

PROPOSED RAW/PRODUCED WATER POND 1
BOTTOM DIM. = 176.2 FT X 370.2 FT
WATER VOLUME = 40.1 AC-FT
WATER SURFACE AREA = 114,326 SQ FT
WATER DEPTH = 19.7 FT
FREEBOARD DEPTH = 3 FT
TOTAL DEPTH = 22.7 FT
2H:1V INT. SLOPES
3H:1V EXT. CUT SLOPES
4H:1V EXT. FILL SLOPES
BERM HEIGHT = 13.2 FT

PROPOSED DRAINAGE DITCH
BOT. WIDTH: 5 FT
2H:1V SIDE SLOPES
2.41% CHANNEL SLOPE

24' PROPOSED BERM
(12' FIRE LANE WITH
12' BUFFER ZONE)

PROPOSED PRODUCED WATER POND 2
BOTTOM DIM. = 244 FT X 344 FT
WATER VOLUME = 30.8 AC-FT
WATER SURFACE AREA = 113,499 SQ FT
WATER DEPTH = 14.0 FT
FREEBOARD DEPTH = 3 FT
TOTAL DEPTH = 17.0 FT
2H:1V INT. SLOPES
4H:1V EXT. FILL SLOPES
BERM HEIGHT = 14.5 FT

PROPOSED 2 FT
DEEP V-DITCH
2H:1V SIDE SLOPES

PROPOSED PRODUCED WATER POND 3
BOTTOM DIM. = 494 FT X 139 FT
WATER VOLUME = 29.3 AC-FT
WATER SURFACE AREA = 108,575 SQ FT
WATER DEPTH = 14.5 FT
FREEBOARD DEPTH = 3 FT
TOTAL DEPTH = 17.5 FT
2H:1V INT. SLOPES
4H:1V EXT. FILL SLOPES
BERM HEIGHT = 17.3 FT

PROPOSED 2 FT DEEP
V-DITCH WITH
2H:1V SIDE SLOPES
(TYPICAL)

PRELIMINARY PROPOSED
DETENTION POND
TOP DIMENSIONS = 70 FT X 160 FT
STORAGE VOLUME = 0.72 AC-FT
TOTAL DEPTH = 3.5 FT
3H:1V SIDE SLOPES

PROPOSED
FENCE
(TYPICAL)

GRADING QUANTITIES

	CUT (CU. YDS.)	FILL (CU. YDS.)	TOPSOIL (CU. YDS.)	BALANCE (CU. YDS.)
PONDS/ROADS	109,792	105,801	6,660	-2,669
DITCHES	1,638	0	310	1,328
LAY DOWN AREA	1,347	542	713	92
DETENTION	1,842	0	124	1,718
TOTAL	114,619	106,343	7,807	469

PRELIMINARY bing

0 200 400
SCALE: 1" = 200'

DE BEQUE STATION CONSTRUCTION LAYOUT PLAN VIEW

EXHIBIT
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DSGN	DATE	CKD	STH	CKD
DDP	2/6/14			
REV	DATE			

