DRAINAGE IMPROVEMENT PLANS FOR

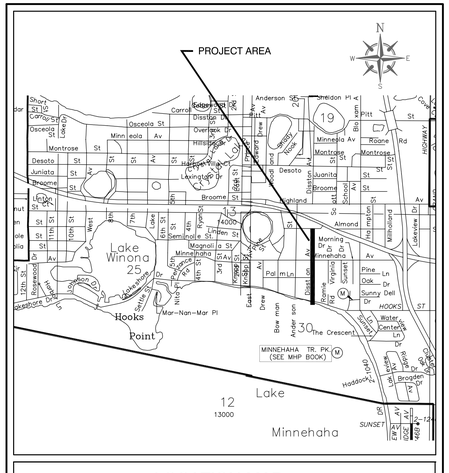
CITY OF CLERMONT

DISSTON AVENUE

CITY OF CLERMONT
685 West Montrose Street-2nd Floor
Clermont, FL 34711
Phone: (352) 241-7335 Fax: (352) 394-2379

Engineer:

BOOTH, ERN, STRAUGHAN, & HIOTT, INC.
350 North Sinclair Avenue
Tavares, FL 32778
Phone: (352) 343-8481 Fax: (352) 343-8495
CHARLES C. HIOTT, P.E.



LOCATION MAP

Index of Sheets

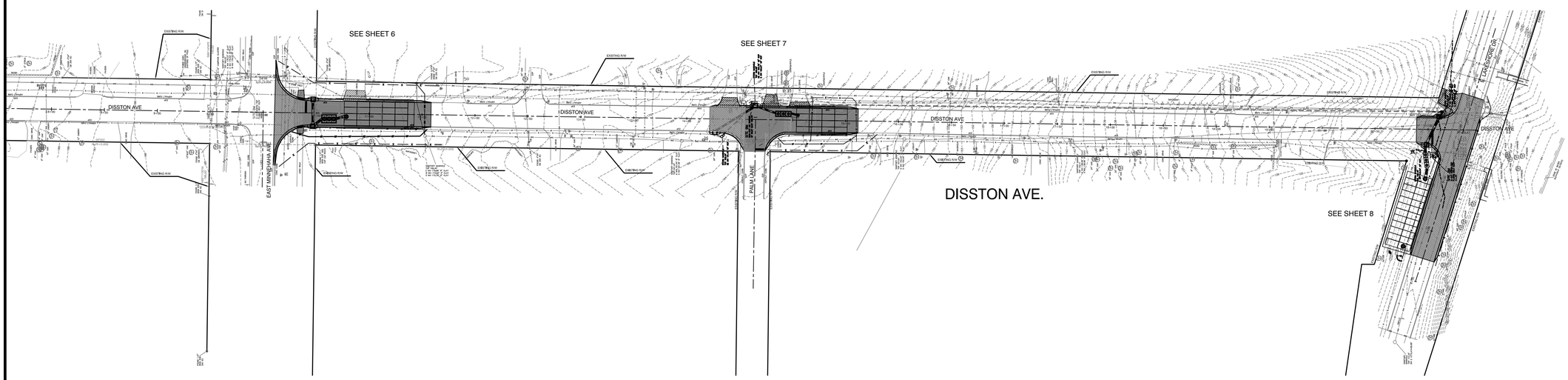
1. COVER SHEET
2. MASTER PLAN
3. DEMOLITION PLAN NORTH
4. DEMOLITION PLAN MIDDLE
5. DEDMOLITION PLAN SOUTH
6. PLAN AND PROFILE NORTH
7. PLAN AND PROFILE MIDDLE
8. PLAN AND PROFILE SOUTH
9. WATER DETAILS
10. WATER DETAILS
11. MISC. DETAILS
12. CITY OF CLERMONT NOTES
13. CITY OF CLERMONT NOTES
14. STORM CAPTURE DETAIL SHEET
15. STORM CAPTURE DETAIL SHEET
16. BAFFLE BOX DETAIL SHEET

BESH
BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

Scale: 1"= 50'

50' 0 50' 100'

SCALE IN FEET



CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design
Drainage Improvement Master Plan

BOOTH ERN STRAUGHAN HIOTT, INC
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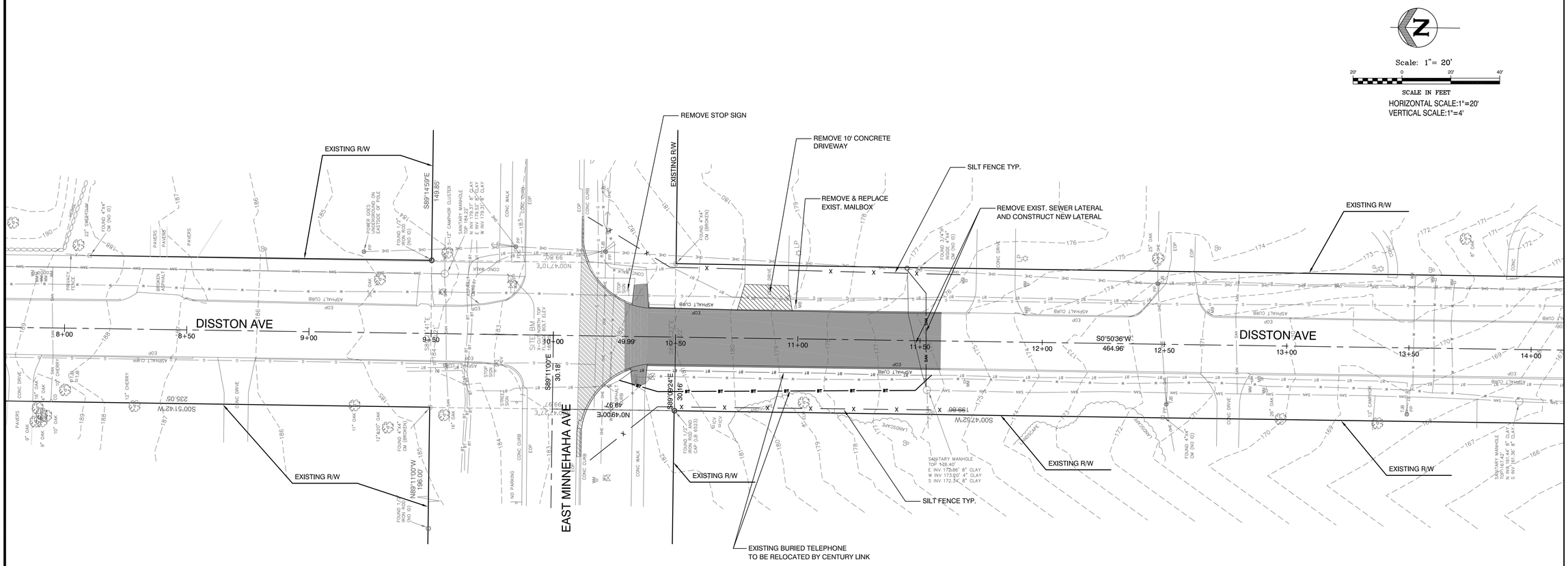
DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON STR.

Sheet 2

CHARLES C. HIOTT, P.E.
Registered Eng 54813



LEGEND:

SAWCUT AND REMOVE EXISTING CURB AND ASPHALT

SAWCUT AND REMOVE EXISTING CURB, ASPHALT, AND LIMEROCK

NOTES:

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DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

Demolition Plan

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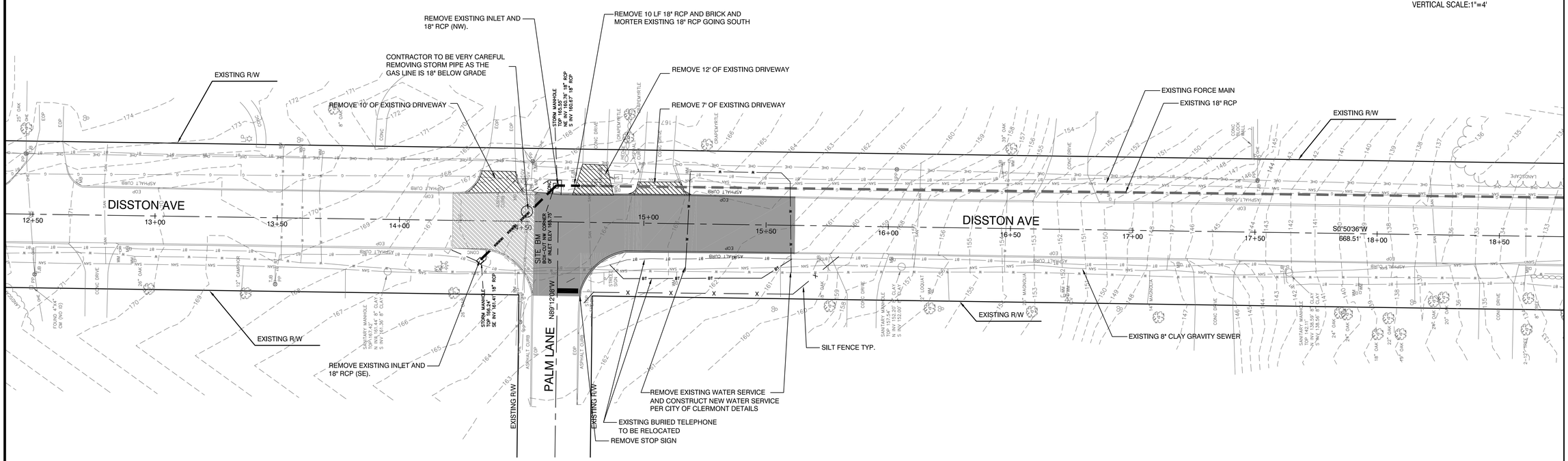

Scale: 1"= 20'

20' 0 20' 40'

SCALE IN FEET

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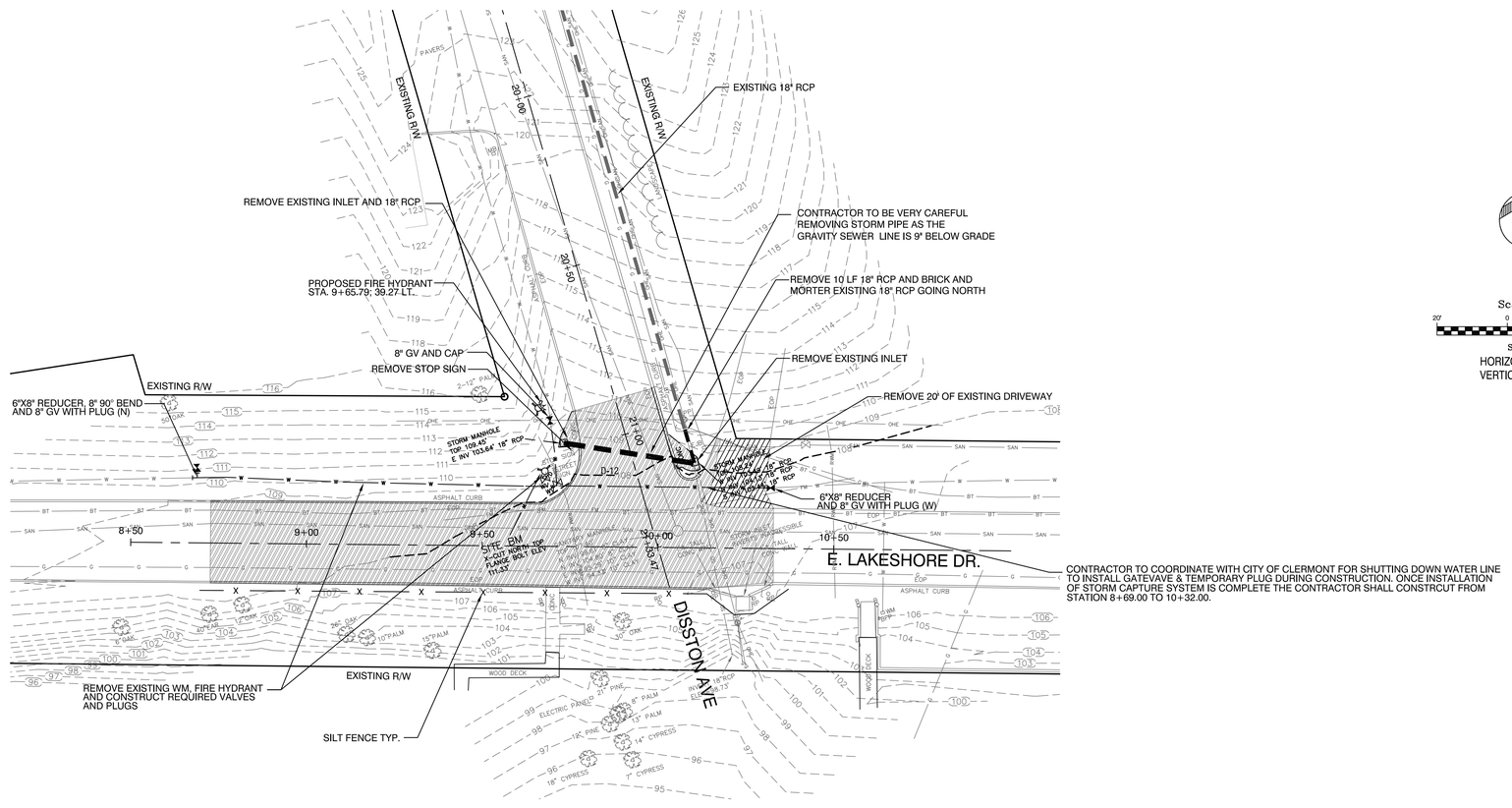

