

CONSTRUCTION DRAWINGS FOR DAY SPA AND GOLF CLUB AT KINGS RIDGE

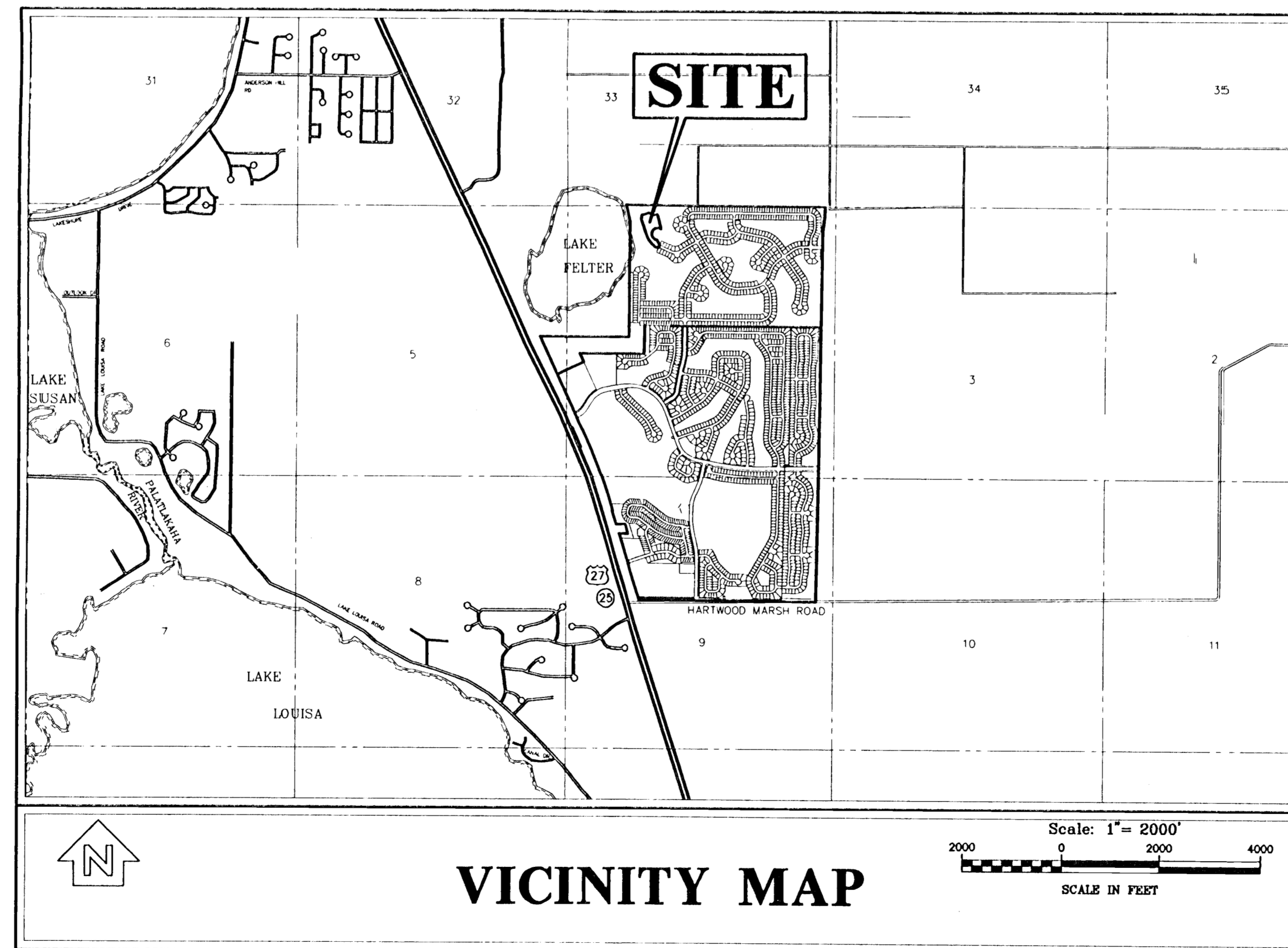
Section 4, Township 23 S., Range 26 E.
Lake County, Florida

Owner/Developer:

LENNAR ACTIVE ADULT COMMUNITIES
1110 Douglas Avenue
Altamonte Springs, FL 32714
(407) 682-9291

Engineer/Planner:

FARNER, BARLEY & ASSOC., INC.
350 North Sinclair Avenue
Tavares, FL 32778
(352) 343-8481
DUANE K. BOOTH, P.E.



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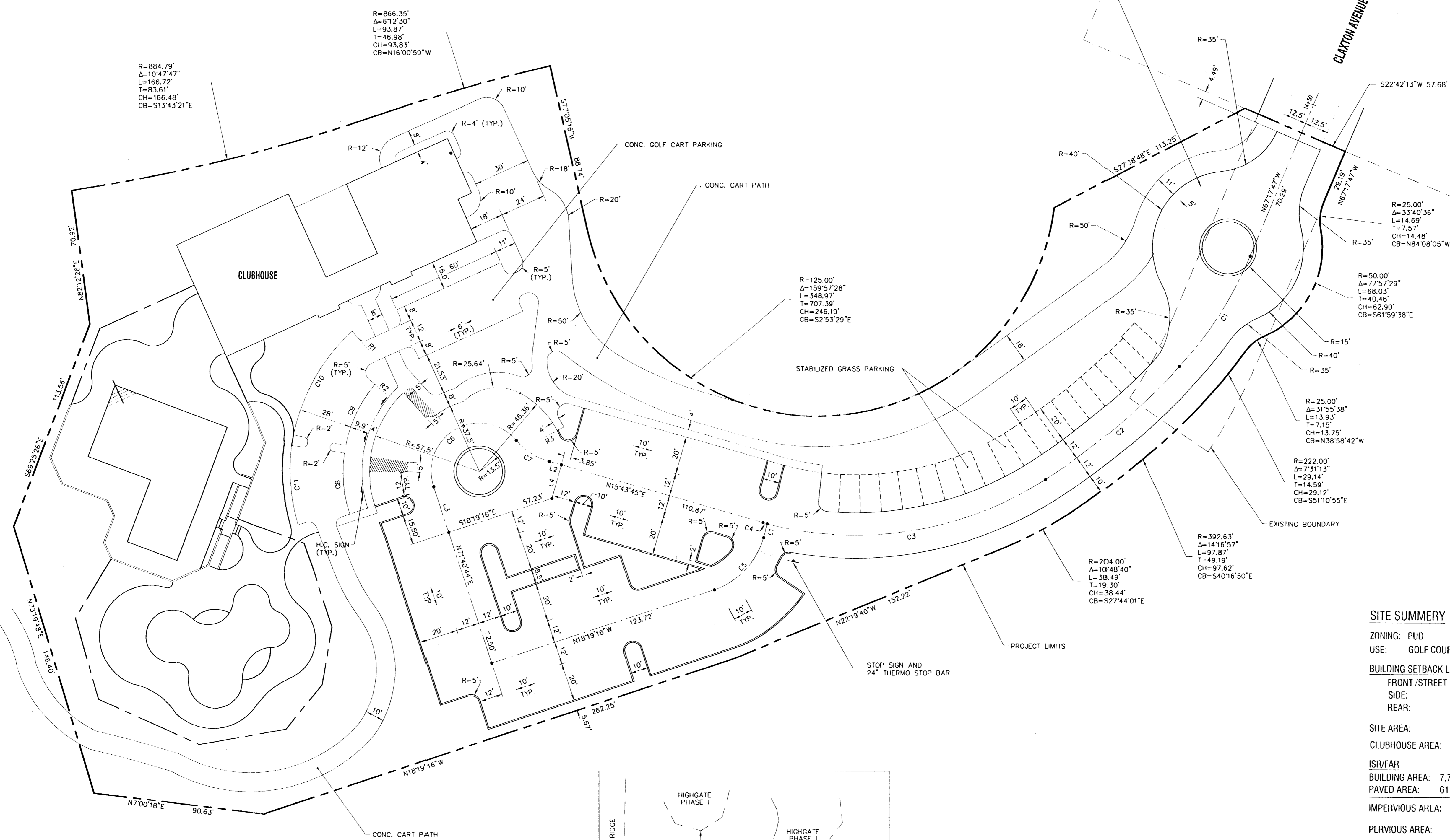
1. COVER SHEET
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CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C1	19°52'28"	200.00'	69.38'	35.04'	69.03'	S57°21'32"E
C2	14°16'57"	370.63'	92.39'	46.44'	92.15'	S40°16'50"E
C3	48°08'23"	182.00'	152.92'	81.30'	148.46'	S9°04'09"E
C4	0°43'43"	182.00'	2.31'	1.16'	2.31'	S15°21'54"W
C5	56°40'42"	40.00'	39.57'	21.57'	37.98'	S46°39'37"E
C6	158°13'36"	25.50'	70.42'	132.59'	50.08'	N29°12'28"W
C7	34°10'35"	35.00'	20.88'	10.76'	20.57'	S52°49'03"W
C8	28°13'50"	71.43'	32.70'	16.64'	32.41'	S84°47'39"W
C9	28°40'55"	71.43'	35.76'	18.26'	35.38'	N64°29'40"W
C10	36°34'37"	99.43'	63.47'	32.86'	62.40'	N60°32'49"W
C11	24°17'27"	99.43'	42.15'	21.40'	41.84'	S85°45'51"W

LINE	BEARING	DISTANCE
L1	N74°59'58"W	7.62'
L2	N15°43'45"E	6.58'
L3	N71°40'44"E	25.50'
L4	S74°16'15"E	18.41'

LINE	BEARING	DISTANCE
R1	N47°44'29"E	
R2	N39°50'47"E	
R3	S27°44'37"E	

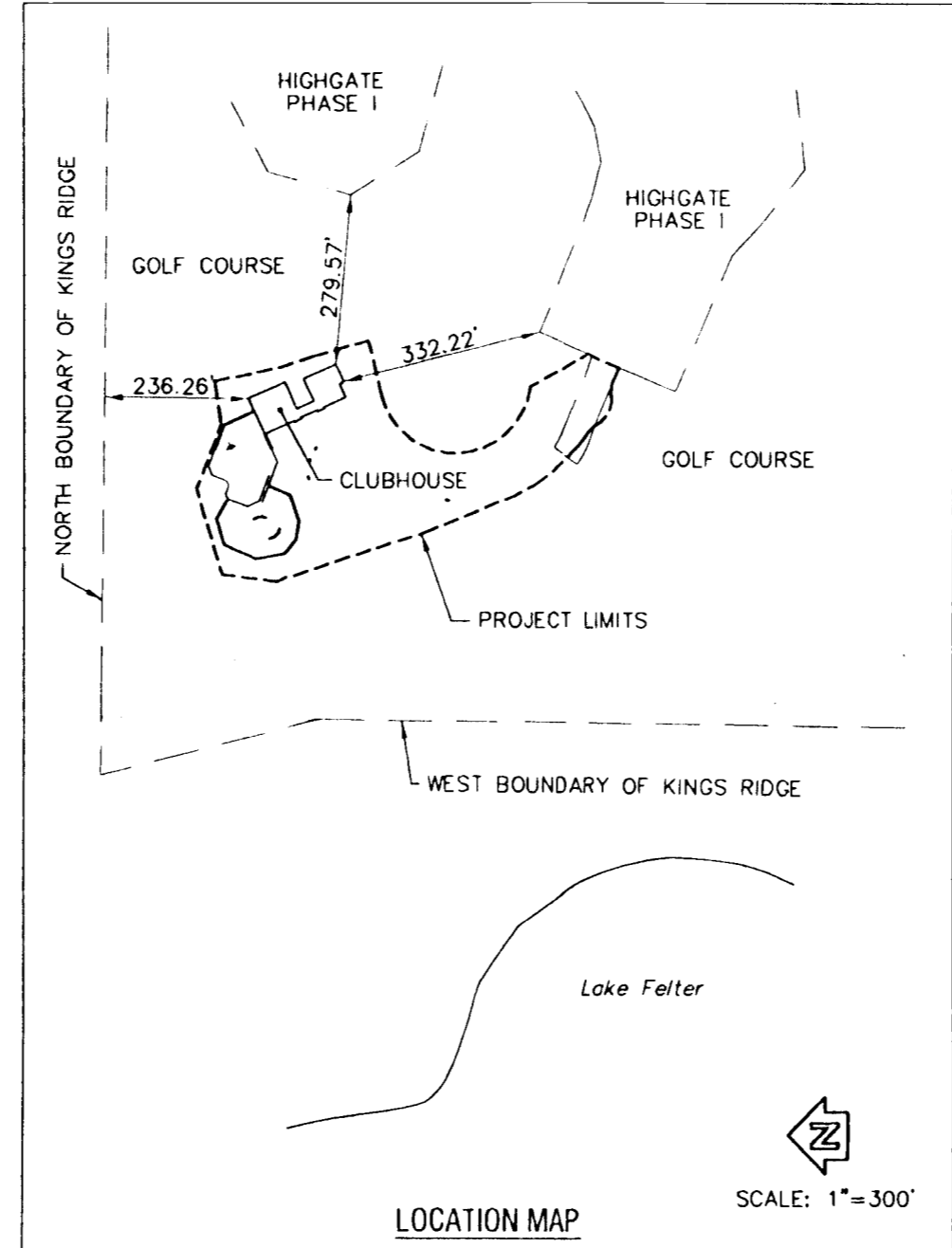


Legal Description

A PARCEL OF LAND LYING WITHIN SECTION 4, TOWNSHIP 23 SOUTH, RANGE 26 EAST, LAKE COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTH 1/4 CORNER OF SECTION 4; THENCE ALONG THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 4 RUN S89°47'11"E 2803.47 FEET TO THE WEST RIGHT-OF-WAY LINE OF HANCOCK ROAD (BEING 80 FEET WIDE) AS RECORDED IN OFFICIAL RECORDS BOOK 1399, PAGE 194, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; SAID POINT BEING ON A CURVE CONCAVE WESTERLY AND HAVING A RADIUS OF 1950.70 FEET TO WHICH A RADIAL LINE BEARS N89°38'00"E; THENCE RUN SOUTHERLY 320.78 FEET ALONG THE ARC OF SAID CURVED RIGHT-OF-WAY LINE THROUGH A CENTRAL ANGLE OF 09°25'19" TO THE BEGINNING OF A CURVE CONCAVE EASTERLY AND HAVING A RADIUS OF 2110.70 FEET; THENCE RUN SOUTHERLY 318.79 FEET ALONG THE ARC THEREOF THROUGH A CENTRAL ANGLE OF 08°39'13" TO THE END OF SAID CURVE; THENCE CONTINUING ALONG SAID WEST RIGHT-OF-WAY LINE RUN S00°23'52"W 1775.61 FEET TO A POINT THAT BEARS S89°48'54"E OF THE NORTHEAST CORNER OF LOT 471, BRIGHTON AT KINGS RIDGE PHASE I AS RECORDED IN PLAT BOOK 38, PAGES 7 AND 8, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE DEPARTING SAID RIGHT-OF-WAY LINE RUN N89°48'54"W 3562.07 FEET TO THE NORTHWEST CORNER OF DEVONSHIRE AT KINGS RIDGE AS RECORDED IN PLAT BOOK 37, PAGES 29 THROUGH 31, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE ALONG THE WEST LINE OF DEVONSHIRE AT KINGS RIDGE RUN S00°41'53"W 565.99 FEET; THENCE DEPARTING SAID WEST LINE RUN N89°49'14"W 1352.77 FEET; THENCE RUN N24°33'22"W 363.34 FEET TO THE NORTH LINE OF THE SOUTHWEST 1/4 OF SECTION 4; THENCE ALONG SAID NORTH LINE RUN S89°49'14"E 1177.78 FEET TO THE WEST LINE OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 4; THENCE ALONG SAID WEST LINE RUN N00°41'53"E 1328.28 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 4; THENCE ALONG THE WEST LINE THEREOF RUN N00°41'53"E 973.60 FEET; THENCE N4°51'11"W 369.31 FEET TO THE NORTH LINE OF SECTION 4; THENCE ALONG SAID NORTH LINE RUN S89°48'57"E 132.98 FEET TO THE MEANDER CORNER; THENCE CONTINUING ALONG SAID NORTH LINE OF SECTION 4 RUN S89°24'31"E 1284.27 FEET TO THE POINT OF BEGINNING.

