



Project Location

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Disclaimer: Plant boundary, facility graphics, pipe diameters, and quantities shown on this map are approximate and may not match actual field conditions. Variations to this map are to be expected.

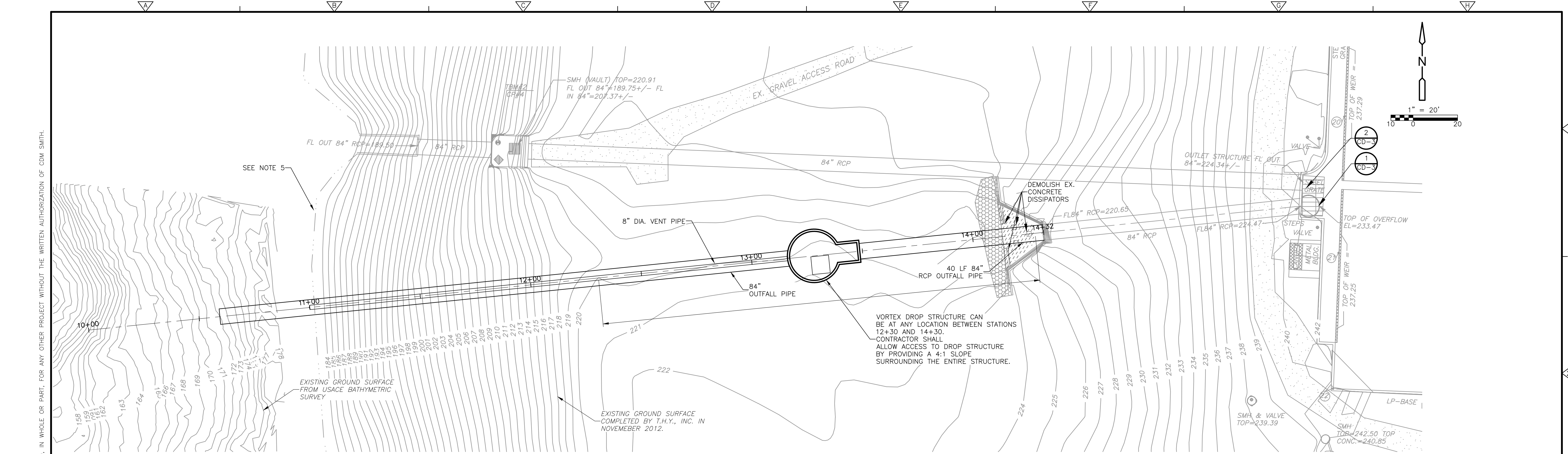
Stiles Vortex and Outfall Project

City of Memphis, TN WWCTS Study

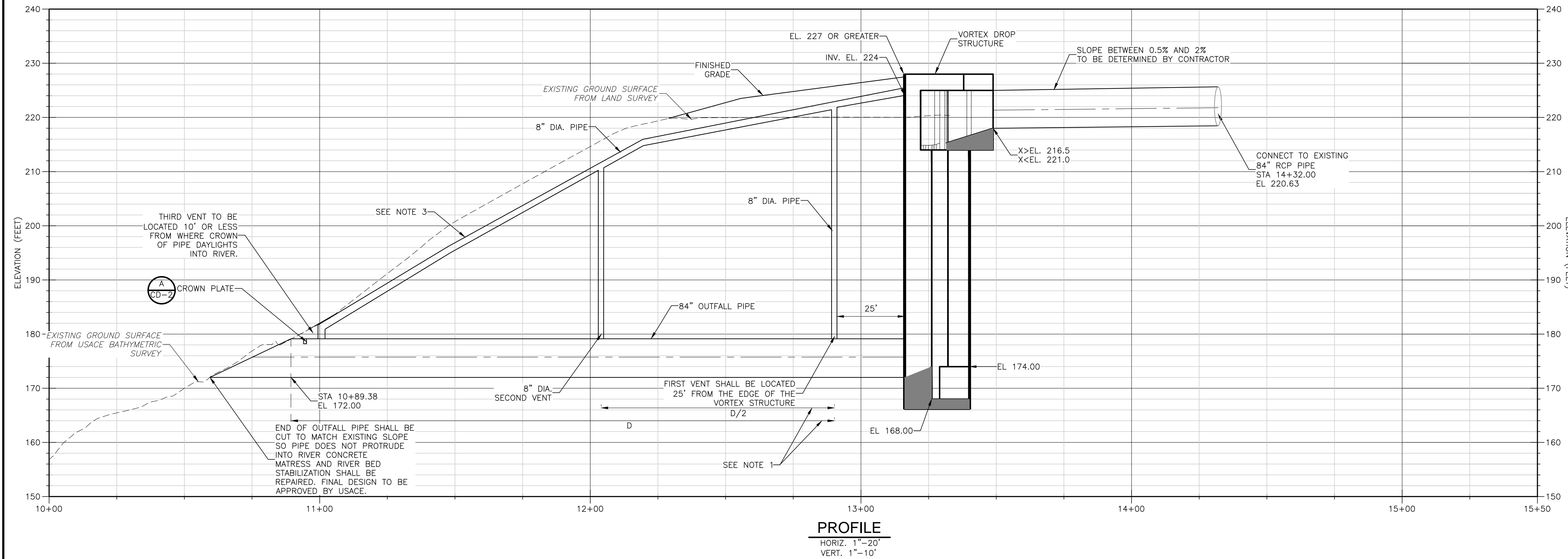
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Date Generated: 8/18/2014





PLAN
1"=20'



PROFILE
HORIZ. 1"=20'
VERT. 1"=10'

- NOTES:
1. DIMENSION "D" IS THE DISTANCE FROM THE CENTERLINE OF THE 1ST VENT TO THE END OF THE PIPE. THIS DISTANCE WILL BE DETERMINED ULTIMATELY BY VORTEX DROP STRUCTURE LOCATION.
 2. INVERT IS DENOTED AS X BECAUSE IT IS UNKNOWN AND DEPENDENT ON WHERE THE VORTEX DROP STRUCTURE IS INSTALLED. X WILL BE LIMITED TO BEING BETWEEN ELEVATIONS 216.5 TO 221 FEET.
 3. VENT PIPING SHALL BE INSTALLED WITH A MINIMUM OF 3' OF COVER AND SLOPE OF PIPING SHALL BE A MINIMUM OF 5%.
 4. FINISH GRADE SHALL BE NO STEEPER THAN 4:1 AROUND DROP STRUCTURE AND FILL CAN BE USED TO PROVIDE REQUIRED COVER OF VENT PIPING.
 5. NO SURVEY INFORMATION WAS TAKEN BETWEEN ELEVATIONS 178-184 FEET. ALL ELEVATIONS ARE REFERRED TO NORTH AMERICAN VERTICAL DATUM OF 1988 AND BEARINGS ARE REFERENCED TO THE TENNESSEE STATE COORDINATE SYSTEM (NAD83).

