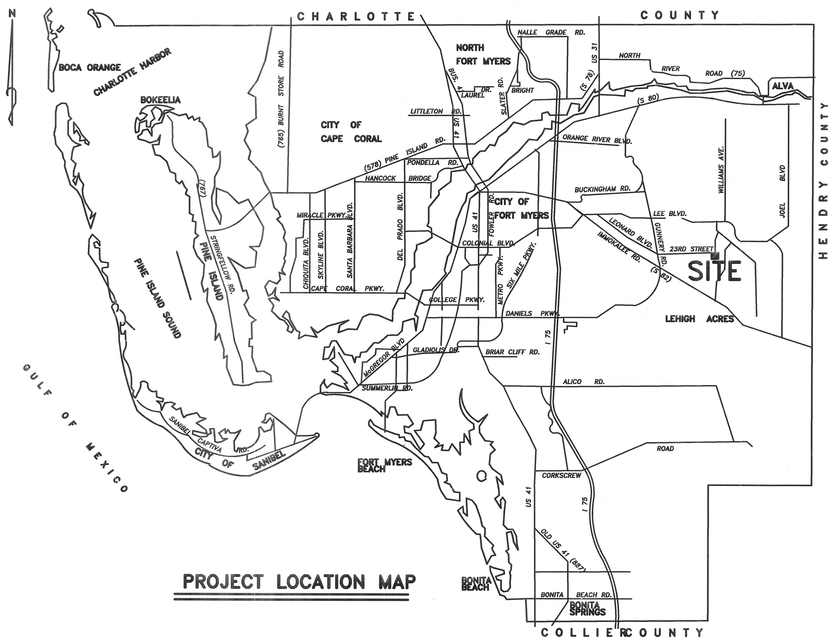
COPPERHEAD

SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST

LEHIGH, FLORIDA

WATER	FLORIDA WATER SERVICE, INC. 4110 CENTER POINTE DR., SU 204 FT. MYERS, FL 33916 (941) 278-5050
SEWER	FLORIDA WATER SERVICE, INC. 4110 CENTER POINTE DR., SU 204 FT. MYERS, FL 33916 (941) 278-5050
ELECTRIC	LEE COUNTY ELECTRIC COOP., INC. P. O. BOX 3455 FT. MYERS, FL 33918 (941) 656-2413
TELEPHONE	SPRINT P. O. BOX 370 FT. MYERS, FL 33902 (941) 336-2020
REFUSE	GULF DISPOSAL, INC. HWY. 82 EAST FT. MYERS, FLORIDA (941) 334-4115
FIRE DISTRICT	LEHIGH ACRES FIRE CONTROL DISTRICT 1000 JOEL BOULEVARD LEHIGH ACRES, FL 33972 (941) 369-8424



PROJECT LOCATION MAP

CONTENTS

SHEET NO.	DESCRIPTION
1	COVER
2	PROJECT PHASING
3	PAVING GRADING & DRAINAGE INDEX
4-9	PAVING, GRADING & DRAINAGE
10	PLAN & PROFILE INDEX
11-26	PLAN & PROFILE
27	TYPICAL ROADWAY SECTIONS
28	CART OVERPASS
29	EROSION CONTROL DETAILS
30-31	GENERAL UTILITY DETAILS
32	POTABLE WATER DETAILS
33	SANITARY SEWER DETAILS
34-35	LIFT STATION DETAILS
36-38	WATER MANAGEMENT DETAILS
39	LANDSCAPE & ENVIRONMENTAL
	BOUNDARY/PLAT SURVEY
	AERIAL PHOTOGRAPH

Dat 99120840UD
Dat
PROJECT TYPE

SURVEYOR

BEAN, WHITAKER, LUTZ & BARNES, INC.
13041 McGREGOR BLVD, SUITE 1
FT. MYERS, FL 33919
(941) 481-1331
FAX (941) 481-1073

ENGINEER

COPPERHEAD DEV., INC.
21184 BRAXFIELD LOOP
ESTERO, FL. 33928
(612) 226-3200
FAX (612) 226-3201

OWNER/DEVELOPER

COPPERHEAD DEV., INC.
21184 BRAXFIELD LOOP
ESTERO, FL. 33928
(612) 226-3200
FAX (612) 226-3201

DEV. CONSULTANT

KATHY L. MORGAN
LAND DEV. CONSULTANT
6747 PLANTATION MANOR LOOP
FT. MYERS, FL 33912
(941) 768-6677
FAX (941) 768-6677

DETAIL DESIGN

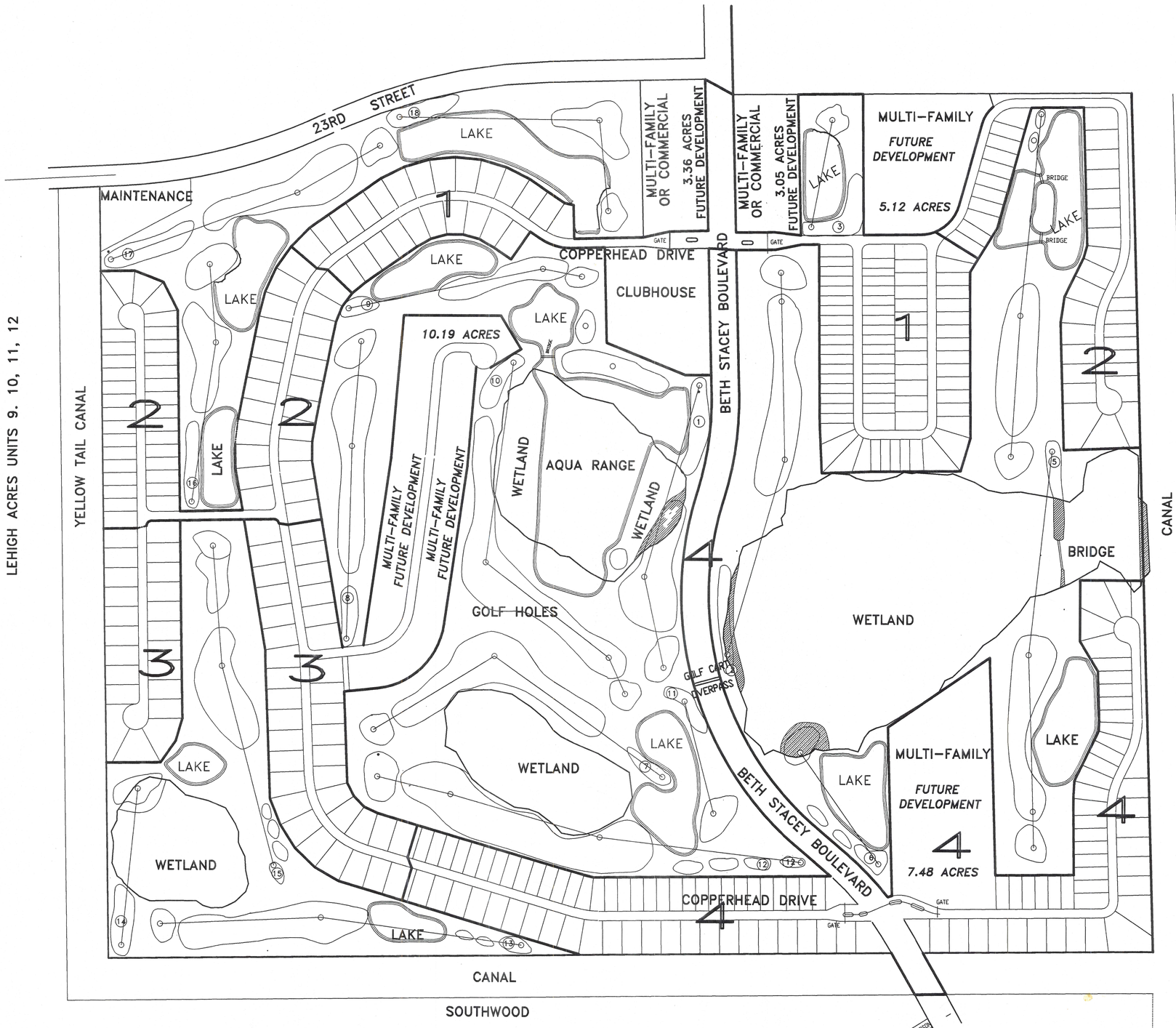
J. R. ROST ASSOCIATES
418 LINCOLN AVENUE
LEHIGH ACRES, FL 33972
(941) 368-5900
FAX (941) 368-6199

DRAINAGE ENGINEER

APPLIED TECH. & MGMT., INC.
1130 LEE BLVD., SUITE B
LEHIGH ACRES, FL 33936
(941) 368-2102
FAX (941) 368-2202

RECEIVED
MAY 19 2000
DIVISION OF DEVELOPMENT SERVICES

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COPPERHEAD GOLF COMMUNITY

PHASE 1

54 SINGLE FAMILY LOTS
44 TWO-FAMILY LOTS
18 HOLE GOLF COURSE
STORM WATER MGMT SYSTEM FOR ENTIRE SITE
BETH STACEY (23rd TO COPPERHEAD DR.)

PHASE 2

64 SINGLE FAMILY LOTS
34 TWO-FAMILY LOTS

PHASE 3

37 SINGLE FAMILY LOTS
42 TWO-FAMILY LOTS

PHASE 4

63 SINGLE FAMILY LOTS
82 TWO-FAMILY LOTS
BETH STACEY (COPPERHEAD DR. TO SOUTH BOUNDARY)

FUTURE DVM'T

5.12 ACRE MULTI-FAMILY TRACT
6.40 ACRE M/F OR COMM TRACT
10.19 ACRE MULTI-FAMILY TRACT
7.48 ACRE MULTI-FAMILY TRACT

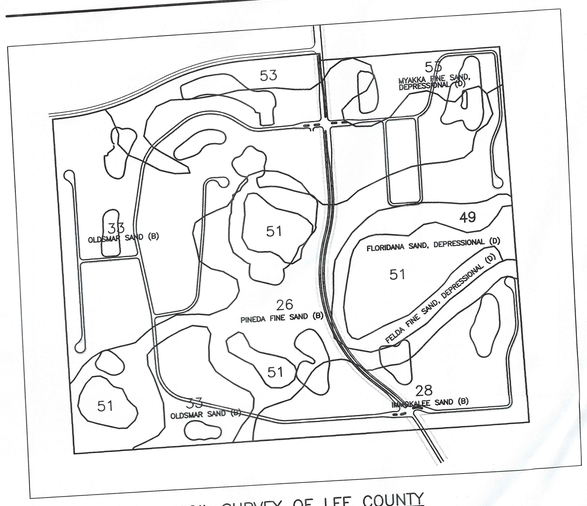
N

GRAPHIC SCALE
0 200 400 600

REVISIONS	COPPERHEAD DEVELOPMENT, INC CONSULTING ENGINEERS 21184 BRAXFIELD LOOP ESTERO, FLORIDA 33928 PHONE (612) 226-3200	PROJECT PHASING PLAN COPPER HEAD LEE COUNTY, FLORIDA
DATE : 11/22/99	FILE : INDEX	SHEET 2 of 39 SHEETS

99-12-34
182
99-12-034
99-12-34.000
182
Box 925776
Ap. 42004

COPPERHEAD GOLF COMMUNITY



SOIL SURVEY OF LEE COUNTY
NOT TO SCALE

N

GRAPHIC SCALE
0 200 400 600

LEGEND

- WETLAND IMPACTS (FILL)
- WETLAND IMPACTS (EXCAVATE)
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PROPERTY BOUNDARY

TOTAL PROJECT AREA (297.79 Acres)

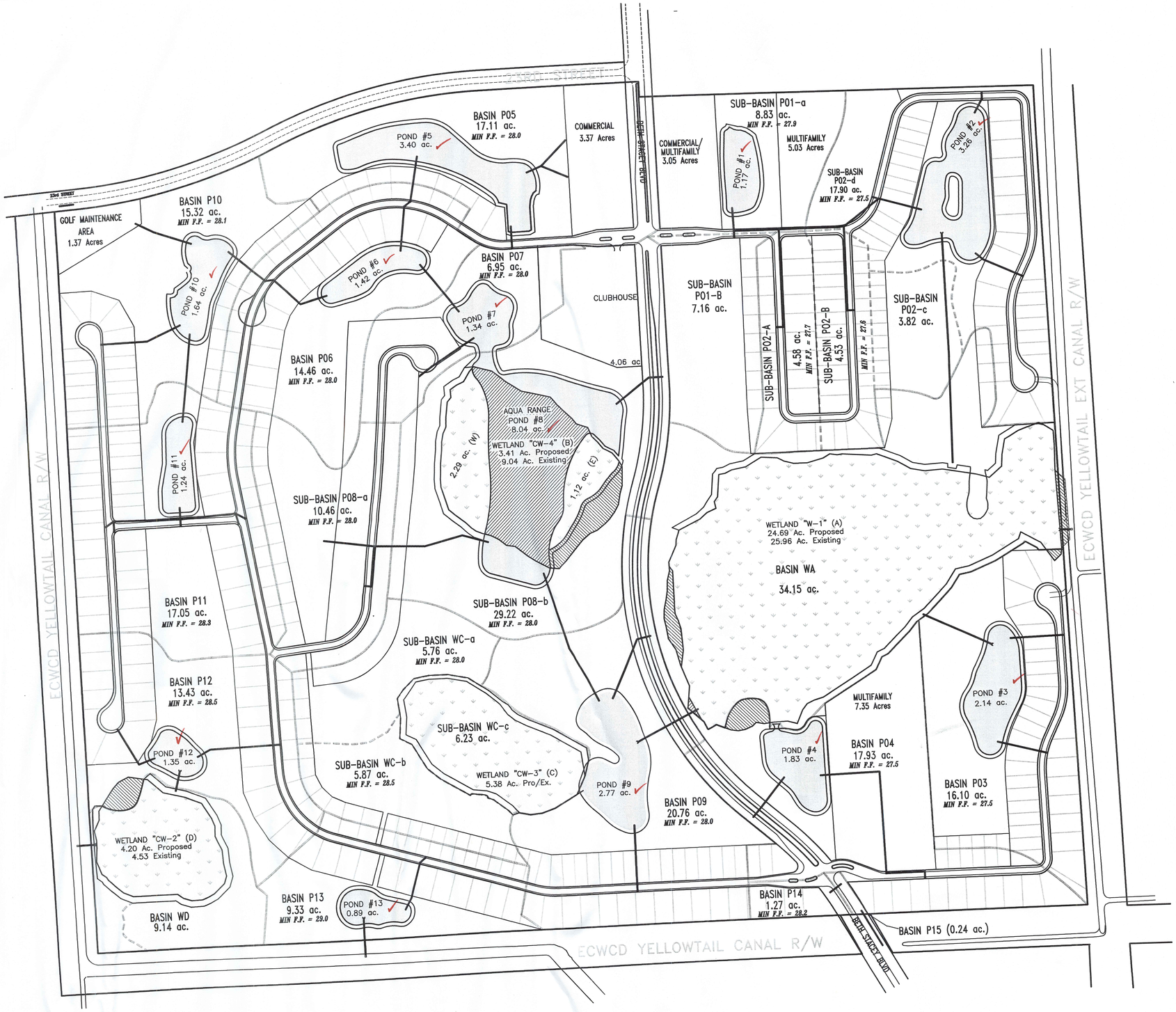
PROPERTY BOUNDARY (297.59 Acres)
ECWCD R/W TO BE FILLED (0.20 Acres)

CONSTRUCTION APPROVAL (278.77 Acres)

RESIDENTIAL LOTS AND ROADS (93.25 Acres)
GOLF COURSE (83.14 Acres)
OPEN SPACE (15.84 Acres)
WATER MANAGEMENT SYSTEM (72.37 Acres)
BETH STACEY BOULEVARD (8.52 Acres)
FILL IN ECWCD R/W (0.20 Acres)
CLUBHOUSE (4.08 Acres)
MAINTENANCE AREA (1.37 Acres)

CONCEPTUAL APPROVAL (19.03 Acres)

COMMERCIAL/MULTIFAMILY AREAS (19.03)



ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
04/24/00
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS
AJQ 04/25/00 COUNTY COMMENTS

DATE 02/20/00 BY --- FILE WaterMngmt

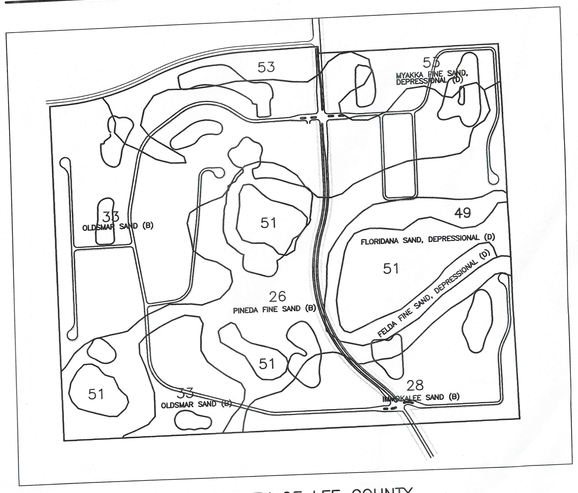
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE INDEX

SHEET 03 of 39 SHEETS

...1421 PM, ch03.plt

COPPER HEAD GOLF COMMUNITY



SOIL SURVEY OF LEE COUNTY
NOT TO SCALE

N

GRAPHIC SCALE
0 200 400 600

LEGEND

- WETLAND IMPACTS (FILL)
- WETLAND IMPACTS (EXCAVATE)
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PROPERTY BOUNDARY

TOTAL PROJECT AREA (297.79 Acres)

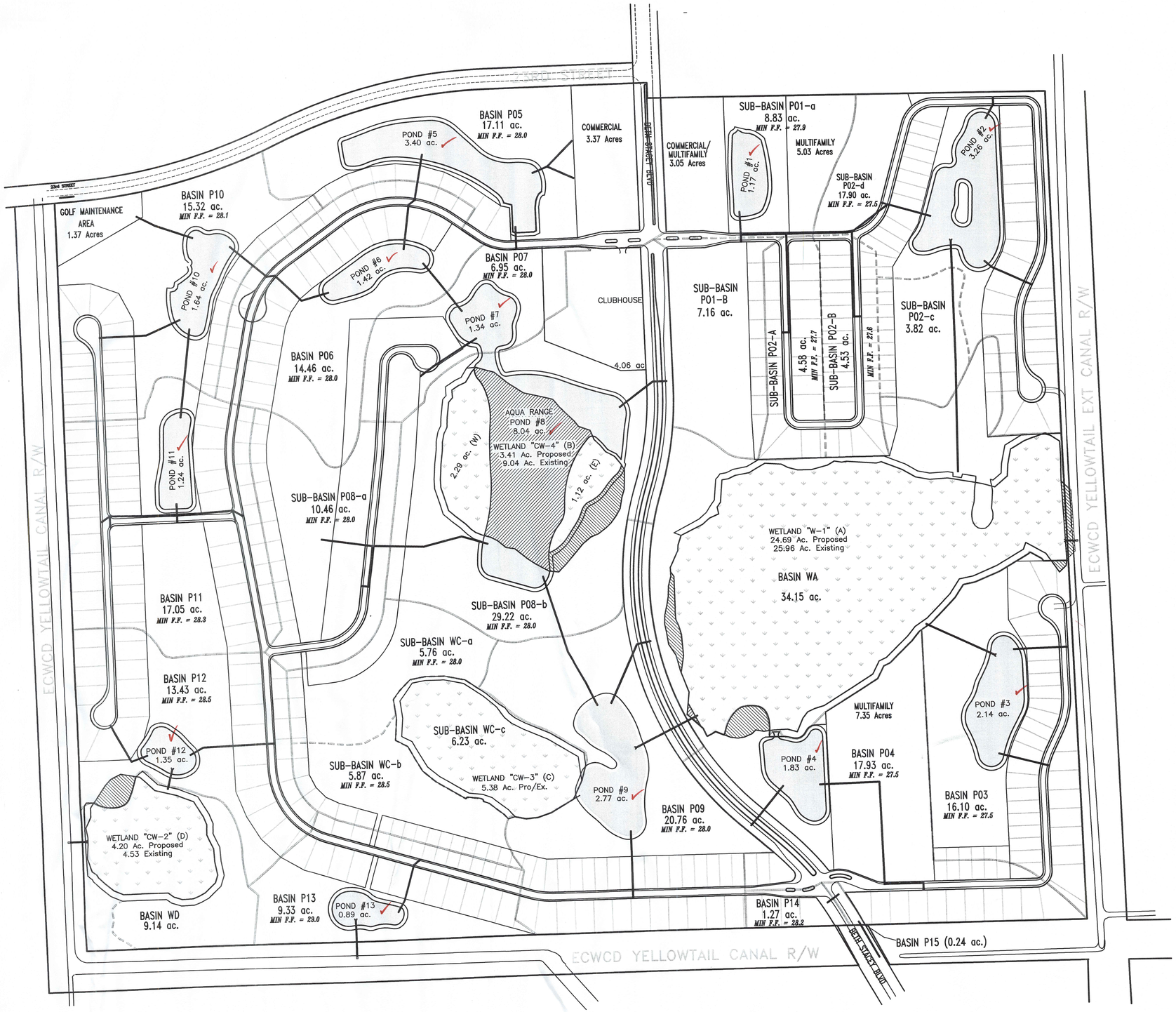
PROPERTY BOUNDARY (297.59 Acres)
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CLUBHOUSE (4.08 Acres)
MAINTENANCE AREA (1.37 Acres)

CONCEPTUAL APPROVAL (19.03 Acres)

COMMERCIAL/MULTIFAMILY AREAS (19.03)



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Environmental & Coastal Engineers, Scientists & Management Consultants

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04/24/00
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REVISED
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AJQ 04/25/00 COUNTY COMMENTS

DATE 02/20/00 BY ---

FILE WaterMngmt

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE INDEX

COPPERHEAD GOLF COMMUNITY

LEGEND:

- AREAS TO BE REMAIN IN NATIVE STATE (MINIMAL CLEARING)
- GOLF COURSE CONTOURS
- GOLF COURSE DRAIN PIPES (REFER TO COURSE PLANS)
- PRIMARY WATER MANAGEMENT SYSTEM PIPES
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PHYSICAL BUFFER
- PROPOSED BERM

NOTE:

1) CONTRACTOR SHALL INSTALL SIGNS EVERY 100 FEET ALONG ALL WETLAND BUFFERS WHICH DO NOT HAVE PHYSICAL BARRIERS AND AT THE REAR OF EVERY LOT LINE ADJACENT TO WETLANDS. SIGNS SHALL STATE "WETLAND – NO TRESPASSING"

2) ALL ROADWAY SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS AND WITH LEE COUNTY LAND DEVELOPMENT CODE.

N

GRAPHIC SCALE

0 60 120 180

23RD STRE

23rd STREET

GOLF COURSE MAINTENANCE AREA
1.37 Acres
MIN 3,200 SF BUILDING

POND #5
3.40 ac.

POND #10
1.64 ac.

POND #6
1.42 ac.

POND #7
1.34 ac.

COPPERHEAD DRIVE (PRIVATE)

PHASE I

PHASE II

15' EASEMENT

10' EASEMENT

5' EASEMENT

15' LAKE MAINT. EASEMENT (L.M.E.)

CART PATH

2' WIDE BERM 12" HIGH

TEMP. CUL-DE-SAC 1" TYPE S-3 PVMT. 6" BASE - 6" SUBGRADE (DIM. PER LEE LDC)

(3) CASE II REFLECTORS

HP STA 13+40 CROWN EL 27.99

LP STA 10+12 CROWN EL 27.00

HP STA 7+80 CROWN EL 27.69

LP STA 5+50 CROWN EL 27.00

LP STA 16+71 CROWN EL 27.00

END OF PHASE I

LP STA 7+27.50 CROWN EL 27.00

LP STA 16+74.85 CROWN EL 27.00

MATCH LINE (REFER SHEET 5)

MATCH LINE (REFER SHEET 7)

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

DATE 12/13/99 | BY --- | FILE PGD Plans | Scale: 1"=60' | SHEET 04 of 39 SHEETS

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MATCH LINE (REFER SHEET 4)

ROAD04 (PRIVATE)

HP STA 3+92.50
CROWN EL 28.18

POND #11
1.24 ac.

C.E. 24.5
19.5
12.5
15' LAKE MAINT. EASEMENT (L.M.E.)

CART PATH

STOP SIGN
(R1-1) TYP.

24" STOP
BAR

LP STA 2+50
CROWN EL 27.00

HP STA 1+20
CROWN EL 27.39

NO
OUTLET

ROAD03 (PRIVATE)

ROAD03
LP STA 5+40.43
CROWN EL 27.00

HP STA 4+00
CROWN EL 27.45

HP STA 3+92.50
CROWN EL 28.78

HP STA 21+55
CROWN EL 28.46

COPPER

LP STA 26+49
CROWN EL 27.00

STOP SIGN
(R1-1) TYP.

24" STOP
BAR

ROAD02 (PRIVATE)

NO OUTLET

HP STA 31+99
CROWN EL 28.69

15' EASEMENT

LP STA 7+20
CROWN EL 27.00

HP STA 6+40
CROWN EL 27.24

LP STA 5+60
CROWN EL 27.00

ROAD02 (PRIVATE)

HP STA 12+12
CROWN EL 28.48

LP STA 16+74.85
CROWN EL 27.00

AQUA RANGE

POND #8
8.04 ac.

WETLAND "CW-4" (B)
3.41 Ac. Proposed
9.04 Ac. Existing

2.29 AC.
SECONDARILY
IMPACTED

4.73 AC
EXCAVATE

BUFFER
0.468 AC

15' LAKE MAINT. EASEMENT (L.M.E.)

MATCH LINE (REFER SHEET 8)

MATCH LINE (REFER SHEET 6)

N

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Scientists & Management Consultants

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Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 05 of 39 SHEETS

MATCH LINE (REFER SHEET 4)

MATCH LINE (REFER SHEET 6)

MATCH LINE (REFER SHEET 8)

ROAD04 (PRIVATE)

ROAD03 (PRIVATE)

ROAD02 (PRIVATE)

POND #11
1.24 ac.

POND #8
8.04 ac.

AQUA RANGE

WETLAND "CW-4" (B)
3.41 Ac. Proposed
9.04 Ac. Existing

2.29 AC.
SECONDARILY
IMPACTED

4.73 AC
EXCAVATE

BUFFER
0.468 AC

HP STA 3+92.50
CROWN EL 28.18

HP STA 4+00
CROWN EL 27.45

ROAD03
LP STA 5+40.43
CROWN EL 27.00

HP STA 3+92.50
CROWN EL 28.78

LP STA 2+50
CROWN EL 27.00

HP STA 1+20
CROWN EL 27.39

HP STA 21+55
CROWN EL 28.46

LP STA 26+49
CROWN EL 27.00

HP STA 31+99
CROWN EL 28.69

LP STA 16+74.85
CROWN EL 27.00

HP STA 12+12
CROWN EL 28.48

LP STA 7+20
CROWN EL 27.00

HP STA 6+40
CROWN EL 27.24

LP STA 5+60
CROWN EL 27.00

15' EASEMENT P62B

15' EASEMENT P63A

15' LAKE MAINT. EASEMENT (L.M.E.)

CART PATH

STOP SIGN (R1-1) TYP.

24" STOP BAR

NO OUTLET

C.E. 24.5

19.5

12.5

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 05 of 39 SHEETS

MATCH LINE (REFER SHEET 5)

MATCH LINE (REFER SHEET 9)

COPPERHEAD DRIVE (PRIVATE)

HP STA 31+99
CROWN EL 28.69

LP STA 8+02.50
CROWN EL 27.50

15' EASEMENT

P30A

POND #12
1.35 ac.

C.E. 25.5

15' LAKE MAINT. EASEMENT

WCS #9

S87

P55

S86

CART PATH

P30B

S45

S44

IMPACT
0.332 AC

WETLAND "CW-2" (D)
4.20 Ac. Proposed
4.53 Existing

WCS #8
S84

P59

S85

DRY RETENTION POND V
INVERT EL.=26.5' TO 26.5'
STRUCTURE CREST EL.=27.25'
REQUIRED VOLUME 1,810 CF
MIN TOB AREA 2,800 SF

2' WIDE BERM
EL 27.75'

BUFFER
0.769 AC

2' WIDE BERM
12" HIGH

DRY RETENTION POND IV
INVERT EL.=26.5' TO 26.6'
STRUCTURE CREST EL.=27.25'
REQUIRED VOLUME 5,610 CF
MIN TOB AREA 9,210 SF

15' EASEMENT

P51A

P51B

S48

S49

S50

LP STA 35+61
CROWN EL 27.60

HP STA 39+64
CROWN EL 28.81

CART CROSSING
STRIPING

CART CROSSING
SIGN (TYP E.S.)

LP STA 44+10
CROWN EL 27.50

S51

P52

S52

P53

15' EASEMENT EASEMENT

HP STA 48+43
CROWN EL 28.83

POND #13
0.89 ac.

WCS #7

S82

S83

BNDRY 3

DRY RETENTION POND III
INVERT EL.=25.5' TO 25.7'
STRUCTURE CREST EL.=26.4'
REQUIRED VOLUME 11,350 CF
MIN TOB AREA 16,300 SF

BUFFER
0.845 AC

2' WIDE BERM
EL 26.90'

WETLAND "CW-3" (C)
5.38 Ac. Pro/Ex.

STRUCTURE #6

2' WIDE BERM
12" HIGH

ECWCD YELLOWTAIL CANAL

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6001 Egan Drive, Suite 100
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Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 06 of 39 SHEETS

COPPERHEAD GOLF COMMUNITY

MATCH LINE (REFER SHEET 4)

MATCH LINE (REFER SHEET 8)

FREET

WHITE SKIP (6–10)

STOP SIGN (R1–1) TYP.

24" STOP BAR

PAINTED ARROWS

KEEP RIGHT (R4–7)

BETH STACEY BLVD (PUBLIC)

CURBED MEDIUM

6" WHITE EDGE LINE

6" YELLOW EDGE LINE

KEEP RIGHT (R4–7)

WHITE SKIP (6–10)

STOP SIGN (R1–1) TYP.

24" STOP BAR

KEEP RIGHT (R4–7)

6" WHITE

6" WHITE

PAINTED ARROWS

NO OUTLET (TEMPORARY)

HP STA 2+00
CROWN EL 28.05

HP STA 9+00 BETH
HP STA 0+00 ROAD01
CROWN EL 27.75
SWL EL 26.15

CART CROSSING PVMT STRIPING & SIGNS (TYP E.S.)

KEEP RIGHT (R4–7)

STOP SIGN & 24" BAR

CLUBHOUSE
4.06 ac.

LP STA 14+84
CROWN EL 27.00
SWALE EL 25.00

POND #1
1.17 ac.

15' LAKE MAINT. EASEMENT (L.M.E.)

C.E. 24.0

CART PATH

LP STA 3+50
CROWN EL 26.85

HP STA 6+36
CROWN EL 28.23

END PHASE 1 PAVEMENT

CART CROSSING PVMT STRIPING & SIGNS (TYP E.S.)

STOP SIGN (R1–1) TYP.

24" STOP BAR

NO OUTLET

STOP SIGN (R1–1) TYP.

24" STOP BAR (PHASE 2)

LP STA 14+19
CROWN EL 26.50

LP STA 3+80
CROWN EL 26.70

ROAD06 (PRIVATE)

CART PATH

HP STA 12+93
CROWN EL 27.42

IRONWOOD COURT NORTH (PRIVATE)

LP STA 9+86
CROWN EL 26.50

15' EASEMENT

POND #2
3.26 ac.

LP STA 17+00
CROWN EL 26.20

HP STA 21+45
CROWN EL 27.54

IRONWOOD COURT NORTH (PRIVATE)

WCS #1

15' EASEMENT

LP STA 25+90
CROWN EL 26.20

S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P15A P25 P25A P47A

CB=26.9 CB=26.8 CB=26.7 CB=28.0 CB=27.4 CB=27.3 CB=27.5 CB=27.6 CB=27.7 CB=26.4 CB=26.5 CB=26.3 CB=26.6 CB=26.0

27.2 27.4 27.5 26.8 26.9 26.7 34.2

N

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Environmental & Coastal Engineers, Scientists & Management Consultants

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A.Q. 02/26/00 COUNTY COMMENTS
A.Q. 04/25/00 COUNTY COMMENTS

DATE 12/13/99 BY --- FILE PGD Plans Scale: 1"=60'

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 07 of 39 SHEETS

MATCH LINE (REFER SHEET 7)

MATCH LINE (REFER SHEET 5)

MATCH LINE (REFER SHEET 9)

STORMCEPTOR OR APPROVED EQUAL TYPE E MODIFIED BOX/OIL GREASE SEPERATOR. PROPER FUNCTIONING OF SEPERATOR WILL BE ASSURED BY SCHEDULED MONTHLY MAINTENANCE SIZED PER MANUFACTURER RECOMMENDATION DRAINAGE AREA 3.1 ACRES OR 7,400 CF DRY PRETREATMENT POND (MIN INVERT 26.5 FT-NGVD)

1.12 AC.
SECONDARILY
IMPACTED

0.90 AC
FILL

HP STA 8+70.69
CROWN EL 28.06

HP STA 30+52.93
CROWN EL 27.59

HP STA 20+40.46
CROWN EL 27.09

LP STA 20+28
CROWN EL 27.66
SWALE EL 25.00

LP STA 14+84
CROWN EL 27.00
SWALE EL 25.00

LP STA 25+12
CROWN EL 27.00
SWALE EL 25.00

2' WIDE BERM
TIE INTO LOT FILL

2' WIDE BERM
EL 26.25'

BUFFER
0.816 AC

MINIMUM 15' BUFFER

2' WIDE BERM
TIE INTO LOT FILL

2' WIDE BERM
EL 26.25'

LAKE #2 OUTFALL
SPREADER STRUCTURE

DRY RETENTION POND II
INVERT EL.=25.0' TO 25.3'
STRUCTURE CREST EL.=25.75'
REQUIRED VOLUME 4,700 CF
MIN TOB AREA 9,000 SF

BUFFER
0.166 AC

FILL WETLAND AND ADJACENT
ECWCD R/W TO ELEVATION
27.0' NGVD. BERM TO SERVE
AS BUFFER FOR WETLAND.
FILL AREA = 0.19 AC.

IMPACT
0.062 AC

IMPACT
0.303 AC

25' BUFFER

DRY RETENTION POND I
INVERT EL.=25.0' TO 25.3'
STRUCTURE CREST EL.=25.75'
REQUIRED VOLUME 5,200 CF
MIN TOB AREA 9,900 SF

WETLAND "W-1" (A)
24.69 Ac. Proposed
25.96 Ac. Existing

WETLAND W-1
1.254 AC IMPACTS

PHYSICAL BUFFER

IMPACT
0.308 AC

IMPACT
0.036 AC

BUFFER
0.874 AC

15' EASEMENT

WCS #2

WCS #3

CART PATH

P66 P67 P68 P45 P46A P46B P47 P54 P16 P17

S55 S56 S57 S58 S74 S75 S76 S77 S72 S73 S170

CB=25.0 CB=26.4 CB=26.5 CB=26.6 CB=26.7 CB=27.6 CB=27.7 CB=25.9 CB=25.1 CB=25.6 CB=25.7 CB=26.3 CB=26.2

M 8|36 B 8|36 A 8|36 C 8|36 F 8|36 E 8|36 M 8|38 J 8|37

BNDRY 1

EXT CANAL

N

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ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers,
Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
04/25/00
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REVISED
AJQ 02/26/00 COUNTY COMMENTS
AJQ 04/25/00 COUNTY COMMENTS

DATE 12/13/99 | BY --- | FILE PGD Plans | Scale: 1"=60' | SHEET 08 of 39 SHEETS

COPPERHEAD DEVELOPMENT, INC.
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

MATCH LINE (REFER SHEET 8)

MATCH LINE (REFER SHEET 6)

MATCH LINE (REFER SHEET 6)

POND #9
2.77 ac.

POND #4
1.83 ac.

POND #3
2.14 ac.

TYPE A OR B
PHYSICAL BUFFER
TYPICAL ALL AREAS
WHERE BUFFER IS
LESS THEN 15'

IMPACT
0.029 AC

IMPACT
0.385 AC

STRUCTURE #4

WCS #5

WCS #10

15' LAKE MAINT. EASEMENT (L.M.E.)

15' LAKE MAINT. EASEMENT (L.M.E.)

15' LAKE MAINT. EASEMENT (L.M.E.)

15' EASEMENT

15' EASEMENT

15' EASEMENT

15' EASEMENT EASEMENT

CART PATH

CART PATH

CART PATH

CART PATH

CART PATH

COPPERHEAD DRIVE (PRIVATE)

IRONWOOD COURT SOUTH (PRIVATE)

IRONWOOD COURT SOUTH (PRIVATE)

6" WHITE EDGE LINE

6" YELLOW EDGE LINE

WHITE SKIP (6-10)

STOP SIGN
(R1-1) TYP.

24" STOP BAR

KEEP RIGHT (R4-7)

PAINTED ARROWS

6" WHITE

NO OUTLET

DRY DETENTION PONDS VII
INVERT EL.=24.5' NGVD
TOB EL.=27.0' NGVD
TOB AREA (E)=6,550 SF
TOB AREA (W)=5,500 SF
TOTAL VOLUME=22,600 CF

LP STA 18+50
CROWN EL 26.50

HP STA 16+15
CROWN EL 27.20

LP STA 13+68
CROWN EL 26.50

LP STA 4+20
CROWN EL 26.50

HP STA 9+00
CROWN EL 27.94

LP STA 53+00
CROWN EL 27.00

HP STA 58+06
CROWN EL 28.52

ROAD01
STA 60+58.41
CROWN EL 27.75

STOP SIGN
(R1-1) TYP.

STA 39+21.00
CROWN EL 30.02

MILWAUKEE BLVD
HP STA 37+17.74
CROWN EL 27.75
SWL EL 26.15

LP STA 33+57
CROWN EL 27.00
SWL EL 25.00

BNDRY 4

S53 S54 S55 S56 S57 S58 S59 S60 S61 S62 S63 S64 S65 S66 S67 S68 S69 S70 S71 S78 S79 S97

P55 P56 P71 P72 P73 P74 P75 P21 P22 P23 P24 P19

E 9 36

D 9 36

11 12 7 6 8

DEER STREET BLVD (PRIVATE)

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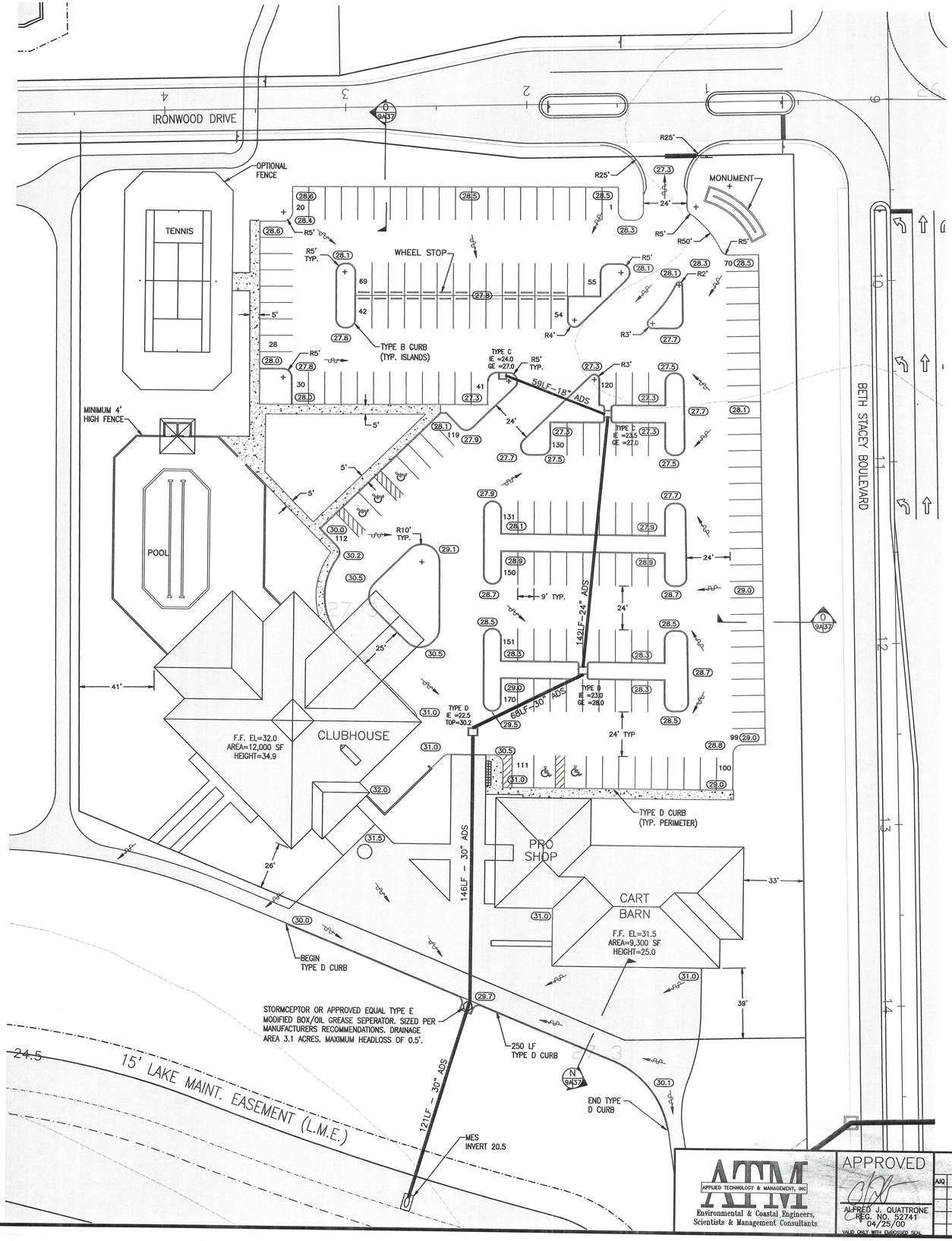
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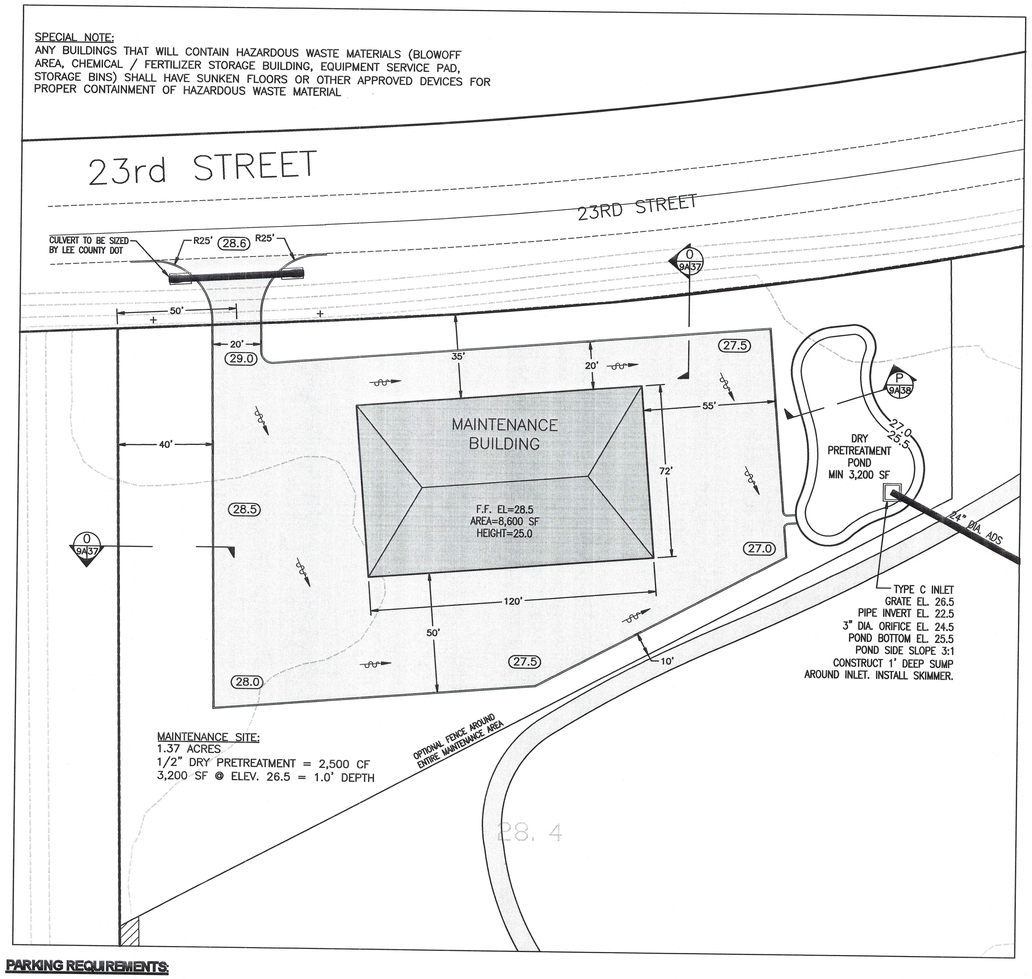
SHEET 09 of 39 SHEETS

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

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SPECIAL NOTE:
ANY BUILDINGS THAT WILL CONTAIN HAZARDOUS WASTE MATERIALS (BLOWOFF AREA, CHEMICAL / FERTILIZER STORAGE BUILDING, EQUIPMENT SERVICE PAD, STORAGE BINS) SHALL HAVE SUNKEN FLOORS OR OTHER APPROVED DEVICES FOR PROPER CONTAINMENT OF HAZARDOUS WASTE MATERIAL

MAINTENANCE SITE:
1.37 ACRES
1/2" DRY PRETREATMENT = 2,500 CF
3,200 SF @ ELEV. 26.5 = 1.0' DEPTH

PARKING REQUIREMENTS:

1. LDC SECTION 34-2020(4)h. - GOLF COURSES. THE MINIMUM REQUIREMENT IS SIX SPACES PER HOLE. HOWEVER, WHERE RESTAURANTS ARE MADE AN INTEGRAL PART OF THE GOLF COURSE FACILITY, ADDITIONAL PARKING FOR THE RESTAURANT, IN ACCORDANCE WITH SUBSECTION (2)I.2. OF THIS SECTION. WILL BE REQUIRED ONLY TO THE EXTENT THAT THE PARKING REQUIREMENT FOR THE RESTAURANT EXCEEDS THE PARKING REQUIREMENT FOR THE GOLF COURSE.

   GOLF COURSE 18 HOLES x 6 SPACES = 72 SPACES REQUIRED

   RESTAURANT 5,000 S.F. / 1,000 S.F. X 14 SPACES = 70 SPACES REQUIRED

   COCKTAIL LOUNGE 500 S.F. / 21 SPACES / 1,000 S.F. = 11 SPACES REQUIRED

   TOTAL RESTAURANT/LOUNGE = 81 SPACES

   PARKING REQUIREMENT FOR RESTAURANT/LOUNGE EXCEEDS THE PARKING REQUIREMENT FOR THE GOLF COURSE.

2. LDC SECTION 34-2020(4)a.2. - INDOOR RECREATION FACILITES. THE MINIMUM REQUIREMENT IS ONE PARKING SPACE FOR EACH 100 SQUARE FEET OF TOTAL FLOOR AREA.

   CLUBHOUSE/FITNESS CENTER 6,500 S.F. / 100 S.F. x 1 = 65 SPACES REQUIRED

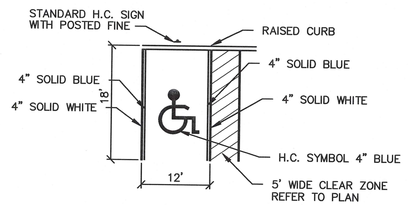
3. LDC SECTION 34-2020(4)p. - COMMERCIAL OUTDOOR FACILITES PARKING REQUIREMENTS WILL BE DETERMINED BY THE DIRECTOR. LDC SECTION 34-2020(4)q. - COMMERCIAL TENNIS COURTS - THE MINIMUM REQUIREMENT IS FIVE SPACES PER COURT.

   POOL/TENNIS COURT = 24 SPACES PROVIDED

4. TOTAL PARKING = 81 + 65 + 24 = 170 TOTAL SPACES REQUIRED/PROVIDED

NOTE:

REFER TO SHEET 13A FOR UTILITIES
REFER TO OPEN SPACE, BUFFERING AND LANDSCAPE PLAN
REFER TO SHEET 38 FOR TYPICAL PVMT SECTION, SIDEWALK AND CURB DETAILS



HANDICAPPED PARKING SPACE MARKING DETAIL

GRAPHIC SCALE
0 30 60 90

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Environmental & Coastal Engineers, Scientists & Management Consultants

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04/25/00
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REVISED
A/Q 4/25/00 COUNTY COMMENTS

DATE 12/13/99 BY ---

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FILE PGD Plans

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
CLUBHOUSE / MAINTENANCE AREA

SHEET 09A of 39 SHEETS

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COPPER HEAD GOLF COMMUNITY



N

GRAPHIC SCALE

0 200 400 600

REVISIONS	COPPERHEAD DEVELOPMENT, INC.	PLAN & PROFILE INDEX
	CONSULTING ENGINEERS 6001 EAGAN DRIVE, SUITE 100 SAVAGE, MINNESOTA 55378 PHONE (612) 226-3200	COPPER HEAD LEE COUNTY, FLORIDA
DATE : 11/22/99	FILE : INDEX	SHEET 10 of 39 SHEETS

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PARKWOOD IV

BETH STACEY BOULEVARD

EXIST. 10" PVC WATERMAIN

EX. MH
RIM 27.39
INV 22.31

EX. LIFT STA.

WET TAP 8" PVC
USING 8" TAPPING
VALVE & BOX

EX. HYDRANT

10.00

8" PVC FORCE MAIN

EXIST. 8" PVC FORCE MAIN

(SEE SHEET 12)

12" PVC WATERMAIN

8.00

EXIST. 10" PVC WATERMAIN

EX. SAN. SEWER

CONNECT TO EXIST. 10" PVC
12"x10" REDUCER
12" BFV VALVE & BOX

N

GRAPHIC SCALE
0 50 100 150

30.00
25.00
20.00
15.00

12" PVC WATERMAIN 8" PVC FORCE MAIN

36" TYPICAL

24.50

24.50

EXIST 10" PVC WATER

LOWER FORCEMAIN
TO AVOID CONFLICT

8" PVC FORCE MAIN

8" SAN. SEW. EL. 22.5

30.00
25.00
20.00
15.00

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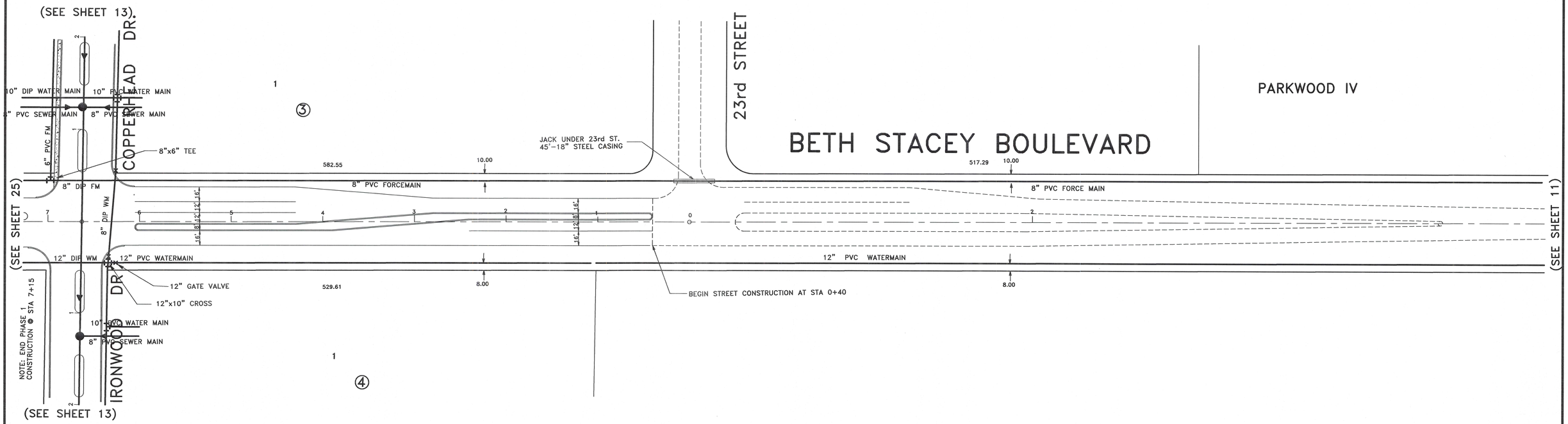
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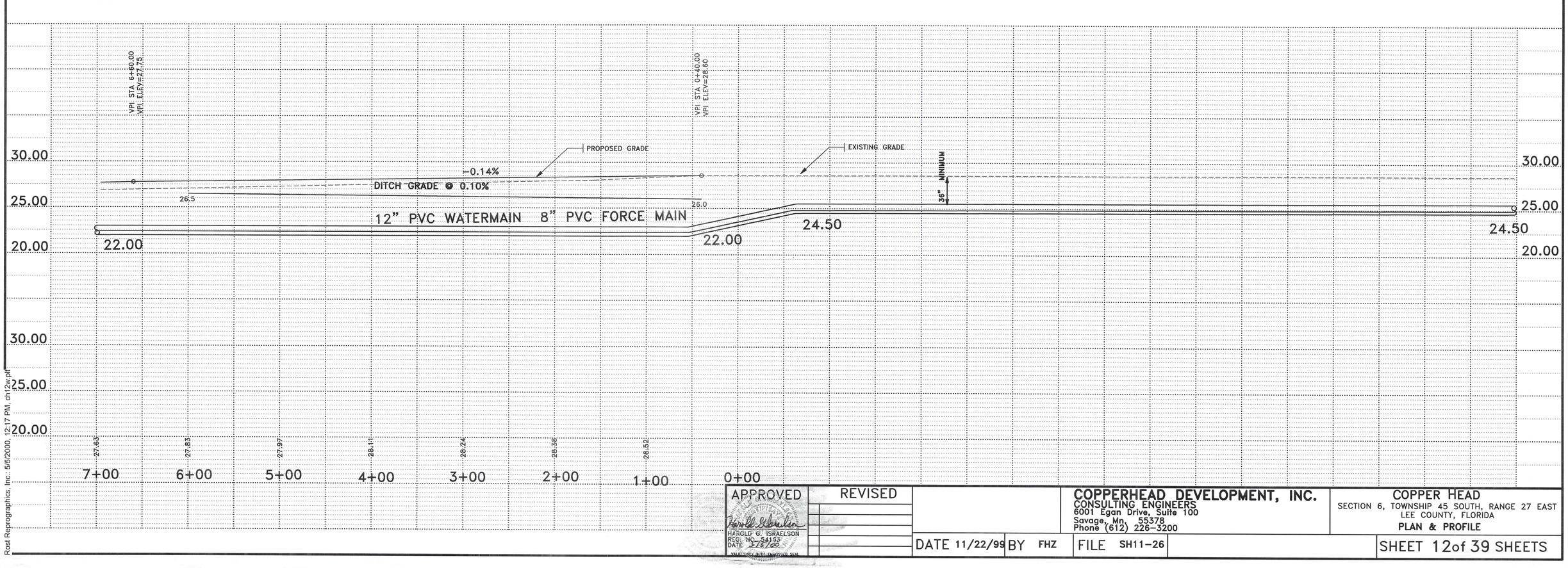
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SHEET 11 of 39 SHEETS

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LEE COUNTY, FLORIDA
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SHEET 12 of 39 SHEETS

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BOX #9357.76

N

MULTI-FAMILY

LAKE

(SEE SHEET 17)

CL CURVE DATA
Δ =36°00'00"
R=200.05'
T=65.00'
A=125.70

17

MH#20
STA.=6+37.85
RIM ELEV.=26.81

5'+75

10" PVC WATER

10" PVC SEWER

272.02'

10' PUE

5' CONCRETE SIDEWALK

12" PVC

VALVE ACCESS MH

LIFT STA. # 1
STA. 4+60.0
RIM ELEV. 27.00

CLUBHOUSE

MH# 1
STA.=4+60.0
RIM ELEV.=27.02

COPPERHEAD DRIVE

HYDRANT

102.00'

10" PVC WM

COMMERCIAL/
MULTI-FAMILY

1

③

10" GATE VALVE
10"x10" CROSS
10" GATE VALVE

DROP MH# 2
STA.=1+25.0
RIM ELEV.=27.83

10" PVC WM

8" PVC SEWER

6' BRICK PAVER CROSSING
AT STA. 3+62

OPTIONAL GATES & GATEHOUSE

100.71'

8" PVC FORCE MAIN

10" GATE VALVE

8"x8" TEE

(SEE SHEET 13A)

BETH STACEY BLVD

(SEE SHEET 12)

53'

12" PVC WATERMAIN

R=25'

10" DIP WATER

12" DIP WM

6" PVC FORCE MAIN

(SEE SHEET 25)

NOTE: BEGIN CURB AT
BETH STACEY ROW

12" GATE VALVE
12"x10" CROSS
10" GATE VALVE

④

10" PVC WM

8" PVC SEWER

10" GATE VALVE
10"x10" TEE

DROP MH# 3
STA.=1+25.0
RIM ELEV.=27.18

10"-90° BEND

10" PVC WATER

100.95'

10" PVC SEWER

OPTIONAL GATES & GATEHOUSE

10"-90° BEND

10" DIP

69.75'

101.12'

150.00'

LAKE

TRACT "A"

6' BRICK PAVER CROSSING
AT STA. 3+62

DROP MH# 4
STA.=5+20.0
RIM ELEV.=28.58

IRONWOOD DRIVE

241.05'

10' PUE

STORM SEWER

261.20'

8" PVC SEWER

285.00'

10" DIP WM

10" PVC WATER

105.00'

HYDRANT

10"x8" TEE
8" GATE VALVE

NOTE: END PHASE 1 CONSTRUCTION
AT STA 8+30

(SEE SHEET 15)

⑦

10" PVC WATER
8" PVC SEWER

DROP MH# 9
STA.=8+05.4
RIM ELEV.=27.62

CL CURVE DATA
Δ =73°50'30"
R=173.38'
T=130.26'
A=223.43'

62.50'

HYDRANT

10"X10" CROSS
10"X8" REDUCER

8" GATE VALVE

PHASE 2

PHASE 1

100.00' 10' PUE

100.00'

22
125.00'
21
125.00'

30
29
130.00'

⑤

⑥

1

2

85.00'

130.00'

50.00'

35.00'

67.50'

STORM SEWER

8" PVC WATER

8" PVC SEWER

(SEE SHEET 14)

(SEE SHEET 14)

LEGEND

- PROPOSED VALVE
- PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- BLOWOFF (B.O.)
- EXISTING WATERMAIN — WATER
- PROPOSED WATERMAIN — WATER
- EXISTING FORCEMAIN — FM
- PROPOSED FORCEMAIN — FM
- EXISTING GRAVITY LINE — SAN
- PROPOSED GRAVITY LINE — SAN
- 45 DEGREE BEND
- 90 DEGREE BEND
- TEE
- EXISTING MANHOLE
- PROPOSED MANHOLE — MH
- PROPOSED CATCH BASIN — CB
- BACTERIAL SAMPLING POINT — BSP
- BACKFLOW PREVENTOR

GRAPHIC SCALE
0 50 100 150

LAKE

MH#20 STA.=6+37.8
VPI STA.=5+50.0
VPI ELEV.=27.00
27.26
MH#1 STA.=4+60.0
27.27
+0.30%
36" COVER MIN.
48" COVER MIN.
VPI STA.=2+00.0
VPI ELEV.=28.05
MH#2 STA.=1+25.0
27.83
-0.30%
VPI STA.=0+12.0
VPI ELEV.=27.31
VPI STA.=0+00.0
VPI ELEV.=27.25
VPI STA.=0+12.0
VPI ELEV.=27.31
EXISTING GRADE
MH#3 STA.=1+25.0
27.18
36" COVER MIN.
PROPOSED GRADE
-0.50%
VPI STA.=3+90.0
VPI ELEV.=28.00
+0.81%
MH#4 STA.=5+20.0
27.88
VPI STA.=5+20.0
VPI ELEV.=27.88
+0.30%
VPI STA.=5+36.00
VPI ELEV.=28.23
-0.30%
MH#9 STA.=8+05.0
27.72
36" COVER MIN.

(SEE SHEET 17)

25.00
20.00
15.00
10.00

18" STORM SEWER
23.00
LOWER WATERMAIN
TOP ELEV=21.5

8" PVC WATERMAIN
6" PVC FORCE MAIN

8" PVC – 22.0 (NORTH)
6" PVC – 22.0 (SOUTH)

8" PVC – 22.0 (NORTH)

24" STORM SEWER
19.00

30" STORM SEWER
20.00
8"PVC–19.05(SOUTH)

30" STORM SEWER
20.50
8"PVC–19.78(SOUTH)
8"PVC–18.00(NORTH)

8" PVC WATERMAIN

178' – 10" PVC @ 0.28%
335'–10" PVC @ 0.28%
250'–10" PVC @ 0.28%
395' – 10" PVC @ 0.28%
285'– 8" PVC @ 0.40%

11.00
10.50
11.44
12.14
13.25
14.39

(SEE SHEET 15)

27.15 27.02 27.45 27.75 28.05 27.75 27.75 27.25 26.95 26.65 26.90 27.71 28.12 28.04 27.74 27.02

LIFT STA. # 1
MH # 1

6" FORCE MAIN

40'–12" PVC @ 0.28%

10.50

6+00 5+00 4+00 3+00 2+00 1+00 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

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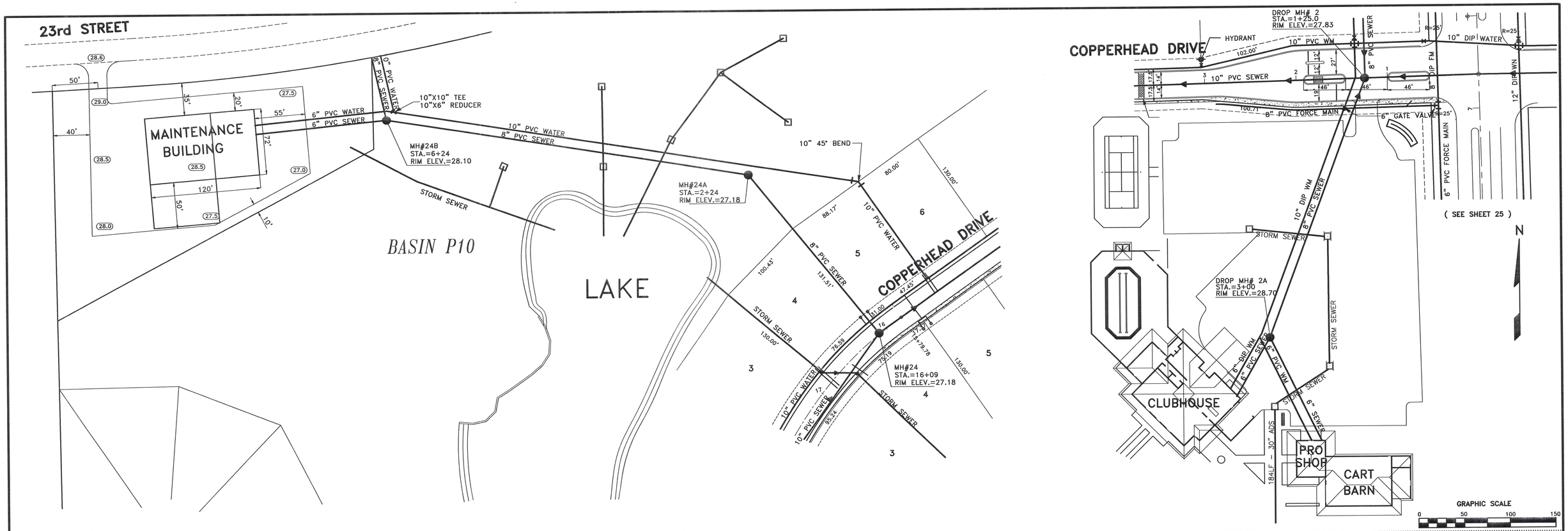
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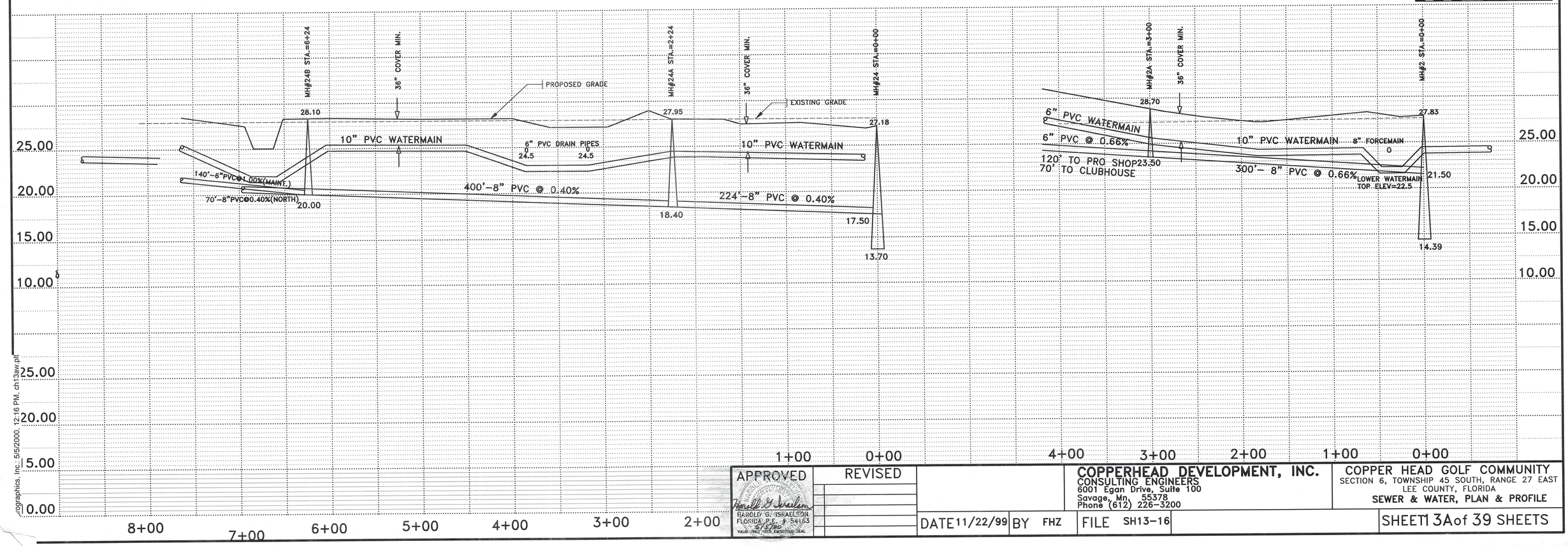
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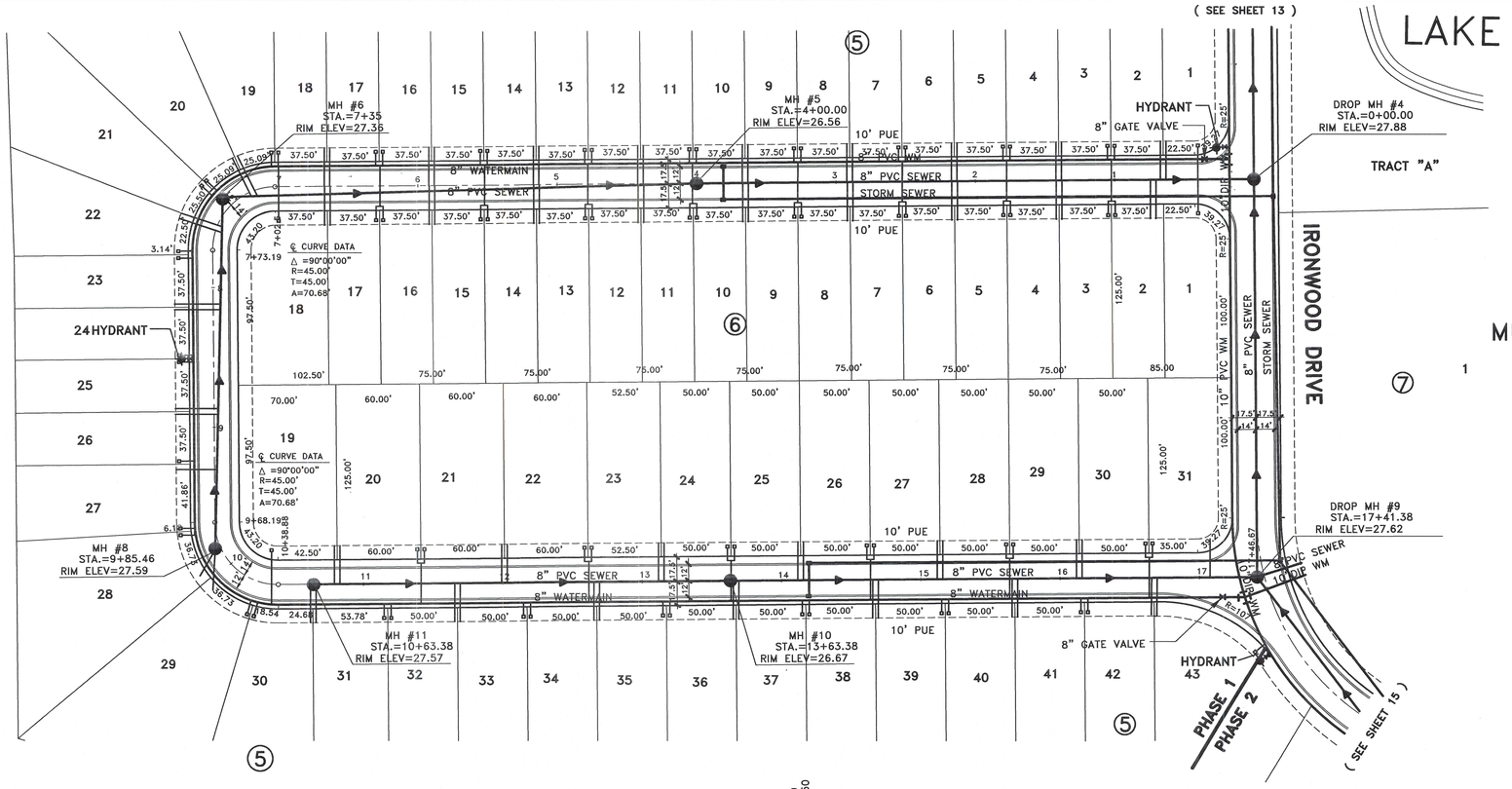
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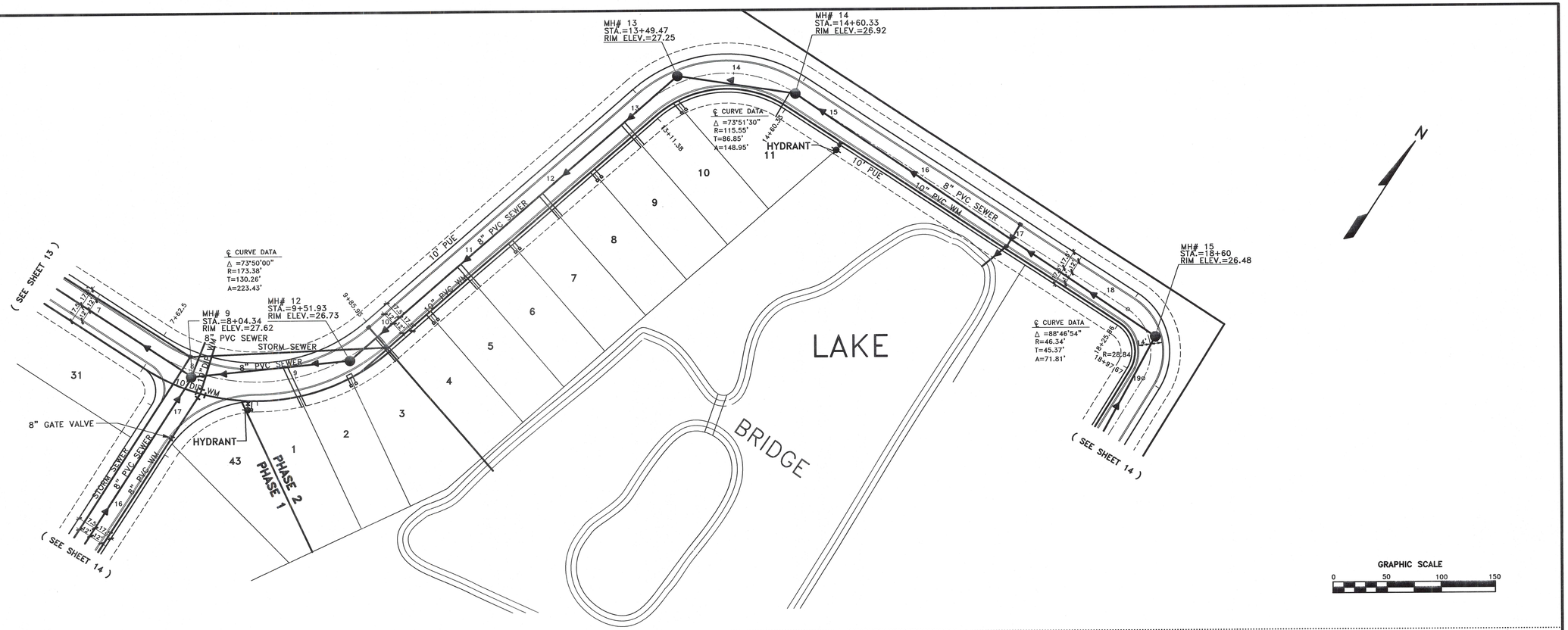
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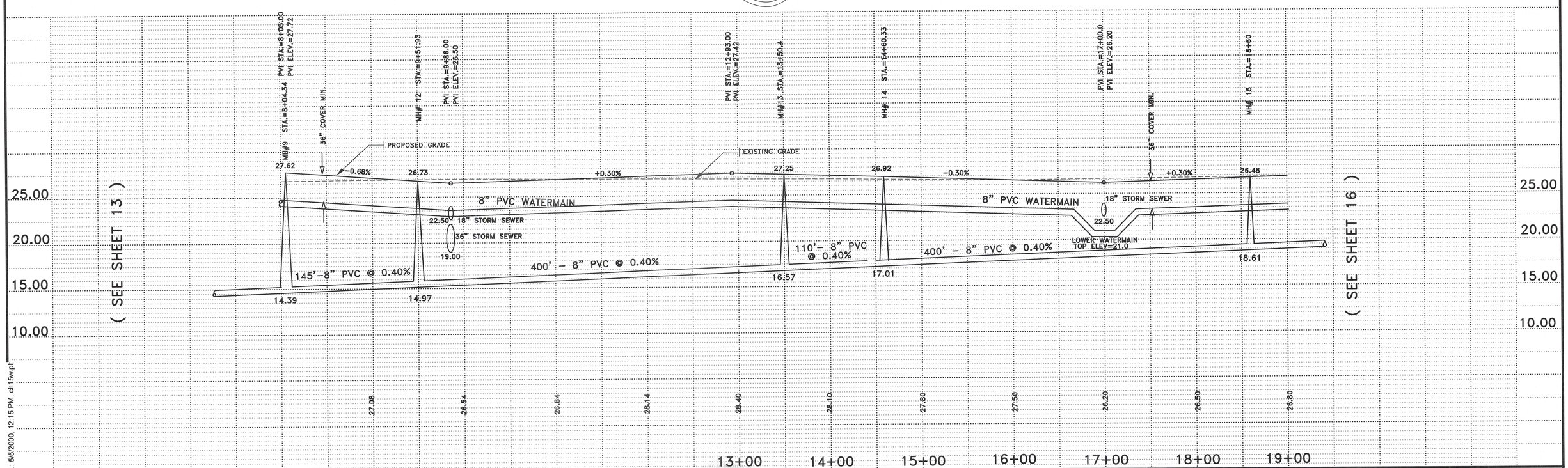
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LEE COUNTY, FLORIDA
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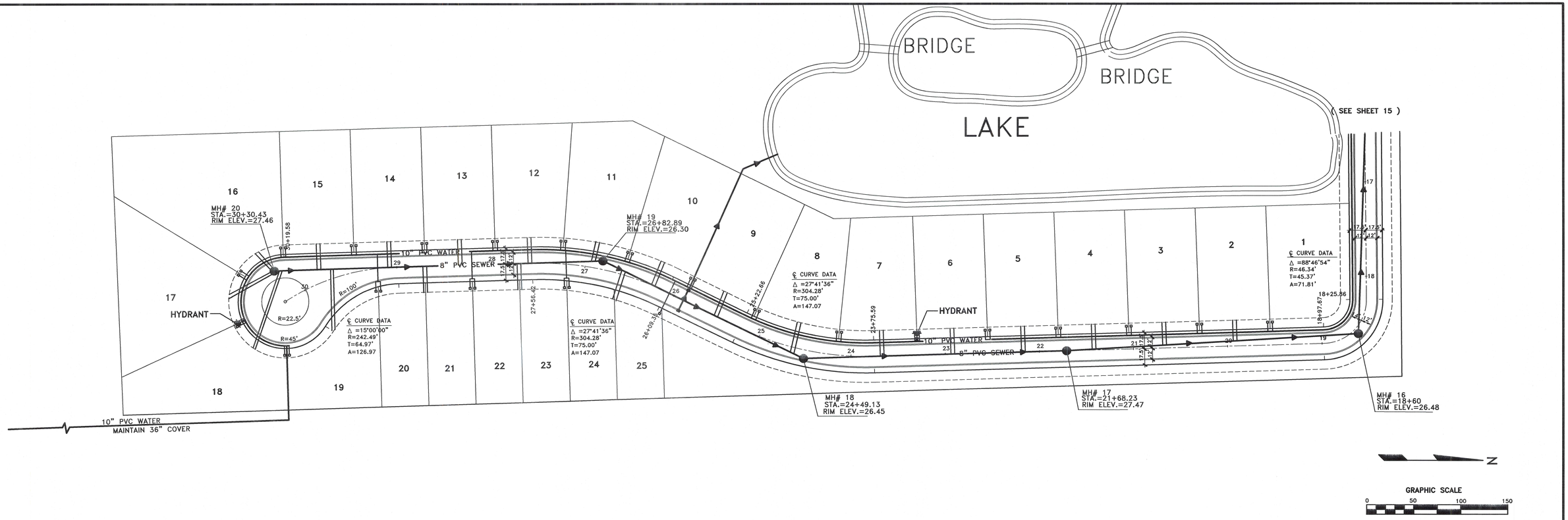
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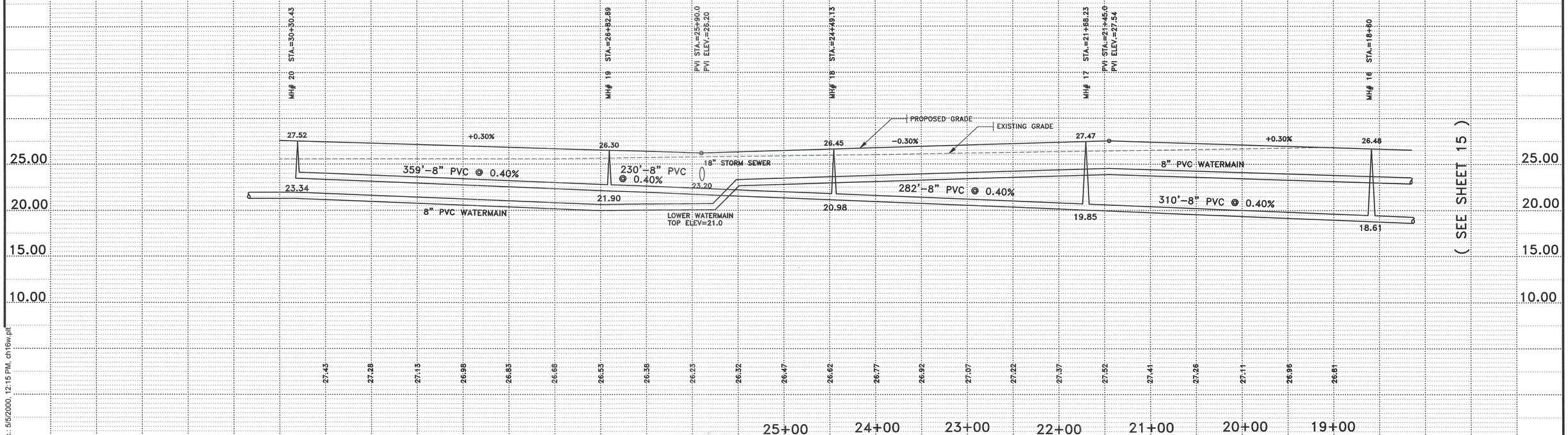




APPROVED Harold G. Israelson HAROLD G. ISRAELSON FLORIDA P.E. # 54163 VALID ONLY WITH EMBOSSED SEAL	REVISED		**COPPERHEAD DEVELOPMENT, INC.** CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPER HEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA **SEWER & WATER PLAN & PROFILE**	
		DATE 11/22/99 BY FHZ	FILE SH13-16		SHEET 15 of 39 SHEETS

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COPPER HEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SEWER & WATER, PLAN & PROFILE

SHEET 16 of 39 SHEETS

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(SEE SHEET 13A)

LAKE

LAKE

LAKE

COPPERHEAD DRIVE

PROPOSED CURB

10" PVC WATER

8" PVC SEWER

10" PVC SEWER

STORM SEWER

10' PUE

10"x10" TEE

MH#23
STA.=12+40.0
RIM ELEV.=27.80

MH#22
STA.=10+76.0
RIM ELEV.=27.20

MH#21
STA.=9+15.0
RIM ELEV.=27.29

MH#24
STA.=16+09
RIM ELEV.=27.18

MH#25
STA. 18+35.0
RIM ELEV.=27.50

MH#20
STA.=6+37.85
RIM ELEV.=27.28

HYDRANT

HYDRANT

℄ CURVE DATA
Δ=43°45'00"
R=400.45'
T=160.68'
A=305.78'

℄ CURVE DATA
Δ =69°30'00"
R=589.20'
T=270.00'
A=472.11'

℄ CURVE DATA
Δ =36°00'00"
R=200.05'
T=65.00'
A=125.70'

END PHASE 1
℄ STA. 19+43.40
(SEE SHEET 18)

(SEE SHEET 13)

N

GRAPHIC SCALE
0 50 100 150

1" = 5' – VERTICAL
1" = 50' – HORIZONTAL

19+43.40 END OF PHASE 1
ELEV. @ END = 27.82

MH#25 STA.=18+35.0

VPI STA. = +70.00
VPI ELEV. = 27.00 (LOW PT.)

MH#24 STA.=16+25.0

36" COVER MIN.

VPI STA. = +40.00
VPI ELEV. = 27.69 (HIGH PT.)

MH#23 STA.=12+40.0

MH#22 STA.=10+76.0

VPI STA. = +10.00
VPI ELEV. = 27.00 (LOW PT.)

MH#21 STA.=9+15.0

36" COVER MIN.

VPI STA. = +80.00
VPI ELEV. = 27.69 (HIGH PT.)

MH#20 STA.=6+37.8

VPI STA. = +50.00
VPI ELEV. = 27.00 (LOW PT.)

EXISTING GRADE
PROPOSED GRADE

27.50 27.18 +0.30% 27.69 -0.30% 27.20 27.29 +0.30% 27.26

8" PVC WATER MAIN

8" PVC WATER MAIN

24" STORM SEWER
19.50

24" STORM SEWER
20.50

225' – 10" PVC @ 0.28%
14.32

370' – 10" PVC @ 0.28%
13.70

164' – 10" PVC @ 0.28%
12.67

161' – 10" PVC @ 0.28%
12.22

295' – 10" PVC @ 0.28%
11.77

11.00

30.0 25.0 20.0 15.0 10.0 05.0

27.69 27.39 27.09 27.21 27.51 27.81 27.87 27.57 27.27 27.03 27.33 27.63 27.45 27.15

13+00 12+00 11+00 10+00 9+00 8+00 7+00 6+00 5+00

20+00 19+00 18+00 17+00 16+00 15+00 14+00

(SEE SHEET 18)

(SEE SHEET 16 3

APPROVED HAROLD G. ISRAELSON FLORIDA P.E. #34168 STATE OF VALID ONLY WITH EMBOSSED SEAL	REVISED		COPPERHEAD DEVELOPMENT, INC. CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPERHEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA **PAVING, GRADING AND DRAINAGE**	
		DATE 11/22/99	BY FHZ	FILE SH17-20	SHEET 17 of 39 SHEETS

Rost Reprographics, Inc. 5/5/2000, 12:14 PM, ch17w.plt

(SEE SHEET 19)

LAKE

MH#29
STA.=2+00
RIM ELEV.=27.15

8" PVC WATER

8" PVC SEWER

STORM SEWER

MH#28
STA.26+50.0
RIM ELEV.=27.03

MH#27
STA.24+28.0
RIM ELEV.=27.64

MH#26
STA.22+25.0
RIM ELEV.=28.25

MH#35
STA.29+25.0
RIM ELEV.=27.86

MH#36
STA.32+00.0
RIM ELEV.=28.69

8" GATE VALVE
HYDRANT

10" PVC WATER
10" PVC SEWER
10" PUE
10"x10" TEE
10"x8" TEE
10" GATE VALVE
10" DIP

COPPERHEAD DRIVE

PHASE 3
PHASE 2
PHASE 1

TEMPORARY AGGREGATE 1
BASE CUL-DE-SAC

MH#18
STA. 18+25.0
RIM ELEV.=27.47

3 TEMPORARY BARRICADES

℄ CURVE DATA
Δ =7°14'45"
R=268.51
T=17.00
A=33.96

℄ CURVE DATA
Δ =20°44'45"
R=547.86
T=100.28
A=198.37

℄ CURVE DATA
Δ =43°45'00"
R=400.45'
T=160.68'
A=305.78'

(SEE SHEET 21)

(SEE SHEET 20)

(SEE SHEET 17)

N

GRAPHIC SCALE
0 50 100 150

VPI STA.=+00.00
VPI ELEV.=28.69

MH#36 STA.=32+00.0

VPI STA.=+40.00
VPI ELEV.=27.00

MH#35 STA.=29+25.0

MH#28 STA.=26+50.0

36" COVER MIN.

MH#27 STA.=24+28.0

PROPOSED GRADE

EXISTING GRADE

MH#26 STA.=22+25.0

VPI STA.=+55.00(HIGH PT)
VPI ELEV.=28.46

19+43.40 END OF PHASE 1
ELEV. @ END = 27.82

36" COVER MIN.

MH#18 STA.=18+25.0

30.0
25.0
20.0
15.0

28.69
27.86
+0.3%
27.03
18" STORM SEWER
24.00
27.64
-0.30%
28.25
+0.3%
27.47

8" PVC WATER MAIN

LOWER WATERMAIN
TOP ELEV=22.5

275' – 10" PVC @ 0.28%
275' – 10" PVC @ 0.28%
225' – 10" PVC @ 0.28%
203' – 10" PVC @ 0.28%
400' – 10" PVC @ 0.28%

18.19
17.42
16.65
16.02
15.45
14.33

8" PVC PLUG

28.69 28.39 28.09 27.79 27.49 27.19 27.12 27.42 27.72 28.02 28.32 28.30 28.00 27.70 27.40

32+00 31+00 30+00 29+00 28+00 27+00 26+00 25+00 24+00 23+00 22+00 21+00 20+00 19+00 18+00 17+00

(SEE SHEET 17)

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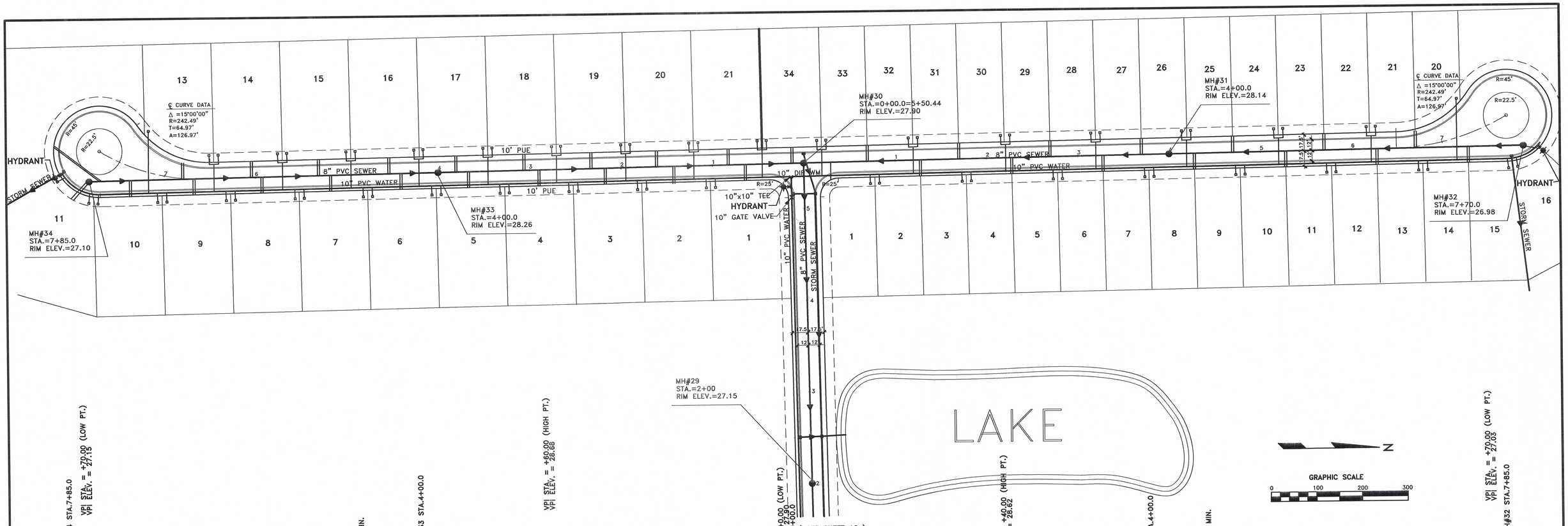
DATE 11/22/99 BY FHZ

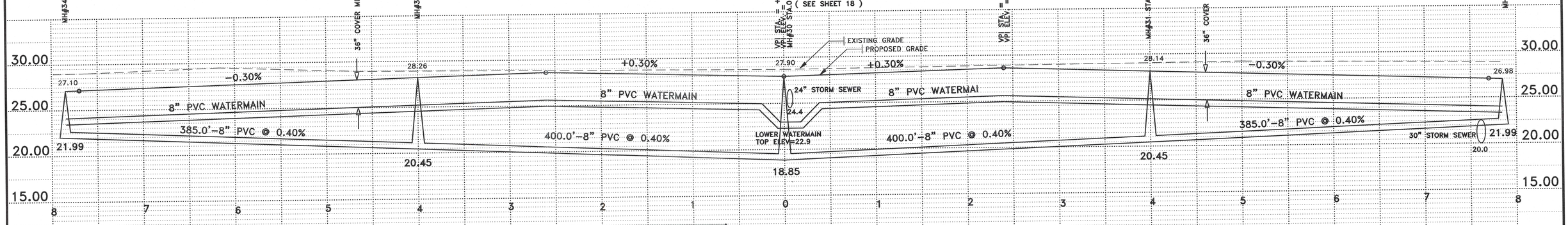
FILE SH17-20

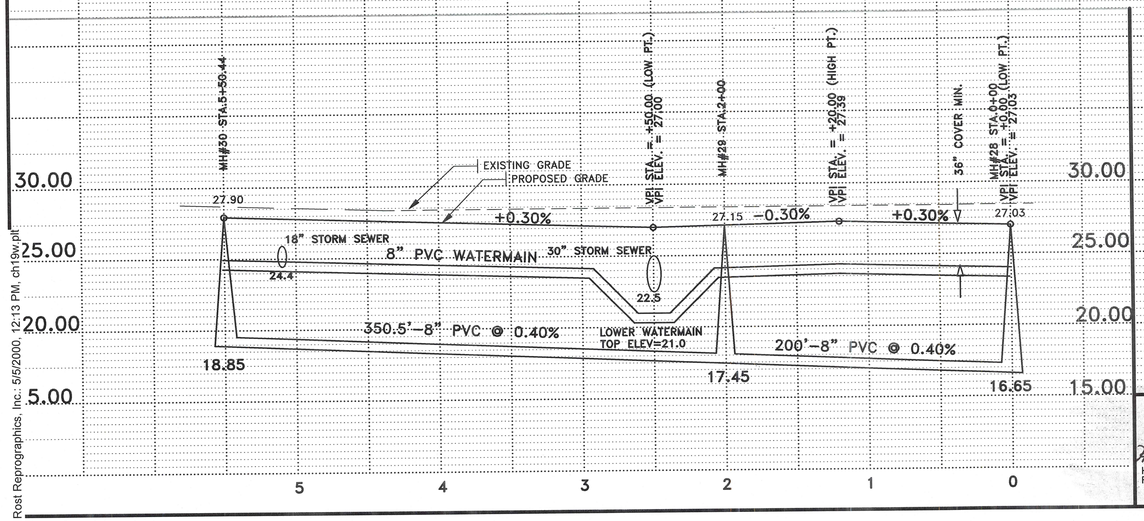
COPPERHEAD DEVELOPMENT, INC.
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Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING AND DRAINAGE

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APPROVED Harold G. Israelson HAROLD G. ISRAELSON FLORIDA, P.E. #54163 STATE OF FLORIDA VALID ONLY WHEN EMBOSSED SEAL	REVISED		**COPPERHEAD DEVELOPMENT,INC.** CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPERHEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA **PAVING, GRADING AND DRAINAGE**
		DATE 11/22/99 BY FHZ	FILE SH17-20	SHEET 19 of 39 SHEETS

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(SEE SHEET 21)

(SEE SHEET 21)

10"x10" TEE

10" GATE VALVE

10" DIP WATER

R=25'

HYDRANT

MH#37
STA.=2+89.0
RIM ELEV.=27.70

10" GATE VALVE

10" PVC WATER

8" PVC SEWER

STORM SEWER

8" PVC SEWER

8" PVC WATER

MH#37
STA.=2+89.0
RIM ELEV.=27.70

2+50.00

℄ CURVE DATA
Δ =76°10'00"
R=179.55'
T=140.70'
A=238.68'

MH#38
STA.=4+41.0
RIM ELEV.=27.20

4+88.68

10" PVC WATER

8" PVC SEWER

STORM SEWER

MH#39
STA. 7+46.6
RIM ELEV.=27.08

HYDRANT

STORM SEWER

MULTI-FAMILY

MULTI-FAMILY

℄ CURVE DATA
Δ =2°30'00"
R=1374.88'
T=30.00'
A=59.99'

10+24.04

10+84.03

MH#40
STA. 10+84
RIM ELEV.=28.58

10" PVC WATER

8" PVC SEWER

MH#41
STA. 14+84
RIM ELEV.=27.49

℄ CURVE DATA
Δ =86°00'00"
R=69.70'
T=65.00'
A=104.62'

14+34.03

15+38.65

℄ CURVE DATA
Δ =15°00'00"
R=242.49'
T=64.97'
A=126.97'

MH#43
STA. 16+58.6
RIM ELEV.=27.16

HYDRANT

16+43.65

R=22.5'

STORM SEWER

LAKE

LAKE

N

GRAPHIC SCALE
0 50 100 150

MH#36 STA.0+00.0
28.69

36" COVER MIN.