- GENERAL NOTES:**
1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF CLERMONT STANDARDS AND SPECIFICATIONS.
 2. ALL STRIPING ON SITE TO BE PAINTED.
 3. DIMENSIONS ARE TO EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED
 4. SOD ALL DISTURBED AREAS.



SITE NOTES

SEWER SYSTEM: CITY OF CLERMONT
 WATER: CITY OF CLERMONT
 ELECTRIC: SECO
 TELEPHONE: SPRINT TELEPHONE COMPANY
 FIRE PROTECTION: CITY OF CLERMONT
 SOLID WASTE DISPOSAL: LOCAL FRANCHISE
 RECLAIMED WATER: CITY OF CLERMONT
 FLUCS VEGETATIVE COVER: 192 INACTIVE LAND WITH STREET PATTERN BUT WITHOUT STRUCTURES.
 PROJECT LAND IS VACANT, NO TREES ON SITE.
 NO WATER COURSES, WATER BODIES OR WETLANDS ARE ASSOCIATED WITH THIS PROJECT.
 SITE IS LOCATED IN FIRM ZONE "C", COMMUNITY PANEL NO. 120421-0375-B
 SITE IS NOT IN A FLOOD PRONE AREA.
 SOILS ON THIS PROJECT:
 LAKE CO. SOIL SURVEY: AID (ASTATULA SAND)
 HYDROLOGIC GROUP "A"

SITE SUMMARY

ZONING: PUD
 USE: GOLF COURSE CLUBHOUSE

BUILDING SETBACK LINES:
 FRONT / STREET : 25'
 SIDE: 12'
 REAR: 25'

SITE AREA: 146,313.9 SQ. FT. (3.359 AC.)
 CLUBHOUSE AREA: 4,400 SQ. FT.

ISR/FAR
 BUILDING AREA: 7,738.7 SQ. FT., 0.18 AC. (5% OF SITE)
 PAVED AREA: 61,405.4 SQ. FT., 1.41 AC. (42% OF SITE)

IMPERVIOUS AREA: 96,853.40 SQ. FT., 2.22 AC. (66%)
 PERVIOUS AREA: 49,460.50 SQ. FT., 1.14 AC. (34%)

BUILDING HEIGHT: 35'
 BUILDING TYPE: BLOCK
 BUILDING USE: GOLF & COMMUNITY CLUBHOUSE

PARKING PROVIDED:
 CARS- 10x20' STD. SPACES (PAVED): 54
 CARS- 10x20' STD. SPACES (STABILIZED GRASS): 18
 CARS- 12x20' H.C. SPACES (PAVED): 3
 GOLF CARTS (PAVED): 49
 TOTAL PARKING PROVIDED: 124

PARKING REQUIRED PER APPROVED VARIANCES:
 CARS (PAVED): 57
 CARS (STABILIZED GRASS): 18
 GOLF CARTS (PAVED): 19
 TOTAL PARKING REQUIRED: 94

BASIS:
 GOLF COURSE 4 SPACES / HOLE = 72 SPACES
 BUILDING 1 SPACE / 200 S.F. = 22 SPACES

ENGINEERS
 SURVEYORS
 PLANNERS

FARNER BARLEY AND ASSOCIATES, INC.

350 North Sinclair Avenue O Tavares, Florida 32778 O (352) 343-8481

**GEOMETRY PLAN
 DAY SPA AND GOLF CLUB
 AT KINGS RIDGE**

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PROJECT NO.:	941216.118
DATE:	MARCH 2001
DRAWN BY:	JMM

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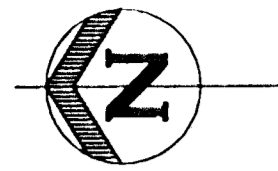
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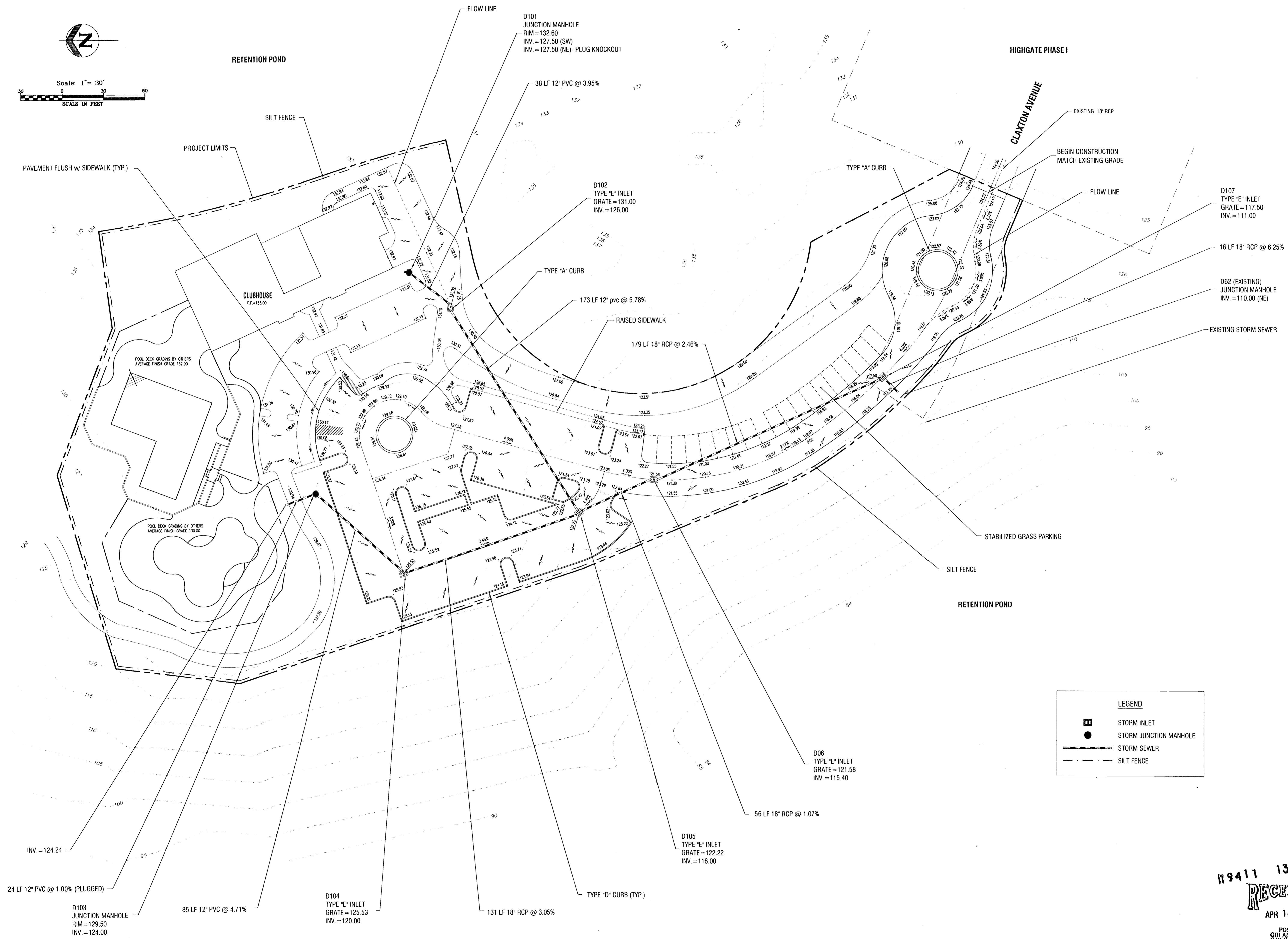
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Scale: 1" = 30'
SCALE IN FEET



LEGEND	
	STORM INLET
	STORM JUNCTION MANHOLE
	STORM SEWER
	SILT FENCE

DATE	REVISION

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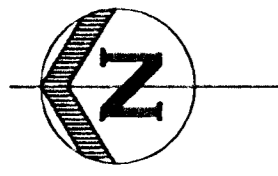
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GRADING & DRAINAGE PLAN
DAY SPA AND GOLF CLUB
AT KINGS RIDGE

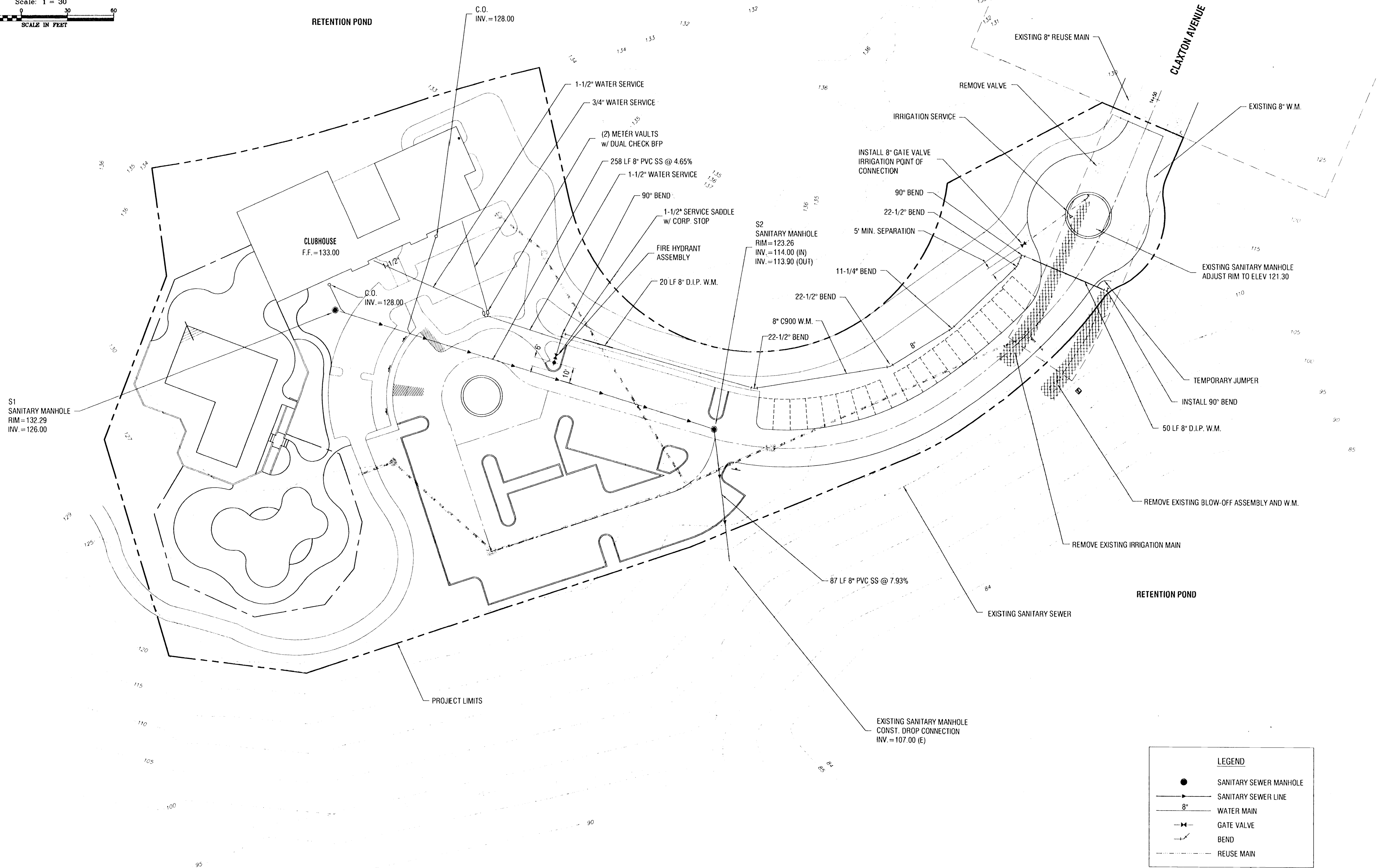
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Scale: 1" = 30'
SCALE IN FEET