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: C. SANDERS
 DRAWN BY: C. SCOTT
 SHEET CHK'D BY: C. ALLABEN
 CROSS CHK'D BY: C. SANDERS
 APPROVED BY: C. SANDERS
 DATE: FEBRUARY 2014

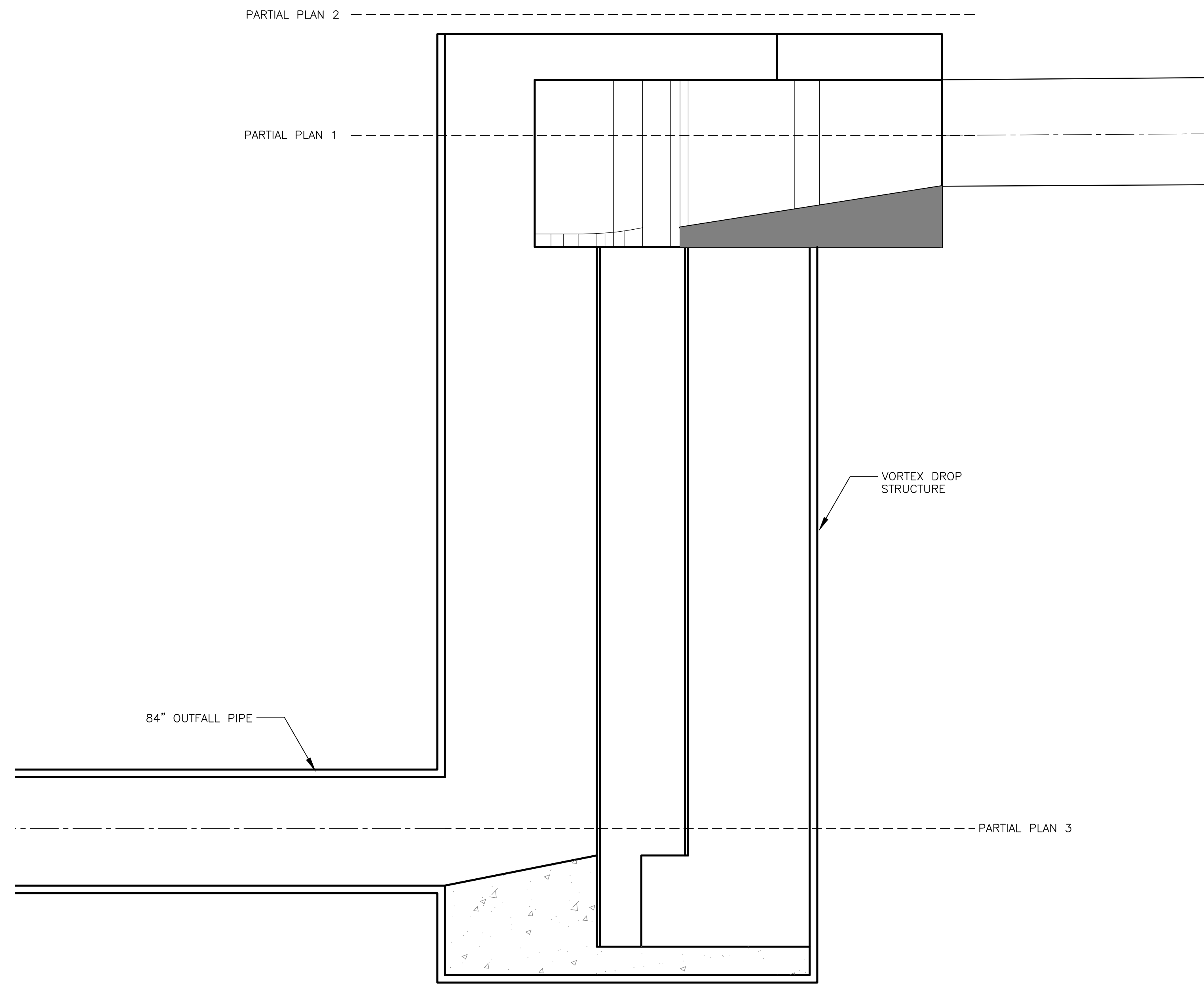
CDM Smith
 Parkview Towers, 210 25th Avenue North, Suite 1102
 Nashville, TN 37203
 Tel: (615) 320-3161

CITY OF MEMPHIS
OUTFALL IMPROVEMENTS

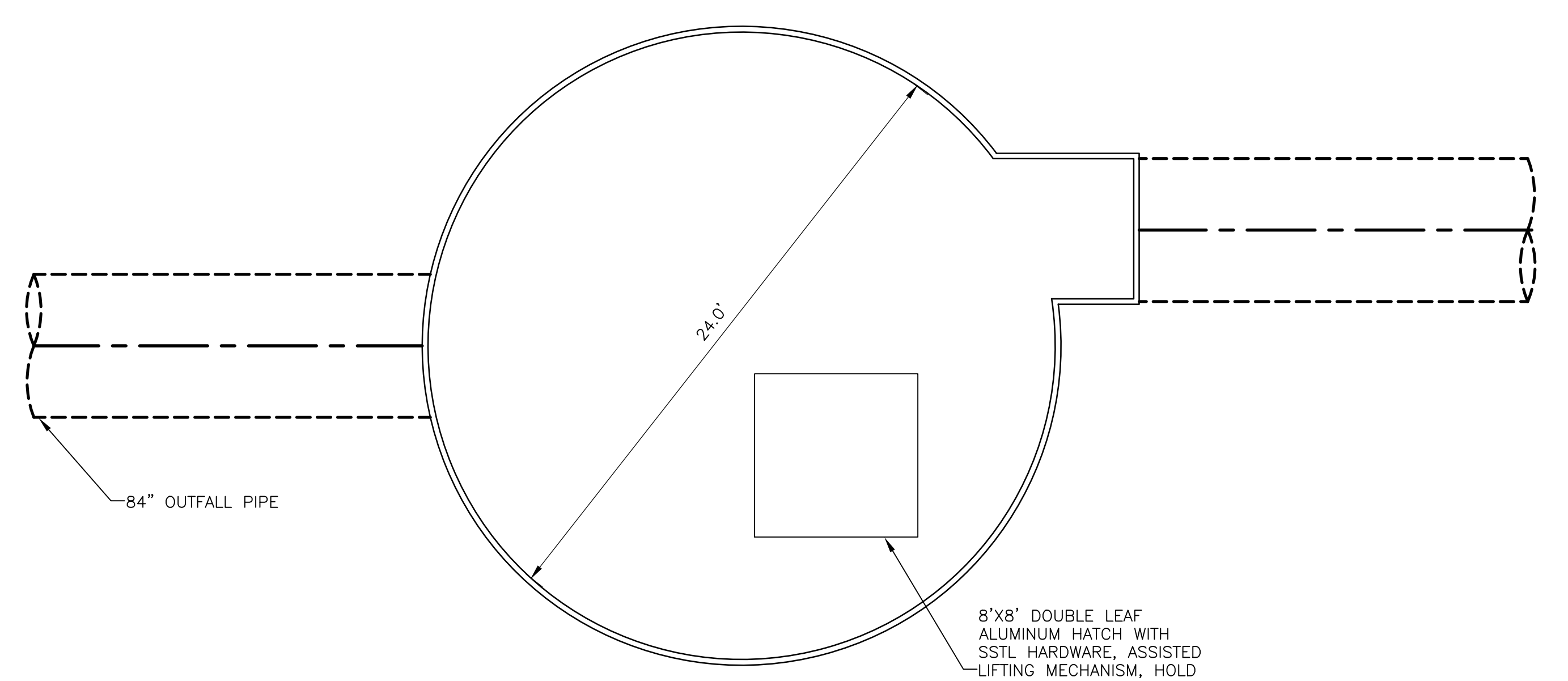
**84" OUTFALL PIPELINE
 PLAN / PROFILE**