MH#37 STA.2+89.0
27.70

MH#38 STA.4+41.0
27.20

VPI STA. = +60.00 (LOW PT.)
VPI ELEV. = 27.00

VPI STA. = +40.00 (HIGH PT.)
VPI ELEV. = 27.22

VPI STA. = +29.00 (LOW PT.)
VPI ELEV. = 27.00

MH#39 STA.7+46.6
27.08

PROPOSED GRADE
EXISTING GRADE

MH#40 STA.10+84
28.58

VPI STA. = +12 (HIGH PT.)
VPI ELEV. = 28.48

36" COVER MIN.

MH#41 STA. 14+84
27.49

MH#43 STA. 16+58.6
27.16

-0.30%
+0.30%
-0.30%
+0.30%
-0.30%

PVC WATERMAIN
8" PVC WATERMAIN
16" STORM SEWER
24" STORM SEWER
8" PVC WATERMAIN

290.1'-10" PVC @0.28%
151.0'-10" PVC @0.28%
307.5'-10" PVC @ 0.28%
337'-10" PVC @0.28%
400'-10" PVC @ 0.28%
175'-10"PVC@0.28%

18.19
19.00
19.42
23.50
22.00
20.28
21.22
22.34
22.83

25.00
20.00
15.00
10.00

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

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Savage, Mn. 55378
Phone (612) 226-3200

DATE 11/22/99 | BY FHZ | FILE SH17-20

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING AND DRAINAGE

(SEE SHEET 18)

(SEE SHEET 19)

10" GATE VALVE

HYDRANT

MH#36
STA.=32+00.0
RIM ELEV.=28.69

℄ CURVE DATA
Δ =7°14'47"
R=288.51
T=17.00
A=33.96

31+65.28

31+99.24

R=25'

R=25'

10" DIP

PHASE 2
PHASE 3

PHASE 3
PHASE 4

TEMPORARY AGGREGATE
BASE CUL-DE-SAC

(SEE SHEET 22)

3 TEMPORARY BARRICADES

MH#46
STA.=46+64
RIM ELEV.=28.02

R=45'

MH#41
STA.=46+05
RIM ELEV.=27.84

HYDRANT

12" PVC SEWER

18" PVC SEWER

10" PVC WATER

8" PVC

MH#37
STA.=36+00
RIM ELEV.=27.49

36+59.24

℄ CURVE DATA
Δ =71°15'00"
R=307.01
T=220.00
A=381.78

MH#38
STA.=37+66
RIM ELEV.=28.05

STORM SEWER

CART PATH

CART PATH

8" PVC SEWER

10" PVC WATER

10' PUE

10' PUE

40'41.04"

MH#40
STA.=43+05
RIM ELEV.=27.06

STORM SEWER

MH#39
STA.=39+75
RIM ELEV.=27.78

HYDRANT

LAKE

N

GRAPHIC SCALE
0 100 200 300

MH#36 STA.32+00.0
VPI STA. = +00.00 (HIGH PT.)
VPI ELEV. = 28.69

36" COVER MIN.

MH#37 STA.36+00

VPI STA. = +41.00 (LOW PT.)
VPI ELEV. = 27.37

MH#34 STA.37+66

VPI STA. = +20.00 (HIGH PT.)
VPI ELEV. = 28.22

MH#34 STA.39+75

EXISTING GRADE

PROPOSED GRADE

MH#40 STA.43+05

VPI STA. = +22.00 (LOW PT.)
VPI ELEV. = 27.00

36" COVER MIN.

MH#41 STA.46+05

(SEE SHEET 18)

(SEE SHEET 22)

30.00
25.00
20.00
15.00

28.69

−0.30%

8" PVC WATERMAIN

400' – 8" PVC @ 0.40%

18.19

27.49

+0.30%

18" STORM SEWER

23.30

166'–8"PVC@0.40%

LOWER WATERMAIN
TOP ELEV=21.8

19.79

27.78

204' – 8" PVC @ 0.40%

20.45

28.05

−0.30%

8" PVC WATERMAIN

330' – 8" PVC @ 0.40%

21.26

27.06

+0.30%

18" STORM SEWER

24.00

22.58

LOWER WATERMAIN
TOP ELEV=22.5

330' – 8"PVC @ 0.40%

27.84

23.90

28.69 28.39 28.09 27.79 27.49 27.55 27.85 28.15 27.97 27.67 27.37 27.07 27.23 27.53 27.83 28.13

32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00

APPROVED
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REG. NO. 34163
STATE OF FLORIDA
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FILE SH21-24

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Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SANITARY SEWER & WATERMAIN

SHEET 21 of 39 SHEETS

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LAKE

(SEE SHEET 21)

℄ CURVE DATA
Δ =17°09'24"
R=331.46
T=50.00
A=99.25

MH#41
STA.=46+05
RIM ELEV.=27.84

MH#46
STA.=46+64
RIM ELEV.=28.02

MH#45
STA.=49+30
RIM ELEV.=28.10

MH#44
STA.=52+80
RIM ELEV.=27.06

MH#43
STA.=56+30
RIM ELEV.=27.99

DROP MH#42
STA.=59+28
RIM ELEV.=28.16

8" PVC SEWER
10" PVC WATER
8" PVC SEWER
48+80.29
49+79.54
STORM SEWER
10" PUE
8" PVC SEWER
10" PVC WATER
10" PUE
HYDRANT
HYDRANT
PHASE 3
PHASE 4
PHASE 3
PHASE 4
LS 2
8" PVC FORCEMAIN
12" PVC WATER
12" GATE VALVE
12" DIP WATER
R=25'
R=25'
R=25'
59+77.12
8" PVC SEWER
10" DIP WATER
HYDRANT
8" GATE VALVE
℄ CURVE DATA
Δ =22°20'36"
R=99.25
T=28.65
A=38.70
12"x10" CROSS
10" GATE VALVE
OPTIONAL GATES & GATEHOUSE
12" PVC WATER
(SEE SHEET 23)

N

GRAPHIC SCALE
0 50 100 150

MH#46 STA.46+64
MH#45 STA.49+30
VPI STA. = +89.00 (HIGH PT.)
VPI ELEV. = 28.46
36" COVER MIN.
MH#44 STA.52+80
VPI STA. = +00.00 (LOW PT.)
VPI ELEV. = 27.00
MH#43 STA.56+30
36" COVER MIN.
VPI STA. = +06.00 (HIGH PT.)
VPI ELEV. = 28.52
DROP MH#42 STA.59+28
LS #2
VPI STA. = +58.42 (LOW PT.)
VPI ELEV. = 27.76
EXISTING GRADE
PROPOSED GRADE
28.02 +0.30%
28.10 -0.30%
27.06
+0.30% 27.99
28.16 28.30 -0.30%
18" STORM SEWER
266' – 8" PVC @ 0.40%
350' – 8" PVC @ 0.40%
350' – 8" PVC @ 0.40%
298' – 8" PVC @ 0.40%
40' – 8" PVC @ 0.40%
24.00
22.75
21.43
24.20
20.11
18.92
12.99
12.83
25.00
20.00
15.00
10.00
28.13
28.43
28.20
27.90
27.60
27.60
27.00
27.30
27.60
27.90
28.20
28.50
28.24
27.94
46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00

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FLORIDA P.E. #54163
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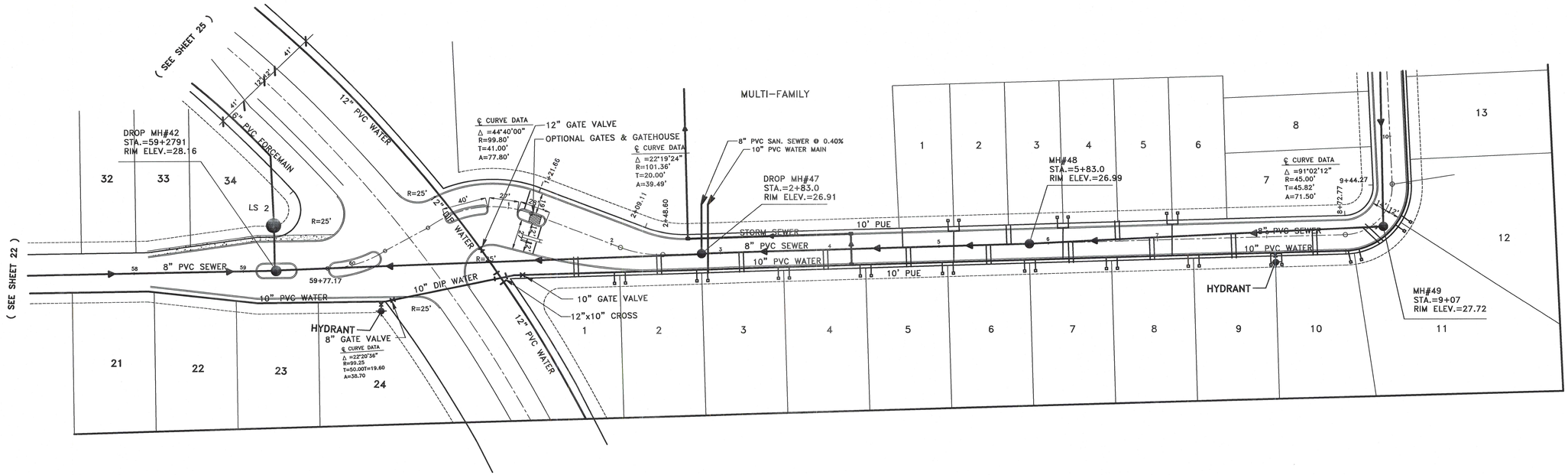
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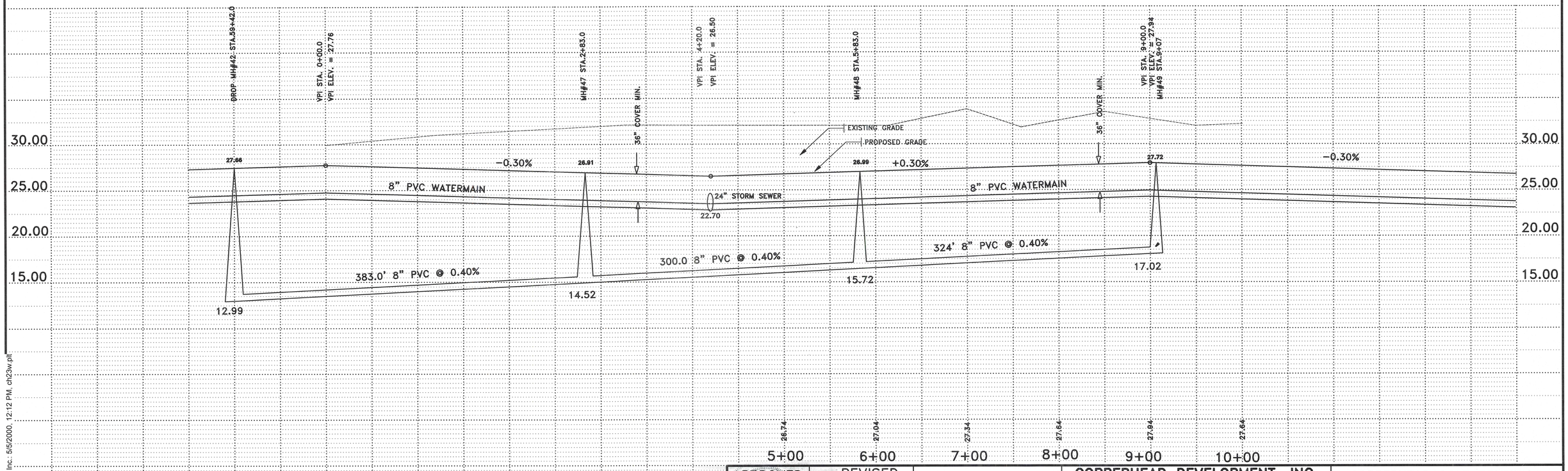
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SANITARY SEWER & WATERMAIN

SHEET 22 of 39 SHEETS

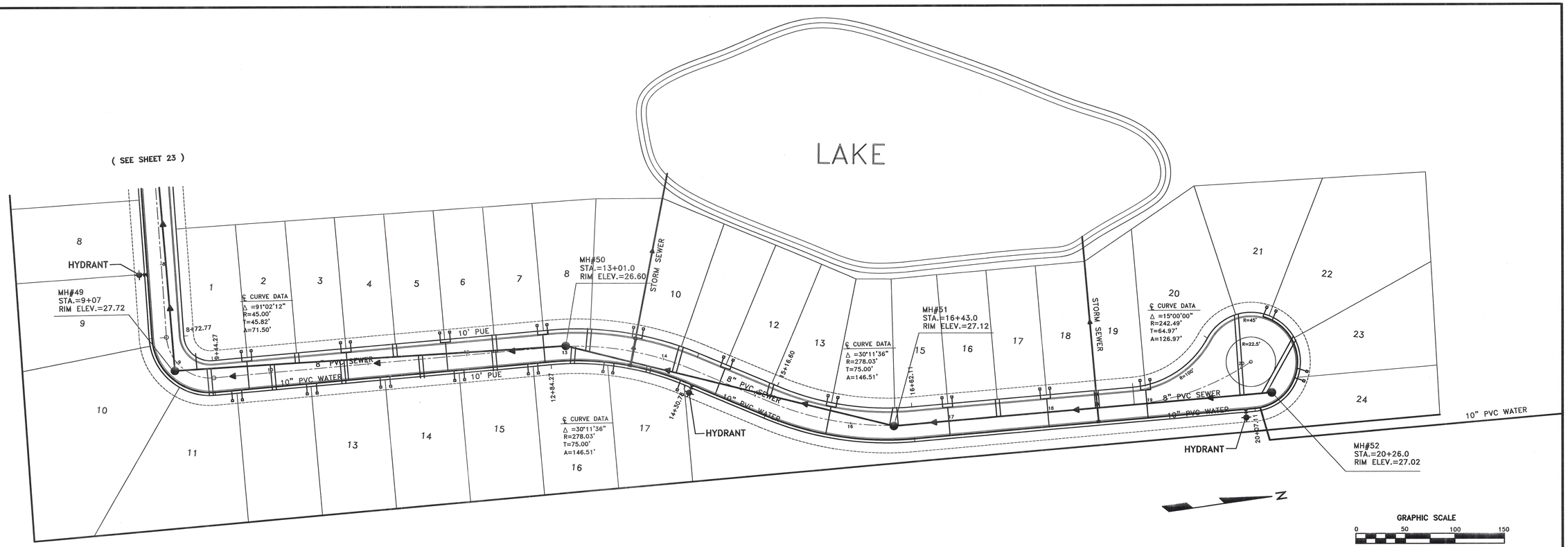
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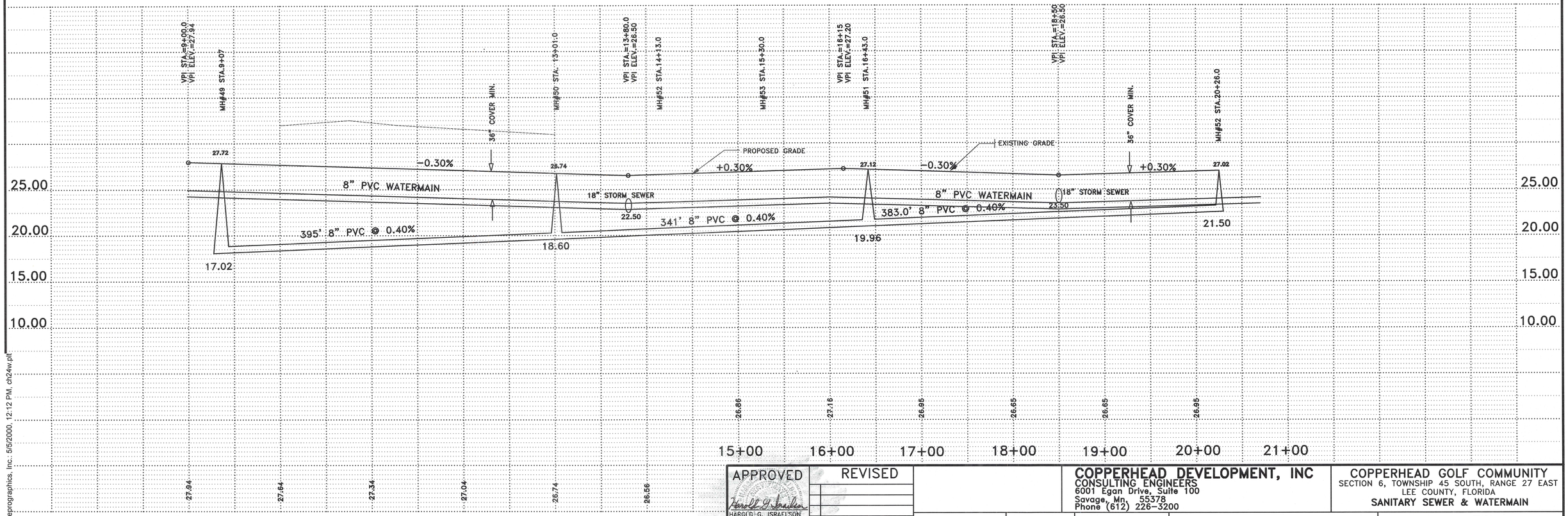




APPROVED	REVISED		COPPERHEAD DEVELOPMENT, INC.	COPPERHEAD GOLF COMMUNITY
HAROLD G. ISRAELSON REG. NO. 34163 DATE 11/22/99 VALID ONLY WITH EMBOSSED SEAL			CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SANITARY SEWER & WATERMAIN
		DATE 11/22/99 BY FHZ	FILE SH21-24	SHEET 23 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 12:12 PM, ch23w.plt





APPROVED HAROLD G. ISRAELSON REG. NO. 5-165 DATE 5-2-00 VALID ONLY WITH EMBOSSED SEAL	REVISED	COPPERHEAD DEVELOPMENT, INC CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPERHEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SANITARY SEWER & WATERMAIN	
		DATE 11/22/99 BY FHZ	FILE SH21-24	SHEET 24 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 12:12 PM, ch24w.plt

WETLAND

LAKE

CLUBHOUSE

WETLAND

(SEE SHEET 22)

℄ DATA
△=18°41'49"
R=1203.00
L=392.57
T=198.04

℄ DATA
△=66°25'00"
R=1222.14
L=1416.69
T=800.00

16+57.86
16+40.43
12+47.86

AIR RELEASE MH

6" PVC FORCE MAIN

12" PVC WATERMAIN

BETH STACEY BOULEVARD

COPPERHEAD DR.

(SEE SHEET 22)

10" DIP WATER MAIN

10" PVC WATER MAIN

6" PVC SEWER

8" PVC SEWER

8" GATE VALVE

8"x6" TEE

8"x6"REDUCER

8" DIP FM

10" DIP WM

12" DIP WM

12" GATE

12"x10" CROSS

10" GATE VALVE

10" PVC WATER MAIN

8" PVC SEWER

10" PVC WATER MAIN

IRONWOOD DR

(SEE SHEET 22)

N

GRAPHIC SCALE
0 50 100 150

DITCH GRADE @ -0.17%

DITCH GRADE @ 0.17%

DITCH GRADE @ 0.29%

-0.00%

-0.30%

PROPOSED GRADE

EXISTING GRADE

12" PVC WATERMAIN 6" PVC FORCE MAIN

18" STORM SEWER

LOWER FORCEMAIN
TOP ELEV=20.0

VPI STA 9+10.00
VPI ELEV=27.00

VPI STA 6+80.00
VPI ELEV=27.75

30.00
25.00
20.00
15.00

22+00 21+00 20+00 19+00 18+00 17+00 16+00 15+00 14+00 13+00 12+00 11+00 10+00 9+00 8+00 7+00

APPROVED
HAROLD G. ISRAELSON
REG. NO. 5963
DATE 5/5/00
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 11/22/99 BY FHZ

FILE SH11-13

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

SHEET 25 of 39 SHEETS

Rost Reprographics, Inc. 5/5/2000, 12:11 PM, ch25w.plt

BETH STACEY BOULEVARD

(SEE SHEET 22)

COPPERHEAD DR.

LS 2

℄ DATA
△ =11°31'00"
R=1181.96
L=237.58
T=119.19

HYDRANT

32+44.13

6" PVC FORCE MAIN

12" PVC WATERMAIN

30+74.57

STORM SEWER

STORM SEWER

6" PVC FORCE MAIN

12" PVC WATERMAIN

℄ DATA
△ =66°25'00"
R=1222.14
L=1416.69
T=800.00

(SEE SHEET 25)

WETLAND

LAKE

10" DIP WM

12" DIP WATER

12" PVC WATER

10" PVC WATER

8" PVC SEWER

(SEE SHEET 23)

N

GRAPHIC SCALE
0 50 100 150

VPI STA 34+65.00
VPI ELEV=27.75

VPI STA 32+15.00
VPI ELEV=27.00

EXISTING GRADE
PROPOSED GRADE

+1.00%
DITCH GRADE @ 0.30%
26.0
26.5

+0.30%
DITCH GRADE @ 0.40%
26.5
25.0

+0.00%
DITCH GRADE @ 0.30%
25.0
26.0

DITCH GRADE @ 0.30%
26.0
25.0

DITCH GRADE @ 0.17%

12" PVC WATERMAIN
22.00

18" STORM SEWER
21.50

6" PVC FORCEMAIN
21.00

LOWER WATERMAIN
TOP ELEV=20.0
21.00

12" PVC WATERMAIN

24" STORM SEWER
19.20

25.00
20.00
15.00
10.00

29.16 28.10 27.56 27.26 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00

37+00 36+00 35+00 34+00 33+00 32+00 31+00 30+00 29+00 28+00 27+00 26+00 25+00 24+00 23+00 22+00

APPROVED
HAROLD G. ISRAELSON
REG. NO. 34165
DATE 5/5/00
VALID ONLY WITH EMBOSSED SEAL

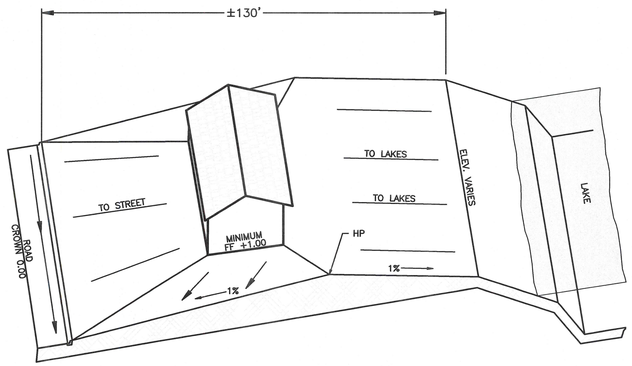
REVISED

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

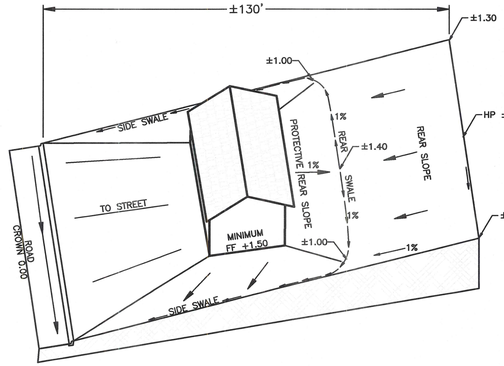
COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

DATE 11/22/99 | BY FHZ | FILE SH11-26 | SHEET 26 of 39 SHEETS

Rost Reprographics, Inc.- 5/5/2000, 12:11 PM, ch26w.plt



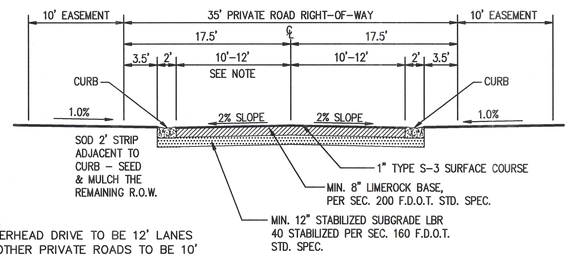
LOT GRADING TYPE A
REAR DRAINAGE TO LAKE
NOT TO SCALE



LOT GRADING TYPE B
ALL DRAINAGE TO STREET
NOT TO SCALE

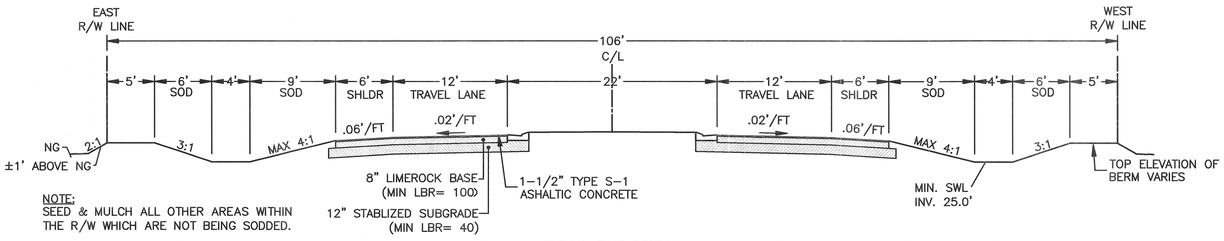
TYPE A – LOTS ADJACENT TO ONSITE LAKES, SAVED AREAS OR GOLF COURSE

TYPE B – LOTS ADJACENT TO PROPERTY BOUNDARY, ABUTTING OTHER LOTS OR WETLANDS. REFER TO GRADING ARROWS ON PGD PLANS



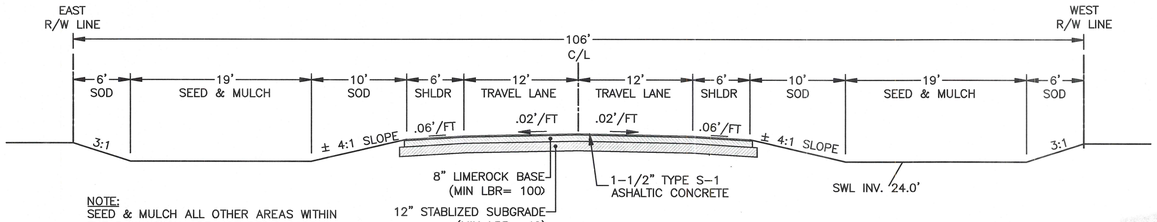
NOTE:
COPPERHEAD DRIVE TO BE 12' LANES
ALL OTHER PRIVATE ROADS TO BE 10'

TYPICAL SUBDIVISION ROAD CROSS SECTION
NTS



NOTE:
SEED & MULCH ALL OTHER AREAS WITHIN THE R/W WHICH ARE NOT BEING SODDED.

TYPICAL ROAD SECTION
STATION 2+40 TO 37+18
NTS



NOTE:
SEED & MULCH ALL OTHER AREAS WITHIN THE R/W WHICH ARE NOT BEING SODDED.

TYPICAL ROAD SECTION
w/ DETENTION
STATION 37+18 TO 39+21
NTS

CopperHead - Stormwater Structure/Piping Table

Notes	Phase	Box No.	Box Type w/Cover Slab	Grate Elev.	Pipe Size	Invert	Pipe Data		ID	Length	Dia.
VG	1	S1	D	26.41	24"N & S	19.0	S1 TO S2	P2	22.7	24	
VG	1	S2	G	26.41	36"NSE, 24"S	19.0	S2 TO GF	P1	92.0	36	
	1	OF	N/A	N/A	36"	19.0					
R&C	1	S3	TYPE"P",ALT."B"	27.60	30"S, 36"E&W	20.5 S, 19.0 E&W	S2 TO S3	P3	116.0	36	
R&C	1	S4	TYPE"P",ALT."B"	27.60	30"S, 36"E&W	21.0 S, 19.0 E&W	S3 TO S4	P4	262.0	36	
VG	2	S5	D	26.06	18"E	21.0	S5 TO S6	P10	22.7	18	
VG	2	S6	G	26.06	36"SSE, 18"W	19.0 SSE, 20.8 E	S4 TO S6	P9	160.0	36	
	2	OF	N/A	N/A	36"	19.0	S6 TO GF	P11	176.0	36	
VG	1	S7	D	26.26	18"E	23.3	S7 TO S9	P6	22.7	18	
VG	1	S9	D	26.26	18"W, 30"N	23.0W, 23.0N	S9 TO S3	P5	391.0	30	
VG	1	S9	D	26.06	18"W	23.3	S9 TO S10	P8	22.7	18	
VG	1	S10	D	26.06	18"E, 30"N	23.0 E, 23.0 N	S10 TO S4	P7	337.0	30	
VG	2	S11	D	25.76	18"S	22.3					
VG	2	S12	D	25.76	18"N, 24"S	22.0 N, 21.8 S	S11 TO S12	P12	22.7	18	
	2	OF	N/A	N/A	24"	20.5	S12 TO GF	P13	64.0	24	
VG	2	S13	D	25.76	18"W	23.2					
VG	2	S14	D	25.76	18"E, 24"W	23.2 E, 23.2+FS6W	S13 TO S14	P14	22.7	18	
FTG	2	S15	C	26.20	24"E, 24"N	20.5 NSE	S14 TO S15	P15A	146.0	24	
	2	OF	N/A	N/A	24"	20.2	S15 TO GF	P15B	39.0	24	
FTG	1	S16	D	26.50	36"N	19.0					
R&C	1	S17	TYPE"P", ALT."B"	26.50	36"NSS	19.0	S16 TO S17	P47B	447.0	36	
	1	S18	WCS #1	N/A	36"S	19.0	S17 TO S18	P47A	473.0	36	
VG	1	S19	D	26.56	18"	22.0					
VG	1	S20	D	26.56	18"S, 24"N	21.8S, 21.45 N	S19 TO S20	P-27	22.7	18	
	1	OF	N/A	N/A		21.0	S20 TO GF	P-28	61.0	24	
	1	OF	N/A	N/A	24"N	20.5					
VG	1	S21	D	26.56	36"NSS	20.5	S21 TO GF	P-30	175.0	24	
VG	1	S22	D	26.56	36"NSS	20.5	S21 TO S22	P-32	31.5	24	
	1	OF	N/A	N/A	24"S	20.5	S22 TO GF	P-31	160.0	24	
	1	OF	N/A	N/A	24"E	19.5					
VG	1	S23	D	26.56	24"E&W	19.5	S23 TO GF	P-35	160.0	24	
VG	1	S24	D	26.56	24"E&W	19.5	S23 TO S24	P-36	33.0	24	
R&C	1	S25	TYPE"P", ALT."B"	26.50	24"E&W	19.5	S24 TO S25	P-37A	146.0	24	
	1	OF	N/A	N/A	24"W	19.5	S25 TO GF	P-37B	112.0	24	
VG	2	S26	D	26.56	18"E	23.0					
VG	2	S27	D	26.56	18"N	23.0	S26 TO S28	P-43	39.0	18	
VG	2	S29	D	26.56	18"S&W, 24"E	22.8 S&W, 22.5 E	S27 TO S29	P-44	41.0	18	
VG	2	S29	D	26.56	18"N	23.0	S29 TO S30	P-41	22.7	18	
VG	2	S30	D	26.56	18"S,24"E&W,24"N	22.8S,20.5E&W,20.0N	S29 TO S30	P-40B	270.0	24	
VG	2	S31	D	26.56	18"SSE, 24"W	22.8 SSE, 22.5 W	S30 TO S31	P-39	42.0	18	
VG	2	S32	D	26.56	18"N	23.0	S33 TO S32	P-39	43.0	18	
VG	2	S33	D	26.56	18"W	23.0	S31 TO S30	P-40A	225.0	24	
	2	OF	N/A	N/A	36"S	19.5	S30 TO GF	P-42	47.0	36	
FTG	3	S34	C	26.50	24"E	22.0					
VG	3	S35	D	26.25	24"E&W	21.6	S34 TO S35	P-54	64.0	24	
	3	OF	N/A	N/A	24"W	20.5	S35 TO GF	P-55	205.0	24	
FTG	3	S36	C	26.50	24"E&W	22.0					
VG	3	S37	D	26.56	24"E&W	22.0	S36 TO S37	P-62B	165.0	24	
VG	3	S39	D	26.56	24"W&S, 24"E	22.0	S37 TO S39	P-62A	22.7	24	
FTG	3	S39	D	27.00	36"E&W	19.5	S39 TO S39	P-63A	209.0	36	
FTG	1	S40	G	27.00	36"E,W,N	19.5	S39 TO S40	P-63B	139.0	36	
	1	OF	N/A	N/A	36"W	19.5	S40 TO GF	P-63C	109.0	36	
VG	2	S41	D	26.56	30"E	21.5					
FTG	2	S42	D	26.50	30"E&W	21.0	S41 TO S42	P-29A	165.0	30	
FTG	1	S43	D	26.50	30"E&W	20.5	S42 TO S43	P-29B	76.0	30	
	1	OF	N/A	N/A	30"W	20.0	S43 TO GF	P-29C	71.0	30	
VG	3	S44	D	27.06	24"S	22.0					
FTG	3	S45	D	26.50	24"N,S,E&W	21.5	S44 TO S45	P-30A	164.0	24	
	3	OF	N/A	N/A		21.0	S45 TO GF	P-30B	69.0	24	
VG	3	S46	D	26.80	18"E	23.0					
VG	3	S47	D	26.80	18"W, 24"N	22.8 W, 20.5 N	S46 TO S47	P-60	22.7	18	

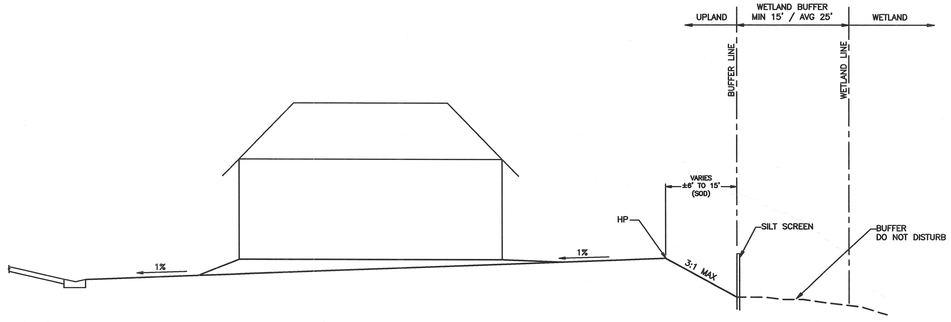
LEGEND	
E	East
FTG	Flat Top w/ Steel Grate
MES	Mitered End Section
N	North
OF	Outfall to Lake
(P?)	Piping Run Designation
R&C	Manhole Ring & Cover
RCP	Reinforced Concrete Pipe
S	Sth th
S?	Structure Number
VG	5106 Valley Gutter and 6149 Grate
W	West

Notes		Box No.	Box Type w/Cover Slab	Grate Elev.	Pipe Size	Invert	Pipe Data		ID	Length	Dia.
VG	3	S48	D	27.16	18"W	22.8	S47 TO S39	P61	162.0	24	
VG	3	S49	D	27.16	18"E, 24"W	22.5	S48 TO S49	P60	22.7	18	
FTG	1	S50	C	27.37	24"E,W,&S	21.0	S49 TO S50	P51A	261.0	24	
	1	OF	N/A	N/A			S50 TO OF	P51B	59.0	24	
VG	4	S51	D	27.06	18"S	24.0					
VG	4	S52	D	27.06	18"N,24"S	24.0N,24.0 S	S51 TO S52	P52	28.0	18	
	4	OF	N/A	N/A	24"N	20.5	S52 TO OF	P53	196.0	24	
VG	4	S53	D	26.56	18"E	23.0					
VG	4	S54	D	26.56	18"S, 24"N	22.7 S, 21.5 N	S53 TO S54	P55	22.7	18	
	4	OF	N/A	N/A	24"S	21.0	S54 TO OF	P56	239.0	24	
FTG	4	S55	C	N/A	18"W	21.5					
FTG	4	S56	C	N/A	18"E, 24"W	21.3 E, 21.0W	S55 TO S56	P67	56.0	18	
	4	OF	N/A	N/A	24"E	20.5	S56 TO OF	P58	157.0	24	
FTG	4	S57	C	N/A	18"W	21.5					
FTG	4	S58	C	N/A	18"E, 24"W	21.3 E, 21.0W	S57 TO S59	P69	56.0	18	
	4	OF	N/A	N/A	24"E	20.5	S58 TO OF	P70	204.0	24	
FTG	4	S59	C	N/A	18"E	21.5					
FTG	4	S60	C	N/A	18"W, 24"E	21.3 W, 21.0 E	S59 TO S60	P71	56.0	18	
	4	OF	N/A	N/A	24"W	20.5	S60 TO OF	P72	147.0	24	
MES	4	S61	N/A	N/A	18"E	24.5					
MES	4	S62	N/A	N/A	18"W	24.5	S61 TO S62	P73	56.0	18	
	4	S63	WCS #10	N/A	18"S	23.0					
FTG	4	S64	C	N/A	18"N, 24"E	22.8 N, 21.0 E	S63 TO S64	P74	163.0	15	
MES	4	S65	N/A	N/A	24"W	20.0	S64 TO S65	P75	66.0	24	
VG	4	S66	D	26.06	18"N	22.6					
VG	4	S67	D	26.06	18"S, 24"W	22.4 S, 22.0W	S66 TO S67	P21	22.7	18	
VG	4	S69	D	26.43	24"E, 30"N	21.5 E, 21.0 N	S67 TO S69	P22	165.0	24	
FTG	4	S69	G	26.10	36"SWN	20.0	S68 TO S69	P23	406.0	36	
	4	OF	N/A	N/A	36"E	19.0	S69 TO S70	P24	239.0	36	
VG	4	S70	D	26.01	18"W	23.5					
VG	4	S71	D	26.06	18"E, 24"W	23.5 E, 23.0W	S70 TO S71	P19	22.7	18	
	4	OF	N/A	N/A	24"E	20.0	S71 TO OF	P18	177.0	24	
VG	4	S72	D	26.06	18"W	22.6					
VG	4	S73	D	26.06	18"E, 24"W	22.8 E, 21.0W	S72 TO S73	P16	22.7	18	
	4	OF	N/A	N/A	24"E	20.0	S73 TO OF	P17	166.0	24	
	1	S74	WCS #2	N/A	24"E	19.5					
MES	1	S75	N/A	N/A	24"W	19.0	S74 TO S75	P54	40.0	24	
FTG	1	S76	C	26.50	24"E	20.2					
	1	S77	WCS #3	N/A	24"W	20.0	S77 TO S76	P49	300.0	24	
FTG	1	S78	C	26.50	24"W	19.0					
	1	S79	WCS #5	N/A	24"E	19.5	S76 TO S79	P49	293.0	24	
	1	S80	WCS #6	N/A	12"E	21.0					
	1	S81	OF	N/A	12"W	21.0	S80 TO S81	P57	34.0	12	
MES	1	S82		N/A	18"N	20.0					
	1	S83	WCS #7	N/A	18"S	21.0	S82 TO S83	P20	142.0	18	
	1	S84	WCS #9	N/A	18"W	21.0					
MES	1	S85		N/A	18"E	20.0	S84 TO S85	P59	65.0	18	
FTG	1	S86	C	26.50	24"N	21.0					
	1	S87	WCS #9	N/A	24"S	21.0	S86 TO S87	P59	66.0	24	
	1	OF	N/A	N/A	N/A	20.0					
FTG	1	S88	D	26.50	30"NSS	20.0	OF TO S88	P45A	110.0	30	
	1	OF	N/A	N/A	N/A	20.0	S88 TO OF	P45B	240.0	30	
FTG	1	S89	C	26.50	24"E	22.0					
FTG	1	S90	C	26.50	24"E&W	21.5	S89 TO S90	P66A	61.0	24	
FTG	1	S91	C	26.50	24"E,N,&W	21.0	S90 TO S91	P66B	62.0	24	
	1	OF	N/A	N/A	N/A	20.5	S91 TO OF	P66C	77.0	24	
FTG	1	S92	C	26.50	24"W	21.5					
FTG	1	S93	C	26.50	18"W	23.5	S92 TO S94	P25	143.0	18	
FTG	1	S94	D	26.50	18"E, 24"E, 30"W	22.8E,21.0E,20.5W	S93 TO S94	P26A	115.0	24	
	1	OF	N/A	N/A	30"E	20.0	S94 TO OF	P26B	65.0	30	
	1	OF	N/A	N/A	24"E	20.5					
	1	S95	D	26.50	24"E,W,&N	20.5	OF TO S95	P34	189.0	24	
	1	OF	N/A	N/A	24"W	20.5	S95 TO OF	P34A	46.0	24	
	1	OF	N/A	N/A	30"S	20.0					
FTG	1	S96	D	26.50	24"W, 30"NSS	20.0	OF TO S96	P46A	317.0	30	
FTG	1	S97	D	26.50	30"NSS	20.0	S96 TO S97	P46B	140.0	30	
	1	OF	N/A	N/A	30"N	20.0	S97 TO OF	P46C	103.0	30	

ALL PIPES WITHIN ROAD RIGHT-OF-WAYS SHALL BE FDOT APPROVED REINFORCED CONCRETE PIPE (RCP).

ALL OTHER PRIMARY, SECONDARY AND GOLF COURSE DRAINAGE PIPES SHALL BE POLYETHYLENE PIPE (ADS OR APPROVED EQUAL).

PIPE TABLE DOES NOT INCLUDE INTERNAL GOLF COURSE DRAINAGE PIPES OR CLUBHOUSE DRAINAGE PIPES. REFER TO SHEET 9A FOR CLUBHOUSE DRAINAGE INFORMATION AND TO THE GOLF COURSE PLANS FOR GOLF COURSE DRAINAGE INFORMATION.



RESIDENTIAL LOT / WETLAND INTERFACE (M 8.27)
SCALE: NTS

Environmental & Coastal Engineers, Scientists & Management Consultants
APPLIED TECHNOLOGY & MANAGEMENT, INC

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

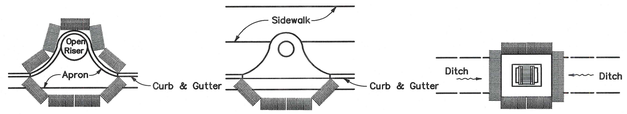
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

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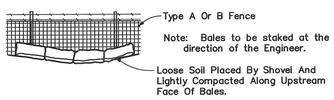
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
TYPICAL SECTIONS / PIPE TABLE

SHEET 27 of 39 SHEETS

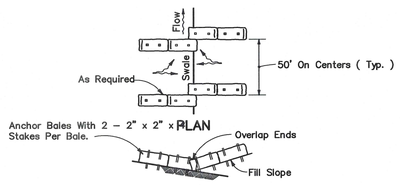
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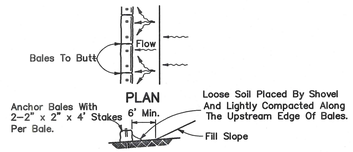


PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

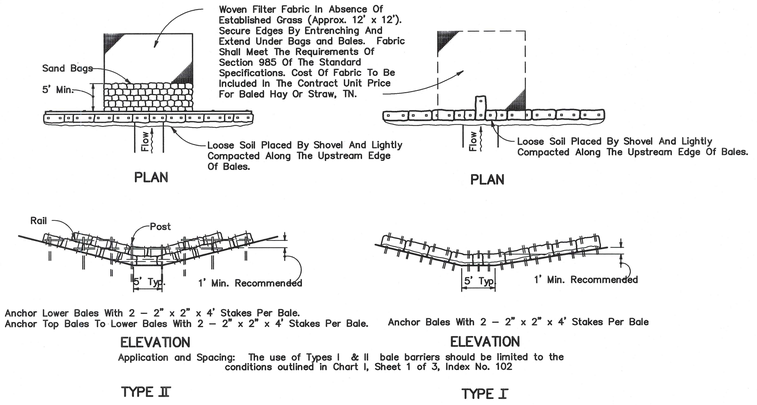


BALES BACKED BY FENCE





BARRIERS FOR FILL SLOPES



Application and Spacing: The use of Types I & II bale barriers should be limited to the conditions outlined in Chart I, Sheet 1 of 3, Index No. 102

TYPE II TYPE I

BARRIER FOR UNPAVED DITCHES

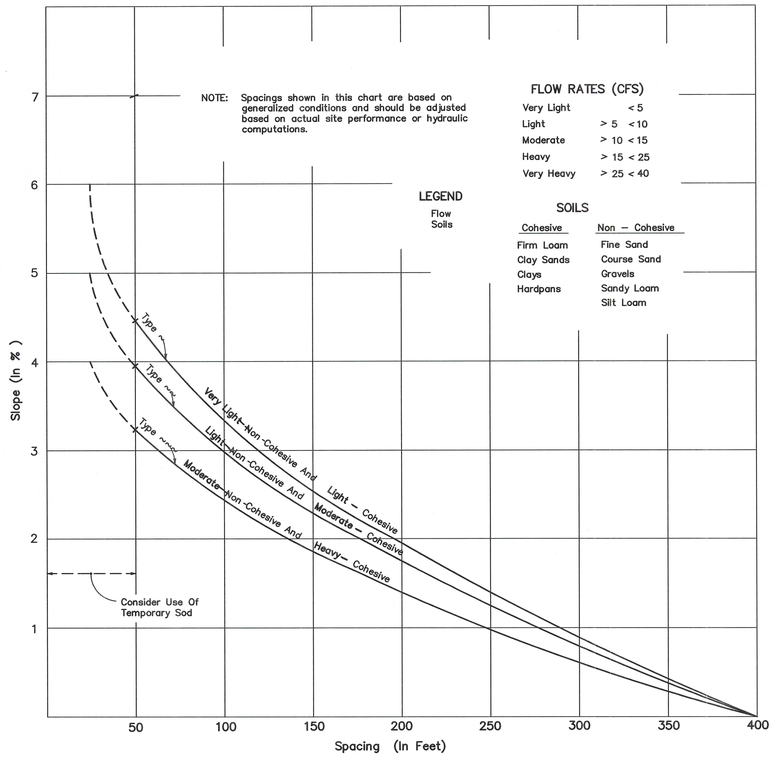
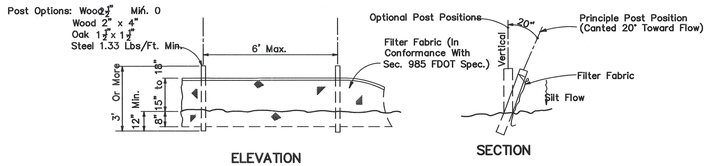


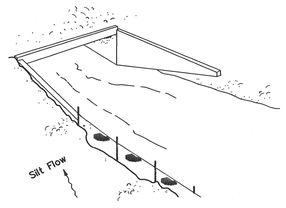
CHART I
BALED HAY OR STRAW
BARRIERS AND SILT FENCES

RECOMMENDED SPACING FOR TYPE I AND TYPE II HAY BALE BARRIERS, AND TYPE III SILT FENCES

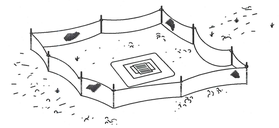


Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE



Type III Silt Fence



Type III Silt Fence Protection Around Ditch Bottom Inlets.



Note: Spacing for Type III Fence to be in accordance with Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Type III Silt Fence

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

BALED HAY OR STRAW
BARRIERS AND SILT FENCES

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SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
EROSION CONTROL DETAILS

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SHEET 29 of 39 SHEETS

GENERAL NOTES:

1. ZONING CLASSIFICATION FOR THIS PROPERTY IS MPD. SEE ZONING RESOLUTION NUMBER Z-99-079 FOR CONDITIONS AND DEVIATIONS.
2. THERE ARE NOT ANY EXISTING STRUCTURES ON THE SITE.
3. THE PROPERTY IS LOCATED IN THE LEHIGH ACRES FIRE DISTRICT.
4. THE PROPERTY IS NOT LOCATED IN ANY KNOWN OR RECORDED HISTORICAL OR ARCHEAEOLOGICAL AREA.
5. NO PUBLIC TRANSIT EXISTS WITHIN ONE-QUARTER MILE OF THIS PROPERTY.
6. THIS PROPERTY WILL BE DEVELOPED IN FOUR PHASES. SEE THE PROJECT PHASING PLAN.
7. RECREATIONAL AREAS/FACILITIES WILL BE WITHIN THE CLUB HOUSE AREA. THIS AREA MAY INCLUDE, BUT NOT LIMITED TO: A FITNESS CENTER, SWIMMING POOL AND/OR TENNIS COURTS.
8. THIS DEVELOPMENT WILL NOT HAVE ANY ADVERSE IMPACTS TO GOUND OR SURFACE WATERS.
9. BOUNDARY AND TOPOGRAPHIC INFORMATION WERE OBTAINED FROM A SURVEY PERFORMED BY _____
10. ALL STREETS WITHIN THE DEVELOPMENT WILL BE PRIVATE AND WILL BE DEDICATED TO THE HOMEOWNERS ASSOCIATION.
11. ALL LOTS ARE SUBJECT TO UTILITY EASEMENTS: 10' FRONT, 6' SIDE, 8' REAR, UNLESS OTHERWISE NOTED. THE LAKE AREAS WILL HAVE A 15' MAINTENANCE EASEMENT.
12. BUILDING HEIGHTS SHALL NOT EXCEED 35' AND 55'. THE HEIGHT LIMITATIONS ARE SET FORTH IN THE ZONING RESOLUTION.
13. SEE LANDSCAPING PLAN FOR LANDSCAPING, BUFFERING AND OPEN SPACE REQUIREMENTS.
14. FROM ALL INFORMATION AVAILABLE FROM A SITE SURVEY, THE ENGINEER CERTIFIES THAT THE SITE CAN BE USED SAFELY FOR BUILDING PURPOSES, WITHOUT UNDUE DANGER FROM THE 100 YR/3 DAY STORM FLOOD. THE OWNER CERTIFIES THAT THE SOIL CONDITIONS ON EACH BUILDING LOT WILL BE SUITABLE FOR BUILDING PURPOSES.
15. THE SITES SOIL CLASSIFICATIONS WERE TAKEN FROM USSCS, SOIL SURVEY OF LEE COUNTY, FLORIDA.
16. THIS SITE IS LOCATED IN F.I.R.M. FLOOD ZONE "B".
17. THERE ARE NOT APPARENT FLOWING WELLS ON THIS SITE.
18. ANY SIGNS THAT MAY BE INSTALLED ON THIS PROPERTY SHALL BE IN ACCORDANCE WITH LEE COUNTY ORDINANCE #85-26 AND ANY AMENDING ORDINANCES. SIGN DESIGN CRITERIA AND INFORMATION SHALL BE SUPPLIED AT THE TIME OF SIGN PERMIT APPLICATION.
19. ACCORDING TO THE LEE COUNTY LAND USE PLAN MAP, THIS SITE IS CLASSIFIED AS CENTRAL URBAN AND COMMERCIAL OVERLAY.
20. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
21. FOR INFORMATION ON THE EXISTING VEGETATION, SITE SOIL TYPES, AND FLORIDA LAND USE CLASSIFICATION SYSTEM, SEE REPORT AND MAP PREPARED BY BOYLAN ENVIRONMENTAL CONSULTANTS, INC.
22. ANY SURPLUS EXCAVATED MATERIAL THAT IS NOT NEEDED FOR THE DEVELOPMENT OF THIS SITE WILL BE REMOVED FROM THE SITE.

REQUIRED PERMITS

IN AN ATTEMPT TO ASSIST THE CONTRACTOR IN MAKING SURE ALL PERMITS ARE OBTAINED IN A TIMELY MANNER, THE ENGINEER PROVIDES THE FOLLOWING LIST OF REQUIRED PERMITS TO BE OBTAINED BY THE ENGINEER:

1. LEE COUNTY DEVELOPMENT ORDER #_____
2. SOUTH FLORIDA WATER MANAGEMENT DISTRICT SURFACE WATER MANAGEMENT PERMIT #_____
3. ARMY CORPS OF ENGINEERS DREDGE AND FILL PERMIT #_____
4. LEE COUNTY HRS WATER DISTRIBUTION SYSTEM PERMIT #_____
5. DEPARTMENT OF ENVIRONMENTAL PROTECTION WASTEWATER COLLECTION SYSTEM PERMIT #_____
6. EAST COUNTY WATER CONTROL DISTRICT PERMIT #_____

THE FOLLOWING LIST OF REQUIRED PERMIT TO BE OBTAINED BY THE CONTRACTOR:

1. LEE COUNTY TREE CLEARING PERMIT.
2. LEE COUNTY DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY PERMIT.
3. ENVIRONMENTAL PROTECTION AGENCY NPDES PERMIT.

THIS LIST IS NOT INTENDED TO BE INCLUSIVE. OTHER PERMITS MAY BE REQUIRED.

UTILITY SYSTEM NOTES

GENERAL

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LEE COUNTY LAND DEVELOPMENT CODE, AND FLORIDA WATER SERVICES STANDARDS AND SPECIFICATIONS, AS AMENDED.
2. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATION AND ELEVATION. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND FAMILIARIZE HIMSELF WITH THE SITE AND THE CONTRACT DOCUMENTS. ALL WORK SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH ALL PERMITS AND APPROVALS OBTAINED FOR THIS PROJECT.
3. ALL MATERIALS, DEBRIS, UNSUITABLE EARTH, ETC. OF NO SALVAGE VALUE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCY, IN WRITING, PRIOR TO COMMENCING WORK WITHIN SUCH AGENCY'S JURISDICTION.
5. INSPECTIONS DURING CONSTRUCTION ARE REQUIRED BY FLORIDA WATER SERVICES. FLORIDA WATER SERVICES AND THE ENGINEER SHALL BE NOTIFIED, IN WRITING, AND BOTH MUST HAVE AN INSPECTOR PRESENT DURING THE FOLLOWING CONSTRUCTION ACTIVITIES:
   A. HOT TAPS, (WATER & SEWER) INCLUDING TAPPING SLEEVE PRESSURE TEST.
   B. WATER MAIN PRESSURE TESTING.
   C. SEWER MAIN PRESSURE TESTING.
   D. LAMPING SEWER LINES.
   E. INFILTRATION TESTING OF GRAVITY COLLECTION SYSTEM.
   F. PUMP STATION START-UP.
   G. JACK & BORE AND OPEN CUT OPERATIONS
   H. OTHER TESTS OR INSPECTIONS AS SPECIFIED BY FLORIDA WATER SERVICES DURING CONSTRUCTION PLAN APPROVAL OR DURING THE PRE-CONSTRUCTION MEETING
   I. CONFLICT CONSTRUCTION

   PROVIDE A MINIMUM OF 48 HRS. NOTICE.
6. LOCATING DIMENSIONS FOR SEWER LATERALS & WATER CROSSINGS ARE TAKEN FROM THE NEXT DOWNSTREAM MANHOLE ALONG THE CENTERLINE OF THE SEWER, AND PERPENDICULAR TO THE SERVICE LINE.
7. BEDDING OF WATER AND SEWER LINES SHALL BE AS SHOWN ON TYPICAL TRENCH DETAIL. SUITABLE BACKFILL MATERIAL SHALL BE PLACED IN 6" MAXIMUM COMPACTED LAYERS TO 12" ABOVE THE TOP OF PIPE.
8. PRIOR TO THE COMPACTION OF SUBGRADE AND ROADWAY CONSTRUCTION, ALL SUBSURFACE CONSTRUCTION SUCH AS WATER LINES, SEWER LINES, PUBLIC UTILITIES, AND STORM DRAINAGE MUST BE COMPLETED. COMPACTION UNDER PAVED AREAS SHALL BE TO 98% DENSITY.
9. THERE SHALL BE AT LEAST 10' MINIMUM HORIZONTAL AND 18" MINIMUM VERTICAL SEPARATION BETWEEN WATER SNA SEWER, AND WATER AND DRAINAGE PIPES.
10. ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM OF 30" OF COVER AT ALL TIMES. WATER LINES AND SEWER FORCE MAINS SHALL HAVE A STANDARD 36" OF COVER.
11. ALL CONFLICTS OF WATER LINES OVER OR GRAVITY SEWER LINES UNDER RCP DRAINAGE LINES SHALL BE AWWA C900 CL200 PVC OR EQUAL FOR 10' EACH WAY OF CONFLICT.
12. ALL VALVES MUST BE PLACED OUTSIDE OF PAVED AREAS.
13. HORIZONTAL AND VERTICAL DEFLECTION OF THE PRESSURE MAINS SHALL NOT EXCEED THE PIPE MANUFACTURER'S SPECIFICATIONS. BENDS SHALL BE USED WHERE DEFLECTIONS EXCEED THE MANUFACTURER'S SPECIFICATIONS.
14. ALL PRESSURE MAINS SHALL BE DEFLECTED AROUND CATCH BASINS TO MAINTAIN 5' MINIMUM SEPARATION. BENDS SHALL BE UTILIZED IF NECESSARY.
15. ALL PVC MAINS (WATER & SEWER) SHALL BE INSTALLED WITH A 3" WIDE CONTINUOUS PRINTED METALLIC TAPE.
16. ALL ELEVATIONS REFERENCED NATIONAL GEODETIC VERTICAL DATUM.
17. ALL CONFLICTS WITH WATER AND SEWER LINES MUST BE INSPECTED BY FLORIDA WATER SERVICES. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HRS. NOTICE FOR INSPECTIONS.
17. THRUST BLOCKS NOT PERMITTED, ALL POTABLE WATER AND SANITARY SEWER FORCE MAINS SHALL UTILIZE MECHANICAL JOINTS.

RECORD DRAWINGS

THE CONTRACTOR SHALL KEEP AND MAINTAIN ON SITE, AN ACCURATE AND UP-TO-DATE SET OF RECORD DRAWINGS. THESE DRAWINGS SHALL INCLUDE LOCATIONS AND ELEVATIONS OF MAINS, FITTINGS, SERVICES AND OTHER APPURTENANCES AS WELL AS ANY DEVIATIONS FROM THE PLANS. THESE RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THE WORK FOR HIS REVIEW AND APPROVAL. THE ENGINEER WILL CREATE A SET OF RECORD DRAWINGS FOR SUBMITTAL TO LEE COUNTY, FLORIDA WATER SERVICES, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND THE DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES.

POTABLE WATER

1. MAINS, SERVICES, AND METALLIC LOCATION/IDENTIFICATION TAPE TO BE COLOR CODED BLUE FOR POTABLE WATER.
2. WATER MAINS SHALL BE MIN. C900 DR18, WITH A MIN. GROUND COVER OF 36".
3. STEEL ENCASING THE WATER LINE UNDER ALL PAVEMENT IS REQUIRED.
4. CONTRACTOR SHALL CONTACT FLORIDA WATER SERVICES TO ARRANGE A PRE-CONSTRUCTION MEETING.
5. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH AS-BUILT PLANS PRIOR TO CERTIFICATE OF COMPLIANCE.
6. THE CONTRACTOR SHALL SUPPLY THE WATER METER BOXES. WATER METER BOXES TO BE LOCATED AS SHOWN ON THE PLANS. (NOT IN SIDEWALKS)
7. THE UTLITY SHALL PROVIDE THE WATER METERS UPON ISSUANCE OF INDIVIDUAL BUILDING PERMITS.
8. IT IS REQUIRED THAT ALL NEW AND RELOCATED WATER MAIN PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS BE IN CONFORMANCE WITH APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS, THAT ALL NEW AND RELOCATED WATER MAIN PIPE AND FITTINGS CONTAIN NO MORE THAN EIGHT PERCENT LEAD, AND THAT ALL PACKING AND JOINTING MATERIALS USED IN THE JOINTS OF NEW OR RELOCATED WATER MAIN PIPE BE IN CONFORMANCE WITH APPLICABLE AWWA STANDARDS.
9. THIS PROJECT DOES INCLUDE INSTALLATION OF ANY NEW OR RELOCATED WATER MAINS IN AREAS WHERE THERE IS EXISTING DOCUMENTED EVIDENCE THAT THE GROUND WATER IS CONTAMINATED BY ORGANIC COMPOUNDS.
10. ALL NEW AND RELOCATED WATER MAINS ARE SIZED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL UNDER ALL CONDITIONS OF FLOW.
11. ANY HIGH POINTS WHERE AIR CAN ACCUMULATE IN WATER MAIN, HYDRANTS OR AIR RELEASE VALVES SHALL BE PROVIDED AT SUCH HIGH POINTS TO REMOVE THE AIR.
12. ANY AUTOMATIC AIR RELEASE VALVES SHALL NOT BE LOCATED WHERE FLOODING OF THE VALVE MANHOLE OR CHAMBER COULD OCCUR, AND THE OPEN END OF THE AIR RELEASE PIPE FROM SUCH VALVE IS EXTENDED TO AT LEAST ONE FOOT ABOVE GRADE AND IS PROVIDED WITH A SCREENED DOWNWARD-FACING ELBOW.
13. ANY HYDRANT DRAINS, FLUSHING DEVICES, AIR RELEASE VALVES, OR CHAMBERS OR MANHOLES CONTAINING VALVES, BLOW-OFFS, METERS, OR OTHER SUCH APPURTENANCES PROVIDED IN CONJUNCTION WITH WATER MAIN, SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWERS.
14. WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS AND/OR THE MANUFACTURER'S RECOMMENDED PROCEDURES.
15. STONES FOUND IN TRENCHES FOR WATER MAIN PIPE SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR WATER MAIN PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND WATER MAIN PIPE AND TO A SUFFICIENT HEIGHT ABOVE SUCH PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE.
16. ALL TEES, BENDS, PLUGS, AND HYDRANTS IN WATER MAINS SHALL BE PROVIDED WITH REACTION BLOCKING OR RESTRAINED JOINTS TO PREVENT MOVEMENT.
17. WATER MAINS SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600.
18. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 AND RULE 62-555.345, F.A.C.
19. WATER MAINS SHALL BE LOCATED AT LEAST TEN FEET HORIZONTALLY FROM ALL SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS. (ALL DISTANCES ARE MEASURED FROM OUTSIDE PIPE EDGE TO OUTSIDE PIPE EDGE.)
20. WHERE WATER MAINS THAT CROSS ANY SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS, THE WATER MAINS SHALL CROSS ABOVE SUCH PIPELINES WITH A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAINS AND THE OUTSIDE OF SUCH PIPELINES, OR SUCH CROSSINGS SHALL BE ARRANGED SO THAT ALL PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN FEET BETWEEN THE TWO JOINTS (OR, ALTERNATIVELY, THE SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS, LINES AT SUCH CROSSINGS SHALL BE PLACED IN SLEEVES TO OBTAIN THE EQUIVALENT OF THE TEN-FOOT SEPARATION BETWEEN JOINTS).
21. WHERE WATER MAINS CROSS UNDER ANY SURFACE WATER, A MINIMUM COVER OF THREE FEET SHALL BE PROVIDED OVER THE WATER MAIN, AND THE WATER MAIN SHALL BE D.I.P. AT SUCH SURFACE WATER CROSSING.
22. THIS PROJECT DOES NOT INCLUDE ANY INTERCONNECTION BETWEEN PREVIOUSLY SEPARATE PUBLIC DRINKING WATER SYSTEMS THAT HAVE SEPARATE WATER SUPPLY SOURCES.
23. ALL WATER SERVICES AND PLUMBING SHALL BE IN CONFORMANCE WITH THE STATE PLUMBING CODE, AND ALL PIPE AND PIPE FITTINGS WATER SERVICES AND PLUMBING CONTAIN NO MORE THAN EIGHT PERCENT LEAD, AND THAT ALL SOLDERS AND FLUX FOR NEW AND RELOCATED WATER SERVICES AND PLUMBING CONTAIN NO MORE THAN 0.2 PERCENT LEAD.
24. ALL WATER SERVICE LINES SHALL BE INSTALLED IN SCHEDULE 80 PVC CASING WHEN UNDER ROADWAY.
25. ALL POTABLE WATER MAINS SHALL BE "BLUE" IN COLOR.

SANITARY SEWER

1. ALL SEWER SERVICES SHALL BE 6" SINGLE SERVICES WITH CLEAN OUTS AT THE PROPERTY / RIGHT-OF-WAY LINES.
2. MANHOLE FRAMES AND COVERS TO BE WATER TIGHT, CLEAN OUT CAPS SHALL BE WATER TIGHT.
3. LOW PRESURE AIR TESTING, AND TVING OF GRAVITY SYSTEM IS REQUIRED. ADDITIONAL TESTING MAY BE NECESSARY.
4. GRAVITY MAINS SHALL BE 8" ASTM D3034 SDR 35, UNLESS NOTED. SLOPE MIN. 0.40%
5. FORCE MAINS SHALL BE AWWA STANDARD C900, DR25, UNLESS NOTED.
6. ALL 6" ASTM D3034, DR35 PVC SEWER SERVICES SHALL BE CONSTRUCTED AT 1.0% SLOPE MINIMUM PER THE PLUMBING CODE.
7. EMS MAGNETIC MARKERS SHAAL BE INSTALLED AT THE END OF EACH SEWER SERVICE.
8. ALL SANITARY SEWER MAINS SHALL BE "GREEN" IN COLOR.

IRRIGATION

8. ALL IRRIGATION LINES SHALL BE "PURPLE" IN COLOR.

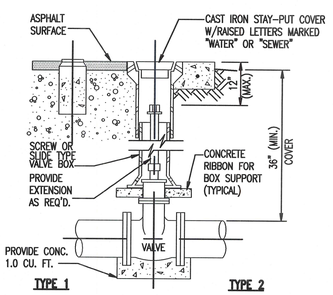
APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH EXPOSED SEAL

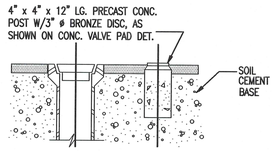
REVISED

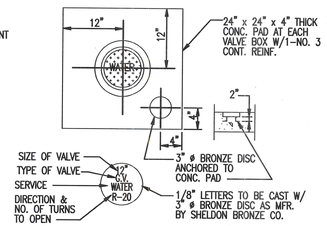
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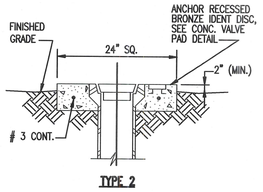
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
GENERAL NOTES





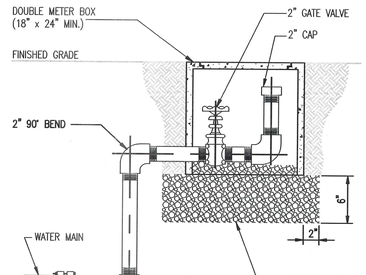




NOTES:

1. GATE VALVES FROM 4" TO 12" DIA. SHALL BE IRON BODY RESILIENT SEAT TYPE, RATED AT 200 P.S.I. AND SHALL COMPLY WITH ANSI/AWWA C509.
2. VALVES LARGER THAN 12" SHALL BE DOUBLE-DISC GATE AND RATED AT 150 P.S.I. AND COMPLY WITH ANSI/AWWA C500.
3. CONCRETE COLLAR AND VALVE COVER SHALL BE PAINTED FEDERAL SAFETY BLUE.

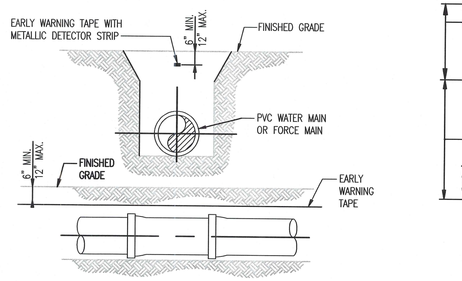
GATE VALVE AND BOX DETAILS



NOTES:

1. ALL 2" PIPE AND FITTINGS SHALL BE SCHEDULE 80 PVC OR BRASS WITH THREADED (NPT) JOINTS.

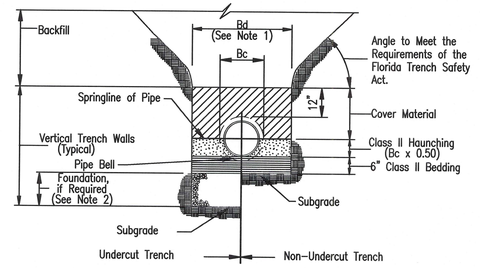
BLOWOFF VALVE DETAIL



NOTES:

1. ALL MAINS SHALL HAVE A "EARLY WARNING" PROTECTION TAPE INSTALLED CONTINUOUSLY ALONG THE ALIGNMENT. THE PROTECTION TAPE SHALL BE AS TERRA-TAPE OR EQUAL. TAPE SHALL BE INSTALLED DURING BACKFILLING 6"-12" INCHES BELOW FINISHED GRADE DIRECTLY OVER THE PIPE AND BE CONTINUOUSLY MARKED FOR THE TYPE OF PIPE (EXAMPLE: "CAUTION, WATER MAIN BURIED BELOW." THE TAPE SHALL HAVE A METALLIC DETECTABLE STRIP INCLUDED AND COLOR CODED AS FOLLOWS:
   - BLUE — POTABLE WATER
   - GREEN — SANITARY FORCE MAIN
   - PURPLE — EFFLUENT REUSE
   - RED — DEDICATED FIRE LINE
2. ALL P.V.C. MAINS SHALL BE EITHER A SOLID COLOR OR WHITE WITH COLOR CODED LETTERING. ALL LETTERING SHALL APPEAR ON THREE SIDES OF THE PIPE AND SHALL RUN THE ENTIRE LENGTH OF THE PIPE AND SHALL BE A MINIMUM OF 3/4 INCH IN HEIGHT WITH THE APPROPRIATE WORDING APPEARING ONE OR MORE TIMES EVERY 21 INCHES ALONG THE LENGTH OF THE PIPE. THE LETTERING MUST BE PERMANENTLY STENCILED TO THE PIPE SURFACE. LETTERING SHALL READ AS IS ACCEPTABLE FOR THE INTENDED USE. ALL LETTERING SHALL BE APPLIED BY THE PIPE MANUFACTURER DURING PRODUCTION.
3. ALL DUCTILE IRON MAINS SHALL BE MARKED WITH A CONTINUOUS STRIPE LOCATED WITHIN THE TOP 90° OF THE PIPE. SAID STRIPE SHALL BE A MINIMUM OF 2 INCHES IN WIDTH AND SHALL BE COLOR CODED AS STATED IN NOTE 1. BACKFILL SHALL NOT BE PLACED FOR 30 MINUTES FOLLOWING PAINT APPLICATION.
4. ALL POTABLE P.V.C. PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL OF APPROVAL FOR POTABLE WATER PIPE.

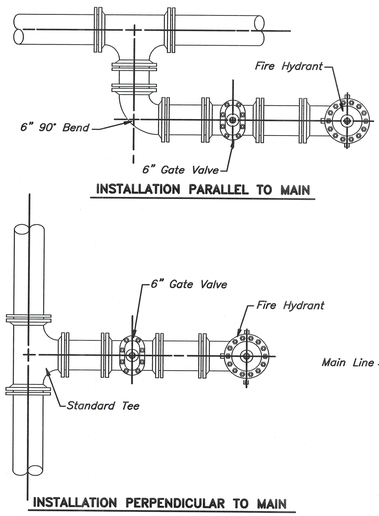
PIPE - LOCATION TAPE DETAIL



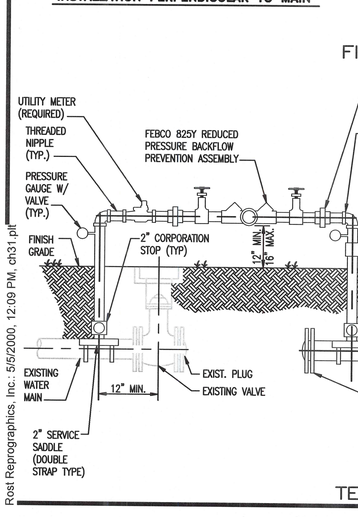
TYPICAL DETAIL
TRENCHING, PIPE BEDDING, BACKFILLING & COMPACTING

NOTES:

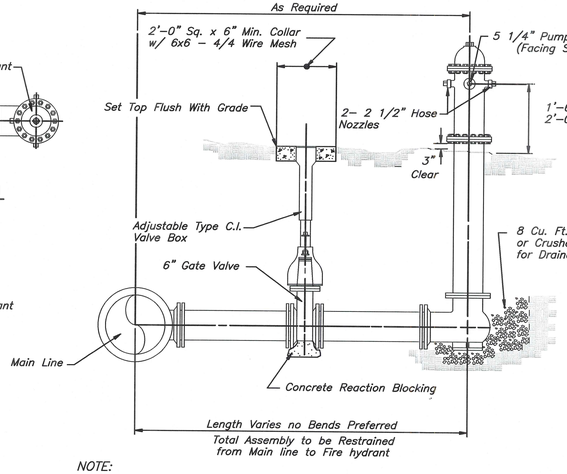
1. Dimension Bc = Pipe O.D.
   Dimension Bd = Trench Width at Top of Pipe
   Maximum Bd = Bc + 30"
   Minimum Bd = Maximum Dimension of Bell + 8" (Unsheeted Trench)
   = Minimum Dimension of Bell + 12" (Sheeted Trench)
2. Remove Unsuitable or Unstable Material, as determined by Florida Water Services, Encountered Below the Trench Bottom, as Required to Produce a Suitable Foundation. Furnish, Place and Compact Foundation as Specified.
3. Furnish, Place and Compact Bedding, Haunching, Cover Material and Backfill as specified.
4. Pipe bedding: Select Common Fill Compacted to 95% of Maximum Density as per AASHTO T-180.
5. Trench Backfill: Common Fill Compacted to 95% of Maximum Density as per AASHTO T-180.
6. Use of Class II Bedding to be Determined in Field by Florida Water Services.



INSTALLATION PARALLEL TO MAIN



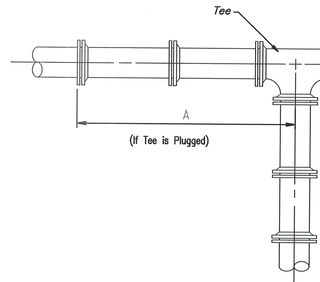
INSTALLATION PERPENDICULAR TO MAIN



NOTE:

1. *A Tapping Sleeve with Valve and Box Shall be Installed when connecting a Proposed Fire Hydrant to an Existing Main, or Relocating an Existing Fire Hydrant.*
2. *Hydrants to have Break Section or Removable Barrel.*

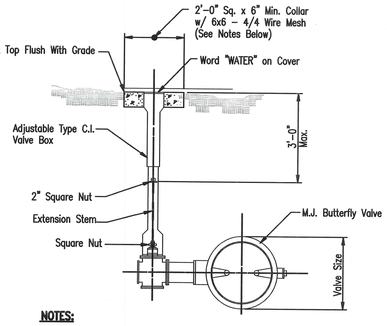
FIRE HYDRANT DETAILS



NOTE:

1. Restrained Joints shall be Provided at all Bends, Tees, and Dead Ends as indicated in these Tables, or as Shown on the Drawings for other specific conditions. The use of Concrete thrust blocking is prohibited, unless otherwise indicated on the drawings.
2. The Length of Pipe with Restrained Joints is based on the following specific conditions: Pipe Material; Design Pressure (150 psi for Potable & Reclaimed Water Mains and 100 psi for for Force Mains); bedding, backfilling Material and compaction as specified.
3. Maximum Lengths of Pipe shall be used within Restrained Sections.

PIPE BEDDING & TRENCHING DETAIL



NOTES:

When Valve Boxes are installed within the Traveled way of unpaved roadways, the following shall be substituted for the 2'-0" Square concrete pad:

1. Soil cement shall be installed for a 3'-0" radius around the valve box to a depth equal to 12" above the top of the pipe.
2. Installation of soil cement shall be in conformance with *section 270 of the FDOT Standard Specifications.*
3. The soil cement and backfill below it shall be compacted to 95% of the modified proctor maximum dry density. (ASHTO T-180) from the bottom of the trench to the top of the valve box at grade.

BUTTERFLY VALVE DETAIL

POTABLE WATER & RECLAIMED WATER
LENGTH IN FEET REQUIRED FOR RESTRAINED JOINTS

SIZE	A DEAD END	A TEE & PLUG	B 90° BEND	B 45° BEND	B 22 1/2° BEND	B 11 1/4° BEND
2"						
4"						
6"						
8"						
10"						
12"						
14"						
16"						
20"						
24"						

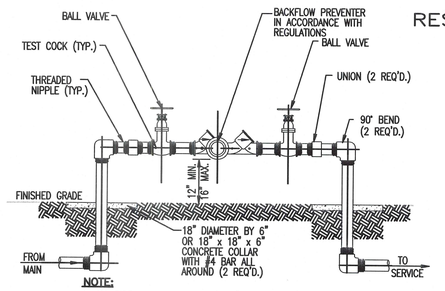
FORCE MAIN
LENGTH IN FEET REQUIRED FOR RESTRAINED JOINTS

SIZE	A DEAD END	A TEE & PLUG	B 90° BEND	B 45° BEND	B 22 1/2° BEND	B 11 1/4° BEND
2"						
4"						
6"						
8"						
10"						
12"						
16"						
20"						

NOTES:

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAIL SHOWN IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MIN. VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNITL AFTER FILLING, FLUSHING, PRESSURE AND BACTERIOLOGICAL TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED, PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. SWAB OR SPRAY THE EXTERIOR OF THE MAIN TO BE TAPPED AND THE TAPPING SADDLE WITH 1% HYPOCHLORITE SOLUTION.
3. THE CONTRACTOR SHALL PROVIDE CERTIFICATION DEMONSTRATING THAT THE REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY HAS BEEN TESTED AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION.
4. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS, AND LOCKED.
5. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE, FITTINGS VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TEMPORARY JUMPER DETAIL



NOTE:

1. ALL PIPE VALVES AND FITTINGS 2" AND SMALLER SHALL BE THREADED BRASS.
2. ACCEPTABLE MODELS:
   - WATTS 909
   - FEBCO 825Y (D)
   - WILKINS 975XL
   - CONBRACO 400
   - OR APPROVED EQUAL
3. THIS DETAIL IS REPRESENTATIVE OF ACCEPTABLE REDUCED PRESSURE BACKFLOW DEVICES FOR SERVICES 2" IN DIAMETER OR SMALLER THAT ARE INSTALLED WITHIN FLORIDA WATER SERVICES' SYSTEMS.

RESTRAINED JOINT DETAIL

REDUCED PRESSURE BACKFLOW

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54162
02/18/00
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 02/18/00 BY ---

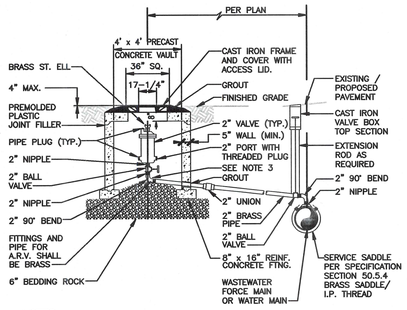
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
POTABLE WATER DETAILS

SHEET **31** of **39** SHEETS

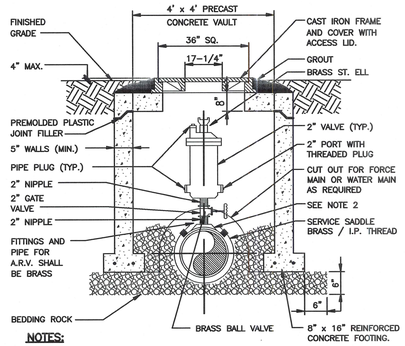
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NOTES:

1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER AND APPROVED BY FLORIDA WATER SERVICES PRIOR TO INSTALLATION.
2. THE MINIMUM DIMENSION FROM ELBOW INVERT TO FINISHED GRADE SHALL BE 4.0 FEET.
3. BERMAD D-020, ARI-COMBO AIR RELEASE/VACUUM RELIEF VALVE OR APPROVED EQUAL REQUIRED.

OFFSET AIR/VAC RELEASE VALVE

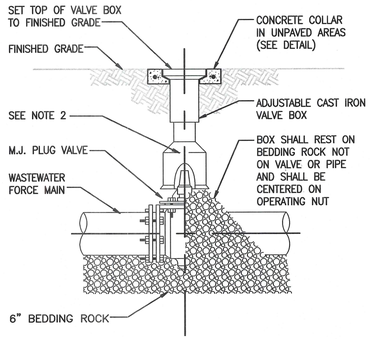


NOTES:

1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER AND APPROVED BY FLORIDA WATER SERVICES PRIOR TO INSTALLATION.
2. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 4.0 FEET.
3. BERMAD D-020, ARI-COMBO AIR RELEASE/VACUUM RELIEF VALVE. OR APPROVED EQUAL REQUIRED.

AIR OR COMBINATION AIR/VACUUM RELEASE VALVE

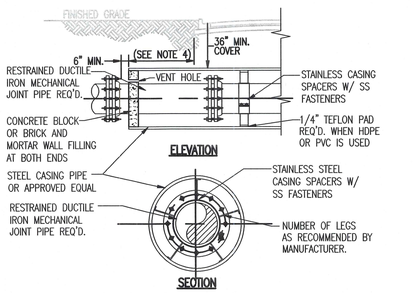
AIR/VACUUM RELEASE VALVE



NOTES:

1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO TO A POINT NO LESS THAN 2'-0" DEPTH BELOW FINISHED GRADE.

PLUG VALVE DETAIL

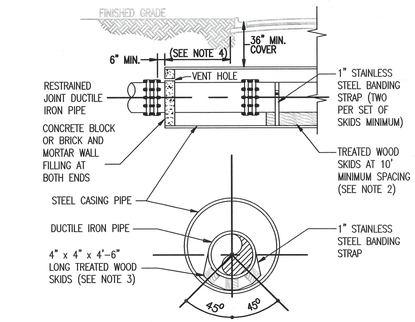


CARRIER PIPE AND CASING PIPE SIZES (MIN.)											
CARRIER PIPE NOM. DIA. (D1)	2	4	6	8	10	12	14	16	20	24	
CASING PIPE NOM. DIA. (D2)	6	14	16	18	22	24	30	30	36	48	
WALL THICKNESS – INCHES	0.250	0.250	0.250	0.250	0.250	0.250	0..312	0..312	0.500	0.500	

NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE,LATEST EDITION, SHALL BE MET.
2. STAINLESS STEEL CASING SPACERS, ARE REQUIRED AS SHOWN.
3. WHERE PRACTICAL, CASING SHALL EXTEND A MIN. OF 4' BEYOND EDGE OF PAVEMENT OR LONGER AS REQUIRED BY LOCAL PERMITTING AGENCIES.
4. WHERE ALLOWED BY GOVERNING JURISDICTIONS, HIGH DENSITY POLYETHYLENE PIPE (HDPE) OR PVC MEETING AWWA C900, DR 14 MAY BE USED FOR DIRECTIONAL BORING ONLY.
5. A MINIMUM OF 3 CASING SPACERS PER 20 LINEAR FEET OF INSTALLED CARRIER PIPE SHALL BE PROVIDED.

JACK AND BORE DETAILS – SS

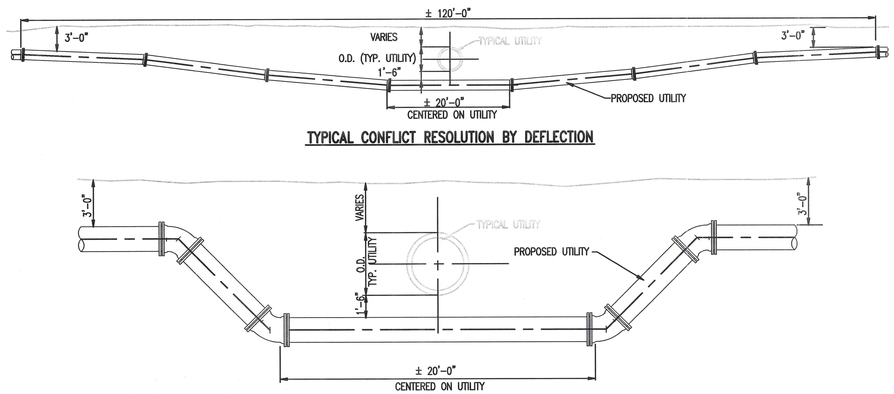


CARRIER PIPE AND CASING PIPE SIZES (MIN.)											
CARRIER PIPE NOM. DIA. (D1)	4	6	8	10	12	14	16	18	20	22	24
CASING PIPE NOM. DIA. (D2)	14	16	18	22	24	30	30	30	36	36	48
WALL THICKNESS – INCHES	0.281	0.281	0.312	0.375	0.406	0.469	0.469	0.469	0.625	0.625	0.625

NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE SHALL BE MET.
2. CASING SPACERS, AS SPECIFIED IN SPECS. MAY BE REQUIRED BY THE COUNTY OR MAY BE SUBSTITUTED IN LIEU OF WOOD SKIDS AND BANDING STRAPS.
3. LARGER SKIDS SHALL BE REQUIRED FOR PIPE GREATER THAN 24" DIAMETER
4. WHERE PRACTICAL, CASING SHALL EXTEND 4' BEYOND EDGE OF PAVEMENT. THE COUNTY MAY REQUIRE LONGER CASING FOR DEEPER BORES.

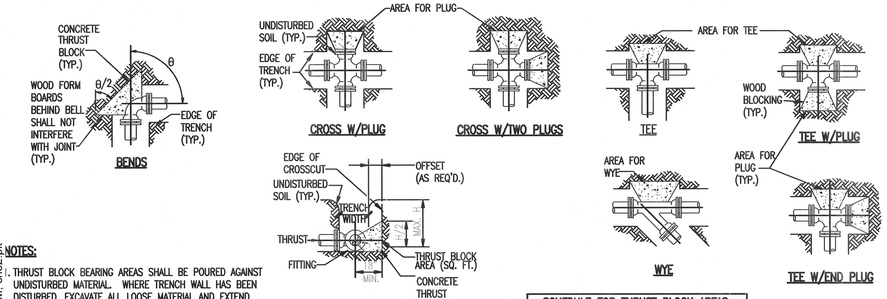
JACK AND BORE DETAILS – WOOD



TYPICAL CONFLICT RESOLUTION BY DEFLECTION

TYPICAL CONFLICT RESOLUTION BY FITTINGS

TYPICAL CONFLICT RESOLUTION BY DEFLECTION AND FITTINGS



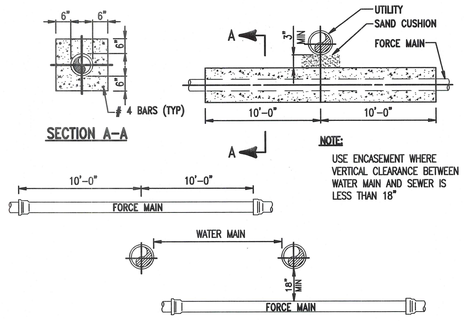
NOTES:

1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (8 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.
3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.
4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.
5. ALTERNATE DESIGNED RESTRAINING SYSTEMS SHALL BE PROVIDED WHERE STANDARD THRUST BLOCKING IS NOT SUITABLE AND/OR SOIL RESISTANCE BEARING IS LESS THAN 1500 PSF.
6. ALL WOOD BLOCKING SHALL BE PRESSURE TREATED WITH PRESERVATIVE.

