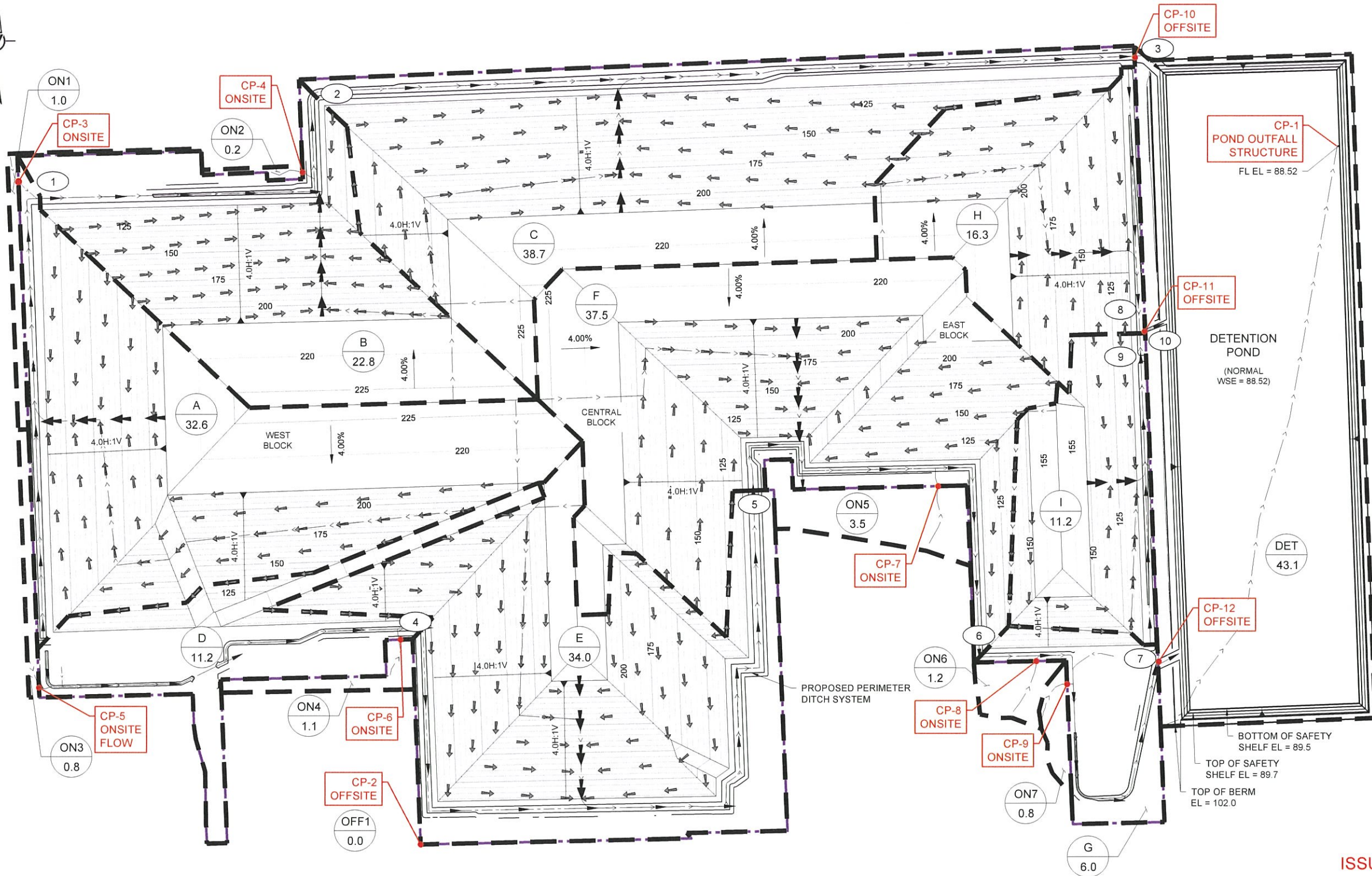


## **APPENDIX III-2A**

### **FIGURES**

- III-2A-1 Pre-Development Overall Drainage Conditions
- III-2A-2 Post-Development Overall Drainage Conditions
- III-2A-3 Drainage Area Delineation – Add-on Berm & Downchute
- III-2A-4 Drainage Area Delineation – Perimeter Ditch