SAWCUT AND REMOVE EXISTING CURB AND ASPHALT

Scale: 1"= 20'

20' 0 20' 40'

SCALE IN FEET
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Sheet 5

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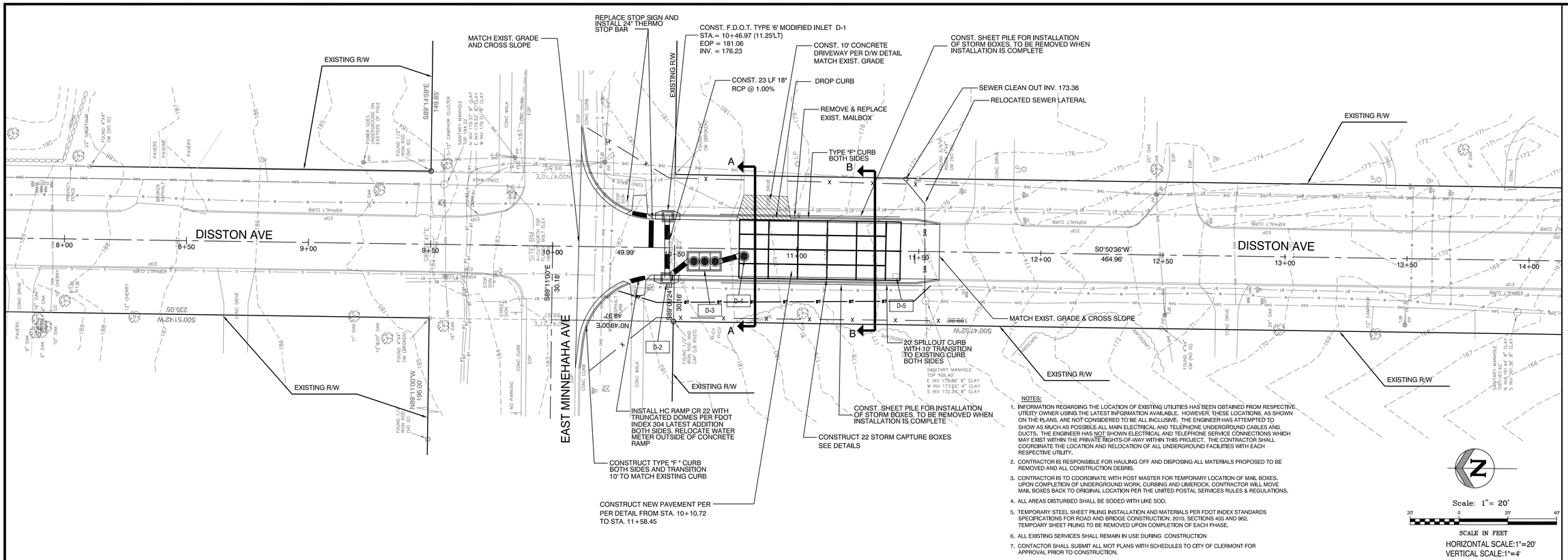

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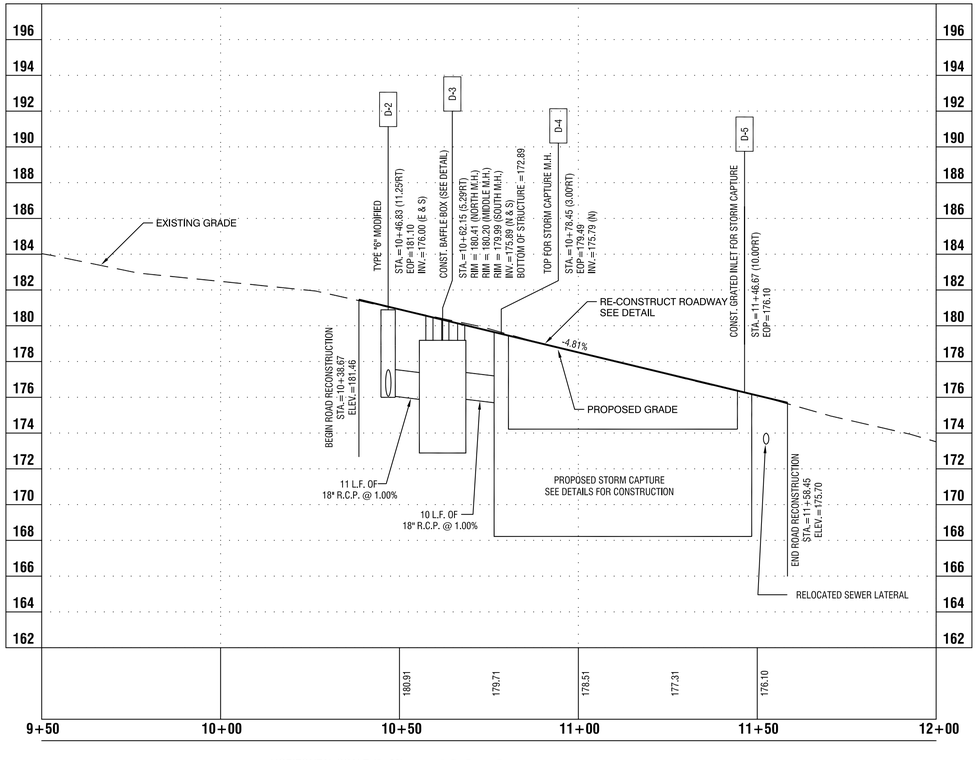

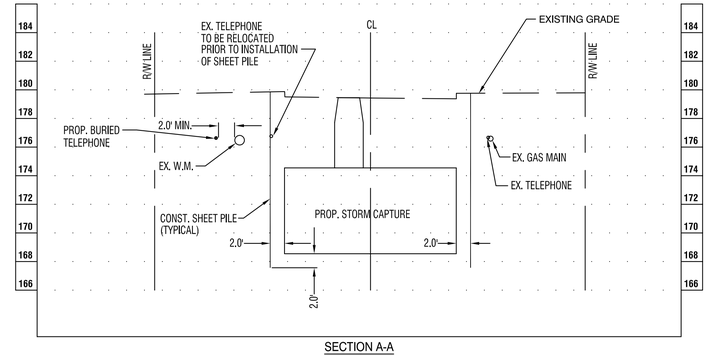

SECTION A-A

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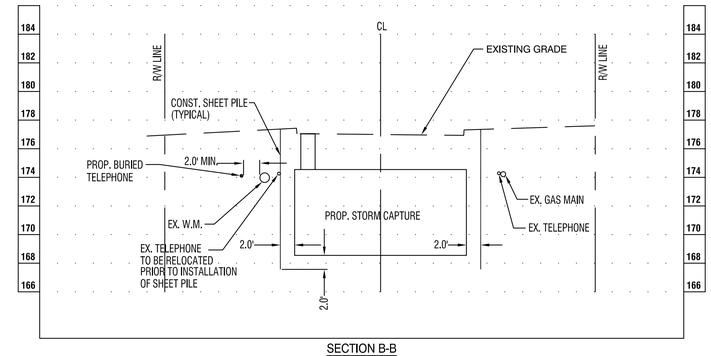
VERTICAL SCALE: 1"=5'



SECTION B-B

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VERTICAL SCALE: 1"=5'

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

Drainage Improvement Plan

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Sheet 6

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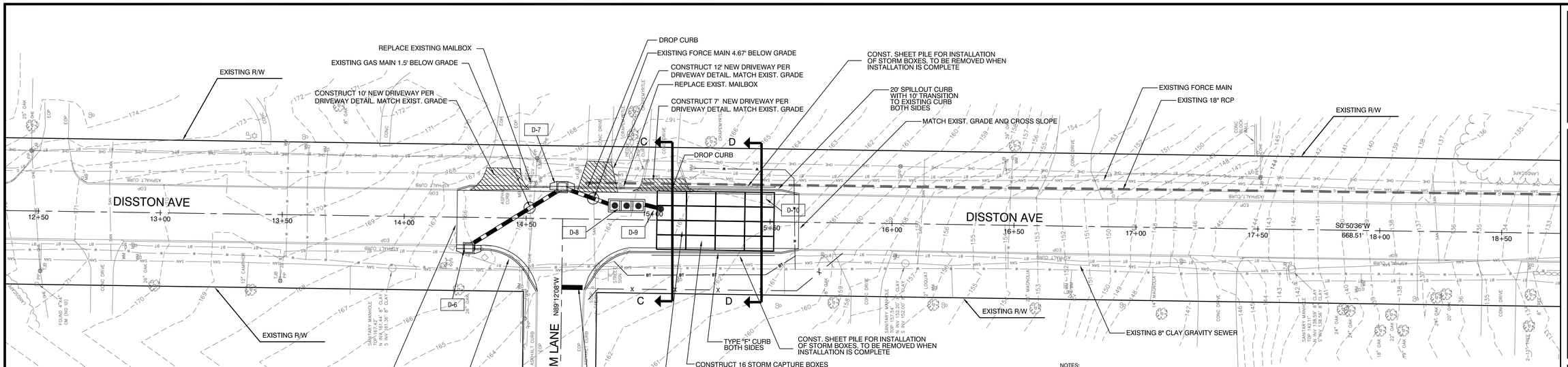

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SCALE IN FEET

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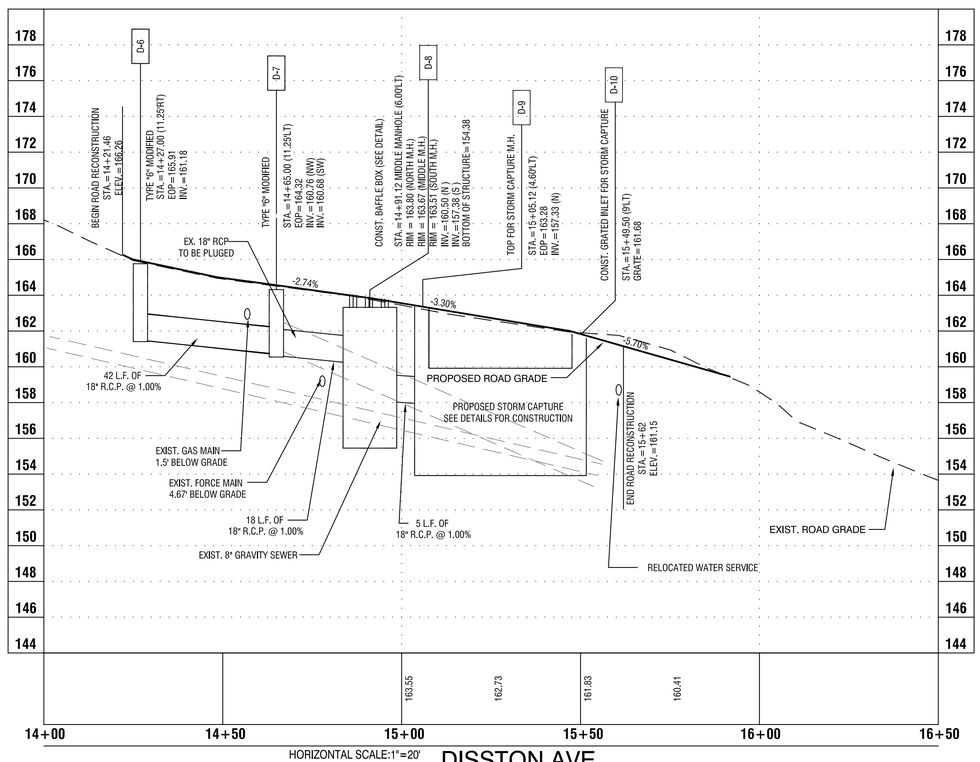
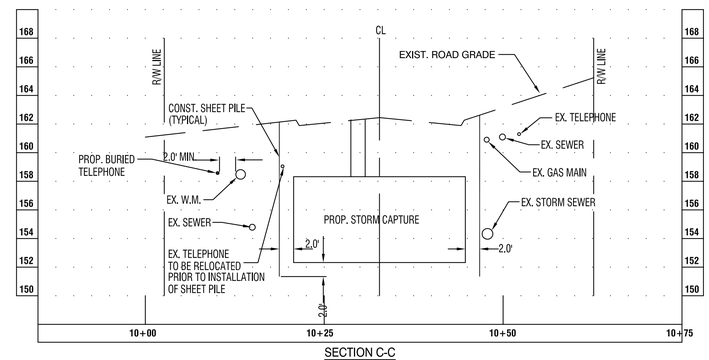