SCHEDULE FOR THRUST BLOCK AREAS							
PIPE SIZE (INCHES)	90 BEND (SQ FT)	45 BEND (SQ FT)	22-1/2 BEND (SQ FT)	11-1/4 BEND (SQ FT)	TEE & PLUG (SQ FT)		DESIGN PRESS (PSI)
4							150
6							150
8							150
10							150
12							150
14"							150
16"							150

NOTE:
THRUST BLOCK AREAS TO BE COMPUTED ON BASIS OF LBS. PER SQ. SOIL FT. RESTRAINT BEARING.

1,500 (1,500 MIN) SEE NOTE 5



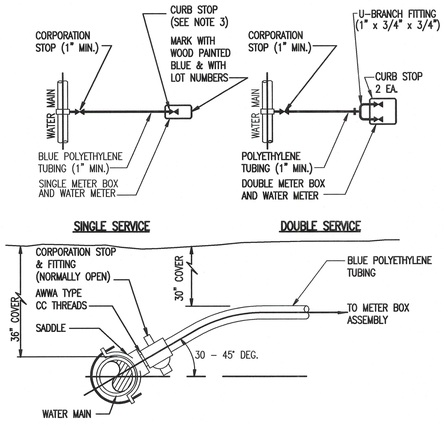
TYP. FORCE MAIN & WATER MAIN CROSSING

HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS									
PROPOSED UTILITY	POTABLE WATER		RECLAIMED WATER *		SANITARY SEWER (GRAVITY & F.M.)		STORM SEWER		ACCEPTABLE VARIANCES
	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	
POTABLE WATER	–	–	5' C/C 3' O/O		10' O/O	18"	10' O/O	18"	SEE GENERAL NOTES: NO.4
RECLAIMED WATER *	5' C/C 3' O/O	18"	–	–	5' C/C 3' O/O	18"	–	–	
SANITARY SEWER	10' O/O	18"	5' C/C 3' O/O	18"	–	–	–	–	

NOTES:

1. THE TABLE REPRESENTS THE MINIMUM SEPARATION REQUIREMENTS AS DESCRIBED IN F.D.E.P. RULES OF THE FLORIDA ADMINISTRATION CODE (F.A.C.). THESE SEPARATION REQUIREMENTS SHALL APPLY BETWEEN NEWLY PROPOSED UTILITY LINES AND EXISTING OR PROPOSED UTILITY LINES.
2. * FOR THE PURPOSE OF THIS TABLE RECLAIMED WATER SHALL MEAN UNRESTRICTED PUBLIC ACCESS REUSE WATER AS DEFINED BY F.A.C. 62-610 OTHER TYPES OF RECLAIMED WATER ARE CONSIDERED RAW SEWAGE AND SEPARATIONS LISTED FOR SANITARY SEWER SHALL APPLY.
3. ALL SEPARATION DISTANCES ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE UNLESS OTHERWISE SPECIFIED. CRITERION PRODUCING GREATER CLEARANCE SHALL BE USED.
   - C/C – DENOTES CENTER OF PIPE TO CENTER OF PIPE.
   - O/O – DENOTES OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
4. ACCEPTABLE VARIANCES:
   A. WHERE HORIZONTAL SEPARATION IS NOT ATTAINABLE, DUCTILE IRON PIPE OR CONCRETE ENCASEMENT MUST BE USED FOR AT LEAST ONE OF THE PIPES. DUCTILE IRON OR CONCRETE ENCASEMENT MUST BE USED UNTIL MINIMUM CLEARANCE IS REGAINED.
   B. WHERE 18" MINIMUM VERTICAL SEPARATION IS NOT FEASIBLE AT CROSSING, USE ONE FULL LENGTH OF DUCTILE IRON OR ENCASED PIPE CENTERED AT THE POINT OF CROSSING SPECIAL SUPPORT MAY BE REQUIRED.
   C. IF 36" MINIMUM DEPTH OF COVER IS NOT MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL UPGRADE MAY BE REQUIRED PER FLORIDA WATER SERVICES' ENGINEERING.
5. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY OR STORM WATER MANHOLE OR STRUCTURE.

UTILITY SEPARATION DETAIL



1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP(S) WHICH SHALL BE BURRIED APPROXIMATELY 3' BELOW FINAL GRADE & SHALL BE CLEARLY MARKED WITH A 2" x 2" x 18" STAKE. WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF LOTS TO BE SERVED.
4. METERS 2 INCHES AND SMALLER ARE TO BE INTALLED BY FLORIDA WATER SERVICES' PERSONNEL.

WATER SERVICE CONNECTION DET.

APPROVED
Harold G. Israelson
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH EMBOSSED SEAL

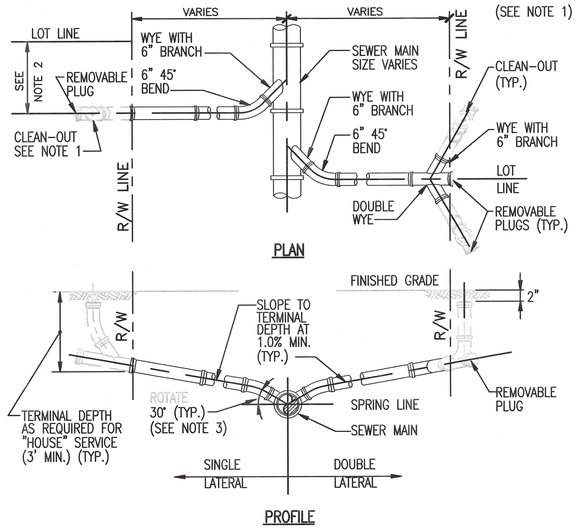
REVISED

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
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Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
POTABLE WATER DETAILS

DATE 02/18/00 | BY --- | FILE Copper-Util | SHEET 32 of 39 SHEETS

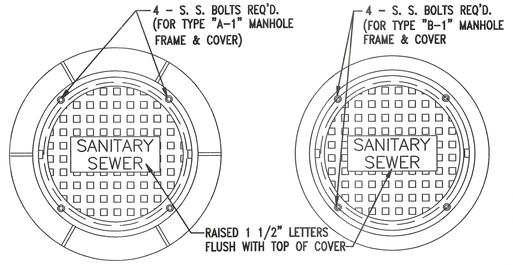
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NOTES:

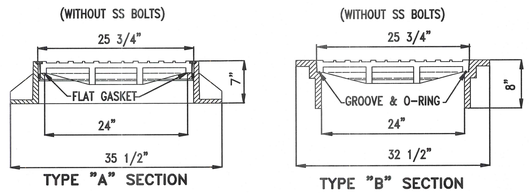
1. CLEAN-OUT (SHOWN DASHED) SHALL BE INSTALLED BY THE UTILITY CONTRACTOR IN ACCORDANCE WITH STANDARD PLUMBING CODE.
2. LOCATE DOUBLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 5' MAXIMUM.
3. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
4. DOUBLE SERVICE LATERAL TO BE USED ONLY WHEN BOTH BUILDING SLAB ELEVATIONS ARE WITHIN 0.33 FEET (4 INCHES).

TYPICAL SERVICE LATERAL DETAIL



TYPE "A" MANHOLE FRAME AND COVER

TYPE "B" MANHOLE FRAME AND COVER



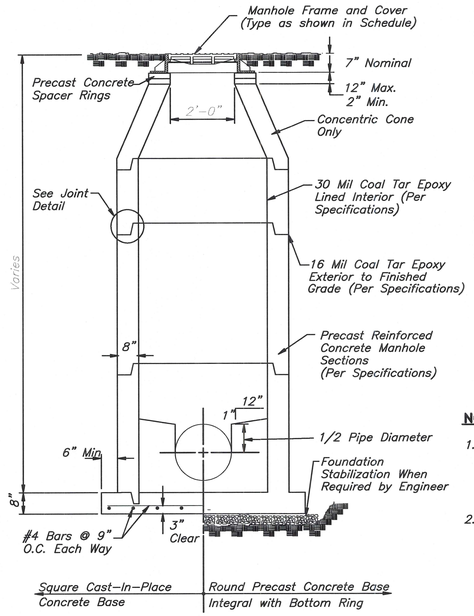
TYPE "A" SECTION

TYPE "B" SECTION

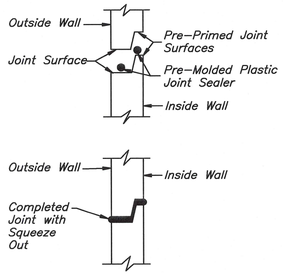
NOTES:

1. TYPE "A-1" & "B-1" BOLTED WATERTIGHT RING AND COVER; US FOUNDRY NO. 227-AS-BWT (TYPE"A-1") & NO. 1295-AS-BWT (TYPE "B-1") OR APPROVED EQUAL.
2. TYPE "A" & "B" NON-BOLTED WATERTIGHT RING & COVER US FOUNDRY NO. 227-AS-ORS (TYPE "A") & NO. 1295-AS-ORS (TYPE "B") OR APPROVED EQUAL.
3. MANHOLE COVERS ARE TO LABELED AS SHOWN ABOVE.

MANHOLE FRAME & COVER



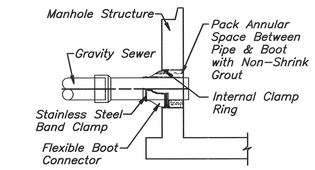
PRECAST CONCRETE MANHOLE (CONCENTRIC)



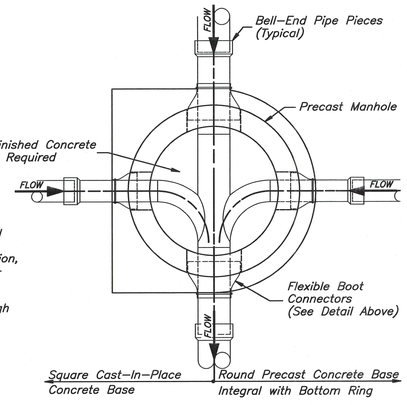
JOINT DETAIL PRECAST SECTIONS

NOTES:

1. Tops Of Manhole Frame And And Covers Shall Be Set To The Finished Roadway Elevation, Finished Grade Or As Otherwise Noted.
2. No Penetrating Holes Through Manholes.

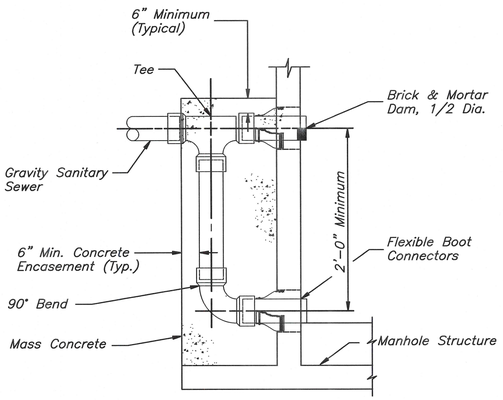


MANHOLE CONNECTION DETAIL



TYPICAL MANHOLE PLAN

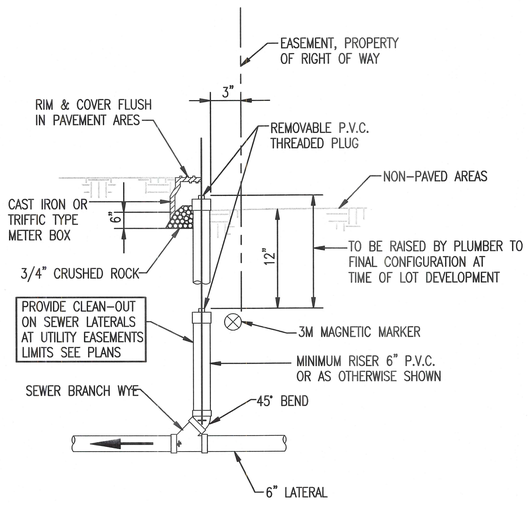
STANDARD MANHOLE DETAIL (TYPE I)



NOTES:

1. *Mass Concrete around drop connection to be no less than 2000psi concrete.*
2. *Drop pipe and fittings shall be of equal size and materials as the influent sewer.*
3. *An outside drop connection shall be required for all influent connections which have a difference of 2'-0" or more between inverts.*

DROP MANHOLE DETAIL



SEWER CLEAN-OUT

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 02/18/00 BY ---

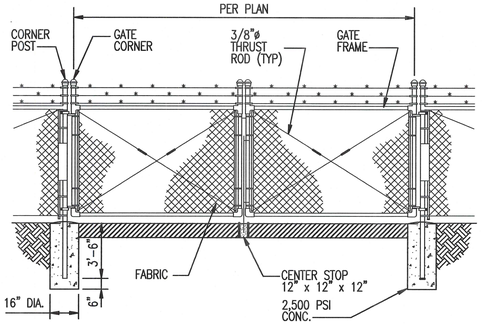
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CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SANITARY SEWER DETAILS

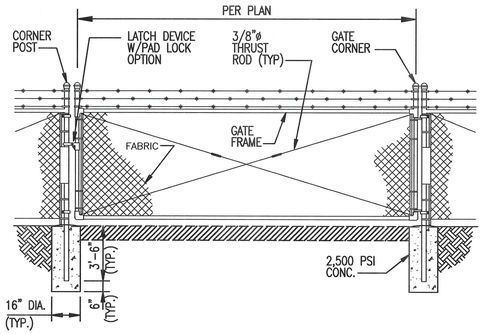
SHEET 33 of 39 SHEETS

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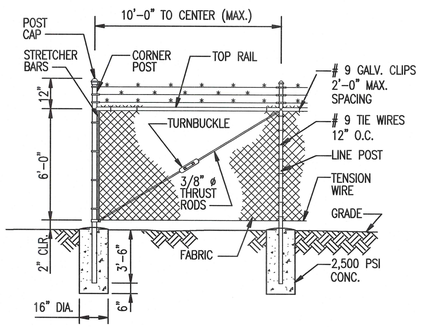
NOTES
THRUST RODS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.

DOUBLE SWING GATE DETAIL

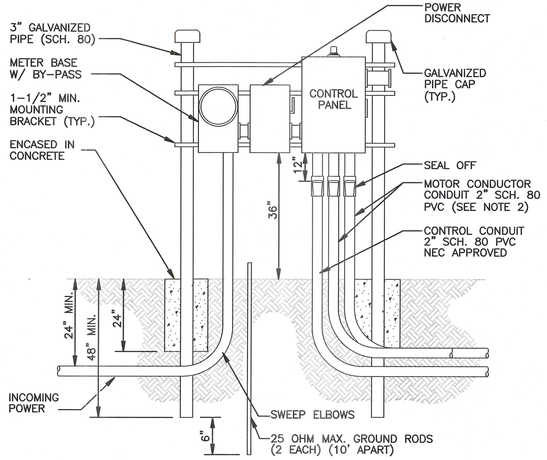


NOTES
THRUST RODS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.

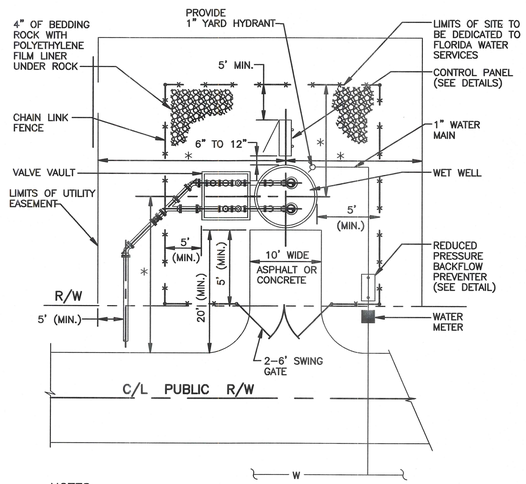
SINGLE SWING GATE DETAIL



6' FENCING — CORNER DETAIL



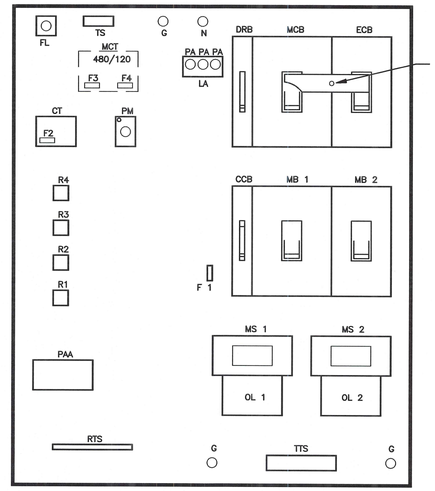
NOTES:
1. DRAWING IS SHOWN FOR 230 VOLT POWER SUPPLY. THE LOCATION OF METER & MAIN POWER DISCONNECT SHALL BE REVERSED FOR 480 VOLT SUPPLY.
2. WHEN TWO (2) SEPARATE CONDUCTOR-TYPE MOTORS ARE USED, CONDUIT SHALL BE INCREASED TO 3 INCHES.
3. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3 PHASE FROM A 3 PHASE SOURCE ONLY.



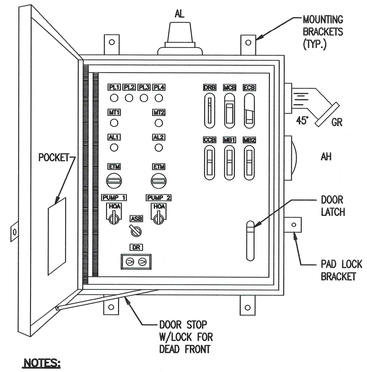
NOTES:
1. * THIS DIMENSION SHALL BE EQUAL TO THE DEPTH OF THE WET WELL.
2. ENGINEER SHALL PROVIDE A SCALED (1" = 20' MIN.) SITE SPECIFIC DETAIL.
3. FENCE HEIGHT SHALL BE A MINIMUM OF 6 FEET ABOVE FINISHED GRADE

NOTE:
FENCE STYLE SHALL BE AS APPROVED BY REGULATING BODY AND FLORIDA WATER SERVICES PER SITE.

PUMPING STATION PLAN



NOTES:
1. MAIN CIRCUIT TRANSFORMER REQUIRED FOR 480 VOLT SUPPLY ONLY.
2. ALL COMPONENTS AND WIRING SHALL MEET NEC, LATEST EDITION.

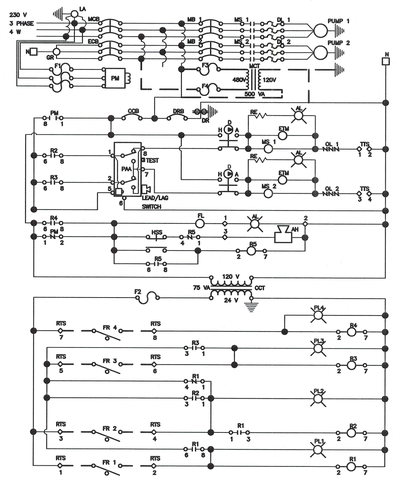


NOTES:
1. OUTER BOX SIZE SHALL BE A MINIMUM OF 24" W x 36" H x 10" D OR AS APPROVED BY FLORIDA WATER SERVICES'.
2. FOR STATIONS WITH PUMPS RATED 20 HP OR GREATER, OUTER BOX SIZE SHALL BE 30" W x 42" H x 10" D AND SHALL HAVE 2 LATCHES ON THE DEAD FRONT.
3. USE GALVANIZED CONDUIT AND SUPPORTS.
4. PANEL SHALL BE S.S. CONSTRUCTION, NEMA 3R WITH RAIN DRIP EDGE PANEL SHALL HAVE THREE-POINT LATCH PLUS A MINIMUM OF TWO OTHER FASTENERS.
5. GENERATOR RECEPTACLE - CROUSE-HINDS, PART NO. AR1041 FOR THE RECEPTACLE, PART NO. AJ46 FOR THE 45° ANGLE ADAPTER.

DUPLEX PUMP CONTROL PANEL

ABBREV.	ITEM DESCRIPTION
AH	ALARM HORN
AL	ALARM LIGHT
ASB	ALTERNATOR TEST SWITCH
CCB	CONTROL CIRCUIT BREAKER
CCT	CONTROL CIRCUIT TRANSFORMER
DR	DUPLEX RECEPTACLE / G.F.I.
DRB	DUPLEX RECEPTACLE BREAKER
ECB	EMERGENCY CIRCUIT BREAKER
ETM	ELAPSE TIME METER
F	FUSE
FL	FLASHER
FR	FLOAT REGULATOR
G	GROUND
GR	GENERATOR RECEPTACLE
HOA	HAND-OFF-AUTO-SELECTOR
HSS	HORN SILENCE SWITCH
LA	LIGHTNING ARRESTER
MB	MOTOR BREAKER
MCB	MAIN CIRCUIT BREAKER
MCT	MAIN CIRCUIT TRANSFORMER
MT	MOISTURE AND TEMPERATURE FAILURE LIGHT
MS	MOTOR STARTER
N	NEUTRAL
OL	OVERLOAD HEATER
PA	POWER AVAILABLE LIGHT (3 REQUIRED, 1 EACH PHASE)
PAA	PUMP AUTOMATIC ALTERNATOR
PL	PILOT LIGHT
PM	PHASE MONITOR
R	RELAY
RE	RESISTOR
RL	RUN INDICATOR
RTS	REGULATOR TERMINAL STRIP
TS	TERMINAL STRIP
TTS	THERMAL TERMINAL STRIP

NOTE:
1. ALL COMPONENTS AND WIRING SHALL MEET NEC, LATEST EDITION.



NOTES:
1. MAIN CIRCUIT TRANSFORMER REQUIRED FOR 480 VOLT SUPPLY ONLY.
2. ALL COMPONENTS AND WIRING SHALL MEET NEC, LATEST EDITION.

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID WITH RAISED SEAL

REVISED

DATE 02/18/00 BY ---

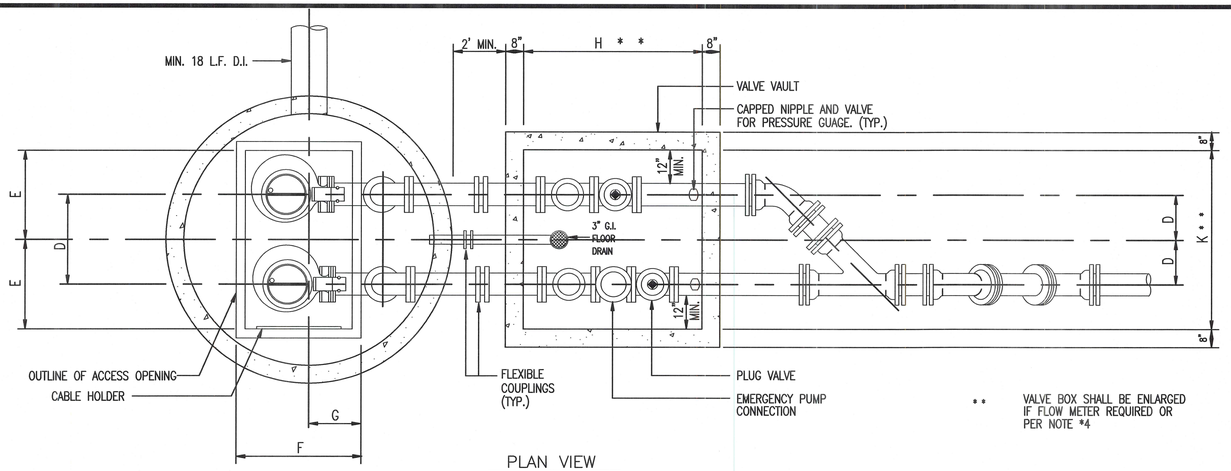
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CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

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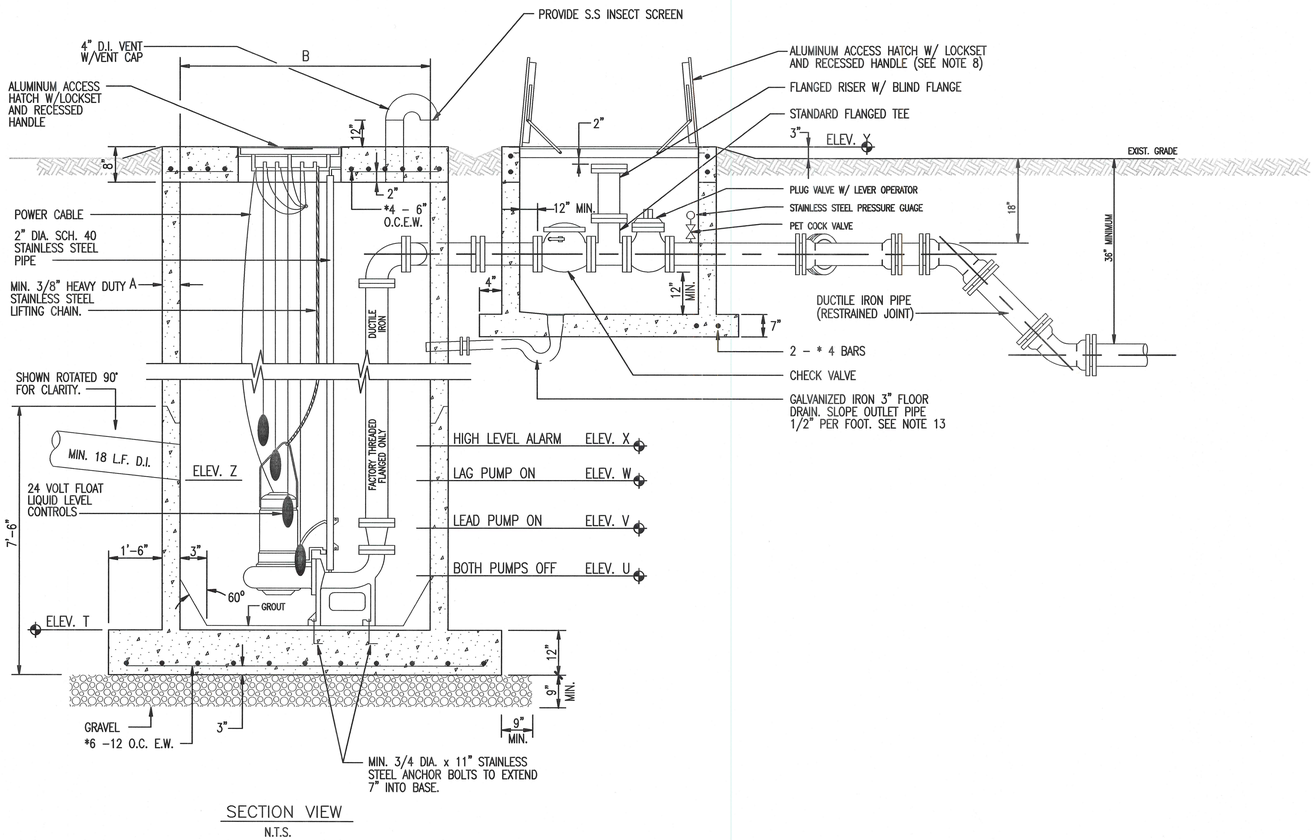
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LIFT STATION DETAILS

SHEET **34** of **39** SHEETS

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PLAN VIEW
N.T.S.



SECTION VIEW
N.T.S.

PUMP STATION DETAILS
PLANS, SECTION, AND NOTES

GENERAL NOTES:

1. ALL EXPOSED METAL SHALL BE PRINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT.
2. WET WELL AND VALVE VAULT SHALL BE COATED WITH COAL TAR INSIDE AND OUT. (TWO COATS, 9 MILS EACH.)
3. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
4. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 6" DIAMETER PIPE AND SMALLER. CLEARANCES SHALL INCREASE AS REQUIRED FOR LARGER PIPE SIZES.
5. VALVE VAULT SHALL HAVE SEALED FLOOR AND DRAIN.
6. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
7. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
8. WET WELL AND VALVE VAULT COVERS SHALL BE ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY FLORIDA WATER SERVICES.
9. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
10. LIFT STATION # 1 PUMPS OPERATING CONDITIONS SHALL BE 350 GPM AT 97 FEET TDH.

    MANUFACTURER: FLYGT ; MODEL: CP-3152; IMP: 454 (4" VOLUTE);
    MM, SPEED: 1750 RPM; DISCHARGE SIZE: 4 IN.; VOLTAGE: 480;
    HZ.: 60; PHASE: 3 ; H.P.: 20;
    MIN. SOLID SIZE: 3 IN.; CURVE: C-3152.

11. LIFT STATION #2 PUMPS OPERATING CONDITIONS SHALL BE 250 GPM AT 84 FEET TDH.

    MANUFACTURER: FLYGT; MODEL: CP-3140; IMP: 481 ;
    MM, SPEED: 1750 RPM; DISCHARGE SIZE: 4 IN.; VOLTAGE: 480;
    HZ.: 60; PHASE: 3; H.P.: 15;
    MIN. SOLID SIZE: 3 IN.; CURVE: C-3140.

12. ALL HARDWARE IN WET WELL AND VALVE BOX TO BE STAINLESS STEEL.
13. CONTRACTOR MAY INSTALL A "P" TRAP BETWEEN THE VALVE VAULT AND WET WELL AS AN ALTERNATIVE TO THE FLOOR DRAIN SHOWN.

	LIFT STATION # 1		LIFT STATION # 2	
PUMPING STATIONS	DIMENSIONS	ELEV. AT CONST.		
DIM A	8" MIN.		8" MIN.	
DIM B	7'-0" MIN.		6'-0" MIN.	
DIM C	*		*	
DIM D	*		*	
DIM E	*		*	
DIM F	*		*	
DIM G	*		*	
DIM H	6'-0" MIN.		6'-0" MIN.	
DIM J				
DIM K	4'-8" MIN.		4'-8" MIN.	
ELEV T	4.75	0.00	6.83	0.00
ELEV U	5.89		8.33	
ELEV V	9.89		12.33	
ELEV W	10.39		12.83	
ELEV X	10.89		13.33	
ELEV Y				
ELEV Z	10.39		12.83	

* PER PUMP MANUFACTURERS REQUIREMENT

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
YOUR STATE OFFICIAL REGISTERED SEAL

REVISED

DATE 02/18/00 BY ---

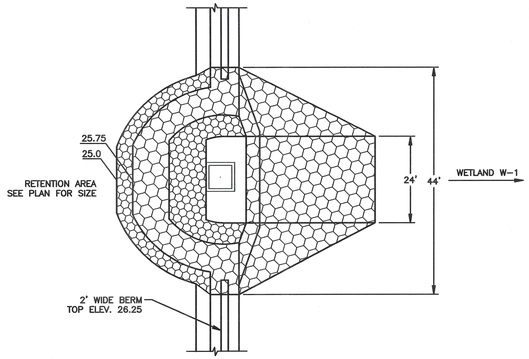
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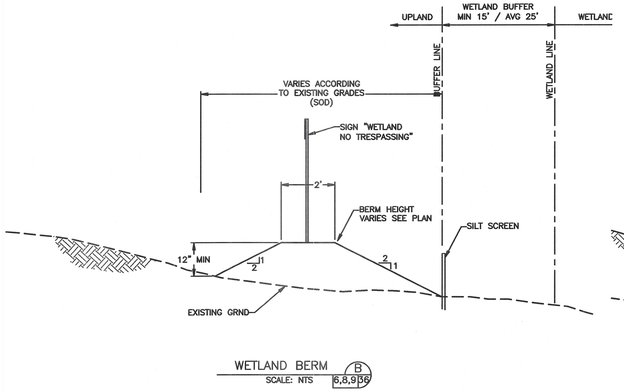
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LIFT STATION DETAILS

SHEET **35** of **39** SHEETS

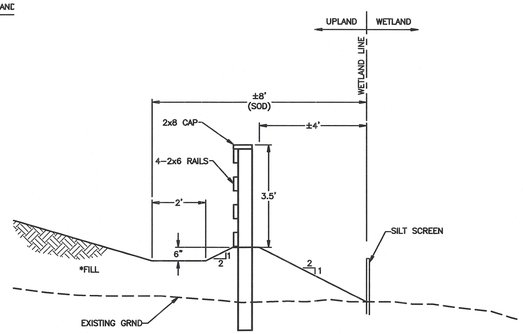
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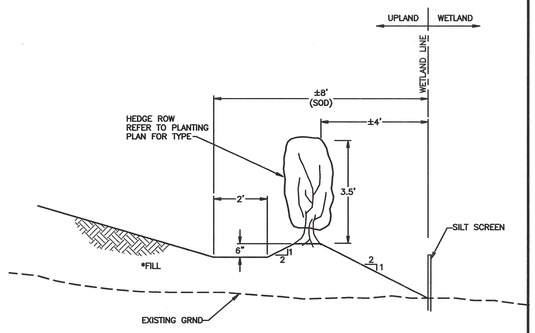
PLAN VIEW
SCALE: NTS



WETLAND BERM (B)
SCALE: NTS 6,8,9,36

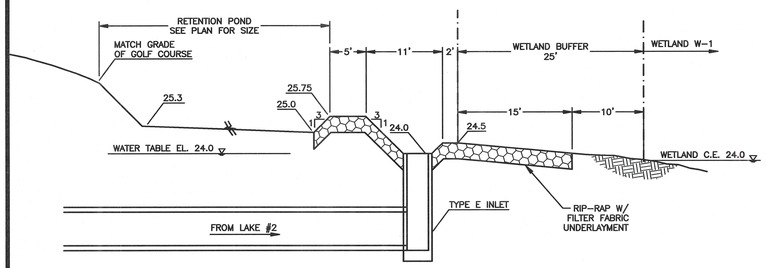


TYPE 'A' WETLAND BARRIER
WOODEN FENCE
NOT TO SCALE

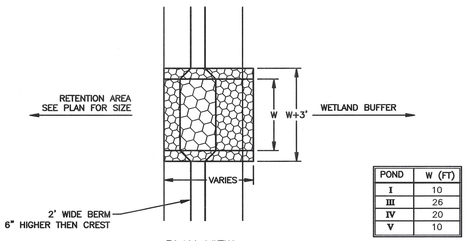


TYPE 'B' WETLAND BARRIER
HEDGE ROW
NOT TO SCALE

PHYSICAL BUFFERS (F)
SCALE: NTS 6,8,9,36

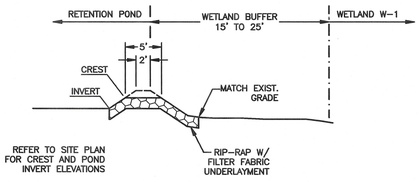


POND II & LAKE #2 (WCS#1) SPREADER OUTFALL (A)
SCALE: NTS 8,36

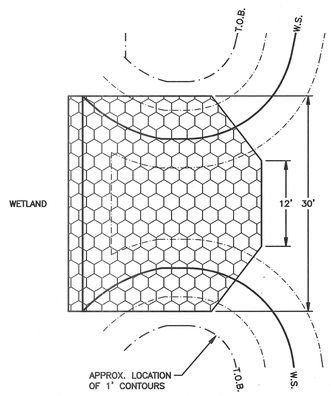


POND	W (FT)
I	10
III	26
IV	20
V	10

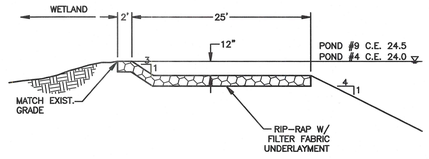
PLAN VIEW
SCALE: NTS



RETENTION POND OUTFALL (C)
SCALE: NTS 6,8,36

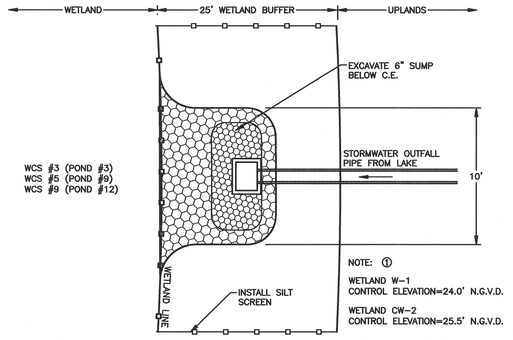


PLAN VIEW
SCALE: NTS

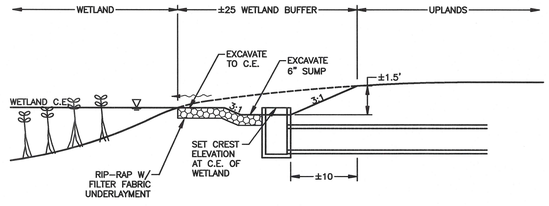


POND / WETLAND INTERCONNECT (D)
SCALE: NTS 6,9,36

STRUCTURE #4 (POND #4)
STRUCTURE #6 (POND #9)



OUTFALL SPREADER SWALE PLAN
NTS



OUTFALL SPREADER SWALE SECTION (E)
SCALE: NTS 6,8,9,36

ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers,
Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

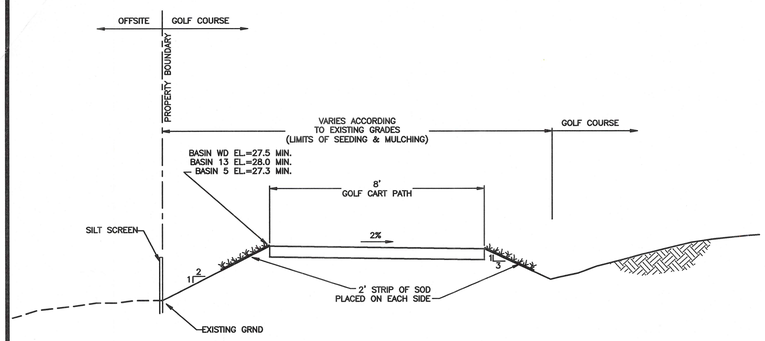
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Savage, Mn. 55378
Phone (612) 226-3200

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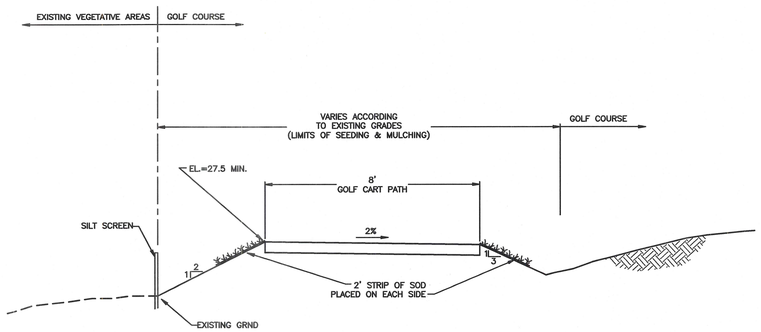
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

SHEET 36 of 39 SHEETS

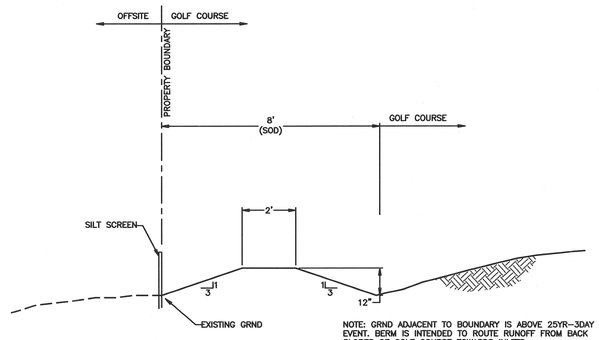
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GOLF CART PATH ADJACENT TO PROPERTY BOUNDARY
SCALE: NTS (G 4,6|37)

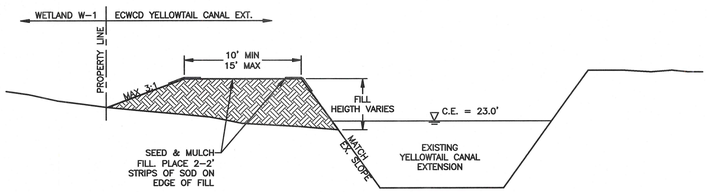


GOLF CART PATH ADJACENT TO EXISTING VEGETATIVE AREAS
SCALE: NTS (H 4|37)

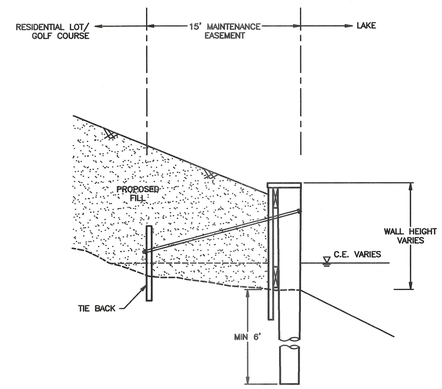


NOTE: GRND ADJACENT TO BOUNDARY IS ABOVE 25YR-3DAY EVENT. BERM IS INTENDED TO ROUTE RUNOFF FROM BACK SLOPES OF GOLF COURSE TOWARDS INLETS.

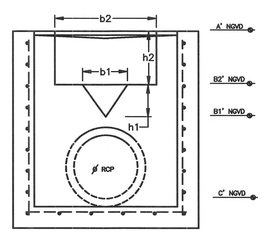
PROPERTY BOUNDARY BERM
SCALE: NTS (I 4,6|37)



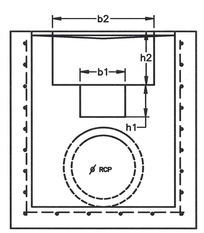
WETLAND W-1 PERIMETER BERM
SCALE: NTS (J 8|37)



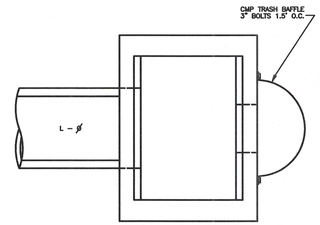
VERTICAL RETAINING WALL
SCALE: NTS (K 4,7|37)



SECTION TRIANGLE



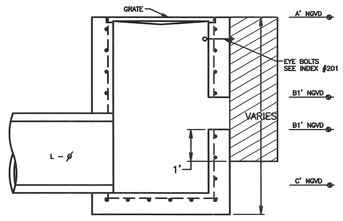
SECTION RECTANGLE



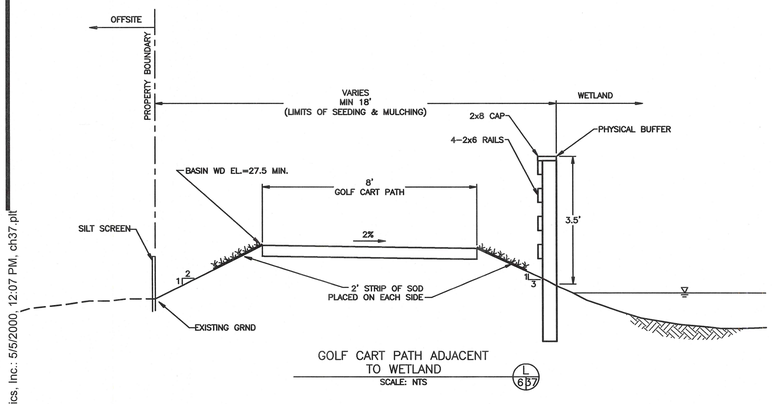
PLAN
FDOT MODIFIED TYPE INLET

STRUCTURE	A	B1	B2	C	ORIFICE	b1	h1	b2	h2	ø	L	BAFFLE ø	TYPE	FROM	TO
	' NGVD	' NGVD	' NGVD	' NGVD		in	IN	in	IN	IN	FT	IN			
WCS #1	25.0	24.0	–	19.0	TRNGL	23.0	12.0	–	–	36	893	SKIMMER	TYPE E	POND #2	W-1
WCS #2	26.0	24.0	–	19.0	RECT.	36.0	24.0	–	–	24	65	SKIMMER	TYPE C	W-1	OFFSITE
WCS #3	25.0	24.0	–	19.0	TRNGL	8.0	12.0	–	–	24	281	18	TYPE C	POND #3	W-1
WCS #5	27.0	24.5	–	19.5	RECT.	39.0	30.0	–	–	24	270	36	TYPE E	POND #9	W-1
WCS #7	28.0	25.5	26.6	20.0	TRNGL	4.7	13.2	6.0	16.8	18	84	18	TYPE C	POND #13	OFFSITE
WCS #8	27.5	25.5	–	23.0	RECT.	12.0	24.0	–	–	18	65	24	TYPE C	CW-2	OFFSITE
WCS #9	26.5	25.5	–	21.0	TRNGL	7.0	12	–	–	24	86	18	TYPE D	POND #12	CW-2
WCS #10	27.0	23.5	–	21.5	CIRC.	3	3	–	–	18	240	12	TYPE C	POND VII	OFFSITE

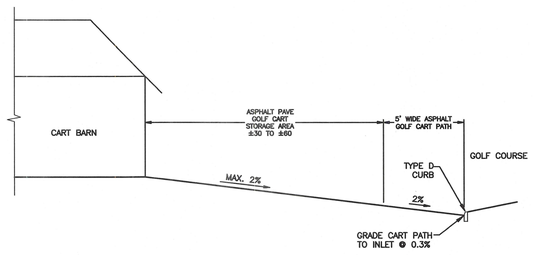
WCS #10
CONSTRUCT 12" DEEP SUMP FOR 3" BLEEDER
DRY DETENTION POND INVERT = 24.5' NGVD
BLEEDER INVERT = 23.5' NGVD



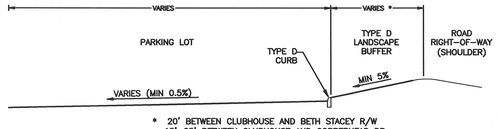
SECTION
FDOT MODIFIED TYPE INLET



GOLF CART PATH ADJACENT TO WETLAND
SCALE: NTS (L 6|37)



CART BARN REAR DRAINAGE
SCALE: NTS (N 9A|37)



* 20' BETWEEN CLUBHOUSE AND BETH STACEY R/W
15'-25' BETWEEN CLUBHOUSE AND COPPERHEAD DR
15' BETWEEN MAINTENANCE AREA AND 23RD ST
40' BETWEEN MAINTENANCE AREA AND ECWCD R/W

CLUBHOUSE & MAINTENANCE AREA BOUNDARY
SCALE: NTS (O 9A|37)

APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE REG. NO. 52741 12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

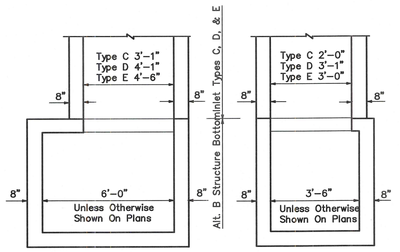
FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

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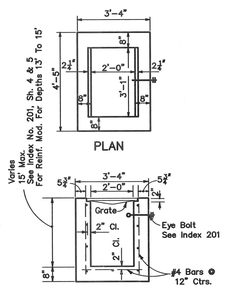
GENERAL NOTES

1. These inlets are suitable for bicycle and pedestrian areas and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and in areas accessible to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dipped galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.
5. All exposed corners and edges of concrete are to be chamfered $\frac{3}{4}$".
6. Pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial, and shall include the cost for slot openings, paving and any required replacement grates.
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Sodding SY.
9. For supplementary details see Index No. 201.



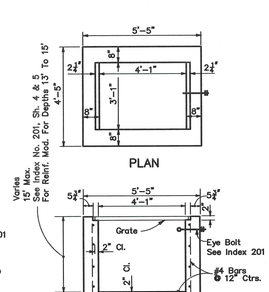
NOTE: Alt. B Structure Bottom Only. See Index No. 200

STRUCTURE BOTTOM FOR INLETS TYPE C, D & E



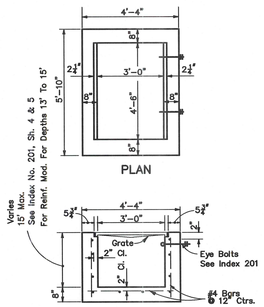
TYPE C

Recommended Maximum Pipe Size:
2'-0" Wall-18" Pipe
3'-1" Wall-24" Pipe



TYPE D

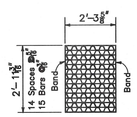
Recommended Maximum Pipe Size:
3'-1" Wall-24" Pipe
4'-1" Wall-36" Pipe



TYPE E

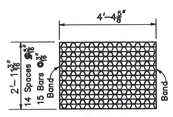
Recommended Maximum Pipe Size:
3'-0" Wall-24" Pipe
4'-6" Wall-42" Pipe

INLETS



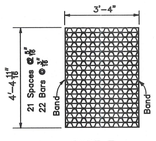
TYPE C

Straight Bars 2"ø
Reticuline Bars 1½" x 3"
Bands 1½" x 4"
Approx. Weight 100 Lbs.



TYPE D

Straight Bars 2"ø
Reticuline Bars 1½" x 3"
Bands 1½" x 4"
Approx. Weight 180 Lbs.



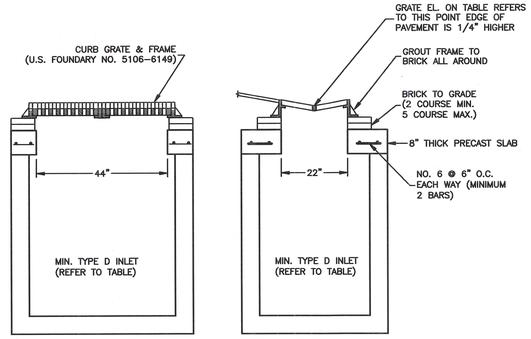
TYPE E

Straight Bars 2"ø
Reticuline Bars 1½" x 3"
Bands 1½" x 2"
Approx. Weight 215 Lbs.

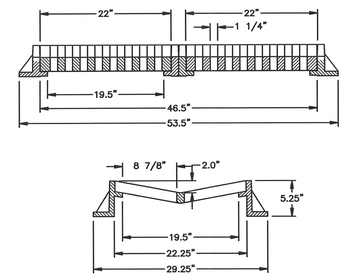
NOTICE: Steel Grates Are Required On Inlets With Traversable Slots And On Inlets where Bicycle Traffic Is Anticipated.

STEEL GRATES

DITCH BOTTOM INLETS
TYPES C, D, E & H

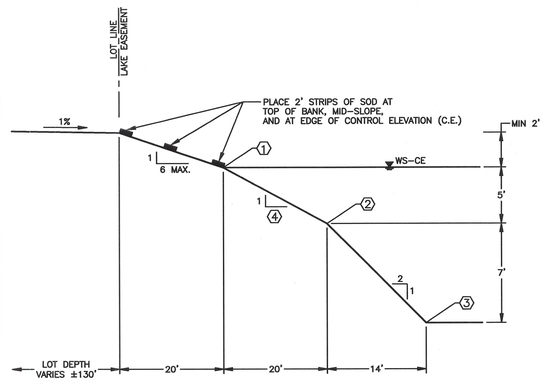


GRATE MUST HAVE LOCKING CHAINS IN ACCORANCE WITH D.O.T. INDEX 201

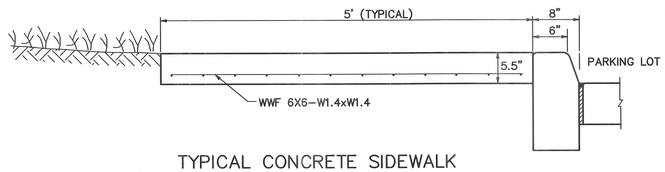


VALLEY GUTTER INLET FRAME AND GRATE
(U.S. FOUNDARY NO. 5106-6149)

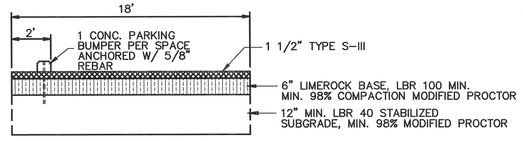
BASIN #	CONTROL ELEVATION ①	SLOPE BREAK ②	TOE ③	SLOPE ④
1	24.0	19.0	12.0	5:1
2	24.0	19.0	12.0	4:1
3	24.0	19.0	12.0	4:1
4	24.0	19.0	12.0	4:1
5	24.5	19.5	12.5	5:1
6	24.5	19.5	12.5	4:1
7	24.5	19.5	12.5	4:1
8	24.5	19.5	12.5	4:1
9	24.5	19.5	12.5	4:1
10	24.5	19.5	12.5	5:1
11	24.5	19.5	12.5	4:1
12	25.5	20.5	13.5	4:1
13	25.5	20.5	13.5	4:1



TYPICAL LAKE SECTION
ALL LAKES UNLESS OTHERWISE NOTED
SCALE: NTS

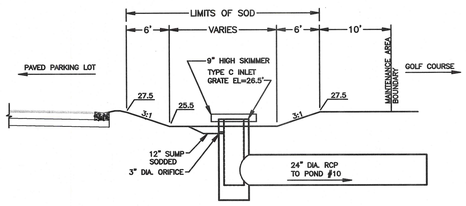


TYPICAL CONCRETE SIDEWALK

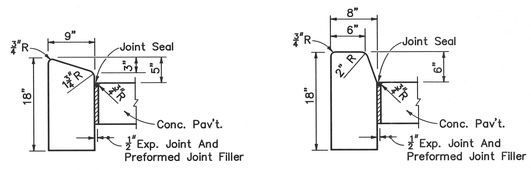


PAVEMENT SECTION APPLIES TO ALL PARKING LOT AREAS IN MAINTENANCE AREA AND CLUBHOUSE

TYPICAL PARKING LOT PAVEMENT SECTION



MAINTENANCE AREA DRY RETENTION POND (P 9A38)
SCALE: NTS

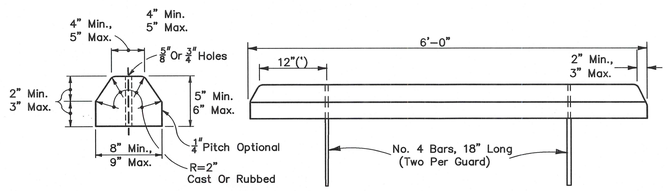


TYPE B

TYPE D

Note: For use adjacent to concrete or flexible pavement, concrete shown. Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see diagram right.

PARKING LOT CONCRETE CURB



CONCRETE WHEEL STOP

GENERAL NOTES

1. For curb,gutter,and curb and gutter provide $\frac{1}{8}$" – $\frac{1}{4}$" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers. Curb,gutter and curb & gutter expansion joints shall be located in accordance with Section 520 of the standard specifications.
2. Ends of Curbs Types B and D shall transition from full to zero heights in 3 feet.

Environmental & Coastal Engineers, Scientists & Management Consultants
APPLIED TECHNOLOGY & MANAGEMENT, INC

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
4@02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

FILE File

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

SHEET 38 of 39 SHEETS

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OPEN SPACE, BUFFERING AND LANDSCAPING REQUIREMENTS

LDC SECTION 10-416 - OPEN SPACE REQUIREMENTS:

OPEN SPACE AND PRESERVATION OF INDIGENOUS VEGETATION WILL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

TOTAL PROJECT AREA	269.20 ACRES
LESS SINGLE FAMILY AND TWO FAMILY RESIDENTIAL AREAS	-83.20 ACRES
TOTAL ACREAGE FOR OPEN SPACE CALCULATIONS	206.00 ACRES

OUTPARCELS	29.34 ACRES X 40 % =	11.68 ACRES OPEN SPACE REQUIRED
CLUB HOUSE	4.06 ACRES X 40% =	1.62 ACRES OPEN SPACE REQUIRED
GOLF COURSE	172.80 ACRES X 40% =	69.12 ACRES OPEN SPACE REQUIRED

TOTAL OPEN SPACE REQUIRED = 82.40 ACRES

ENTIRE OPEN SPACE REQUIREMENT IS MET WITHIN THE GOLF COURSE AREA. HOWEVER, THE OUTPARCELS WILL PROVIDE A MINIMUM OF 10% OPEN SPACE IF THEY ARE DEVELOPED AS MULTI-FAMILY OR COMMERCIAL. IF THEY ARE DEVELOPED AS SINGLE FAMILY LOTS OF 6,500 SF OR TWO FAMILY LOTS WITH 3,750 SF, THEY ARE NOT REQUIRED TO PROVIDE ANY COMMON OPEN SPACE.

50% OF TOTAL OPEN SPACE REQUIREMENT IS REQUIRED TO BE EXISTING INDIGENOUS VEGETATION.
THEREFORE, 82.40 ACRES X 50% = 41.20 ACRES REQUIRED TO BE PRESERVED AS EXISTING INDIGENOUS VEGETATION

EXISTING INDIGENOUS VEGETATION REQUIREMENT IS MET WITH THE FOLLOWING:

EXISTING WETLANDS	=	37.68 ACRES
OTHER AREAS ON GOLF COURSE	=	3.52 ACRES*

*PRESERVATION OF EXISTING VEGETATION IS SHOWN AS HATCHED AREAS ON THE LANDSCAPE PLAN. THERE WILL BE AN APPROXIMATE TOTAL OF 17.00 ACRES PRESERVED ON THE GOLF COURSE AND THEREFORE, NO ADDITIONAL PRESERVATION OF EXISTING VEGETATION WILL BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

LDC SECTION 10-416 - LANDSCAPING REQUIREMENTS:

LDC SECTION 10-416(b)(1) REQUIRES THAT RESIDENTIAL DEVELOPMENTS MUST PROVIDE ONE TREE PER 3,000 SF OF DEVELOPMENT AREA.

TOTAL DEVELOPMENT AREA = (269.20 ACRES X 43,450 SF/ACRE) / 3,000 SF = 4,199 TREES REQUIRED

A MINIMUM OF 2 TREES PER LOT WILL BE REQUIRED FOR THE SINGLE FAMILY (VILLAS AND REGULAR/CONVENTIONAL), TWO-FAMILY ATTACHED, AND/OR ZERO-LOT-LINE DWELLING UNITS.

THEREFORE, 990 LOTS X 2 TREES PER LOT = 1980 TREES FOR THE RESIDENTIAL AREAS. THE REMAINING 3,539 TREES REQUIRED WILL BE LOCATED ON THE GOLF COURSE AREA AND/OR THE OUTPARCELS AREAS.

TREE CREDITS CAN BE USED IN ACCORDANCE WITH THE REGULATIONS STATED BELOW.

LDC SECTION 10-416(b)(2) REQUIRES ALL PARKING AREAS TO BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND COOLING EFFECTS AND TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

A MINIMUM OF 10% OF THE TOTAL PAVED SURFACE AREA IS REQUIRED FOR INTERNAL PLANTING AREA.

TOTAL PARKING AREA: 66,450 SF X 10% = 6,645 SF REQUIRED FOR INTERNAL PLANTING AREA.

AT LEAST ONE TREE MUST BE PLANTED OR RETAINED FOR EVERY 250 S.F. OF REQUIRED INTERNAL PLANTING AREA.

6,645 SF / 250 SF = 27 TREES REQUIRED FOR INTERNAL PLANTING AREA

LDC SECTION 10-416 - BUFFERING REQUIREMENTS:

BUFFERS WILL BE PROVIDED IN ACCORDANCE WITH THE LDC SECTION 10-416(b) FOR MULTIPLE-FAMILY AND COMMERCIAL AREAS (OUTPARCELS).

NO BUFFERING IS REQUIRED FOR THE SINGLE FAMILY (VILLAS AND REGULAR/CONVENTIONAL) TWO-FAMILY ATTACHED, OR ZERO-LOT-LINE DWELLING UNITS. THEREFORE, BUFFERS MAY ONLY BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

THE CLUBHOUSE AREA WILL PROVIDE A TYPE D BUFFER ALONG BETH STACEY BOULEVARD AND THE PROJECT'S ENTRANCE ROAD.

THE BUFFER ALONG BETH STACEY BOULEVARD WILL BE 15' WIDE WITH 24 TREES AND A DOUBLE HEDGE (437 X 2 / 3) 325 SHRUBS.

THE BUFFER ALONG THE PROJECT'S ENTRANCE ROAD WILL BE 15' WIDE WITH 20 TREES AND A DOUBLE HEDGE (294 X 2 / 3) 261 SHRUBS.

THE GOLF COURSE MAINTENANCE AREA WILL PROVIDE A TYPE D BUFFER ALONG 23RD STREET AND ALONG YELLOWFISH CANAL.

THE BUFFER ALONG 23RD STREET WILL BE 15' WIDE WITH 12 TREES AND A DOUBLE HEDGE (351 X 2 / 3) 234 SHRUBS.

THE BUFFER ALONG YELLOWFISH CANAL WILL BE 15' WIDE WITH 6 TREES AND A DOUBLE HEDGE (250 X 2 / 3) 167 SHRUBS.

DOUBLE HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND BE MAINTAINED SO AS TO FORM A 36-INCH HIGH (F TYPE BUFFERS MUST BE 48 INCHES AT INSTALLATION AND BE MAINTAINED AT 60 INCHES HIGH) CONTINUOUS VISUAL SCREEN WITHIN ONE YEAR AFTER TIME OF PLANTING.

TREES WITHIN THE ROW BUFFER MUST BE APPROPRIATELY SIZED IN MATURE FORM SO THAT CONFLICTS WITH OVERHEAD UTILITIES, LIGHTING AND SIGNS ARE AVOIDED. THE CLUSTERING OF TREES AND USE OF PALMS WITHIN THE ROW BUFFER WILL ADD DESIGN FLEXIBILITY AND REDUCE CONFLICTS.

BUILDING PERIMETER PLANTINGS ARE REQUIRED FOR THE CLUBHOUSE AND PRO SHOP/CART BARN AREA. THE PERIMETER PLANTINGS MUST BE EQUAL TO TEN PERCENT OF THE PROPOSED BUILDING GROSS GROUND LEVEL FLOOR AREA.

THE CLUBHOUSE AREA IS 12,000 S.F. X 10% = 1,200 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PRO SHOP/CART BARN AREA IS 9,300 S.F. X 10% = 930 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PERIMETER PLANTING AREAS MUST CONSIST OF LANDSCAPE AREAS, RAISED PLANTERS OR PLANTER BOXES THAT ARE A MINIMUM OF FIVE FEET WIDE. THESE LANDSCAPE AREAS MUST INCLUDE SHRUBS AND GROUND COVER PLANTS WITH A MINIMUM OF 50 PERCENT COVERAGE OF THE LANDSCAPE AREA AT THE TIME OF PLANTING. TURF GRASS IS DISCOURAGED AND IS LIMITED TO 10 PERCENT OF THE LANDSCAPE AREA.

LDC SECTION 10-417 - IRRIGATION DESIGN STANDARDS:

LDC SECTION 10-417 REQUIRES THAT TO IMPROVE THE SURVIVABILITY OF REQUIRED LANDSCAPING, CULTIVATED LANDSCAPE AREAS MUST BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL REQUIRED IRRIGATION SYSTEMS MUST BE DESIGNED TO ELIMINATE THE APPLICATION OF WATER TO IMPERVIOUS AREAS, INCLUDING ROADS, DRIVE AND OTHER VEHICLE AREAS. REQUIRED IRRIGATION MUST ALSO BE DESIGNED TO AVOID IMPACTS ON EXISTING NATIVE VEGETATION.

ALL NEW DEVELOPMENTS THAT HAVE REQUIRED LANDSCAPING MUST BE IRRIGATED BY THE USE OF AN AUTOMATIC IRRIGATION SYSTEM WITH CONTROLLER SET TO CONSERVE WATER. MOISTURE DETECTION DEVICES MUST BE INSTALLED IN ALL AUTOMATIC SPRINKLER SYSTEMS TO OVERRIDE THE SPRINKLER ACTIVATION MECHANISM DURING PERIOD OF INCREASED RAINFALL. WHERE EXISTING IRRIGATION SYSTEMS ARE MODIFIED REQUIRING THE ACQUISITION OF A PERMIT, AUTOMATIC ACTIVATION SYSTEMS AND OVERRIDING MOISTURE DETECTION DEVICES MUST BE INSTALLED.

THE ENTIRE OPEN SPACE AREAS, INCLUDING THE GOLF COURSE, WILL BE IRRIGATED EXCEPT EXISTING VEGETATION THAT IS PRESERVED AND THE WETLAND AREAS. A WATER USE PERMIT WILL BE OBTAINED FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT.

THE PARKING LOT FOR THE CLUBHOUSE AREA SHALL BE SLEEVED FOR IRRIGATION.

LDC SECTION 10-420 - SIZE AND TYPE OF VEGETATION; CREDITS:

(a) QUALITY. PLANT MATERIALS USED TO MEET THE REQUIREMENTS OF THIS DIVISION MUST CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 OR BETTER, AS SET OUT IN GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II, DEPARTMENT OF AGRICULTURE, STATE OF FLORIDA (AS AMENDED). ROOT BALL SIZES ON ALL TRANSPLANTED PLANT MATERIALS MUST ALSO MEET STATE STANDARDS.

(b) NATIVE VARIETIES. AT LEAST 75 PERCENT OF THE TREES AND 50 PERCENT OF THE SHRUBS USED TO FULFILL THESE REQUIREMENTS MUST BE NATIVE FLORIDA SPECIES.

(c) TREES AND PALMS.

(1) FOR CODE REQUIRED TREES, AT LEAST 50 PERCENT OF THE TREES AT THE TIME OF INSTALLATION MUST BE A MINIMUM OF TEN FEET IN HEIGHT, HAVE A TWO-INCH CALIPER (AT 12 INCHES) ABOVE THE GROUND) AND A FOUR-FOOT SPREAD. THE REMAINING CODE-REQUIRED TREES, AT THE TIME OF INSTALLATION, MUST BE A MINIMUM SIX FEET IN HEIGHT, HAVE A ONE-INCH CALIPER (AT 12 INCHES ABOVE THE GROUND) AND A THREE-FOOT SPREAD. PALMS MUST HAVE A MINIMUM OF TEN FEET OF CLEAR TRUNK AT PLANTING. TREES HAVING AN AVERAGE MATURE SPREAD OR CROWN LESS THAN 20 FEET MAY BE SUBSTITUTED BY GROUPING THE SAME SO AS TO CREATE THE EQUIVALENT OF A 20 FOOT CROWN SPREAD. TREES ADJACENT TO WALKWAYS, BIKE PATHS AND RIGHTS-OF-WAY MUST BE MAINTAINED WITH EIGHT FEET OF CLEAR TRUNK.

(2) LARGER TREES SUBSTITUTED TO REDUCE THE MINIMUM NUMBER OF GENERAL TREES, WITHOUT THE USE OF AN ALTERNATIVE LANDSCAPE BETTERMENT PLAN, MUST BE NO LESS THAN FOUR INCHES IN CALIPER AT 12 INCHES ABOVE THE GROUND AND NO LESS THAN 16 FEET IN HEIGHT AT THE TIME OF PLANTING. THE GENERAL TREE REQUIREMENT CANNOT BE REDUCED IN NUMBER BY MORE THAN 50 PERCENT.

(d) SHRUBS AND HEDGES. SHRUBS MUST BE A MINIMUM OF 24 INCHES (48 INCHES FOR TYPE F BUFFERS) IN HEIGHT, ABOVE THE ON-SITE ADJACENT PAVEMENT SURFACE REQUIRED TO BE BUFFERED AND/OR SCREENED, WHEN MEASURED AT TIME OF PLANTING. THEY MUST BE A MINIMUM THREE-GALLON CONTAINER SIZE AND BE SPACED 18 TO 36 INCHES ON CENTER. THEY MUST BE AT LEAST 36 INCHES (60 INCHES FOR TYPE F BUFFERS) IN HEIGHT WITHIN 12 MONTHS OF TIME OF PLANTING AND MAINTAINED IN PERPETUITY AT A HEIGHT OF NO LESS THAN 36 INCHES (60 INCHES FOR TYPE F BUFFERS) ABOVE THE ADJACENT PAVEMENT REQUIRED TO BE BUFFERED AND/OR SCREENED, EXCEPT FOR VISIBILITY AT INTERSECTIONS AND WHERE PEDESTRIAN ACCESS IS PROVIDED. REQUIRED HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND MAINTAINED SO AS TO FORM A CONTINUOUS, UNBROKEN, SOLID VISUAL SCREEN WITHIN A MINIMUM OF ONE YEAR AFTER TIME OF PLANTING.

(e) MULCH REQUIREMENTS. A TWO-INCH MINIMUM LAYER, AFTER WATERING-IN, OF MULCH OR OTHER RECYCLED MATERIALS MUST BE PLACED AND MAINTAINED AROUND ALL NEWLY INSTALLED TREES, SHRUBS, AND GROUND COVER PLANTINGS. EACH TREE MUST HAVE A RING OF MULCH NO LESS THAN 24 INCHES BEYOND ITS TRUNK IN ALL DIRECTIONS. THE USE OF CYPRESS MULCH IS STRONGLY DISCOURAGED.

(f) INVASIVE EXOTICS. THE FOLLOWING HIGHLY INVASIVE EXOTIC PLANTS MUST BE REMOVED FROM THE DEVELOPMENT AREA. THE METHOD OF REMOVAL AND CONTROL INVASIVE EXOTIC PLANTS WILL BE DONE EITHER MECHANICALLY OR BY HAND. IF THE USE OF MECHANICAL EQUIPMENT WILL BE HARMFUL TO OTHER NON-INVASIVE VEGETATION, THE REMOVAL OF INVASIVE EXOTICS MUST BE DONE BY HAND. THE DEVELOPMENT AREA WILL BE MAINTAINED FREE FROM INVASIVE EXOTIC PLANTS IN PERPETUITY. FOR PURPOSES OF THIS SUBSECTION, INVASIVE EXOTIC PLANTS INCLUDE:

COMMON NAME	SCIENTIFIC NAME
MELALEUCA, PAPER TREE	MELALEUCA QUINQUENERVIA
BRAZILIAN PEPPER, FLORIDA HOLLY	SCHINUS TEREBINTHIFOLIUS
AUSTRALIA PINES	ALL CASUARINA SPECIES
EARLEAF ACACIA	ACACIA AURICULIFORMIS
DOWNY ROSE MYRTLE	RHODOMYRTUS TOMENTOSUS
TROPICAL SODA APPLE	SOLANUM VARUM

(g) PROHIBITED SPECIES. THE FOLLOWING SPECIES OF EXOTIC PLANTS ARE CONSIDERED INVASIVE AND MAY NOT BE USED TO FULFILL ANY REQUIREMENTS OF THIS DIVISION.

COMMON NAME	SCIENTIFIC NAME
WOMAN'S TONGUE	ALBIZIA LEBBECK
BISHOP WOOD	BISCHOFIA JAVANICA
CARROTWOOD	CUPANOPSIS ANACARDIOIDES
ROSEWOOD	DALBERGIA SISSOO
MURRAY RED GUM	EUCALYPTUS CAMALDULENSIS
BENJAMIN FIG	FICUS BENJAMINA
CUBAN LAUREL	FICUS RETUSA
CHINESE TALLOW	SAPIUM SEBIFERUM
JAVA PLUM	SYZYGIUM CUMINI
ROSE APPLE	SYZYGIUM JAMBOS
CORK TREE	THESPESIA POPULNEA
WEDELIA	WEDELIA TRILOBATA

(h) CREDITS.

(1) EXCEPT FOR PROHIBITED SPECIES AS LISTED ABOVE, EVERY CONSIDERATION MUST BE GIVEN TO RETAINING AS MUCH EXISTING PLANT MATERIAL AS POSSIBLE.

(2) EACH EXISTING INDIGENOUS NATIVE TREE PRESERVED IN PLACE, WHICH HAS A TRUNK DIAMETER OF FOUR INCHES OR GREATER MEASURED AT 4 1/2 FEET ABOVE THE GROUND (DBH) WILL RECEIVE A CREDIT OF FIVE TREES AGAINST THE GENERAL LANDSCAPE REQUIREMENTS. NATIVE PALMS PRESERVED IN PLACE THAT ARE EIGHT FEET OR GREATER FROM GRUND LEVEL TO BASE OF FRONDS, WILL RECEIVE A CREDIT OF THREE TREES. EXISTING SABAL PALMS, IDENTIFIED ON THE DEVELOPMENT ORDER PLANS THAT ARE RELOCATED ON SITE WILL BE GIVEN A TWO TREE CREDIT. CREDITS FOR EXISTING TREES MAY NOT BE USED TO REDUCE THE REQUIRED PARKING CANOPY TREES IN PARKING OR VEHICLE USE AREAS. EXISTING NATIVE TREES IN BUFFERS MAY BE USED FOR CREDIT PROVIDED THEY OCCUR WITHIN THE REQUIRED 100-FOOT BUFFER SEGMENT.

CREDITS WILL APPLY ONLY WHEN THE TREES ARE LABELED AS PROTECTED-CREDIT TREES. IF THE PROTECTED-CREDIT TREES DIE WITHIN THREE YEARS FROM THE DEVELOPMENT ORDER CERTIFICATE OF COMPLIANCE, THEY MUST BE REPLACED BY THE NUMBER OF CREDIT TREES TAKEN.

(3) CREDITS WILL APPLY WHERE THE PRESERVED TREE IS IN AN BARRICADED AREA AT LEAST TWO-THIRDS THE RADIUS OF THE CROWN SPREAD OF THE TREE MEASURED FROM THE TRUNK CENTER. IN NO CASE MAY THIS AREA RADIUS BE LESS THAN 2 1/2 FEET. FOR INDIGENOUS NATIVE PINE TREES, THE UNDISTURBED AREA MAY BE NO LESS THAN THE FULL CROWN SPEAD OF THE TREE, UNLESS OTHER MEASURES SUCH AS TIE-WALLS OR SPECIAL SLOPE TREATMENT ARE CONSTRUCTED FOR ADDITIONAL PROTECTION. PRIOR TO THE LAND CLEARING STAGE OF DEVELOPMENT, THE OWNER, DEVELOPER OR AGENT MUST ERECT PROTECTIVE BARRIERS WHICH AS A MINIMUM ARE MADE OF ONE-INCH BY ONE-INCH LUMBER OR APPROVED ALTERNATIVE BARRICADING MATERIAL. IN THE CASE OF INDIVIDUAL TREES, BARRICADES MUST BE ERECTED NO CLOSER THAN THE DRIPLINE OF THE TREES, EXCEPT WHERE CONSTRUCTION LIMITS HAVE BEEN APPROVED TO A CLOSER DISTANCE. FOR ALL OTHER PROTECTED VEGETATION, I.E. SHRUBS AND GROUND COVER, BARRICADES MUST BE ERECTED AROUND THE PERIMETER OF THE VEGETATION. THE OWNER, DEVELOPER OR AGENT MAY NOT CAUSE OR PERMIT THE MOVEMENT OF EQUIPMENT OR THE STORAGE OF EQUIPMENT, MATERIAL, DEBRIS OR FILL TO BE PLACED WITHIN THE REQUIRED PROTECTIVE BARRIER. THE PROTECTED TREES AND ASSOCIATED UNDERSTORY PLANT COMMUNITIES MUST REMAIN ALIVE AND HEALTHY AT THE END OF THE CONSTRUCTION IN ORDER FOR THIS CREDIT TO APPLY.

LDC SECTION 10-421 - OF PLANT MATERIALS, MAINTENANCE OF LANDSCAPING AND OPEN SPACE:

(a) INSTALLATION. PLANT MATERIALS MUST BE INSTALLED IN SOIL CONDITIONS THAT ARE CONDUCIVE TO THE PROPER GROWTH OF THE PLANT MATERIAL. LIMEROCK LOCATED WITHIN PLANTING AREAS MUST BE REMOVED AND REPLACED WITH NATIVE OR GROWING QUALITY SOIL BEFORE PLANTING.

A PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS THAT MIGHT BE CREATED (e.g. VIEWS, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION). TREES MAY NOT BE PLACED WHERE THEY INTERFERE WITH SITE DRAINAGE, SUBSURFACE UTILITIES, OR OVERHEAD UTILITY LINES, OR WHERE THEY WILL REQUIRE FREQUENT PRUNING IN ORDER TO AVOID INTERFERENCE WITH OVERHEAD POWER LINES.

ALL LANDSCAPE MATERIAL MUST BE INSTALLED IN A RECOGNIZED HORTICULTURAL CORRECT MANNER AT A MINIMUM, THE FOLLOWING INSTALLATION REQUIREMENTS MUST BE MET:

(1) ALL LANDSCAPE AREAS MUST BE MULCHED UNLESS VEGETATIVE COVER IS ALREADY ESTABLISHED.
(2) TREES AND SHRUBS USED IN BUFFERS MUST BE PLANTED IN A MINIMUM WIDTH AREA EQUAL TO ONE-HALF THE REQUIRED WIDTH OF THE BUFFER. HOWEVER, IN NO CASE MAY THE PLANTING AREA TO LESS THAN FIVE FEET IN WIDTH.
(3) ALL LANDSCAPED AREAS MUST BE PROVIDED PROTECTION FROM ENCROACHMENT BY ANY TYPE OF VEHICLE.
(4) ALL REQUIRED PLANTS USED IN BUFFERS AND LANDSCAPING MUST BE INSTALLED USING XERISCAPE PRINCIPLES. XERISCAPE PRINCIPLE INCLUDE WATER CONSERVATION THROUGH DROUGHT-TOLERANT LANDSCAPING, THE USE OF APPROPRIATE PLANT MATERIAL, MULCHING, AND THE REDUCTION OF TURF AREAS.
(5) UTILITY, POWER, OR DRAINAGE EASEMENT MAY OVERLAP REQUIRED BUFFERS; HOWEVER, NO REQUIRED TREES OR SHRUBS MAY BE LOCATED IN ANY UTILITY, POWER, OR STREET EASEMENT OR RIGHT-OF-WAY. TO AVOID CONFLICTS WITH OVERHEAD UTILITY LINES, ONLY SMALL TREES, LESS THAN 20 FEET IN HEIGHT AT MATURITY, MUST BE USED DIRECTLY ADJACENT TO AN OVERHEAD LINE.
(6) SAFE SIGHT DISTANCE TRIANGLES AT INTERSECTIONS AND VEHICLE CONNECTIONS. WHERE AN ACCESS WAY INTERSECTS A RIGHT-OF-WAY OR WHEN A PROPERTY ABUTS THE INTERSECTION OF TWO OR MORE RIGHTS-OF-WAY, A MINIMUM SAFE SIGHT DISTANCE TRIANGULAR AREA MUST BE ESTABLISHED. WITHIN THIS AREA, VEGETATION MUST BE PLANTED AND MAINTAINED IN A WAY THAT PROVIDES UNOBSTRUCTED VISIBILITY AT A LEVEL BETWEEN 30 INCHES AND EIGHT FEET ABOVE THE CROWN OF THE ADJACENT ROADWAY. LANDSCAPING MUST BE LOCATED IN ACCORDANCE WITH THE ROADSIDE RECOVERY AREA PROVISIONS OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION'S MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE OF STREETS AND HIGHWAYS (FDOT GREEN BOOK) WHERE APPROPRIATE.

(b) MAINTENANCE OF LANDSCAPING. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE REQUIRED LANDSCAPING IN A HEALTHY AND VIGOROUS CONDITION AT ALL TIMES. TREE AND PALM STAKING MUST BE REMOVED WITHIN 12 MONTHS AFTER INSTALLATION. ALL LANDSCAPES MUST BE KEPT FREE OF REFUSE, DEBRIS, DISEASE, PESTS, AND WEEDS. ONGOING MAINTENANCE TO PROHIBIT THE ESTABLISHMENT OF PROHIBITED INVASIVE EXOTIC SPECIES IS REQUIRED.

(c) PRUNING. VEGETATION REQUIRED BY THIS CODE MY ONLY E PRUNED TO PROMOTE HEALTHY, UNIFORM, NATURAL GROWTH OF THE VEGETATION (EXCEPT WHERE NECESSARY TO PROMOTE HEALTH, SAFETY AND WELFARE) AND BE IN ACCORDANCE WITH "PRUNING STANDARDS (REVISED 1994)" OF THE NATIONAL ARBORIST ASSOCIATION. TREES MUST NOT BE SEVERELY PRUNED TO PERMANENTLY MAINTAIN GROWTH AT A REDUCED HEIGHT OR SPREAD. PRUNING MUST NOT INTERFERE WITH THE DESIGN INTENT OF THE ORIGINAL INSTALLATION. SEVERELY PRUNED TREES MUST BE REPLACED BY THE PROPERTY OWNER. PLANTS GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS, WHICH MIGHT ARISE (E.G. VIEW, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION, SIDEWALKS, BUILDINGS, AND SIMILAR CONFLICTS.

LDC SECTION 10-418 - STORMWATER PONDS:

(a) DESIGN STANDARDS. TECHNIQUES TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN STORMWATER MANAGEMENT PONDS AREAS FOLLOWS:

(1) SHORELINE CONFIGURATION. SHORELINES SHALL BE SINUOUS IN CONFIGURATION TO PROVIDE INCREASED LENGTH AND DIVERSITY OF THE LITTORAL ZONE. SINUOUS IS DEFINED AS SERPENTINE, BENDING IN AND OUT WAVY OR WINDING.
(2) PLANT MATERIALS. THE FOLLOWING SHALL BE CONSIDERED SUFFICIENT TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN PONDS WITH SLOPES STEEPER THAN 8 TO 1 BUT NOT MORE THAN 4 TO 1:

a. SHORELINES SHALL BE SLOPED OR BERMED TO DIRECT STORMWATER THROUGH PRETREATMENT SYSTEMS OR SWALES PRIOR TO DISCHARGE INTO THE POND.
b. THE MINIMUM REQUIRED NUMBER OF NATIVE WETLAND HERBACEOUS PLANTS IS ONE PLANT PER LINEAR FOOT OF LAKE SHORELINE AS MEASURED AT THE CONTROL ELEVATION WATER LEVEL. NATIVE WETLAND TREES OR SHRUBS MAY BE SUBSTITUTED FOR UP TO 25 PERCENT OF THE TOTAL NUMBER OF HERBACEOUS PLANTS REQUIRED. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.

POND #1 -	850 LF X 1 HERBACEOUS PLANT =	850 HERBACEOUS PLANTS
POND #2 -	1,717 LF X 1 HERBACEOUS PLANT =	1,717 HERBACEOUS PLANTS
POND #3 -	1,200 LF X 1 HERBACEOUS PLANT =	1,200 HERBACEOUS PLANTS
POND #4 -	1,038 LF X 1 HERBACEOUS PLANT =	1,038 HERBACEOUS PLANTS
POND #5 -	2,121 LF X 1 HERBACEOUS PLANT =	2,121 HERBACEOUS PLANTS
POND #6 -	1,038 LF X 1 HERBACEOUS PLANT =	1,038 HERBACEOUS PLANTS
POND #7/8	3,578 LF X 1 HERBACEOUS PLANT =	3,578 HERBACEOUS PLANTS
POND #9 -	1,606 LF X 1 HERBACEOUS PLANT =	1,606 HERBACEOUS PLANTS
POND #10 -	1,128 LF X 1 HERBACEOUS PLANT =	1,128 HERBACEOUS PLANTS
POND #11 -	944 LF X 1 HERBACEOUS PLANT =	944 HERBACEOUS PLANTS
POND #12 -	625 LF X 1 HERBACEOUS PLANT =	625 HERBACEOUS PLANTS
POND #13 -	723 LF X 1 HERBACEOUS PLANT =	723 HERBACEOUS PLANTS

TOTAL = 16,574 HERBACEOUS PLANTS

UP TO 25% OF 16,574 PLANTS (A TOTAL OF 4,144 PLANTS) CAN BE SUBSTITUTED FOR TREES OR SHRUBS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.
c. PLANTS MUST BE INSTALLED IN CLUSTERS AROUND THE LAKE PERIMETER. PLACEMENT OF CLUSTERS AT THE INLET AND OUTFALLS AREAS IS STRONGLY ENCOURAGED. CLUSTERS MUST CONTAIN A MINIMUM OF 25 PLANTS WITHIN A 50-SQUARE FOOT AREA.
d. AT LEAST FOUR SPECIES SHALL BE PLANTED. MINIMUM REQUIRED HERBACEOUS PLANT SIZE SHALL BE TWO-INCH CONTAINER, REFERRED TO AS A LINER. TREES AND SHRUBS SHALL MEET THE MINIMUM STANDARDS IN SECTION 10-420.

THE FOLLOWING TABLE LISTS THE DIFFERENT PLANTS THAT CAN BE USED AND WHERE THEY ARE TO PLANTED:
ZONE 1: AT CONTROL ELEVATION TO 2' BELOW CONTROL ELEVATION

ARROW ARUM	FLAT SEDGE	SAND CORDGRASS
ARROWHEAD	FRAGRANT WATER LILY	SPIDER/ALLIGATOR LILY
BACOPA/WATER HYSSOP	GIANT/SOFT BULRUSH	SPIKERUSH
BANANA LILY	LIZARD'S TAIL	COASTAL PLAIN WILLOW
BREAK RUSH	MAIDENCANE	SWAMP LILY
BLUE FLAG	PICKEREL WEED	WAPATO
BUTTONBUSH	POND APPLE	POP ASH
CANNA LILLY	RUSH	WHITE TOP SEDGE
DUCKPOTATO	ROYAL FERN	

ZONE 2: 2' TO 4" BELOW CONTROL ELEVATION

GREEN CABOMBA	PURPLE CABOMBA
GREEN FANWORT	PURPLE FANWORT
DUCKPOTATO	SPATTERDOCK
FRAGRANT WATER LILY	WAPATO
GIANT/SOFT BULRUSH	STRING LILY

ZONE 3: 1' ABOVE TO 1' BELOW CONTROL ELEVATION

CORDGRASS	SAW GRASS
GIANT/SOFT BULRUSH	SWAMP FERN
LEATHERFERN	WHITE TOP SEDGE
ROYAL FERN	

* SODDING OR MULCHING OF NATIVE WETLAND PLANT MATERIALS IS ALLOWED TO ESTABLISH PLANTINGS AT THE MINIMUM REQUIRED DENSITY IN LIEU OF LINERS.

(b) SURVIVAL OF PLANT MATERIALS. A MINIMUM OF 80 PERCENT SURVIVABILITY OF PLANTINGS IS REQUIRED FOR HERBACEOUS WETLAND PLANTS. WETLAND TREES AND SHRUBS MUST BE MAINTAINED PER SECTION 10-421(b).

POND #3: REVISED AS BUILT CALCULATIONS
1,206 LF (Lake Perimeter) x 1 = 1,206 Herbaceous Littorals Required

1,206 x 25% (Max allowable to be replaced with 2 shrubs / 10 littorals) = 301 Littorals reduction
Required Shrubs: 301 / 10 x 2 = 60 Shrubs

POND #3 FINAL REVISED REQUIRED PLANTINGS
1,206 - 301 = 905 Herbaceous Littorals Required
301 / 10 x 2 = 60 Shrubs Required

POND #9: REVISED AS BUILT CALCULATIONS
1,606 LF (Lake Perimeter) x 1 = 1,606 Herbaceous Littorals Required

1,606 x 25% (Max allowable to be replaced with 2 shrubs / 10 littorals) = 402 Littorals reduction
Required Shrubs: 402 / 10 x 2 = 80 Shrubs

POND #3 FINAL REVISED REQUIRED PLANTINGS
1,606 - 402 = 1,204 Herbaceous Littorals Required
402 / 10 x 2 = 80 Shrubs Required

DOS 9912034

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DRAWING INFORMATION	DATE	DRAWING NO.
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DRAWN BY: KLM	2/18/2005	
CHECKED BY: GGL	2/21/2005	
DRAWING FILE: LANDSCAPE	SCALE: 1" = 200'	SHT. 2 OF 2

DOS 9912034

APPROVED AS-BUILTS
AUG 02 2011
Environmental Sciences

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COPPERHEAD
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LEHIGH ACRES, FLORIDA
PREPARED FOR: COPPERHEAD GOLF AND COUNTRY CLUB

JOB #: 022-05

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REVISED CALCULATIONS SHEET

Date: 07-26-11 (As Built - Calculations)
Revision Date: 00-00-00
Revision Date: 00-00-00
Revision Date: 00-00-00

SHEET NUMBER: 2 OF 2

99-12-34-00

Loc: 42004

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2002

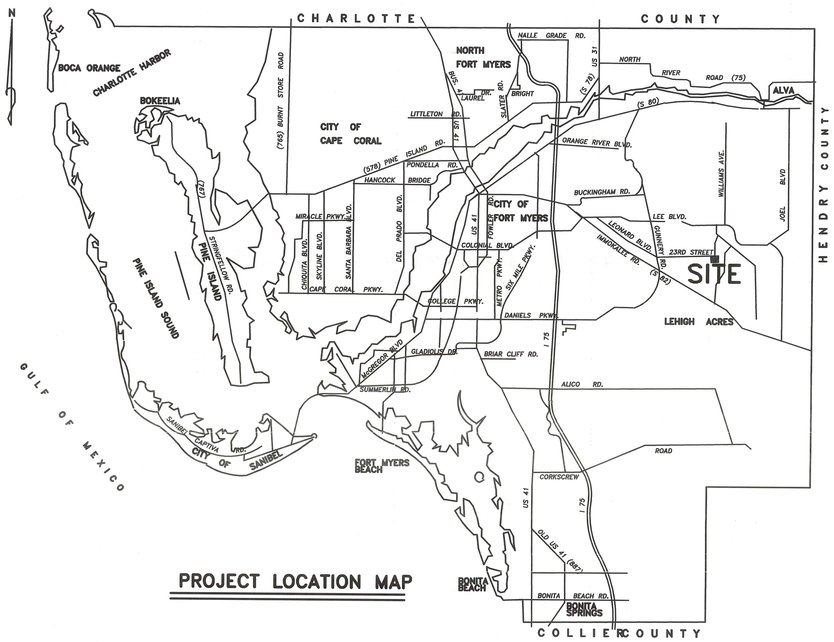
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COPPERHEAD PHASE 1

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LEHIGH, FLORIDA

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PROJECT LOCATION MAP

CONTENTS

SHEET NO.	DESCRIPTION
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	BOUNDARY/PLAT SURVEY
	AERIAL PHOTOGRAPH

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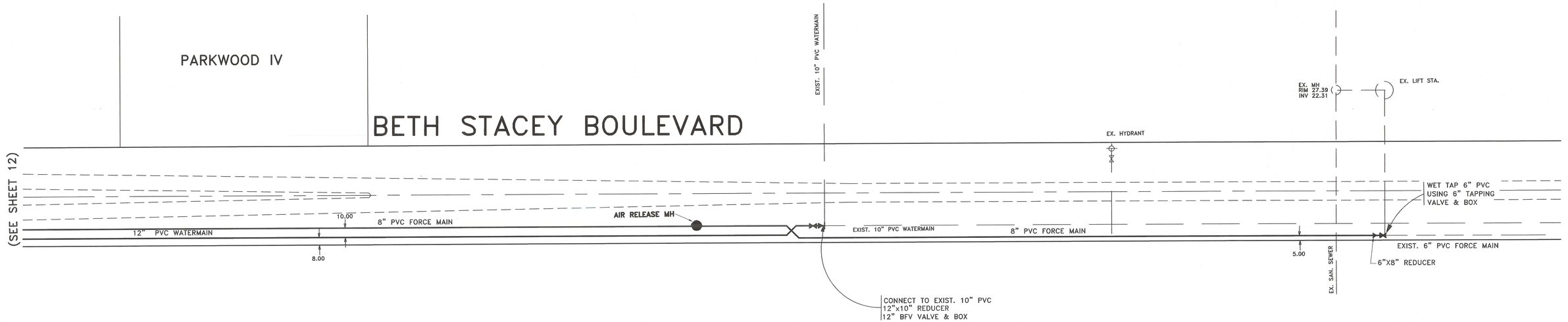
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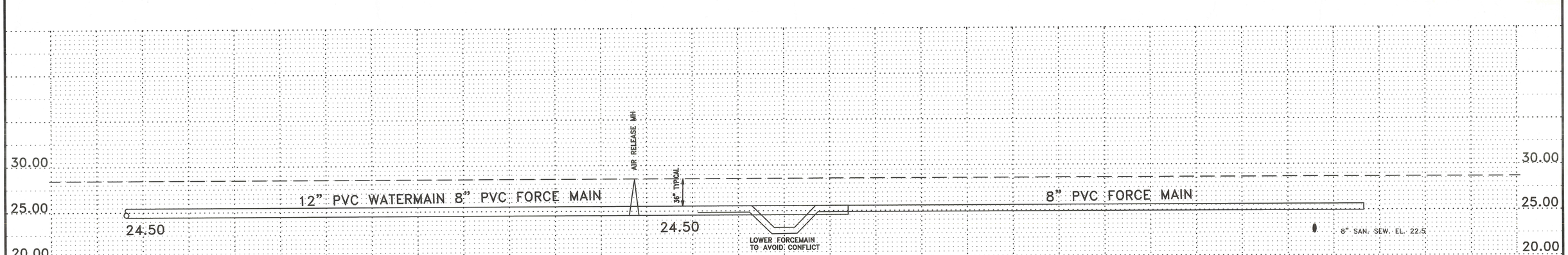
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DATE: 11/22/99 FILE: INDEX SHEET 1 of 39 SHEETS





RECORD DRAWING

APPROVED

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DATE 11/18/02
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 11/22/99	BY FHZ	FILE SH11-26	SHEET ~~11 of 39~~ SHEETS

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COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

2 OF 4 ~~11~~ 11/20/02

(SEE SHEET 13)

COPPERHEAD DR.