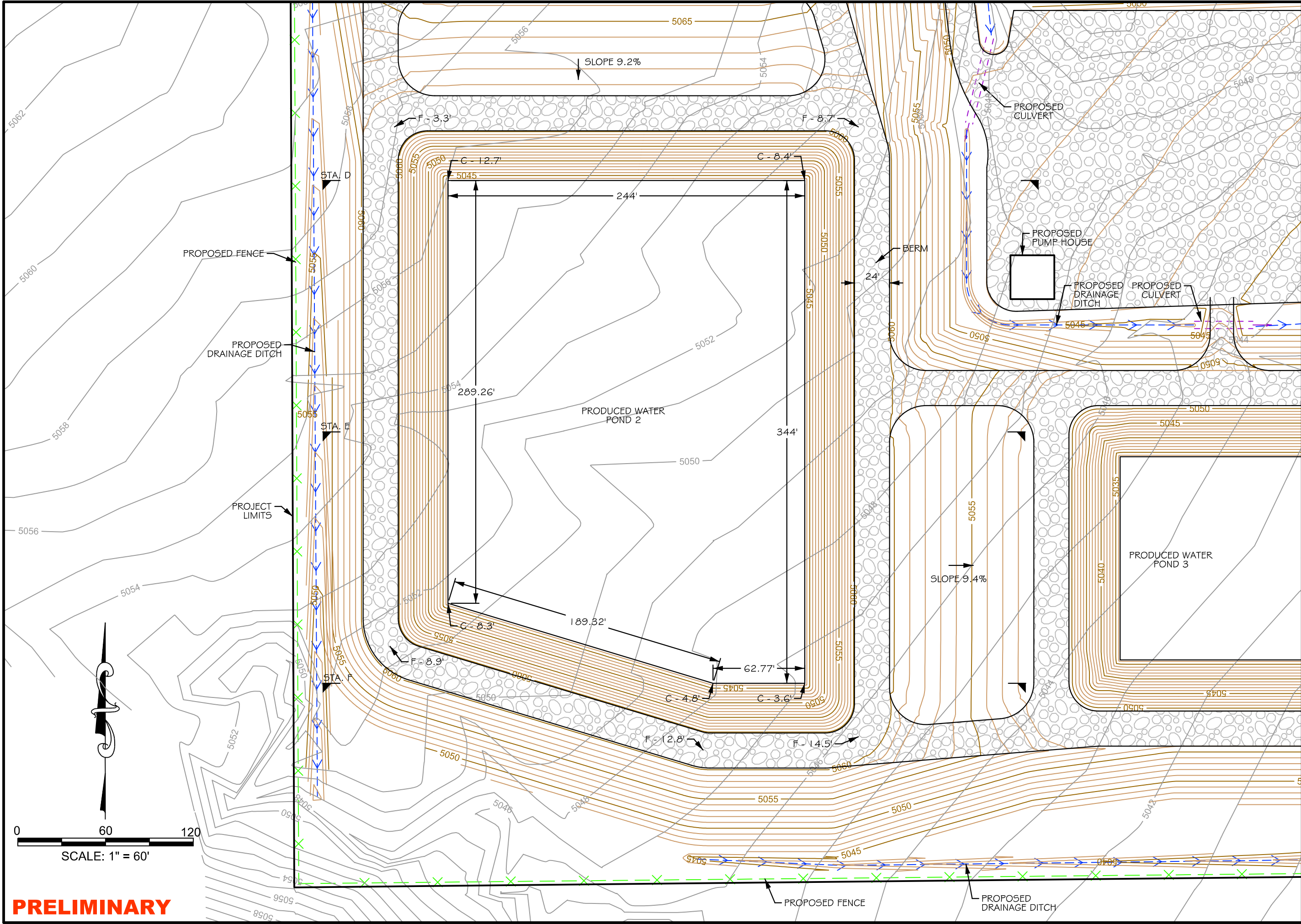
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DENVER, CO 80202
(303) 566-3356



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Black Hills Exploration & Production
A Black Hills Companies Company

