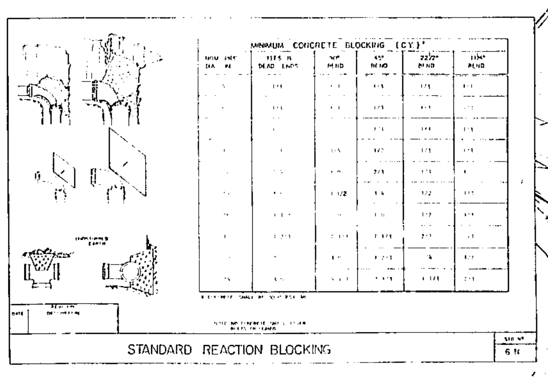
		STORM STRUCTURE SUMMARY -- 4/25/90							
FROM STR	TO STR (TOP*)	DIA (in)	LTH (ft)	S% (pct.)	AREA (ac)	'C'	FLOW (cfs)	------INVERT------ DOWNSTRM	UPSTRM
HW1	CB2 (460.00)	48	65	2.20	1.12	0.85	196.07	440.71	442.14
CB2	CB5 (468.90)	48	363	1.60	0.59	0.85	160.21	442.14	447.95
CB5	CB7 (469.50)	48	110	1.50	0.90	0.85	173.47	447.95	449.60
CB7	MH8 (470.94)	48	143	1.40	0.00	0.85	168.67	449.60	451.60
MH8	CB12 (471.40)	48	95	1.10	0.15	0.85	164.82	451.60	452.64
CB12	CB13 (469.55)	48	92	1.10	0.65	0.85	164.02	452.64	453.66
CB13	CB15A (470.80)	48	274	1.00	1.45	0.85	145.90	453.66	456.40
CB15A	CB18 (470.85)	48	166	0.60	0.81	0.85	113.79	456.40	457.39
CB18	CB1[illegible] ([illegible].00)	42	20	1.10	0.81	0.85	109.34	457.69	457.91
CB19	YI2[illegible] ([illegible]1.00)	42	56	0.90	0.98	0.85	99.89	457.91	458.42
YI21	CB30 (473.20)	36	119	0.50	1.45	0.85	44.96	458.72	459.31
CB30	CB31 (475.20)	36	254	0.50	0.15	0.85	36.91	459.31	460.58
CB31	CB32 (473.42)	33	233	0.50	0.53	0.85	36.08	460.58	461.75
CB32	CB33 (473.32)	30	11	2.00	0.38	0.85	33.05	461.85	462.07
CB33	CB34 (472.00)	30	123	0.65	0.55	0.85	30.79	462.07	462.87
CB34	CB35 (471.20)	30	49	0.50	0.65	0.85	27.51	462.87	463.11
CB35	CB36 (471.10)	24	11	2.00	0.55	0.85	23.63	463.31	463.53
CB36	CB37 (470.40)	24	80	0.90	0.44	0.85	20.32	463.53	464.25
CB37	CB38 (470.30)	24	7	2.00	0.42	0.85	17.68	464.25	464.39
CB38	CB39 (471.10)	24	68	0.50	0.37	0.85	15.15	464.39	464.73
CB39	CB40 (473.20)	24	75	0.50	0.63	0.85	12.92	464.73	465.11
CB40	YI41 (477.20)	18	223	0.50	0.13	0.85	9.10	465.31	466.42
YI41	MH42 (479.10)	24	35	3.02	0.71	0.90	4.61	466.52	467.64
CB2	CB3 (460.05)	15	7	2.40	1.12	0.85	9.96	454.98	455.15
CB3	CB4 (460.65)	15	85	1.00	0.95	0.45	3.09	455.15	456.00
CB5	CB6 (468.95)	15	7	1.00	0.59	0.85	3.62	463.93	464.00
MH8	MH9 (473.50)	15	126	1.00	0.09	0.90	0.78	465.24	466.50
MH8	YI10 (481.00)	15	110	1.00	0.08	0.30	3.06	465.90	467.00
YI10	FES11	15	55	1.00	1.00	0.40	2.89	474.45	475.00
CB13	CB14 (469.50)	15	7	1.00	0.65	0.85	3.99	464.93	465.00
CB13	MH110 (474.15)	15	132	1.90	0.51	0.90	6.63	464.36	466.87
MH110	MH111 (474.15)	15	158	1.00	0.51	0.90	3.31	467.07	468.65
