

64873-1

33



Oversized Drawings

1723



LAKE COUNTY, FLORIDA

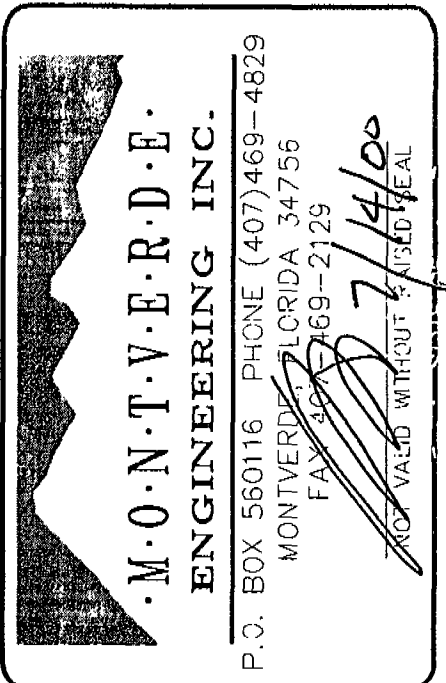
Hancock Road



LAKE COUNTY CONSTRUCTION PLANS FOR LOST LAKE PINES SUBDIVISION MARCH 2000

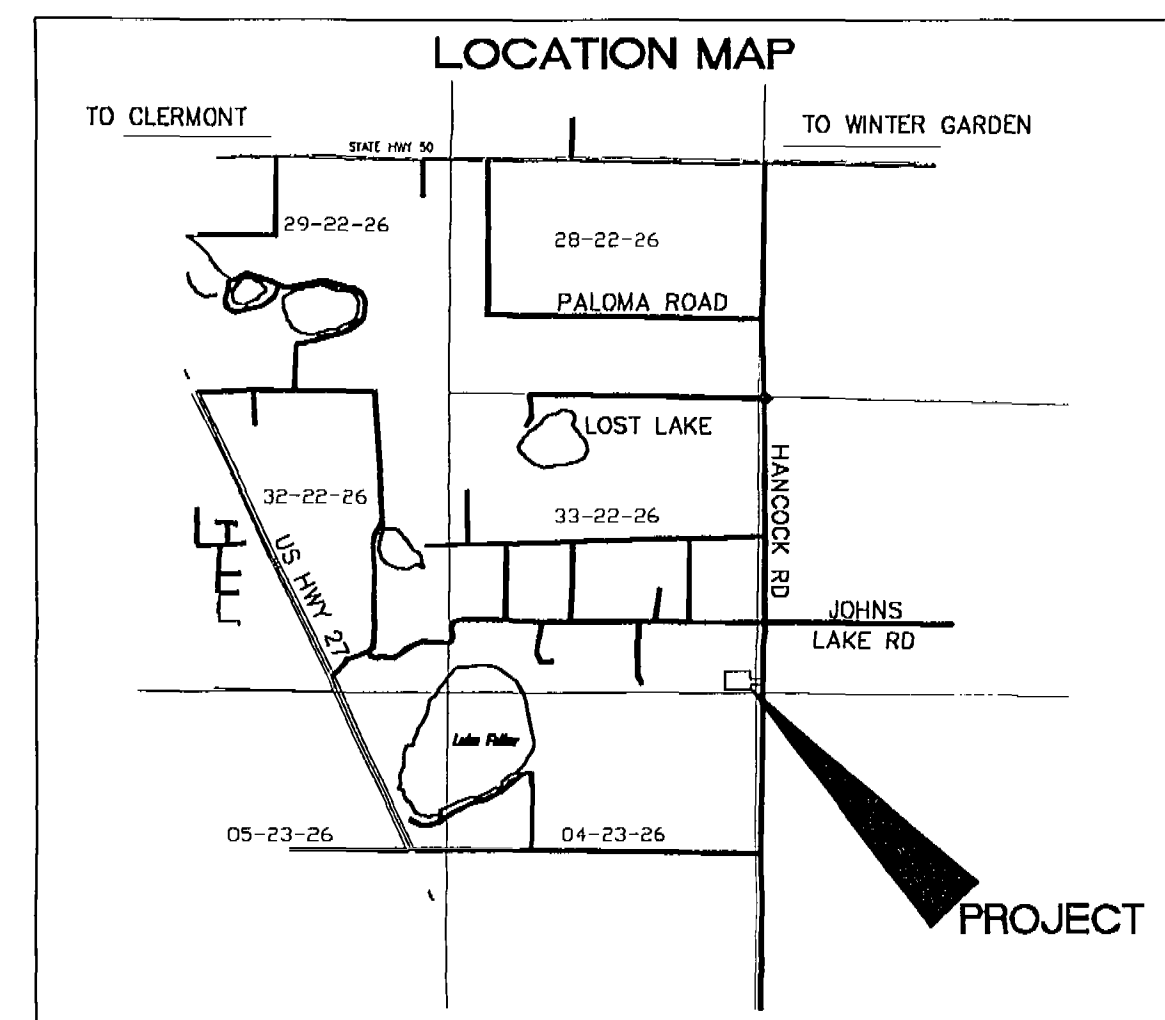
SECTION 19, TOWNSHIP 22 SOUTH, RANGE 26 EAST

24 HOURS NOTICE TO PUBLIC WORKS DEPARTMENT BEFORE START OF CONSTRUCTION IS REQUIRED. CALL 352-343-4900.
48 HOURS BEFORE ANY EXCAVATION CALL SUNSHINE 1-800-432-4770. IT IS THE LAW IN FLORIDA.



LEGEND

	PROPOSED STORM DRAIN
	EXIST. WATER LINE
	EXIST. SEWER LINE
	DRAINAGE BASIN
	PHASE LINE
	SOILS DIVIDE
	PROPOSED STORM MANHOLE
	PROPOSED DRAINAGE INLET
	PROPOSED CURB INLET-FDOT TYPE 3
	PROPOSED CURB INLET FDOT TYPE 4
	PROPOSED YARD DRAIN/CLEANOUT
	PROPOSED MITERED END SECTION
FM	DENOTES FORCE MAIN
WM	DENOTES WATER MAIN
MIN.	DENOTES MINIMUM
CLR.	DENOTES CLEAR
MH	DENOTES MANHOLE
CL	DENOTES CENTER LINE
BL	DENOTES BASE LINE
STA.	DENOTES STATION
ELEV.	DENOTES ELEVATION
CONC.	DENOTES CONCRETE
FH	DENOTES FIRE HYDRANT
RCP	DENOTES REINFORCED CONCRETE PIPE
DIP	DENOTES DUCTILE IRON PIPE
PVC	DENOTES POLYVINYL CHLORIDE PIPE
R/W	DENOTES RIGHT OF WAY
P.T.	DENOTES POINT OF TANGENCY
P.C.	DENOTES POINT OF CURVATURE
MES	DENOTES MITERED END SECTION
INV.	DENOTES INVERT
BM	DENOTES BENCHMARK
ADS	DENOTES ADVANCED DRAINAGE SYS. INC.
CO	DENOTES DRAINAGE CLEANOUT



LEGAL DESCRIPTION:
THE EAST 1/2 OF TRACT 63 AND 64 IN POSTAL COLONY, COMPANY, A SUBDIVISION IN SECTION 33, TOWNSHIP 22 SOUTH, RANGE 26 EAST, RECORDED IN PLAT BOOK 9, PAGE 65, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA, LESS THE NORTH 396 FEET OF THE EAST 179 FEET THEREOF, ALSO LESS THE SOUTH 169.76 FEET OF THE EAST 130 FEET THEREOF.

INDEX OF DRAWINGS

NO.	TITLE
1	COVER SHEET
2	MASTER PLAN
3	EXISTING CONDITIONS/EROSION PREV. PLAN
4	MASTER DRAINAGE AND GRADING PLAN
5	MASTER UTILITY PLAN
6	PLAN/PROFILE SHT STA 00+00 TO STA 11+00
7	PLAN/PROFILE SHT STA 11+00 TO STA 20+10
8	OFFSITE SEWER PLAN/PROFILE
9	RETENTION POND PLAN/CROSS SECTION
10	GENERAL DETAILS
11	GENERAL DETAILS
12	SEWER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	SPECIFICATIONS
16	LANDSCAPE PLAN

PERMITTEE
HERB SMITH
HERB SMITH CONSTRUCTION INC.
P.O. BOX 120989
CLERMONT, FL 32712
352/394-6639

CIVIL ENGINEER
ARTHUR C. NIX, P.E.
MONTEVERDE ENGINEERING, INC.
P.O. BOX 560116
MONTEVERDE, FLORIDA 34756
407/469-4829

LAND SURVEYOR
RHODEN SURVEYING
420 E. MINNEHAHA AVE.
CLERMONT, FL 34711
352/394-6255

GEOTECHNICAL ENGINEER
ANDREYEV ENGINEERING, INC.
721 WEST AVENUE
CLERMONT, FL 34711
352/241-0508

SITE DATA:

ZONING:	R-6
PROPOSED USE:	40 EACH SINGLE FAMILY RESIDENTIAL
SETBACKS:	
RESIDENCE:	REQUIRED:
FRONT YARD	25.0' FT
SIDE YARD	5.0' FT
REAR YARD	5.0' FT
TYPICAL LOT EASEMENTS (UNLESS OTHERWISE NOTED)	
FRONT DRAINAGE/UTILITY EASEMENT	10'
REAR DRAINAGE/UTILITY EASEMENT	10'
TOTAL PROPERTY AREA	.....12.73 ac
TOTAL AREA OF WETLANDS	.....0.00 ac
TOTAL AREA ONSITE DRAINAGE AREA	.....12.73 ac
TOTAL AREA OFFSITE DRAINAGE AREA	..... 2.75 ac
TOTAL DRAINAGE AREA	.....15.48 ac
TOTAL NUMBER OF LOTS PROPOSED	.....40
GROSS DENSITY	.....3.14 UNITS/ACRE
TOTAL IMPERVIOUS ON SITE	.....4.28 ac
TOTAL IMPERVIOUS OFF SITE	.....0.04 ac
ON SITE ISR	.....0.34
TOTAL LINEAR FEET INTERIOR ROADS	.....2010 LF
MAXIMUM FAR =	..... 0.40
IMPERVIOUS (%)	.....33.9% (BASED ON ONSITE AREA)
TRACT A AREA = 0.72 ACRE (RETENTION POND)	
PROPOSED SERVICES:	
DRINKING WATER	..... CITY OF CLERMONT
SEWAGE DISPOSAL	..... CITY OF CLERMONT
ELECTRIC	..... FLORIDA POWER CORPORATION
TELEPHONE	..... SPRINT
GAS	..... LAKE APOPKA NATURAL GAS
CABLE TV	..... CABLEVISION INDUSTRIES
GARAGE DISPOSAL	..... LAKE COUNTY
FIRE PROTECTION	..... LAKE COUNTY
POLICE PROTECTION	..... LAKE COUNTY

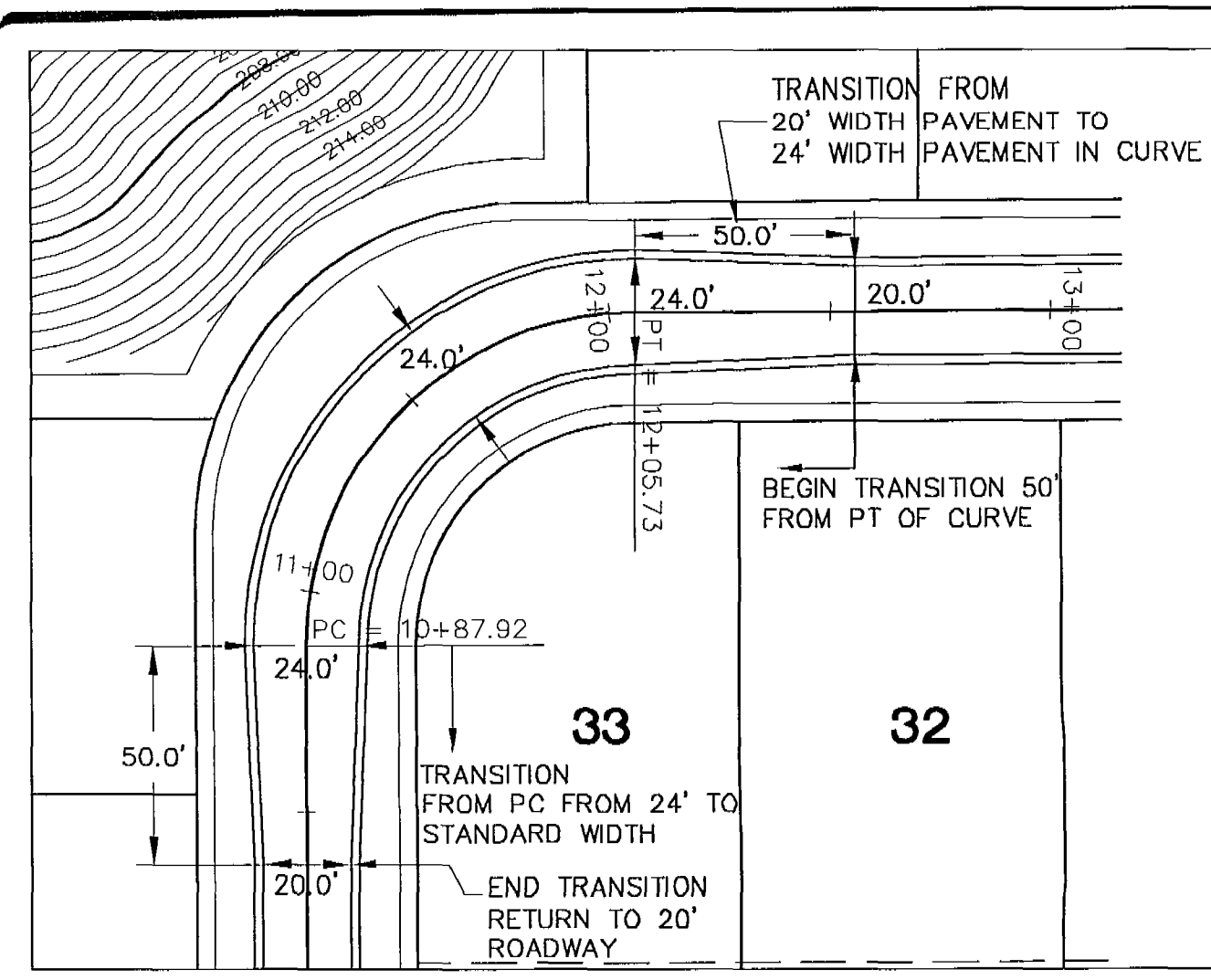
LOST LAKE PINES SUBDIVISION

LAKE COUNTY FLORIDA

JOB NO.	9919
DATE	AUG. 99
SCALE	GRAPHIC
DRAWN BY	ACN
CHKD BY	ACN
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1	GEN. REV. 6/16/00
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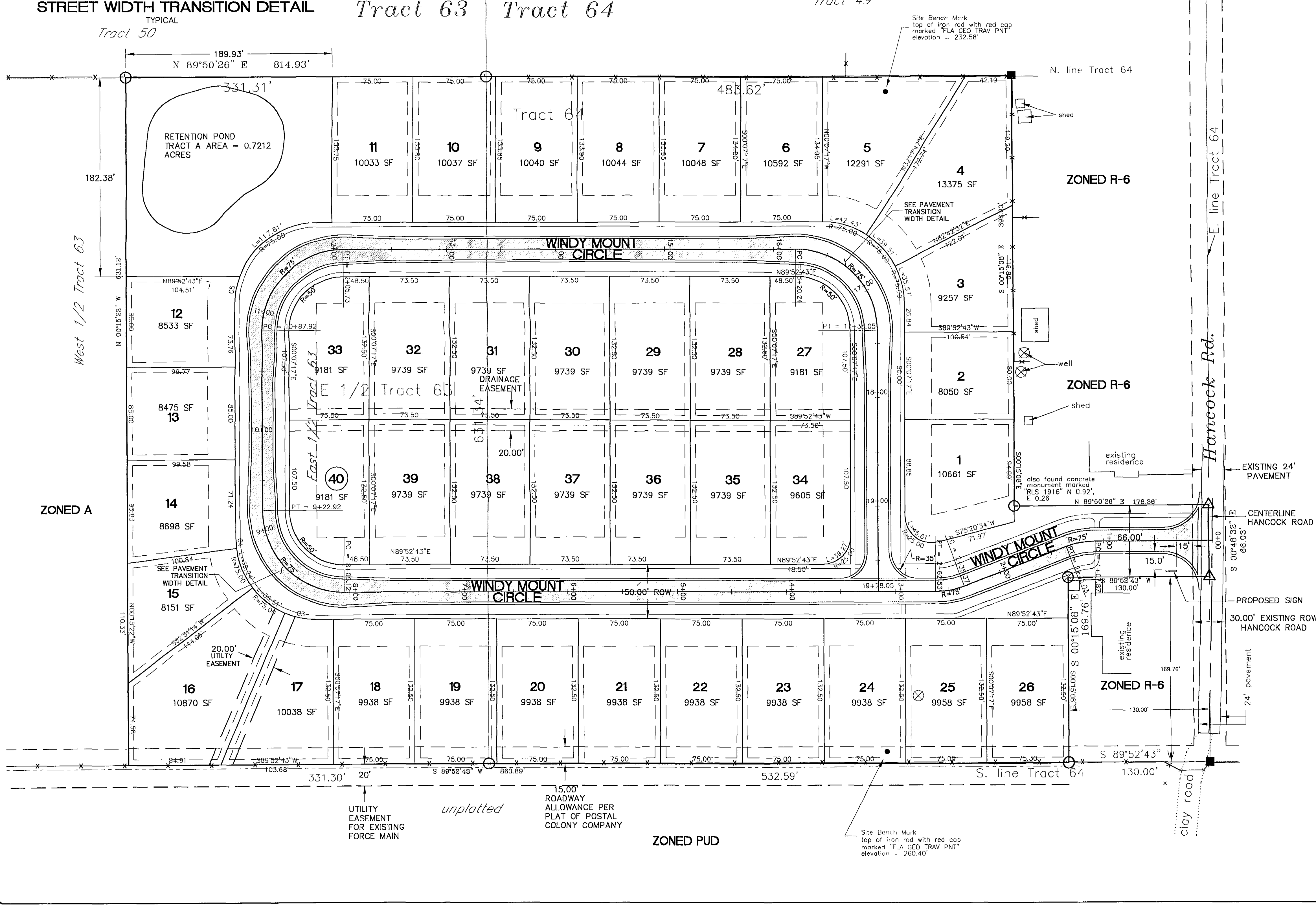
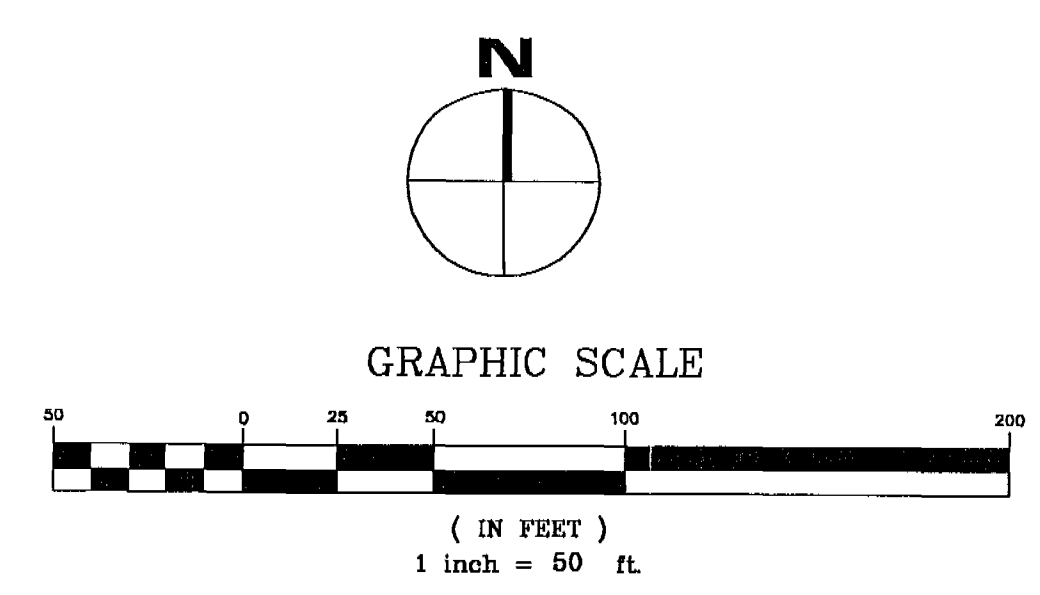
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SHEET 1 OF 16

JUL 17 2000
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ORLANDO
SJR WMD

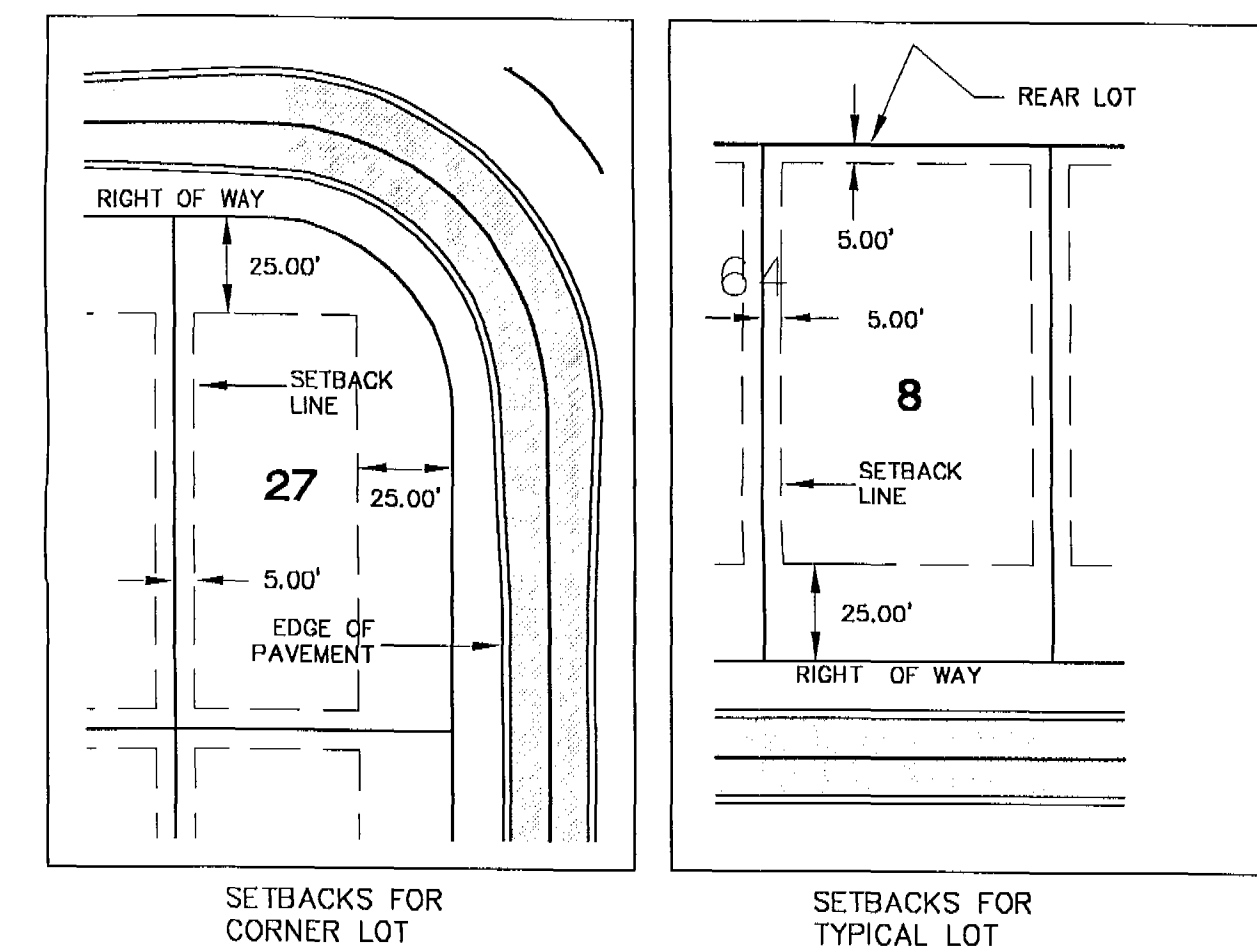


NOTE ON WIDTH OF PAVEMENT TRANSITION: WHERE INDICATED THE PAVEMENT WIDTH IS TO BE INCREASE FROM 20 FEET INSIDE CURB TO INSIDE CURB TO 24 FEET AS SHOWN ON TYPICAL TRANSITION DETAIL.

CURVE	LENGTH	RADIUS
C3	30.40	75.00
C4	9.66	75.00
C5	26.80	75.00



- GENERAL NOTES
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS OR LAKE COUNTY, WHICHEVER IS MORE STRINGENT.
 - PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL BARRICADES, WARNING SIGNS AND MARKINGS FOR HAZARDS AND THE CONTROL OF TRAFFIC IN HIGHWAYS OR DIRECTED BY THE APPLICABLE LOCAL JURISDICTIONAL AGENCY, EFFECTIVELY PREVENT ACCESS TO THE CONSTRUCTION AREA AND MAINTAIN THE NORMAL FLOW OF TRAFFIC AND CONSTITUTES IN ANY WAY A HAZARD TO THE PUBLIC.
 - IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN-HAND BEFORE BEGINNING CONSTRUCTION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ELEVATIONS OF EXISTING UTILITIES SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO PROTECT ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OR FOR THE COST OF REPAIR OR REPLACEMENT THEREOF.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ELEVATIONS OF EXISTING UTILITIES SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO PROTECT ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OR FOR THE COST OF REPAIR OR REPLACEMENT THEREOF.
 - WHERE MUCK OR OTHER ORGANIC MATERIAL IS REMOVED, IT SHALL BE REPLACED BY GOOD QUALITY BACKFILL MATERIAL OBTAINED FROM SOURCES APPROVED BY THE OWNER AND ENGINEER. NOTIFY THE ENGINEER IMMEDIATELY IF MUCK OR ORGANIC MATERIAL IS DISCOVERED OTHER THAN THAT SHOWN ON THE PLANS OR IN THE GEOTECHNICAL REPORT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS AND/OR EASEMENTS PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER OF ANY EXTRA WORK THAT IS NOT SHOWN ON THE PLANS. THIS EXTRA WORK MUST BE APPROVED BY THE ENGINEER AND THE OWNER BEFORE THE CONTRACTOR PROCEEDS WITH THE EXTRA WORK.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL INSPECTION CRITERIA AND SCHEDULES AND FOR SIGNING FOR SAID INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO AN INSPECTION OR TESTING.
 - PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE TESTING RESULTS AND PERFORM INSPECTIONS AS REQUIRED BY THE TOWN OF MONTVERDE AND THE ENGINEER TO MEET THEIR RESPECTIVE REQUIREMENTS. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE TESTING RESULTS AND PERFORM INSPECTIONS AS REQUIRED BY THE APPLICABLE REGULATORY AGENCIES AND THE ENGINEER TO MEET THEIR RESPECTIVE REQUIREMENTS.
 - ALL WORK AND MATERIALS FURNISHED SHALL BE IN REASONABLE CONFORMITY WITH THE LINES, GRADES, SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS AND TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT, PLANS, PERMITS AND SPECIFICATIONS.
 - CONTRACTOR WILL REFER TO THE PLAT FOR HORIZONTAL GEOMETRY.
 - APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER FROM MEETING ALL REQUIREMENTS OF THE LAKE COUNTY SUBDIVISION REGULATIONS AND SPECIFICATIONS.
 - ALL SLOPES 3% OR OVER MUST BE SODDED FROM EDGE OF PAVEMENT TO RIGHT OF WAY FOR ALL ROADWAYS.
 - NO RECYCLED ASPHALT IS ALLOWED FOR PAVING.
 - ALL SIDEWALKS NOT FRONTING LOTS SHALL BE INSTALLED DURING ROAD CONSTRUCTION.



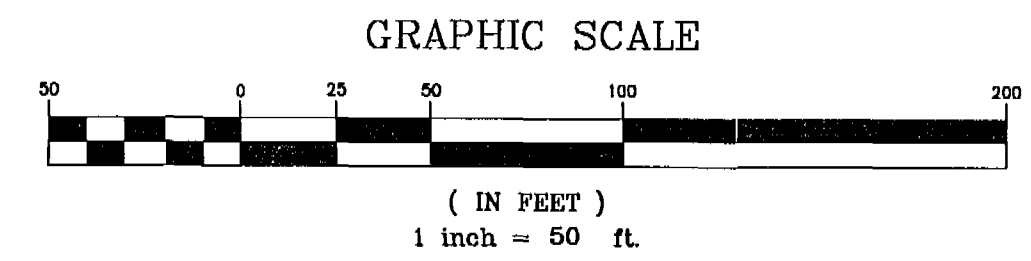
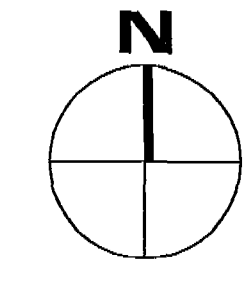
- Legend:
- x denotes fence
 - ⊗ denotes utility pole
 - denotes set iron rod & cap, marked "FLA GEO LB 6642"
 - denotes found 3"x3" concrete monument

M.O.N.T.V.E.R.D.E. ENGINEERING INC.
 P.O. BOX 560116 PHONE (407)469-4839
 MONTVERDE, FLORIDA 34756
 FAX (407)469-2729
 11/14/00

LOST LAKE PINES SUBDIVISION
 FLORIDA
 LAKE COUNTY

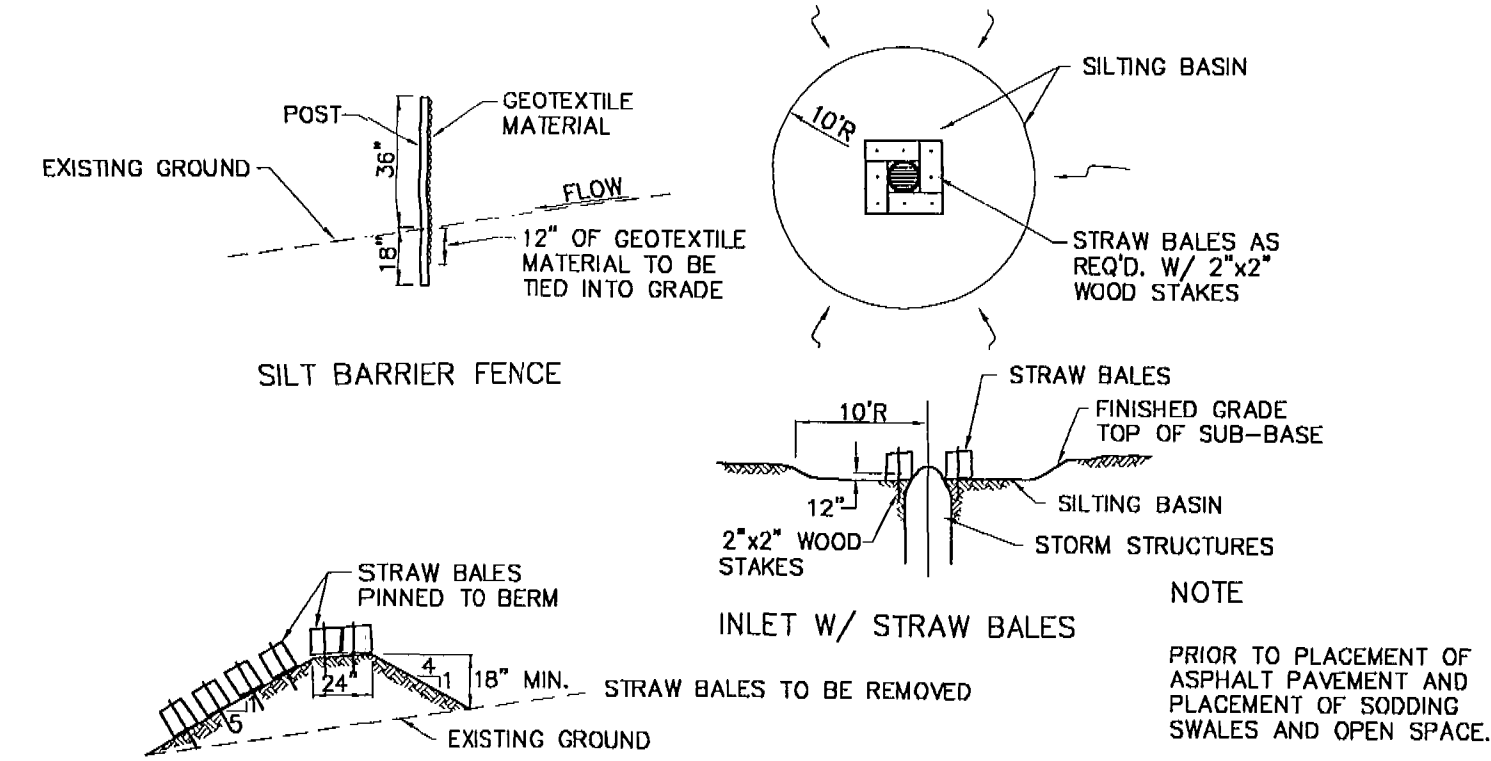
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MASTER PLAN	
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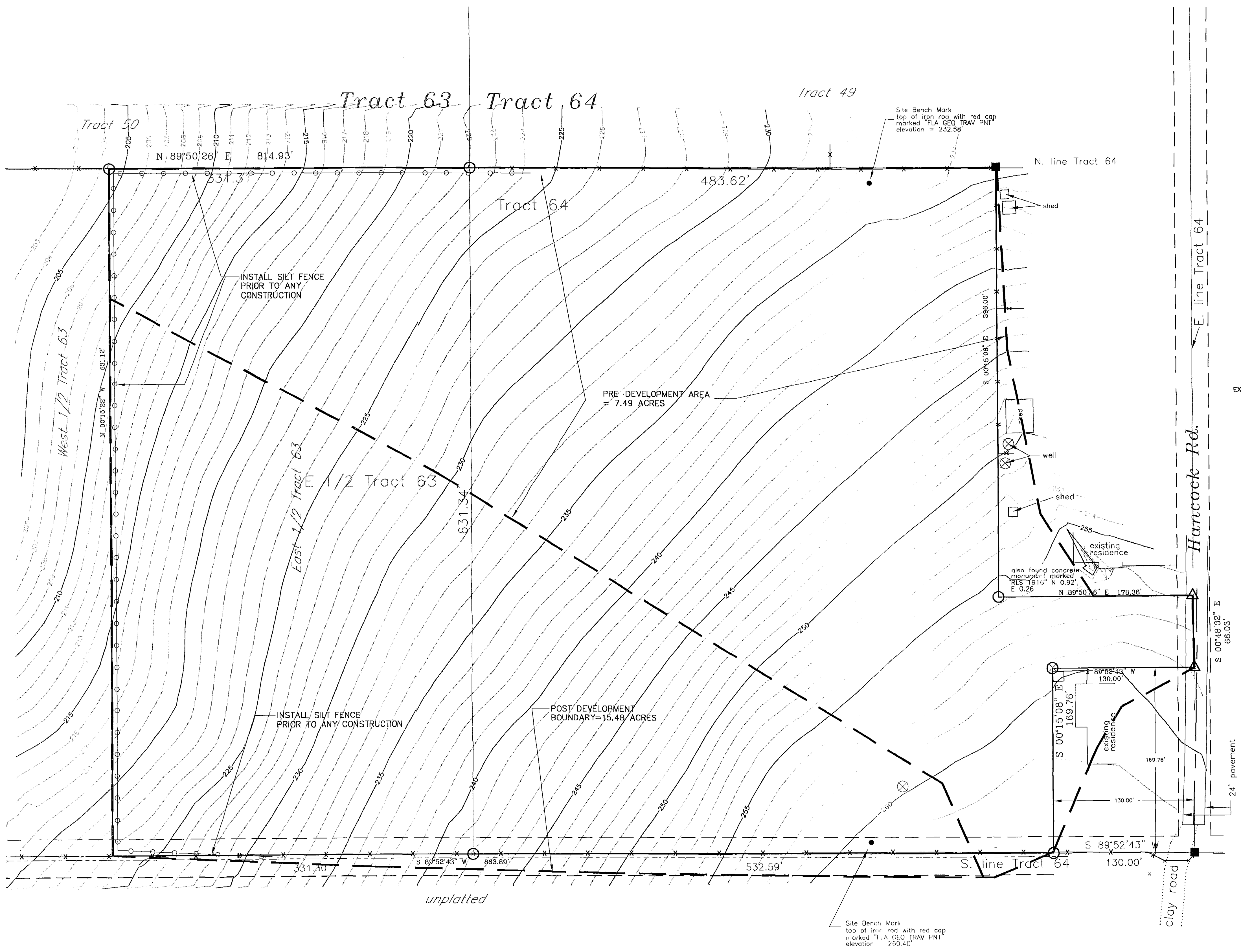
EROSION and SEDIMENT CONTROL NOTES

- 1) THE CONTRACTOR SHALL PERFORM EROSION CONTROL MEASURES IN ACCORDANCE WITH SECTION 104 OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION (FDOT SECTION 104), DETAILS CONTAINED IN THE PLANS, AS DIRECTED BY THE ENGINEER AND BY THE CITY OF CLERMONT.
- 2) THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN FOR APPROVAL PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.
- 3) THE STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED DURING THE BEGINNING OF CONSTRUCTION.
- 4) ALL DISTURBED AREAS SHALL BE SOILED OR SEEDED AND MULCHED AFTER GRADING IS COMPLETED TO PREVENT EROSION.
- 5) DURING CONSTRUCTION THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY BEYOND THOSE ALLOWED BY THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION TO THE EXISTING WATER BODIES. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS OR SILT BARRIERS. THE MEASURES DELINEATED ABOVE ARE THE MINIMUM REQUIRED, WITH ADDITIONAL CONTROLS TO BE UTILIZED AS NEEDED, DEPENDENT UPON ACTUAL SITE CONDITIONS AND CONSTRUCTION OPERATIONS.



EROSION/SEDIMENT CONTROL DETAIL

Surveyor Notes:
 - Bearings based on the West line of Tract 63 as being N 00°15'27" W, an assumed meridian.
 - Legal description supplied by client.
 - No title commitment or abstract for the above property has been provided. It is possible there are recorded or unrecorded documents which could affect the boundary of this parcel.
 - No adjacent, underground or internal improvements, other than those shown, located this date.
 - Elevations based on Lake County Datum.



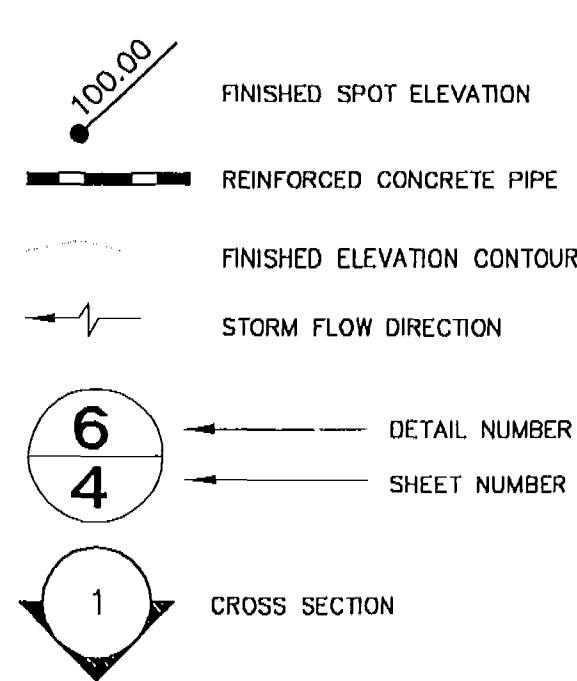
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EXISTING CONDITIONS AND SURVEY	
SHP. 3 OF 16	

PAVING and DRAINAGE NOTES

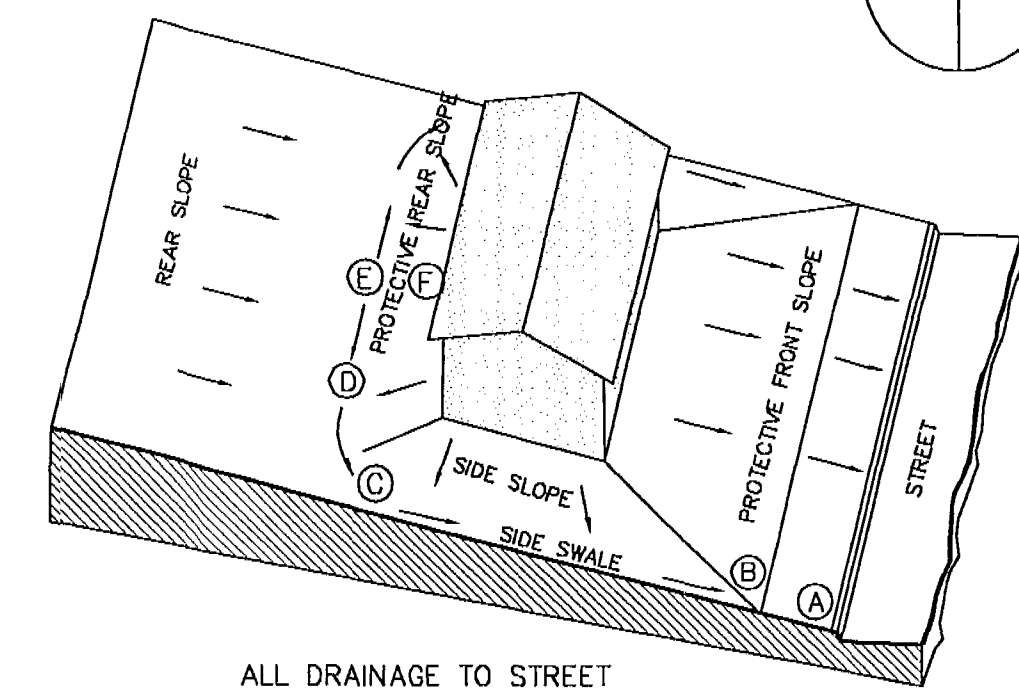
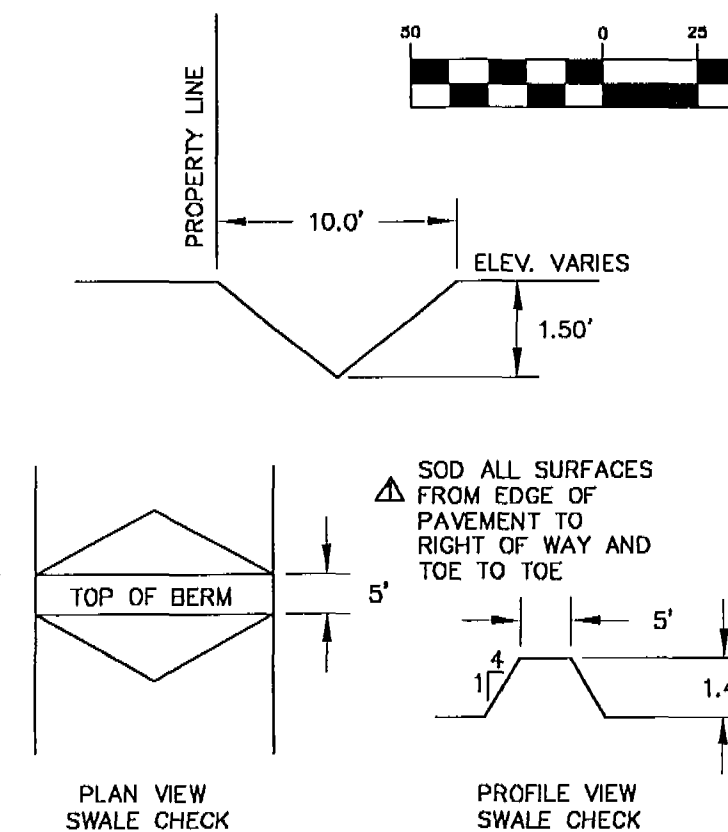
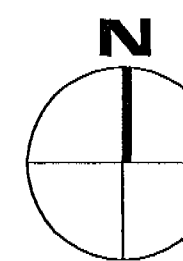
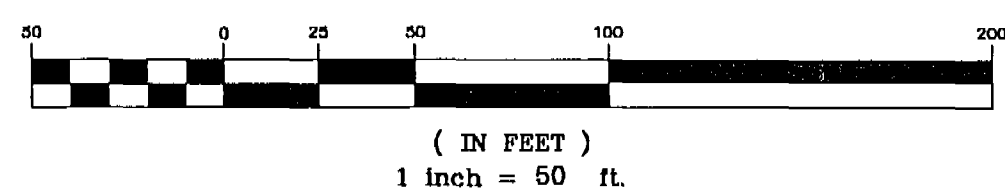
- PAVEMENT MARKINGS SHALL BE PLACED AS SHOWN IN THE PLANS, PER LAKE COUNTY REQUIREMENTS AND FOOT ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST EDITION).
- ALL EXCAVATIONS WITHIN TEN (10) FEET OF THE TRAVELED ROADWAY MUST BE FILLED WITHIN 24 HOURS.
- THE CONTRACTOR SHALL INSURE THAT PROPER SOIL DENSITIES ARE ACHIEVED FOR OF THE CONTRACTOR TO INSURE THAT SUFFICIENT SOIL TESTING HAS BEEN PERFORMED ANY FOOTING SUPPORT DESCRIBED ON THESE PLANS. IT WILL ALSO BE THE RESPONSIBILITY PLACEMENT OF ALL HEADWALL/ENDWALL FOOTINGS, RETAINING WALL FOOTINGS, AND IN GENERAL PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE POLICIES AND GUIDELINES ESTABLISHED BY THE LOCAL GOVERNING AGENCY FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE PROSECUTION OF WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK OR AT ANYTIME DUE TO DEFECTIVE WORK OR MATERIALS.
- THE CONTRACTOR SHALL COMPLY WITH THE LAKE COUNTY STANDARDS AND SPECIFICATIONS FOR STRIPPING, CLEARING, GRUBBING, GRADING, BACKFILLING AND EMBANKMENT PREPARATION WITHIN ALL DESIGNED ROADWAY RIGHT-OF-WAY SECTIONS.
- COMPACT ALL UTILITY TRENCHES WITHIN ROADWAYS TO 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY; WITHIN OTHER AREAS TO 95%.

- ALL STORM SEWER PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN CENTERLINE OF DRAINAGE STRUCTURES.
- ALL NON-PAVED DISTURBED AREAS TO BE SODDED UNLESS OTHERWISE NOTED.
- ALL PAVEMENT RETURN RADII SHALL BE MEASURED FROM THE INTERFACE OF THE CONCRETE CURB AND PAVEMENT SURFACE UNLESS OTHERWISE NOTED.
- THE STORM DRAINAGE SYSTEM SHALL BE FREE OF DIRT, SAND AND DEBRIS PRIOR TO FINAL ACCEPTANCE.
- ALL PAVING AND RESTORATION TO PAVEMENT SHALL BE DONE IN ACCORDANCE WITH FOOT ROAD CONSTRUCTION SPECIFICATIONS.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION - 1978 (ANSI NO. D6.1-1983).
- ALL SIGNS TO BE SINGLE MOUNTED IN ACCORDANCE WITH FOOT INDEX NO. 11862 (70 MPH WIND LOADING) AND FOOT INDEX NO. 17302.
- RCP PIPE JOINTS SHALL BE WRAPPED PER FOOT REQUIREMENTS.
- TRENCH BACKFILL SHALL MEET FOOT REQUIREMENTS FOR CLEAN SELECT BACKFILL.

LEGEND



GRAPHIC SCALE

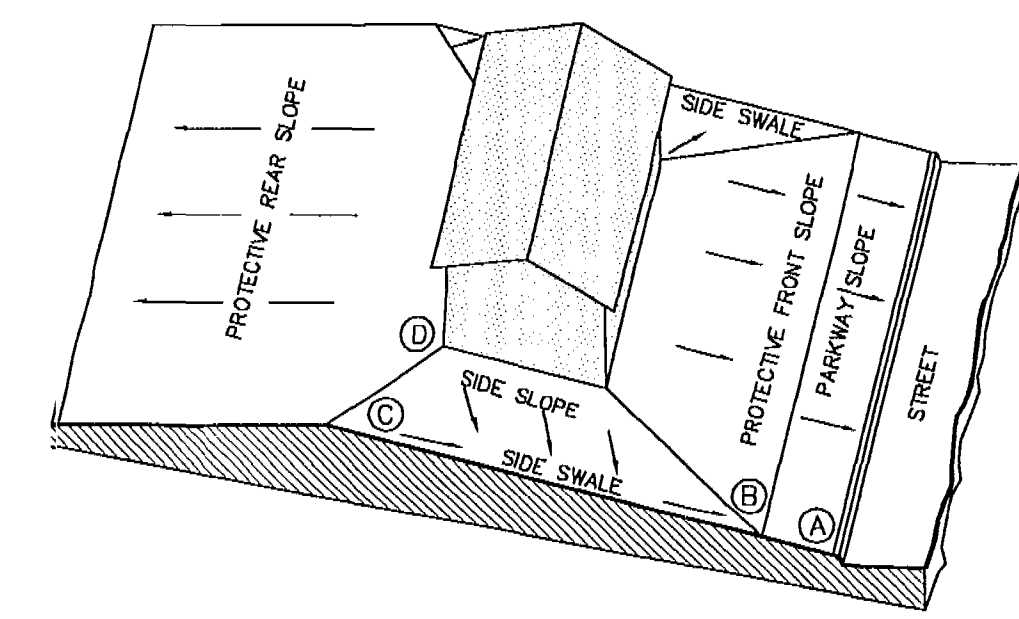


SWALE CROSS SECTION NO. 1

ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE A-F FOR A 60' LOT ON AN 0.5% STREET, WITH 28' SETBACK, 28' BUILDING DEPTH AND 2% SWALES		RESULTS USING 1% SWALES	
A	CURB-TOP ON LOT-LINE EXTENSION AT HIGH LOT CORNER	5'	5' (0.3')
A-B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	1'	1' (0.6)
B-C	SIDE SWALE: 58" GRASS AT 1/4"/FT (2%)	14"	12" (0.2)
C-D	SWALE TURN WITH 10' RADIUS: 16" GRASS @ 1/4"/FT	4"	4" (0.1)
D-E	REAR SWALE: 12" GRASS AT 1/4"/FT (2%)	6"	6" (0.5)
E-F	PROTECTIVE REAR SLOPE UP FROM HIGH-POINT OF SWALES	8"	8" (0.5)
SUB-TOTAL A-F FROM CURB-TOP TO GROUND AT REAR BLDG WALL - 30'		19'	19' (1.6')
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: 30"±8"		38"	27" (2.3)
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 30"±19"		49"	38" (3.2)

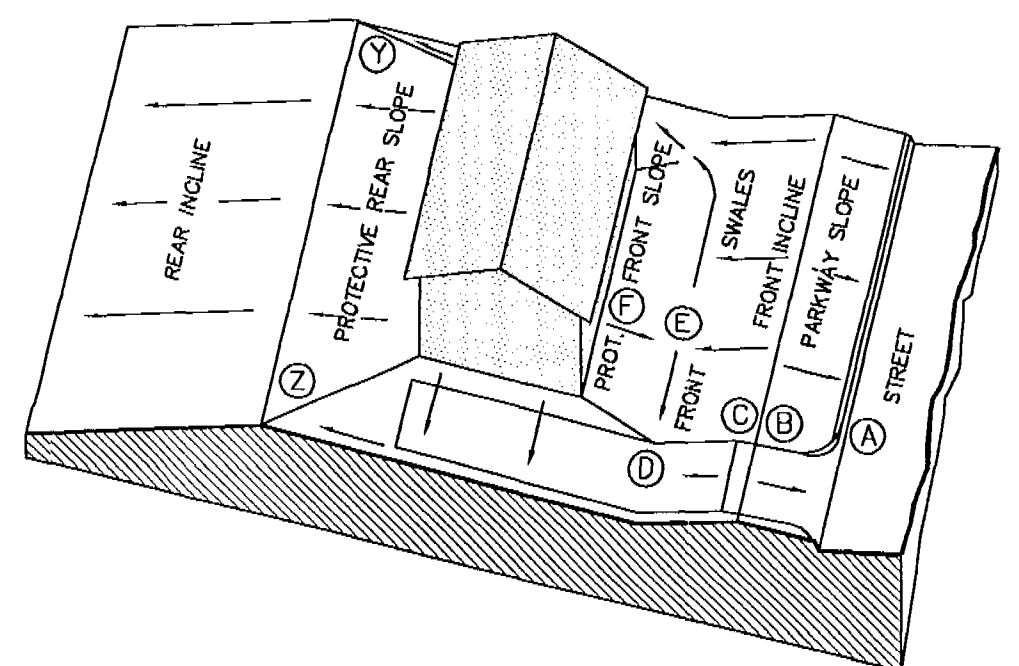
LOT GRADING TYPE A



DRAINAGE BOTH TO STREET AND TO REAR LOT LINE

SAMPLE COMPUTATION OF GRADING CONTROL LINE A-D FOR A 60' LOT WITH 28' SETBACK, 28' BUILDING DEPTH AND 2% SWALES		RESULTS USING 1% SWALES	
A	CURB-TOP ON LOT-LINE EXTENSION AT HIGH LOT CORNER	5'	5' (0.3')
A-B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	1'	1' (0.6)
B-C	SIDE SWALE: 58" GRASS AT 1/4"/FT (2%)	14"	12" (0.6)
C-D	PROTECTIVE REAR SLOPE AT EXTENSION OF REAR WALL	6"	6" (0.5)
SUB-TOTAL A-D FROM CURB-TOP TO GROUND AT REAR BLDG WALL - 23'		16'	16' (1.5')
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: 23"±8"		31"	24" (2.0')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 23"±19"		42"	35" (2.9')

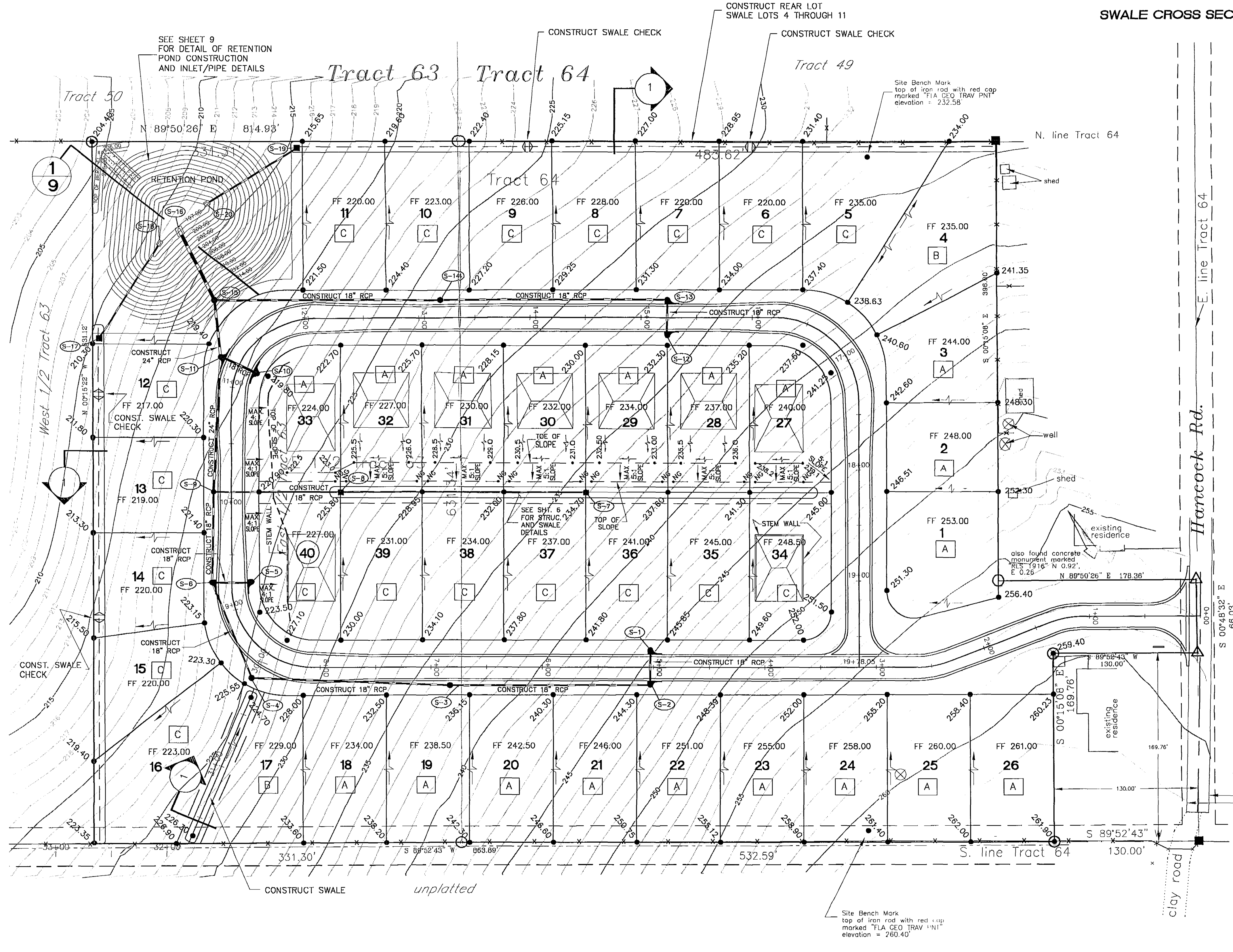
LOT GRADING TYPE B



ALL DRAINAGE TO REAR LOT LINE

SAMPLE COMPUTATION OF GRADING CONTROL LINE A-F FOR A 60' LOT, 28' SETBACK, 13.5% DRIVEWAY, AND 18" FRONT SWALE D-E AT 2%		RESULTS USING 1% SWALES	
A	CURB-TOP AT HIGH SIDE OF DRIVE NEAR LOW LOT CORNER	5'	5' (0.3')
A-B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	0'	0' (0.0')
B-C	DRIVEWAY GRADE CHANGE: 4" VERTICAL CURVE FROM UP-GRADE DRIVE IN STREET TO DOWN GRADE DRIVE ON LOT	0'	0' (0.0')
C-D	DRIVEWAY DOWN-GRADE TO POINT 10 FEET OUT FROM BUILDING LINE: 14" AT 1 5/8"/FT (13.5%)	-23"	-23" (-1.9')
D-E	FRONT SWALE: 16" AT 1/4"/FT (2%)	4"	4" (0.2)
E-F	PROTECTIVE FRONT SLOPE UP FROM HIGH-POINT OF SWALES	8"	8" (0.5)
SUB-TOTAL A-F FROM CURB-TOP TO GROUND AT BUILDING		-10"	-10" (-1.0')
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: -10"±8"		3"	4" (-0.3')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: -10"±19"		9"	7" (+0.6')

LOT GRADING TYPE C



M-O-N-T-V-E-R-D-E-ENGINEERING INC.
 P.O. BOX 560116, PHONE (407) 469-4829
 MONTELEONE, FLORIDA 34756
 FAX 407-469-2129

LOST LAKE PINES SUBDIVISION
 FLORIDA
 LAKE COUNTY

JOB NO. 9919
 DATE AUG. 99
 SCALE GRAPHIC
 DRAWN BY ACN
 CHKD BY ACN

REVISIONS

1	GEN. REV. 6/16/00
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CD FILE NO.
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GRADING PLAN
MASTER DRAINAGE PLAN
 SHEET 4 OF 16

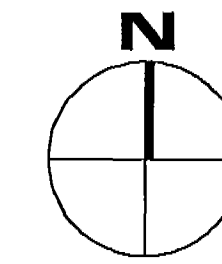
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 ORLANDO
 SJR WMD

LEGEND

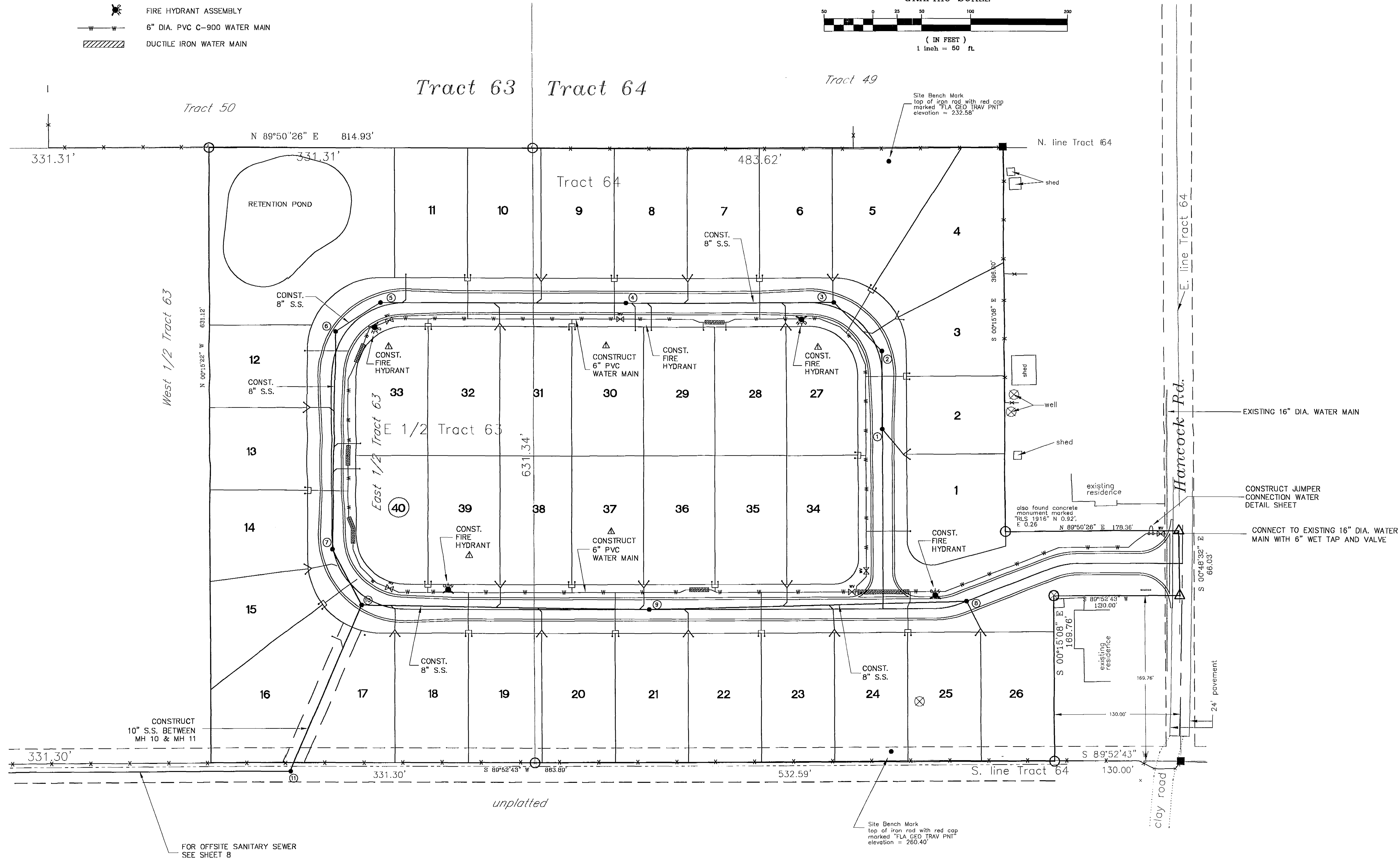
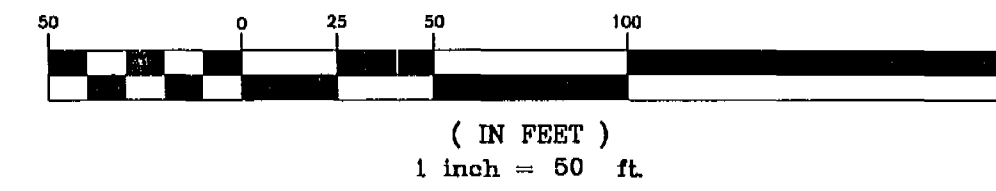
- DOUBLE WATER SERVICE
- SINGLE WATER SERVICE
- WATER SERVICE
- 6" WATER VALVE
- SANITARY SEWER MANHOLE
- FIRE HYDRANT ASSEMBLY
- 6" DIA. PVC C-900 WATER MAIN
- DUCTILE IRON WATER MAIN

LANDSCAPE NOTES:

LOTS LESS THAN 10,000 SF REQUIRE 3 TREES PER LOT
 LOTS MORE THAN 10,000 SF REQUIRE 4 TREES PER LOT
 TO BE PLANTED PER LAKE COUNTY REQUIREMENTS PRIOR
 TO C.O. FOR EACH HOUSE



GRAPHIC SCALE



M. O. N. T. V. E. R. D. E.
ENGINEERING INC.
 P. O. BOX 560116 PHONE (407) 469-4829
 MONTVERDE, FLORIDA 32756
 FAX 407-469-2129

LOST LAKE PINES SUBDIVISION

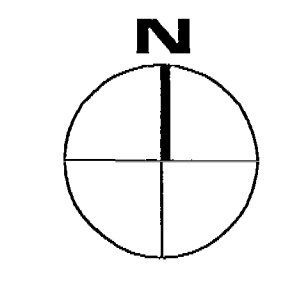
FLORIDA
LAKE COUNTY

JOB NO.	9919
DATE	AUG. 99
SCALE	GRAPHIC
DRAWN BY	ACN
CHKD BY	ACN
REVISIONS	
1	GEN. REV. 6/16/00
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CAD FILE NO.	
DRAWING DESCRIPTION	
MASTER UTILITY PLAN	
LANDSCAPE PLAN	
DRAWING NO.	