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(303) 566-3356

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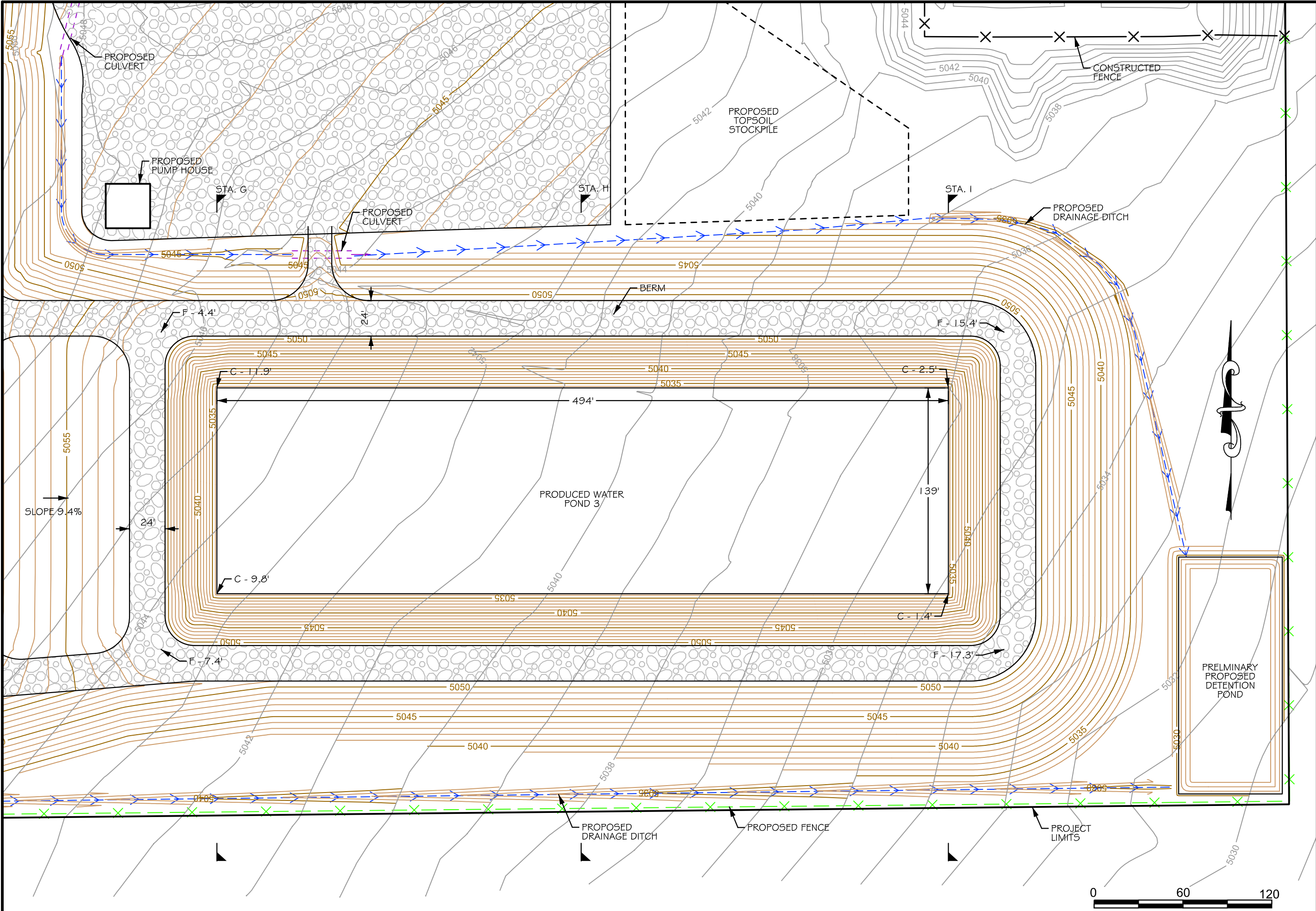
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DE BEQUE STATION