CB15A	MH15B (472.45)	18	194	1.60	0.00	0.90	13.42	462.06	465.16
MH15B	YI16A (470.50)	15	40	1.25	0.28	0.90	7.18	465.50	466.00
YI16A	YI16B (474.00)	15	25	1.00	0.04	0.90	5.36	466.10	466.35
MH15B	MH16C (474.15)	15	84	1.00	0.48	0.90	6.24	465.41	466.25
MH16C	MH16D (471.15)	15	112	1.00	0.48	0.90	3.12	467.53	468.65
CB15A	YI17 (470.00)	18	230	2.00	0.00	0.00	0.00	463.50	468.10
YI17	FES43	18	64	0.50	1.00	0.60	15.16	468.18	468.50
YI17	YI44 (FIELD SET)	15	10	3.00	2.50	0.60	10.83	468.70	469.00
CB21	CB22 (473.30)	30	188	1.10	1.30	0.80	49.50	460.08	462.15
CB22	MH22A (473.88)	30	149	1.00	0.00	0.85	33.56	462.45	463.94
MH22A	MH22B (474.41)	24	54	2.40	0.00	0.85	33.56	463.94	465.23
MH22B	MH25 (475.80)	24	91	1.70	0.00	0.85	27.84	465.23	466.78
MH25	CB26 (476.40)	18	26	1.15	0.70	0.80	11.21	467.72	468.02
CB26	YI27 (470.00)	18	288	1.00	0.06	0.85	7.17	468.12	471.00
MH25	CB28 (479.53)	18	197	2.60	0.09	0.85	16.63	466.88	472.00
CB28	YI29 (478.80)	15	96	1.00	0.24	0.65	6.57	472.00	472.96
MH22B	YI24 (473.80)	15	48	1.00	0.02	0.85	5.72	466.00	466.48
CB22	CB23 (474.90)	15	107	1.80	0.73	0.80	4.22	468.07	470.00
CB19	CB20 (461.05)	15	7	5.00	3.81	0.85	4.97	466.52	467.64
CB64	CB65 (466.30)	36	74	1.00	1.10	0.85	64.01	456.44	457.18
CB65	CB66 (464.70)	36	157	1.00	1.10	0.85	57.26	457.18	458.75
CB66	MH114 (472.00)	30	210	1.00	0.00	0.00	31.67	460.25	462.35
MH114	CB67 (473.25)	24	122	1.70	0.29	0.85	31.67	462.35	464.42
CB67	YI68 (470.50)	24	120	0.60	0.30	0.90	11.70	464.52	465.24
YI68	YI69 (478.70)	18	36	1.00	1.50	0.90	9.75	465.64	466.00
CB67	EXISTING YI	15	178	4.00	2.00	0.90	13.00	465.93	473.05
MH114	MH115 (474.15)	15	93	1.00	0.40	0.90	5.20	466.99	467.92
MH115	MH116 (474.15)	15	88	1.00	0.40	0.90	2.60	468.12	469.00
CB66	CB70 (464.65)	24	7	0.70	1.10	0.85	18.84	459.25	459.30
CB70	CB71 (465.95)	18	126	1.30	0.69	0.85	12.09	459.30	460.94
CB71	CB72 (467.60)	15	97	1.50	0.62	0.85	7.86	460.94	462.40
CB72	CB73 (468.00)	15	75	0.50	0.20	0.85	4.05	462.40	462.77
CB73	CB74 (468.00)	15	46	0.50	0.46	0.85	2.82	462.77	463.00
CB64	CB60 (466.30)	24	4	1.40	0.60	0.85	26.66	460.67	460.73
CB60	CB61 (466.30)	24	62	1.10	0.60	0.85	22.98	460.73	461.41
CB61	CB62 (473.25)	24	272	1.75	0.18	0.85	19.30	461.54	466.30