LEGEND	
	SANITARY SEWER MANHOLE
	SANITARY SEWER LINE
	WATER MAIN
	GATE VALVE
	BEND
	REUSE MAIN

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SURVEYORS
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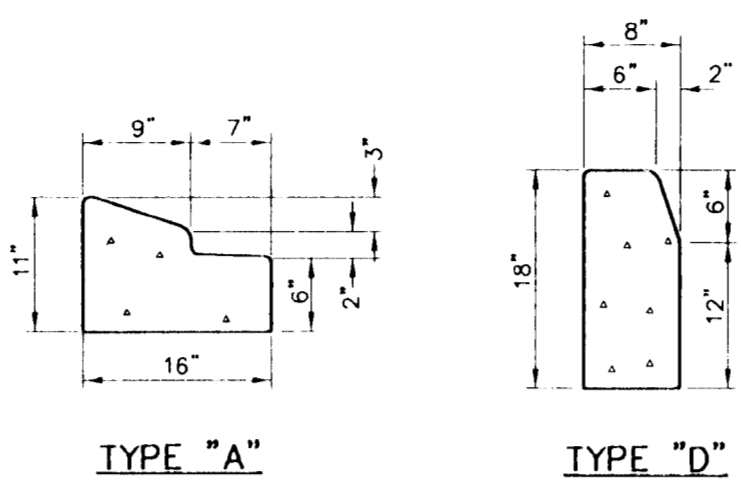
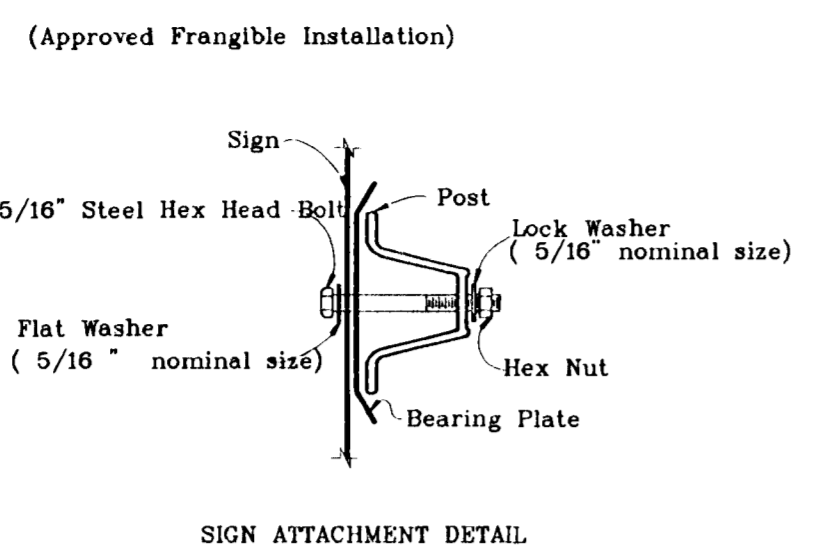
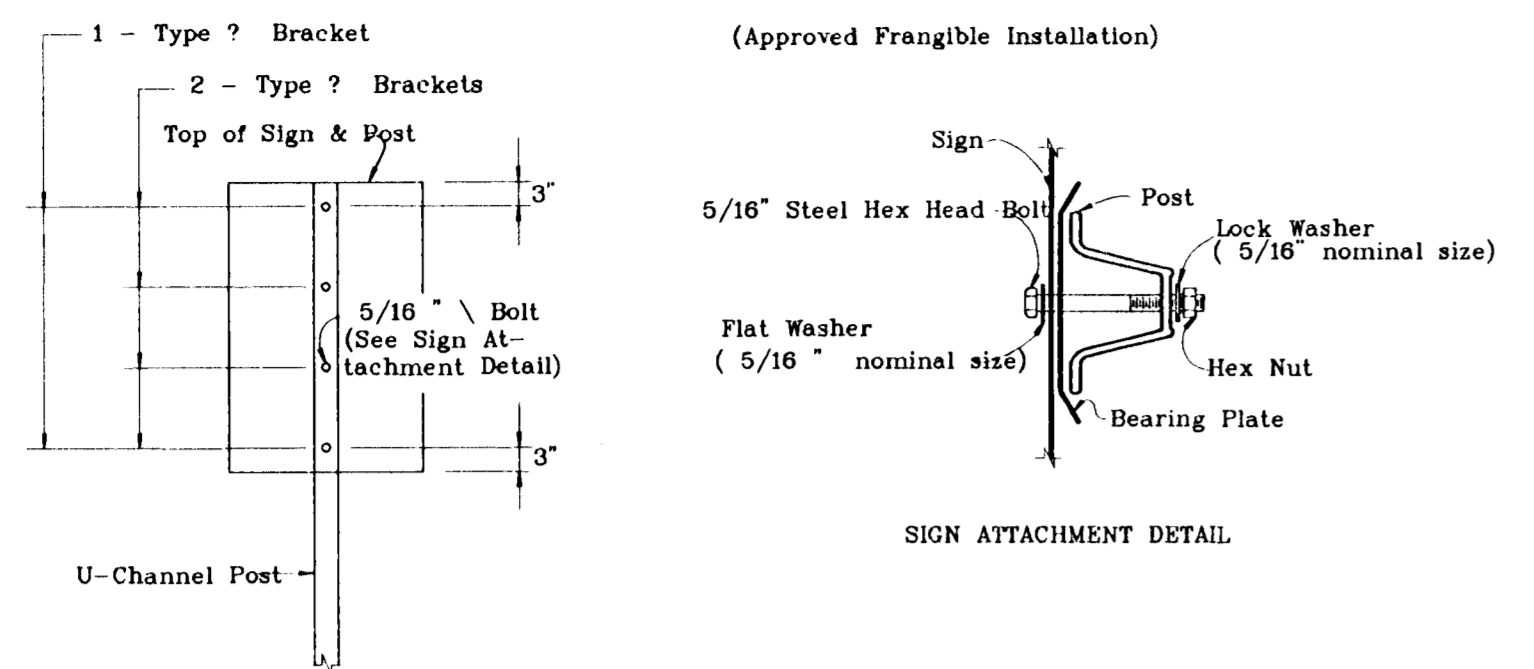
**UTILITY PLAN
DAY SPA AND GOLF CLUB
AT KINGS RIDGE**

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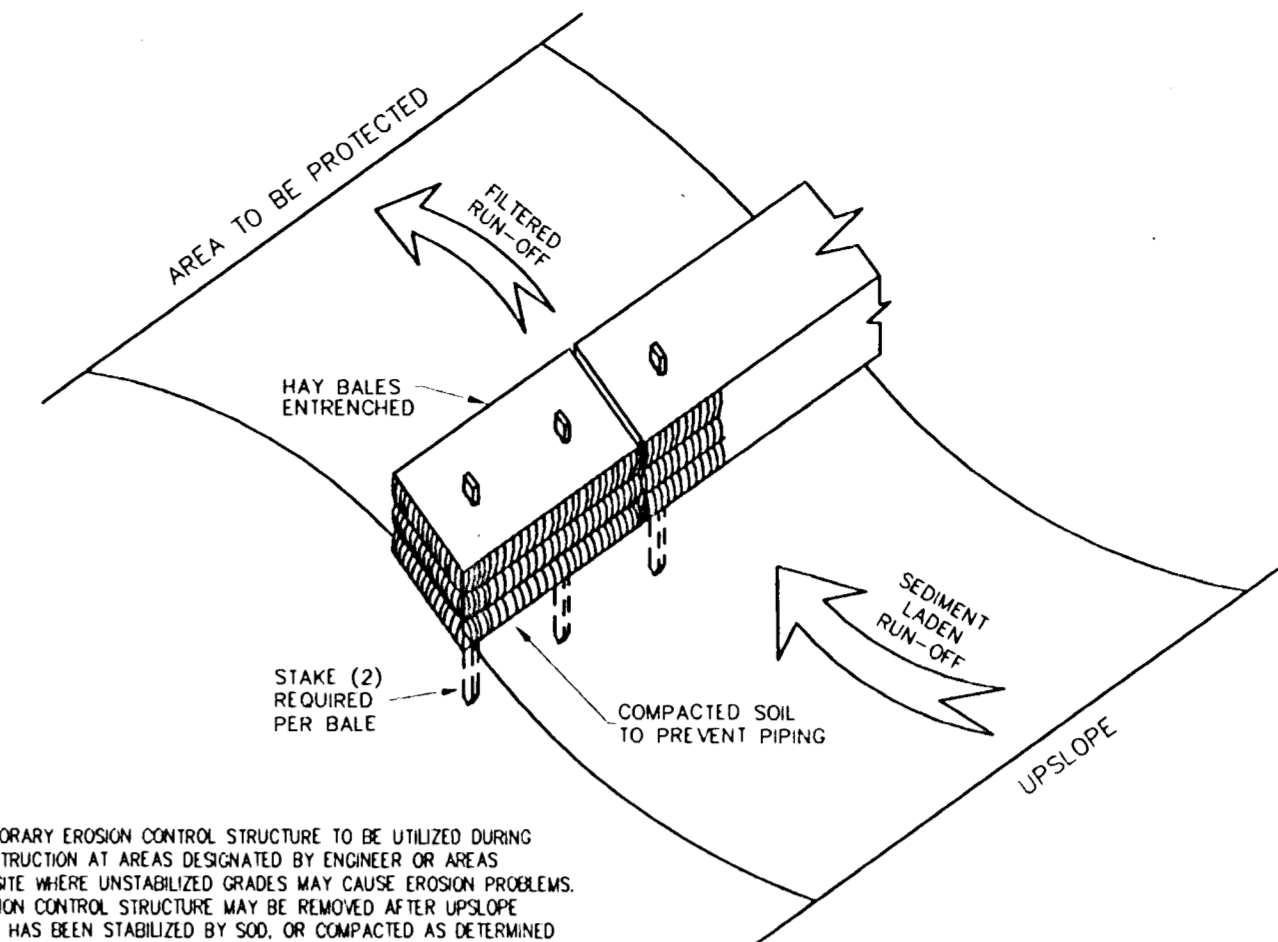
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FOR CORNER RADI ON ALL CURBS SHOWN SEE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX 300 TO BE CONSTRUCTED WITH 3000 PSI CONCRETE WITH 1/8\"/>

CURBING DETAILS



- NOTES:
- TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOO, OR COMPACTED AS DETERMINED BY CONTRACTOR.
 - ALTERNATE EROSION CONTROL STRUCTURE: WOVEN FILTER FABRIC SILT FENCE IN ACCORDANCE WITH F.D.O.T. INDEX #102, FILTER FABRIC IN ACCORDANCE WITH SECTION 985 OF THE F.D.O.T. STANDARD SPECIFICATIONS.

EROSION CONTROL STRUCTURE
NOT TO SCALE

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT:

PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICALLY EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

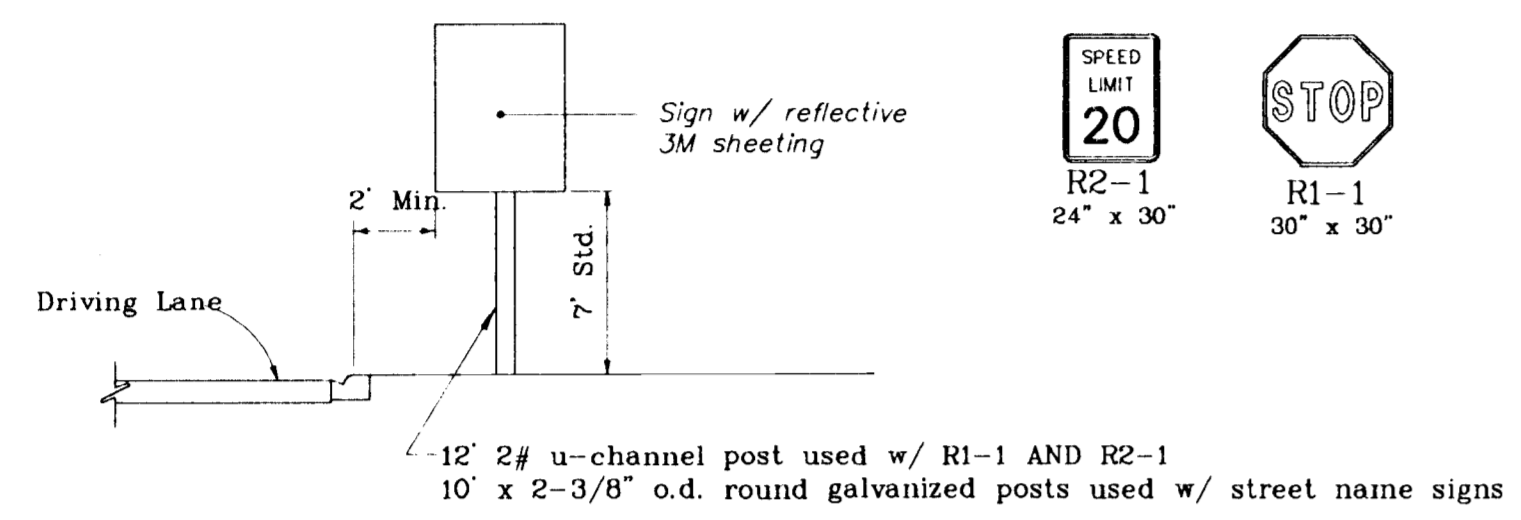
EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

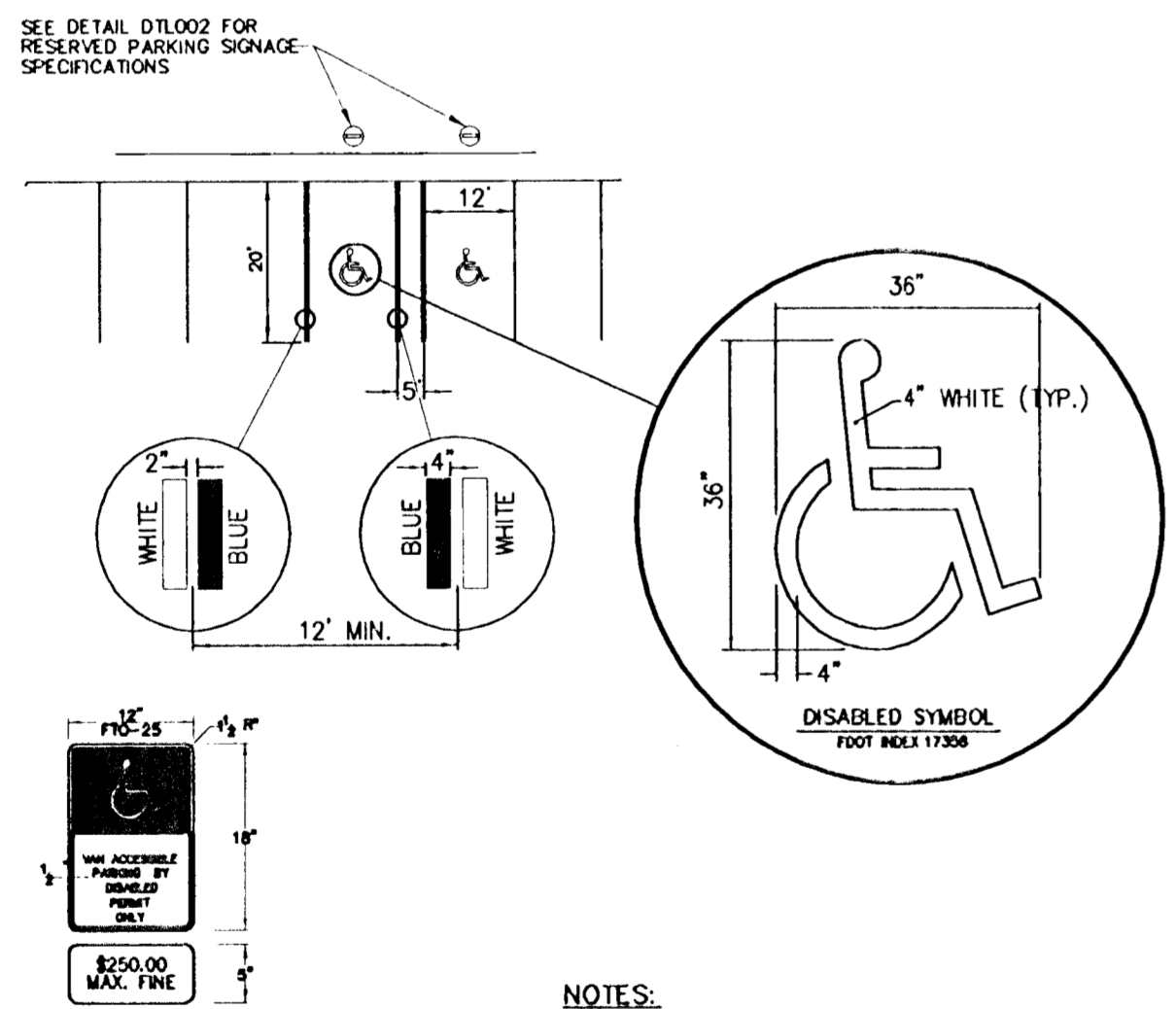
SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEED.



STREET AND STOP SIGN DETAILS



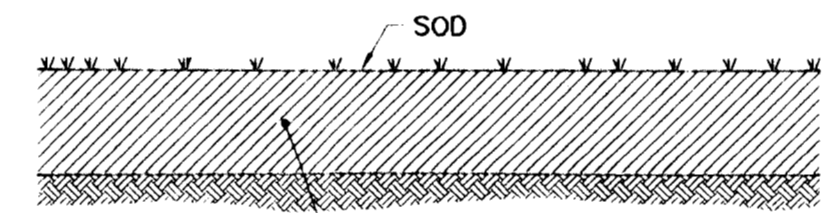
NOTE: (HANDICAP SIGN ONLY)

- ALL LETTERS SHALL BE BLACK AND 1" IN HEIGHT. LETTERS ARE TO BE SERIES "B" OR "C". PER MUTCD.
- TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
- BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK BORDER.
- ONE SIGN REQUIRED FOR EACH PARKING SPACE.
- HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORMED TRAFFIC CONTROL DEVICES (MUTCD).