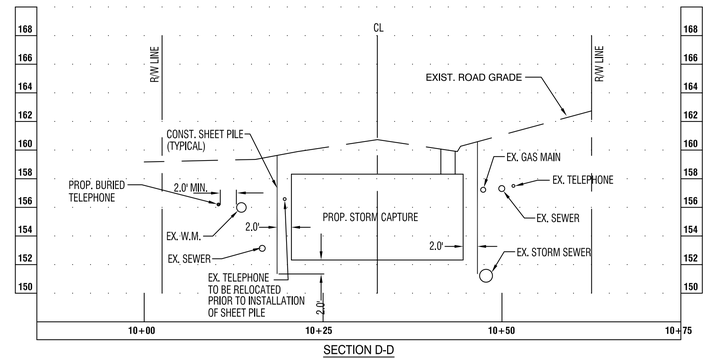
HORIZONTAL SCALE:1"=20'
VERTICAL SCALE:1"=4'

DISSTON AVE



SECTION C-C

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'



SECTION D-D

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VERTICAL SCALE: 1"=5'

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

Drainage Improvement Plan

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Sheet 7

CHARLES C. HIOTT, P.E.
Registered Eng 54813

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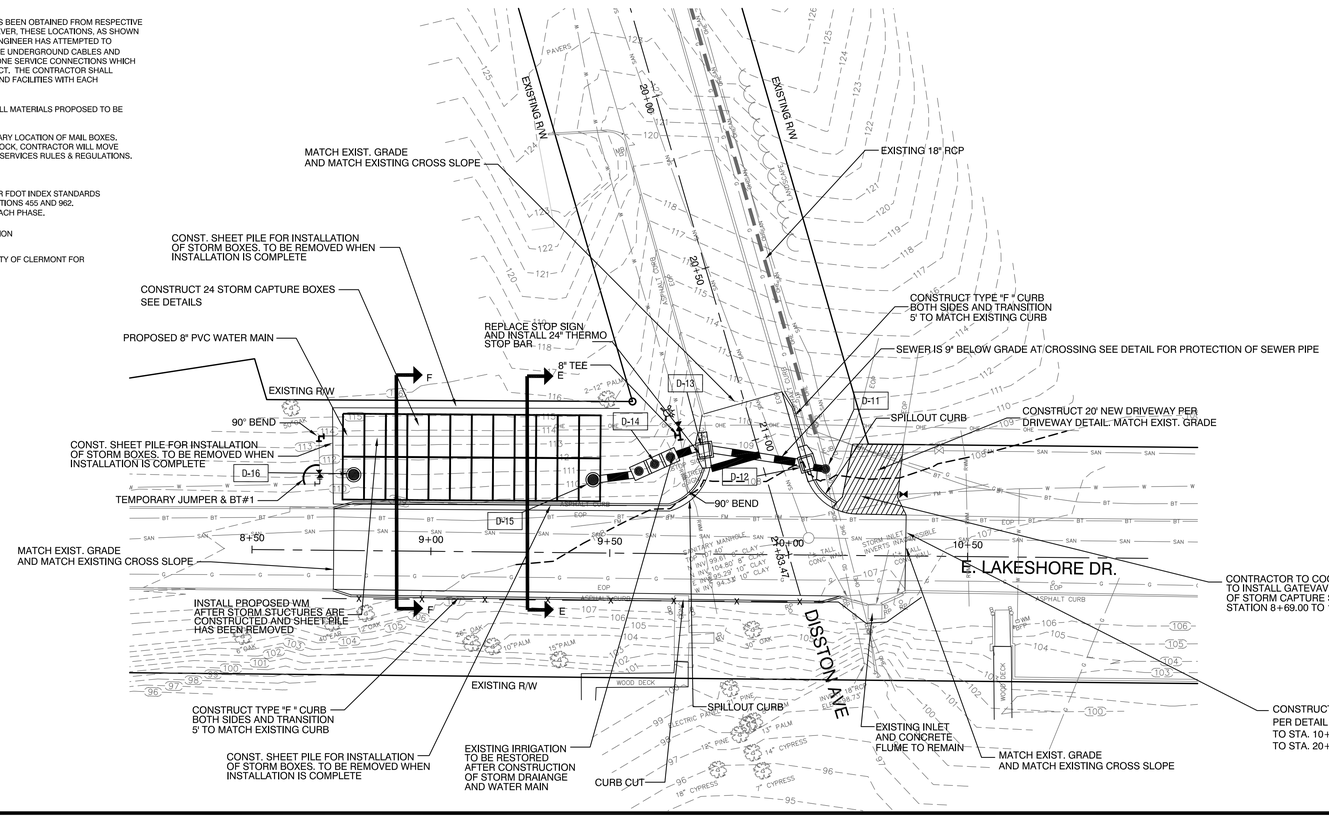
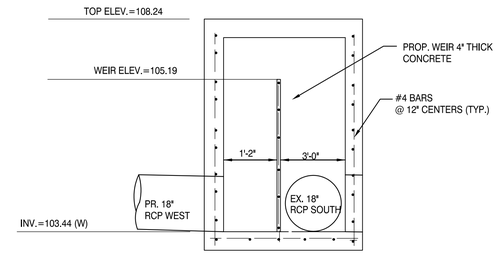




SECTION VIEW

N.T.S.

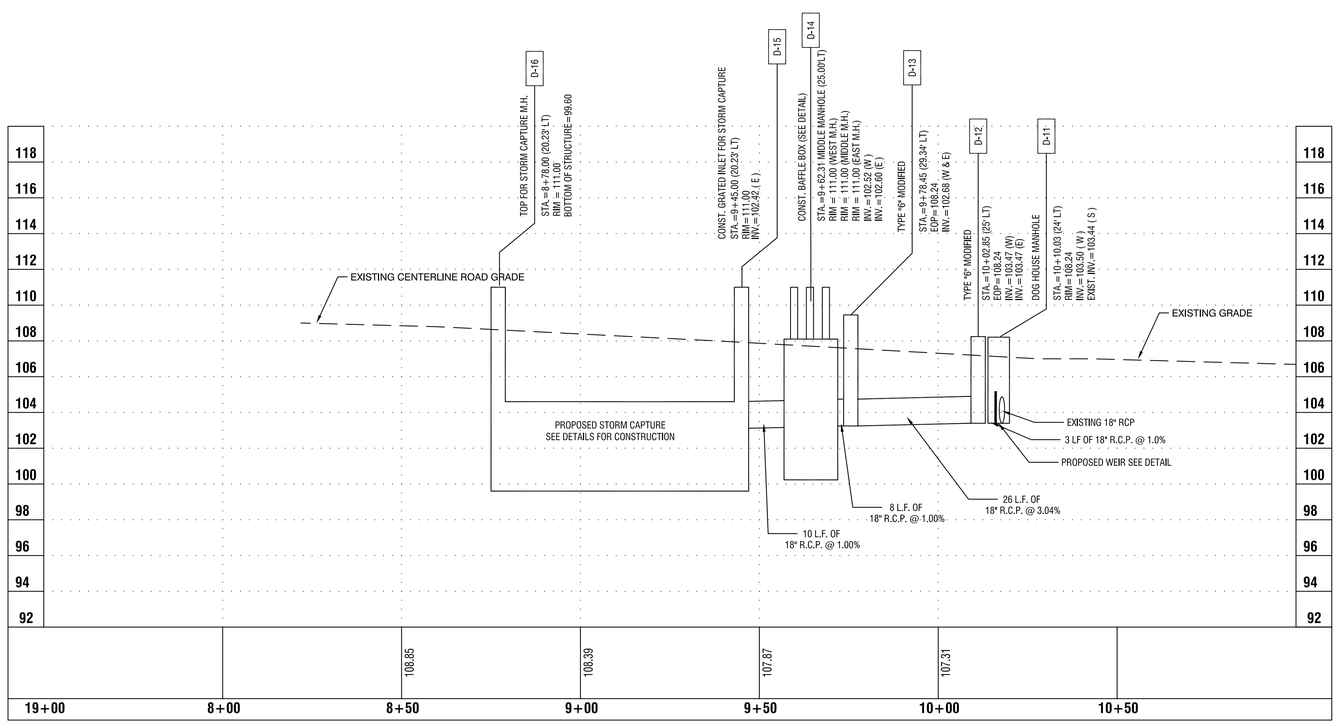
STRUCTURE D-11 PROPOSED DOGHOUSE MANHOLE WITH CONC. WEIR INSIDE M.H.

Scale: 1" = 20'

SCALE IN FEET

HORIZONTAL SCALE:1"=20'

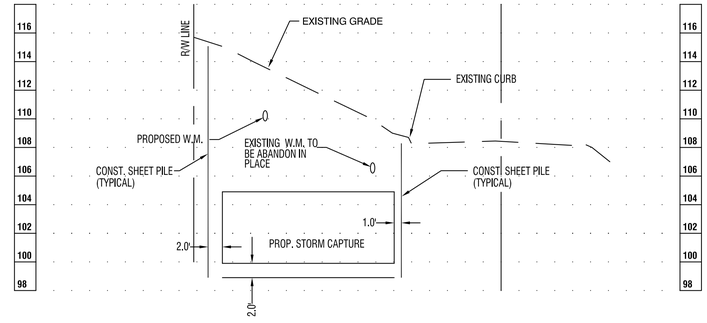
VERTICAL SCALE:1"=4'



HORIZONTAL SCALE:1"=20'

VERTICAL SCALE:1"=4'

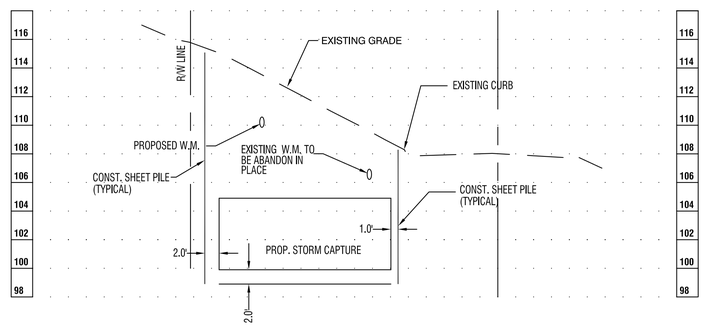
EAST LAKESHORE DRIVE



SECTION E-E

HORIZONTAL SCALE: 1"=10'

VERTICAL SCALE: 1"=5'



SECTION F-F

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VERTICAL SCALE: 1"=5'

CITY OF CLERMONT

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	3
	4
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Sheet 8