CB62	MH63 (473.90)	24	86	1.00	2.80	0.90	18.19	466.64	467.50
YI50	CB51 (466.00)	24	78	24.00	0.35	0.85	47.85	438.28	457.00
CB51	CB52 (466.22)	24	36	4.10	0.10	0.85	45.70	457.11	458.59
CB52	CB53 (469.65)	24	35	6.00	0.71	0.85	45.09	458.69	460.79
CB53	MH54 (47[illegible].20)	24	127	1.00	1.60	0.90	19.49	464.43	465.70
MH54	MH59 (473.60)	15	23	4.35	1.40	0.90	9.10	468.00	469.00
CB51	CB55 (468.00)	15	60	1.00	0.50	0.85	3.07	462.90	463.50
CB53	CB56 (470.70)	15	56	1.00	0.45	0.85	2.76	464.94	465.50
CB53	CB57 (469.75)	24	7	3.00	0.71	0.85	18.47	461.09	461.30
CB57	MH58 (472.67)	24	110	3.00	2.30	0.85	14.12	461.50	464.80
YI84	CB85 (467.50)	18	86	1.00	1.00	0.85	10.31	458.15	459.01
CB85	CB86 (465.00)	15	47	1.00	0.40	0.85	4.17	459.01	459.48
CB86	CB87 (464.65)	15	32	1.00	0.28	0.85	1.72	459.48	459.80
EXRCP	CB80 (458.50)	30	25	0.47	0.13	0.85	17.98	453.18	453.30
CB80	CB81 (458.50)	24	32	1.00	0.35	0.85	14.42	452.35	453.67
CB81	CB82 (462.90)	15	46	8.00	0.75	0.85	12.27	454.10	457.78
CB82	CB83A (462.95)	15	7	1.50	0.75	0.85	7.67	458.08	458.[illegible]
CB83A	CB83B (463.40)	15	44	0.50	0.50	0.85	3.07	458.18	458.40
EX	CB88 (471.75)	15	160	1.00	0.70	0.85	4.30	464.40	466.00
--	CB89 (470.80)	--	--	--	--	--	--	--	464.50
FES90	CB91 (454.10)	30	154	1.10	0.37	0.85	42.65	445.30	446.99
CB91	CB92 (454.10)	24	39	2.20	0.35	0.85	40.38	447.49	448.35
CB92	CB93 (462.50)	24	27	3.00	0.80	0.85	38.23	450.05	450.86
CB93	CB94 (462.50)	15	114	1.00	0.80	0.85	4.91	456.36	457.50
CB93	CB95 (462.50)	24	110	1.00	0.80	0.85	21.79	451.06	452.16
CB95	CB96 (462.50)	24	112	1.00	0.55	0.85	16.68	452.16	453.28
CB96	CB97 (459.75)	18	28	1.65	0.50	0.85	13.50	453.78	454.24
CB97	CB98 (461.70)	15	70	2.80	0.60	0.85	10.43	454.54	456.50
CB98	CB99 (463.70)	15	56	3.70	0.50	0.85	3.07	456.65	458.80
CB98	CB100 (462.00)	15	18	1.00	0.60	0.85	3.68	456.82	457.00
CB93	MH112 (474.15)	15	315	2.80	0.51	0.90	6.63	457.43	466.25
MH112	MH113 (474.15)	15	158	1.00	0.51	0.90	3.31	467.07	468.65
EX	CB102 (444.10)	15	20	1.00	0.50	0.85	5.63	436.30	436.50
CB102	CB103 (446.40)	15	128	3.90	0.45	0.85	2.76	438.51	443.50
*- TOP ELEVATION =		TOP BACK OF CURB FOR CATCH BASINS							
		TOP OF CASTING FOR MANHOLES AND YARD INLETS							