PROJECT NO. 6016-94827
 FILE NAME: C001PLPR.DWG
 SHEET NO.
C-1
 PRELIMINARY DESIGN

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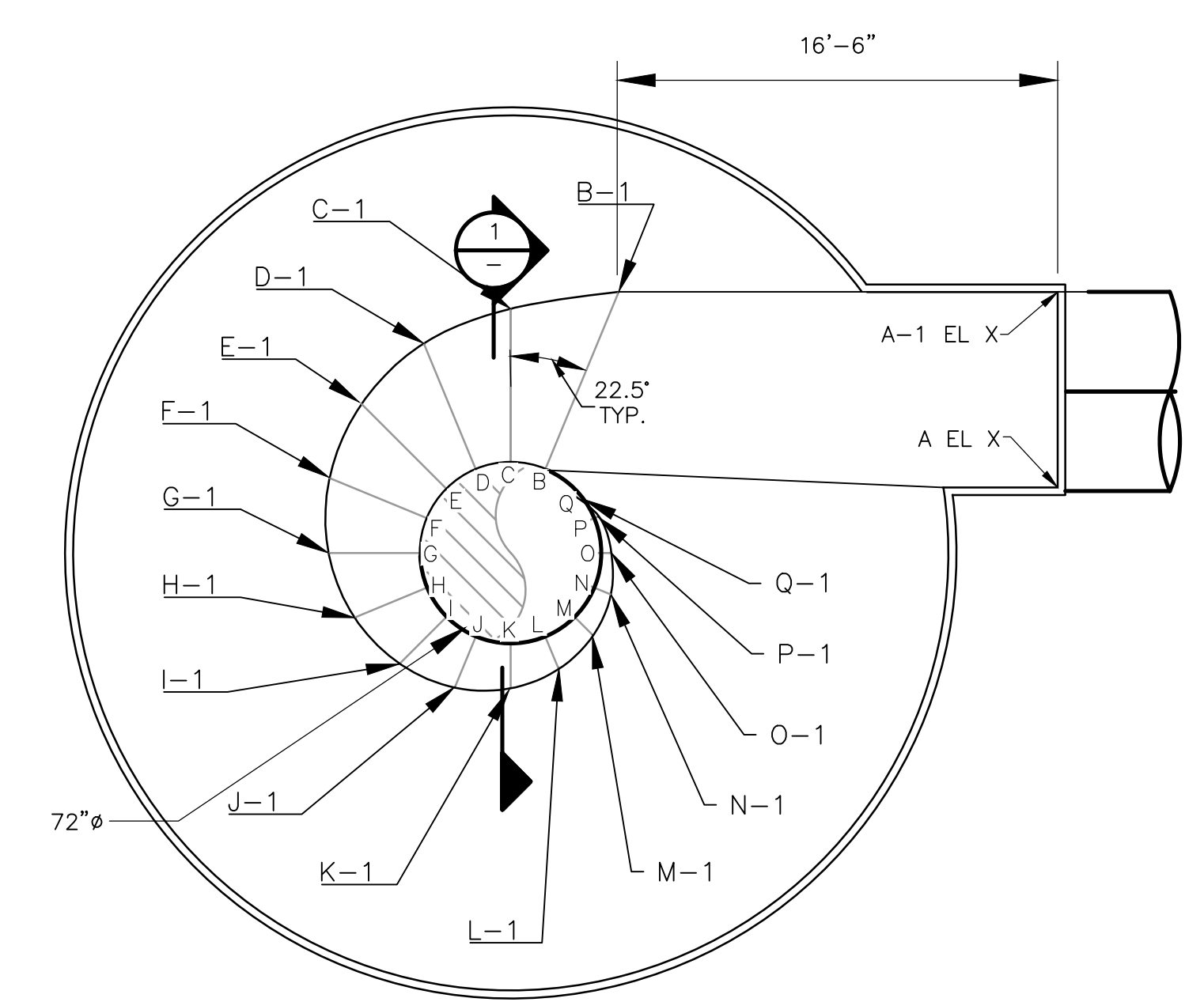


