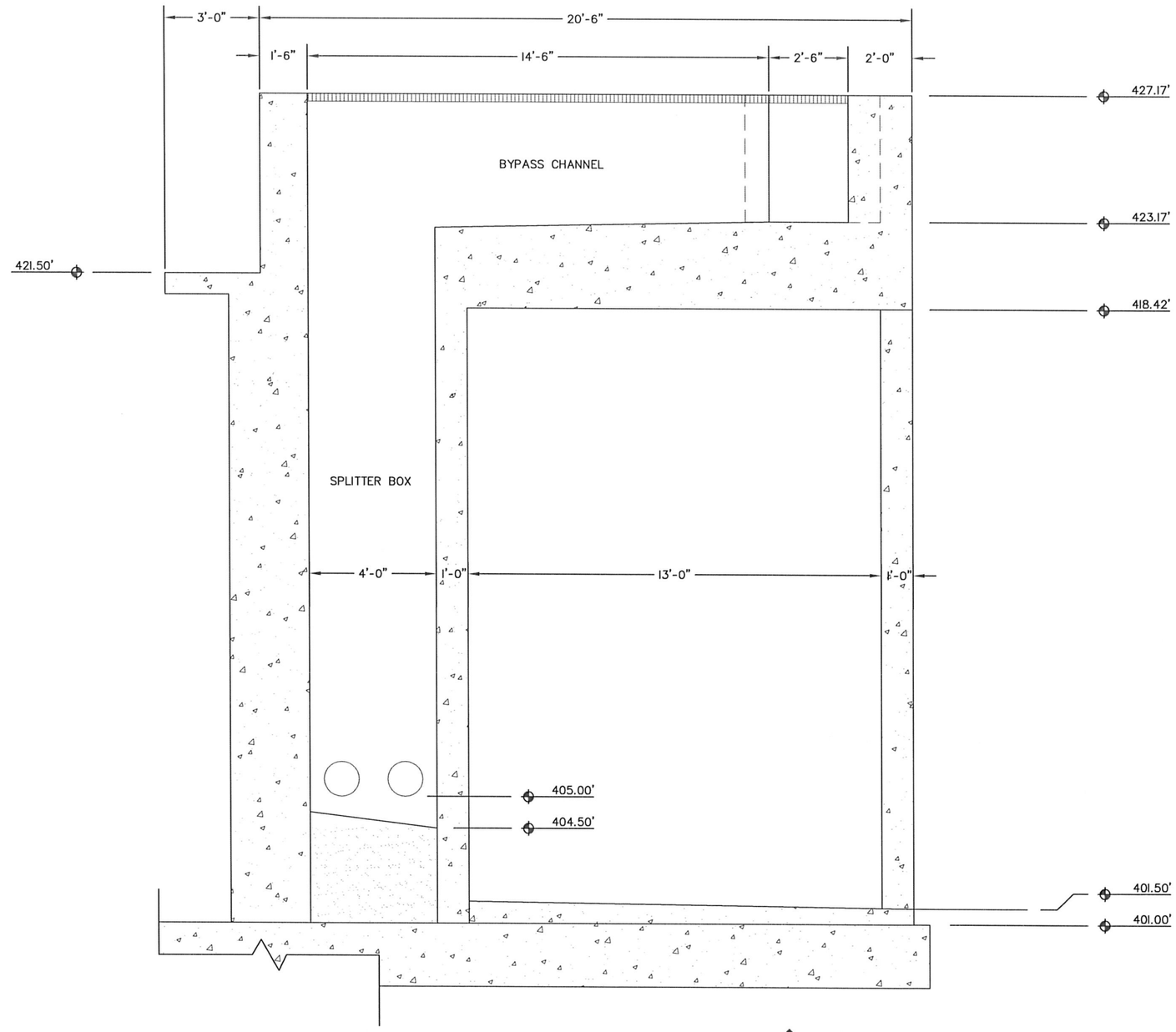
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

HEADWORKS
STRUCTURAL- TYPICAL SECTION

PROJECT NO.	DRAWING NO.
146.38	S802
DATE	SHEET NO.
MAY 2016	46 OF 70



TYPICAL SECTION- HEADWORKS (A / S803)

SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 ANDON J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: SBM
APPROVED:

THE DYER PARTNERSHIP
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1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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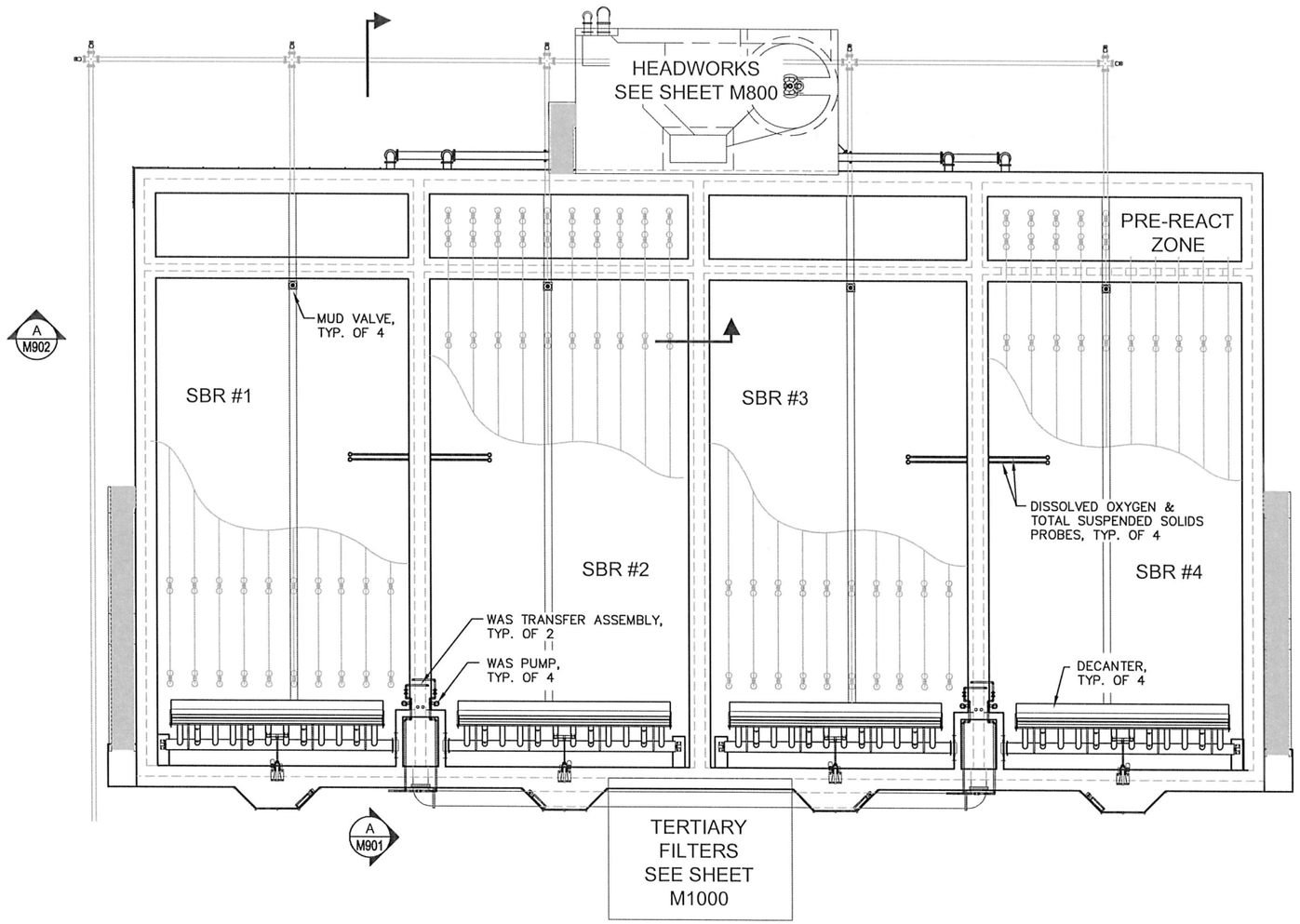
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
HEADWORKS
STRUCTURAL- TYPICAL SECTION

PROJECT NO.	DRAWING NO.
146.38	S803
DATE	SHEET NO.
MAY 2016	47 OF 70



SBR - PLAN VIEW (1 / M900)
SCALE: 1" = 20'-0"

N

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
MAY 11, 2006
ANTON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: AJS
APPROVED: SBM

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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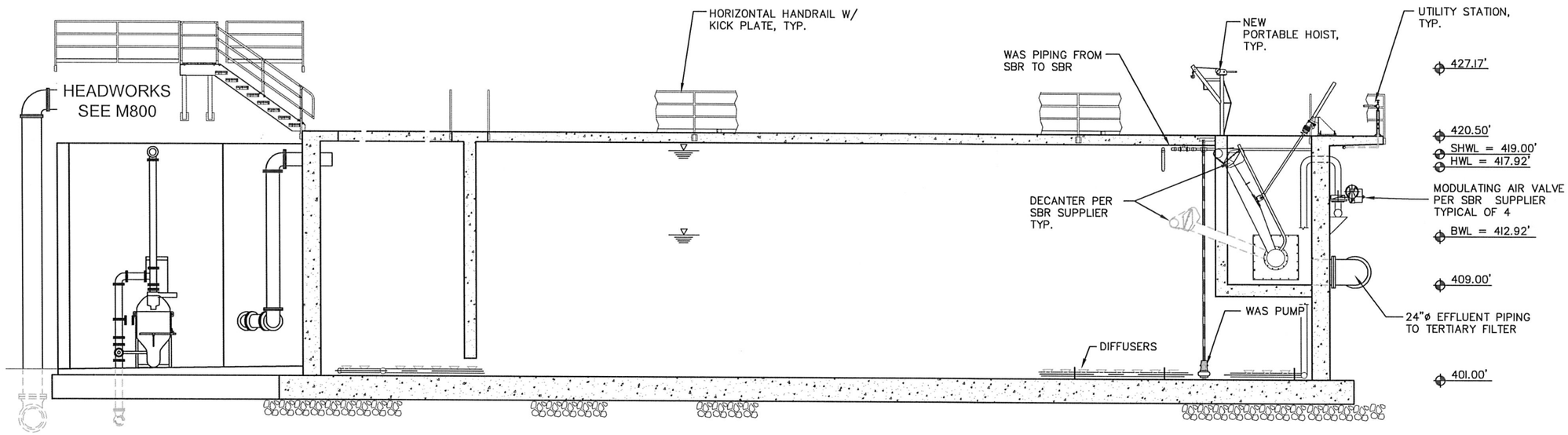
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
SBR
MECHANICAL-PLAN VIEW

PROJECT NO. 146.38
DRAWING NO. M900
DATE MAY 2016
SHEET NO. 48 OF 70



SBR- TYPICAL SECTION (A / M901)

SCALE: 1" = 10'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
ANTON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: AJS
APPROVED: SBM