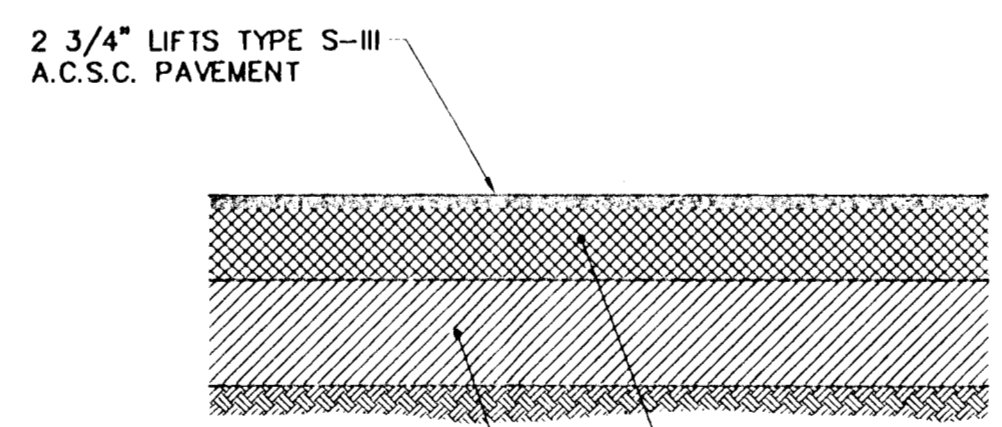
HANDICAP PARKING STRIPING FOR SINGLE SPACES

NOTES:

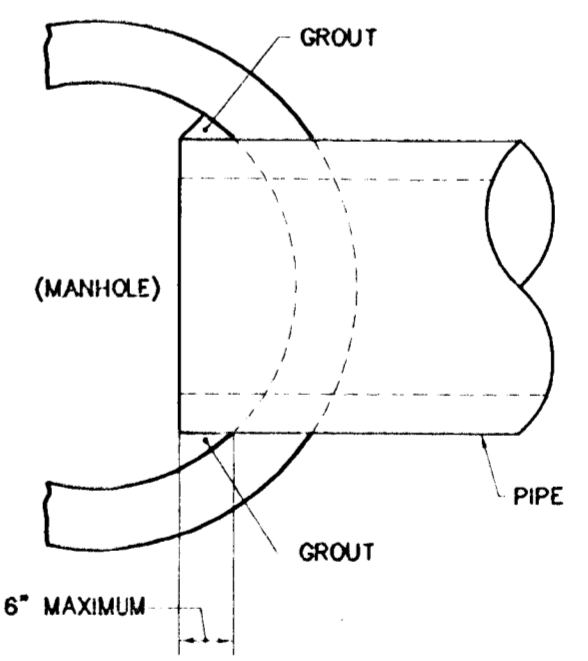
- EACH SUCH PARKING SPACE SHALL BE CONSPICUOUSLY OUTLINED IN BLUE PAINT, AND SHALL BE POSTED AND MAINTAINED WITH A PERMANENT, ABOVE GRADE SIGN BEARING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY, OR THE CAPTION "PARKING BY DISABLED PERMIT ONLY" OR BEARING BOTH SUCH SYMBOL AND CAPTION. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE. ALL HANDICAPPED PARKING SPACES MUST BE SIGNED AND MARKED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE DEPARTMENT OF TRANSPORTATION, THE CITY OF ALTAMONTE SPRINGS DISCOURAGES VARIATIONS FROM THE STANDARD.
- FL DOT RECOMMENDS MEASURING PARKING SPACE WIDTH FROM CENTER TO CENTER BETWEEN BLUE AND WHITE STRIPES.
- THIS DETAIL IS PROVIDED TO SUPPORT LDC SECTION 3.41.3.2



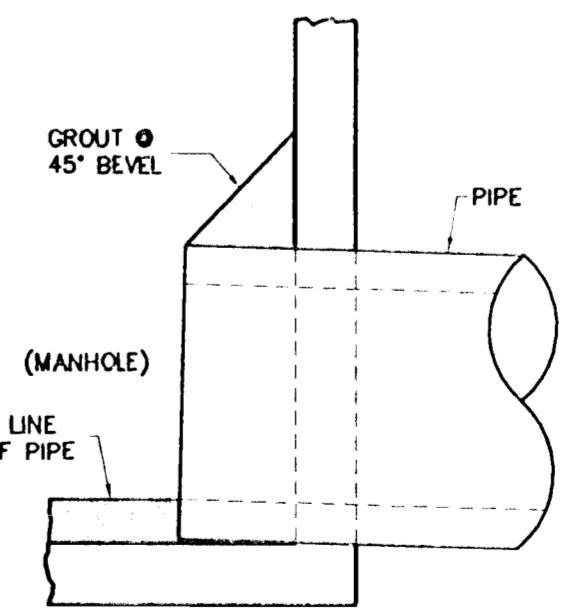
TYPICAL STABILIZED PARKING SECTION



TYPICAL PAVEMENT SECTION



NOTE: USE NON-SHRINK GROUT



TYPICAL STORM PIPE CONNECTION

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350 North Sinclair Avenue
Tavares, Florida 32778
O (352) 343-8481

PAVING & DRAINAGE DETAILS

DAY SPA AND GOLF CLUB AT KINGS RIDGE

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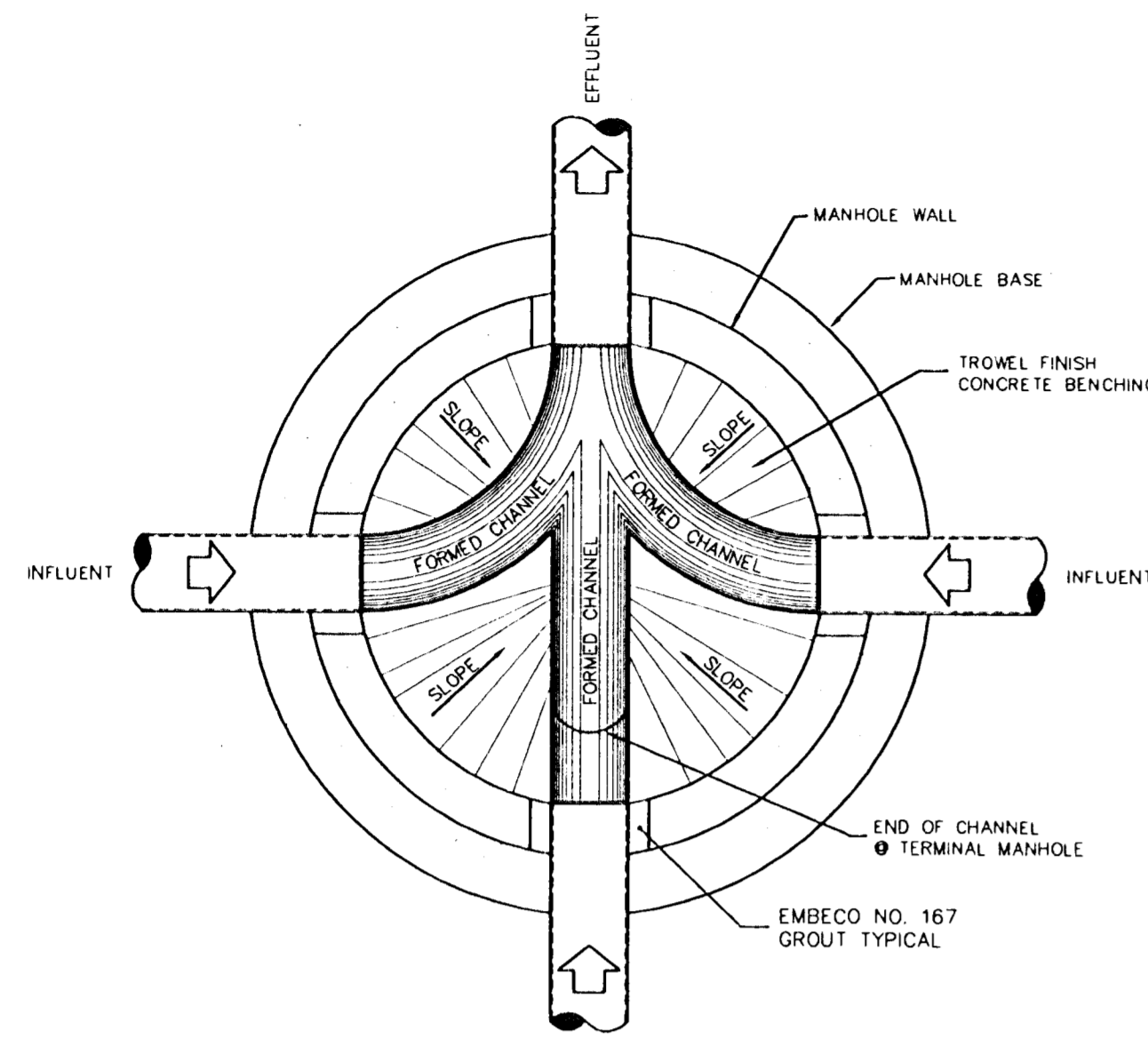
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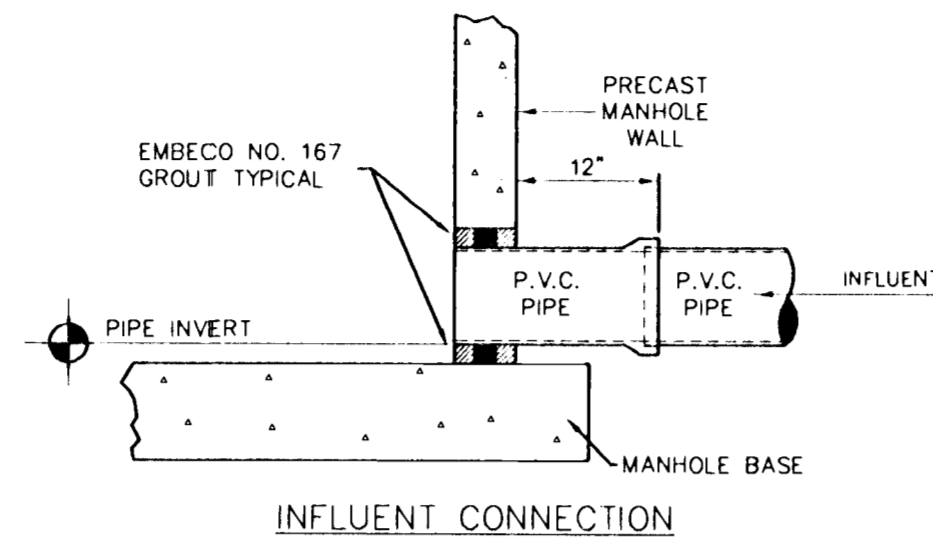
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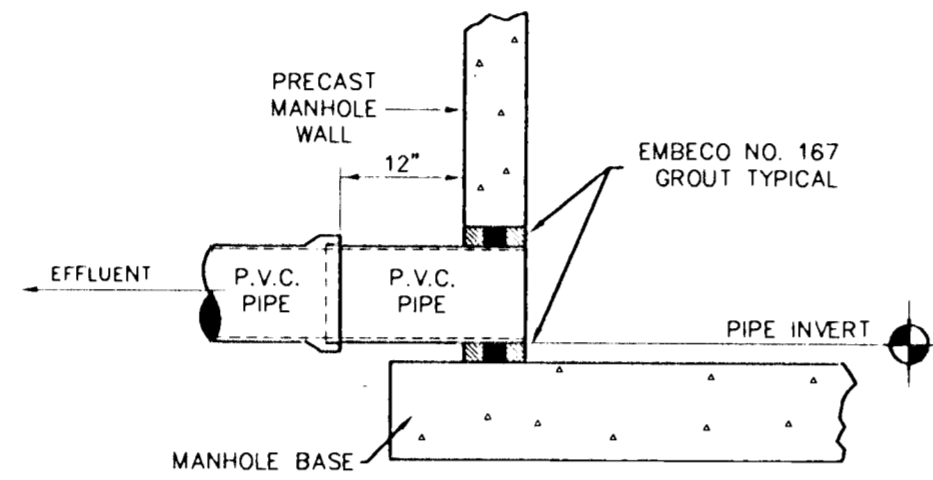
FLOW PATTERNS FOR INVERT CHANNELS

- NOTES:
1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS. HALF PIPE INVERT CHANNELS.
 2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.
 3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND AND COVERED WITH 1" OF MORTAR.
 4. WHERE PIPE INVERTS DIFFER BY MORE THAN 2 FEET (2'), PROVIDE A TEE AND DROP-PIPE TO PREVENT SPLATTER.

TYPICAL MANHOLE PLAN

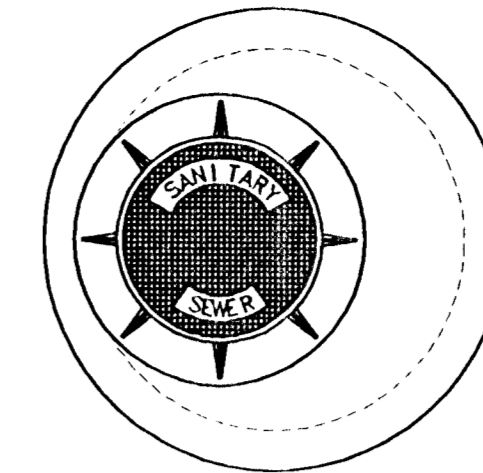


INFLUENT CONNECTION

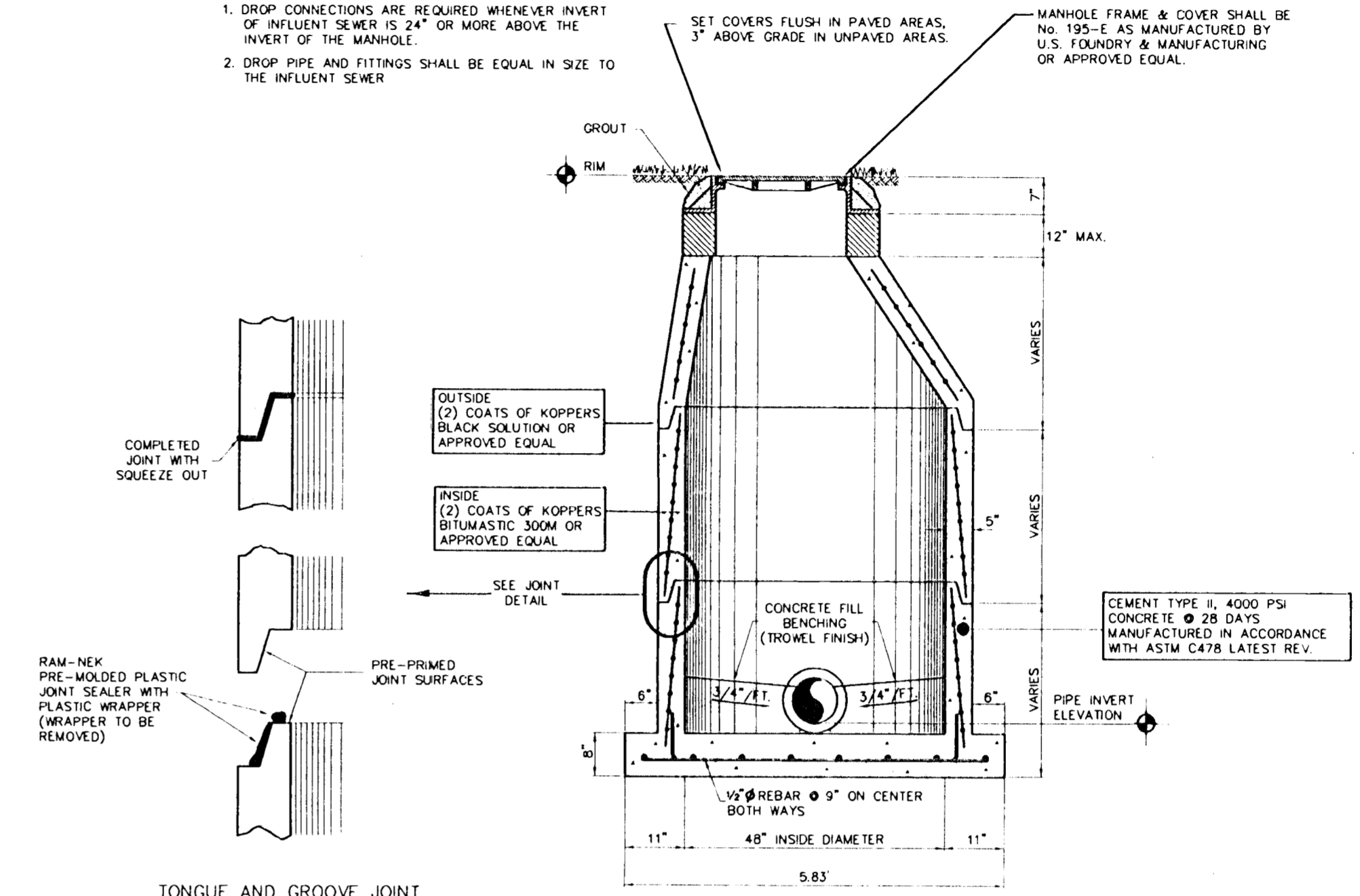


EFFLUENT CONNECTION

PIPE CONNECTION TO PRECAST SANITARY MANHOLE



- MANHOLE NOTES -**
1. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE.
 2. DROP PIPE AND FITTINGS SHALL BE EQUAL IN SIZE TO THE INFLUENT SEWER.
- MANHOLE FRAME & COVER SHALL BE NO. 195-E AS MANUFACTURED BY U.S. FOUNDRY & MANUFACTURING OR APPROVED EQUAL.