VORTEX DROP STRUCTURE ELEVATION

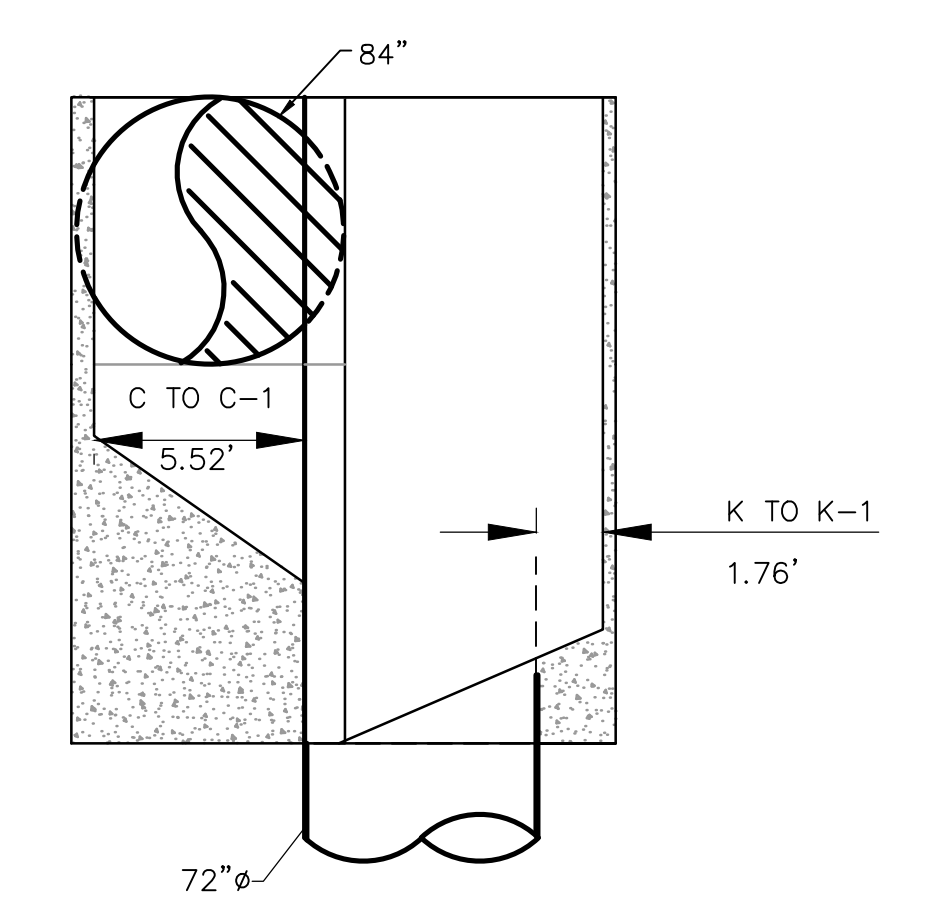


PARTIAL PLAN 1
PLAN
NTS

8'x8' DOUBLE LEAF ALUMINUM HATCH WITH SSTL HARDWARE, ASSISTED LIFTING MECHANISM, HOLD OPEN ARM, SLAM LOCK, LOCKABLE HANDLE, AND FALL PROTECTION.



PARTIAL PLAN 2
PLAN
NTS



SECTION 1
NTS

VORTEX DROP STRUCTURE INVERT ELEVATIONS (FEET)			
LOCATION	ELEVATION	LOCATION	ELEVATION
A	X	A-1	X
B	X-5.43'	B-1	X-0.62'
C	X-5.73'	C-1	X-1.87'
D	X-6.03'	D-1	X-2.60'
E	X-6.33'	E-1	X-3.30'
F	X-6.63'	F-1	X-3.96'
G	X-6.93'	G-1	X-4.60'
H	X-7.23'	H-1	X-5.22'
I	X-7.53'	I-1	X-5.82'
J	X-7.83'	J-1	X-6.39'
K	X-8.13'	K-1	X-6.95'
L	X-8.43'	L-1	X-7.48'
M	X-8.73'	M-1	X-8.00'
N	X-9.03'	N-1	X-8.51'
O	X-9.33'	O-1	X-9.00'
P	X-9.64'	P-1	X-9.47'
Q	X-10.00'	Q-1	X-10.00'

VORTEX DROP STRUCTURE HORIZONTAL DISTANCES (FEET)	
LOCATION	LENGTH
A TO A-1	7.50'
B TO B-1	6.93'
C TO C-1	5.52'
D TO D-1	4.96'
E TO E-1	4.39'
F TO F-1	3.87'
G TO G-1	3.39'
H TO H-1	2.93'
I TO I-1	2.50'
J TO J-1	2.12'
K TO K-1	1.76'
L TO L-1	1.41'
M TO M-1	1.10'
N TO N-1	0.82'
O TO O-1	0.54'
P TO P-1	0.36'
Q TO Q-1	0.00'

- NOTES:
- LOCATIONS A AND A-1 ARE AT THE ENTRANCE TO THE VORTEX DROP STRUCTURE.
 - ELEVATIONS OF X IS DEPENDENT ON WHERE THE VORTEX DROP STRUCTURE IS INSTALLED BY CONTRACTOR. X WILL BE LIMITED TO BEING AT OR BETWEEN ELEVATIONS 216.5 TO 221 FEET.
 - FIELD FORMING OF CONCRETE IS REQUIRED FOR ALL SECTIONS. SECTION A TO A-1 AND SECTION B TO B-1 TO PROVIDE A SMOOTH TRANSITION. TOLERANCES FOR FORMING AS INDICATED IN TABLE IS ±0.05 FEET.

REV. NO.	DATE	DRWN	CHKD	REMARKS

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 DRAWN BY: C. SCOTT
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 CROSS CHK'D BY: C. SANDERS
 APPROVED BY: C. SANDERS
 DATE: FEBRUARY 2014