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
SBR
MECHANICAL- SECTION

PROJECT NO. 146.38

DRAWING NO. M901

DATE MAY 2016

SHEET NO. 49 OF 70

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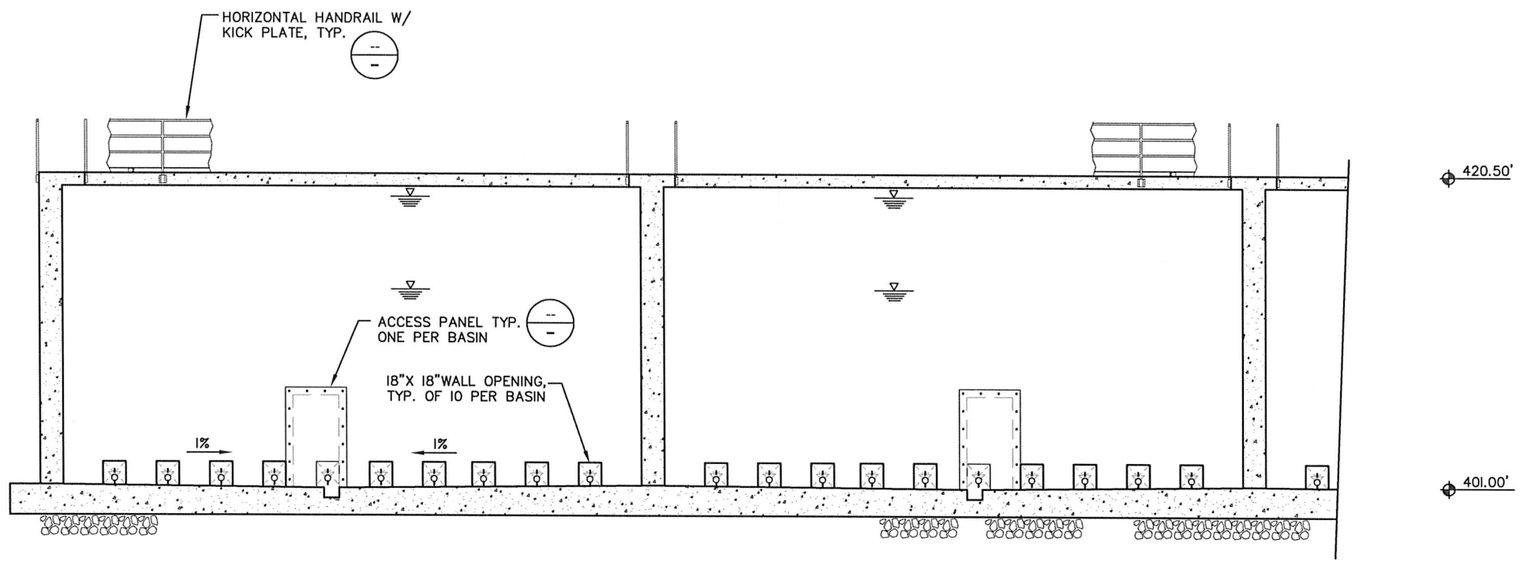

SBR- TYPICAL SECTION (A / M902)
SCALE: 1" = 10'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
AARON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT	APPR'D	DATE

DESIGNED: AJS
DRAWN: DLS
CHECKED: AJS
APPROVED: SBM

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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
SBR
MECHANICAL- SECTION

PROJECT NO. 146.38
DRAWING NO. M902
DATE MAY 2016
SHEET NO. 50 OF 70

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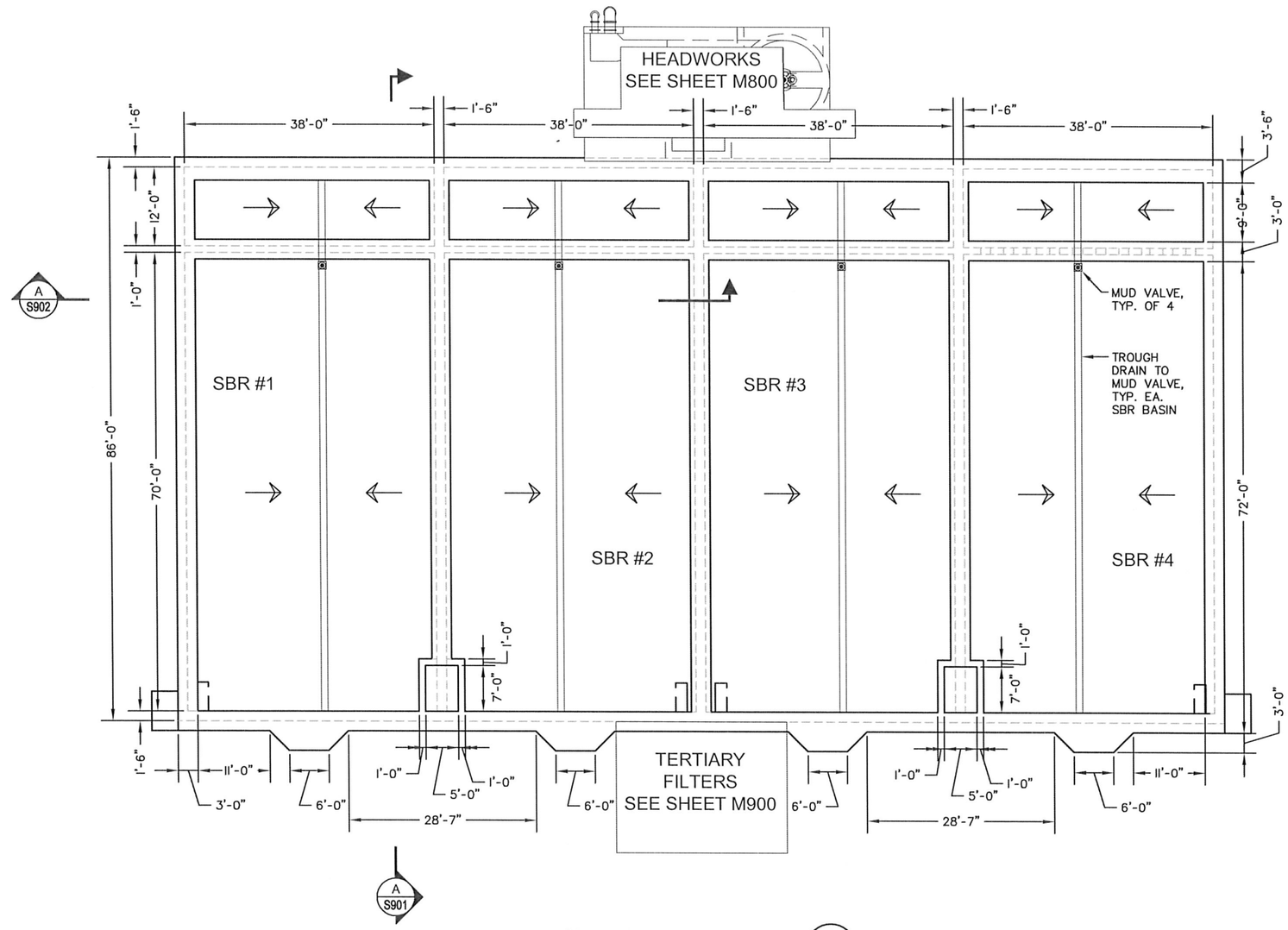
PLOT DATE May 5, 2016



SBR- FOUNDATION PLAN (1 / S900)
SCALE: 1" = 20'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	
DATE:	

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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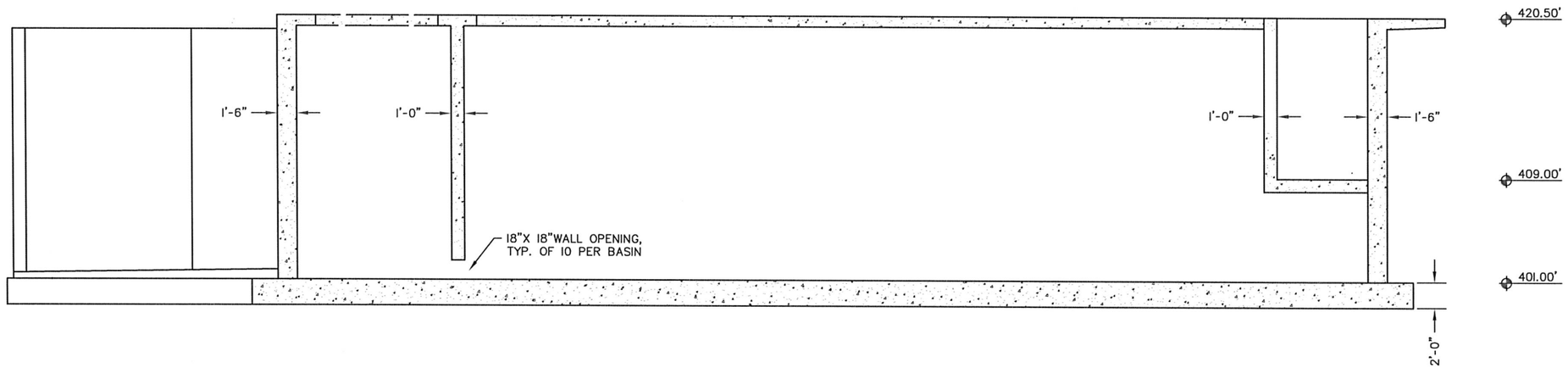
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

SBR
STRUCTURAL- PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	S900
DATE	SHEET NO.
MAY 2016	51 OF 70



SBR- TYPICAL SECTION (A / S901)
SCALE: 1" = 10'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
BRYON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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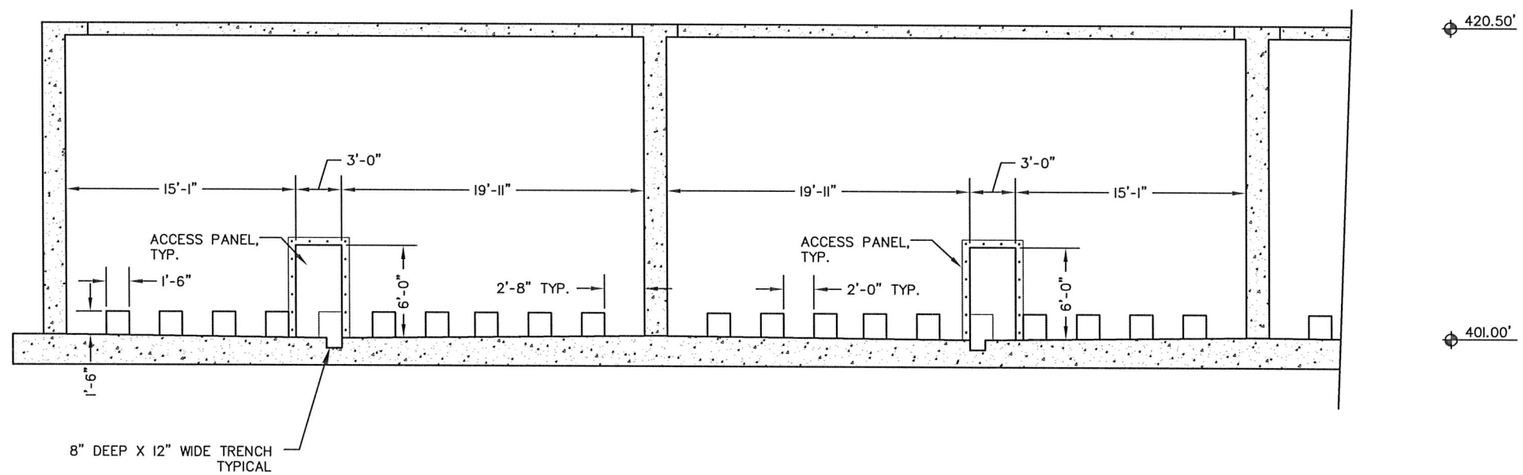
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

SBR
STRUCTURAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	S901
DATE	SHEET NO.
MAY 2016	52 OF 70