CONSTRUCTION LAYOUT
PRODUCED WATER POND 2

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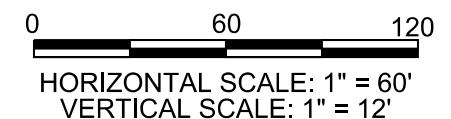
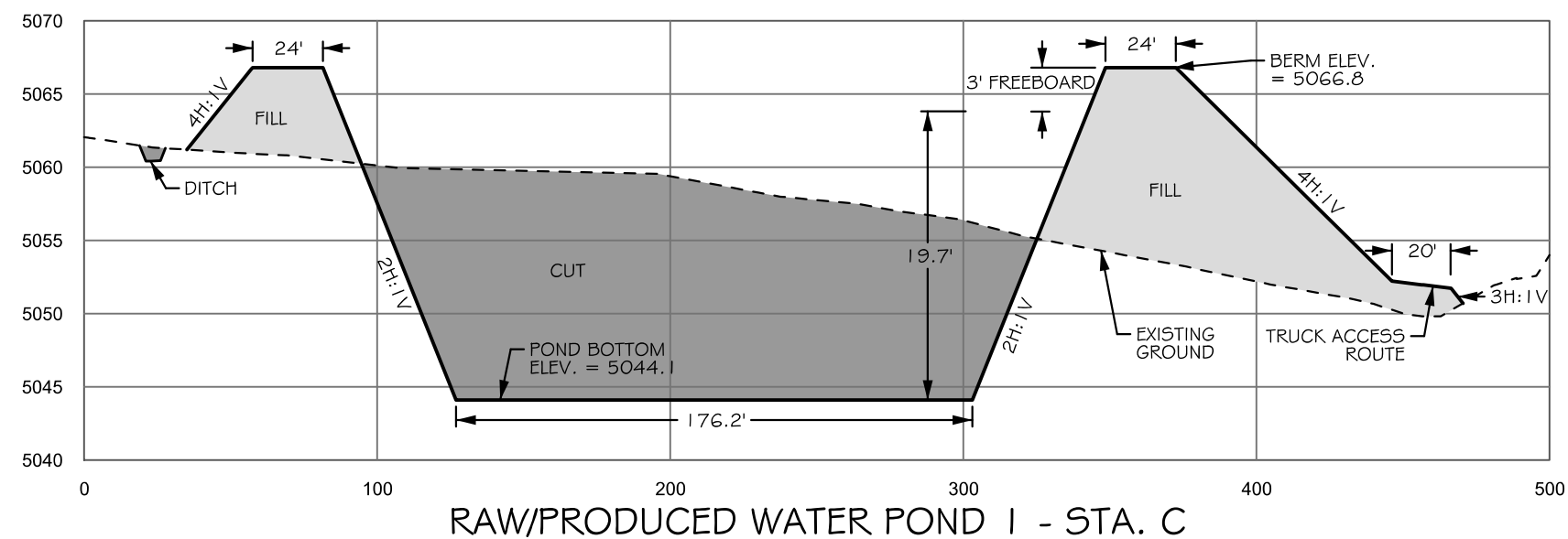