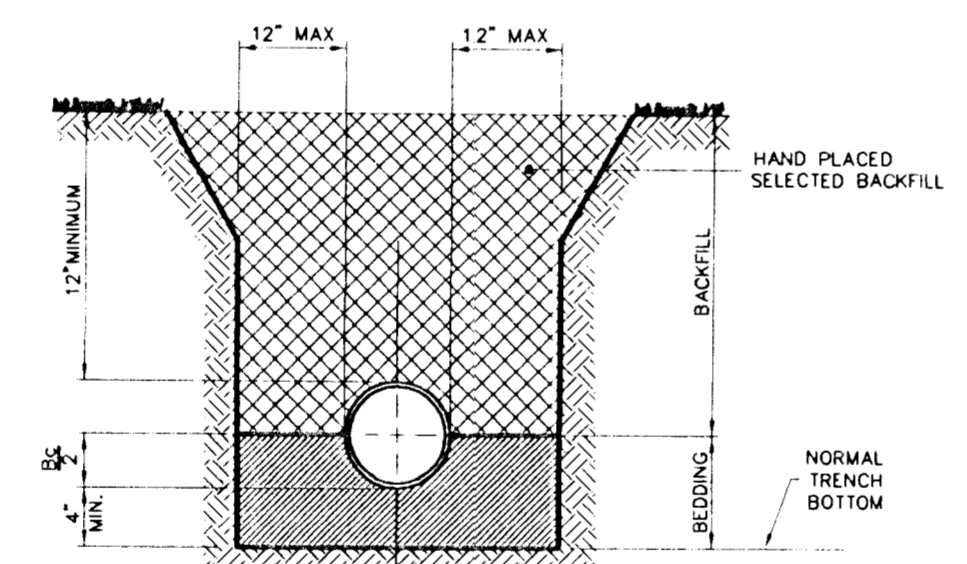


SANITARY PRECAST MANHOLE DETAIL

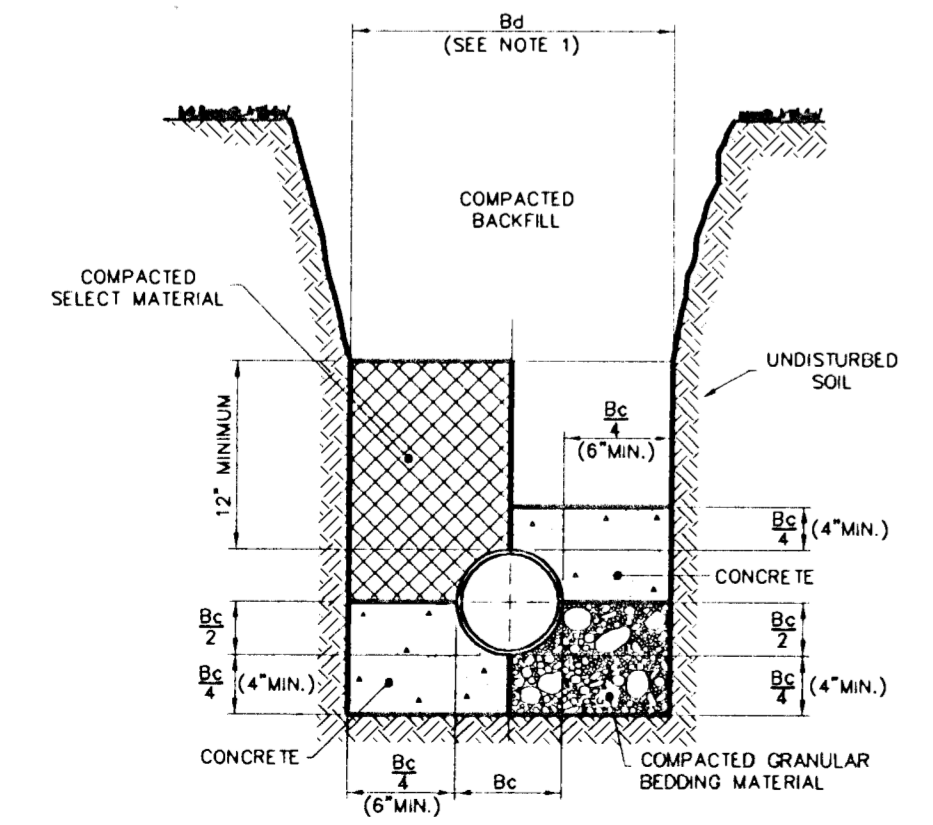
- ALTERNATE- PRECAST MANHOLE TOPS
1. APPROVED CONCENTRIC CURVE DESIGN MAY BE USED AS AN ALTERNATE.
 2. APPROVED FLAT SLAB TOP MAY BE USED AS AN ALTERNATE (6" MIN. THICKNESS).

NOTES: FOR BEDDING AND TRENCHING

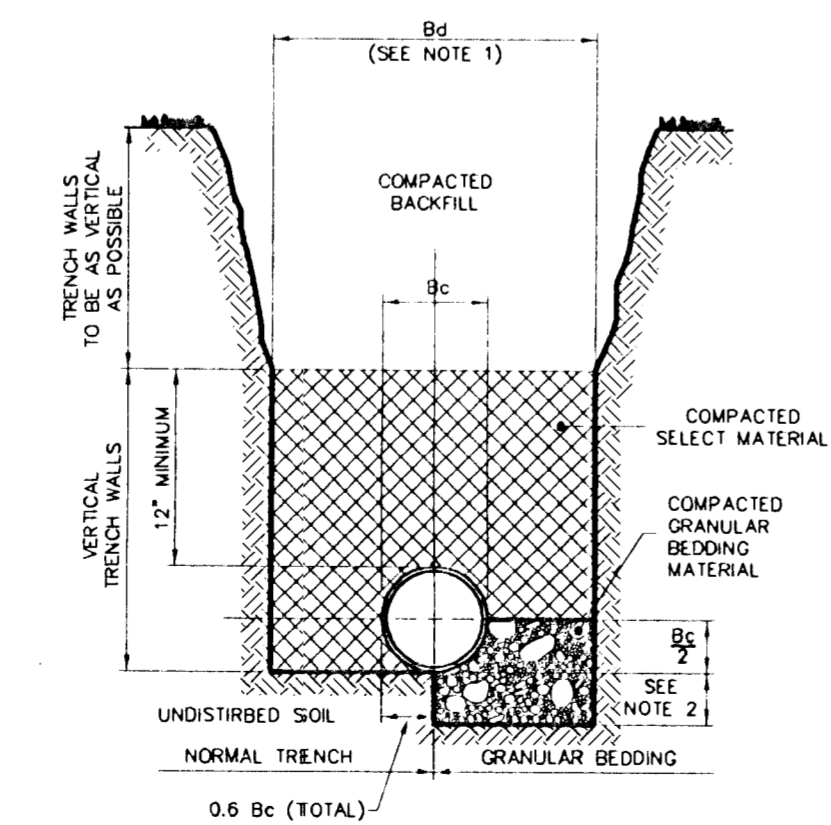
1. Dimension Bc = Pipe O.D.
Dimension Bd = Trench Width at Top of Pipe
Maximum Bd = Bc + 30"
Minimum Bd = Maximum Dimension of Bell + 8" (Unsheeted Trench)
2. Depth for removal for unsuitable material shall be as required to reach suitable foundation. For rock or other non-cushioning material, depth shall be 6" below bottom of utility.



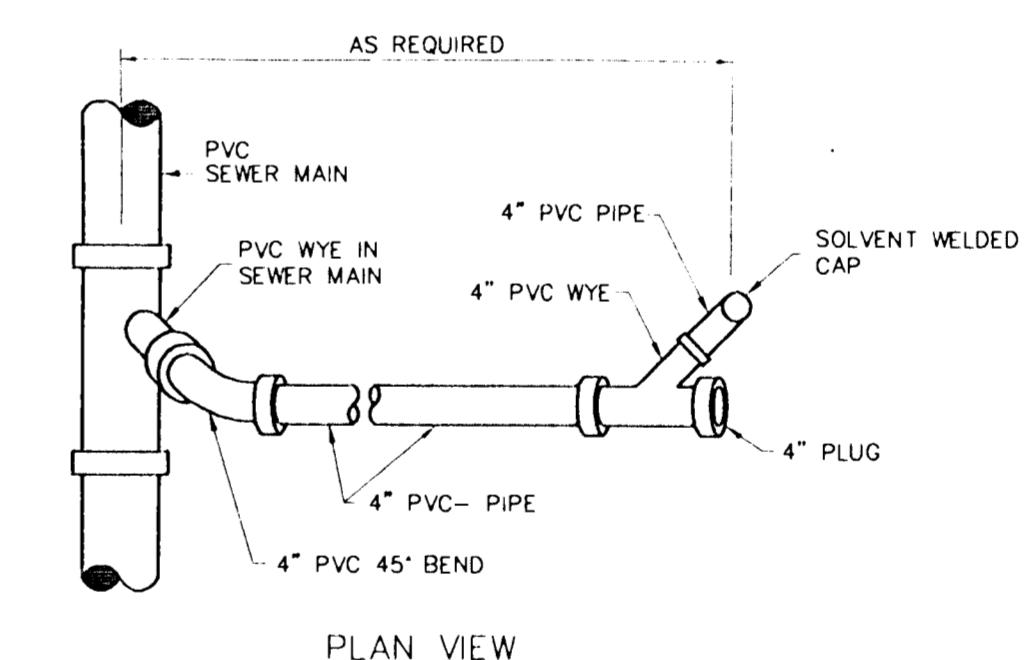
STANDARD BEDDING DETAIL FOR P.V.C. GRAVITY SEWER PIPE TYPICAL



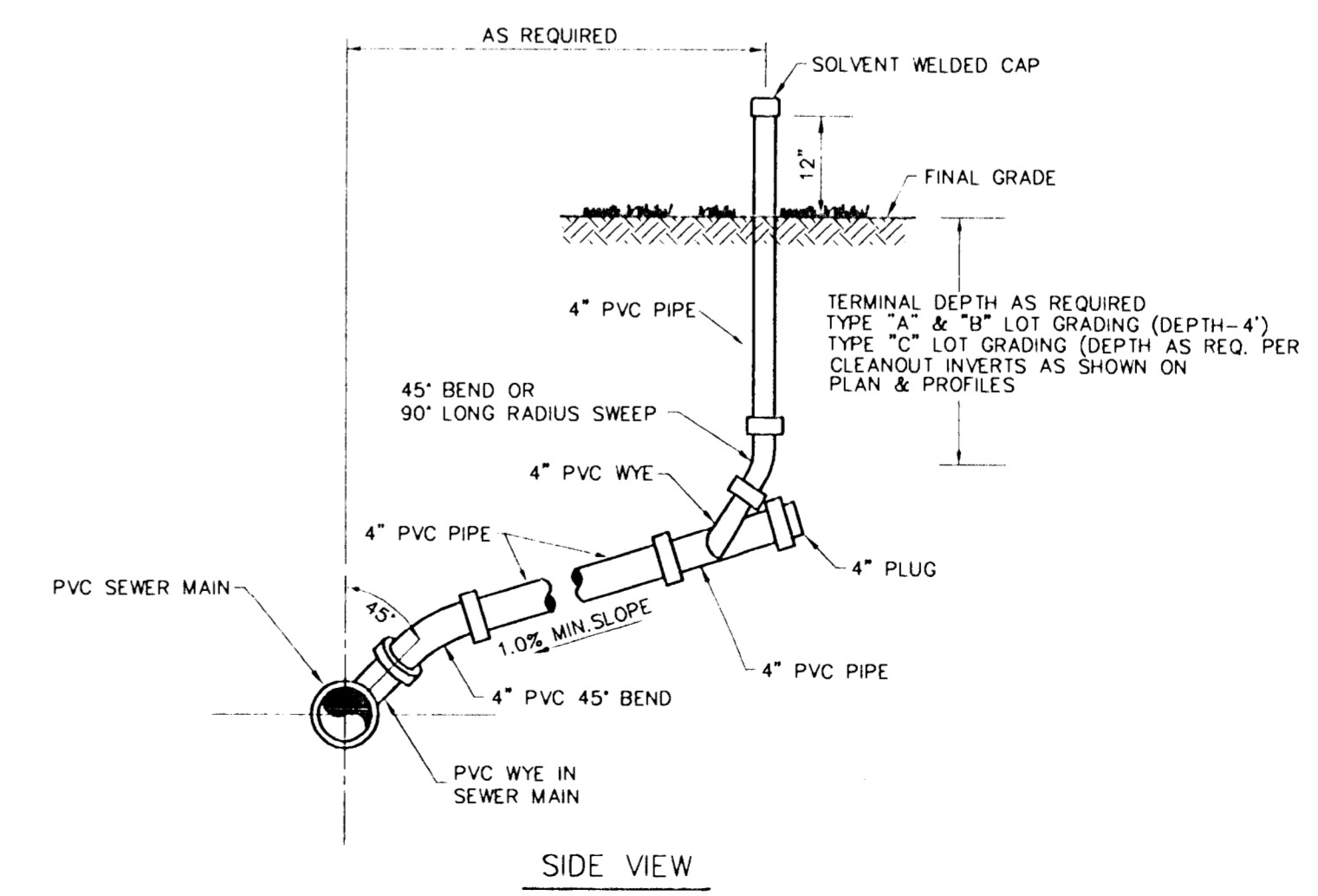
CLASS "A" BEDDING SPECIAL CONDITIONS



CLASS "B" BEDDING NORMAL CONDITIONS



PLAN VIEW



SIDE VIEW

SANITARY SEWER SERVICE

PVC SINGLE SERVICE

ENGINEERS
SURVEYORS
PLANNERS

FARNEY BARBLEY AND ASSOCIATES, INC.