SBR- TYPICAL SECTION (A / S902)
SCALE: 1" = 10'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 DON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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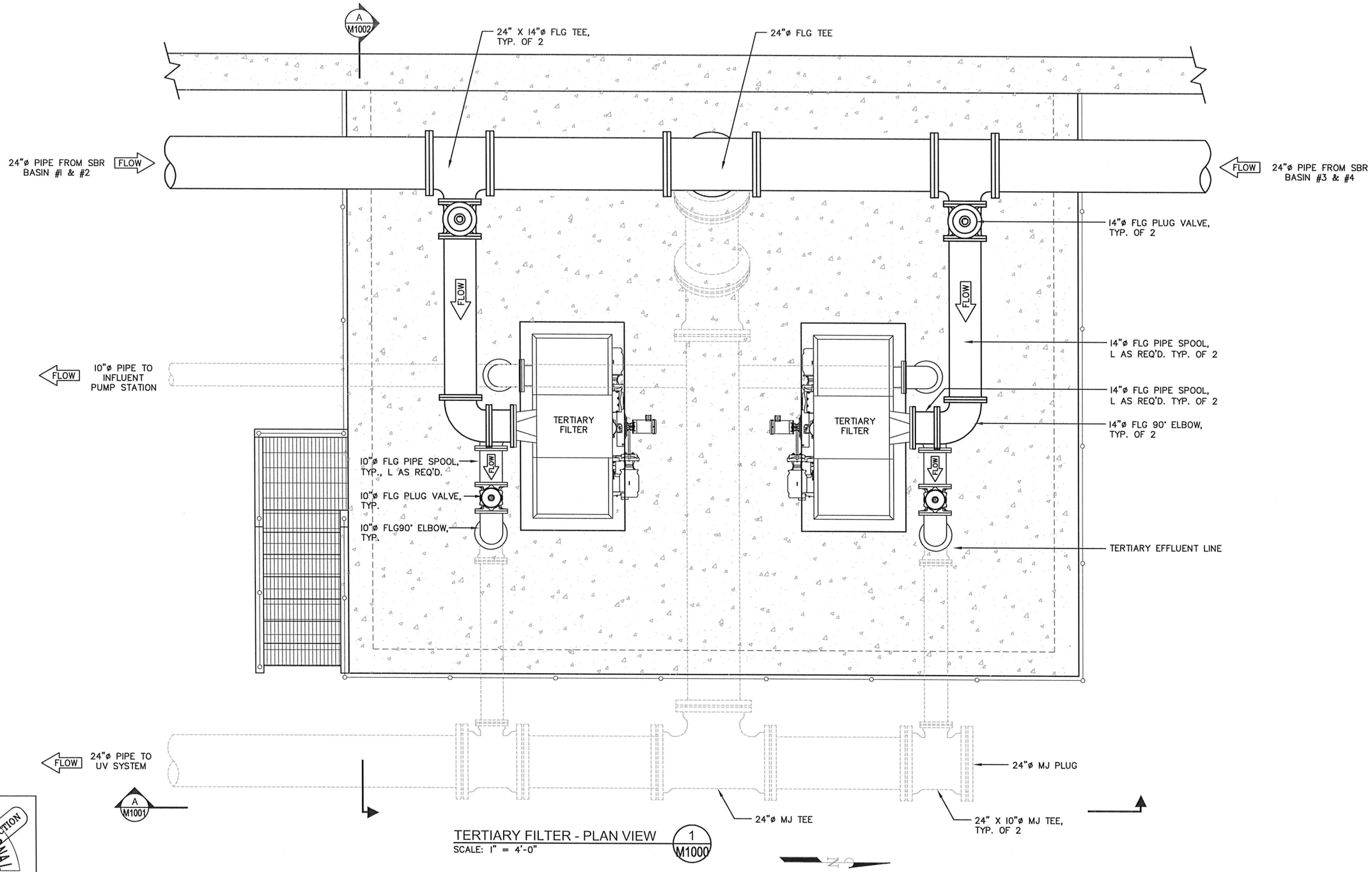
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

SBR
STRUCTURAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	S902
DATE	SHEET NO.
MAY 2016	53 OF 70



TERTIARY FILTER - PLAN VIEW (1 / M1000)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
PRELIMINARY NOT FOR CONSTRUCTION
RYAN J. SPEAKMAN
EXPIRES 06/30/16

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER
MECHANICAL- PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	M1000
DATE	SHEET NO.
MAY 2016	54 OF 70

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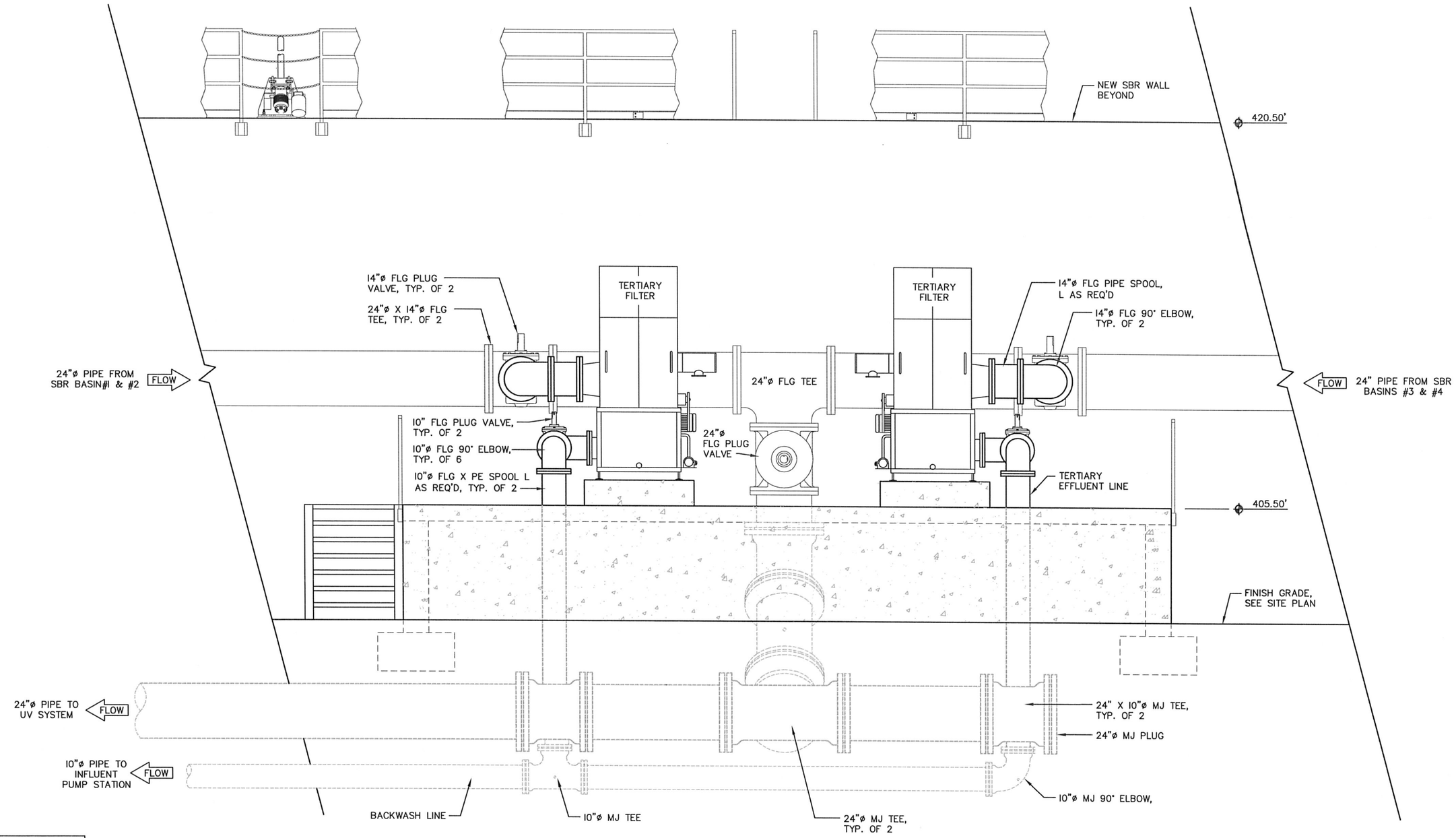

TERTIARY FILTER - SECTION A M1001

SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 PAUL ON J. SPEAKMAN EXPIRES 06/30/16

NOT FOR CONSTRUCTION PRELIMINARY

DESIGNED:	DRAWN:
AJS	DLS

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
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TELEPHONE: (541) 269-0732
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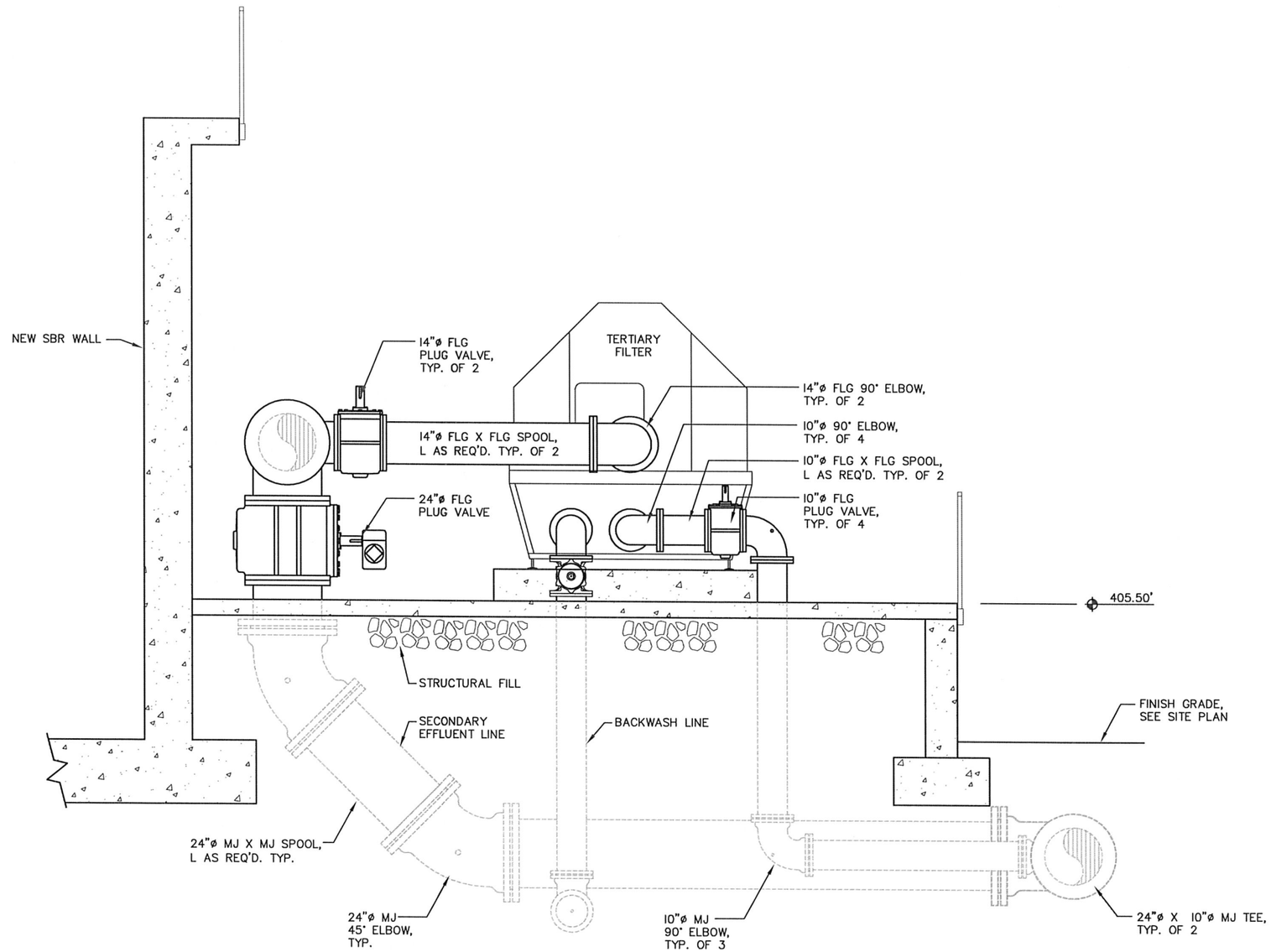
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER MECHANICAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	M1001
DATE	SHEET NO.
MAY 2016	55 OF 70