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Registered Eng 54813

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO FDOT DESIGN STANDARDS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND THE CITY OF CLERMONT STANDARDS.
2. PROJECT BASELINE STATIONING SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL LOCATE ALL PORTIONS OF THE WORK USING ALL INFORMATION PROVIDED HEREIN AND SHALL MAINTAIN RECORDS OF ALL LOCATIONS PER THE CONTRACT SPECIFICATIONS.
3. STATIONING IS PROVIDED FOR THE REFERENCE IN HORIZONTAL PLANE ONLY, AND DOES NOT REFLECT VERTICAL ALIGNMENT OF PIPE.
4. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN OBTAINED FROM RESPECTIVE UTILITY OWNER USING THE LATEST INFORMATION AVAILABLE. HOWEVER, THESE LOCATIONS, AS SHOWN ON THE PLANS, ARE NOT CONSIDERED TO BE ALL INCLUSIVE. THE ENGINEER HAS ATTEMPTED TO SHOW AS MUCH AS POSSIBLE ALL MAIN ELECTRICAL AND TELEPHONE UNDERGROUND CABLES AND DUCTS. THE ENGINEER HAS NOT SHOWN ELECTRICAL AND TELEPHONE SERVICE CONNECTIONS WHICH MAY EXIST WITHIN THE PRIVATE RIGHTS-OF-WAY WITHIN THIS PROJECT. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL UNDERGROUND FACILITIES WITH A FIELD REPRESENTATIVE OF EACH RESPECTIVE UTILITY.
5. THE CONTRACTOR PRIOR TO EXCAVATING IN THE VICINITY OF A GAS PIPELINE SHALL NOTIFY THE GAS UTILITY OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF FLORIDA STATUTES, PROTECTION OF UNDERGROUND PIPELINES, F.S. 553.851, CH. 77-143.
6. THE CONTRACTOR SHALL INSURE ALL NECESSARY PERMITS ARE IN HAND BEFORE COMMENCEMENT OF CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS WITH REGARDS TO CONSTRUCTION ACTIVITIES AND CONDITIONS STATED THEREIN. ALL WORK WITHIN THE CITY OF CLERMONT & F.D.O.T. RIGHT-OF-WAYS SHALL CONFORM WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVED CITY OF CLERMONT AND F.D.O.T. UTILITY PERMITS.
8. D.I.P. LOCATED LESS THAN 10 FEET FROM A GAS MAIN SHALL BE WRAPPED IN POLYETHYLENE.
9. ALL PROPOSED MAINS SHALL HAVE A MINIMUM OF 36" COVER OVER TOP OF PIPE. COVER SHALL VARY TO PROVIDE UNIFORM GRADIENT OR SLOPE TO PIPE, UNLESS OTHERWISE NOTED.
10. WHERE A CONNECTION IS TO BE MADE IN THE FIELD TO AN EXISTING PIPE, THE CONTRACTOR WILL EXCAVATE THE AREA TO VERIFY THE TYPE OF PIPE AND THE PIPE SIZE, AND OBTAIN THE OWNER'S APPROVAL OF THE PROPOSED METHOD OF CONNECTION PRIOR TO ORDERING AND INSTALLING MATERIALS.
11. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE 48 HOURS OR 1,000 FEET IN ADVANCE OF THE WORK, WHICHEVER IS GREATER. IF THERE IS A POTENTIAL CONFLICT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. INFORMATION ON THE OBSTRUCTION TO BE FURNISHED BY THE CONTRACTOR SHALL INCLUDE: LOCATION, ELEVATION, UTILITY TYPE, MATERIAL AND SIZE.
12. ALL WATER OR SEWER SERVICE CONNECTIONS, INTERRUPTIONS OR RELOCATION'S SHALL BE COORDINATED IN ADVANCE WITH FIELD REPRESENTATIVES OF THE CITY OF CLERMONT.
13. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH RESTRAINING DEVICES AT ALL DIRECTION CHANGES, UNLESS OTHERWISE NOTED. SEE THRUST RESTRAINT SPECIFICATION DETAILS AND NOTES.
14. ALL AREAS WHERE LANDSCAPING, SOD, OR IRRIGATION HAS BEEN REMOVED OR DISTURBED BY CONTRACTOR'S OPERATIONS SHALL BE RESODDED, LANDSCAPED, OR REPAIRED WITH LIKE KIND.
15. ALL EXISTING PROPERTY, FENCING, DRIVEWAYS, PIPING, SIDEWALKS, SIGNS AND OTHER ITEMS SHALL BE RESTORED TO ORIGINAL LINE AND GRADE UNLESS APPROVED BY THE ENGINEER. ACCESS TO ADJOINING PROPERTY ALONG THE PROPOSED ROUTE SHALL BE MAINTAINED AT ALL TIMES.
16. IN THE EVENT THAT THE POTABLE WATER SYSTEM IS CONTAMINATED (I.E., WATER DOES NOT MEET FEDERAL AND STATE REQUIREMENTS) DUE TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE, UNDER THE DIRECTION OF THE OWNER, OR STATE AND LOCAL REGULATORY AGENCY FOR CORRECTING ANY SUCH CONTAMINATION PROBLEM INCLUDING DISINFECTION, TESTING AND OTHER CORRECTIVE ACTION.
17. WHEN CONSTRUCTION ACTIVITIES DISTURB AREAS WITHIN 10 FEET OF A TOP OF BANK FOR ANY WATERWAY OR WATER SURFACE, THE CONTRACTOR SHALL PROVIDE CROSSING AND SEDIMENTATION CONTROL MEASURES AS DETAILED, SPECIFIED OR AS REQUIRED BY THE JURISDICTIONAL REGULATORY AGENCIES; WHICHEVER REQUIREMENT IS MORE STRINGENT.
18. THE SHOWN LOCATIONS OF RIGHTS-OF-WAY AND UTILITIES ARE APPROXIMATE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXACTLY LOCATE ALL RIGHTS-OF-WAY AND UTILITY LINES IN THE CONSTRUCTION AREA PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITY, STRUCTURE OR SERVICE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, IN A MANNER APPROVED BY THE RESPECTIVE UTILITY OWNER.
19. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITIONS.
20. REMOVAL OF TREES GREATER THEN 4-INCH BASAL DIAMETER SHALL BE ONLY AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL LIMIT TO A MINIMUM THE AMOUNT OF TREE REMOVAL, CLEARING AND GRUBBING REQUIRED BY TRIMMING TREES WHEREVER POSSIBLE.
21. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH AFFECTED PROPERTY OWNERS AND OWNER/ENGINEER ONE WEEK IN ADVANCE OF TREE CLEARING AND GRUBBING. ALL DEBRIS FROM TREE CLEARING AND GRUBBING SHALL BE REMOVED. AT THE CONTRACTORS EXPENSE.
22. ALL ELEVATIONS SHOWN ON THESE DRAWINGS REFER TO NATIONAL GEODETIC VERTICAL DATUM (NGVD): 88 DATUM.
23. THE CONTRACTOR SHALL REPLACE ALL PAVING, SODDING, STABILIZED EARTH, LANDSCAPING, DRIVEWAYS, SIDEWALKS, IRRIGATION SYSTEMS, UNDERGROUND PIPING, ETC., DISTURBED OR DAMAGED BY THE CON- STRUCTION. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL OR AS DIRECTED BY THE ENGINEER.
24. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS OR IN THE SPECIFI- CATIONS, ALL ITEMS NOTED TO BE REMOVED SHALL REMAIN THE PROPERTY OF CITY OF CLERMONT (OWNER). ALL ITEMS REMOVED SHALL BE STORED BY THE CONTRACTOR ON-SITE AS DIRECTED BY THE OWNER OR ENGINEER.
25. LIMITS OF CONSTRUCTION FOR THIS PROJECT SHALL BE THE AREA SHOWN WITHIN THE PROPERTY BOUNDS. IF PERMITTED BY THE OWNER, SPOIL AREAS SHALL BE AS INDICATED ON THE DRAWINGS. CONSTRUCTION STORAGE AREAS FOR THE CONTRACTOR ARE AS DESIGNATED ON THE SITE PLAN.

COLOR CODING

All water main pipe, including fittings, installed on or after August 28, 2003, except pipe installed under a construction permit for which the Department received a complete application before August 28, 2003, shall be color coded or marked using blue as a predominate color to differentiate drinking water from reclaimed or other water. Under-ground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90° intervals around the pipe, and will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Aboveground pipe as drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10),F.A.C., and all other aboveground pipe shall be painted blue or shall be color coded or marked like underground pipe.

General Water Notes

1. WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE 36" MINIMUM COVER FROM FINISH GRADE.
5. WATER MAINS TO BE LOCATED 6.00' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.
7. DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVAL.
8. ALL HYDROSTATIC TEST SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE.
9. ALL WATER MAINS SHALL BE INSTALLED, PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(21)(b)1 AND 62-555.330, F.A.C. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.
10. ALL PIPING MATERIALS AND SPECIFICATIONS COVERING PIPES, JOINTS AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, SPECIALS AND APPURTENANCES SHALL ALL BE IN ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS, AS MAY BE APPLICABLE, WITH EXCEPTIONS ALLOWED ONLY IF DOCUMENTATION AND ASSURANCES ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(3) (d) 62-555.320 (3) (b), AND 62-555.320 (21) (c), F.A.C. THE LEAD USE PROHIBITION IN RULE 62-555.322, F.A.C. SHALL ALSO APPLY. POLYETHYLENE TUBING SHALL BE PER AWWA C901. UNDERGROUND SERVICE LINES, AND VALVES SHALL BE PER AWWA C800.

Utility Construction Notes (DEP)

62-555.314 Location of Public Water System Mains: For the purpose of this section, the phrase "Water Mains" shall mean Mains, including treatment Plant process piping, conveying either raw, partially treated, or finished drinking water; Fire Hydrant leads; and service lines that are under the control of a Public Water System and that have an inside diameter of three (3") inches or greater.

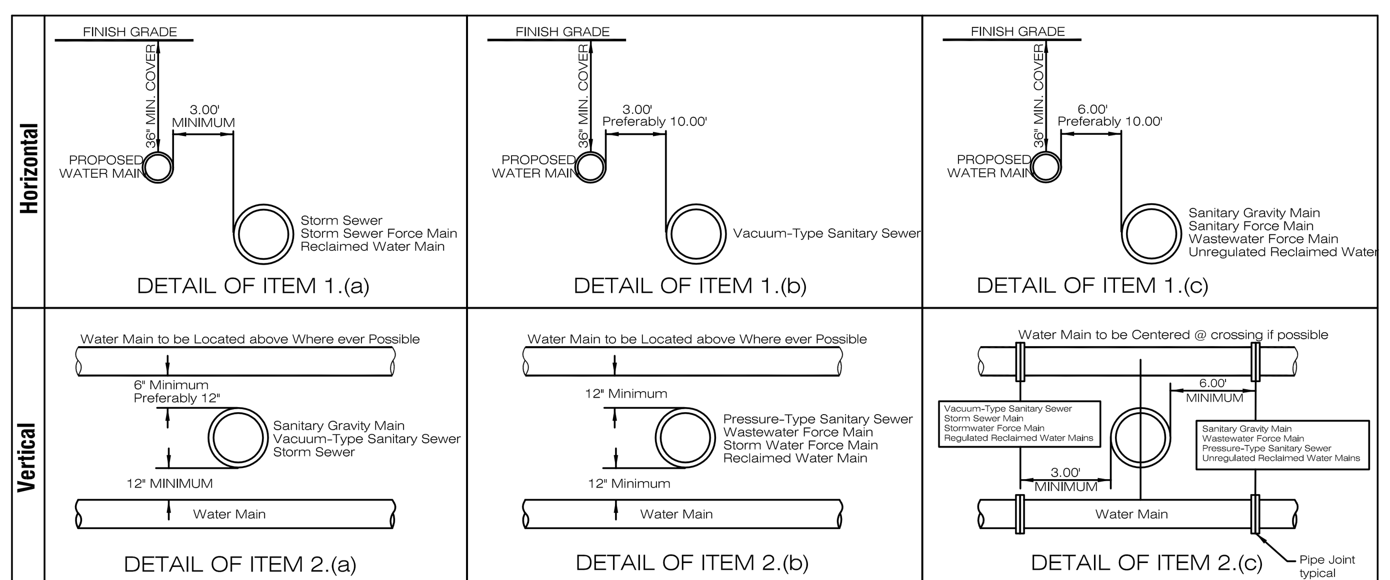
(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Storm water Force Mains, Reclaimed Water Pipelines, and On-site Sewage Treatment and Disposal Systems:
- (a) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (3) Three Feet between the outside of the WATER MAIN and the outside of any existing or proposed Storm Sewer, Storm water Force Main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
- (b) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (3) three feet, and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed vacuum-type Sanitary Sewer.
- (c) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (6) Six Feet, and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed Gravity- or Pressure-type Sanitary Sewer, Wastewater Force Main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610 F.A.C. The Minimum Horizontal Separation distance between WATER MAINS and Gravity-type Sanitary Sewers shall be reduced to (3) Three Feet where the BOTTOM of the WATER MAIN is laid at least (6) Six Inches above the Top of the Sewer.
- (d) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (10) Ten Feet between the outside of the WATER MAIN and all parts of any existing or proposed "On site Sewage Treatment and Disposal System" as defined in Section 381.0065(2). F.S. and Rule 64E-6.002. F.A.C.

