

<b>GBA</b> GEORGE BUTLER ASSOCIATES, INC. Engineers / Architects / Landscape Architects / Planners Kansas City Mo. / Lenexa Ks. / O'Fallon Mo. / Ames Ia. / Oklahoma City Ok.		DATE July 1987
DESIGN BY FLK/16		
DRAWN BY		
PROJECT NO. 87-6857		
SHEET NO.	TOTAL SHEETS	
<b>9</b>	<b>12</b>	
REVISED FOR <b>MR. EDWARD C. KREUTZ</b>		
BY	DATE	



See Sheet 2 of 12 for  
Detention Basin Calculations.  
25 Year H.W. Elev. = 529.30

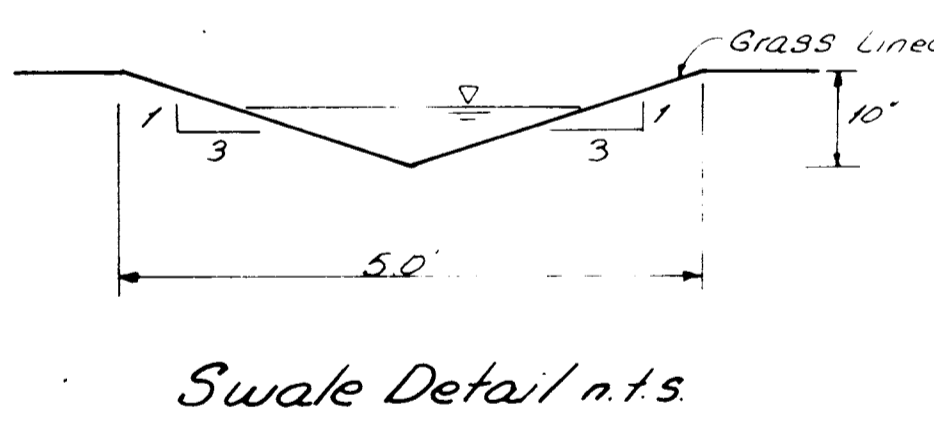
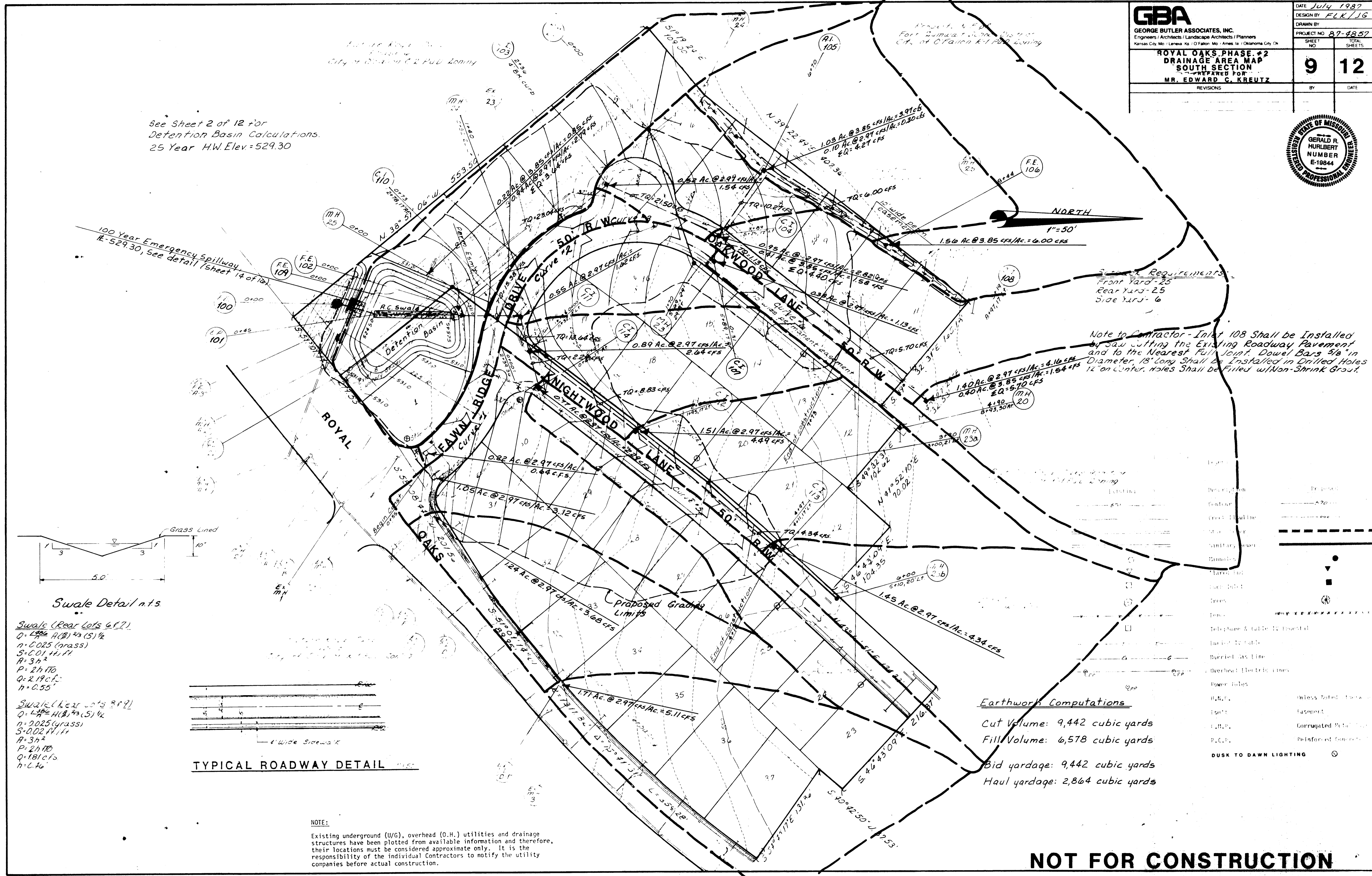
100 Year Emergency Spillway  
E. = 529.30, See detail (Sheet 14 of 12)