JUL 17 2000
 48-095-68828-1
 PDS
 ORLANDO
 815 WMP

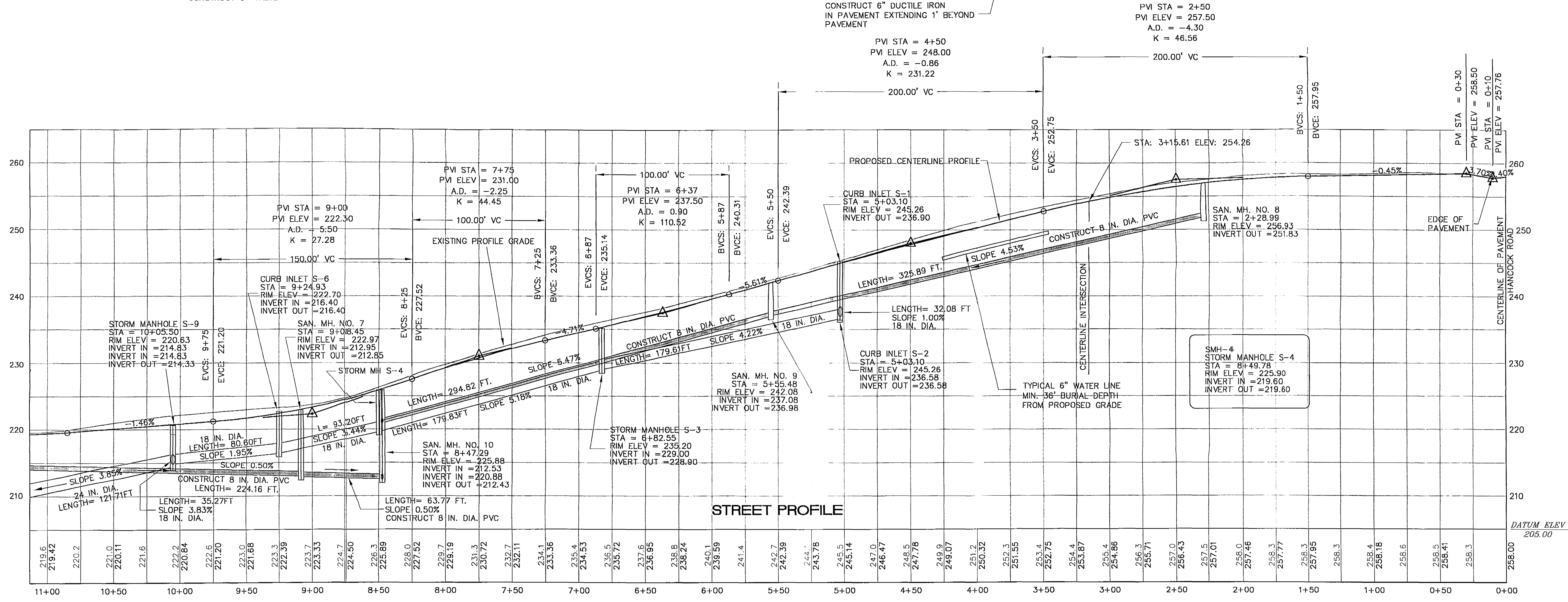
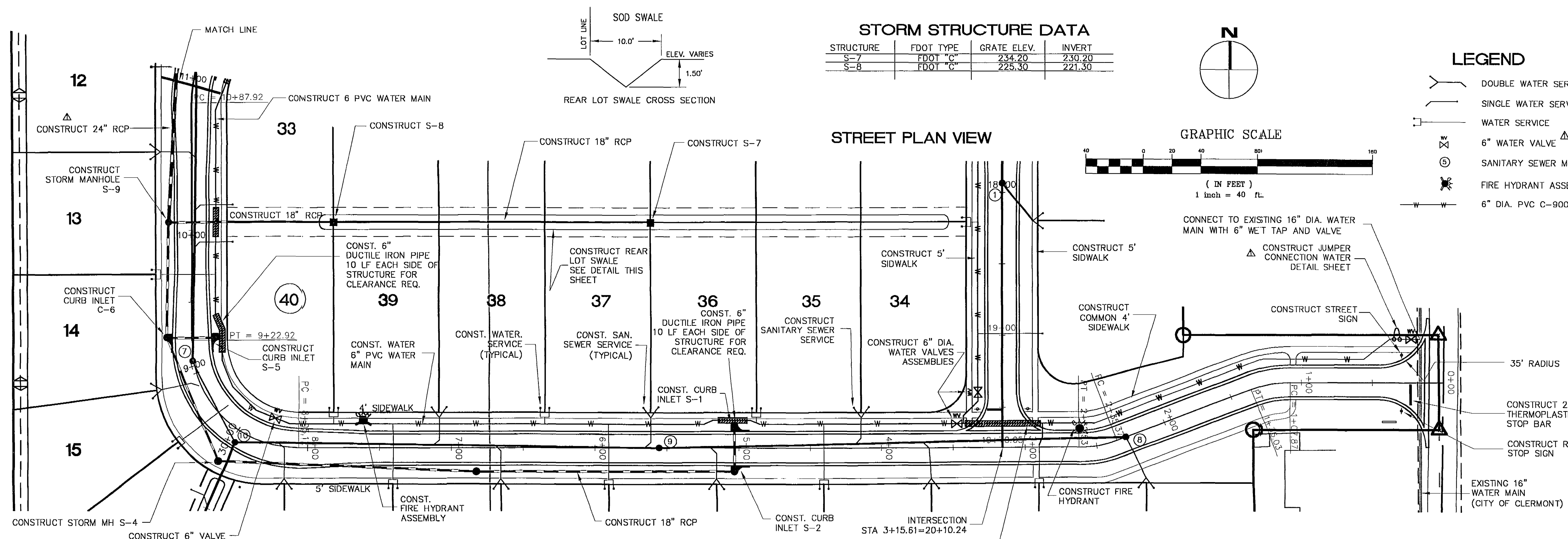
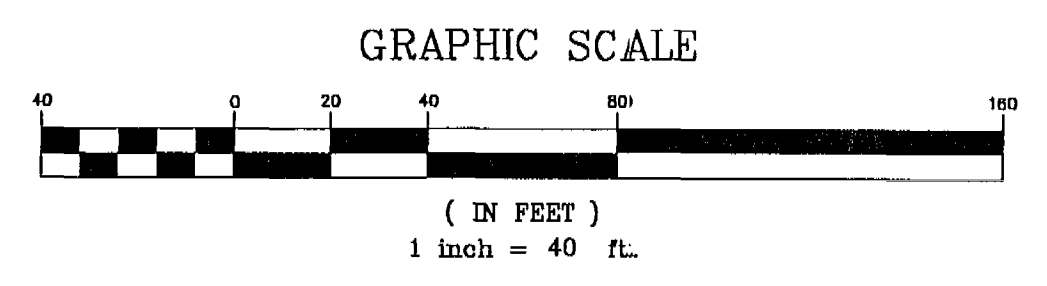
STORM STRUCTURE DATA

STRUCTURE	FOOT TYPE	GRATE ELEV.	INVERT
S-7	FOOT "C"	234.20	230.20
S-8	FOOT "C"	225.30	221.30



LEGEND

- DOUBLE WATER SERVICE
- SINGLE WATER SERVICE
- WATER SERVICE
- 6" WATER VALVE
- SANITARY SEWER MANHOLE
- FIRE HYDRANT ASSEMBLY
- 6" DIA. PVC C-900 WATER MAIN



JOB NO. **9919**

DATE **AUG. 99**

SCALE **GRAPHIC**

DRAWN BY **ACN**

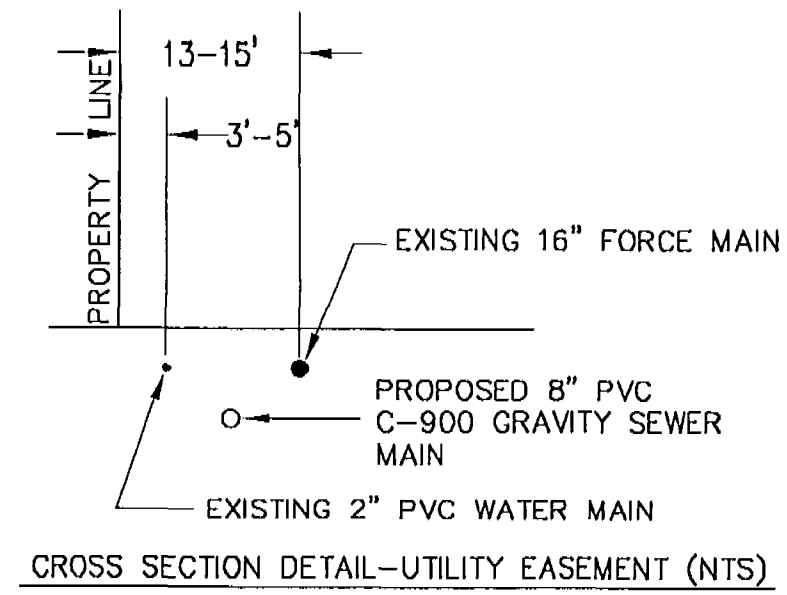
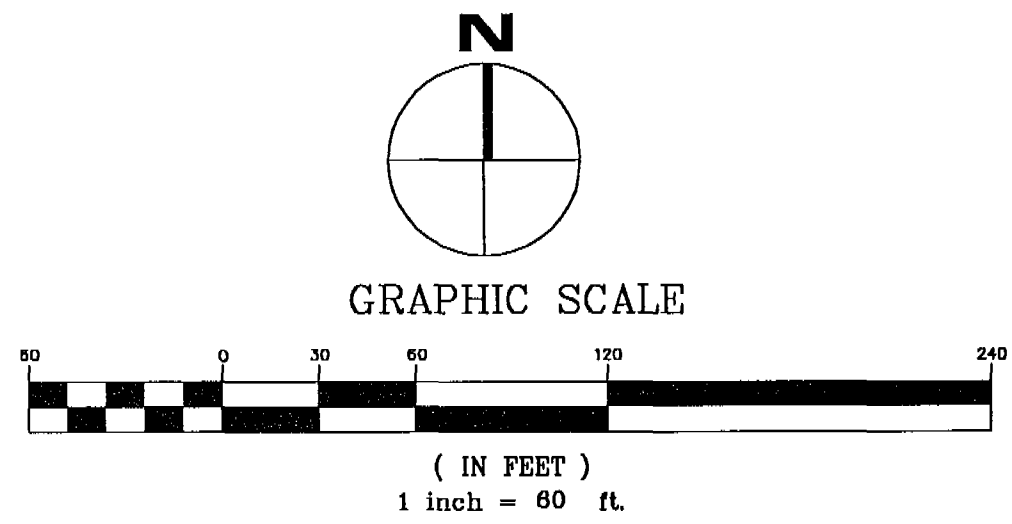
CHKD BY **ACN**

REVISIONS

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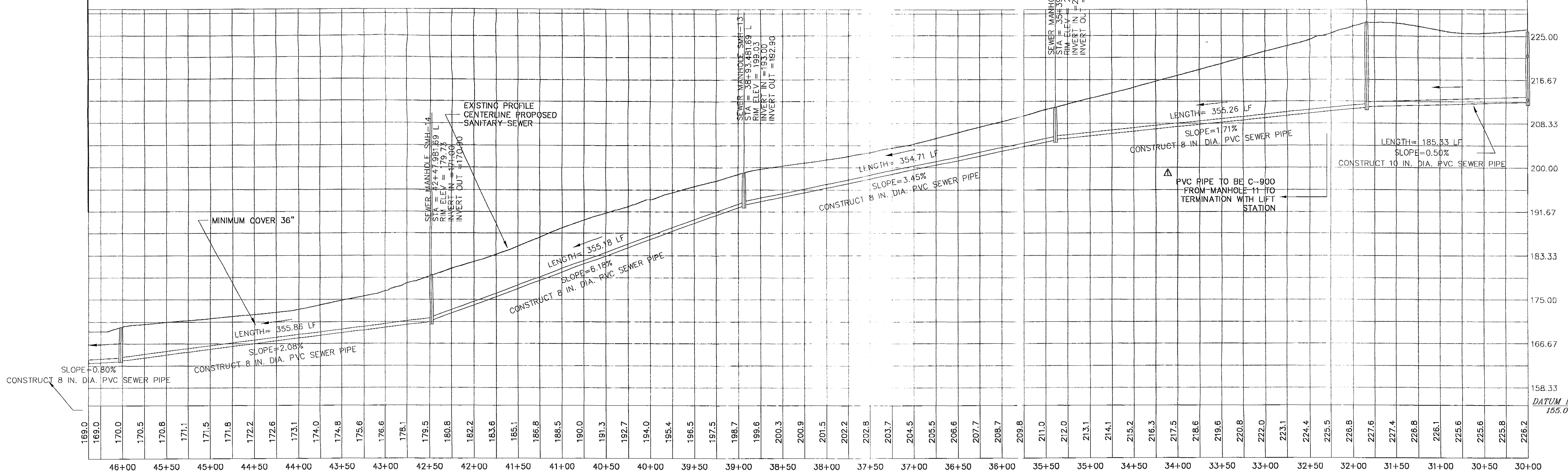
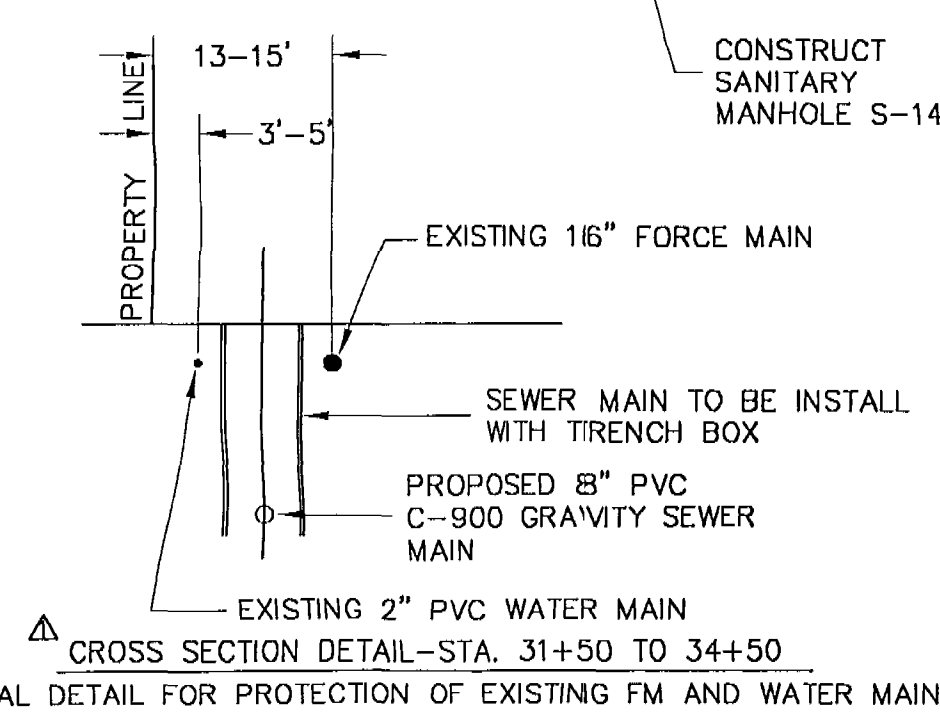
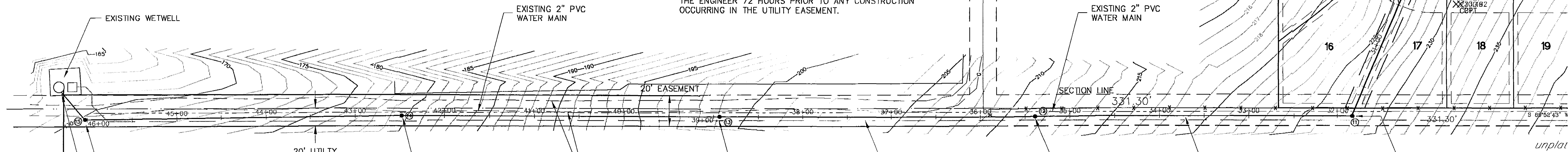
DRAWING DESCRIPTION
PLAN/PROFILE
STA 0+00 -
STA 11+00

DRAWING NO.
SHT. 6 OF 16



SPECIAL CONSTRUCTION PROCEDURES:

1. CONTRACTOR WILL SUBMIT 45 DAYS PRIOR TO INSTALLATION OF THE 8" SANITARY SEWER MAIN AN INSTALLATION PLAN TO INSURE THAT THE EXISTING 20-INCH FORCE MAIN. THE CITY OF CLERMONT WILL REVIEW AND APPROVE THE INSTALLATION PLAN.
2. CONTRACTOR WILL PROVIDE A TANKER TRUCK DURING INSTALLATION OF THE OFFSITE SEWER MAIN TO HAUL SEWAGE AWAY AS NEEDED.
3. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES IN THE UTILITY EASEMENT DURING CONSTRUCTION.
4. CONTRACTOR WILL CONTRACT THE CITY OF CLERMONT AND THE ENGINEER 72 HOURS PRIOR TO ANY CONSTRUCTION OCCURRING IN THE UTILITY EASEMENT.



M.O.N.T.V.E.R.D.F. ENGINEERING INC.
 P.O. BOX 560116 PHONE (407)469-4829
 MONTEVERDE, FLORIDA 34756
 FAX 407-469-2929
 NOT VALID WITHOUT LICENSE

LOST LAKE PINES SUBDIVISION

FLORIDA

LAKE COUNTY

JOB NO. 9919
 DATE AUG 99
 SCALE GRAPHIC
 DRAWN BY ACN
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REVISIONS

1	GEN. REV. 6/16/00
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CAD FILE NO.
 DRAWING DESCRIPTION
OFF SITE SANITARY SEWER

APPROVED
 JUL 17 2000
 48-095-61873-1
 POS
 ORLANDO
 SJR WND

JOB NO. **9919**
 DATE **AUG. 99**
 SCALE **GRAPHIC**
 DRAWN BY **ACN**
 CHKD BY **ACN**

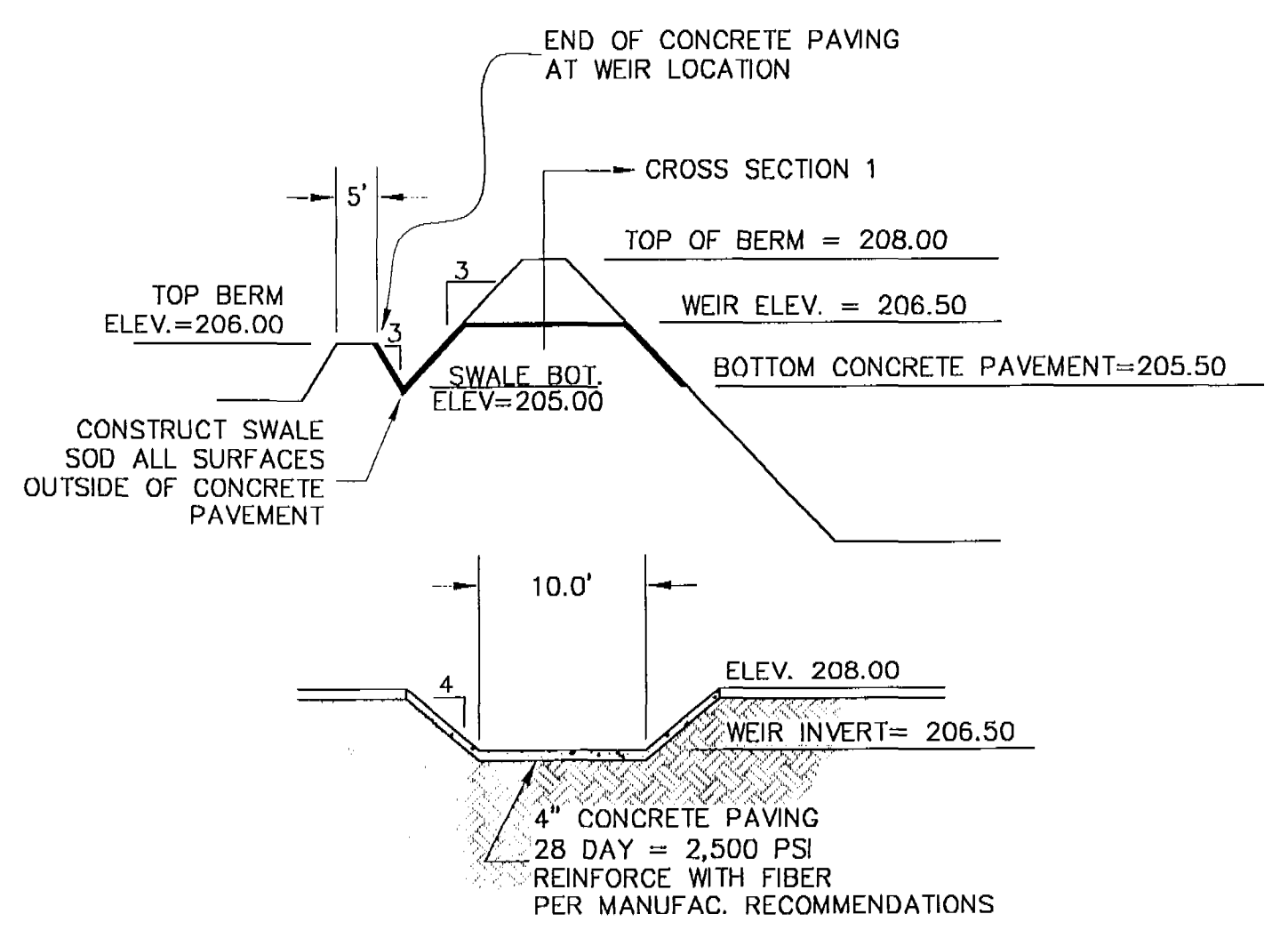
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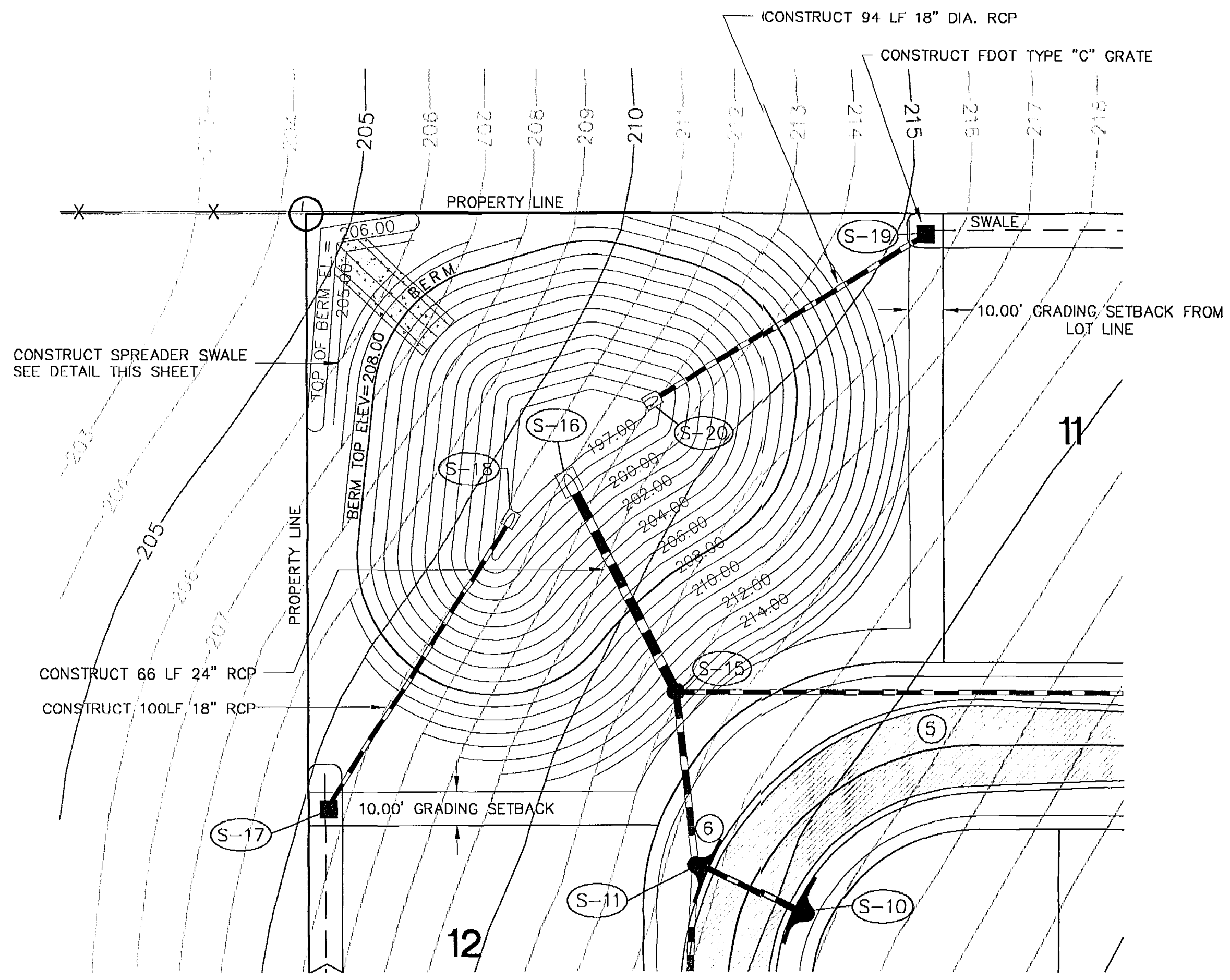
CAD FILE NO.
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RETENTION POND PLAN
 DRAWING NO. **SHD9016**

STORM STRUCTURE DATA

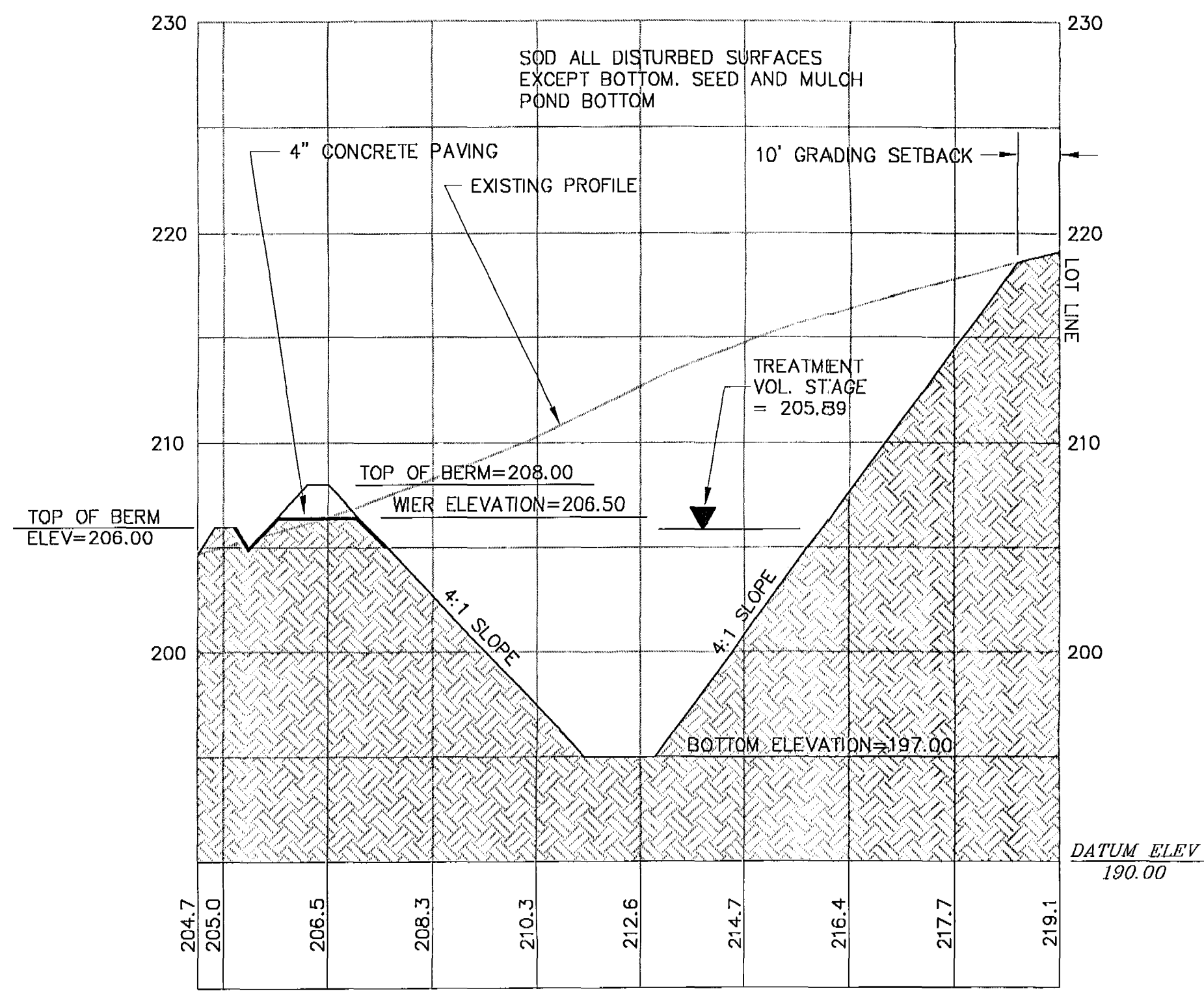
STRUCTURE	FDOT TYPE	GRATE ELEV.	INVERT
S-17	FDOT "C"	209.05	205.05
S-16/18/20	FDOT INDEX 261	-	197.00
S-19	FDOT "C"	214.00	210.00



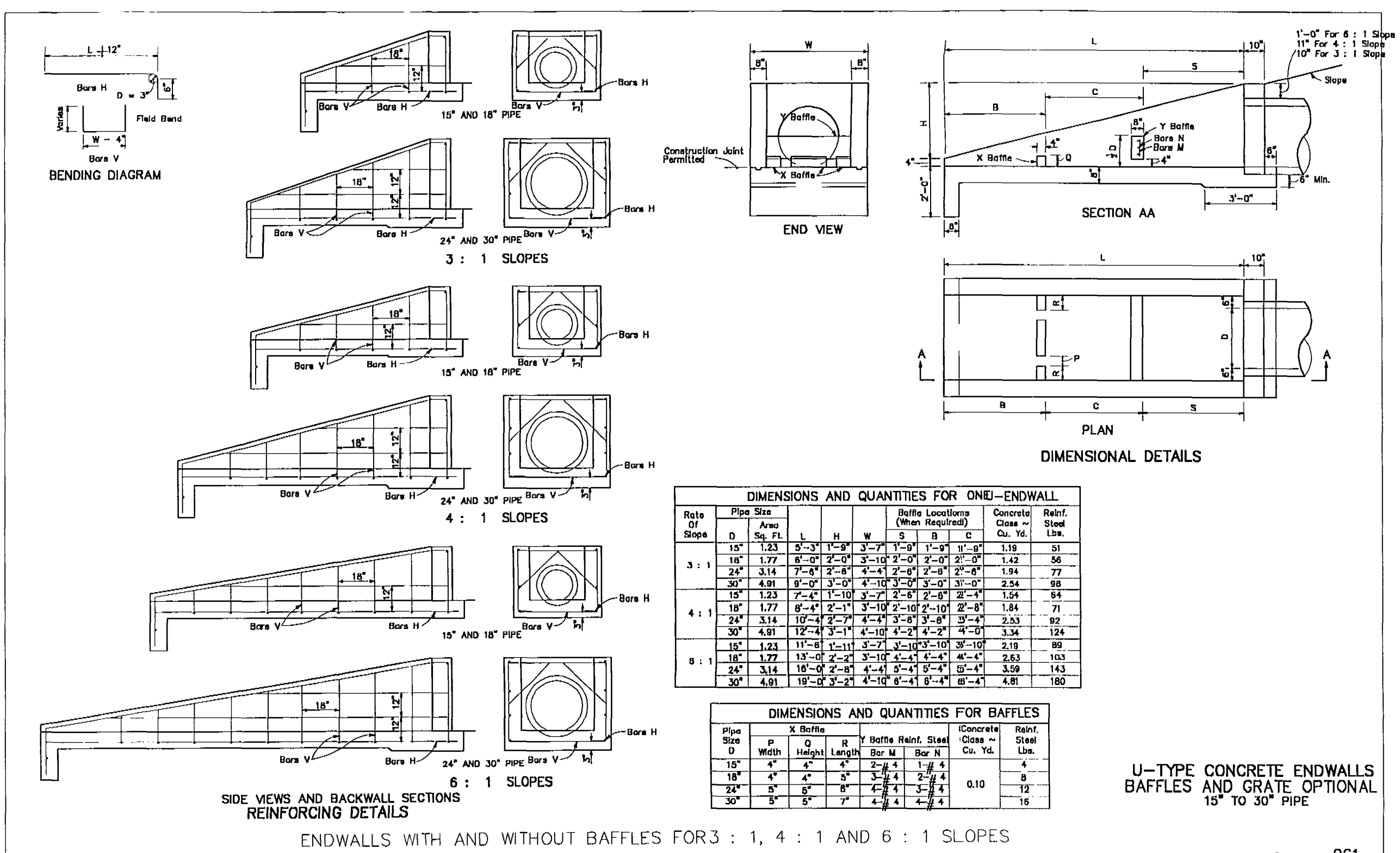
DETAIL WEIR AND SPREADER SWALE NTS



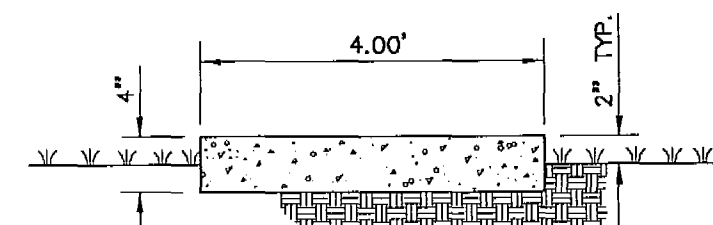
STORM WATER RETENTION POND-DETAIL 1 SCALE 1" = 30'



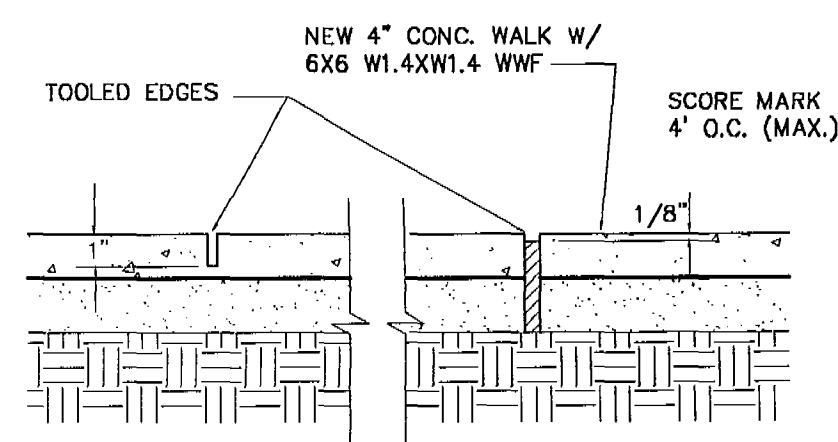
CROSS SECTION STORM WATER RETENTION POND



U-TYPE CONCRETE ENDWALL DETAIL FDOT INDEX 261

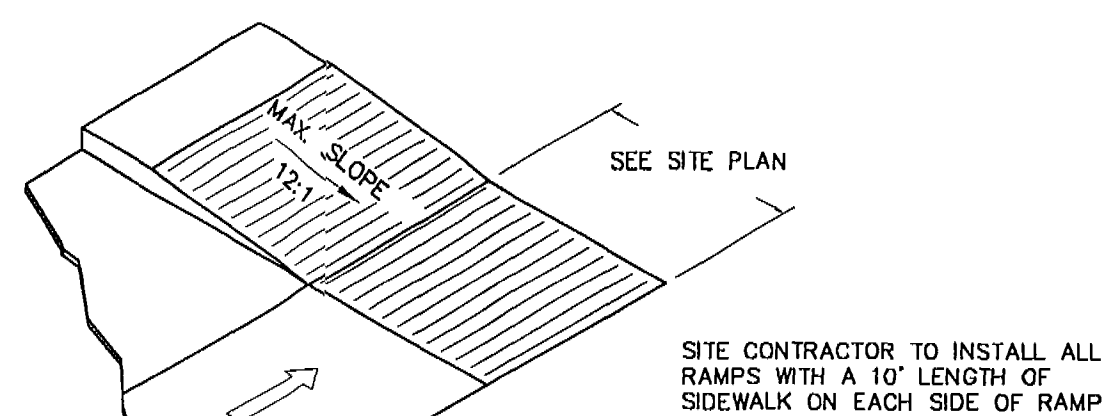


CONCRETE SIDEWALK

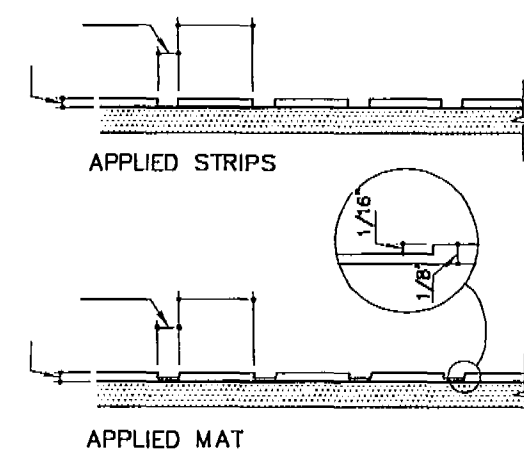


NOTE:
EXPANSION JOINTS SHALL BE LOCATED AT ALL CONCRETE WALK INTERSECTIONS, AT ALL DOOR OPENINGS AND AT 12' O.C. MAXIMUM.
EXPANSION JOINT 1/4" PREMOLDED ASPHALT STRIP SET 1/8" BELOW TOP OF WALK.

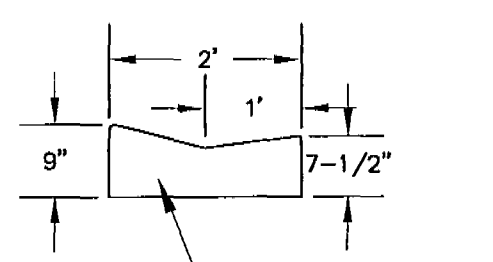
CONCRETE WALK DETAIL



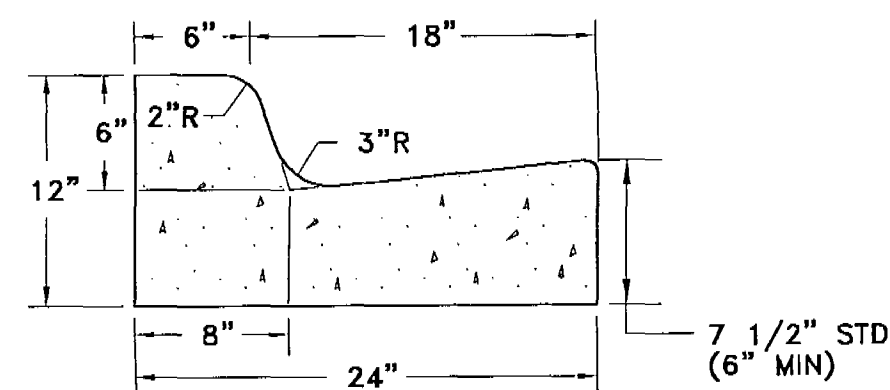
PROVIDE DETECTABLE WARNING PER ADA-ANSI 117.1-86



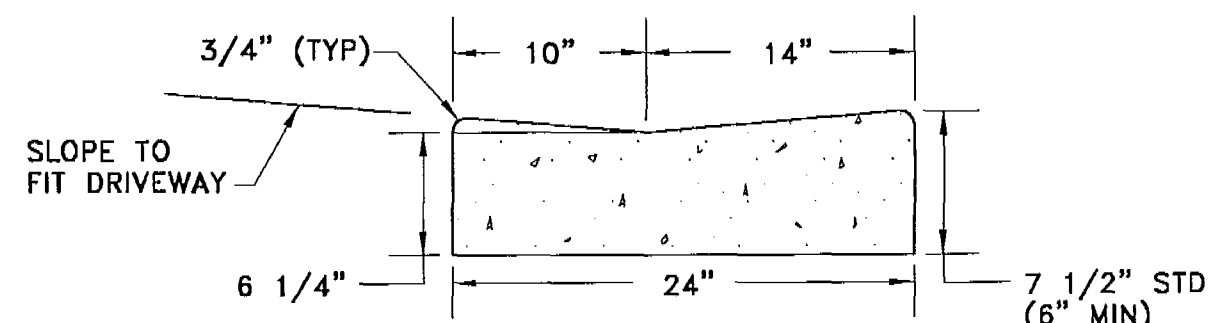
SIDEWALK RAMP DETAIL



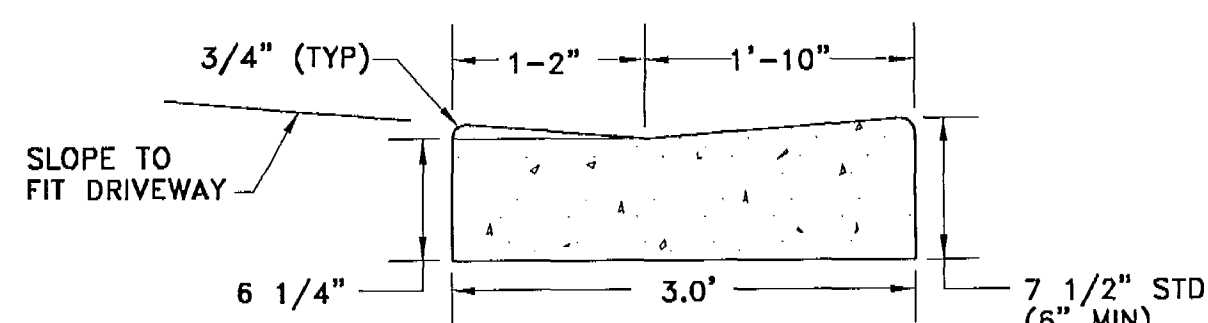
MIAMI CURB



TYPE F



DROP CURB

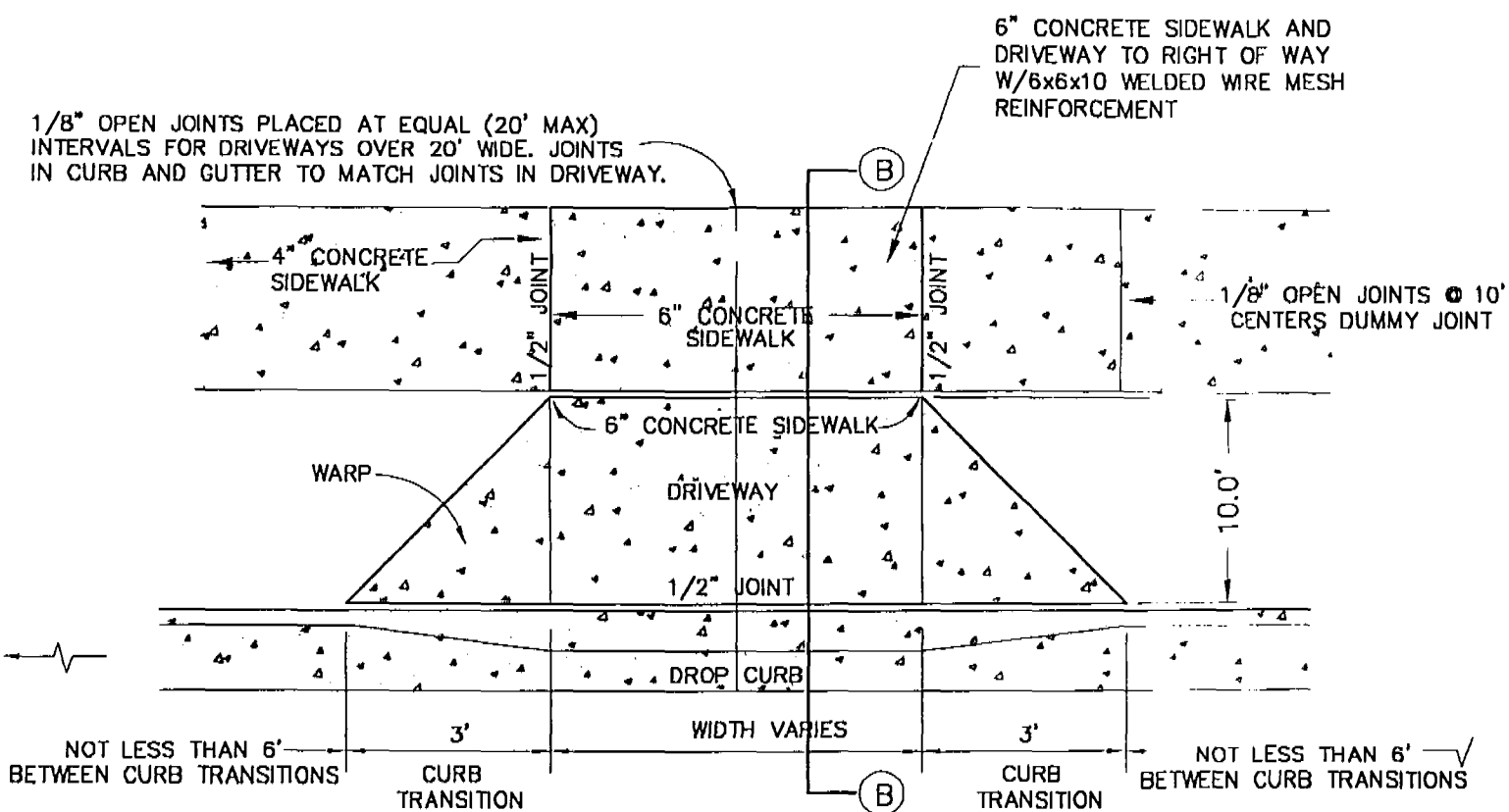


DROP CURB

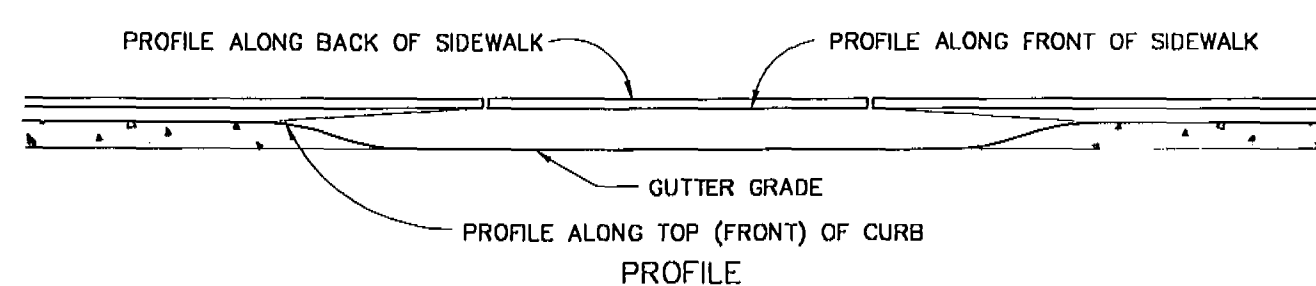
NOTE:

1. WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.

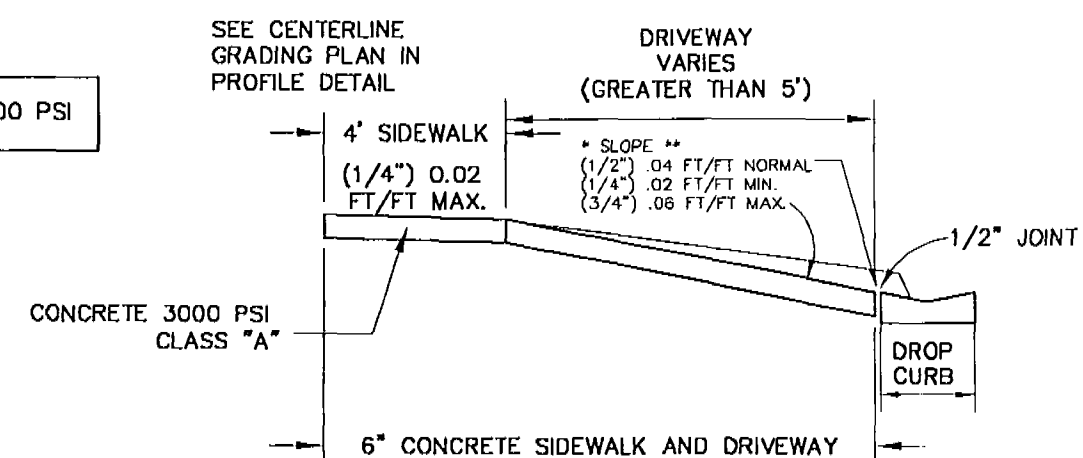
FDOT 'F' CURB DETAIL
REFER TO FDOT INDEX 300 FOR FURTHER DETAILS



PLAN VIEW



ALL CONCRETE TO BE 3000 PSI



NOTE: DRIVEWAYS AND SIDEWALKS THROUGH DRIVEWAYS SHALL REQUIRE 6"x6" REINFORCEMENT WIRE.

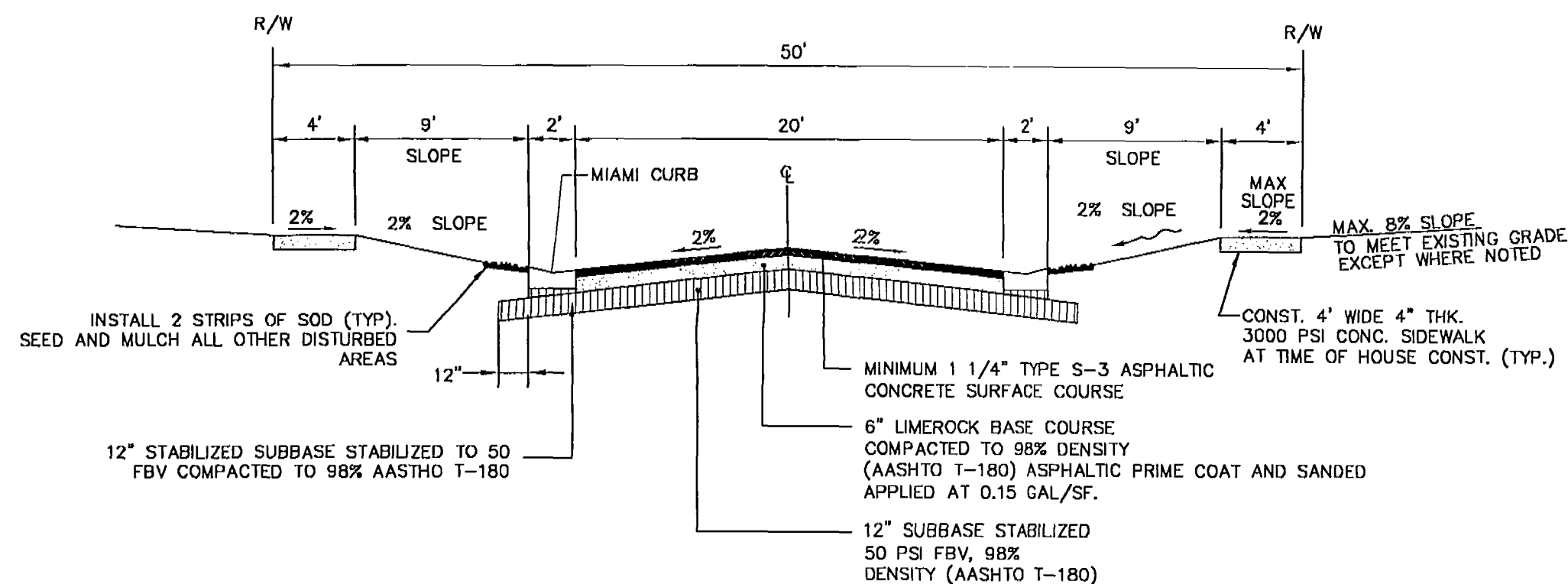
SECTION B-B

DETAIL OF SIDEWALK AND PAVED DRIVEWAY CONSTRUCTION

ALL SLOPES 3% OR OVER MUST BE SODDED FROM EDGE OF PAVEMENT TO RIGHT OF WAY.

SIDEWALK NOTE: SITE CONTRACTOR RESPONSIBLE FOR INSTALLING ALL SIDEWALKS IN COMMON AREAS AND INSTALLATION OF ALL RAMPS INCLUDING 10 FEET ON EACH SIDE OF RAMP.

ASPHALT NOTE: NO RECYCLED MATERIAL ALLOWED IN THE ASPHALT MIX.

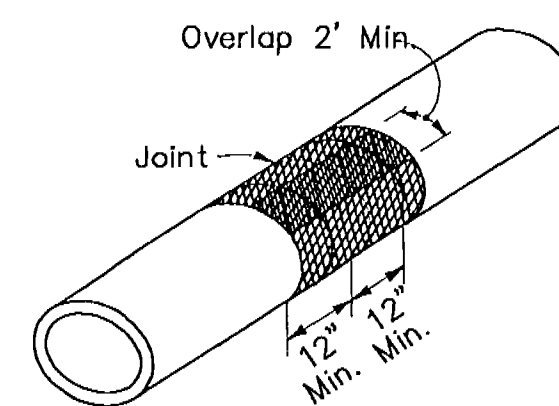


TYP. INTERIOR ROAD SECTION

NTS

ALL PRESSURE LINES UNDER PAVEMENT TO BE DUCTILE IRON PIPE

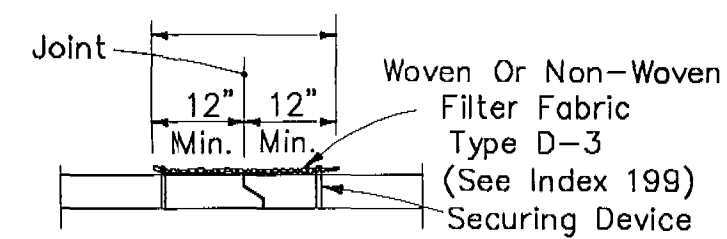
ALL STORM PIPE TO BE INSTALLED WITH FABRIC JACKETS AT JOINTS



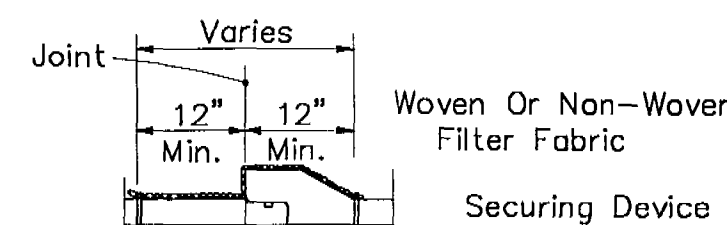
ELLIPTICAL PIPE SHOWN ISOMETRIC VIEW

Cost of filter fabric jacket to be included in cost of pipe culverts.

FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN
FILTER FABRIC JACKET



ELLIPTICAL PIPE



ROUND PIPE PIPE SECTIONS

M-O-N-T-V-E-R-D-E-ENGINEERING INC.
P.O. BOX 560116 PHONE (407) 469-4829
MONTEVERDE, FLORIDA 34756
FAX (407) 469-2129
NO. VALE WARD, PRINCE EDWARD ISLAND

FLORIDA

LOST LAKE PINES SUBDIVISION

LAKE COUNTY

JOB NO. 9919
DATE AUG. 99
SCALE GRAPHIC
DRAWN BY ACN
CHKD BY ACN

REVISIONS

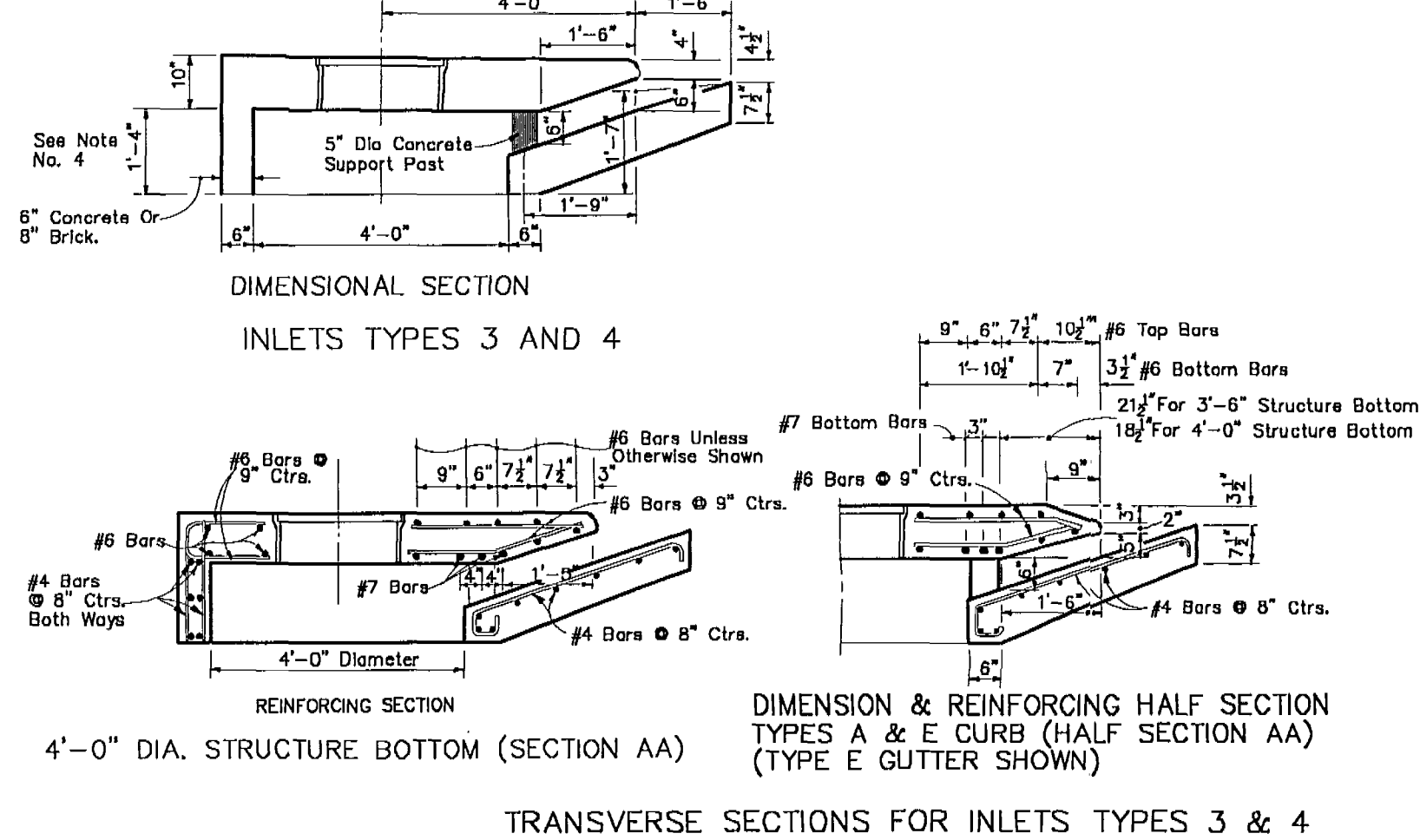
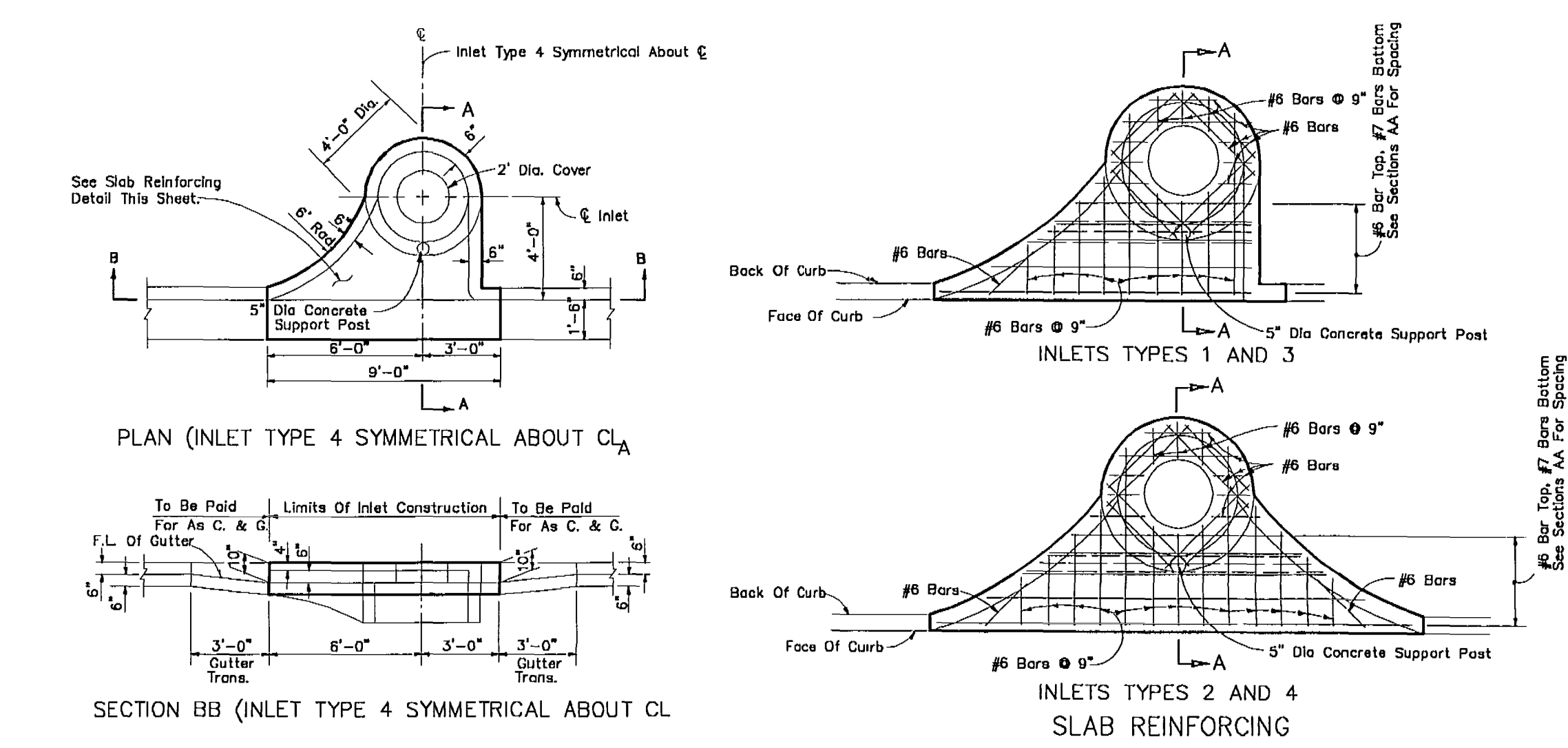
1	GEN. REV. 6/2000
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CAD FILE NO. 9919-100.dwg R2000
DRAWING DESCRIPTION

DETAIL SHEET

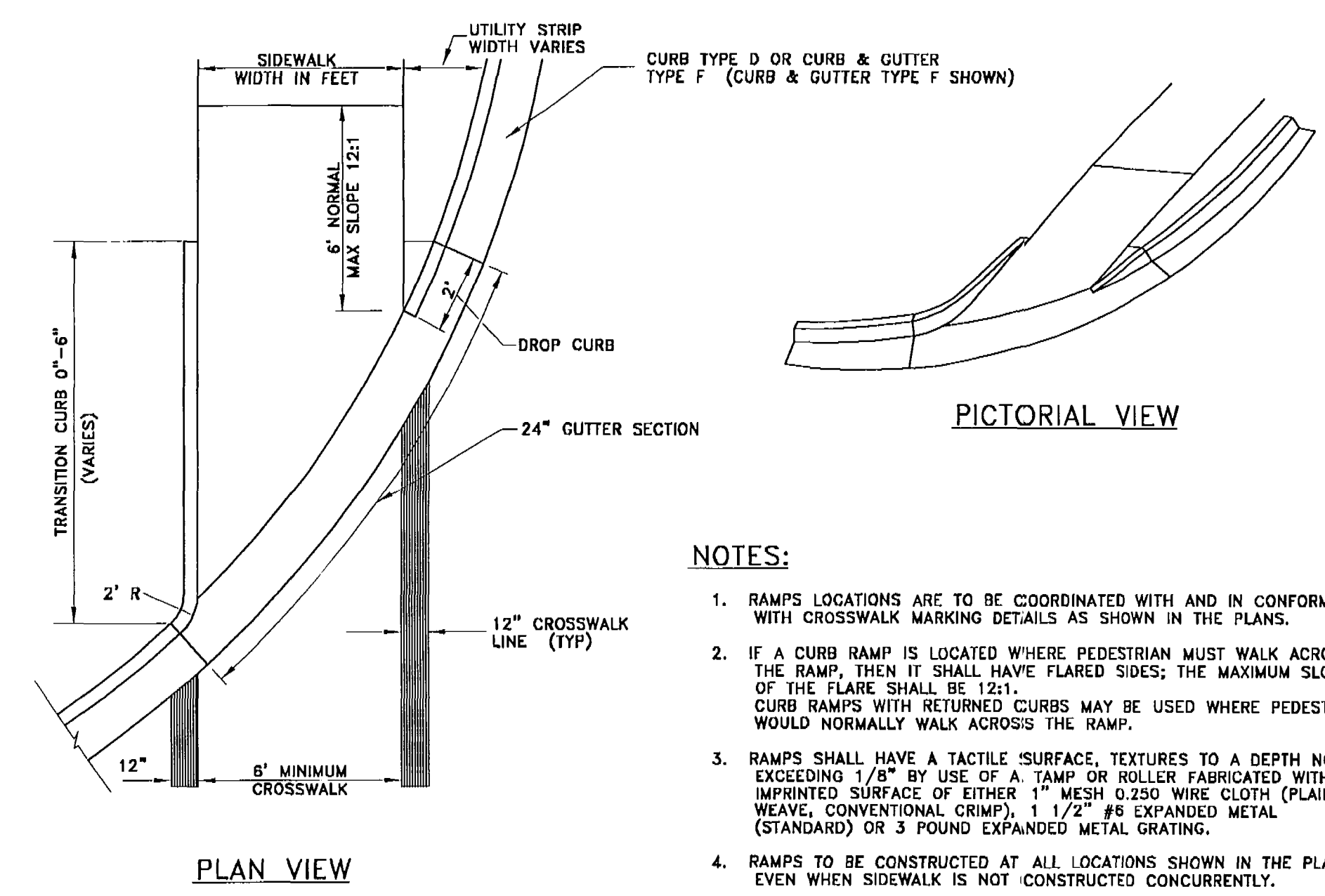
DRAWING NO. SPC-001815

JUL 17 2000
48-095-61873-1
PDS
ORLANDO
SJR WMD

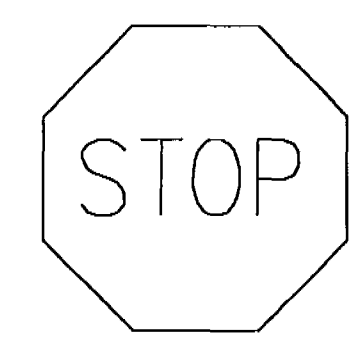


GENERAL NOTES

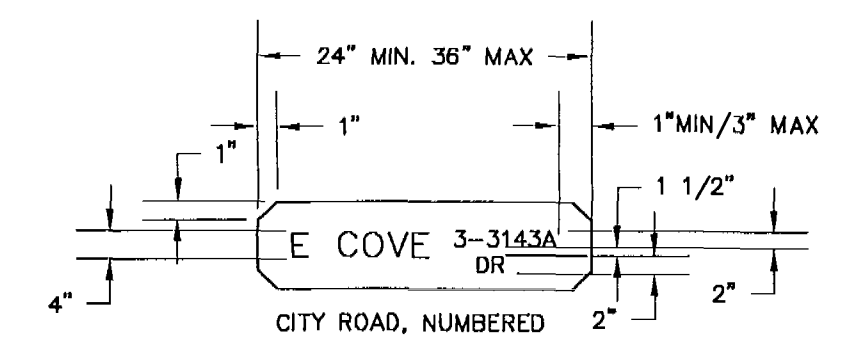
- The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
- When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel when necessary.
- All steel in inlet top shall have 1/8" minimum cover unless otherwise shown. Inlet tops shall be either cast-in-place or precast concrete.
- The rear wall portion of inlet tops Types 1, 2, 3 & 4 may be constructed with brick. Dowels to top slab required.
- For supplemental details see Index No. 201.
- Only round concrete support post will be acceptable.
- These inlets are to be used with Curb and Gutter Types E and F. Locate outside of pedestrian crosswalk where practical.
- For structure bottoms see Index No. 200.



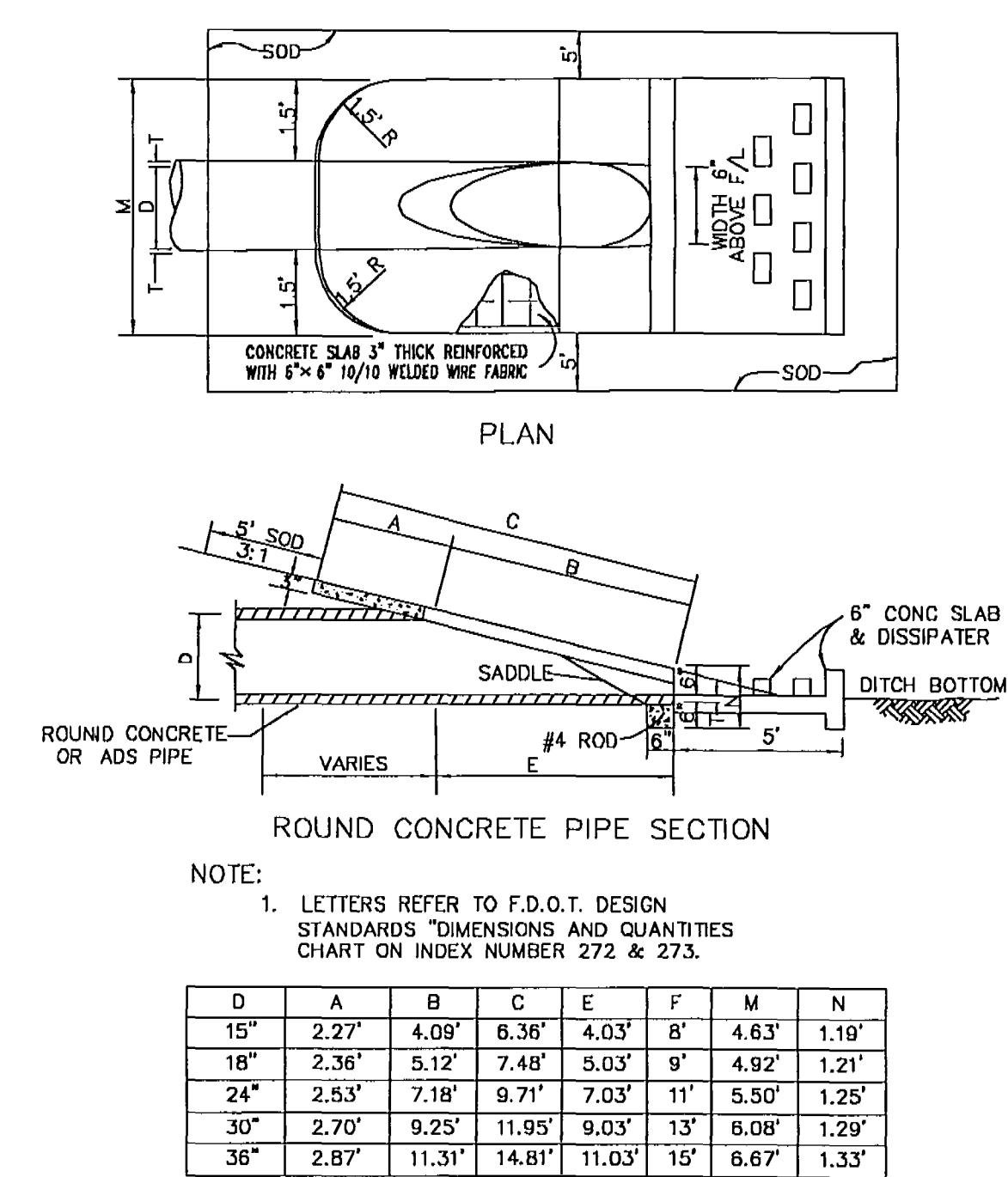
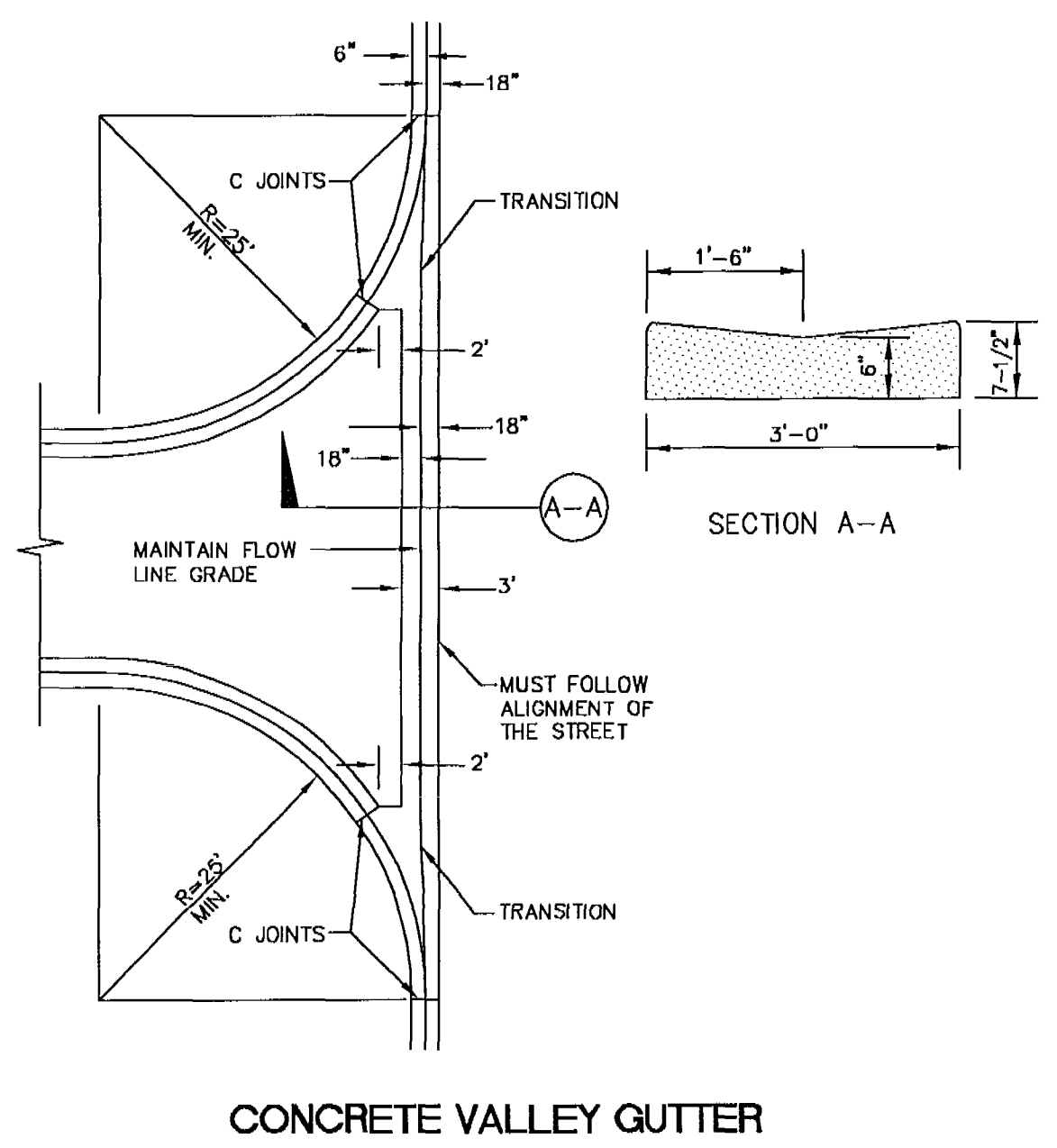
- NOTES:**
- RAMP LOCATIONS ARE TO BE COORDINATED WITH AND IN CONFORMANCE WITH CROSSWALK MARKING DETAILS AS SHOWN IN THE PLANS.
 - IF A CURB RAMP IS LOCATED WHERE PEDESTRIAN MUST WALK ACROSS THE RAMP, THEN IT SHALL HAVE FLARED SIDES; THE MAXIMUM SLOPE OF THE FLARE SHALL BE 12:1. CURB RAMPS WITH RETURNED CURBS MAY BE USED WHERE PEDESTRIANS WOULD NORMALLY WALK ACROSS THE RAMP.
 - RAMPS SHALL HAVE A TACTILE SURFACE, TEXTURES TO A DEPTH NOT EXCEEDING 1/8" BY USE OF A TAMP OR ROLLER FABRICATED WITH AN IMPRINTED SURFACE OF EITHER 1" MESH 0.250 WIRE CLOTH (PLAIN WEAVE, CONVENTIONAL CRIMP), 1 1/2" #8 EXPANDED METAL (STANDARD) OR 3 POUND EXPANDED METAL GRATING.
 - RAMPS TO BE CONSTRUCTED AT ALL LOCATIONS SHOWN IN THE PLANS EVEN WHEN SIDEWALK IS NOT CONSTRUCTED CONCURRENTLY.



R1-1
 30"x30"



CURB INLET TOPS TYPES 3 and 4
 FDOT INDEX 210



NOTE:
 1. LETTERS REFER TO F.D.O.T. DESIGN STANDARDS "DIMENSIONS AND QUANTITIES CHART ON INDEX NUMBER 272 & 273."

D	A	B	C	E	F	M	N
15"	2.27'	4.09'	8.36'	4.03'	8'	4.63'	1.19'
18"	2.36'	5.12'	7.48'	5.03'	9'	4.92'	1.21'
24"	2.53'	7.18'	9.71'	7.03'	11'	5.50'	1.25'
30"	2.70'	9.25'	11.95'	9.03'	13'	6.08'	1.29'
36"	2.87'	11.31'	14.81'	11.03'	15'	6.67'	1.33'

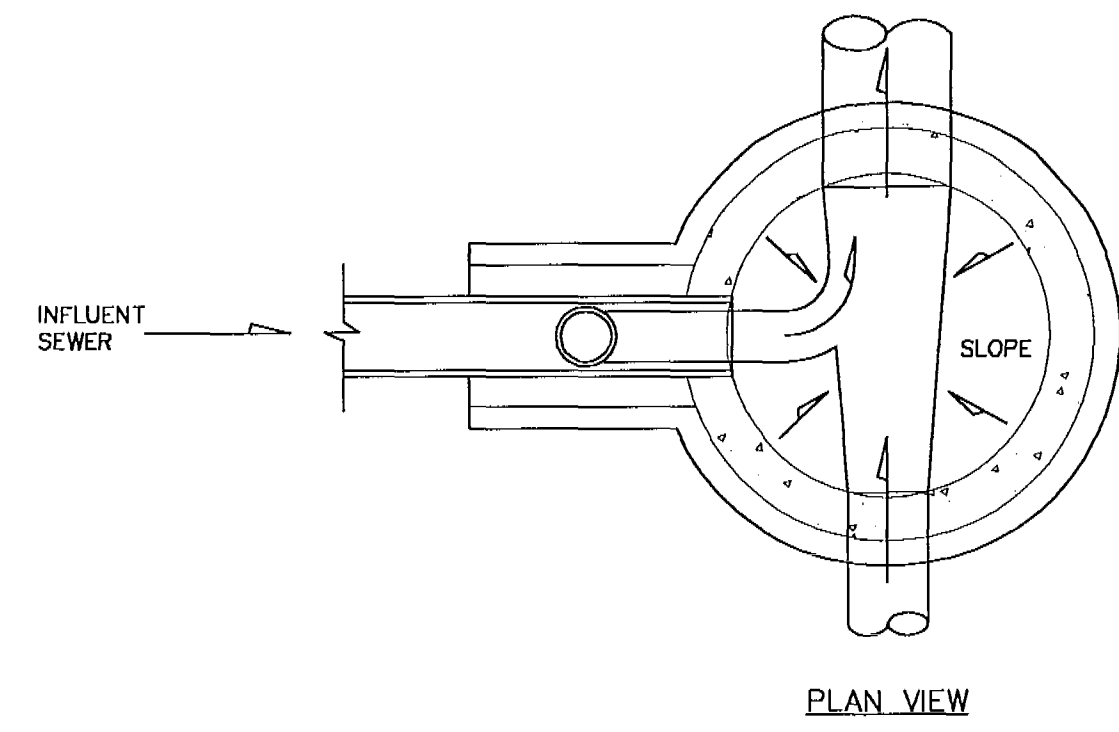
- SIGNAGE AND MARKING NOTES:**
- CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND NOTIFY THE APPROPRIATE AUTHORITIES PRIOR TO COMMENCING WORK.
 - LAKE COUNTY PUBLIC WORKS DEPARTMENT TO BE NOTIFIED AT 352-253-4900 AT LEAST 24 HOURS PRIOR TO COMMENCING WORK.
 - ALL CONSTRUCTION SHALL CONFORM TO F.D.O.T. STANDARDS AND SPECIFICATIONS AND SHALL BE SUBJECT TO LAKE COUNTY INSPECTIONS AND APPROVALS.
 - LOCAL LAW ENFORCEMENT OFFICIALS MUST BE NOTIFIED WHEN ONE OR MORE TRAVELING LANES ARE CLOSED FOR MORE THAN TWO HOURS.
 - CONTRACTOR TO SAW CUT 6" INSIDE EXISTING EDGE OF PAVEMENT TO INSURE A CLEAN, EVEN MATCH OF NEW PAVEMENT.
 - CONTRACTOR TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS IN AREAS NOT RECEIVING PAVEMENT OVERLAY.
 - ALL PAVEMENT MARKINGS TO BE THERMOPLASTIC IN ACCORDANCE WITH F.D.O.T. STANDARDS AND LAKE COUNTY REQUIREMENTS.
 - REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH F.D.O.T. INDEX NO. 17352.
 - RELOCATION OF EXISTING SIGNS AND PLACEMENT OF ALL PROPOSED SIGNS SHALL COMPLY WITH F.D.O.T. INDEX NO. 17302.
 - ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITIONS AND SOODED OR SEEDED/MULCHED WITH 7 DAYS OF FINAL GRADING.
 - AT LEAST 75% VEGETATIVE COVER SHALL BE ESTABLISHED WITH 14 DAYS OF SEEDING/MULCHING OPERATIONS OR CONTRACTOR SHALL RESEED AND REMULCH ALL BARE AREAS.
 - ALL SIGNS SHALL BE 3M ENGINEER GRADE REFLECTIVE SHEETING.
 - STOP SIGN SHALL BE 0.080"x30"x30".
 - SPEED LIMIT SIGN SHALL BE 0.080"x24"x30".
 - STREET NAME SIGNS SHALL BE 0.080"x6"xVARIES.
 - STREET NAME SIGNS SHALL BE DOUBLE FACED. GREEN SHEETING WITH WHITE BORDER ON BOTH SIDES.
 - STREET SIGN POST SHALL BE 16 GA. 10"x2-3/8" O.D. ROUND POST WITH ROK-PRUF #2 CAP AND #5 CROSS.
 - ALL OTHER SIGNS SHALL BE RIVETED TO A GALVANIZED 12"x2#/FT. U-CHANNEL POST.
 - A 24" WIDE THERMOPLASTIC PAINTED STOP BAR SHALL BE PROVIDED AT ALL STOP SIGNS.
 - ALL SIGN LOCATIONS AND PAVEMENT MARKINGS SHALL CONFORM TO F.D.O.T. AND THE CITY OF CLERMONT STANDARDS.

- NOTES:**
- ALUMINUM PLATES MINIMUM THICKNESS .080 INCHES, DIE CUT ALCOA ALLOY 6061-T6, OR EQUAL. WHITE REFLECTORIZED LETTERS WITH GREEN REFLECTORIZED BACKGROUND TO MEET STANDARDS OF SECTION 633.06 FP-79 FOR TYPE 3A SHEET REFLECTIVE MATERIAL.

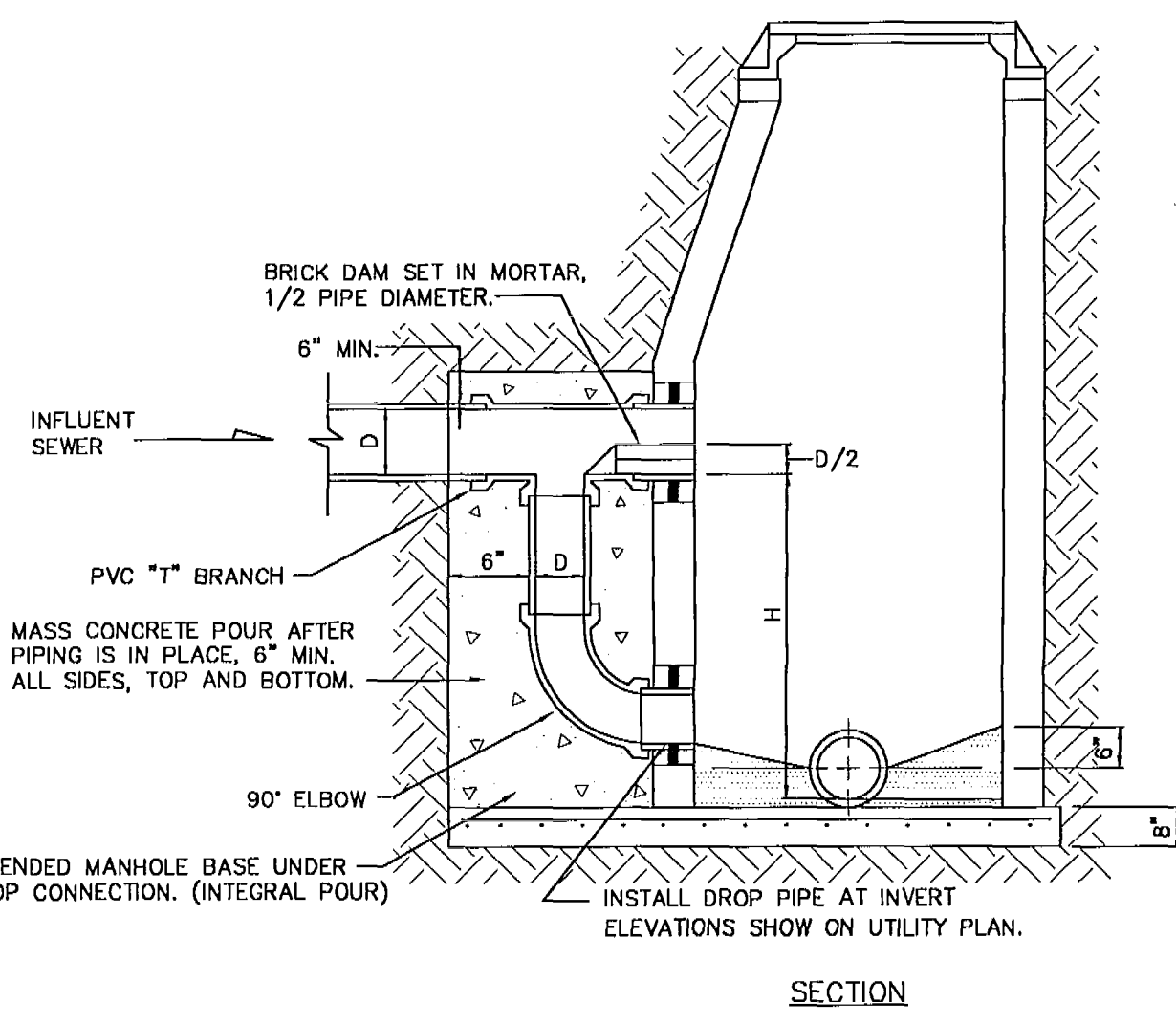
- BASE** 2500 P.S.I. CONCRETE
TOP 6" DIAMETER, FLUSH WITH GRADE
CROSSPIN 3/8"x6" - THROUGH PIPE
BOTTOM 12" DIAMETER

MINIMUM STANDARDS
STREET NAME MARKERS

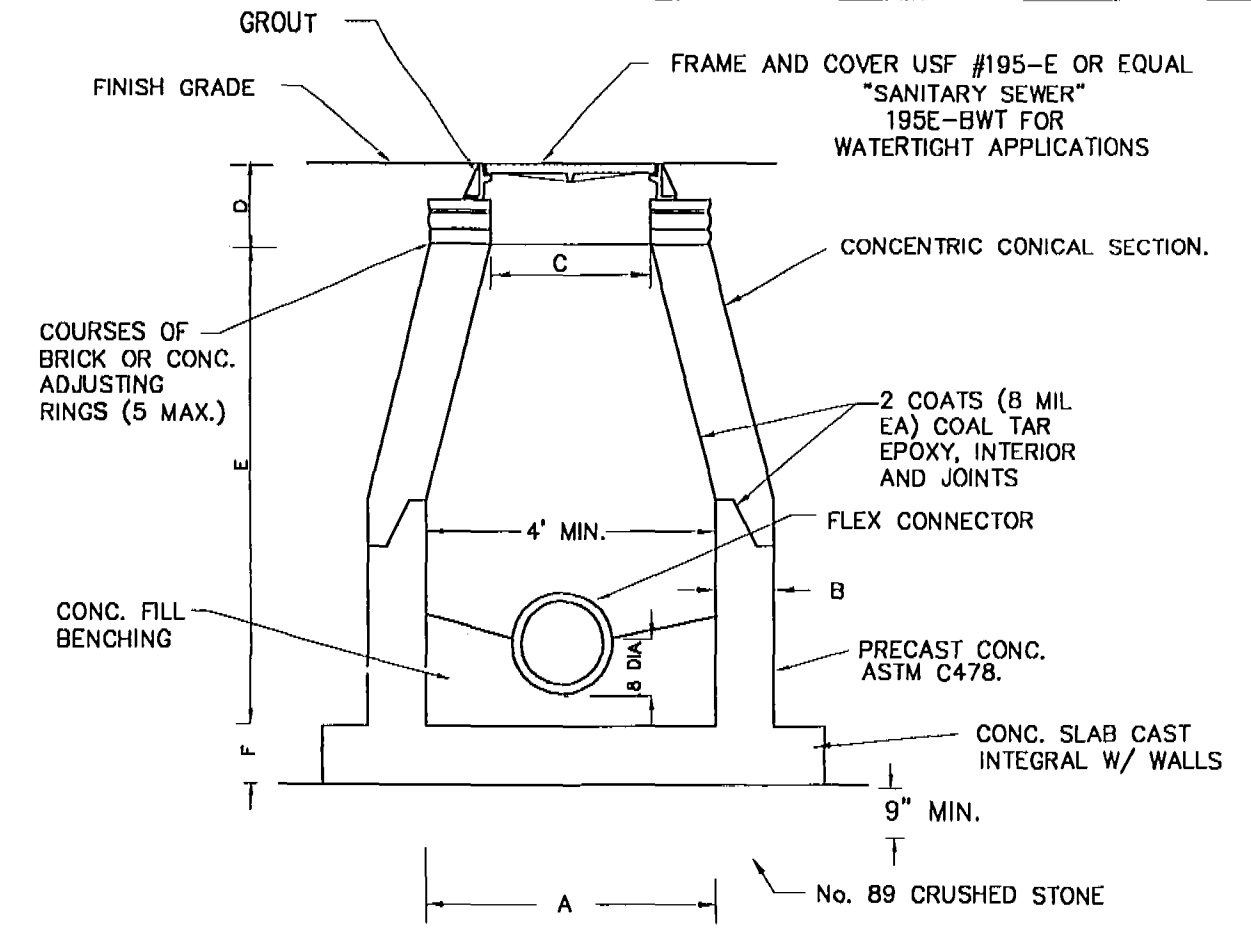
DTL008 SKL 05-06-91



NOTE:
MANHOLE CHANNEL SHALL HAVE A CROSS DROP OF .10 FT. MINIMUM. NO STANDING WATER WILL BE ALLOWED IN MANHOLE INVERTS.



DETAIL OF DROP MANHOLE
N.T.S.



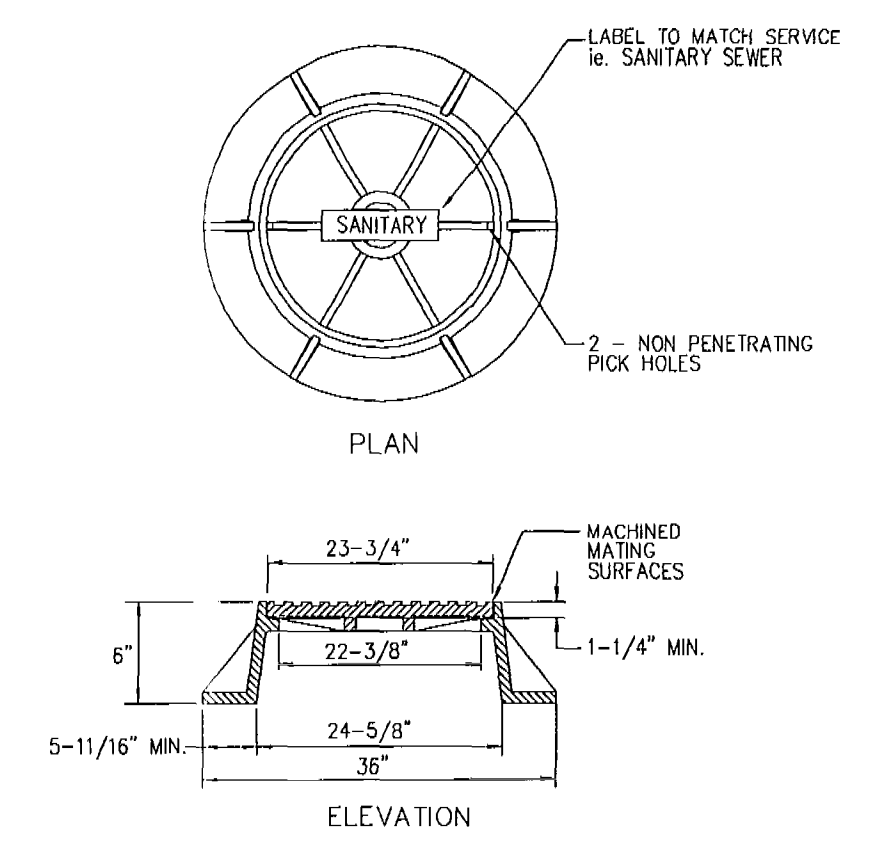
- NOTES:
1. PRECAST CONCRETE SHALL BE TYPE 2 CEMENT 4000 PSI
 2. LIFT HOLES NOT PERMITTED THROUGH PRECAST SECTIONS.
 3. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
 4. INSTALL FLOW CHANNEL INSIDE MANHOLES.
 5. SERVICE LATERALS SHALL GENERALLY NOT BE PERMITTED DIRECTLY INTO MANHOLES.
 6. PLACE TWO HALF-MOON SHAPED PLYWOOD (3/8" THK. MIN.) IN BOTTOM OF MANHOLE AFTER PIPES HAVE BEEN CONNECTED TO KEEP DEBRIS FROM ENTERING SEWER.
 7. REINFORCING STEEL PER ASTM C478-88G.
 8. PROVIDE 5' x 5' x 12" CONCRETE COLLAR AROUND COVER FRAME, W/4 #4 BARS E.W., IN UNPAVED AREAS.

M.H. DEPTH	A*	B	C	D	E	F
UP TO 12"	48"	5"	24"	15"	AS-REQ'D	8"
12' - 18'	60"	8"	24"	15"	AS-REQ'D	10"
18' & DEEPER	72"	8"	24"	15"	AS-REQ'D	14"

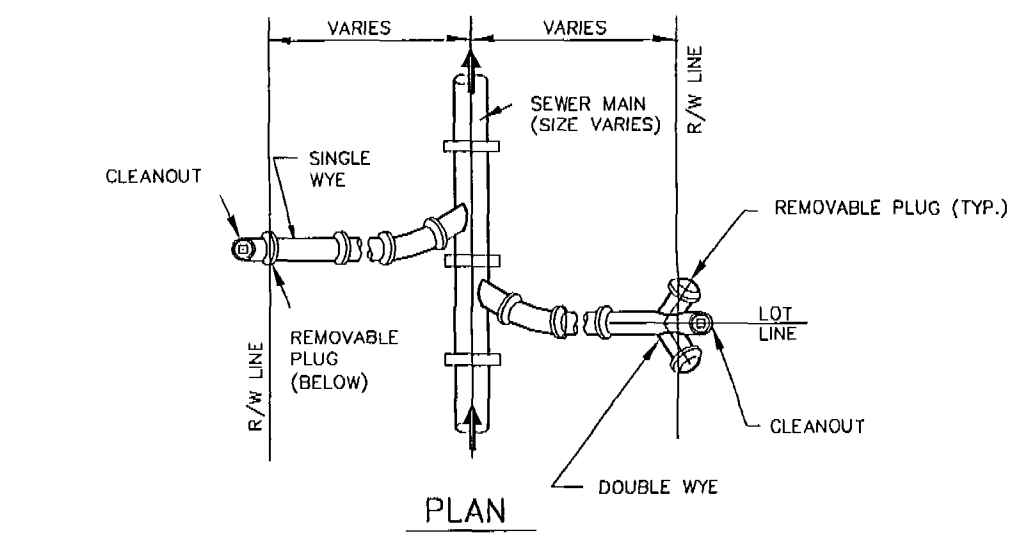
*ENTIRE DEPTH EXCEPT CONE.

MANHOLE SIZE:
UP TO 24" PIPE = 48" ϕ , UP TO 36" PIPE = 60" ϕ , OVER 36" PIPE = 72" ϕ

STANDARD MANHOLE DETAILS
NOT TO SCALE

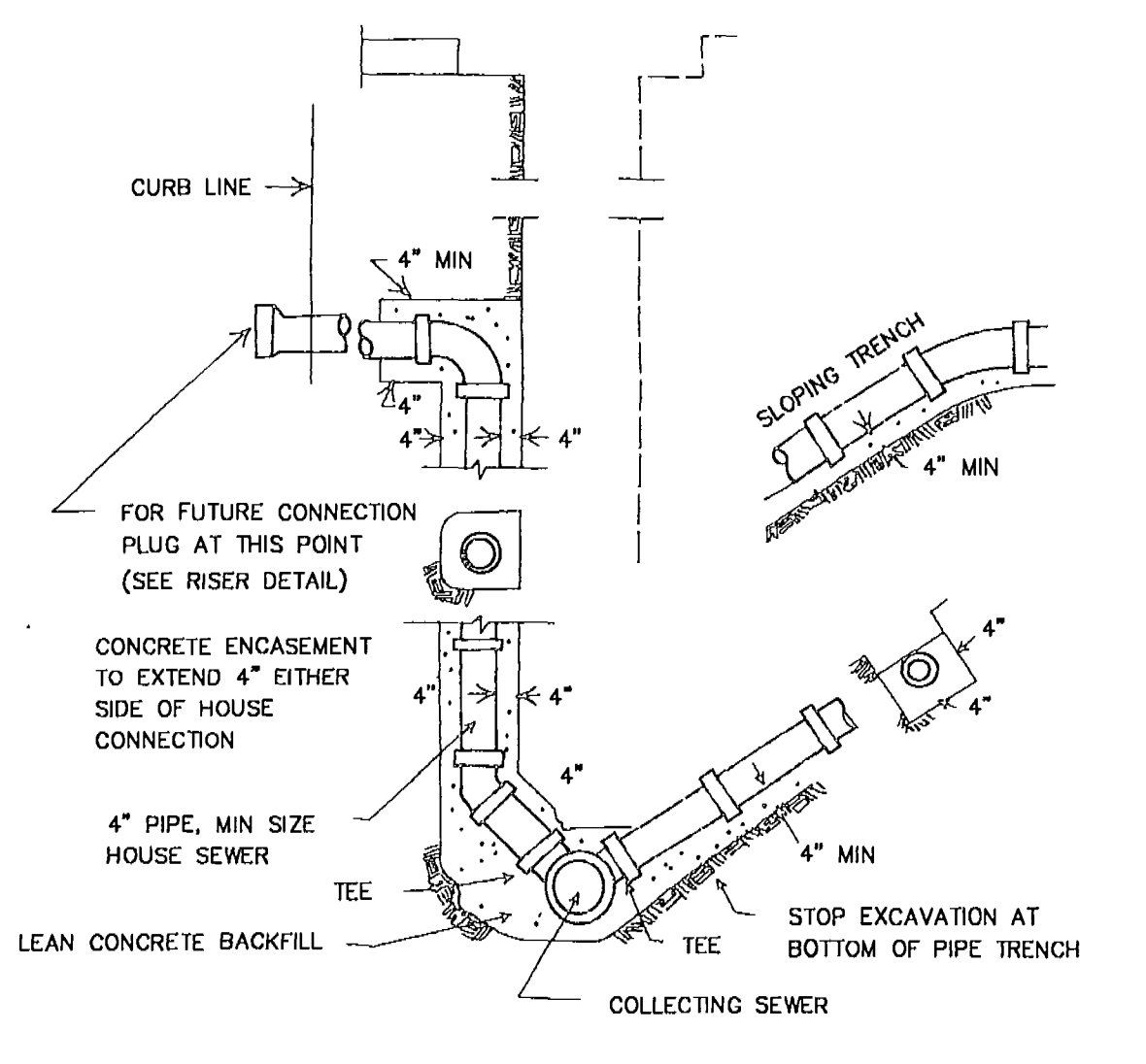


STANDARD MANHOLE FRAME AND COVER
NOT TO SCALE

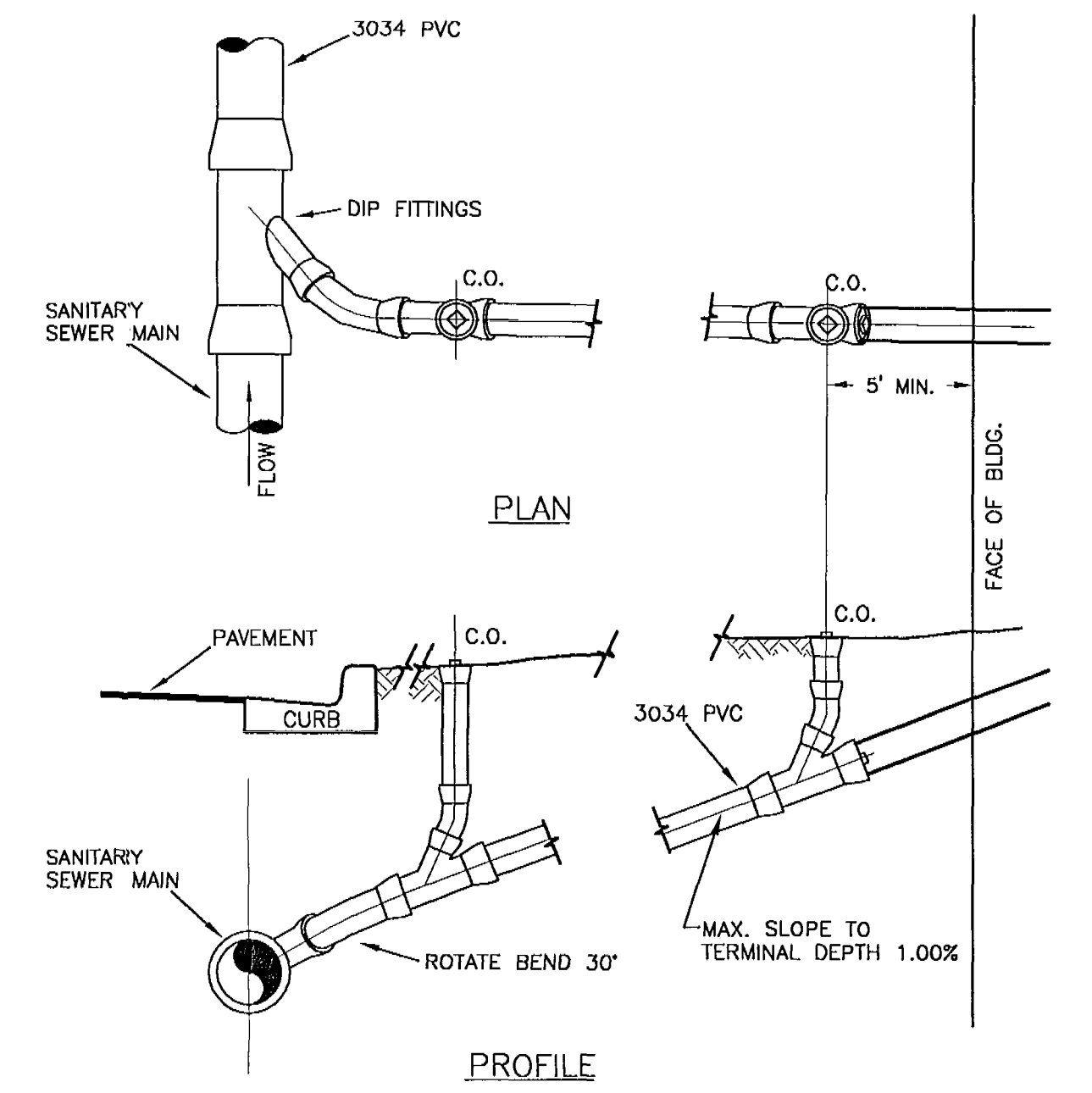


- NOTES:
1. LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE
 2. SERVICE LATERALS SHALL BE 6" MIN DIAM FOR DOUBLE SERVICE AND 4" MIN DIAM FOR SINGLE SERVICE.
 3. BENDS SHALL BE 45° MAXIMUM.
 4. RECONNECT EXISTING SERVICES.
 5. LENGTH OF SERVICE LATERALS SHALL BE 75' OR LESS.
- NOTE: MARK ALL POINTS WHERE SEWER SERVICE CROSSES CURB WITH A "S" MARKED IN CONCRETE.

SEWER SERVICE RISER CONNECTION DETAILS

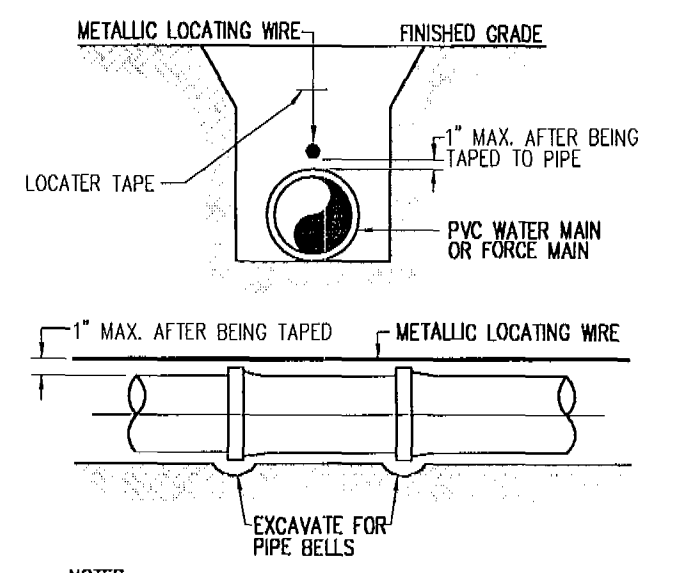


SERVICE CONNECTION FOR DEEP SEWER



- NOTES:
1. LATERAL INSTALLATION SHALL BEGIN AT RCES SEWER CONNECTION POINT AND SHALL BE CONSTRUCTED TO WITHIN 5 FEET OF THE BUILDING AT A SLOPE SUFFICIENT TO YIELD A FLOW VELOCITY OF TWO FEET PER SECOND.
 2. A BUILDING SIDE CLEAN OUT SHALL BE INSTALLED WITHIN FIVE (5) FEET OF BUILDING.
 3. BENDS WILL NOT BE PERMITTED BETWEEN THE ROID SEWER AND THE CURB SIDE CLEAN OUT.
 4. THE PIPE SECTION BETWEEN THE CURB SIDE CLEAN OUT AND THE BUILDING CLEAN OUT SHALL BE INSTALLED WITH OUT BENDS.
 5. THE CURB SIDE CLEAN OUT SHALL BE FORMED USING A WYE AND A 45° ELBOW. THE CLEAN OUT BETWEEN THE 45° ELBOW AND THE SURFACE SHALL BE STRAIGHT WITH NO BENDS OR ANGLES. TEE CONNECTIONS WILL NOT BE PERMITTED.

STANDARD LATERAL SEWER CONNECTIONS



- NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR
 2. AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
 3. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12\"/>

PVC PIPE LOCATING WIRE DETAIL
NOT TO SCALE

M·O·N·T·V·E·R·D·E·E
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FLORIDA
LOST LAKE PINES SUBDIVISION
LAKE COUNTY

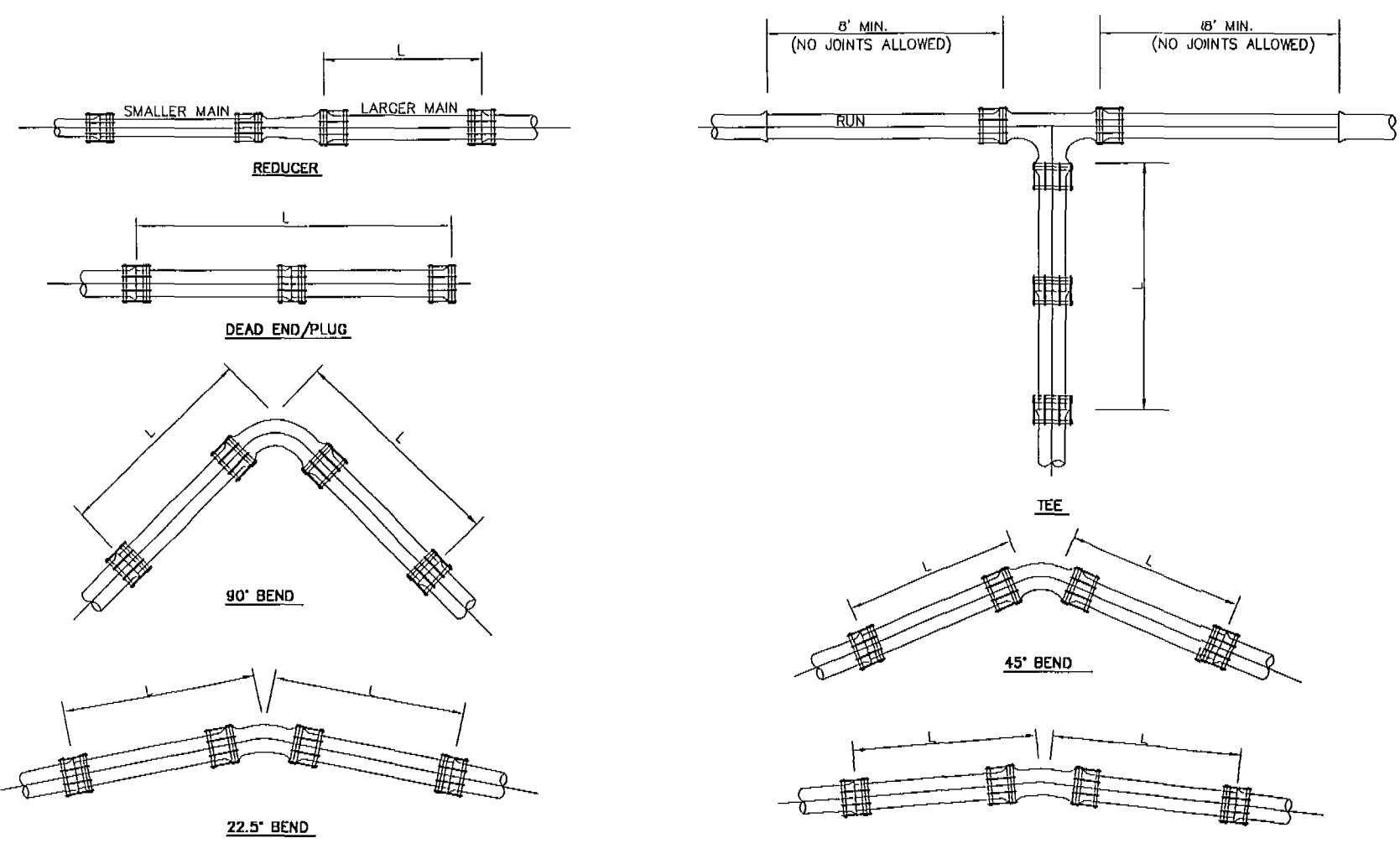
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REVISIONS

1	GEN. REV. 6/2000
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CAD FILE NO. 9919-DETAIL.DWG R2000
DRAWING DESCRIPTION
SEWER DETAILS

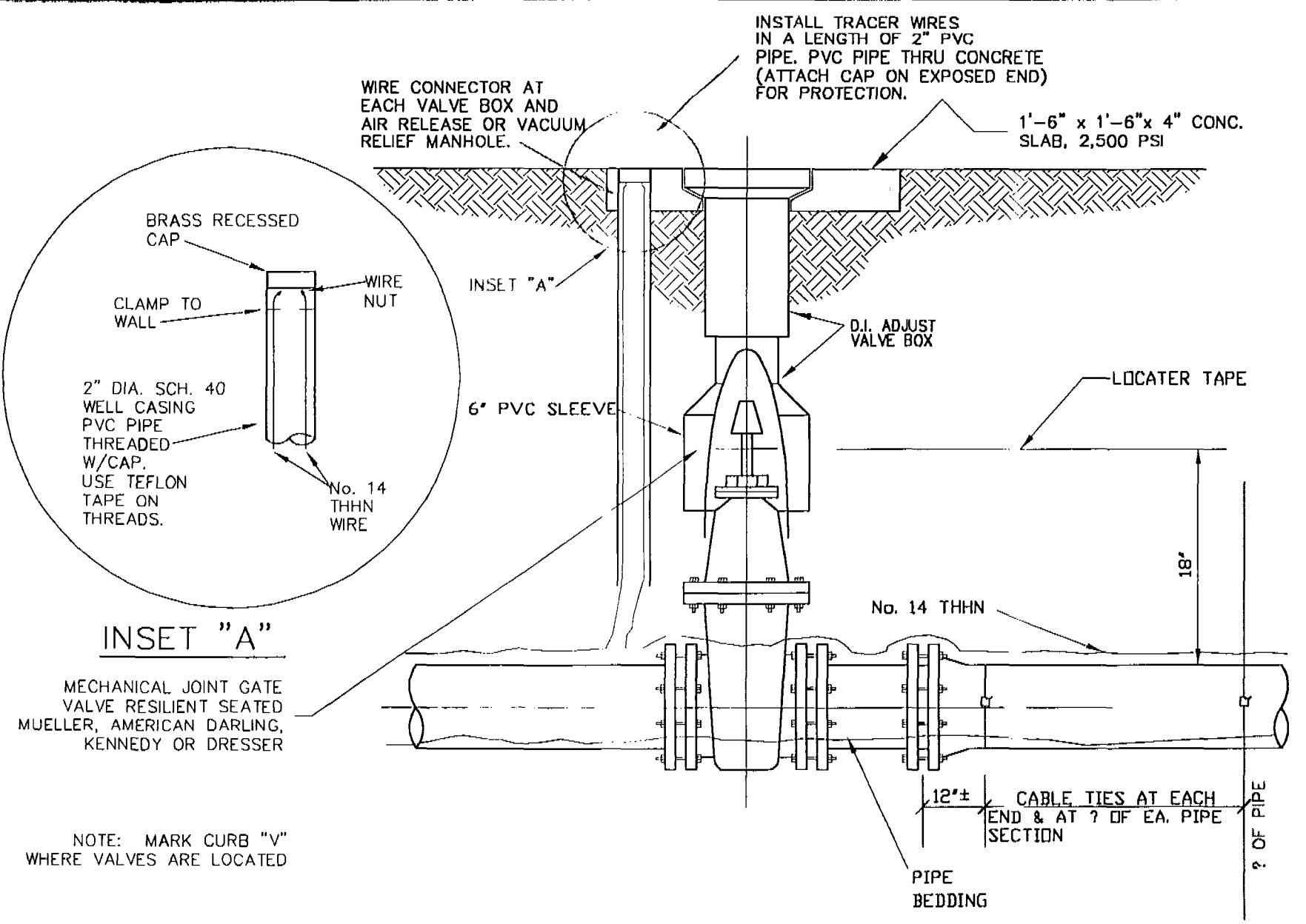
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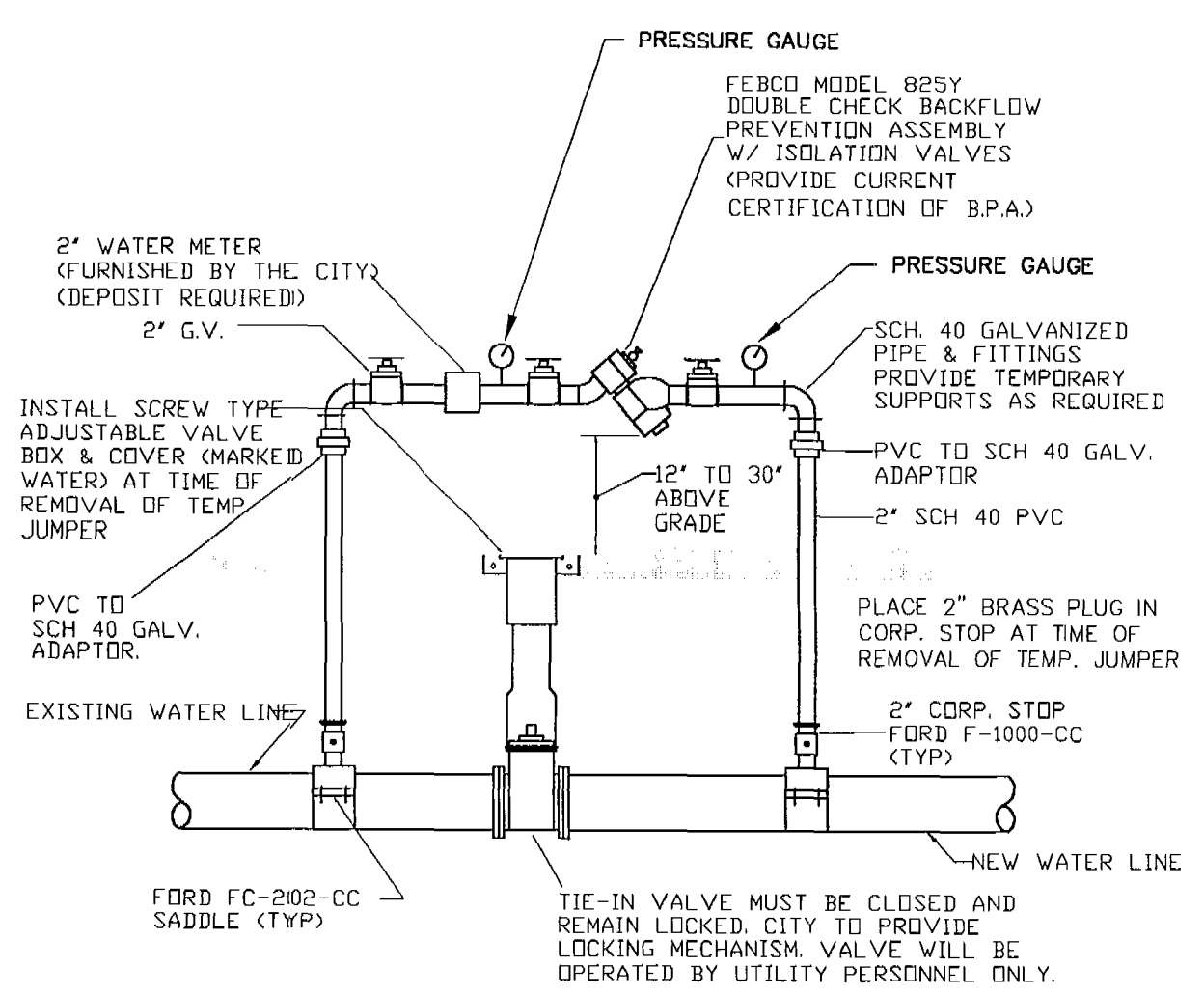
THRUST RESTRAINT DETAILS
N.T.S.