(2) Vertical Separation Between Underground WATER MAINS and Sanitary or Storm Sewers, Wastewater or Storm water Force Mains, and Reclaimed Water Pipelines:
- (a) New or relocated underground WATER MAINS crossing any existing or proposed gravity-or vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the WATER MAIN is at least (6) Six inches, and preferably 12 inches above, or at least 12 Inches below the outside of the other pipeline. However, it is preferable to lay the WATER MAIN "ABOVE" the other pipeline.
- (b) New or relocated, Underground WATER MAINS crossing any existing or proposed pressure-type sanitary sewer, wastewater or stormwater Force Main, or Pipeline conveying reclaimed water shall be laid so the outside of the WATER MAIN is at least (12) inches ABOVE or BELOW the Outside of the other pipeline. However, it is preferable to lay the WATER MAIN above the other pipeline.
- (c) At the Utility crossings described in paragraphs (a) & (b) Above, one full length of Water Main Pipe shall be centered above or below the other pipeline so the WATER MAIN Joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all WATER MAIN Joints are at least (3) Three feet from all joints in Vacuum-type Sanitary Sewers, Storm Sewers, Stormwater Force Mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least (6) Six Feet from all Joints in Gravity- or Pressure-type Sanitary Sewers, Wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

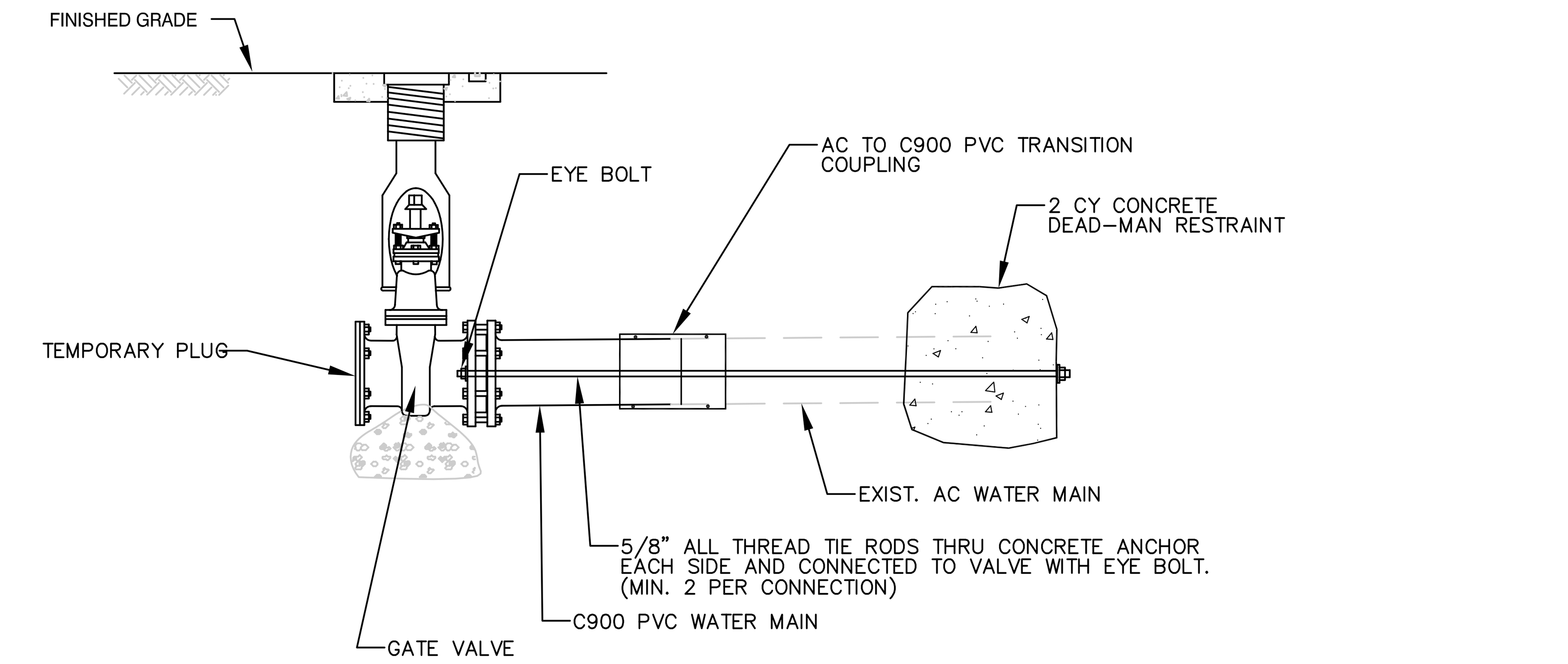
(3) Separation Between WATER MAINS and Sanitary or Storm Sewer Manholes:
- (a) No WATER MAIN shall pass thru, or come into contact with any part of a Sanitary Manhole or a Storm Sewer Manhole.

(4) Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems. New or relocated Fire Hydrants with underground Drains shall be located so that the drains are at least (3) Three Feet from any existing or proposed storm sewer, Stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; at least (3) Three Feet, and preferably (10) Ten Feet, from any existing or proposed gravity- or Pressure-type Sanitary Sewer, Wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least (10) Ten Feet from any existing or proposed "on-site sewage treatment and disposal system" as defined in Section 381.0065(2), F.S. and Rule 64E-6.002, F.A.C.

(5) Exceptions/Mitigation: Adherence to the above Constraints and Separations in Items 1 through 4 shall be Complied to, "WITHOUT EXCEPTION". If for some reason where it is not technically feasible or Economically Sensible that Items 1 through 4 cannot be complied with, Contractor will Stop Work and Notify the Engineer of record for the appropriate solution, which will be submitted to "The Department of Environmental Protection" for APPROVAL, prior to work commencement.



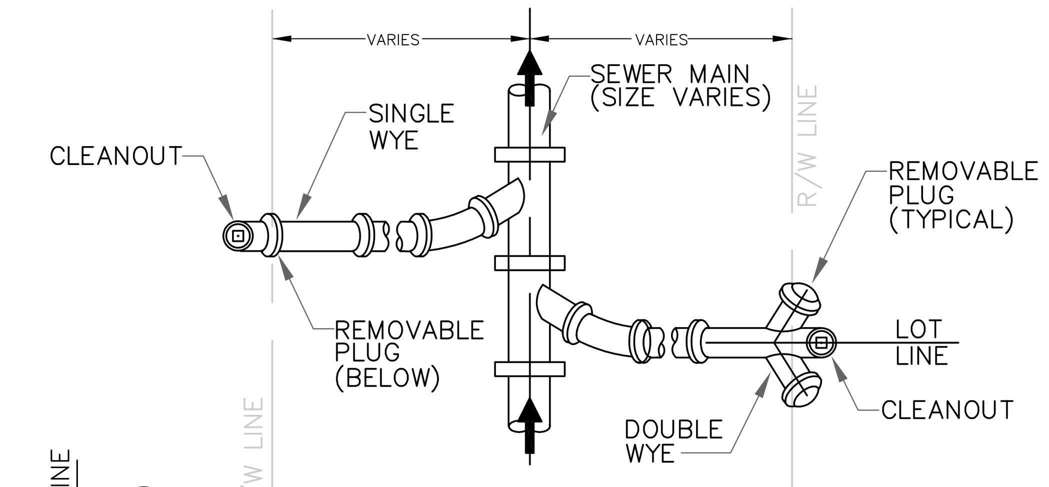
UTILITY SEPARATIONS



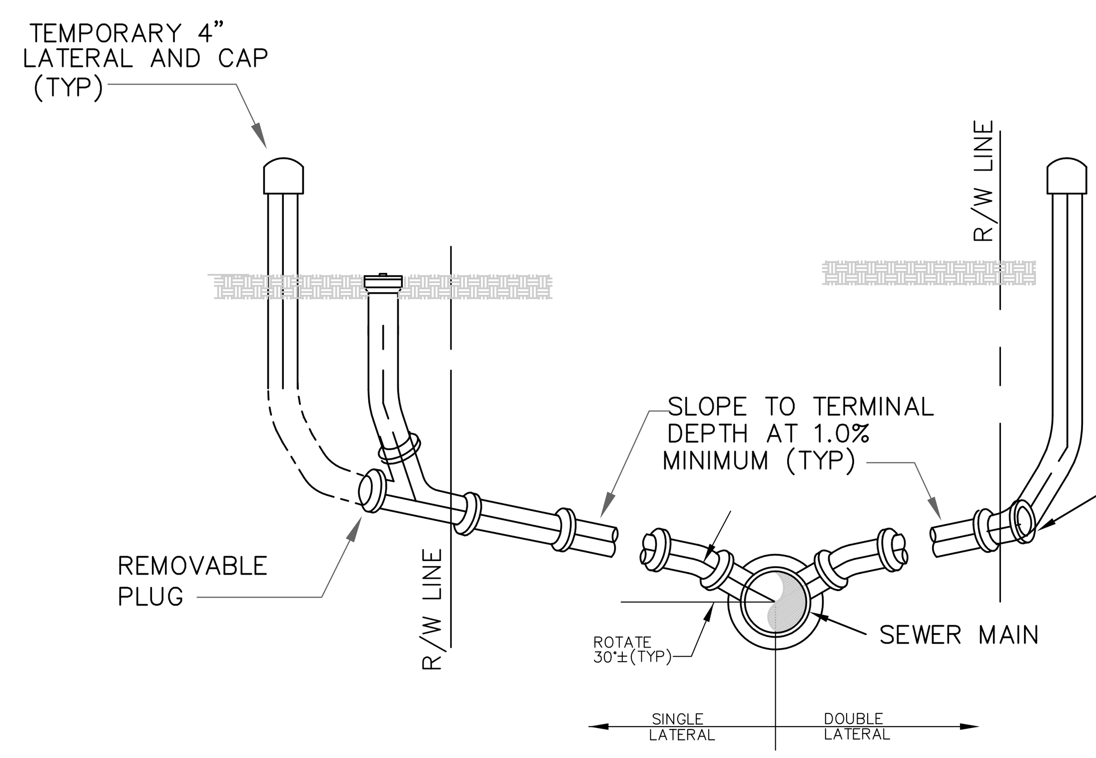
TEMPORARY WATER MAIN DEAD END AND RESTRAINT

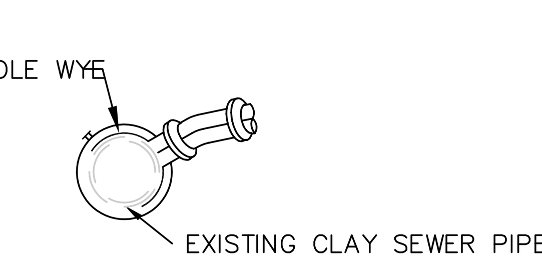
NOT TO SCALE

NOTES:
1. LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE.
2. SERVICE LATERALS SHALL BE 6" MINIMUM DIAMETER FOR SINGLE SERVICE.
3. BENDS SHALL BE 45° MAXIMUM.
4. RECONNECT EXISTING SERVICES.
5. LENGTH OF SERVICE LATERALS SHALL BE 150' OR LESS.
6. ALL MAINS, FITTINGS, AND APPURTENANCES, SHALL BE SDR 26



PLAN



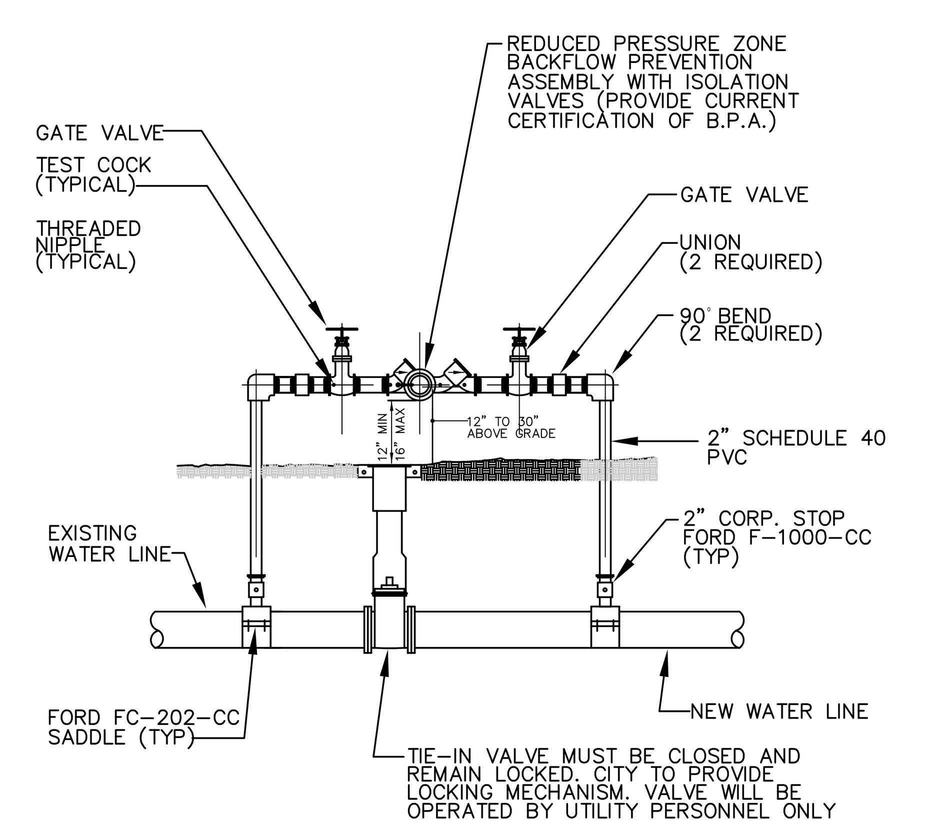


SEWER SERVICE CONNECTION TO EXISTING CLAY PIPE

NOTE:
MARK ALL POINTS WHERE SEWER SERVICE CROSSES CURB WITH A "S" MARKED IN CONCRETE.