Setback Requirements:  
Front Yard - 25  
Rear Yard - 25  
Side Yard - 6

Note to Contractor - Inlet 108 Shall be Installed by Saw Cutting the Existing Roadway Pavement and to the Nearest Full Joint. Dowel Bars 3/8" in Diameter, 18" Long Shall be Installed in Drilled Holes 14" on Center. Holes Shall be Filled w/Non-Shrink Grout.

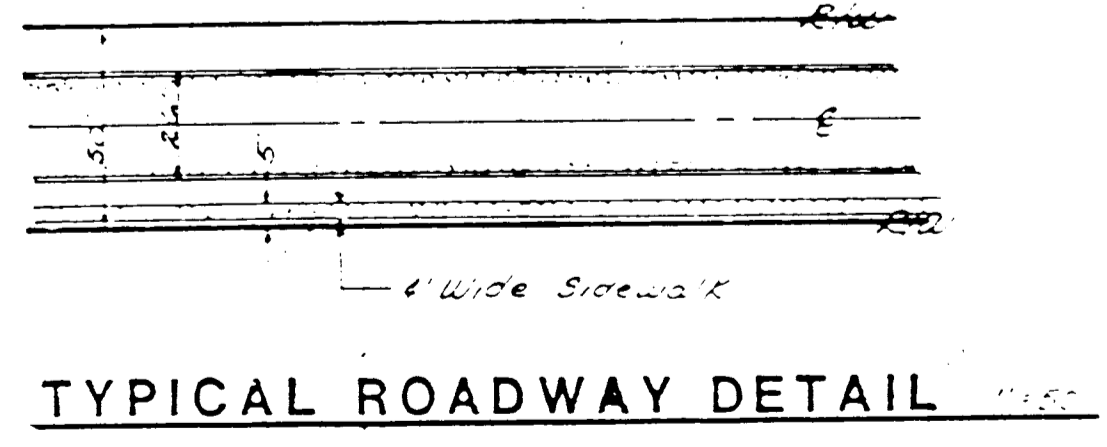
Earthwork Computations  
Cut Volume: 9,442 cubic yards  
Fill Volume: 6,578 cubic yards  
Bid yardage: 9,442 cubic yards  
Haul yardage: 2,864 cubic yards

**NOT FOR CONSTRUCTION**



Swale (Rear lots 6 & 7)  
Q = 4.80 cfs @ (S) 1/4  
n = 0.025 (grass)  
S = 0.01 ft/ft  
H = 3 ft  
P = 2 ft 10 in  
Q = 2.19 cfs  
h = 0.55'

Swale (Rear lots 8 & 9)  
Q = 4.80 cfs @ (S) 1/4  
n = 0.025 (grass)  
S = 0.02 ft/ft  
H = 3 ft  
P = 2 ft 10 in  
Q = 1.81 cfs  
h = 0.40'



**NOTE:**  
Existing underground (U/G), overhead (O.H.) utilities and drainage structures have been plotted from available information and therefore, their locations must be considered approximate only. It is the responsibility of the individual Contractors to notify the utility companies before actual construction.

Light	Proposed
Existing	Proposed
Centerline	Centerline
Right-of-Way	Right-of-Way
Sanitary sewer	Sanitary sewer
Manholes	Manholes
Storm sewer	Storm sewer
Electric	Electric
Gas	Gas
Water	Water
Telephone & Cable TV	Telephone & Cable TV
Barbed Wire	Barbed Wire
Buried Gas Line	Buried Gas Line
Overhead Electric Lines	Overhead Electric Lines
Power Poles	Power Poles
R.C.P.	Unless noted, these are R.C.P.
Cast	Cast
C.P.P.	Corrugated Metal Pipe
P.C.P.	Reinforced Concrete
DUSK TO DAWN LIGHTING	