PIPE SIZE (INCHES)	FITTINGS (LENGTH IN FEET) (3'-FT. COVER; 200 PSI TEST PRESSURE)				
	90° BEND	45° BEND	22.5° BEND	11.25° BEND	DEAD END & PLUG
4	40'	20'	20'	20'	40'
6	60'	40'	20'	20'	60'
8	80'	40'	20'	20'	80'
10	80'	40'	20'	20'	80'
12	100'	40'	20'	20'	100'
16	120'	60'	40'	20'	120'

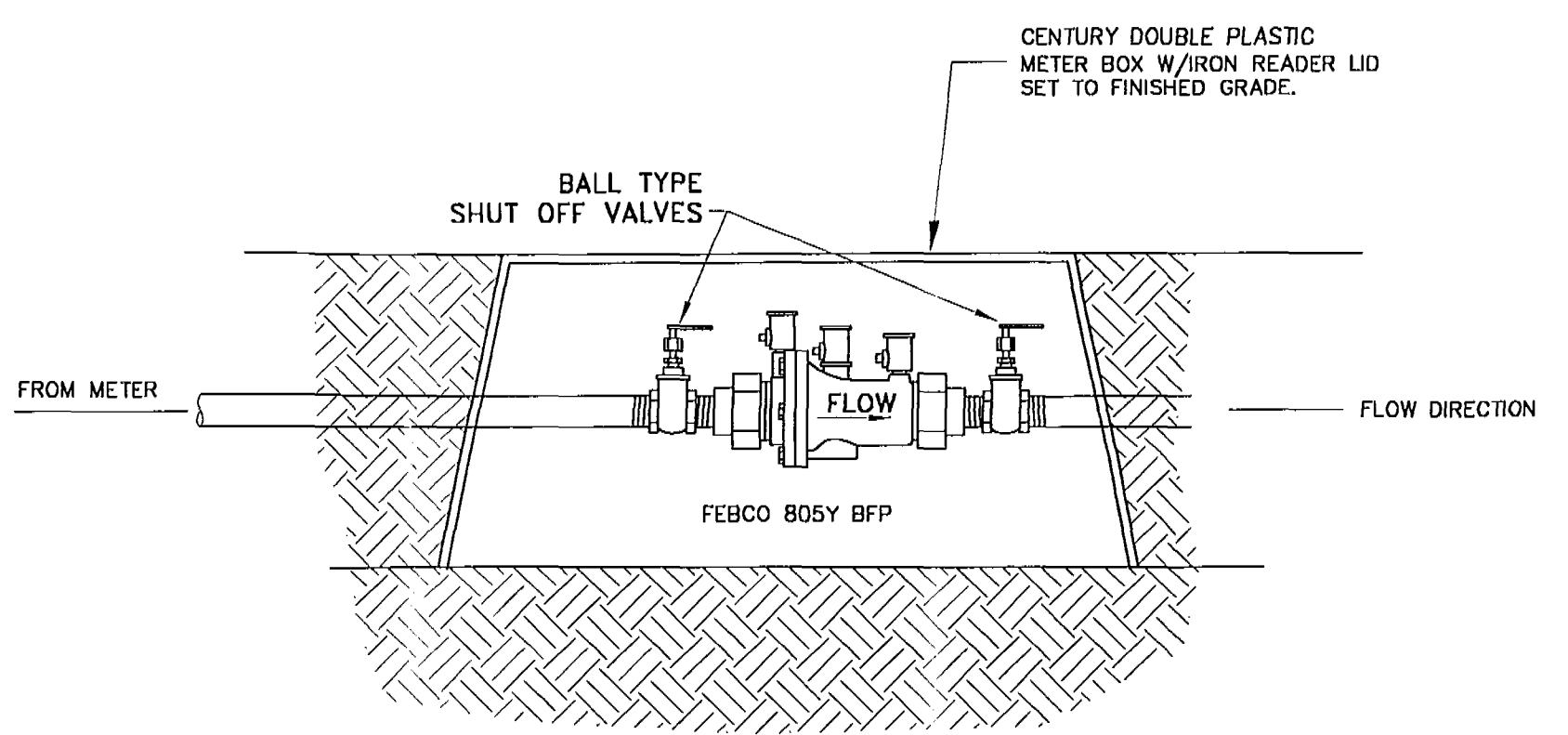
NOTE: PROVIDE RESTRAINED JOINTS AT CHANGES IN DIRECTION OF ALL WATER MAINS. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCES SHOWN IN THE FOLLOWING TABLE FROM THE P.I. OF FITTING; DISTANCES APPLY TO LENGTHS OF PIPE ON EACH SIDE OF THE FITTING. TEES AND DEAD ENDS VALVED OR CAPPED ARE CONSIDERED EQUIVALENT TO 90 DEG. BENDS. (LENGTHS ARE BASED ON SOIL OF "TYPE 2 CLAY" BACKFILL AND 200 PSI TEST PRESSURE.)
JOINT RESTRAINTS SHALL BE MEGA-LUG.



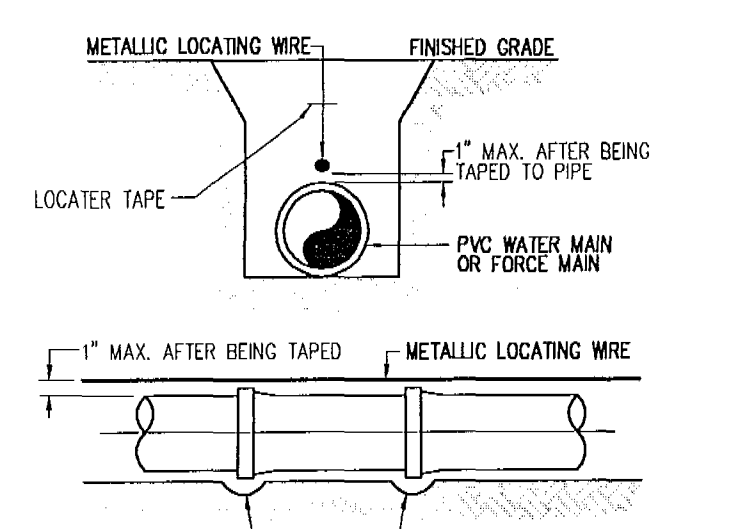
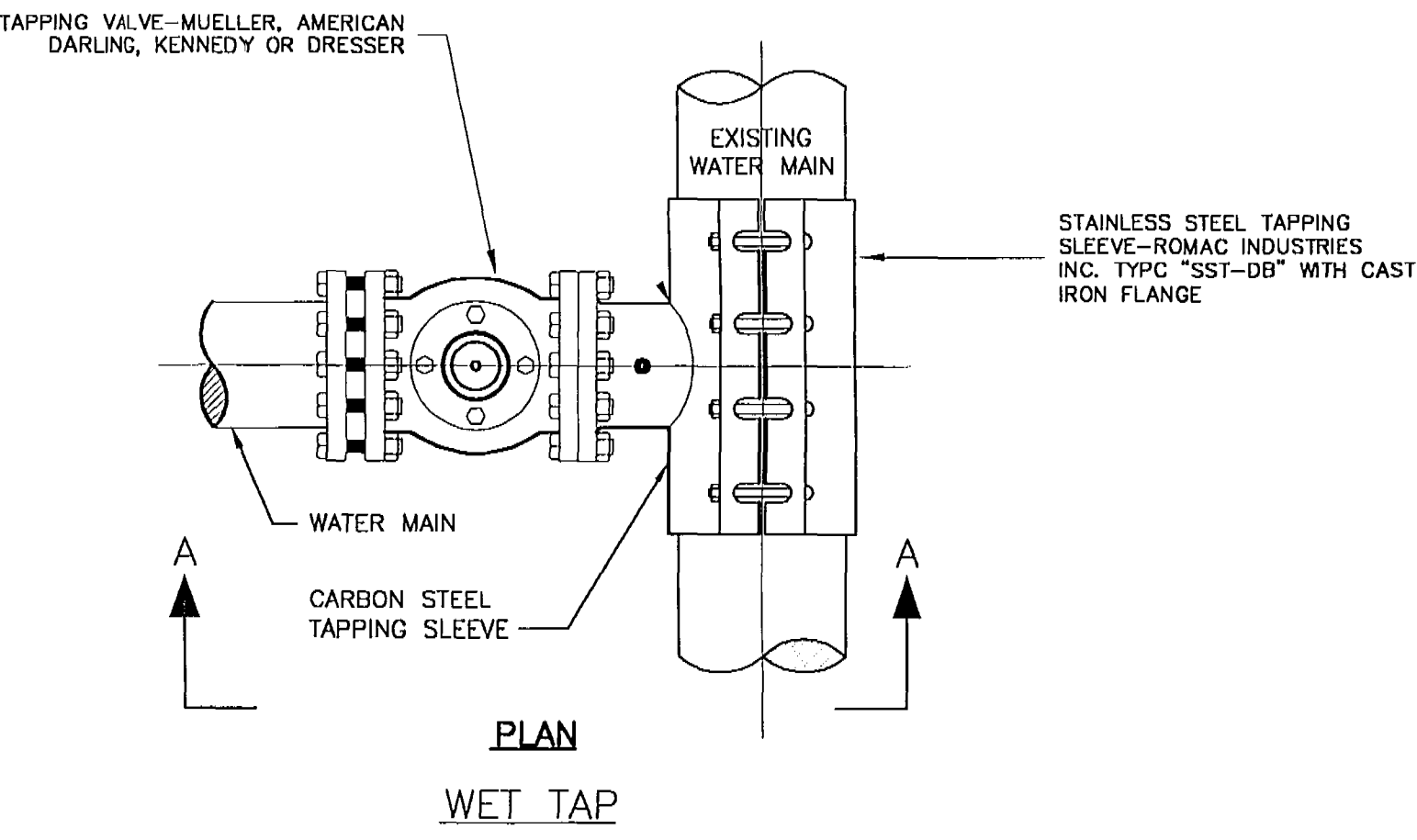
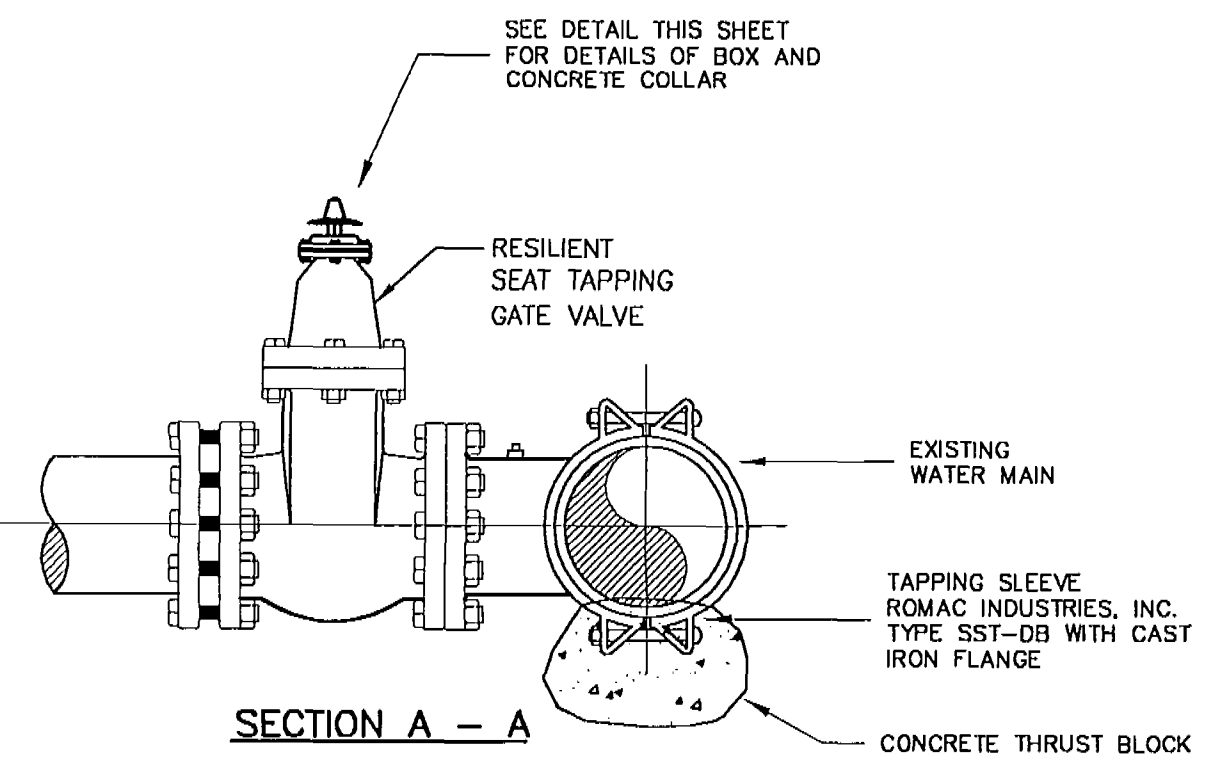
VALVE BOX DETAIL
N01 TO SCALE



3 TEMPORARY JUMPER CONNECTION DETAIL
NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W/ CITY.

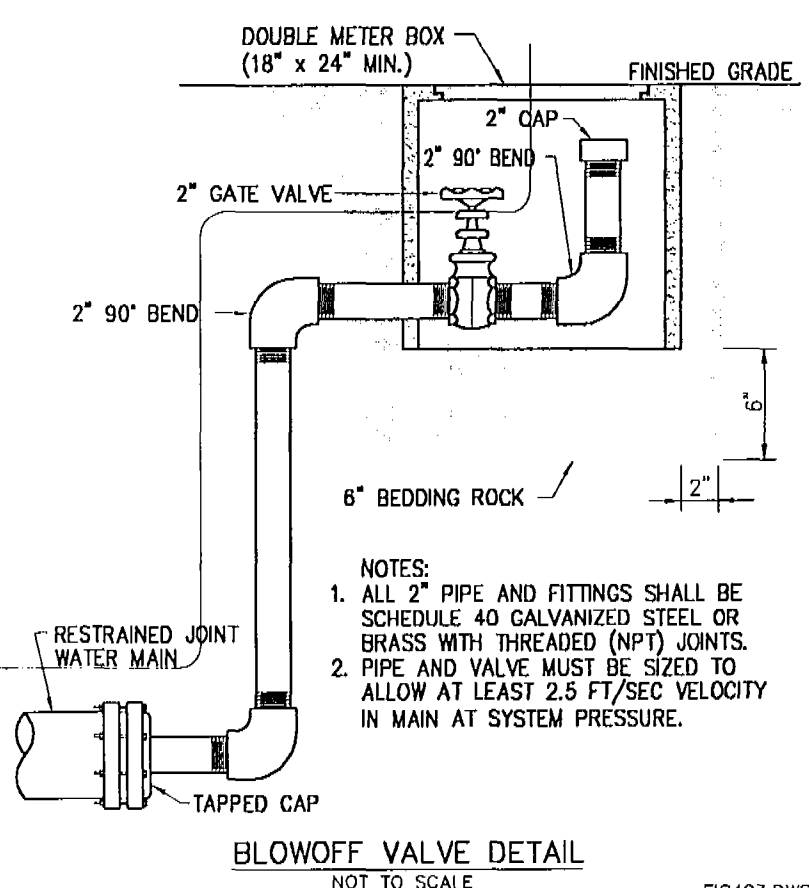


BACK FLOW PREVENTOR DETAIL
IRRIGATION SYSTEM



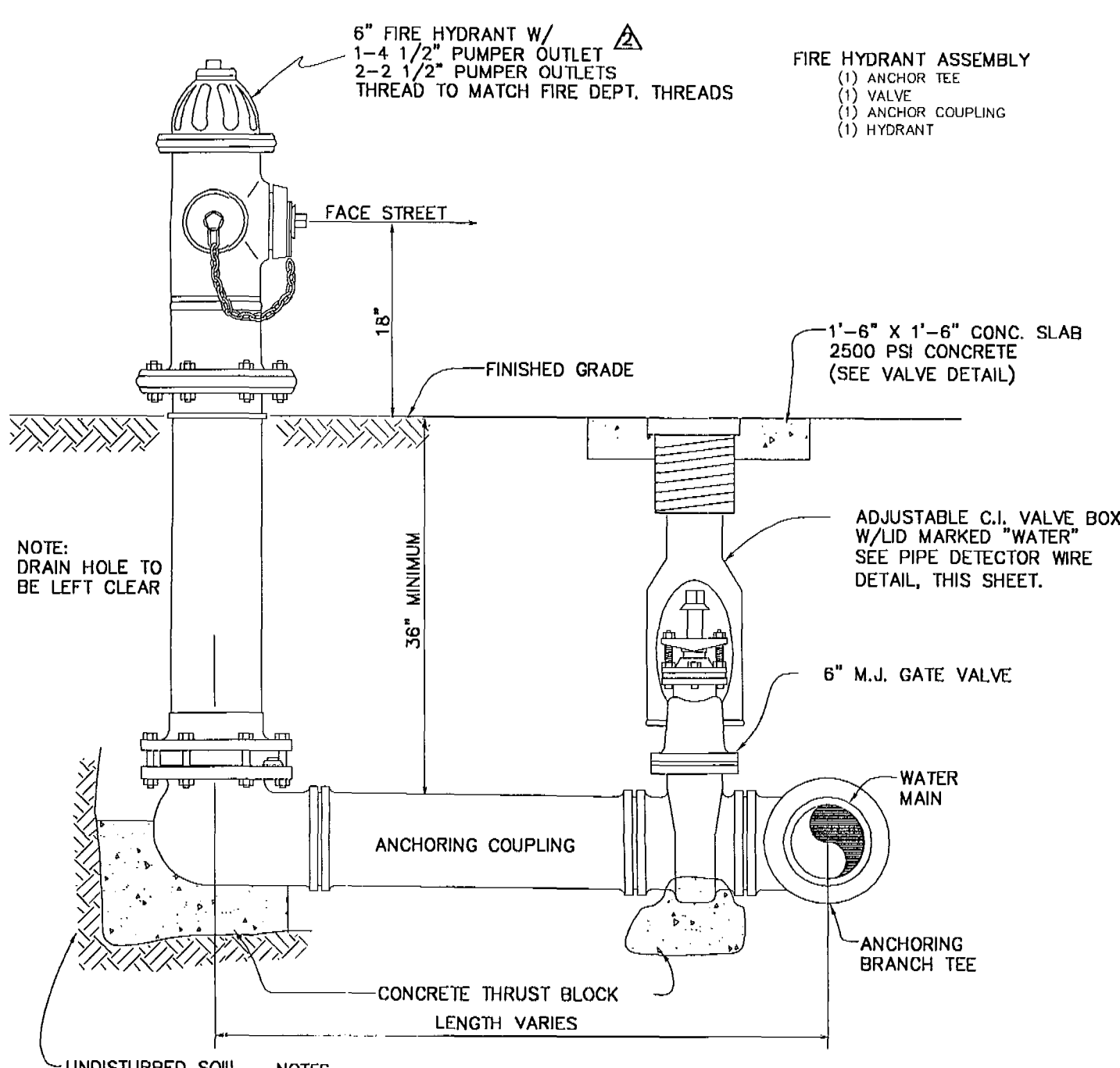
NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.

PVC PIPE LOCATING WIRE DETAIL
NOT TO SCALE



NOTES:
1. ALL 2" PIPE AND FITTINGS SHALL BE SCHEDULE 40 GALVANIZED STEEL OR BRASS WITH THREADED (NPT) JOINTS.
2. PIPE AND VALVE MUST BE SIZED TO ALLOW AT LEAST 2.5 FT/SEC VELOCITY IN MAIN AT SYSTEM PRESSURE.

BLOWOFF VALVE DETAIL
NOT TO SCALE



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 800 GPM - RED
501 TO 999 GPM - ORANGE
1000 TO 1499 - GREEN
1500 GPM OR GREATER - BLUE
4. PAINT SHALL BE SHERWIN-WILLIAMS INDUSTRIAL GRADE OSHA: RED #854 R 38, YELLOW #854 Y 37, GREEN #854 G 14, ORANGE #854 E 39, BLUE #5W408B.
5. HYDRANTS TO BE FLOW TESTED BY CONTRACTOR COORD WITH CITY ENGINEER FOR TESTING PROCEDURES.

FIRE HYDRANT DETAIL
LENGTH VARIES

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LOST LAKE PINES SUBDIVISION

FLORIDA LAKE COUNTY

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CAD FILE NO.	9919-DETAIL.DWG R2000
DRAWING DESCRIPTION	WATER DETAILS

JUL 17 2000
48-095-64823-1
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ORLANDO
SJR WWD

GENERAL PROJECT DATA

FOR IDENTIFICATION OF CONTRACTUAL AGREEMENTS, THIS SET OF DRAWINGS IS DATED MARCH 2000. ANY REVISIONS THEREAFTER WILL BE NOTED AND DATED ON THE AFFECTED DRAWING(S).

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS TO THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANY AND THE CONTRACTOR SHALL COOPERATE WITH THEM DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION WILL BE ALLOWED.

DRAINAGE SYSTEMS

THE CONTRACTOR SHALL PERFORM ALL WORK PERTAINING TO DRAINAGE INCLUDING EXCAVATION OF WRA'S PRIOR TO THE COMMENCEMENT OF OTHER WORK INCLUDED IN THESE PLANS. THE DRAINAGE

FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE COURSE OF THIS CONTRACT. THE CONTRACTOR SHALL INCLUDE FUNDS IN THE DRAINAGE COSTS OF THE CONTRACT TO OPERATE AND MAINTAIN THE DRAINAGE SYSTEMS DURING THE WORK PROCESS.

THE UTILITIES ARE THE PROPERTY OF THE FOLLOWING:

Table with columns for utility type (WATER, SEWER, CABLE, GAS), company name, address, and contact information.

SOILS INVESTIGATIONS FOR THE SITE WERE PROVIDED BY ANDREVEY ENGINEERING. THE REPORTER IS TO OBTAIN A COPY OF THAT SOILS REPORT FOR REVIEW PRIOR TO CONSTRUCTION, AND THE CONSTRUCTION IS TO CONFORM TO THE RECOMMENDATIONS IN THAT

SURVEY INFORMATION PREPARED BY: FLORIDA GEODETIC AND JEFF RHODEN, PLS

AS-BUILTS

AS-BUILTS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER TWO WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED, AND DATED BY THE RESPONSIBLE PARTY. SEE INDIVIDUAL SECTIONS (STORM, WATER SYSTEM, ETC.) FOR ADDITIONAL AS-BUILT REQUIREMENTS.

PERMITS AND PERMIT REQUIREMENTS

THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL REGULATORY AND LOCAL AGENCY PERMITS. THE CONTRACTOR SHALL BE EXPECTED TO REVIEW AND ABIDE BY ALL THE REQUIREMENTS AND LIMITATIONS SET FORTH IN THE PERMITS. A COPY OF THE PERMIT SHALL BE KEPT ON THE JOB AT ALL TIMES.

LAYOUT AND CONTROL

UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE FOR THE LAYOUT OF ALL OF THE WORK TO BE CONSTRUCTED. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

QUALITY CONTROL TESTING REQUIREMENTS

ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR, COUNTY, AND THE ENGINEER. TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH THE OWNER/OPERATOR'S SPECIFICATIONS AND REQUIREMENTS. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS. CONTRACTOR SHALL PROVIDE TESTING SERVICES THROUGH A FLORIDA LICENSED GEOTECHNICAL ENGINEERING FIRM ACCEPTABLE TO THE OWNER AND ENGINEER. CONTRACTOR TO SUBMIT TESTING FIRM TO OWNER FOR APPROVAL PRIOR TO COMMENCING TESTING.

SHOP DRAWINGS

SHOP DRAWINGS AND CERTIFICATIONS FOR ALL STORM DRAINAGE, WATER SYSTEM, SEWER SYSTEM, AND PAVING SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.

EARTHWORK

EARTHWORK QUANTITIES

THE CONTRACTOR SHALL PERFORM HIS OWN INVESTIGATIONS AND CALCULATIONS AS NECESSARY TO ASSURE HIMSELF OF EARTHWORK QUANTITIES. THERE IS NO IMPLICATION THAT EARTHWORK BALANCES, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT FILL NEEDED, OR FOR REMOVAL AND DISPOSAL OF EXCESS MATERIALS.

EROSION CONTROL

EROSION AND SILTATION CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THESE MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS AND ARE TO BE MAINTAINED OR REPAIRED ON AN IMMEDIATE BASIS, AS REQUIRED. REFER TO WATER MANAGEMENT DISTRICT PERMIT FOR ADDITIONAL REQUIREMENTS FOR EROSION CONTROL AND SURFACE DRAINAGE.

WETLAND PROTECTION

THERE ARE NO WETLANDS ON SITE TO PROTECT

LIMITS OF DISTURBANCE

AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. REPAIR OR RECONSTRUCTION OF DAMAGED AREAS ON SURROUNDING PROPERTIES SHALL BE PERFORMED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

TREE REMOVAL

THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER WHEN ALL WORK IS LAID OUT (SURVEY STAKED), SO THAT A DETERMINATION MAY BE MADE OF SPECIFIC TREES TO BE REMOVED. NO TREES SHOWN ON THE CONSTRUCTION PLANS AS BEING SAVED SHALL BE REMOVED WITHOUT PERMISSION FROM THE OWNER AND ENGINEER.

CLEARING AND GRUBBING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING FOR SITE CONSTRUCTION INCLUDING CLEARING FOR PAVING, UTILITIES, DRAINAGE FACILITIES AND BUILDING CONSTRUCTION. ALL AREAS TO BE CLEARED SHALL BE FIELD STAKED AND REVIEWED BY THE OWNER AND ENGINEER PRIOR TO ANY CONSTRUCTION.

MATERIAL STORAGE/DEBRIS REMOVAL

ALL MATERIALS EXCAVATED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AT ON-SITE LOCATIONS AS SPECIFIED BY THE OWNER. MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO SUITABLE (NONORGANIC) FILL, STOCKPILES AND ORGANIC (MUCK) STOCKPILES. IF MUCK IS ENCOUNTERED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.

FILL MATERIAL

ALL FILL MATERIALS SHALL CONTAIN NO MUCK, STUMPS, ROOTS, BRUSH, VEGETATIVE MATTER, RUBBISH OR OTHER MATERIAL THAT WILL NOT COMPACT INTO A SUITABLE AND ENDURING BACKFILL. FILL SHALL BE CLEAN, NON-ORGANIC, GRANULAR MATERIAL WITH NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.

COMPACTION

FILL MATERIALS PLACED UNDER ROADWAYS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. FILL MATERIALS SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 12" LIFTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH ALL (PASSING AND FAILING) TESTING RESULTS. RESULTS SHALL BE PROVIDED ON A TIMELY AND REGULAR BASIS PRIOR TO CONTRACTOR'S PAY REQUEST SUBMITTAL FOR THE AFFECTED WORK.

PAVEMENT AND/OR ROAD AND R/W WORK

OWNER/OPERATOR

THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE ROADWAYS SHOWN ON THESE PLANS IS THE OWNER. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THAT ENTITY.

GENERAL DESIGN INTENT

ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. APPROACHES TO INTERSECTIONS AND ENTRANCE AND EXIT GRADES TO INTERSECTIONS WILL HAVE TO BE STAKED IN THE FIELD AT DIFFERENT GRADERS THAN THE CENTERLINE GRADES SHOWN ON THE PLANS. IN THESE AREAS, IT MAY ALSO BECOME ADVISABLE TO MAKE MINOR LOCAL FIELD ADJUSTMENTS IN THE CENTERLINE GRADES TO ACCOMPLISH THE PURPOSES OUTLINED. IN ADDITION, THE STANDARD CROWN WILL HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

MATERIALS/CONSTRUCTION SPECIFICATIONS

MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1991, OR LATEST EDITION.

PAVEMENT SECTION REQUIREMENTS

CONSTRUCTION OF ROADWAYS SHALL BE 12" OF STABILIZED SUBBASE WITH A LIMEROCK BEARING RATIO OF (LBR) 40 COMPACTED TO THE MODIFIED PROCTOR MAXIMUM DRY DENSITY OF 98% PER AASHTO T-180, 6" OF LIMEROCK BASE COURSE, (LBR) 100, COMPACTED TO THE MODIFIED PROCTOR MAXIMUM DRY DENSITY OF 98% PER AASHTO T-180 AND 1 1/4" TYPE S-111 OF VIRGIN ASPHALTIC CONCRETE SURFACE COURSE WITH A MINIMUM STABILITY OF 1500 LBS. SUBGRADE PREPARATION AND PAVEMENT INSTALLATION SHALL CONFORM TO FDOT STANDARDS AND SOILS REPORT RECOMMENDATIONS.

SIDEWALKS

SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE 4" SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOoled OR SAWCUT AT A DISTANCE OF 5' LENGTHS. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND BE IN ACCORDANCE WITH STATE REGULATIONS FOR HANDICAP ACCESSIBILITY.

PAVEMENT MARKINGS/SIGNAGE

PAVEMENT MARKINGS AND SIGNAGE SHALL BE PROVIDED AS SHOWN ON THE CONSTRUCTION PLANS AND SHALL MEET THE REQUIREMENTS OF THE OWNER/OPERATOR. SIGNAGE SHALL BE IN CONFORMANCE WITH MUTCD (LATEST EDITION). A 48-HOUR PAVEMENT CURING TIME WILL BE PROVIDED PRIOR TO APPLICATION OF THE PAVEMENT MARKINGS. REFLECTIVE PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 17352.

TRAFFIC CONTROL

A MINIMUM OF 2-WAY ONE LANE TRAFFIC SHALL BE MAINTAINED IN THE WORK SITE AREA. ALL CONSTRUCTION WARNING SIGNAGE SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION AND BE MAINTAINED THROUGHOUT CONSTRUCTION. ACCESS SHALL BE CONTINUOUSLY MAINTAINED FOR ALL PROPERTY OWNERS SURROUNDING THE WORK SITE AREA. LIGHTED WARNING DEVICES ARE TO BE OPERATIONAL PRIOR TO DUSK EACH NIGHT DURING CONSTRUCTION.

CURBING

CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS 11 CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1991) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

R/W RESTORATION

ALL AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FINISH GRADED WITH A SMOOTH TRANSITION INTO EXISTING GROUND. ALL SWALES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING. ALL DISTURBED AREAS SHALL BE RAKED CLEAN OF ALL LIMEROCK AND ROCKS AND SOILED AFTER FINAL GRADING IN ACCORDANCE WITH THE CONSTRUCTION PLANS PRIOR TO FINAL INSPECTION. ALL GRASSING (SEED OR SOO) SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE OWNER/OPERATOR.

SITE ACCESS

ALL ACCESS TO THE JOB-SITE FOR CONSTRUCTION AND RELATED ACTIVITIES SHALL BE BY EXISTING STREETS AND ROADS, OR BY THE CONSTRUCTION EASEMENT. THERE SHALL BE NO ACCESS TO THE JOB-SITE THROUGH THE F.O.T. RIGHT-OF-WAY.

POTABLE WATER/FIRE SYSTEMS

OWNER/OPERATOR

THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE WATER SYSTEM SHOWN ON THESE PLANS IS THE OWNER. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THAT ENTITY.

PIPE MATERIALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL INFRASTRUCTURE TO BE CONSTRUCTED. WATER SYSTEM SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND CITY OF CLERMONT FOR REVIEW PER THE CITY'S POLICY FOR SHOP DRAWINGS.

POLYNYL CHLORIDE PLASTIC PIPE (PVC) 4" THROUGH 12" SHALL BE MANUFACTURED IN ACCORDANCE WITH ANS/AWWA C900 (LATEST EDITION) AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI AND HAVE A DR (DIMENSION RATIO) OF 18. ALL PVC PIPE SHALL BEAR THE NSF LOGO FOR POTABLE WATER. JOINTS SHALL BE OF THE PUSH-ON TYPE AND COUPLINGS CONFORMING TO ASTM D3139, DR18 PIPE.

DUCTILE IRON PIPE (DIP) SHALL BE STANDARD PRESSURE CLASS 350 IN SIZES 4" THROUGH 12" AND CONFORM TO ANS/AWWA C150/A21.50 (LATEST EDITION). DUCTILE IRON PIPE SHALL HAVE A STANDARD THICKNESS OF CEMENT MORTAR LINING AS SPECIFIED IN ANS/AWWA C104/A21.4 (LATEST EDITION). PIPE JOINTS SHALL BE OF THE PUSH-ON RUBBER GASKET TYPE CONFORMING TO ANS/AWWA C111/A21.11 (LATEST EDITION).

PIPE DETECTOR W/LOCATOR WIRE SHALL BE INSTALLED ON ALL WATER MAINS PER DETAIL.

PIPE SIZES GREATER THAN 12" IN BOTH PVC AND DUCTILE IRON SHALL BE SEPARATELY SPECIFIED ON THE PLANS, WITH THICKNESS CLASSES TO BE SHOWN BASED ON WORKING PRESSURES, PIPE DEPTH AND TRENCH CONDITIONS.

FITTINGS FOR DUCTILE IRON PIPE AND PVC 6-900 PIPE SHALL BE DUCTILE IRON AND SHALL CONFORM TO ANS/AWWA C153/A21.10 (LATEST EDITION) AND SHALL BE CEMENT LINED IN CONFORMANCE WITH ANS/AWWA C104/A21.4 (LATEST EDITION).

POLYETHYLENE WRAP USED FOR CORROSION PREVENTION ON DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANS/ASTM D1248. THE MINIMUM NOMINAL THICKNESS SHALL BE 0.008 IN. (8 MILS). INSTALLATION OF POLY WRAP SHALL BE IN ACCORDANCE WITH AWWA C105.

VALVES

GATE VALVES SHALL BE RESILIENT SEAT AND SHALL CONFORM TO ANS/AWWA C509.87 WITH HANDWHEEL OR WRENCH NUT, EXTENSION STEMS AND OTHER APPURTENANCES AS REQUIRED. MANUFACTURER'S CERTIFICATION OF THE VALVES COMPLIANCE WITH AWWA SPECIFICATION C509 AND TESTS LISTED THEREIN WILL BE REQUIRED. VALVES SHALL BE CLOW, DRESSER, KENNEDY, AMERICAN.

BUTTERFLY VALVES

BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVES SHALL BE DUCTILE IRON, RESILIENT SEAT, AND BE MANUFACTURED BY KENNEDY, MUELLER, M&H, AMERICAN BUTTERFLY VALVES TO BE USED FOR SIZES GREATER THAN 12".

AIR RELEASE VALVES

AIR RELEASE VALVES SHALL BE PLACED AT HIGH POINTS OF THE TRANSMISSION MAIN TO PERMIT ESCAPE OF TRAPPED AIR. THE VALVE SIZE, LOCATION, AND METHOD OF INSTALLATION SHALL BE INDICATED ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. AIR RELEASE VALVES SHALL BE CRISP IN PRESSURE AIR VALVE TYPE N, APCO, OR VALVE & PRIMER CORP.

VALVE BOXES

VALVE BOXES ON BURED POTABLE WATER MAINS SHALL BE ADJUSTABLE, CAST IRON CONSTRUCTION, WITH MINIMUM INTERIOR DIAMETER OF 6" WITH COVERS CAST WITH THE INSCRIPTION IN LEGIBLE LETTERING ON TOP. WATER BOXES SHALL BE SUITABLE FOR THE APPLICABLE SURFACE LOADS AND VALVE SIZE, AND SHALL BE MANUFACTURED BY MUELLER COMPANY MODEL 10364, OR APPROVED EQUAL. VALVE BOX PADS SHALL BE 18" X 18" X 4" CONCRETE WITH #4 REINFORCING BARS. PAD TO BE SET AT FINISHED GRADE WITH RECESSED DETECTOR WIRE CONDUIT PORT PER DETAIL.

FIRE HYDRANTS

FIRE HYDRANTS SHALL CONFORM TO THE LATEST EDITION OF AWWA C502.85 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED. ALL HYDRANTS SHALL BE BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO, TWO AND ONE-HALF INCH (2-1/2") HOSE CONNECTIONS, AND ONE, FOUR AND ONE-HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE-QUARTER INCH (5 1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1 1/2") PENTAGON OPERATING NUT. SHALL OPEN COUNTERCLOCKWISE. SHALL BE PAINTED IN CONFORMANCE WITH LAKE COUNTY/CITY OF CLERMONT REQUIREMENTS (COLORS BASED ON DELIVERED FIRE FLOW) WITH THE PRIMER AND FINISH PAINT BEING SHERWIN WILLIAMS ORSA SAFETY COLOR ENAMEL PAINT. HYDRANTS SHALL BE MUELLER CENTRON (TRAFFIC MODEL A-423) NO SUBSTITUTE. FIRE HYDRANTS TO BE THE BREAK AWAY TYPE WITH A CAST IRON DUCTILE IRON MECHANICAL JOINT HYDRANT TEE, WITH RESILIENT SEAT AND MECHANICAL JOINT GATE VALVE.

- 1. BLUE PAVEMENT REFLECTORS (RPM'S) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF EACH FIRE HYDRANT.
2. CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND OWNER/OPERATOR. HYDRANTS SHALL DELIVER A MINIMUM OF 1000 GPM WITH A RESIDUAL PRESSURE OF 20 PSI IN RESIDENTIAL AREAS.
3. THERE SHALL BE NO TREES, SHRUBS, ETC., PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

WATER SERVICES

UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE THROUGH THE CURB STOP AND SET METER BOXES TO FINISHED GRADE AS SHOWN ON THE WATER SYSTEM DETAIL SHEET.

POLYETHYLENE (PE) PRESSURE PIPE FOR WATER SERVICES 1/2" THROUGH 3" SHALL CONFORM TO AWWA C901.88, MIN 200 PSI, AND SHALL BE PHILLIPS DRISCO CTS 5100 (DR-9) ASTM D-2737, 200 PSI.

ALL SERVICES SHALL INCLUDE THE FOLLOWING: LOCKING CURB STOPS, WYE BRANCHES, UNIONS AS REQUIRED, PE SERVICE PIPE AND CORPORATION STOPS. THE SERVICE SHALL BE COMPLETE THROUGH THE CURB STOP AS SHOWN ON THE DETAIL SHEET, AND SHALL BE OF THE TYPE REQUIRED FOR COMPATIBILITY WITH THE SERVICE LINES SPECIFIED, AND FITTINGS SHALL BE MANUFACTURED BY FORD.

MATERIALS AS REQUIRED BY THE CITY OF CLERMONT

SERVICE SADDLE - FORD F5202
CORPORATION STOP - FORD FB1000
CURB STOP - FORD B41-444W
METER BOX - SINGLE ONLY (NO DOUBLE METER BOXES ALLOWED), DEXOL WITH IRON READER DOOR. COMPOUND Y BRANCH - FORD Y 444
JOINT RESTRAINT - MEGA LUG
INSTALL OR PROVIDE CITY WITH 1" X 3/4" BRASS BUSHING AT METER DISCHARGE CONNECTION.

THE CONTRACTOR SHALL CUT "W" IN THE CURB TOP AT EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS, CUT WS AND VS SHALL BE HIGHLIGHTED WITH BLUE PAINT. SEE WATER SYSTEM DETAILS FOR OTHER SERVICE LOCATION AND MARKING REQUIREMENTS.

PIPE INSTALLATION

PIPE INSTALLATION OF PVC WATER MAIN SHALL BE IN CONFORMANCE WITH ASTM D2774 (LATEST EDITION). INSTALLATION OF DUCTILE IRON PIPE WATER MAIN SHALL BE IN CONFORMANCE WITH AWWA C800.87.

COMPACTED BACKFILL SHALL BE TO 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNDER ALL PAVEMENTS WITH 12" MAXIMUM LIFT THICKNESS. OTHER COMPACTION OF BACKFILL SHALL BE TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH 12" MAXIMUM LIFT THICKNESS. SEE PIPE TRENCHING DETAILS.

MINIMUM COVER OVER ALL PIPE SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.

WATER MAINS ARE TO BE INSTALLED SO AS TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 18" OR A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET FROM ALL SANITARY HAZARDOUS, INCLUDING STORM DRAINAGE PIPES AND STRUCTURES, AS WELL AS SEPTIC TANKS, DRAIN FIELDS AND SEWER PIPING. IF CLEARANCE CANNOT BE ACHIEVED, THEN DUCTILE IRON WATER MAIN SHALL BE PROVIDED 10 FEET EITHER SIDE OF THE CROSSING.

ALL WATER MAINS SHALL BE INSTALLED WITH RESTRAINED JOINT FITTINGS. NO CONCRETE THRUST BLOCKS TO BE USED.

ALL PLUGS, CAPS, TEES, BENDS, FIRE HYDRANTS, VALVES, ETC. SHALL BE PROVIDED WITH METALLIC PIPE RESTRAINTS. FOR RESTRIN CONSTRUCTION SPECIFICATIONS, REFER TO THE WATER SYSTEM DETAILS.

PIPE IDENTIFICATION WIRE

BLUE INDICATOR TAPE SHALL BE BURIED IN THE WATER MAIN TRENCH 18" DIRECTLY ABOVE THE WATER MAIN. A CONTINUOUS COPPER DETECTOR WIRE SHALL BE ATTACHED AS SHOWN ON THE WATER DETAIL SHEET.

DISINFECTING AND TESTING

ALL PIPE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651.86.

ALLOWABLE LEAKAGE FOR PVC PRESSURE MAINS WILL BE IN ACCORDANCE WITH AWWA M2.3.

THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, OIL FILLED PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC AND LEAKAGE TESTING. CONTRACTOR SHALL CONTACT THE ENGINEER, OWNER/OPERATOR AND CITY IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

THE WATER SYSTEM SHALL BE SOAK TESTED 24 HOURS @ 150 PSI AND TESTED FOR LEAKAGE AT 150 PSI FOR TWO (2) HOURS, WITH ALLOWABLE LEAKAGE IN ACCORDANCE WITH ABOVE STANDARDS.

CONTRACTOR SHALL OBTAIN A COPY OF THE FDEP WATER SYSTEM PERMIT AND PULL BACTERIOLOGICAL TEST SAMPLES FROM THE SAMPLE POINTS SPECIFIED IN THAT PERMIT.

CONNECTIONS TO EXISTING WATER MAINS

PRIOR TO THE CONNECTION TO ANY EXISTING MAIN, THE PROPOSED WATER MAIN SHALL BE DISINFECTED, HAVE ENGINEER APPROVED PRESSURE TESTING AND HAVE FDEP CLEARANCE. REFER TO FDEP PERMIT FOR ANY ADDITIONAL REQUIREMENTS.

AS-BUILT DRAWINGS

THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL "AS-BUILT" INFORMATION RELATIVE TO ALL CONSTRUCTED UTILITIES AND STRUCTURES. THREE SETS SHALL BE PROVIDED FOR REVIEW. ONCE APPROVED BY THE UTILITY, ONE REPRODUCIBLE SET SHALL BE PROVIDED.

AS-BUILT INFORMATION FOR THE WATER SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- 1. LOCATION OF ALL VALVES, FITTINGS, HYDRANTS AND SERVICES, HORIZONTAL AND VERTICAL.
2. LOCATION OF THE WATER MAIN TIED WITH COORDINATES FOR THE SUBDIVISION.
3. CERTIFICATION AS TO THE SYSTEM MEETING THE MINIMUM COVER REQUIREMENTS.
4. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION WHICH DEVIATES FROM THE APPROVED ENGINEERING PLANS.
5. UTILITY LOCATES ON SYSTEMS INSTALLED UNDER THIS CONTRACT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER UNIL AS-BUILT DRAWINGS ARE REVIEWED AND APPROVED BY THE UTILITY.

SANITARY SEWER NOTES

LATERALS

- 1. ALL SERVICE LATERALS AND FITTINGS SHALL BE A MINIMUM OF 6" IN DIAMETER.
2. ALL LATERALS SHALL TERMINATE WITH A 4" CLEAN-OUT AT THE PROPERTY LINE, AND AT A DEPTH TO FINAL GRADE OF 3 FEET.
3. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 2" X 2" ABOVE GRADE WOODEN STAKE OR APPROVED MARKER AND CURB MARKED WITH "S".
4. IF CLEANOUTS ARE NOT INSTALLED AT THE TIME OF FINAL INSPECTION, THEN THE TERMINAL END OF EACH LATERAL SHALL BE EXPOSED.

MAINS AND MANHOLES

- 1. ALL GRAVITY SANITARY SEWER MAINS SHALL BE CONSTRUCTED OF DR35 PVC PIPE MEETING ASTM 3034, AND SHALL HAVE A MINIMUM COVER OF THREE (3) FEET.
2. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 2" X 2" ABOVE GRADE WOODEN STAKE OR APPROVED MARKER AND CURB MARKED WITH "S".
3. ALL PVC PIPE SHALL BEAR THE NSF-DW SEAL.
4. JOINTS SHALL BE INTEGRAL BELL ELASTOMERIC GASKET JOINTS MANUFACTURED IN ACCORDANCE WITH ASTM D3212 AND ASTM F477. APPLICABLE UNI-BELL PLASTIC PIPE ASSEMBLY STANDARD IS UNI-B-7.
5. JOINTS BETWEEN PIPES OF DISSIMILAR MATERIALS MAY BE MADE WITH A FLEXIBLE MECHANICAL COMPRESSION COUPLING.
6. ALL MAINS AND LATERALS WITH LESS THAN THREE (3) FEET OF COVER SHALL BE CLASS 50 DIP.
7. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE WITH A MINIMUM WALL THICKNESS OF FIVE (5) INCHES FOR INSIDE DIAMETER OF FOUR (4) FEET.
8. MANHOLES SHALL MEET ASTM C-478. RING AND COVER SHALL BE TRAFFIC BEARING H-20, CLASS 30 MEETING ASTM A-48.
9. INTERIOR AND EXTERIOR WALLS OF ALL MANHOLES SHALL HAVE A MINIMUM OF TWO (2) 8 MIL COATS OF AN APPROVED PROTECTIVE COSEET TAP EPOXY.
10. ALL PVC PIPE TO MANHOLE CONNECTIONS SHALL BE MADE WITH D.I.P. (SEE 2 ABOVE) USING EMBEDDED GROUT.
11. ALL MAINS NOT LOCATED UNDER PAVEMENT SHALL BE MARKED BY A THREE (3) INCH WIDE METALLIC LOCATOR TYPE 18" ABOVE THE CENTERLINE OF PIPE.

FORCEMAINS

- 1. FORCEMAINS SHALL BE DR18 PVC PIPE CONFORMING TO AWWA C-900, OR 60 MIL EPOXY COATED CLASS 50 DIP. PVC PIPE SHALL HAVE INTEGRAL BELL PUSH ON TYPE JOINTS CONFORMING TO ASTM D3139.
2. ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON WITH 250 PSI MINIMUM PRESSURE RATING. METALLIC MARKING TAPE SHALL COVER THE MAIN AT A MAXIMUM DEPTH OF TWO (2) FEET BELOW THE SURFACE AND TIED INTO ALL VALVE BOXES. TESTING FOR CONTINUITY WILL BE REQUIRED.
3. ALL MAINS SHALL HAVE A MINIMUM COVER OF THREE (3) FEET. FORCEMAINS WITH LESS THAN THREE (3) FEET OF COVER SHALL BE CLASS 50 DIP.
4. ALL CONNECTIONS TO EXISTING SEWER FORCEMAINS SHALL BE ACCOMPLISHED WITH A WET TAP AND THRUST BLOCK.
5. PROVIDE JOINT RESTRAINTS AS SHOWN ON THE WATER DETAIL SHEET.

TESTING

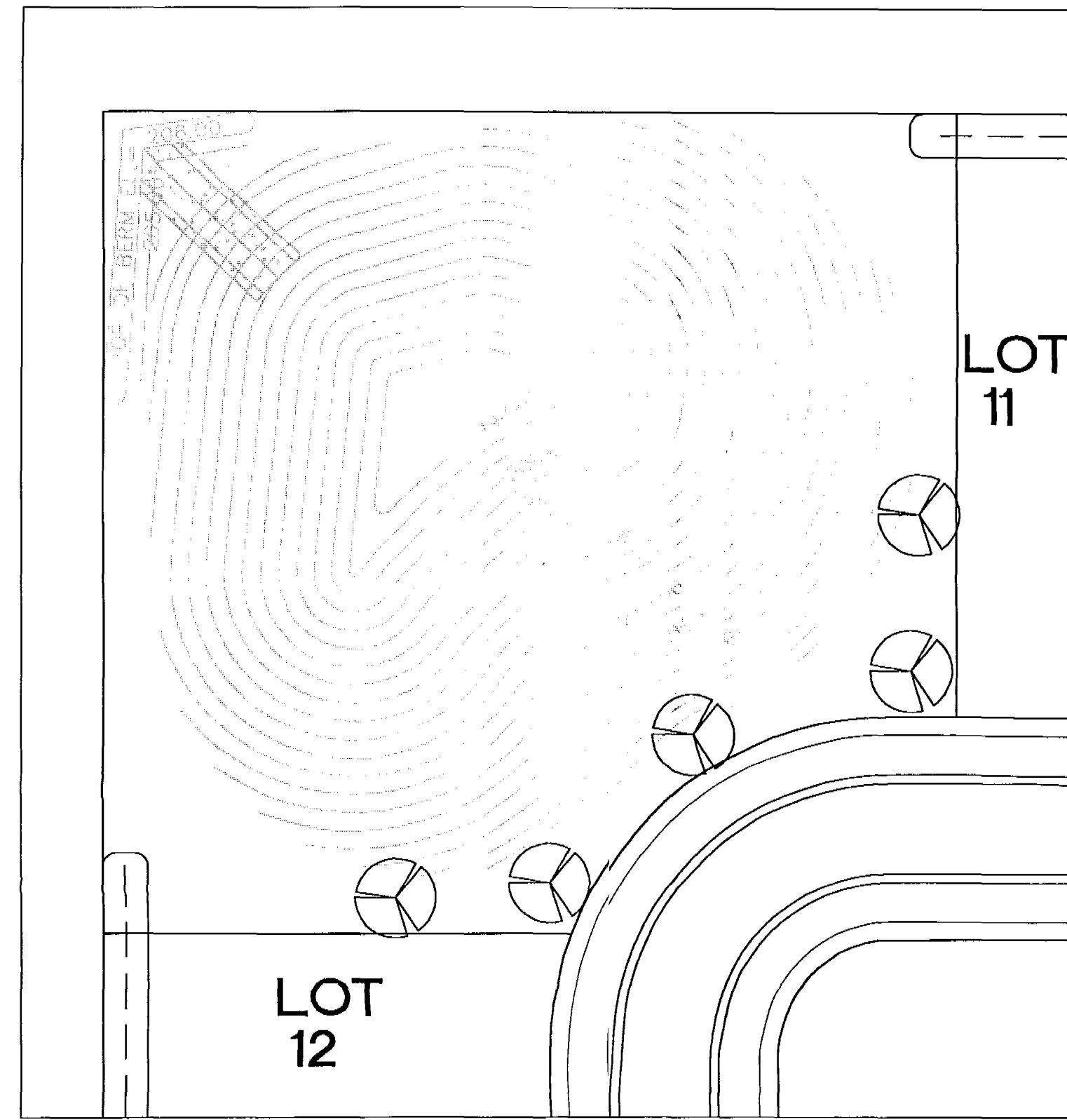
- 1. SEWAGE COLLECTION SYSTEM
A. ALL GRAVITY SEWER MAINS REQUIRE LOW PRESSURE AIR TESTING IN ACCORDANCE WITH THE LATEST UNI-BELL TAPPING AND AIR TESTING AIR TESTS.
B. ALL SEWER MAINS SHALL BE LAMPED BY A CITY REPRESENTATIVE.
C. ALL MANHOLES SHALL BE INSPECTED FOR INFILTRATION, ALIGNMENT, FLOW CHANNEL CONSTRUCTION AND COAL TARIER EPOXY PAINT THROUGHOUT.
D. HYDRO-STATIC TESTS CONSISTING OF A HYDROSTATIC PRESSURE TEST AND HYDROSTATIC LEAKAGE TEST SHALL BE CONDUCTED ON ALL NEWLY INSTALLED SEWER FORCE MAIN SYSTEM PRESSURE PIPES AND APPURTENANCES IN ACCORDANCE WITH AWWA C600 OR M23 AS APPLICABLE. THE PRESSURE

TEMPORARY JUMPER CONNECTION NOTES:

A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS. THE DETAIL PROVIDED IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR TAKING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING, AND DISINFECTING OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE HAS BEEN OBTAINED FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED BY THE CITY OF CLERMONT. THIS JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM LEVEL OF DISINFECTANT AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED AND THE LINES ARE PLACED INTO SERVICE. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED.

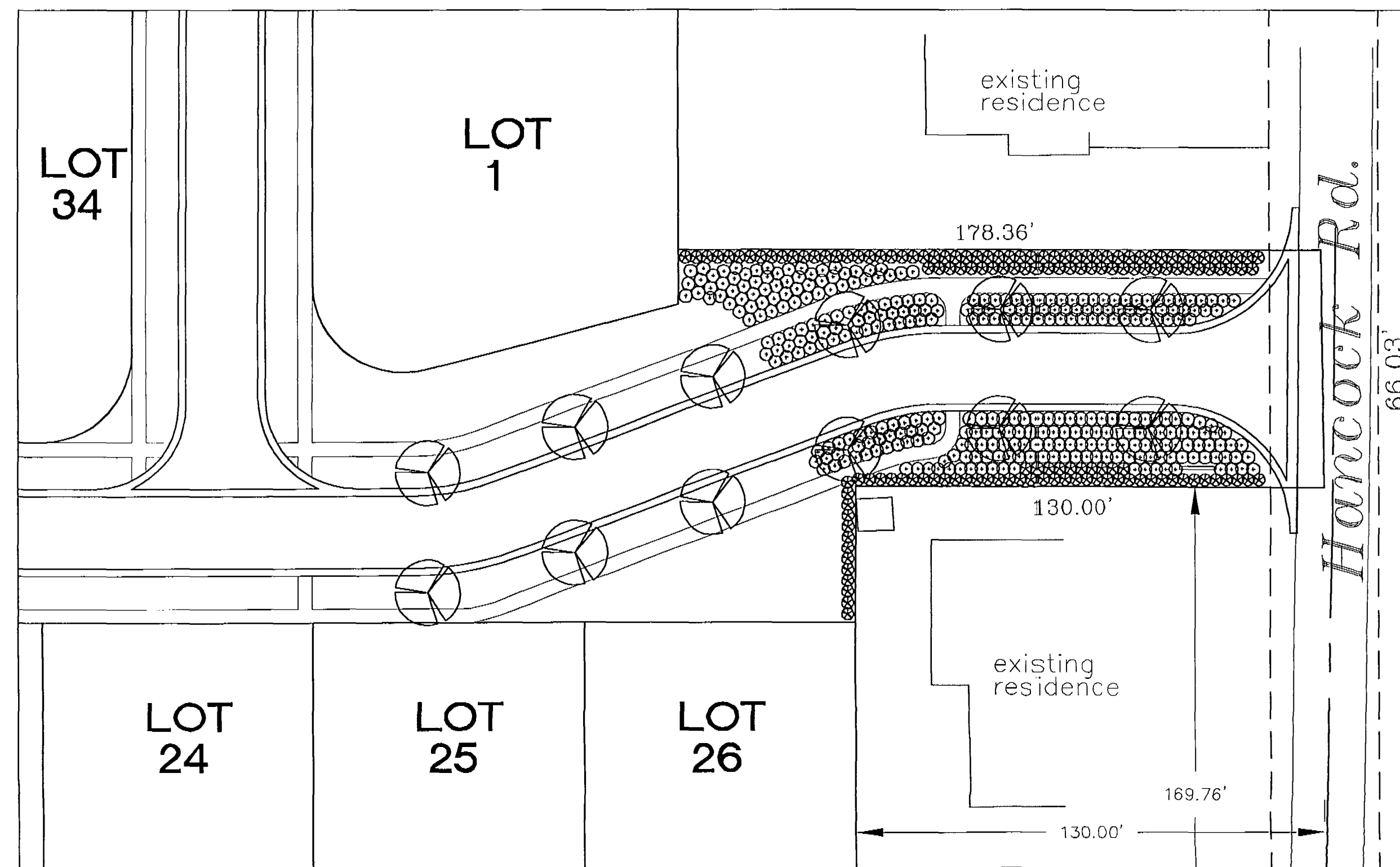
- 1. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION.
2. SLEEVE AND THE EXTERIOR OF THE MAIN BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABING PER SECTION II OF AWWA C651-92.
3. FLUSHING AND TAPPING OF EXISTING WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE UNDER CONTROLLED CONDITIONS BY THE CITY ONLY. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
A. THE TIE-IN VALVES SHALL BE OPERATED ONLY BY THE CITY AND PRESSURE TESTED IN THE PRESENCE OF THE CITY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO TIE-IN. VALVES WHICH ARE NOT WATER TIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.
B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN, FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT AND FOR MAINTAINING CHLORINE RESIDUALS IN THE MAINS.
C. FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.
D. ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO THE CITY OPENING THE TIE-IN VALVE.
E. PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT. THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 PSI.
F. TIE-IN VALVE SHALL BE OPENED BY THE CITY A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALVE IS ALWAYS GREATER THAN 10 PSI.
G. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.
H. THE TIE-IN VALVE SHALL BE OPENED ONLY BY THE CITY FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DONE BY THE CITY AND OBSERVED BY THE ENGINEER.
I. AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY.

- 1. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE DOUBLE-CHECK BACK FLOW PREVENTION SYSTEM HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION, AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION. THE TEST SHALL BE PERFORMED BY A CERTIFIED BACK FLOW PREVENTION TECHNICIAN AS APPROVED BY THE CITY OF CLERMONT CROSS-CONNECTION CONTROL PROGRAM. A CERTIFICATE IS REQUIRED BY THE CITY.
2. EXCEPT AS REQUIRED FOR GREATER THAN 8" IN DIAMETER, THE TIE IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSE POSITION BY THE CITY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER AGENCIES. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS. THERE SHALL BE NO LEAKAGE.
3.

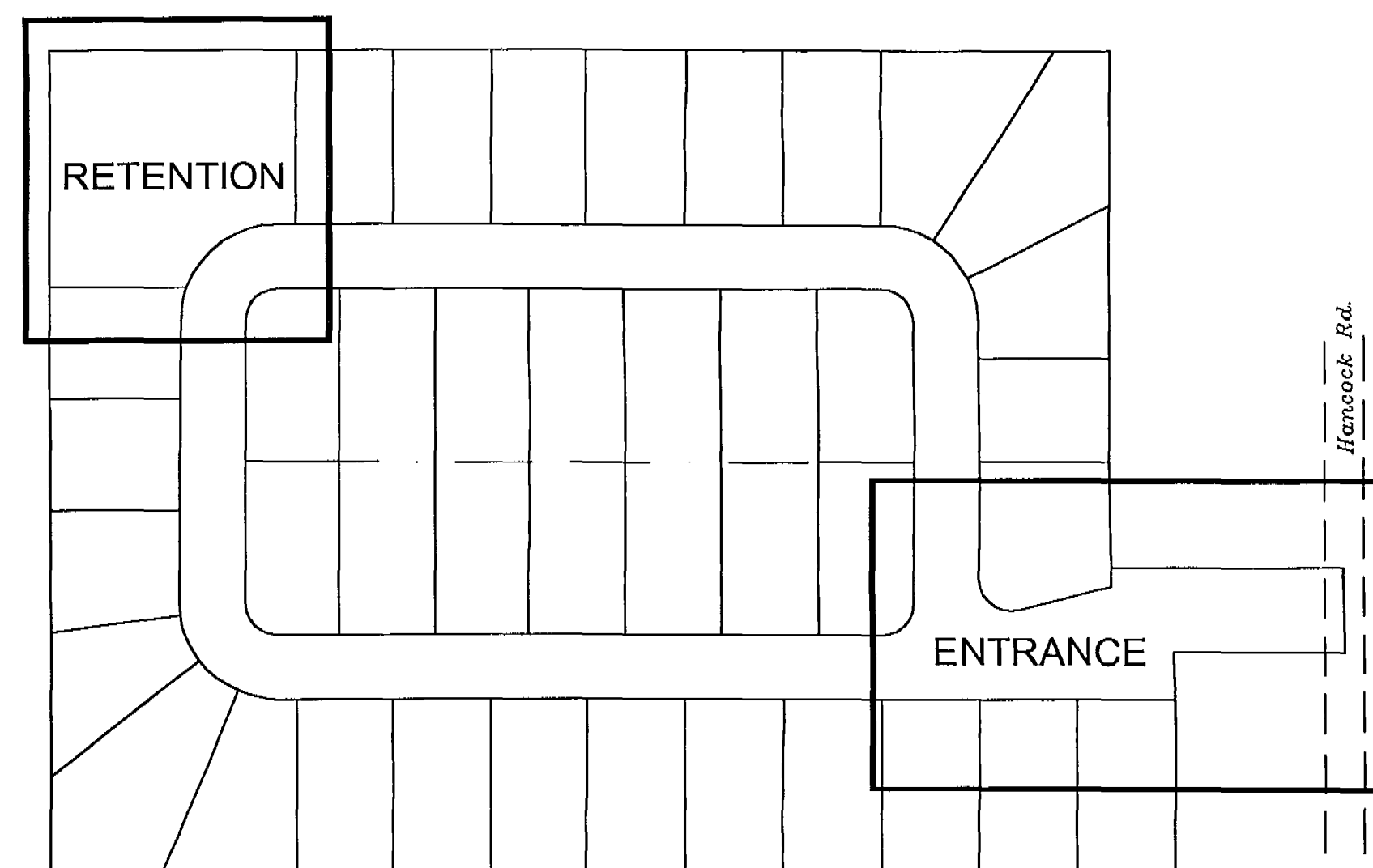


RETENTION AREA

6 TREES PER ACRE =
.72 ACRES x 6 = 4.33



ENTRANCE AREA



KEY (NOT TO SCALE)

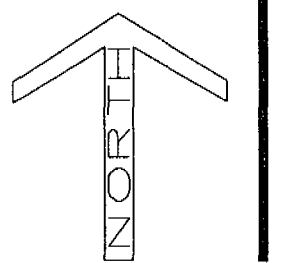
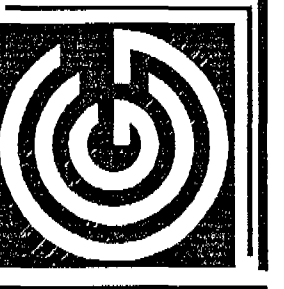
Plant Schedule

Quan.	Common Name	Botanical Name	Size	Spacing
17	Live Oak	Quercus virginiana	2" Caliper; 8' Height x 4' Spread	As Shown
333	Indian Hawthorn	Rapheolipes indica	3 Gallon; 24" Height	As Shown
141	Viburnum	Viburnum odoratissimum	3 Gallon; 24" Height	As Shown

LANDSCAPE NOTES:

CALIPER IS MEASURED 6 INCHES FEET ABOVE THE GROUND.
ALL PLANTS ARE TO BE FLORIDA #1 OR BETTER.
AN AUTOMATIC IRRIGATION SYSTEM WILL BE PROVIDED
FOR ALL LANDSCAPED AREAS.
SIZES NOTED ARE MINIMUMS FOR CALIPER, HEIGHT, AND SPREAD.
ALL PLANTING TO HAVE 2" OF CYPRESS MULCH AFTER PLANTING.