10" DIP WATER MAIN
10" PVC WATER MAIN
8" PVC SEWER MAIN
8" PVC SEWER MAIN
5' SIDEWALK 2' FROM CURB
5' SIDEWALK 2' FROM CURB
8"x6" TEE
10' PUE
ROW
110' STEEL CASING
8" DIP FM
12" DIP WM
12" GATE VALVE
12"x10" CROSS
10" PVC WATER MAIN
8" PVC SEWER MAIN
IRONWOOD DR
(SEE SHEET 13)
(SEE SHEET 25)
NOTE: END PHASE I CONSTRUCTION @ STA 7+15

TEMP 15' EASEMENT
5' CONCRETE SIDEWALK
BEGIN CURB
582.55
529.61
8" PVC FORCEMAIN
12" PVC WATERMAIN
10' PUE
NOTE: SPOT ELEV ARE TO TOP OF CURB
BEGIN STREET CONSTRUCTION AT STA 0+40

23rd STREET

BETH STACEY BOULEVARD

PARKWOOD IV

12" PVC WATERMAIN
8" PVC FORCE MAIN
(SEE SHEET 11)

CONTRACTOR SHALL MILL EXIST. PAVEMENT AND RESURFACE ROADWAY TO REMOVE EXIST. STRIPING
CONTRACTOR SHALL SUBMIT STRIPING PLAN

N

GRAPHIC SCALE
0 50 100 150

VPI STA 6+60.00
VPI ELEV=28.60
VPI STA 4+25.00
VPI ELEV=27.42
VPI STA 0+40.00
VPI ELEV=28.60

30.00
25.00
20.00

+0.50%
-0.30%
PROPOSED GRADE
EXISTING GRADE
36" MINIMUM

10" PVC WATER W/CASING
12" PVC WATERMAIN 8" PVC FORCE MAIN
LOWER FORCEMAIN TO AVOID CONFLICT.
10" PVC SEWER

22.00
24.50

7+00 6+00 5+00 4+00 3+00 2+00 1+00 0+00

RECORD DRAWING

APPROVED
WARREN L. ISRAELSON
REG. NO. 58271
DATE 11/22/99
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 11/22/99 BY FHZ

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

FILE SH11-26

COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

SHEET ~~12~~ of ~~39~~ SHEETS

23rd STREET

WATERMAIN NOT YET CLEARED TO MAINTENANCE BUILDING

MAINT. BLDG

CHEMICAL FERTILIZER BUILDING

TRASH ENCLOSURE

8" PVC WATER

6" PVC WATER

6" PVC SEWER

8" PVC SEWER

10"X10" TEE
10"X6" REDUCER

UTILITY EASEMENT

10" PVC WATER

324' 8" PVC SEWER

150' 8" PVC SEWER

MH#24C
STA.=6+24
RIM ELEV.=28.10

MH#24B
STA.=2+24
RIM ELEV.=29.82

MH#24A
STA.=2+24
RIM ELEV.=27.18

10" 45° BEND

STORM SEWER

BASIN P10

LAKE

10" PVC WATER

6" PVC SEWER

COPPERHEAD DRIVE

DROP MH#24
STA.=16+09
RIM ELEV.=27.18

10" PVC SEWER

STORM SEWER

LIMITS OF PHASE 1A

COPPERHEAD DRIVE

CLEARED TO THIS C.O.

DROP MH# 2
STA.=1+25.0
RIM ELEV.=27.83

HYDRANT

10" PVC WM

10" PVC SEWER

8" PVC SEWER

10" DIP WATER

8" DIP FM

12" DIP WM

8" PVC FORCE MAIN

6" GATE VALVE

6" PVC FORCE MAIN

(SEE SHEET 25)

6" PVC WM

6" PVC SEWER

8" PVC SEWER

10" DIP WM

DROP MH# 2A
STA.=3+00
RIM ELEV.=28.70

STORM SEWER

6" SDR WM

6" PVC SEWER

6" PVC WM

CLUBHOUSE

184 LF – 30" ADS

PRO SHOP

CART BARN

N

GRAPHIC SCALE
0 50 100 150

MH#24C STA.=6+24 | 36" COVER MIN. | PROPOSED GRADE | MH#24B STA.=2+24 | MH#24A STA.=2+24 | 36" COVER MIN. | EXISTING GRADE | MH#24 STA.=0+00

28.10 | 27.95 | 27.18

10" PVC WATERMAIN

6" PVC DRAIN PIPES
0 24.5 0 24.5

190'–6"PVC@1.00%(MAINT.)

70'–8"PVC@0.40%(NORTH)

20.00

(AS–BUILT = 0.42%)
324'–8" PVC @ 0.40%

(AS–BUILT = 0.39%)
150'–8" PVC @ 0.40%

(AS–BUILT = 0.39%)
152'–8" PVC @ 0.40%

18.40 | 17.50 | 13.70

MH#24C AS–BUILT
RIM=29.10
E.I.E.=20.27

MH#24B AS–BUILT
RIM=29.82
W.I.E.=18.92
E.I.E.=18.92

MH#24A AS–BUILT
RIM=28.24
W.I.E.=18.35
E.I.E.=18.21

MH#24 AS–BUILT
RIM=27.15
E.I.E.=13.86
W.I.E.=17.63
S.I.E.=13.92

MH#2A STA.=3+00 | 36" COVER MIN. | MH#2 STA.=0+00

28.70 | 27.83

6" PVC WATERMAIN

6" PVC @ 0.66%

120' TO PRO SHOP23.50
70' TO CLUBHOUSE

10" PVC WATERMAIN | 8" FORCEMAIN

300'– 8" PVC @ 0.66% (AS–BUILT=2.24%)

LOWER WATERMAIN TOP ELEV=22.5

21.50 | 11.44

MH#2A AS–BUILT
RIM=29.05
W.I.E.=23.19
N.I.E.=23.05
E.I.E.=23.13

MH#2 AS–BUILT
RIM=28.05
W.I.E.=11.49
N.I.E.=11.64
E.I.E.=11.50
S.I.E.=16.43

25.00 | 20.00 | 15.00 | 10.00

8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00 0+00 4+00 3+00 2+00 1+00 0+00

RECORD DRAWING

APPROVED
WARREN J. ISRAELSON
FLORIDA P.E. # 56271
DATE 11/22/99
NOT VALID WITHOUT EMBOSSED SEAL

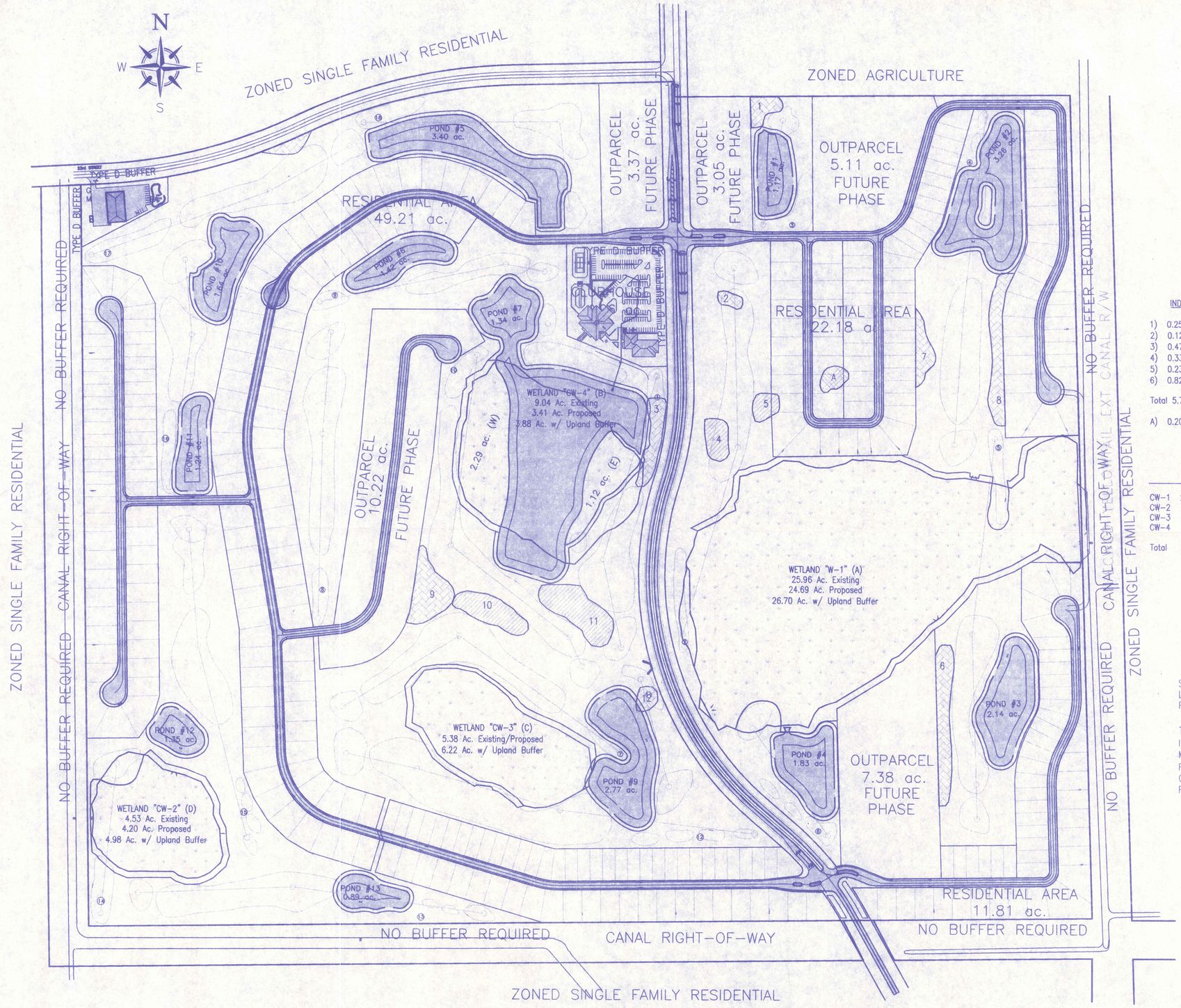
REVISED

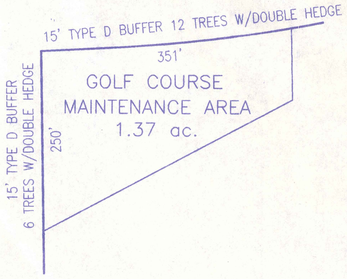
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPER HEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SEWER & WATER, PLAN & PROFILE

DATE 11/22/99 | BY FHZ | FILE SH13-16 | SHEET ~~13~~ 13A of 39 SHEETS

4 OF 9 MOT 1/30/02





INDIGENOUS AREA

1)	0.25 Ac.	7)	0.33 Ac.
2)	0.12 Ac.	8)	0.75 Ac.
3)	0.47 Ac.	9)	0.74 Ac.
4)	0.33 Ac.	10)	0.64 Ac.
5)	0.23 Ac.	11)	0.92 Ac.
6)	0.82 Ac.	12)	0.16 Ac.

Total 5.74 Acres

A) 0.20 Ac. Hammock to be Relocated

WETLANDS

	Wetland	Buffer	Total
CW-1	24.69 Ac.	2.01 Ac.	26.70 Ac.
CW-2	4.20 Ac.	0.78 Ac.	4.98 Ac.
CW-3	5.38 Ac.	0.84 Ac.	6.22 Ac.
CW-4	3.42 Ac.	0.46 Ac.	3.88 Ac.
Total	37.69 Ac.	4.09 Ac.	41.78 Ac.

EXISTING TREES PRESERVED

HOLE	PALMS	PINES	OAKS
1	206	51	7
2	144	36	7
3	5	38	7
4	107	130	8
5	99	50	2
6	15	2	0
7	108	21	0
8	3	8	0
9	5	18	3
10	106	21	9
11	23	2	0
12	61	3	1
13	4	19	0
14	16	65	0
15	18	13	0
16	4	1	0
17	14	15	0
18	25	13	1
TOTALS	963	506	45

SEE SHEET 2 OF 2 FOR OPEN SPACE, BUFFERING, AND LANDSCAPING REQUIREMENTS FOR THIS PHASE OF THE PROJECT.

THE CABBAGE PALM HAMMOCK AREAS MUST BE PRESERVED IN ACCORDANCE WITH ZONING RESOLUTION #Z-99-079. MINOR CLEARING IS PERMITTED FOR THE GOLF COURSE FAIRWAYS. ANY CABBAGE PALMS WITH 8' OR GREATER OF CLEAR TRUNK REMOVED FOR THE CONSTRUCTION OF THE FAIRWAYS MUST BE RELOCATED ONSITE.

KATHY L. MORGAN, PROJECT MANAGER
6747 PLANTATION MANOR LOOP
FORT MYERS, FLORIDA 33912
(941) 368-3377

GORDON G. LEWIS, GOLF COURSE ARCHITECT
5980 18TH AVENUE NW
NAPLES, FLORIDA 34119
(941) 597-4448

APPROVED

GORDY G. LEWIS

VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 08/30/00 BY ---

FILE File

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LANDSCAPE PLAN

SHEET 39 of 39 SHEETS

COPPERHEAD (CLASSIC HILLS) GOLF COMMUNITY

LEGEND:

- GOLF COURSE CONTOURS
- GOLF COURSE DRAIN PIPES (REFER TO COURSE PLANS)
- PRIMARY WATER MANAGEMENT SYSTEM PIPES
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PHYSICAL BUFFER
- PROPOSED BERM

NOTE:
CONTRACTOR SHALL INSTALL SIGNS EVERY 100 FEET ALONG ALL WETLAND BUFFERS WHICH DO NOT HAVE PHYSICAL BARRIERS AND AT THE REAR OF EVERY LOT LINE ADJACENT TO WETLANDS. SIGNS SHALL STATE "WETLAND – NO TRESPASSING"

N

GRAPHIC SCALE
0 120 240 360

23RD STREET

23rd STREET

GOLF COURSE MAINTENANCE AREA
1.27 Acres

POND #5
2.83 ac.

POND #6
1.45 ac.

POND #10
1.35 ac.

POND #11
1.28 ac.

POND #1
0.85 ac.

POND #2
3.30 ac.

BASIN P10
15.32 ac.
MIN F.F. = 28.1

BASIN P11
17.05 ac.
MIN F.F. = 28.3

BASIN P06
14.46 ac.
MIN F.F. = 28.8

BASIN P07
6.95 ac.
MIN F.F. = 28.6

BASIN P05
17.11 ac.
MIN F.F. = 28.0

SUB-BASIN P08-a
10.46 ac.
MIN F.F. = 28.6

SUB-BASIN P08-b
29.22 ac.
MIN F.F. = 28.0

SUB-BASIN P01-a
1.83 ac.
MIN F.F. = 27.9

SUB-BASIN P01-b
7.16 ac.

SUB-BASIN P02-a
4.58 ac.
MIN F.F. = 27.7

SUB-BASIN P02-b
4.53 ac.
MIN F.F. = 27.6

SUB-BASIN P02-c
3.82 ac.

SUB-BASIN P02-d
17.90 ac.
MIN F.F. = 27.5

FUTURE COMMERCIAL
3.37 ACRES

FUTURE COMMERCIAL
3.05 ACRES

FUTURE MULTI-FAMILY
5.03 ACRES

CLUBHOUSE

AQUA RANGE
POND #8
9.33 ac.

4.06 ac

WETLAND "CW-4" (B)
0.00 Ac. Proposed
9.04 Ac. Existing

WETLAND "W-1" (A)
24.35 Ac. Proposed
25.96 Ac. Existing

BETH STACEY BLVD (PUBLIC)

COPPERHEAD DRIVE (PRIVATE)

ROADS (PRIVATE)

AQUA OVERLOOK CT (PRIVATE)

RIVERWOOD COURT NORTH (PRIVATE)

RIVERWOOD DRIVE (PRIVATE)

MINIMUM 15' BUFFER

BUFFER 0.816 AC

BUFFER 0.166 AC

IMPACT 0.062 AC

IMPACT 0.303 AC

2' WIDE BERM TIE INTO LOT FILL

2' WIDE BERM EL 26.25

25' BUFFER

WCS #1

WCS #2

LAKE #2 OUTFALL SPREADER STRUCTURE

DRY RETENTION POND II
INVERT EL.=25.0' TO 25.5
STRUCTURE CREST EL.=25.75'
REQUIRED VOLUME 4,700 CF
MIN TOB AREA 9,000 SF

FILL WETLAND AND ADJACENT ECWCD R/W TO ELEVATION 27.0' NGVD. BERM TO SERVE AS BUFFER FOR WETLAND. FILL AREA = 0.19 AC.

APPROVED AS-BUILTS
SEP 16 2009
Environmental Sciences

RECEIVED
NOV 07 2002
Environmental Sciences

D0899203700S

MATCH LINE (REFER SHEET B)

EAST BAY GROUP, LLC
Engineering, Planning, and Development Consulting
11000-27 Metro Pkwy Ft. Myers, Fl 33912 941-936-5222 Cert. #8643

REVISIONS	
SFWMD RESUBMITTAL	11/23/99
SFWMD PERMIT MOD. ASBUILT	06/01/01
LAKE ASBUILT	10/28/02

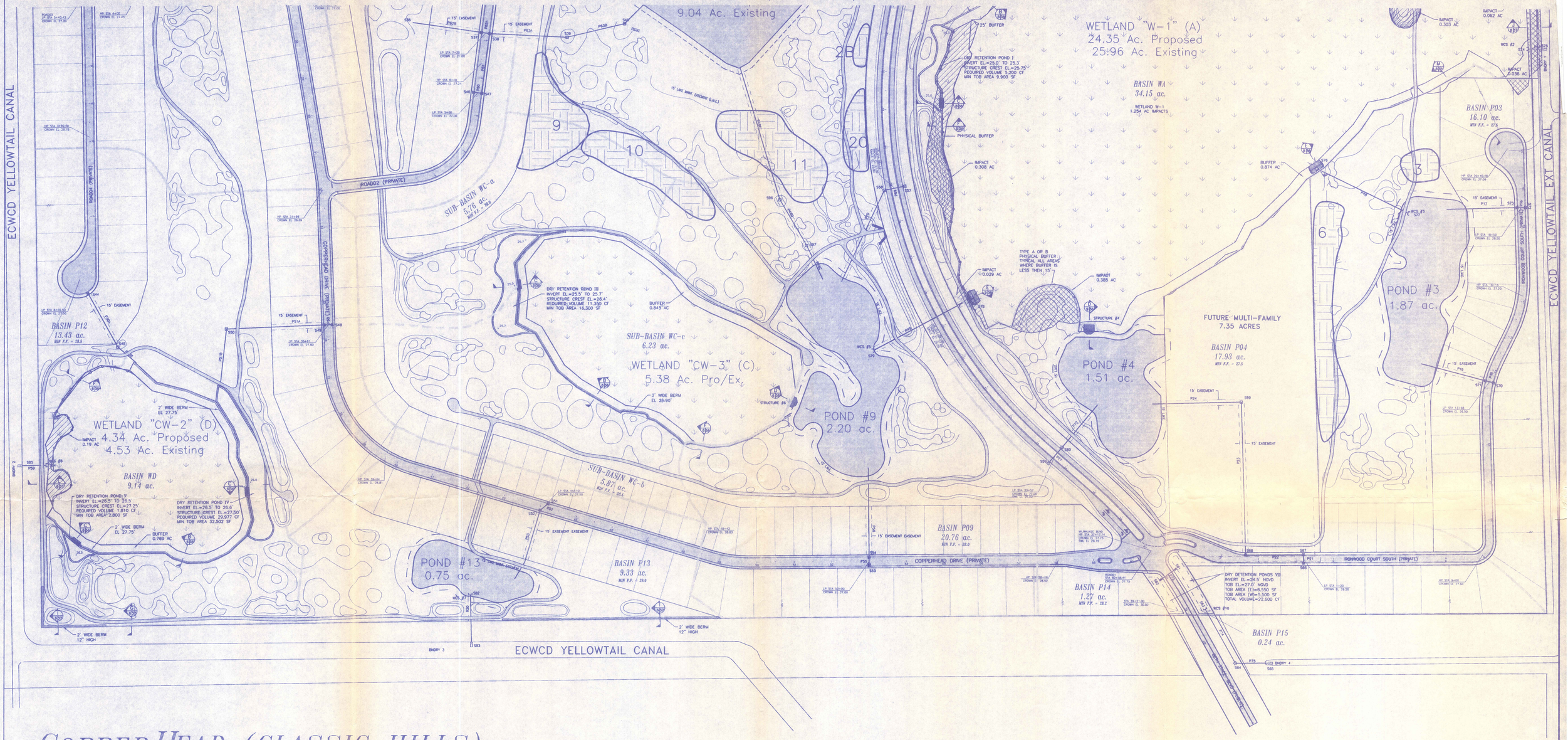
DATE : 6 / 15 / 99

PROGRESS ENGINEERING, INC.
CONSULTING ENGINEERS
6001 EAGAN DRIVE, SUITE 100
SAVAGE, MINNESOTA 55378
PHONE (612) 226-3200

FILE : LASSIC

GRADING & DRAINAGE PLAN
COPPERHEAD (CLASSICHILLS)
LEE COUNTY, FLORIDA

SHEET A of 2 SHEETS



COPPERHEAD (CLASSIC HILLS) GOLF COMMUNITY

LEGEND:

- GOLF COURSE CONTOURS
- GOLF COURSE DRAIN PIPES (REFER TO COURSE PLANS)
- PRIMARY WATER MANAGEMENT SYSTEM PIPES
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PHYSICAL BUFFER
- PROPOSED BERM

NOTE:
CONTRACTOR SHALL INSTALL SIGNS EVERY 100 FEET ALONG ALL WETLAND BUFFERS WHICH DO NOT HAVE PHYSICAL BARRIERS AND AT THE REAR OF EVERY LOT LINE ADJACENT TO WETLANDS. SIGNS SHALL STATE "WETLAND – NO TRESPASSING"

	PERVIOUS (ACRES)	IMPERVIOUS (ACRES)	ROOFS (ACRES)	TOTAL (ACRES)
TOTAL PROJECT AREA	173.780	91.544	32.470	297.794
PROPERTY BOUNDARY	173.580	91.544	32.470	297.594
LAKE	5.124	27.294	0.000	32.418
WETLANDS	3.423	34.064	0.000	37.487
DRY DETENTION AREA	0.246	1.444	0.000	1.690
GOLF COURSE	84.749	0.000	0.000	84.749
RESIDENTIAL ROADS PVMT	0.000	9.238	0.000	9.238
BETH STACEY BLVD (R/W)	4.688	3.835	0.000	8.523
LOTS	50.404	8.401	25.202	84.007
MLT-FMLY / COMM (CONSTRUCTION)	1.624	1.218	1.218	4.060
MLT-FMLY / COMM (CONCEPTUAL)	8.067	6.050	6.050	20.167
OPEN SPACE	15.255	0.000	0.000	15.255
FILL IN ECWCD R/W	0.200	0.000	0.000	0.200

N

GRAPHIC SCALE
0 120 240 360

EAST BAY GROUP, LLC
Engineering, Planning, and Development Consulting
11000-27 Metro Pkwy Ft. Myers, Fl 33912 941-936-5222 Cert. #8643

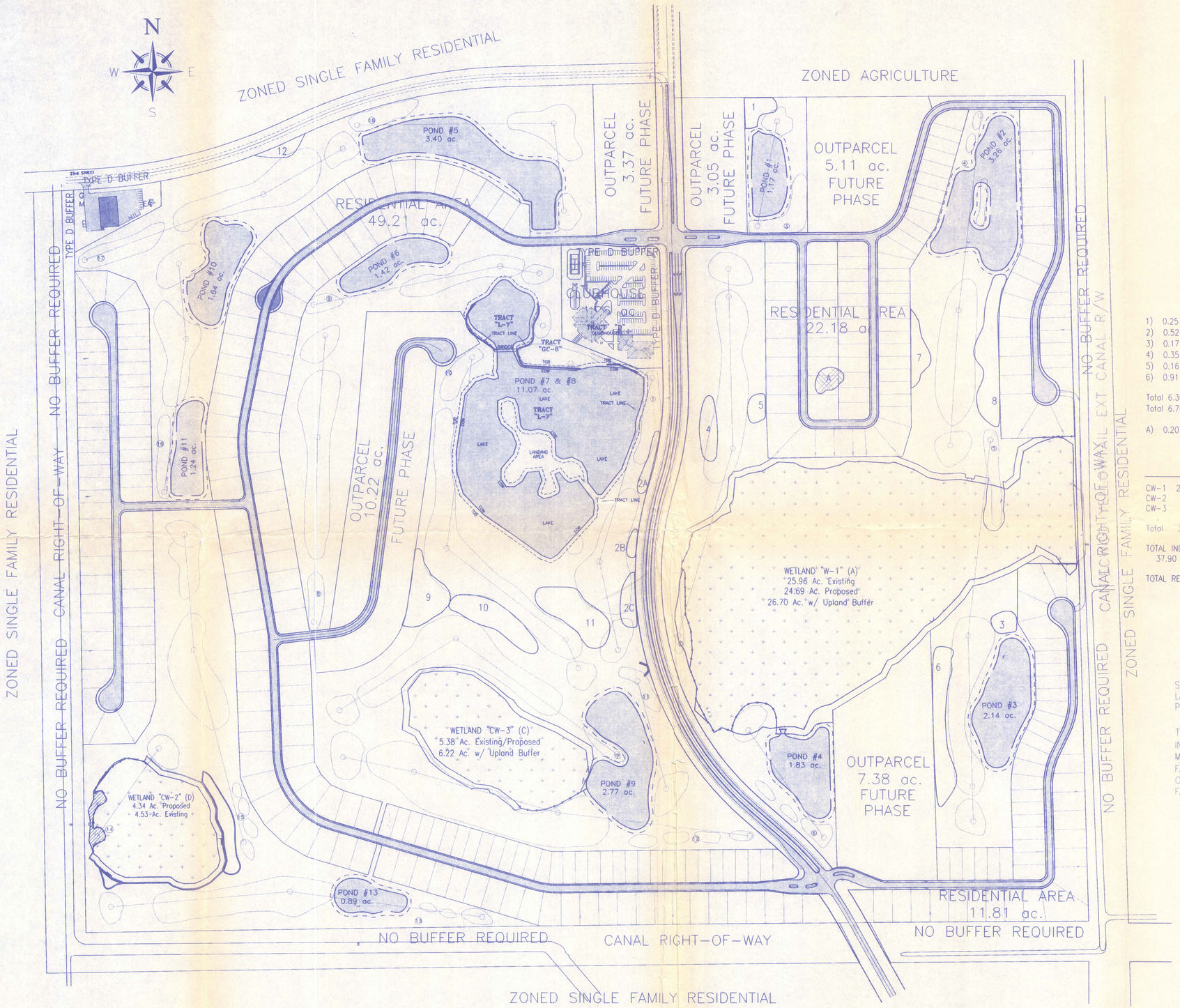
REVISIONS	
SFWMD RESUBMITTAL	11/23/99
SFWMD PERMIT MOD. ASBUILT	06/01/01
LAKE ASBUILT	10/28/02
DATE : 6 / 15 / 99	

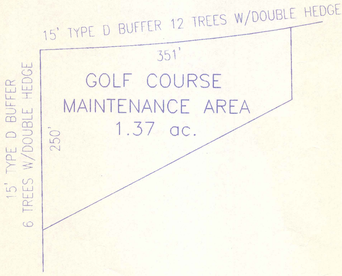
PROGRESS ENGINEERING, INC.
CONSULTING ENGINEERS
6001 EAGAN DRIVE, SUITE 100
SAVAGE, MINNESOTA 55378
PHONE (612) 226-3200

FILE : CLASSIC

GRADING & DRAINAGE PLAN
COPPERHEAD (CLASSICHILLS)
LEE COUNTY, FLORIDA

SHEET B of 2 SHEETS





INDIGENOUS AREA

UPLANDS

1)	0.25 Ac.	7)	0.33 Ac.
2)	0.52 Ac.	8)	0.99 Ac. x 1.1
3)	0.17 Ac.	9)	0.74 Ac. x 1.1
4)	0.35 Ac.	10)	0.79 Ac. x 1.1
5)	0.16 Ac.	11)	0.92 Ac. x 1.1
6)	0.91 Ac. x 1.1	12)	0.17 Ac.

Total 6.30 Acres
Total 6.74 Acres (With Incentive Credit)

A) 0.20 Ac. Hammock to be Relocated

WETLANDS

	Wetland	Buffer	Total
CW-1	24.69 Ac.	2.01 Ac.	26.70 Ac.
CW-2	4.20 Ac.	0.78 Ac.	4.98 Ac.
CW-3	5.38 Ac.	0.84 Ac.	6.22 Ac.
Total	34.27 Ac.	3.63 Ac.	37.90 Ac.

TOTAL INDIGENOUS AREA PROVIDED = 37.90 + 6.74 = 44.64 ACRES

TOTAL REQUIRED = 41.20 ACRES

EXISTING TREES PRESERVED

HOLE	PALMS	PINES	OAKS
1	206	51	7
2	144	36	7
3	5	38	7
4	107	130	8
5	99	50	2
6	15	2	0
7	108	21	0
8	3	8	0
9	5	18	3
10	106	21	9
11	23	2	0
12	61	3	1
13	4	19	0
14	16	65	0
15	18	13	0
16	4	1	0
17	14	15	0
18	25	13	1
TOTALS	963	506	45

SEE SHEET 2 OF 2 FOR OPEN SPACE, BUFFERING, AND LANDSCAPING REQUIREMENTS FOR THIS PHASE OF THE PROJECT.

THE CABBAGE PALM HAMMOCK AREAS MUST BE PRESERVED IN ACCORDANCE WITH ZONING RESOLUTION #Z-99-079. MINOR CLEARING IS PERMITTED FOR THE GOLF COURSE FAIRWAYS. ANY CABBAGE PALMS WITH 8' OR GREATER OF CLEAR TRUNK REMOVED FOR THE CONSTRUCTION OF THE FAIRWAYS MUST BE RELOCATED ONSITE.

SCANNED

EAST BAY GROUP, LLC
Engineering, Planning, and Development Consulting
11000-27 Metro Pkwy Ft. Myers, Fl 33912 941-936-5222 Cert. #3643

GORDON G. LEWIS, GOLF COURSE ARCHITECT
5980 18TH AVENUE NW
NAPLES, FLORIDA 34119
(941) 597-4448

APPROVED
GORDY G. LEWIS
VALID ONLY WITH EMBOSSED SEAL

REVISED
10/23/02 ASBUILT

DATE 08/30/00 BY ---

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LANDSCAPE PLAN

SHEET 39 of 39 SHEETS

REVISIONS	BY
9-29-99	

CLASSIC HILLS GOLF COURSE

G.C.A.:
GORDON G. LEWIS
5980 18TH AVE N.W.
NAPLES, FL. 34119
(941) 597-4448 (F) 1731

DEVELOPER:
WARREN ISRAELSON
6001 EGAN DR. # 100
SAVAGE MN 55378
(612) 226-3200 (F) 3201

DRAWN TJB SL
CHECKED GGL
DATE 5-15-99
SCALE 1" = 60'
JOB NO. 9902
SHEET GRAD. - DRAIN.
2 OF SHEETS

N
1" = 60'

POND 5
5 YR 25.6
10 YR 26.2
25 YR 27.1
100 YR. 27.7

POND 6
5 - 25.6
10 - 26.1
25 - 27.0
100 - 27.7

POND 7
5 - 25.4
10 - 25.9
25 - 26.9
100 - 27.5

POND 8
5 YR. 25.4
10 YR. 25.9
25 YR 26.9
100 YR 27.5

MATCH LINE "9-9"
MATCH LINE "10-10"
MATCH LINE "17-17"
MATCH LINE "1-1"

10
9
18
AR
PG

RES.
WETLAND
LAKE
CLUBHOUSE
COMM.
BETH STACEY
"BEACH" TRAP
"BEACH" COQ.
SILT FENCE
C. PATH
10' BRIDGE (LAKE) RIAL
CORQUINA WASTE BUNKER - CART PATH
MOVE LOT 50' TO HERE
TIMBER WALL TOP EL = 27.1
OTHERS

HOLES: #1, 9, 10, 18, P.T., P.G.



DEVELOPER:
WARREN ISRAELSON
6001 EGAN DR #100
SAVAGE MN. 55378
(612) 216-3200 (F) 3201

CLASSIC HILLS GOLF COURSE

G.C.A:
GORDON G. LEWIS
5980 18TH AVE N.W.
NAPLES, FL. 34119
(941) 597-4448 (F) 1731

DRAWN SL
CHECKED
DATE 7-28-99
SCALE 1" = 60'
JOB NO. 9902
SHEET 3 OF SHEETS
GRAD - DRAIN

REVISIONS
9-28-99
BY

BETH STACEY BLVD.

SAVE

SILT FENCE

C. PATH

MATCH LINE "1-1"

TO #2 TEE

(2)

RES.

#26 A RIDGES

COMM.

RD. R.O.W.

OTHERS

POND 1
5 - 26.6
10 - 27.1
25 - 27.4
100 - 27.7

TIMBER WALL
TOP EL. = 27x4

LAKE

SILT

SAVE

(3)

RES.

RD.

WETL. A
5 - 24.8
10 - 25.2
25 - 26.0
100 - 26.5

WETL. A
24.7
25.1
25.7
26.3

SILT FENCE

SAVE

MOGULS

MUD IN

"MUD IN" OTHERS

MATCH LINE "5-5"

TO #5 TEE

(5)

(4)

RES.

SAVE

POND 2
5 - 25.4
10 - 25.9
25 - 26.7
100 - 27.1

TIMBER BRIDGE
LAKE, NO RAIL

LK.

C. PATH

HOLES: #2 - #5

N
1" = 60'

REVISIONS	BY
9-29-99	

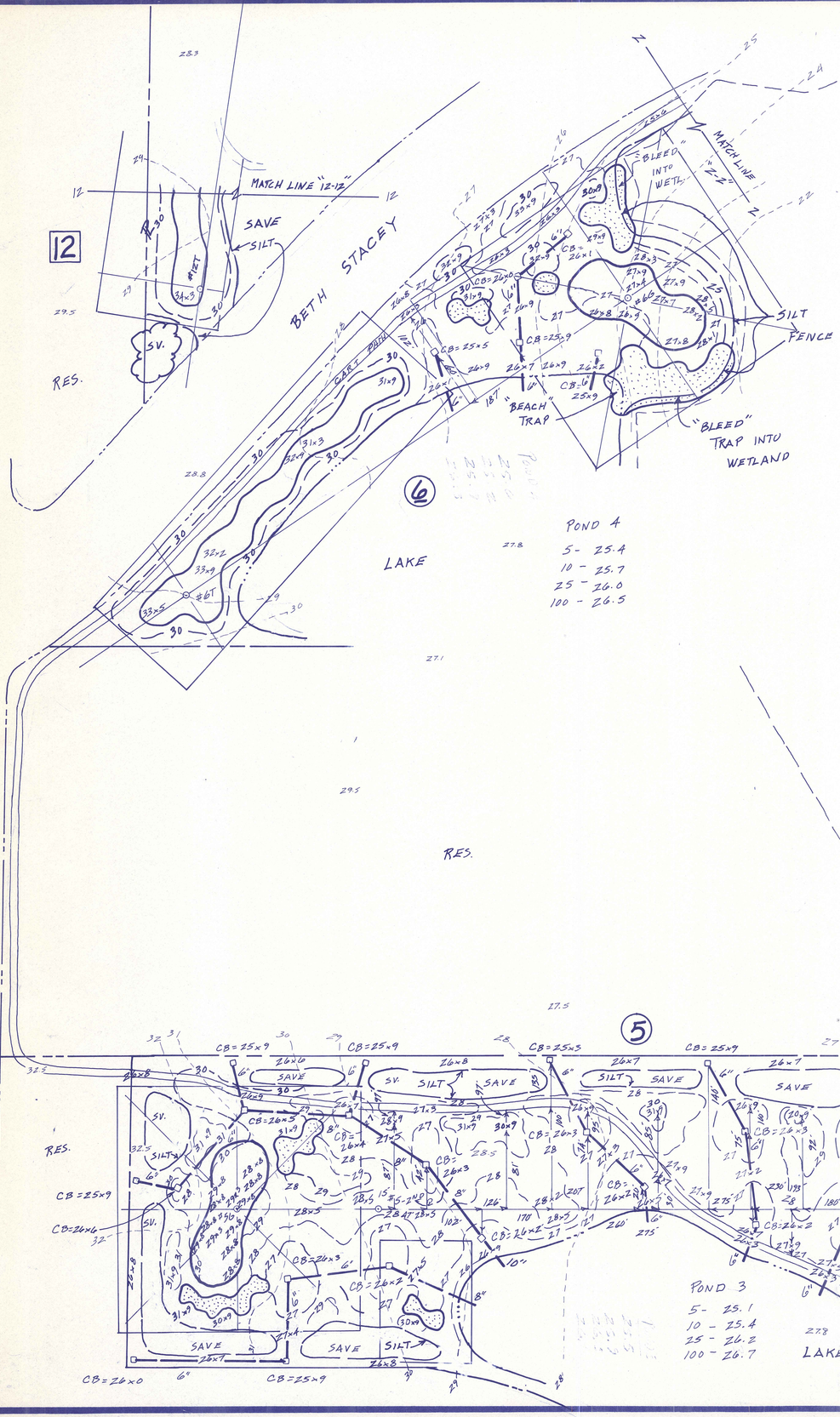
DEVELOPER:
WARREN ISRAELSON
6001 EBAN DR #100
SAVAGE MN. 55378
(612) 226-3200 (F) 3201

G.C.A.:
GORDON G. LEWIS
5980 18TH AVE N.W.
NAPLES, FL. 34119
(941) 597-4448 (F) 1731

CLASSIC HILLS GOLF COURSE

DRAWN	SL
CHECKED	
DATE	5-27-99
SCALE	990Z
JOB NO.	1" = 60'
SHEET	GRAD. — DRAIN.

4 OF SHEETS



GRADING NOTES

1. THE BEST SITE TOPSOIL'S, SOIL THAT IS FREE OF ROCK AND CLAY, PREDOMINANTLY SAND WITH SOME NATURAL ORGANIC'S SHALL BE SAVED FOR PLACEMENT IN THE FOLLOWING ORDER: GREEN SLOPES, COLLARS, TEES, GREEN BASE, TRAPS, FAIRWAYS, AND MOUNDS. MINIMUM TOPSOIL DEPTH SHALL BE SIX INCHES, IN ALL AREAS.
2. SOIL WITH THE HIGHEST SAND CONTENT SHALL BE PLACED UNDER GREENS, ON GREEN SLOPES AND ON TEES. SOIL PLACED ON GREEN SLOPES AND TEES SHALL BE OF THE SAME UNIFORM MATERIAL.
3. CARE SHOULD BE EXERCISED TO AVOID CONTAMINATION OF TOPSOIL'S WITH UNDESIRABLE MATERIALS, SUCH AS: ROCK; CLAY; HARD PAN; MARL; MUCK; ETC.
4. THESE PLANS REPRESENT THE GOLF COURSE ARCHITECT'S INTEREST IN CREATING AN ASYMMETRICAL BALANCE OF EARTHWORK.
5. ALL GRADES ARE BASED ON DATA SUPPLIED BY THE OWNER.
6. IF ADDITIONAL FILL MATERIAL IS REQUIRED, THE LAKES MAY BE EXCAVATED DEEPER.
7. THE MINIMUM SLOPE FOR DRAINAGE IS 2%, SO ALL RELATIVELY FLAT AREAS WILL BE GRADED TO SLOPE AT LEAST 2 %. TEES AND SWALES ARE THE EXCEPTION. THEY ARE GRADED AT .5%. TERRACED TEES NEED A SLIGHT SIDE SLOPE AT THE BACK TO PREVENT TRAPPED WATER. STEEPEST SPRIGGED SLOPE IS 3:1. SODDED BAHIA SLOPES CAN BE 2:1.
8. FIELD ADJUSTMENTS WILL BE NECESSARY TO MATCH THE CATCH BASINS AND PIPE SPECIFIED BY THE ENGINEERS. I IS IMPERATIVE THAT THE SHAPERS BLEND THE SURROUNDING GRADES SO THAT WATER DRAINS TO THE CATCH BASINS AND THE AREAS ARE AESTHETICALLY PLEASING TO THE EYE.
9. REFER TO THE INDIVIDUAL HOLE DETAILS WHEN CONSTRUCTING THE GREENS, TEES, AND TRAPS.
10. ALL SWALES SHALL BE GRADUAL AND MOWABLE, RATHER THAN DEEP, STEEP DITCH CUTS. MAKE THEM PLAYABLE FOR GOLFERS.
11. TEE SURFACES SHALL BE GRADED LEVEL. THEY AVERAGE ABOUT 30' WIDE FOR MAINTENANCE PURPOSES. THEY SHALL BE SHAPED TO BLEND WITH THE SURROUNDING GRADES.
12. FAIRWAY TRAPS SHALL BE SHAPED IN CONTOUR MOUNDS, GENERALLY JUST PAST THE LANDING ZONE (DOGLEG POINT).
13. THE LEASE DESIRABLE MATERIAL SHALL BE PLACED AT THE BOTTOM OF THE LARGEST MOUNDS.
14. TO EXPEDITE SURFACE WATER MOVEMENT, LOWER AREAS SHALL BE GRADED TO ESTABLISH A BROAD PERCOLATION AREA WHERE POSSIBLE. THEY WILL PROMOTE A NATURAL GOLF COURSE APPEARANCE. ALL AREAS SHALL BE GRADED TO DRAIN. THERE WILL BE NO BIRD BATHS, UNLESS DRAINED BY CATCH BASINS.
15. ALL TOPSOIL APPLICATIONS SHALL BE BLENDED BY DISKING OR TILLING AND HE DRAGGED WITH A STEEL-TOOTH DRAG.
16. LOWEST CART PATH ELEVATION WILL BE AT THE 25 YEAR FLOOD STAGE. (SEE ENGINEER'S PLANS)
17. CONTRACTOR WILL GUARANTEE ALL MATERIALS, WORK, AND SETTLING FOR 2 YEARS AFTER FINAL ACCEPTANCE OF PUNCH-LIST.

REVISIONS	BY
9-30-99	

G.C.A:
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5980 18TH AVE N.W.
NAPLES, FL 34119
(941) 597-4448 (F) 1731

CLASSIC HILLS GOLF COURSE

DEVELOPER:
WARREN ISRAELSON
6001 EGAN DR #100
SAVAGE MN. 55378
(612) 226-3200 (F) 3201

DRAWN	SL
CHECKED	
DATE	5-16-99
SCALE	1" = 60'
JOB NO.	9902
SHEET	GRAD. - DRAIN.

5 OF SHEETS

REVISIONS	BY
9-30-99	

CLASSIC HILLS GOLF COURSE

DEVELOPER:
WARREN ISRAELSON
6001 EGAN DR #100
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(612) 226-3200 (F) 3201

G.C.A.:
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NAPLES, FL. 34119
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DRAWN: TJB SL
CHECKED: GGL
DATE: 5-10-99
SCALE: 1" = 60'
JOB NO.: 9902
SHEET: GRAD. - DRAIN.

6 OF SHEETS

14
15
13
12
7
8

WETLAND
RES.
SILT
SILT FENCE
SAVE
C. PATH
RD. R.O.W.
MATCH LINE "7-7"
MATCH LINE "8-8"
MATCH LINE "15-15"
TO #8 B
TO #13 T
TO #7 B
TO #7 T
OTHERS

WETL. D
5 - 26.2
10 - 26.6
25 - 27.2
100 - 27.6

POND 12
5 - 26.7
10 - 27.0
25 - 27.3
100 - FIELD LOCATE
THIS LAKE

LAKE
POND 13
5 - 26.9
10 - 27.3
25 - 27.8
100 - 28.1

WETL. C
5 - 25.3
10 - 26.2
25 - 26.6
100 - 27.2

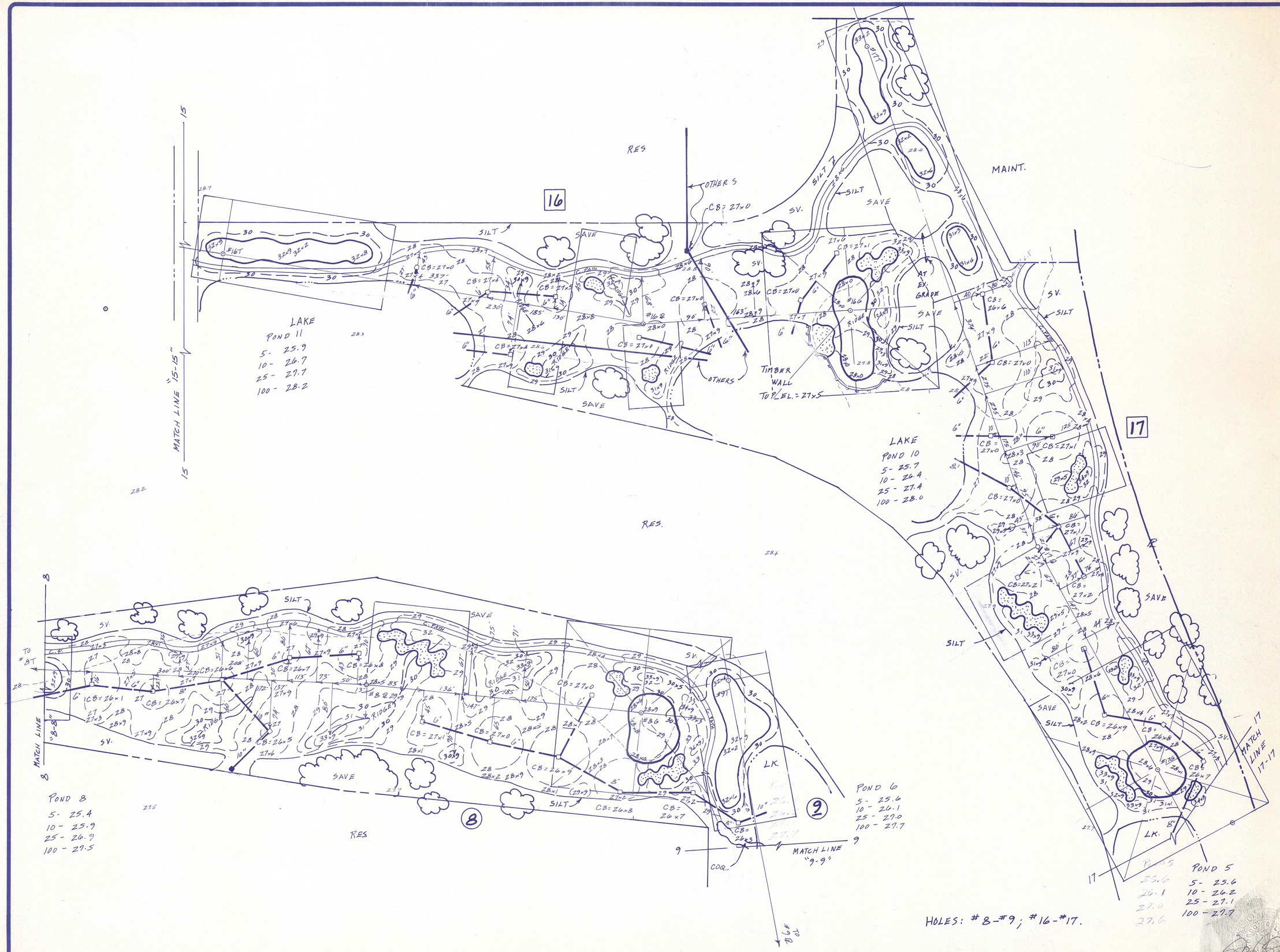
3'x4'x4' GRAV. SUMP W/ C. BASIN

(2) CB's = 27x0 OR 0.3 LOWER THAN EXIST. GRADE (USE THE LOWEST)

SWALE AT EX. GRADE

HOLES: #7-#8; #12-#15.

N
1" = 60'



REVISIONS	BY
9-28-99	

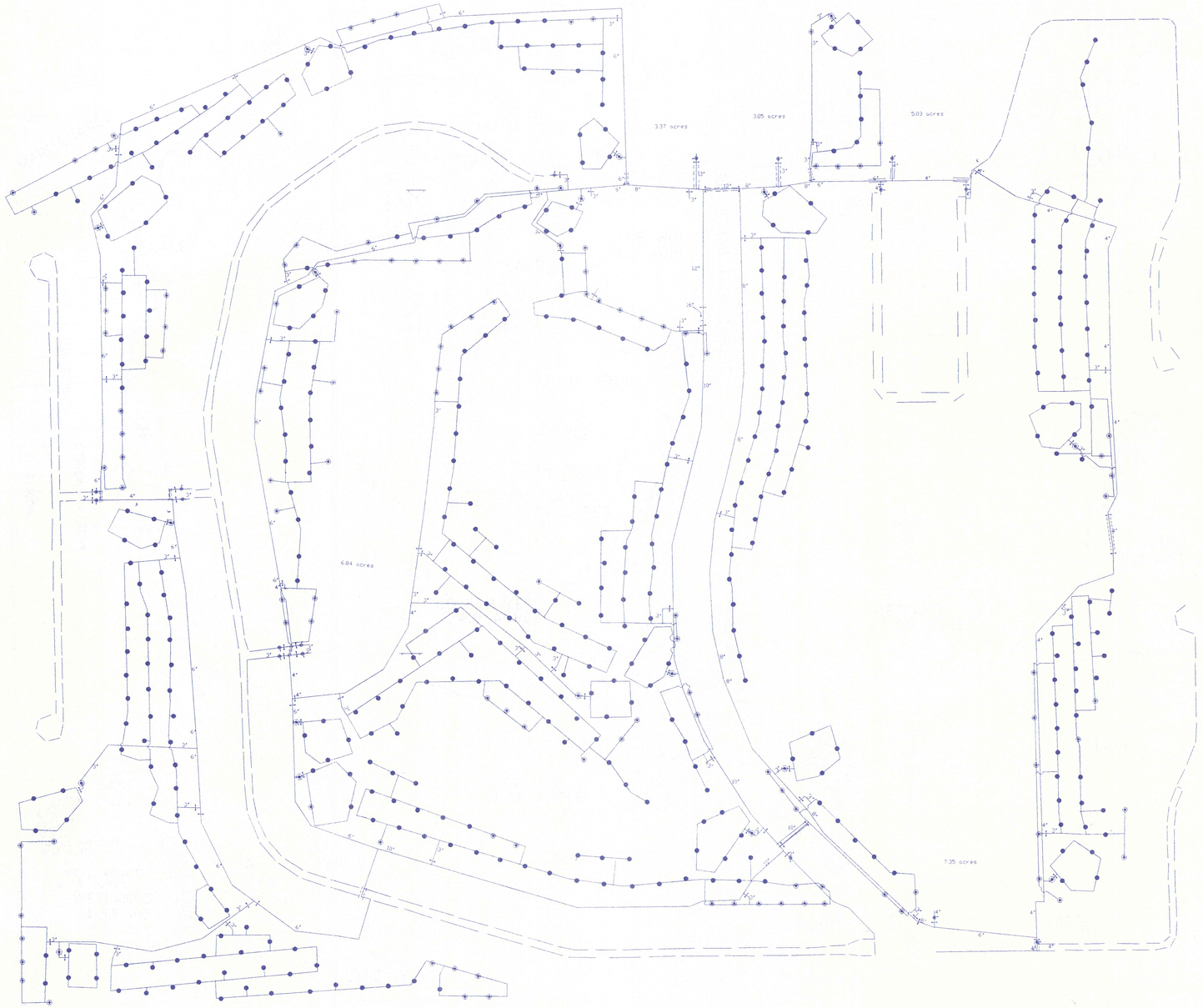
DEVELOPER:
WARREN IGHAELSON
6001 EBAN DR #100
SAVAGE MN 55378
(612) 226-3200 (F) 3201

G.C.A:
GORDON G. LEWIS
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NAPLES, FL. 34119
(941) 597-4448 (F) 1731

CLASSIC HILLS GOLF COURSE

DRAWN	TJB SL
CHECKED	GGL
DATE	5-12-99
SCALE	1"=60'
JOB NO.	9902
SHEET	GRAD. - DRAIN.

7 OF SHEETS

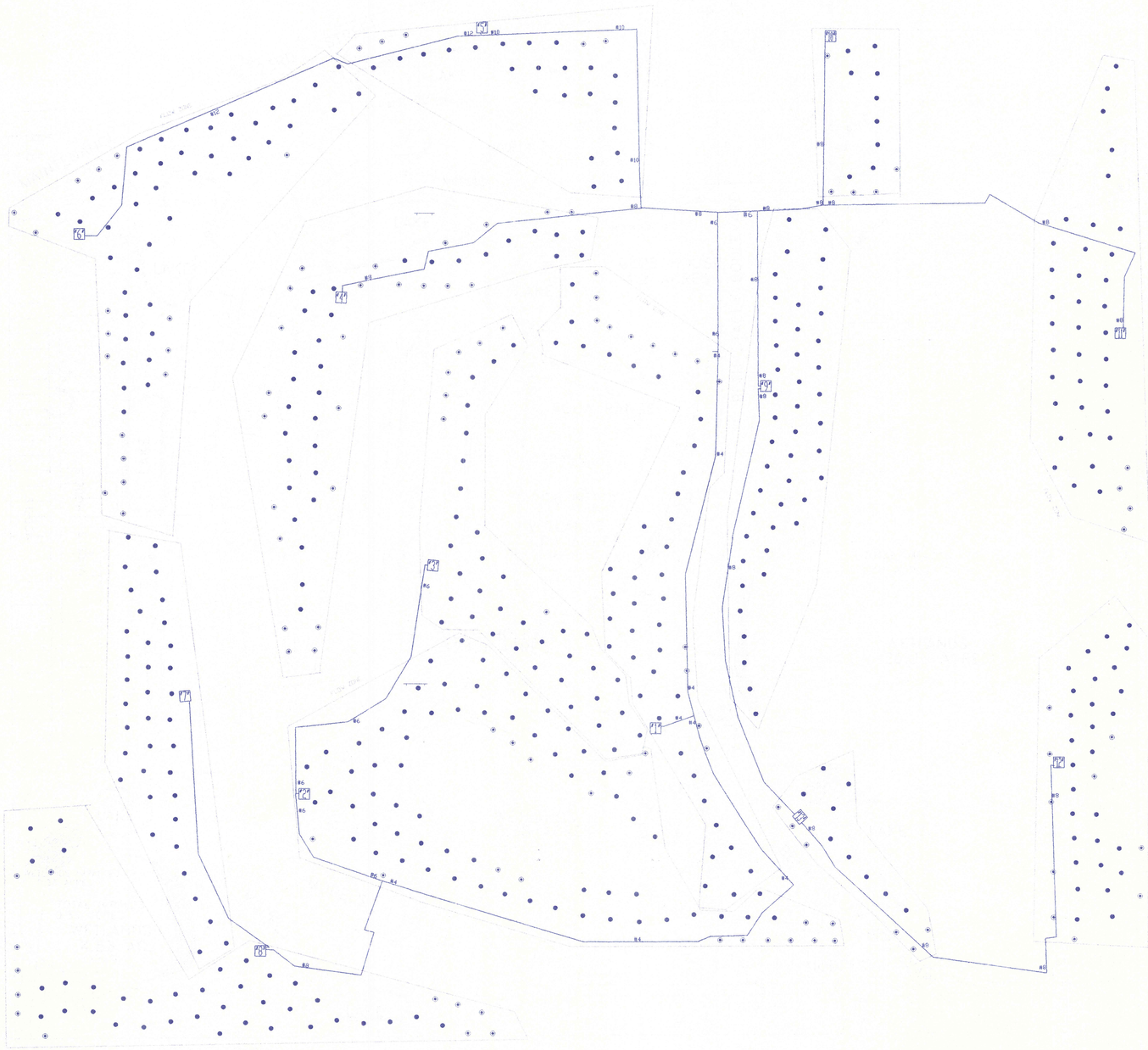


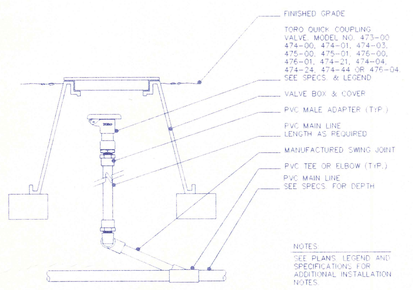
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QTY.		DESCRIPTION
437	●	TORO 754-01-59
122	●	TORO 785-01-89
19	◆	Quick Couple Valve 476-00 1-1/2"
59080	—	2-1/2" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
8060	—	3" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
5820	—	4" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
9260	—	6" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3280	—	8" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3480	—	10" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
580	—	12" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
17	▲	Pressure Regulator
1	--	Gate Valve 2-1/2"
78	--	Gate Valve 3"
11	--	Gate Valve 4"
5	--	Gate Valve 6"
1	--	Gate Valve 8"
3	--	Gate Valve 10"
3	--	Gate Valve 12"
3	□	DRC-31-060 16 STA. OSMAC N.O. HYD.
4	□	D24-31-060 24 STA. OSMAC N.O. HYD.
2	□	D32-31-060 32 STA. OSMAC N.O. HYD.
5	□	D40-31-060 40 STA. OSMAC N.O. HYD.
1	□	D48-31-060 48 STA. OSMAC N.O. HYD.
13		IN151 RECEIVER MODULE

WESCOTURF, INC.
IRRIGATION DESIGN
PIPING
DATE 10-29-99
SCALE 1"=200'
DRAWN BY: SHERYL FRESK
PAGE 1 OF 3

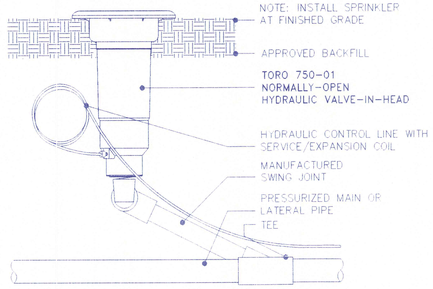

#12
#10
#10
#10
#10
#8
#8
#8



(SWING JOINT)

476-00 1-1/2 QUICK COUPLER

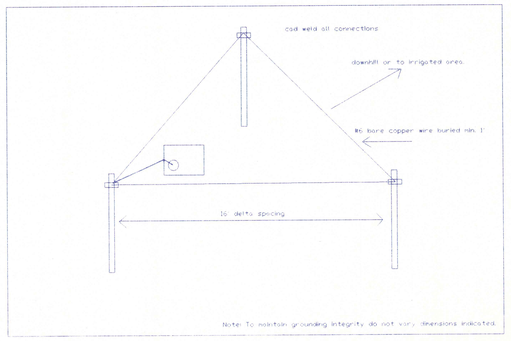
IRTCOS2.DWG



LARGE TURF GEARED ROTOR
FULL-CIRCLE TORO 750

SCALE: NOT TO SCALE

IRTCSP52.DWG

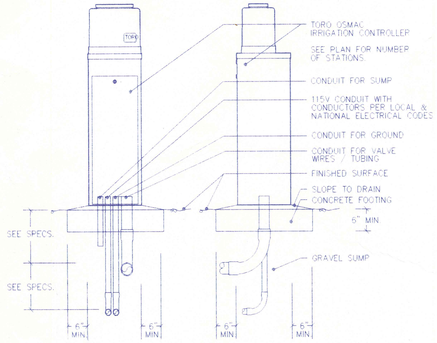


Irrigation System Grounding

The following step by step procedure shows a logical progression, which will lead to the ultimate grounding configuration. Under ideal conditions the optimum ground may be found only after five steps. Most of the important common methods of achieving low ground resistance readings are covered in the following 16 steps.

Step 1 Drive 8' copper clad rod, minimum 5/8" dioneter, 2' off the corner of the satellite pad that is furthest from an area that is irrigated.
Step 2 Make a trench around the rod at least 8-10 in. deep and about 6 in. in dioneter.
Step 3 Clamp or cad welds a #6 bare copper stranded cable leading from the controller cabinet to the top of the rod.
Step 4 Fill the hole around the rod with magnesium sulfate (epson salt) and water down with a gallon or so of water. Allow the water to seep into the soil around the rod for approximately 10-15 min.
Step 5 Connect the ground rod cable into the controllers ground lug. The source AC power, neutral and ground wire should also be connected to controller inputs.
Step 6 With a clamp on ground tester measure the ground resistance of the cable before the rod. If the ohm reading is in excess of 10 ohms, perform the following steps. If the reading is in excess of 200 ohms, go directly to step 12.
Step 7 Drive a second rod 16' away, toward the irrigated area to form the next ground leg of a delta configuration.
Step 8 Provide the same dioneter hole as in the first rod and water down with mag-sulfate.
Step 9 Run a #6 bare stranded copper cable in a trench 12 in. deep between the first and second rod.
Step 10 Connect the cable from the first rod to the second rod; back fill the trench with GEM or Bentonite and water down with mag-sulfate.
Step 11 Take another clamp on measurement at the cable entry to the controller. This reading should be almost half the first reading.
Step 12 If the second rod did not bring the ohm reading down to at least ten ohms then a third rod to complete the delta can be driven as with the second and will most likely provide a reading of 10 ohms or less. If the reading is still in excess of 100 ohms, the addition of more vertical rods will most likely not be effective. The only grounding method recommended at this point is to install a zinc ground sheet REF model #Z10-250X.
Step 13 To install the ground sheet a cable trench is made 18-20 in. deep from the second rod, a distance of 25' to an irrigated area. A 1'- 10' zinc sheet, with a 25' zinc ribbon attached, is placed in the trench and back filled on both sides with ground enhancement material. The 1-1/2 zinc ribbon is laid in the 25' long trench leadc to the ground rod and also back filled with GEM.
Step 14 A 10 in. long #6 copper cable on the end of the ribbon is attached to the last ground rod. The entire trench is then compacted and watered down before replacing sod.
Step 15 A final measurement with a clamp on ground tester should find the resistance reading below 10 ohms.
Step 16 The holes around the rods should be equipped with a tubing sleeve and cap so inspection can be made and salts added in the future. It is recomended that all grounding systems be inspected and tested annually, especially during dry periods.

Grounding must be tested at 10ohms or less to meet TORO specifications. If the Delta Grounding System (Step 1-12) does not provide adequate ohms reading, Wesco Turf will provide owner a recommendation of what will be needed. Cost of any additional grounding is owner's responsibility.



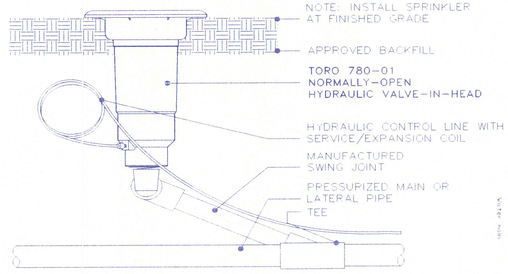
FRONT SECTION/ELEVATION

RIGHT-SIDE SECTION/ELEVATION

PEDESTAL-MOUNT CONTROLLER
TORO OSMAC (13X13)

SCALE: NOT TO SCALE

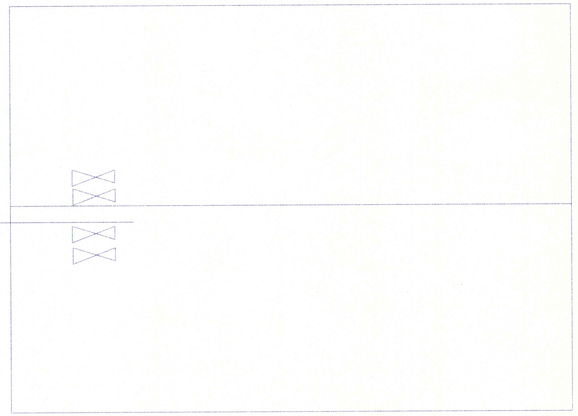
IRTCOS3.DWG



LARGE TURF GEARED ROTOR
FULL/PART-CIRCLE TORO 780

SCALE: NOT TO SCALE

IRTCSP53.DWG

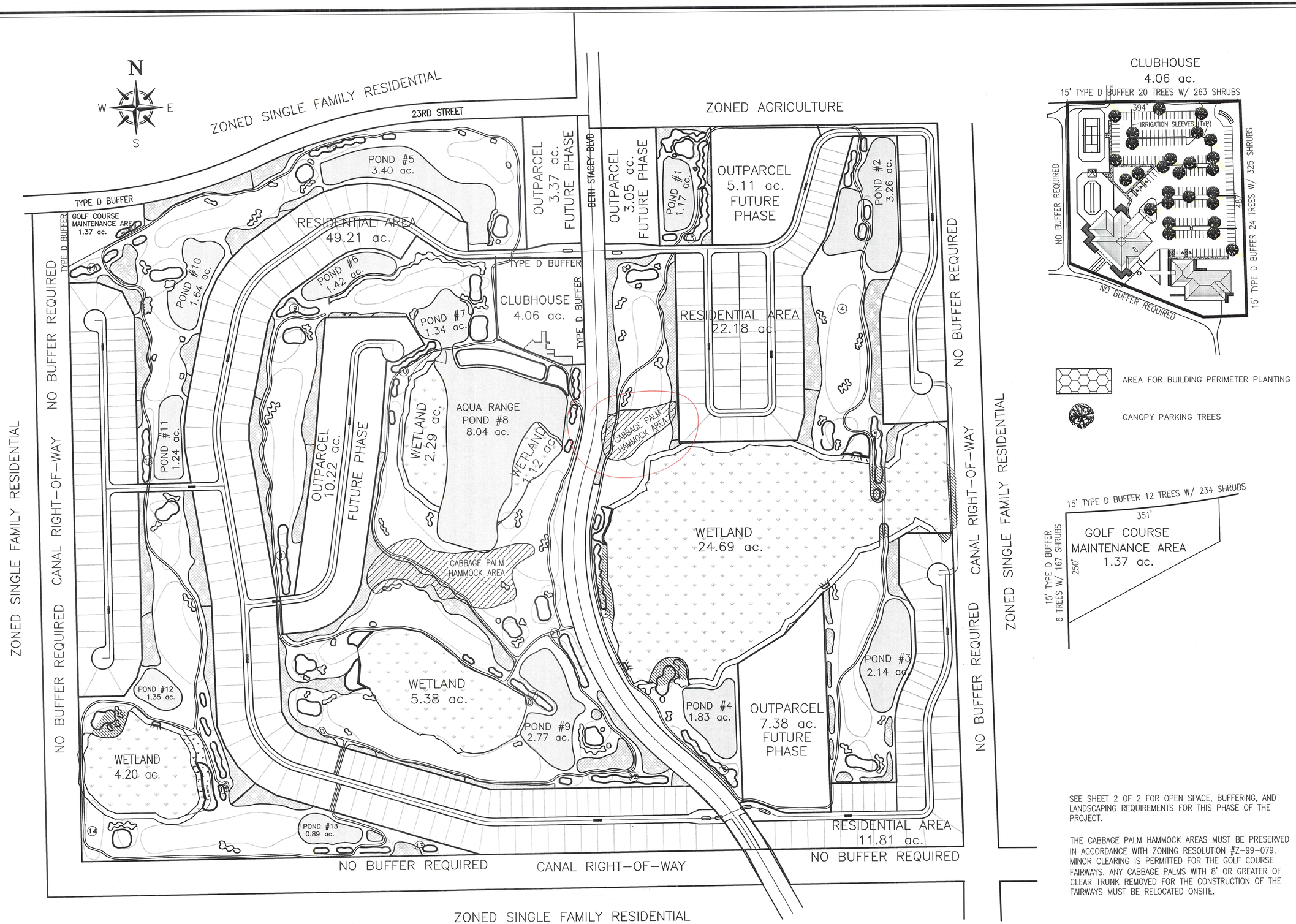


NOTES

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QTY.	DESCRIPTION
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13	IN551 RECEIVER MODULE

WESCOTURF, INC.
IRRIGATION DESIGN
DETAILS
DATE 10-29-99
SCALE 1"=200'
DRAWN BY SHERYL FRESH
PAGE 3 OF 3



AREA FOR BUILDING PERIMETER PLANTING

CANOPY PARKING TREES

SEE SHEET 2 OF 2 FOR OPEN SPACE, BUFFERING, AND LANDSCAPING REQUIREMENTS FOR THIS PHASE OF THE PROJECT.

THE CABBAGE PALM HAMMOCK AREAS MUST BE PRESERVED IN ACCORDANCE WITH ZONING RESOLUTION #Z-99-079. MINOR CLEARING IS PERMITTED FOR THE GOLF COURSE FAIRWAYS. ANY CABBAGE PALMS WITH 8' OR GREATER OF CLEAR TRUNK REMOVED FOR THE CONSTRUCTION OF THE FAIRWAYS MUST BE RELOCATED ONSITE.

NO.	REVISIONS	BY	DATE
1			
2			
3			
4			
5			

KATHY L. MORGAN, PROJECT MANAGER
6747 PLANTATION MANOR LOOP
FORT MYERS, FLORIDA 33912
(941) 368-3377

GORDON G. LEWIS, GOLF COURSE ARCHITECT
5980 18TH AVENUE NW
NAPLES, FLORIDA 34119
(941) 597-4448

COPPERHEAD DEVELOPMENT CORPORATION
21184 BRAXFIELD LOOP
ESTERO, FLORIDA 33928
(941) 947-2048

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEHIGH ACRES, FLORIDA 33936
OPEN SPACE, BUFFERING, AND LANDSCAPE PLAN

LANDSCAPE ARCHITECT
GORDON G. LEWIS
FLORIDA REGISTRATION NO.

DRAWING INFORMATION	DATE
PROJECT NO.:	
DESIGNED BY: GGL	2/15/00
DRAWN BY: KLM	2/18/00
CHECKED BY: GGL	2/21/00
DRAWING FILE: LANDSCAPE	SCALE: 1" = 200'

DRAWING NO. SHT. 1 OF 2

Rosi Reprographics, Inc.: 5/9/2000, 07:37 PM, Land-1.plt

OPEN SPACE, BUFFERING AND LANDSCAPING REQUIREMENTS

LDC SECTION 10-415 - OPEN SPACE REQUIREMENTS:

OPEN SPACE AND PRESERVATION OF INDIGENOUS VEGETATION WILL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

TOTAL PROJECT AREA:	289.20 ACRES
LESS SINGLE FAMILY AND TWO FAMILY RESIDENTIAL AREAS:	- 83.20 ACRES
TOTAL ACREAGE FOR OPEN SPACE CALCULATIONS	206.00 ACRES

OUTPARCELS	29.14 ACRES X 40 % =	11.66 ACRES	OPEN SPACE REQUIRED
CLUB HOUSE	4.06 ACRES X 40% =	1.62 ACRES	OPEN SPACE REQUIRED
GOLF COURSE	172.80 ACRES X 40% =	69.12 ACRES	OPEN SPACE REQUIRED

TOTAL OPEN SPACE REQUIRED = 82.40 ACRES

ENTIRE OPEN SPACE REQUIREMENT IS MET WITHIN THE GOLF COURSE AREA. HOWEVER, THE OUTPARCELS WILL PROVIDE A MINIMUM OF 10% OPEN SPACE IF THEY ARE DEVELOPED AS MULTI-FAMILY OR COMMERCIAL. IF THEY ARE DEVELOPED AS SINGLE FAMILY LOTS OF 6,500 SF OR TWO FAMILY LOTS WITH 3,750 SF, THEY ARE NOT REQUIRED TO PROVIDE ANY COMMON OPEN SPACE.

50% OF TOTAL OPEN SPACE REQUIREMENT IS REQUIRED TO BE EXISTING INDIGENOUS VEGETATION.
THEREFORE, 82.40 ACRES X 50% = 41.20 ACRES REQUIRED TO BE PRESERVED AS EXISTING INDIGENOUS VEGETATION

EXISTING INDIGENOUS VEGETATION REQUIREMENT IS MET WITH THE FOLLOWING:

EXISTING WETLANDS	=	37.68 ACRES
OTHER AREAS ON GOLF COURSE	=	3.52 ACRES*

*PRESERVATION OF EXISTING VEGETATION IS SHOWN AS HATCHED AREAS ON THE LANDSCAPE PLAN. THERE WILL BE AN APPROXIMATE TOTAL OF 17.00 ACRES PRESERVED ON THE GOLF COURSE, AND THEREFORE, NO ADDITIONAL PRESERVATION OF EXISTING VEGETATION WILL BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

LDC SECTION 10-416 - LANDSCAPING REQUIREMENTS:

LDC SECTION 10-416(a)(2) REQUIRES THAT RESIDENTIAL DEVELOPMENTS MUST PROVIDE ONE TREE PER 3,000 SF OF DEVELOPMENT AREA.

TOTAL DEVELOPMENT AREA = (289.20 ACRES X 43,450 SF/ACRE) / 3,000 SF = 4,199 TREES REQUIRED

A MINIMUM OF 2 TREES PER LOT WILL BE REQUIRED FOR THE SINGLE-FAMILY (VILLAS AND REGULAR/CONVENTIONAL), TWO-FAMILY ATTACHED, AND/OR ZERO-LOT-LINE DWELLING UNITS.

THEREFORE: 330 LOTS X 2 TREES PER LOT = 660 TREES FOR THE RESIDENTIAL AREAS
THE REMAINING 3,539 TREES REQUIRED WILL BE LOCATED ON THE GOLF COURSE AREA AND/OR THE OUTPARCELS AREAS.

TREE CREDITS CAN BE USED IN ACCORDANCE WITH THE REGULATIONS STATED BELOW.

LDC SECTION 10-416(c)(2) REQUIRES ALL PARKING AREAS TO BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND COOLING EFFECTS AND TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

A MINIMUM OF 10% OF THE TOTAL PAVED SURFACE AREA IS REQUIRED FOR INTERNAL PLANTING AREA

THE REMAINING 3,539 TREES REQUIRED WILL BE LOCATED ON THE GOLF COURSE AREA AND/OR THE OUTPARCELS AREAS.

TREE CREDITS CAN BE USED IN ACCORDANCE WITH THE REGULATIONS STATED BELOW.

LDC SECTION 10-416(c)(2) REQUIRES ALL PARKING AREAS TO BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND COOLING EFFECTS AND TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

A MINIMUM OF 10% OF THE TOTAL PAVED SURFACE AREA IS REQUIRED FOR INTERNAL PLANTING AREA

TOTAL PARKING AREA 66,450 SF x 10% = 6,645 SF REQUIRED FOR INTERNAL PLANTING AREA.

AT LEAST ONE TREE MUST BE PLANTED OR RETAINED FOR EVERY 250 S.F. OF REQUIRED INTERNAL PLANTING AREA.

6,645 SF / 250 SF = 27 TREES REQUIRED FOR INTERNAL PLANTING AREA

LDC SECTION 10-416 - BUFFERING REQUIREMENTS:

BUFFERS WILL BE PROVIDED IN ACCORDANCE WITH THE LDC SECTION 10-416(d) FOR MULTIPLE-FAMILY AND COMMERCIAL AREAS (OUTPARCELS).

NO BUFFERING IS REQUIRED FOR THE SINGLE-FAMILY (VILLAS AND REGULAR/CONVENTIONAL), TWO-FAMILY ATTACHED, OR ZERO-LOT-LINE DWELLING UNITS. THEREFORE, BUFFERS MAY ONLY BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

THE CLUBHOUSE AREA WILL PROVIDE A TYPE D BUFFER ALONG BETH STACEY BOULEVARD AND THE PROJECT'S ENTRANCE ROAD.

THE BUFFER ALONG BETH STACEY BOULEVARD WILL BE 15' WIDE WITH 24 TREES AND A DOUBLE HEDGE (487' X 2 / 3') 325 SHRUBS.

THE BUFFER ALONG THE PROJECT'S ENTRANCE ROAD WILL BE 15' WIDE WITH 20 TREES AND A DOUBLE HEDGE (394' X 2 / 3') 263 SHRUBS.

THE GOLF COURSE MAINTENANCE AREA WILL PROVIDE A TYPE D BUFFER ALONG 23RD STREET AND ALONG YELLOWFISH CANAL.

THE BUFFER ALONG 23RD STREET WILL BE 15' WIDE WITH 12 TREES AND A DOUBLE HEDGE (351' X 2 / 3') 234 SHRUBS.

THE BUFFER ALONG YELLOWFISH CANAL WILL BE 15' WIDE WITH 6 TREES AND A DOUBLE HEDGE (250' X 2 / 3') 167 SHRUBS.

DOUBLE HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND BE MAINTAINED SO AS TO FORM A 36-INCH HIGH (F TYPE BUFFERS MUST BE 48 INCHES AT INSTALLATION AND BE MAINTAINED AT 60 INCHES HIGH) CONTINUOUS VISUAL SCREEN WITHIN ONE YEAR AFTER TIME OF PLANTING.

TREES WITHIN THE ROW BUFFER MUST BE APPROPRIATELY SIZED IN MATURE FORM SO THAT CONFLICTS WITH OVERHEAD UTILITIES, LIGHTING AND SIGNS ARE AVOIDED. THE CLUSTERING OF TREES AND USE OF PALMS WITHIN THE ROW BUFFER WILL ADD DESIGN FLEXIBILITY AND REDUCE CONFLICTS.

BUILDING PERIMETER PLANTINGS ARE REQUIRED FOR THE CLUBHOUSE AND PRO SHOP/CART BARN AREA. THE PERIMETER PLANTINGS MUST BE EQUAL TO TEN PERCENT OF THE PROPOSED BUILDING GROSS GROUND LEVEL FLOOR AREA.

THE CLUBHOUSE AREA IS 12,000 S.F. X 10% = 1,200 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PRO SHOP/CART BARN AREA IS 9,300 S.F. X 10% = 930 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PERIMETER PLANTING AREAS MUST CONSIST OF LANDSCAPE AREAS, RAISED PLANTERS OF PLANTER BOXES THAT ARE A MINIMUM OF FIVE FEET WIDE. THESE LANDSCAPE AREAS MUST INCLUDE SHRUBS AND GROUND COVER PLANTS WITH A MINIMUM OF 50 PERCENT COVERAGE OF THE LANDSCAPE AREA AT THE TIME OF PLANTING. TURF GRASS IS DISCOURAGED AND IS LIMITED TO 10 PERCENT OF THE LANDSCAPE AREA.

LDC SECTION 10-417 - IRRIGATION DESIGN STANDARDS:

LDC SECTION 10-417 REQUIRES THAT TO IMPROVE THE SURVIVABILITY OF REQUIRED LANDSCAPING, CULTIVATED LANDSCAPE AREAS MUST BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL REQUIRED IRRIGATION SYSTEMS MUST BE DESIGNED TO ELIMINATE THE APPLICATION OF WATER TO IMPERVIOUS AREAS, INCLUDING ROADS, DRIVE AND OTHER VEHICLE AREAS. REQUIRED IRRIGATION MUST ALSO BE DESIGNED TO AVOID IMPACTS ON EXISTING NATIVE VEGETATION.

ALL NEW DEVELOPMENTS THAT HAVE REQUIRED LANDSCAPING MUST BE IRRIGATED BY THE USE OF AN AUTOMATIC IRRIGATION SYSTEM WITH CONTROLLER SET TO CONSERVE WATER. MOISTURE DETECTION DEVICES MUST BE INSTALLED IN ALL AUTOMATIC SPRINKLER SYSTEMS TO OVERRIDE THE SPRINKLER ACTIVATION MECHANISM DURING PERIOD OF INCREASED RAINFALL. WHERE EXISTING IRRIGATION SYSTEMS ARE MODIFIED REQUIRING THE ACQUISITION OF A PERMIT, AUTOMATIC ACTIVATION SYSTEMS AND OVERRIDING MOISTURE DETECTION DEVICES MUST BE INSTALLED.

THE ENTIRE OPEN SPACE AREAS, INCLUDING THE GOLF COURSE, WILL BE IRRIGATED EXCEPT EXISTING VEGETATION THAT IS PRESERVED AND THE WETLAND AREAS. A WATER USE PERMIT WILL BE OBTAINED FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT.
THE PARKING LOT FOR THE CLUBHOUSE AREA SHALL BE SLEEVED FOR IRRIGATION.

LDC SECTION 10-420 - SIZE AND TYPE OF VEGETATION: CREDITS:

(a) QUALITY. PLANT MATERIALS USED TO MEET THE REQUIREMENTS OF THIS DIVISION MUST CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 OR BETTER, AS SET OUT IN GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II, DEPARTMENT OF AGRICULTURE, STATE OF FLORIDA (AS AMENDED). ROOT BALL SIZES ON ALL TRANSPLANTED PLANT MATERIALS MUST ALSO MEET STATE STANDARDS.

(b) NATIVE VARIETIES: AT LEAST 75 PERCENT OF THE TREES AND 50 PERCENT OF THE SHRUBS USED TO FULFILL THESE REQUIREMENTS MUST BE NATIVE FLORIDA SPECIES.

(c) TREES AND PALMS.

(1) FOR CODE REQUIRED TREES, AT LEAST 50 PERCENT OF THE TREES AT THE TIME OF INSTALLATION MUST BE A MINIMUM OF TEN FEET IN HEIGHT, HAVE A TWO-INCH CALIPER (AT 12 INCHES) ABOVE THE GROUND) AND A FOUR-FOOT SPREAD. THE REMAINING CODE-REQUIRED TREES, AT THE TIME OF INSTALLATION, MUST BE A MINIMUM SIX FEET IN HEIGHT, HAVE A ONE-INCH CALIPER (AT 12 INCHES ABOVE THE GROUND) AND A THREE-FOOT SPREAD. PALMS MUST HAVE A MINIMUM OF TEN FEET OF CLEAR TRUNK AT PLANTING. TREES HAVING AN AVERAGE MATURE SPREAD OR CROWN LESS THAN 20 FEET MAY BE SUBSTITUTED BY GROUPING THE SAME SO AS TO CREATE THE EQUIVALENT OF A 20-FOOT CROWN SPREAD. TREES ADJACENT TO WALKWAYS, BIKE PATHS AND RIGHTS-OF-WAY MUST BE MAINTAINED WITH EIGHT FEET OF CLEAR TRUNK.

(2) LARGER TREES SUBSTITUTED TO REDUCE THE MINIMUM NUMBER OF GENERAL TREES, WITHOUT THE USE OF AN ALTERNATIVE LANDSCAPE BETTERMENT PLAN, MUST BE NO LESS THAN FOUR INCHES IN DIAMETER AT 12 INCHES ABOVE THE GROUND AND NO LESS THAN 16 FEET IN HEIGHT AT THE TIME OF PLANTING. THE GENERAL TREE REQUIREMENT CANNOT BE REDUCED IN NUMBER BY MORE THAN 50 PERCENT.

(d) SHRUBS AND HEDGES. SHRUBS MUST BE A MINIMUM OF 24 INCHES (48 INCHES FOR TYPE F BUFFERS) IN HEIGHT, ABOVE THE ON-SITE ADJACENT PAVEMENT SURFACE REQUIRED TO BE BUFFERED AND/OR SCREENED, WHEN MEASURED AT TIME OF PLANTING. THEY MUST BE A MINIMUM THREE-GALLON CONTAINER SIZE AND BE SPACED 18 TO 36 INCHES ON CENTER. THEY MUST BE AT LEAST 36 INCHES (60 INCHES FOR TYPE F BUFFERS) IN HEIGHT WITHIN 12 MONTHS OF TIME OF PLANTING AND MAINTAINED IN PERPETUITY AT A HEIGHT OF NO LESS THAN 36 INCHES (60 INCHES FOR TYPE F BUFFERS) ABOVE THE ADJACENT PAVEMENT REQUIRED TO BE BUFFERED AND/OR SCREENED, EXCEPT FOR VISIBILITY AT INTERSECTIONS AND WHERE PEDESTRIAN ACCESS IS PROVIDED. REQUIRED HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND MAINTAINED SO AS TO FORM A CONTINUOUS, UNBROKEN, SOLID VISUAL SCREEN WITHIN A MINIMUM OF ONE YEAR AFTER TIME OF PLANTING.

(e) MULCH REQUIREMENTS. A TWO-INCH MINIMUM LAYER, AFTER WATERING-IN, OF MULCH OR OTHER RECYCLED MATERIALS MUST BE PLACED AND MAINTAINED AROUND ALL NEWLY INSTALLED TREES, SHRUBS, AND GROUND COVER PLANTINGS. EACH TREE MUST HAVE A RIGHT OF MULCH NO LESS THAN 24 INCHES BEYOND ITS TRUNK IN ALL DIRECTIONS. THE USE OF CYPRESS MULCH IS STRONGLY DISCOURAGED.

(f) INVASIVE EXOTICS. THE FOLLOWING HIGHLY INVASIVE EXOTIC PLANTS MUST BE REMOVED FROM THE DEVELOPMENT AREA. THE METHOD OF REMOVAL AND CONTROL INVASIVE EXOTIC PLANTS WILL BE DONE EITHER MECHANICALLY OR BY HAND. IF THE USE OF MECHANICAL EQUIPMENT WILL BE HARMFUL TO OTHER NON-INVASIVE VEGETATION, THE REMOVAL OF INVASIVE EXOTICS MUST BE DONE BY HAND. THE DEVELOPMENT AREA WILL BE MAINTAINED FREE FROM INVASIVE EXOTIC PLANTS IN PERPETUITY. FOR PURPOSES OF THIS SUBSECTION, INVASIVE EXOTIC PLANTS INCLUDE:

COMMON NAME	SCIENTIFIC NAME
MELALEUCA, PAPER TREE	MELALEUCA QUINQUENERVIA
BRAZILIAN PEPPER, FLORIDA HOLLY	SCHINUS TEREBINTHIFOLIUS
AUSTRALIA PINES	ALL CASUARINA SPECIES
EARLEAF ACACIA	ACACIA AURICULIFORMIS
DOWNY ROSE MYRTLE	RHODOMYRTUS TOMENTOSUS
TROPICAL SODA APPLE	SOLANUM VIARUM

(g) PROHIBITED SPECIES. THE FOLLOWING SPECIES OF EXOTIC PLANTS ARE CONSIDERED INVASIVE AND MAY NOT BE USED TO FULFILL ANY REQUIREMENTS OF THIS DIVISION:

COMMON NAME	SCIENTIFIC NAME
WOMAN'S TONGUE	ALBIZIA LEBBECK
BISHOP WOOD	BISCHOFIA JAVANICA
CARROTWOOD	CUPIANOPSIS ANACARDIOIDES
ROSEWOOD	DALBERGIA SISSOO
MURRAY RED GUM	EUCALYPTUS CAMALDULENSIS
BENJAMIN FIG	FICUS BENJAMINA
CUBAN LAUREL	FICUS RETUSA
CHINESE TALLOW	SAPIUM SEBIFERUM
JAVA PLUM	SYZYGIUM CUMINI
ROSE APPLE	SYZYGIUM JAMBOS
CORK TREE	THESPESIA POPULNEA
WEDELIA	WEDELIA TRILOBATA

(h) CREDITS.

(1) EXCEPT FOR PROHIBITED SPECIES AS LISTED ABOVE, EVERY CONSIDERATION MUST BE GIVEN TO RETAINING AS MUCH EXISTING PLANT MATERIAL AS POSSIBLE.
(2) EACH EXISTING INDIGENOUS NATIVE TREE PRESERVED IN PLACE, WHICH HAS A TRUNK DIAMETER OF FOUR INCHES OR GREATER MEASURED AT 4 1/2 FEET ABOVE THE GROUND (DBH) WILL RECEIVE A CREDIT OF FIVE TREES AGAINST THE GENERAL LANDSCAPE REQUIREMENTS. NATIVE PALMS PRESERVED IN PLACE THAT ARE EIGHT FEET OR GREATER FROM GRUND LEVEL TO BASE OF FRONDS, WILL RECEIVE A CREDIT OF THREE TREES. EXISTING SABAL PALMS, IDENTIFIED ON THE DEVELOPMENT ORDER PLANS THAT ARE RELOCATED ONSITE WILL BE GIVEN A TWO TREE CREDIT. CREDITS FOR EXISTING TREES MAY NOT BE USED TO REDUCE THE REQUIRED PARKING CANOPY TREES IN PARKING OR VEHICLE USE AREAS. EXISTING NATIVE TREES IN BUFFERS MAY BE USED FOR CREDIT PROVIDED THEY OCCUR WITHIN THE REQUIRED 100-FOOT BUFFER SEGMENT.
CREDITS WILL APPLY ONLY WHEN THE TREES ARE LABELED AS PROTECTED-CREDIT TREES. IF THE PROTECTED-CREDIT TREES DIE WITHIN THREE YEARS FROM THE DEVELOPMENT ORDER CERTIFICATE OF COMPLIANCE, THEY MUST BE REPLACED BY THE NUMBER OF CREDIT TREES TAKEN.
(3) CREDITS WILL APPLY WHERE THE PRESERVED TREE IS IN AN BARRICADED AREA AT LEAST TWO-THIRDS THE RADIUS OF THE CROWN SPREAD OF THE TREE MEASURED FROM THE TRUNK CENTER. IN NO CASE MAY THIS AREA RADIUS BE LESS THAN 2 1/2 FEET. FOR INDIGENOUS NATIVE PINE TREES, THE UNDISTURBED AREA MAY BE NO LESS THAN THE FULL CROWN SPEAD OF THE TREE, UNLESS OTHER MEASURES SUCH AS TIE-WALLS OR SPECIAL SLOPE TREATMENT ARE CONSTRUCTED FOR ADDITIONAL PROTECTION. PRIOR TO THE LAND CLEARING STAGE OF DEVELOPMENT, THE OWNER, DEVELOPER OR AGENT MUST ERECT PROTECTIVE BARRIERS WHICH AS A MINIMUM ARE MADE OF ONE-INCH BY ONE-INCH LUMBER OR APPROVED ALTERNATIVE BARRICADING MATERIAL. IN THE CASE OF INDIVIDUAL TREES, BARRICADES MUST BE ERECTED NO CLOSER THAN THE DRIPLINE OF THE TREES, EXCEPT WHERE CONSTRUCTION LIMITS HAVE BEEN APROVED TO A CLOSER DISTANCE. FOR ALL OTHER PROTECTED VEGETATION, I.E. SHRUBS AND GROUND COVER, BARRICADES MUST BE ERECTED AROUND THE PERIMETER OF THE VEGETATION. THE OWNER, DEVELOPER OR AGENT MAY NOT CAUSE OR PERMIT THE MOVEMENT OF EQUIPMENT OR THE STORAGE OF EQUIPMENT, MATERIAL, DEBRIS OR FILL TO BE PLACED WITHIN THE REQUIRED PROTECTIVE BARRIER. THE PROTECTED TREES AND ASSOCIATED UNDERSTORY PLANT COMMUNITIEIS MUST REMAIN ALIVE AND HEALTHY AT THE END OF THE CONSTRUCTION IN ORDER FOR THIS CREDIT TO APPLY.