SEWER SERVICE RISER CONNECTION DETAILS

NOT TO SCALE



NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE WITH THE CITY.

TEMPORARY JUMPER CONNECTION DETAIL

NOT TO SCALE

TEMPORARY JUMPER CONNECTION NOTES

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAILS TO BE USED FOR FILLING ANY WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 psi IN THE NEW MAINS ALL THE TIME AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUATE THRUST BLOCKING AND/OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C561-92.
3. FLUSHING OF 10" DIAMETER AND LARGE WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE, IN THE PRESENCE OF THE UTILITY DEPART. THE UTILITY DEPARTMENT WILL NOTIFIED IN WRITING 48 HOURS PRIOR TO THE FLUSHING OF SAID MAINS.

   THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   A. THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO THE TIE-IN. VALVES WHICH ARE NOT WATERTIGHT 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 AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT.
      - FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.
      - ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.
      - PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT, THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 psi.
      - TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALE IS ALWAYS GRATER THAN 10 psi.
   C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.
   D. THE TIE-IN VALVE SHALL BE OPENED ONLY A FEW TURNS FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DIRECTED 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.
4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE REDUCED PRESSURE BACKFLOW 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 PERFORMED BY A QUALIFIED BACKFLOW PREVENTION TECHNICIAN.
5. 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 CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES.
6. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
7. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE FITTINGS, VALVE, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CITY OF CLERMONT

DATE	REVISION
	1
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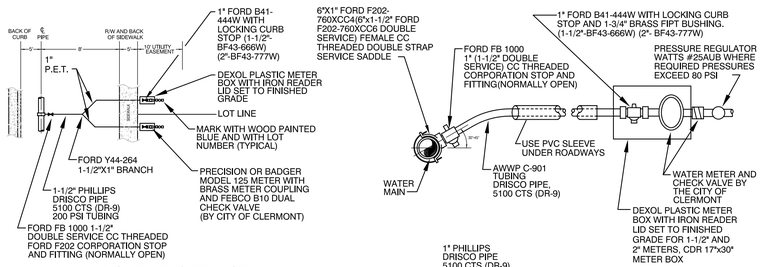
CITY OF CLERMONT
Disston Ave. Drainage Design
General Notes & Detail Sheet

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 9

DUANE K. BOOTH, PE
Registered Eng 44631



DOUBLE SERVICE

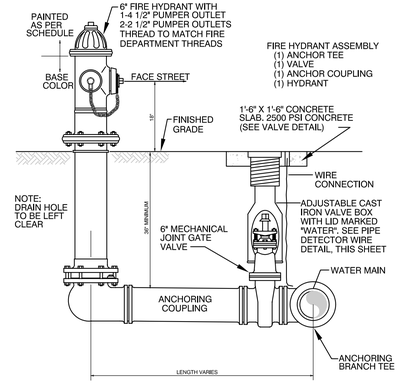
SINGLE SERVICE

NOTES:

1. 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.
2. ALL CLERMONT SERVICE LINES SHALL BE 1" (1-1/2" DBL. SERV.) AWWP C-901 TUBING, DRISCO PIPE, 5100 CTS (DR-9), 200 PSI.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE CLEARLY MARKED WITH A 2" X 2" X 18" STAKE
4. CURB STOPS SHALL BE 1" FORD B41-444W WITH LOCKWING AND FITTED WITH A 1" MIPT X 3/4" FIPT BRASS BUSHING. (1-1/2"-BF43-666W) (2"- BF43-777W)
5. ALL WATER SERVICES CROSSING UNDER ROADWAYS TO BE ENCASED IN LARGER SIZE SCHEDULE 40 PVC.
6. EXISTING METER BOXES TO REMAIN. PROVIDE NEW METER BOX FOR NEW SERVICES.
7. MARK CURB "W" WHERE SERVICES ARE LOCATED.
8. PROVIDE TRACER WIRE ALONG SERVICE LINES.

WATER SERVICE CONNECTION DETAILS

NOT TO SCALE



NOTES:

1. FIRE HYDRANTS SHALL BE MUELLER A-423.
2. HYDRANT MUST BE PAINTED AT FACTORY BY THE MANUFACTURER.
3. HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING COLORING DESIGNATION BASED ON THE TESTED FLOWS:
   BASE HYDRANT - YELLOW CITY OWNED/MAINTAINED; RED PRIVATELY OWNED.
   LESS THAN 500 GPM - RED
   500 TO 999 GPM - ORANGE
   1000 TO 1499 - GREEN
   1500 GPM OR GREATER - BLUE
4. HYDRANTS TO BE FLOW TESTED BY CITY UTILITY DEPARTMENT OR COUNTY REPRESENTATIVE. COORDINATE WITH CITY INSPECTOR FOR TESTING PURPOSES.
5. BLUE PAVEMENT MARKERS (BPMs) ARE TO BE INSTALLED IN THE CENTER OF THE DRIVING LANE NEAREST THE HYDRANT.

FIRE HYDRANT DETAIL

(REVISED 8/17/10)

NOT TO SCALE

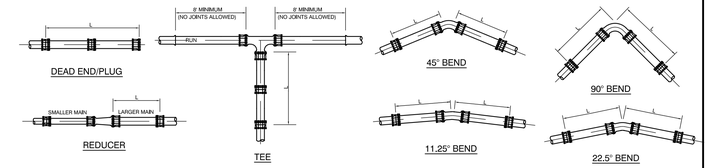


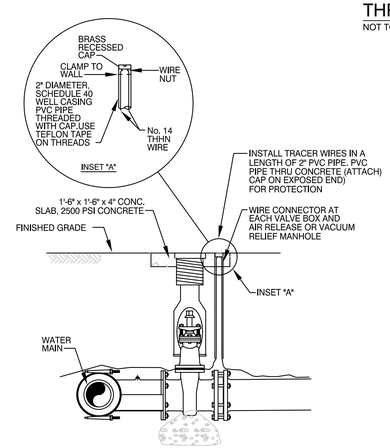
TABLE OF THRUST RESTRAINT LENGTHS															
PIPE SIZE (INCHES)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		TEES		DEAD END & PLUG		REDUCER		
	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	P.V.C. (L)	DUCTILE IRON (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE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

THRUST RESTRAINT DESIGN NOTES

1. RESTRAINT JOINTS, FITTINGS AND VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY EBAA IRON SALES, INC.
2. DATA BASED ON MAXIMUM WATER PRESSURE OF 150 PSI, THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL WITH A MINIMUM 2.5' COMPACTED FILL OVER THE PIPE, AND USING A SAFETY FACTOR OF 1.5 FOR THE DATA.
3. ALL FITTINGS AND VALVES TO BE RESTRAINED WITH "MEGA-LUG" RESTRAINTS, AND ALL BELL AND SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).

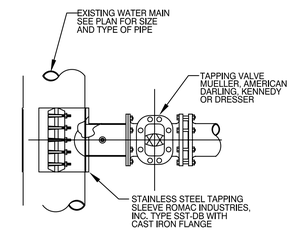
THRUST RESTRAINT DETAILS

NOT TO SCALE



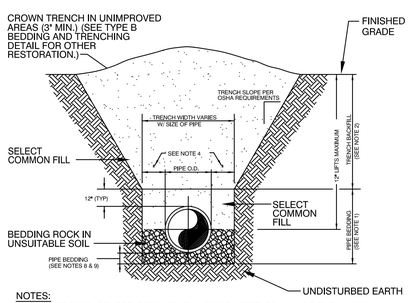
TAPPING SLEEVE DETAIL ELEVATION VIEW

NOT TO SCALE



TAPPING SLEEVE DETAIL PLAN VIEW

NOT TO SCALE



NOTES:

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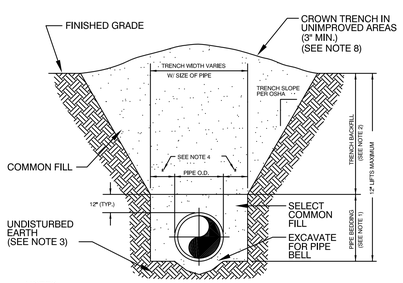
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF CLERMONT.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE 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 16" AND LARGER.
9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. CITY OF CLERMONT SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

TYPE A BEDDING AND TRENCHING DETAIL

NOT TO SCALE



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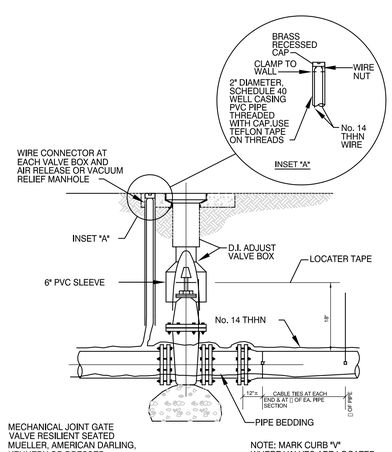
8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY OF CLERMONT RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

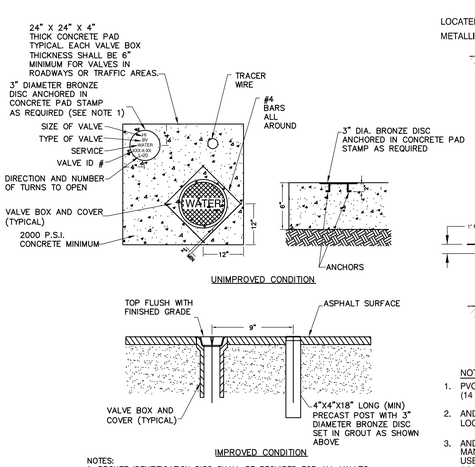
TYPE B BEDDING AND TRENCHING DETAIL

NOT TO SCALE



PIPE DETECTOR WIRE MARKER TAPE INSTALLATION

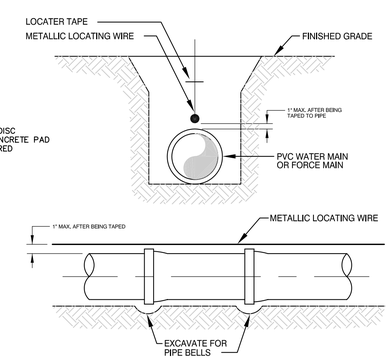
NOT TO SCALE



NOTES:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES

VALVE COLLAR

NOT TO SCALE



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. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX.
3. 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

CITY OF CLERMONT

DATE	REVISION
	1
	2
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	4
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CITY OF CLERMONT
Disston Ave. Drainage Design

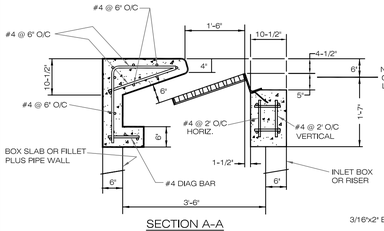
Potable Water Detail Sheet

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
St. Cloud, Florida 32769
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

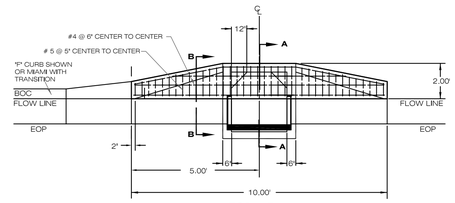
DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 10

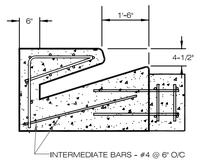
CHARLES C. HIOTT, P.E.
Registered Eng 54813