Green Consulting Group, Inc.
Landscape Architecture ■ Site Planning ■ Development Assistance
305 South Highland Street, Mount Dora, Florida 32757
352-735-0847 ■ Fax 352-735-2547 ■ LA847



Drawing Number: 00171-02
Originated From: 00171-01
Date: June 27, 2000
Scale: 1"=30'

Landscape plan

Lost Pines Subdivision
Lake County, Florida

48-095-64873-1
RECEIVED

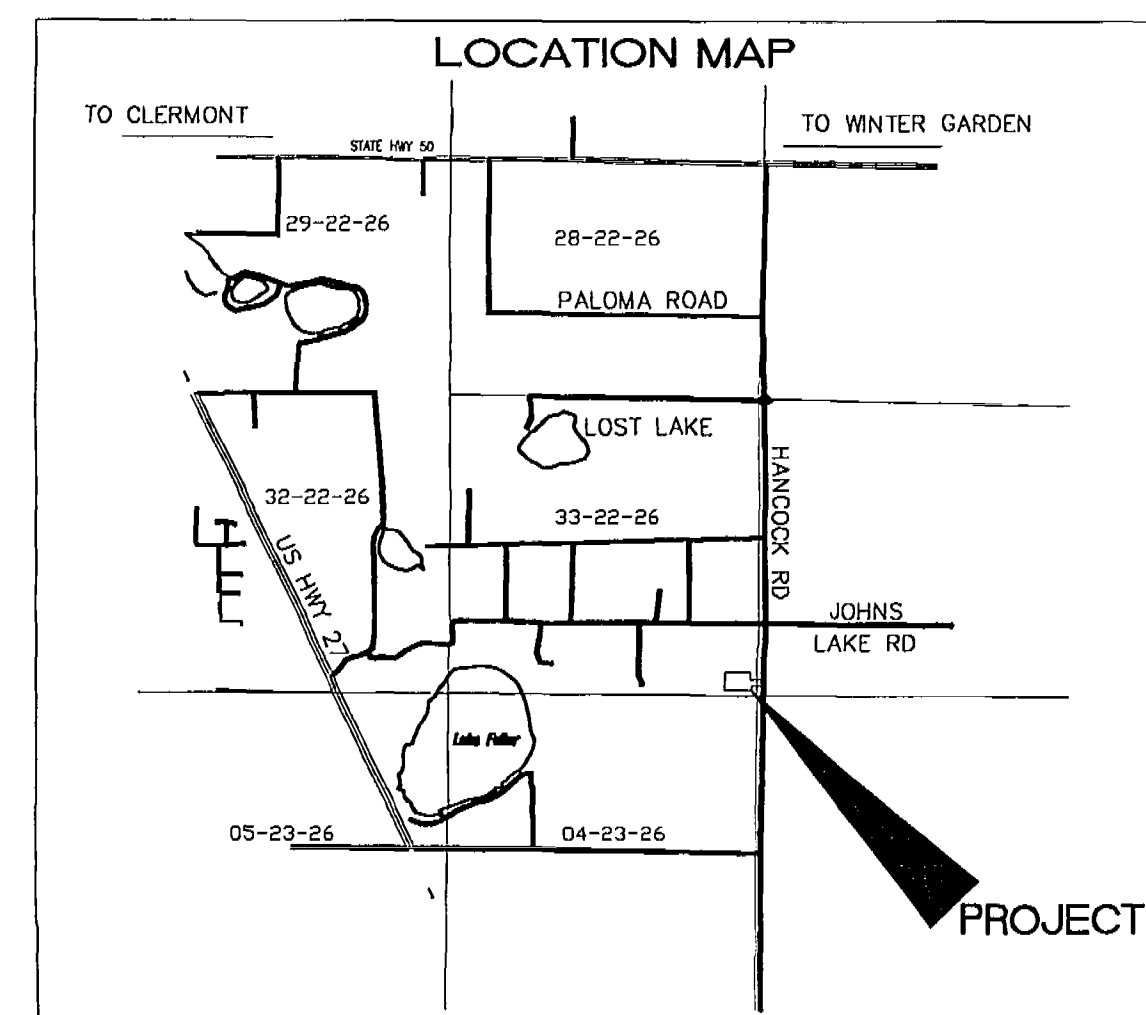
LAKE COUNTY CONSTRUCTION PLANS FOR LOST LAKE PINES SUBDIVISION MARCH 2000

SECTION 19, TOWNSHIP 22 SOUTH, RANGE 26 EAST

LEGEND

- W 4" --- PROPOSED STORM DRAIN
- SS --- EXIST. WATER LINE
- SS --- EXIST. SEWER LINE
- --- DRAINAGE BASIN
- --- PHASE LINE
- SOILS DIVIDE
- PROPOSED STORM MANHOLE
- PROPOSED DRAINAGE INLET
- ▲ PROPOSED CURB INLET-FDOT TYPE 3
- ▲ PROPOSED CURB INLET FDOT TYPE 4
- PROPOSED YARD DRAIN/CLEANOUT
- ◻ PROPOSED MITERED END SECTION

- FM --- DENOTES FORCE MAIN
- WM --- DENOTES WATER MAIN
- MIN. --- DENOTES MINIMUM
- CLR. --- DENOTES CLEAR
- MH --- DENOTES MANHOLE
- CL --- DENOTES CENTER LINE
- BL --- DENOTES BASE LINE
- STA. --- DENOTES STATION
- ELEV. --- DENOTES ELEVATION
- CONC. --- DENOTES CONCRETE
- FH --- DENOTES FIRE HYDRANT
- ROP --- DENOTES REINFORCED CONCRETE PIPE
- DIP --- DENOTES DUCTILE IRON PIPE
- PVC --- DENOTES POLYVINYL CHLORIDE PIPE
- R/W --- DENOTES RIGHT OF WAY
- P.T. --- DENOTES POINT OF TANGENCY
- P.C. --- DENOTES POINT OF CURVATURE
- MES --- DENOTES MITERED END SECTION
- INV. --- DENOTES INVERT
- BM --- DENOTES BENCHMARK
- ADS --- DENOTES ADVANCED DRAINAGE SYS. INC.
- CO --- DENOTES DRAINAGE CLEANOUT



LEGAL DESCRIPTION:
THE EAST 1/2 OF TRACT 63 AND 64 IN POSTAL COLONY, COMPANY, A SUBDIVISION IN SECTION 33, TOWNSHIP 22 SOUTH, RANGE 26 EAST, RECORDED IN PLAT BOOK 9, PAGE 65, PUBLIC RECORDS OF LAKE COUNTY, FLORIDA, LESS THE NORTH 396 FEET OF THE EAST 179 FEET THEREOF, ALSO LESS THE SOUTH 169.76 FEET OF THE EAST 130 FEET THEREOF.

INDEX OF DRAWINGS

NO.	TITLE
1	COVER SHEET
2	MASTER PLAN
3	EXISTING CONDITIONS/EROSION PREV. PLAN
4	MASTER DRAINAGE AND GRADING PLAN
5	MASTER UTILITY PLAN
6	PLAN/PROFILE SHT STA 00+00 TO STA 11+00
7	PLAN/PROFILE SHT STA 11+00 TO STA 20+10
8	OFFSITE SEWER PLAN/PROFILE
9	RETENTION POND PLAN/CROSS SECTION
10	GENERAL DETAILS
11	GENERAL DETAILS
12	SEWER DETAILS
13	WATER DETAILS
14	WATER DETAILS
15	SPECIFICATIONS

PERMITTEE
HERB SMITH
HERB SMITH CONSTRUCTION INC.
P.O. BOX 120989
CLERMONT, FL 32712
352/394-6639

CIVIL ENGINEER
ARTHUR C. NIX, P.E.
MONTEVERDE ENGINEERING, INC.
P.O. BOX 560116
MONTEVERDE, FLORIDA 34756
407/469-4829

LAND SURVEYOR
RHODEN SURVEYING
420 E. MINNEHAHA AVE.
CLERMONT, FL 34711
352/394-6255

GEOTECHNICAL ENGINEER
ANDREYEV ENGINEERING, INC.
721 WEST AVENUE
CLERMONT, FL 34711
352/241-0508

SITE DATA:

ZONING: R-6
PROPOSED USE: 40 EACH SINGLE FAMILY RESIDENTIAL

SETBACKS
RESIDENCE: REQUIRED:
FRONT YARD 25.0 FT
SIDE YARD 5.0 FT
REAR YARD 5.0 FT

TYPICAL LOT EASEMENTS (UNLESS OTHERWISE NOTED)

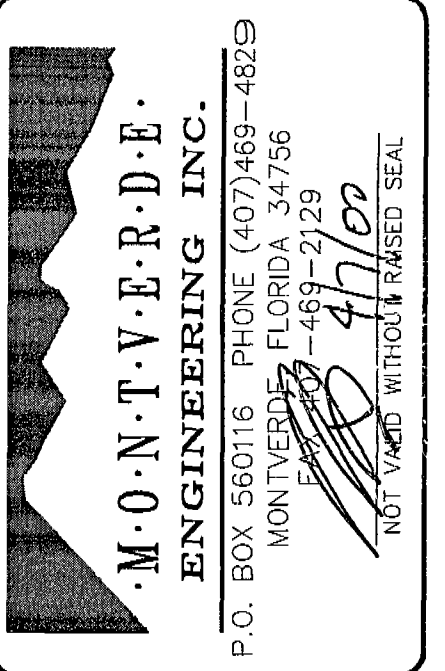
FRONT DRAINAGE/UTILITY EASEMENT 10'
REAR DRAINAGE/UTILITY EASEMENT 10'

TOTAL PROPERTY AREA12.73 ac
TOTAL AREA OF WETLANDS0.00 ac
TOTAL AREA ONSITE DRAINAGE AREA12.73 ac
TOTAL AREA OFFSITE DRAINAGE AREA2.75 ac
TOTAL DRAINAGE AREA15.48 ac
TOTAL NUMBER OF LOTS PROPOSED40
GROSS DENSITY3.14 UNITS/ACRE
TOTAL IMPERVIOUS ON SITE4.28 ac
TOTAL IMPERVIOUS OFF SITE0.04 ac
ON SITE ISR0.34
TOTAL LINEAR FEET INTERIOR ROADS2010 LF
IMPERVIOUS (%)33.9% (BASED ON ONSITE AREA)

TRACT A AREA = 0.72 ACRE (RETENTION POND)

PROPOSED SERVICES:

DRINKING WATER CITY OF CLERMONT
SEWAGE DISPOSAL CITY OF CLERMONT
ELECTRIC FLORIDA POWER CORPORATION
TELEPHONE SPRINT
GAS LAKE APOPKA NATURAL GAS
CABLE TV CABLEVISION INDUSTRIES
GARAGE DISPOSAL LAKE COUNTY
FIRE PROTECTION LAKE COUNTY
POLICE PROTECTION LAKE COUNTY



FLORIDA

LOST LAKE PINES SUBDIVISION

LAKE COUNTY

JOB NO. 9919
DATE AUG. 99
SCALE GRAPHIC
DRAWN BY ACN
CHKD BY ACN

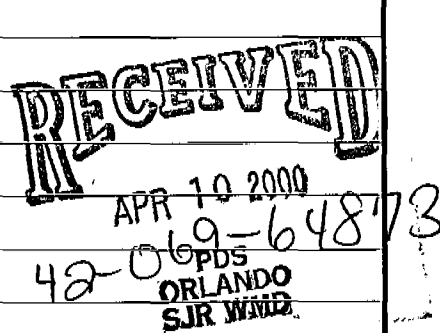
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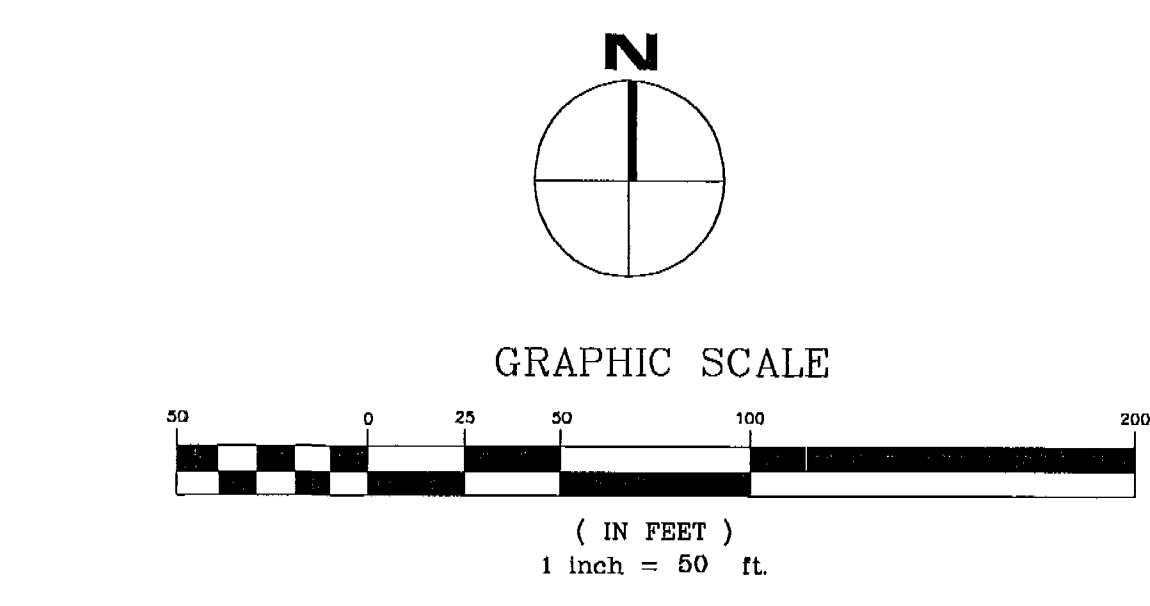
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CAD FILE NO. 9919-100.dwg R2000
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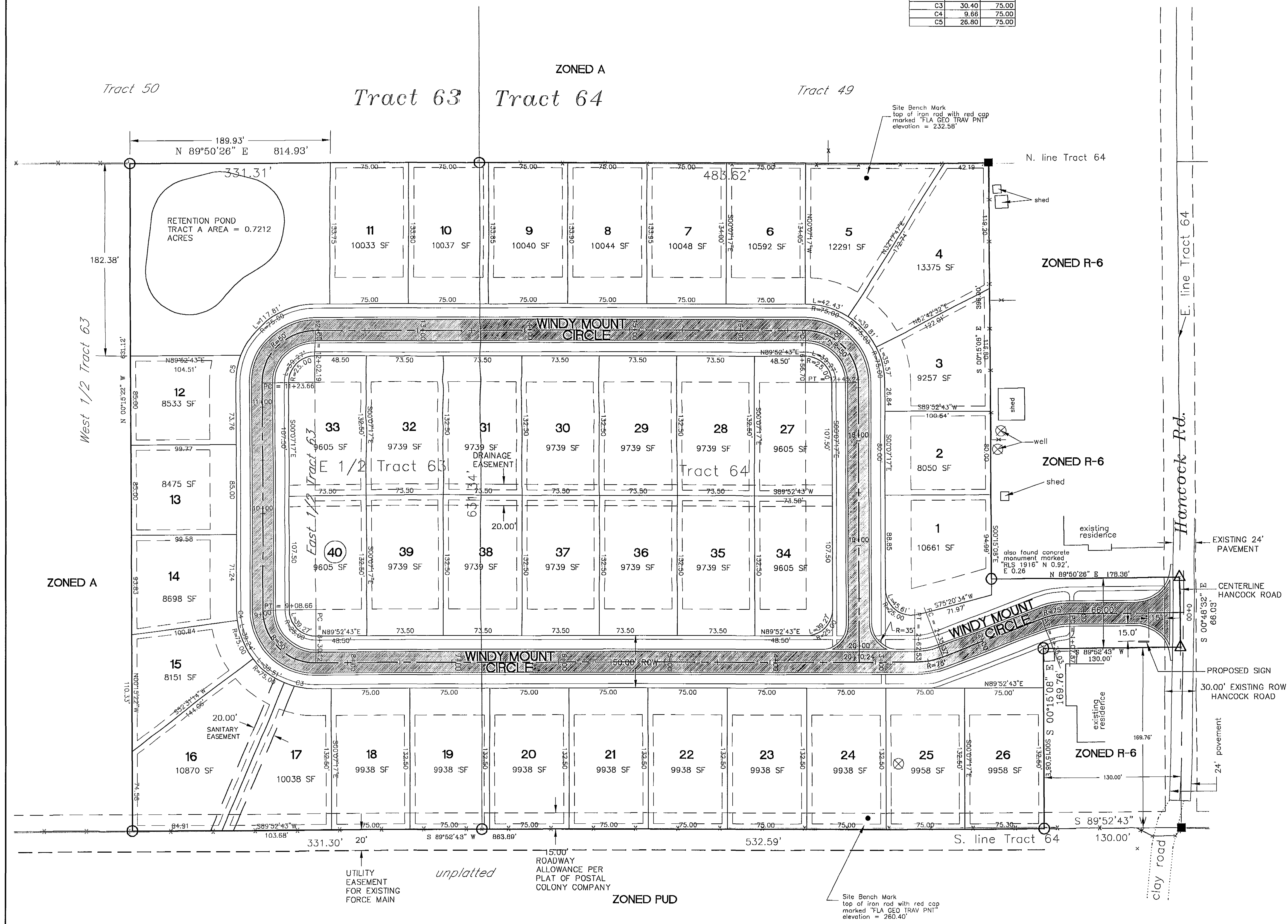
COVER SHEET

DRAWING NO. SHT. 1 OF 15

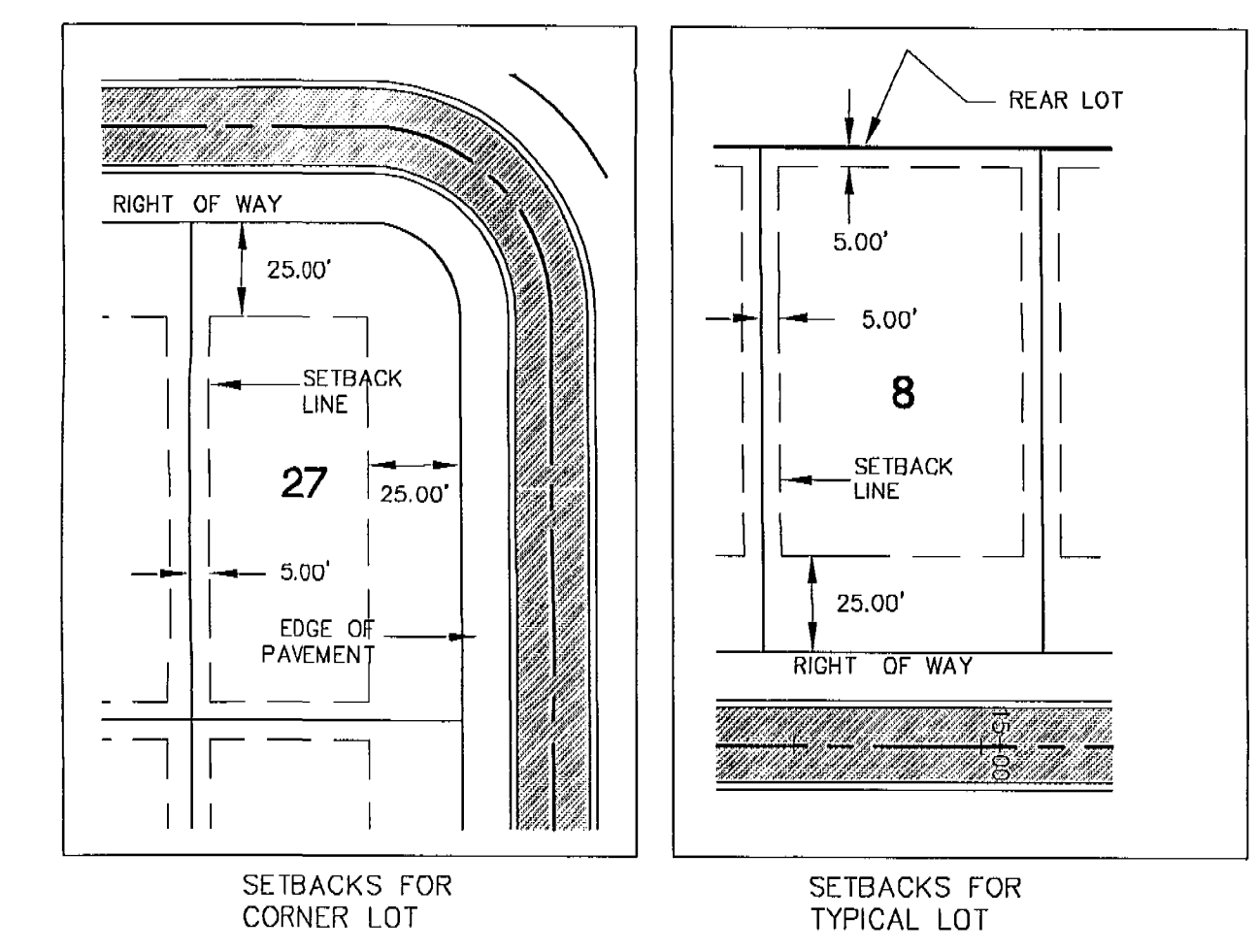




CURVE	LENGTH	RADIUS
C3	30.40	75.00
C4	9.66	75.00
C5	26.80	75.00



- GENERAL NOTES
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS OR LAKE COUNTY, WHICHEVER IS MORE STRINGENT.
 2. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL BARRICADES, WARNING SIGNS AND MARKINGS FOR HAZARDS AND THE CONTROL OF TRAFFIC IN REASONABLE CONFORMITY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS OR DIRECTED BY THE APPLICABLE LOCAL JURISDICTIONAL AGENCY, EFFECTIVELY PREVENT ACCIDENTS IN ALL PLACES WHERE THE WORK CAUSES OBSTRUCTIONS TO THE NORMAL TRAFFIC OR CONSTITUTES IN ANY WAY A HAZARD TO THE PUBLIC.
 3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN-HAND BEFORE BEGINNING CONSTRUCTION.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ELEVATIONS OF EXISTING UTILITIES SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION AND FOR NOTIFYING THE VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, DISRUPTION OF SERVICE OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANY DURING RELOCATION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGES TO EXISTING UTILITIES.
 5. THE LOCATIONS OF ALL EXISTING UTILITY SERVICES, FACILITIES AND STRUCTURAL FEATURES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF THE LOCATION INFORMATION PROVIDED. ANY INACCURACY OR OMISSION IN SUCH INFORMATION SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROTECT SUCH EXISTING FEATURES FROM DAMAGE OR UNSCHEDULED INTERRUPTION OF SERVICE. SHOULD A DISCREPANCY ARISE BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS WHICH WOULD APPRECIABLY AFFECT THE EXECUTION OF THESE PLANS, THE CONTRACTOR WILL HALT CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY.
 6. WHERE MUCK OR OTHER ORGANIC MATERIAL IS REMOVED, IT SHALL BE REPLACED BY GOOD QUALITY BACKFILL MATERIAL OBTAINED FROM SOURCES APPROVED BY THE OWNER AND ENGINEER. NOTIFY THE ENGINEER IMMEDIATELY IF MUCK OR ORGANIC MATERIAL IS DISCOVERED OTHER THAN THAT SHOWN ON THE PLANS OR IN THE GEOTECHNICAL REPORT.
 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS AND/OR EASEMENTS PRIOR TO CONSTRUCTION.
 8. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER OF ANY EXTRA WORK THAT IS NOT SHOWN ON THE PLANS. THIS EXTRA WORK MUST BE APPROVED BY THE ENGINEER AND THE OWNER BEFORE THE CONTRACTOR PROCEEDS WITH THE EXTRA WORK.
 9. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL PERFORM SITE CLEANUP THAT IS NOT SHOWN ON THE PLANS. THIS EXTRA WORK MUST BE APPROVED BY THE ENGINEER AND THE OWNER BEFORE THE CONTRACTOR PROCEEDS WITH THE EXTRA WORK.
 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL INSPECTION CRITERIA AND SCHEDULES AND FOR SIGNING FOR SAID INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS PRIOR TO AN INSPECTION OR TESTING.
 11. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL PROVIDE TESTING RESULTS AND PERFORM INSPECTIONS AS REQUIRED BY THE TOWN OF MONTERO AND THE ENGINEER TO MEET THEIR RESPECTIVE REQUIREMENTS. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE TESTING RESULTS AND PERFORM INSPECTIONS AS REQUIRED BY THE APPLICABLE REGULATORY AGENCIES AND THE ENGINEER TO MEET THEIR RESPECTIVE REQUIREMENTS.
 12. ALL WORK AND MATERIALS FURNISHED SHALL BE IN REASONABLE CONFORMITY WITH THE LINES, GRADES, SECTIONS, CROSS SECTIONS, DIMENSIONS, MATERIAL REQUIREMENTS AND TESTING REQUIREMENTS THAT ARE SPECIFIED IN THE CONTRACT, PLANS, PERMITS AND SPECIFICATIONS.
 13. CONTRACTOR WILL REFER TO THE PLAT FOR HORIZONTAL GEOMETRY.



- Legend:
- x denotes fence
 - ⊗ denotes utility pole
 - denotes set iron rod & cap, marked "FLA GEO LB 6642"
 - denotes found 3"x3" concrete monument

M-O-N-T-V-E-R-D-E-ENGINEERING INC.
 P.O. BOX 560115 PHONE (407)469-4823
 MONTERO, FLORIDA 34756
 FAX (407)469-4128
 NOT A PUBLIC OFFICIAL SEAL

FLORIDA
 LAKE COUNTY
LOST LAKE PINES SUBDIVISION

JOB NO. 9919
 DATE AUG. 99
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 DRAWN BY ACN
 CHKD BY ACN

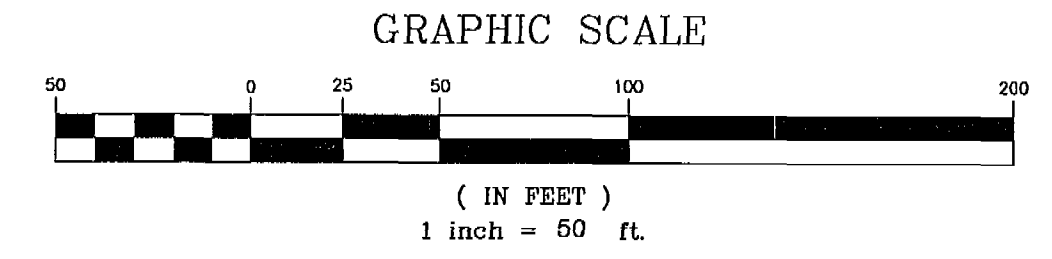
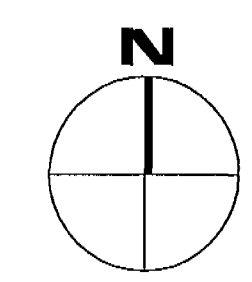
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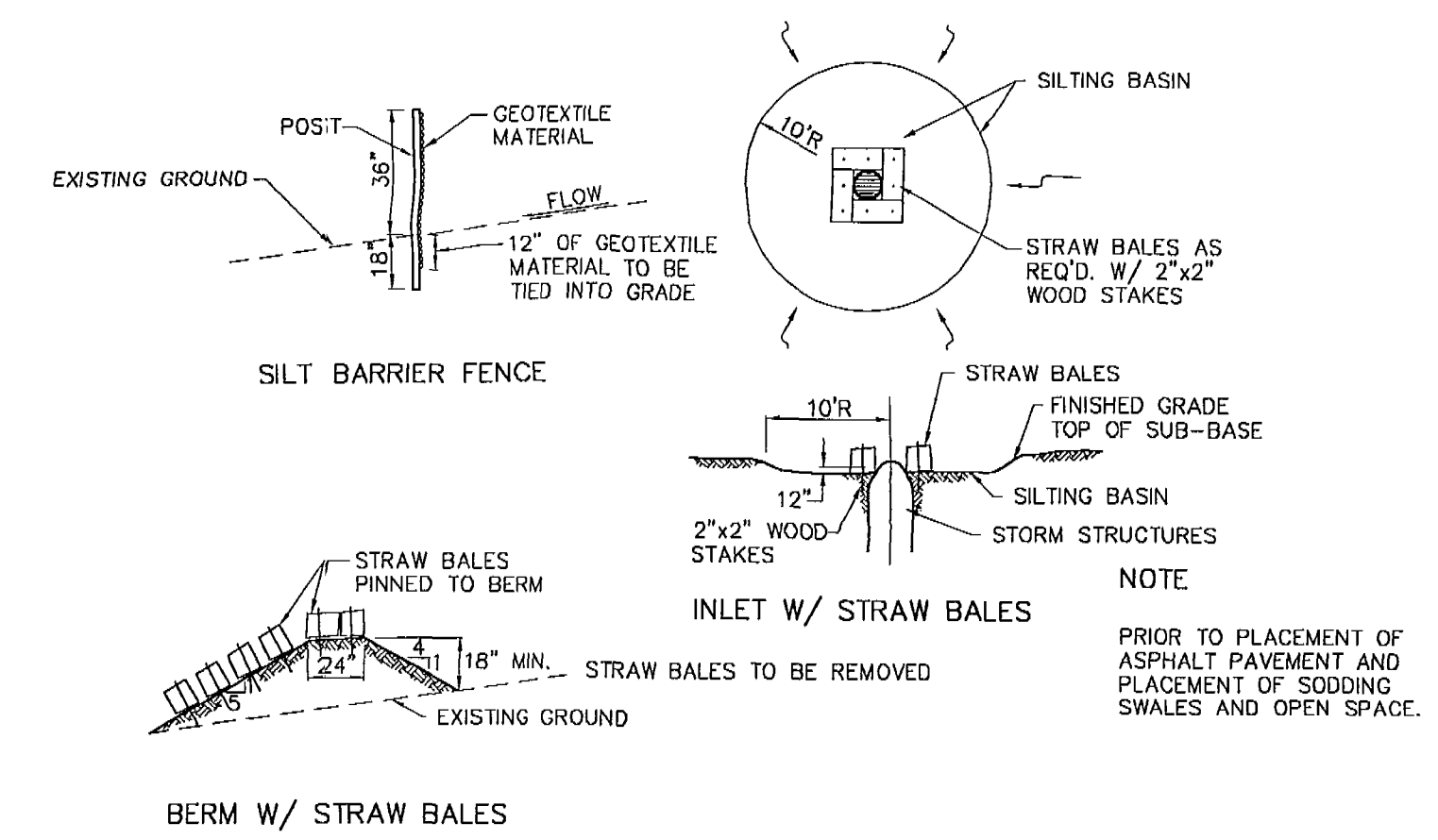
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MASTER PLAN

DRAWING NO.
 SHT. 2 OF 15



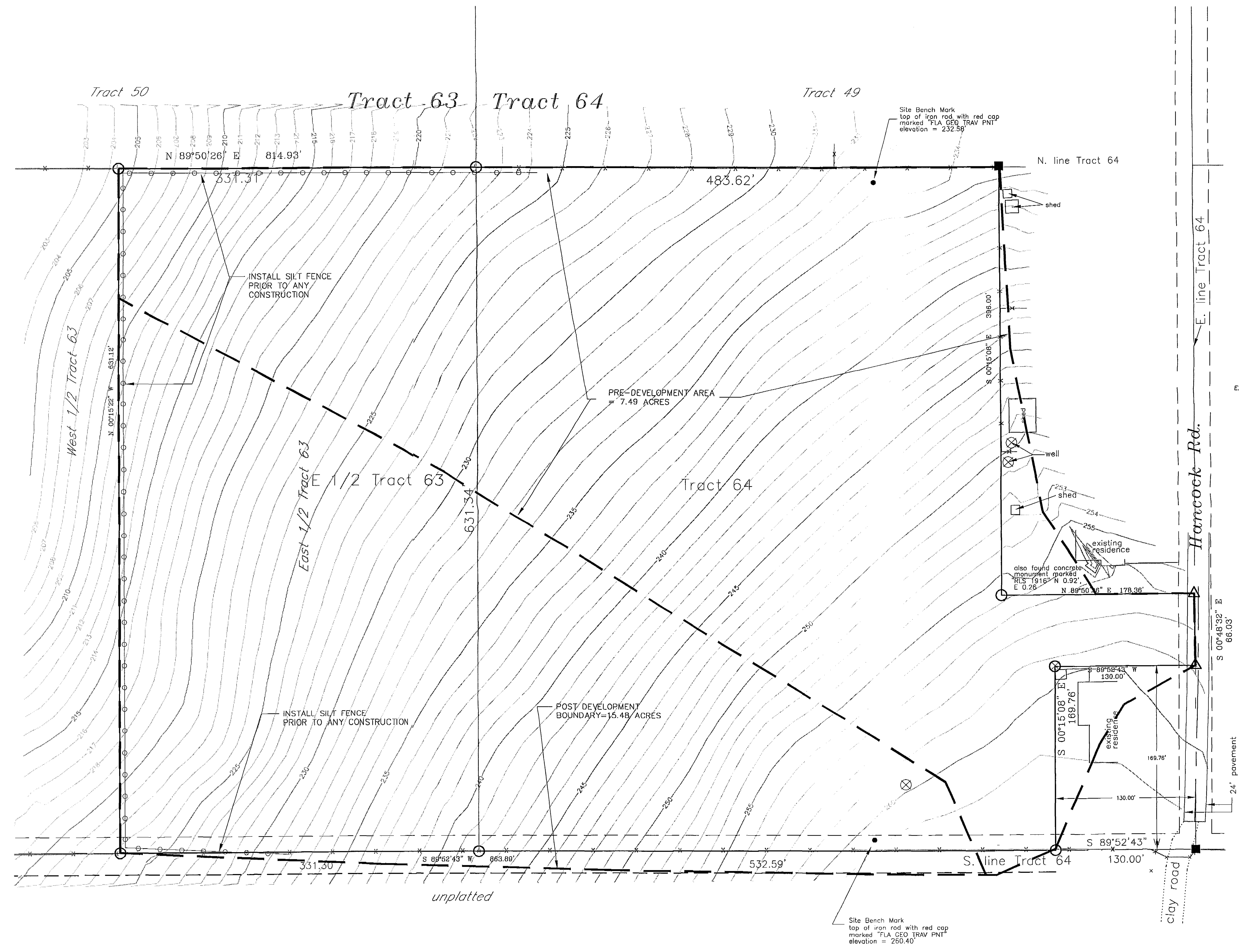
EROSION and SEDIMENT CONTROL NOTES

- 1) THE CONTRACTOR SHALL PERFORM EROSION CONTROL MEASURES IN ACCORDANCE WITH SECTION 104 OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION (FDOT SECTION 104). DETAILS CONTAINED IN THE PLANS, AS DIRECTED BY THE ENGINEER AND BY THE CITY OF CLERMONT.
- 2) THE CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN FOR APPROVAL PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.
- 3) THE STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED DURING THE BEGINNING OF CONSTRUCTION.
- 4) ALL DISTURBED AREAS SHALL BE SOODED OR SEEDED AND MULCHED AFTER GRADING IS COMPLETED TO PREVENT EROSION.
- 5) DURING CONSTRUCTION THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY BEYOND THOSE ALLOWED BY THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION TO THE EXISTING WATER BODIES. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS OR SILT BARRIERS. THE MEASURES DELINEATED ABOVE ARE THE MINIMUM REQUIRED, WITH ADDITIONAL CONTROLS TO BE UTILIZED AS NEEDED, DEPENDENT UPON ACTUAL SITE CONDITIONS AND CONSTRUCTION OPERATIONS.



EROSION/SEDIMENT CONTROL DETAIL

Surveyor Notes:
 - Bearings based on the West line of Tract 63 as being N 00°15'27" W, an assumed meridian.
 - Legal description supplied by client.
 - No title commitment or abstract for the above property has been provided. It is possible there are recorded or unrecorded documents which could affect the boundary of this parcel.
 - No adjacent, underground or internal improvements, other than those shown, located this date.
 - Elevations based on Lake County Datum.



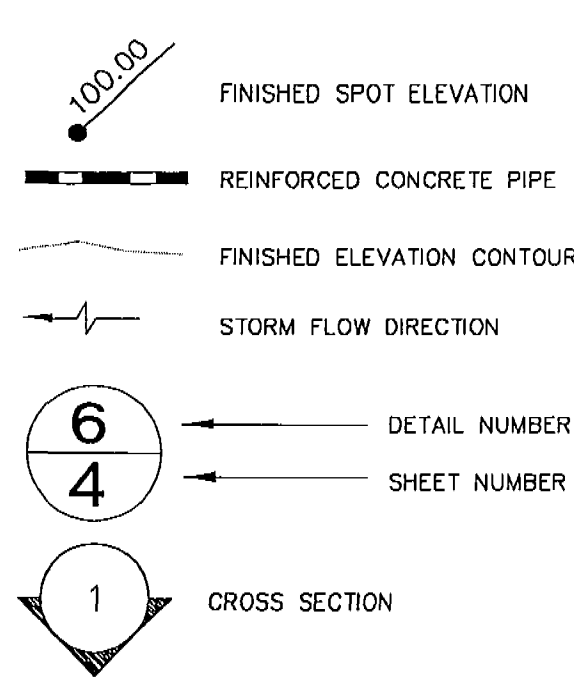
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DRAWING NO.	SHT. 3 OF 15

PAVING and DRAINAGE NOTES

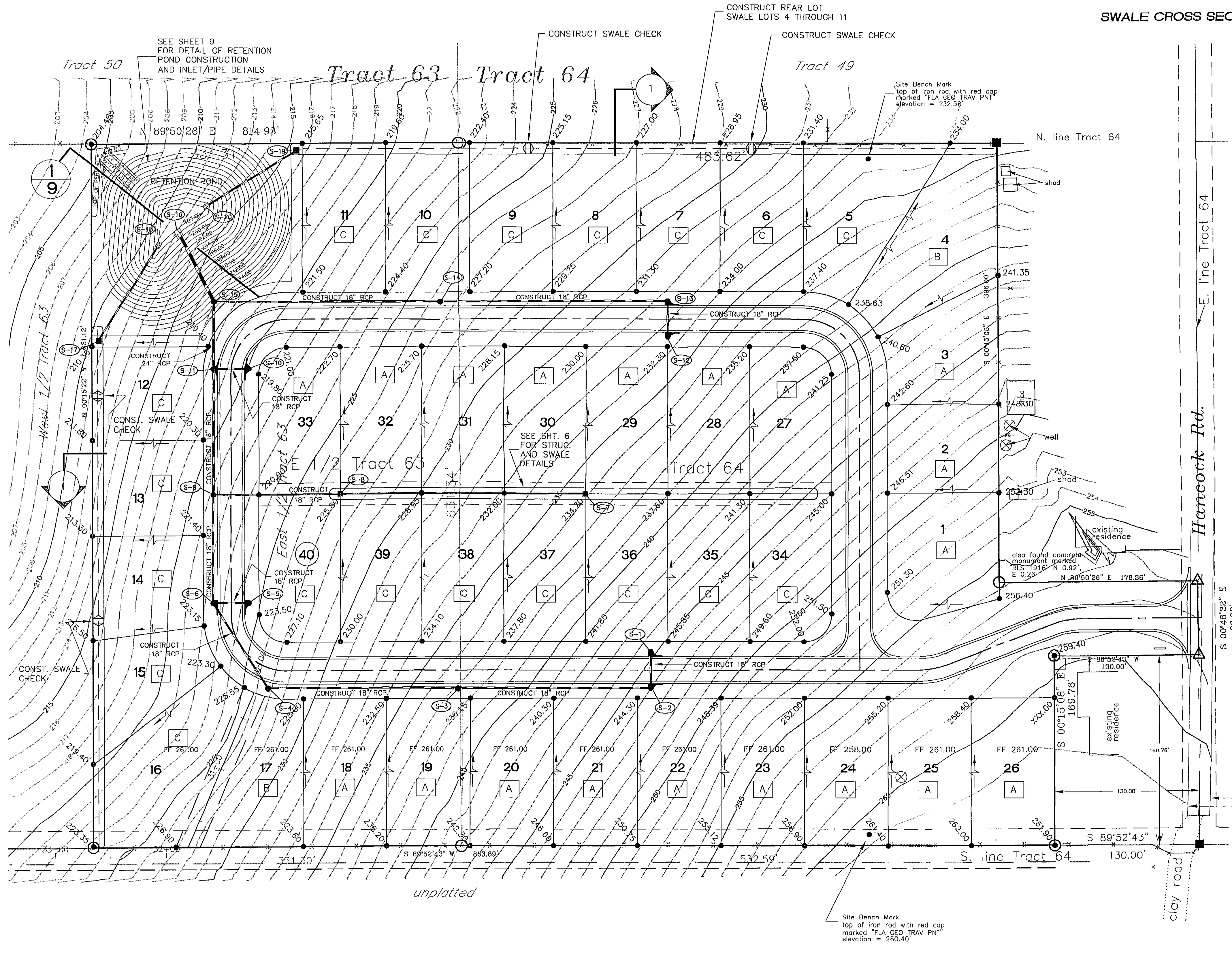
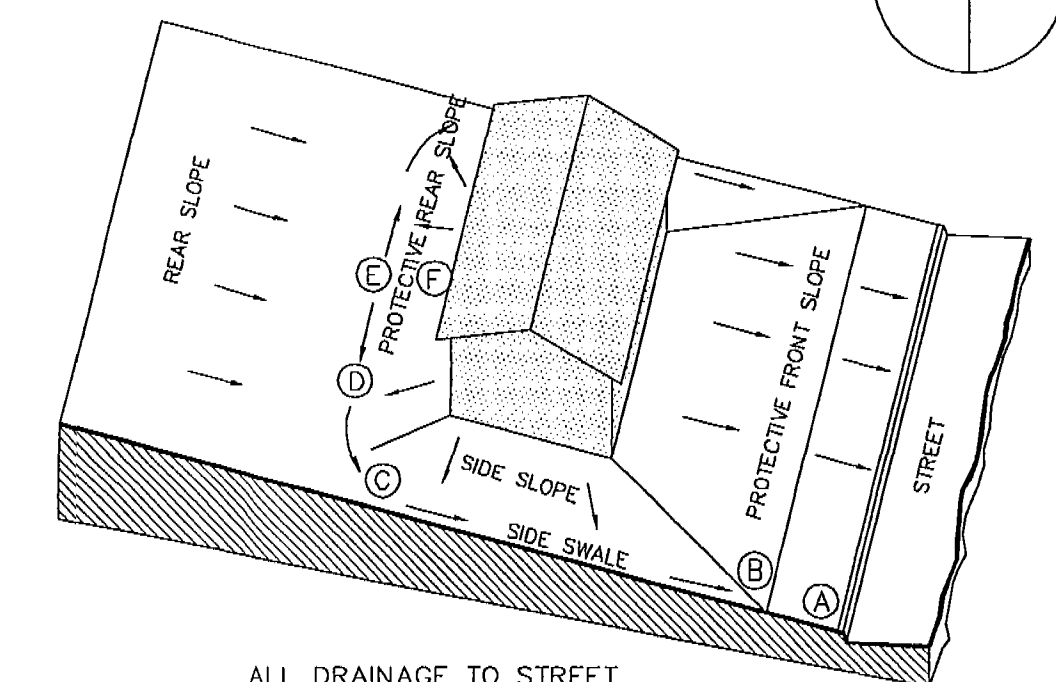
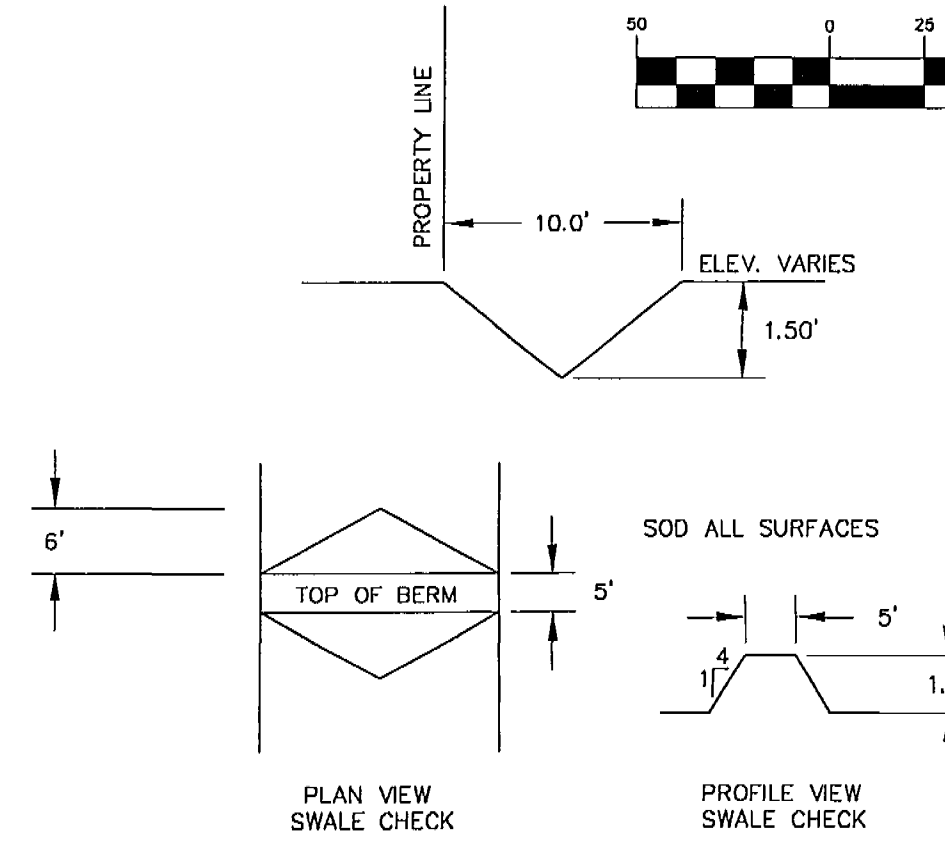
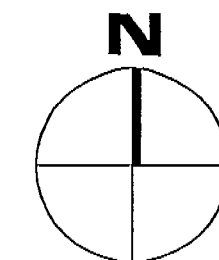
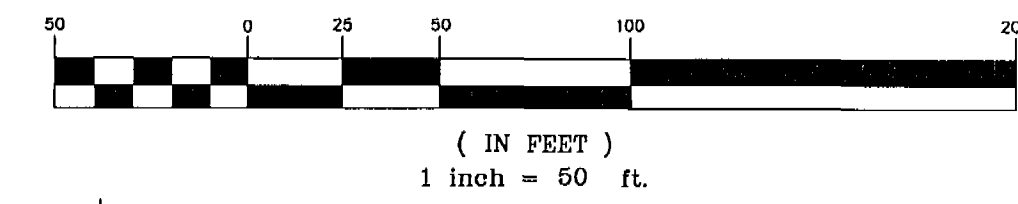
- PAVEMENT MARKINGS SHALL BE PLACED AS SHOWN IN THE PLANS, PER LAKE COUNTY REQUIREMENTS AND FOOT ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST EDITION).
- ALL EXCAVATIONS WITHIN TEN (10) FEET OF THE TRAVELED ROADWAY MUST BE FILLED WITHIN 24 HOURS.
- THE CONTRACTOR SHALL INSURE THAT PROPER SOIL DENSITIES ARE ACHIEVED FOR OF THE CONTRACTOR TO INSURE THAT SUFFICIENT SOILS TESTING HAS BEEN PERFORMED ANY FOOTING SUPPORT DESCRIBED ON THESE PLANS. IT WILL ALSO BE THE RESPONSIBILITY OF ALL HEADWALL/ENDWALL FOOTINGS, RETAINING WALL FOOTINGS, AND IN GENERAL, PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE POLICIES AND GUIDELINES ESTABLISHED BY THE LOCAL GOVERNING AGENCY FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE PROSECUTION OF WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK OR AT ANYTIME DUE TO DEFECTIVE WORK OR MATERIALS.
- THE CONTRACTOR SHALL COMPLY WITH THE LAKE COUNTY STANDARDS AND SPECIFICATIONS FOR STRIPPING, CLEARING, GRUBBING, GRADING, BACKFILLING AND EMBANKMENT PREPARATION WITHIN ALL DESIGNED ROADWAY RIGHT-OF-WAY SECTIONS.
- COMPACT ALL UTILITY TRENCHES WITHIN ROADWAYS TO 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY; WITHIN OTHER AREAS TO 95%.

- ALL STORM SEWER PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN CENTERLINE OF DRAINAGE STRUCTURES.
- ALL NON-PAVED DISTURBED AREAS TO BE SODED UNLESS OTHERWISE NOTED.
- ALL PAVEMENT RETURN RADII SHALL BE MEASURED FROM THE INTERFACE OF THE CONCRETE CURB AND PAVEMENT SURFACE UNLESS OTHERWISE NOTED.
- THE STORM DRAINAGE SYSTEM SHALL BE FREE OF DIRT, SAND AND DEBRIS PRIOR TO FINAL ACCEPTANCE.
- ALL PAVING AND RESTORATION TO PAVEMENT SHALL BE DONE IN ACCORDANCE WITH FDOT ROAD CONSTRUCTION SPECIFICATIONS.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION - 1978 (ANSI NO. 06.1-1983).
- ALL SIGNS TO BE SINGLE MOUNTED IN ACCORDANCE WITH FDOT INDEX NO. 11862 (70 MPH WIND LOADING) AND FDOT INDEX NO. 17302.
- RCP PIPE JOINTS SHALL BE WRAPPED PER FDOT REQUIREMENTS.
- TRENCH BACKFILL SHALL MEET FDOT REQUIREMENTS FOR CLEAN SELECT BACKFILL.

LEGEND



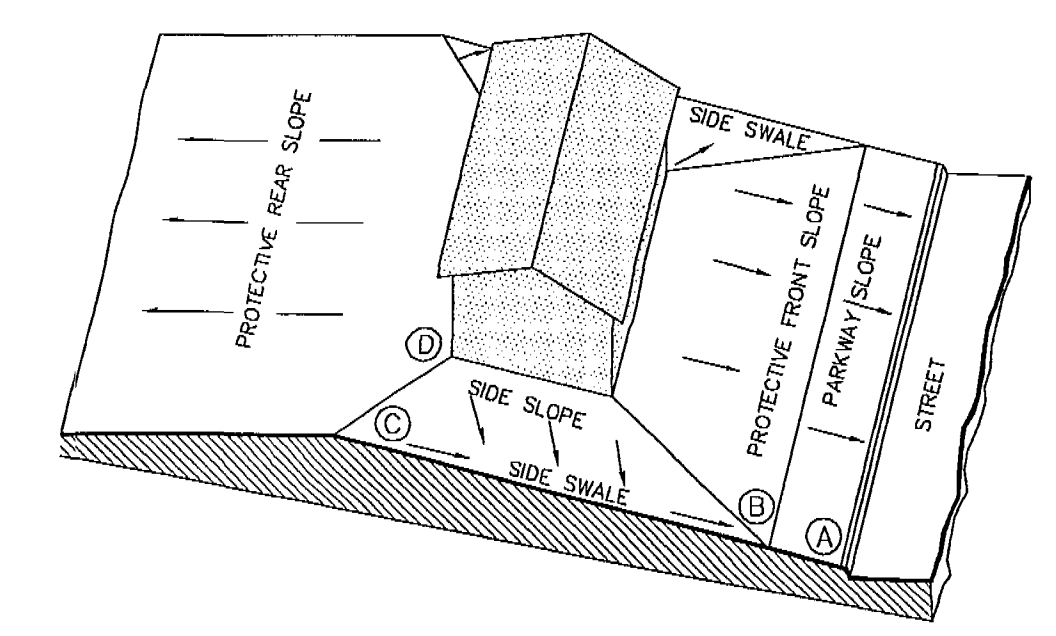
GRAPHIC SCALE



SWALE CROSS SECTION NO. 1

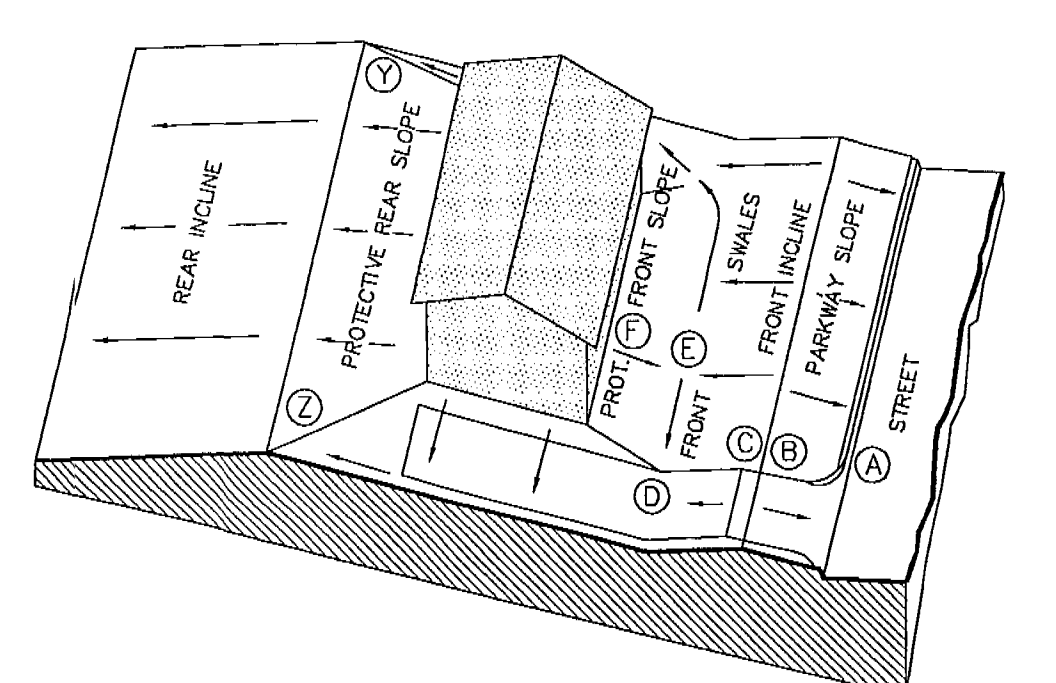
SAMPLE COMPUTATION OF GRADING CONTROL LINE A-F FOR A 60' LOT ON AN 0.5% STREET, WITH 28' SETBACK, 28' BUILDING DEPTH AND 2% SWALES		RESULTS USING 1% SWALES	
A	CURB-TOP ON LOT-LINE EXTENSION AT HIGH LOT CORNER	3'	3'
B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	0.3'	0.3'
C	SIDE SWALE: 5" GRASS AT 1/4"/FT (2%)	1.2'	0.8'
D	SWALE TURN WITH 10' RADIUS: 15" GRASS @ 1/4"/FT	0.3'	0.2'
E	REAR SWALE: 12" GRASS AT 1/4"/FT (2%)	0.3'	0.1'
F	PROTECTIVE REAR SLOPE UP FROM HIGH-POINT OF SWALES	6'	6'
SUB-TOTAL A-F	FROM CURB-TOP TO GROUND AT REAR BLDG WALL	30"	19"
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: 30"±8"		38"	27"
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 30"±10"		48"	38"

LOT GRADING TYPE A



SAMPLE COMPUTATION OF GRADING CONTROL LINE A-D FOR A 60' LOT WITH 28' SETBACK, 28' BUILDING DEPTH AND 2% SWALES		RESULTS USING 1% SWALES	
A	CURB-TOP ON LOT-LINE EXTENSION AT HIGH LOT CORNER	3'	3'
B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	0.3'	0.3'
C	SIDE SWALE: 5" GRASS AT 1/4"/FT (2%)	1.2'	0.8'
D	PROTECTIVE REAR SLOPE AT EXTENSION OF REAR WALL	5'	5'
SUB-TOTAL A-D	FROM CURB-TOP TO GROUND AT REAR BLDG WALL	23"	16"
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: 23"±8"		31"	24"
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 23"±10"		42"	35"

LOT GRADING TYPE B



SAMPLE COMPUTATION OF GRADING CONTROL LINE A-F FOR A 60' LOT, 28' SETBACK, 13.5% DRIVEWAY, AND 10' FRONT SWALE D-E AT 2%		RESULTS USING 1% SWALES	
A	CURB-TOP AT HIGH SIDE OF DRIVE NEAR LOW LOT CORNER	3'	3'
B	PARKWAY SLOPE: 12" GRASS AND WALK AT 1/4"/FT (2%)	0.3'	0.3'
C	DRIVEWAY GRADE CHANGE: 4" VERTICAL CURVE FROM UP-GRADE DRIVE IN STREET TO DOWN GRADE DRIVE ON LOT	0'	0'
D	DRIVEWAY DOWN-GRADE TO POINT TO FEET OUT FROM BUILDING LINE: 14" AT 1 5/8" FT (13.5%)	-23"	-1.9"
E	FRONT SWALE: 15" AT 1/4"/FT (2%)	4"	2"
F	PROTECTIVE FRONT SLOPE UP FROM HIGH-POINT OF SWALES	6'	6'
SUB-TOTAL A-F	FROM CURB-TOP TO GROUND AT BUILDING	-10"	-1.0"
MINIMUM RISE FROM CURB-TOP TO SLAB FLOOR: -10"±8"		-2"	-4"
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: -10"±10"		8"	+0.6"

LOT GRADING TYPE C

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 MONTICELLO, FLORIDA 32175
 PHONE (407) 469-4829
 FAX (407) 469-2229
 LICENSED PROFESSIONAL ENGINEER
 LICENSE NO. 44182

LOST LAKE PINES SUBDIVISION

FLORIDA

LAKE COUNTY

JOB NO.	9919
DATE	AUG. 99
SCALE	GRAPHIC
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CHKD BY	ACN

REVISIONS	
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5	ORLANDO SURVIVAL
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DRAWING DESCRIPTION
GRADING PLAN
MASTER DRAINAGE PLAN

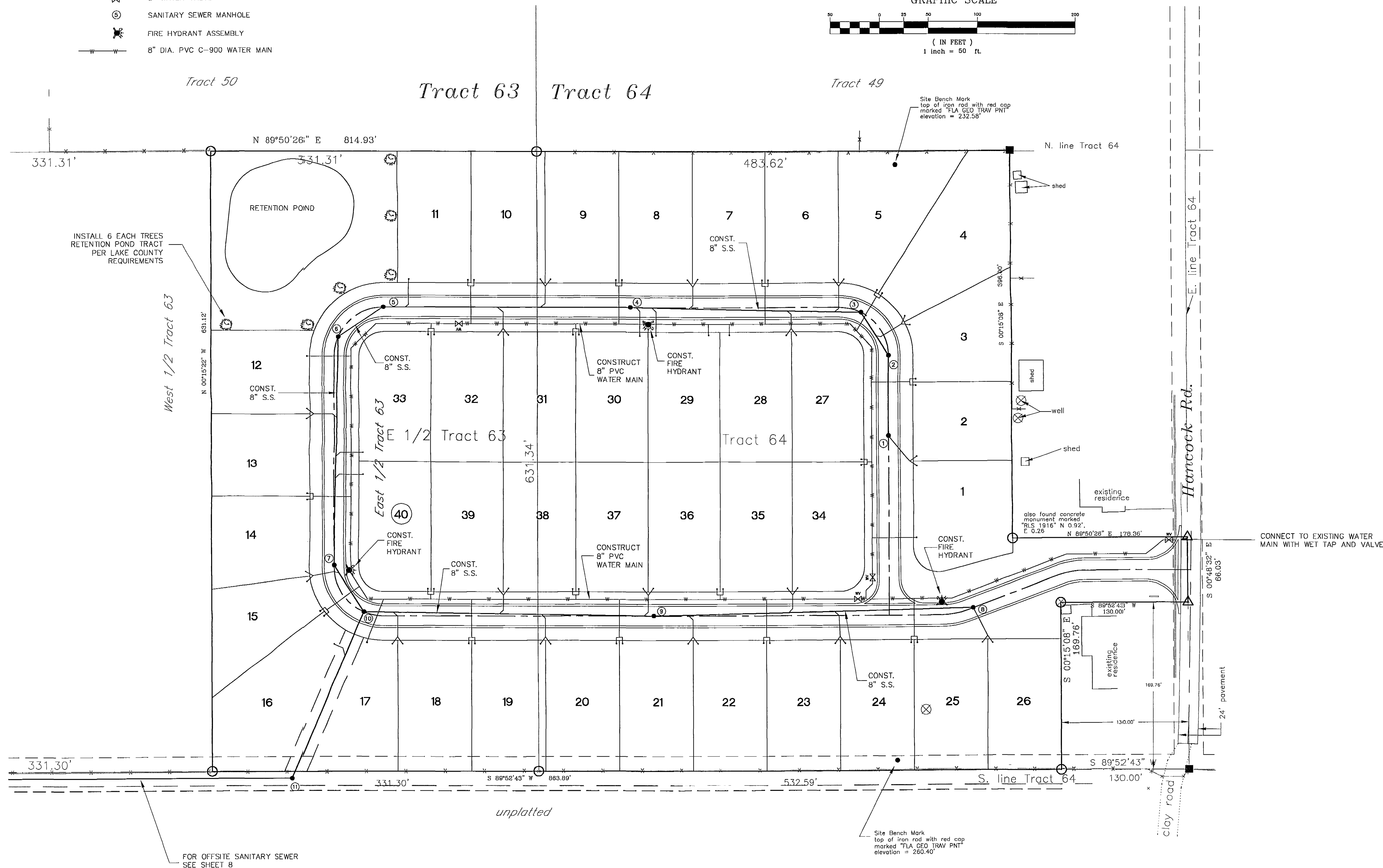
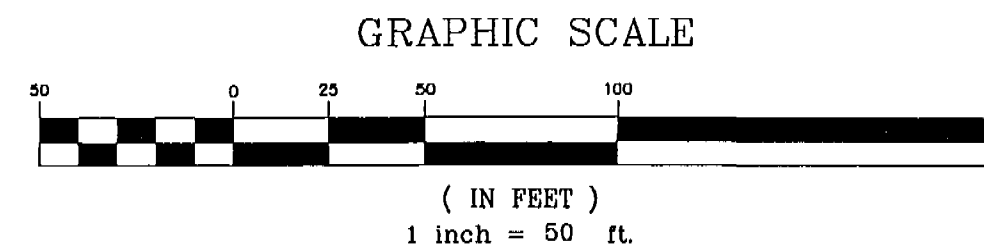
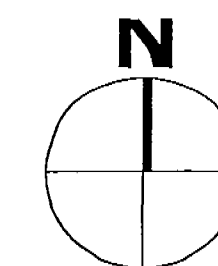
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SHT. 4 OF 15

LEGEND

- DOUBLE WATER SERVICE
- SINGLE WATER SERVICE
- WATER SERVICE
- 8" WATER VALVE
- SANITARY SEWER MANHOLE
- FIRE HYDRANT ASSEMBLY
- 8" DIA. PVC C-900 WATER MAIN

LANDSCAPE NOTES:

LOTS LESS THAN 10,000 SF REQUIRE 3 TREES PER LOT
 LOTS MORE THAN 10,000 SF REQUIRE 4 TREES PER LOT
 TO BE PLANTED PER LAKE COUNTY REQUIREMENTS PRIOR
 TO C.O. FOR EACH HOUSE