350 North Sinclair Avenue O. Tallahassee, Florida 32378 O (352) 343-8481



SANITARY SEWER DETAILS
DAY SPA AND GOLF CLUB
AT KINGS RIDGE

CHECKED BY:
PROJECT NO.: 941216.118
DATE: MARCH 2001
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Sht. 6

FILE NAME:

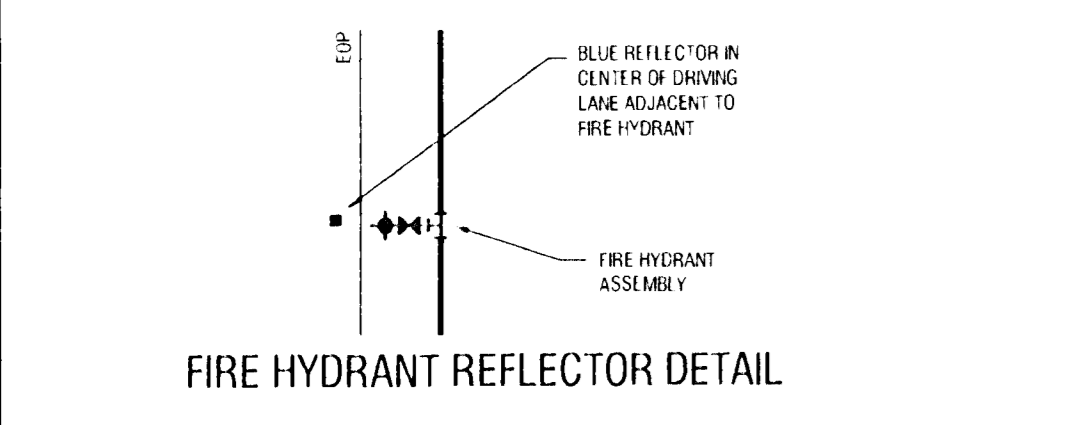
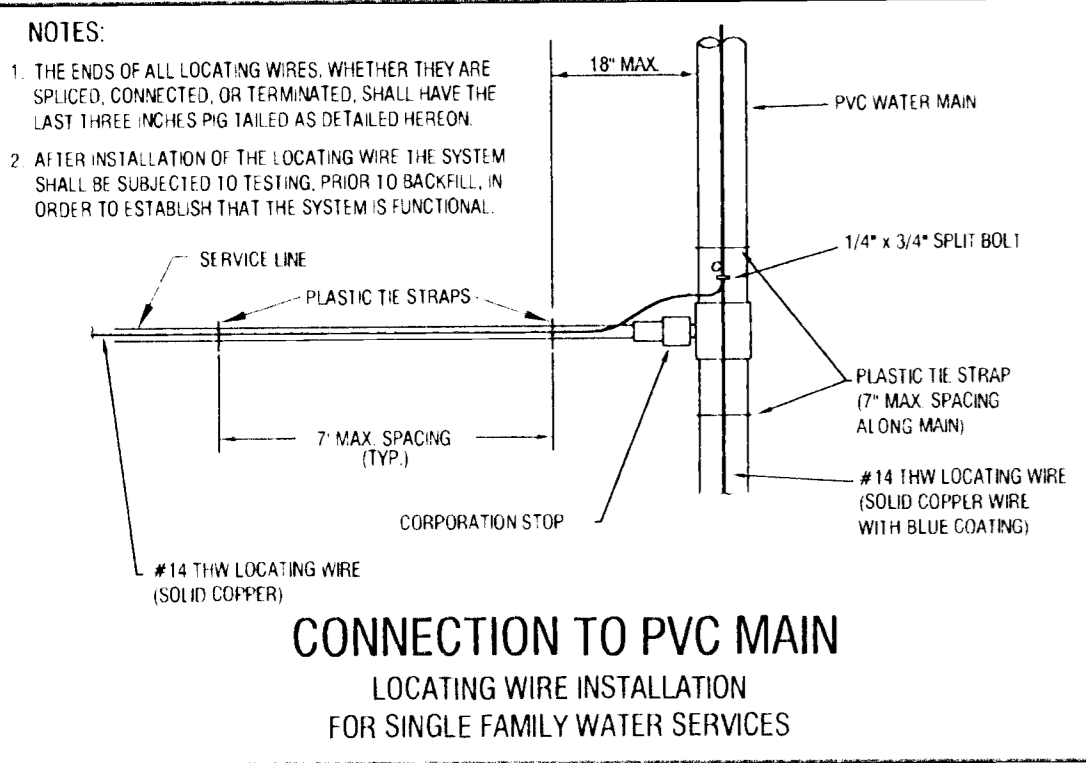
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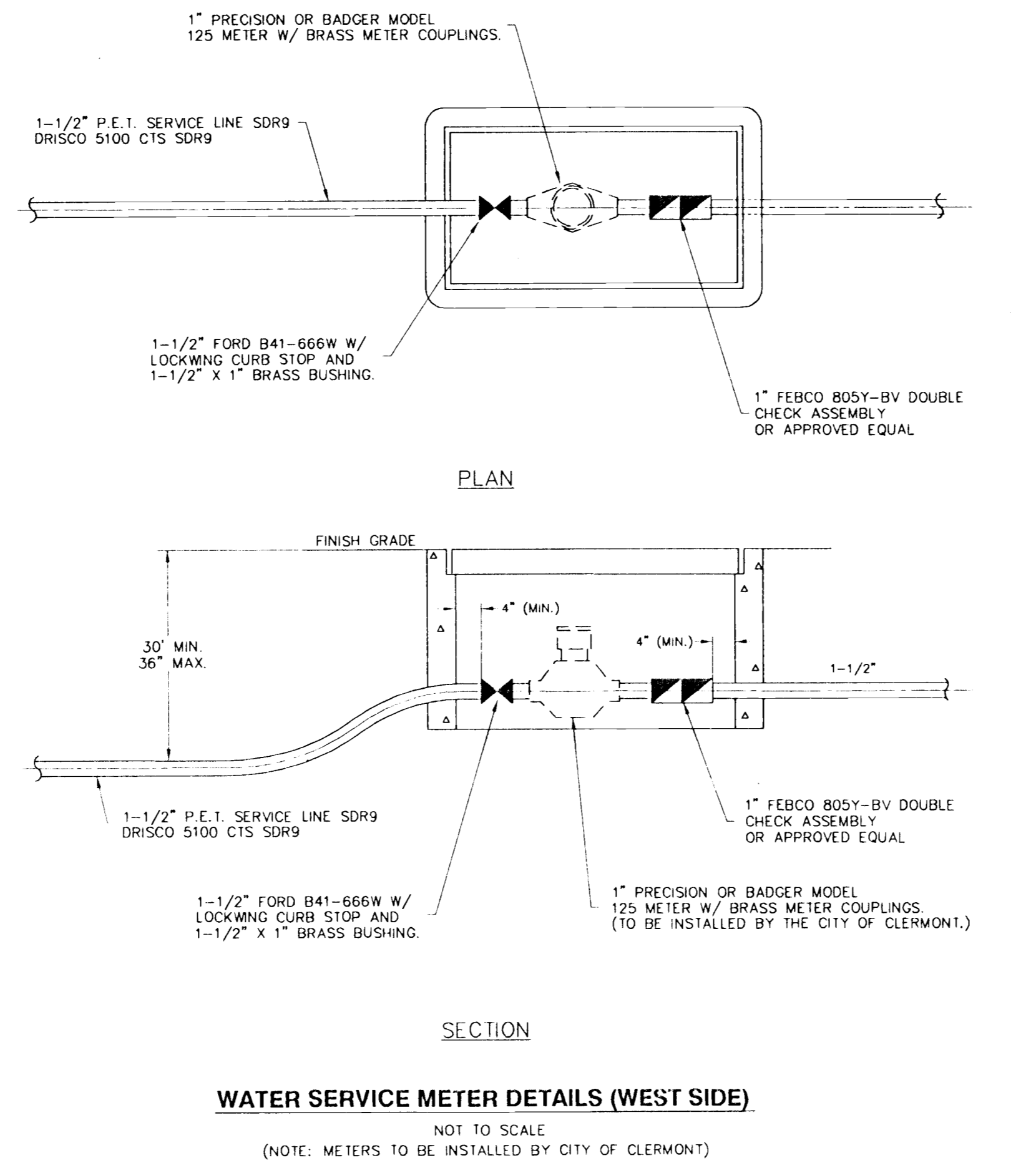
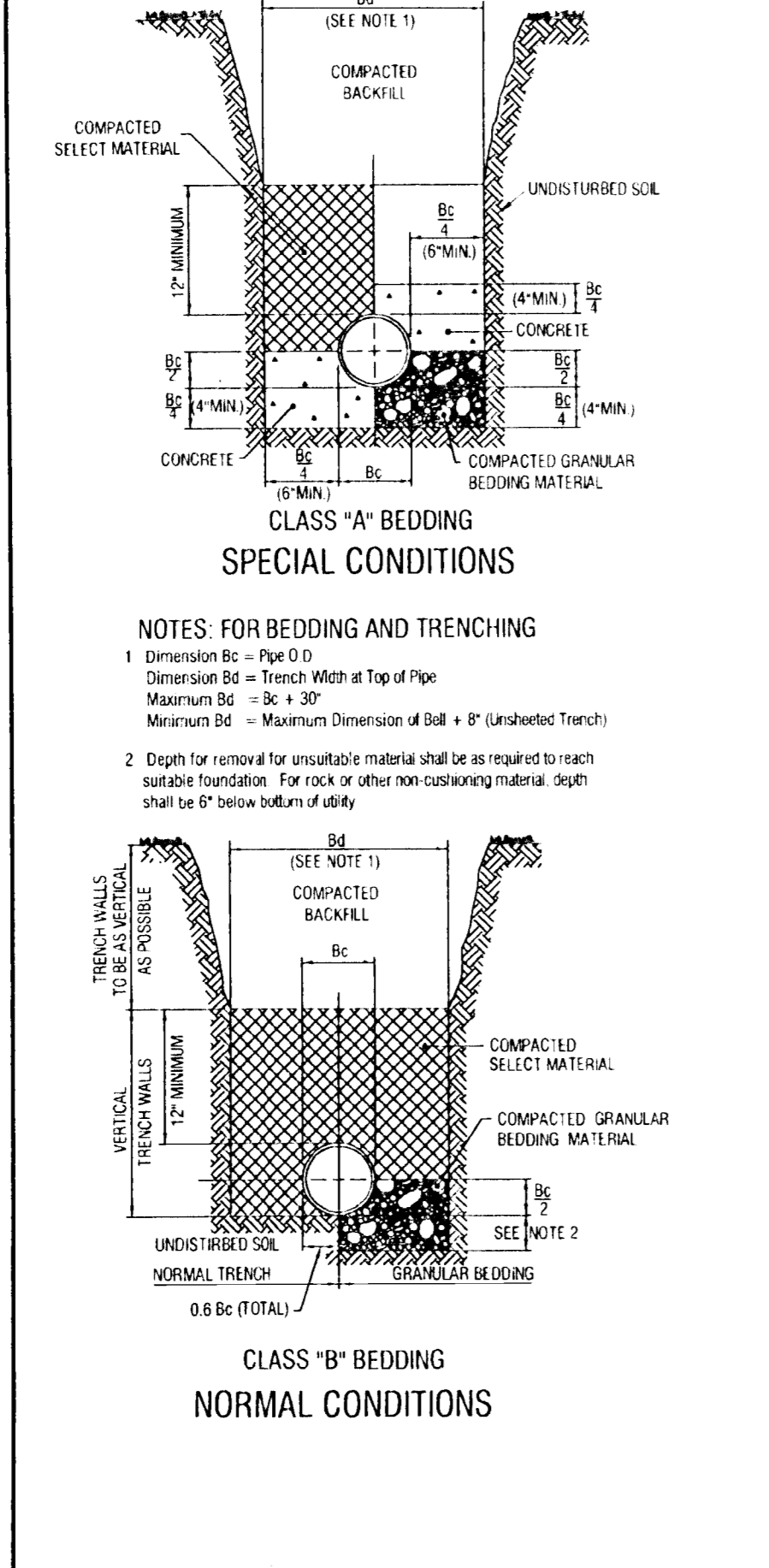
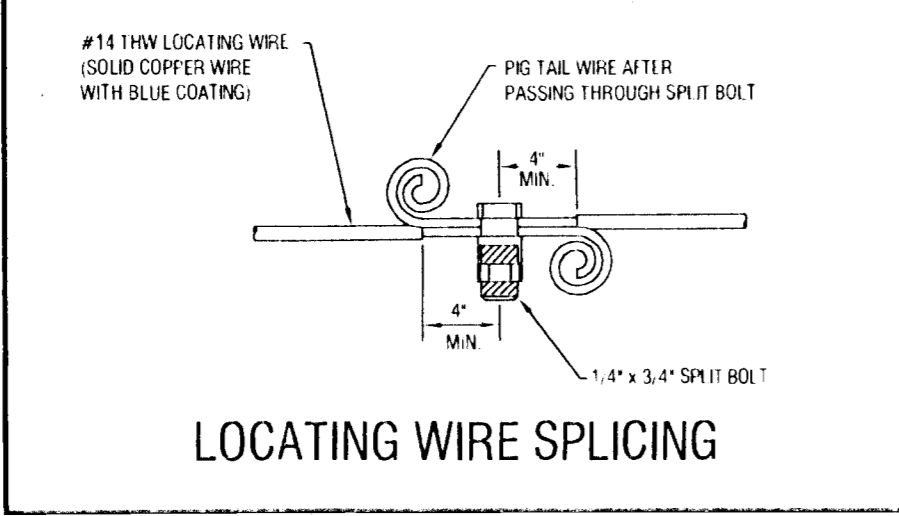
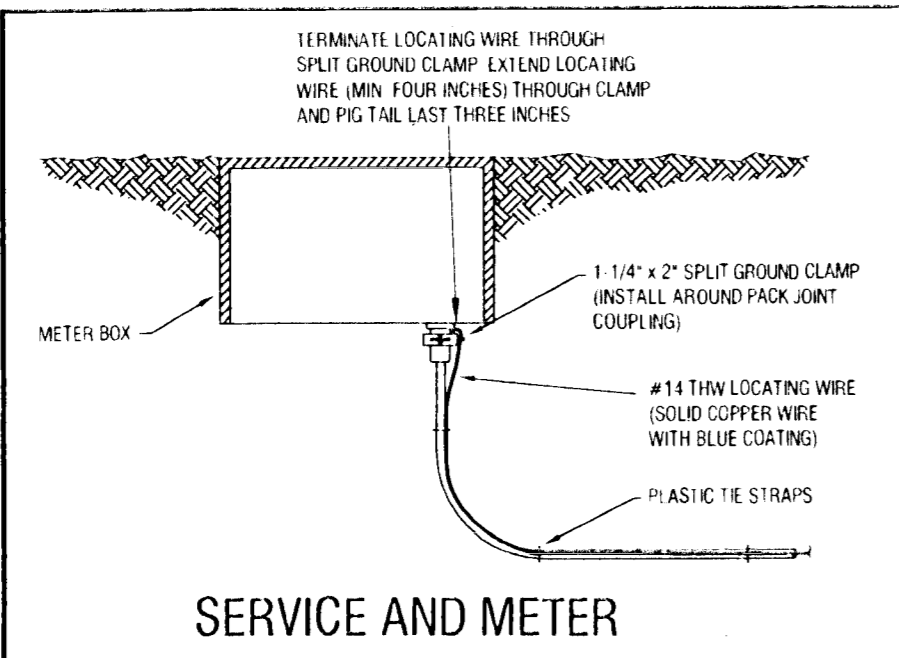
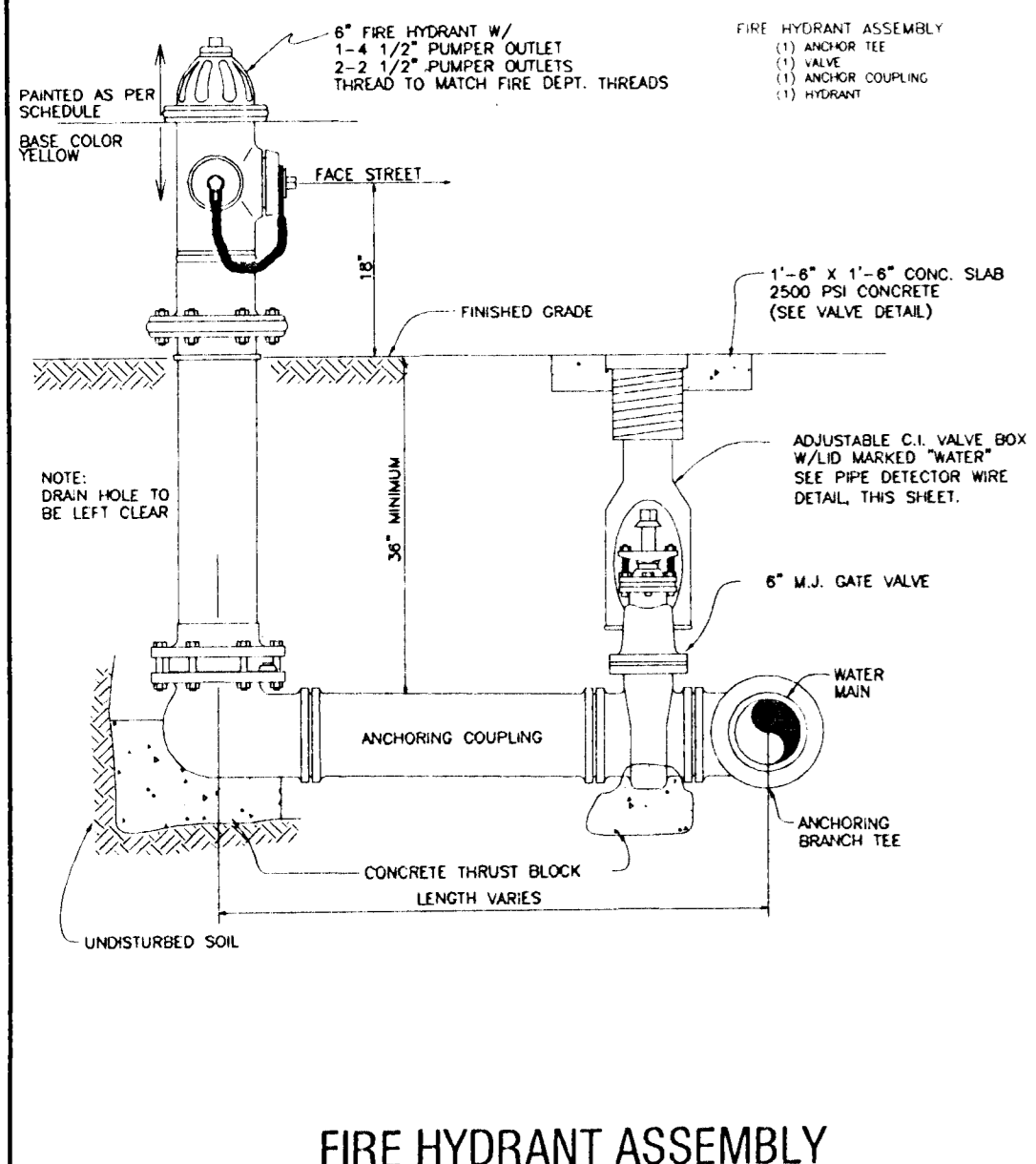
GENERAL WATER NOTES

1. WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS. CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSP" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C 900, DR 18 FOR PIPE SIZES 4" - 12". PIPES 14" OR LARGER SHALL BE AWWA C 905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE MINIMUM 36" BELOW FINISHED GRADE.
5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON AND SHALL EXTEND 5' BEYOND THE BACK OF CURB.
7. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.

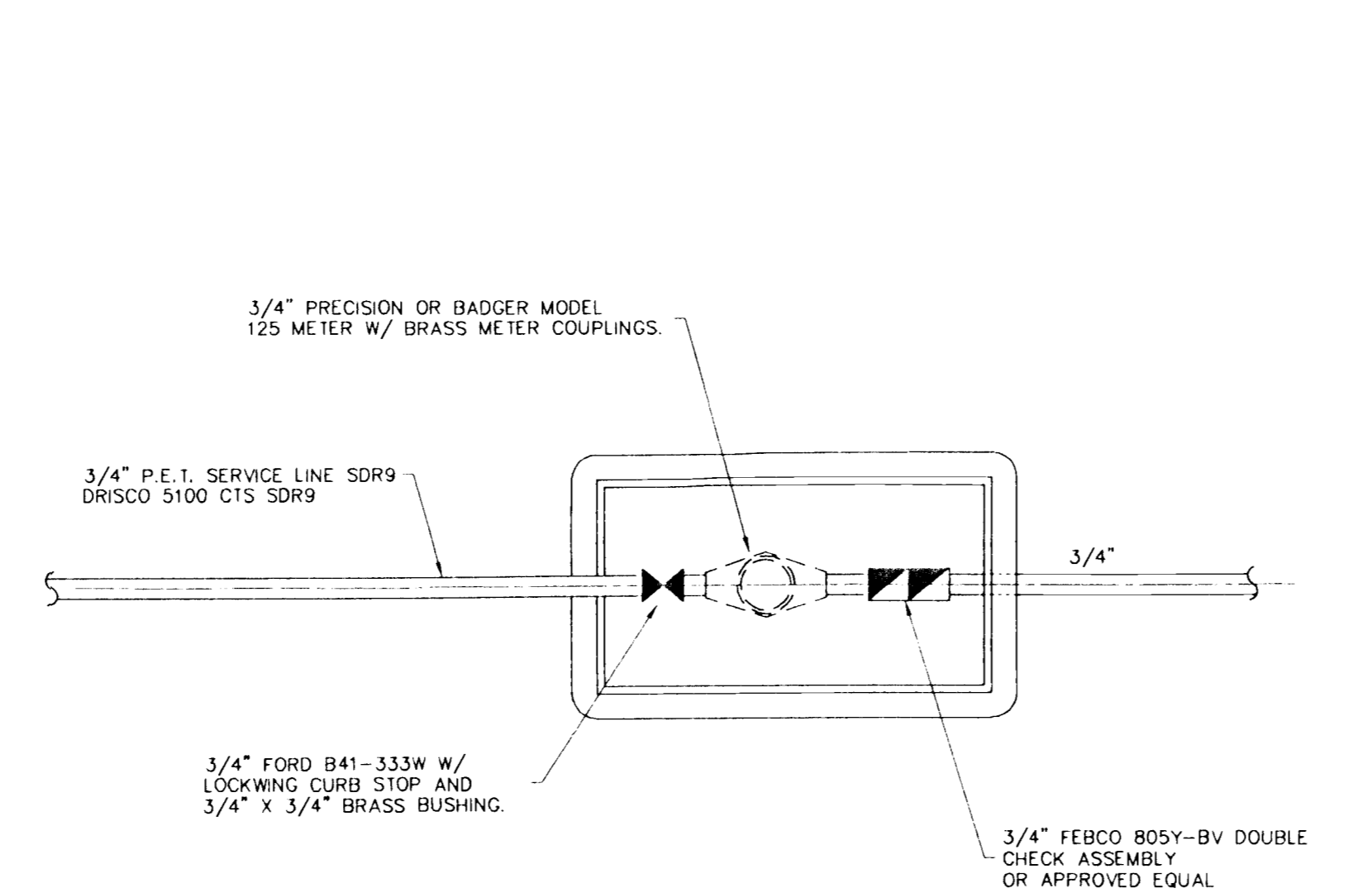
** NOTE: MARK ALL POINTS WHERE WATER SERVICES CROSS CURB WITH A "W" MARK IN CONCRETE.



- NOTES:**
1. FIRE HYDRANTS SHALL BE MUELLER A-423.
 2. HYDRANT SHALL BE SUPPLIED WITH DRAIN.
 3. HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING COLORING DESIGNATION BASED ON THE TESTED FLOWS:
BASE HYDRANT - YELLOW
LESS THAN 500 GPM - RED
500 TO 999 GPM - ORANGE
1000 TO 1499 - GREEN
1500 AND GREATER - BLUE
 4. PAINT SHALL BE SHERWIN-WILLIAMS INDUSTRIAL GRADE OSHA: RED #B54 R 38
YELLOW #B54 Y 37
GREEN #B54 G 14
ORANGE #B54 E 39
BLUE #SW4086
 5. HYDRANTS TO BE FLOW TESTED BY CONTRACTOR COORD WITH CITY ENGINEER FOR TESTING PROCEDURES.



WATER SERVICE METER DETAILS (WEST SIDE)
NOT TO SCALE
(NOTE: METERS TO BE INSTALLED BY CITY OF CLERMONT.)



WATER SERVICE METER DETAILS (EAST SIDE)
NOT TO SCALE
(NOTE: METERS TO BE INSTALLED BY CITY OF CLERMONT.)

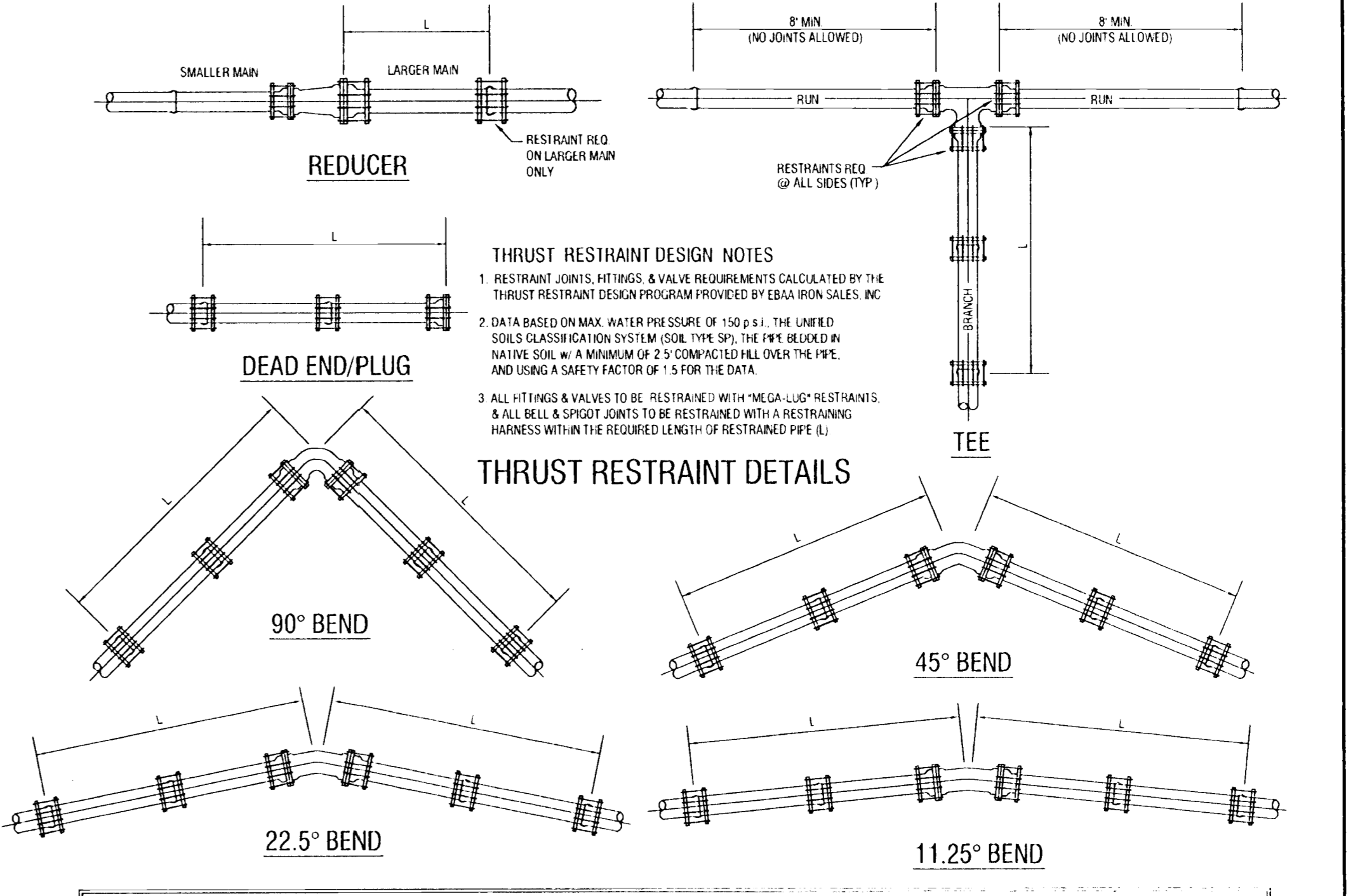
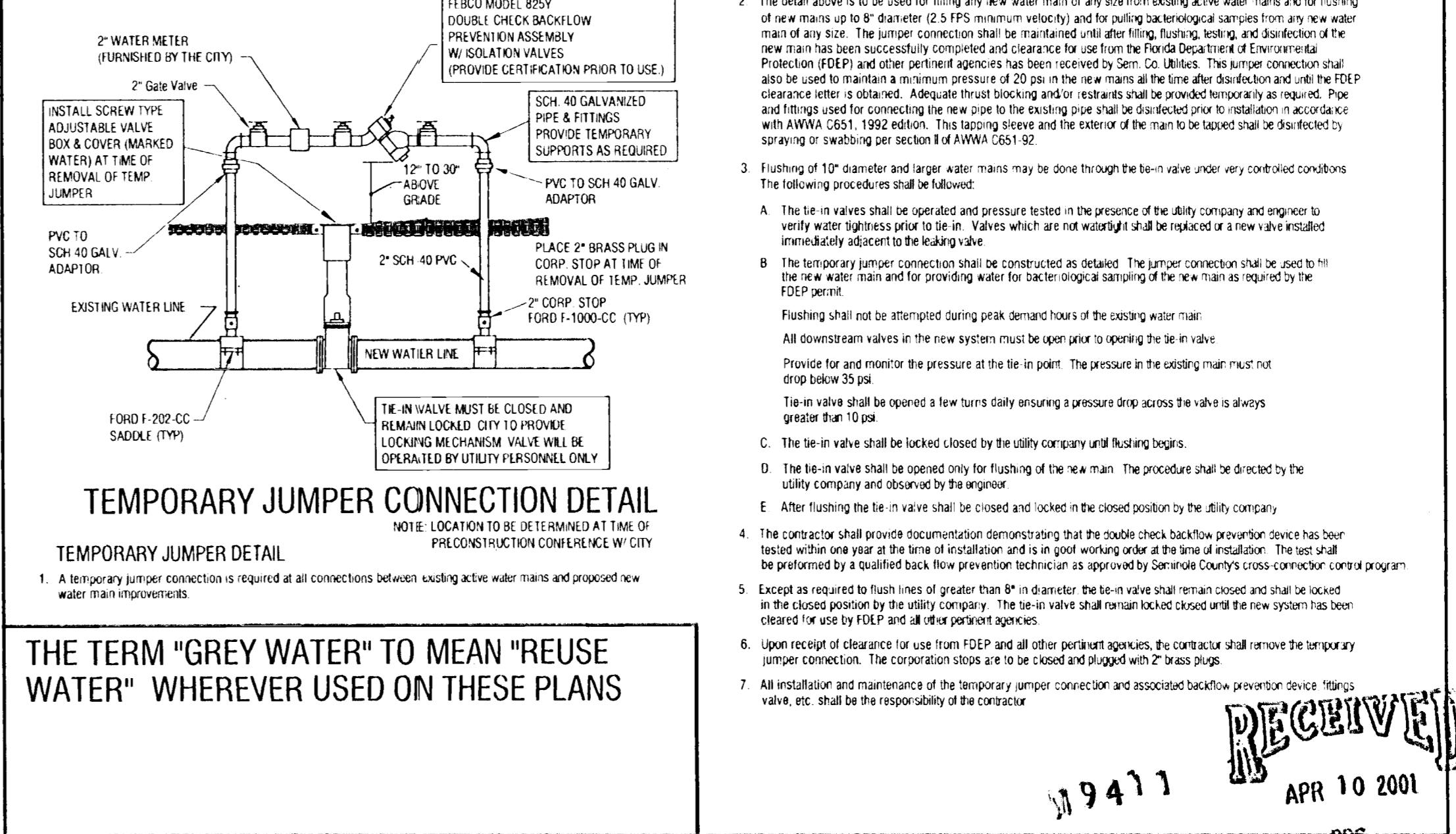