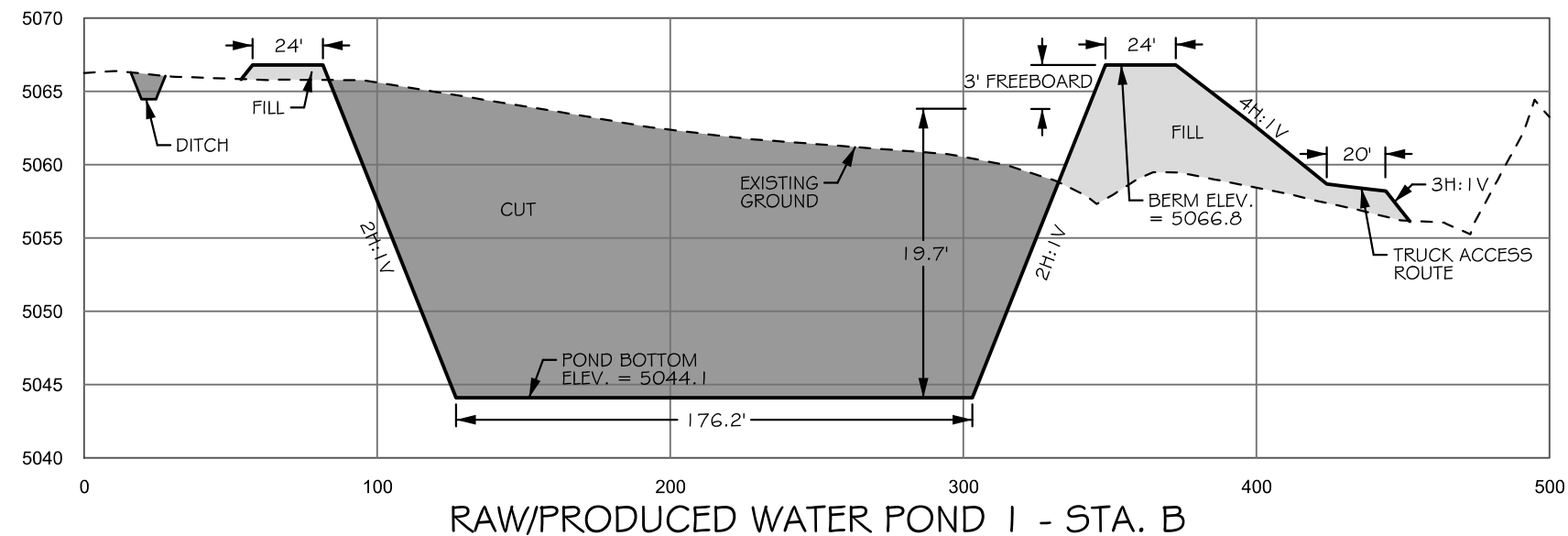
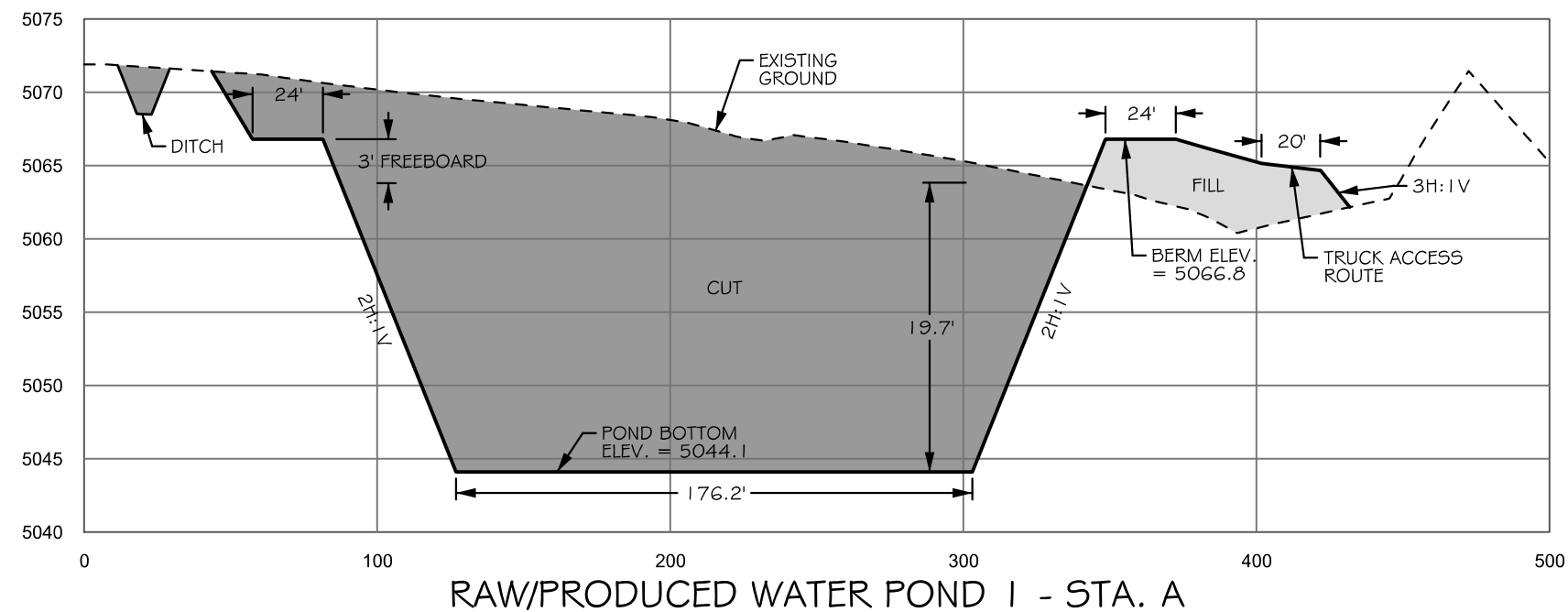
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DE BEQUE STATION