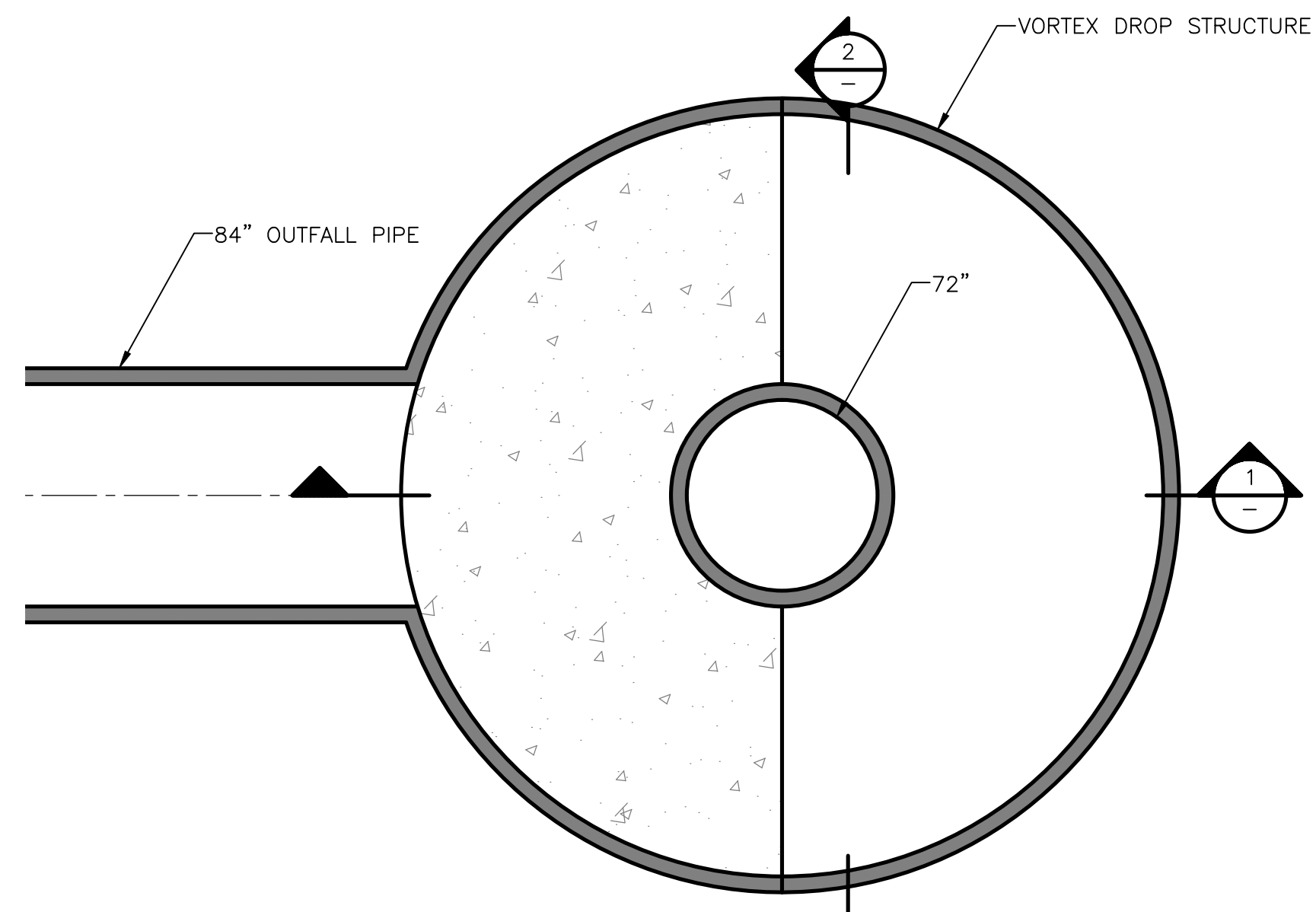
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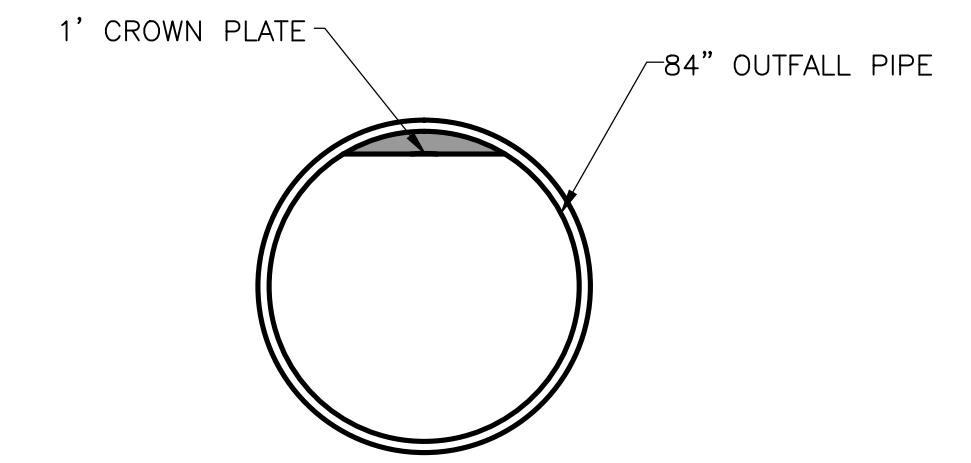
VORTEX DROP STRUCTURE AND
 PLANT EFFLUENT LINE MODIFICATION DETAIL
 PLAN AND SECTION

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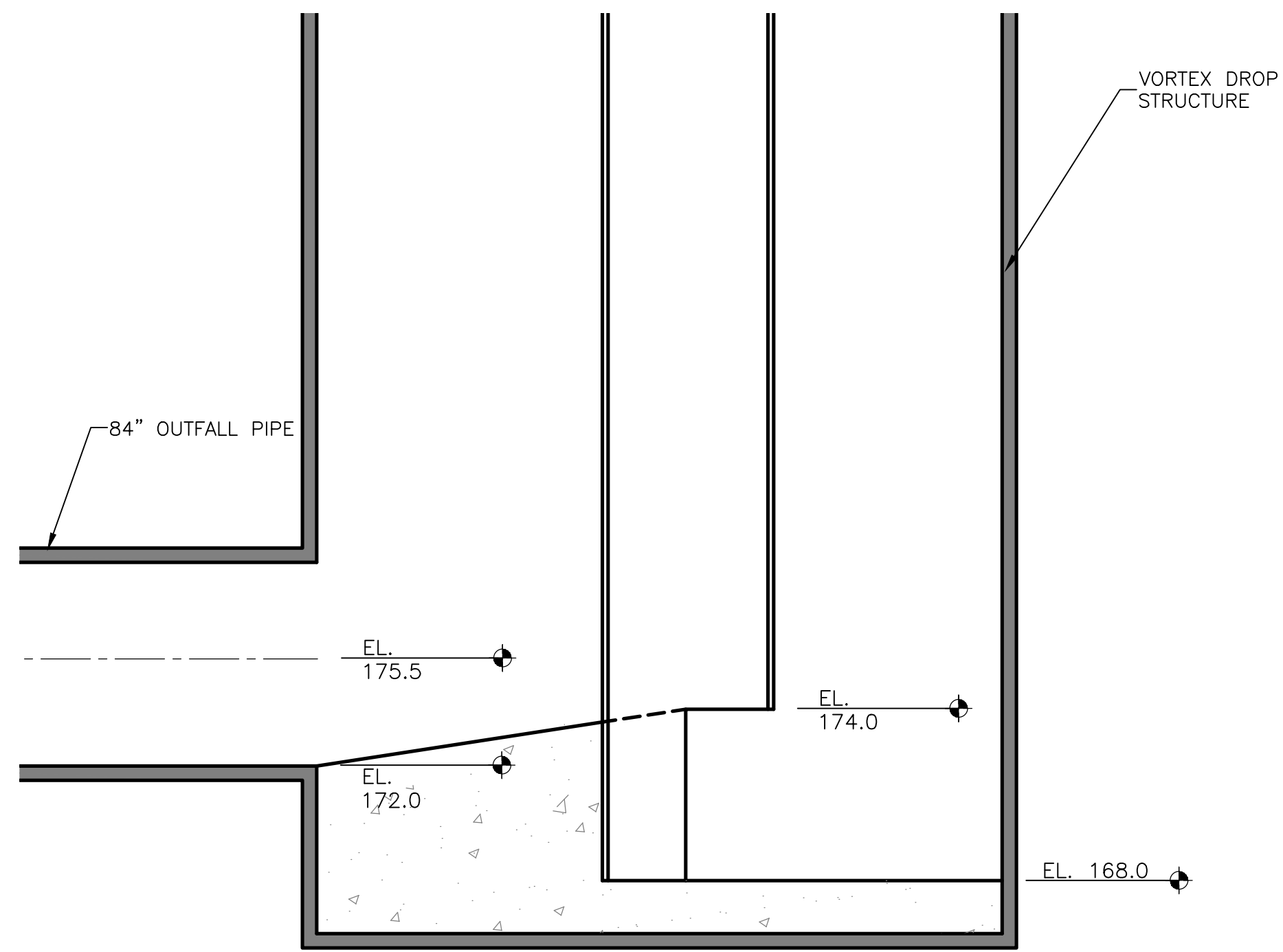