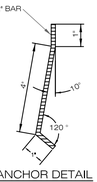
SECTION A–A



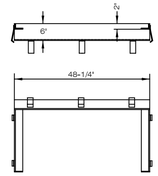
TOP VIEW



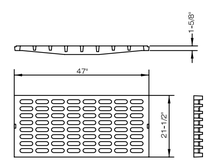
SECTION B–B



ANCHOR DETAIL



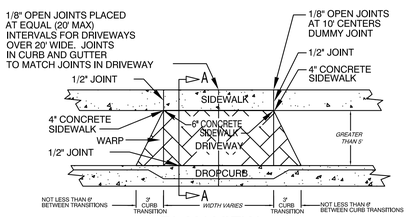
STEEL ANGLE FRAME



CAST IRON COVER

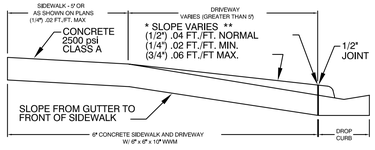
F.D.O.T. TYPE "6" MODIFIED INLET

ALL STRUCTURAL SPECIFICATIONS SHALL MEET OR EXCEED F.D.O.T. INDEX NO. 211



PLAN VIEW

WHEN DISTANCE BETWEEN CURB AND SIDEWALK IS GREATER THAN 5 FEET



SECTION A-A

* SLOPES CAN BE ADJUSTED WITHIN THE RANGES SHOWN TO IMPROVE TIES TO ADJACENT PROPERTY AND ARE TO BE TRANSITIONED TO AVOID DISTORTION BE TRANSITIONED TO AVOID DISTORTION IN SIDEWALK CONTINUITY

** SPECIAL PERMISSION MAY BE OBTAINED TO INCREASE OR DECREASE SLOPE OF DRIVEWAY TO IMPROVE TIES TO SIDEWALL AND GUTTER GRADE

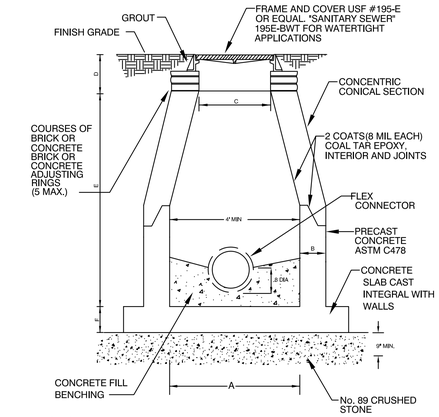
NOTE: DRIVEWAYS AND SIDEWALKS THROUGH DRIVEWAYS SHALL REQUIRE 6" x 6" REINFORCEMENT WIRE.

CHECK AND VERIFY THESE ITEMS:

- ☐ 6" W/WIRE
- ☐ 3' TAPER CUT SQUARE
- ☐ 5' SIDEWALK TO R/W
- ☐ * SLOPE VARIES ** (1/2") .04 FT./FT. NORMAL (1/4") .02 FT./FT. MIN. (3/4") .06 FT./FT MAX.

SIDEWALK AND PAVED DRIVEWAY CONSTRUCTION

NOT TO SCALE



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"THICK MIN.) IN BOTTOM OF MANHOLE AFTER PIPES HAVE BEEN CONNECTED TO KEEP DEBRIS FROM ENTERING SEWER.
7. REINFORCING STEEL PER ASTM C478-88a.
8. PROVIDE 5' x 5' x 12" CONCRETE COLLAR AROUND COVER FRAME, W/4 #4 BARS E.W., IN UNPAVED AREAS.
9. MANHOLES RECEIVING DIRECT FORCE MAIN FLOW SHALL BE CONSTRUCTED WITH A HIGH DENSITY POLYETHYLENE LINER CAST IN DURING CONSTRUCTION THIS LINER SHALL BE AGRU SURE GRIP, OR EQUAL APPROVED BY THE CITY OF CLERMONT.

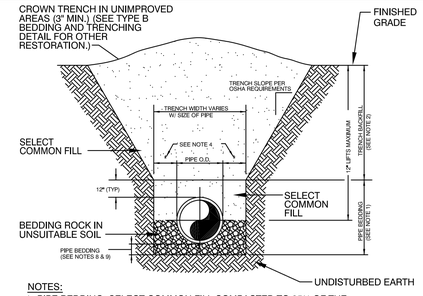
M.H. DEPTH	A*	B	C	D	E	F
UP TO 12'	48"	5"	24"	15"	AS-REQ'D	8"
12' - 18'	60"	8"	24"	15"	AS-REQ'D	10"
18' & DEEPER	72"	8"	24"	15"	AS-REQ'D	14"

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

*ENTIRE DEPTH EXCEPT CONE

STANDARD MANHOLE DETAIL

NOT TO SCALE



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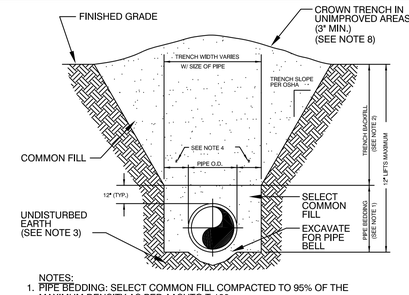
TYPE A BEDDING AND TRENCHING DETAIL

NOT TO SCALE



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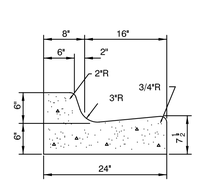
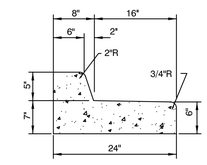
TYPE B BEDDING AND TRENCHING DETAIL

NOT TO SCALE



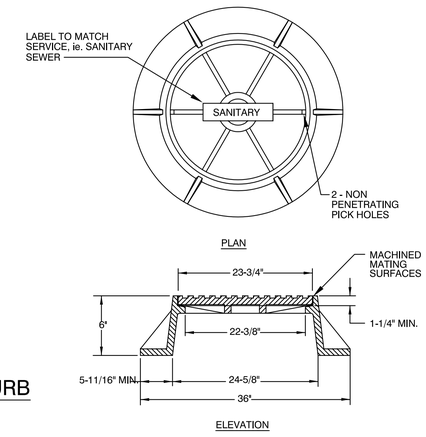
TYPE "F"

NO SCALE



TYPE "F" SPILL-OUT CURB

NO SCALE

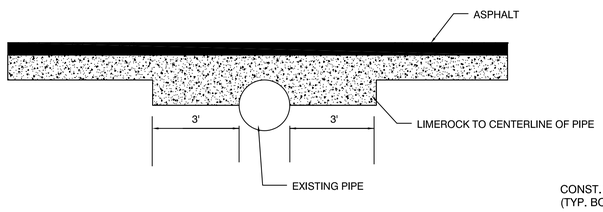


STANDARD MANHOLE FRAME AND COVER

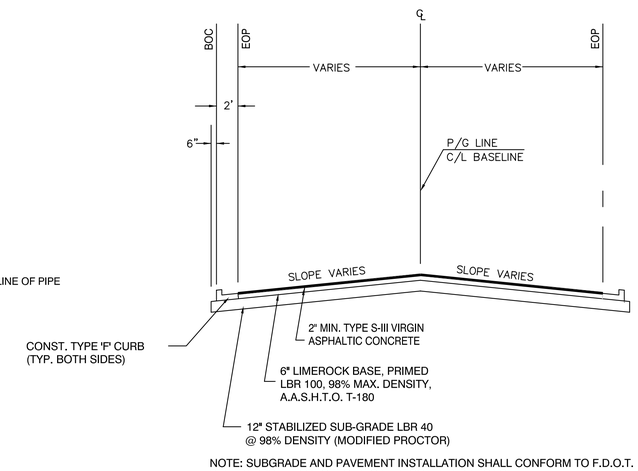
NOT TO SCALE

NOTES:

1. TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY CONTRACTOR.
2. CONSTRUCT STORMWATER SYSTEMS BEFORE ANY BUILDING OR ROAD CONSTRUCTION IS STARTED.
   a.) PROTECT SYSTEM FROM SILTING AND DEBRIS BY METHODS PROVIDED IN DETAILS.
   b.) PROTECT SWALE BOTTOM FROM SEALING BY EXCAVATING ALL SILT DEPOSITS DURING CONSTRUCTION. THIS SHALL BE DONE BEFORE SOD & SEEDING & MULCHING IS FINISHED



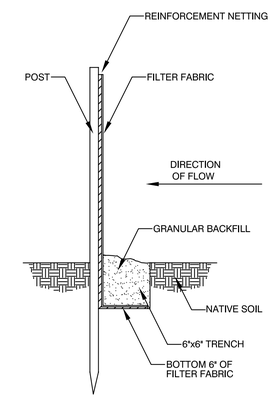
FRANGIBLE BASE DETAIL



NOTE: SUBGRADE AND PAVEMENT INSTALLATION SHALL CONFORM TO F.D.O.T. STANDARDS AND GEOTECHNICAL RECOMMENDATIONS.

TYPICAL ROAD SECTION

N.T.S.



SILT BARRIER DETAIL

NOT TO SCALE

EROSION CONTROL STRUCTURE

NOT TO SCALE

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

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

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

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

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

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

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

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

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
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CITY OF CLERMONT
Disston Ave. Drainage Design

Detail Sheet

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
St. Cloud, Florida 32769
www.beasndh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 11

CHARLES C. HIOTT, P.E.
Registered Eng 54813

GENERAL PROJECT DATA

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

PRIOR TO THE COMMENCEMENT OF ANY WORK, A PRECONSTRUCTION MEETING WITH THE CITY OF CLERMONT IS REQUIRED. THE CITY OF CLERMONT SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF MAJOR PHASES OF CONSTRUCTION.

THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN 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 PLAN 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 W.R.A. 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:

WATER
CITY OF CLERMONT
UTILITIES DEPARTMENT
685 WEST MONTROSE STREET
CLERMONT, FL 34711
(352) 241-7335

POWER
PROGRESS ENERGY
P.O. BOX 120069
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SUMTERVILLE, FL 33585
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SEWER
CITY OF CLERMONT
UTILITIES DEPARTMENT
685 WEST MONTROSE STREET
CLERMONT, FL 34711
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CABLE
BRIGHT HOUSE NETWORKS
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CLERMONT, FL 34711
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LAKE APOPKA NATURAL GAS DISTRICT
676 W. MONTROSE STREET
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260 CITRUS TOWER BLVD.
CLERMONT, FL 34711
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ASBUILTS

THE ENGINEER SHALL DELIVER ASBUILT DRAWING PLANS IN DWG FORMAT IN AUTOCAD FILES VERSION 2000 OR 2004 (NO HIGHER). STANDARD TRANSFER MEDIA WILL BE ACCEPTED. THIS MEDIA INCLUDES CD OR DVD. ALL ASBUILT 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 ASBUILT REQUIREMENTS.

THE ENGINEER SHALL DELIVER ONE SCANNED SET OF APPROVED ASBUILT DRAWING PLANS. THE SCANNED SETS SHALL BE COMPLETE AND INCLUDE THE TITLE SHEET, PLAN/PROFILE SHEETS, CROSS-SECTIONS, AND DETAILS. EACH INDIVIDUAL SHEET CONTAINED IN THE PRINTED SET OF THE DRAWINGS SHALL BE INCLUDED IN THE ELECTRONIC SUBMITTAL, WITH EACH SHEET BEING CONVERTED INTO AN INDIVIDUAL TIFF (TAGGED IMAGE FILE). THE PLAN SHEETS SHALL BE SCANNED IN TIFF FORMAT AT 400 DPI RESOLUTION TO MAINTAIN LEGIBILITY OF EACH DRAWING. THEN, THE TIF IMAGES SHALL BE EMBEDDED INTO A SINGLE PDF (ADOBE ACROBAT) FILE REPRESENTING THE COMPLETE PLAN SET. THESE DRAWINGS WILL ASSIST IN THE PROCESS OF PERFORMING QUALITY CONTROL AND QUALITY ASSURANCE ON THE ELECTRONIC SUBMITTAL SPECIFIED IN THIS DOCUMENT. THE DRAWINGS WILL BE REVIEWED FOR FORMAT AND COMPLETENESS. SPECIFICALLY, THE FOLLOWING REQUIREMENTS SHALL BE MET.

1. INCLUDE A LABEL ON THE MEDIA INDICATING PROJECT NAME AND NUMBER, CONSULTANT NAME, PROJECT MANAGER AND TELEPHONE NUMBER, TYPE OF SUBMITTAL (APPROVED CONSTRUCTION PLANS OR ASBUILT DRAWINGS), ONLY DRAWINGS RELEVANT TO THE PROJECT'S PHASE OF SUBMITTAL SHALL BE INCLUDED. FOR EXAMPLE, DO NOT INCLUDE "BID SET" DRAWINGS IN A "ASBUILT DRAWING" SUBMITTAL. ALSO, DO NOT INCLUDE DRAWINGS OR DOCUMENTS THAT WOULD NOT NORMALLY BE INCLUDED IN THE SET OF PRINTED DRAWINGS, EXCEPT FOR BASE DRAWINGS OR DRAWINGS TO BE EXTERNALLY REFERENCED.