CONSTRUCTION LAYOUT
PRODUCED WATER POND 3

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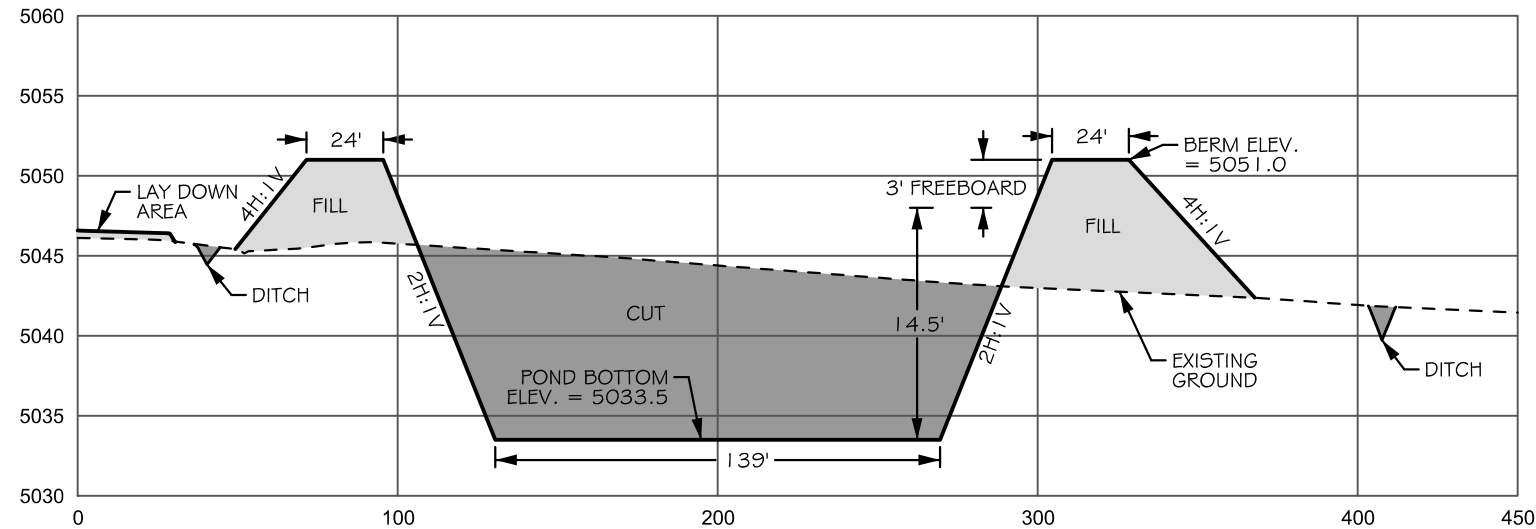
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DENVER, CO 80202
(303) 566-3356

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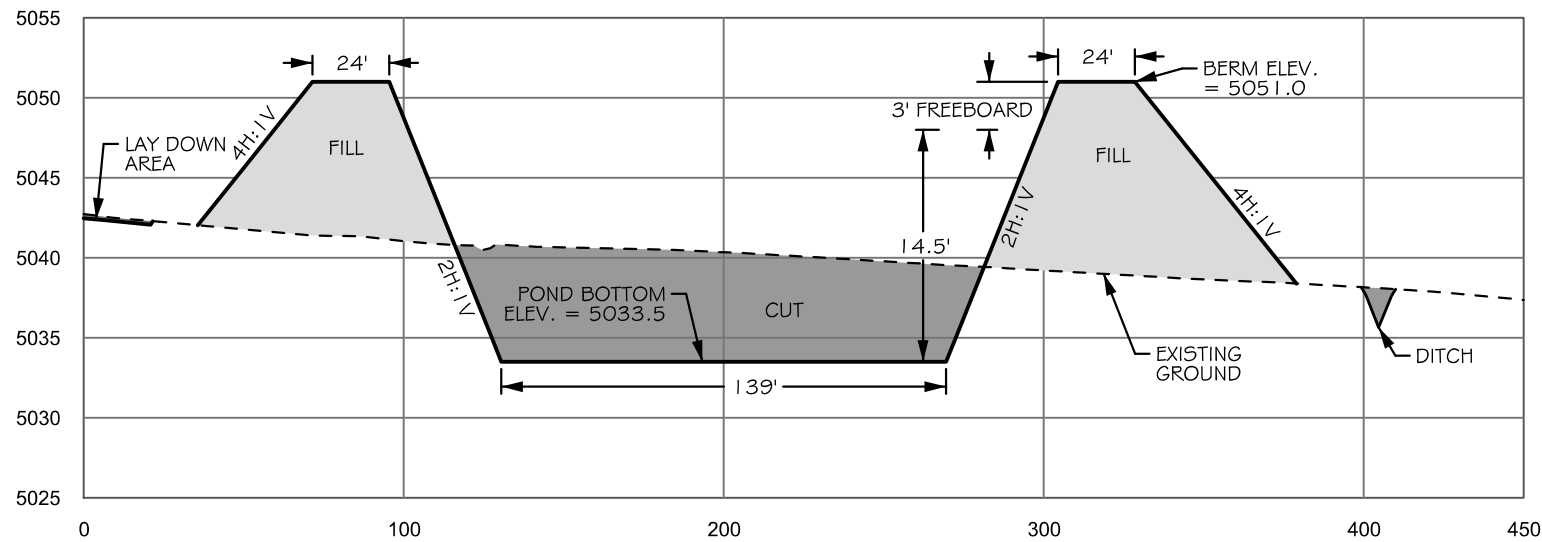
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DE BEQUE STATION
CONSTRUCTION LAYOUT
RAW/PRODUCED WATER POND 1
CROSS SECTIONS