LDC SECTION 10-421 - OF PLANT MATERIALS, MAINTENANCE OF LANDSCAPING AND OPEN SPACE:

(a) INSTALLATION. PLANT MATERIALS MUST BE INSTALLED IN SOIL CONDITIONS THAT ARE CONDUCIVE TO THE PROPER GROWTH OF THE PLANT MATERIAL. LIMEROCK LOCATED WITHIN PLANTING AREAS MUST BE REMOVED AND REPLACED WITH NATIVE OR GROWING QUALITY SOIL BEFORE PLANTING.

A PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS THAT MIGHT BE CREATED (e.g. VIEWS, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION). TREES MAY NOT BE PLACED WHERE THEY INTERFERE WITH SITE DRAINAGE, SUBSURFACE UTILITIES, OR OVERHEAD UTILITY LINES, OR WHERE THEY WILL REQUIRE FREQUENT PRUNING IN ORDER TO AVOID INTERFERENCE WITH OVERHEAD POWER LINES.

ALL LANDSCAPE MATERIAL MUST BE INSTALLED IN A RECOGNIZED HORTICULTURAL CORRECT MANNER. AT A MINIMUM, THE FOLLOWING INSTALLATION REQUIREMENTS MUST BE MET:

(1) ALL LANDSCAPE AREAS MUST BE MULCHED UNLESS VEGETATIVE COVER IS ALREADY ESTABLISHED.
(2) TREES AND SHRUBS USED IN BUFFERS MUST BE PLANTED IN A MINIMUM WIDTH AREA EQUAL TO ONE-HALF THE REQUIRED WIDTH OF THE BUFFER. HOWEVER, IN NO CASE MAY THE PLANTING AREA TO LESS THAN FIVE FEET IN WIDTH.
(3) ALL LANDSCAPED AREAS MUST BE PROVIDED PROTECTION FROM ENCROACHMENT BY ANY TYPE OF VEHICLE.
(4) ALL REQUIRED PLANTS USED IN BUFFERS AND LANDSCAPING MUST BE INSTALLED USING XERISCAPE PRINCIPLES. XERISCAPE PRINCIPLE INCLUDE WATER CONSERVATION THROUGH DROUGHT-TOLERANT LANDSCAPING, THE USE OF APPROPRIATE PLANT MATERIAL, MULCHING, AND THE REDUCTION OF TURF AREAS.
(5) UTILITY, POWER, OR DRAINAGE EASEMENT MAY OVERLAP REQUIRED BUFFERS; HOWEVER, NO REQUIRED TREES OR SHRUBS MAY BE LOCATED IN ANY UTILITY, POWER, OR STREET EASEMENT OR RIGHT-OF-WAY. TO AVOID CONFLICTS WITH OVERHEAD UTILITY LINES, ONLY SMALL TREES, LESS THAN 20 FEET IN HEIGHT AT MATURITY, MUST BE USED DIRECTLY ADJACENT TO AN OVERHEAD LINE.
(6) SAFE SIGHT DISTANCE TRIANGLES AT INTERSECTIONS AND VEHICLE CONNECTIONS. WHERE AN ACCESS WAY INTERSECTS A RIGHT-OF-WAY OR WHEN A PROPERTY ABUTS THE INTERSECTION OF TWO OR MORE RIGHTS-OF-WAY, A MINIMUM SAFE SIGHT DISTANCE TRIANGULAR AREA MUST BE ESTABLISHED. WITHIN THIS AREA, VEGETATION MUST BE PLANTED AND MAINTAINED IN A WAY THAT PROVIDES UNOBSTRUCTED VISIBILITY AT A LEVEL BETWEEN 30 INCHES AND EIGHT FEET ABOVE THE CROWN OF THE ADJACENT ROADWAY. LANDSCAPING MUST BE LOCATED IN ACCORDANCE WITH THE ROADSIDE RECOVERY AREA PROVISIONS OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION'S MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE OF STREETS AND HIGHWAYS (FDOT GREEN BOOK) WHERE APPROPRIATE.

(b) MAINTENANCE OF LANDSCAPING. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE REQUIRED LANDSCAPING IN A HEALTHY AND VIGOROUS CONDITION AT ALL TIMES. TREE AND PALM STAKING MUST BE REMOVED WITHIN 12 MONTHS AFTER INSTALLATION. ALL LANDSCAPES MUST BE KEPT FREE OF REFUSE, DEBRIS, DISEASE, PESTS, AND WEEDS. ONGOING MAINTENANCE TO PROHIBIT THE ESTABLISHMENT OF PROHIBITED INVASIVE EXOTIC SPECIES IS REQUIRED.

(c) PRUNING. VEGETATION REQUIRED BY THIS CODE MY ONLY E PRUNED TO PROMOTE HEALTHY, UNIFORM, NATURAL GROWTH OF THE VEGETATION (EXCEPT WHERE NECESSARY TO PROMOTE HEALTH, SAFETY AND WELFARE) AND BE IN ACCORDANCE WITH "PRUNING STANDARDS (REVISED 1988)" OF THE NATIONAL ARBORIST ASSOCIATION. TREES MUST NOT BE SEVERELY PRUNED TO PERMANENTLY MAINTAIN GROWTH AT A REDUCED HEIGHT OR SPREAD. PRUNING MUST NOT INTERFERE WITH THE DESIGN INTENT OF THE ORIGINAL INSTALLATION. SEVERELY PRUNED TREES MUST BE REPLACED BY THE PROPERTY OWNER. PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS WHICH MIGHT ARISE (I.E. VIEW, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION, SIDEWALKS, BUILDINGS, AND SIMILAR CONFLICTS.

DC SECTION 10-418 - STORMWATER PONDS:

(a) DESIGN STANDARDS. TECHNIQUES TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN STORMWATER MANAGEMENT PONDS ARE AS FOLLOWS:

(1) SHORELINE CONFIGURATION. SHORELINES SHALL BE SINUOUS IN CONFIGURATION TO PROVIDE INCREASED LENGTH AND DIVERSITY OF THE LITTORAL ZONE, SINUOUS IS DEFINED AS SERPENTINE, BENDING IN AND OUT WAVY OR WINDING.
(2) PLANT MATERIALS. THE FOLLOWING SHALL BE CONSIDERED SUFFICIENT TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN PONDS WITH SLOPES STEEPER THAN 6 TO 1 BUT NOT MORE THAN 4 TO 1:

a. SHORELINES SHALL BE SLOPED OR BERMED TO DIRECT STORMWATER THROUGH PRETREATMENT SYSTEMS OR SWALES PRIOR TO DISCHARGE INTO THE POND.
b. THE MINIMUM REQUIRED NUMBER OF NATIVE WETLAND HERBACEOUS PLANTS IS ONE PLANT PER LINEAR FOOT OF LAKE SHORELINE AS MEASURED AT THE CONTROL ELEVATION WATER LEVEL. NATIVE WETLAND TREES OR SHRUBS MAY BE SUBSTITUTED FOR UP TO 25 PERCENT OF THE TOTAL NUMBER OF HERBACEOUS PLANTS REQUIRED. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.

POND #1 -	850 LF x 1 HERBACEOUS PLANT =	850	HERBACEOUS PLANTS
POND #2 -	1,717 LF x 1 HERBACEOUS PLANT =	1,717	HERBACEOUS PLANTS
POND #3 -	1,206 LF x 1 HERBACEOUS PLANT =	1,206	HERBACEOUS PLANTS
POND #4 -	1,038 LF x 1 HERBACEOUS PLANT =	1,038	HERBACEOUS PLANTS
POND #5 -	2,121 LF x 1 HERBACEOUS PLANT =	2,121	HERBACEOUS PLANTS
POND #6 -	1,038 LF x 1 HERBACEOUS PLANT =	1,038	HERBACEOUS PLANTS
POND #7/8	3,578 LF x 1 HERBACEOUS PLANT =	3,578	HERBACEOUS PLANTS
POND #9 -	1,806 LF x 1 HERBACEOUS PLANT =	1,806	HERBACEOUS PLANTS
POND #10-	1,128 LF x 1 HERBACEOUS PLANT =	1,128	HERBACEOUS PLANTS
POND #11-	944 LF x 1 HERBACEOUS PLANT =	944	HERBACEOUS PLANTS
POND #12-	825 LF x 1 HERBACEOUS PLANT =	825	HERBACEOUS PLANTS
POND #13-	723 LF x 1 HERBACEOUS PLANT =	723	HERBACEOUS PLANTS

TOTAL = 16,574 HERBACEOUS PLANTS

UP TO 25% OF 16,574 PLANTS (A TOTAL OF 4,144 PLANTS) CAN BE SUBSTITUTED FOR TREES OR SHRUBS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.
c. PLANTS MUST BE INSTALLED IN CLUSTERS AROUND THE LAKE PERIMETER. PLACEMENT OF CLUSTERS AT THE INLET AND OUTFALLS AREAS IS STRONGLY ENCOURAGED. CLUSTERS MUST CONTAIN A MINIMUM OF 25 PLANTS WITHIN A 50-SQUARE FOOT AREA.
d. AT LEAST FOUR SPECIES SHALL BE PLANTED. MINIMUM REQUIRED HERBACEOUS PLANT SIZE SHALL BE TWO-INCH CONTAINER, REFERRED TO AS A LINER. TREES AND SHRUBS SHALL MEET THE MINIMUM STANDARDS IN SECTION 10-420.

THE FOLLOWING TABLE LISTS THE DIFFERENT PLANTS THAT CAN BE USED AND WHERE THEY ARE TO PLANTED:

ZONE 1: AT CONTROL ELE ATION TO 2' BELOW CONTROL ELEVATION

ARROW ARUM	FLAT SEDGE	SAND CORDGRASS
ARROWHEAD	FRAGRANT WATER LILY	SPIDER/ALLIGATOR LILY
BACOPA/HYSSOP	GIANT/SOFT BULRUSH	SPIKERUSH
BANANA LILY	LIZARD'S TAIL	COASTAL-PLAIN WILLOW
BREAK RUSH	MAIDENCANE	SWAMP LILY
BLUE FLAG	PICKEREL WEED	WAPATO
BUTTONBUSH	POND APPLE	POP ASH
CANNA LILY	RUSH	WHITE TOP SEDGE
DUCKPOTATO	ROYAL FERN	

ZONE 2: 2' TO 4' BELOW CONTROL ELEVATION

GREEN CABOMBA	PURPLE CABOMBA
GREEN FANWORT	PURPLE FANWORT
DUCKPOTATO	SPATTERDOCK
FRAGRANT WATER LILY	WAPATO
GIANT/SOFT BULRUSH	STRING LILY

ZONE 3: 1' ABOVE TO 1' BELOW CONTROL ELEVATION

CORDGRASS	SAW GRASS
GIANT/SOFT BULRUSH	SWAMP FERN
LEATHERFERN	WHITE TOP SEDGE
ROYAL FERN	

e. SODDING OR MULCHING OF NATIVE WETLAND PLANT MATERIALS IS ALLOWED TO ESTABLISH PLANTINGS AT THE MINIMUM REQUIRED DENSITY IN LIEU OF LINERS.

(b) SURVIVAL OF PLANT MATERIALS. A MINIMUM OF 80 PERCENT SURVIVABILITY OF PLANTINGS IS REQUIRED FOR HERBACEOUS WETLAND PLANTS. WETLAND TREES AND SHRUBS MUST BE MAINTAINED PER SECTION 10-421(b).

STP D&S
STP GT
STP Irr
STP Ease

NO.	REVISIONS	BY	DATE
1			
2			
3			
4			
5			

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEHIGH ACRES, FLORIDA 33936
OPEN SPACE, BUFFERING, AND LANDSCAPE PLAN

LANDSCAPE ARCHITECT
GORDON G. LEWIS
FLORIDA REGISTRATION NO.

DRAWING INFORMATION	DATE
PROJECT NO.:	
DESIGNED BY: GGL	2/15/00
DRAWN BY: KLM	2/18/00
CHECKED BY: GGL	2/21/00
DRAWING FILE: LANDSCAPE	SCALE: 1" = 200'

DRAWING NO.
SHT. 2 OF 2

Rost Reprographics, Inc.: 5/9/2000, 08:03 PM, 183 Land.plt

COPPERHEAD GOLF COMMUNITY

PHASE 1

18 HOLE GOLF COURSE NOT INCLUDING AQUA RANGE POND 8
STORM WATER MGMT SYSTEM
FOR GOLF COURSE & CLUBHOUSE
BETH STACEY (23rd TO
COPPERHEAD DR.)

PHASE 1A

61 SINGLE FAMILY LOTS
44 TWO-FAMILY LOTS
LAKE LITTORAL PLANTS

PHASE 2

57 SINGLE FAMILY LOTS
34 TWO-FAMILY LOTS

PHASE 3

37 SINGLE FAMILY LOTS
42 TWO-FAMILY LOTS

PHASE 4

63 SINGLE FAMILY LOTS
82 TWO-FAMILY LOTS
BETH STACEY (COPPERHEAD DR.
TO SOUTH BOUNDARY)

FUTURE DVM'T

5.12 ACRE MULTI-FAMILY TRACT
6.40 ACRE M/F OR COMM TRACT
10.19 ACRE MULTI-FAMILY TRACT
7.48 ACRE MULTI-FAMILY TRACT

LEHIGH ACRES UNITS 9, 10, 11, 12

YELLOW TAIL CANAL

23RD STREET

MAINTENANCE

LAKE

MULTI-FAMILY OR COMMERCIAL
3.36 ACRES
FUTURE DEVELOPMENT

MULTI-FAMILY OR COMMERCIAL
3.05 ACRES
FUTURE DEVELOPMENT

MULTI-FAMILY
FUTURE DEVELOPMENT
5.12 ACRES

BRIDGE

COPPERHEAD DRIVE

GATE

CLUBHOUSE

BETH STACEY BOULEVARD

1A

2

3

4

10.19 ACRES

MULTI-FAMILY
FUTURE DEVELOPMENT

WETLAND

AQUA RANGE

GOLF HOLES

GOLF CART UNDERPASS

BRIDGE

CANAL

MULTI-FAMILY
FUTURE DEVELOPMENT
7.48 ACRES

SOUTHWOOD

N

GRAPHIC SCALE
0 200 400 600

DOS 991203400D
RECEIVED
MAY 03 2001
COMMUNITY DEVELOPMENT

Division of Development Services
D.O. MINOR CHANGE # 1
APPROVED
By P.E. Date 05/08/01
For Phasing adjustments
*Approval based on site information supplied by applicant.

REVISIONS	COPPERHEAD DEVELOPMENT, INC CONSULTING ENGINEERS 21184 BRAXFIELD LOOP ESTERO, FLORIDA 33928 PHONE (612) 226-3200	PROJECT PHASING PLAN COPPER HEAD LEE COUNTY, FLORIDA
DATE : 11/22/99	FILE : INDEX	SHEET 2 of 39 SHEETS

COPPER HEAD GOLF COMMUNITY

PHASE 1

18 HOLE GOLF COURSE NOT INCLUDING AQUA RANGE - POND #8
STORM WATER MGMT SYSTEM
FOR GOLF COURSE & CLUBHOUSE
BETH STACEY (23rd TO COPPERHEAD DR.)

PHASE 1A

61 SINGLE FAMILY LOTS
44 TWO-FAMILY LOTS

LAKE LITTORAL PLANTS

PHASE 2

57 SINGLE FAMILY LOTS
34 TWO-FAMILY LOTS

PHASE 3

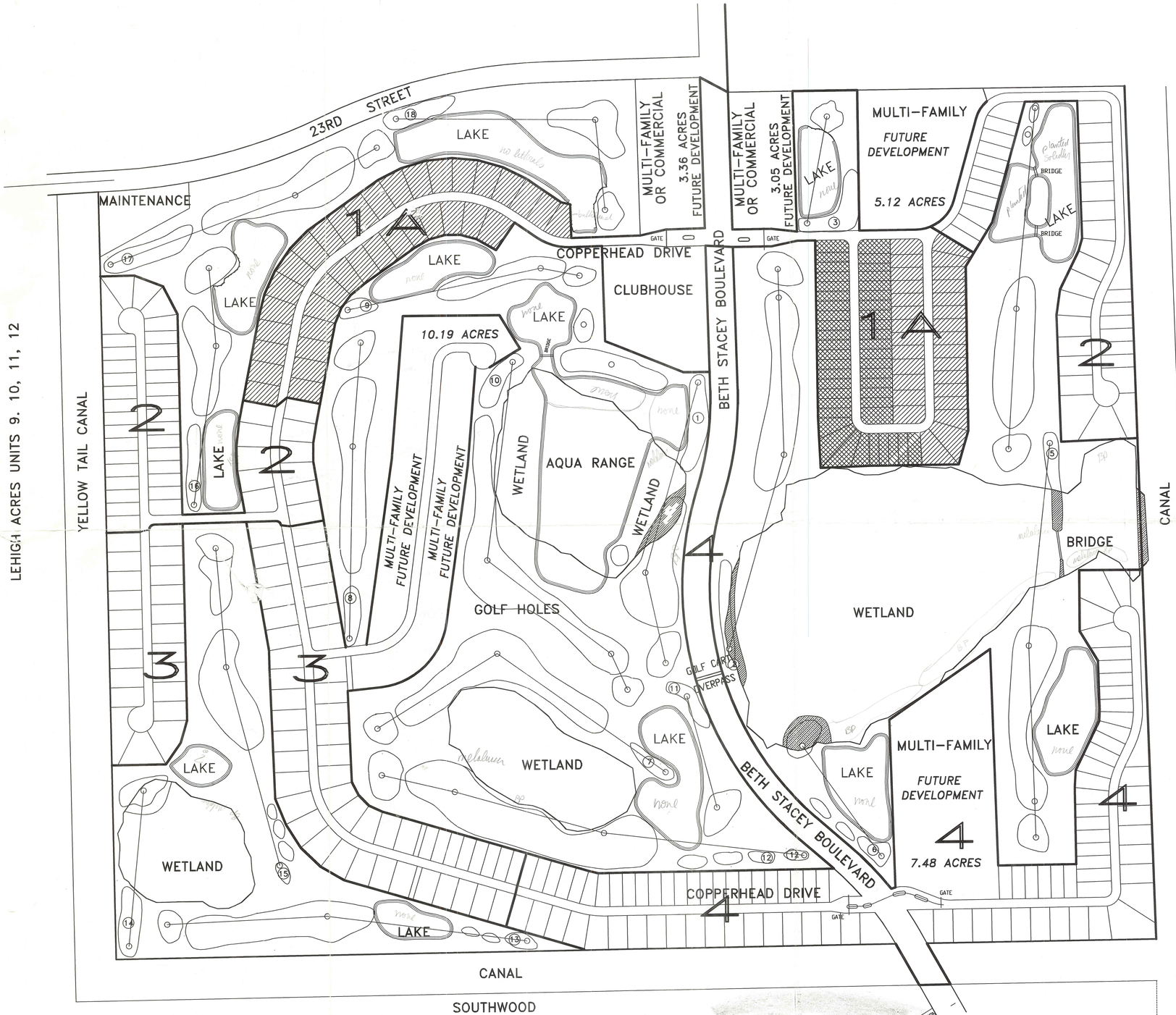
37 SINGLE FAMILY LOTS
42 TWO-FAMILY LOTS

PHASE 4

63 SINGLE FAMILY LOTS
82 TWO-FAMILY LOTS
BETH STACEY (COPPERHEAD DR. TO SOUTH BOUNDARY)

FUTURE DVM'T

5.12 ACRE MULTI-FAMILY TRACT
6.40 ACRE M/F OR COMM TRACT
10.19 ACRE MULTI-FAMILY TRACT
7.48 ACRE MULTI-FAMILY TRACT



N

GRAPHIC SCALE
0 200 400 600

REVISIONS	COPPERHEAD DEVELOPMENT, INC CONSULTING ENGINEERS 21184 BRAXFIELD LOOP ESTERO, FLORIDA 33928 PHONE (612) 226-3200	PROJECT PHASING PLAN COPPER HEAD LEE COUNTY, FLORIDA
DATE : 11/22/99	FILE : INDEX	SHEET 2 of 39 SHEETS

WARREN JOHN ISRAELSON CERTIFICATE No. 56271 STATE OF FLORIDA PROFESSIONAL ENGINEER

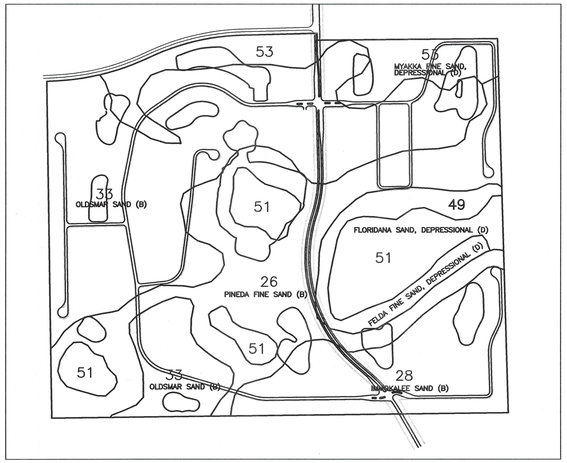
RECEIVED MAY 03 2001 COMMUNITY DEVELOPMENT

Doc 99120340000 Due 05/10/01

99-12-034.00D (83) Box 41697 Loc 140701

41697 (loc 75268) 99-12-034.00D

COPPERHEAD GOLF COMMUNITY



SOIL SURVEY OF LEE COUNTY
NOT TO SCALE

N

GRAPHIC SCALE

0 200 400 600

LEGEND

- WETLAND IMPACTS (FILL)
- WETLAND IMPACTS (EXCAVATE)
- BASIN DIVIDES
- SUBBASIN DIVIDES
- PROPERTY BOUNDARY

TOTAL PROJECT AREA (297.79 Acres)

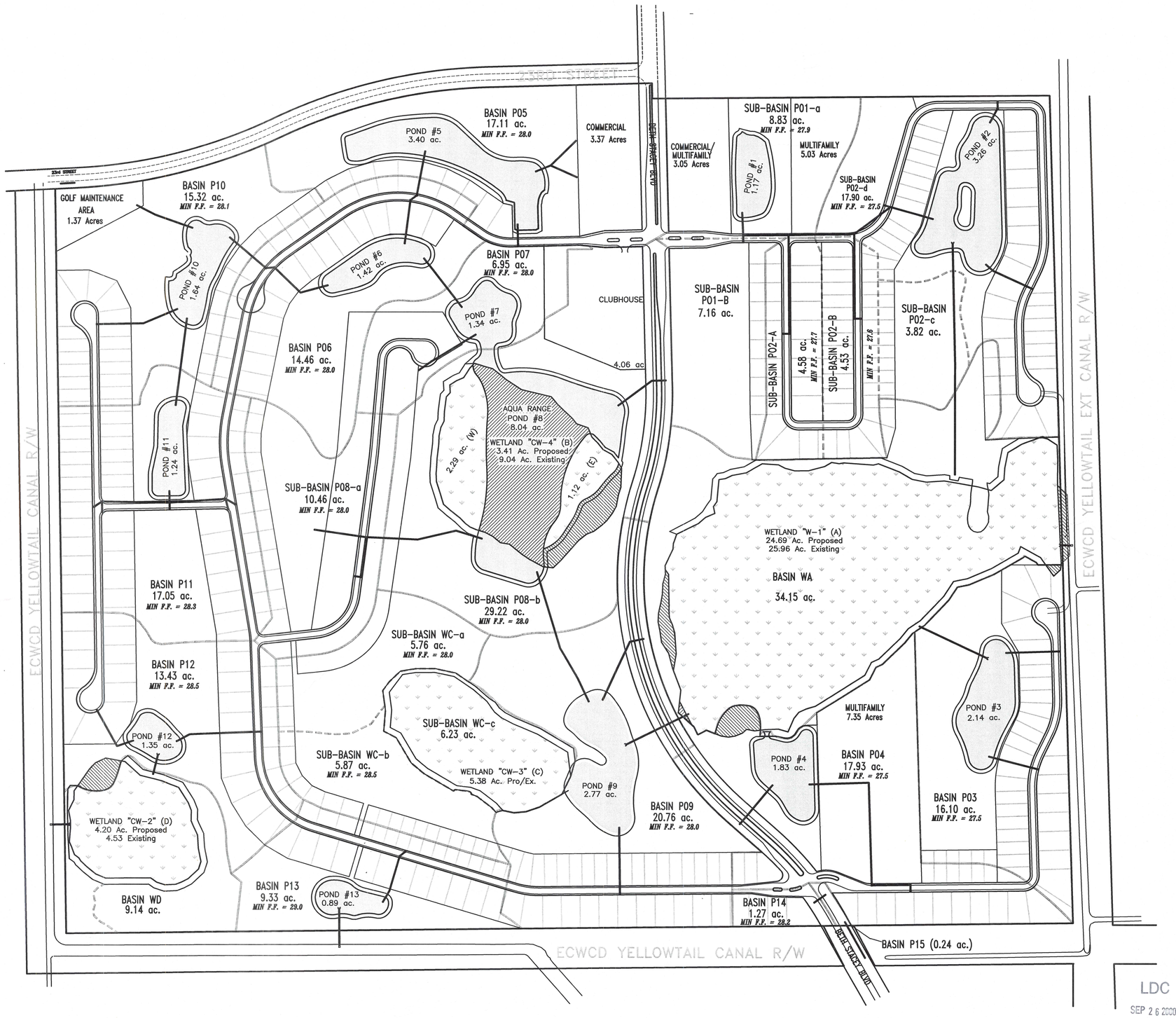
- PROPERTY BOUNDARY (297.59 Acres)
- ECWCD R/W TO BE FILLED (0.20 Acres)

CONSTRUCTION APPROVAL (278.77 Acres)

- RESIDENTIAL LOTS AND ROADS (93.25 Acres)
- GOLF COURSE (83.14 Acres)
- OPEN SPACE (15.84 Acres)
- WATER MANAGEMENT SYSTEM (72.37 Acres)
- BETH STACEY BOULEVARD (8.52 Acres)
- FILL IN ECWCD R/W (0.20 Acres)
- CLUBHOUSE (4.08 Acres)
- MAINTENANCE AREA (1.37 Acres)

CONCEPTUAL APPROVAL (19.03 Acres)

- COMMERCIAL/MULTIFAMILY AREAS (19.03)



LDC
SEP 26 2000
APPROVED

APPLIED TECHNOLOGY & MANAGEMENT, INC.
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
04/24/00
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS
AJQ 04/25/00 COUNTY COMMENTS

DATE 02/20/00 BY ---

COPPERHEAD DEVELOPMENT, INC.
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6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE INDEX

FILE WaterMngmt

SHEET 03 of 39 SHEETS

Cost Reprographics, Inc.: 5/5/2000, 11:47 AM, dh03.plt

COPPERHEAD GOLF COMMUNITY

LEGEND:

- AREAS TO BE REMAIN IN NATIVE STATE (MINIMAL CLEARING)
- GOLF COURSE CONTOURS
- GOLF COURSE DRAIN PIPES (REFER TO COURSE PLANS)
- PRIMARY WATER MANAGEMENT SYSTEM PIPES
- BASIN DIVIDES — PHYSICAL BUFFER
- SUBBASIN DIVIDES — PROPOSED BERM

NOTE:

1) CONTRACTOR SHALL INSTALL SIGNS EVERY 100 FEET ALONG ALL WETLAND BUFFERS WHICH DO NOT HAVE PHYSICAL BARRIERS AND AT THE REAR OF EVERY LOT LINE ADJACENT TO WETLANDS. SIGNS SHALL STATE "WETLAND – NO TRESPASSING"

2) ALL ROADWAY SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS AND WITH LEE COUNTY LAND DEVELOPMENT CODE.

3) ALL MATERIAL EXCAVATED FROM THE LAKES AND IS SUITABLE FOR CONSTRUCTION OF THE GOLF COURSE, LOT PADS AND ROADS SHALL REMAIN ONSITE. LAKES SHALL BE EXCAVATED TO A MINIMUM OF 8 FEET AND A MAXIMUM OF 12 FEET.

4) ANY SURPLUS UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND TAKEN TO AN OFFSITE LOCATION APPROVED BY THE ENGINEER. UNSUITABLE MATERIAL INCLUDES PEAT, MUCK, ROCK AND "SUGAR SAND". SURPLUS REFERS TO EXCESS QUANTITIES OF THE ABOVE MATERIAL WHICH CAN NOT BE REASONABLY USED FOR CONSTRUCTION OF THE GOLF COURSE, LOTS AND ROADS.

N

GRAPHIC SCALE
0 60 120 180

23RD STRE

23rd STREET
55' – 24"RCP
24" STOP BAR
STOP SIGN (R1–1) TYP.

GOLF COURSE MAINTENANCE AREA
1.37 Acres
MIN. 3,200 SF

POND #5
3.40 ac.

POND #10
1.64 ac.

POND #6
1.42 ac.

POND #7
1.34 ac.

COPPERHEAD DRIVE (PRIVATE)

15' LAKE MAINT. EASEMENT (L.M.E.)

C.E. 24.5

CART PATH

2' WIDE BERM 12" HIGH

15' EASEMENT

10' EASEMENT

5' EASEMENT

HP STA 13+40 CROWN EL 27.99

LP STA 10+12 CROWN EL 27.00

HP STA 7+80 CROWN EL 27.69

LP STA 5+50 CROWN EL 27.00

LP STA 7+27.50 CROWN EL 27.00

LP STA 16+71 CROWN EL 27.00

LP STA 16+74.85 CROWN EL 27.00

END OF PHASE I

TEMP. CUL–DE–SAC 1" TYPE S–3 PVMT. 6" BASE – 6" SUBGRADE (DIM. PER LEE LDC)

(3) CASE II REFLECTORS

PHASE I

PHASE II

ROAD04 (PRIVATE)

CONCURRENCY REVIEW
APPROVAL* CONDITIONAL* DENIAL*
REASONS: PHAS I AS SHOWN ON SHEET 2 OF 39 ONLY
Mike Carroll SEPT. 26, 2000
REVIEWERS SIGNATURE DATE
*APPROVAL EXPIRES THREE YEARS FROM THIS DATE

LDC
SEP 26 2000
APPROVED

MATCH LINE (REFER SHEET 7)

MATCH LINE (REFER SHEET 5)

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Environmental & Coastal Engineers, Scientists & Management Consultants

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ALFRED J. QUATTRONE
REG. NO. 52741
07/01/00
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AJQ	02/26/00 COUNTY COMMENTS
AJQ	04/25/00 COUNTY COMMENTS
AJQ	07/01/00 COUNTY COMMENTS

DATE 12/13/99 | BY --- | FILE PGD Plans | Scale: 1"=60'

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6001 Egan Drive, Suite 100
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 04 of 39 SHEETS

MATCH LINE (REFER SHEET 4)

ROAD04 (PRIVATE)

HP STA 3+92.50
CROWN EL 28.18

POND #11
1.24 ac.

15' LAKE MAINT. EASEMENT (L.M.E.)

CART PATH

STOP SIGN (R1-1) TYP.

24" STOP BAR

LP STA 2+50
CROWN EL 27.00

HP STA 1+20
CROWN EL 27.39

NO OUTLET

ROAD03 (PRIVATE)

ROAD03
LP STA 5+40.43
CROWN EL 27.00

HP STA 4+00
CROWN EL 27.45

HP STA 3+92.50
CROWN EL 28.78

HP STA 21+55
CROWN EL 28.46

COPPER

LP STA 26+49
CROWN EL 27.00

ROAD02 (PRIVATE)

HP STA 31+99
CROWN EL 28.69

NO OUTLET

15' EASEMENT

LP STA 7+20
CROWN EL 27.00

HP STA 6+40
CROWN EL 27.24

LP STA 5+60
CROWN EL 27.00

HP STA 12+12
CROWN EL 28.48

LP STA 16+74.85
CROWN EL 27.00

AQUA RANGE

POND #8
8.04 ac.

WETLAND "CW-4" (B)
3.41 Ac. Proposed
9.04 Ac. Existing

2.29 AC.
SECONDARILY
IMPACTED

4.73 AC
EXCAVATE

BUFFER
0.468 AC

15' LAKE MAINT. EASEMENT (L.M.E.)

MATCH LINE (REFER SHEET 8)

MATCH LINE (REFER SHEET 6)

N

Rost Reprographics, Inc.: 5/5/2000, 11:46 AM, ch05.plt

APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers,
Scientists & Management Consultants

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REG. NO. 52741
04/25/00
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REVISED	
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AJQ	04/25/00 COUNTY COMMENTS

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 05 of 39 SHEETS

SEP 26 2000

APPROVED

MATCH LINE (REFER SHEET 5)

MATCH LINE (REFER SHEET 9)

LP STA 8+02.50
CROWN EL 27.50

S44

15' EASEMENT

P30A

POND #12
1.35 ac.

P30B

S45

15' LAKE MAINT. EASEMENT

WCS #9

S87

P59

S86

CART PATH

IMPACT
0.332 AC

WETLAND "CW-2" (D)
4.20 Ac. Proposed
4.53 Existing

WCS #8
S84

S85
P59

DRY RETENTION POND V
INVERT EL.=26.5' TO 25.5'
STRUCTURE CREST EL.=27.25'
REQUIRED VOLUME 1,810 CF
MIN TOB AREA 2,800 SF

2' WIDE BERM
EL 27.75'

BUFFER
0.769 AC

2' WIDE BERM
12" HIGH

HP STA 31+99
CROWN EL 28.69

COPPERHEAD DRIVE (PRIVATE)

15' EASEMENT

P51A

S48

S49

P61B

S50

LP STA 35+61
CROWN EL 27.60

DRY RETENTION POND IV
INVERT EL.=26.5' TO 26.6'
STRUCTURE CREST EL.=27.25'
REQUIRED VOLUME 5,610 CF
MIN TOB AREA 9,210 SF

HP STA 39+64
CROWN EL 28.81

DRY RETENTION POND III
INVERT EL.=25.5' TO 25.7'
STRUCTURE CREST EL.=26.4'
REQUIRED VOLUME 11,350 CF
MIN TOB AREA 16,300 SF

BUFFER
0.845 AC

2' WIDE BERM
EL 26.90'

WETLAND "CW-3" (C)
5.38 Ac. Pro/Ex.

STRUCTURE #6

CART CROSSING
STRIPING

CART CROSSING
SIGN (TYP E.S.)

LP STA 44+10
CROWN EL 27.50

S51

P52

S52

P53

15' EASEMENT EASEMENT

HP STA 48+43
CROWN EL 28.83

POND #13
0.89 ac.

C.E. 25.5

15' LAKE MAINT. EASEMENT

WCS #7

S82

S83

BNDRY 3

2' WIDE BERM
12" HIGH

ECWCD YELLOWTAIL CANAL

LDC
SEP 26 2000
APPROVED

Rost Reprographics, Inc.: 5/5/2000, 11:46 AM, ch06.pl

Environmental & Coastal Engineers,
Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
04/25/00
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS
AJQ 04/25/00 COUNTY COMMENTS

DATE 12/13/99 BY ---

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
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Phone (612) 226-3200

FILE PGD Plans

Scale: 1"=60'

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 06 of 39 SHEETS

COPPERHEAD GOLF COMMUNITY

MATCH LINE (REFER SHEET 4)

MATCH LINE (REFER SHEET 8)

CONTRACTOR SHALL MILL EXISTING BETH STACEY BLVD TO REMOVE STRIPING AND RESURFACE THE ROAD. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR METHOD OF CONSTRUCTION AND STRIPING PLAN

TREET

24" STOP BAR

WHITE SKIP (6–10)

24" STOP BAR

PAINTED ARROWS

STOP SIGN (R1–1) TYP.

NO OUTLET (TEMPORARY)

KEEP RIGHT (R4–7)

BETH STACEY BLVD (PUBLIC)

CART PATH

LP STA 6+68 BETH
PCL EL 27.55
EOP EL 26.80 (W)
EOP EL 26.80 (E)

209LF 30"ADS

64LF 24"ADS

64LF 18"RCP

S92 S93 S98 S99 S100

P26A P25 P25A

STRIPING PER INDEX #17346

CURBED MEDIAN

6" WHITE EDGE LINE

6" YELLOW EDGE LINE

KEEP RIGHT (R4–7)

WHITE SKIP (6–10)

STOP SIGN (R1–1) TYP.

24" STOP BAR

KEEP RIGHT (R4–7)

TYPE F CURB

6" WHITE

6" WHITE

PAINTED ARROWS

5' SIDEWALK

NO OUTLET (TEMPORARY)

HP STA 2+00
CROWN EL 28.67

HP STA 9+00 BETH
HP STA 0+00 ROAD01
CROWN EL 28.27

END TYPE F (TYP)

CART CROSSING PVMT STRIPING & SIGNS (TYP E.S.)

KEEP RIGHT (R4–7)

STOP SIGN & 24" BAR

CLUBHOUSE
4.06 ac.

LP STA 14+64
CROWN EL 25.00
SWALE EL 22.00

END PHASE I PAVEMENT

8" WHITE

NO OUTLET

(6) CASE II REFLECTORS.

POND #1
1.17 ac.

15' LAKE MAINT. EASEMENT (L.M.E.)

O.E. 24.0

LP STA 3+50
CROWN EL 26.85

LP STA 3+80
CROWN EL 26.70

ROAD06 (PRIVATE)

CART CROSSING PVMT STRIPING & SIGNS (TYP E.S.)

STOP SIGN (R1–1) TYP.

24" STOP BAR

HP STA 6+36
CROWN EL 28.23

END PHASE 1 PAVEMENT

NO OUTLET

STOP SIGN (R1–1) TYP.

24" STOP BAR (PHASE 2)

LP STA 14+19
CROWN EL 26.50

CART PATH

IRONWOOD COURT NORTH (PRIVATE)

HP STA 12+93
CROWN EL 27.42

LP STA 9+86
CROWN EL 26.50

15' EASEMENT

P11

POND #2
3.26 ac.

WCS #1

LP STA 17+00
CROWN EL 26.20

HP STA 21+45
CROWN EL 27.54

LP STA 25+90
CROWN EL 26.20

P47A

P15A

27.4 27.2 27.5 26.8 26.9 26.7 26.6 26.4 26.3 26.2 26.1 26.0 34.2

N

ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 62741
07/01/00
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REVISED	
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AJQ	04/25/00 COUNTY COMMENTS
AJQ	07/01/00 COUNTY COMMENTS

DATE 12/13/99 | BY --- | FILE PGD Plans | Scale: 1"=60'

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 07 of 39 SHEETS

CNC2000-02264
CONCURRENCY REVIEW
APPROVAL* CONDITIONAL* DENIAL
REMARKS: PHASE 1, AS SHOWN ON SHEET 20 OF 39 ONLY
REVIEWERS SIGNATURE
DATE
*APPROVAL EXPIRES THREE YEARS FROM THIS DATE

LDC
SEP 26 2000
APPROVED

Rost Reprographics, Inc.: 7/7/2000, 04:42 PM, SHT07AL.plt

MATCH LINE (REFER SHEET 7)

MATCH LINE (REFER SHEET 5)

MATCH LINE (REFER SHEET 9)

STORMCEPTOR OR APPROVED EQUAL
TYPE E MODIFIED BOX/OIL GREASE
SEPERATOR. PROPER FUNCTIONING OF
SEPERATOR WILL BE ASSURED BY
SCHEDULED MONTHLY MAINTENANCE
SIZED PER MANUFACTURER RECOMMENDATION
DRAINAGE AREA 3.1 ACRES OR 7,400 CF
DRY PRETREATMENT POND (MIN INVERT
26.5 FT-NGVD)

1.12 AC.
SECONDARILY
IMPACTED

0.90 AC
FILL

LP STA 14+64
CROWN EL 27.00
SWALE EL 25.00

LP STA 20+28
CROWN EL 27.00
SWALE EL 25.00

LP STA 35+12
CROWN EL 27.00
SWALE EL 25.00

LP STA 34+66
CROWN EL 26.70

HP STA 8+70.69
CROWN EL 28.06

HP STA 30+52.93
CROWN EL 27.59

HP STA 20+40.45
CROWN EL 27.09

P66 P67 P68 P45A P45B P46 P47 P48 P54 P16 P17

S55 S56 S57 S58 S70 S71 S72 S73 S74 S75 S76 S77

CART PATH

EASEMENT (L.M.E.)

2' WIDE BERM
TIE INTO LOT FILL

2' WIDE BERM
EL 26.25'

25' BUFFER

MINIMUM 15' BUFFER

BUFFER
0.816 AC

BUFFER
0.874 AC

BUFFER
0.166 AC

DRY RETENTION POND I
INVERT EL.=25.0' TO 25.3'
STRUCTURE CREST EL.=25.75'
REQUIRED VOLUME 5,200 CF
MIN TOB AREA 9,900 SF

DRY RETENTION POND II
INVERT EL.=25.0' TO 25.3'
STRUCTURE CREST EL.=25.75'
REQUIRED VOLUME 4,700 CF
MIN TOB AREA 9,000 SF

LAKE #2 OUTFALL
SPREADER STRUCTURE

WETLAND "W-1" (A)
24.69 Ac. Proposed
25.96 Ac. Existing

WETLAND W-1
1.254 AC IMPACTS

IMPACT
0.308 AC

IMPACT
0.303 AC

IMPACT
0.062 AC

IMPACT
0.036 AC

FILL WETLAND AND ADJACENT
ECWCD R/W TO ELEVATION
27.0' NGVD. BERM TO SERVE
AS BUFFER FOR WETLAND.
FILL AREA = 0.19 AC.

PHYSICAL BUFFER

WCS #2

WCS #3

BNDRY 1

EXIT CANAL

LDC
SEP 2 6 2000
APPROVED
15' EASEMENT

Rost Reprographics, Inc.: 5/5/2000, 11:45 AM, ch08.plt

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SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
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PAVING, GRADING & DRAINAGE

DATE 12/13/99 | BY --- | FILE PGD Plans | Scale: 1"=60' | SHEET 08 of 39 SHEETS

MATCH LINE (REFER SHEET 8)

MATCH LINE (REFER SHEET 6)

MATCH LINE (REFER SHEET 6)

TYPE A OR B PHYSICAL BUFFER TYPICAL ALL AREAS WHERE BUFFER IS LESS THEN 15'

IMPACT 0.029 AC

IMPACT 0.385 AC

STRUCTURE #4

POND #4
1.83 ac.

POND #3
2.14 ac.

POND #9
2.77 ac.

15' LAKE MAINT. EASEMENT (L.M.E.)

15' EASEMENT

15' EASEMENT EASEMENT

WCS #5

WCS #10

LP STA 18+50
CROWN EL 26.50

HP STA 16+15
CROWN EL 27.20

LP STA 13+68
CROWN EL 26.50

HP STA 19+36
CROWN EL 28.08

LP STA 33+57
CROWN EL 27.00
SWL EL 25.00

HP STA 58+06
CROWN EL 28.52

ROAD01
STA 60+58.41
CROWN EL 27.75

STA 39+21.00
CROWN EL 30.02

LP STA 53+00
CROWN EL 27.00

LP STA 4+20
CROWN EL 26.50

HP STA 9+00
CROWN EL 27.94

MILWAUKEE BLVD
HP STA 37+17.74
CROWN EL 27.75
SWL EL 26.15

6" WHITE EDGE LINE

6" YELLOW EDGE LINE

WHITE SKIP (6-10)

STOP SIGN (R1-1) TYP.

24" STOP BAR

KEEP RIGHT (R4-7)

PAINTED ARROWS

6" WHITE

NO OUTLET

DRY DETENTION PONDS VII
INVERT EL.=24.5' NGVD
TOB EL.=27.0' NGVD
TOB AREA (E)=6,550 SF
TOB AREA (W)=5,500 SF
TOTAL VOLUME=22,600 CF

CART PATH

COPPERHEAD DRIVE (PRIVATE)

IRONWOOD COURT SOUTH (PRIVATE)

BETH STREET BLVD

BNDRY 4

Bethany Road

Art Hartl

LDC
SEP 26 2000
APPROVED

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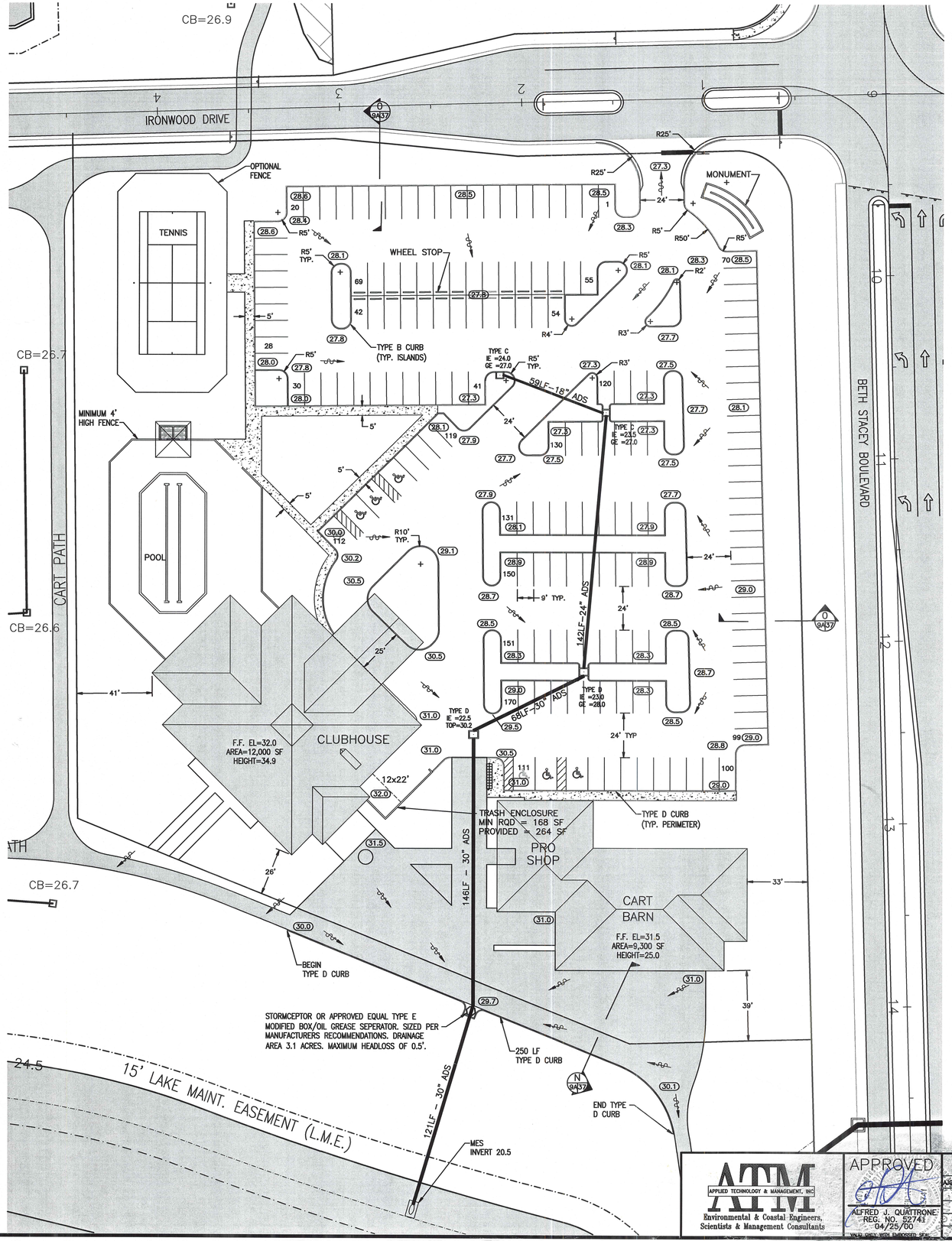
FILE PGD Plans

Scale: 1"=60'

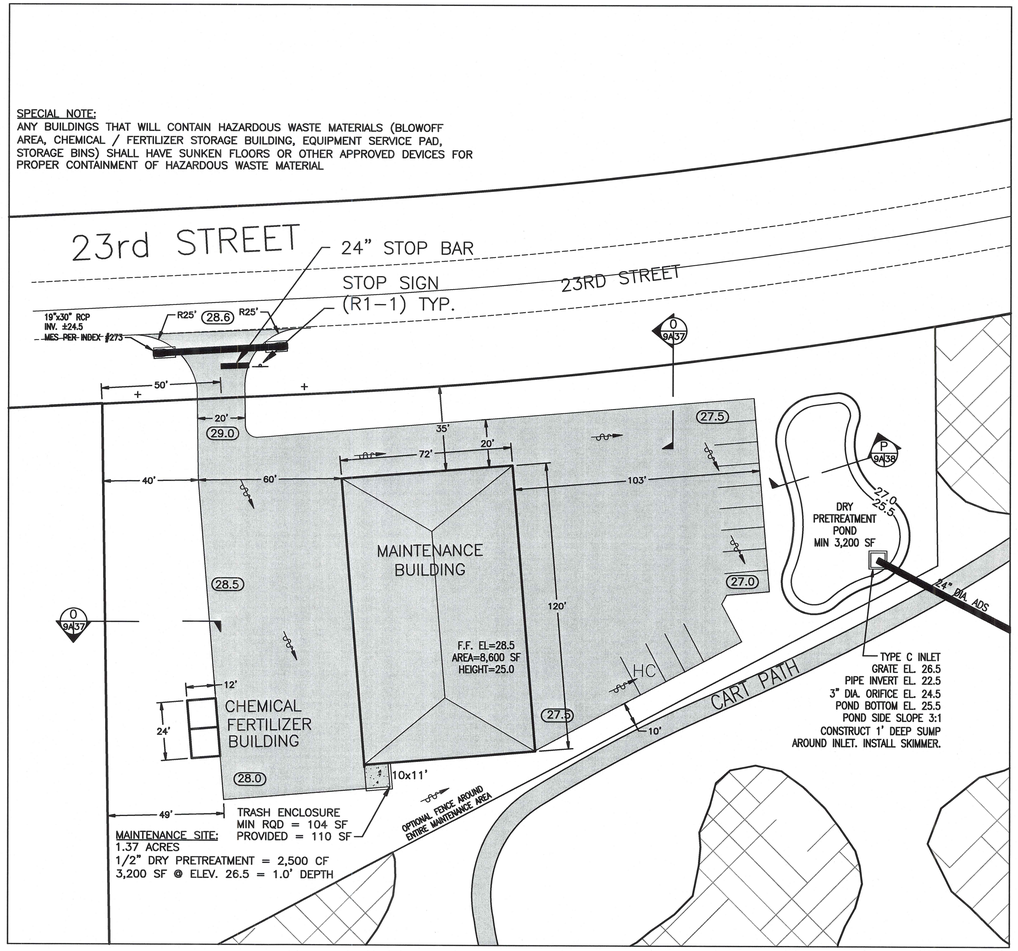
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING & DRAINAGE

SHEET 09 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 11:44 AM, ch09.plt



SPECIAL NOTE:
ANY BUILDINGS THAT WILL CONTAIN HAZARDOUS WASTE MATERIALS (BLOWOFF AREA, CHEMICAL / FERTILIZER STORAGE BUILDING, EQUIPMENT SERVICE PAD, STORAGE BINS) SHALL HAVE SUNKEN FLOORS OR OTHER APPROVED DEVICES FOR PROPER CONTAINMENT OF HAZARDOUS WASTE MATERIAL



MAINTENANCE SITE:
1.37 ACRES
1/2" DRY PRETREATMENT = 2,500 CF
3,200 SF @ ELEV. 26.5 = 1.0' DEPTH

PARKING REQUIREMENTS: (CLUBHOUSE)

1. LDC SECTION 34-2020(4)h. - GOLF COURSES. THE MINIMUM REQUIREMENT IS SIX SPACES PER HOLE. HOWEVER, WHERE RESTAURANTS ARE MADE AN INTEGRAL PART OF THE GOLF COURSE FACILITY, ADDITIONAL PARKING FOR THE RESTAURANT, IN ACCORDANCE WITH SUBSECTION (2)I.2. OF THIS SECTION. WILL BE REQUIRED ONLY TO THE EXTENT THAT THE PARKING REQUIREMENT FOR THE RESTAURANT EXCEEDS THE PARKING REQUIREMENT FOR THE GOLF COURSE.

   GOLF COURSE 18 HOLES x 6 SPACES = 72 SPACES REQUIRED

   RESTAURANT 5,000 S.F. / 1,000 S.F. X 14 SPACES = 70 SPACES REQUIRED

   COCKTAIL LOUNGE 500 S.F. / 21 SPACES / 1,000 S.F. = 11 SPACES REQUIRED

   TOTAL RESTAURANT/LOUNGE = 81 SPACES

   PARKING REQUIREMENT FOR RESTAURANT/LOUNGE EXCEEDS THE PARKING REQUIREMENT FOR THE GOLF COURSE.

2. LDC SECTION 34-2020(4)o.2. - INDOOR RECREATION FACILITES. THE MINIMUM REQUIREMENT IS ONE PARKING SPACE FOR EACH 100 SQUARE FEET OF TOTAL FLOOR AREA.

   CLUBHOUSE/FITNESS CENTER 6,500 S.F. / 100 S.F. x 1 = 65 SPACES REQUIRED

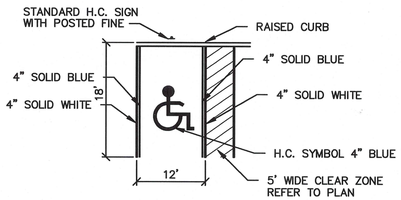
3. LDC SECTION 34-2020(4)p. - COMMERCIAL OUTDOOR FACILITES PARKING REQUIREMENTS WILL BE DETERMINED BY THE DIRECTOR. LDC SECTION 34-2020(4)q. - COMMERCIAL TENNIS COURTS - THE MINIMUM REQUIREMENT IS FIVE SPACES PER COURT.

   POOL/TENNIS COURT = ~~24~~ SPACES PROVIDED

4. TOTAL PARKING = 81 + 65 + 24 = 170 TOTAL SPACES REQUIRED/PROVIDED

NOTE:

REFER TO SHEET 13A FOR UTILITIES
REFER TO OPEN SPACE, BUFFERING AND LANDSCAPE PLAN
REFER TO SHEET 38 FOR TYPICAL PVMT SECTION, SIDEWALK AND CURB DETAILS



HANDICAPPED PARKING SPACE MARKING DETAIL

CNC2000-02264
CONCURRENCY REVIEW
APPROVAL* CONDITIONAL* DENIAL
REASON: PHASE 1 AS SHOWN ON SHEET 2 OF 39, ONLY CLUBHOUSE (MAINT. AREA NOT INCLUDED)
REVIEWERS SIGNATURE
Sept. 26, 2000 DATE*
*APPROVAL EXPIRES THREE YEARS FROM THIS DATE

LDC SEP 6 2000 APPROVED

GRAPHIC SCALE 0 30 60 90

ATM APPLIED TECHNOLOGY & MANAGEMENT, INC.
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE REG. NO. 52741 04/25/00
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REVISED
A/B 4/25/00 COUNTY COMMENTS

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

DATE 12/13/99 BY --- FILE PGD Plans

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
CLUBHOUSE / MAINTENANCE AREA

SHEET 09A of 39 SHEETS

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COPPER HEAD GOLF COMMUNITY

LEHIGH ACRES UNITS 9, 10, 11, 12

23RD STREET

YELLOW TAIL CANAL

P&P 19

P&P 18

P&P 17

P&P 20

P&P 25

P&P 11&12

P&P 13

P&P 14

P&P 15

P&P 16

P&P 24

P&P 26

P&P 21

P&P 22

P&P 23

LAKE

COPPERHEAD DRIVE

GATE

BETH STACEY BOULEVARD

WETLAND

AQUA RANGE

GOLF HOLES

WETLANDS

GOLF CART OVERPASS

BRIDGE

CANAL

SOUTHWOOD

PARKER STREET

N

GRAPHIC SCALE

0 200 400 600

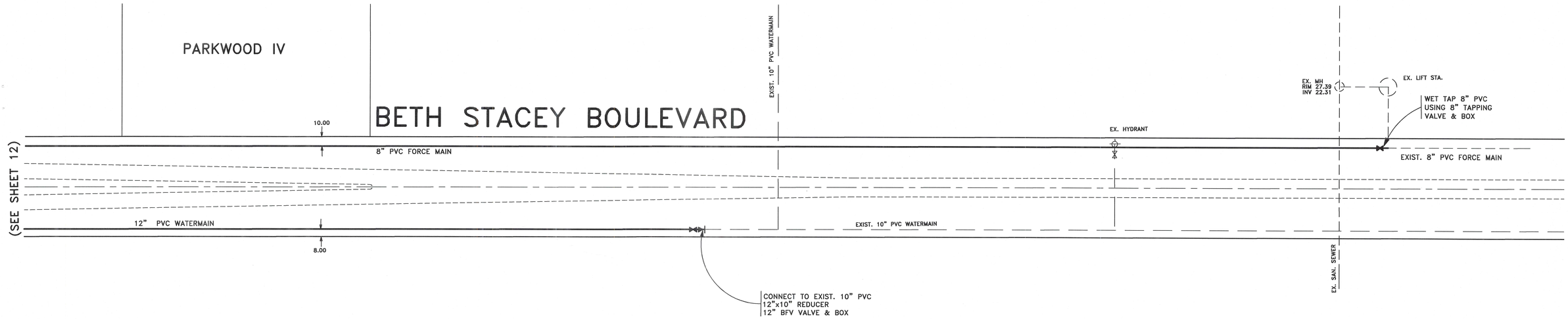
LDC

SEP 2 6 2000

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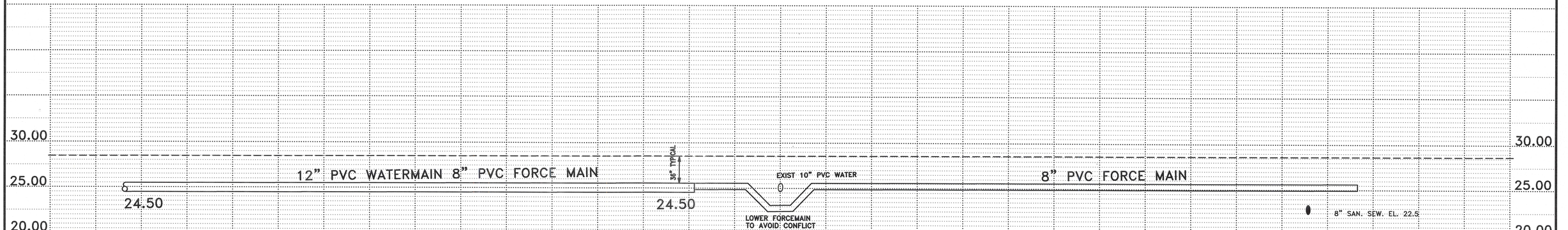
REVISIONS	COPPERHEAD DEVELOPMENT, INC.	PLAN & PROFILE INDEX
	CONSULTING ENGINEERS 6001 EAGAN DRIVE, SUITE 100 SAVAGE, MINNESOTA 55378 PHONE (612) 226-3200	COPPER HEAD LEE COUNTY, FLORIDA
DATE : 11/22/99	FILE : INDEX	SHEET 10 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 11:43 AM, ch10w.plt



N

GRAPHIC SCALE
0 50 100 150



LDC
SEP 26 2000
APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 34163
DATE 5-22-00
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REVISED

DATE 11/22/99 BY FHZ FILE SH11-26

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

SHEET 11 of 39 SHEETS

Rost Reprographics, Inc. 5/5/2000, 11:43 AM, ch11w.plt

(SEE SHEET 13)

COPPERHEAD DR.

10" DIP WATER MAIN
10" PVC WATER MAIN
8" PVC SEWER MAIN
8" PVC SEWER MAIN
5' SIDEWALK 2' FROM EOC
5' SIDEWALK 2' FROM CURB
8"x6" TEE
10' PUE
8" DIP FM
ROW
110' STEEL CASING
TEMP 15' EASEMENT
③
5' CONCRETE SIDEWALK
JACK UNDER 23rd ST. 45'-18" STEEL CASING
BEGIN CURB
23rd STREET
PARKWOOD IV
BETH STACEY BOULEVARD
8" PVC FORCEMAIN
8" PVC FORCE MAIN
12" DIP WM
12" PVC WATERMAIN
12" GATE VALVE
12"x10" CROSS
10" PVC WATER MAIN
8" PVC SEWER MAIN
10' PUE
NOTE: SPOT ELEV ARE TO TOP OF CURB
④
BEGIN STREET CONSTRUCTION AT STA 0+40
CONTRACTOR SHALL MILL EXIST. PAVEMENT AND RESURFACE ROADWAY TO REMOVE EXIST. STRIPING
CONTRACTOR SHALL SUBMIT STRIPING PLAN
IRONWOOD DR
NOTE: END PHASE 1 CONSTRUCTION @ STA 7+15
(SEE SHEET 25)
(SEE SHEET 11)
(SEE SHEET 13)

N

GRAPHIC SCALE
0 50 100 150

VPI STA 6+60.00
VPI ELEV=28.60
VPI STA 4+25.00
VPI ELEV=27.42
VPI STA 0+40.00
VPI ELEV=28.60
PROPOSED GRADE
EXISTING GRADE
+0.50%
-0.30%
36" MINIMUM
10" PVC WATER W/CASING
24" STORM SEWER
12" PVC WATERMAIN 8" PVC FORCE MAIN
LOWER FORCEMAIN TO AVOID CONFLICT
LOWER FORCEMAIN TO AVOID CONFLICT
10" PVC SEWER
30.00
25.00
20.00
24.50
22.00
7+00
6+00
5+00
4+00
3+00
2+00
1+00
0+00

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SEP 26 2000
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REG. NO. 34163 STATE OF FLORIDA
DATE 9/21/00
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SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

DATE 11/22/99 BY FHZ
FILE SH11-26
SHEET 12 of 39 SHEETS

Rost Reprographics, Inc.: 7/7/2000, 04:43 PM, SHT12WR.plt

N

LAKE

CL CURVE DATA
Δ =36°00'00"
R=200.05'
T=65.00'
A=125.70

(SEE SHEET 17)

17

MH# 1
STA.=4+60.0
RIM ELEV.=27.02

COPPERHEAD DRIVE

HYDRANT

10" PVC WM

10" PVC WATER 272.02' 10' PUE

10" PVC SEWER

10' PUE

5' CONCRETE SIDEWALK

MH#20
STA.=6+37.85
RIM ELEV.=26.81

LIFT STA. # 1
STA. 4+60.0
RIM ELEV. 27.00

VALVE ACCESS MH

6' BRICK PAVER CROSSING AT STA. 3+62

OPTIONAL GATES & GATEHOUSE

6" PVC FORCE MAIN

CLUBHOUSE

COMMERCIAL/
MULTI-FAMILY

1

③

10" GATE VALVE
10"x10" CROSS
10" GATE VALVE

DROP MH# 2
STA.=1+25.0
RIM ELEV.=27.83

8" PVC SEWER

10" PVC WM

BETH STACEY BLVD

(SEE SHEET 12)

110' STEEL CASING

8" DIP FM

12" PVC WATERMAIN

10" DIP WM

10" GATE VALVE

8"x8" TEE

(SEE SHEET 13A)

6" PVC FORCE MAIN

NOTE: BEGIN CURB AT BETH STACEY ROW

(SEE SHEET 25)

COMMERCIAL/
MULTI-FAMILY

1

④

12" GATE VALVE
12"x10" CROSS
10" GATE VALVE

DROP MH# 3
STA.=1+25.0
RIM ELEV.=27.18

10"x10" TEE
10"-90° BEND

10" PVC WATER 100.95'

10" PVC SEWER

10" DIP WM

10"-90° BEND

OPTIONAL GATES & GATEHOUSE

LAKE

TRACT "A"

6' BRICK PAVER CROSSING AT STA. 3+62

DROP MH# 4
STA.=5+20.0
RIM ELEV.=28.58

241.05' 10' PUE

STORM SEWER 261.20'

8" PVC SEWER

10" DIP WM

10" PVC WATER 285.00'

HYDRANT

10"x8" TEE
8" GATE VALVE

MULTI-FAMILY

1

NOTE: END PHASE 1 CONSTRUCTION AT STA 8+30

(SEE SHEET 15)

⑦

10" PVC WATER
8" PVC SEWER

CL CURVE DATA
Δ =73°50'30"
R=173.38'
T=130.26'
A=223.43'

DROP MH# 9
STA.=8+05.4
RIM ELEV.=27.62

IRONWOOD DRIVE

HYDRANT

PHASE 2

PHASE 1

10"x10" CROSS
10"X8" REDUCER

8" GATE VALVE

10" DIP WM

100.00' 10' PUE

10" PVC WATER 100.00'

STORM SEWER

8" PVC SEWER

8" PVC WATER

⑤ ⑥

22 125.00'
21 125.00'
30 130.00'
29 130.00'

(SEE SHEET 14)

(SEE SHEET 14)

LEGEND

- PROPOSED VALVE
- PROPOSED WATER SERVICE
- PROPOSED HYDRANT
- BLOWOFF (B.O.)
- EXISTING WATERMAIN (WATER)
- PROPOSED WATERMAIN (WATER)
- EXISTING FORCEMAIN (FM)
- PROPOSED FORCEMAIN (FM)
- EXISTING GRAVITY LINE (SAN)
- PROPOSED GRAVITY LINE (SAN)
- 45 DEGREE BEND
- 90 DEGREE BEND
- TEE
- EXISTING MANHOLE
- PROPOSED MANHOLE (MH)
- PROPOSED CATCH BASIN (CB)
- BACTERIAL SAMPLING POINT (BSP)
- BACKFLOW PREVENTOR

GRAPHIC SCALE
0 50 100 150

(SEE SHEET 17)

MH#20 STA.=6+37.8
VPI STA.=5+50.0
VPI ELEV.=27.00

MH#1 STA.=4+60.0

35" COVER MIN.

48" COVER MIN.

VPI STA.=2+00.0
VPI ELEV.=28.05

MH#2 STA.=1+25.0

VPI STA.=0+37.0
VPI ELEV.=27.86

VPI STA.=0+00.0
VPI ELEV.=28.80

VPI STA.=-0+37.0
VPI ELEV.=27.86

MH#3 STA.=-1+25.0

35" COVER MIN.

EXISTING GRADE

PROPOSED GRADE

VPI STA.=3+50.0
VPI ELEV.=26.92

MH#4 STA.=5+20.0

VPI STA.=5+20.0
VPI ELEV.=27.88

VPI STA.=6+36.00
VPI ELEV.=28.25

MH#9 STA.=8+05.0

35" COVER MIN.

(SEE SHEET 15)

27.26 -0.30% 27.27 -0.30% 27.83 +0.30% -2.00% -2.00% 27.63 -0.30% +0.56 27.88 +0.30% -0.30% 27.72

18" STORM SEWER
23.00

8" PVC WATERMAIN

6" PVC FORCE MAIN

LOWER WATERMAIN
TOP ELEV=21.5

8" PVC – 22.0 (NORTH)
6" PVC – 22.0 (SOUTH)

8" PVC – 22.0 (NORTH)

24" STORM SEWER
19.00

30" STORM SEWER
20.00
8"PVC–19.05(SOUTH)

30" STORM SEWER
20.50
8"PVC–19.78(SOUTH)
8"PVC–18.00(NORTH)

178' – 10" PVC @ 0.28%
335'–10" PVC @ 0.28%
250'–10" PVC @ 0.28%
395' – 10" PVC @ 0.28%
285'– 8" PVC @ 0.40%

11.00 10.50 11.44 12.14 13.25 14.39

25.00 20.00 15.00 10.00

27.15 27.45 27.75 28.05 28.05 28.60 27.67 27.37 27.07 27.20 27.76 28.12 28.04 27.74

LIFT STA. # 1
MH # 1
27.02 27.02

6" FORCE MAIN

40'–12" PVC @ 0.28%

10.50

25.00 20.00 5.00 0.00

6+00 5+00 4+00 3+00 2+00 1+00 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

(SEE SHEET 15)

LDC
SEP 26 2000
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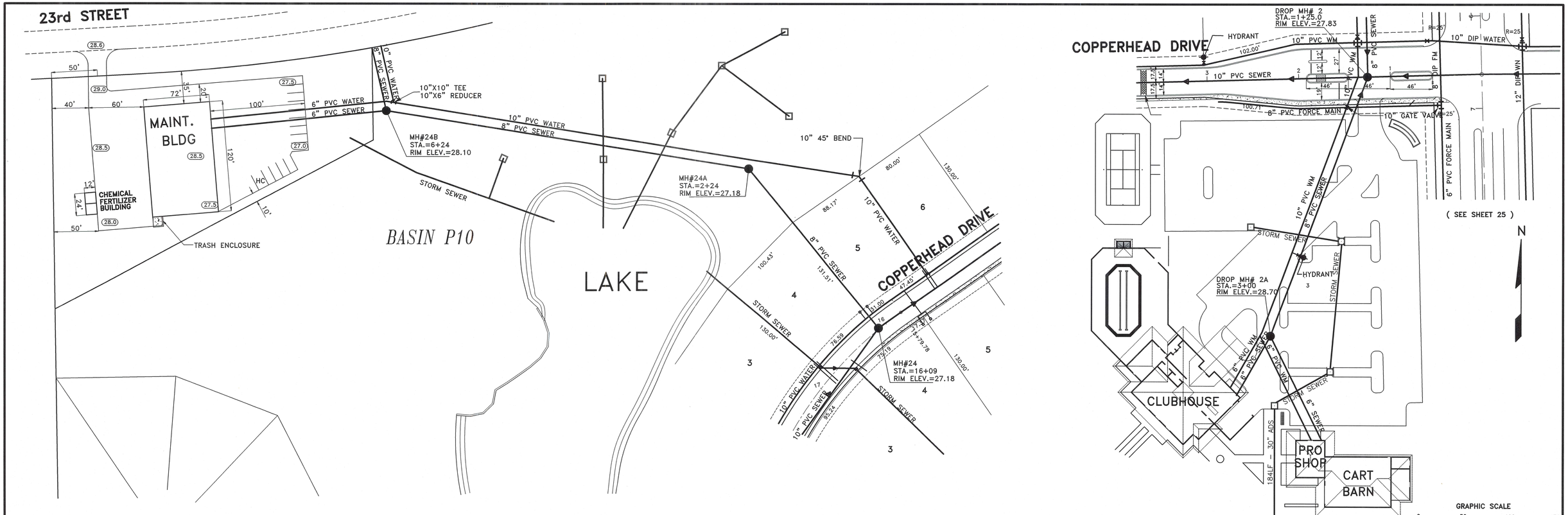
FILE SH13-16

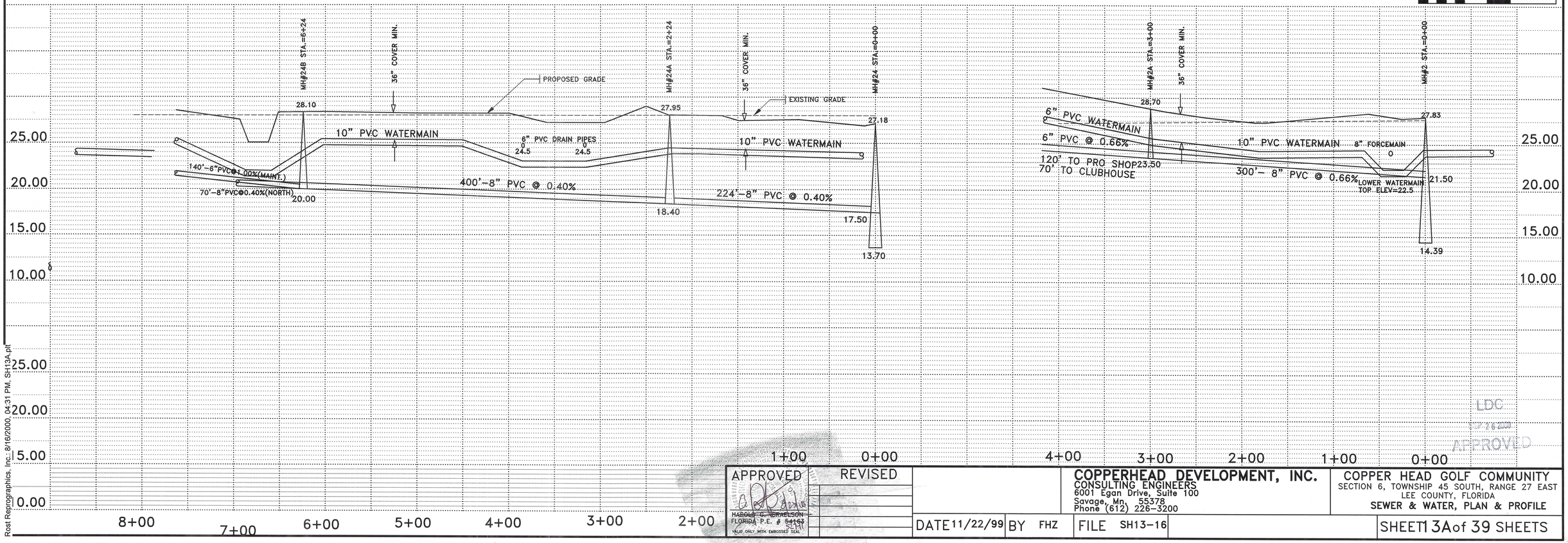
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CONSULTING ENGINEERS
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Savage, Mn 55378
Phone (612) 226-3200

COPPER HEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SEWER & WATER, PLAN & PROFILE

SHEET 13 of 39 SHEETS

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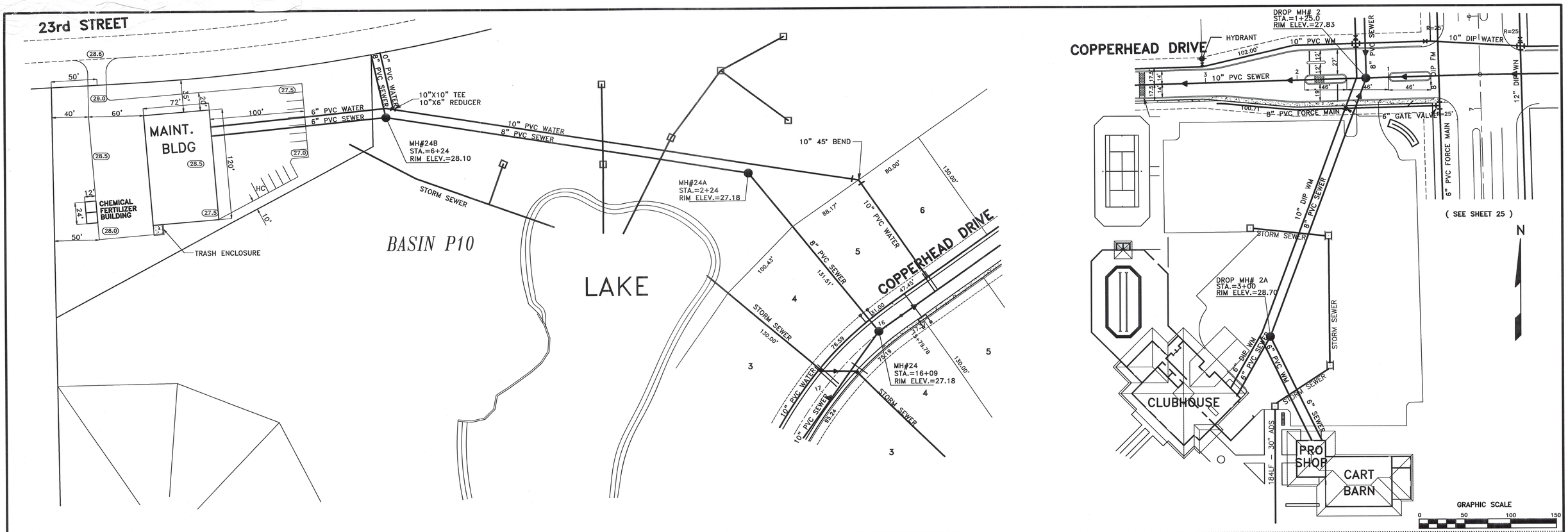
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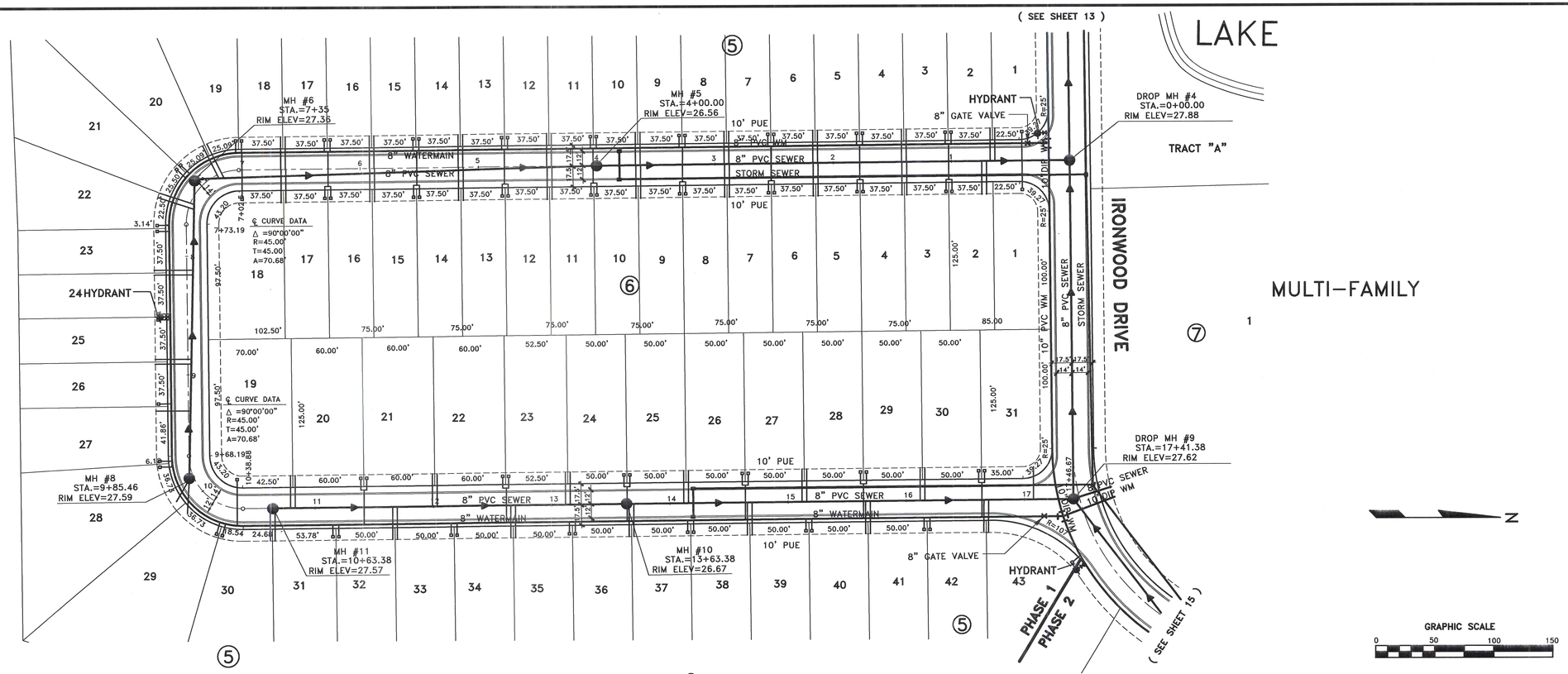
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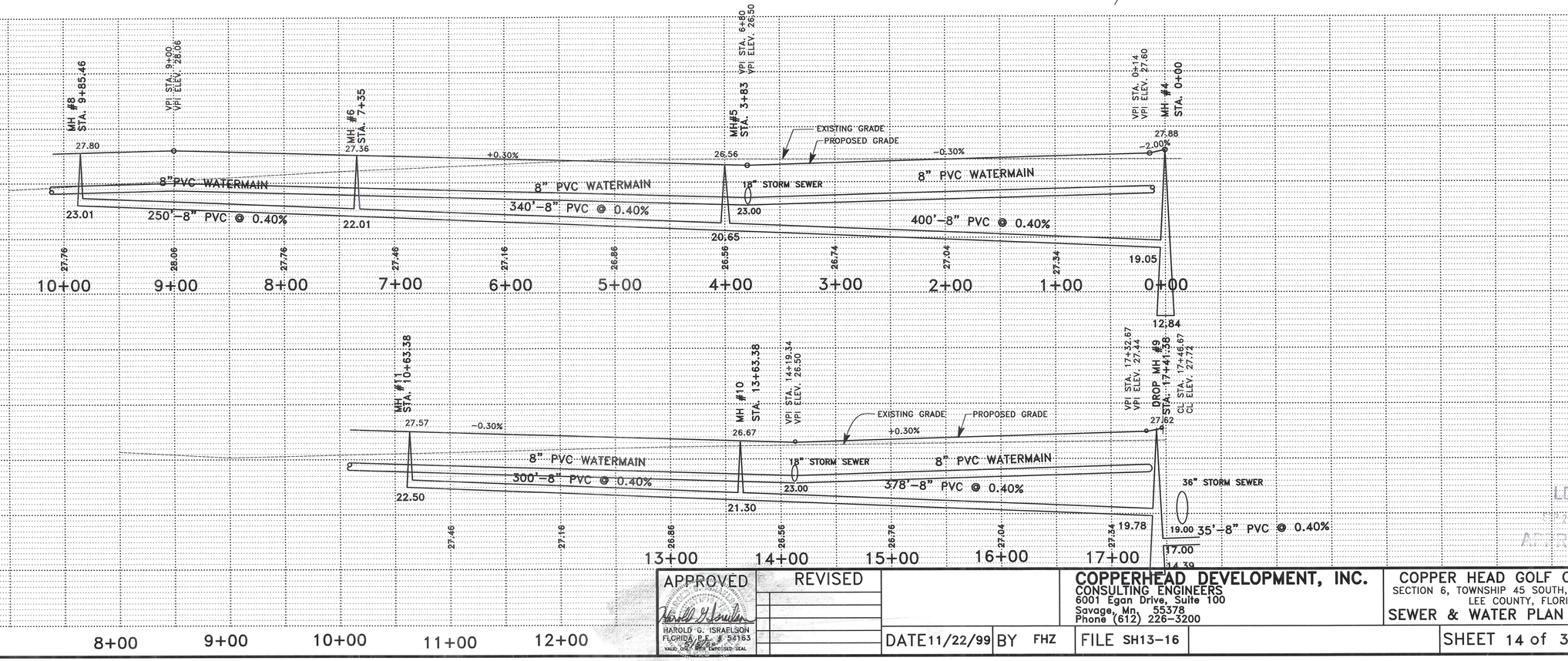
DATE 11/22/99 BY FHZ FILE SH13-16

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SHEET 13A of 39 SHEETS

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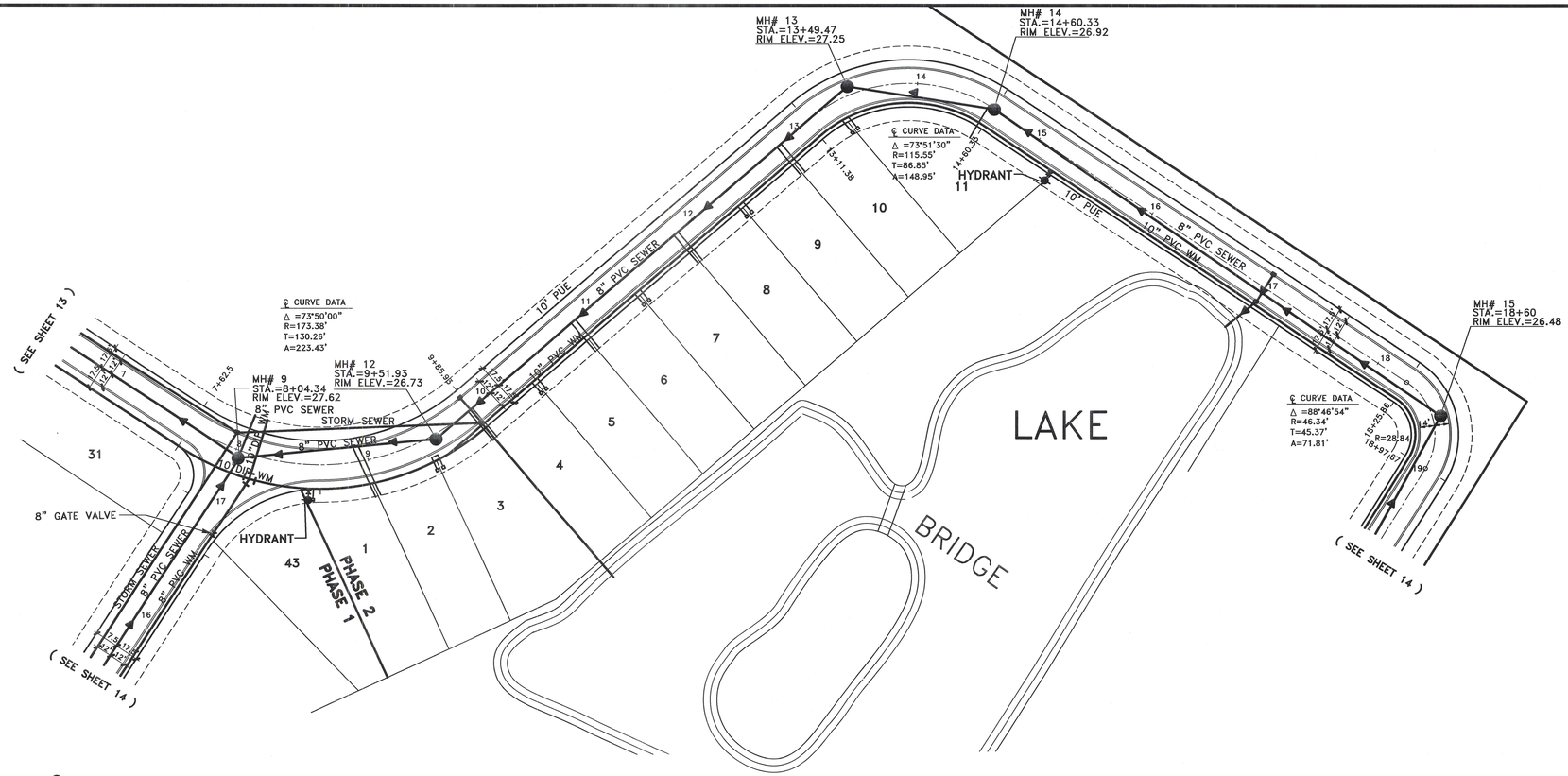


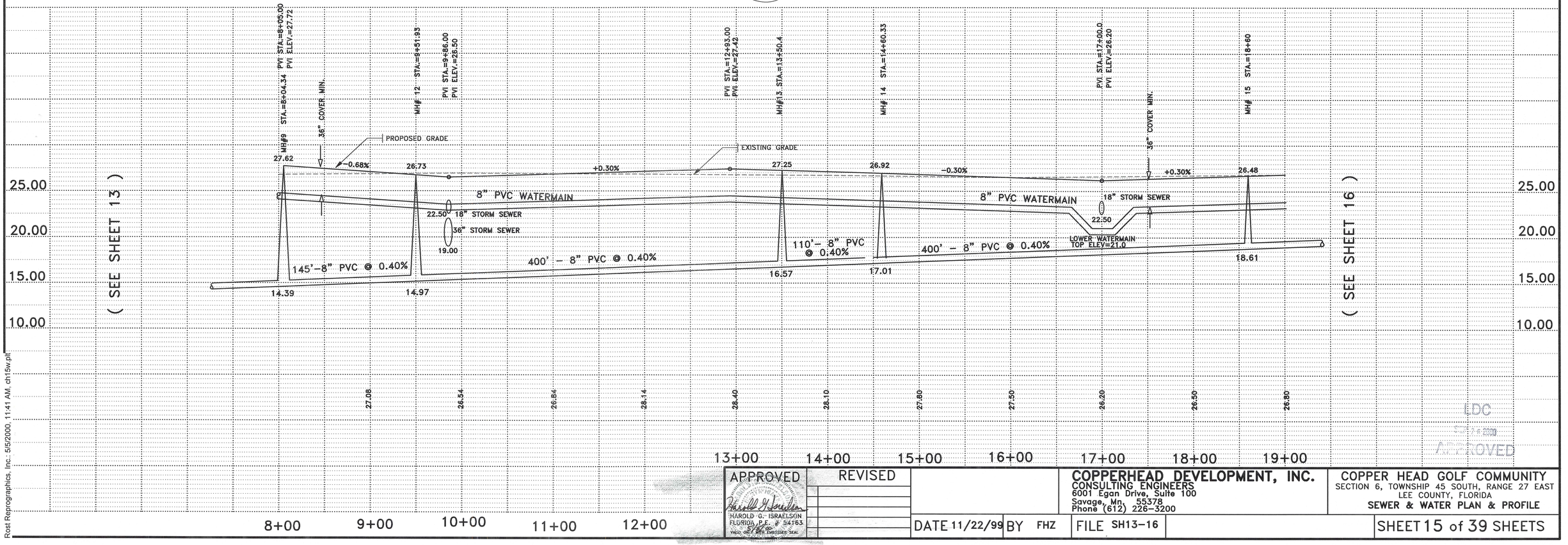


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7 8 2000
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APPROVED	REVISED		COPPERHEAD DEVELOPMENT, INC.	COPPER HEAD GOLF COMMUNITY
HAROLD G. ISRAELSON FLORIDA P.E. # 54163 VALID ONLY WITH EMBOSSED SEAL			CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SEWER & WATER PLAN & PROFILE
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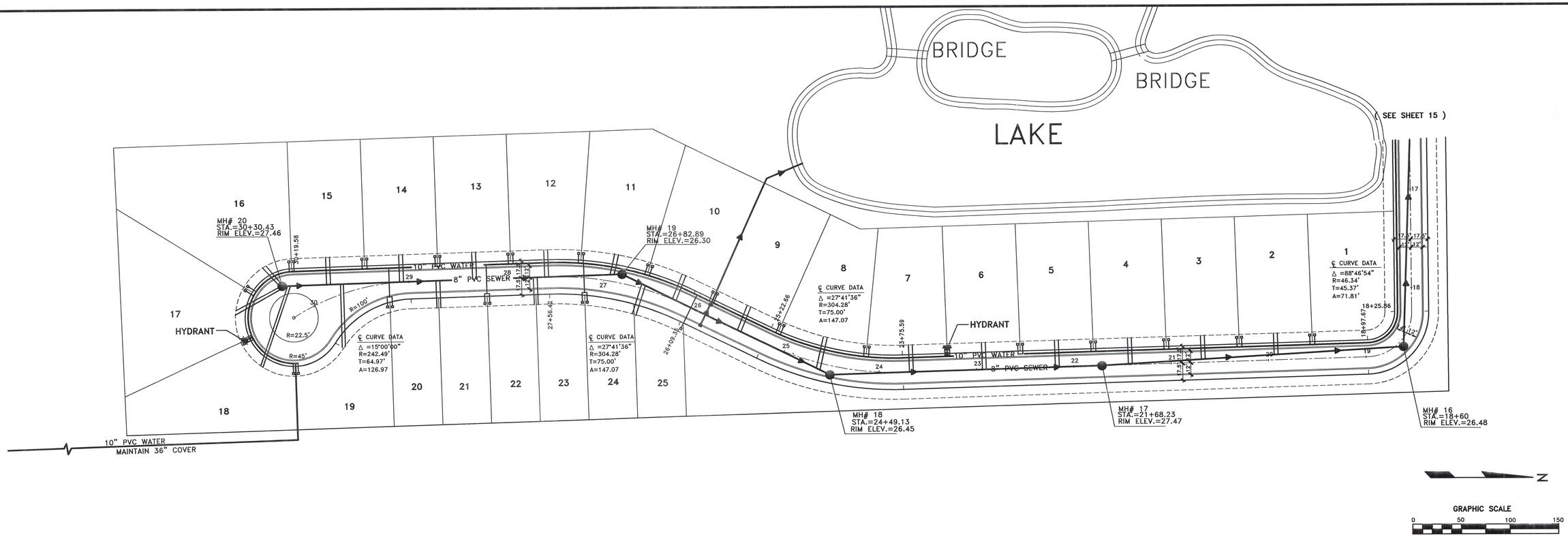
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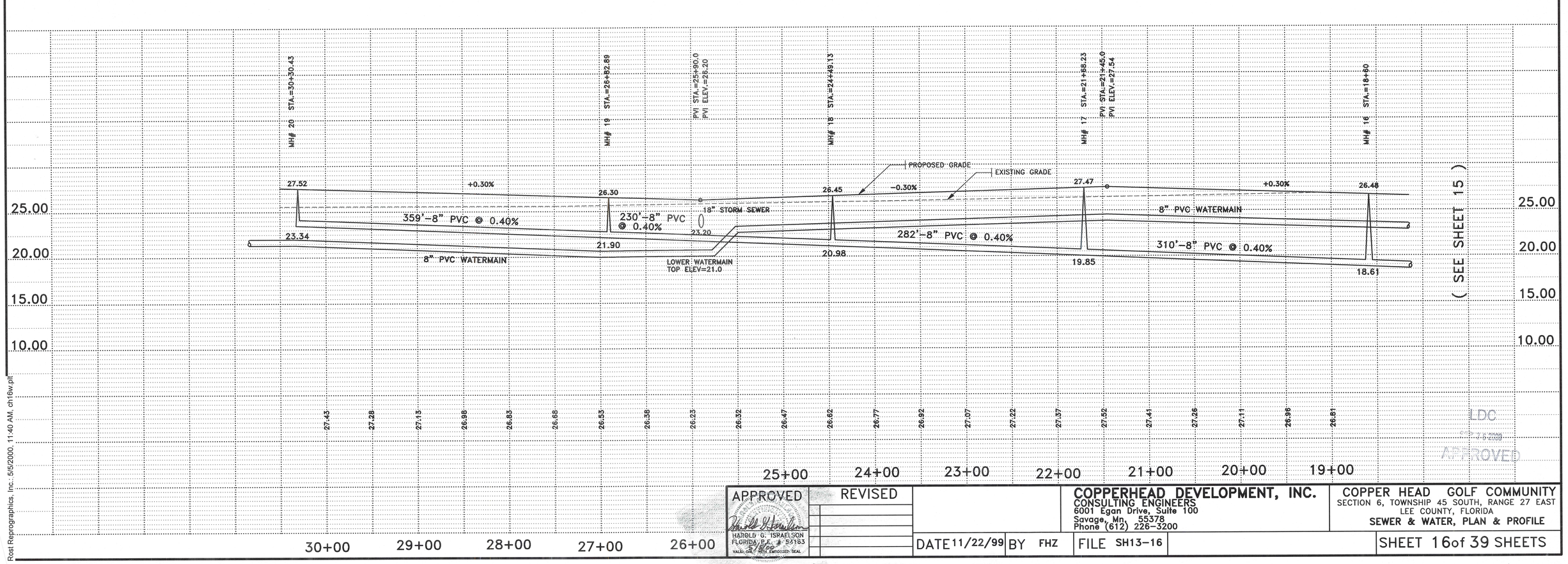
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LEE COUNTY, FLORIDA
SEWER & WATER PLAN & PROFILE

SHEET 15 of 39 SHEETS

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COPPER HEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
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(SEE SHEET 13A)

LAKE

LAKE

LAKE

COPPERHEAD DRIVE

PROPOSED CURB

10"x10" TEE

HYDRANT

HYDRANT

MH#23
STA.=12+40.0
RIM ELEV.=27.80

MH#22
STA.=10+76.0
RIM ELEV.=27.20

MH#21
STA.=9+15.0
RIM ELEV.=27.29

MH#24
STA.=16+09
RIM ELEV.=27.18

MH#25
STA. 18+35.0
RIM ELEV.=27.50

MH#20
STA.=6+37.85
RIM ELEV.=27.28

8" PVC SEWER

10" PVC WATER

10" PVC SEWER

10' PUE

STORM SEWER

℄ CURVE DATA
Δ=43°45'00"
R=400.45'
T=160.68'
A=305.78'

℄ CURVE DATA
Δ =69°30'00"
R=389.20'
T=270.00'
A=472.11'

℄ CURVE DATA
Δ =38°00'00"
R=200.05'
T=65.00'
A=125.70'

END PHASE 1
@ STA. 19+43.40
(SEE SHEET 18)

(SEE SHEET 13)

N

GRAPHIC SCALE
0 50 100 150

1" = 5' – VERTICAL
1" = 50' – HORIZONTAL

(SEE SHEET 18)

(SEE SHEET 16 3

19+43.40 END OF PHASE 1
ELEV. @ END = 27.82

MH#25 STA.=18+35.0

VPI STA. = +70.00 (LOW PT.)
VPI ELEV. = 27.00

MH#24 STA.=16+25.0

VPI STA. = +40.00 (HIGH PT.)
VPI ELEV. = 27.68

36" COVER MIN.