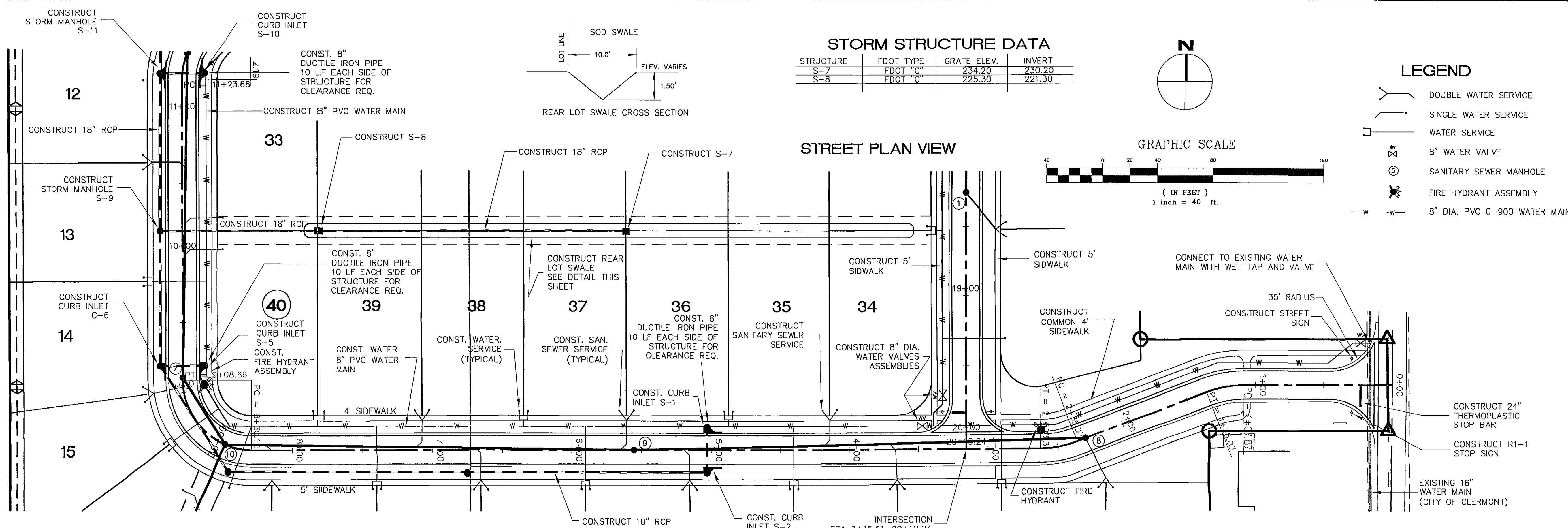
M.O.N.T.V.E.R.D.E. ENGINEERING INC.
 P.O. BOX 580116 PHONE (407)469-4829
 MONTEVERDE, FLORIDA 34756
 FAX (407)469-2129
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DATE	AUG. 99
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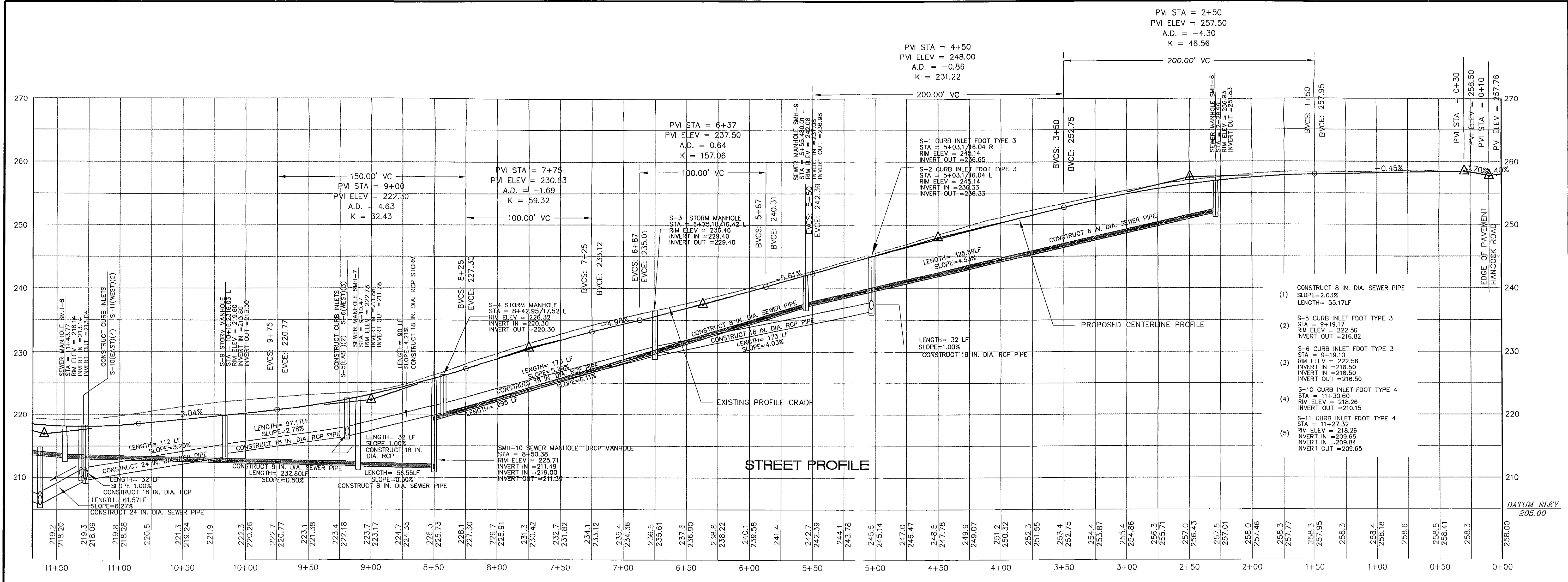
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STORM STRUCTURE DATA

STRUCTURE	FOOT TYPE	GRATE ELEV.	INVERT
S-7	FOOT "C"	234.20	230.20
S-8	FOOT "C"	225.30	221.30

- LEGEND**
- DOUBLE WATER SERVICE
 - SINGLE WATER SERVICE
 - WATER SERVICE
 - 8" WATER VALVE
 - SANITARY SEWER MANHOLE
 - FIRE HYDRANT ASSEMBLY
 - 8" DIA. PVC C-900 WATER MAIN



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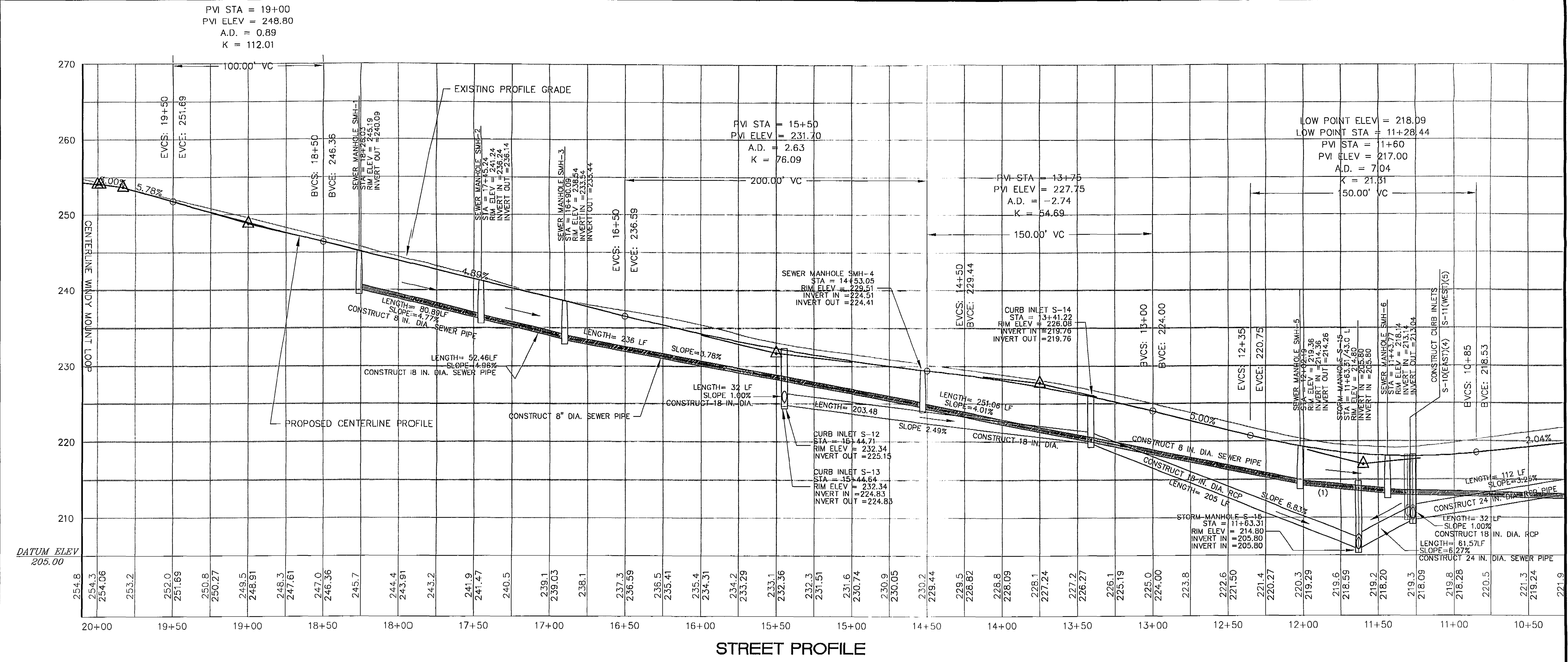
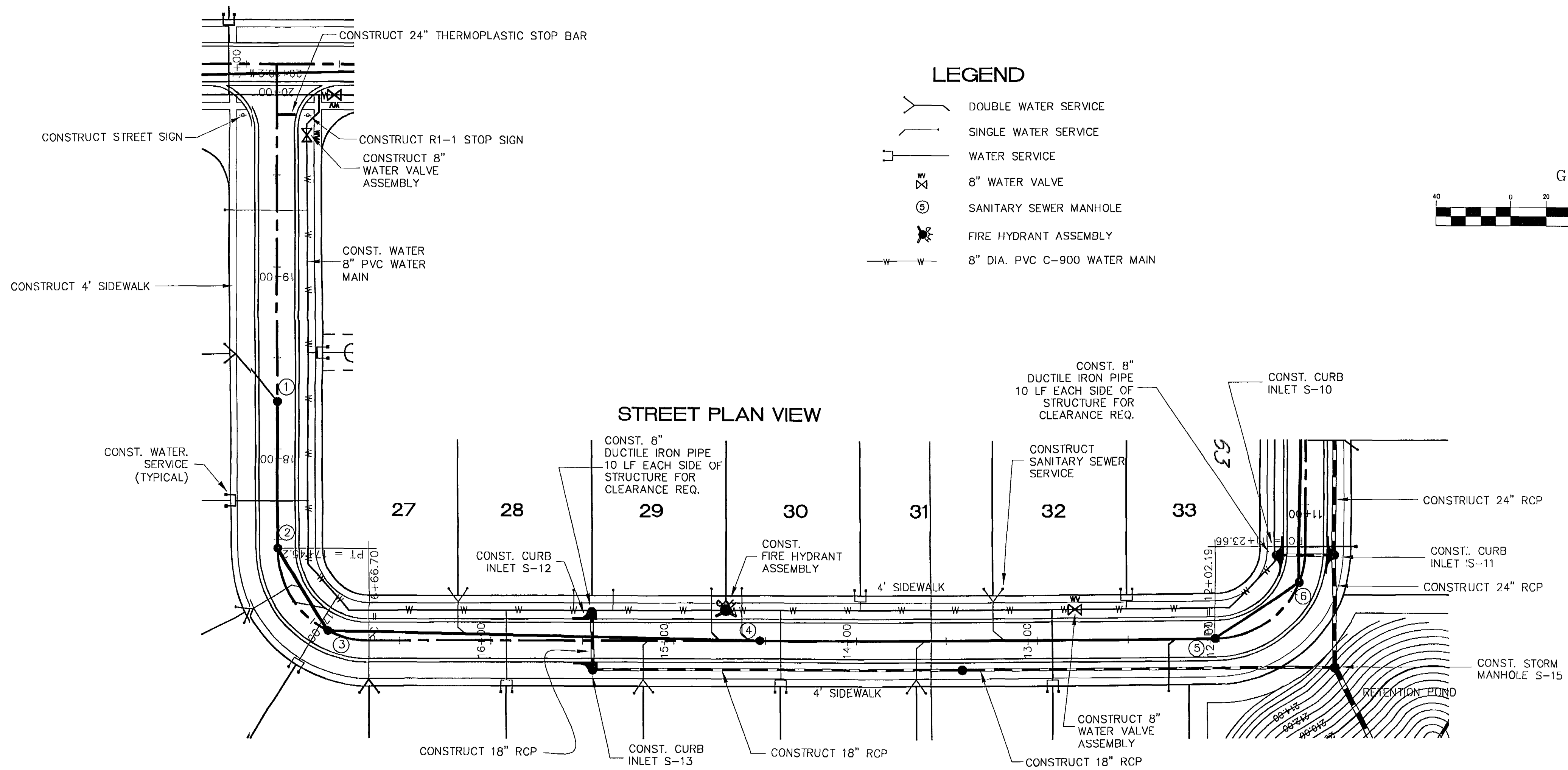
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 MONTEVERDE, FLORIDA 34756
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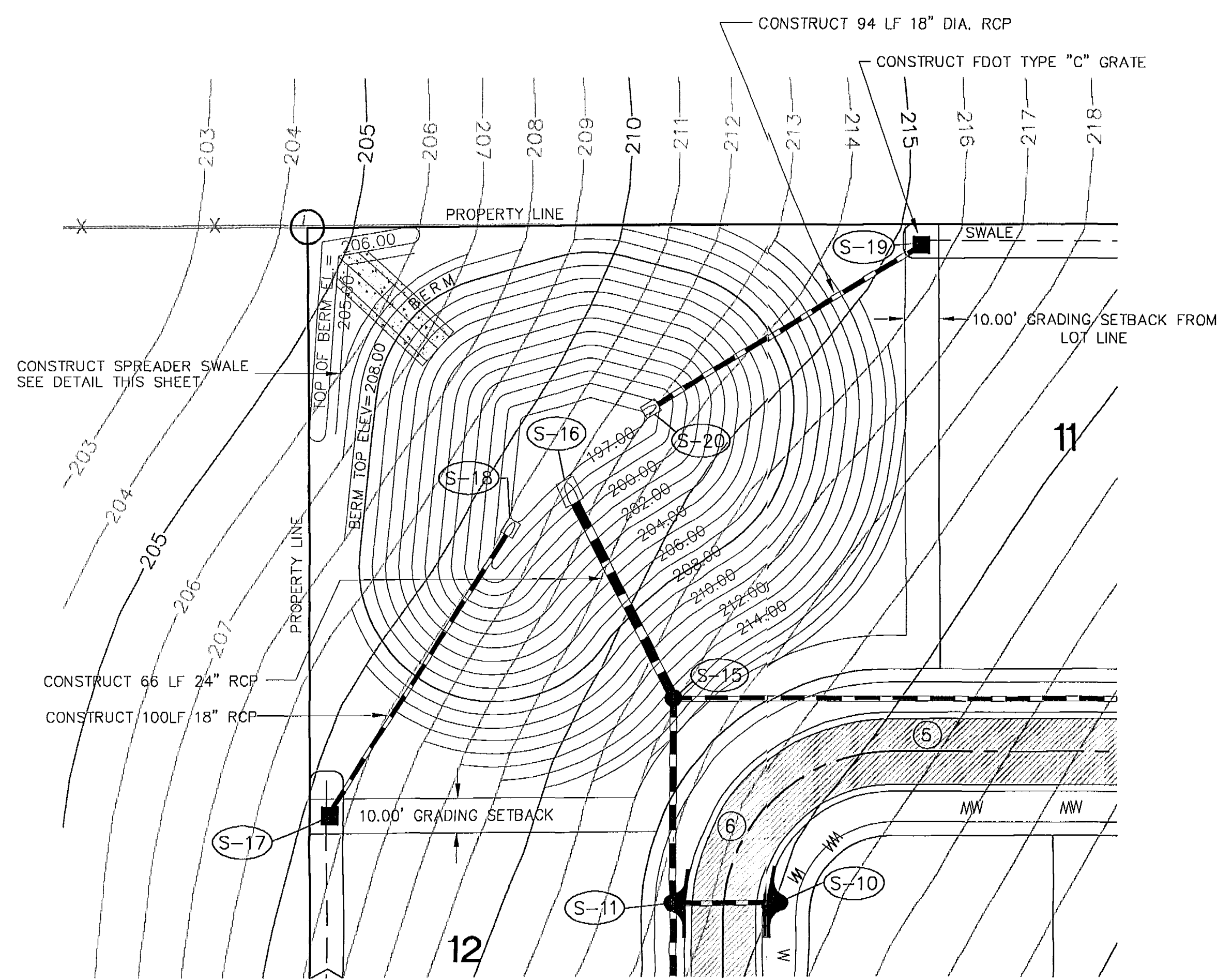
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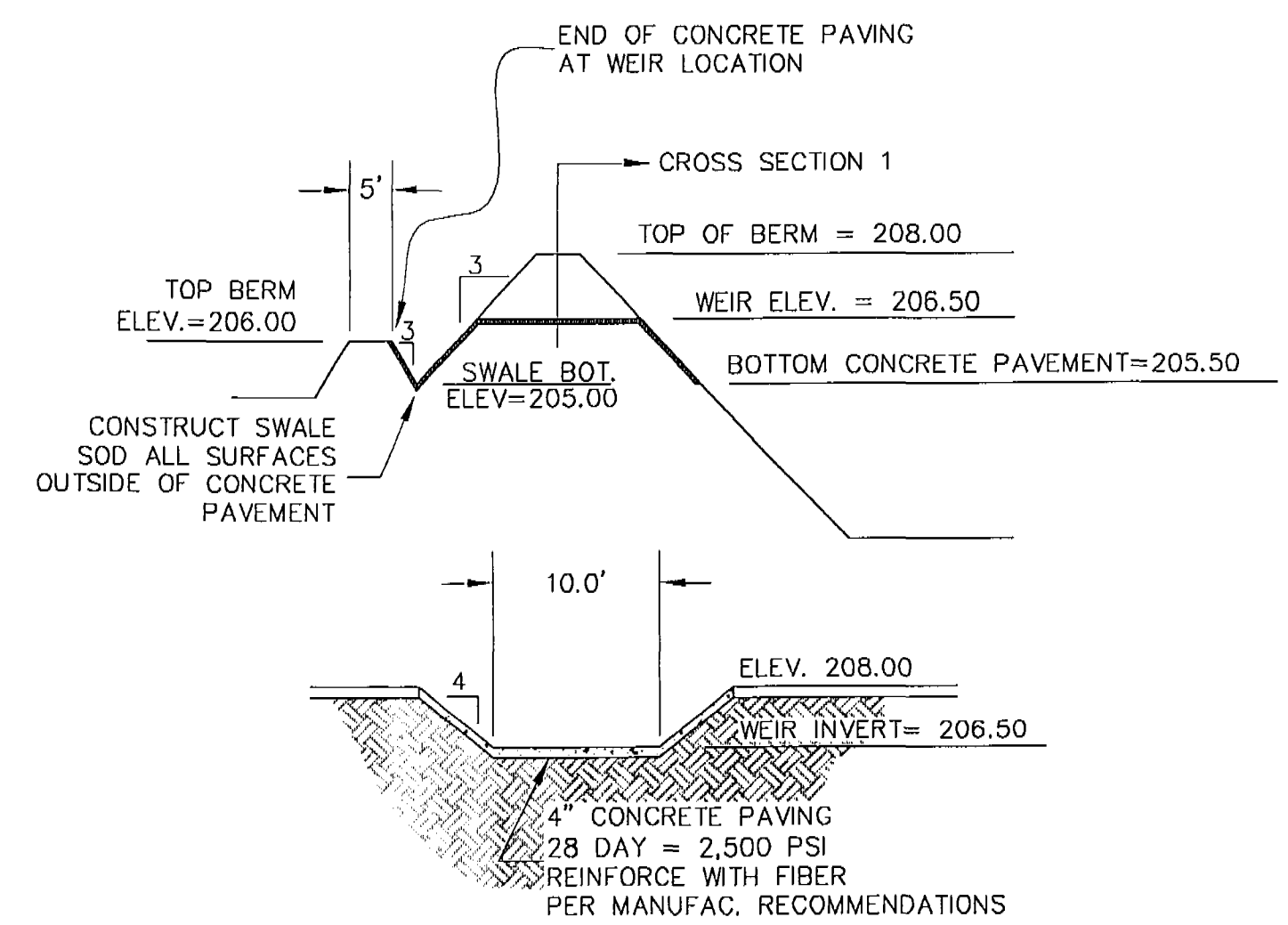
DRAWING NO. **STA 11+00 - STA 20+00**
 SHT. 7 OF 15



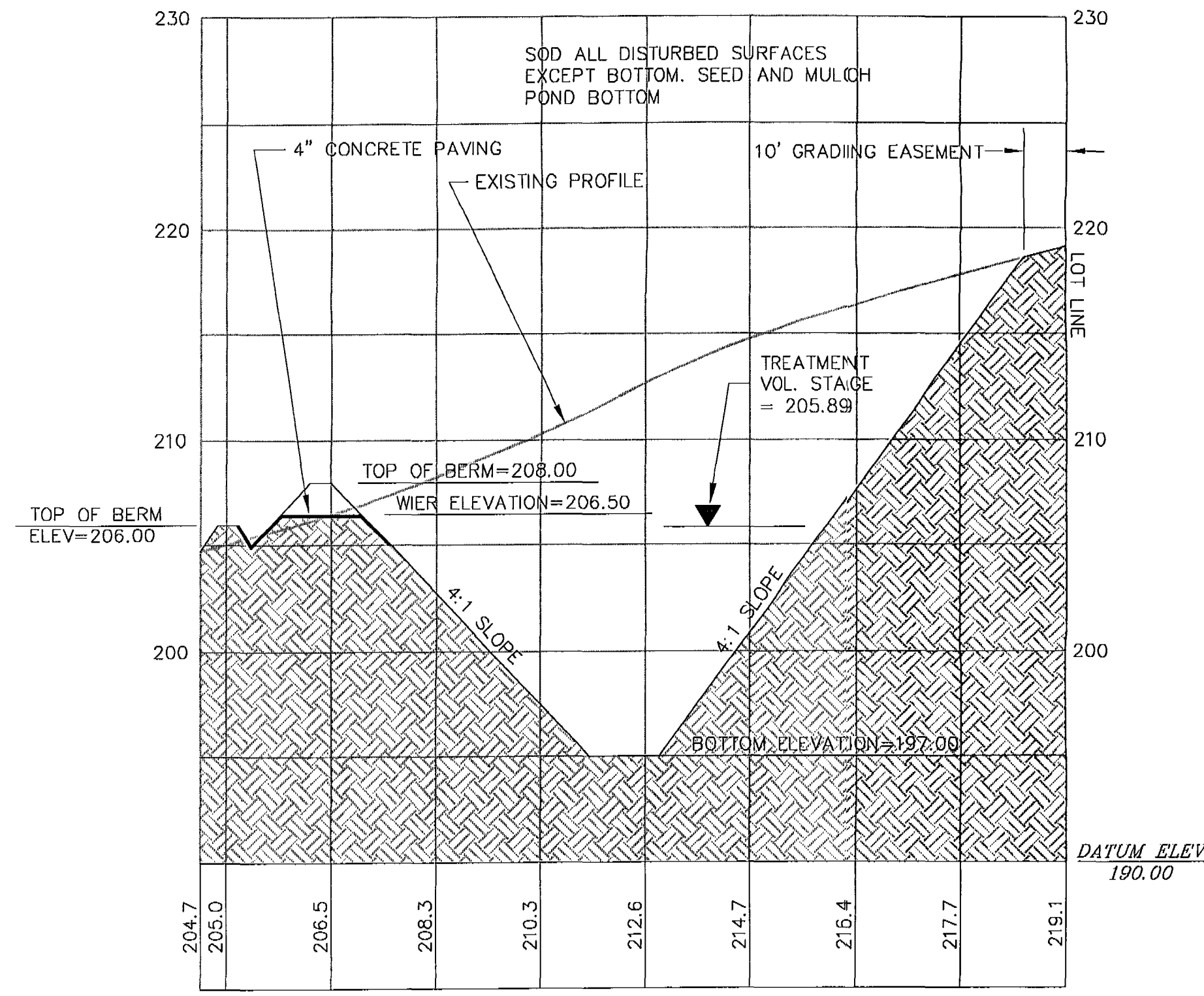
STORM WATER RETENTION POND-DETAIL 1
 SCALE 1" = 30'

STORM STRUCTURE DATA

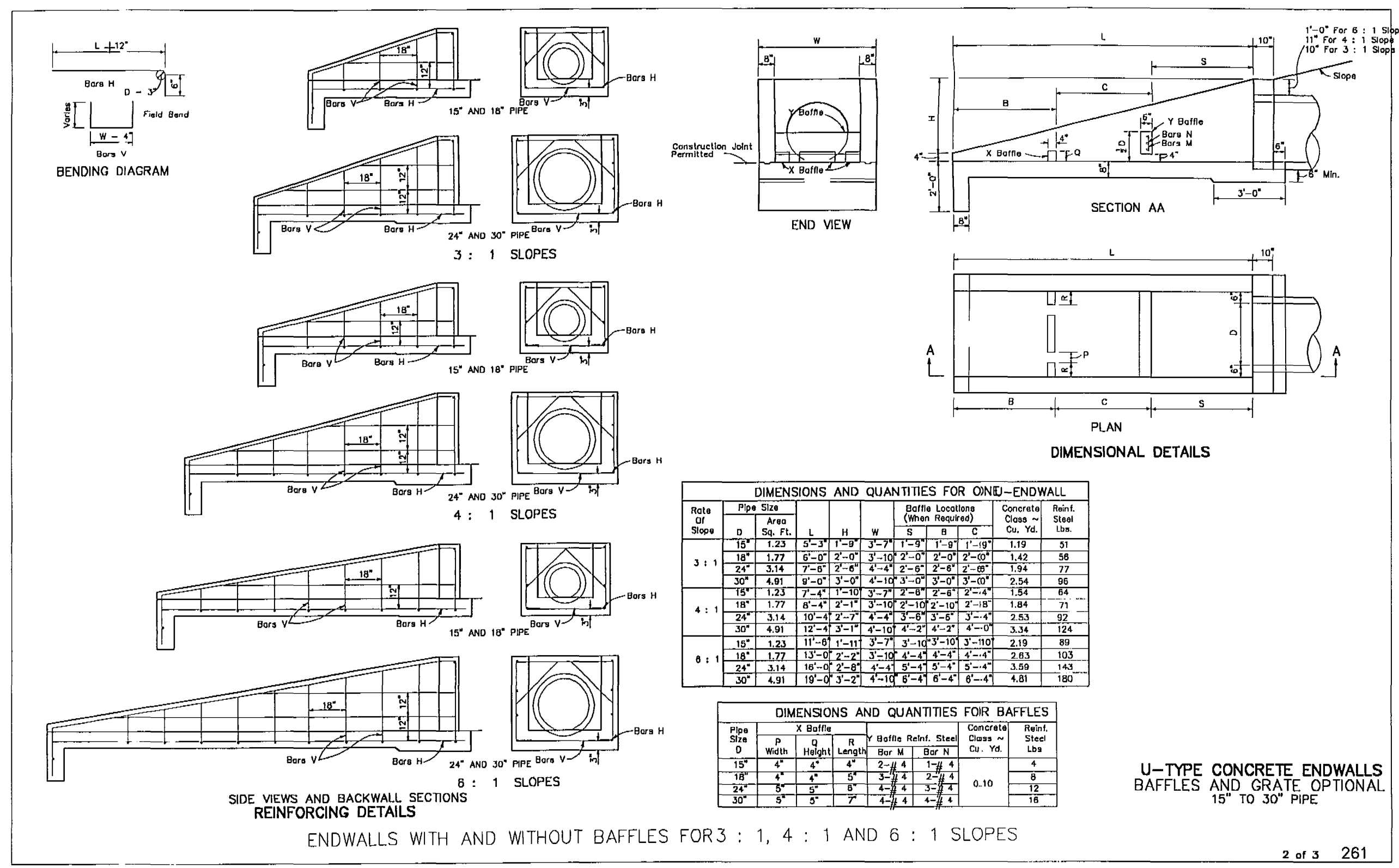
STRUCTURE	FOOT TYPE	GRATE ELEV.	INVERT
S-17	FOOT "C"	209.05	205.05
S-18/19/20	FOOT INDEX 261	214.00	197.00
S-19	FOOT "C"	214.00	210.00



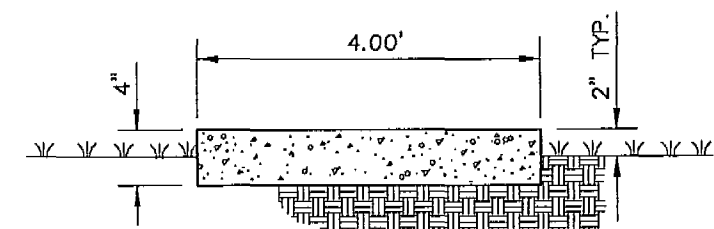
DETAIL WEIR AND SPREADER SWALE NTS



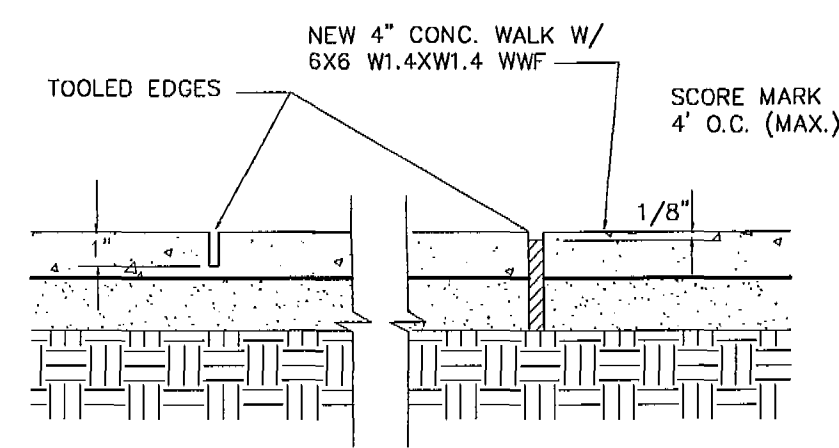
CROSS SECTION STORM WATER RETENTION POND



U-TYPE CONCRETE ENDWALL DETAIL FOOT INDEX 261

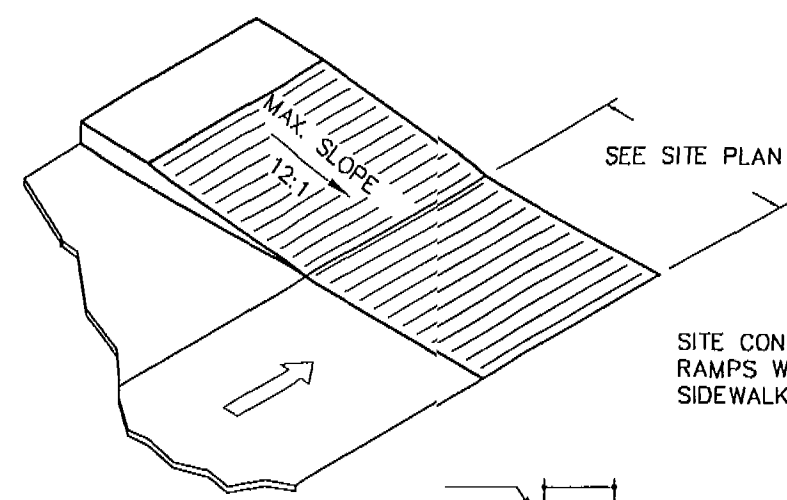


CONCRETE SIDEWALK



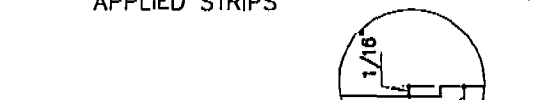
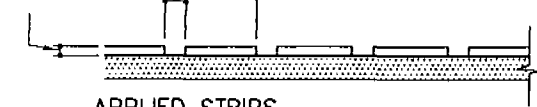
CONCRETE WALK DETAIL

NOTE:
EXPANSION JOINTS SHALL BE LOCATED AT ALL CONCRETE WALK INTERSECTIONS, AT ALL DOOR OPENINGS AND AT 12' O.C. MAXIMUM.
EXPANSION JOINT 1/4" PREMOULDED ASPHALT STRIP SET 1/8" BELOW TOP OF WALK.

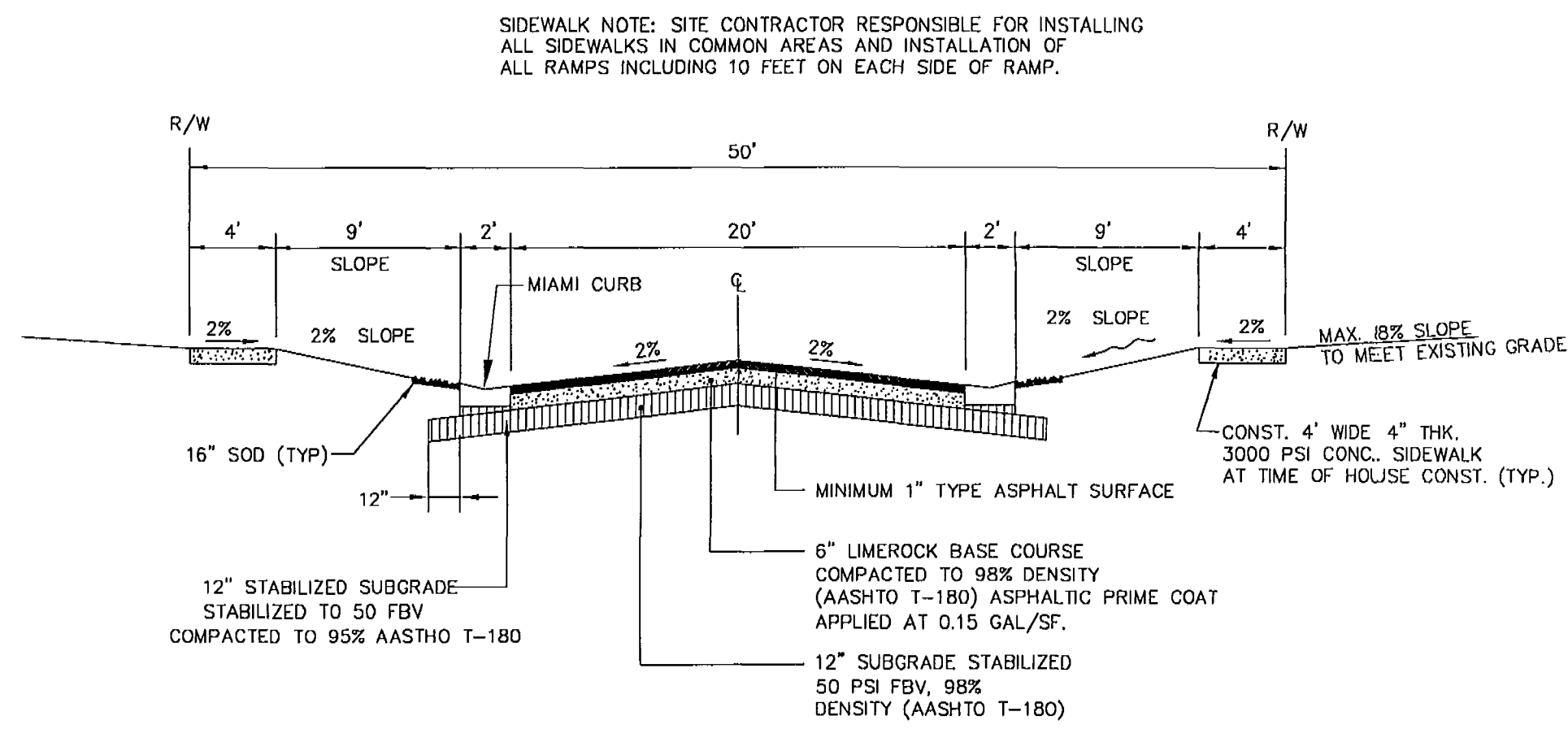


SIDEWALK RAMP DETAIL

PROVIDE DETECTABLE WARNING PER ADA-ANSI 117.1-86



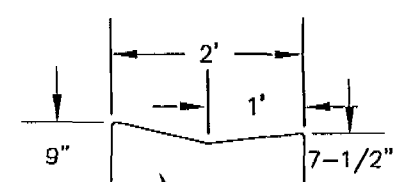
SITE CONTRACTOR TO INSTALL ALL RAMPS WITH A 10' LENGTH OF SIDEWALK ON EACH SIDE OF RAMP



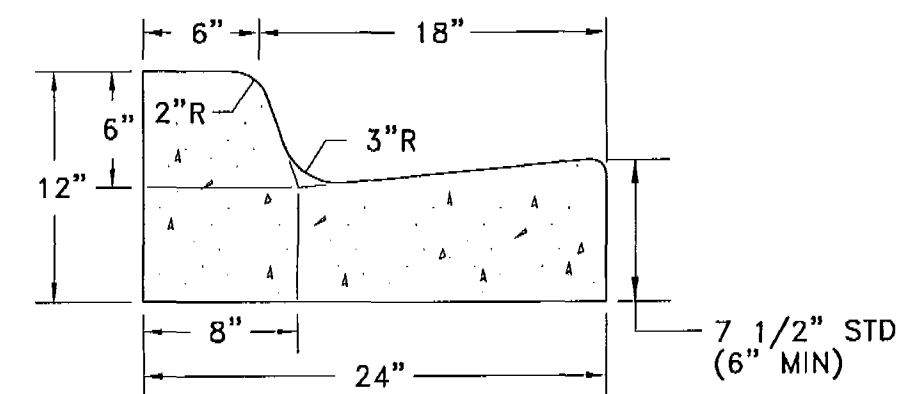
TYP. INTERIOR ROAD SECTION

NTS

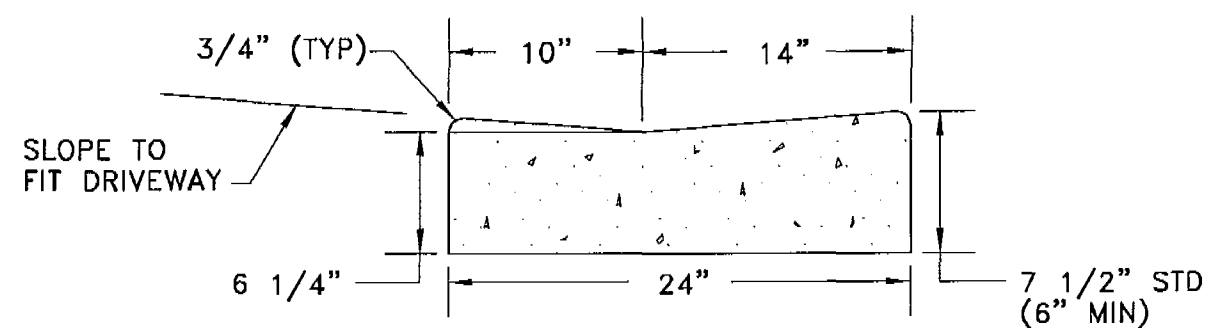
SIDEWALK NOTE: SITE CONTRACTOR RESPONSIBLE FOR INSTALLING ALL SIDEWALKS IN COMMON AREAS AND INSTALLATION OF ALL RAMPS INCLUDING TO FEET ON EACH SIDE OF RAMP.



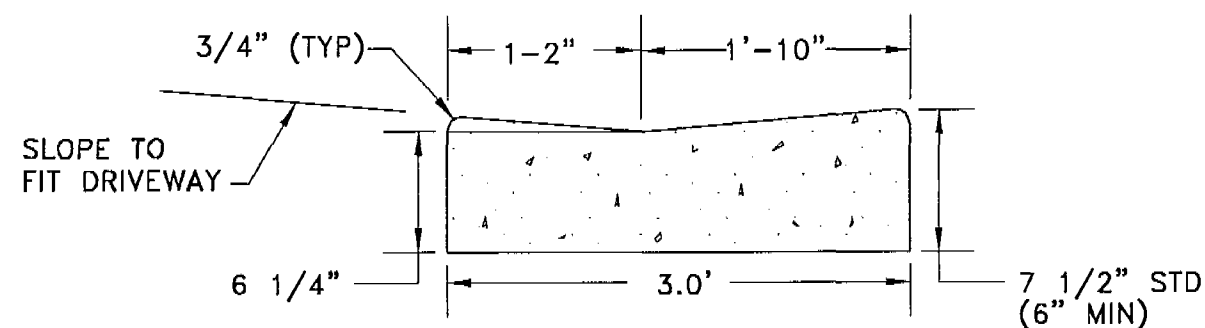
MIAMI CURB



TYPE F



DROP CURB

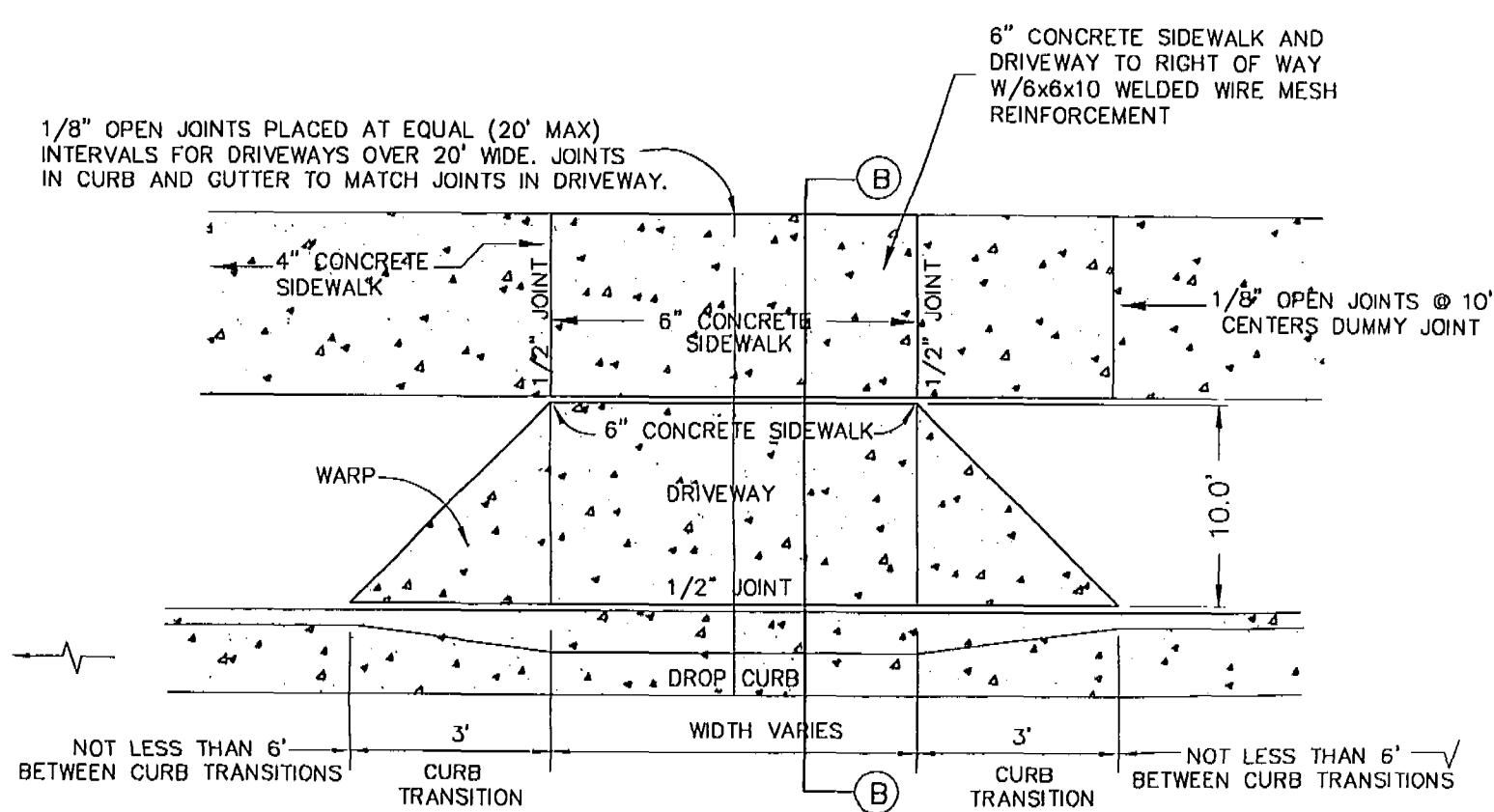


DROP CURB

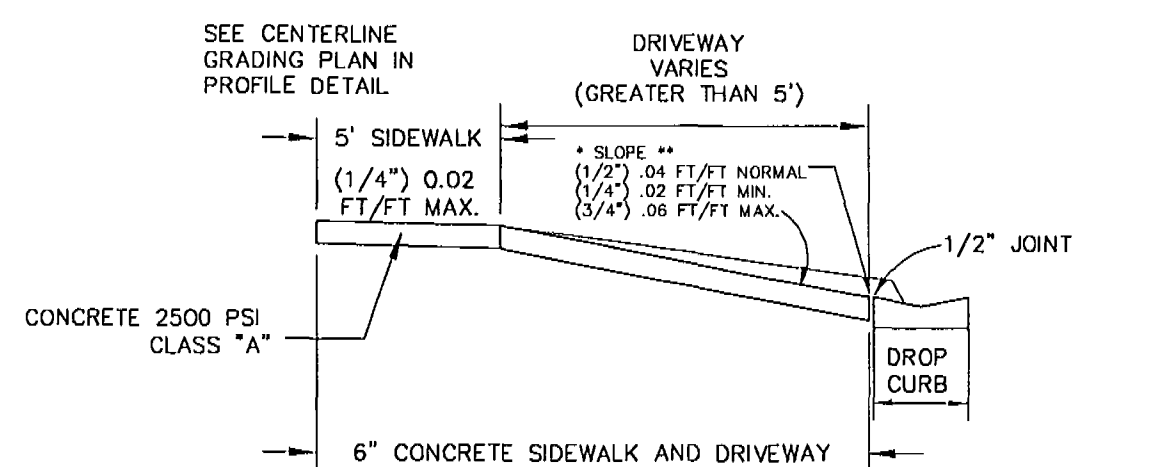
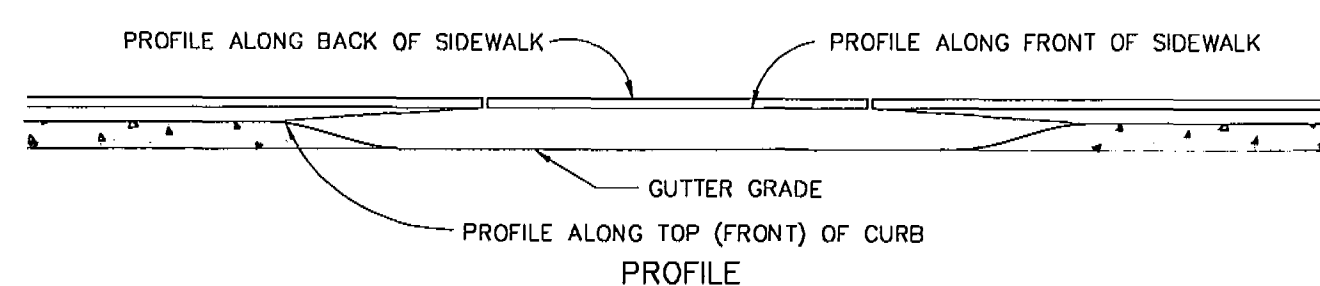
NOTE:

- WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.

FDOT 'F' CURB DETAIL
REFER TO FDOT INDEX 300 FOR FURTHER DETAILS

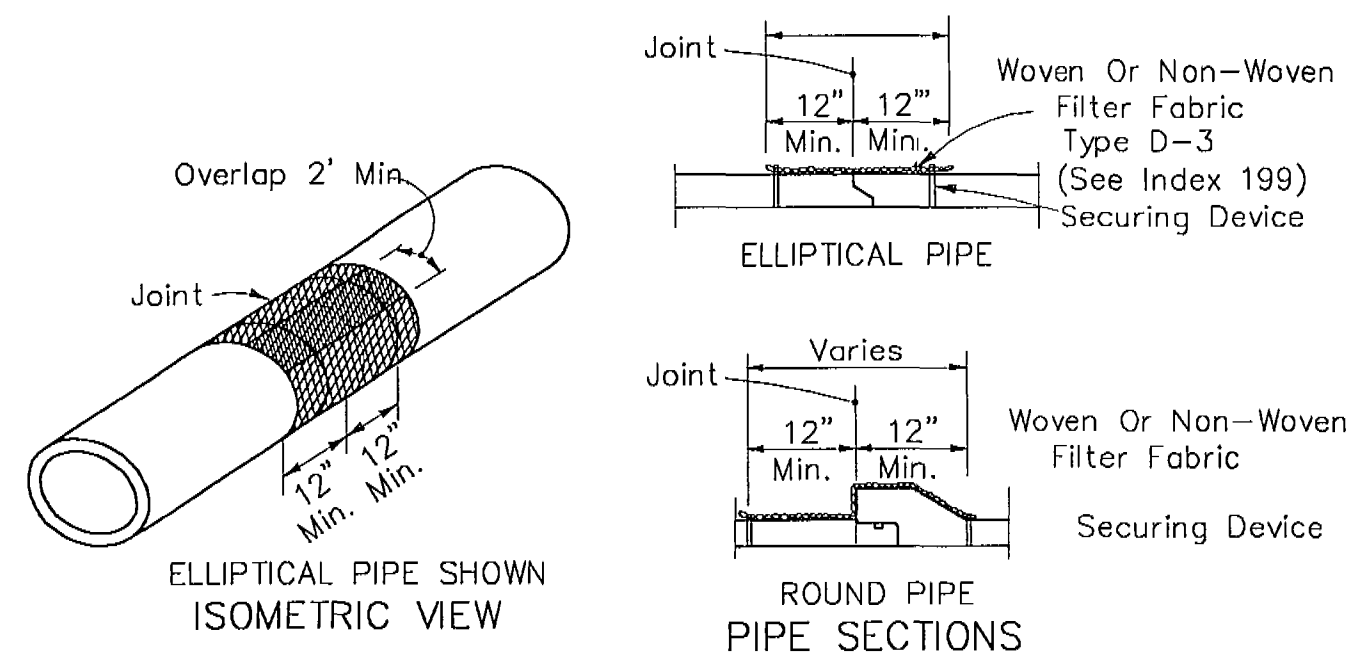


PLAN VIEW



NOTE: DRIVEWAYS AND SIDEWALKS THROUGH DRIVEWAYS SHALL REQUIRE 6"x6" REINFORCEMENT WIRE.

DETAIL OF SIDEWALK AND PAVED DRIVEWAY CONSTRUCTION



ELLIPTICAL PIPE SHOWN ISOMETRIC VIEW

ROUND PIPE PIPE SECTIONS

Cost of filter fabric jacket to be included in cost of pipe culverts.

FOR ALL PIPE TYPES -- CONCRETE PIPE SHOWN
FILTER FABRIC JACKET

M-O-N-T-V-E-R-D-E-ENGINEERING INC.
P.O. BOX 560116 BAY AREA (407) 469-4828
MONTVERDE, FLORIDA 34756
FAX (407) 469-4819
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LOST LAKE PINES SUBDIVISION

FLORIDA

LAKE COUNTY

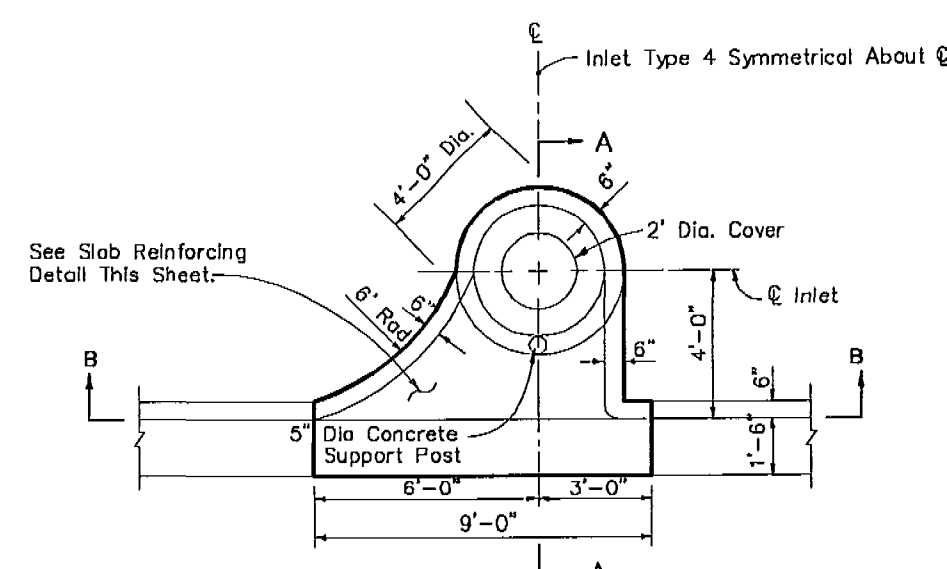
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DATE	AUG. 99
SCALE	GRAPHIC
DRAWN BY	ACN
CHKD BY	ACN

REVISIONS

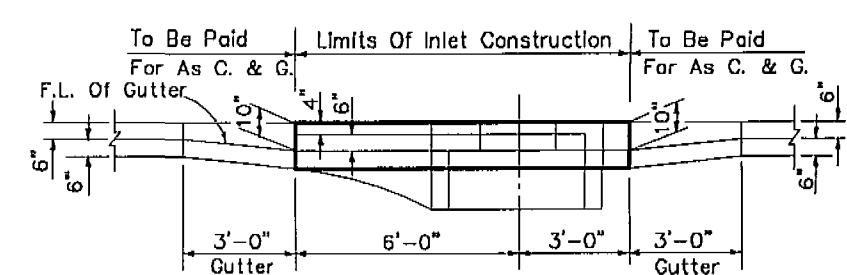
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PDS
ORLANDO
SJR WMD

CAD FILE NO. 9919-100.dwg R2000

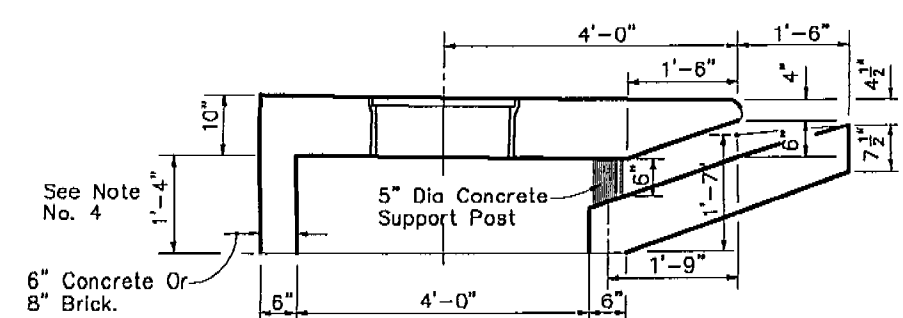
DETAIL SHEET



PLAN (INLET TYPE 4 SYMMETRICAL ABOUT CL)

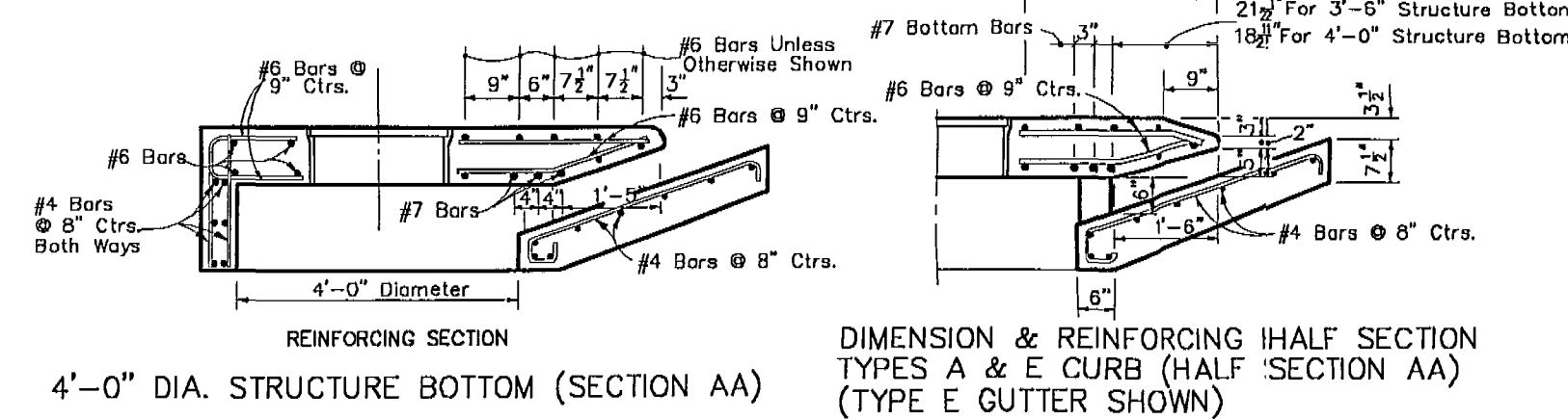


SECTION BB (INLET TYPE 4 SYMMETRICAL ABOUT CL)



DIMENSIONAL SECTION

INLETS TYPES 3 AND 4

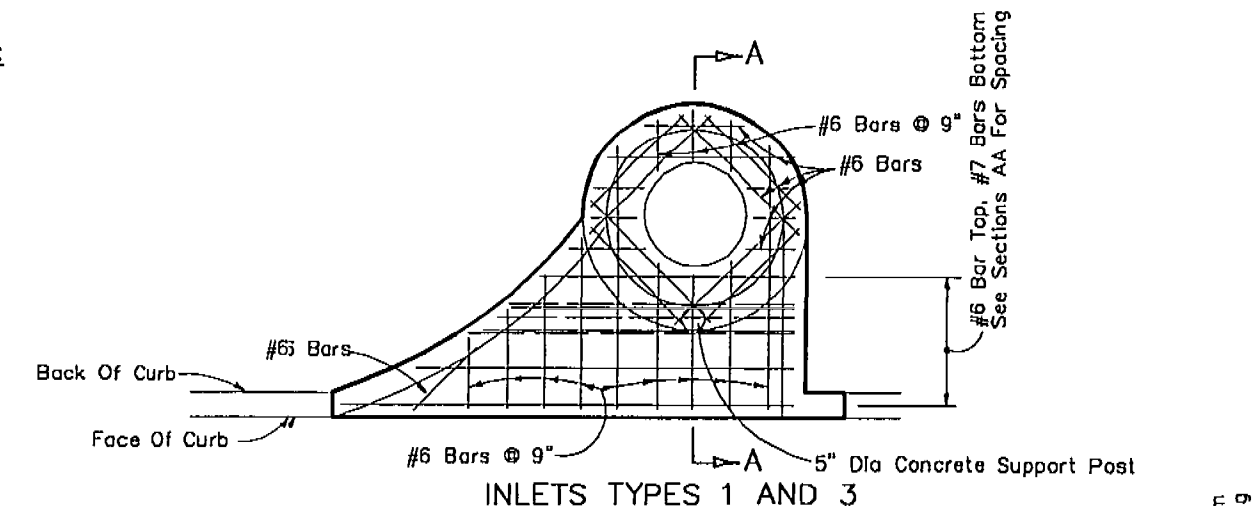


REINFORCING SECTION

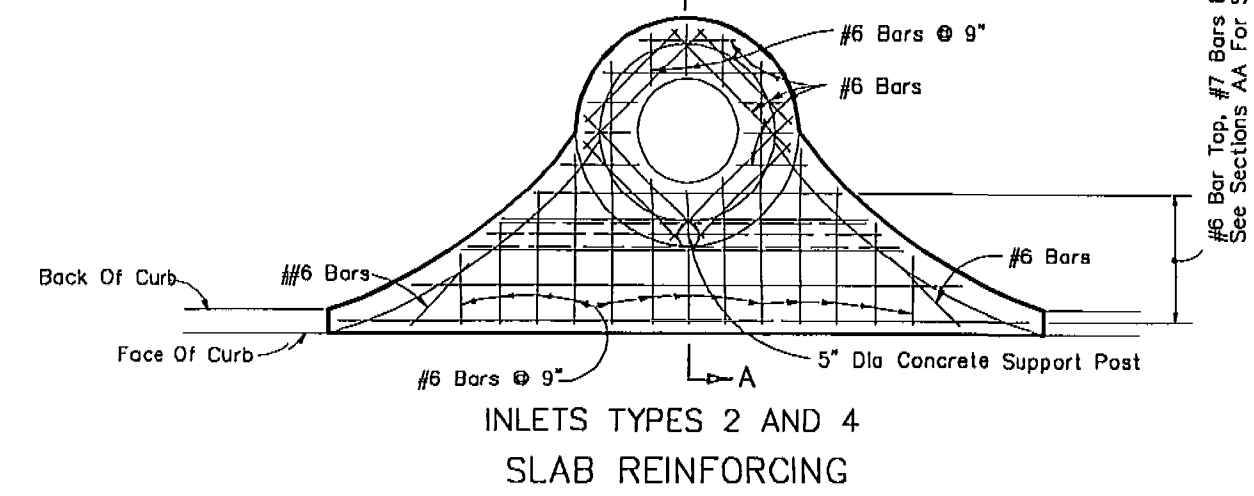
DIMENSION & REINFORCING HALF SECTION (TYPE E GUTTER SHOWN)

TRANSVERSE SECTIONS FOR INLETS TYPES 3 & 4

CURB INLET TOPS TYPES 3 and 4
FDOT INDEX 210



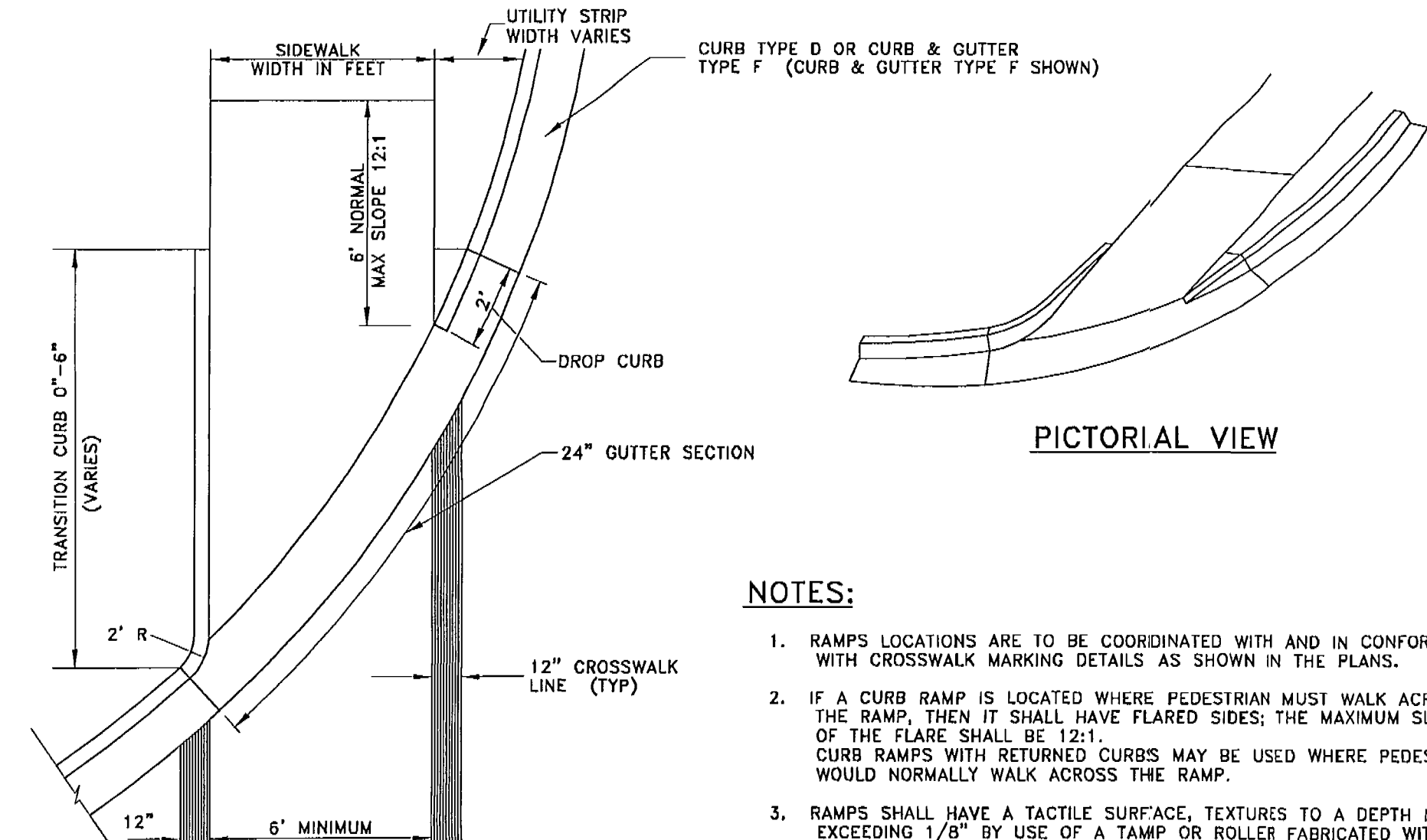
INLETS TYPES 1 AND 3



INLETS TYPES 2 AND 4
SLAB REINFORCING

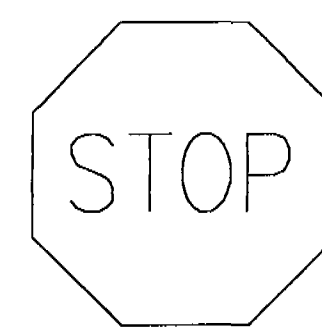
GENERAL NOTES

1. The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel when necessary.
3. All steel in inlet top shall have 1/2" minimum cover unless otherwise shown. Inlet tops shall be either cast-in-place or precast concrete.
4. The rear wall portion of inlet tops Types 1, 2, 3 & 4 may be constructed with brick. Dowels to top slab required.
5. For supplemental details see Index No. 201.
6. Only round concrete support post will be acceptable.
7. These inlets are to be used with Curb and Gutter Types E and F. Locate outside of pedestrian crosswalk where practical.
8. For structure bottoms see Index No. 200.