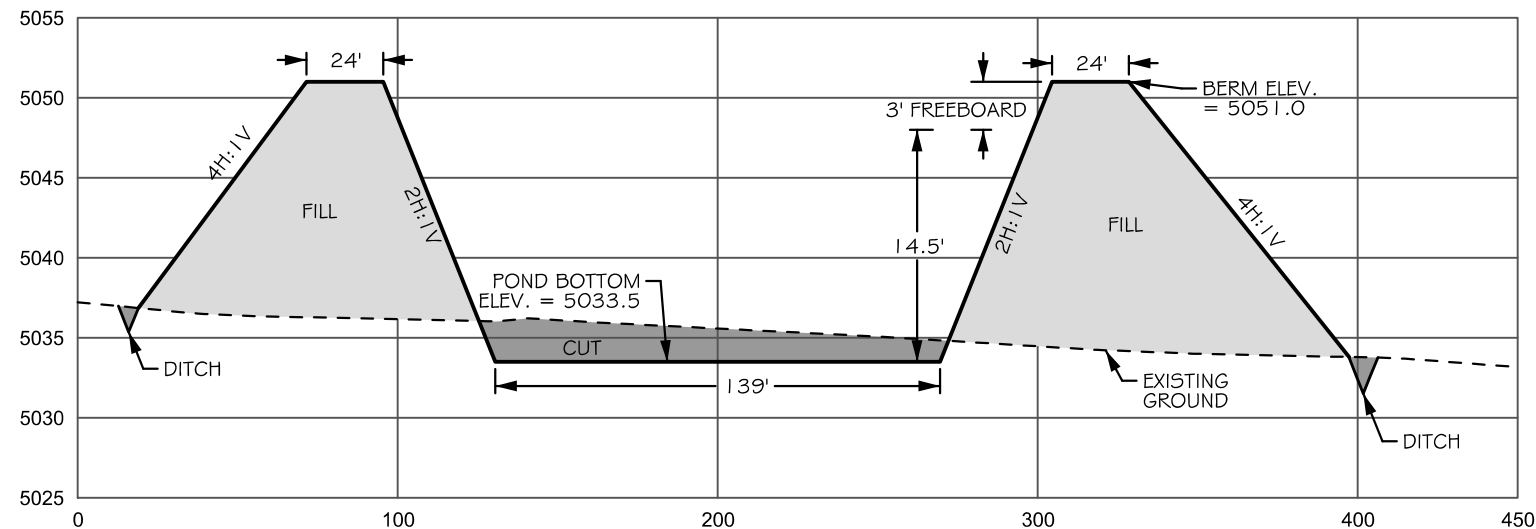
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PRODUCED WATER POND 3 - STA. G

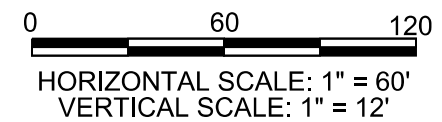


PRODUCED WATER POND 3 - STA. H



PRODUCED WATER POND 3 - STA. I

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DE BEQUE STATION

CONSTRUCTION LAYOUT

PRODUCED WATER POND 3

CROSS SECTIONS

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