TABLE OF THRUST RESTRAINT LENGTHS

PIPE SIZE (INCHES)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		TEES		DEAD END & PLUG		REDUCER		
	PVC (L)	DUCTILE IRON (L)	PVC (L)	DUCTILE IRON (L)	PVC (L)	DUCTILE IRON (L)	PVC (L)	DUCTILE IRON (L)	PVC (L)	DUCTILE IRON (L)	PVC (L)	DUCTILE IRON (L)	PIPE SIZES	PVC (L)	DUCTILE IRON (L)
4	20'	16'	8'	7'	4'	3'	2'	2'	15'	10'	45'	28'	6"x4"	32'	21'
6	28'	22'	12'	9'	6'	4'	3'	2'	33'	21'	63'	40'	8"x6"	34'	22'
8	36'	29'	15'	12'	7'	6'	4'	3'	52'	33'	82'	52'	10"x8"	33'	21'
10	43'	34'	18'	14'	9'	7'	4'	3'	68'	43'	98'	62'	12"x10"	34'	21'
12	50'	40'	21'	17'	10'	8'	5'	4'	85'	53'	116'	73'	14"x12"	63'	40'
14	57'	46'	24'	20'	12'	9'	6'	5'	102'	63'	132'	84'	16"x14"	63'	40'
16	63'	51'	26'	21'	13'	10'	6'	5'	116'	73'	148'	93'			

- SANITARY GRAVITY, FORCE MAIN, REUSE MAIN, STORM SEWER, & POTABLE WATER MAIN SEPARATION NOTES & SOLUTIONS**
1. A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET OUTSIDE TO OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY GRAVITY SEWER OR STORM SEWER LINES.
 2. A MINIMUM HORIZONTAL SEPARATION OF THREE (3) FEET OUTSIDE TO OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAINS AND RECLAIMED WATER LINES CARRYING UNRESTRICTED PUBLIC ACCESS REUSE WATER.
 3. IN AREAS WHERE IT IS NOT PRACTICAL TO MAINTAIN THE REQUIRED SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SANITARY GRAVITY SEWER, STORM SEWER OR RECLAIMED WATER LINE AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE OTHER LINE.
 4. IF THE MINIMUM ALLOWABLE TEN (10) FEET HORIZONTAL SEPARATION OR EIGHTEEN (18) INCHES VERTICAL SEPARATION IN A SEPARATE TRENCH CANNOT BE MAINTAINED, UPGRADE THE WATER MAIN TO DUCTILE IRON IF THE OTHER LINE IS A STORM SEWER.
 5. IF THE NON-CONFORMING LINE IS A GRAVITY SANITARY SEWER, AND TEN (10) FEET HORIZONTAL SEPARATION OR EIGHTEEN (18) INCHES VERTICAL SEPARATION IN A SEPARATE TRENCH CANNOT BE MAINTAINED, UPGRADE THE GRAVITY SANITARY SEWER (IF BEING NEWLY INSTALLED) TO AWWA C-900 D.R. 18 PVC AND HYDROSTATICALLY TEST IT TO 150 PSI.
 6. IF THE OTHER LINE IS A RECLAIMED WATER LINE AND THE ABOVE SEPARATION REQUIREMENTS ARE NOT MET, UPGRADE THE RECLAIMED WATER LINE MATERIAL TO DUCTILE IRON OR ENCASE THE PIPE IN CONCRETE.
 7. DEVIATIONS AND OTHER ALTERNATIVES SHALL BE CONSIDERED ON CASE-BY-CASE BASIS AND MUST RECEIVE SPECIFIC APPROVAL BY D.E.P. PRIOR TO IMPLEMENTATION.
 8. THERE SHALL BE AT LEAST A TEN (10) FOOT SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER MAINS WITHOUT EXCEPTION. FIELD PROBLEMS SHALL BE REPORTED TO THE ENGINEER. SPECIAL SOLUTIONS MUST BE ACCEPTED BY D.E.P. PRIOR TO IMPLEMENTATION.
 9. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE OR STORM SEWER STRUCTURE.
 10. A MINIMUM VERTICAL SEPARATION OF EIGHTEEN (18) INCHES OUTSIDE TO OUTSIDE SHALL BE MAINTAINED BETWEEN WATER MAIN, SANITARY GRAVITY SEWER, STORM SEWER OR RECLAIMED WATER LINES.
 11. WHEN THERE IS LESS THAN EIGHTEEN (18) INCHES VERTICAL CLEARANCE BETWEEN THE WATER MAIN AND STORM SEWER, THE WATER MAIN SHALL BE UPGRADED TO DUCTILE IRON. ONE FULL LENGTH OF PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
 12. IF THE NON-CONFORMING LINE IS A SANITARY GRAVITY SEWER WHERE THERE IS LESS THAN EIGHTEEN (18) INCHES VERTICAL CLEARANCE FROM THE WATER MAIN, UPGRADE THE SANITARY GRAVITY SEWER TO AWWA C-900 D.R. 18 PVC AND HYDROSTATICALLY TEST IT TO 150 PSI. PIPES SHALL BE LOCATED SO THAT JOINTS ARE AS FAR AS POSSIBLE FROM EACH OTHER.
 13. IF THE OTHER LINE IS A RECLAIMED WATER LINE AND THE ABOVE SEPARATION REQUIREMENTS ARE NOT MET, UPGRADE THE RECLAIMED WATER LINE MATERIAL TO DUCTILE IRON OR ENCASE THE PIPE IN CONCRETE.
 14. SPECIAL STRUCTURAL SUPPORT OR CONCRETE SADDLES MAY BE NECESSARY AT THE CROSSING LOCATION.
 15. IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE CROSSING HAZARD.
 16. DEVIATIONS AND OTHER ALTERNATIVES SHALL BE CONSIDERED ON CASE-BY-CASE BASIS AND MUST RECEIVE SPECIFIC APPROVAL BY D.E.P. PRIOR TO IMPLEMENTATION.
 17. THERE SHALL BE AN EIGHTEEN (18) INCHES VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER MAINS AT CROSSINGS WITHOUT EXCEPTION. CONFLICTS WITH EXISTING LINES, WHERE IT IS NOT POSSIBLE TO MAINTAIN THE REQUIRED SEPARATION, SHALL BE REPORTED TO THE ENGINEER. SPECIAL SOLUTIONS MUST BE ACCEPTED BY D.E.P. PRIOR TO IMPLEMENTATION.
 18. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE OR STORM SEWER STRUCTURE.



THE TERM "GREY WATER" TO MEAN "REUSE WATER" WHEREVER USED ON THESE PLANS

DATE REVISION

ENGINEERS
SUPERVISORS
PLANNERS

BARBER
AND ASSOCIATES, INC.

350 North Sinclair Avenue O. Tower, Clermont, Florida 32717 • (352) 343-5467

WATER DISTRIBUTION DETAILS

DAY SPA AND GOLF CLUB AT KINGS RIDGE

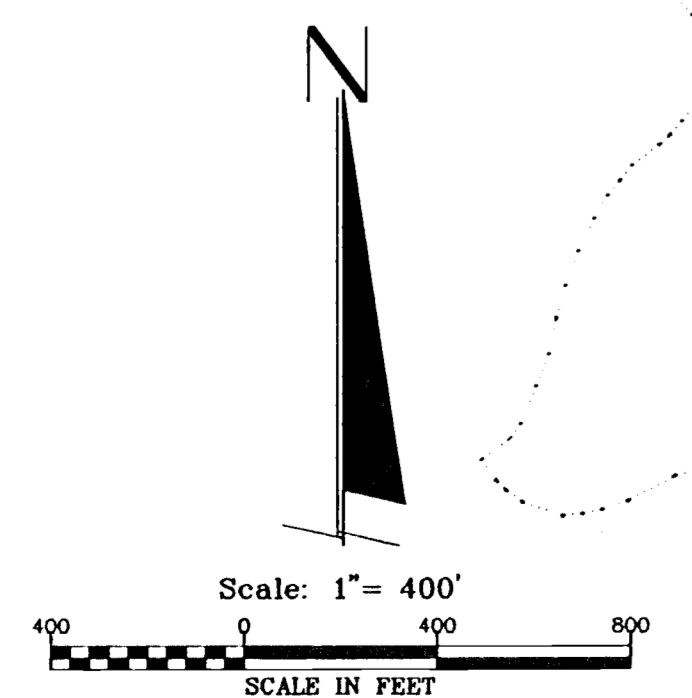
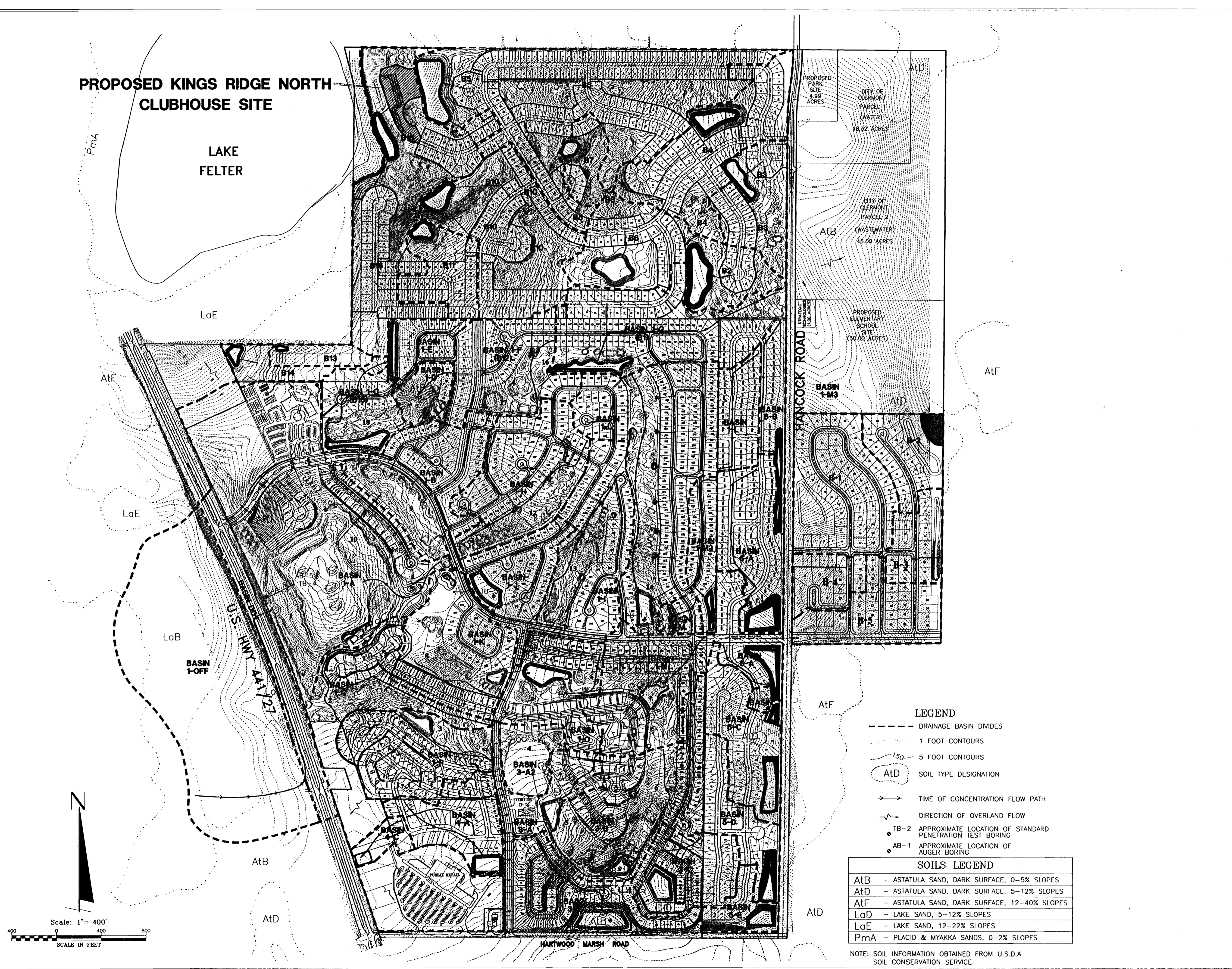
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DATE: MARCH 2001
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PROPOSED KINGS RIDGE NORTH CLUBHOUSE SITE

LAKE FELTER



- LEGEND**
- DRAINAGE BASIN DIVIDES
 - 1 FOOT CONTOURS
 - 5 FOOT CONTOURS
 - AtD SOIL TYPE DESIGNATION
 - TIME OF CONCENTRATION FLOW PATH
 - ↔ DIRECTION OF OVERLAND FLOW
 - TB-2 APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING
 - AB-1 APPROXIMATE LOCATION OF AUGER BORING
- SOILS LEGEND**
- | | |
|-----|--|
| AtB | - ASTATULA SAND, DARK SURFACE, 0-5% SLOPES |
| AtD | - ASTATULA SAND, DARK SURFACE, 5-12% SLOPES |
| AtF | - ASTATULA SAND, DARK SURFACE, 12-40% SLOPES |
| LaD | - LAKE SAND, 5-12% SLOPES |
| LaE | - LAKE SAND, 12-22% SLOPES |
| PmA | - PLACID & MYAKKA SANDS, 0-2% SLOPES |

NOTE: SOIL INFORMATION OBTAINED FROM U.S.D.A. SOIL CONSERVATION SERVICE.

DATE	REVISIONS
02/18/00	PHASE 1 KINGS RIDGE NORTH ADDED
06/05/00	ABERDEEN PHASE 2 ADDED
11/05/00	SOMERSET PHASE 2 ADDED
11/25/00	KINGS RIDGE NORTH PH. 3 ADDED
3/20/01	KINGS RIDGE NORTH CLUBHOUSE ADDED

ENGINEERS
SURVEYORS
PLANNERS

FARNER BARLEY
AND ASSOCIATES, INC.

350 North Shugar Avenue O Tavares, Florida 32778 © (904) 343-8481

KINGS RIDGE P.U.D.
POST-DEVELOPMENT
MASTER DRAINAGE MAP

DATE	02/18/00
JOB NO.	941216.077
DWG. NO.	
F.B.	PG.
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