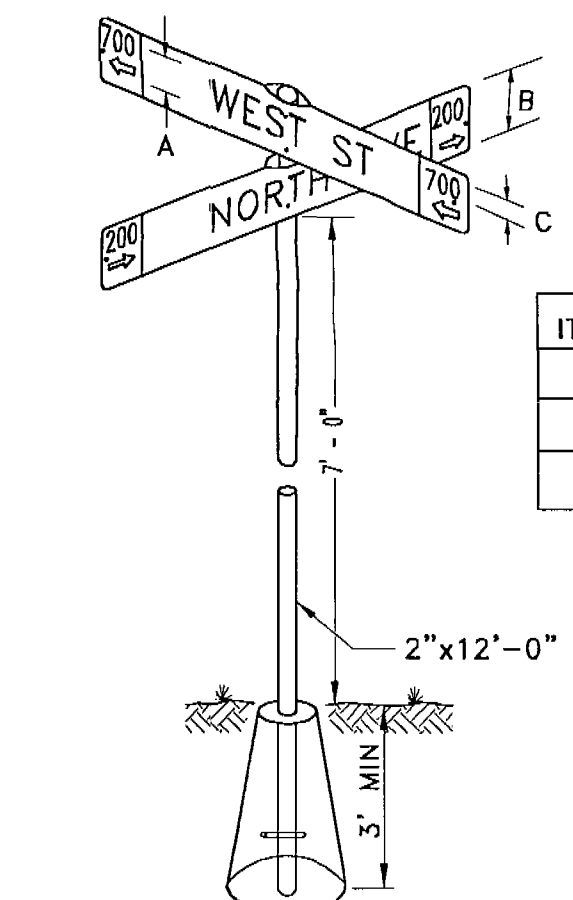
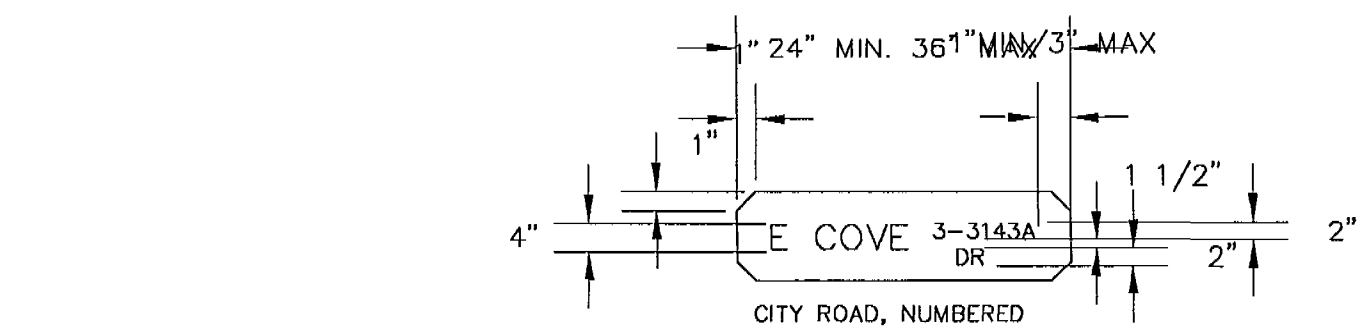


PLAN VIEW

SIDEWALK CURB RAMP



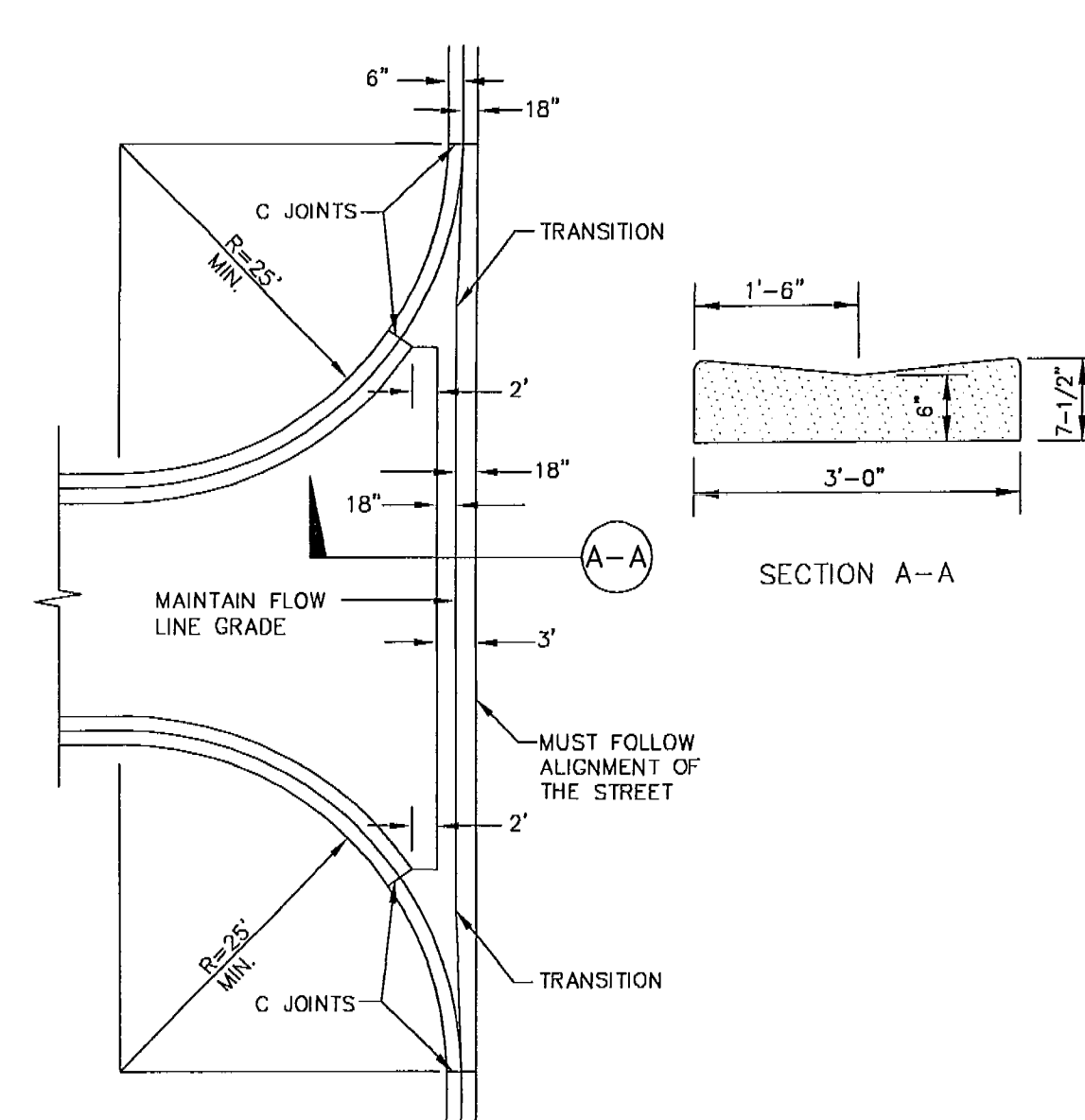
STOP SIGN DETAIL



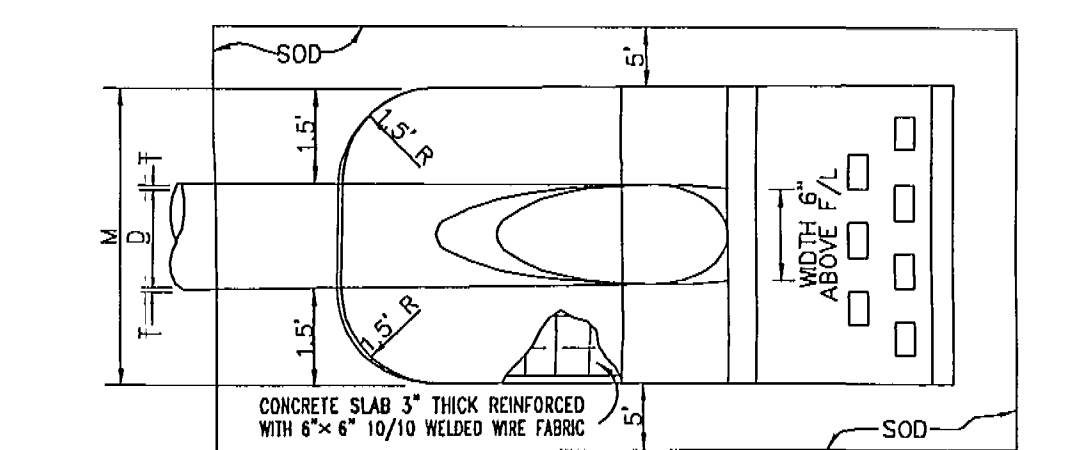
ITEM	ALL OTHER (LOCAL COLLECTOR)	ARTERIAL (MAJOR)
A	6"	6"
B	9"	12"
C	4"	4"

- NOTES:
1. ALUMINUM PLATES MINIMUM THICKNESS .080 INCHES, DIE CUT ALCOA ALLOY 6061-T6, OR EQUAL, WHITE REFLECTORIZED LETTERS WITH GREEN REFLECTORIZED BACKGROUND TO MEET STANDARDS OF SECTION 633.06 FP-79 FOR TYPE 3A SHEET REFLECTIVE MATERIAL.
 - BASE 2500 P.S.I. CONCRETE
 - TOP 6" DIAMETER, FLUSH WITH GRADE
 - CROSSPIN 3/8"x6" - THROUGH PIPE
 - BOTTOM 12" DIAMETER

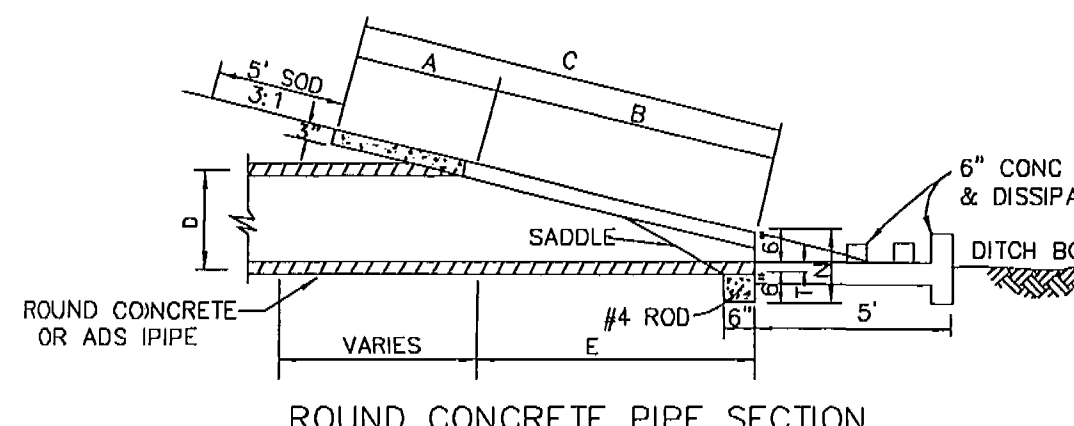
MINIMUM STANDARDS
STREET NAME MARKERS



CONCRETE VALLEY GUTTER



PLAN



ROUND CONCRETE PIPE SECTION

NOTE:

1. LETTERS REFER TO F.D.O.T. DESIGN STANDARDS DIMENSIONS AND QUANTITIES CHART ON INDEX NUMBER 272 & 273.

D	A	B	C	E	F	M	N
15"	2.27'	4.09'	6.36'	4.03'	8'	4.63'	1.19'
18"	2.36'	5.12'	7.48'	5.03'	9'	4.92'	1.21'
24"	2.53'	7.18'	9.71'	7.03'	11'	5.50'	1.25'
30"	2.70'	9.25'	11.95'	9.03'	13'	6.08'	1.29'
36"	2.87'	11.31'	14.81'	11.03'	15'	6.67'	1.33'

CONC. MITERED END SECTION

SIGNAGE AND MARKING NOTES:

1. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND NOTIFY THE APPROPRIATE AUTHORITIES PRIOR TO COMMENCING WORK.
2. LAKE COUNTY PUBLIC WORKS DEPARTMENT TO BE NOTIFIED AT 343-9670 AT LEAST 24 HOURS PRIOR TO COMMENCING WORK.
3. ALL CONSTRUCTION SHALL CONFORM TO F.D.O.T. STANDARDS AND SPECIFICATIONS AND SHALL BE SUBJECT TO LAKE COUNTY INSPECTIONS AND APPROVALS.
4. LOCAL LAW ENFORCEMENT OFFICIALS MUST BE NOTIFIED WHEN ONE OR MORE TRAVELING LANES ARE CLOSED FOR MORE THAN TWO HOURS.
5. CONTRACTOR TO SAW CUT 6" INSIDE EXISTING EDGE OF PAVEMENT TO INSURE A CLEAN, EVEN MATCH OF NEW PAVEMENT.
6. CONTRACTOR TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS IN AREAS NOT RECEIVING PAVEMENT OVERLAY.
7. ALL PAVEMENT MARKINGS TO BE THERMOPLASTIC IN ACCORDANCE WITH F.D.O.T. STANDARDS AND LAKE COUNTY REQUIREMENTS.
8. REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH F.D.O.T. INDEX NO. 17352.
9. RELOCATION OF EXISTING SIGNS AND PLACEMENT OF ALL PROPOSED SIGNS SHALL COMPLY WITH F.D.O.T. INDEX NO. 17302.
10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITIONS AND SOODED OR SEEDED/MULCHED WITH 7 DAYS OF FINAL GRADING.
11. AT LEAST 75% VEGETATIVE COVER SHALL BE ESTABLISHED WITH 14 DAYS OF SEEDING/MULCHING OPERATIONS OR CONTRACTOR SHALL RESEED AND REMULCH ALL BARE AREAS.
12. ALL SIGNS SHALL BE 3M ENGINEER GRADE REFLECTIVE SHEETING.
13. STOP SIGN SHALL BE 0.080"x30"x30".
14. SPEED LIMIT SIGN SHALL BE 0.080"x24"x30".
15. STREET NAME SIGNS SHALL BE 0.080"x6"xVARIES.
16. STREET NAME SIGNS SHALL BE DOUBLE FACED. GREEN SHEETING WITH WHITE BORDER ON BOTH SIDES.
17. STREET SIGNS POST SHALL BE 16 GA. 10"x2-3/8" O.D. ROUND POST WITH ROK-PRUF #2 CAP AND #3 CROSS.
18. ALL OTHER SIGNS SHALL BE RIVETED TO A GALVANIZED 12"x28/FT. U-CHANNEL POST.
19. A 24" WIDE THERMOPLASTIC PAINTED STOP BAR SHALL BE PROVIDED AT ALL STOP SIGNS.
20. ALL SIGN LOCATIONS AND PAVEMENT MARKINGS SHALL CONFORM TO F.D.O.T. AND THE CITY OF CLEMONT STANDARDS.

DTL008 SKL 05-06-91

M-O-N-T-V-E-R-D-E-
ENGINEERING INC.
P.O. BOX 560116 PHONE (407)469-4829
MONTEVERDE, FLORIDA 34756
FAX (407)469-1129
NOW VAPOR WITHOUT RAISED SEAL

LOST LAKE PINES SUBDIVISION

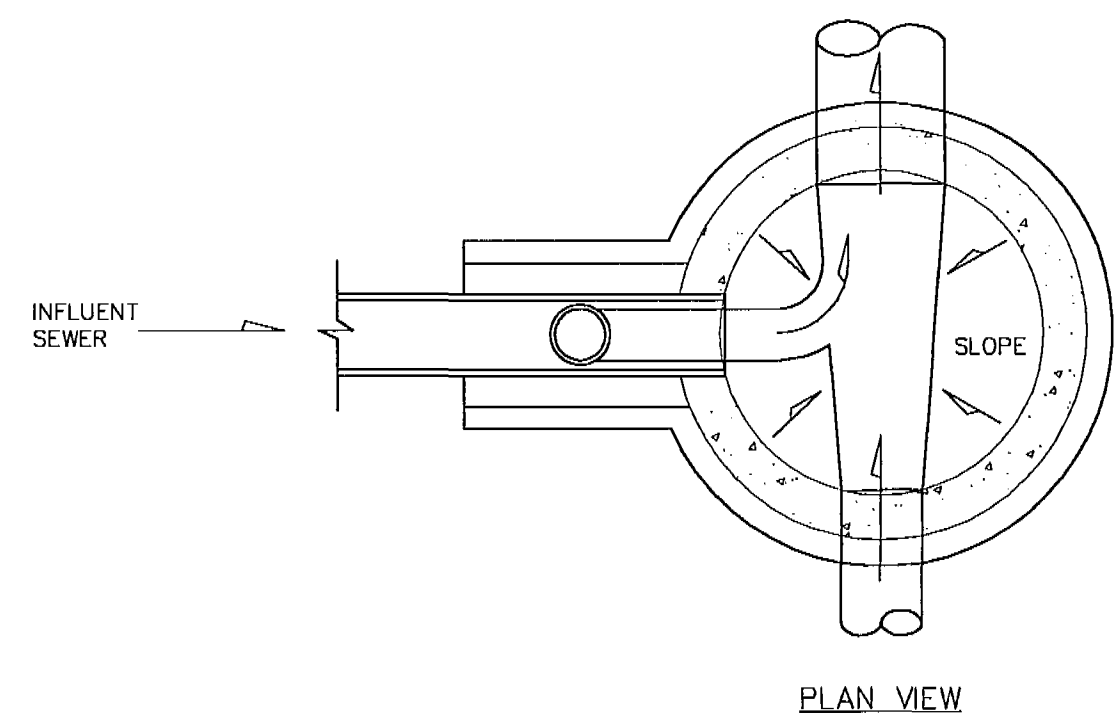
LAKE COUNTY

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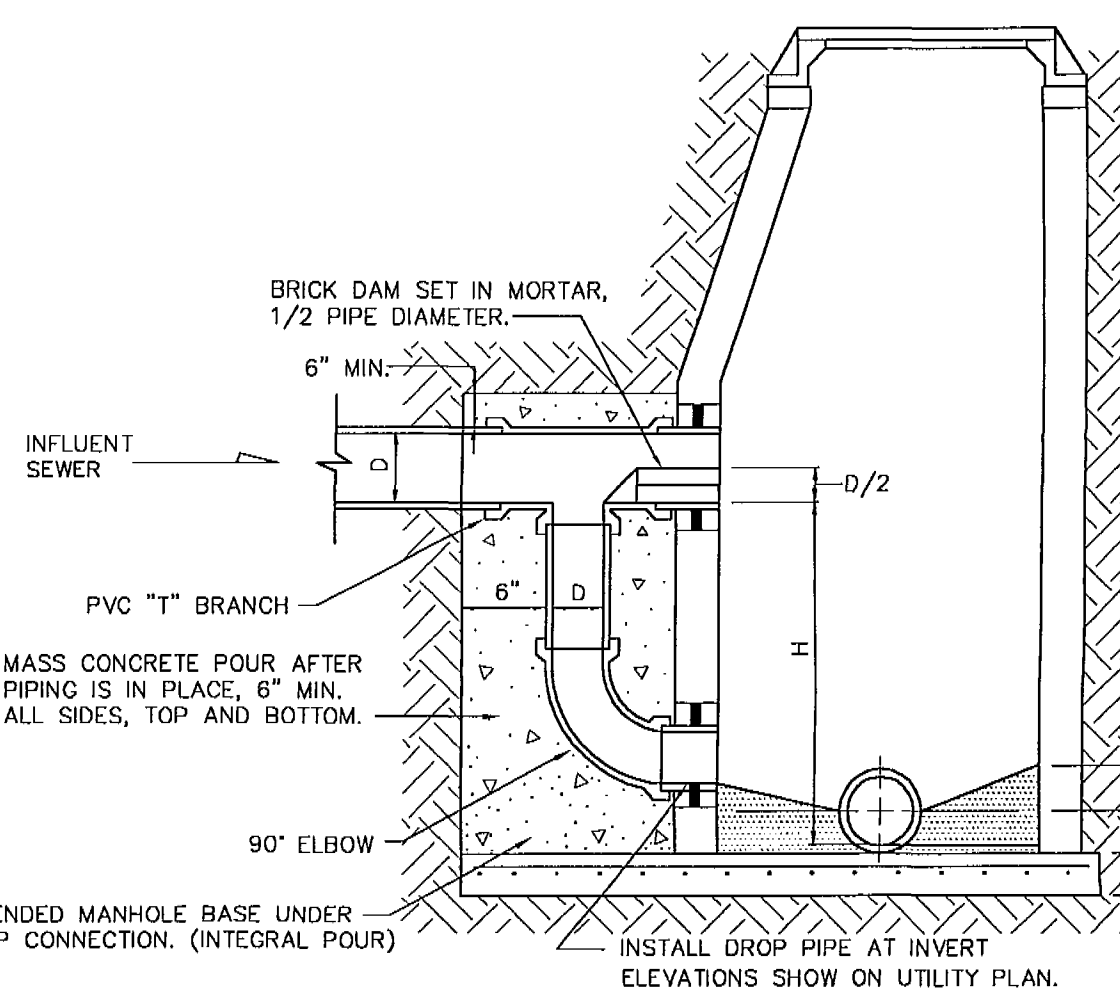
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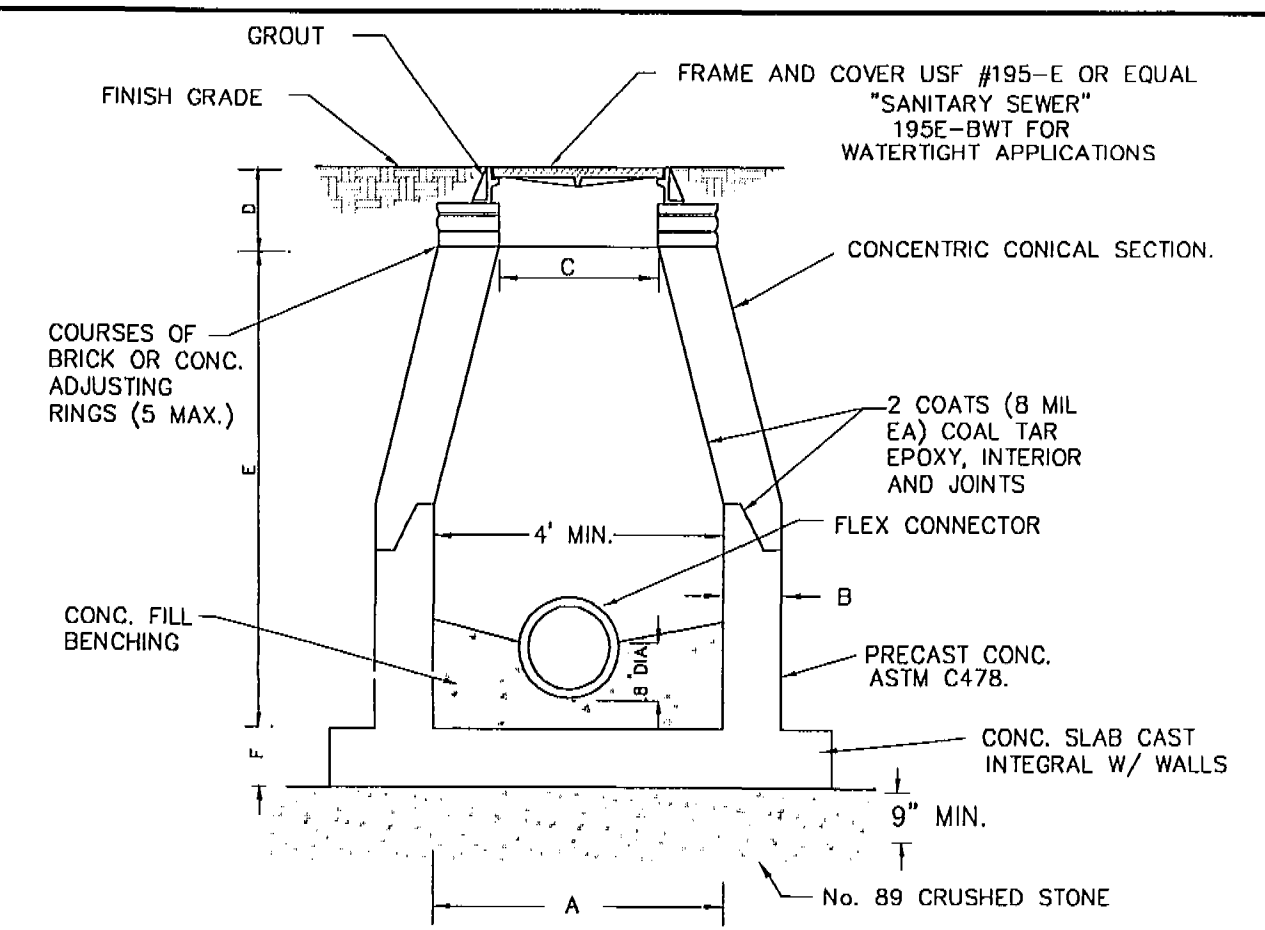


NOTE:
MANHOLE CHANNEL SHALL HAVE A CROSS DROP OF .10 FT. MINIMUM. NO STANDING WATER WILL BE ALLOWED IN MANHOLE INVERTS.



NOTE:
H VARIES. DROP MANHOLE NOT REQUIRED WHEN H IS LESS THAN 2'-0". D=8" MIN. THICKNESS OF CONCRETE ENCASEING PIPE. CONCRETE TO BE AT LEAST 1500 P.S.I.

DETAIL OF DROP MANHOLE N.T.S.



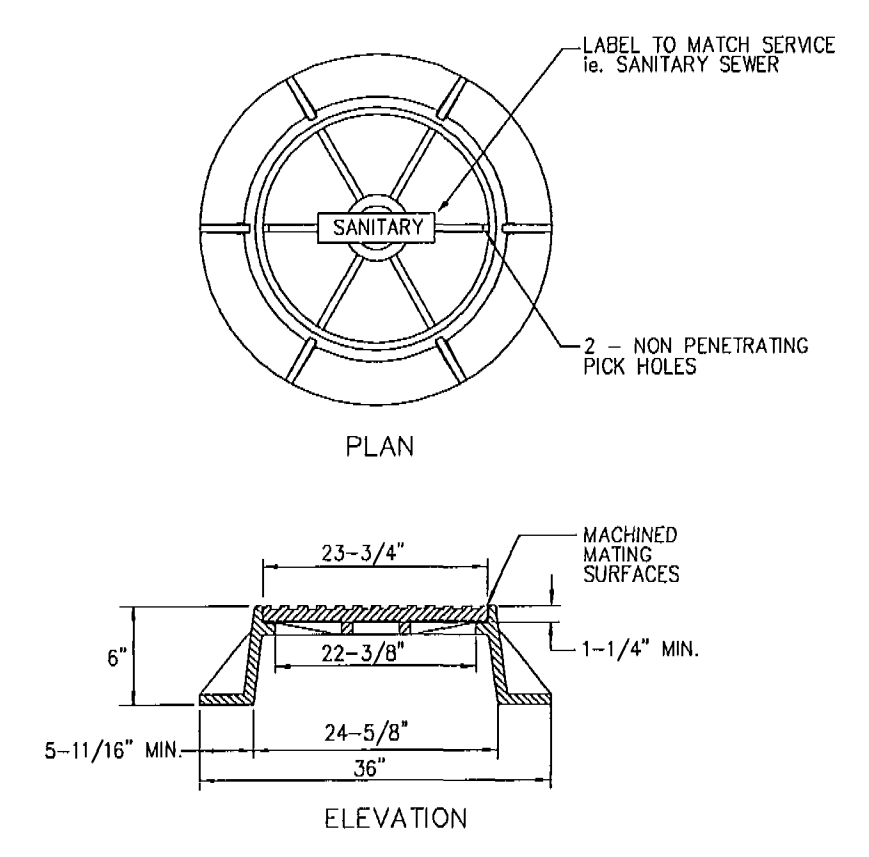
- NOTES:
1. PRECAST CONCRETE SHALL BE TYPE 2 CEMENT 4000 PSI
 2. LIFT HOLES NOT PERMITTED THROUGH PRECAST SECTIONS.
 3. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
 4. INSTALL FLOW CHANNEL INSIDE MANHOLES.
 5. SERVICE LATERALS SHALL GENERALLY NOT BE PERMITTED DIRECTLY INTO MANHOLES.
 6. PLACE TWO HALF-MOON SHAPED PLYWOOD (3/8" THK. MIN.) IN BOTTOM OF MANHOLE AFTER PIPES HAVE BEEN CONNECTED TO KEEP DEBRIS FROM ENTERING SEWER.
 7. REINFORCING STEEL PER ASTM C478-BB0.
 8. PROVIDE 5' x 5' x 12" CONCRETE COLLAR AROUND COVER FRAME, W/4 #4 BARS E.W., IN UNPAVED AREAS.

M.H. DEPTH	A*	B	C	D	E	F
UP TO 12'	48"	5"	24"	15"	AS-REQ'D	8"
12' - 18'	60"	8"	24"	15"	AS-REQ'D	10"
18' & DEEPER	72"	8"	24"	15"	AS-REQ'D	14"

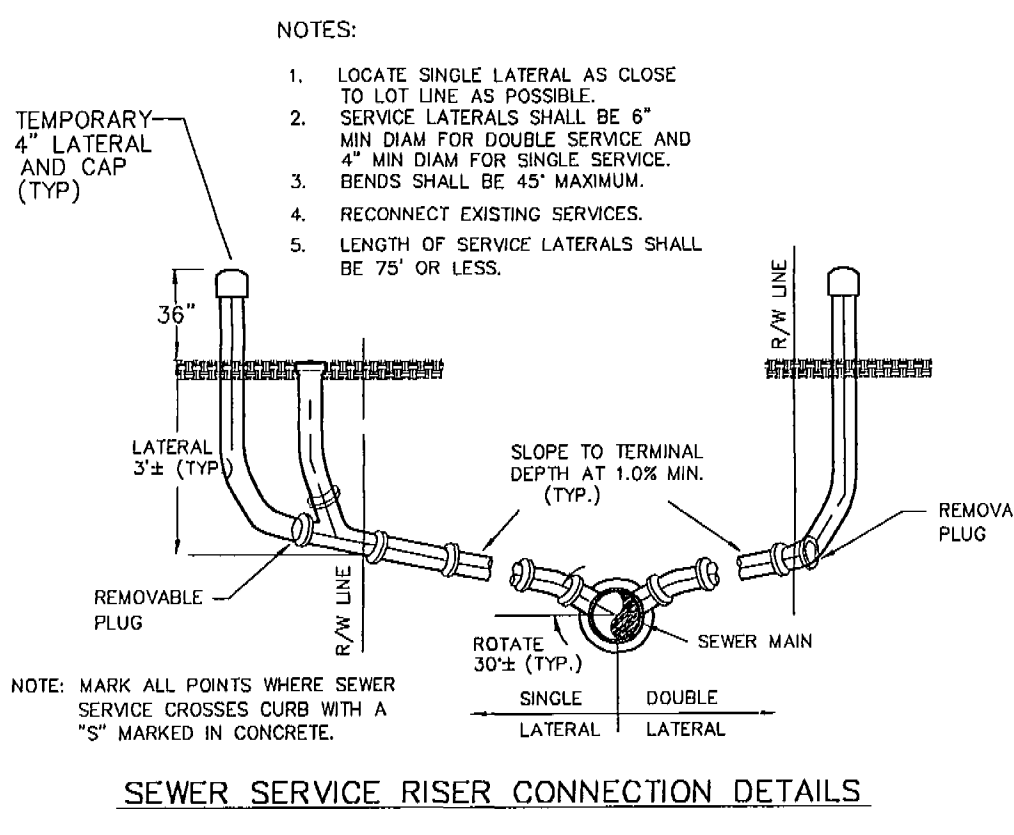
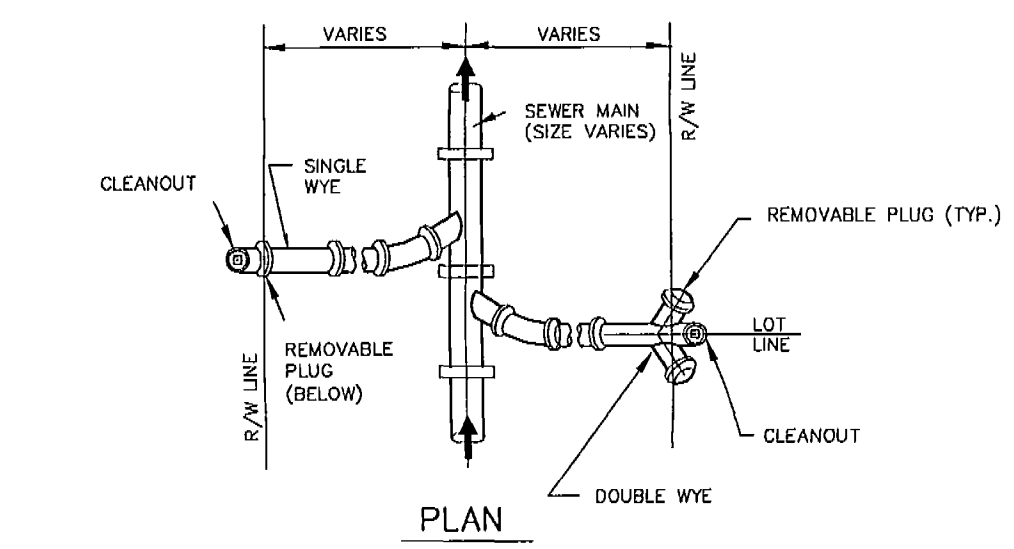
*ENTIRE DEPTH EXCEPT CONE.

MANHOLE SIZE:
UP TO 24" PIPE = 48" Ø, UPTO 36" PIPE = 60" Ø, OVER 36" PIPE = 72" Ø

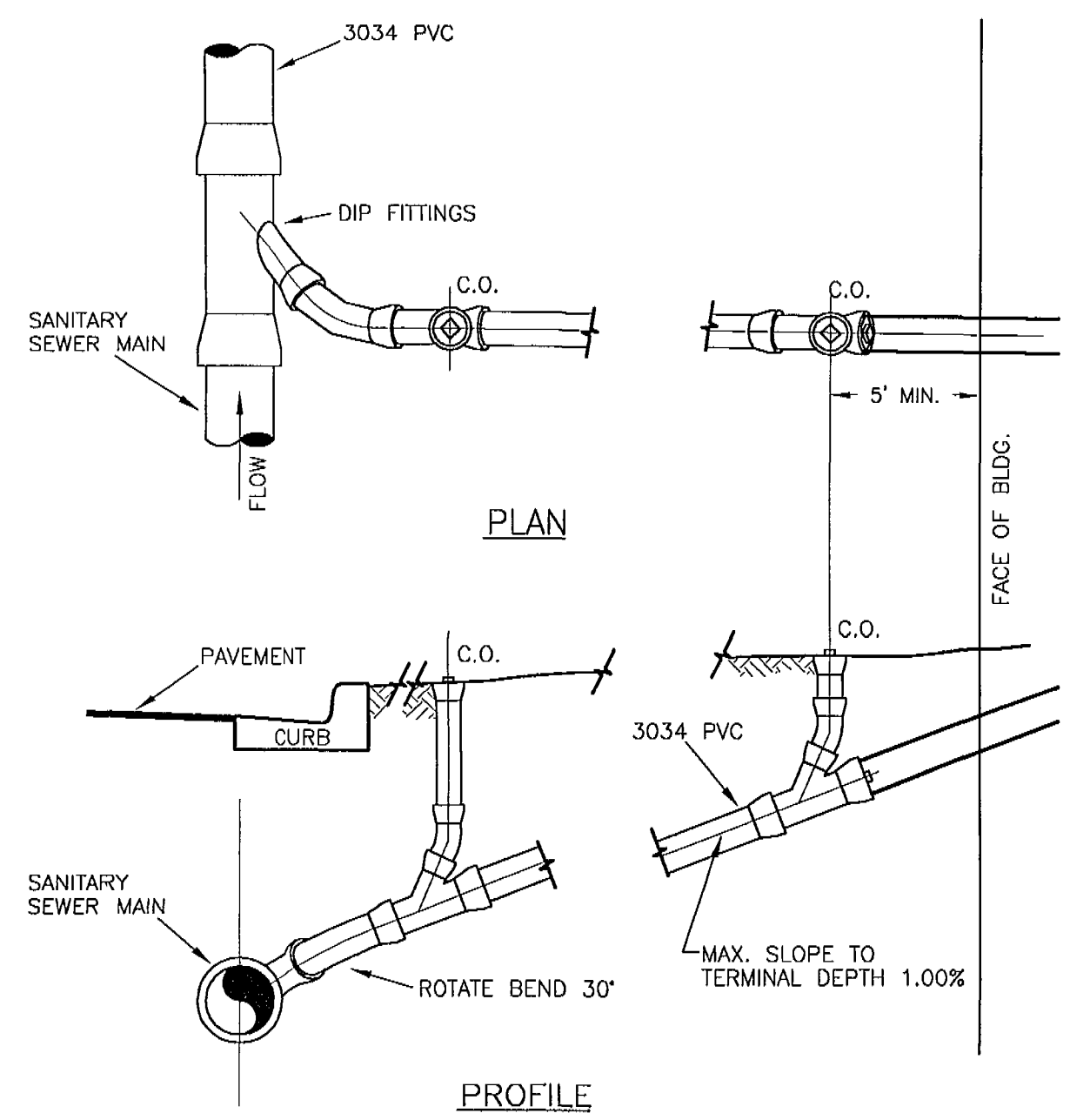
STANDARD MANHOLE DETAILS
NOT TO SCALE



STANDARD MANHOLE FRAME AND COVER
NOT TO SCALE

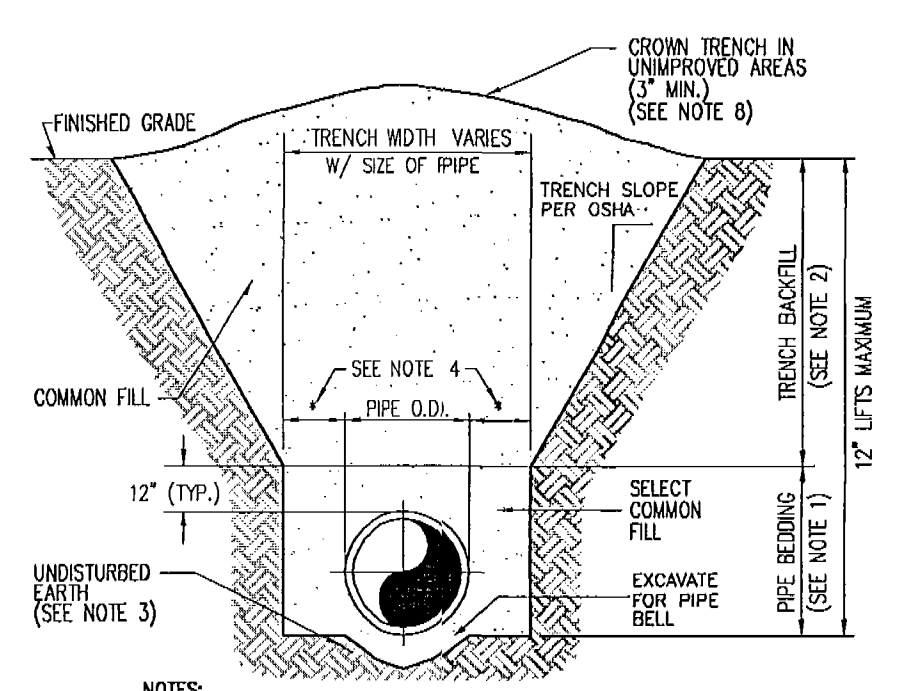


SEWER SERVICE RISER CONNECTION DETAILS



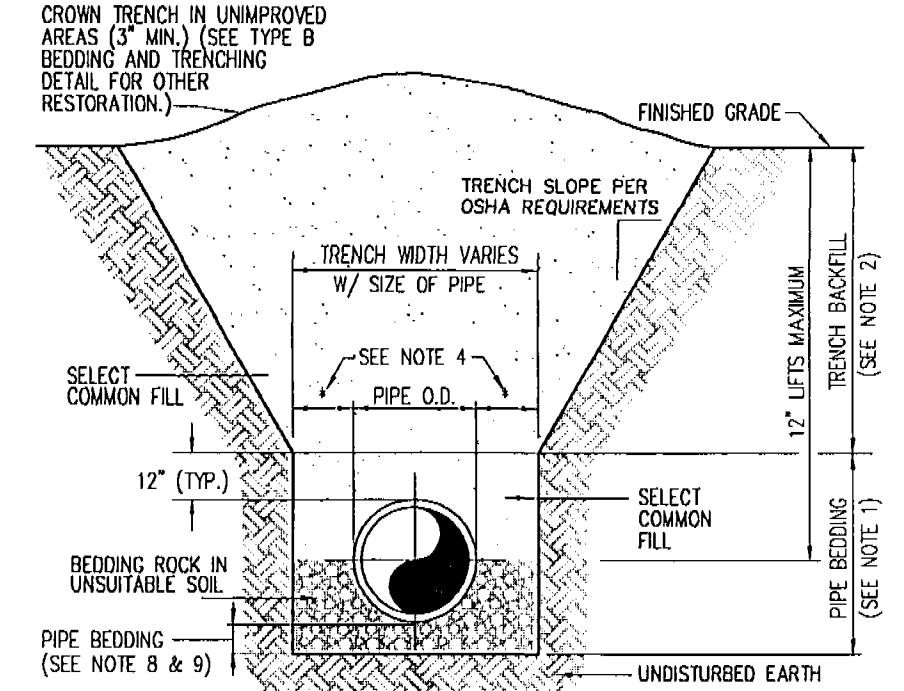
- NOTES:
1. LATERAL INSTALLATION SHALL BEGIN AT R/O'S SEWER CONNECTION POINT AND SHALL BE CONSTRUCTED TO WITHIN 5 FEET OF THE BUILDING AT A SLOPE SUFFICIENT TO YIELD A FLOW VELOCITY OF TWO FEET PER SECOND.
 2. A BUILDING SIDE CLEAN OUT SHALL BE INSTALLED WITHIN FIVE (5) FEET OF BUILDING.
 3. BENDS WILL NOT BE PERMITTED BETWEEN THE R/O'S SEWER AND THE CURB SIDE CLEAN OUT.
 4. THE PIPE SECTION BETWEEN THE CURB SIDE CLEAN OUT AND THE BUILDING CLEAN OUT SHALL BE INSTALLED WITH OUT BENDS.
 5. THE CURB SIDE CLEAN OUT SHALL BE FORMED USING A WYE AND A 45° ELBOW. THE CLEAN OUT BETWEEN THE 45° ELBOW AND THE SURFACE SHALL BE STRAIGHT WITH NO BENDS OR ANGLES. TEE CONNECTIONS WILL NOT BE PERMITTED.

STANDARD LATERAL SEWER CONNECTIONS



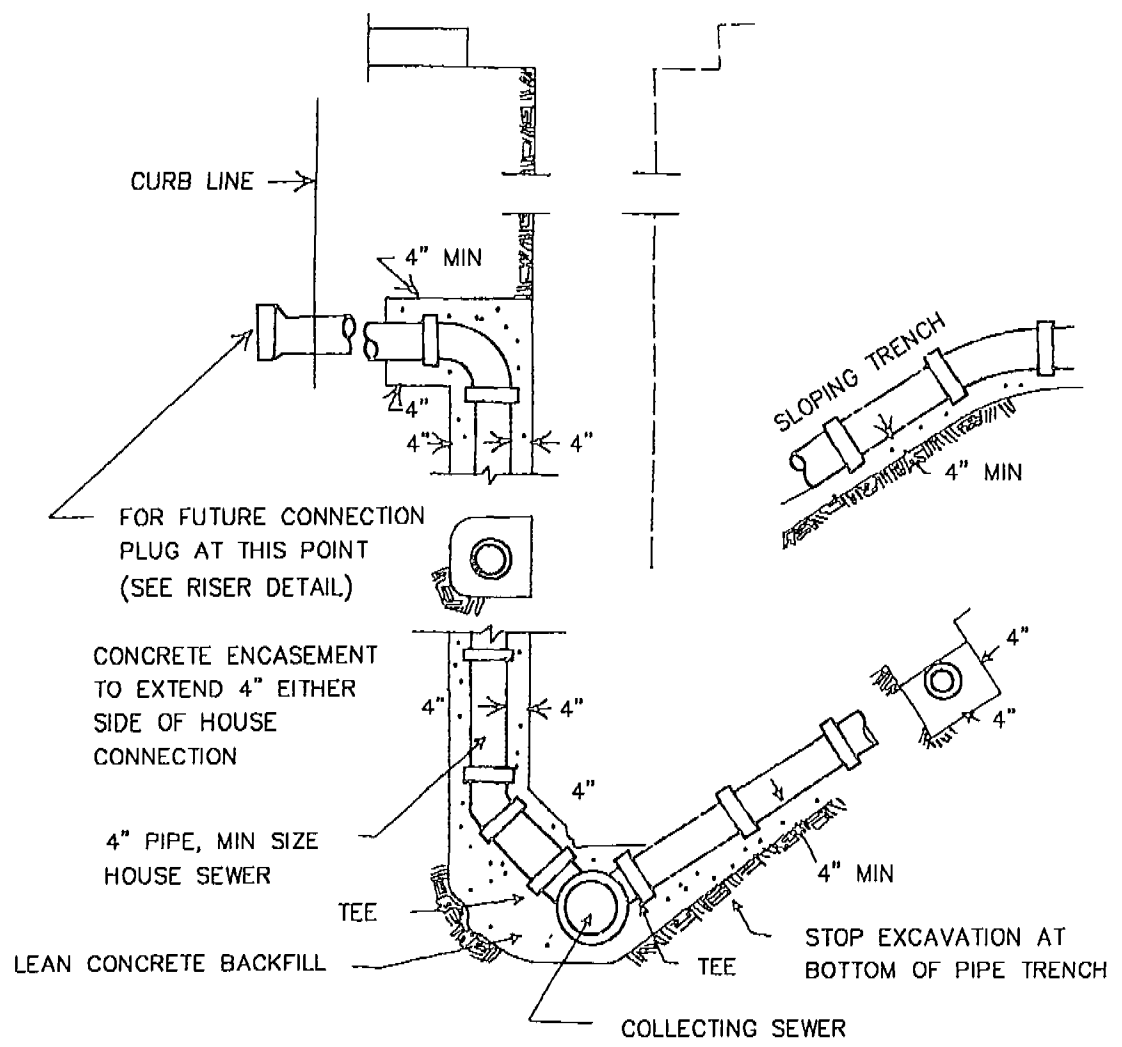
- NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER MASHRO T-100.
 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER MASHRO T-100.
 3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
 4. (1) 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
 7. SHEETING AND BRACING SHALL BE USED IN ACCORDANCE WITH CURRENT TRENCHING REGULATIONS AND WHERE UNSAFE CONDITIONS EXIST.
 8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY OF CLEMONT RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TYPE B BEDDING AND TRENCHING DETAIL
NOT TO SCALE

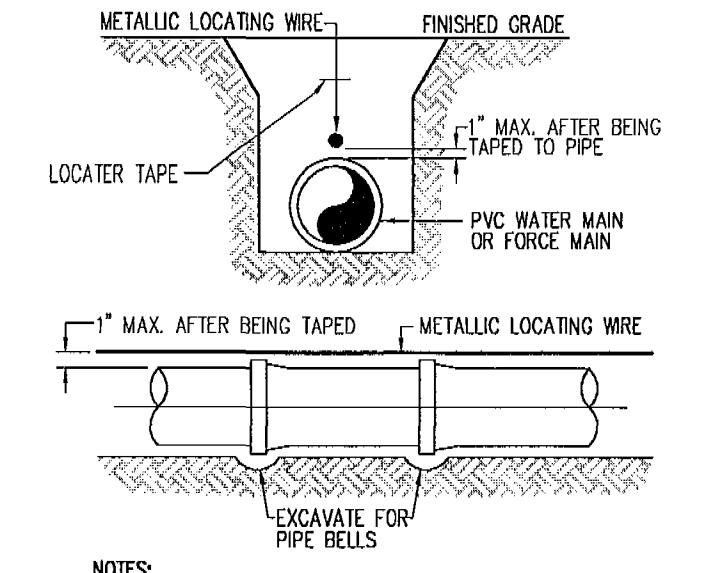


- NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER MASHRO T-100.
 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER MASHRO T-100.
 3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF CLEMONT.
 4. (1) 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
 7. SHEETING AND BRACING SHALL BE USED IN ACCORDANCE WITH CURRENT TRENCHING REGULATIONS AND WHERE UNSAFE CONDITIONS EXIST.
 8. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE ENGINEER. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15" AND 6" MINIMUM FOR PIPE DIAMETER 15" AND LARGER.
 9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL COVER DEPTH OF BEDDING ROCK BELOW THE PIPE. CITY OF CLEMONT SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

TYPE A BEDDING AND TRENCHING DETAIL
NOT TO SCALE



SERVICE CONNECTION FOR DEEP SEWER



- NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR.
 2. AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
 3. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.

PVC PIPE LOCATING WIRE DETAIL
NOT TO SCALE

M-O-N-T-V-E-R-D-E-ENGINEERING INC.
P.O. BOX 58016 PHOENIX (407) 489-4829
MONTESSUMMA FLORIDA 34756
FAX (407) 289-2129
NOT VALID WITHOUT RAISED SEAL

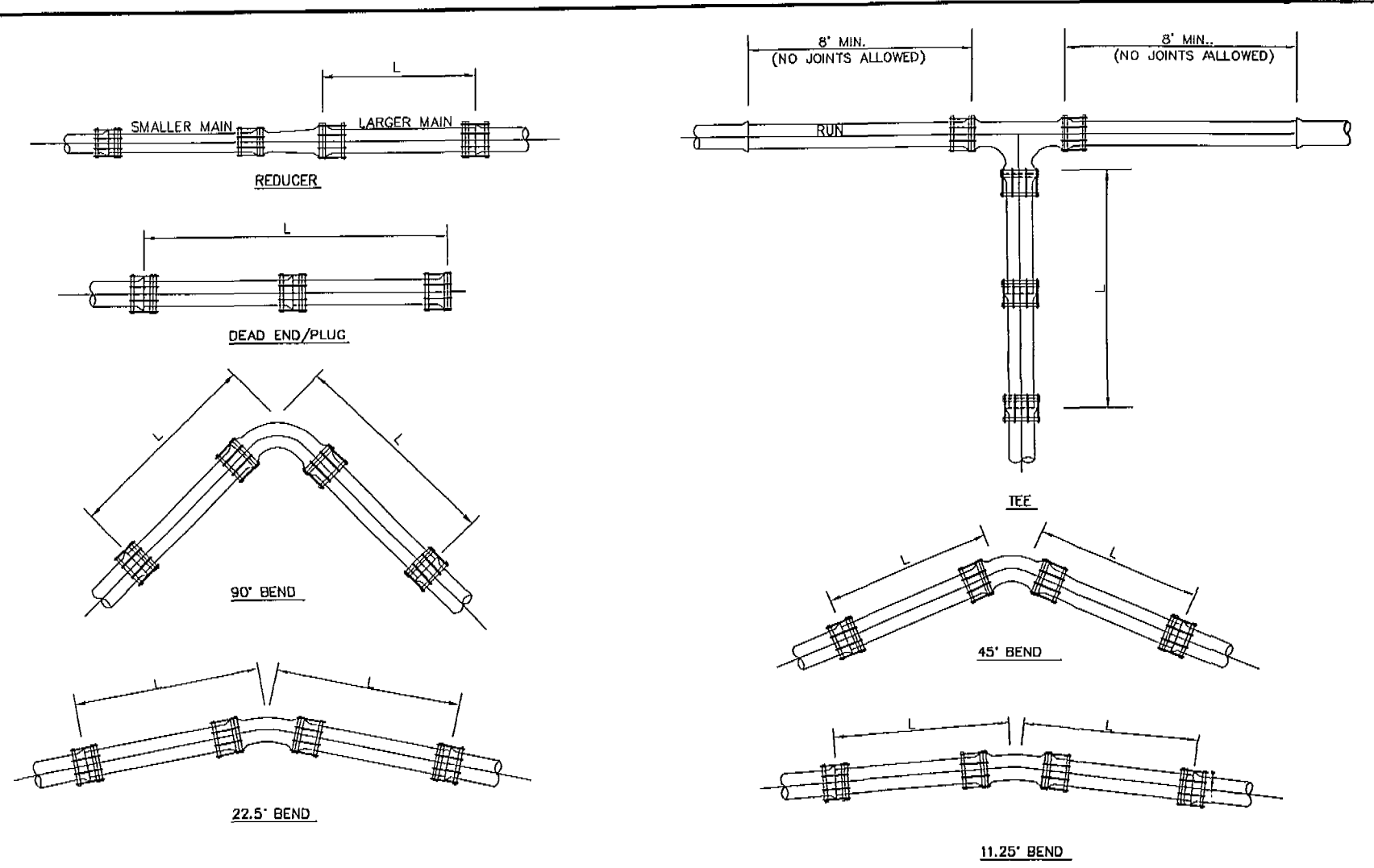
FLORIDA
LOST LAKE PINES SUBDIVISION
LAKE COUNTY

JOB NO. 9919
DATE AUG 99
SCALE GRAPHIC
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REVISIONS

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CAD FILE NO. 9919-DETAIL.DWG R2000
DRAWING DESCRIPTION
SEWER DETAILS
DRAWING NO. SH-12 OF 15

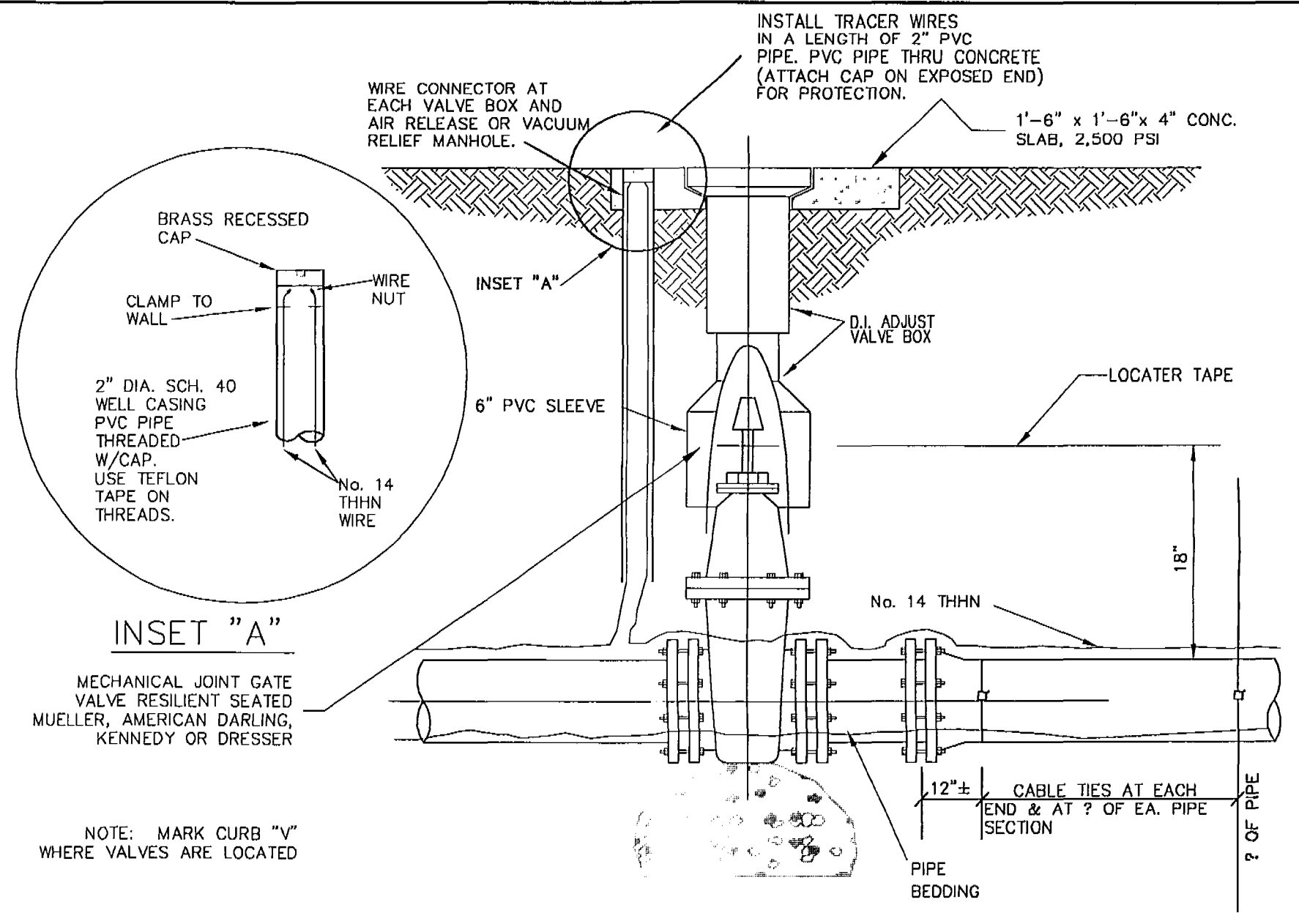


THRUST RESTRAINT DETAILS
N.T.S.

FITTINGS (LENGTH IN FEET) (3-FT. COVER: 200 PSI TEST PRESSURE)					
PIPE SIZE (INCHES)	90° BEND	45° BEND	22.5° BEND	11.25° BEND	DEAD END & PLUG
	P.V.C. (L)	P.V.C. (L)	P.V.C. (L)	P.V.C. (L)	P.V.C. (L)
4	40'	20'	20'	20'	40'
6	60'	40'	20'	20'	60'
8	80'	40'	20'	20'	80'
10	80'	40'	20'	20'	80'
12	100'	40'	20'	20'	100'
16	120'	60'	40'	20'	120'

NOTE: PROVIDE RESTRAINED JOINTS AT CHANGES IN DIRECTION OF ALL WATER MAINS. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCES SHOWN IN THE FOLLOWING TABLE FROM THE PI OF FITTING; DISTANCES APPLY TO LENGTHS OF PIPE ON EACH SIDE OF THE FITTING. TEES AND DEAD ENDS VALVED OR CAPPED ARE CONSIDERED EQUIVALENT TO 90 DEG. BENDS. (LENGTHS ARE BASED ON SOIL OF "TYPE 2 CLAY" BACKFILL AND 200 PSI TEST PRESSURE.)