MH#23 STA.=12+40.0

MH#22 STA.=10+76.0

VPI STA. = +10.00 (LOW PT.)
VPI ELEV. = 27.00

MH#21 STA.=9+15.0

36" COVER MIN.

VPI STA. = +80.00 (HIGH PT.)
VPI ELEV. = 27.69

MH#20 STA.=6+37.8

VPI STA. = +50.00 (LOW PT.)
VPI ELEV. = 27.00

EXISTING GRADE
PROPOSED GRADE

27.50 27.18 +0.30% 27.69 -0.30% 27.20 27.29 +0.30% 27.26

8" PVC WATER MAIN

24" STORM SEWER
19.50

24" STORM SEWER
20.50

225' – 10" PVC @ 0.28%
370' – 10" PVC @ 0.28%
164' – 10" PVC @ 0.28%
161' – 10" PVC @ 0.28%
295' – 10" PVC @ 0.28%

14.32 13.70 12.67 12.22 11.77 11.00

30.0 25.0 20.0 15.0 10.0 05.0

27.66 27.36 27.06 27.21 27.51 27.81 27.87 27.57 27.27 27.03 27.33 27.63 27.45 27.15

20+00 19+00 18+00 17+00 16+00 15+00 14+00 13+00 12+00 11+00 10+00 9+00 8+00 7+00 6+00 5+00

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SEP 21 1999
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HAROLD G. ISRAELSON
FLORIDA P.E. #54163
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DATE 11/22/99 BY FHZ

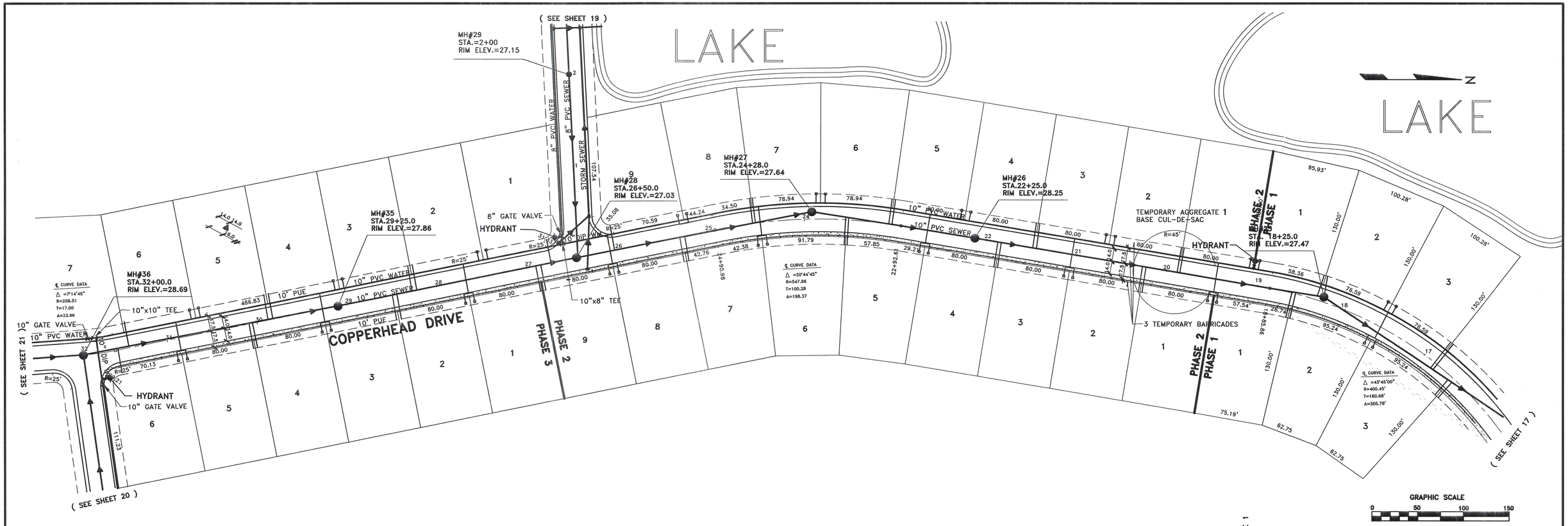
FILE SH17-20

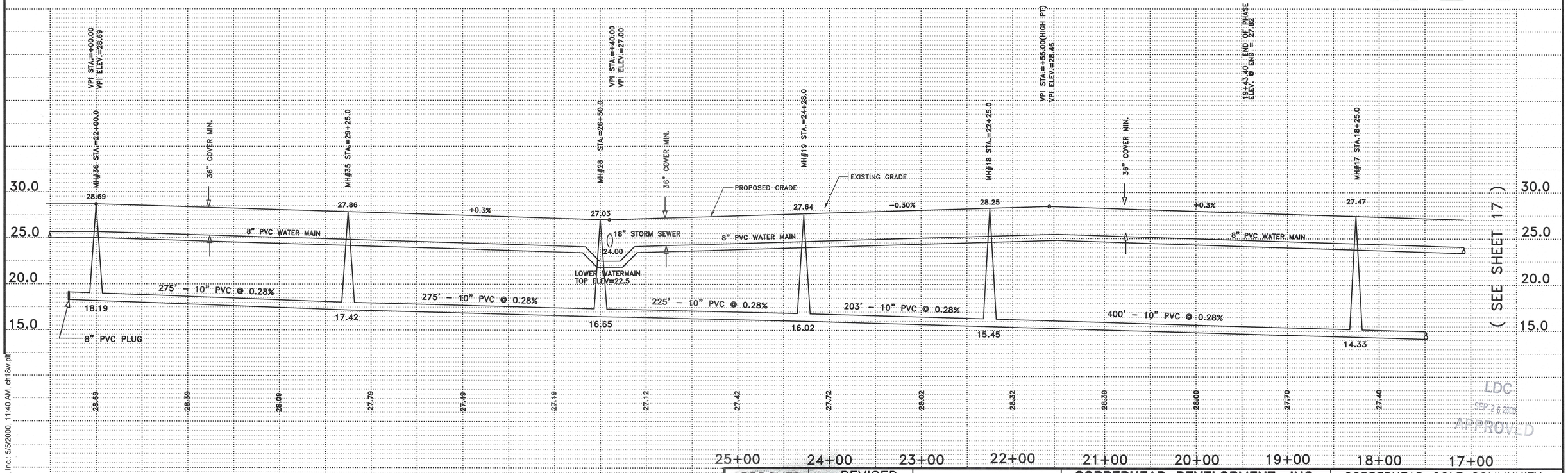
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING AND DRAINAGE

SHEET 17 of 39 SHEETS

Rost Reprographics, Inc.; 5/5/2000, 11:40 AM, ch17w.plt

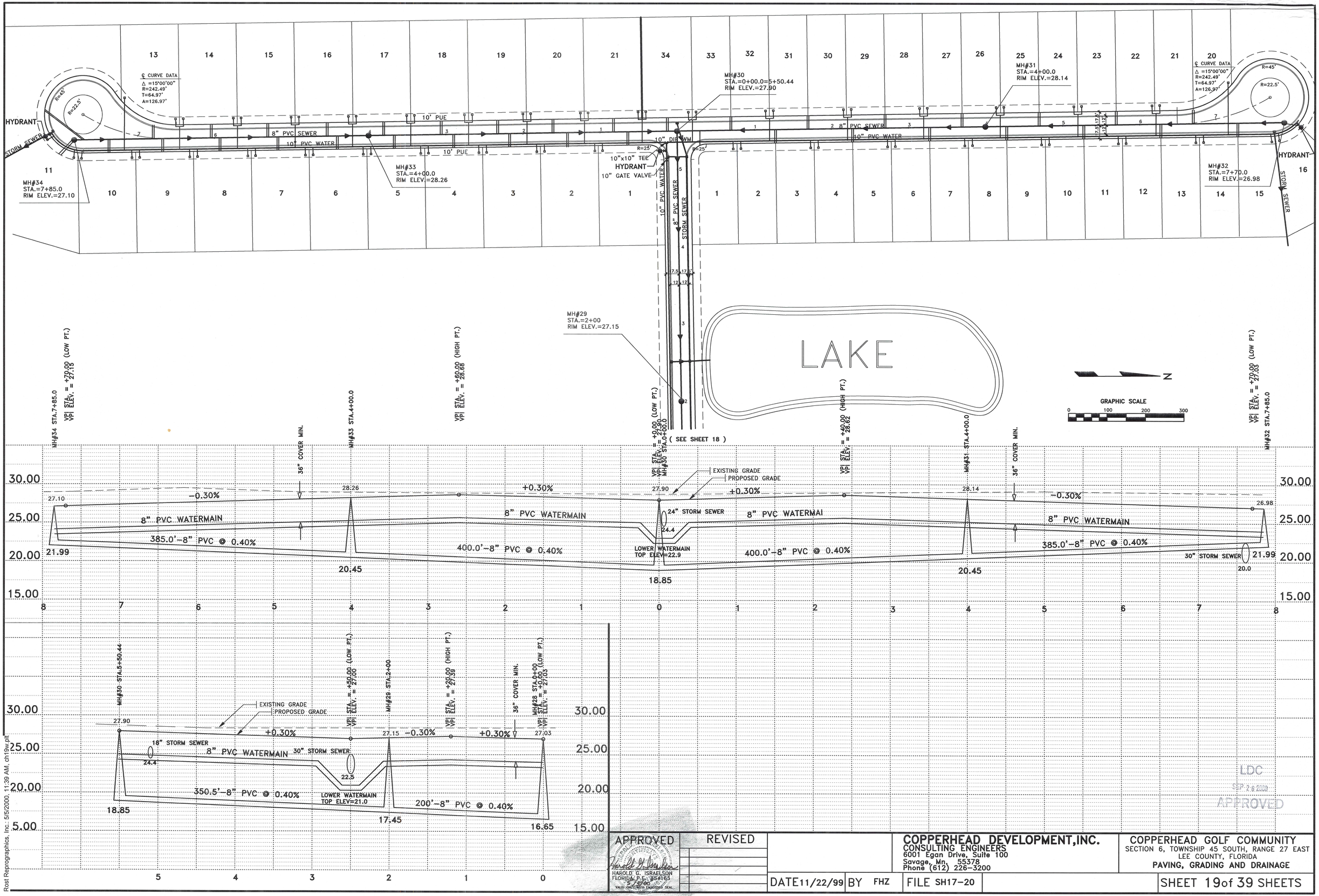




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SEP 26 2006
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HAROLD G. ISRAELSON FLORIDA P.E. #54163 VALID ONLY WHEN EMBOSSED SEAL			CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA **PAVING, GRADING AND DRAINAGE**
		DATE 11/22/99 BY FHZ	FILE SH17-20	SHEET 18 of 39 SHEETS

Rost Reprographics, Inc.- 5/5/2000, 11:40 AM, ch18w.plt



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Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING AND DRAINAGE

DATE 11/22/99 | BY FHZ | FILE SH17-20 | SHEET 19 of 39 SHEETS

Rost Reprographics, Inc. - 5/5/2000, 11:39 AM, ch19w.plt

(SEE SHEET 21)

(SEE SHEET 21)

10"x10" TEE

10" GATE VALVE

10" GATE VALVE

R=25'

R=25'

HYDRANT

MH#37
STA.=2+89.0
RIM ELEV.=27.70

10" PVC WATER

8" PVC SEWER

STORM SEWER

8" PVC SEWER

8" PVC WATER

MH#37
STA.=2+89.0
RIM ELEV.=27.70

2+50.00

℄ CURVE DATA
Δ =76°10'00"
R=179.55'
T=140.70'
A=238.68'

MH#38
STA.=4+41.0
RIM ELEV.=27.20

4+88.88

10" PVC WATER

8" PVC SEWER

STORM SEWER

MH#39
STA. 7+46.6
RIM ELEV.=27.08

HYDRANT

STORM SEWER

℄ CURVE DATA
Δ =2°30'00"
R=1374.88'
T=30.00'
A=59.99'

MULTI-FAMILY

MULTI-FAMILY

10+24.04

10+84.03

MH#40
STA. 10+84
RIM ELEV.=28.58

10" PVC WATER

8" PVC SEWER

MH#41
STA. 14+84
RIM ELEV.=27.49

14+34.03

℄ CURVE DATA
Δ =86°00'00"
R=69.70'
T=65.00'
A=104.62'

15+38.65

℄ CURVE DATA
Δ =15°00'00"
R=242.49'
T=64.97'
A=126.97'

MH#43
STA. 16+58.6
RIM ELEV.=27.16

HYDRANT

16+43.65

R=22.5'

STORM SEWER

LAKE

LAKE

N

GRAPHIC SCALE
0 50 100 150

MH#36 STA.0+00.0

36" COVER MIN.

MH#37 STA.2+89.0

MH#38 STA.4+41.0

VPI STA. = +60.00 (LOW PT.)
VPI ELEV. = 27.00

VPI STA. = +40.00 (HIGH PT.)
VPI ELEV. = 27.24

VPI STA. = +20.00 (LOW PT.)
VPI ELEV. = 27.00

MH#39 STA.7+46.6

PROPOSED GRADE

EXISTING GRADE

MH#40 STA.10+84

VPI STA. = +12.6 (HIGH PT.)
VPI ELEV. = 28.6

36" COVER MIN.

MH#41 STA. 14+84

MH#43 STA. 16+58.6

28.69

27.70

27.20

27.08

28.58

27.49

27.16

−0.30%

+0.30%

−0.30%

+0.30%

−0.30%

PVC WATERMAIN

8" PVC WATERMAIN

18" STORM SEWER

24" STORM SEWER

8" PVC WATERMAIN

290.1'−10" PVC @0.28%

151.0'−10" PVC @0.28%

307.5'−10" PVC @ 0.28%

337'−10" PVC @0.28%

400'−10" PVC @ 0.28%

175'−10"PVC@0.28%

18.19

19.00

19.42

23.50

22.00

20.28

21.22

22.34

22.83

25.00

20.00

15.00

10.00

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

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FLORIDA P.E. #54163
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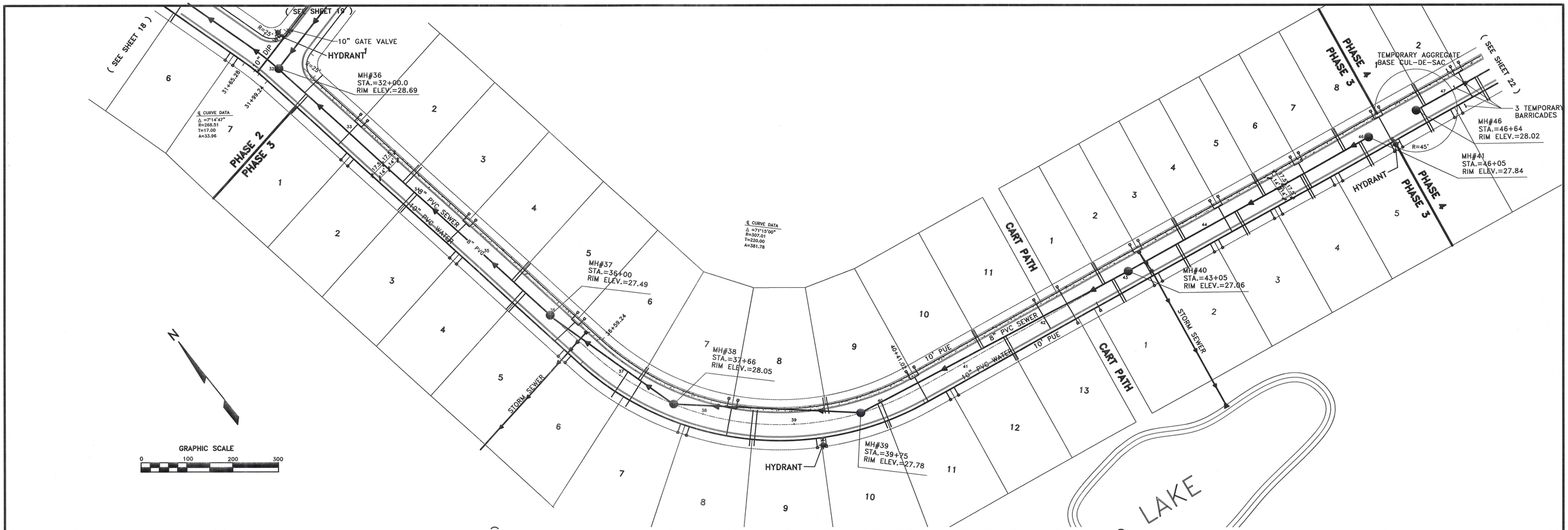
REVISED

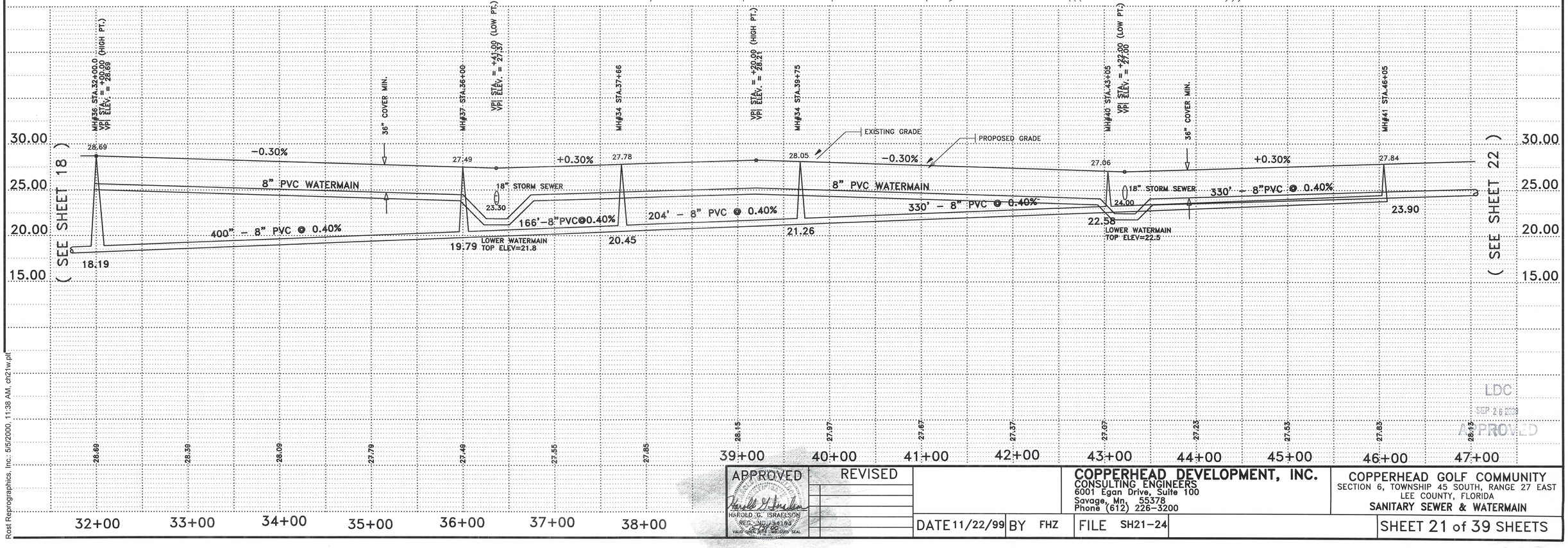
DATE 11/22/99 BY FHZ FILE SH17-20

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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PAVING, GRADING AND DRAINAGE

SHEET 20 of 39 SHEETS





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SEP 26 2000
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HAROLD G. ISRAELSON
REG. NO. 34193
STATE OF FLORIDA
VALID ONLY WITH EMBOSSED SEAL

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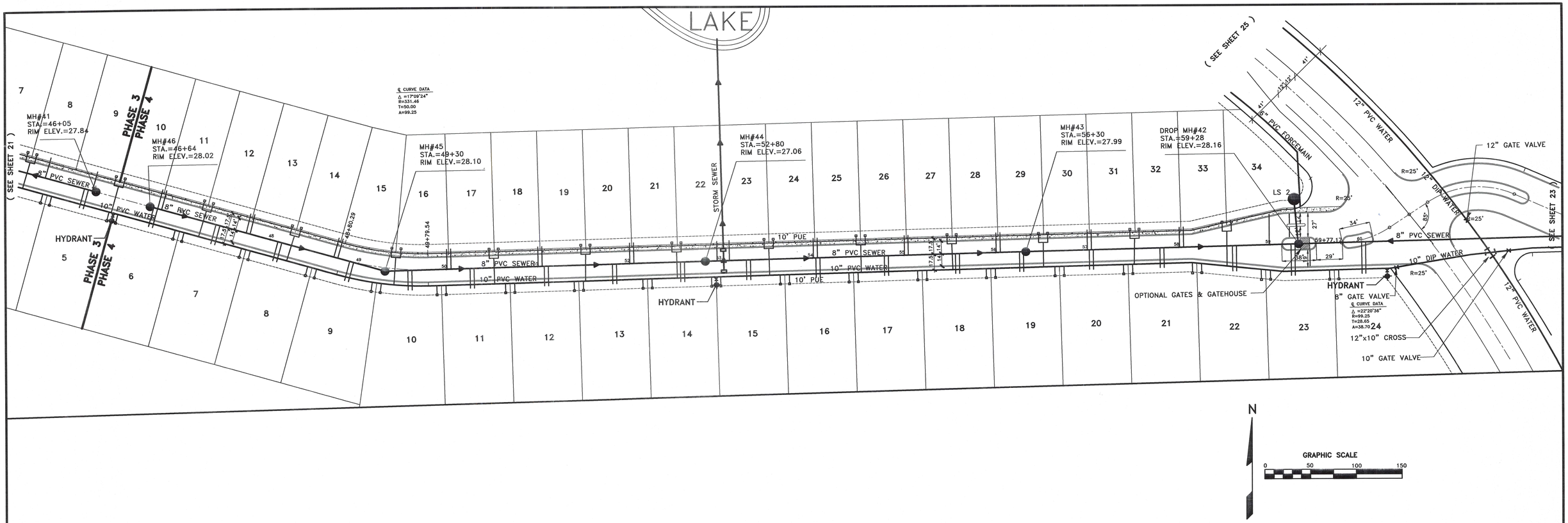
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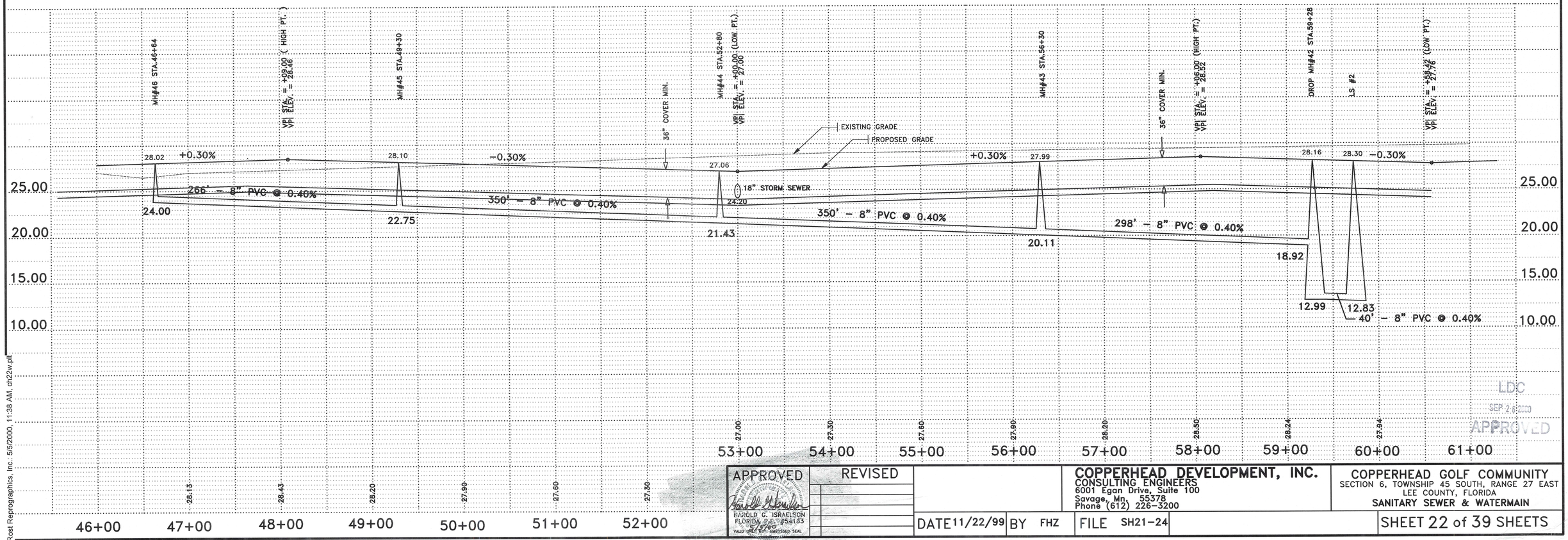
FILE SH21-24

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SANITARY SEWER & WATERMAIN

SHEET 21 of 39 SHEETS

Rost Reprographics, Inc.- 5/5/2000, 11:38 AM, ch21w.plt





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FLORIDA P.E. #54163
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DATE 11/22/99 BY FHZ

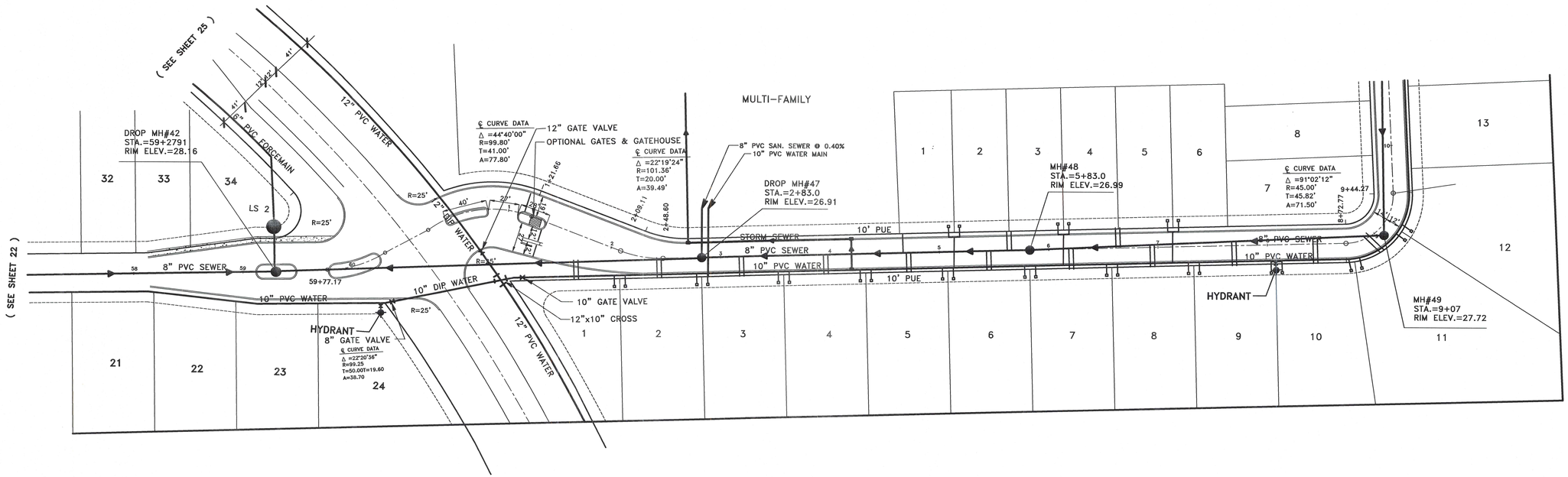
FILE SH21-24

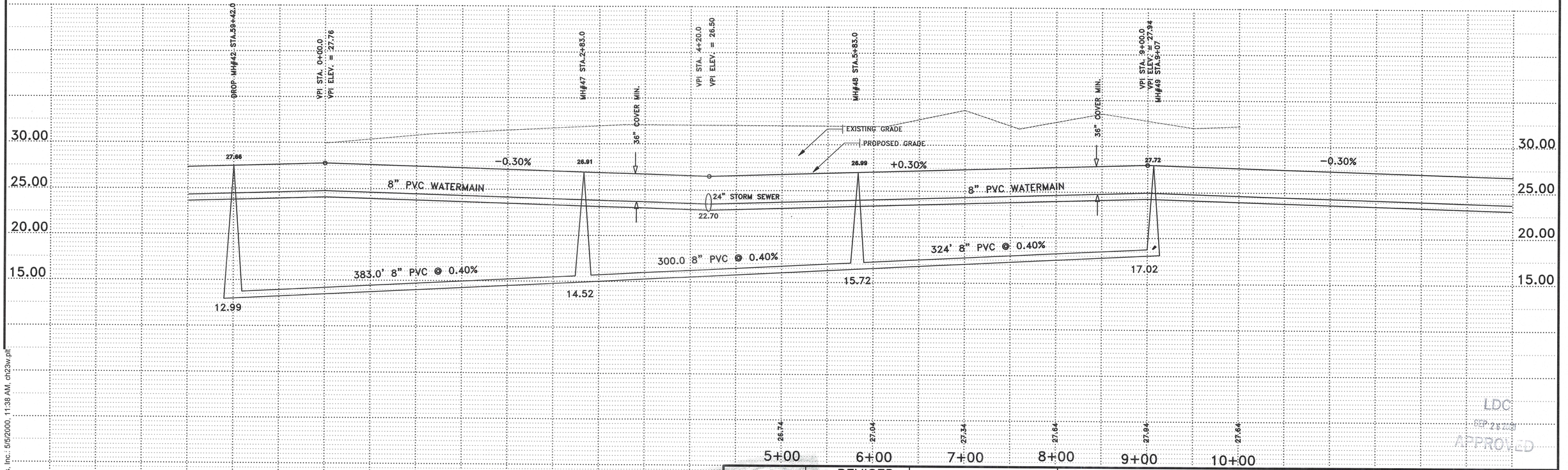
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Savage, Mn. 55378
Phone (612) 226-3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
SANITARY SEWER & WATERMAIN

SHEET 22 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 11:38 AM, ch22w.plt

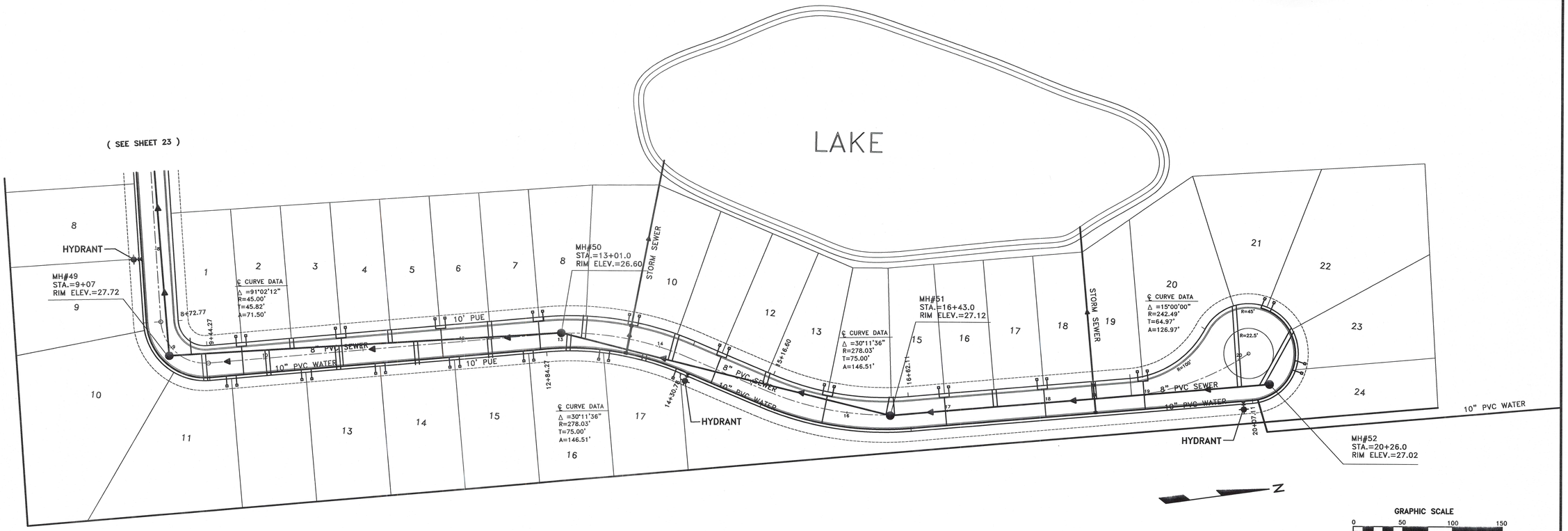


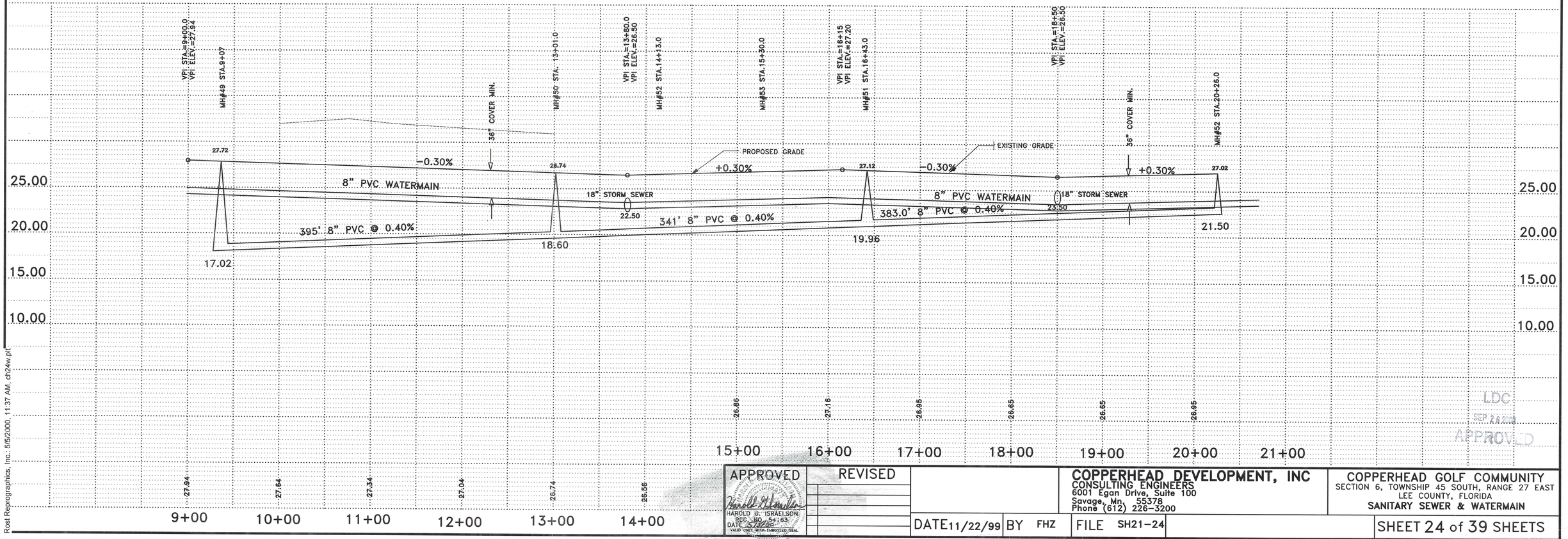


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SEP 28 1999
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APPROVED	REVISED		COPPERHEAD DEVELOPMENT, INC.	COPPERHEAD GOLF COMMUNITY
HAROLD G. ISRAELSON REG. NO. 54163 DATE 9/28/99 VALID ONLY WITH EMBOSSED SEAL			CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SANITARY SEWER & WATERMAIN
		DATE 11/22/99 BY FHZ	FILE SH21-24	SHEET 23 of 39 SHEETS

Rost Reprographics, Inc.: 5/6/2000, 11:38 AM, ch23w.plt





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APPROVED HAROLD G. ISRAELSON REG. NO. 54163 DATE 9/26/00 VALID ONLY WITH EMBOSSED SEAL	REVISED	COPPERHEAD DEVELOPMENT, INC CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPERHEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SANITARY SEWER & WATERMAIN	
	DATE 11/22/99 BY FHZ	FILE SH21-24		SHEET 24 of 39 SHEETS

Rost Reprographics, Inc. 5/5/2000, 11:37 AM, ch24w.plt

WETLAND

LAKE

CLUBHOUSE

(SEE SHEET 22)

16+57.86

16+40.43

℄ DATA
Δ=18°41'49"
R=1203.00
L=392.57
T=198.04

12+47.86

AIR RELEASE MH

6" PVC FORCE MAIN

12" PVC WATERMAIN

℄ DATA
Δ =66°25'00"
R=1222.14
L=1416.69
T=800.00

BETH STACEY BOULEVARD

WETLAND

COPPERHEAD DR.

(SEE SHEET 22)

10" DIP WATER MAIN

10" PVC WATER MAIN

6" PVC SEWER

8" PVC SEWER

8" GATE VALVE

8"x6" TEE

8"x6"REDUCER

8" DIP FM

6" PVC FORCE MAIN

10" DIP WM

12" DIP WM

12" PVC WATERMAIN

12"x10" CROSS

10" GATE VALVE

12" GATE

10" PVC WATER MAIN

8" PVC SEWER

10" PVC WATER MAIN

IRONWOOD DR

(SEE SHEET 22)

(SEE SHEET 22)

N

GRAPHIC SCALE
0 50 100 150

30.00
25.00
20.00
15.00

EXISTING GRADE

PROPOSED GRADE

AIR RELEASE MH

VPI STA 9+10.00
VPI ELEV=27.00

VPI STA 6+80.00
VPI ELEV=27.75

-0.00%

DITCH GRADE @ -0.17%

26.0

DITCH GRADE @ 0.17%

-0.30%

DITCH GRADE @ 0.29%

25.0

26.6

12" PVC WATERMAIN 6" PVC FORCE MAIN

18" STORM SEWER

21.50

21.00

21.00

22.00

22.00

LOWER FORCEMAIN
TOP ELEV=20.0

27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.00 27.03 27.33 27.65

22+00 21+00 20+00 19+00 18+00 17+00 16+00 15+00 14+00 13+00 12+00 11+00 10+00 9+00 8+00 7+00

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SEP 26 2000
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HAROLD G. ISRAELSON
REG. NO. 34163
DATE 5/26/00
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DATE 11/22/99 BY FHZ FILE SH11-13

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COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

SHEET 25 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 11:37 AM, ch25wr.plt

BETH STACEY BOULEVARD

COPPERHEAD DR.

(SEE SHEET 22)

(SEE SHEET 23)

(SEE SHEET 25)

LS 2

℄ DATA
△ =11°31'00"
R=1181.96
L=237.58
T=119.19

HYDRANT

32+44.13

6" PVC FORCE MAIN

12" PVC WATERMAIN

30+74.57

STORM SEWER

℄ DATA
△ =66°25'00"
R=1222.14
L=1416.69
T=800.00

WETLAND

LAKE

12" PVC WATER

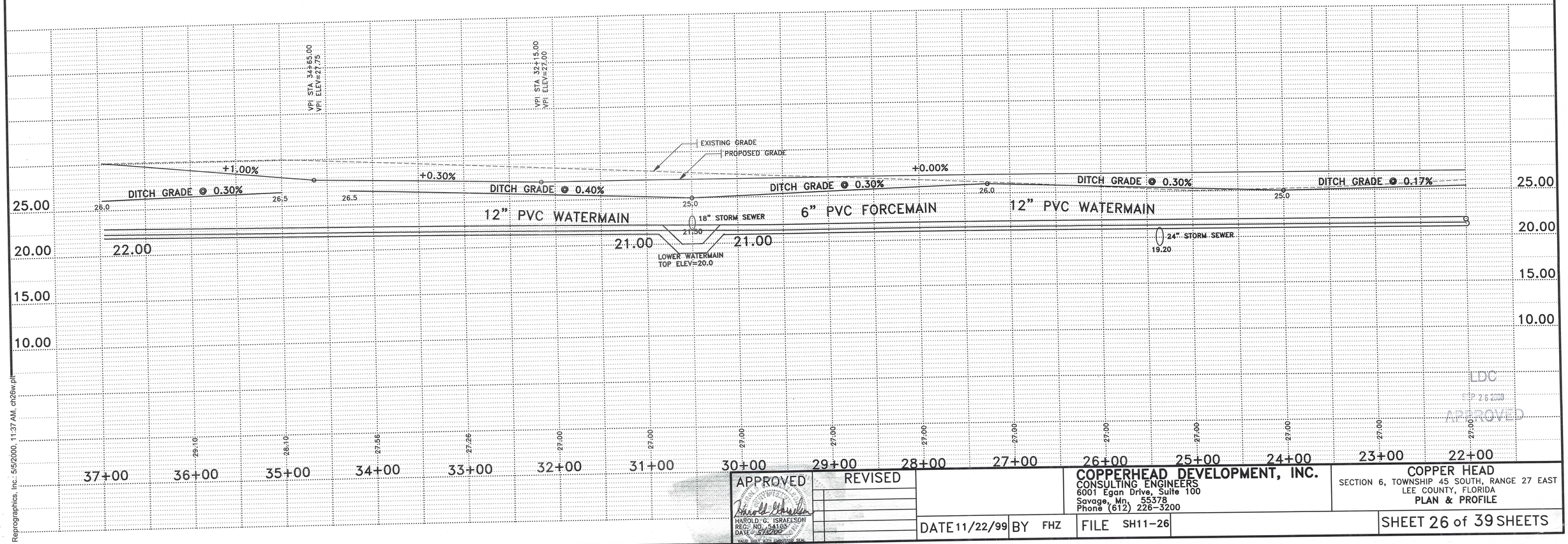
10" DIP WM

12" DIP WATER

10" PVC WATER

8" PVC SEWER

GRAPHIC SCALE
0 50 100 150



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SEP 26 2000
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REG. NO. 54108
DATE 5/16/00
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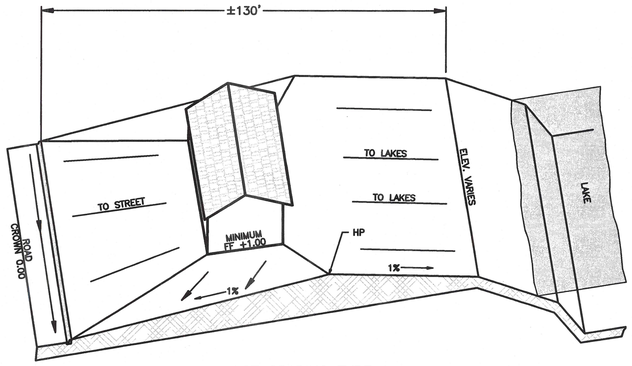
DATE 11/22/99 BY FHZ FILE SH11-26

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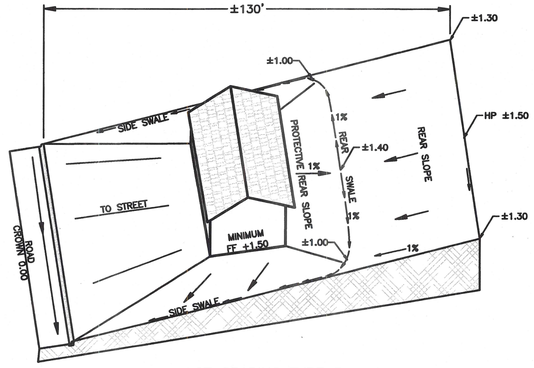
COPPER HEAD
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
PLAN & PROFILE

SHEET 26 of 39 SHEETS

Rost Reprographics, Inc.: 5/5/2000, 11:37 AM, ch26w.plt



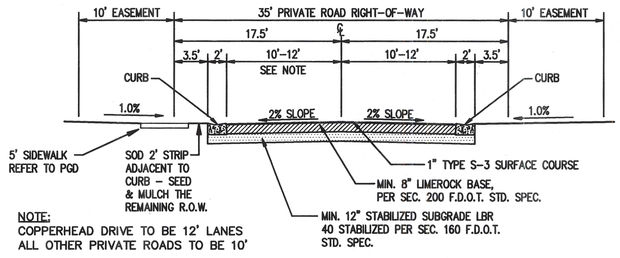
LOT GRADING TYPE A
REAR DRAINAGE TO LAKE
NOT TO SCALE



LOT GRADING TYPE B
ALL DRAINAGE TO STREET
NOT TO SCALE

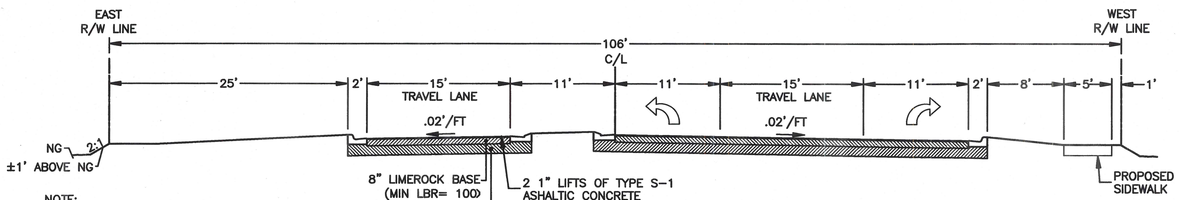
TYPE A – LOTS ADJACENT TO ONSITE LAKES, SAVED AREAS OR GOLF COURSE

TYPE B – LOTS ADJACENT TO PROPERTY BOUNDARY, ABUTTING OTHER LOTS OR WETLANDS. REFER TO GRADING ARROWS ON PGD PLANS



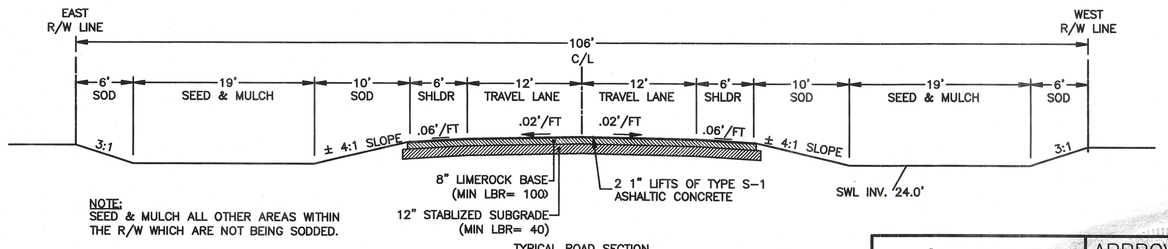
NOTE:
COPPERHEAD DRIVE TO BE 12' LANES
ALL OTHER PRIVATE ROADS TO BE 10'

TYPICAL SUBDIVISION ROAD CROSS SECTION
NTS



NOTE:
SEED & MULCH ALL OTHER AREAS WITHIN THE R/W WHICH ARE NOT BEING SODDED.

TYPICAL ENTRANCE ROAD SECTION
DIMENSION VARY BASED ON LOCATION
NTS



NOTE:
SEED & MULCH ALL OTHER AREAS WITHIN THE R/W WHICH ARE NOT BEING SODDED.

TYPICAL ROAD SECTION
w/ DETENTION
STATION 37+18 TO 39+21
NTS

Notes	Phase	Box No.	Box Type w/Cover Slab	Grade Elev.	Pipe Size	Invert	Pipe Data			
								ID	Length	Dia.
VG	1	S1	D	26.41	24" N & S	19.0	S1 TO S2	P2	22.7	24
VG	1	S2	G	26.41	36" N&E, 24"S	19.0	S2 TO OF	P1	92.0	36
	1	OF	N/A	N/A	36"	19.0				
R&C	1	S3	TYPE"P",ALT."B"	27.80	30" S, 36" E&W	20.5 S, 19.0 E&W	S2 TO S3	P3	181.0	36
R&C	1	S4	TYPE"P",ALT."B"	27.60	30" S, 36" E&W	21.0 S, 19.0 E&W	S3 TO S4	P4	262.0	36
VG	2	S5	D	26.06	18" E	21.0	S5 TO S6	P10	22.7	18
VG	2	S6	G	26.06	36" S&E, 18"W	19.0 S&E, 20.8 E	S4 TO S6	P9	180.0	36
	2	OF	N/A	N/A	36"	19.0	S6 TO OF	P11	176.0	36
VG	1	S7	D	26.26	18"E	23.3	S7 TO S8	P6	22.7	18
VG	1	S8	D	26.26	18" W, 30" N	23.0 W, 23.0 N	S8 TO S3	P5	391.0	30
VG	1	S9	D	26.06	18" W	23.3	S9 TO S10	P8	22.7	18
VG	1	S10	D	26.06	18" E, 30" N	23.0 E, 23.0 N	S10 TO S4	P7	337.0	30
VG	2	S11	D	25.76	18" S	22.3				
VG	2	S12	D	25.76	18" N, 24" S	22.0 N, 21.0 S	S11 TO S12	P12	22.7	18
	2	OF	N/A	N/A	24"	20.5	S12 TO OF	P13	64.0	24
VG	2	S13	D	25.76	18" W	23.2				
VG	2	S14	D	25.76	18" E, 24" W	23.2 E, 23.2+F66 W	S13 TO S14	P14	22.7	18
FTG	2	S15	C	26.20	24" E, 24" N	20.5 N&E	S14 TO S15	P15A	146.0	24
	2	OF	N/A	N/A	24"	20.2	S15 TO OF	P15B	39.0	24
FTG	1	S16	D	26.50	36" N	19.0				
R&C	1	S17	TYPE "P", ALT "B"	26.50	36" N&S	19.0	S16 TO S17	P47B	447.0	36
	1	S18	WCS #1	N/A	36" S	19.0	S17 TO S18	P47A	473.0	36
VG	1	S19	D	26.56	18" N	22.0				
VG	1	S20	D	26.56	18" S, 24" N	21.80 S, 21.45 N	S19 TO S20	P27	22.7	18
	1	OF	N/A	N/A		21.0	S20 TO OF	P28	61.0	24
	1	OF	N/A	N/A	24" N	20.5				
VG	1	S21	D	26.56	24" N&S	20.5	S21 TO OF	P33	175.0	24
VG	1	S22	D	26.56	24" N&S	20.5	S21 TO S22	P32	31.5	24
	1	OF	N/A	N/A	24" S	20.5	S22 TO OF	P31	180.0	24
	1	OF	N/A	N/A	24" E	19.5				
VG	1	S23	D	26.56	24" E&W	19.5	S23 TO OF	P35	190.0	24
VG	1	S24	D	26.56	24" E&W	19.5	S23 TO S24	P36	33.0	24
R&C	1	S25	TYPE "P", ALT "B"	26.50	24" E&W	19.5	S24 TO S25	P37A	145.0	24
	1	OF	N/A	N/A	24" W	19.5	S25 TO OF	P37B	112.0	24
VG	2	S26	D	26.56	18" E	23.0				
VG	2	S27	D	26.56	18" N	23.0	S26 TO S28	P43	38.0	18
VG	2	S28	D	26.56	18" S&W, 24" E	22.8 S&W, 22.5 E	S27 TO S28	P44	41.0	18
VG	2	S29	D	26.56	18" N	23.0	S29 TO S30	P41	22.7	18
VG	2	S30	D	26.56	18"S,24"E&W,36"N	22.8S,20.5E&W,20.0N	S28 TO S30	P40B	270.0	24
VG	2	S31	D	26.56	18" S&E, 24" W	22.8 S&E, 22.5 W	S32 TO S31	P38	42.0	18
VG	2	S32	D	26.56	18" N	23.0	S33 TO S32	P39	43.0	18
VG	2	S33	D	26.56	18" W	23.0	S31 TO S30	P40A	225.0	24
	2	OF	N/A	N/A	36" S	19.5	S30 TO OF	P42	47.0	36
FTG	3	S34	C	26.50	24" E	22.0				
VG	3	S35	D	26.25	24" E&W	21.8	S34 TO S35	P64	64.0	24
	3	OF	N/A	N/A	24" W	20.5	S35 TO OF	P65	205.0	24
FTG	3	S36	C	26.50	24" E&W	22.0				
VG	3	S37	D	26.56	24" E&W	22.0	S36 TO S37	P62B	185.0	24
VG	3	S38	D	26.56	24" W&S, 24" E	22.0	S37 TO S38	P62A	22.7	24
FTG	3	S39	D	27.00	36" E&W	19.5	S38 TO S39	P63A	206.0	36
FTG	1	S40	G	27.00	36" E,W,&N	19.5	S39 TO S40	P63B	158.0	36
	1	OF	N/A	N/A	36" W	19.5	S40 TO OF	P63C	108.0	36
VG	2	S41	D	26.56	30" E	21.5				
FTG	2	S42	D	26.50	30" E&W	21.0	S41 TO S42	P29A	185.0	30
FTG	1	S43	D	26.50	30" E&W	20.5	S42 TO S43	P29B	76.0	30
	1	OF	N/A	N/A	30" W	20.0	S43 TO OF	P29C	71.0	30
VG	3	S44	D	27.06	24" S	22.0				
FTG	3	S45	D	26.50	24" N,S,E,&W	21.5	S44 TO S45	P30A	164.0	24
	3	OF	N/A	N/A		21.0	S45 TO OF	P30B	69.0	24
VG	3	S46	D	26.80	18" E	23.0				
VG	3	S47	D	26.80	18" W, 24" N	22.8 W, 20.5 N	S46 TO S47	P60	22.7	18

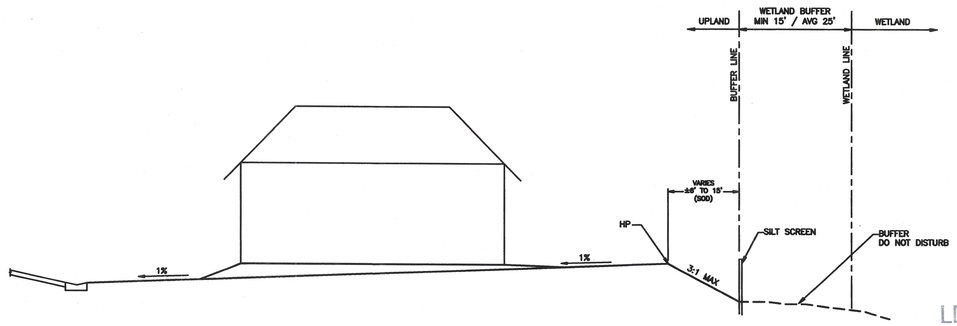
LEGEND	
E	East
FTG	Flat Top w/ Steel Grate
MES	Mitered End Section
N	North
OF	Outfall to Lake
(P?)	Piping Run Designation
R&C	Manhole Ring & Cover
RCP	Reinforced Concrete Pipe
S	South
S?	Structure Number
VG	5106 Valley Gutter and 6149 Grate
W	West

Notes	Phase	Box No.	Box Type w/Cover Slab	Grade Elev.	Pipe Size	Invert	Pipe Data			
								ID	Length	Dia.
VG	3	S48	D	27.16	18" W	22.8	S47 TO S48	P61	162.0	24
VG	3	S49	D	27.16	18" E, 24" W	22.5	S48 TO S49	P50	22.7	18
FTG	1	S50	C	27.37	24" E,W,&S	21.0	S49 TO S50	P51A	251.0	24
	1	OF	N/A	N/A			S50 TO OF	P51B	59.0	24
VG	4	S51	D	27.06	18"S	24.0				
VG	4	S52	D	27.06	18"N,24"S	24.0,N,24.0 S	S51 TO S52	P52	28.0	18
	4	OF	N/A	N/A	24"N	20.5	S52 TO OF	P53	196.0	24
VG	4	S53	D	26.56	18" E	23.0				
VG	4	S54	D	26.56	18" S, 24" N	22.7 S, 21.5 N	S53 TO S54	P55	22.7	18
	4	OF	N/A	N/A	24" S	21.0	S54 TO OF	P56	239.0	24
FTG	4	S55	C	N/A	18" W	21.5				
FTG	4	S56	C	N/A	18" E, 24" W	21.3 E, 21.0 W	S55 TO S56	P67	56.0	18
	4	OF	N/A	N/A	24" E	20.5	S56 TO OF	P68	167.0	24
FTG	4	S57	C	N/A	18" W	21.5				
FTG	4	S58	C	N/A	18" E, 24" W	21.3 E, 21.0 W	S57 TO S58	P69	56.0	18
	4	OF	N/A	N/A	24" E	20.5	S58 TO OF	P70	264.0	24
FTG	4	S59	C	N/A	18" E	21.5				
FTG	4	S60	C	N/A	18" W, 24" E	21.3 W, 21.0 E	S59 TO S60	P71	56.0	18
	4	OF	N/A	N/A	24" W	20.5	S60 TO OF	P72	147.0	24
MES	4	S61	N/A	N/A	18" E	24.5				
MES	4	S62	N/A	N/A	18" W	24.5	S61 TO S62	P73	56.0	18
	4	S63	WCS #10	N/A	18" S	23.0				
FTG	4	S64	C	N/A	18" N, 24" E	22.0 N, 21.0 E	S63 TO S64	P74	163.0	15
MES	4	S65	N/A	N/A	24" W	20.0	S64 TO S65	P75	88.0	24
VG	4	S66	D	26.06	18" N	22.6				
VG	4	S67	D	26.06	18" S, 24" W	22.4 S, 22.0 W	S66 TO S67	P21	22.7	18
VG	4	S68	D	26.43	24" E, 36" N	21.5 E, 21.0 N	S67 TO S68	P22	155.0	24
FTG	4	S69	G	26.10	36" S&W	19.0	S68 TO S69	P23	406.0	36
	4	OF	N/A	N/A	36" E	19.0	S69 TO S70	P24	238.0	36
VG	4	S70	D	26.01	18" W	23.5				
VG	4	S71	D	26.06	18" E, 24" W	23.5 E, 23.0 W	S70 TO S71	P18	22.7	18
	4	OF	N/A	N/A	24" E	20.0	S71 TO OF	P19	177.0	24
VG	4	S72	D	26.06	18" W	22.6				
VG	4	S73	D	26.06	18"E, 24" W	22.0 E, 21.0 W	S72 TO S73	P16	22.7	18
	4	OF	N/A	N/A	24" E	20.0	S73 TO OF	P17	188.0	24
	1	S74	WCS #2	N/A	24" E	19.5				
MES	1	S75	N/A	N/A	24" W	19.0	S74 TO S75	P54	40.0	24
FTG	1	S76	C	26.50	24" E	20.2				
	1	S77	WCS #3	N/A	24" W	20.0	S77 TO S76	P48	300.0	24
FTG	1	S78	C	26.50	24" W	19.0				
	1	S79	WCS #5	N/A	24" E	19.5	S78 TO S79	P49	293.0	24
	1	S80	WCS #6	N/A	12" E	21.0				
	1	S81	OF	N/A	12" W	21.0	S80 TO S81	P57	34.0	12
MES	1	S82		N/A	18" N	20.0				
	1	S83	WCS #7	N/A	18" S	21.0	S82 TO S83	P20	142.0	18
	1	S84	WCS #8	N/A	18" W	21.0				
MES	1	S85		N/A	18" E	20.0	S84 TO S85	P59	65.0	18
FTG	1	S86	C	26.50	24" N	21.0				
	1	S87	WCS #9	N/A	24" S	21.0	S86 TO S87	P58	86.0	24
	1	OF	N/A	N/A	N/A	20.0				
FTG	1	S88	D	26.50	30" N&S	20.0	OF TO S88	P45A	110.0	30
	1	OF	N/A	N/A	N/A	20.0	S88 TO OF	P45B	240.0	30
FTG	1	S89	C	26.50	24" E	22.0				
FTG	1	S90	C	26.50	24" E&W	21.5	S89 TO S90	P66A	81.0	24
FTG	1	S91	C	26.50	24" E,N,&W	21.0	S90 TO S91	P66B	82.0	24
	1	OF	N/A	N/A	N/A	20.5	S91 TO OF	P66C	77.0	24
FTG	1	S92	C	26.50	24" W	21.5				
FTG	1	S93	C	26.50	18" W	23.5	S92 TO S94	P25	143.0	24
Type 6	1	S100	Type P	27.08	18"W	24.0W	S100 TO S99	P76	64.0	18 RCP
Type 6	1	S99	Type P	26.80	18"E, 24"W	23.5E, 23.5W	S99 TO S98	P77	64.0	24
FTG	1	S98	D	26.50	24"E, 30"W	23.5E, 23.0W	S98 TO S93	P78	209.0	30
FTG	1	S94	D	26.50	18"E, 24"E, 30"W	22.5E,21.0E,20.5W	S93 SA S94	P26A	115.0	30
	1	OF	N/A	N/A	30" E	20.0	S94 TO OF	P26B	65.0	36
	1	OF	N/A	N/A	24" E	20.5				
FTG	1	S95	D	26.50	24" E,W,&N	20.5	OF TO S95	P34	198.0	24
	1	OF	N/A	N/A	24" W	20.5	S95 TO OF	P34A	48.0	24
	1	OF	N/A	N/A	30" S	20.0				
FTG	1	S96	D	26.50	24" W, 30" N&S	20.0	OF TO S96	P46A	317.0	30
FTG	1	S97	D	26.50	30" N&S	20.0	S96 TO S97	P46B	140.0	30
	1	OF	N/A	N/A	30" N	20.0	S97 TO OF	P46C	103.0	30
FTG	1	CH1	C	27	18"E	24.0				
FTG	1	CH2	C	27	18"W,24"S	23.5	CH1 TO CH2		59.0	18
FTG	1	CH3	D	28	24"N,30"S	23.0	CH2 TO CH3		142.0	24
FTG	1	CH4	D	30.2	30"N,30S	22.5	CH3 TO CH4		88.0	30
SC	1	CH5	E	29.7	30"N,30S	21.5	CH4 TO CH5		146.0	30
	1	CH6	N/A	N/A	30'N	20.5	CH5 TO OF		121.0	30

ALL PIPES WITHIN ROAD RIGHT-OF-WAYS SHALL BE FDOT APPROVED REINFORCED CONCRETE PIPE (RCP).

ALL OTHER PRIMARY, SECONDARY AND GOLF COURSE DRAINAGE PIPES SHALL BE POLYETHYLENE PIPE (ADS OR APPROVED EQUAL).

PIPE TABLE DOES NOT INCLUDE INTERNAL GOLF COURSE DRAINAGE PIPES OR CLUBHOUSE DRAINAGE PIPES. REFER TO SHEET 9A FOR CLUBHOUSE DRAINAGE INFORMATION AND TO THE GOLF COURSE PLANS FOR GOLF COURSE DRAINAGE INFORMATION.



RESIDENTIAL LOT / WETLAND INTERFACE (M 8 27)
SCALE: NTS

LDC
SEP 26 2000
APPROVED

ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

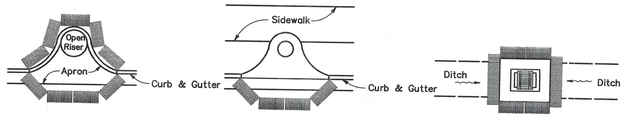
FILE File

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

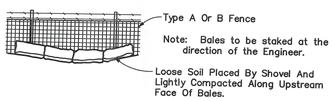
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
TYPICAL SECTIONS / PIPE TABLE

SHEET 27 of 39 SHEETS

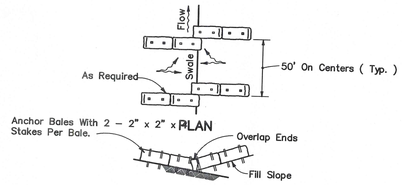
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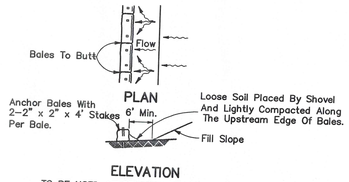


PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

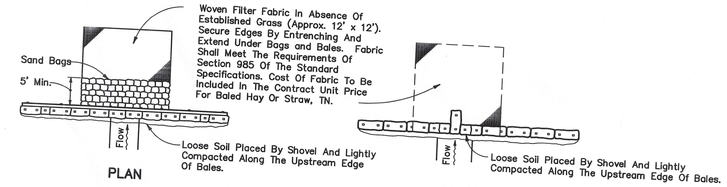


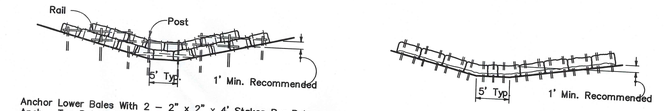
BALES BACKED BY FENCE





BARRIERS FOR FILL SLOPES





BARRIER FOR UNPAVED DITCHES

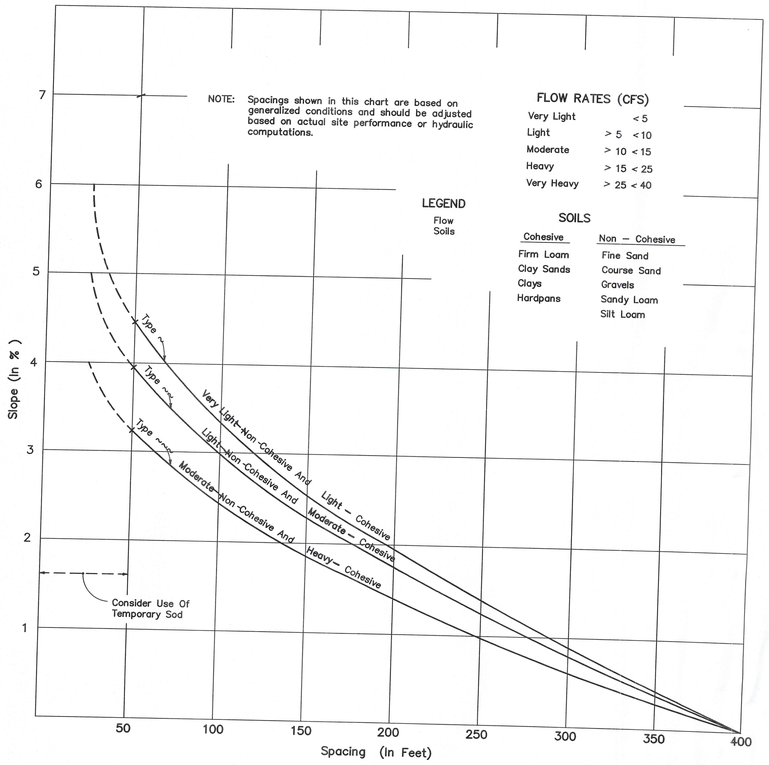
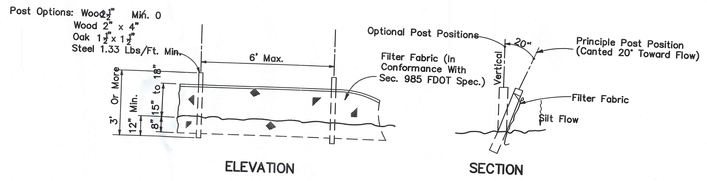


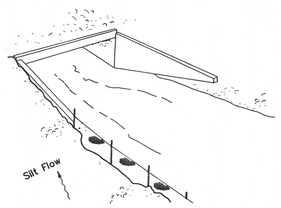
CHART I
BALED HAY OR STRAW
BARRIERS AND SILT FENCES

RECOMMENDED SPACING FOR TYPE I AND TYPE II HAY BALE BARRIERS, AND TYPE III SILT FENCES

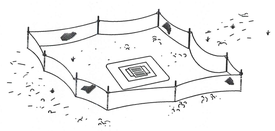


Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE



Type III Silt Fence



Type III Silt Fence Protection Around Ditch Bottom Inlets.



Note: Spacing for Type III Fence to be in accordance with Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Type III Silt Fence

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

BALED HAY OR STRAW
BARRIERS AND SILT FENCES

LDC
SEP 26 2000
APPROVED

ATM
APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

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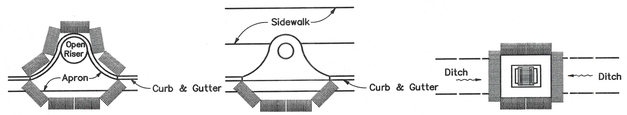
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn 55378
Phone (612) 226-3200

FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
EROSION CONTROL DETAILS

SHEET 29 of 39 SHEETS

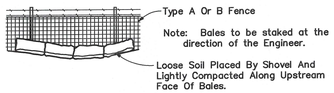
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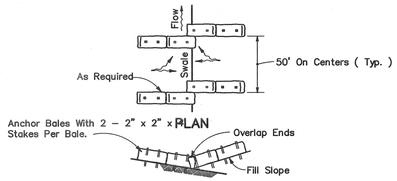
PARTIAL INLET — COMPLETED INLET — DITCH BOTTOM INLET

Anchor Bales With 2 – 2" x 2" Stakes Per Bale.

PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

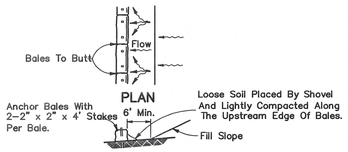


BALES BACKED BY FENCE



ELEVATION

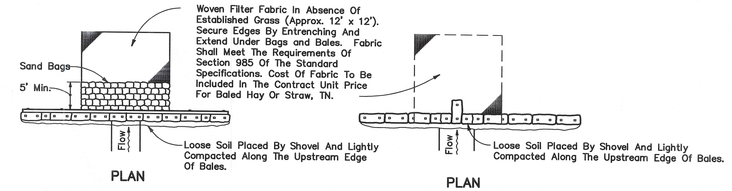
TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE

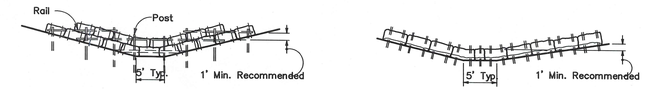


ELEVATION

TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE

BARRIERS FOR FILL SLOPES





Anchor Lower Bales With 2 – 2" x 2" x 4' Stakes Per Bale.
Anchor Top Bales To Lower Bales With 2 – 2" x 2" x 4' Stakes Per Bale.

ELEVATION

Anchor Bales With 2 – 2" x 2" x 4' Stakes Per Bale

ELEVATION

Application and Spacing: The use of Types I & II bale barriers should be limited to the conditions outlined in Chart I, Sheet 1 of 3, Index No. 102

TYPE II — TYPE I

BARRIER FOR UNPAVED DITCHES

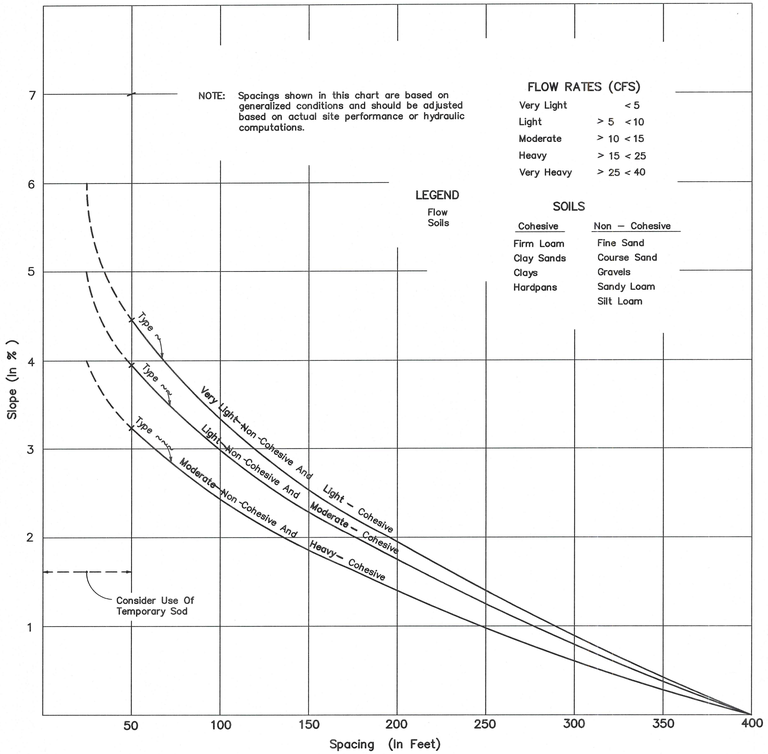
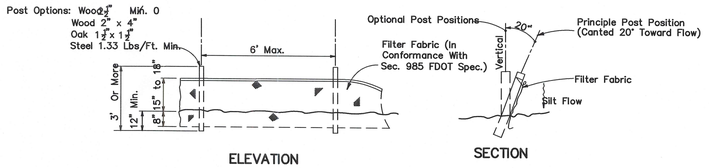


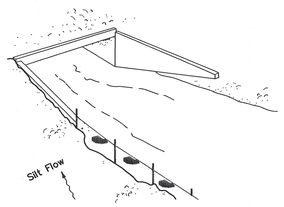
CHART I
BALED HAY OR STRAW
BARRIERS AND SILT FENCES

RECOMMENDED SPACING FOR TYPE I AND TYPE II HAY BALE BARRIERS, AND TYPE III SILT FENCES

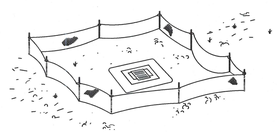


Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE



Type III Silt Fence



Type III Silt Fence Protection Around Ditch Bottom Inlets.



Note: Spacing for Type III Fence to be in accordance with Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Type III Silt Fence

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

BALED HAY OR STRAW
BARRIERS AND SILT FENCES

LDC
SEP 26 2000
APPROVED

Rost Reprographics, Inc.: 5/5/2000, 11:36 AM, ch29.plt

APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

APPROVED
ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
VALID ONLY WITH EMBOSSED SEAL

REVISED
AJQ 02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

FILE File

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CONSULTING ENGINEERS
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
EROSION CONTROL DETAILS

SHEET 29 of 39 SHEETS

GENERAL NOTES:

1. ZONING CLASSIFICATION FOR THIS PROPERTY IS MPD. SEE ZONING RESOLUTION NUMBER Z-99-079 FOR CONDITIONS AND DEVIATIONS.
2. THERE ARE NOT ANY EXISTING STRUCTURES ON THE SITE.
3. THE PROPERTY IS LOCATED IN THE LEHIGH ACRES FIRE DISTRICT.
4. THE PROPERTY IS NOT LOCATED IN ANY KNOWN OR RECORDED HISTORICAL OR ARCHEAEOLOGICAL AREA.
5. NO PUBLIC TRANSIT EXISTS WITHIN ONE-QUARTER MILE OF THIS PROPERTY.
6. THIS PROPERTY WILL BE DEVELOPED IN FOUR PHASES. SEE THE PROJECT PHASING PLAN.
7. RECREATIONAL AREAS/FACILITIES WILL BE WITHIN THE CLUB HOUSE AREA. THIS AREA MAY INCLUDE, BUT NOT LIMITED TO: A FITNESS CENTER, SWIMMING POOL AND/OR TENNIS COURTS.
8. THIS DEVELOPMENT WILL NOT HAVE ANY ADVERSE IMPACTS TO GOUND OR SURFACE WATERS.
9. BOUNDARY AND TOPOGRAPHIC INFORMATION WERE OBTAINED FROM A SURVEY PERFORMED BY _____
10. ALL STREETS WITHIN THE DEVELOPMENT WILL BE PRIVATE AND WILL BE DEDICATED TO THE HOMEOWNERS ASSOCIATION.
11. ALL LOTS ARE SUBJECT TO UTILITY EASEMENTS: 10' FRONT, 6' SIDE, 8' REAR, UNLESS OTHERWISE NOTED. THE LAKE AREAS WILL HAVE A 15' MAINTENANCE EASEMENT.
12. BUILDING HEIGHTS SHALL NOT EXCEED 35' AND 55'. THE HEIGHT LIMITATIONS ARE SET FORTH IN THE ZONING RESOLUTION.
13. SEE LANDSCAPING PLAN FOR LANDSCAPING, BUFFERING AND OPEN SPACE REQUIREMENTS.
14. FROM ALL INFORMATION AVAILABLE FROM A SITE SURVEY, THE ENGINEER CERTIFIES THAT THE SITE CAN BE USED SAFELY FOR BUILDING PURPOSES, WITHOUT UNDUE DANGER FROM THE 100 YR/3 DAY STORM FLOOD. THE OWNER CERTIFIES THAT THE SOIL CONDITIONS ON EACH BUILDING LOT WILL BE SUITABLE FOR BUILDING PURPOSES.
15. THE SITES SOIL CLASSIFICATIONS WERE TAKEN FROM USSCS, SOIL SURVEY OF LEE COUNTY, FLORIDA.
16. THIS SITE IS LOCATED IN F.I.R.M. FLOOD ZONE "B".
17. THERE ARE NOT APPARENT FLOWING WELLS ON THIS SITE.
18. ANY SIGNS THAT MAY BE INSTALLED ON THIS PROPERTY SHALL BE IN ACCORDANCE WITH LEE COUNTY ORDINANCE #85-26 AND ANY AMENDING ORDINANCES. SIGN DESIGN CRITERIA AND INFORMATION SHALL BE SUPPLIED AT THE TIME OF SIGN PERMIT APPLICATION.
19. ACCORDING TO THE LEE COUNTY LAND USE PLAN MAP, THIS SITE IS CLASSIFIED AS CENTRAL URBAN AND COMMERCIAL OVERLAY.
20. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
21. FOR INFORMATION ON THE EXISTING VEGETATION, SITE SOIL TYPES, AND FLORIDA LAND USE CLASSIFICATION SYSTEM, SEE REPORT AND MAP PREPARED BY BOYLAN ENVIRONMENTAL CONSULTANTS, INC.
22. ANY SURPLUS EXCAVATED MATERIAL THAT IS NOT NEEDED FOR THE DEVELOPMENT OF THIS SITE WILL BE REMOVED FROM THE SITE.

REQUIRED PERMITS

IN AN ATTEMPT TO ASSIST THE CONTRACTOR IN MAKING SURE ALL PERMITS ARE OBTAINED IN A TIMELY MANNER, THE ENGINEER PROVIDES THE FOLLOWING LIST OF REQUIRED PERMITS TO BE OBTAINED BY THE ENGINEER:

1. LEE COUNTY DEVELOPMENT ORDER #_____
2. SOUTH FLORIDA WATER MANAGEMENT DISTRICT SURFACE WATER MANAGEMENT PERMIT #_____
3. ARMY CORPS OF ENGINEERS DREDGE AND FILL PERMIT #_____
4. LEE COUNTY HRS WATER DISTRIBUTION SYSTEM PERMIT #_____
5. DEPARTMENT OF ENVIRONMENTAL PROTECTION WASTEWATER COLLECTION SYSTEM PERMIT #_____
6. EAST COUNTY WATER CONTROL DISTRICT PERMIT #_____

THE FOLLOWING LIST OF REQUIRED PERMIT TO BE OBTAINED BY THE CONTRACTOR:

1. LEE COUNTY TREE CLEARING PERMIT.
2. LEE COUNTY DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY PERMIT.
3. ENVIRONMENTAL PROTECTION AGENCY NPDES PERMIT.

THIS LIST IS NOT INTENDED TO BE INCLUSIVE. OTHER PERMITS MAY BE REQUIRED.

UTILITY SYSTEM NOTES

GENERAL

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LEE COUNTY LAND DEVELOPMENT CODE, AND FLORIDA WATER SERVICES STANDARDS AND SPECIFICATIONS, AS AMENDED.
2. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATION AND ELEVATION. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND FAMILIARIZE HIMSELF WITH THE SITE AND THE CONTRACT DOCUMENTS. ALL WORK SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH ALL PERMITS AND APPROVALS OBTAINED FOR THIS PROJECT.
3. ALL MATERIALS, DEBRIS, UNSUITABLE EARTH, ETC. OF NO SALVAGE VALUE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCY, IN WRITING, PRIOR TO COMMENCING WORK WITHIN SUCH AGENCY'S JURISDICTION.
5. INSPECTIONS DURING CONSTRUCTION ARE REQUIRED BY FLORIDA WATER SERVICES. FLORIDA WATER SERVICES AND THE ENGINEER SHALL BE NOTIFIED, IN WRITING, AND BOTH MUST HAVE AN INSPECTOR PRESENT DURING THE FOLLOWING CONSTRUCTION ACTIVITIES:
   A. HOT TAPS, (WATER & SEWER) INCLUDING TAPPING SLEEVE PRESSURE TEST.
   B. WATER MAIN PRESSURE TESTING.
   C. SEWER MAIN PRESSURE TESTING.
   D. LAMPING SEWER LINES.
   E. INFILTRATION TESTING OF GRAVITY COLLECTION SYSTEM.
   F. PUMP STATION START-UP.
   G. JACK & BORE AND OPEN CUT OPERATIONS
   H. OTHER TESTS OR INSPECTIONS AS SPECIFIED BY FLORIDA WATER SERVICES DURING CONSTRUCTION PLAN APPROVAL OR DURING THE PRE-CONSTRUCTION MEETING
   I. CONFLICT CONSTRUCTION

   PROVIDE A MINIMUM OF 48 HRS. NOTICE.
6. LOCATING DIMENSIONS FOR SEWER LATERALS & WATER CROSSINGS ARE TAKEN FROM THE NEXT DOWNSTREAM MANHOLE ALONG THE CENTERLINE OF THE SEWER, AND PERPENDICULAR TO THE SERVICE LINE.
7. BEDDING OF WATER AND SEWER LINES SHALL BE AS SHOWN ON TYPICAL TRENCH DETAIL. SUITABLE BACKFILL MATERIAL SHALL BE PLACED IN 6" MAXIMUM COMPACTED LAYERS TO 12" ABOVE THE TOP OF PIPE.
8. PRIOR TO THE COMPACTION OF SUBGRADE AND ROADWAY CONSTRUCTION, ALL SUBSURFACE CONSTRUCTION SUCH AS WATER LINES, SEWER LINES, PUBLIC UTILITIES, AND STORM DRAINAGE MUST BE COMPLETED. COMPACTION UNDER PAVED AREAS SHALL BE TO 98% DENSITY.
9. THERE SHALL BE AT LEAST 10' MINIMUM HORIZONTAL AND 18" MINIMUM VERTICAL SEPARATION BETWEEN WATER SNA SEWER, AND WATER AND DRAINAGE PIPES.
10. ALL WATER AND SEWER LINES SHALL HAVE A MINIMUM OF 30" OF COVER AT ALL TIMES. WATER LINES AND SEWER FORCE MAINS SHALL HAVE A STANDARD 36" OF COVER.
11. ALL CONFLICTS OF WATER LINES OVER OR GRAVITY SEWER LINES UNDER RCP DRAINAGE LINES SHALL BE AWWA C900 CL200 PVC OR EQUAL FOR 10' EACH WAY OF CONFLICT.
12. ALL VALVES MUST BE PLACED OUTSIDE OF PAVED AREAS.
13. HORIZONTAL AND VERTICAL DEFLECTION OF THE PRESSURE MAINS SHALL NOT EXCEED THE PIPE MANUFACTURER'S SPECIFICATIONS. BENDS SHALL BE USED WHERE DEFLECTIONS EXCEED THE MANUFACTURER'S SPECIFICATIONS.
14. ALL PRESSURE MAINS SHALL BE DEFLECTED AROUND CATCH BASINS TO MAINTAIN 5' MINIMUM SEPARATION. BENDS SHALL BE UTILIZED IF NECESSARY.
15. ALL PVC MAINS (WATER & SEWER) SHALL BE INSTALLED WITH A 3" WIDE CONTINUOUS PRINTED METALLIC TAPE.
16. ALL ELEVATIONS REFERENCED NATIONAL GEODETIC VERTICAL DATUM.
17. ALL CONFLICTS WITH WATER AND SEWER LINES MUST BE INSPECTED BY FLORIDA WATER SERVICES. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HRS. NOTICE FOR INSPECTIONS.
17. THRUST BLOCKS NOT PERMITTED, ALL POTABLE WATER AND SANITARY SEWER FORCE MAINS SHALL UTILIZE MECHANICAL JOINTS.

RECORD DRAWINGS

THE CONTRACTOR SHALL KEEP AND MAINTAIN ON SITE, AN ACCURATE AND UP-TO-DATE SET OF RECORD DRAWINGS. THESE DRAWINGS SHALL INCLUDE LOCATIONS AND ELEVATIONS OF MAINS, FITTINGS, SERVICES AND OTHER APPURTENANCES AS WELL AS ANY DEVIATIONS FROM THE PLANS. THESE RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THE WORK FOR HIS REVIEW AND APPROVAL. THE ENGINEER WILL CREATE A SET OF RECORD DRAWINGS FOR SUBMITTAL TO LEE COUNTY, FLORIDA WATER SERVICES, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND THE DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES.