TERTIARY FILTER - SECTION A M1002

SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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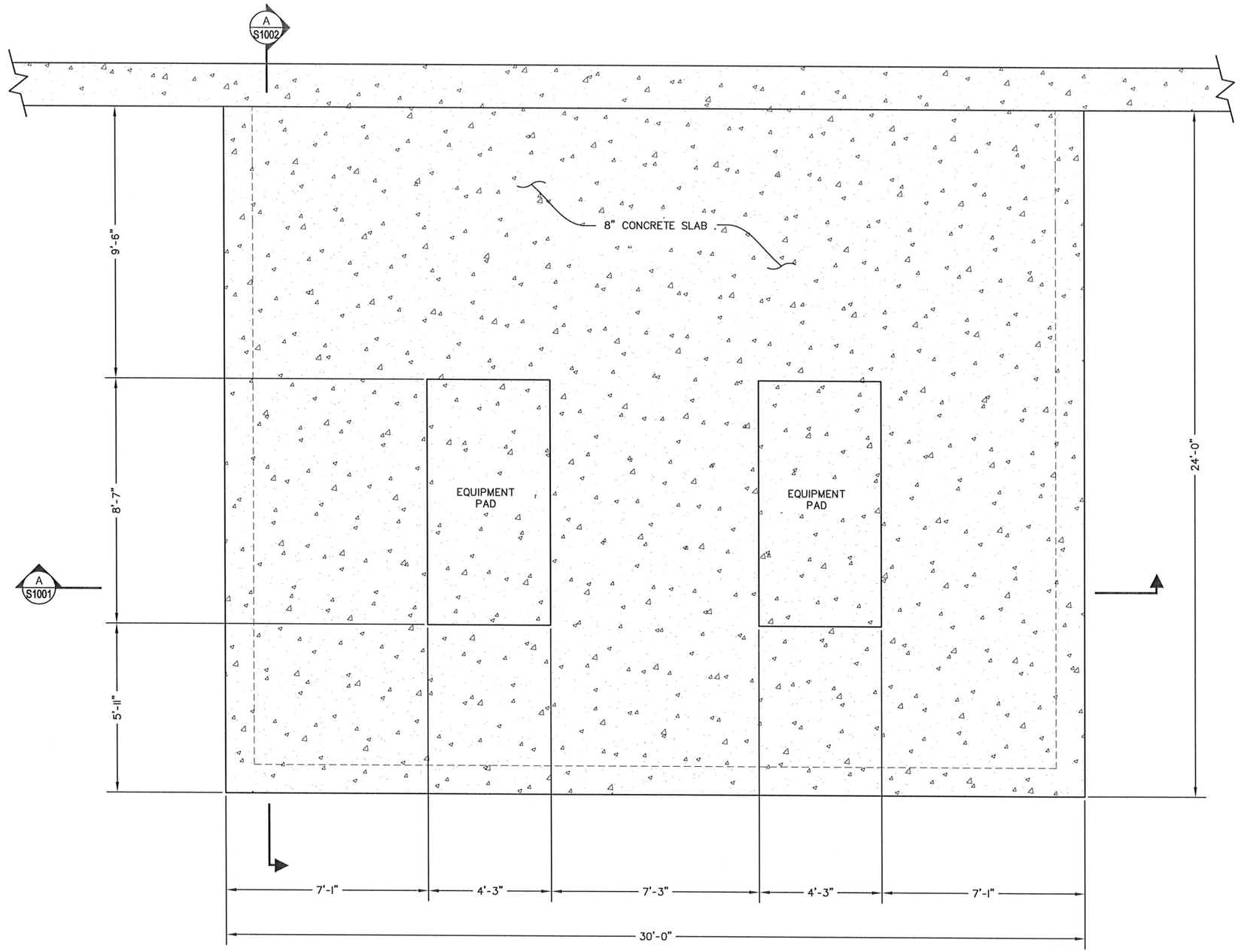
LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER MECHANICAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	M1002
DATE	SHEET NO.
MAY 2016	56 OF 70



TERTIARY FILTER - PLAN VIEW (1 / S1000)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
JON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	
	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
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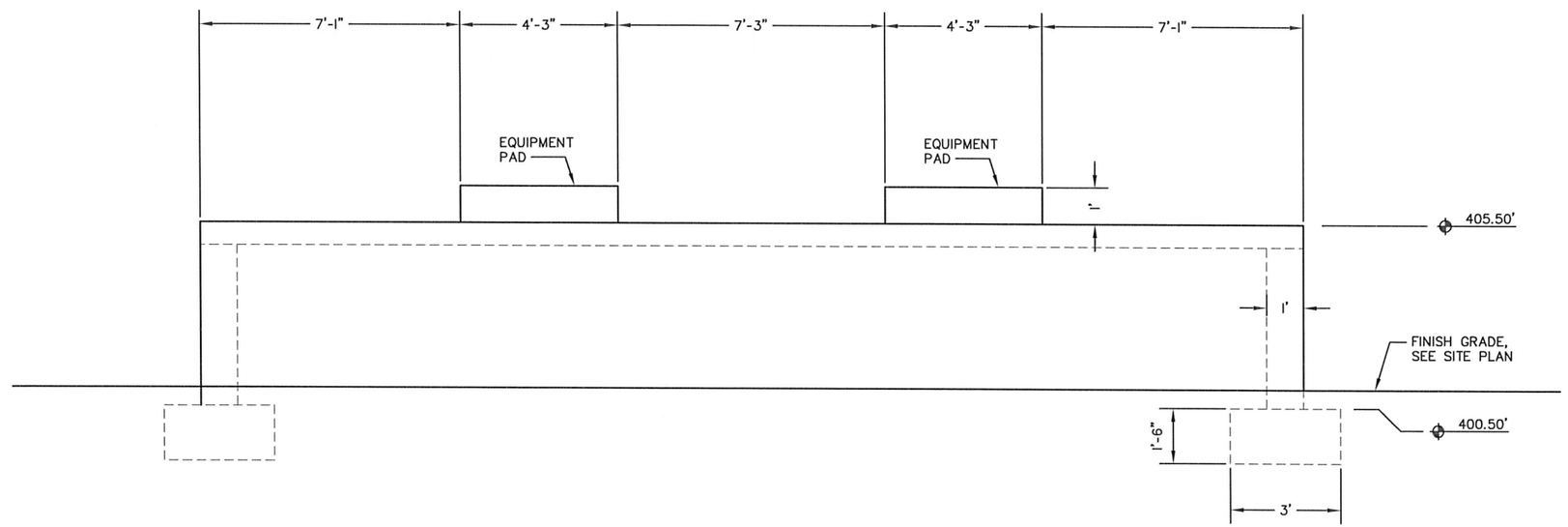
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER
STRUCTURAL- PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	S1000
DATE	SHEET NO.
MAY 2016	57 OF 70



TERTIARY FILTER - SECTION A S1001
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
AJS	DLS
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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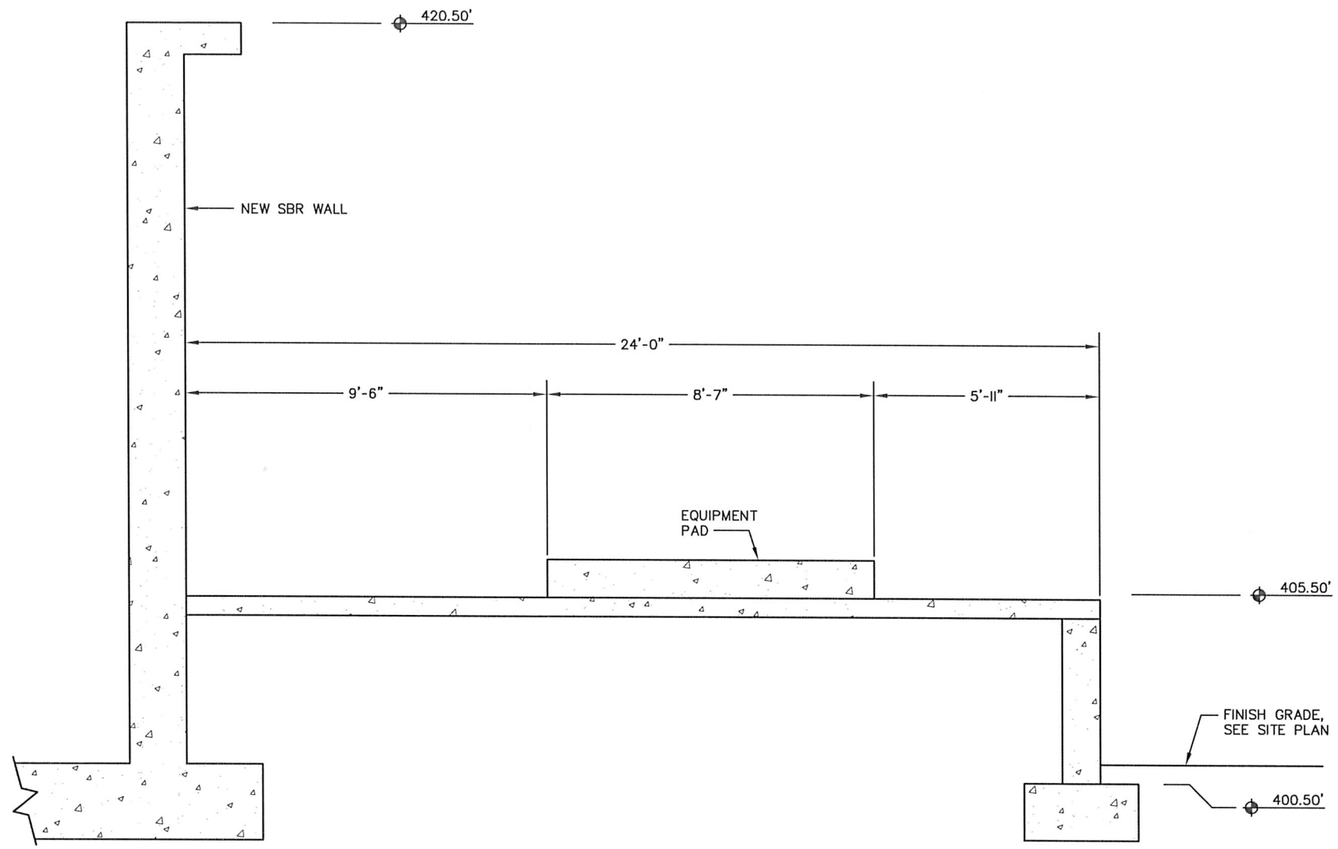
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER
STRUCTURAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	S1001
DATE	SHEET NO.
MAY 2016	58 OF 70



TERTIARY FILTER - SECTION A S1002
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 DON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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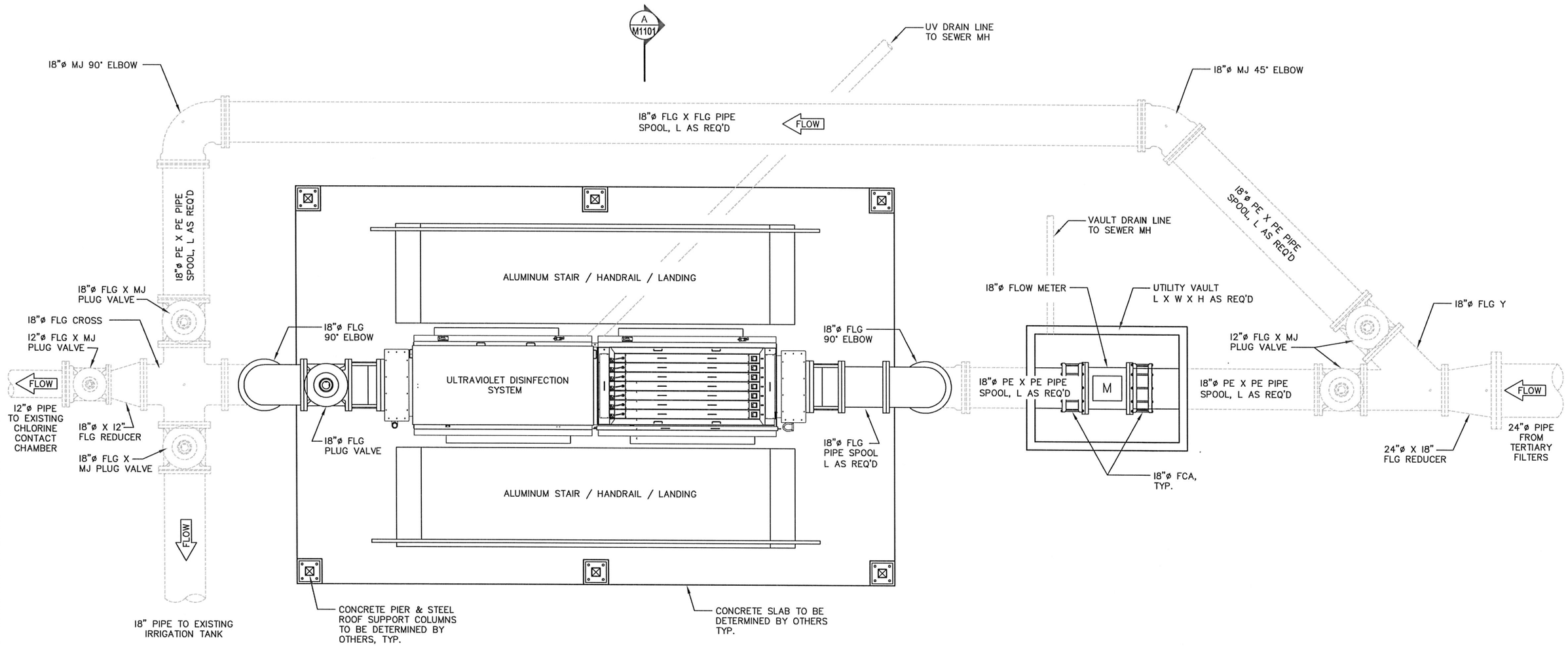
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