PARTIAL PLAN 3
PLAN
NTS

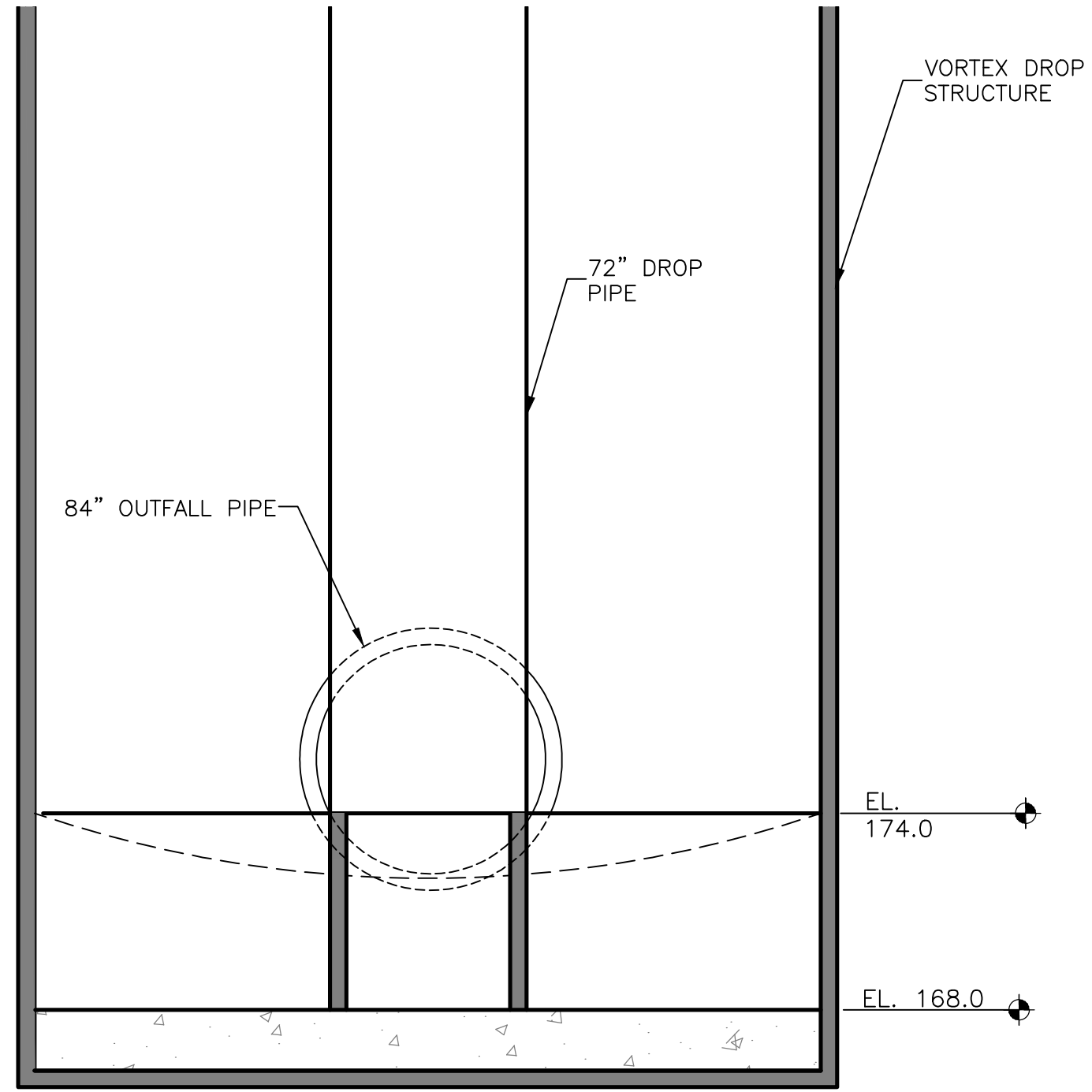


CROWN PLATE
DETAIL A
NTS C-1

NOTE:
1. CROWN PLATE TO BE LOCATED BETWEEN THIRD VENT AND WHERE THE OUTFALL PIPE DAYLIGHTS INTO THE RIVER.



VORTEX DROP STRUCTURE
SECTION 1
NTS



VORTEX DROP STRUCTURE
SECTION 2
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