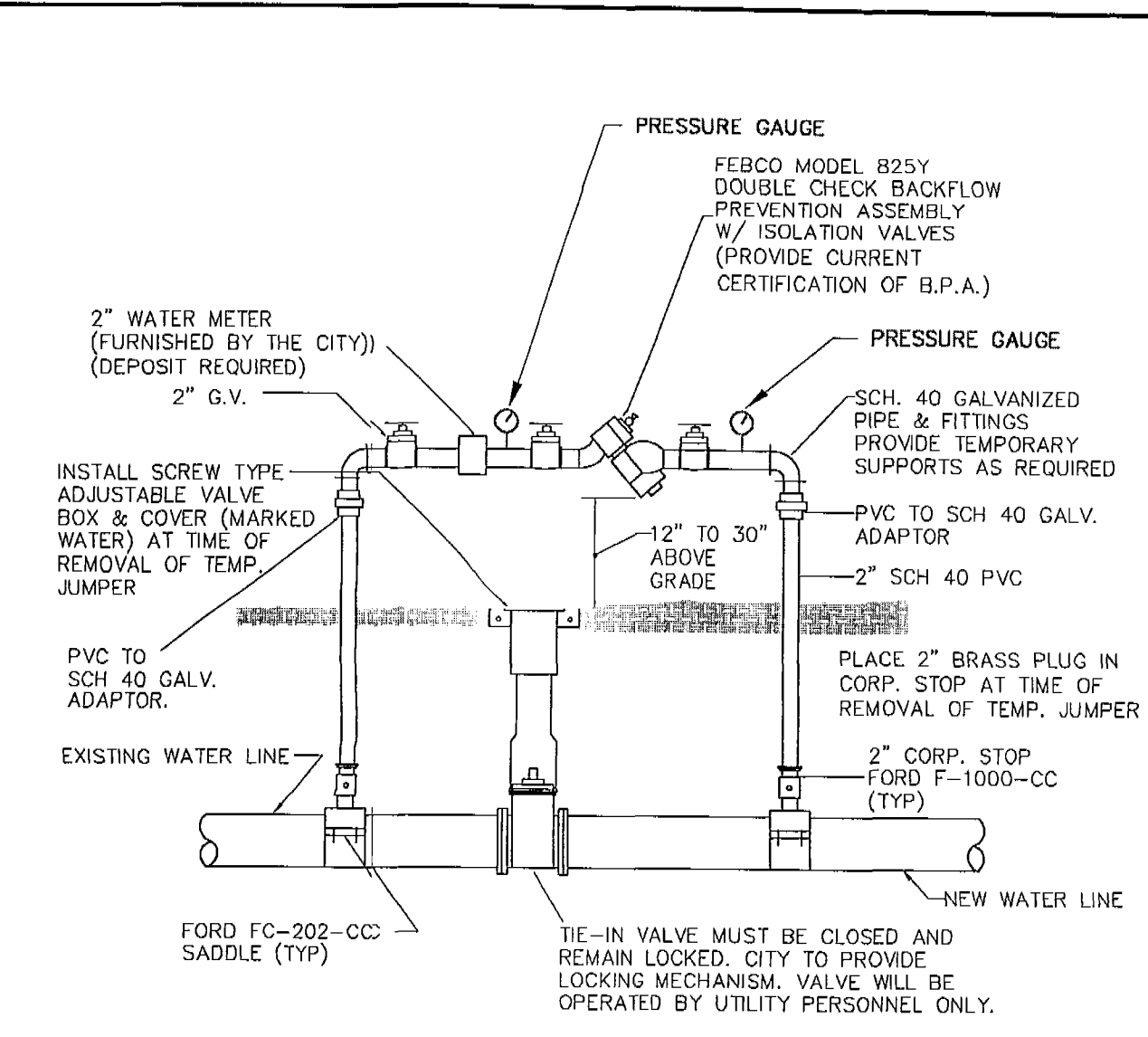
JOINT RESTRAINTS SHALL BE MEGA-LUG.



VALVE BOX DETAIL

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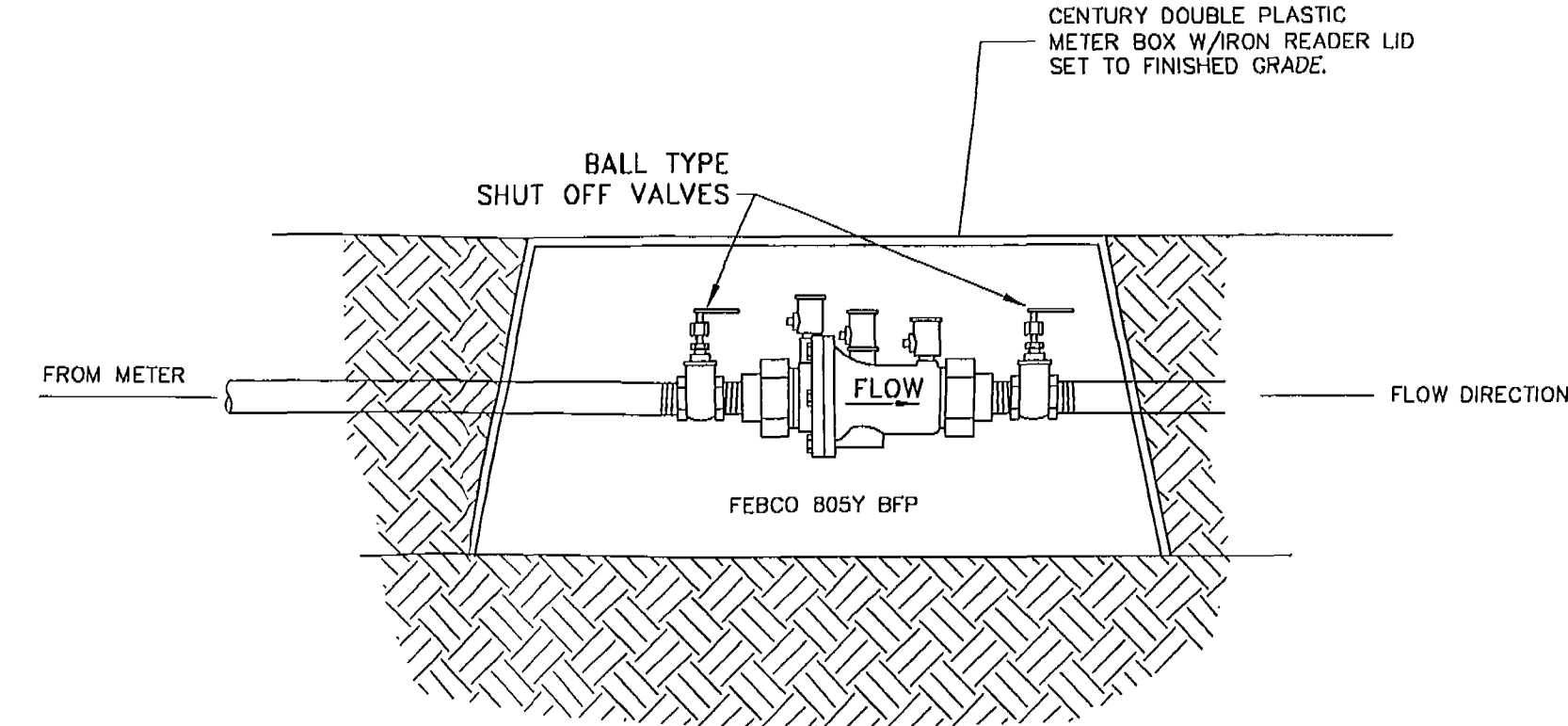
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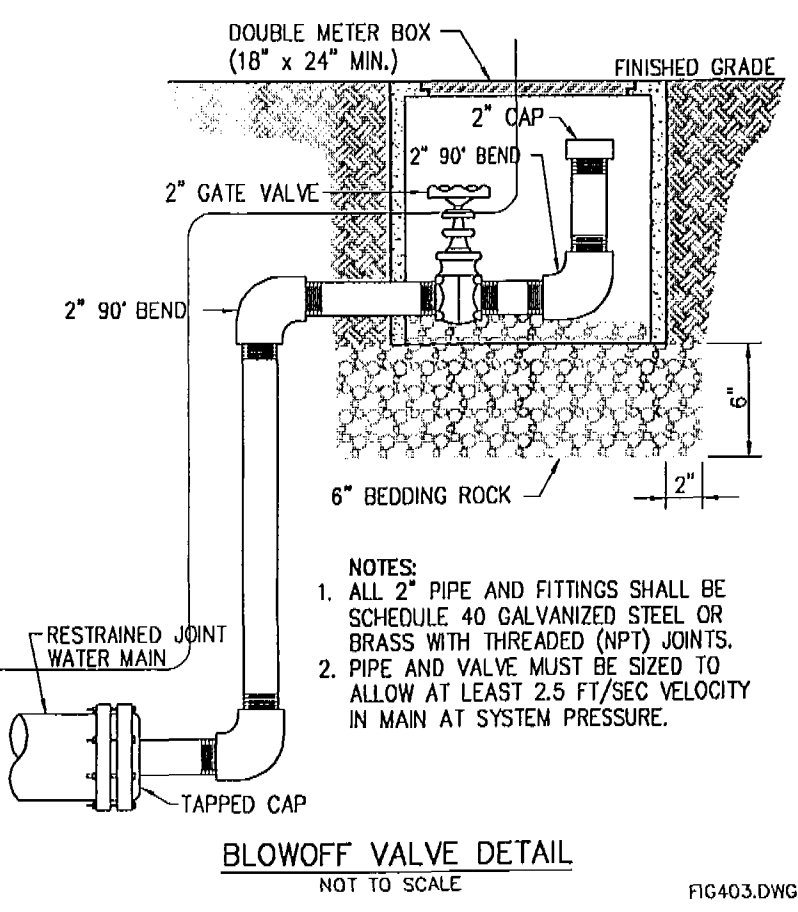
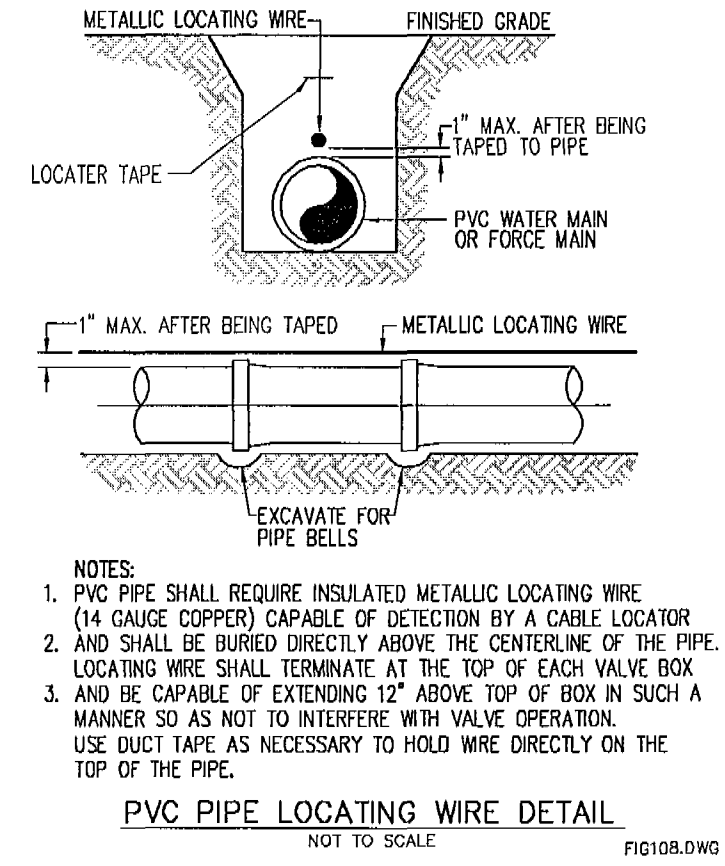
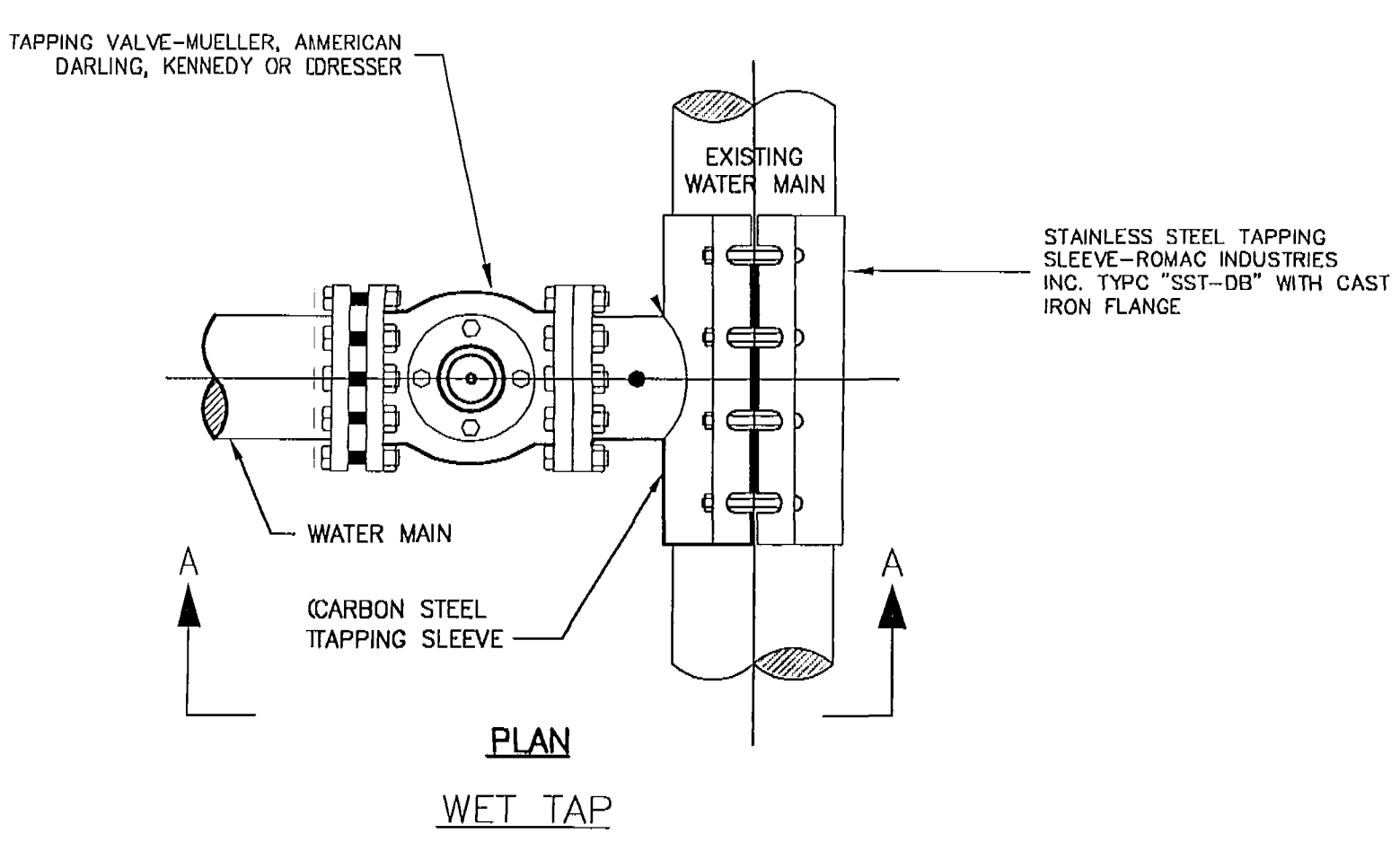
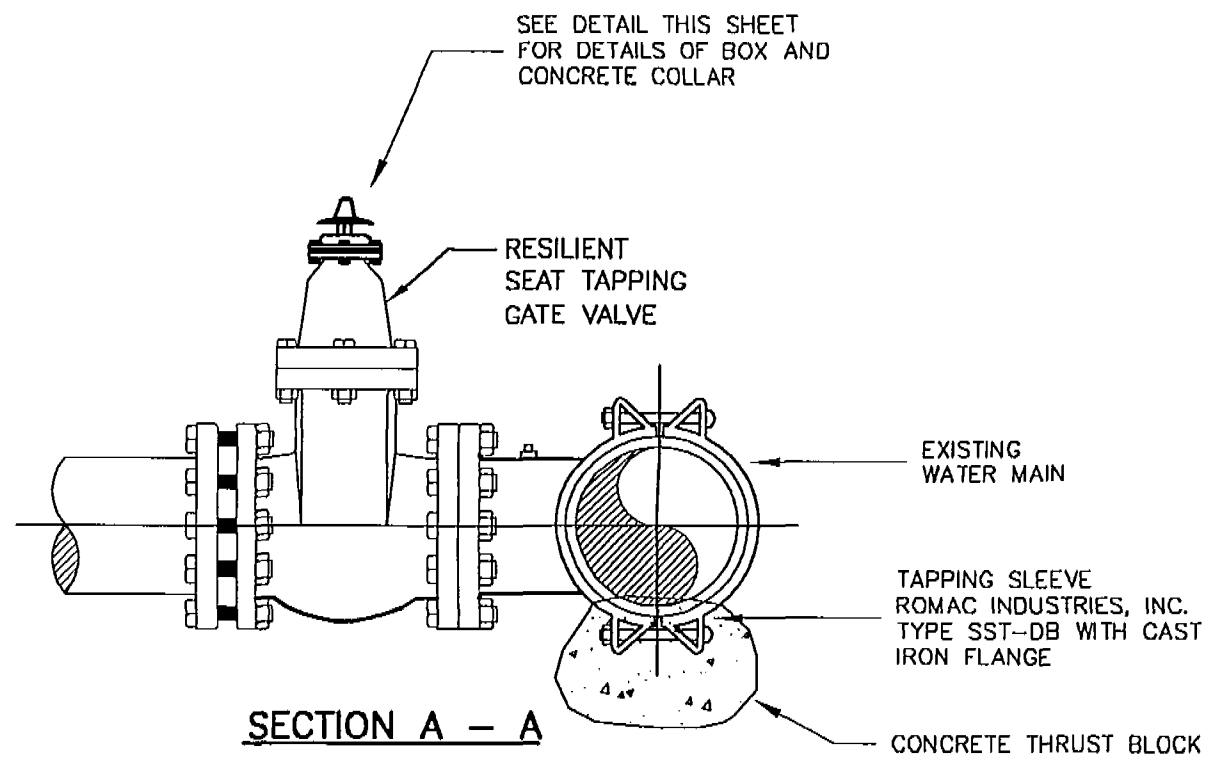
3 TEMPORARY JUMPER CONNECTION DETAIL

NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W/ CITY.

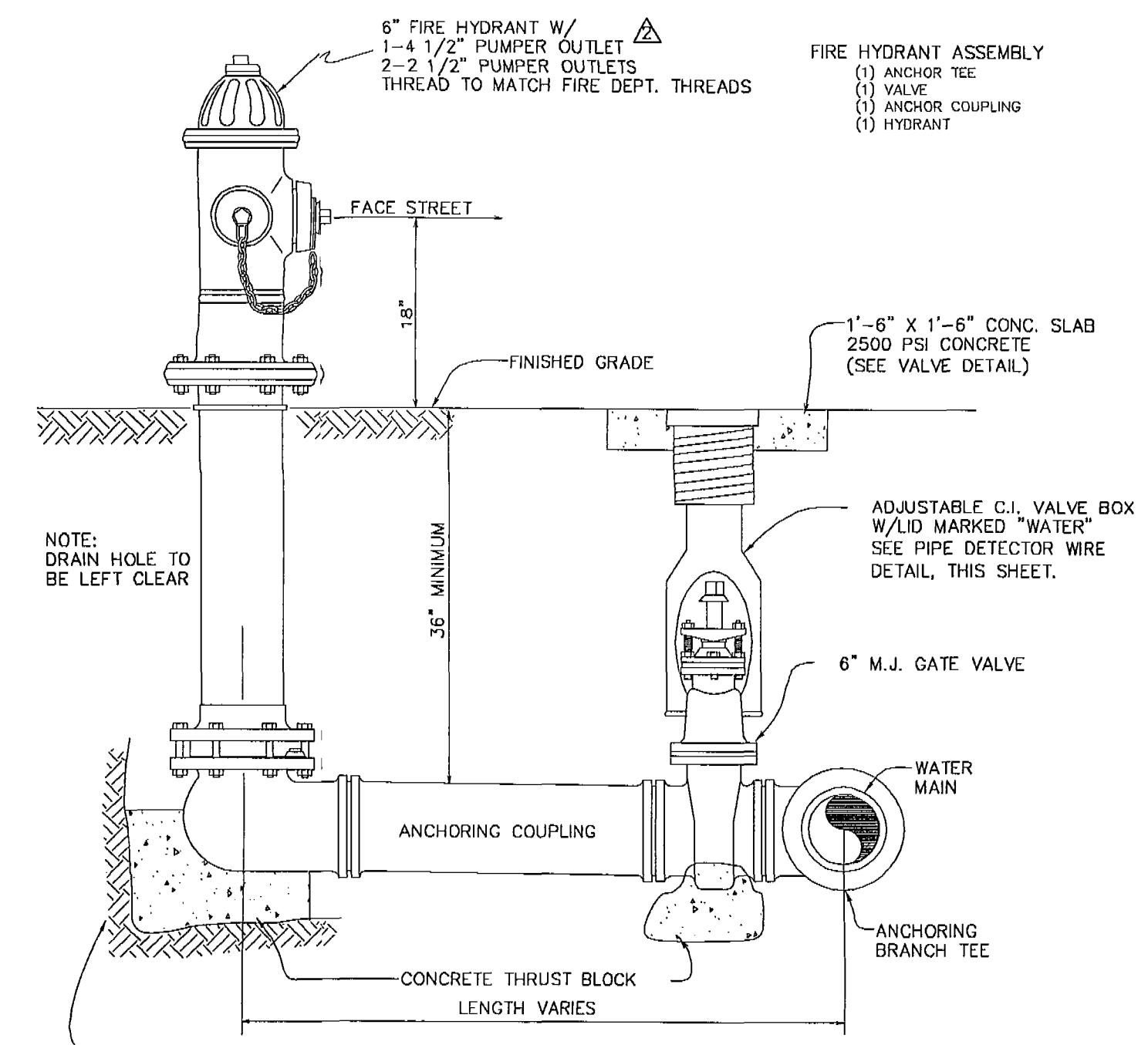
RESTRNT.DWG



BACK FLOW PREVENTOR DETAIL IRRIGATION SYSTEM



BLOWOFF VALVE DETAIL



FIRE HYDRANT DETAIL

LENGTH VARIES

M.O.N.T.V.E.R.D.E.E. ENGINEERING INC.
P.O. BOX 580116 - PHONE (407)469-4829
MONTELEONE BLVD. #4756
FALLS BORO, FL 33428
FAX (407)469-4829
INSPIRE BY THE ART OF ENGINEERING

FLORIDA

LOST LAKE PINES SUBDIVISION

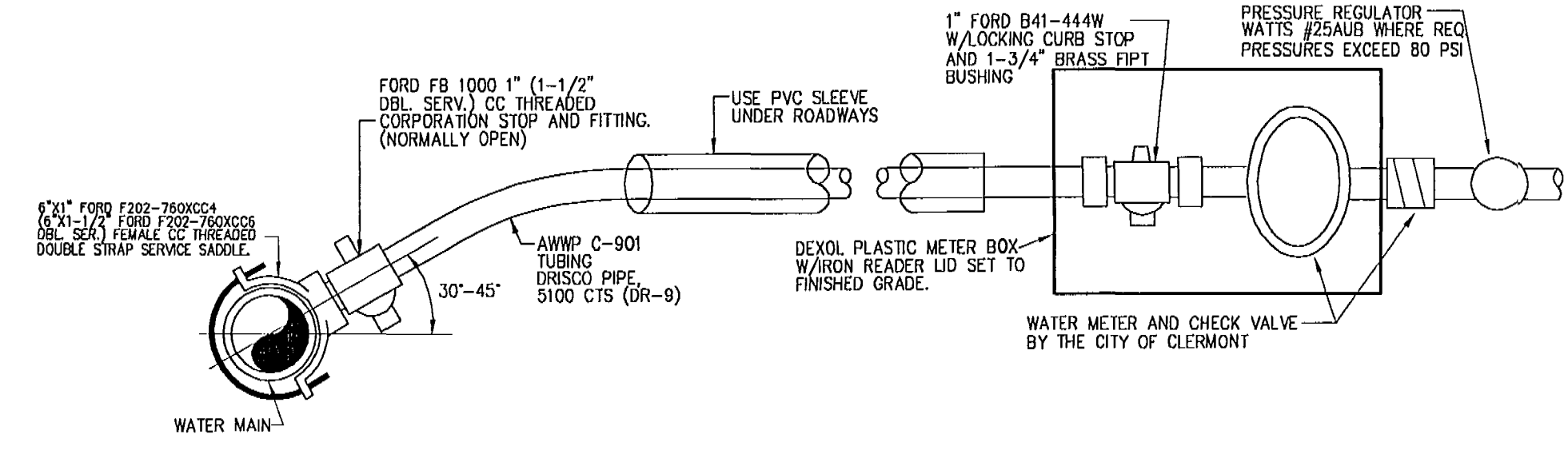
LAKE COUNTY

JOB NO.	9919
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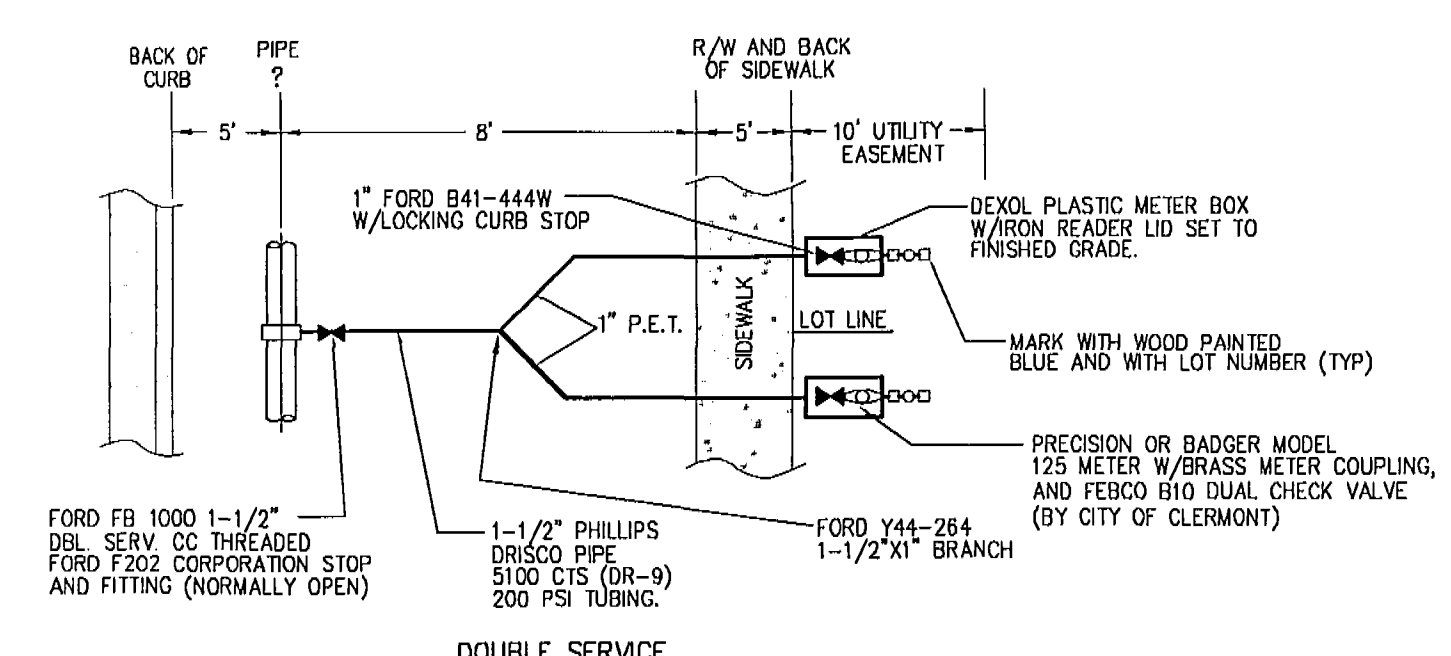
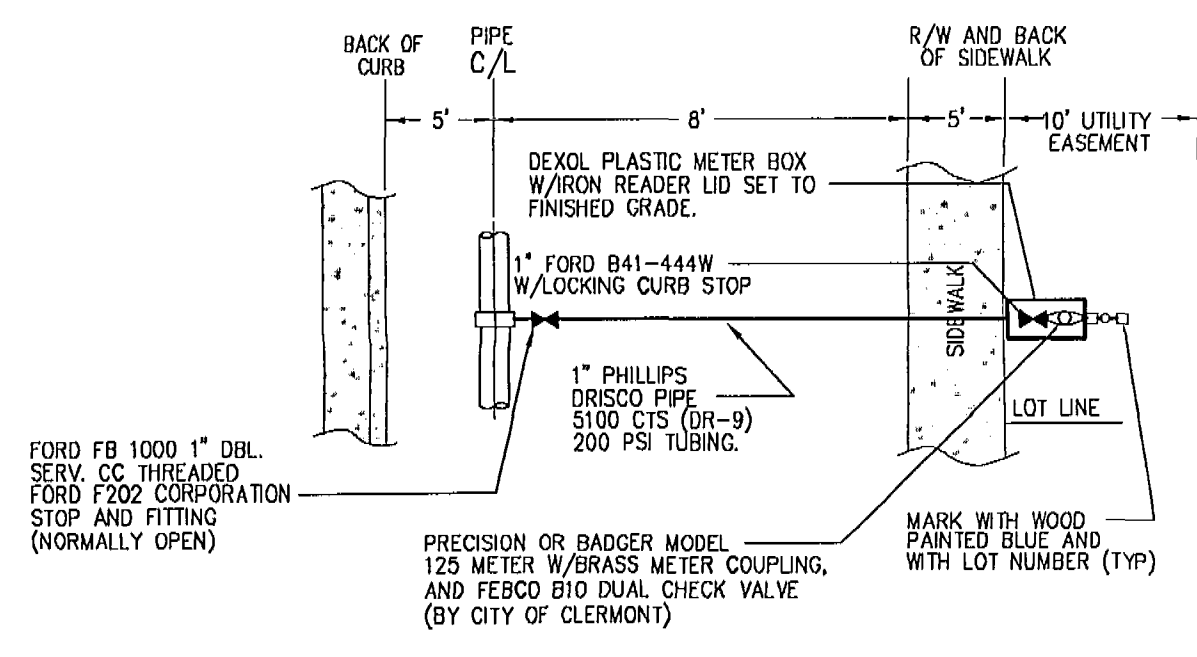
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CAD FILE NO. 9919-DETAIL.DWG R2000
DRAWING DESCRIPTION
WATER DETAILS
DRAWING NO. SH. 13 OF 15

LOST LAKE PINES SUBDIVISION



NOTES:
 ALL WATER SERVICES AND METER BOXES SHALL BE LOCATED INSIDE THE 10' UTILITY EASEMENT. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP.
 ALL CLEMONT SERVICE LINES SHALL BE 1" (1-1/2" DBL. SERV.)
 AWWP C-901 TUBING, DRISCO PIPE, S100 CTS (DR-9), 200 PSI.
 EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE CLEARLY MARKED WITH A 2" X 2" X 18" STAKE.
 CURB STOPS SHALL BE 1" FORD B41-44W WITH LOCKING AND FITTED WITH A 1" MPT X 3/4" FIP T BRASS BUSHING.
 ALL WATER SERVICES CROSSING UNDER ROADWAYS TO BE ENCASED IN LARGER SIZE SCHEDULE 40 PVC.
 EXISTING METER BOXES TO REMAIN.
 PROVIDE NEW METER BOX FOR NEW SERVICES.
 MARK CURB "W" WHERE SERVICES ARE LOCATED.
 PROVIDE TRACER WIRE ALONG SERVICE LINES.



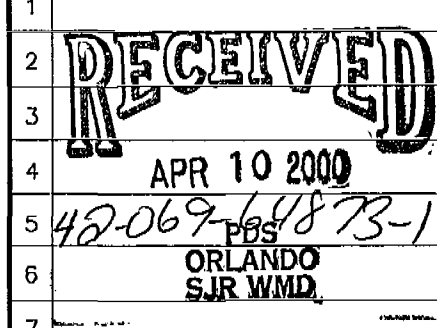
WATER SERVICE CONNECTION DETAILS
 NOT TO SCALE

WATSERV.DWG

JOB NO.	9919
DATE	AUG. 99
SCALE	GRAPHIC
DRAWN BY	ACN
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CAD FILE NO. 9919-DETAIL.DWG R2000
 DRAWING DESCRIPTION
WATER DETAILS
 DRAWING NO. SHT. 14 OF 15



GENERAL PROJECT DATA

FOR IDENTIFICATION OF CONTRACTUAL AGREEMENTS, THIS SET OF DRAWINGS IS DATED MARCH 2000. ANY REVISIONS THEREAFTER WILL BE NOTED AND DATED ON THE AFFECTED DRAWINGS(S).

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. WORK TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS TO THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANY AND THE CONTRACTOR SHALL COOPERATE WITH THEM DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION WILL BE ALLOWED.

DRAINAGE SYSTEMS

THE CONTRACTOR SHALL PERFORM ALL WORK PERTAINING TO DRAINAGE INCLUDING EXCAVATION OF WRAS PRIOR TO THE COMMENCEMENT OF OTHER WORK INCLUDED IN THESE PLANS. THE DRAINAGE

FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE COURSE OF THIS CONTRACT. THE CONTRACTOR SHALL INCLUDE FUNDS IN THE DRAINAGE COSTS OF THE CONTRACT TO OPERATE AND MAINTAIN THE DRAINAGE SYSTEMS DURING THE WORK PROCESS.

THE UTILITIES ARE THE PROPERTY OF THE FOLLOWING:

Table with columns for WATER, SEWER, TELEPHONE, and GAS, listing utility names and contact information.

SOILS INVESTIGATIONS FOR THE SITE WERE PROVIDED BY ANDREYEV ENGINEERING. THE CONTRACTOR IS TO OBTAIN A COPY OF THAT SOILS REPORT FOR REVIEW PRIOR TO CONSTRUCTION; AND THE CONSTRUCTION IS TO CONFORM TO THE RECOMMENDATIONS IN THAT

SURVEY INFORMATION PREPARED BY: FLORIDA GEODETIC AND JEFF RHODEN, PLS

AS-BUILTS

AS-BUILTS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER TWO WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED, AND DATED BY THE RESPONSIBLE PARTY. SEE INDIVIDUAL SECTIONS (STORM, WATER SYSTEM, ETC.) FOR ADDITIONAL AS-BUILT REQUIREMENTS.

PERMITS AND PERMIT REQUIREMENTS

THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL REGULATORY AND LOCAL AGENCY PERMITS. THE CONTRACTOR SHALL BE EXPECTED TO REVIEW AND ABIDE BY ALL THE REQUIREMENTS AND LIMITATIONS SET FORTH IN THE PERMITS. A COPY OF THE PERMIT SHALL BE KEPT ON THE JOB AT ALL TIMES.

LAYOUT AND CONTROL

UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL PROVIDE FOR THE LAYOUT OF ALL OF THE WORK TO BE CONSTRUCTED. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

QUALITY CONTROL TESTING REQUIREMENTS

ALL TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR, COUNTY, AND THE ENGINEER. TESTING REQUIREMENTS ARE TO BE IN ACCORDANCE WITH THE OWNER/OPERATOR'S SPECIFICATIONS AND REQUIREMENTS. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS. CONTRACTOR SHALL PROVIDE TESTING SERVICES THROUGH A FLORIDA LICENSED GEOTECHNICAL ENGINEERING FIRM ACCEPTABLE TO THE OWNER AND ENGINEER. CONTRACTOR TO SUBMIT TESTING FIRM TO OWNER FOR APPROVAL PRIOR TO COMMENCING TESTING.

SHOP DRAWINGS

SHOP DRAWINGS AND CERTIFICATIONS FOR ALL STORM DRAINAGE, WATER SYSTEM, SEWER SYSTEM, AND PAVING SYSTEM MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.

EARTHWORK

EARTHWORK QUANTITIES

THE CONTRACTOR SHALL PERFORM HIS OWN INVESTIGATIONS AND CALCULATIONS AS NECESSARY TO ASSURE HIMSELF OF EARTHWORK QUANTITIES. THERE IS NO IMPLICATION THAT EARTHWORK BALANCES, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT FILL NEEDED, OR FOR REMOVAL AND DISPOSAL OF EXCESS MATERIALS.

EROSION CONTROL

EROSION AND SILTATION CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THESE MEASURES ARE TO BE INSPECTED BY THE CONTRACTOR ON A REGULAR BASIS AND ARE TO BE MAINTAINED OR REPAIRED ON AN IMMEDIATE BASIS, AS REQUIRED. REFER TO WATER MANAGEMENT DISTRICT PERMIT FOR ADDITIONAL REQUIREMENTS FOR EROSION CONTROL AND SURFACE DRAINAGE.

WETLAND PROTECTION

THERE ARE NO WETLANDS ON SITE TO PROTECT

LIMITS OF DISTURBANCE

AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. REPAIR OR RECONSTRUCTION OF DAMAGED AREAS ON SURROUNDING PROPERTIES SHALL BE PERFORMED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

TREE REMOVAL

THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER WHEN ALL WORK IS LAID OUT (SURVEY STAKED), SO THAT A DETERMINATION MAY BE MADE OF SPECIFIC TREES TO BE REMOVED. NO TREES SHOWN ON THE CONSTRUCTION PLANS AS BEING SAVED SHALL BE REMOVED WITHOUT PERMISSION FROM THE OWNER AND ENGINEER.

CLEARING AND GRUBBING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING FOR SITE CONSTRUCTION INCLUDING CLEARING FOR PAVING, UTILITIES, DRAINAGE FACILITIES AND BUILDING CONSTRUCTION. ALL AREAS TO BE CLEARED SHALL BE FIELD STAKED AND REVIEWED BY THE OWNER AND ENGINEER PRIOR TO ANY CONSTRUCTION.

MATERIAL STORAGE/DEBRIS REMOVAL

ALL MATERIALS EXCAVATED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STOCKPILED AT ON-SITE LOCATIONS AS SPECIFIED BY THE OWNER. MATERIALS SHALL BE STOCKPILED SEPARATELY AS TO USABLE (NONORGANIC) FILL, STOCKPILES AND ORGANIC (MUCK) STOCKPILES. IF MUCK IS ENCOUNTERED, CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE. ALL CLAY ENCOUNTERED SHALL BE EXCAVATED OUT AND REPLACED WITH CLEAN GRANULAR FILL MATERIALS.

FILL MATERIAL

ALL FILL MATERIALS SHALL CONTAIN NO MUCK, STUMPS, ROOTS, BRUSH, VEGETATIVE MATTER, RUBBISH OR OTHER MATERIAL THAT WILL NOT COMPACT INTO A SUITABLE AND ENDURING BACKFILL. FILL SHALL BE CLEAN, NON-ORGANIC, GRANULAR MATERIAL WITH NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.

COMPACTION

FILL MATERIALS PLACED UNDER ROADWAYS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. ALL OTHER FILL AREAS ARE TO BE COMPACTED TO AT LEAST 95% MAXIMUM DENSITY AS SPECIFIED IN AASHTO T-180. FILL MATERIALS SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 12" LIFTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER AND OWNER WITH ALL (PASSING AND FAILING) TESTING RESULTS. RESULTS SHALL BE PROVIDED ON A TIMELY AND REGULAR BASIS PRIOR TO CONTRACTOR'S PAY REQUEST SUBMITTAL FOR THE AFFECTED WORK.

PAVEMENT AND/OR ROAD AND R/W WORK

OWNER/OPERATOR

THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE ROADWAYS SHOWN ON THESE PLANS IS LAKE COUNTY. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THAT ENTITY.

GENERAL DESIGN INTENT

ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO USUALLY STEEP OR REVERSE CROSS SLOPES. APPROACHES TO INTERSECTIONS AND ENTRANCE AND EXIT GRADES TO INTERSECTIONS WILL HAVE TO BE STAKED IN THE FIELD AT DIFFERENT GRADES THAN THE CENTERLINE GRADES SHOWN ON THE PLANS. IN THESE AREAS, IT MAY ALSO BECOME ADVISABLE TO MAKE MINOR LOCAL FIELD ADJUSTMENTS IN THE CENTERLINE GRADES TO ACCOMPLISH THE PURPOSES OUTLINED. IN ADDITION, THE STANDARD CROWN WILL HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF THE CROSSING LINE. THE CONTRACTOR RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

MATERIALS/CONSTRUCTION SPECIFICATIONS

MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1991, OR LATEST EDITION.

PAVEMENT SECTION REQUIREMENTS

CONSTRUCTION OF ROADWAYS SHALL BE 12" OF STABILIZED SUBBASE WITH A LIMEROCK BEARING RATIO OF (LBR) 40 COMPACTED TO THE MODIFIED PROCTOR MAXIMUM DRY DENSITY OF 98% PER AASHTO T-180, 6" OF LIMEROCK BASE COURSE, (LBR) 100, COMPACTED TO THE MODIFIED PROCTOR MAXIMUM DRY DENSITY OF 98% PER AASHTO T-180 AND 1 1/4" TYPE 5-111 OF VIRGIN ASPHALTIC CONCRETE SURFACE COURSE WITH A MINIMUM STABILITY OF 1500 LBS. SUBGRADE PREPARATION AND PAVEMENT INSTALLATION SHALL CONFORM TO FDOT STANDARDS AND SOILS REPORT RECOMMENDATIONS.

SIDEWALKS

SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE 4' SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOoled OR SAWCUT AT A DISTANCE OF 5' LENGTHS. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND BE IN ACCORDANCE WITH STATE REGULATIONS FOR HANDICAP ACCESSIBILITY.

PAVEMENT MARKINGS/SIGNAGE

PAVEMENT MARKINGS AND SIGNAGE SHALL BE PROVIDED AS SHOWN ON THE CONSTRUCTION PLANS AND SHALL MEET THE REQUIREMENTS OF THE OWNER/OPERATOR. SIGNAGE SHALL BE IN CONFORMANCE WITH MUTCD (LATEST EDITION). A 48-HOUR PAVEMENT CURING TIME WILL BE PROVIDED PRIOR TO APPLICATION OF THE PAVEMENT MARKINGS. REFLECTIVE PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 17352.

TRAFFIC CONTROL

A MINIMUM OF 2-WAY ONE LANE TRAFFIC SHALL BE MAINTAINED IN THE WORK SITE AREA. ALL CONSTRUCTION WARNING SIGNAGE SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION AND BE MAINTAINED THROUGHOUT CONSTRUCTION. ACCESS SHALL BE CONTINUOUSLY MAINTAINED FOR ALL PROPERTY OWNERS SURROUNDING THE WORK SITE AREA. LIGHTED WARNING DEVICES ARE TO BE OPERATIONAL PRIOR TO DUSK EACH NIGHT DURING CONSTRUCTION.

CURBING

CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "1" CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. CURBS SHALL BE SAW CUT CONTRACTOR JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (1991) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

R/W RESTORATION

ALL AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FINISH GRADED WITH A SMOOTH TRANSITION INTO EXISTING GROUND. ALL SWALES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING. ALL DISTURBED AREAS SHALL BE RAKED CLEAN OF ALL LIMEROCK AND ROCKS AND SODED AFTER FINAL GRADING IN ACCORDANCE WITH THE CONSTRUCTION PLANS PRIOR TO FINAL INSPECTION. ALL GRASSING (SEED OR SOD) SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE OWNER/OPERATOR.

SITE ACCESS

ALL ACCESS TO THE JOB-SITE FOR CONSTRUCTION AND RELATED ACTIVITIES SHALL BE BY EXISTING STREETS AND ROADS, OR BY THE CONSTRUCTION EASEMENT. THERE SHALL BE NO ACCESS TO THE JOB-SITE THROUGH THE F.O.O.T. RIGHT-OF-WAY.

POTABLE WATER/FIRE SYSTEMS

OWNER/OPERATOR

THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE WATER SYSTEM SHOWN ON THESE PLANS IS CITY OF CLERMONT. THE CONTRACTOR SHALL BE EXPECTED TO MEET ALL THE REQUIREMENTS OF THAT ENTITY.

PIPE MATERIALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL INFRASTRUCTURE TO BE CONSTRUCTED. WATER SYSTEM SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND CITY OF CLERMONT FOR REVIEW PER THE CITY'S POLICY FOR REVIEW OF SHOP DRAWINGS.

POLYVINYL CHLORIDE PLASTIC PIPE (PVC) 4" THROUGH 12" SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C900 (LATEST EDITION) AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI AND HAVE A DR (DIMENSION RATIO) OF 18. ALL PVC PIPE SHALL BEAR THE NSF LOGO FOR POTABLE WATER. JOINTS SHALL BE OF THE PUSH-ON TYPE AND COUPLINGS CONFORMING TO ASTM D3139, DR18 PIPE.

DUCTILE IRON PIPE (DIP) SHALL BE STANDARD PRESSURE CLASS 350 IN SIZES 4" THROUGH 12" AND CONFORM TO ANSI/AWWA C150/A21.10 (LATEST EDITION). ALL DUCTILE IRON PIPE SHALL HAVE A STANDARD THICKNESS OF CEMENT MORTAR LINING AS SPECIFIED IN ANSI/AWWA C104/A21.4 (LATEST EDITION). PIPE JOINTS SHALL BE OF THE PUSH-ON RUBBER GASKET TYPE CONFORMING TO ANSI/AWWA C111/A21.11 (LATEST EDITION).

PIPE DETECTOR W/LOCATOR WIRE SHALL BE INSTALLED ON ALL WATER MAINS PER DETAIL.

PIPE SIZES GREATER THAN 12" IN BOTH PVC AND DUCTILE IRON SHALL BE SEPARATELY SPECIFIED ON THE PLANS; WITH THICKNESS CLASSES TO BE SHOWN BASED ON WORKING PRESSURES, PIPE DEPTH AND TRENCH CONDITIONS.

FITTINGS FOR DUCTILE IRON PIPE AND PVC C-900 PIPE SHALL BE DUCTILE IRON AND SHALL CONFORM TO ANSI/AWWA C153/A21.10 (LATEST EDITION) AND SHALL BE CEMENT LINED IN CONFORMANCE WITH ANSI/AWWA C104/A21.4 (LATEST EDITION).

POLYETHYLENE WRAP USED FOR CORROSION PREVENTION ON DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/ASTM D1248. THE MINIMUM NOMINAL THICKNESS SHALL BE 0.008 IN. (8 MILS). INSTALLATION OF POLY WRAP SHALL BE IN ACCORDANCE WITH AWWA C105.

VALVES

GATE VALVES SHALL BE RESILIENT SEAT AND SHALL CONFORM TO ANSI/AWWA C509.87 WITH HANDWHEEL OR WRENCH NUT, EXTENSION STEMS AND OTHER APPURTENANCES AS REQUIRED. MANUFACTURERS CERTIFICATION OF THE VALVES COMPLIANCE WITH AWWA SPECIFICATION C509 AND TESTS LISTED THEREIN WILL BE REQUIRED. VALVES SHALL BE CLOW, DRESSER KENNEDY, AMERICAN.

BUTTERFLY VALVES

BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVES SHALL BE DUCTILE IRON, RESILIENT SEAT, AND BE MANUFACTURED BY MUELLER, MUELLER WASH, AMERICAN BUTTERFLY VALVES TO BE USED FOR SIZES GREATER THAN 12".

AIR RELEASE VALVES

AIR RELEASE VALVES SHALL BE PLACED AT HIGH POINTS OF THE TRANSMISSION MAIN TO PERMIT ESCAPE OF TRAPPED AIR. THE VALVE SIZE, LOCATION, AND METHOD OF INSTALLATION SHALL BE INDICATED ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. AIR RELEASE VALVES SHALL BE CRISP IN PRESSURE AIR VALVE TYPE N, APOCO, OR VALVE & PRIMER CORP.

VALVE BOXES

VALVE BOXES ON BURIED POTABLE WATER MAINS SHALL BE ADJUSTABLE, CAST IRON CONSTRUCTION, WITH MINIMUM INTERIOR DIAMETER OF 5" WITH COVERS CAST WITH THE INSCRIPTION IN LEGIBLE LETTERING ON TOP. VALVE BOXES SHALL BE SUITABLE FOR THE APPLICABLE SURFACE LOADING AND VALVE SIZE, AND SHALL BE MANUFACTURED BY MUELLER COMPANY, MODEL 10364, OR APPROVED EQUAL. VALVE BOX PADS SHALL BE 18" X 18" X 4" CONCRETE WITH #4 REINFORCING BARS. PAD TO BE SET AT FINISHED GRADE WITH RECESSED DETECTOR WIRE CONDUIT PORT PER DETAIL.

FIRE HYDRANTS

FIRE HYDRANTS SHALL CONFORM TO THE LATEST EDITION OF AWWA C502.85 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED. ALL HYDRANTS SHALL BE BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE HYDRANT GROUND LINE. HYDRANTS SHALL CONTAIN TWO AND ONE-HALF INCH (2-1/2") HOSE CONNECTIONS, AND ONE, FOUR AND ONE-HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS. FIVE AND ONE-QUARTER INCH (5 1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1 1/2") PENTAGON OPERATING NUT. SHALL OPEN COUNTERCLOCKWISE, SHALL BE PAINTED IN CONFORMANCE WITH LAKE COUNTY/CITY OF CLERMONT REQUIREMENTS (COLORS BASED ON DELIVERED FIRE FLOW) WITH THE PRIMER AND FINISH PAINT BEING SHERWIN WILLIAMS OSHA SAFETY COLOR ENAMEL PAINT. HYDRANTS SHALL BE MUELLER CENTRON (TRAFFIC MODEL A-423) NO SUBSTITUTE. FIRE HYDRANTS TO BE THE BREAK AWAY TYPE WITH A CAST IRON DUCTILE IRON MECHANICAL JOINT HYDRANT TEE, WITH RESILIENT SEAT AND MECHANICAL JOINT GATE VALVE.

- 1. BLUE PAVEMENT REFLECTORS (RPM'S) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF EACH FIRE HYDRANT.
2. CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND OWNER/OPERATOR. HYDRANTS SHALL DELIVER A MINIMUM OF 1000 GPM WITH A RESIDUAL PRESSURE OF 20 PSI IN RESIDENTIAL AREAS.
3. THERE SHALL BE NO TREES, SHRUBS, ETC., PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

WATER SERVICES

UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE THROUGH THE CURB STOP AND SET METER BOXES TO FINISHED GRADE AS SHOWN ON THE WATER SYSTEM DETAIL SHEET.

POLYETHYLENE (PE) PRESSURE PIPE FOR WATER SERVICES 1/2" THROUGH 3" SHALL CONFORM TO AWWA C901.88, MN 200 PSI. AND SHALL BE PHILLIPS DRISCO CTS 5100 (DR-9) ASTM C-2737, 200 PSI.

ALL SERVICES SHALL INCLUDE THE FOLLOWING: LOCKING CURB STOPS, WYE BRANCHES, UNIONS AS REQUIRED, PE SERVICE PIPE AND CORPORATION STOPS. THE SERVICE SHALL BE COMPLETE THROUGH THE CURB STOP AS SHOWN ON THE DETAIL SHEET, AND SHALL BE OF THE TYPE REQUIRED FOR COMPATIBILITY WITH THE SERVICE LINES SPECIFIED, AND FITTINGS SHALL BE MANUFACTURED BY FORD.

MATERIALS AS REQUIRED BY THE CITY OF CLERMONT

SERVICE SADDLE - FORD FS202
CORPORATION STOP - FORD FB1000
CURB STOP - FORD B41-441W
METER BOX - SINGLE ONLY (NO DOUBLE METER BOXES ALLOWED), DEXOL WITH IRON READER DOOR.
COMPOUND Y BRANCH - FORD Y44
JOINT RESTRAINT - MEGA LUG
INSTALL OR PROVIDE CITY WITH 1" X 3/4" BRASS BUSHING AT METER DISCHARGE CONNECTION.

THE CONTRACTOR SHALL CUT "M" IN THE CURB TOP AT EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. CUT "M'S" FINISH SHALL BE HIGHLIGHTED WITH BLUE PAINT. SEE WATER SYSTEM DETAILS FOR OTHER SERVICE LOCATION AND MARKING REQUIREMENTS.

PIPE INSTALLATION

PIPE INSTALLATION OF PVC WATER MAIN SHALL BE IN CONFORMANCE WITH ASTM D2774 (LATEST EDITION). INSTALLATION OF DUCTILE IRON PIPE WATER MAIN SHALL BE IN CONFORMANCE WITH AWWA C600.87.

COMPACTED BACKFILL SHALL BE TO 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNDER ALL PAVEMENTS WITH 12" MAXIMUM LIFT THICKNESS. OTHER COMPACTION OF BACKFILL SHALL BE TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH 12" MAXIMUM LIFT THICKNESS. SEE PIPE TRENCHING DETAILS.

MINIMUM COVER OVER ALL PIPE SHALL BE 36" FROM TOP OF PIPE TO FINISHED GRADE. SEE PLAN AND PROFILE SHEETS FOR REQUIRED DEPTH.

WATER MAINS ARE TO BE INSTALLED SO AS TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 18" OR A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET FROM ALL SANITARY HAZARDOUS, INCLUDING STORM DRAINAGE PIPES AND STRUCTURES, AS WELL AS SEPTIC TANKS, DRAIN FIELDS AND SEWER PIPING. IF CLEARANCE CANNOT BE ACHIEVED, THEN DUCTILE IRON WATER MAIN SHALL BE PROVIDED 10 FEET EITHER SIDE OF THE CROSSING.

ALL WATER MAINS SHALL BE INSTALLED WITH RESTRAINED JOINT FITTINGS. NO CONCRETE THRUST BLOCKS TO BE USED.

ALL PLUGS, CAPS, TEES, BENDS, FIRE HYDRANTS, VALVES, ETC. SHALL BE PROVIDED WITH MEGALUG PIPE RESTRAINTS. FOR RESTRAIN CONSTRUCTION SPECIFICATIONS, REFER TO THE WATER SYSTEM DETAILS.

PIPE IDENTIFICATION WIRE

BLUE INDICATOR TAPE SHALL BE BURIED IN THE WATER MAIN TRENCH 18" DIRECTLY ABOVE THE WATER MAIN. A CONTINUOUS COPPER DETECTOR WIRE SHALL BE ATTACHED AS SHOWN ON THE WATER DETAIL SHEET.

DISINFECTION AND TESTING

ALL PIPE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651.86.

ALLOWABLE LEAKAGE FOR PVC PRESSURE MAINS WILL BE IN ACCORDANCE WITH AWWA M23.

THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, OIL FILLED PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC AND LEAKAGE TESTING. CONTRACTOR SHALL CONTACT THE ENGINEER, OWNER AND CITY IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

THE WATER SYSTEM SHALL BE SOAK TESTED 24 HOURS @ 150 PSI AND TESTED FOR LEAKAGE AT 150 PSI FOR TWO (2) HOURS, WITH ALLOWABLE LEAKAGE IN ACCORDANCE WITH ABOVE STANDARDS.

CONTRACTOR SHALL OBTAIN A COPY OF THE FDEP WATER SYSTEM PERMIT AND FULL BACTERIOLOGICAL TEST SAMPLES FROM THE SAMPLE POINTS SPECIFIED IN THAT PERMIT.

CONNECTIONS TO EXISTING WATER MAINS

PRIOR TO THE CONNECTION TO ANY EXISTING MAIN, THE PROPOSED WATER MAIN SHALL BE DISINFECTED, HAVE ENOUGH APPROVED PRESSURE TESTING AND HAVE FDEP CLEARANCE. REFER TO FDEP PERMIT FOR ANY ADDITIONAL REQUIREMENTS.

AS-BUILT DRAWINGS

THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL "AS-BUILT" INFORMATION RELATIVE TO ALL CONSTRUCTED UTILITIES AND STRUCTURES. THREE SETS SHALL BE PROVIDED FOR REVIEW. ONCE APPROVED BY THE UTILITY, ONE REPRODUCIBLE SET SHALL BE PROVIDED.

AS-BUILT INFORMATION FOR THE WATER SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- 1. LOCATION OF ALL VALVES, FITTINGS, HYDRANTS AND SERVICES. HORIZONTAL AND VERTICAL
2. LOCATION OF THE WATER MAIN TIED WITH COORDINATES FOR THE SUBDIVISION.
3. CERTIFICATION AS TO THE SYSTEM MEETING THE MINIMUM COVER REQUIREMENTS.
4. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION WHICH DEVIATES FROM THE APPROVED ENGINEERING PLANS.
5. UTILITY LOCATES ON SYSTEMS INSTALLED UNDER THIS CONTRACT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER UNTIL AS-BUILT DRAWINGS ARE REVIEWED AND APPROVED BY THE UTILITY.

SANITARY SEWER NOTES

LATERALS

- 1. ALL SERVICE LATERALS AND FITTINGS SHALL BE A MINIMUM OF 6" IN DIAMETER.
2. ALL LATERALS SHALL TERMINATE WITH A 4" CLEAN-OUT AT THE PROPERTY LINE, AND AT A DEPTH TO FINAL GRADE OF 3 FEET.
3. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 2" X 2" ABOVE GRADE WOODEN STAKE OR APPROVED MARKER AND CURB MARKED WITH A "S".
4. IF CLEANOUTS ARE NOT INSTALLED AT THE TIME OF FINAL INSPECTION, THEN THE TERMINAL END OF EACH LATERAL SHALL BE EXPOSED.

MAINS AND MANHOLES

- 1. ALL GRAVITY SANITARY SEWER MAINS SHALL BE CONSTRUCTED OF DR35 PVC PIPE MEETING ASTM 3034, AND SHALL HAVE A MINIMUM COVER OF THREE (3) FEET.
2. WHERE REQUIRED, MANHOLES SHALL BE CONSTRUCTED OF GLASS REINFORCED POLYESTER (GRP) MEETING AWWA C150 AND C151. MAINS SHALL BE 60 MIL EPOXY COATED WITH POLYETHYLENE WRAP CONFORMING TO AWWA C105.
3. MAINS AND LATERALS WITH LESS THAN THREE (3) FEET OF COVER SHALL BE CLASS 50 DIP.
4. ALL PVC PIPE SHALL BEAR THE NSF-DW SEAL.
5. JOINTS SHALL BE INTEGRAL BELL ELASTOMERIC GASKET JOINTS MANUFACTURED IN ACCORDANCE WITH ASTM D33212 AND ASTM F477. APPLICABLE UNI-BELL PLASTIC PIPE ASSOCIATION STANDARD IS UNI-B-7.
6. JOINTS BETWEEN TYPES OF DISSIMILAR MATERIALS MAY BE MADE WITH A FLEXIBLE MECHANICAL COMPRESSION JOINT WITH A 1/2" MINIMUM GASKET.
7. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE WITH A MINIMUM WALL THICKNESS OF FIVE (5) INCHES FOR INSIDE DIAMETER OF FOUR (4) FEET.
8. MANHOLES SHALL BE CONSTRUCTED WITH A MINIMUM OF 18" RING AND COVER SHALL BE TRAFFIC BEARING H-20, CLASS 30 MEETING ASTM A-48.
9. INTERIOR AND EXTERIOR WALLS OF ALL MANHOLES SHALL HAVE A MINIMUM OF TWO (2) B MIL COATS OF AN APPROVED PROTECTIVE COAT TAR EPOXY.
10. ALL PVC PIPE TO MANHOLE CONNECTIONS SHALL BE MADE WITH D.I.P. (SEE 2 ABOVE) USING EMBEDDED GROUT.
11. ALL MAINS NOT LOCATED UNDER PAVEMENT SHALL BE MARKED BY A THREE (3) INCH WIDE METALLIC LOCATOR TYPE 18" ABOVE THE CENTERLINE OF PIPE.

FORCEMAINS

- 1. FORCEMAINS SHALL BE DR18 PVC PIPE CONFORMING TO AWWA C-900, OR 60 MIL EPOXY COATED CLASS 50 DIP. PVC PIPE SHALL HAVE INTEGRAL BELL PUSH ON TYPE JOINTS CONFORMING TO ASTM D3139.
2. ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON WITH 250 PSI MINIMUM PRESSURE RATING.
3. METALLIC MARKING SHALL BE PLACED OVER THE MAIN AT A MAXIMUM DEPTH OF TWO (2) FEET BELOW THE SURFACE, AND TIED INTO ALL VALVE BOXES. TESTING FOR CONTINUITY WILL BE REQUIRED.
4. ALL MAINS SHALL HAVE A MINIMUM COVER OF THREE (3) FEET. FORCEMAINS WITH LESS THAN THREE (3) FEET OF COVER SHALL BE CLASS 50 DIP.
5. ALL CONNECTIONS TO EXISTING SEWER FORCEMAINS SHALL BE ACCOMPLISHED WITH A WET TAP AND THRUST BLOCK.
6. PROVIDE JOINT RESTRAINTS AS SHOWN ON THE WATER DETAIL SHEET.

TESTING

- 1. SEWAGE COLLECTION SYSTEM
A. ALL GRAVITY SEWER MAINS REQUIRE LOW PRESSURE AIR TESTING IN ACCORDANCE WITH THE LATEST UNI-BELL STANDARD FOR LOW-PRESSURE AIR TESTS.
B. ALL SEWER MAINS SHALL BE LAMBED BY THE CITY REPRESENTATIVE.
C. ALL MANHOLES SHALL BE INSPECTED FOR INFILTRATION, ALIGNMENT, FLOW CHANNEL, CONSTRUCTION AND COAL TAR EPOXY PAINT THROUGHOUT.
D. HYDRO-STATIC TESTS CONSISTING OF A HYDROSTATIC PRESSURE TEST AND HYDROSTATIC LEAKAGE TEST SHALL BE CONDUCTED ON ALL NEWLY INSTALLED SEWER FORCE MAIN SYSTEM PRESSURE PIPES AND APPURTENANCES IN ACCORDANCE WITH AWWA C600 OR M23 AS APPLICABLE. THE PRESSURE

TEMPORARY JUMPER CONNECTION NOTES:

A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAINS. THE DETAIL PROVIDED IS TO BE USED FOR FILLING ANY NEW WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF MAINS UP TO 12" DIAMETER. A 1/2" MINIMUM THICKNESS BAND FOR TAKING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, AND TESTING OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE HAS BEEN OBTAINED FROM THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED BY THE CITY OF CLERMONT. THIS JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM LEVEL OF DISINFECTION AND LIFT FDEP CLEARANCE LETTER IS OBTAINED AND THE LINES ARE PLACED INTO SERVICE.

ADDEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY AS REQUIRED. CONSTRUCTION AND TESTING OF THE NEW 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. THE TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABING PER SECTION 11.1 OF AWWA C651. FLUSHING OF 10" DIAMETER AND LARGER WATER MAINS MAY BE DONE THROUGH THE TIE-IN UNDER CONTROLLED CONDITIONS BY THE CITY ONLY. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:
A. THE TIE-IN VALVES SHALL BE OPERATED ONLY BY THE CITY AND PRESSURE TESTED IN THE PRESENCE OF THE CITY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO TIE-IN VALVES WHICH ARE NOT WATER TIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.
B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN, FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE EXISTING WATER MAIN.
1. FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.
2. ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO THE CITY OPENING THE TIE-IN VALVE.
3. PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT. THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 PSI.
4. THE TIE-IN VALVE SHALL BE OPENED BY THE CITY A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALVE IS ALWAYS GREATER THAN 10 PSI.
5. THE TIE-IN VALVE SHALL BE CLOSED BY THE CITY UNTIL FLUSHING BEGINS.
6. THE TIE-IN VALVE SHALL BE OPENED ONLY BY THE CITY FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DONE BY THE CITY AND OBSERVED BY THE ENGINEER.
E. AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY.

THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE DOUBLE-CHECK BACK FLOW PREVENTION DEVICE HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION, AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION. THE TEST SHALL BE APPROVED BY A CERTIFIED BACK FLOW PREVENTION TECHNICIAN AS APPROVED BY THE CITY OF CLERMONT CROSS-CONNECTION CONTROL PROGRAM. A CERTIFICATE IS REQUIRED BY THE CITY. EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8" IN DIAMETER, THE TIE IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE CITY. THE TIE-IN VALVE SHALL REMAIN LOCKED AND MAINTAINED BY THE CITY. THE TIE-IN HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER AGENCIES. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER AGENCIES, THE CONTRACTOR SHALL REMOVE THE TEMPORARY JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS. THERE SHALL BE NO LEAKAGE.