TERTIARY FILTER
STRUCTURAL- SECTION

PROJECT NO.	DRAWING NO.
146.38	S1002
DATE	SHEET NO.
MAY 2016	59 OF 70



UV DISINFECTION - PLAN VIEW (1 / M1100)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JOHN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY: _____ DATE: _____

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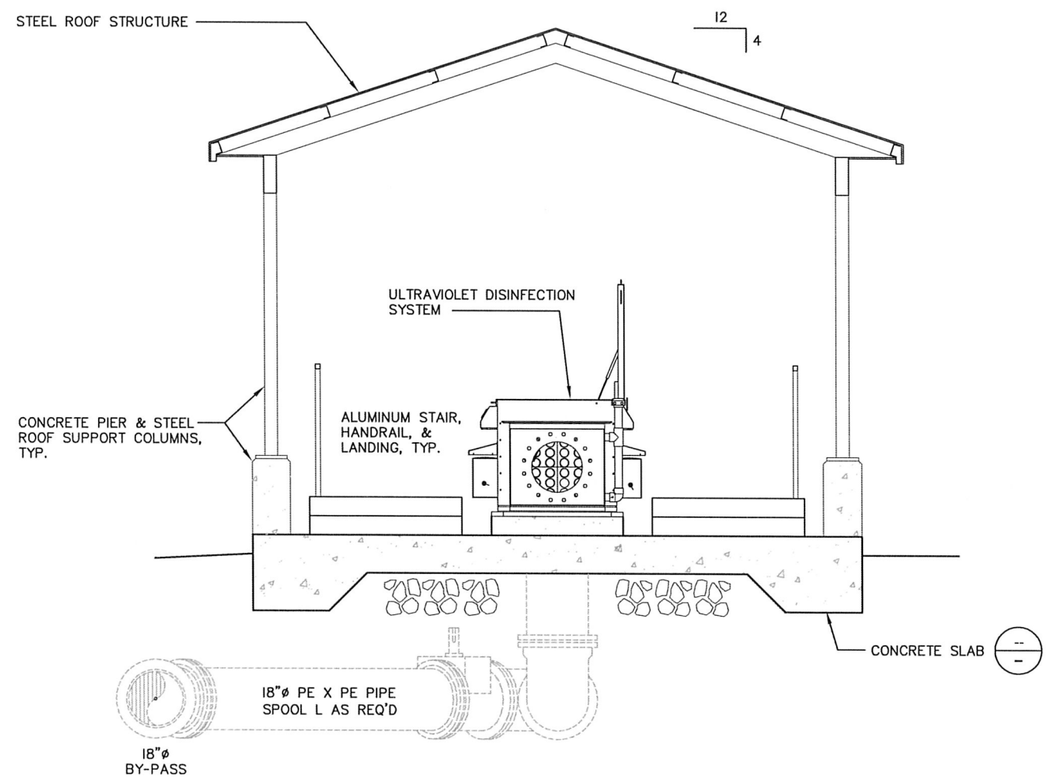
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

UV DISIFECTION
MECHANICAL - PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	M1100
DATE	SHEET NO.
MAY 2016	60 OF 70



UV DISINFECTION - SECTION (A / M1101)

SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JANUARY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16

NOT FOR CONSTRUCTION PRELIMINARY

DESIGNED:	DRAWN:
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APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
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COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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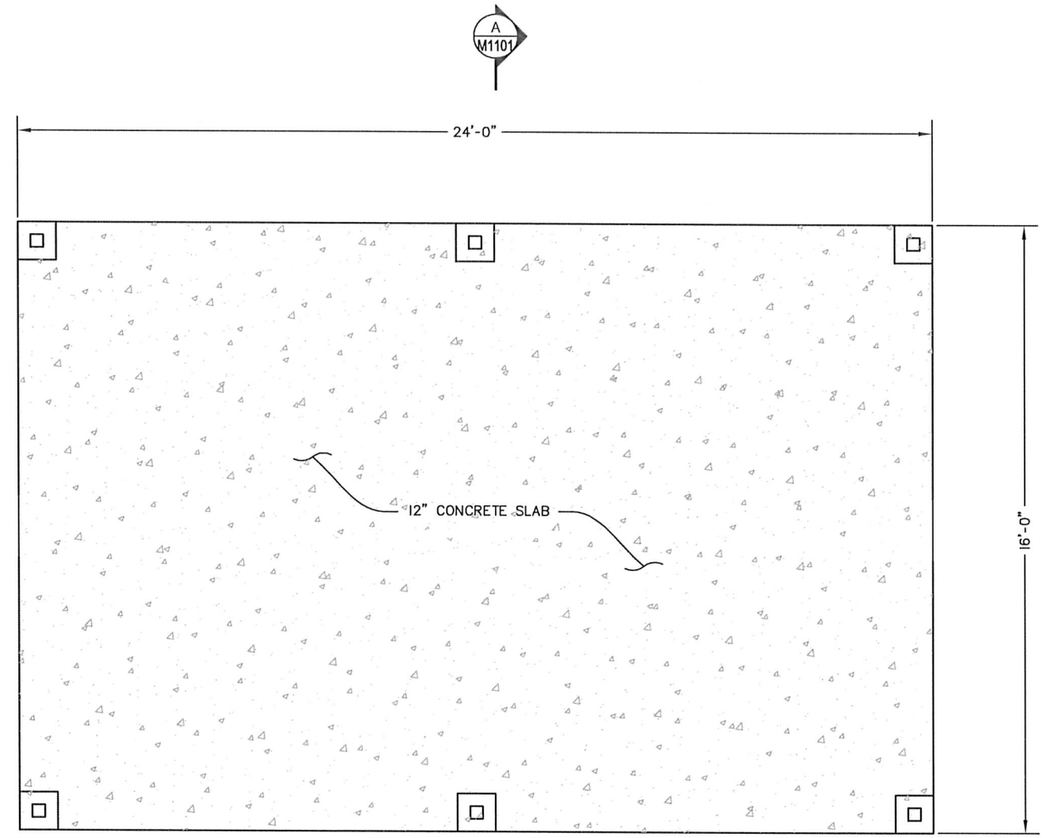
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

UV DISIFECTION
MECHANICAL - TYPICAL SECTION

PROJECT NO.	DRAWING NO.
146.38	M1101
DATE	SHEET NO.
MAY 2016	61 OF 70



NOTE:
SLOPE TOP OF SLAB TO
ULTRAVIOLET DISINFECTION
EQUIPMENT DRAIN LOCATION

UV DISINFECTION - PLAN VIEW (1 / S1100)
SCALE: 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JANUARY 11, 2006
PRELIMINARY NOT FOR CONSTRUCTION
ANTON J. SPEAKMAN
EXPIRES 06/30/16

DESIGNED:	DRAWN:
---	---
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerport.com

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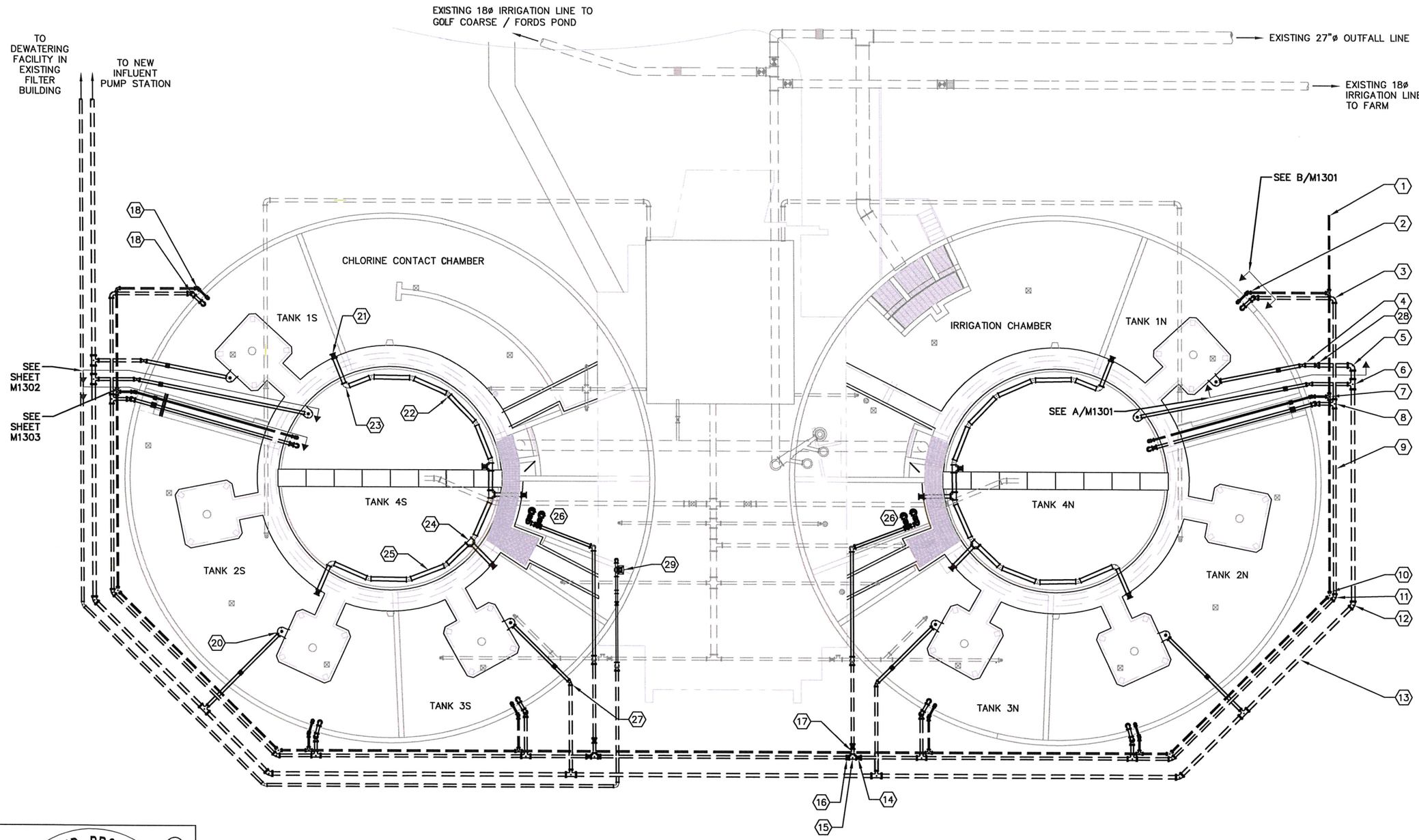
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

UV DISIFECTION
STRUCTURAL - PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	S1100
DATE	SHEET NO.
MAY 2016	62 OF 70



KEY NOTES

1. NEW 3"ø WAS FROM SBR STRUCTURE
2. NEW 3"ø MJ 90° ELBOW, TYP. OF 9
3. NEW 6"ø MJ 90° ELBOW, TYP. OF 13
4. NEW 4"ø MJ 11.25° ELBOW, TYP. OF 4
5. NEW 8"ø MJ 90° ELBOW
6. NEW 8" X 4" MJ TEE, TYP OF 7
7. NEW 3"ø MJ TEE, TYP OF 7
8. NEW 6"ø MJ TEE, TYP OF 6
9. NEW 6"ø TRANSFER SLUDGE PIPING
10. NEW 3"ø MJ 45° ELBOW, TYP OF 4
11. NEW 6"ø MJ 45° ELBOW, TYP OF 4
12. NEW 8"ø MJ 45° ELBOW, TYP OF 4
13. NEW 8"ø DECANT DRAIN TO NEW INFLUENT PUMP STATION
14. NEW 6"ø FLG X MJ PLUG VALVE TYP. OF 4
15. NEW 6"ø FLG TEE, TYP. OF 4
16. NEW 6"ø FCA, TYP. OF 2
17. NEW 6"ø PIPE SPOOL, LENGTH AS REQUIRED
18. NEW 3"ø FLG 90° ELBOW, TYP, OF 16
19. NEW 6"ø FLG 90° ELBOW, TYP, OF 24
20. NEW 4"ø TELESCOPING VALVE, TYP. OF 8
21. NEW 8"ø FLG PLUG VALVE TYP. OF 10
22. NEW 8"ø FLG 11.25° ELBOW, TYP. OF 20
23. NEW 8"ø FLG 90° ELBOW, TYP. OF 4
24. NEW 8"ø FLG TEE, TYP. OF 8
25. NEW 8"ø FLG PIPE SPOOL, LENGTH AS REQUIRED
26. NEW BIOSOLIDS TRANSFER PUMP
27. NEW 4"ø MJ 45° ELBOW, TYP OF 2
28. NEW 8" X 4" MJ REDUCER
29. NEW BIOSOLIDS TRANSFER PUMP