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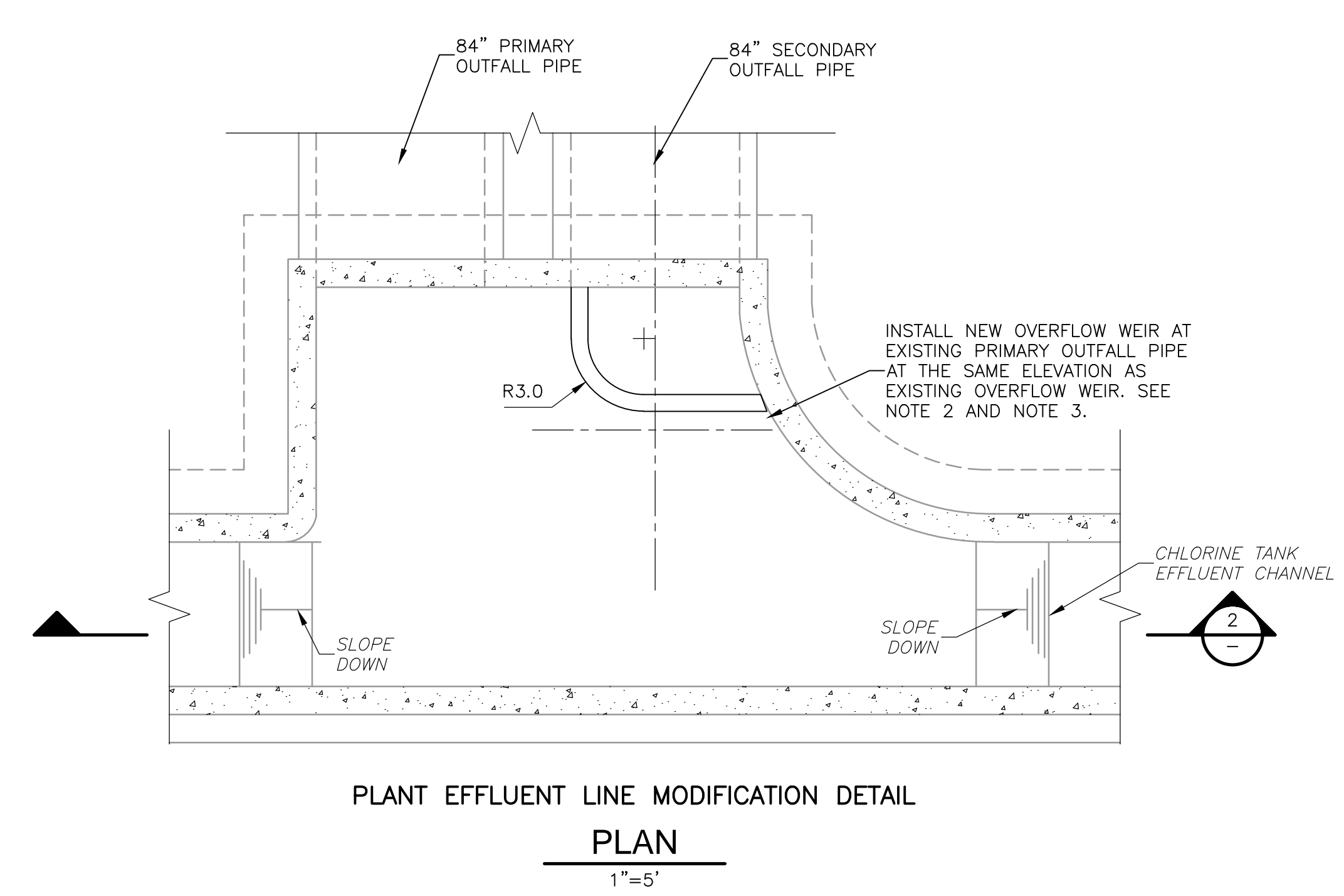
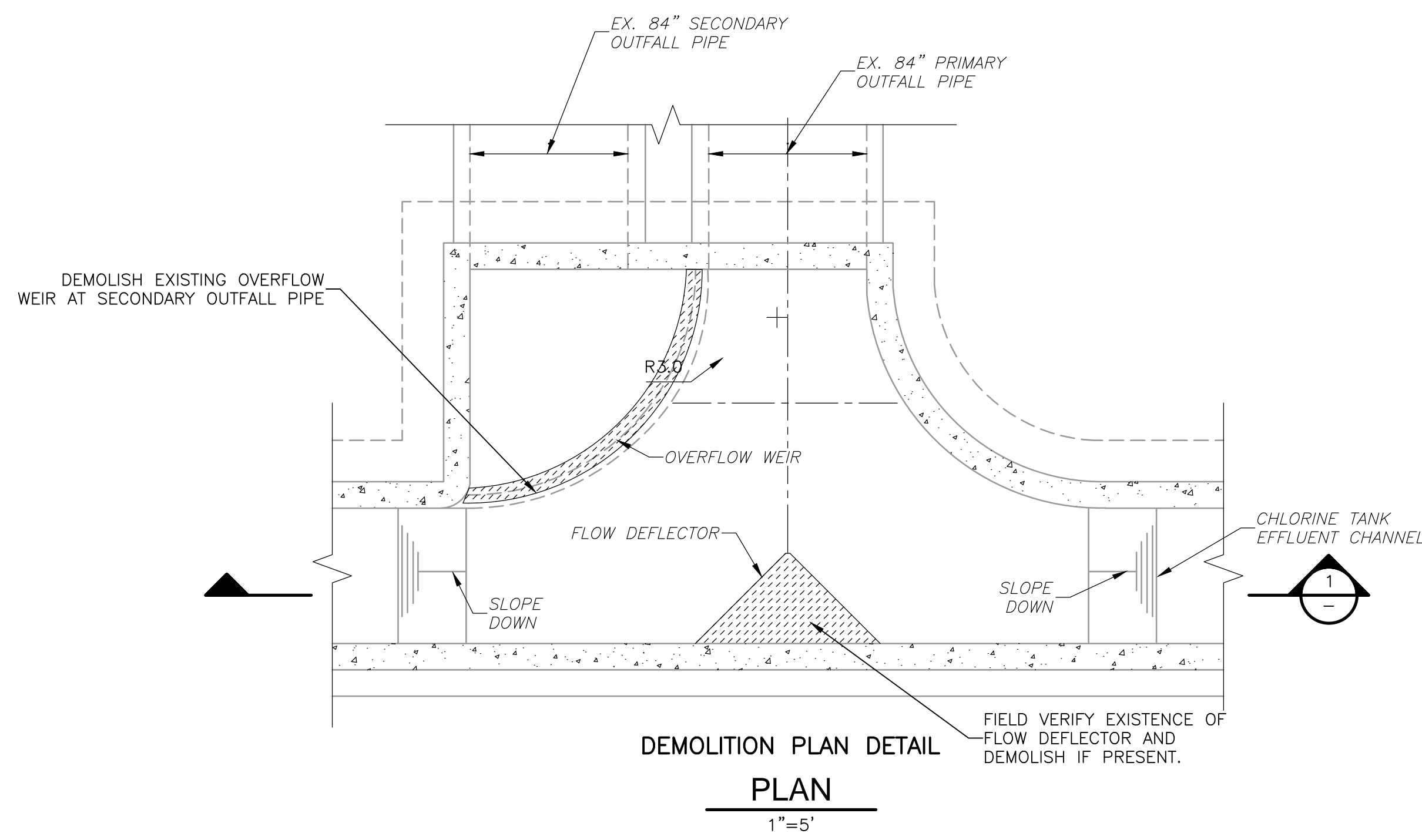
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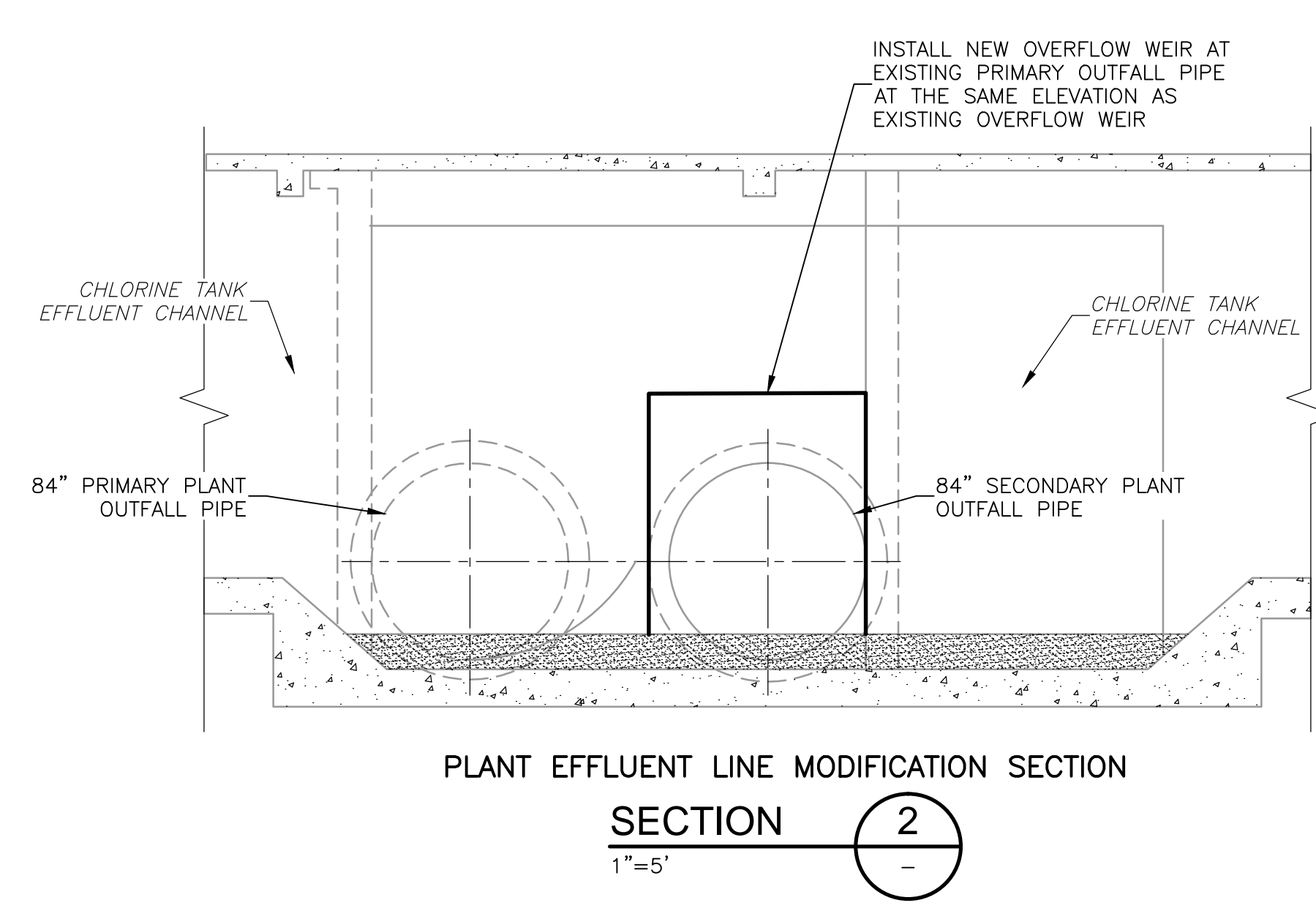
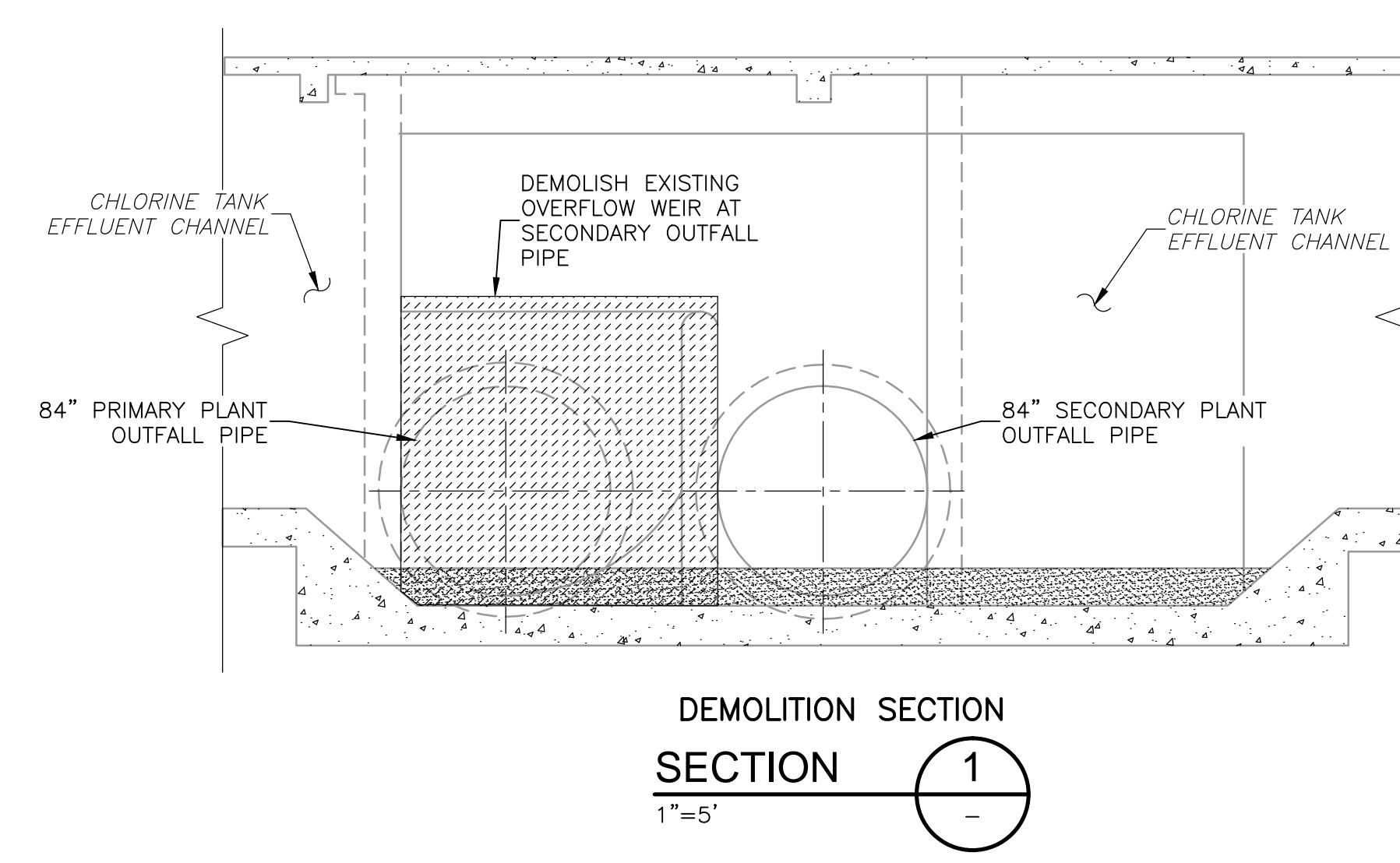
VORTEX DROP STRUCTURE AND
 PLANT EFFLUENT LINE MODIFICATION DETAIL
 PLAN AND SECTION

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- NOTE:
- EXISTING PRIMARY OUTFALL WILL BECOME SECONDARY OUTFALL AND EXISTING SECONDARY OUTFALL WILL BECOME PRIMARY OUTFALL WITH THE DEMOLITION OF EXISTING WEIR AND INSTALLATION OF NEW WEIR.
 - NEW SECONDARY OVERFLOW WEIR WILL FACILITATE A SMOOTH FLOW TRANSITION FROM THE CHLORINE TANK EFFLUENT TO THE NEW PRIMARY OUTFALL PIPE.
 - THE NEW OVERFLOW WEIR TO THE SECONDARY EFFLUENT CHANNEL WILL HAVE A WEIR LENGTH NOT LESS THAN THAT OF THE EXISTING WEIR SLATED FOR DEMOLITION.



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CITY OF MEMPHIS
 OUTFALL IMPROVEMENTS

VORTEX DROP STRUCTURE AND
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PROJECT NO. 6016-94827
 FILE NAME: CD03STDLD.DWG
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