**LEGEND**

- PERMIT BOUNDARY
- OVERALL DRAINAGE AREA DELINEATION
- PERIMETER DITCH
- DOWNCHUTE
- ADD-ON BERM
- FLOW PATH
- CALCULATION POINT
- CONTROL POINT
- DRAINAGE AREA NAME / ACREAGE

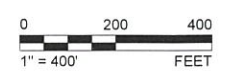
**POST-DEVELOPMENT PEAK DISCHARGES**

DISCHARGE POINT	25-YEAR FLOW RATE (CFS)	100-YEAR FLOW RATE (CFS)
CP-1 OUTFALL	141.8	169.8
CP-2 OFFSITE	0.0	0.0
CP-3 ONSITE	1.8	2.3
CP-4 ONSITE	1.1	1.4
CP-5 ONSITE	1.8	2.3
CP-6 ONSITE	6.3	7.8
CP-7 ONSITE	8.6	10.7
CP-8 ONSITE	6.8	8.5
CP-9 ONSITE	4.5	5.7
CP-10 OFFSITE	262.5	333.0
CP-11 OFFSITE	126.2	156.1
CP-12 OFFSITE	282.1	357.3

**NOTE(S)**

- RESULTS FROM HEC-HMS FOR 25-YEAR, 24 HOUR STORM AND 100-YEAR, 24 HOUR STORM. SEE APPENDIX III-2A.

**ISSUED FOR PERMITTING PURPOSES ONLY**



0	2021-02	ISSUED FOR PERMITTING PURPOSES	EWT	EWT	CGD	CGD
REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

SEAL

GOLDER ASSOCIATES INC.  
TEXAS REGISTRATION F-2578

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PROJECT  
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION  
TCEQ PERMIT NO. MSW-2185A

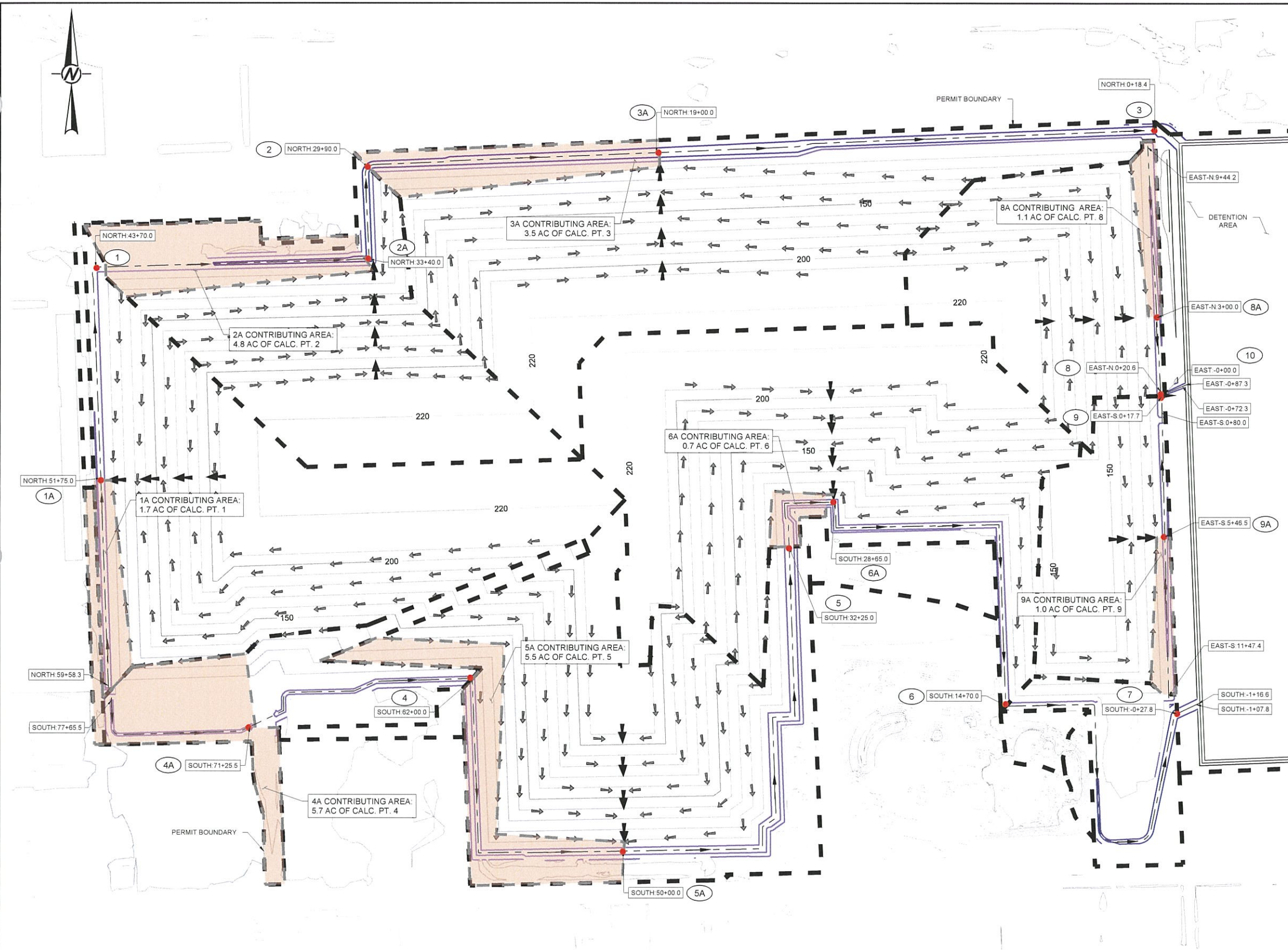
TITLE  
**POST-DEVELOPMENT OVERALL DRAINAGE CONDITIONS**