PLAN SCALE
10 0 10 20

PLAN VIEW 1 / M1300

N

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
ALLON J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
---	---

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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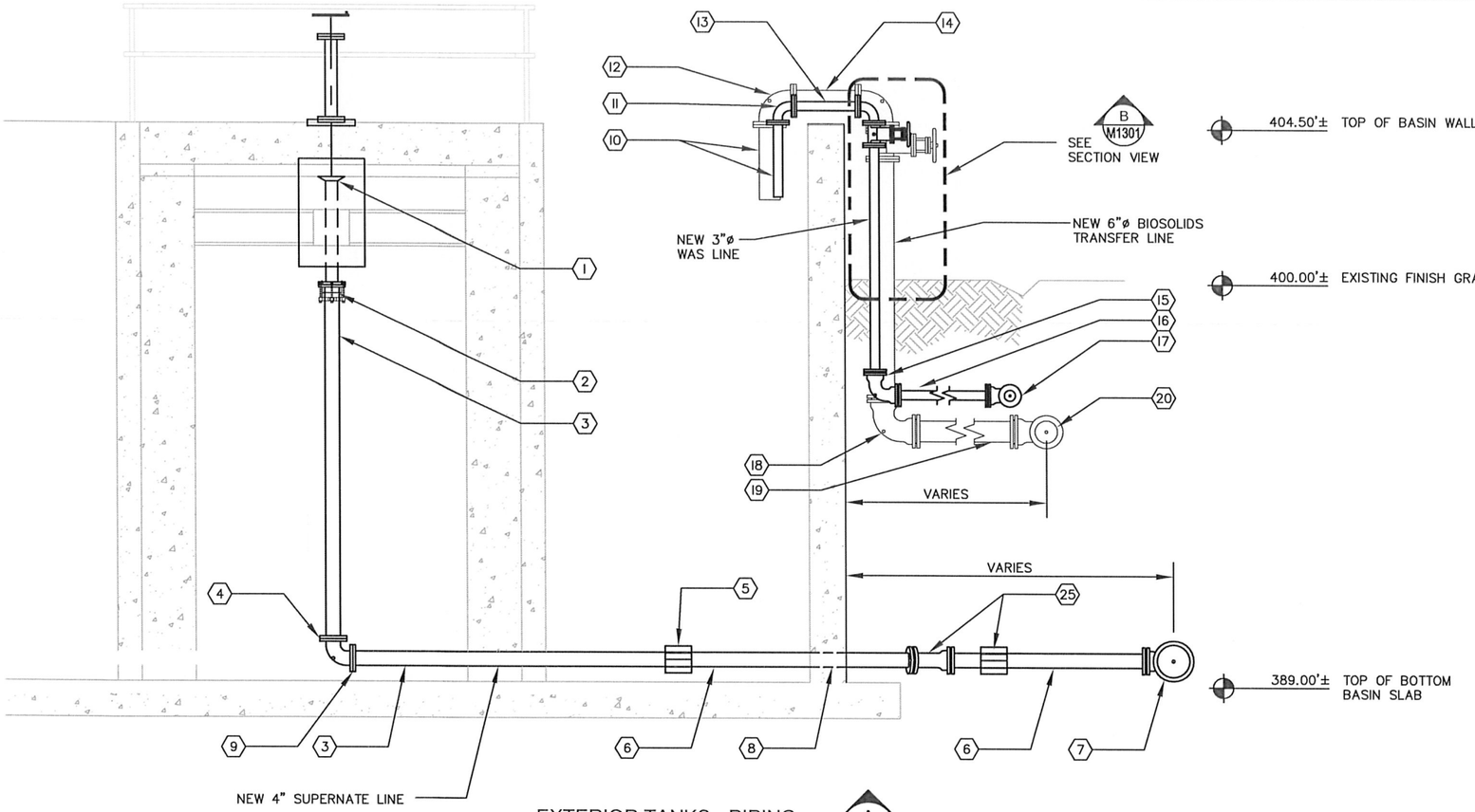
IF NOT 1-INCH - SCALE ACCORDINGLY

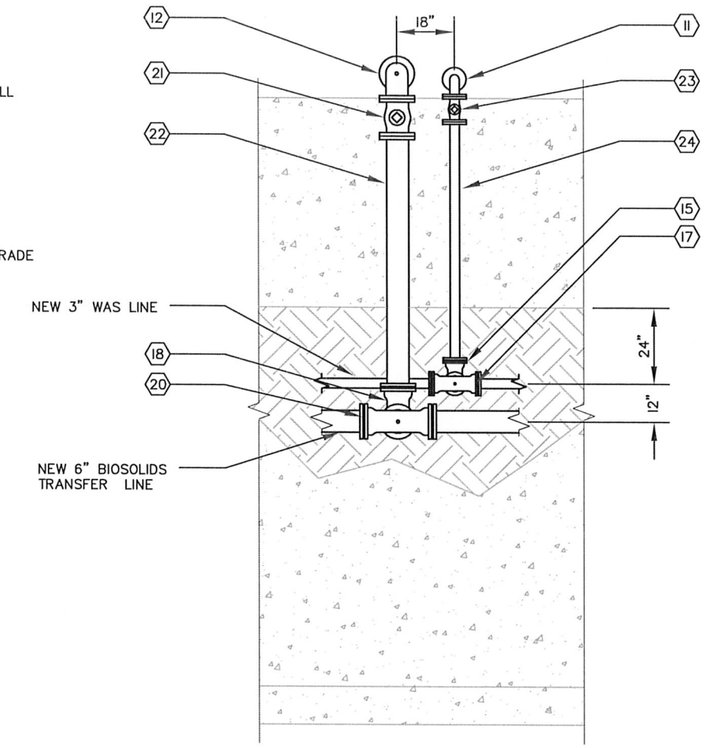
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

BIOSOLIDS TREATMENT
EXISTING DIGESTER - REHABILATION

PROJECT NO.	DRAWING NO.
146.38	M1300
DATE	SHEET NO.
MAY 2016	63 OF 70



EXTERIOR TANKS - PIPING (A M1301)
SCALE: 1" = 4'-0"



EXTERIOR TANKS - PIPING (B M1301)
SCALE: 1" = 4'-0"

KEY NOTES

1. NEW 4" TELESCOPING VALVE
2. NEW 4"ø FCA
3. NEW 4"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
4. NEW 4"ø FLG 90° ELBOW
5. NEW 4"ø RFCA
6. NEW 4"ø PIPE SPOOL, LENGTH AS REQUIRED
7. NEW 8" X 4" MJ TEE, EXCEPT FOR TANK 1N, SEE DETAIL
8. NEW PIPE PENETRATION, SEE DETAIL X/XX
9. NEW PIPE SUPPORTS
10. NEW 3"ø FLG X PE PIPE SPOOL, L = 2'-0"
11. NEW 3"ø FLG 90° ELBOW
12. NEW 6"ø FLG 90° ELBOW
13. NEW 3"ø PIPE SPOOL, LENGTH AS REQUIRED
14. NEW 6"ø PIPE SPOOL, LENGTH AS REQUIRED
15. NEW 3"ø MJ 90° ELBOW
16. NEW 3"ø PIPE SPOOL, LENGTH AS REQUIRED
17. NEW 3"ø MJ TEE OR 90° ELBOW, REFER TO PLAN VIEW, SEE SHEET M1300
18. NEW 6"ø MJ 90° ELBOW
19. NEW 6"ø PIPE SPOOL, LENGTH AS REQUIRED
20. NEW 6"ø MJ TEE OR 90° ELBOW, REFER TO PLAN VIEW. SEE SHEET M1300
21. NEW 6"ø FLG PLUG VALVE
22. NEW 6"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
23. NEW 3"ø FLG PLUG VALVE
24. NEW 3"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
25. NEW 4"ø MJ 11.25° ELBOW OR NEW 4"ø RFCA ON ALL OTHER DECANT PIPING, REFER TO THE PLAN VIEW ON SHEET M1300.

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
ANTHONY J. SPEAKMAN
EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
----	CGP
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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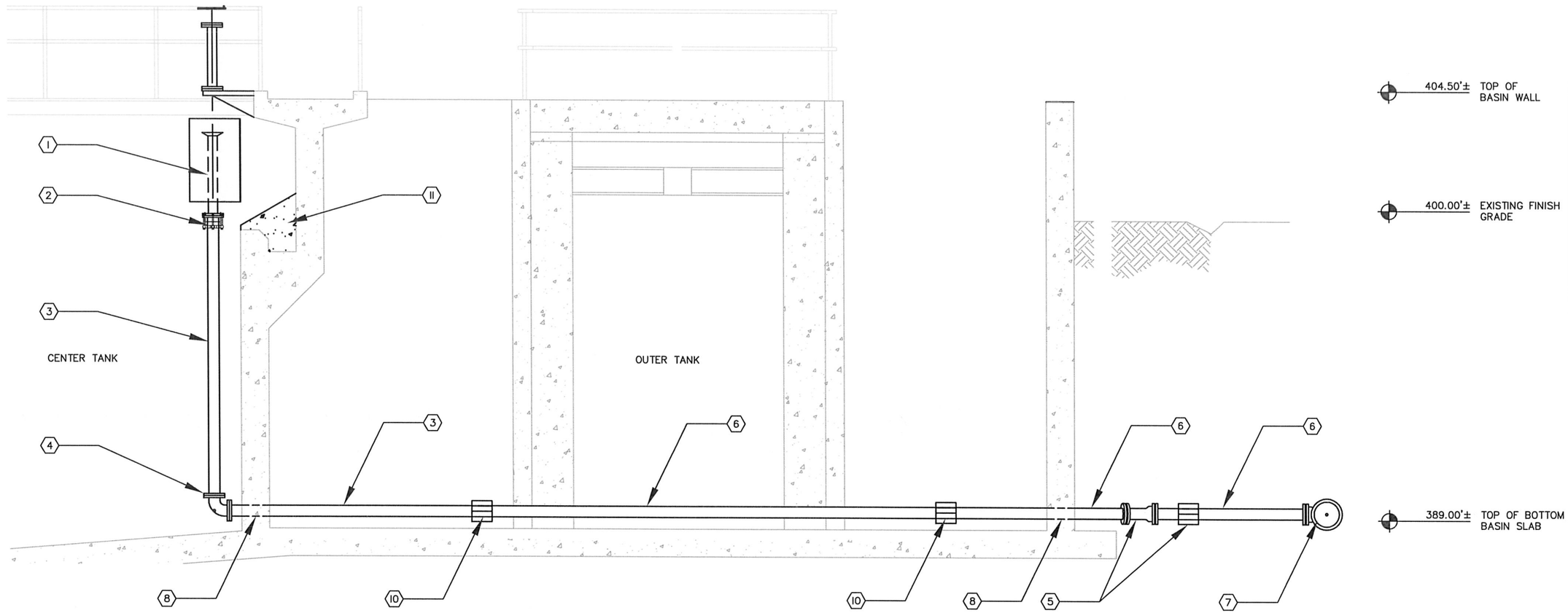
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

BIOSOLIDS TREATMENT
OUTER TANKS - SECTION VIEWS

PROJECT NO.	DRAWING NO.
146.38	M1301
DATE	SHEET NO.
MAY 2016	64 OF 70



CENTER TANK - SUPERNATE PIPING (A / M1302)
SCALE: 1" = 4'-0"

KEY NOTES

1. NEW 4" TELESCOPING VALVE
2. NEW 4"ø FCA
3. NEW 4"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
4. NEW 4"ø FLG 90° ELBOW
5. NEW 4"ø MJ 11.25° ELBOW OR NEW 4"ø RFCA ON ALL OTHER DECANT PIPING, REFER TO THE PLAN VIEW ON SHEET M1300.
6. NEW 4"ø PIPE SPOOL, LENGTH AS REQUIRED
7. NEW 8" X 4" MJ TEE OR TEE, REFER TO PLAN SEE SHEET M1300
8. NEW PIPE PENETRATION, SEE DETAIL X/XX
9. NEW PIPE SUPPORTS X/XX
10. NEW 4" FCA
11. GROUT FILL EXISTING CLARIFIER TROUGH