SEEDING SCHEDULE
(REVISED 1-1-86)

SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1)

DATE	TYPE	PLANTING RATE
AUG 15-NOV 1	TALL FESCUE	300 LBS./ACRE
NOV 1-MAR 1	TALL FESCUE	300 LBS./ACRE
	& ABRUZZI RYE	25 LBS/ACRE
MAR 1-APRIL 15	TALL FESCUE	300 LBS./ACRE
APRIL 15-JUNE 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JULY 1-AUG 15	TALL FESCUE and	120 LBS./ACRE
	***BROWNTOP MILLET	35 LBS./ACRE
	***or SORGHUM-SUDAN HYBRIDS	30 LBS./ACRE

SLOPES (3:1 TO 2:1)

DATE	TYPE	PLANTING RATE
MAR 1-JUNE 1	SERICEA LESPEDEZA (SCARIFIED) &	50 LBS/ACRE
(MAR 1-APR 15)	add TALL FESCUE	120 LBS./ACRE
(MAR 1-JUNE 30)	or add WEEPING LOVEGRASS	10 LBS/ACRE
(MAR 1-JUNE 30)	or add HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUNE 1-SEPT 1	***TALL FESCUE and	120 LBS./ACRE
	***BROWNTOP MILLET	35 LBS./ACRE
	***or SORGHUM-SUDAN HYBRIDS	30 LBS./ACRE
SEPT 1-MAR 1	SEICEA LESPEDEZA (UNHULLED-UNSCARIFIED)	70 LBS./ACRE
	and TALL FESCUE	120 LBS./ACRE
NOV 1-MAR 1	add ABRUZZI RYE	25 LBS./ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*** TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL OVER ADVERSE SOIL CONDITIONS.
2. CULTIVATE ENTIRE AREA TO A DEPTH OF 6".
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AT RATES SHOWN BELOW AND MIX WITH SOIL.
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED TO A DEPTH OF 4 TO 6 INCHES.
6. SOW ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH WITH STRAW AND ANCHOR.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, RE-ESTABLISH, FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATED.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

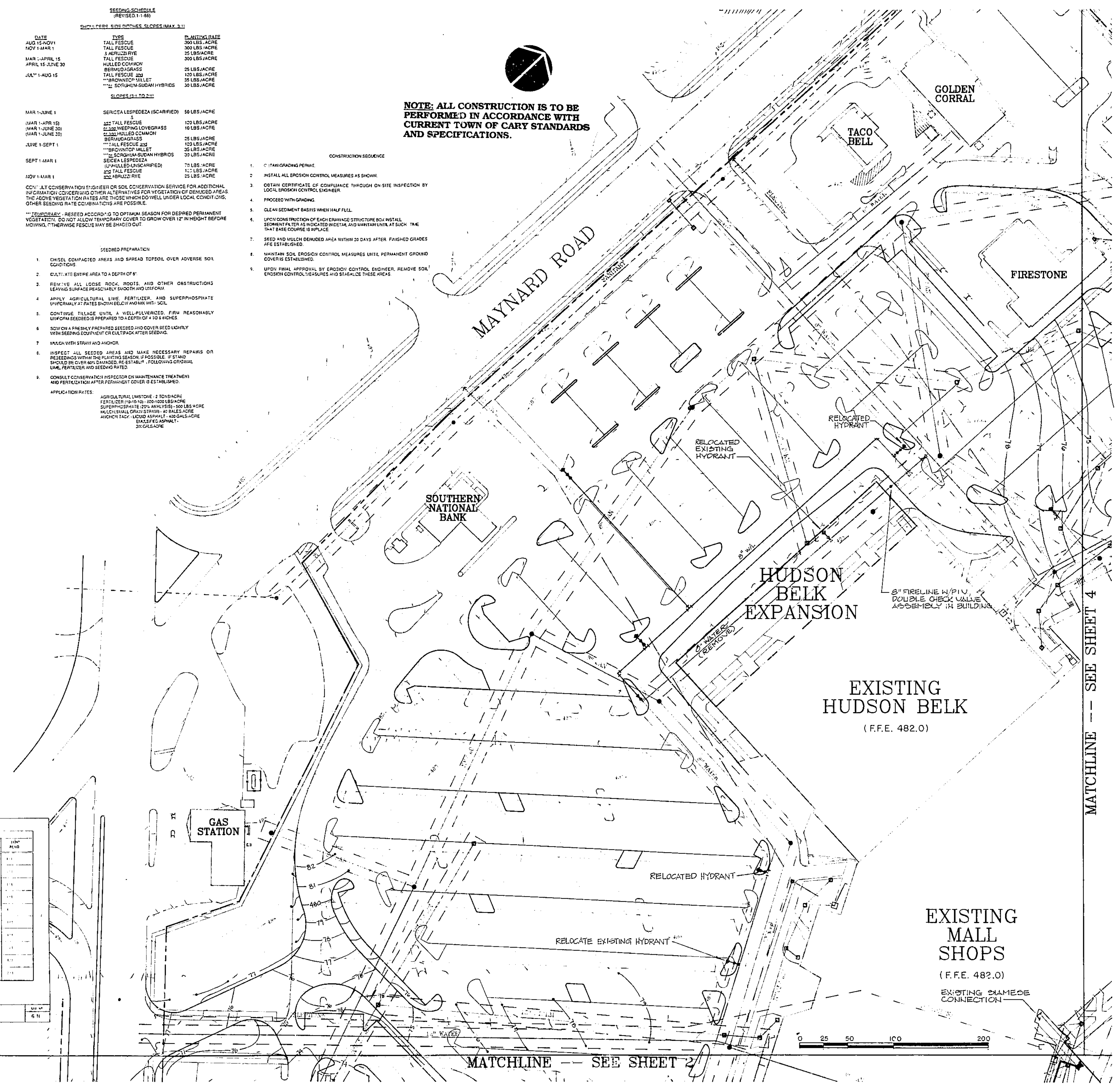
APPLICATION RATES:

