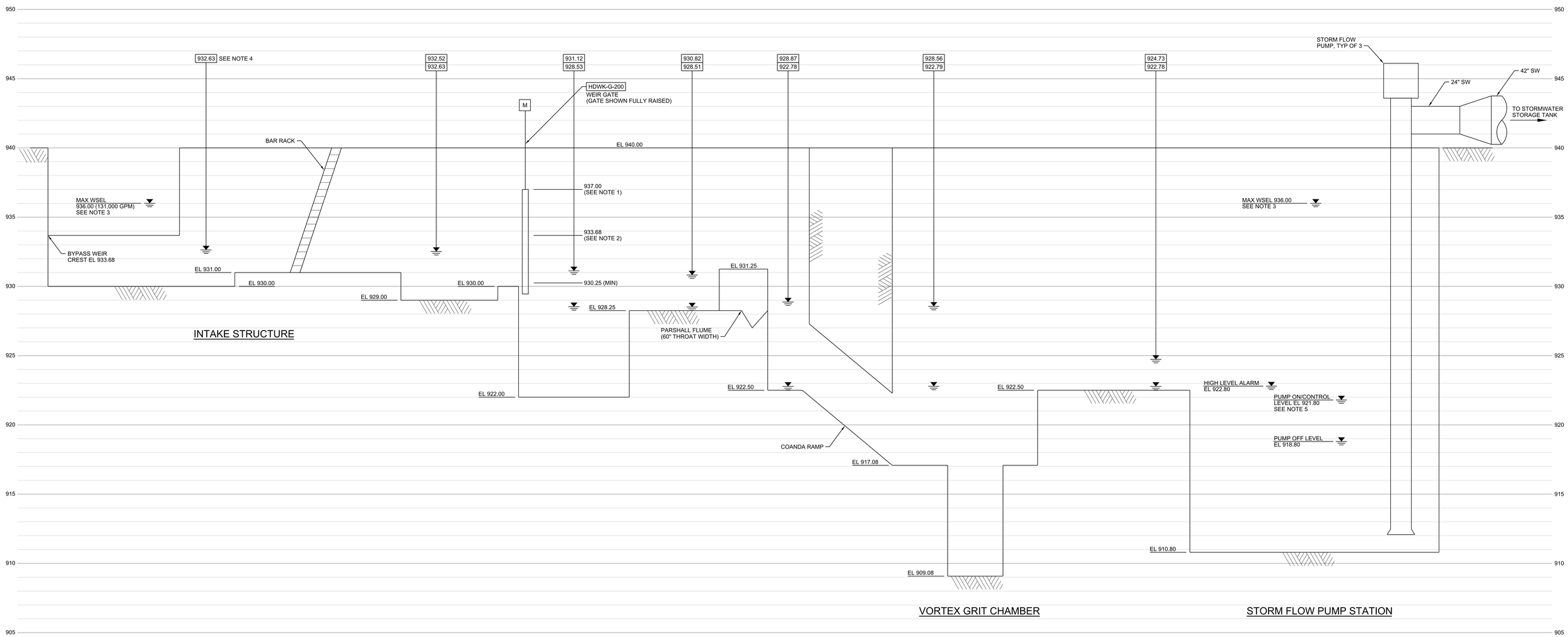

STORM FLOW HYDRAULIC PROFILE

3/8"=1'-0" (VERT SCALE)

KEY

WSEL = WATER SURFACE ELEVATION

XXX.XX — WSEL AT 37,500 GPM
XXX.XX — WSEL AT 1,000 GPM

NOTES:

1. GATE REST POSITION DURING STORM EVENT ON PUMP STATION SHUTDOWN.
2. GATE REST POSITION PRIOR TO STORM FLOW (FOLLOWING RETURN TO STAGE 1 CONTROL)
3. MAXIMUM STREAM WSEL IS AT THE APPROXIMATE 100-YEAR FLOOD LEVEL. THIS IS THE MAXIMUM WSEL THAT COULD OCCUR IN THE STORM FLOW SYSTEM UNDER A FAILURE OF THE PUMP STATION, GATE AND/OR CONTROLS.
4. THIS WSEL IS THE ELEVATION NECESSARY TO PASS 3,000 GPM THROUGH THE BASE FLOW PARSHALL FLUME. STORM WEIR GATE ADJUSTS TO MAINTAIN THIS LEVEL DURING STAGE 2 CONTROL, UP TO A TOTAL FACILITY FLOW OF 40,500 GPM WITH ROOM IN THE STORMWATER STORAGE TANK. IN STAGE 3 CONTROL THE WSEL RISES TO THAT CONTROLLED BY THE HEAD OVER THE BYPASS WEIR.
5. THIS WSEL IS THE CONTROL LEVEL IN THE PUMP STATION. IT IS THE LEVEL MAINTAINED DURING NORMAL OPERATION, AND ALSO IS THE PUMP START LEVEL WHEN IN CYCLING MODE AT LOW FLOWS.

FLOW CONTROL STAGES

STAGE 1 - STREAM FLOW LESS THAN 3,000 GPM. FREE FLOW TO BASE SIDE.

STAGE 2 - STORM FLOW GATE ADJUSTS TO MAINTAIN INTAKE WSEL = 932.63 FT. FLOWS OVER 3,000 GPM TO STORM SIDE.

STAGE 3 - BASE AND STORM FLOW GATES MODULATE TO CONTROL BASE AND STORM FLOWS AT 3,000 GPM AND 37,500 GPM, RESPECTIVELY. EXCESS FLOW PASSES OVER BYPASS WEIR WALL.

UCOR
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OF200 Mercury Treatment Facility

Designed by URS|CH2M Oak Ridge LLC (UCOR) for the Department of Energy
Oak Ridge Office of Environmental Management
under U. S. Government contract DE-SC-0004645

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PART	REV	DESCRIPTION / REVISION OR ISSUE PURPOSE	DRW	CHKR	DE	DVR	DM	DATE
	0	ISSUED FOR CONSTRUCTION	CS	QW	SP		LE	06/2017

REVISION APPROVALS: PE, DATE

SQUAD CHECK: WE, AR, CV, ST, HV, EM, FP, PD, EE, IE, M, NP

RPE: STEVEN ROBERT POLSON, STATE OF TENNESSEE

DRAWING APPROVALS		DATE
DRW	C SCHNEE	06/16/17
CHKR	Q WANG	06/16/17
DE	S POLSON	06/16/17
DVR		
DM	L ELLIS	06/16/17
PE	Teresa J. Pierce, P.E.	

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PROJECT NAME:
OF200 MERCURY TREATMENT FACILITY

GENERAL
HEADWORKS
STORM FLOW HYDRAULIC PROFILE

USE	DISC	DT	DC	CM	SYSTEM	STAT	SIZE	BLDG	FL	CLASS
3	M	X	X	NC	FAC	AR	E	9410-01	X	U

SH.	OF	TYPE		PART	REV
1	1	DD	M941001-F-0005	000	0

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