POTABLE WATER

1. MAINS, SERVICES, AND METALLIC LOCATION/IDENTIFICATION TAPE TO BE COLOR CODED BLUE FOR POTABLE WATER.
2. WATER MAINS SHALL BE MIN. C900 DR18, WITH A MIN. GROUND COVER OF 36".
3. STEEL ENCASING THE WATER LINE UNDER ALL PAVEMENT IS REQUIRED.
4. CONTRACTOR SHALL CONTACT FLORIDA WATER SERVICES TO ARRANGE A PRE-CONSTRUCTION MEETING.
5. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH AS-BUILT PLANS PRIOR TO CERTIFICATE OF COMPLIANCE.
6. THE CONTRACTOR SHALL SUPPLY THE WATER METER BOXES. WATER METER BOXES TO BE LOCATED AS SHOWN ON THE PLANS. (NOT IN SIDEWALKS)
7. THE UTILITY SHALL PROVIDE THE WATER METERS UPON ISSUANCE OF INDIVIDUAL BUILDING PERMITS.
8. IT IS REQUIRED THAT ALL NEW AND RELOCATED WATER MAIN PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS BE IN CONFORMANCE WITH APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS, THAT ALL NEW AND RELOCATED WATER MAIN PIPE AND FITTINGS CONTAIN NO MORE THAN EIGHT PERCENT LEAD, AND THAT ALL PACKING AND JOINTING MATERIALS USED IN THE JOINTS OF NEW OR RELOCATED WATER MAIN PIPE BE IN CONFORMANCE WITH APPLICABLE AWWA STANDARDS.
9. THIS PROJECT DOES INCLUDE INSTALLATION OF ANY NEW OR RELOCATED WATER MAINS IN AREAS WHERE THERE IS EXISTING DOCUMENTED EVIDENCE THAT THE GROUND WATER IS CONTAMINATED BY ORGANIC COMPOUNDS.
10. ALL NEW AND RELOCATED WATER MAINS ARE SIZED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL UNDER ALL CONDITIONS OF FLOW.
11. ANY HIGH POINTS WHERE AIR CAN ACCUMULATE IN WATER MAIN, HYDRANTS OR AIR RELEASE VALVES SHALL BE PROVIDED AT SUCH HIGH POINTS TO REMOVE THE AIR.
12. ANY AUTOMATIC AIR RELEASE VALVES SHALL NOT BE LOCATED WHERE FLOODING OF THE VALVE MANHOLE OR CHAMBER COULD OCCUR, AND THE OPEN END OF THE AIR RELEASE PIPE FROM SUCH VALVE IS EXTENDED TO AT LEAST ONE FOOT ABOVE GRADE AND IS PROVIDED WITH A SCREENED DOWNWARD-FACING ELBOW.
13. ANY HYDRANT DRAINS, FLUSHING DEVICES, AIR RELEASE VALVES, OR CHAMBERS OR MANHOLES CONTAINING VALVES, BLOW-OFFS, METERS, OR OTHER SUCH APPURTENANCES PROVIDED IN CONJUNCTION WITH WATER MAIN, SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWERS.
14. WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS AND/OR THE MANUFACTURER'S RECOMMENDED PROCEDURES.
15. STONES FOUND IN TRENCHES FOR WATER MAIN PIPE SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR WATER MAIN PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND WATER MAIN PIPE AND TO A SUFFICIENT HEIGHT ABOVE SUCH PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE.
16. ALL TEES, BENDS, PLUGS, AND HYDRANTS IN WATER MAINS SHALL BE PROVIDED WITH REACTION BLOCKING OR RESTRAINED JOINTS TO PREVENT MOVEMENT.
17. WATER MAINS SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600.
18. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 AND RULE 62-555.345, F.A.C.
19. WATER MAINS SHALL BE LOCATED AT LEAST TEN FEET HORIZONTALLY FROM ALL SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS. (ALL DISTANCES ARE MEASURED FROM OUTSIDE PIPE EDGE TO OUTSIDE PIPE EDGE.)
20. WHERE WATER MAINS THAT CROSS ANY SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS, THE WATER MAINS SHALL CROSS ABOVE SUCH PIPELINES WITH A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAINS AND THE OUTSIDE OF SUCH PIPELINES, OR SUCH CROSSINGS SHALL BE ARRANGED SO THAT ALL PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN FEET BETWEEN THE TWO JOINTS (OR, ALTERNATIVELY, THE SANITARY SEWERS, STORM SEWERS, AND FORCE MAINS, LINES AT SUCH CROSSINGS SHALL BE PLACED IN SLEEVES TO OBTAIN THE EQUIVALENT OF THE TEN-FOOT SEPARATION BETWEEN JOINTS).
21. WHERE WATER MAINS CROSS UNDER ANY SURFACE WATER, A MINIMUM COVER OF THREE FEET SHALL BE PROVIDED OVER THE WATER MAIN, AND THE WATER MAIN SHALL BE D.I.P. AT SUCH SURFACE WATER CROSSING.
22. THIS PROJECT DOES NOT INCLUDE ANY INTERCONNECTION BETWEEN PREVIOUSLY SEPARATE PUBLIC DRINKING WATER SYSTEMS THAT HAVE SEPARATE WATER SUPPLY SOURCES.
23. ALL WATER SERVICES AND PLUMBING SHALL BE IN CONFORMANCE WITH THE STATE PLUMBING CODE, AND ALL PIPE AND PIPE FITTINGS WATER SERVICES AND PLUMBING CONTAIN NO MORE THAN EIGHT PERCENT LEAD, AND THAT ALL SOLDERS AND FLUX FOR NEW AND RELOCATED WATER SERVICES AND PLUMBING CONTAIN NO MORE THAN 0.2 PERCENT LEAD.
24. ALL WATER SERVICE LINES SHALL BE INSTALLED IN SCHEDULE 80 PVC CASING WHEN UNDER ROADWAY.
25. ALL POTABLE WATER MAINS SHALL BE "BLUE" IN COLOR.

SANITARY SEWER

1. ALL SEWER SERVICES SHALL BE 6" SINGLE SERVICES WITH CLEAN OUTS AT THE PROPERTY / RIGHT-OF-WAY LINES.
2. MANHOLE FRAMES AND COVERS TO BE WATER TIGHT, CLEAN OUT CAPS SHALL BE WATER TIGHT.
3. LOW PRESURE AIR TESTING, AND TVING OF GRAVITY SYSTEM IS REQUIRED. ADDITIONAL TESTING MAY BE NECESSARY.
4. GRAVITY MAINS SHALL BE 8" ASTM D3034 SDR 35, UNLESS NOTED. SLOPE MIN. 0.40%
5. FORCE MAINS SHALL BE AWWA STANDARD C900, DR25, UNLESS NOTED.
6. ALL 6" ASTM D3034, DR35 PVC SEWER SERVICES SHALL BE CONSTRUCTED AT 1.0% SLOPE MINIMUM PER THE PLUMBING CODE.
7. EMS MAGNETIC MARKERS SHAAL BE INSTALLED AT THE END OF EACH SEWER SERVICE.
8. ALL SANITARY SEWER MAINS SHALL BE "GREEN" IN COLOR.

IRRIGATION

8. ALL IRRIGATION LINES SHALL BE "PURPLE" IN COLOR.

LDC
SEP 2 6 2000
APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH EMBOSSED SEAL

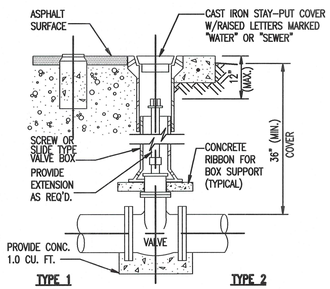
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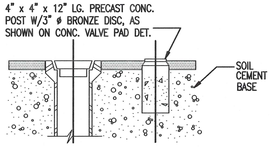
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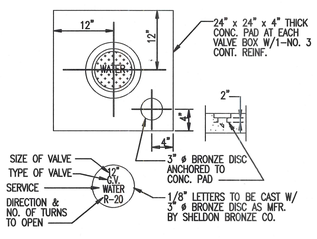
COPPERHEAD DEVELOPMENT, INC.
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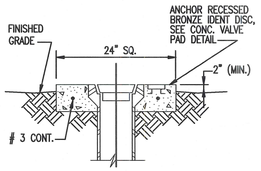
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
GENERAL NOTES

SHEET 30 of 39 SHEETS





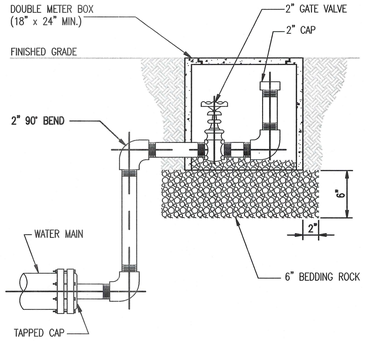




NOTES:

1. GATE VALVES FROM 4" TO 12" DIA. SHALL BE IRON BODY RESILIENT SEAT TYPE, RATED AT 200 P.S.I. AND SHALL COMPLY WITH ANSI/AWWA C509.
2. VALVES LARGER THAN 12" SHALL BE DOUBLE-DISC GATE AND RATED AT 150 P.S.I. AND COMPLY WITH ANSI/AWWA C500.
3. CONCRETE COLLAR AND VALVE COVER SHALL BE PAINTED FEDERAL SAFETY BLUE.

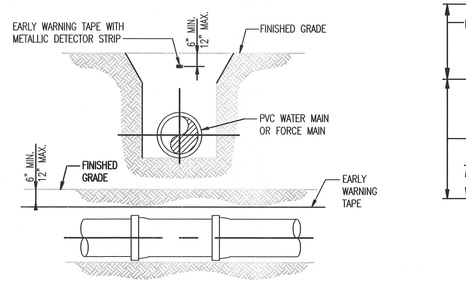
GATE VALVE AND BOX DETAILS



NOTES:

1. ALL 2" PIPE AND FITTINGS SHALL BE SCHEDULE 80 PVC OR BRASS WITH THREADED (NPT) JOINTS.

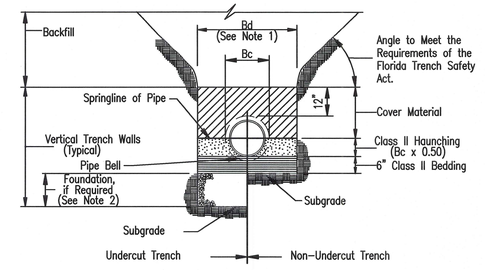
BLOWOFF VALVE DETAIL



NOTES:

1. ALL MAINS SHALL HAVE A "EARLY WARNING" PROTECTION TAPE INSTALLED CONTINUOUSLY ALONG THE ALIGNMENT. THE PROTECTION TAPE SHALL BE AS TERRA-TAPE OR EQUAL. TAPE SHALL BE INSTALLED DURING BACKFILLING 6"-12" INCHES BELOW FINISHED GRADE DIRECTLY OVER THE PIPE AND BE CONTINUOUSLY MARKED FOR THE TYPE OF PIPE (EXAMPLE: "CAUTION, WATER MAIN BURIED BELOW." THE TAPE SHALL HAVE A METALLIC DETECTABLE STRIP INCLUDED AND COLOR CODED AS FOLLOWS:
   - BLUE — POTABLE WATER
   - GREEN — SANITARY FORCE MAIN
   - PURPLE — EFFLUENT REUSE
   - RED — DEDICATED FIRE LINE
2. ALL P.V.C. MAINS SHALL BE EITHER A SOLID COLOR OR WHITE WITH COLOR CODED LETTERING. ALL LETTERING SHALL APPEAR ON THREE SIDES OF THE PIPE AND SHALL RUN THE ENTIRE LENGTH OF THE PIPE AND SHALL BE A MINIMUM OF 3/4 INCH IN HEIGHT WITH THE APPROPRIATE WORDING APPEARING ONE OR MORE TIMES EVERY 21 INCHES ALONG THE LENGTH OF THE PIPE. THE LETTERING MUST BE PERMANENTLY STENCILED TO THE PIPE SURFACE. LETTERING SHALL READ AS IS ACCEPTABLE FOR THE INTENDED USE. ALL LETTERING SHALL BE APPLIED BY THE PIPE MANUFACTURER DURING PRODUCTION.
3. ALL DUCTILE IRON MAINS SHALL BE MARKED WITH A CONTINUOUS STRIPE LOCATED WITHIN THE TOP 90° OF THE PIPE. SAID STRIPE SHALL BE A MINIMUM OF 2 INCHES IN WIDTH AND SHALL BE COLOR CODED AS STATED IN NOTE 1. BACKFILL SHALL NOT BE PLACED FOR 30 MINUTES FOLLOWING PAINT APPLICATION.
4. ALL POTABLE P.V.C. PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL OF APPROVAL FOR POTABLE WATER PIPE.

PIPE - LOCATION TAPE DETAIL

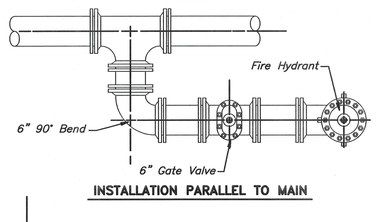


TYPICAL DETAIL
TRENCHING, PIPE BEDDING, BACKFILLING & COMPACTING

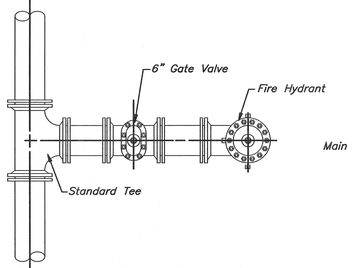
NOTES:

1. Dimension Bc = Pipe O.D.
   Dimension Bd = Trench Width at Top of Pipe
   Maximum Bd = Bc + 30"
   Minimum Bd = Maximum Dimension of Bell + 8" (Unsheeted Trench)
   = Minimum Dimension of Bell + 12" (Sheeted Trench)
2. Remove Unsuitable or Unstable Material, as determined by Florida Water Services, Encountered Below the Trench Bottom, as Required to Produce a Suitable Foundation. Furnish, Place and Compact Foundation as Specified.
3. Furnish, Place and Compact Bedding, Haunching, Cover Material and Backfill as specified.
4. Pipe bedding: Select Common Fill Compacted to 95% of Maximum Density as per AASHTO T-180.
5. Trench Backfill: Common Fill Compacted to 95% of Maximum Density as per AASHTO T-180.
6. Use of Class II Bedding to be Determined in Field by Florida Water Services.

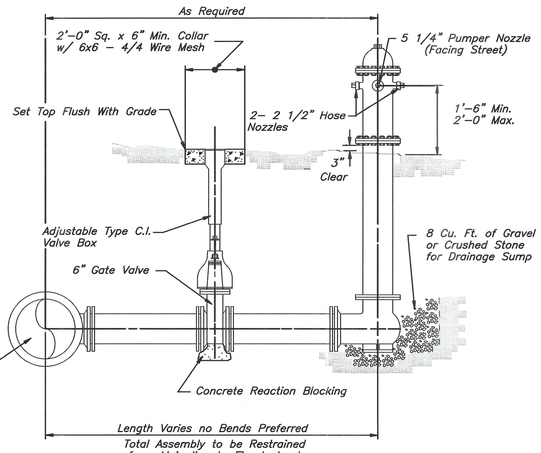
PIPE BEDDING & TRENCHING DETAIL



INSTALLATION PARALLEL TO MAIN



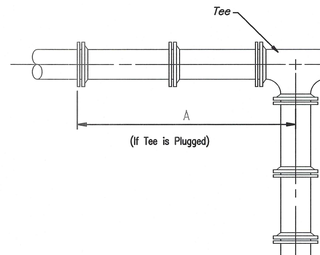
INSTALLATION PERPENDICULAR TO MAIN



NOTE:

1. *A Tapping Sleeve with Valve and Box Shall be Installed when connecting a Proposed Fire Hydrant to an Existing Main, or Relocating an Existing Fire Hydrant.*
2. *Hydrants to have Break Section or Removable Barrel.*

FIRE HYDRANT DETAILS



NOTE:

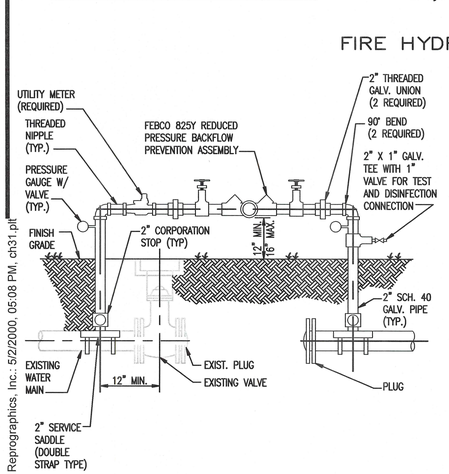
1. Restrained Joints shall be Provided at all Bends, Tees, and Dead Ends as indicated in these Tables, or as Shown on the Drawings for other specific conditions. The use of Concrete thrust blocking is prohibited, unless otherwise indicated on the drawings.
2. The Length of Pipe with Restrained Joints is based on the following specific conditions: Pipe Material; Design Pressure (150 psi for Potable & Reclaimed Water Mains and 100 psi for for Force Mains); bedding, backfilling Material and compaction as specified.
3. Maximum Lengths of Pipe shall be used within Restrained Sections.

POTABLE WATER & RECLAIMED WATER
LENGTH IN FEET REQUIRED FOR RESTRAINED JOINTS

SIZE	A DEAD END	A TEE & PLUG	B 90° BEND	B 45° BEND	B 22 1/2° BEND	B 11 1/4° BEND
2"						
4"						
6"						
8"						
10"						
12"						
14"						
16"						
20"						
24"						

FORCE MAIN
LENGTH IN FEET REQUIRED FOR RESTRAINED JOINTS

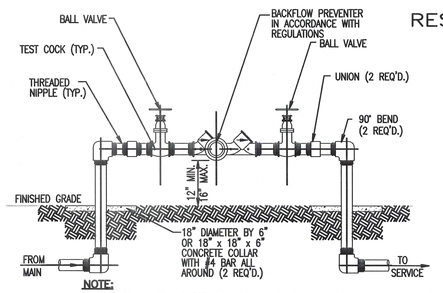
SIZE	A DEAD END	A TEE & PLUG	B 90° BEND	B 45° BEND	B 22 1/2° BEND	B 11 1/4° BEND
2"						
4"						
6"						
8"						
10"						
12"						
16"						
20"						



NOTES:

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAIL SHOWN IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MIN. VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNITL AFTER FILLING, FLUSHING, PRESSURE AND BACTERIOLOGICAL TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED, PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. SWAB OR SPRAY THE EXTERIOR OF THE MAIN TO BE TAPPED AND THE TAPPING SADDLE WITH 1% HYPOCHLORITE SOLUTION.
3. THE CONTRACTOR SHALL PROVIDE CERTIFICATION DEMONSTRATING THAT THE REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY HAS BEEN TESTED AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION.
4. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS, AND LOCKED.
5. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE, FITTINGS VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TEMPORARY JUMPER DETAIL

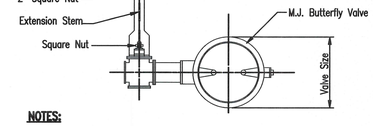


NOTE:

1. ALL PIPE VALVES AND FITTINGS 2" AND SMALLER SHALL BE THREADED BRASS.
2. ACCEPTABLE MODELS:
   - WATTS 909
   - FEBCO 825Y (D)
   - WILKINS 975XL
   - CONBRACO 400
   - OR APPROVED EQUAL
3. THIS DETAIL IS REPRESENTATIVE OF ACCEPTABLE REDUCED PRESSURE BACKFLOW DEVICES FOR SERVICES 2" IN DIAMETER OR SMALLER THAT ARE INSTALLED WITHIN FLORIDA WATER SERVICES' SYSTEMS.

RESTRAINED JOINT DETAIL

REDUCED PRESSURE BACKFLOW



NOTES:

When Valve Boxes are installed within the Traveled way of unpaved roadways, the following shall be substituted for the 2'-0" Square concrete pad:

1. Soil cement shall be installed for a 3'-0" radius around the valve box to a depth equal to 12" above the top of the pipe.
2. Installation of soil cement shall be in conformance with *section 270 of the FDOT Standard Specifications.*
3. The soil cement and backfill below it shall be compacted to 95% of the modified proctor maximum dry density. (ASHTO T-180) from the bottom of the trench to the top of the valve box at grade.

BUTTERFLY VALVE DETAIL

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APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54183
02/18/00
VALID ONLY WITH ORIGINAL SEAL

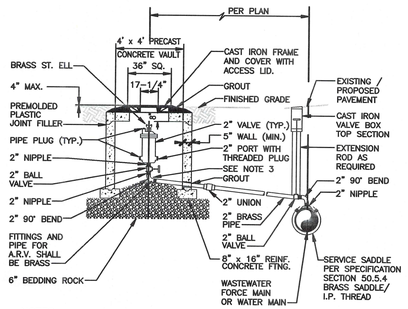
REVISED

DATE 02/18/00	BY ---	FILE Copper-Util	SHEET 31 of 39 SHEETS

COPPERHEAD DEVELOPMENT, INC.
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COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
POTABLE WATER DETAILS

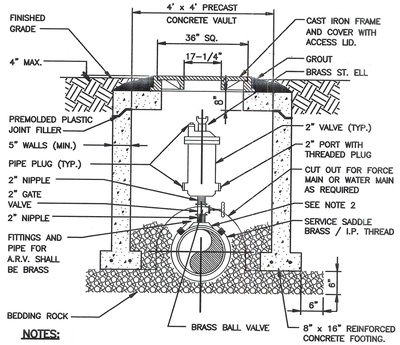
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NOTES:

1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER AND APPROVED BY FLORIDA WATER SERVICES PRIOR TO INSTALLATION.
2. THE MINIMUM DIMENSION FROM ELBOW INVERT TO FINISHED GRADE SHALL BE 4.0 FEET.
3. BERMAD D-020, ARI-COMBO AIR RELEASE/VACUUM RELIEF VALVE OR APPROVED EQUAL REQUIRED.

OFFSET AIR/VAC RELEASE VALVE

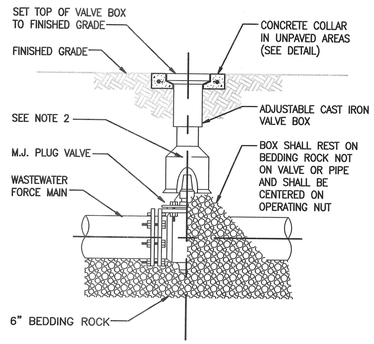


NOTES:

1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR RELEASE/VACUUM RELIEF VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER AND APPROVED BY FLORIDA WATER SERVICES PRIOR TO INSTALLATION.
2. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 4.0 FEET.
3. BERMAD D-020, ARI-COMBO AIR RELEASE/VACUUM RELIEF VALVE. OR APPROVED EQUAL REQUIRED.

AIR OR COMBINATION AIR/VACUUM RELEASE VALVE

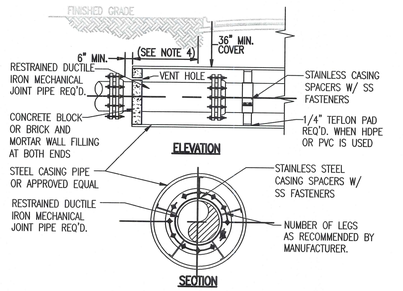
AIR/VACUUM RELEASE VALVE



NOTES:

1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO TO A POINT NO LESS THAN 2'-0" DEPTH BELOW FINISHED GRADE.

PLUG VALVE DETAIL

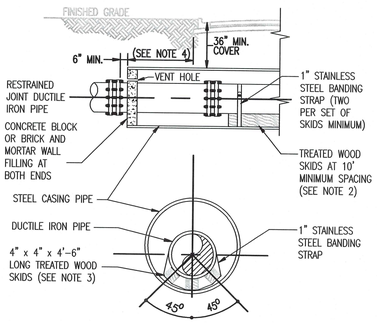


CARRIER PIPE AND CASING PIPE SIZES (MIN.)										
CARRIER PIPE NOM. DIA. (D1)	2	4	6	8	10	12	14	16	20	24
CASING PIPE NOM. DIA. (D2)	6	14	16	18	22	24	30	30	36	48
WALL THICKNESS – INCHES	0.250	0.250	0.250	0.250	0.250	0.250	0..312	0..312	0.500	0.500

NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE,LATEST EDITION, SHALL BE MET.
2. STAINLESS STEEL CASING SPACERS, ARE REQUIRED AS SHOWN.
3. WHERE PRACTICAL, CASING SHALL EXTEND A MIN. OF 4' BEYOND EDGE OF PAVEMENT OR LONGER AS REQUIRED BY LOCAL PERMITTING AGENCIES.
4. WHERE ALLOWED BY GOVERNING JURISDICTIONS, HIGH DENSITY POLYETHYLENE PIPE (HDPE) OR PVC MEETING AWWA C900, DR 14 MAY BE USED FOR DIRECTIONAL BORING ONLY.
5. A MINIMUM OF 3 CASING SPACERS PER 20 LINEAR FEET OF INSTALLED CARRIER PIPE SHALL BE PROVIDED.

JACK AND BORE DETAILS – SS

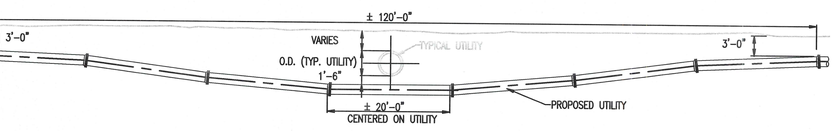


CARRIER PIPE AND CASING PIPE SIZES (MIN.)											
CARRIER PIPE NOM. DIA. (D1)	4	6	8	10	12	14	16	18	20	22	24
CASING PIPE NOM. DIA. (D2)	14	16	18	22	24	30	30	30	36	36	48
WALL THICKNESS – INCHES	0.281	0.281	0.312	0.375	0.406	0.469	0.469	0.469	0.625	0.625	0.625

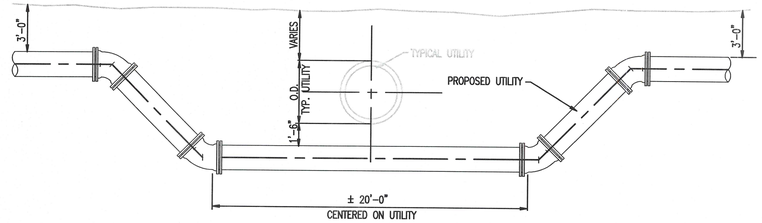
NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE SHALL BE MET.
2. CASING SPACERS, AS SPECIFIED IN SPECS. MAY BE REQUIRED BY THE COUNTY OR MAY BE SUBSTITUTED IN LIEU OF WOOD SKIDS AND BANDING STRAPS.
3. LARGER SKIDS SHALL BE REQUIRED FOR PIPE GREATER THAN 24" DIAMETER
4. WHERE PRACTICAL, CASING SHALL EXTEND 4' BEYOND EDGE OF PAVEMENT. THE COUNTY MAY REQUIRE LONGER CASING FOR DEEPER BORES.

JACK AND BORE DETAILS – WOOD

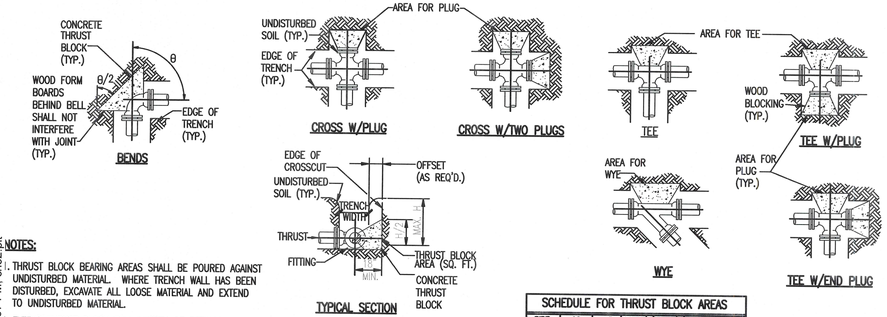


TYPICAL CONFLICT RESOLUTION BY DEFLECTION



TYPICAL CONFLICT RESOLUTION BY FITTINGS

TYPICAL CONFLICT RESOLUTION BY DEFLECTION AND FITTINGS

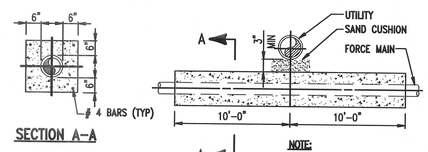


SCHEDULE FOR THRUST BLOCK AREAS							
PIPE SIZE (INCHES)	90 BEND (SQ FT)	45 BEND (SQ FT)	22-1/2 BEND (SQ FT)	11-1/4 BEND (SQ FT)	TEE & PLUG (SQ FT)	DESIGN PRESS (PSI)
4						150
6						150
8						150
10						150
12						150
14"						150
16"						150

NOTE:
THRUST BLOCK AREAS TO BE COMPUTED ON BASIS OF 1,500 (1,500 MIN) LBS. PER SQ. SOIL FT. SEE NOTE 5
RESTRAINT BEARING.

NOTES:

1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (8 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.
3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.
4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.
5. ALTERNATE DESIGNED RESTRAINING SYSTEMS SHALL BE PROVIDED WHERE STANDARD THRUST BLOCKING IS NOT SUITABLE AND/OR SOIL RESISTANCE BEARING IS LESS THAN 1500 PSF.
6. ALL WOOD BLOCKING SHALL BE PRESSURE TREATED WITH PRESERVATIVE.



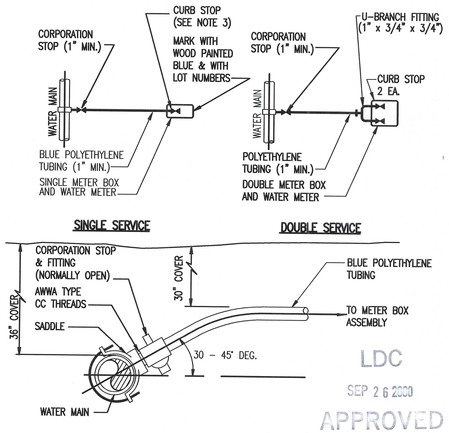
TYP. FORCE MAIN & WATER MAIN CROSSING

HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS										
PROPOSED UTILITY	POTABLE WATER		RECLAIMED WATER *		SANITARY SEWER (GRAVITY & F.M.)		STORM SEWER		ACCEPTABLE VARIANCES
	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	HORIZ.	VERT.	
POTABLE WATER	–	–	5' C/C 3' O/O		10' O/O	18"	10' O/O	18"	SEE GENERAL NOTES: NO.4
RECLAIMED WATER *	5' C/C 3' O/O	18"	–	–	5' C/C 3' O/O	18"	–	–	
SANITARY SEWER	10' O/O	18"	5' C/C 3' O/O	18"	–	–	–	–	

UTILITY SEPARATION DETAIL

NOTES:

1. THE TABLE REPRESENTS THE MINIMUM SEPARATION REQUIREMENTS AS DESCRIBED IN F.D.E.P. RULES OF THE FLORIDA ADMINISTRATION CODE (F.A.C.). THESE SEPARATION REQUIREMENTS SHALL APPLY BETWEEN NEWLY PROPOSED UTILITY LINES AND EXISTING OR PROPOSED UTILITY LINES.
2. FOR THE PURPOSE OF THIS TABLE RECLAIMED WATER SHALL MEAN UNRESTRICTED PUBLIC ACCESS REUSE WATER AS DEFINED BY F.A.C. 62-610 OTHER TYPES OF RECLAIMED WATER ARE CONSIDERED RAW SEWAGE AND SEPARATIONS LISTED FOR SANITARY SEWER SHALL APPLY.
3. ALL SEPARATION DISTANCES ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE UNLESS OTHERWISE SPECIFIED. CRITERION PRODUCING GREATER CLEARANCE SHALL BE USED.
   - C/C – DENOTES CENTER OF PIPE TO CENTER OF PIPE.
   - O/O – DENOTES OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
4. ACCEPTABLE VARIANCES:
   A. WHERE HORIZONTAL SEPARATION IS NOT ATTAINABLE, DUCTILE IRON PIPE OR CONCRETE ENCASEMENT MUST BE USED FOR AT LEAST ONE OF THE PIPES. DUCTILE IRON OR CONCRETE ENCASEMENT MUST BE USED UNTIL MINIMUM CLEARANCE IS REGAINED.
   B. WHERE 18" MINIMUM VERTICAL SEPARATION IS NOT FEASIBLE AT CROSSING, USE ONE FULL LENGTH OF DUCTILE IRON OR ENCASED PIPE CENTERED AT THE POINT OF CROSSING SPECIAL SUPPORT MAY BE REQUIRED.
   C. IF 36" MINIMUM DEPTH OF COVER IS NOT MAINTAINED, SPECIAL PROTECTION OR PIPE MATERIAL UPGRADE MAY BE REQUIRED PER FLORIDA WATER SERVICES' ENGINEERING.
5. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY OR STORM WATER MANHOLE OR STRUCTURE.



LDC
SEP 2 6 2000
APPROVED

1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP(S) WHICH SHALL BE BURRIED APPROXIMATELY 3' BELOW FINAL GRADE & SHALL BE CLEARLY MARKED WITH A 2" x 2" x 18" STAKE WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF LOTS TO BE SERVED.
4. METERS 2 INCHES AND SMALLER ARE TO BE INTALLED BY FLORIDA WATER SERVICES' PERSONNEL.

WATER SERVICE CONNECTION DET.

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH EMBOSSED SEAL

REVISED

DATE 02/18/00 BY ---

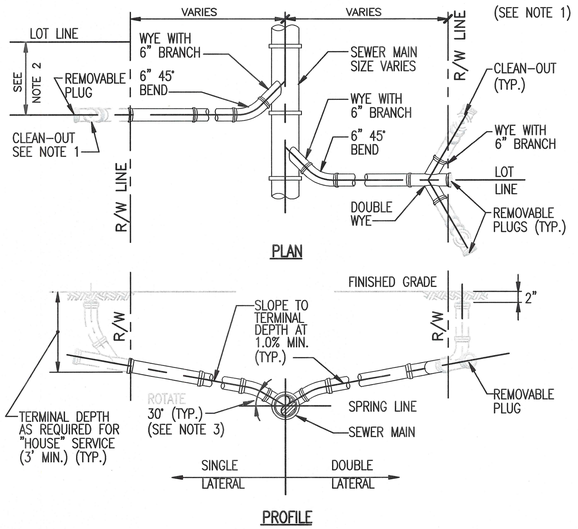
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
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FILE Copper-Util

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
POTABLE WATER DETAILS

SHEET 32 of 39 SHEETS

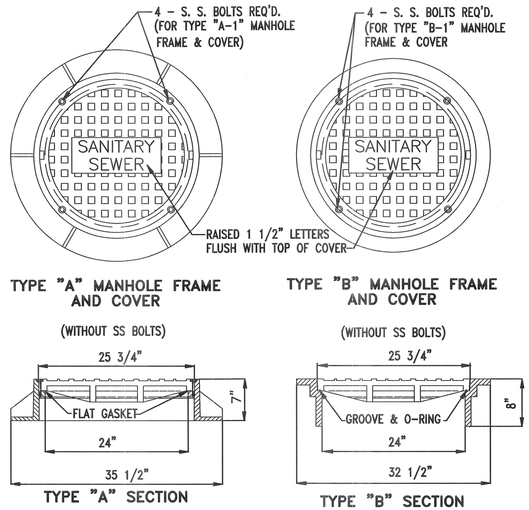
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NOTES:

1. CLEAN-OUT (SHOWN DASHED) SHALL BE INSTALLED BY THE UTILITY CONTRACTOR IN ACCORDANCE WITH STANDARD PLUMBING CODE.
2. LOCATE DOUBLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 5' MAXIMUM.
3. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
4. DOUBLE SERVICE LATERAL TO BE USED ONLY WHEN BOTH BUILDING SLAB ELEVATIONS ARE WITHIN 0.33 FEET (4 INCHES).

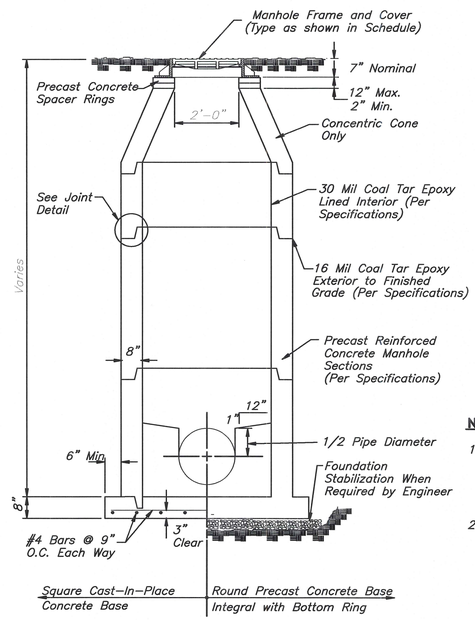
TYPICAL SERVICE LATERAL DETAIL

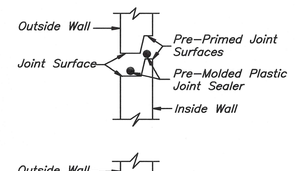


NOTES:

1. TYPE "A-1" & "B-1" BOLTED WATERTIGHT RING AND COVER; US FOUNDRY NO. 227-AS-BWT (TYPE"A-1") & NO. 1295-AS-BWT (TYPE "B-1") OR APPROVED EQUAL.
2. TYPE "A" & "B" NON-BOLTED WATERTIGHT RING & COVER US FOUNDRY NO. 227-AS-ORS (TYPE "A") & NO. 1295-AS-ORS (TYPE "B") OR APPROVED EQUAL.
3. MANHOLE COVERS ARE TO LABELED AS SHOWN ABOVE.

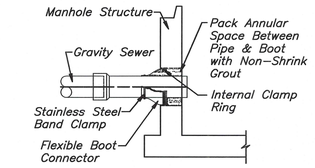
MANHOLE FRAME & COVER

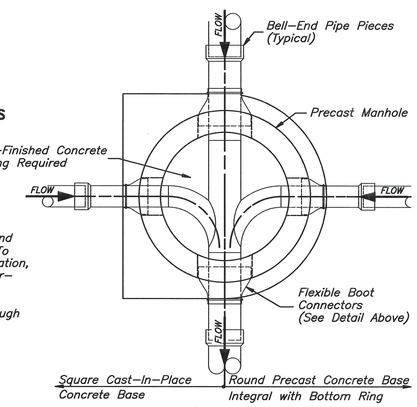




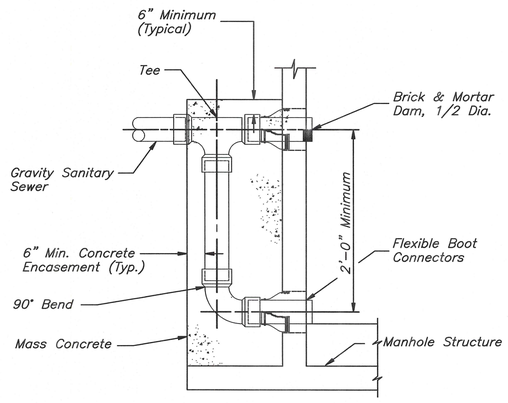
NOTES:

1. Tops Of Manhole Frame And And Covers Shall Be Set To The Finished Roadway Elevation, Finished Grade Or As Otherwise Noted.
2. No Penetrating Holes Through Manholes.





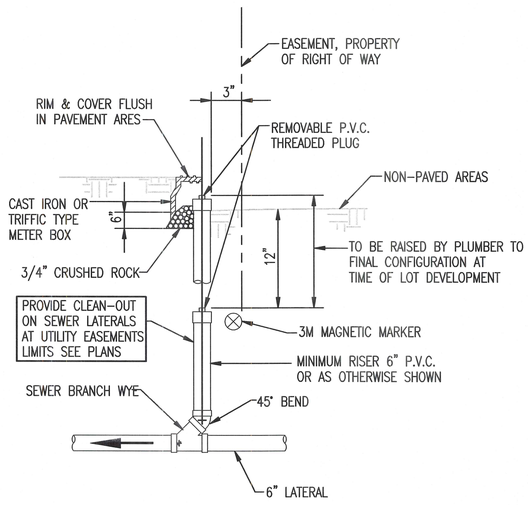
STANDARD MANHOLE DETAIL (TYPE I)



NOTES:

1. *Mass Concrete around drop connection to be no less than 2000psi concrete.*
2. *Drop pipe and fittings shall be of equal size and materials as the influent sewer.*
3. *An outside drop connection shall be required for all influent connections which have a difference of 2'-0" or more between inverts.*

DROP MANHOLE DETAIL



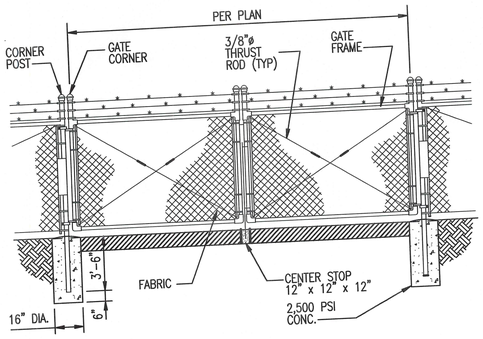
SEWER CLEAN-OUT

LDC
SEP 26 2000
APPROVED

APPROVED
Harold G. Israelson
HAROLD G. ISRAELSON
REG. NO. 34163
02/18/00
VALID ONLY WITH EMBOSSED SEAL

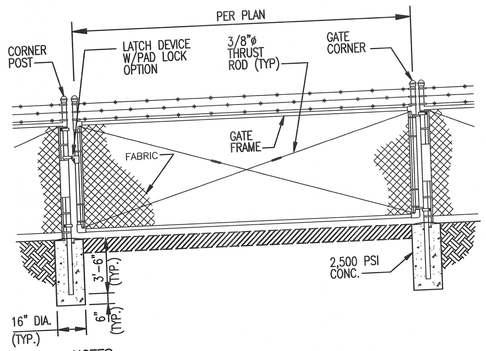
REVISED		COPPERHEAD DEVELOPMENT, INC. CONSULTING ENGINEERS 6001 Egan Drive, Suite 100 Savage, Mn. 55378 Phone (612) 226-3200	COPPERHEAD GOLF COMMUNITY SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST LEE COUNTY, FLORIDA SANITARY SEWER DETAILS
	DATE 02/18/00 BY ---	FILE Copper-Util	SHEET 33 of 39 SHEETS

Rost Reprographics, Inc.: 5/2/2000, 05:07 PM, dt33.plt



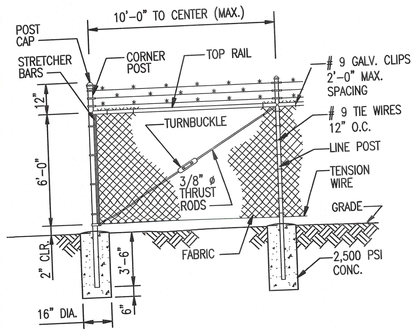
NOTES
THRUST RODS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.

DOUBLE SWING GATE DETAIL

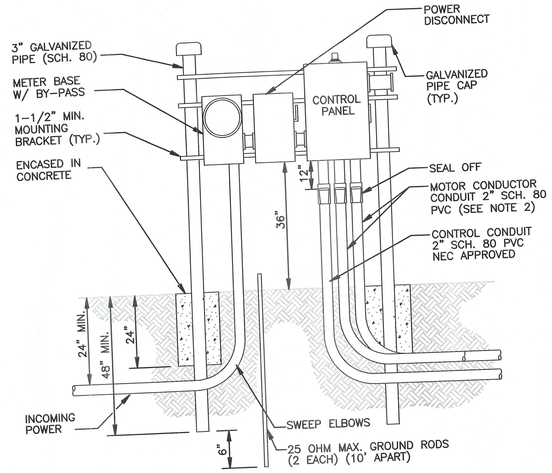


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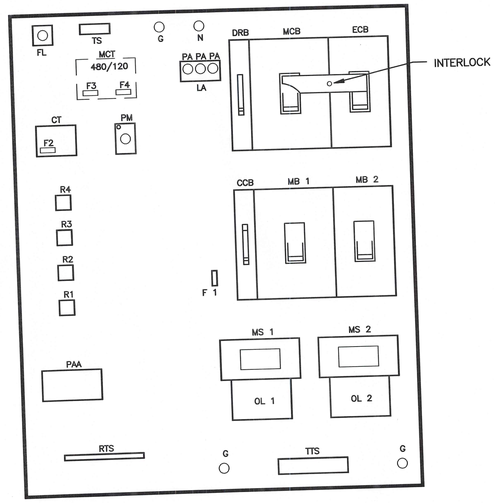
SINGLE SWING GATE DETAIL



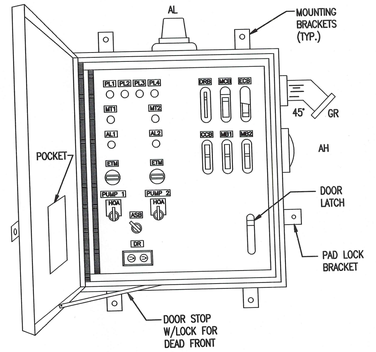
6' FENCING – CORNER DETAIL



NOTES:
1. DRAWING IS SHOWN FOR 230 VOLT POWER SUPPLY. THE LOCATION OF METER & MAIN POWER DISCONNECT SHALL BE REVERSED FOR 480 VOLT SUPPLY.
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3. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3 PHASE FROM A 3 PHASE SOURCE ONLY.

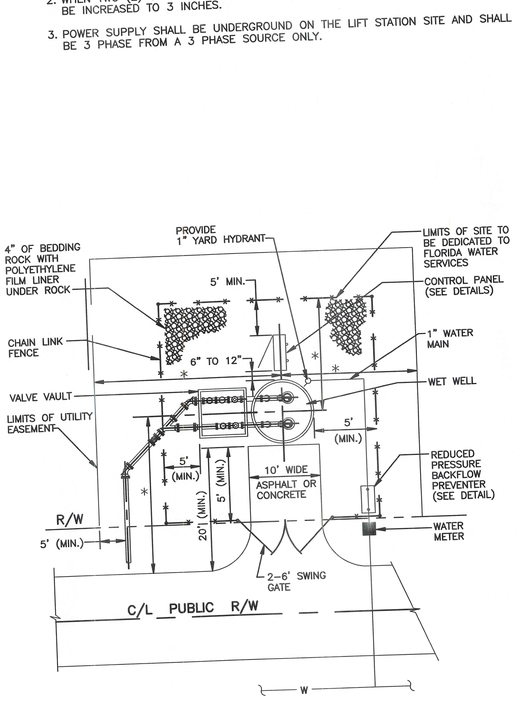


NOTES:
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DUPLEX PUMP CONTROL PANEL



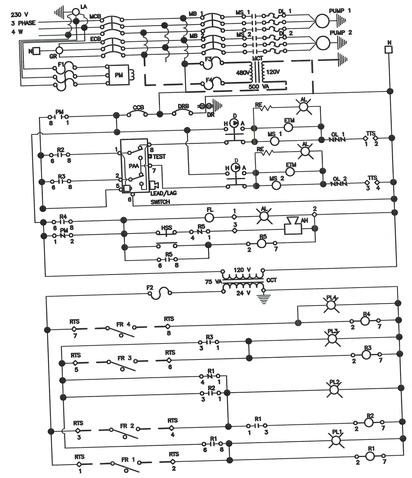
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3. FENCE HEIGHT SHALL BE A MINIMUM OF 6 FEET ABOVE FINISHED GRADE

NOTE: FENCE STYLE SHALL BE AS APPROVED BY REGULATING BODY AND FLORIDA WATER SERVICES PER SITE.

PUMPING STATION PLAN

ABBREV.	ITEM DESCRIPTION
AH	ALARM HORN
AL	ALARM LIGHT
ASB	ALTERNATOR TEST SWITCH
CCB	CONTROL CIRCUIT BREAKER
CCT	CONTROL CIRCUIT TRANSFORMER
DR	DUPLEX RECEPTACLE / G.F.I.
DRB	DUPLEX RECEPTACLE BREAKER
ECB	EMERGENCY CIRCUIT BREAKER
ETM	ELAPSE TIME METER
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FL	FLASHER
FR	FLOAT REGULATOR
G	GROUND
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N	NEUTRAL
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LDC
SEP 26 2000
APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
VALID ONLY WITH ELECTRONIC SEAL

REVISED

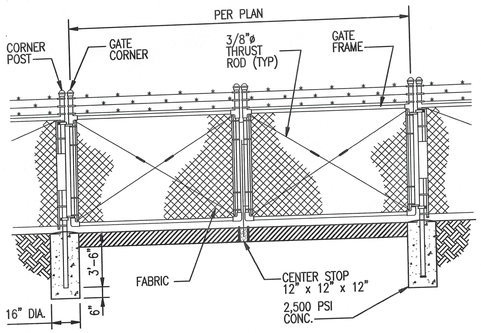
DATE 02/18/00 | BY --- | FILE Copper–Util

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226–3200

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LIFT STATION DETAILS

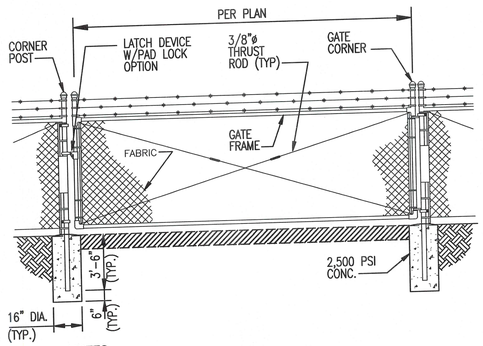
SHEET 34 of 39 SHEETS

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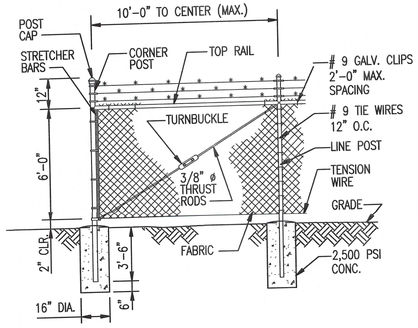
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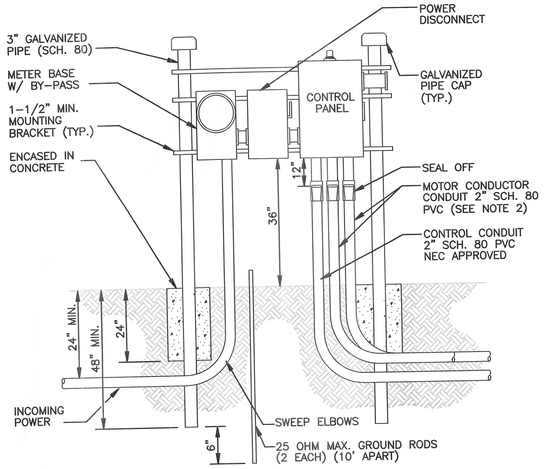


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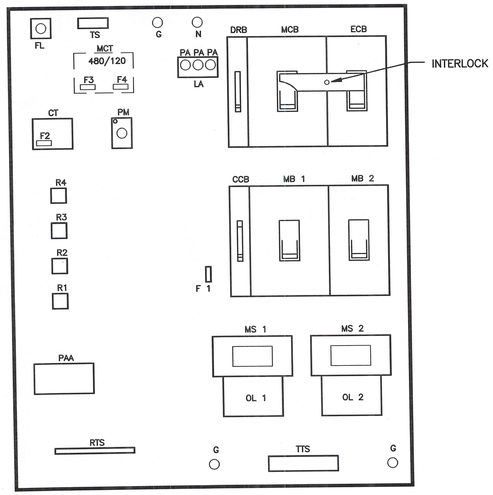
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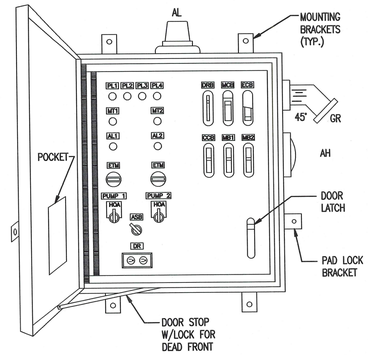
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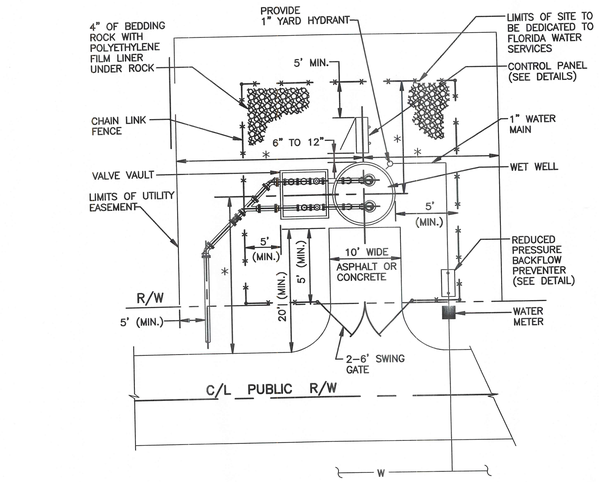


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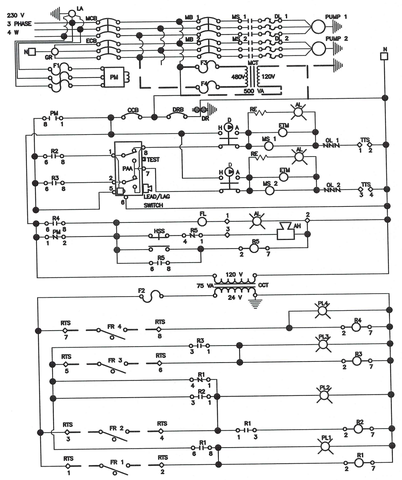
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LDC
SEP 26 2000
APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
YOUR WATER MANAGEMENT DISTRICT SEAL

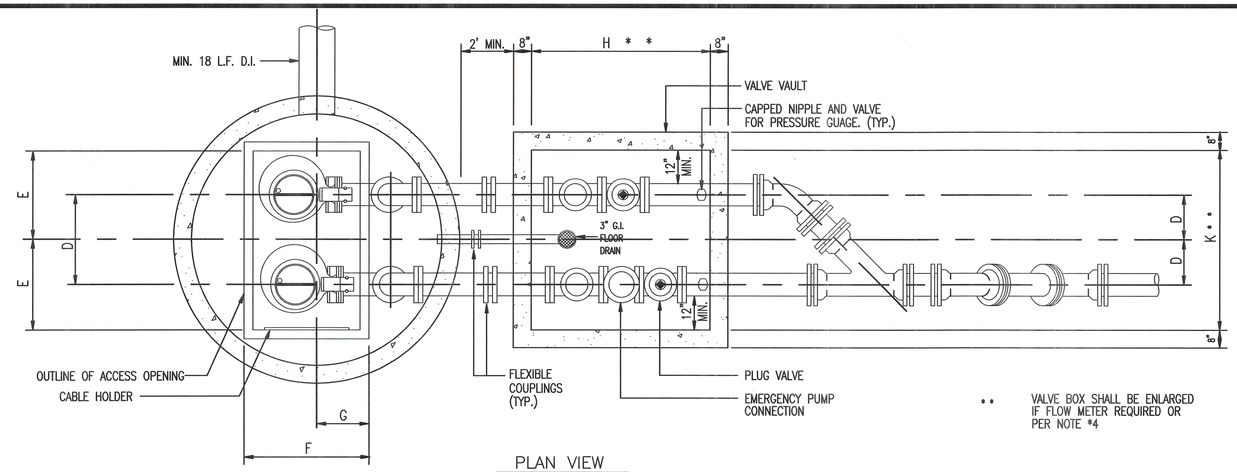
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DATE 02/18/00	BY ---	FILE Copper–Util	SHEET 34 of 39 SHEETS

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226–3200

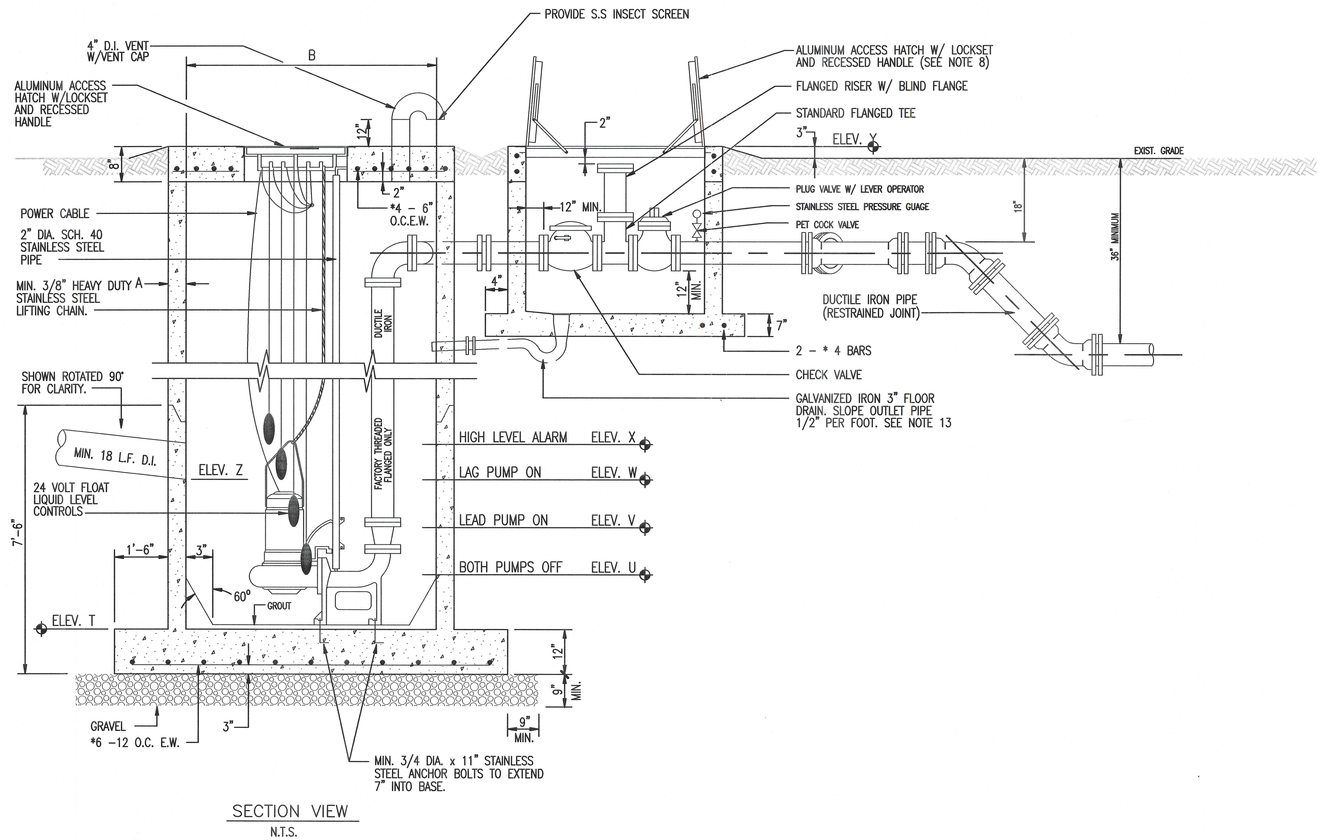
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LIFT STATION DETAILS

Rost Reprographics, Inc.: 5/2/2000, 05:06PM, ch34.plt



PLAN VIEW

N.T.S.



SECTION VIEW

N.T.S.

PUMP STATION DETAILS
PLANS, SECTION, AND NOTES

GENERAL NOTES:

1. ALL EXPOSED METAL SHALL BE PRINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT.
2. WET WELL AND VALVE VAULT SHALL BE COATED WITH COAL TAR INSIDE AND OUT. (TWO COATS, 9 MILS EACH.)
3. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
4. VALVE VAULT SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 6" DIAMETER PIPE AND SMALLER. CLEARANCES SHALL INCREASE AS REQUIRED FOR LARGER PIPE SIZES.
5. VALVE VAULT SHALL HAVE SEALED FLOOR AND DRAIN.
6. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
7. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WET WELL.
8. WET WELL AND VALVE VAULT COVERS SHALL BE ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY FLORIDA WATER SERVICES.
9. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.
10. LIFT STATION # 1 PUMPS OPERATING CONDITIONS SHALL BE 350 GPM AT 97 FEET TDH.

    MANUFACTURER: FLYGT ; MODEL: CP-3152; IMP: 454 (4" VOLUTE); MM, SPEED: 1750 RPM; DISCHARGE SIZE: 4 IN.; VOLTAGE: 480; HZ.: 60; PHASE: 3 ; H.P.: 20; MIN. SOLID SIZE: 3 IN.; CURVE: C-3152.

11. LIFT STATION #2 PUMPS OPERATING CONDITIONS SHALL BE 250 GPM AT 84 FEET TDH.

    MANUFACTURER: FLYGT; MODEL: CP-3140; IMP: 481 ; MM, SPEED: 1750 RPM; DISCHARGE SIZE: 4 IN.; VOLTAGE: 480; HZ.: 60; PHASE: 3; H.P.: 15; MIN. SOLID SIZE: 3 IN.; CURVE: C-3140.

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13. CONTRACTOR MAY INSTALL A "P" TRAP BETWEEN THE VALVE VAULT AND WET WELL AS AN ALTERNATIVE TO THE FLOOR DRAIN SHOWN.

	LIFT STATION # 1		LIFT STATION # 2	
PUMPING STATIONS	DIMENSIONS	ELEV. AT CONST.		
DIM A	8" MIN.		8" MIN.	
DIM B	7'-0" MIN.		6'-0" MIN.	
DIM C	*		*	
DIM D	*		*	
DIM E	*		*	
DIM F	*		*	
DIM G	*		*	
DIM H	6'-0" MIN.		6'-0" MIN.	
DIM J				
DIM K	4'-8" MIN.		4'-8" MIN.	
ELEV T	4.75	0.00	6.83	0.00
ELEV U	5.89		8.33	
ELEV V	9.89		12.33	
ELEV W	10.39		12.83	
ELEV X	10.89		13.33	
ELEV Y				
ELEV Z	10.39		12.83	

* PER PUMP MANUFACTURERS REQUIREMENT

LDC
SEP 26 2000
APPROVED

APPROVED
HAROLD G. ISRAELSON
REG. NO. 54163
02/18/00
NOT VALID WITHOUT SIGNATURE AND SEAL

REVISED

DATE 02/18/00 BY ---

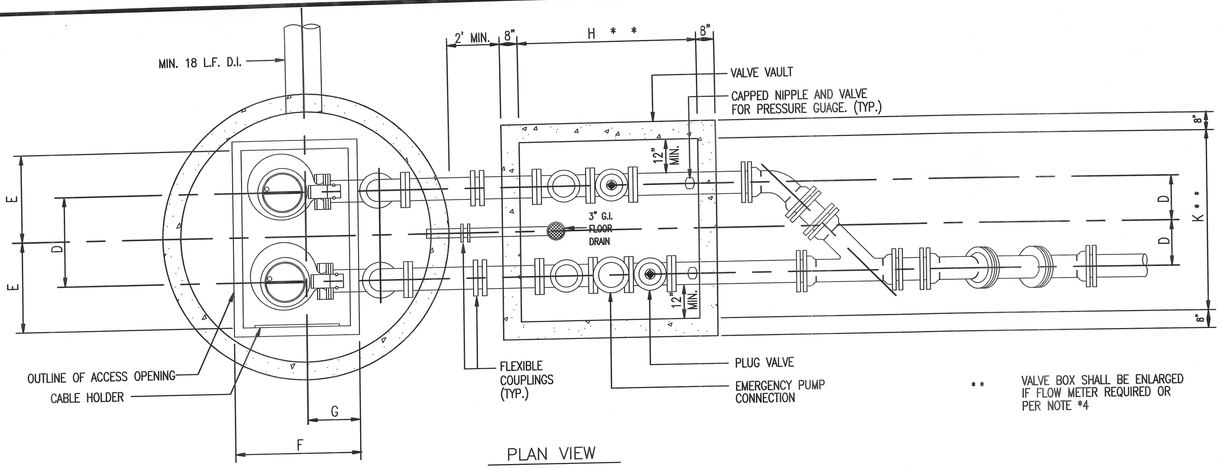
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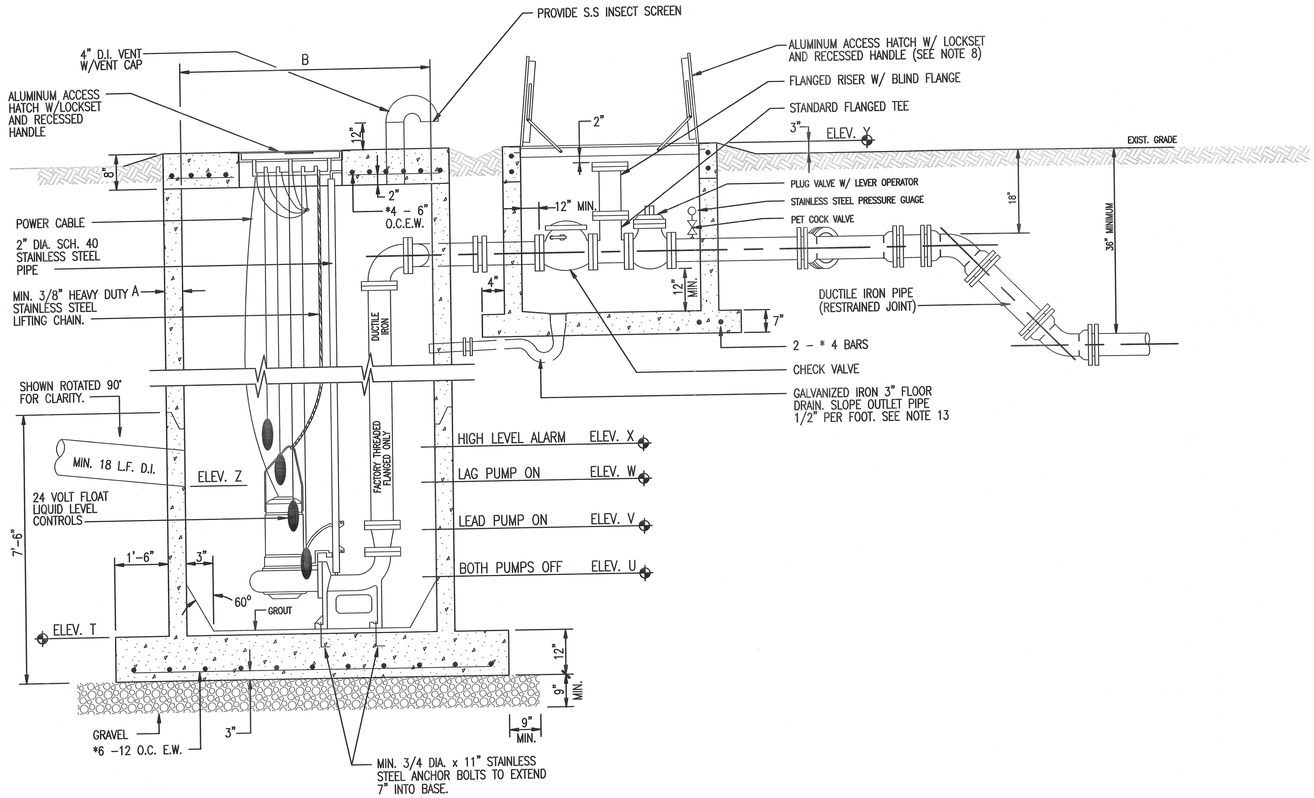
SHEET 35 of 39 SHEETS

Rost Reprographics, Inc.: 5/2/2000, 05:06 PM, ch35.plt



PLAN VIEW

N.T.S.



SECTION VIEW

N.T.S.

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DIM C	*		*	
DIM D	*		*	
DIM E	*		*	
DIM F	*		*	
DIM G	*		*	
DIM H	6'–0" MIN.		6'–0" MIN.	
DIM J				
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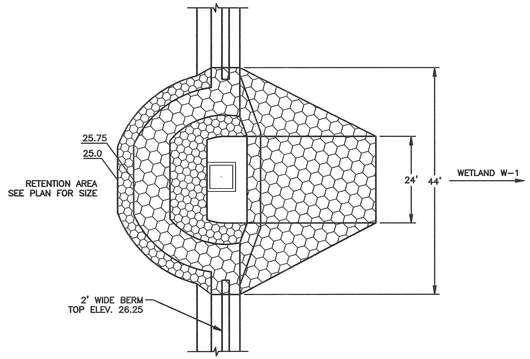
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Savage, Mn. 55378
Phone (612) 226–3200

FILE Copper–Util

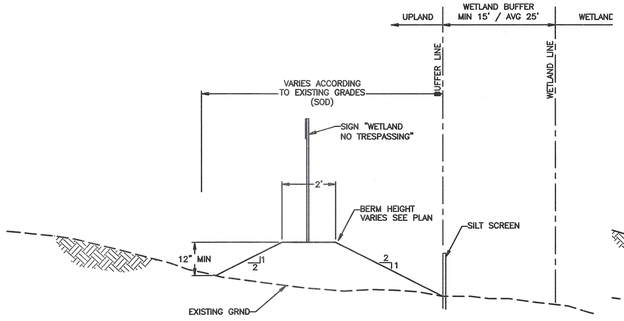
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
LIFT STATION DETAILS

SHEET 35 of 39 SHEETS

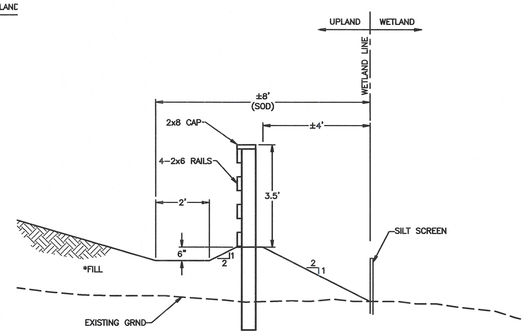
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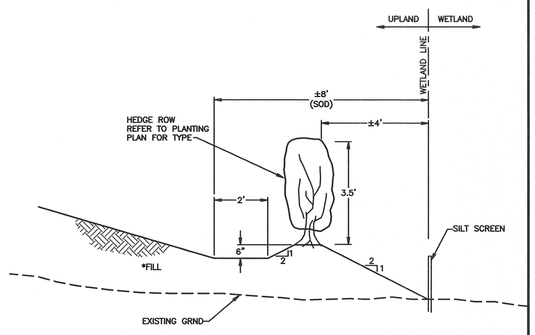
PLAN VIEW
SCALE: NTS



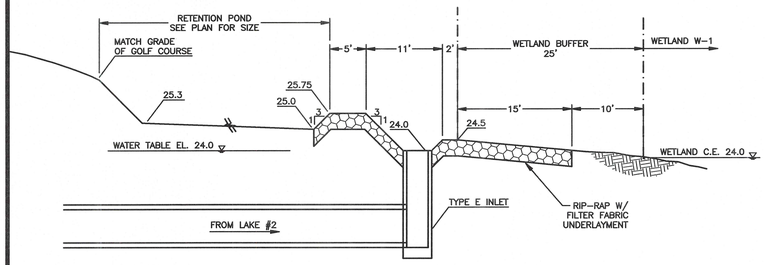
WETLAND BERM (B)
SCALE: NTS 6,8,9,36



TYPE 'A' WETLAND BARRIER
WOODEN FENCE
NOT TO SCALE

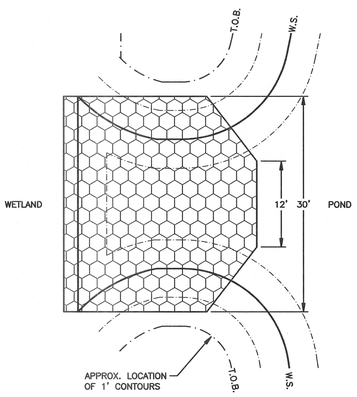


TYPE 'B' WETLAND BARRIER
HEDGE ROW
NOT TO SCALE

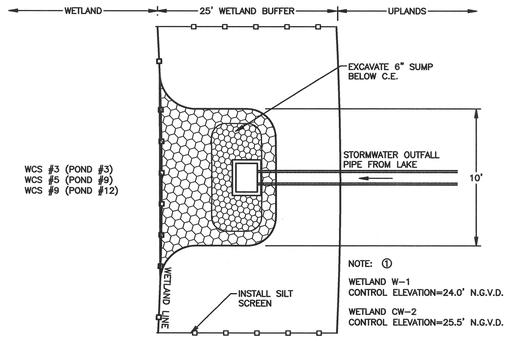


POND II & LAKE #2 (WCS#1) SPREADER OUTFALL (A)
SCALE: NTS 8,36

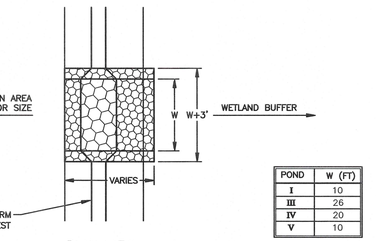
PHYSICAL BUFFERS (F)
SCALE: NTS 6,8,9,36



PLAN VIEW
SCALE: NTS

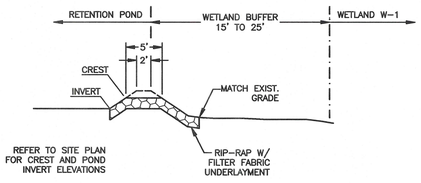


OUTFALL SPREADER SWALE PLAN
NTS

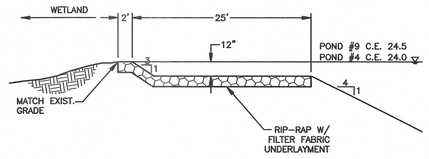


POND	W (FT)
I	10
III	26
IV	20
V	10

PLAN VIEW
SCALE: NTS

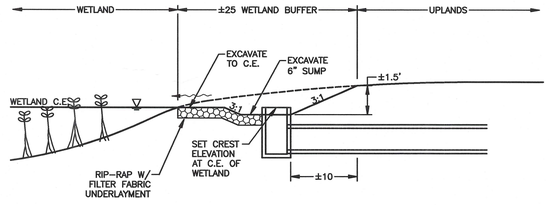


RETENTION POND OUTFALL (C)
SCALE: NTS 6,8,36



POND / WETLAND INTERCONNECT (D)
SCALE: NTS 6,9,36

STRUCTURE #4 (POND #4)
STRUCTURE #6 (POND #9)



OUTFALL SPREADER SWALE SECTION (E)
SCALE: NTS 6,8,9,36

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Environmental & Coastal Engineers,
Scientists & Management Consultants

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AJQ	02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

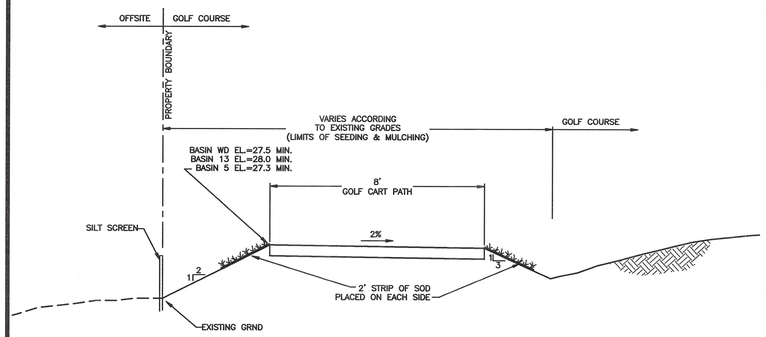
COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

FILE File

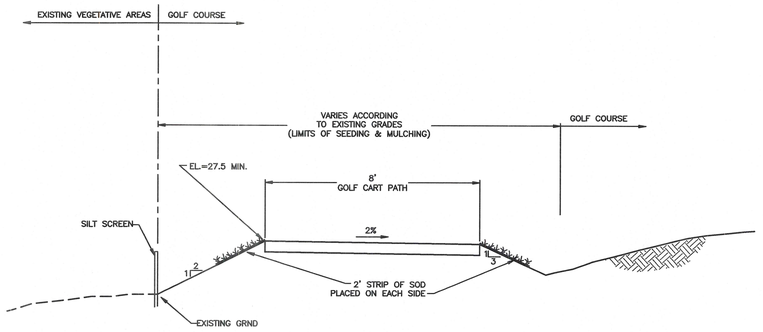
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

SHEET 36 of 39 SHEETS

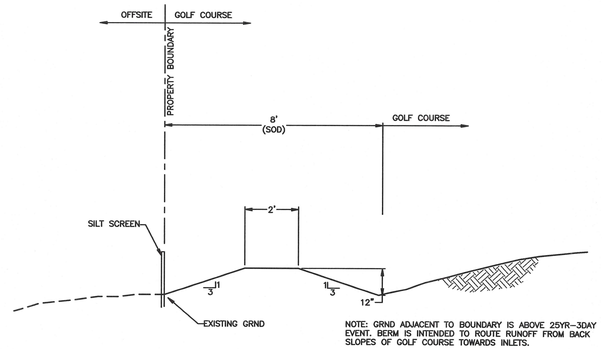
Rost Reprographics, Inc.: 5/6/2000, 11:35 AM, ch36.plt



GOLF CART PATH ADJACENT TO PROPERTY BOUNDARY
SCALE: NTS (G 4,6|37)

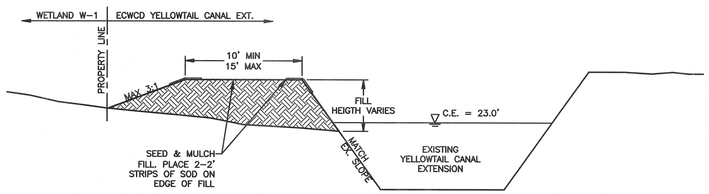


GOLF CART PATH ADJACENT TO EXISTING VEGETATIVE AREAS
SCALE: NTS (H 4|37)

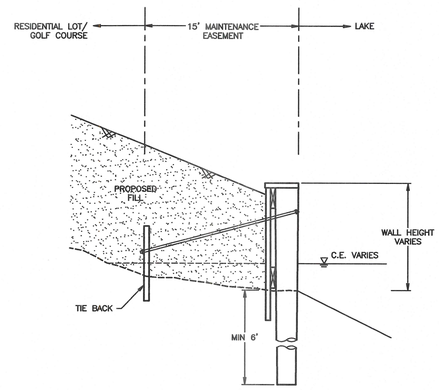


NOTE: GRND ADJACENT TO BOUNDARY IS ABOVE 25YR-3DAY EVENT. BERM IS INTENDED TO ROUTE RUNOFF FROM BACK SLOPES OF GOLF COURSE TOWARDS INLETS.

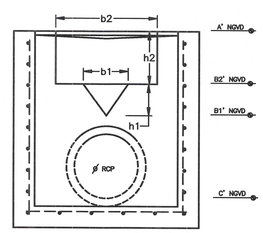
PROPERTY BOUNDARY BERM
SCALE: NTS (I 4,6|37)



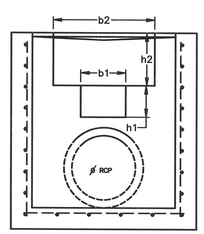
WETLAND W-1 PERIMETER BERM
SCALE: NTS (J 8|37)



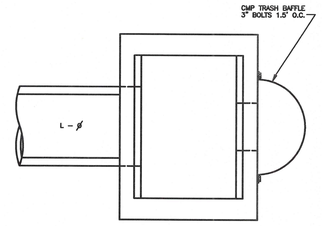
VERTICAL RETAINING WALL
SCALE: NTS (K 4,7|37)



SECTION TRIANGLE



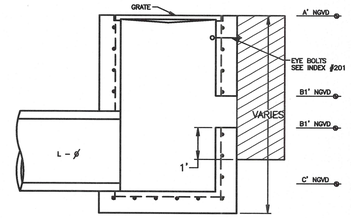
SECTION RECTANGLE



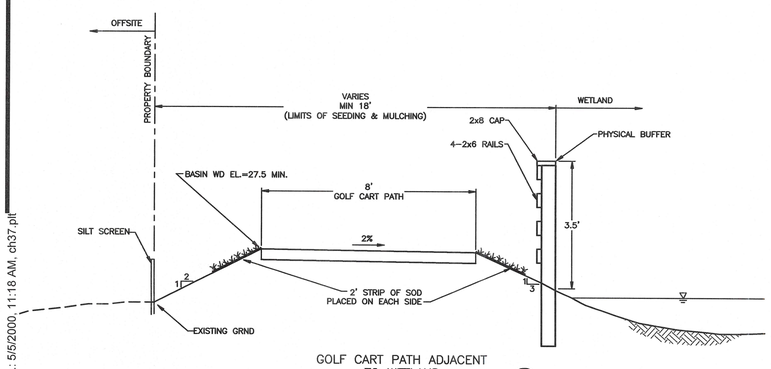
PLAN
FDOT MODIFIED TYPE INLET

STRUCTURE	A	B1	B2	C	ORIFICE	b1	h1	b2	h2	Ø	L	BAFFLE Ø	TYPE	FROM	TO
	' NGVD	' NGVD	' NGVD	' NGVD		in	IN	in	IN	IN	FT	IN			
WCS #1	25.0	24.0	–	19.0	TRNGL	23.0	12.0	–	–	36	893	SKIMMER	TYPE E	POND #2	W-1
WCS #2	26.0	24.0	–	19.0	RECT.	36.0	24.0	–	–	24	65	SKIMMER	TYPE C	W-1	OFFSITE
WCS #3	25.0	24.0	–	19.0	TRNGL	8.0	12.0	–	–	24	281	18	TYPE C	POND #3	W-1
WCS #5	27.0	24.5	–	19.5	RECT.	39.0	30.0	–	–	24	270	36	TYPE E	POND #9	W-1
WCS #7	28.0	25.5	26.6	20.0	TRNGL	4.7	13.2	6.0	16.8	18	84	18	TYPE C	POND #13	OFFSITE
WCS #8	27.5	25.5	–	23.0	RECT.	12.0	24.0	–	–	18	65	24	TYPE C	CW-2	OFFSITE
WCS #9	26.5	25.5	–	21.0	TRNGL	7.0	12	–	–	24	86	18	TYPE D	POND #12	CW-2
WCS #10	27.0	23.5	–	21.5	CIRC.	3	3	–	–	18	240	12	TYPE C	POND VII	OFFSITE

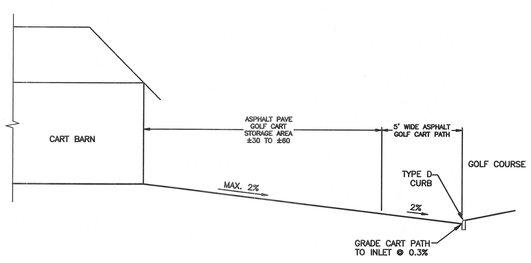
WCS #10
CONSTRUCT 12" DEEP SUMP FOR 3" BLEEDER
DRY DETENTION POND INVERT = 24.5' NGVD
BLEEDER INVERT = 23.5' NGVD



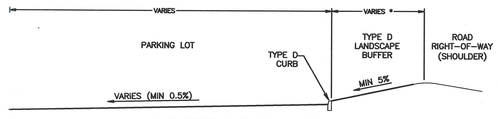
SECTION
FDOT MODIFIED TYPE INLET



GOLF CART PATH ADJACENT TO WETLAND
SCALE: NTS (L 6|37)



CART BARN REAR DRAINAGE
SCALE: NTS (N 9A|37)



* 20' BETWEEN CLUBHOUSE AND BETH STACEY R/W
15'-25' BETWEEN CLUBHOUSE AND COPPERHEAD DR
15' BETWEEN MAINTENANCE AREA AND 23RD ST
40' BETWEEN MAINTENANCE AREA AND ECWCD R/W

CLUBHOUSE & MAINTENANCE AREA BOUNDARY
SCALE: NTS (O 9A|37)

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SEP 26 2000
APPROVED

APPLIED TECHNOLOGY & MANAGEMENT, INC
Environmental & Coastal Engineers, Scientists & Management Consultants

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ALFRED J. QUATTRONE
REG. NO. 52741
12/14/99
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REVISED	
AJQ	02/26/00 COUNTY COMMENTS

DATE 04/25/00 BY ---

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
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Phone (612) 226-3200

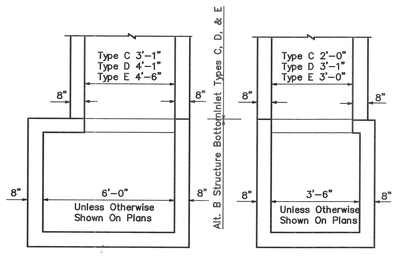
FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

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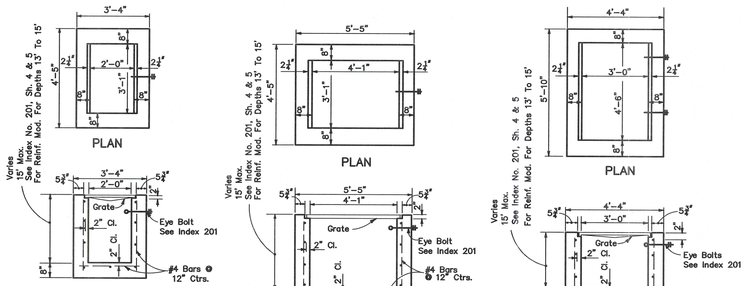
GENERAL NOTES

1. These inlets are suitable for bicycle and pedestrian areas and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and in areas accessible to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dipped galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.
5. All exposed corners and edges of concrete are to be chamfered $\frac{3}{4}$".
6. Pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial, and shall include the cost for slot openings, paving and any required replacement grates.
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Sodding SY.
9. For supplementary details see Index No. 201.

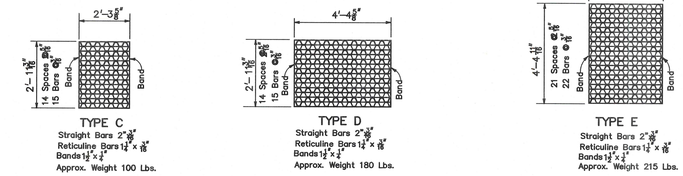


NOTE: Alt. B Structure Bottom Only. See Index No. 200

STRUCTURE BOTTOM FOR INLETS TYPE C, D & E



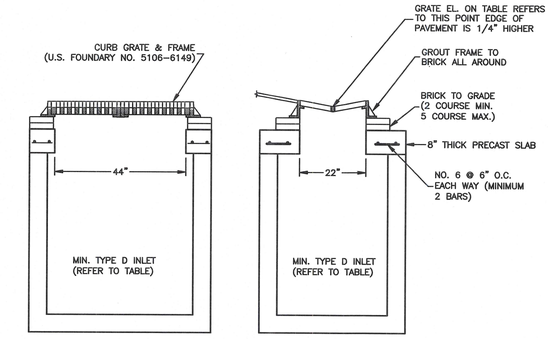
INLETS



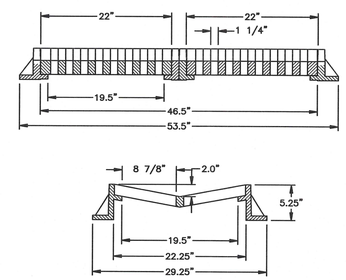
NOTICE: Steel Grates Are Required On Inlets With Traversable Slots And On Inlets where Bicycle Traffic Is Anticipated.

STEEL GRATES

DITCH BOTTOM INLETS
TYPES C, D, E & H

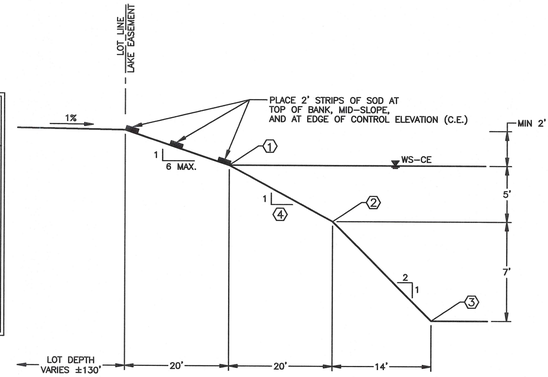


GRATE MUST HAVE LOCKING CHAINS IN ACCORANCE WITH D.O.T. INDEX 201

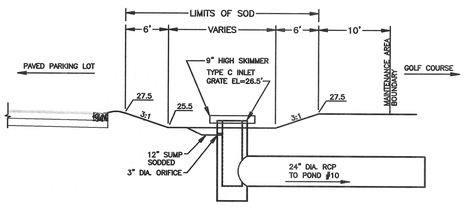


VALLEY GUTTER INLET FRAME AND GRATE
(U.S. FOUNDARY NO. 5106-6149)

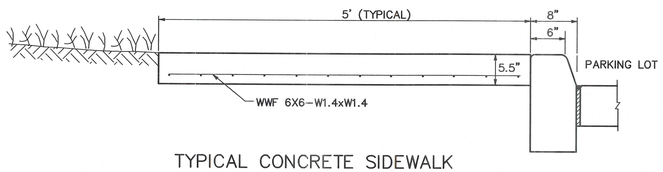
BASIN #	CONTROL ELEVATION ①	SLOPE BREAK ②	TOE ③	SLOPE ④
1	24.0	19.0	12.0	5:1
2	24.0	19.0	12.0	4:1
3	24.0	19.0	12.0	4:1
4	24.0	19.0	12.0	4:1
5	24.5	19.5	12.5	5:1
6	24.5	19.5	12.5	4:1
7	24.5	19.5	12.5	4:1
8	24.5	19.5	12.5	4:1
9	24.5	19.5	12.5	4:1
10	24.5	19.5	12.5	5:1
11	24.5	19.5	12.5	4:1
12	25.5	20.5	13.5	4:1
13	25.5	20.5	13.5	4:1



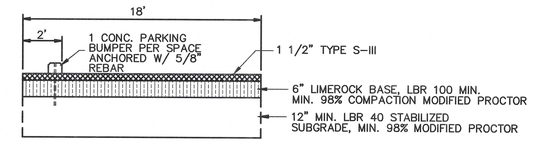
TYPICAL LAKE SECTION
ALL LAKES UNLESS OTHERWISE NOTED
SCALE: NTS



MAINTENANCE AREA DRY RETENTION POND P 9A1S
SCALE: NTS

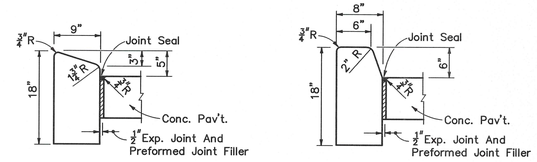


TYPICAL CONCRETE SIDEWALK



PAVEMENT SECTION APPLIES TO ALL PARKING LOT AREAS IN MAINTENANCE AREA AND CLUBHOUSE

TYPICAL PARKING LOT PAVEMENT SECTION



Note: For use adjacent to concrete or flexible pavement, concrete shown. Expansion joint, preformed joint filler and joint seal are required between curbs and concrete pavement only, see diagram right.