PROJECT NO. 1894269      APPLICATION SECTION III Attachment 2 - APP. A      REV. 0      2 of 4      FIGURE III-2A-2

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN INCORPORATED FROM ANSI B





**LEGEND**

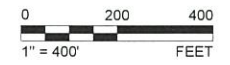
- TYPICAL DOWNCHUTE
- TYPICAL ADD-ON BERM
- TYPICAL PERIMETER DITCH
- (7) DITCH FLOW CHANGE LOCATION
- ▭ PERIMETER DITCH DRAINAGE SUBAREA
- - - POST-DEVELOPMENT OVERALL DRAINAGE AREA DELINEATIONS (FIGURE III-2A-2)

**NOTE(S)**

- SEE PART III, ATTACHMENT 2, APPENDIX A TABLE III-2A-3 FOR CALCULATIONS

DITCH FLOWS				
REACH	FLOW CHANGE POINT	STATION	25-YEAR FLOW RATE (CFS)	100-YEAR FLOW RATE (CFS)
NORTH	UPSTREAM	59+58.3	4.8	6.0
NORTH	1A	51+75	91.7	113.3
NORTH	1	43+70	105.2	130.6
NORTH	2A	33+40	156.3	196.1
NORTH	2	29+90	165.6	208.1
NORTH	3A	19+00	259.7	329.5
SOUTH	UPSTREAM	77+65.5	18.6	23.2
SOUTH	4A	71+25.5	42.8	53.4
SOUTH	4	62+00	58.2	73.3
SOUTH	5A	50+00	137.8	176.3
SOUTH	5	32+25	139.8	178.8
SOUTH	6A	28+65	256.6	323.6
SOUTH	6	14+70	282.1	357.3
EAST-N	UPSTREAM	9+44.2	5.5	6.8
EAST-N	8A	3+00	81.8	101.5
EAST-N (COMBINED)	8	0+20.6	127.1	157.6
EAST-S	UPSTREAM	11+47.4	4.0	5.0
EAST-S	9A	5+46.5	45.3	56.1
EAST-S (COMBINED)	9	0+17.7	127.1	157.6

**ISSUED FOR PERMITTING PURPOSES ONLY**



0	2021-02	ISSUED FOR PERMITTING PURPOSES	EWT	EWT	CGD	CGD
REV	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

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PROJECT  
HAWTHORN PARK RECYCLING & DISPOSAL FACILITY  
PERMIT AMENDMENT APPLICATION  
TCEQ PERMIT NO. MSW-2185A

TITLE  
**DRAINAGE AREA DELINEATION - PERIMETER DITCH**

PROJECT NO. 1894269      APPLICATION SECTION III Attachment 2 - APP. A      REV 0      4 of 4      FIGURE III-2A-4

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B