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: ----
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
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TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
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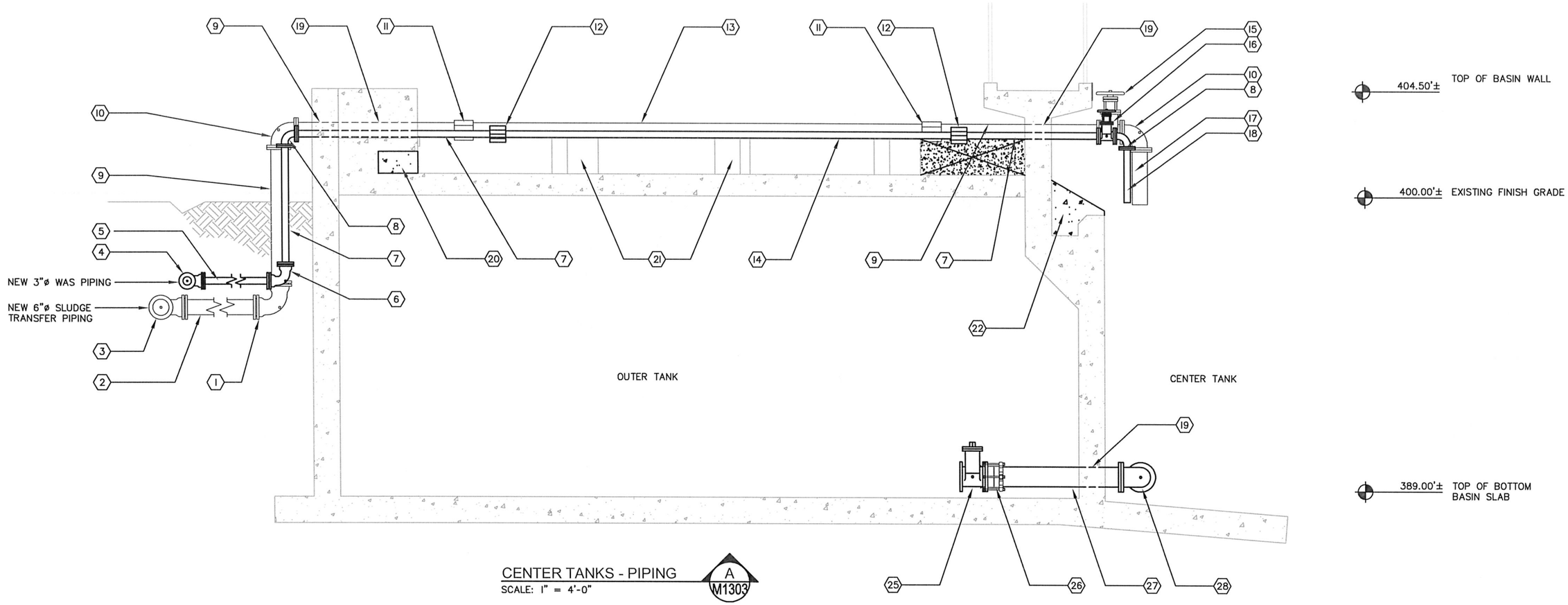
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

BIOSOLIDS TREATMENT
CENTER TANK SECTION VIEWS

PROJECT NO. 146.38
DRAWING NO. M1302
DATE MAY 2016
SHEET NO. 65 OF 70



CENTER TANKS - PIPING (A / M1303)
SCALE: 1" = 4'-0"

KEY NOTES

1. NEW 6"ø MJ 90° ELBOW
2. NEW 6"ø PIPE SPOOL, LENGTH AS REQUIRED
3. NEW 6"ø MJ TEE
4. NEW 3"ø MJ TEE
5. NEW 3"ø PIPE SPOOL, LENGTH AS REQUIRED
6. NEW 3"ø MJ 90° ELBOW
7. NEW 3"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
8. NEW 3"ø FLG 90° ELBOW
9. NEW 6"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
10. NEW 6"ø FLG 90° ELBOW
11. NEW 6"ø FCA
12. NEW 3"ø FCA
13. NEW 6"ø PIPE SPOOL, LENGTH AS REQUIRED
14. NEW 3"ø PIPE SPOOL, LENGTH AS REQUIRED
15. NEW 6"ø FLG PLUG VALVE
16. NEW 3"ø FLG PLUG VALVE
17. NEW 6"ø FLG X PE PIPE SPOOL, L = 2'-0"
18. NEW 3"ø FLG X PE PIPE SPOOL, L = 2'-0"
19. NEW PIPE PENETRATION, SEE DETAIL X/XX
20. PLUG EXISTING CONTACT CHAMBER OUTLET.
21. MODIFY EXISTING CONCRETE BAFFLES AS REQUIRED TO UTILIZES AS PIPE SUPPORTS
22. GROUT FILL EXISTING CLARIFIER TROUGH
23. REMOVE EXISTING WEIRS AND FILL BLOCKOUT WITH CONCRETE.
24. NEW PIPE SUPPORTS X/XX
25. NEW 8"ø PLUG VALVE
26. NEW 8"ø FCA
27. NEW 8"ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
28. NEW 8"ø ELBOW OR TEE, REFER TO PLAN VIEW ON SHEET M1300

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 ALLYSON J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED: ----
DRAWN: CGP
APPROVED BY: _____ DATE: _____

REVISIONS				
REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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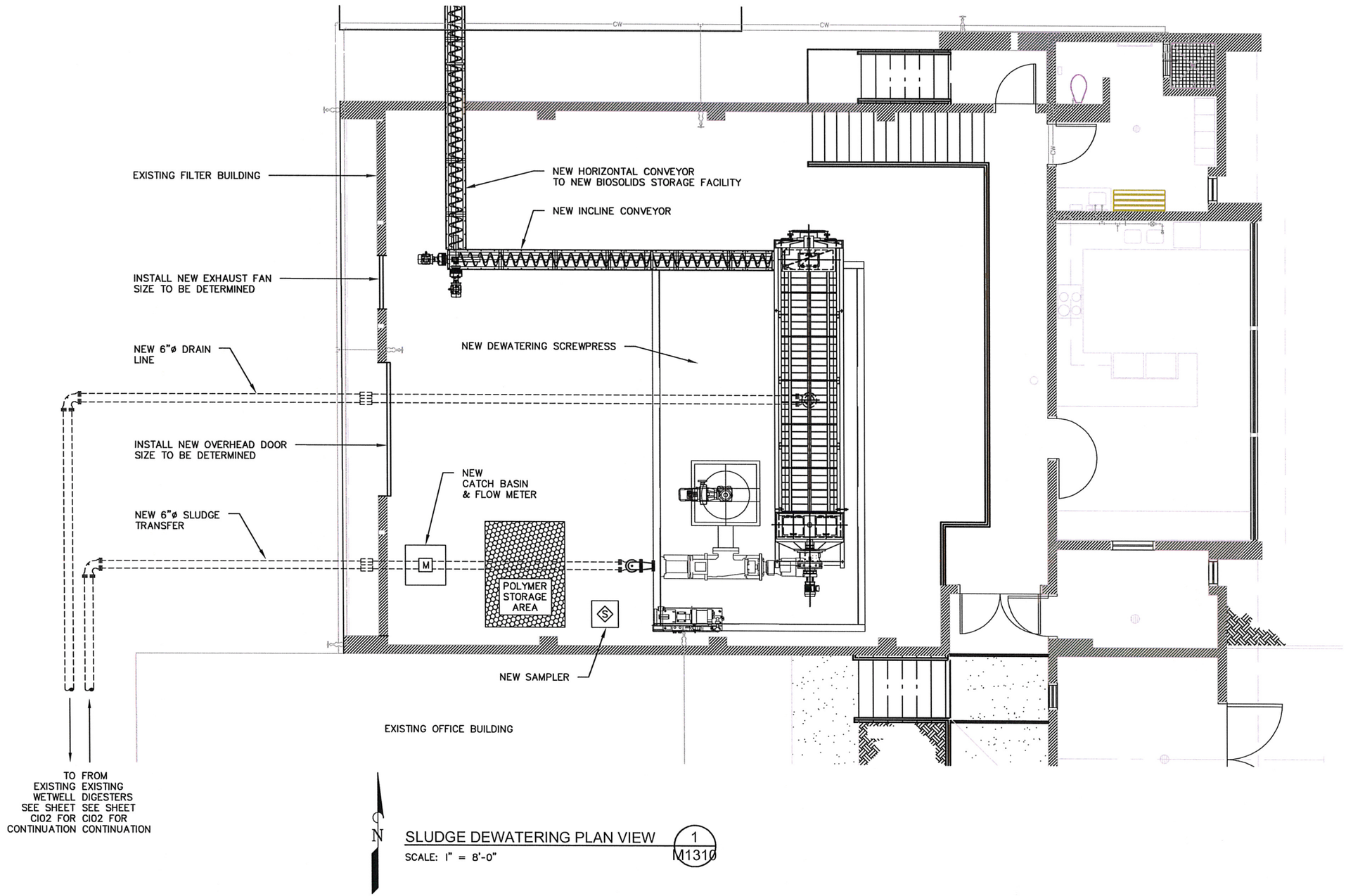
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN
BIOSOLIDS TREATMENT
CENTER TANK - SECTION VIEW

PROJECT NO.	DRAWING NO.
146.38	M1303
DATE	SHEET NO.
MAY 2016	66 OF 70



SLUDGE DEWATERING PLAN VIEW (1 / M1310)

SCALE: 1" = 8'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 JON J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
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APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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IF NOT 1-INCH - SCALE ACCORDINGLY

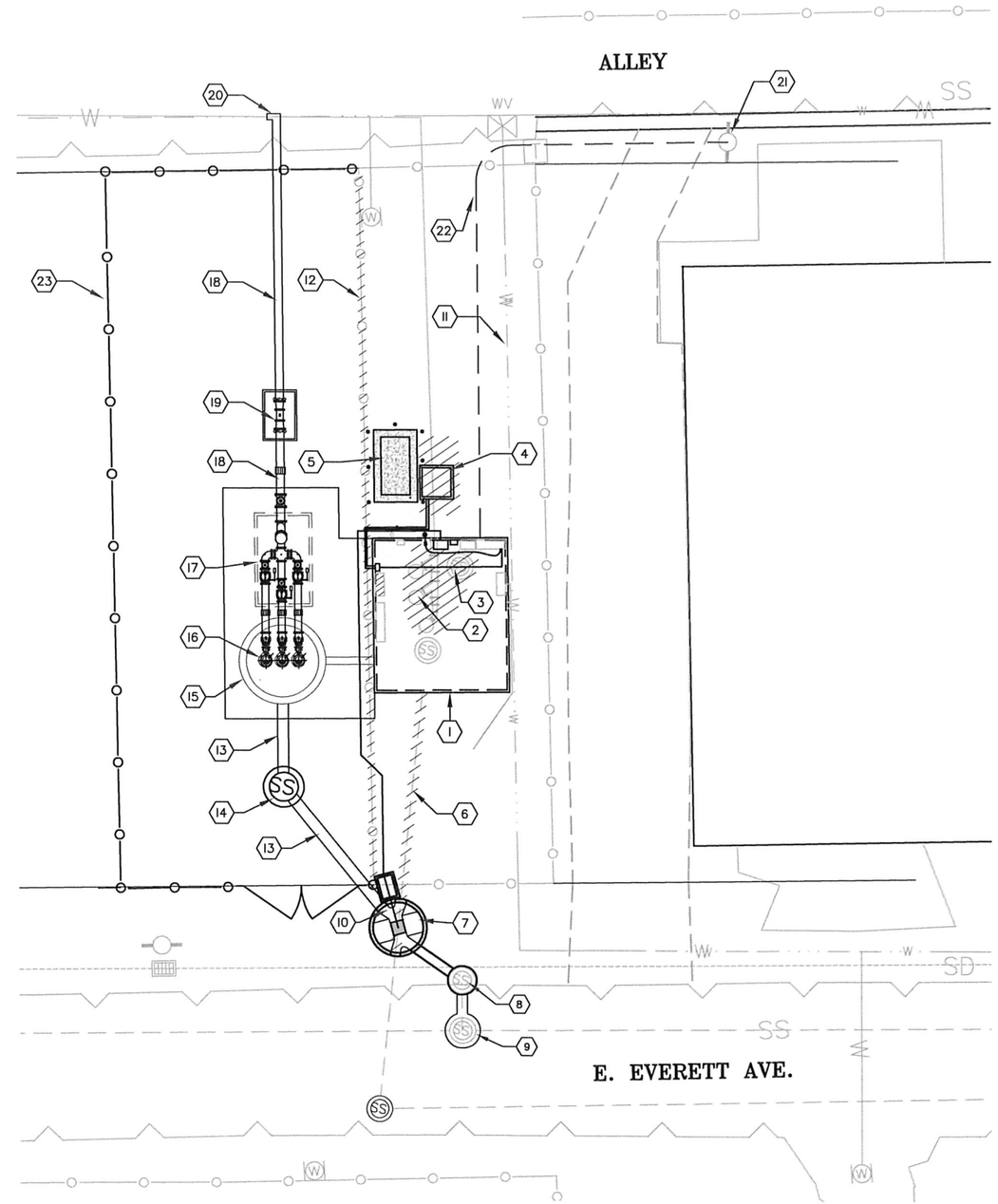
WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