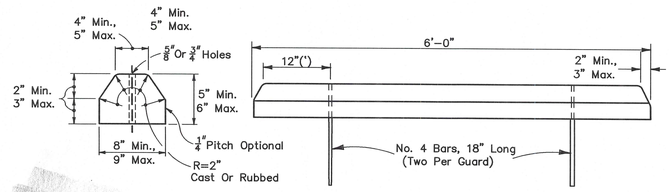
PARKING LOT CONCRETE CURB LDC

SEP 26 2000

APPROVED

GENERAL NOTES

1. For curb,gutter,and curb and gutter provide $\frac{1}{8}$" – $\frac{1}{4}$" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers. Curb,gutter and curb & gutter expansion joints shall be located in accordance with Section 520 of the standard specifications.
2. Ends of Curbs Types B and D shall transition from full to zero heights in 3 feet.



CONCRETE WHEEL STOP

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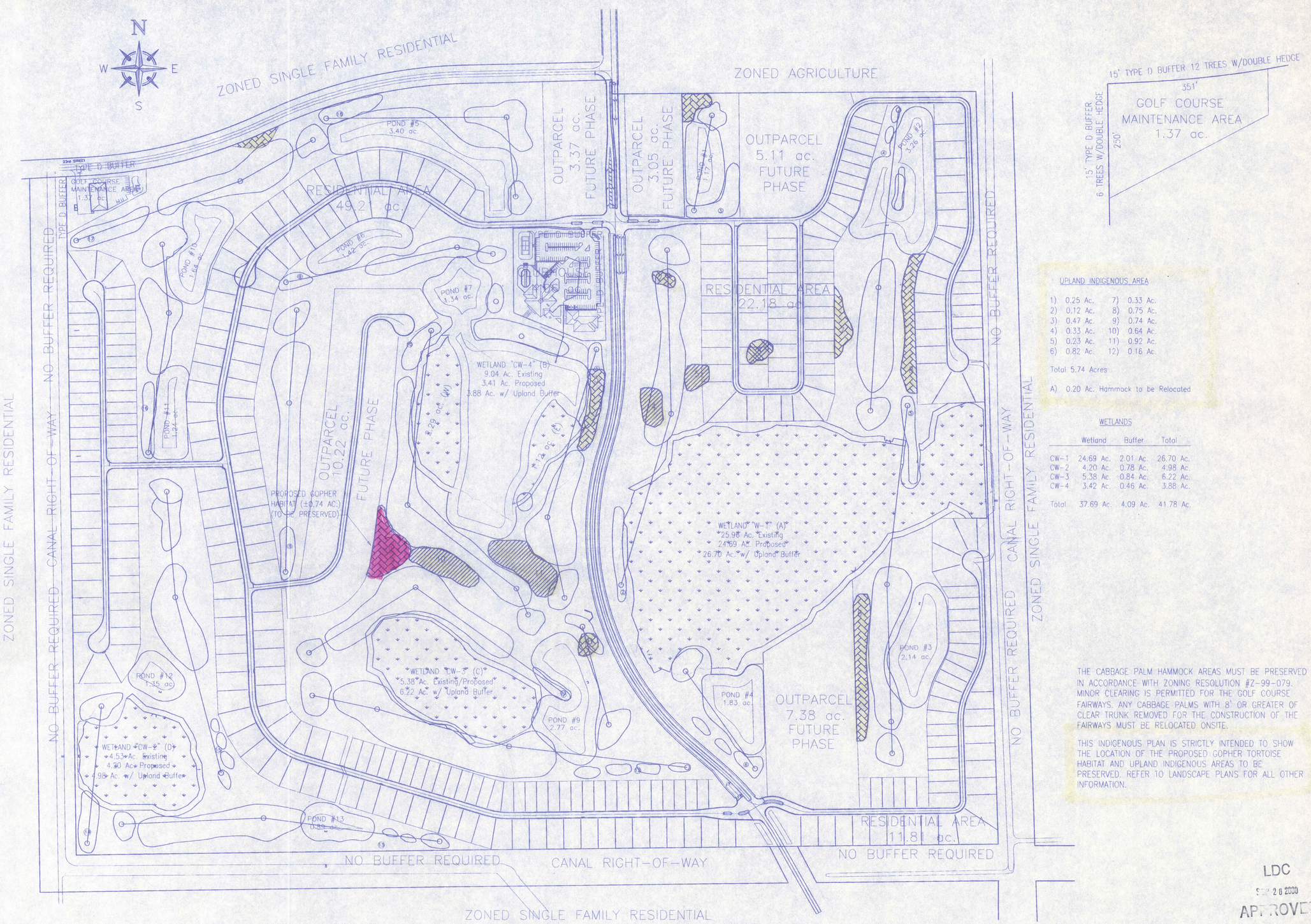
DATE 04/25/00 BY ---

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CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
WATER MANAGEMENT DETAILS

SHEET 38 of 39 SHEETS



UPLAND INDIGENOUS AREA

1)	0.25 Ac.	7)	0.33 Ac.
2)	0.12 Ac.	8)	0.75 Ac.
3)	0.47 Ac.	9)	0.74 Ac.
4)	0.33 Ac.	10)	0.64 Ac.
5)	0.23 Ac.	11)	0.92 Ac.
6)	0.82 Ac.	12)	0.16 Ac.

Total 5.74 Acres

A) 0.20 Ac. Hammock to be Relocated

WETLANDS

	Wetland	Buffer	Total
CW-1	24.69 Ac.	2.01 Ac.	26.70 Ac.
CW-2	4.20 Ac.	0.78 Ac.	4.98 Ac.
CW-3	5.38 Ac.	0.84 Ac.	6.22 Ac.
CW-4	3.42 Ac.	0.46 Ac.	3.88 Ac.
Total	37.69 Ac.	4.09 Ac.	41.78 Ac.

THE CABBAGE PALM HAMMOCK AREAS MUST BE PRESERVED IN ACCORDANCE WITH ZONING RESOLUTION #Z-99-079. MINOR CLEARING IS PERMITTED FOR THE GOLF COURSE FAIRWAYS. ANY CABBAGE PALMS WITH 8' OR GREATER OF CLEAR TRUNK REMOVED FOR THE CONSTRUCTION OF THE FAIRWAYS MUST BE RELOCATED ONSITE.

THIS INDIGENOUS PLAN IS STRICTLY INTENDED TO SHOW THE LOCATION OF THE PROPOSED GOPHER TORTOISE HABITAT AND UPLAND INDIGENOUS AREAS TO BE PRESERVED. REFER TO LANDSCAPE PLANS FOR ALL OTHER INFORMATION.

LDC
SEP 26 2000
APPROVED

KATHY L. MORGAN, PROJECT MANAGER
6747 PLANTATION MANOR LOOP
FORT MYERS, FLORIDA 33912
(941) 368-3377

EAST BAY GROUP, LLC
1130 LEE BOULEVARD, SUITE B
LEHIGH ACRES, FLORIDA 33936
(941) 303-9838 / 303-9840 FAX

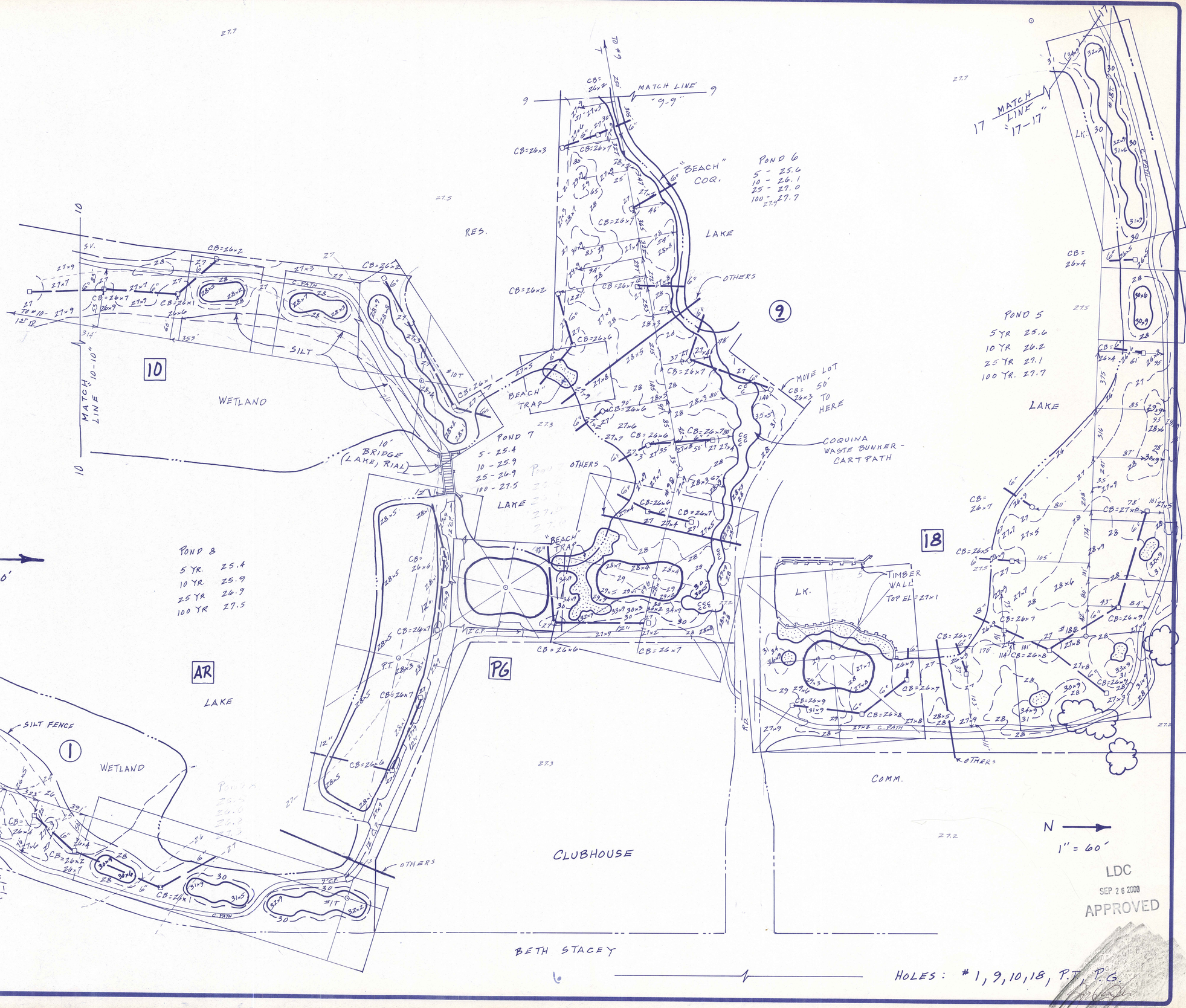
APPROVED: REVISED

DATE 09/18/00 BY ---

COPPERHEAD DEVELOPMENT, INC.
CONSULTING ENGINEERS
6001 Egan Drive, Suite 100
Savage, Mn. 55378
Phone (612) 226-3200

FILE File

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEE COUNTY, FLORIDA
INDIGENOUS PLAN



REVISIONS	BY
9-29-99	

CLASSIC HILLS GOLF COURSE

G.C.A:
GORDON G. LEWIS
5980 18TH AVE N.W.
NAPLES, FL. 34119
(941) 597-4448 (F) 1731

DEVELOPER:
WARREN IGHAELSON
6001 EGAN DR #100
SAVAGE MN 55378
(612) 226-3200 (F) 3201

LDC
SEP 26 2000
APPROVED

DRAWN	SL
CHECKED	
DATE	5-15-99
SCALE	1" = 60'
JOB NO.	9902
SHEET	GRAD. - DRAIN.
	2 OF SHEETS

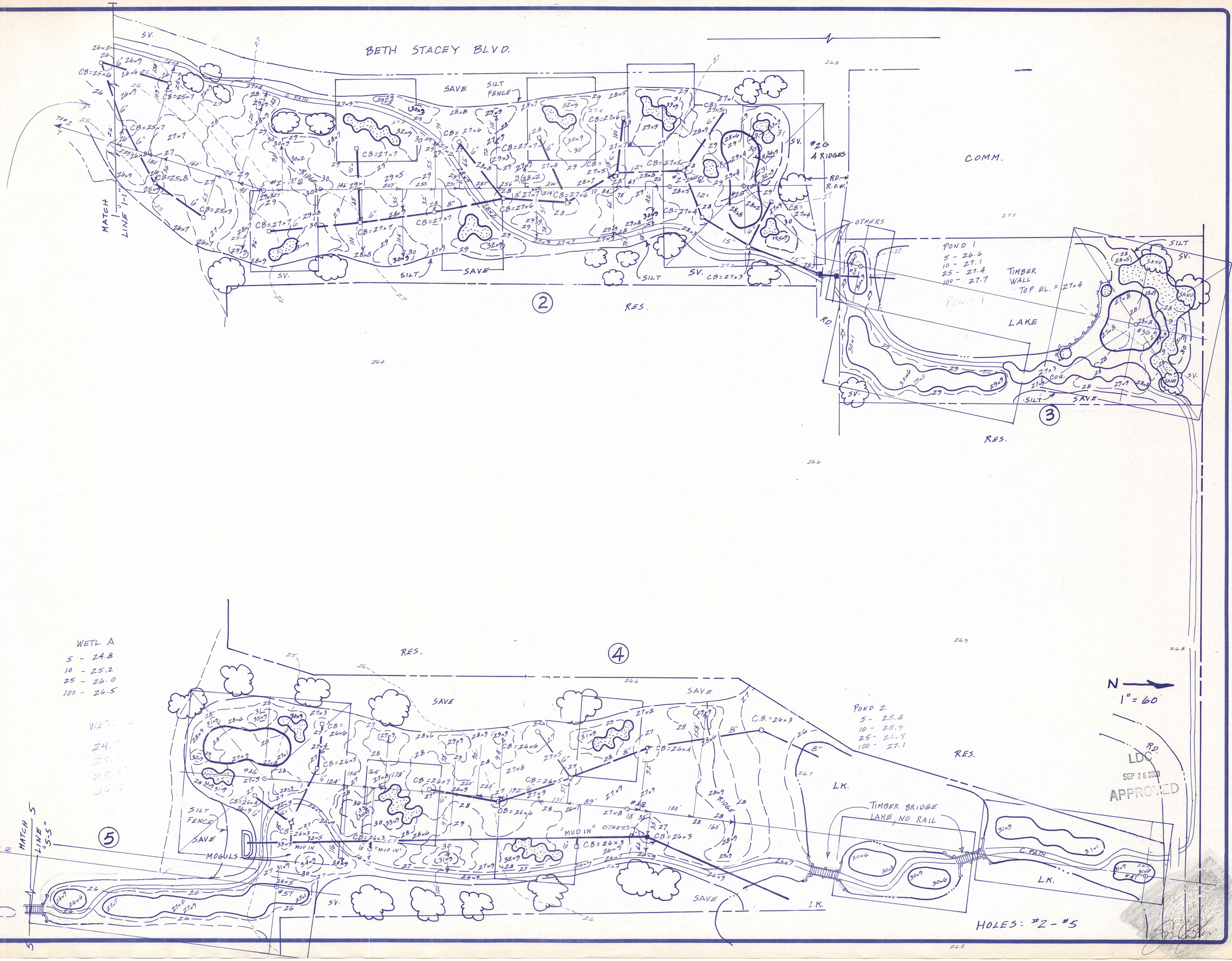
DEVELOPER:
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CLASSIC HILLS GOLF COURSE

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DRAWN	SL
CHECKED	
SCALE	1" = 60'
DATE	5-13-99
JOB NO.	9902
SHEET	GRAD - DRAIN
OF SHEETS	3

REVISIONS	BY
9-28-99	SL



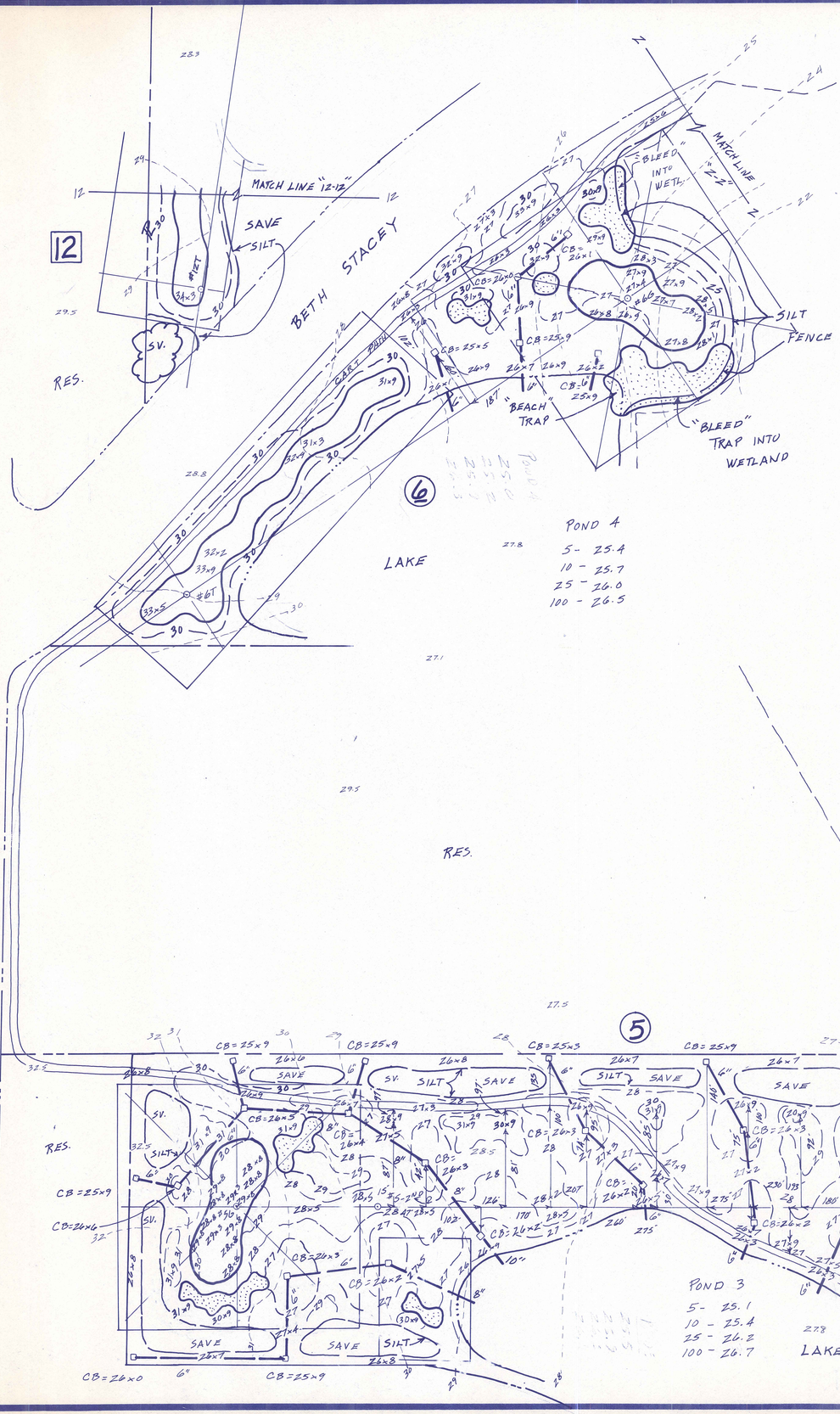
REVISIONS	BY
9-29-99	

DEVELOPER:
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CLASSIC HILLS GOLF COURSE

DRAWN	SL
CHECKED	
DATE	5-27-99
SCALE	1" = 60'
JOB NO.	9907
SHEET	GRAD. — DRAIN.
4 OF	SHEETS



GRADING NOTES

1. THE BEST SITE TOPSOIL'S, SOIL THAT IS FREE OF ROCK AND CLAY, PREDOMINANTLY SAND WITH SOME NATURAL ORGANIC'S SHALL BE SAVED FOR PLACEMENT IN THE FOLLOWING ORDER: GREEN SLOPES, COLLARS, TEES, GREEN BASE, TRAPS, FAIRWAYS, AND MOUNDS. MINIMUM TOPSOIL DEPTH SHALL BE SIX INCHES, IN ALL AREAS.
2. SOIL WITH THE HIGHEST SAND CONTENT SHALL BE PLACED UNDER GREENS, ON GREEN SLOPES AND ON TEES. SOIL PLACED ON GREEN SLOPES AND TEES SHALL BE OF THE SAME UNIFORM MATERIAL.
3. CARE SHOULD BE EXERCISED TO AVOID CONTAMINATION OF TOPSOIL'S WITH UNDESIRABLE MATERIALS, SUCH AS: ROCK; CLAY; HARD PAN; MARL; MUCK; ETC.
4. THESE PLANS REPRESENT THE GOLF COURSE ARCHITECT'S INTEREST IN CREATING AN ASYMMETRICAL BALANCE OF EARTHWORK.
5. ALL GRADES ARE BASED ON DATA SUPPLIED BY THE OWNER.
6. IF ADDITIONAL FILL MATERIAL IS REQUIRED, THE LAKES MAY BE EXCAVATED DEEPER.
7. THE MINIMUM SLOPE FOR DRAINAGE IS 2%, SO ALL RELATIVELY FLAT AREAS WILL BE GRADED TO SLOPE AT LEAST 2 %. TEES AND SWALES ARE THE EXCEPTION. THEY ARE GRADED AT .5%. TERRACED TEES NEED A SLIGHT SIDE SLOPE AT THE BACK TO PREVENT TRAPPED WATER. STEEPEST SPRIGGED SLOPE IS 3:1. SODDED BAHIA SLOPES CAN BE 2:1.
8. FIELD ADJUSTMENTS WILL BE NECESSARY TO MATCH THE CATCH BASINS AND PIPE SPECIFIED BY THE ENGINEERS. I IS IMPERATIVE THAT THE SHAPERS BLEND THE SURROUNDING GRADES SO THAT WATER DRAINS TO THE CATCH BASINS AND THE AREAS ARE AESTHETICALLY PLEASING TO THE EYE.
9. REFER TO THE INDIVIDUAL HOLE DETAILS WHEN CONSTRUCTING THE GREENS, TEES, AND TRAPS.
10. ALL SWALES SHALL BE GRADUAL AND MOWABLE, RATHER THAN DEEP, STEEP DITCH CUTS. MAKE THEM PLAYABLE FOR GOLFERS.
11. TEE SURFACES SHALL BE GRADED LEVEL. THEY AVERAGE ABOUT 30' WIDE FOR MAINTENANCE PURPOSES. THEY SHALL BE SHAPED TO BLEND WITH THE SURROUNDING GRADES.
12. FAIRWAY TRAPS SHALL BE SHAPED IN CONTOUR MOUNDS, GENERALLY JUST PAST THE LANDING ZONE (DOGLEG POINT).
13. THE LEASE DESIRABLE MATERIAL SHALL BE PLACED AT THE BOTTOM OF THE LARGEST MOUNDS.
14. TO EXPEDITE SURFACE WATER MOVEMENT, LOWER AREAS SHALL BE GRADED TO ESTABLISH A BROAD PERCOLATION AREA WHERE POSSIBLE. THEY WILL PROMOTE A NATURAL GOLF COURSE APPEARANCE. ALL AREAS SHALL BE GRADED TO DRAIN. THERE WILL BE NO BIRD BATHS, UNLESS DRAINED BY CATCH BASINS.
15. ALL TOPSOIL APPLICATIONS SHALL BE BLENDED BY DISKING OR TILLING AND HE DRAGGED WITH A STEEL-TOOTH DRAG.
16. LOWEST CART PATH ELEVATION WILL BE AT THE 25 YEAR FLOOD STAGE. (SEE ENGINEER'S PLANS)
17. CONTRACTOR WILL GUARANTEE ALL MATERIALS, WORK, AND SETTLING FOR 2 YEARS AFTER FINAL ACCEPTANCE OF PUNCH-LIST.

REVISIONS	BY
9-30-99	

CLASSIC HILLS GOLF COURSE

DEVELOPER:
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DRAWN	SL
CHECKED	
DATE	5-16-99
SCALE	1" = 60'
JOB NO.	9902
SHEET	GRAD. - DRAIN.

5 OF SHEETS

REVISIONS	BY
9-30-99	

CLASSIC HILLS GOLF COURSE

DEVELOPER:
WARREN ISRAELSON
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14

13

15

12

7

8

WETLAND

SILT

RES.

WETL. D
5 - 26.2
10 - 26.6
25 - 27.2
100 - 27.6

POND 12
5 - 26.7
10 - 27.0
25 - 27.3
100 - 27.6
FIELD LOCATE THIS LAKE

3'x4'x4' GRAV. SUMP W/ C. BASIN

SILT FENCE

SWALE AT EX. GRADE

RET. (OTHERS)

(2) CB's = Z7x0 OR 0x3 LOWER THAN EXIST. GRADE (USE THE LOWEST)

SAVE

C. PATH

R.O.W.

LAKE POND 13
5 - 26.9
10 - 27.3
25 - 27.8
100 - 28.1

MATCH LINE "7-7"

MATCH LINE "15-15"

MATCH LINE "8-8"

WETL. C
5 - 25.3
10 - 26.2
25 - 26.6
100 - 27.2

WETLAND "C"

3'x4'x4' GRAV. SUMP W/ C. BASIN

N
1" = 60'

HOLES: #7-#8; #12-#15.

LDC
SEP 26 2000
APPROVED

DRAWN	TJB SL
CHECKED	GGL
DATE	5-10-99
SCALE	1" = 60'
JOB NO.	9902
SHEET	GRAD. - DRAIN.

6 OF SHEETS

REVISIONS	BY
9-28-99	

CLASSIC HILLS GOLF COURSE

DEVELOPER:
WARR, ISRAELSON
6001 E. V DR #100
SAVAGE, MN 55378
(612) 226-3 0 (F) 3201

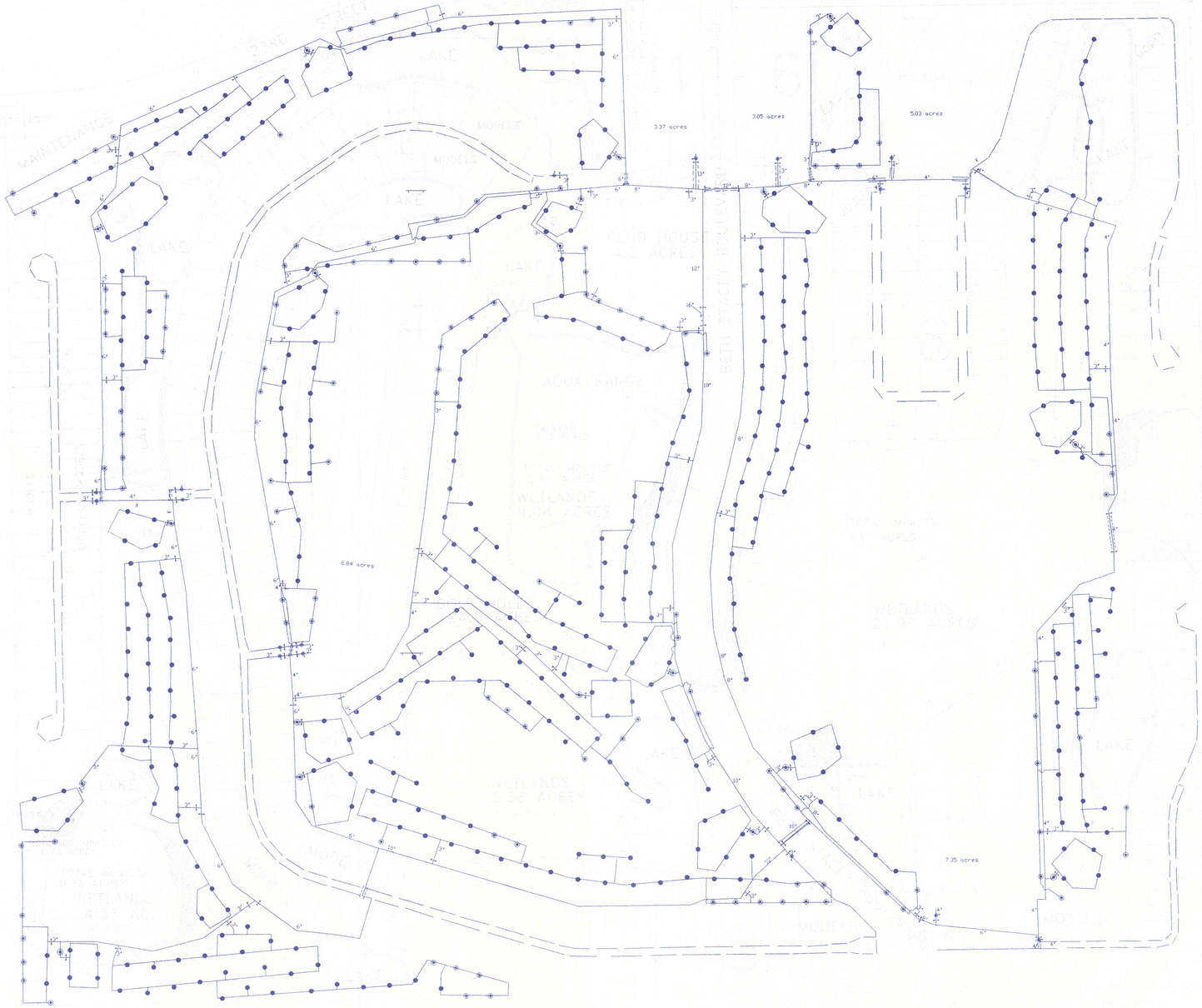
G.C.A.:
GORDON G. LEWIS
5980 18TH AVE N.W.
NAPLES, FL. 34119
(941) 597-4448 (F) 1731

DRAWN: SL
CHECKED:
DATE: 5-12-99
SCALE: 1" = 60'
JOB NO.: 9902
SHEET: GRAD. — DRAIN.

7 OF SHEETS

LDC
SEP 26 2000
APPROVED

HOLES: #8–#9; #16–#17.



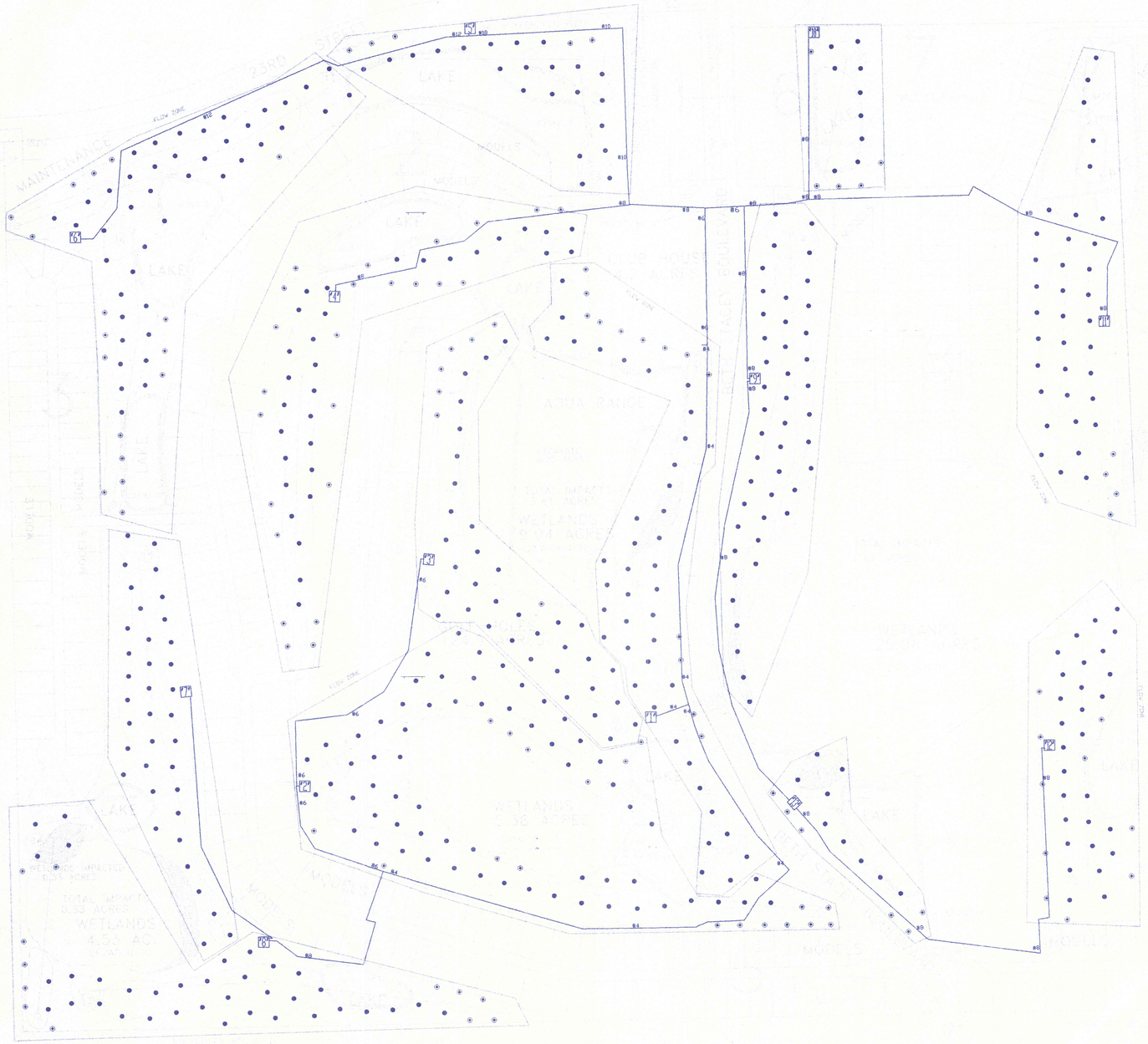
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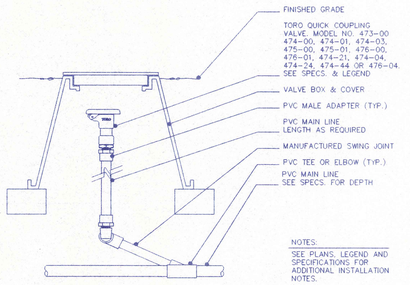
1. WIRING ROUTE AS FOLLOWS: P = POWER WIRE SHALL BE 2-STRAND WITH GROUND, DIRECT BURIAL, AS SIZED ON PLAN.
2. N.O. HYDRAULIC SATELLITES SHALL BE INSTALLED.
3. POWER WIRES SIZED TO LIMIT THE VOLTAGE LOSS IN THE WIRING NETWORK TO 10 VOLTS. WIRE SIZING BASED ON A POWER DRAWN PER SATELLITE OF 0.53 AMPS.
4. POWER WIRING ROUTED UNDER PAVEMENT OR HUNG AT BRIDGE CROSSINGS SHALL BE INSTALLED IN SCH 40 SLEEVE.
5. ALL PIPING UNDER PAVEMENT SHALL BE INSTALLED IN SCH 40 P.V.C. TWO SIZES LARGER THAN IRRIGATION PIPE.
6. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
7. ALL ISOLATION VALVES SHALL BE INSTALLED IN "AMETEK" VALVE BOXES WITH LIDS.
8. ALL PIPE NOT SIZED SHALL BE 2-1/2" CLASS 200 P.V.C. GASKETED, AS SIZED ON PLAN.
9. ALL CONNECTIONS FROM THE MAINLINE TO THE LATERAL LINES SHALL BE 3", UNLESS OTHERWISE NOTED.
10. THE GOLF COURSE SUPERINTENDENT OR THE OWNERS REPRESENTATIVE SHALL APPROVE LOCATION OF CENTRAL & SATELLITES.
11. ALL CONTROLLERS SHALL BE PROPERLY GROUNDED FOR PROTECTION FROM LIGHTNING. PROPER GROUNDING IS ACCOMPLISHED WHEN RESISTANCE TO GROUND IS 10 OHMS OR LESS.
12. ALL GREENS SHALL BE FED BY A 3" PIPE AND LOOPED WITH 2-1/2" PIPE.
13. PROGRAMMING OF HEADS SHALL BE AS FOLLOWS. GREEN LOOP HEADS SHALL BE SINGLE HEAD CONTROL. TEE HEADS SHALL BE RUN TWO AT A TIME WHEN POSSIBLE. FAIRWAY & ROUGH HEADS SHALL BE RUN TWO AT A TIME WHEN POSSIBLE. CONTROLLER STATION COUNT IS SHOWN ON PLAN. SEE PROGRAM SHEET FOR SPECIFIED FLOW ZONES.
14. PIPE AND WIRE ROUTING IS SCHEMATIC. SOME ROUTING MAY BE SHOWN FOR CLARITY PURPOSES. PIPE AND WIRE SHALL NOT INTRUDE BOUNDARIES SUCH AS LAKES, WETLANDS, PROPERTY LINES, GREENS, ETC.

QTY		DESCRIPTION
437	●	TORO 754-01-59
122	●	TORO 785-01-89
19	●	Quick Couple Valve 476-00 1-1/2"
59080	—	2-1/2" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
8060	—	3" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
5920	—	4" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
9260	—	6" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3280	—	8" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3480	—	10" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
580	—	12" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
17	◆	Pressure Regulator
1	--	Gate Valve 2-1/2"
78	--	Gate Valve 3"
11	--	Gate Valve 4"
5	--	Gate Valve 6"
1	--	Gate Valve 8"
3	--	Gate Valve 10"
3	--	Gate Valve 12"
3	▭	DRC-31-060 16 STA. OSMAC N.O. HYD.
4	▭	D24-31-060 24 STA. OSMAC N.O. HYD.
2	▭	D32-31-060 32 STA. OSMAC N.O. HYD.
3	▭	D40-31-060 40 STA. OSMAC N.O. HYD.
1	▭	D48-31-060 48 STA. OSMAC N.O. HYD.
13		N1551 RECEIVER MODULE

WESCOTURF, INC.
IRRIGATION DESIGN
PIPING
DATE 10-29-99
SCALE 1"=200'
DRAWN BY: SHERYL FRESK
PAGE 1 OF 3

LDC
SEP 26 2000
APPROVED

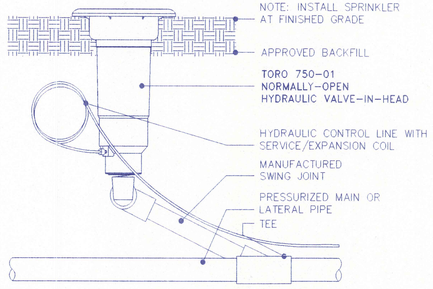

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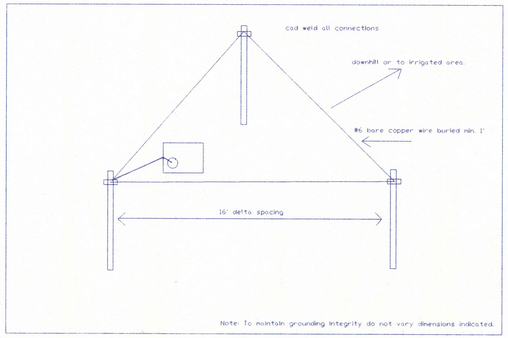
476-00 1-1/2 QUICK COUPLER

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LARGE TURF GEARED ROTOR FULL-CIRCLE TORO 750

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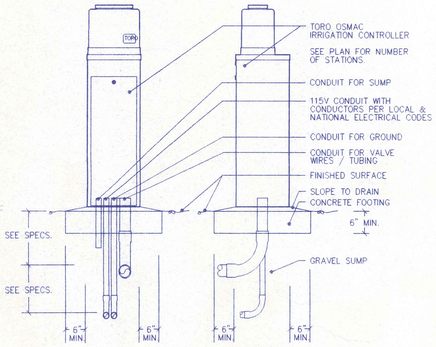


Irrigation System Grounding

The following step by step procedure shows a logical progression, which will lead to the ultimate grounding configuration. Under ideal conditions the optimum ground may be found only after five steps. Most of the important common methods of achieving low ground resistance readings are covered in the following 16 steps.

Step 1. Drive 8' copper clad rod, minimum 5/8" diameter, 2' off the corner of the satellite pad that is farthest from an area that is irrigated.
Step 2. Make a trench around the rod at least 8-10 in. deep and about 6 in. in diameter.
Step 3. Clamp or cad weld a #6 bare copper stranded cable leading from the controller cabinet to the top of the rod.
Step 4. Fill the hole around the rod with magnesium sulfate (epson salt) and water down with a gallon or so of water. Allow the water to seep into the soil around the rod for approximately 10-15 min.
Step 5. Connect the ground rod cable into the controllers ground lug. The source AC power, neutral and ground wire should also be connected to controller inputs.
Step 6. With a clamp on ground tester measure the ground resistance of the cable before the rod. If the ohm reading is in excess of 10 ohms, perform the following steps. If the reading is in excess of 200 ohms, go directly to step 12.
Step 7. Drive a second rod 16' away, toward the irrigated area to form the next ground leg of a delta configuration.
Step 8Provide the same diameter hole as in the first rod and water down with nag-sulfate.
Step 9. Run a #6 bare stranded copper cable in a trench 12 in. deep between the first and second rod.
Step 10. Connect the cable from the first rod to the second rod; back fill the trench with GEM or Bentonite and water down with nag-sulfate.
Step 11. Take another clamp on measurement at the cable entry to the controller. This reading should be almost half the first reading.
Step 12. If the second rod did not bring the ohm reading down to at least ten ohms then a third rod to complete the delta can be driven as with the second and will most likely provide a reading of 10 ohms or less. If the reading is still in excess of 200 ohms, the addition of more vertical rods will most likely not be effective. The only grounding method recommended at this point is to install a zinc ground sheet REF model #Z10-25SK.
Step 13. To install the ground sheet a cable trench is made 18-20 in. deep from the second rod, a distance of 25' to an irrigated area. A 1'x 10' zinc sheet, with a .25" zinc ribbon attached, is placed in the trench and back filled on both sides with ground enhancement material. The 1-1/2 zinc ribbon is laid in the 25' long trench back to the ground rod and also back filled with GEM.
Step 14. A 12 in. long #6 copper cable on the end of the ribbon is attached to the last ground rod. The entire trench is then compacted and watered down before replacing sod.
Step 15. A final measurement with a clamp on ground tester should find the resistance reading below 10 ohms.
Step 16. The holes around the rods should be equipped with a tubing sleeve and cap so inspection can be made and salts added in the future. It is recommended that all grounding systems be inspected and tested annually, especially during dry periods.

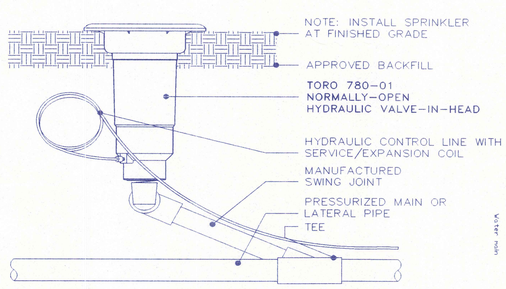
Grounding must be tested at 10ohms or less to meet TORO specifications. If the Delta Grounding System (Step 1-12) does not provide adequate ohms reading, Wesco Turf will provide owner a recommendation of what will be needed. Cost of any additional grounding is owner's responsibility.



PEDESTAL-MOUNT CONTROLLER TORO OSMAC (13X13)

SCALE: NOT TO SCALE

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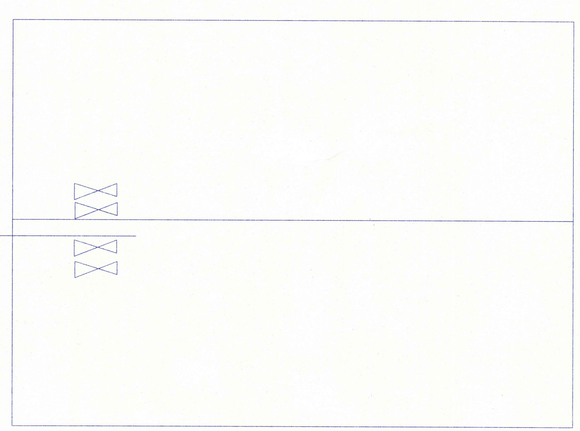


LARGE TURF GEARED ROTOR FULL/PART-CIRCLE TORO 780

SCALE: NOT TO SCALE

IRTCSP53.DWG

Typical valve installation on lots



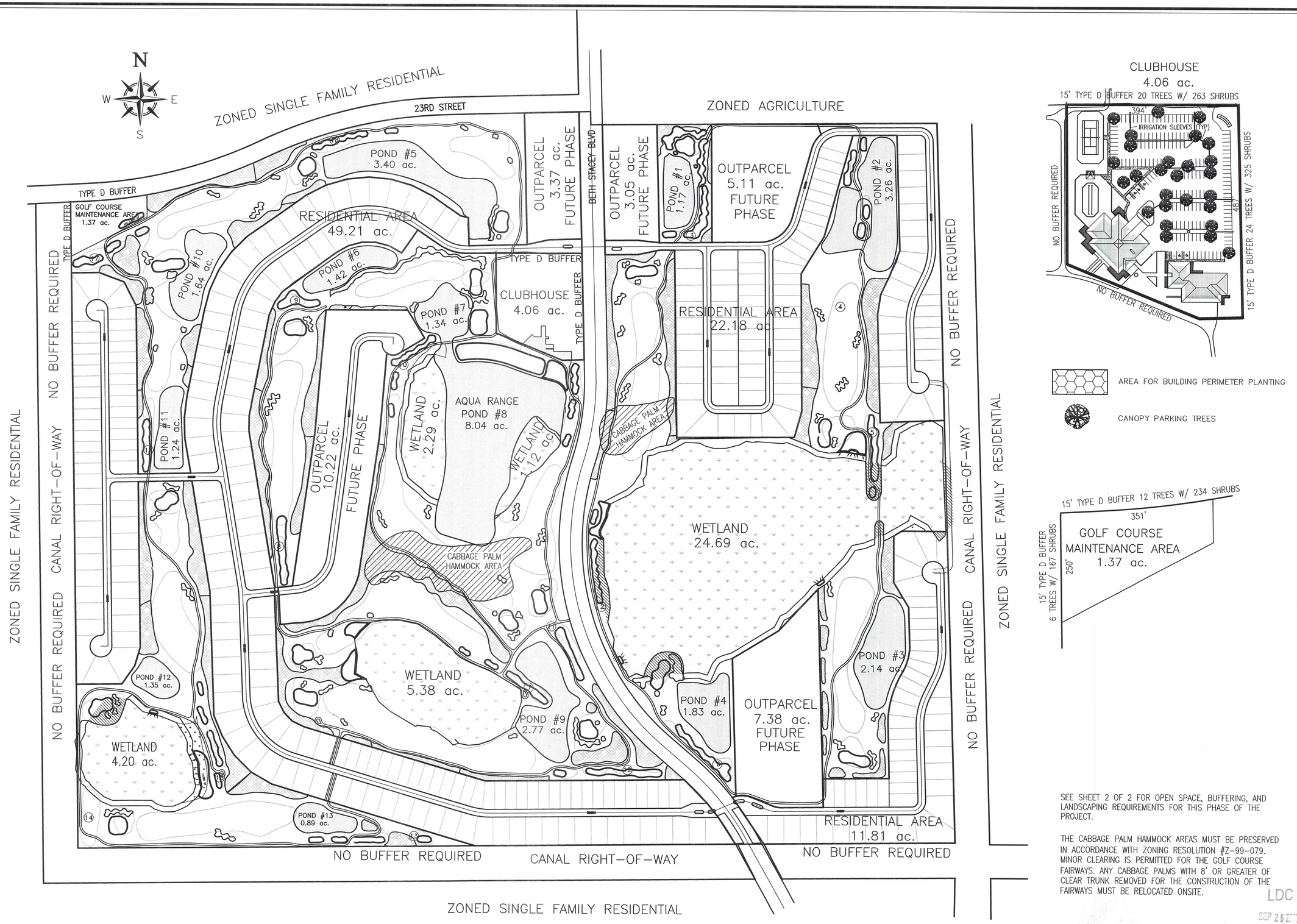
NOTES

1. WIRING ROUTE AS FOLLOWS: P = POWER WIRE SHALL BE 2-STRAND WITH GROUND, DIRECT BURIAL, AS SIZED ON PLAN.
2. N.O. HYDRAULIC SATELLITES SHALL BE INSTALLED.
3. POWER WIRES SIZED TO LIMIT THE VOLTAGE LOSS IN THE WIRING NETWORK TO 10 VOLTS. WIRE SIZING BASED ON A POWER DRAWN PER SATELLITE OF 0.53 AMPS.
4. POWER WIRING ROUTED UNDER PAVEMENT OR HUNG AT BRIDGE CROSSINGS SHALL BE INSTALLED IN SCH 40 SLEEVE.
5. ALL PIPING UNDER PAVEMENT SHALL BE INSTALLED IN SCH 40 P.V.C. TWO SIZES LARGER THAN IRRIGATION PIPE.
6. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
7. ALL ISOLATION VALVES SHALL BE INSTALLED IN "AMETEK" VALVE BOXES WITH LIDS.
8. ALL PIPE NOT SIZED SHALL BE 3-1/2" CLASS 200 P.V.C. GASKETED, AS SIZED ON PLAN.
9. ALL CONNECTIONS FROM THE MAINLINE TO THE LATERAL LINES SHALL BE 3". UNLESS OTHERWISE NOTED.
10. THE GOLF COURSE SUPERINTENDENT OR THE OWNER'S REPRESENTATIVE SHALL APPROVE LOCATION OF CENTRAL & SATELLITES.
11. ALL CONTROLLERS SHALL BE PROPERLY GROUNDED FOR PROTECTION FROM LIGHTNING. PROPER GROUNDING IS ACCOMPLISHED WHEN RESISTANCE TO GROUND IS 10 OHMS OR LESS.
12. ALL GREENS SHALL BE FED BY A 3" PIPE AND LOOPED WITH 2-1/2" PIPE.
13. PROGRAMMING OF HEADS SHALL BE AS FOLLOWS: GREEN LOOP HEADS SHALL BE SINGLE HEAD CONTROL, TEE HEADS SHALL BE RUN TWO AT A TIME WHEN POSSIBLE, FAIRWAY & ROUGH HEADS SHALL BE RUN TWO AT A TIME WHEN POSSIBLE. CONTROLLER STATION COUNT IS SHOWN ON PLAN. SEE PROGRAM SHEET FOR SPECIFIED FLOW ZONES.
14. PIPE AND WIRE ROUTING IS SCHEMATIC. SOME ROUTING MAY BE SHOWN FOR CLARITY PURPOSES. PIPE AND WIRE SHALL NOT INTRUDE BOUNDARIES SUCH AS LAKES, WETLANDS, PROPERTY LINES, GREENS, ETC.

QTY.	DESCRIPTION
437	TORO 754-01-59
122	TORO 785-01-89
19	Quick Couple Valve 476-00 1-1/2"
59080	2-1/2" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
8060	3" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
5920	4" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
9260	6" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3280	8" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
3480	10" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
580	12" 200 PSI SDR 21 PVC PIPE ENGLISH UNITS
17	Pressure Regulator
1	Gate Valve 2-1/2"
78	Gate Valve 3"
11	Gate Valve 4"
5	Gate Valve 6"
1	Gate Valve 8"
3	Gate Valve 10"
2	Gate Valve 12"
3	DRC-31-060 16 STA. OSMAC N.O. HYD.
4	D24-31-060 24 STA. OSMAC N.O. HYD.
2	D32-31-060 32 STA. OSMAC N.O. HYD.
3	D40-31-060 40 STA. OSMAC N.O. HYD.
1	D48-31-060 48 STA. OSMAC N.O. HYD.
13	NI551 RECEIVER MODULE

WESCOTURF, INC.
IRRIGATION DESIGN
DETAILS
DATE 10-29-99
SCALE 1"=200'
DRAWN BY SHERYL FRESK
PAGE 3 OF 3

LDC
SEP 26 2000
APPROVED



SEE SHEET 2 OF 2 FOR OPEN SPACE, BUFFERING, AND LANDSCAPING REQUIREMENTS FOR THIS PHASE OF THE PROJECT.

THE CABBAGE PALM HAMMOCK AREAS MUST BE PRESERVED IN ACCORDANCE WITH ZONING RESOLUTION #Z-99-079. MINOR CLEARING IS PERMITTED FOR THE GOLF COURSE FAIRWAYS. ANY CABBAGE PALMS WITH 8' OR GREATER OF CLEAR TRUNK REMOVED FOR THE CONSTRUCTION OF THE FAIRWAYS MUST BE RELOCATED ONSITE.

LDC
SEP 26 2000
APPROVED

NO.	REVISIONS	BY	DATE
1			
2			
3			
4			
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21184 BRAXFIELD LOOP
ESTERO, FLORIDA 33928
(941) 947-2048

COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE
LEHIGH ACRES, FL

LANDSCAPE ARCHITECT

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OPEN SPACE, BUFFERING AND LANDSCAPING REQUIREMENTS

LDC SECTION 10-415 - OPEN SPACE REQUIREMENTS:

OPEN SPACE AND PRESERVATION OF INDIGENOUS VEGETATION WILL BE IN ACCORDANCE WITH THE FOLLOWING TABLE:

TOTAL PROJECT AREA:	289.20 ACRES
LESS SINGLE FAMILY AND TWO FAMILY RESIDENTIAL AREAS:	- 83.20 ACRES
TOTAL ACREAGE FOR OPEN SPACE CALCULATIONS	206.00 ACRES

OUTPARCELS	29.14 ACRES X 40 % =	11.66 ACRES OPEN SPACE REQUIRED
CLUB HOUSE	4.06 ACRES X 40% =	1.62 ACRES OPEN SPACE REQUIRED
GOLF COURSE	172.80 ACRES X 40% =	69.12 ACRES OPEN SPACE REQUIRED

TOTAL OPEN SPACE REQUIRED = 82.40 ACRES

ENTIRE OPEN SPACE REQUIREMENT IS MET WITHIN THE GOLF COURSE AREA. HOWEVER, THE OUTPARCELS WILL PROVIDE A MINIMUM OF 10% OPEN SPACE IF THEY ARE DEVELOPED AS MULTI-FAMILY OR COMMERCIAL. IF THEY ARE DEVELOPED AS SINGLE FAMILY LOTS OF 6,500 SF OR TWO FAMILY LOTS WITH 3,750 SF, THEY ARE NOT REQUIRED TO PROVIDE ANY COMMON OPEN SPACE.

50% OF TOTAL OPEN SPACE REQUIREMENT IS REQUIRED TO BE EXISTING INDIGENOUS VEGETATION.

THEREFORE, 82.40 ACRES X 50% = 41.20 ACRES REQUIRED TO BE PRESERVED AS EXISTING INDIGENOUS VEGETATION

EXISTING INDIGENOUS VEGETATION REQUIREMENT IS MET WITH THE FOLLOWING:

EXISTING WETLANDS	= 37.68 ACRES
OTHER AREAS ON GOLF COURSE	= 3.52 ACRES*

*PRESERVATION OF EXISTING VEGETATION IS SHOWN AS HATCHED AREAS ON THE LANDSCAPE PLAN. THERE WILL BE AN APPROXIMATE TOTAL OF 17.00 ACRES PRESERVED ON THE GOLF COURSE, AND THEREFORE, NO ADDITIONAL PRESERVATION OF EXISTING VEGETATION WILL BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

LDC SECTION 10-416 - LANDSCAPING REQUIREMENTS:

LDC SECTION 10-416(a)(2) REQUIRES THAT RESIDENTIAL DEVELOPMENTS MUST PROVIDE ONE TREE PER 3,000 SF OF DEVELOPMENT AREA.

TOTAL DEVELOPMENT AREA = (289.20 ACRES X 43,450 SF/ACRE) / 3,000 SF = 4,199 TREES REQUIRED

A MINIMUM OF 2 TREES PER LOT WILL BE REQUIRED FOR THE SINGLE-FAMILY (VILLAS AND REGULAR/CONVENTIONAL), TWO-FAMILY ATTACHED, AND/OR ZERO-LOT-LINE DWELLING UNITS.

THEREFORE: 330 LOTS X 2 TREES PER LOT = 660 TREES FOR THE RESIDENTIAL AREAS
THE REMAINING 3,539 TREES REQUIRED WILL BE LOCATED ON THE GOLF COURSE AREA AND/OR THE OUTPARCELS AREAS.

TREE CREDITS CAN BE USED IN ACCORDANCE WITH THE REGULATIONS STATED BELOW.

LDC SECTION 10-416(c)(2) REQUIRES ALL PARKING AREAS TO BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND COOLING EFFECTS AND TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

A MINIMUM OF 10% OF THE TOTAL PAVED SURFACE AREA IS REQUIRED FOR INTERNAL PLANTING AREA

THE REMAINING 3,539 TREES REQUIRED WILL BE LOCATED ON THE GOLF COURSE AREA AND/OR THE OUTPARCELS AREAS.

TREE CREDITS CAN BE USED IN ACCORDANCE WITH THE REGULATIONS STATED BELOW.

LDC SECTION 10-416(c)(2) REQUIRES ALL PARKING AREAS TO BE INTERNALLY LANDSCAPED TO PROVIDE VISUAL RELIEF AND COOLING EFFECTS AND TO CHANNELIZE AND DEFINE LOGICAL AREAS FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

A MINIMUM OF 10% OF THE TOTAL PAVED SURFACE AREA IS REQUIRED FOR INTERNAL PLANTING AREA

TOTAL PARKING AREA 66,450 SF x 10% = 6,645 SF REQUIRED FOR INTERNAL PLANTING AREA.

AT LEAST ONE TREE MUST BE PLANTED OR RETAINED FOR EVERY 250 S.F. OF REQUIRED INTERNAL PLANTING AREA.

6,645 SF / 250 SF = 27 TREES REQUIRED FOR INTERNAL PLANTING AREA

LDC SECTION 10-416 - BUFFERING REQUIREMENTS:

BUFFERS WILL BE PROVIDED IN ACCORDANCE WITH THE LDC SECTION 10-416(d) FOR MULTIPLE-FAMILY AND COMMERCIAL AREAS (OUTPARCELS).

NO BUFFERING IS REQUIRED FOR THE SINGLE-FAMILY (VILLAS AND REGULAR/CONVENTIONAL), TWO-FAMILY ATTACHED, OR ZERO-LOT-LINE DWELLING UNITS. THEREFORE, BUFFERS MAY ONLY BE REQUIRED ON THE OUTPARCELS WHEN THEY ARE DEVELOPED.

THE CLUBHOUSE AREA WILL PROVIDE A TYPE D BUFFER ALONG BETH STACEY BOULEVARD AND THE PROJECT'S ENTRANCE ROAD.

THE BUFFER ALONG BETH STACEY BOULEVARD WILL BE 15' WIDE WITH 24 TREES AND A DOUBLE HEDGE (487' X 2 / 3') 325 SHRUBS.

THE BUFFER ALONG THE PROJECT'S ENTRANCE ROAD WILL BE 15' WIDE WITH 20 TREES AND A DOUBLE HEDGE (394' X 2 / 3') 263 SHRUBS.

THE GOLF COURSE MAINTENANCE AREA WILL PROVIDE A TYPE D BUFFER ALONG 23RD STREET AND ALONG YELLOWFISH CANAL.

THE BUFFER ALONG 23RD STREET WILL BE 15' WIDE WITH 12 TREES AND A DOUBLE HEDGE (351' X 2 / 3') 234 SHRUBS.

THE BUFFER ALONG YELLOWFISH CANAL WILL BE 15' WIDE WITH 6 TREES AND A DOUBLE HEDGE (250' X 2 / 3') 167 SHRUBS.

DOUBLE HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND BE MAINTAINED SO AS TO FORM A 36-INCH HIGH (F TYPE BUFFERS MUST BE 48 INCHES AT INSTALLATION AND BE MAINTAINED AT 60 INCHES HIGH) CONTINUOUS VISUAL SCREEN WITHIN ONE YEAR AFTER TIME OF PLANTING.

TREES WITHIN THE ROW BUFFER MUST BE APPROPRIATELY SIZED IN MATURE FORM SO THAT CONFLICTS WITH OVERHEAD UTILITIES, LIGHTING AND SIGNS ARE AVOIDED. THE CLUSTERING OF TREES AND USE OF PALMS WITHIN THE ROW BUFFER WILL ADD DESIGN FLEXIBILITY AND REDUCE CONFLICTS.

BUILDING PERIMETER PLANTINGS ARE REQUIRED FOR THE CLUBHOUSE AND PRO SHOP/CART BARN AREA. THE PERIMETER PLANTINGS MUST BE EQUAL TO TEN PERCENT OF THE PROPOSED BUILDING GROSS GROUND LEVEL FLOOR AREA.

THE CLUBHOUSE AREA IS 12,000 S.F. X 10% = 1,200 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PRO SHOP/CART BARN AREA IS 9,300 S.F. X 10% = 930 S.F. REQUIRED FOR PERIMETER PLANTINGS.

THE PERIMETER PLANTING AREAS MUST CONSIST OF LANDSCAPE AREAS, RAISED PLANTERS OF PLANTER BOXES THAT ARE A MINIMUM OF FIVE FEET WIDE. THESE LANDSCAPE AREAS MUST INCLUDE SHRUBS AND GROUND COVER PLANTS WITH A MINIMUM OF 50 PERCENT COVERAGE OF THE LANDSCAPE AREA AT THE TIME OF PLANTING. TURF GRASS IS DISCOURAGED AND IS LIMITED TO 10 PERCENT OF THE LANDSCAPE AREA.

LDC SECTION 10-417 - IRRIGATION DESIGN STANDARDS:

LDC SECTION 10-417 REQUIRES THAT TO IMPROVE THE SURVIVABILITY OF REQUIRED LANDSCAPING, CULTIVATED LANDSCAPE AREAS MUST BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM. ALL REQUIRED IRRIGATION SYSTEMS MUST BE DESIGNED TO ELIMINATE THE APPLICATION OF WATER TO IMPERVIOUS AREAS, INCLUDING ROADS, DRIVE AND OTHER VEHICLE AREAS. REQUIRED IRRIGATION MUST ALSO BE DESIGNED TO AVOID IMPACTS ON EXISTING NATIVE VEGETATION.

ALL NEW DEVELOPMENTS THAT HAVE REQUIRED LANDSCAPING MUST BE IRRIGATED BY THE USE OF AN AUTOMATIC IRRIGATION SYSTEM WITH CONTROLLER SET TO CONSERVE WATER. MOISTURE DETECTION DEVICES MUST BE INSTALLED IN ALL AUTOMATIC SPRINKLER SYSTEMS TO OVERRIDE THE SPRINKLER ACTIVATION MECHANISM DURING PERIOD OF INCREASED RAINFALL. WHERE EXISTING IRRIGATION SYSTEMS ARE MODIFIED REQUIRING THE ACQUISITION OF A PERMIT, AUTOMATIC ACTIVATION SYSTEMS AND OVERRIDING MOISTURE DETECTION DEVICES MUST BE INSTALLED.

THE ENTIRE OPEN SPACE AREAS, INCLUDING THE GOLF COURSE, WILL BE IRRIGATED EXCEPT EXISTING VEGETATION THAT IS PRESERVED AND THE WETLAND AREAS. A WATER USE PERMIT WILL BE OBTAINED FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT.
THE PARKING LOT FOR THE CLUBHOUSE AREA SHALL BE SLEEVED FOR IRRIGATION.

LDC SECTION 10-420 - SIZE AND TYPE OF VEGETATION; CREDITS:

(a) QUALITY. PLANT MATERIALS USED TO MEET THE REQUIREMENTS OF THIS DIVISION MUST CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 OR BETTER, AS SET OUT IN GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II, DEPARTMENT OF AGRICULTURE, STATE OF FLORIDA (AS AMENDED). ROOT BALL SIZES ON ALL TRANSPLANTED PLANT MATERIALS MUST ALSO MEET STATE STANDARDS.

(b) NATIVE VARIETIES: AT LEAST 75 PERCENT OF THE TREES AND 50 PERCENT OF THE SHRUBS USED TO FULFILL THESE REQUIREMENTS MUST BE NATIVE FLORIDA SPECIES.

(c) TREES AND PALMS.

(1) FOR CODE REQUIRED TREES, AT LEAST 50 PERCENT OF THE TREES AT THE TIME OF INSTALLATION MUST BE A MINIMUM OF TEN FEET IN HEIGHT, HAVE A TWO-INCH CALIPER (AT 12 INCHES) ABOVE THE GROUND) AND A FOUR-FOOT SPREAD. THE REMAINING CODE-REQUIRED TREES, AT THE TIME OF INSTALLATION, MUST BE A MINIMUM SIX FEET IN HEIGHT, HAVE A ONE-INCH CALIPER (AT 12 INCHES ABOVE THE GROUND) AND A THREE-FOOT SPREAD. PALMS MUST HAVE A MINIMUM OF TEN FEET OF CLEAR TRUNK AT PLANTING. TREES HAVING AN AVERAGE MATURE SPREAD OR CROWN LESS THAN 20 FEET MAY BE SUBSTITUTED BY GROUPING THE SAME SO AS TO CREATE THE EQUIVALENT OF A 20-FOOT CROWN SPREAD. TREES ADJACENT TO WALKWAYS, BIKE PATHS AND RIGHTS-OF-WAY MUST BE MAINTAINED WITH EIGHT FEET OF CLEAR TRUNK.

(2) LARGER TREES SUBSTITUTED TO REDUCE THE MINIMUM NUMBER OF GENERAL TREES, WITHOUT THE USE OF AN ALTERNATIVE LANDSCAPE BETTERMENT PLAN, MUST BE NO LESS THAN FOUR INCHES IN DIAMETER AT 12 INCHES ABOVE THE GROUND AND NO LESS THAN 16 FEET IN HEIGHT AT THE TIME OF PLANTING. THE GENERAL TREE REQUIREMENT CANNOT BE REDUCED IN NUMBER BY MORE THAN 50 PERCENT.

(d) SHRUBS AND HEDGES. SHRUBS MUST BE A MINIMUM OF 24 INCHES (48 INCHES FOR TYPE F BUFFERS) IN HEIGHT, ABOVE THE ON-SITE ADJACENT PAVEMENT SURFACE REQUIRED TO BE BUFFERED AND/OR SCREENED, WHEN MEASURED AT TIME OF PLANTING. THEY MUST BE A MINIMUM THREE-GALLON CONTAINER SIZE AND BE SPACED 18 TO 36 INCHES ON CENTER. THEY MUST BE AT LEAST 36 INCHES (60 INCHES FOR TYPE F BUFFERS) IN HEIGHT WITHIN 12 MONTHS OF TIME OF PLANTING AND MAINTAINED IN PERPETUITY AT A HEIGHT OF NO LESS THAN 36 INCHES (60 INCHES FOR TYPE F BUFFERS) ABOVE THE ADJACENT PAVEMENT REQUIRED TO BE BUFFERED AND/OR SCREENED, EXCEPT FOR VISIBILITY AT INTERSECTIONS AND WHERE PEDESTRIAN ACCESS IS PROVIDED. REQUIRED HEDGES MUST BE PLANTED IN DOUBLE STAGGERED ROWS AND MAINTAINED SO AS TO FORM A CONTINUOUS, UNBROKEN, SOLID VISUAL SCREEN WITHIN A MINIMUM OF ONE YEAR AFTER TIME OF PLANTING.

(e) MULCH REQUIREMENTS. A TWO-INCH MINIMUM LAYER, AFTER WATERING-IN, OF MULCH OR OTHER RECYCLED MATERIALS MUST BE PLACED AND MAINTAINED AROUND ALL NEWLY INSTALLED TREES, SHRUBS, AND GROUND COVER PLANTINGS. EACH TREE MUST HAVE A RIGHT OF MULCH NO LESS THAN 24 INCHES BEYOND ITS TRUNK IN ALL DIRECTIONS. THE USE OF CYPRESS MULCH IS STRONGLY DISCOURAGED.

(f) INVASIVE EXOTICS. THE FOLLOWING HIGHLY INVASIVE EXOTIC PLANTS MUST BE REMOVED FROM THE DEVELOPMENT AREA. THE METHOD OF REMOVAL AND CONTROL INVASIVE EXOTIC PLANTS WILL BE DONE EITHER MECHANICALLY OR BY HAND. IF THE USE OF MECHANICAL EQUIPMENT WILL BE HARMFUL TO OTHER NON-INVASIVE VEGETATION, THE REMOVAL OF INVASIVE EXOTICS MUST BE DONE BY HAND. THE DEVELOPMENT AREA WILL BE MAINTAINED FREE FROM INVASIVE EXOTIC PLANTS IN PERPETUITY. FOR PURPOSES OF THIS SUBSECTION, INVASIVE EXOTIC PLANTS INCLUDE:

COMMON NAME	SCIENTIFIC NAME
MELALEUCA, PAPER TREE	MELALEUCA QUINQUENERVIA
BRAZILIAN PEPPER, FLORIDA HOLLY	SCHINUS TEREBINTHIFOLIUS
AUSTRALIA PINES	ALL CASUARINA SPECIES
EARLEAF ACACIA	ACACIA AURICULIFORMIS
DOWNY ROSE MYRTLE	RHODOMYRTUS TOMENTOSUS
TROPICAL SODA APPLE	SOLANUM VIARUM

(g) PROHIBITED SPECIES. THE FOLLOWING SPECIES OF EXOTIC PLANTS ARE CONSIDERED INVASIVE AND MAY NOT BE USED TO FULFILL ANY REQUIREMENTS OF THIS DIVISION:

COMMON NAME	SCIENTIFIC NAME
WOMAN'S TONGUE	ALBIZIA LEBBECK
BISHOP WOOD	BISCHOFIA JAVANICA
CARROTWOOD	CUPIANOPSIS ANACARDIOIDES
ROSEWOOD	DALBERGIA SISSOO
MURRAY RED GUM	EUCALYPTUS CAMALDULENSIS
BENJAMIN FIG	FICUS BENJAMINA
CUBAN LAUREL	FICUS RETUSA
CHINESE TALLOW	SAPIUM SEBIFERUM
JAVA PLUM	SYZYGIUM CUMINI
ROSE APPLE	SYZYGIUM JAMBOS
CORK TREE	THESPESIA POPULNEA
WEDELIA	WEDELIA TRILOBATA

(h) CREDITS.

(1) EXCEPT FOR PROHIBITED SPECIES AS LISTED ABOVE, EVERY CONSIDERATION MUST BE GIVEN TO RETAINING AS MUCH EXISTING PLANT MATERIAL AS POSSIBLE.
(2) EACH EXISTING INDIGENOUS NATIVE TREE PRESERVED IN PLACE, WHICH HAS A TRUNK DIAMETER OF FOUR INCHES OR GREATER MEASURED AT 4 1/2 FEET ABOVE THE GROUND (DBH) WILL RECEIVE A CREDIT OF FIVE TREES AGAINST THE GENERAL LANDSCAPE REQUIREMENTS. NATIVE PALMS PRESERVED IN PLACE THAT ARE EIGHT FEET OR GREATER FROM GRUND LEVEL TO BASE OF FRONDS, WILL RECEIVE A CREDIT OF THREE TREES. EXISTING SABAL PALMS, IDENTIFIED ON THE DEVELOPMENT ORDER PLANS THAT ARE RELOCATED ONSITE WILL BE GIVEN A TWO TREE CREDIT. CREDITS FOR EXISTING TREES MAY NOT BE USED TO REDUCE THE REQUIRED PARKING CANOPY TREES IN PARKING OR VEHICLE USE AREAS. EXISTING NATIVE TREES IN BUFFERS MAY BE USED FOR CREDIT PROVIDED THEY OCCUR WITHIN THE REQUIRED 100-FOOT BUFFER SEGMENT.
CREDITS WILL APPLY ONLY WHEN THE TREES ARE LABELED AS PROTECTED-CREDIT TREES. IF THE PROTECTED-CREDIT TREES DIE WITHIN THREE YEARS FROM THE DEVELOPMENT ORDER CERTIFICATE OF COMPLIANCE, THEY MUST BE REPLACED BY THE NUMBER OF CREDIT TREES TAKEN.
(3) CREDITS WILL APPLY WHERE THE PRESERVED TREE IS IN AN BARRICADED AREA AT LEAST TWO-THIRDS THE RADIUS OF THE CROWN SPREAD OF THE TREE MEASURED FROM THE TRUNK CENTER. IN NO CASE MAY THIS AREA RADIUS BE LESS THAN 2 1/2 FEET. FOR INDIGENOUS NATIVE PINE TREES, THE UNDISTURBED AREA MAY BE NO LESS THAN THE FULL CROWN SPEAD OF THE TREE, UNLESS OTHER MEASURES SUCH AS TIE-WALLS OR SPECIAL SLOPE TREATMENT ARE CONSTRUCTED FOR ADDITIONAL PROTECTION. PRIOR TO THE LAND CLEARING STAGE OF DEVELOPMENT, THE OWNER, DEVELOPER OR AGENT MUST ERECT PROTECTIVE BARRIERS WHICH AS A MINIMUM ARE MADE OF ONE-INCH BY ONE-INCH LUMBER OR APPROVED ALTERNATIVE BARRICADING MATERIAL. IN THE CASE OF INDIVIDUAL TREES, BARRICADES MUST BE ERECTED NO CLOSER THAN THE DRIPLINE OF THE TREES, EXCEPT WHERE CONSTRUCTION LIMITS HAVE BEEN APROVED TO A CLOSER DISTANCE. FOR ALL OTHER PROTECTED VEGETATION, I.E. SHRUBS AND GROUND COVER, BARRICADES MUST BE ERECTED AROUND THE PERIMETER OF THE VEGETATION. THE OWNER, DEVELOPER OR AGENT MAY NOT CAUSE OR PERMIT THE MOVEMENT OF EQUIPMENT OR THE STORAGE OF EQUIPMENT, MATERIAL, DEBRIS OR FILL TO BE PLACED WITHIN THE REQUIRED PROTECTIVE BARRIER. THE PROTECTED TREES AND ASSOCIATED UNDERSTORY PLANT COMMUNITIEIS MUST REMAIN ALIVE AND HEALTHY AT THE END OF THE CONSTRUCTION IN ORDER FOR THIS CREDIT TO APPLY.

LDC SECTION 10-421 - OF PLANT MATERIALS, MAINTENANCE OF LANDSCAPING AND OPEN SPACE:

(a) INSTALLATION. PLANT MATERIALS MUST BE INSTALLED IN SOIL CONDITIONS THAT ARE CONDUCIVE TO THE PROPER GROWTH OF THE PLANT MATERIAL. LIMEROCK LOCATED WITHIN PLANTING AREAS MUST BE REMOVED AND REPLACED WITH NATIVE OR GROWING QUALITY SOIL BEFORE PLANTING.

A PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS THAT MIGHT BE CREATED (e.g. VIEWS, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION). TREES MAY NOT BE PLACED WHERE THEY INTERFERE WITH SITE DRAINAGE, SUBSURFACE UTILITIES, OR OVERHEAD UTILITY LINES, OR WHERE THEY WILL REQUIRE FREQUENT PRUNING IN ORDER TO AVOID INTERFERENCE WITH OVERHEAD POWER LINES.

ALL LANDSCAPE MATERIAL MUST BE INSTALLED IN A RECOGNIZED HORTICULTURAL CORRECT MANNER. AT A MINIMUM, THE FOLLOWING INSTALLATION REQUIREMENTS MUST BE MET:

(1) ALL LANDSCAPE AREAS MUST BE MULCHED UNLESS VEGETATIVE COVER IS ALREADY ESTABLISHED.
(2) TREES AND SHRUBS USED IN BUFFERS MUST BE PLANTED IN A MINIMUM WIDTH AREA EQUAL TO ONE-HALF THE REQUIRED WIDTH OF THE BUFFER. HOWEVER, IN NO CASE MAY THE PLANTING AREA TO LESS THAN FIVE FEET IN WIDTH.
(3) ALL LANDSCAPED AREAS MUST BE PROVIDED PROTECTION FROM ENCROACHMENT BY ANY TYPE OF VEHICLE.
(4) ALL REQUIRED PLANTS USED IN BUFFERS AND LANDSCAPING MUST BE INSTALLED USING XERISCAPE PRINCIPLES. XERISCAPE PRINCIPLE INCLUDE WATER CONSERVATION THROUGH DROUGHT-TOLERANT LANDSCAPING, THE USE OF APPROPRIATE PLANT MATERIAL, MULCHING, AND THE REDUCTION OF TURF AREAS.
(5) UTILITY, POWER, OR DRAINAGE EASEMENT MAY OVERLAP REQUIRED BUFFERS; HOWEVER, NO REQUIRED TREES OR SHRUBS MAY BE LOCATED IN ANY UTILITY, POWER, OR STREET EASEMENT OR RIGHT-OF-WAY. TO AVOID CONFLICTS WITH OVERHEAD UTILITY LINES, ONLY SMALL TREES, LESS THAN 20 FEET IN HEIGHT AT MATURITY, MUST BE USED DIRECTLY ADJACENT TO AN OVERHEAD LINE.
(6) SAFE SIGHT DISTANCE TRIANGLES AT INTERSECTIONS AND VEHICLE CONNECTIONS. WHERE AN ACCESS WAY INTERSECTS A RIGHT-OF-WAY OR WHEN A PROPERTY ABUTS THE INTERSECTION OF TWO OR MORE RIGHTS-OF-WAY, A MINIMUM SAFE SIGHT DISTANCE TRIANGULAR AREA MUST BE ESTABLISHED. WITHIN THIS AREA, VEGETATION MUST BE PLANTED AND MAINTAINED IN A WAY THAT PROVIDES UNOBSTRUCTED VISIBILITY AT A LEVEL BETWEEN 30 INCHES AND EIGHT FEET ABOVE THE CROWN OF THE ADJACENT ROADWAY. LANDSCAPING MUST BE LOCATED IN ACCORDANCE WITH THE ROADSIDE RECOVERY AREA PROVISIONS OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION'S MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE OF STREETS AND HIGHWAYS (FDOT GREEN BOOK) WHERE APPROPRIATE.

(b) MAINTENANCE OF LANDSCAPING. THE OWNER IS RESPONSIBLE FOR MAINTAINING THE REQUIRED LANDSCAPING IN A HEALTHY AND VIGOROUS CONDITION AT ALL TIMES. TREE AND PALM STAKING MUST BE REMOVED WITHIN 12 MONTHS AFTER INSTALLATION. ALL LANDSCAPES MUST BE KEPT FREE OF REFUSE, DEBRIS, DISEASE, PESTS, AND WEEDS. ONGOING MAINTENANCE TO PROHIBIT THE ESTABLISHMENT OF PROHIBITED INVASIVE EXOTIC SPECIES IS REQUIRED.

(c) PRUNING. VEGETATION REQUIRED BY THIS CODE MY ONLY E PRUNED TO PROMOTE HEALTHY, UNIFORM, NATURAL GROWTH OF THE VEGETATION (EXCEPT WHERE NECESSARY TO PROMOTE HEALTH, SAFETY AND WELFARE) AND BE IN ACCORDANCE WITH "PRUNING STANDARDS (REVISED 1988)" OF THE NATIONAL ARBORIST ASSOCIATION. TREES MUST NOT BE SEVERELY PRUNED TO PERMANENTLY MAINTAIN GROWTH AT A REDUCED HEIGHT OR SPREAD. PRUNING MUST NOT INTERFERE WITH THE DESIGN INTENT OF THE ORIGINAL INSTALLATION. SEVERELY PRUNED TREES MUST BE REPLACED BY THE PROPERTY OWNER. PLANT'S GROWTH HABIT MUST BE CONSIDERED IN ADVANCE OF CONFLICTS WHICH MIGHT ARISE (I.E. VIEW, SIGNAGE, OVERHEAD POWER LINES, LIGHTING, CIRCULATION, SIDEWALKS, BUILDINGS, AND SIMILAR CONFLICTS.

LDC SECTION 10-418 - STORMWATER PONDS:

(a) DESIGN STANDARDS. TECHNIQUES TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN STORMWATER MANAGEMENT PONDS ARE AS FOLLOWS:

(1) SHORELINE CONFIGURATION. SHORELINES SHALL BE SINUOUS IN CONFIGURATION TO PROVIDE INCREASED LENGTH AND DIVERSITY OF THE LITTORAL ZONE, SINUOUS IS DEFINED AS SERPENTINE, BENDING IN AND OUT WAVY OR WINDING.
(2) PLANT MATERIALS. THE FOLLOWING SHALL BE CONSIDERED SUFFICIENT TO MIMIC THE FUNCTION OF NATURAL SYSTEMS IN PONDS WITH SLOPES STEEPER THAN 6 TO 1 BUT NOT MORE THAN 4 TO 1:

a. SHORELINES SHALL BE SLOPED OR BERMED TO DIRECT STORMWATER THROUGH PRETREATMENT SYSTEMS OR SWALES PRIOR TO DISCHARGE INTO THE POND.
b. THE MINIMUM REQUIRED NUMBER OF NATIVE WETLAND HERBACEOUS PLANTS IS ONE PLANT PER LINEAR FOOT OF LAKE SHORELINE AS MEASURED AT THE CONTROL ELEVATION WATER LEVEL. NATIVE WETLAND TREES OR SHRUBS MAY BE SUBSTITUTED FOR UP TO 25 PERCENT OF THE TOTAL NUMBER OF HERBACEOUS PLANTS REQUIRED. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.

POND #1 –	850 LF x 1 HERBACEOUS PLANT =	850	HERBACEOUS PLANTS
POND #2 -	1,717 LF x 1 HERBACEOUS PLANT =	1,717	HERBACEOUS PLANTS
POND #3 -	1,206 LF x 1 HERBACEOUS PLANT =	1,206	HERBACEOUS PLANTS
POND #4 -	1,038 LF x 1 HERBACEOUS PLANT =	1,038	HERBACEOUS PLANTS
POND #5 –	2,121 LF x 1 HERBACEOUS PLANT =	2,121	HERBACEOUS PLANTS
POND #6 -	1,038 LF x 1 HERBACEOUS PLANT =	1,038	HERBACEOUS PLANTS
POND #7/8	3,578 LF x 1 HERBACEOUS PLANT =	3,578	HERBACEOUS PLANTS
POND #9 -	1,606 LF x 1 HERBACEOUS PLANT =	1,606	HERBACEOUS PLANTS
POND #10–	1,128 LF x 1 HERBACEOUS PLANT =	1,128	HERBACEOUS PLANTS
POND #11-	944 LF x 1 HERBACEOUS PLANT =	944	HERBACEOUS PLANTS
POND #12-	625 LF x 1 HERBACEOUS PLANT =	625	HERBACEOUS PLANTS
POND #13-	723 LF x 1 HERBACEOUS PLANT =	723	HERBACEOUS PLANTS

TOTAL = 16,574 HERBACEOUS PLANTS

UP TO 25% OF 16,574 PLANTS (A TOTAL OF 4,144 PLANTS) CAN BE SUBSTITUTED FOR TREES OR SHRUBS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS. ONE TREE OR TWO SHRUBS MAY BE SUBSTITUTED FOR TEN HERBACEOUS PLANTS.
c. PLANTS MUST BE INSTALLED IN CLUSTERS AROUND THE LAKE PERIMETER. PLACEMENT OF CLUSTERS AT THE INLET AND OUTFALLS AREAS IS STRONGLY ENCOURAGED. CLUSTERS MUST CONTAIN A MINIMUM OF 25 PLANTS WITHIN A 50-SQUARE FOOT AREA.
d. AT LEAST FOUR SPECIES SHALL BE PLANTED. MINIMUM REQUIRED HERBACEOUS PLANT SIZE SHALL BE TWO-INCH CONTAINER, REFERRED TO AS A LINER. TREES AND SHRUBS SHALL MEET THE MINIMUM STANDARDS IN SECTION 10-420.

THE FOLLOWING TABLE LISTS THE DIFFERENT PLANTS THAT CAN BE USED AND WHERE THEY ARE TO PLANTED:
ZONE 1: AT CONTROL ELE ATION TO 2' BELOW CONTROL ELEVATION

ARROW ARUM	FLAT SEDGE	SAND CORDGRASS
ARROWHEAD	FRAGRANT WATER LILY	SPIDER/ALLIGATOR LILY
BACOPA/HYSSOP	GIANT/SOFT BULRUSH	SPIKERUSH
BANANA LILY	LIZARD'S TAIL	COASTAL-PLAIN WILLOW
BREAK RUSH	MAIDENCANE	SWAMP LILY
BLUE FLAG	PICKEREL WEED	WAPATO
BUTTONBUSH	POND APPLE	POP ASH
CANNA LILY	RUSH	WHITE TOP SEDGE
DUCKPOTATO	ROYAL FERN	

ZONE 2: 2' TO 4' BELOW CONTROL ELEVATION

GREEN CABOMBA	PURPLE CABOMBA
GREEN FANWORT	PURPLE FANWORT
DUCKPOTATO	SPATTERDOCK
FRAGRANT WATER LILY	WAPATO
GIANT/SOFT BULRUSH	STRING LILY

ZONE 3: 1' ABOVE TO 1' BELOW CONTROL ELEVATION

CORDGRASS	SAW GRASS
GIANT/SOFT BULRUSH	SWAMP FERN
LEATHERFERN	WHITE TOP SEDGE
ROYAL FERN	

e. SODDING OR MULCHING OF NATIVE WETLAND PLANT MATERIALS IS ALLOWED TO ESTABLISH PLANTINGS AT THE MINIMUM REQUIRED DENSITY IN LIEU OF LINERS.

(b) SURVIVAL OF PLANT MATERIALS. A MINIMUM OF 80 PERCENT SURVIVABILITY OF PLANTINGS IS REQUIRED FOR HERBACEOUS WETLAND PLANTS. WETLAND TREES AND SHRUBS MUST BE MAINTAINED PER SECTION 10-421(b).

LDC
SEP 26 2000
APPROVED

NO.	REVISIONS	BY	DATE
1			
2			
3			
4			
5			

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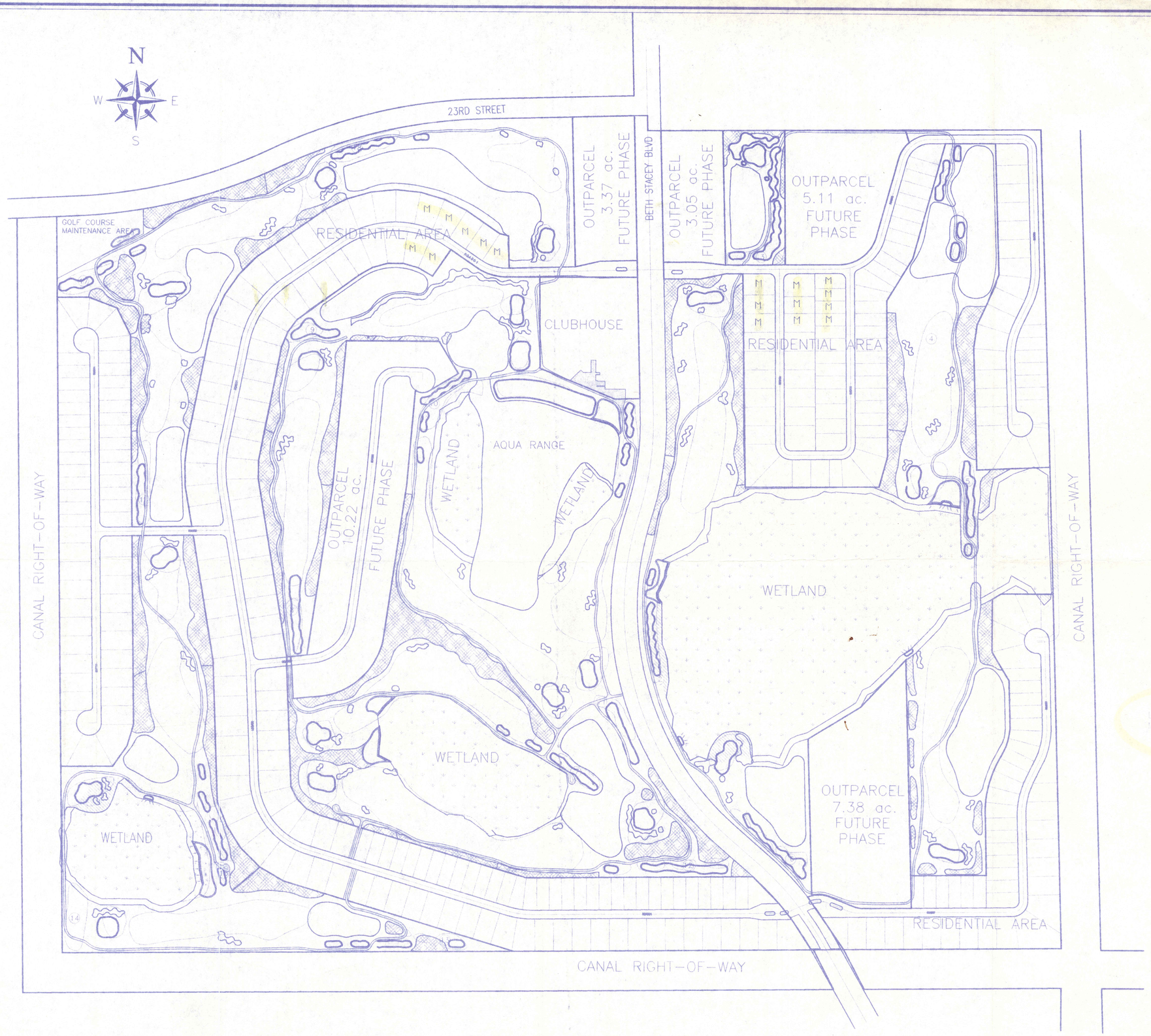
COPPERHEAD GOLF COMMUNITY
SECTION 6, TOWNSHIP 45 SOUTH, RANGE 27 EAST
LEHIGH ACRES, FLORIDA 33936
OPEN SPACE, BUFFERING, AND LANDSCAPE PLAN

LANDSCAPE ARCHITECT
GORDON G. LEWIS
FLORIDA REGISTRATION NO. 5216

DRAWING INFORMATION	DATE
PROJECT NO.:	
DESIGNED BY: GGL	2/15/00
DRAWN BY: KLM	2/18/00
CHECKED BY: GGL	2/21/00
DRAWING FILE: LANDSCAPE	SCALE: 1" = 200'

DRAWING NO.
SHT. 2 OF 2

Rosf Reprographics, Inc.: 5/9/2000, 08:03 PM, 183 Land.plt



LOTS SHOWN WITH AN "M" ARE PROPOSED MODEL LOT LOCATIONS

Division of Development Services
D.O. MINOR CHANGE #M02
By [signature] APPROVED Date 1/25/02
For M.H. SITE LOCATION
SUP-SEE STR.
*Approval based on site information supplied by applicant.

DOS2002-34001D
RECEIVED
M02
JAN 07 2002
Due 01-14-02
COMMUNITY DEVELOPMENT

NO.	REVISIONS	BY	DATE
1			
2			
3			
4			

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MODEL LOT LOCATIONS

DRAWING INFORMATION	DATE
PROJECT NO.:	
DESIGNED BY: GGL	1/3/02
DRAWN BY: KLM	1/3/02
CHECKED BY: GGL	1/3/02
DRAWING FILE: LANDSCAPE	SCALE: 1" = 200'

DRAW
SHT.

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