AGRICULTURAL LIMSTONE - 2 TONS/ACRE
FERTILIZER (10-10-10) - 800-1000 LBS/ACRE
SUPERPHOSPHATE (20% ANALYSIS) - 500 LBS/ACRE
MULCH (SMALL GRAIN STRAW) - 80 BALES/ACRE
ANCHOR TACK - LIQUID ASPHALT - 400 GALS/ACRE
EMULSIFIED ASPHALT - 300 GALS/ACRE

NOTE: ALL CONSTRUCTION IS TO BE PERFORMED IN ACCORDANCE WITH CURRENT TOWN OF CARY STANDARDS AND SPECIFICATIONS.

CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT.
2. INSTALL ALL EROSION CONTROL MEASURES AS SHOWN.
3. OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON-SITE INSPECTION BY LOCAL EROSION CONTROL ENGINEER.
4. PROCEED WITH GRADING.
5. CLEAN SEDIMENT BASINS WHEN HALF FULL.
6. UPON CONSTRUCTION OF EACH DRAINAGE STRUCTURE BOX INSTALL SEDIMENT FILTER AS INDICATED IN DETAIL AND MAINTAIN UNTIL AT SUCH TIME THAT BASE COURSE IS INPLACE.
7. SEED AND MULCH DENUDED AREA WITHIN 30 DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
8. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
9. UPON FINAL APPROVAL BY EROSION CONTROL ENGINEER, REMOVE SOIL EROSION CONTROL MEASURES AND STABALIZE THESE AREAS.



Wm. G. Daniel & Assoc.
Engineering Planning
Landscape Architecture

NORTH CAROLINA PROFESSIONAL SEAL 13039 ENGINEER LOFTEE GLENN SMITH

NORTH CAROLINA REGISTERED SEAL 361 LANDSCAPE ARCHITECT CHARLES ROY SMITH, JR.

Revisions

2) MARCH 19, 1990 - TOC FIRST REVIEW
3) APRIL 9, 1990 - REVISED STORM CHARTS
6) APRIL 25, 1990 - REVISED STORM CHARTS

NOT ISSUED FOR CONSTRUCTION

Project

CARY VILLAGE MALL

GRADING, UTILITIES, EROSION CONTROL

Date

March 1, 1990

Scale

1" = 50'

Sheet

U1