BIOSOLIDS TREATMENT
SLUDGE DEWATERING - PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	M1310
DATE	SHEET NO.
MAY 2016	67 OF 70

KEYED NOTES:

1. EXISTING PUMP STATION BUILDING.
2. EXISTING PUMPS - TO BE REMOVED UPON COMPLETION OF NEW PUMP STATION.
3. EXISTING WETWELL ACCESS. WETWELL TO BE SLURRY FILLED UPON COMPLETION OF NEW PUMP STATION.
4. EXISTING FLOW METER AND VAULT. EXISTING PIPING TO BE ABANDON IN PLACE AFTER METER RELOCATION. EXISTING VAULT TO BE REMOVED.
5. EXISTING GENERATOR.
6. EXISTING 18"ø SANITARY SEWER LINE. ABANDON IN PLACE AFTER COMPLETION OF NEW PUMP STATION.
7. EXISTING GRINDER MANHOLE. RE-CHANNEL TO NEW 18" OUTLET.
8. EXISTING 48"ø MANHOLE.
9. EXISTING 48"ø MANHOLE.
10. EXISTING CHANNEL FOR 18"ø STUB-OUT. REMOVE EXISTING CDF FILL.
11. EXISTING 14"ø WATER LINE, PROTECT IN PLACE.
12. EXISTING CHAIN LINK FENCING TO BE REMOVED.
13. NEW 18"ø GRAVITY SEWER LINE.
14. NEW 48"ø MANHOLE.
15. NEW 10'ø WETWELL.
16. NEW SUBMERSIBLE PUMPS TYPICAL OF 3, SEE M1400 & M1401.
17. NEW EFFLUENT PIPING AND VALVE VAULT, SEE M1400 & M1401.
18. NEW 12"ø DUCTILE IRON EFFLUENT FORCE MAIN.
19. RELOCATE EXISTING 10"ø FLOW METER TO NEW VAULT.
20. CONNECT NEW 12"ø FORCE MAIN TO EXISTING 10"ø FORCE MAIN IN ALLEY.
21. EXISTING POWER POLE, PROTECT IN PLACE.
22. NEW POWER CONDUIT FROM POWER POLE TO NEW CONTROL PANEL.
23. NEW CHAIN LINK FENCING TO ENCLOSE NEW PUMP STATION AS SHOWN.



NOTES:
1. FACILITIES LOCATED OUTSIDE 100YR FLOOD PLAIN.
2. EXISTING PHONE LINE WILL NOT BE LOCATED BY UTILITY COMPANY

EVERETT AVE. PUMP STATION PLAN VIEW (1 / D1400)
SCALE : 1" = 20'
NOTE: NOT ALL PIPING SHOWN FOR CLARITY

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 RYAN J. SPEAKMAN EXPIRES 06/30/16
PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
SBM	DLS

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

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IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

EVERETT AVE. PUMP STATION
DEMOLITION- PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	D1400
DATE	SHEET NO.
MAY 2016	68 OF 70

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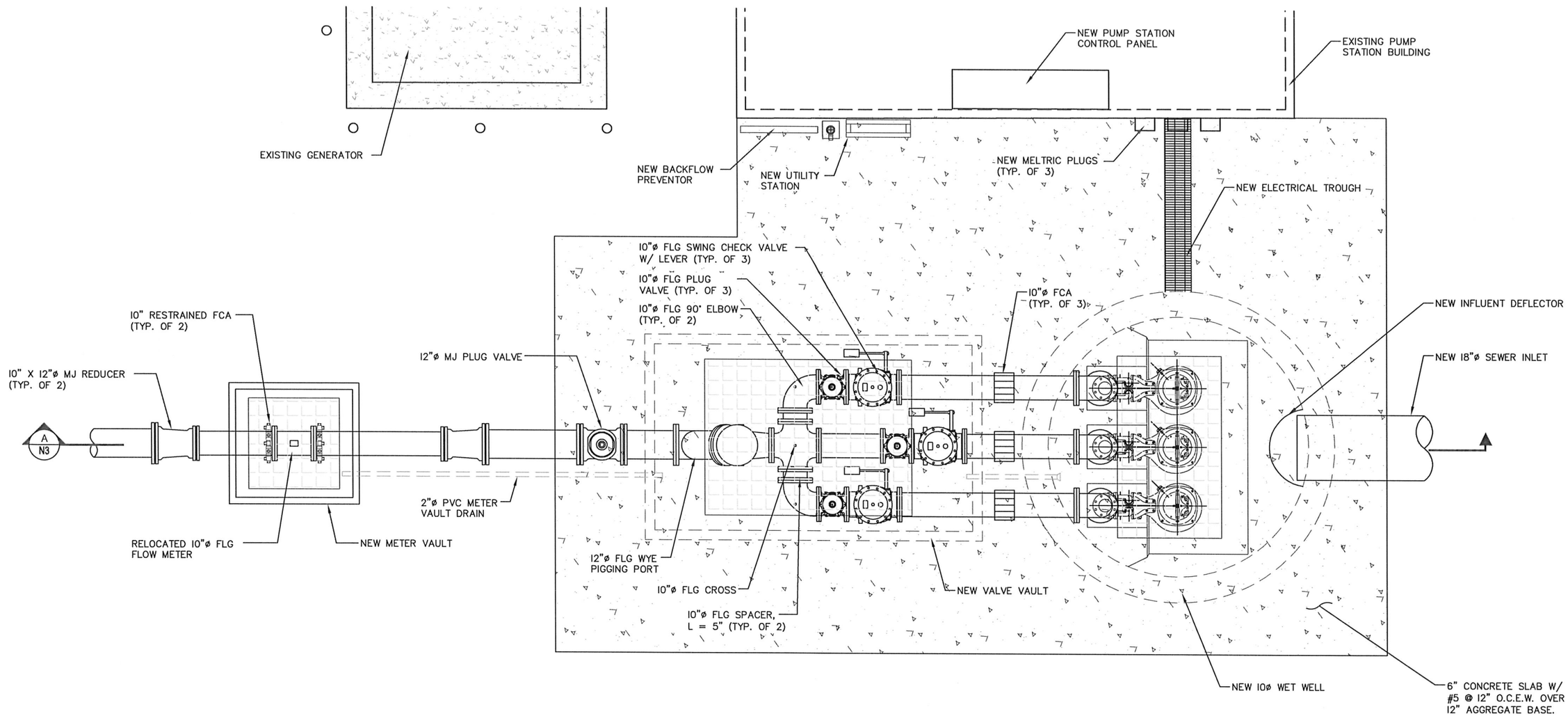

PLAN VIEW- EVERETT AVENUE PUMP STATION (1 / M1400)

SCALE : 1" = 4'-0"

REGISTERED PROFESSIONAL ENGINEER 70769PE OREGON JULY 11, 2006 BRYON J. SPEAKMAN EXPIRES 06/30/16

PRELIMINARY NOT FOR CONSTRUCTION

DESIGNED:	DRAWN:
SBM	DLS

APPROVED BY: _____ DATE: _____

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

WASTEWATER TREATMENT PLANT IMPROVEMENTS
CITY OF SUTHERLIN

EVERETT AVE. PUMP STATION
MECHANICAL- PLAN VIEW

PROJECT NO.	DRAWING NO.
146.38	M1400
DATE	SHEET NO.
MAY 2016	69 OF 70

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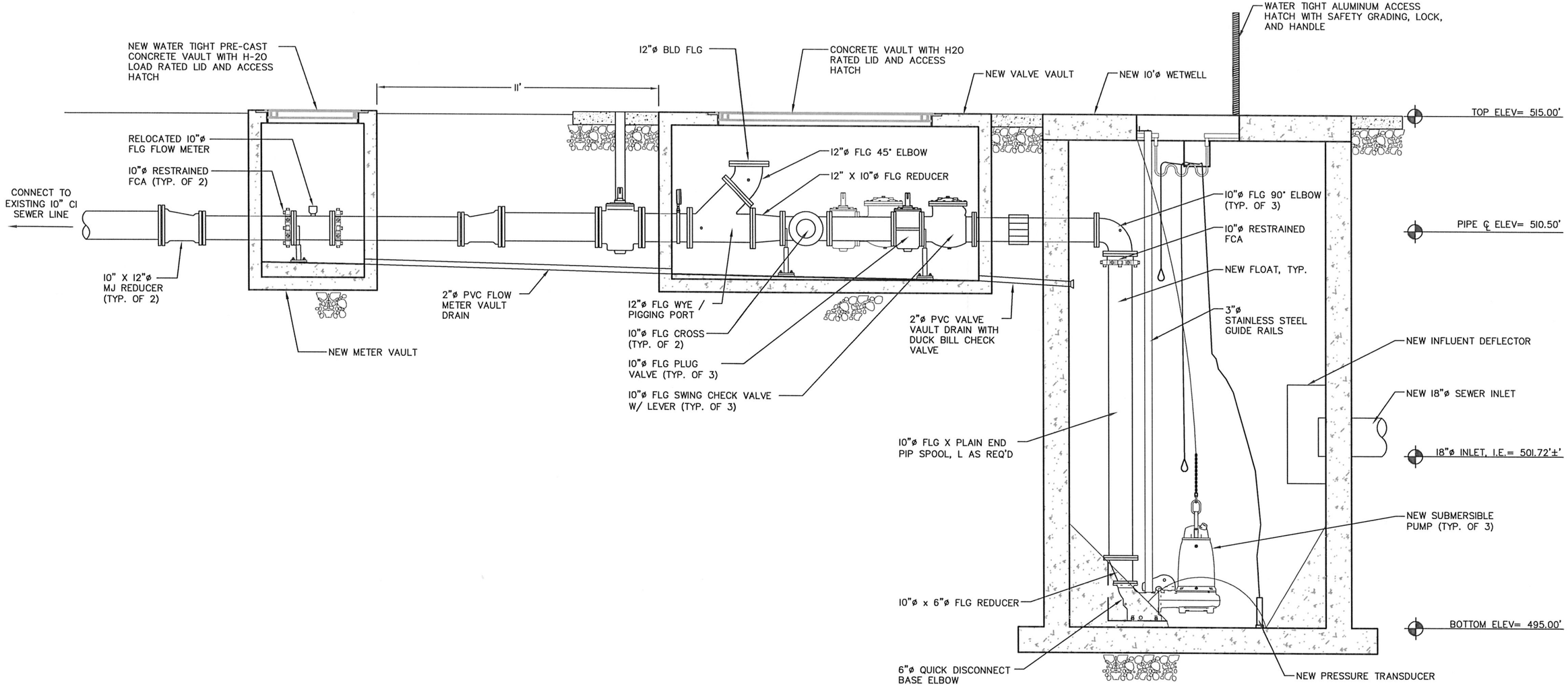

SECTION- EVERETT AVENUE PUMP STATION

SCALE: 1" = 4'-0"

A
M1401

REGISTERED PROFESSIONAL ENGINEER
70769PE
OREGON
JULY 11, 2006
PRELIMINARY NOT FOR CONSTRUCTION
RYON J. SPEAKMAN
EXPIRES 06/30/16

DESIGNED:	DRAWN:
SBM	DLS
APPROVED BY:	DATE:

REVISIONS

REVISED	DESCRIPTION	SUBMIT.	APPR'D.	DATE

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EVERETT AVE. PUMP STATION
MECHANICAL- TYPICAL SECTION

PROJECT NO.	DRAWING NO.
146.38	M1401
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