2. RECORD DRAWING DATA TO BE UPLOADED WILL INCLUDE ONLY NEW CONSTRUCTION AND CARE WILL BE TAKEN TO EXCLUDE ANY "EXISTING" FACILITIES FROM THIS DATASET SO AS TO NOT DUPLICATE INFORMATION IN THE GIS SYSTEM. EXISTING DATA CAN BE INCLUDED IN THE DRAWING BUT SHOULD RESIDE ON SEPARATE LAYERS. IT IS RECOMMENDED THAT THE PREFIX "EX-" BE ADDED TO THE LAYERS OF ALL EXISTING DATA

3. THE FOLLOWING ARE FILE FORMAT AND LAYER NAME STANDARDS:

   a) A FOLDER SHALL BE CREATED WITH THE NAMED PROJECT AND PHASE NUMBER
   b) A FILE NAMED COVERSHEET.DWG
   c) FILE NAMED SITE_PLAN.DWG SHOWING ONLY THE FOLLOWING 5 LAYERS VISIBLE:
      -LAYER NAMED LOTS
      -LAYER NAMED LOT NUMBERS
      -LAYER NAMED ADDRESSES
      -LAYER NAMED ROW SHOWING ALL RIGHTS-OF-WAYS
      -LAYER NAMED EOP SHOWING ALL EDGE OF PAVEMENTS
   d) A FILE NAMED MASTERUTILITYPLAN.DWG WITH SITE_PLAN.DWG X-REF AND ONLY THE FOLLOWING 3 LAYERS VISIBLE:
      -LAYER NAMED WATERLINE SHOWING DIFFERENT PIPE SIZES, WATER METERS, AND HYDRANTS
      -LAYER NAMED REUSEWATER AND ALL APPROPRIATE FEATURES
      -LAYER NAMED SEWER AND ALL APPROPRIATE FEATURES
   e) FILE NAMED GRADING_DRAINAGE.DWG WITH SITE_PLAN.DWG X-REF AND ONLY THE FOLLOWING 2 LAYERS VISIBLE:
      -LAYER NAMED STORMWATER AND ALL APPROPRIATE FEATURES
      -LAYER NAMED SPOTELEV SHOWING ALL SPOT ELEVATIONS
      -ANY OTHER LAYERS PERTINENT TO THE GRADING AND DRAINAGE OF THE SITE
   f) IF APPLICABLE, A FILE NAMED OFF_SITE_UTILITIES.DWG
      INCLUDE ANY OTHER FILES PERTINENT TO THE PROJECT (SURVEY, DETAILS, X-REFS ETC.)

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 THE WORK TO BE CONSTRUCTED. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPENCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

QUALITY CONTROL TESTING REQUIREMENTS

ALLTESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR, CITY OF CLERMONT, 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 THE 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 SILTRATION 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. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITH SOD WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION. OTHER MATERIALS SHALL BE REVIEW AND APPROVED BY CITY.

WETLAND PROTECTION

THE LIMITS OF THE ON-SITE WETLANDS HAVE BEEN PROVIDED TO THE CONTRACTOR ON THE CONSTRUCTION PLANS OR ON PERMIT MATERIALS. THE WETLANDS ARE TO BE PROTECTED FROM DISTURBANCE AT ALL TIMES. CONTRACTOR SHALL PROVIDE EROSION, SILTATION, AND DIVERSION MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN A COPY OF EACH PERMIT RELATING TO WETLANDS AND WATER MANAGEMENT AND ADHERE TO ALL PROVISIONS AND CONDITIONS THERETO.

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. GRADING AND/OR CLEARING ON PROPERTIES OTHER THAN SHOWN ON THE APPROVED PLANS IS PROHIBITED.

TREE REMOVAL

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

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.

NO BURN PERMITS (INCLUDING THOSE FOR LAND CLEARING) WILL BE ISSUED IN THE CITY OF CLERMONT WITHOUT PRIOR AUTHORIZATION FROM THE CITY MANAGER.

MATERIAL STORAGE/DEBRIS REMOVAL

1) NO COMBUSTIBLE BUILDING MATERIALS MAY BE ACCUMULATED ON THE SITE AND NO CONSTRUCTION WORK INVOLVING COMBUSTIBLE MATERIALS MAY BEGIN UNTIL INSTALLATION OF ALL REQUIRED WATER MAINS AND FIRE HYDRANTS HAVE BEEN COMPLETED, DEP APPROVAL RECEIVED FOR THE WATER MAINS, AND THE HYDRANTS ARE IN OPERATION. CONSTRUCTION WORK INVOLVING NON-COMBUSTIBLE MATERIALS, SUCH AS CONCRETE, MASONARY AND STEEL MAY BEGIN PRIOR TO THE FIRE HYDRANTS BEING OPERATIONAL.

2) 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 MATERIALS SHALL CONTAIN NO MUCK, STUMPS, ROOTS, BRUSH, VEGATATIVE 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 RIGHT-OF-WAY WORK

OWNER/OPERATOR

THE ENTITY THAT WILL OWN, OPERATE AND MAINTAIN THE ROADWAYS SHOWN ON THESE PLANS IS FDOT, LAKE COUNTY OR THE CITY OF CLERMONT. 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 INGRADE, 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 GRADES THAN 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 INSTRUCTION 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 STABIIJZED SUBBASE WITH A LIMEROCK BEARING PATIO 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 2" 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 AREA AS SHOWN ON THE CONSTRUCTION PLANS. THE 5' SIDEWALK SHALL BE CONSTRUCTED OF 4 INCHES 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

AN MOT PLAN SHALL BE SUBMITTED TO THE INSPECTOR PRIOR TO COMMENCEMENT OF WORK. 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. 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-WAYS 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 SODDED 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 AS APPROVED BY THE CITY OF CLERMONT.

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, UNLESS OTHERWISE INDICATED ON PLANS.

LANDSCAPING

PROVIDE MINIMUM 5' SEPARATION FROM UTILITIES AND TREES WITH INVASIVE ROOT SYSTEMS.

PIPE MATERIALS

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL CITY INFRASTRUCTURE TO BE CONSTRUCTED. WATER SYSTEM SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND SHALL MEET CITY SPECIFICATIONS.

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 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/A21.50 (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 WITH LOCATOR WIRE SHALL BE INSTALLED ON ALL WATER MAINS PER DETAIL.

PIPE MATERIALS CONT.

PIPE SIZES GREATER THAN 12" 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. TRANSMISSION MAIN SHALL BE DIP RATED FOR 250 PSI.

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. 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.

VALVE BOXES

VALVE BOXES ON BURIED POTABLE WATER MAINS SHALL BE ADJUSTABLE, CAST IRON CONSTRUCTION, WITH MINIMUM INTERIOR DIAMETEROF 5" WITH COVERS CAST WITH THE INSCRIPTION IN LEGIBLE LETTERING ON TOP: WATER. 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"x18"x4" THICK CONCRETE WITH #4 REINFORCING BARS. PAD TO BE SET AT FINISHED GRADE WITH RECESSED DETECTOR WIRE CONDUIT PORT PER DETAIL.

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. UNLESS OTHERWISE NOTED IN PLANS, UTILITY COMPANY SHALL PROVIDE AND INSTALL IRRIGATION METERS. WHERE RECLAIM SERVICE IS NOT PROVIDED, CONTRACTOR SHALL CONSTRUCT IRRIGATION SERVICE THROUGH THE CURB STOP AND SET NEW BOXES TO FINISHED GRADE AS SHOWN ON THE WATER SYSTEM DETAIL SHEET.

MATERIALS AS REQUIRED BY THE CITY OF CLERMONT

SERVICE SADDLE - FORD F202
CORPORATION STOP - FORD FB1000
CURB STOP - FORD B41-444W FOR 1" ONLY
- FORD BF43-777W FOR 1-1/2"
- FORD BF43-777W FOR 2"

METER BOX - SINGLE ONLY (NO DOUBLE METER BOXES ALLOWED), DEXOL WITH IRON READER DOOR WITH TOUCH READ LID. METER BOXES FOR 1-1/2" AND 2" SHALL BE CDR 17"x30" WITH TOUCH READ LID. METER BOXES IN TRAFFIC AREAS SHALL BE BROOKS 36 SERIES WITH TOUCH READ LID.
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 A "W" IN THE CURB TOP AT EACH WATER SERVICE AND A "V" AT ALL VALVE LOCATIONS. CUT W'S AND V'S 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 CLERANCE OF 18" OR A MINIMUM HORIZONTAL CLEARANCE OF 10' FROM ALL OTHER UTILITIES. IF THE MINIMUM CLEARANCE CAN NOT BE ACHIEVED, THEN DUCTILE IRON WATER MAIN SHALL BE SPECIFIED 10 FEET EITHER SIDE OF THE CROSSING. HORIZONTAL AND VERTICAL MINIMUM SEPARATION DISTANCE REQUIREMENTS BETWEEN WATER MAIN AND ALL OTHER UTILITIES SHALL COMPLY WITH 62-555.314 (1), (2), (3) AND (4), FAC.

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 RESTRAINT CONSTRUCTION SPECIFICATIONS, REFER TO THE WATER SYSTEM DETAILS.

GENERAL NOTES AND DETAILS
REVISED
01-01-11

NOTE:
THE DETAILS AND SPECIFICATIONS SHOWN ON THIS SHEET WERE SUPPLIED BY THE BOOTH ERN SRAUGHAN & HIOTT, INC. ASSUMES NO LIABILITY FOR THE ACCURACY OF CITY OF CLERMONT AND NOT BY BOOTH ERN STRAUGHAN & HIOTT, INC.
THE DETAILS, DESIGNS, AND SPECIFICATIONS SHOWN ON THIS SHEET.

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

City of Clermont General Notes

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DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 12

CHARLES C. HIOTT, P.E.
Registered Eng 54813

PIPE IDENTIFICATION

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.

ALL PIPE AND PIPE FITTINGS SHALL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUB- PARAGRAPH 62-555.320(21)(b)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE, SHALL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN OR SHALL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT SHALL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVE GROUND PIPE SHALL BE PAINTED BLUE OR SHALL BE COLOR CODED OR MARKED LINE UNDERGROUND PIPE.) RHINO TRIVIEW FLEXMARKING POST SHALL BE PLACED ON ALL TRANSMISSION MAINS AT 500 FEET.

DISINFECTION AND TESTING

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

PVC WATER MAINS SHALL BE INSTALLED; PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C605 AND DUCTILE IRON WATER MAINS IN ACCORDANCE WITH AWWA C600, [62-555.320(21)(B) 1 AND 62-555.330, F.A.C]. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.

THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GUAGES AND OTHER EQUIMENT, 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 FEDP WATER SYSTEM PERMIT AND PULL BACTERIOLOGICAL TEST SAMPLES FROM THE SAMPLE POINTS SPECIFIED IN THAT PERMIT. CONTINUITY TEST SHALL BE PERFORMED ON WIRE BY CONTRACTOR.

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.

ASBUILT DRAWINGS

THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL "ASBUILT" 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 4. ENGINEERING PLANS.

5. UTILITY LOCATES ON SYSTEMS INSTALLED UNDER THIS CONTRACT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER UNTIL ASBUILT DRAWINGS ARE REVIEWED AND APPROVED BY THE UTILITY.

SANITARY SEWER NOTES

MAINS AND MANHOLES

1. ALL GRAVITY SANITARY SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE CONSTRUCTED OF SDR26 PVC PIPE MEETING ASTM 3034, AND SHALL HAVE A MINIMUM COVER OF THREE (3) FEET.

2. WHERE REQUIRED, MAINS SHALL BE CLASS 150 DUCTILE IRON PIPE (DIP) MEETING AWWA C150 AND C151. MAINS SHALL BE 60 MIL EPOXY COATED WITH POLYETHYLENE WRAP CONFORMING TO AWWA C105.

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 ASSOCIATION STANDARD IS UNI-B-7.

5. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE WITH A MINIMUM WALL THICKNESS OF FIVE (5) INCHES FOR INSIDE DIAMETER OF FOUR (4) FEET.

6. MANHOLES SHALL MEET ASTM C-478. RING AND COVER SHALL BE TRAFFIC BEARING H-20 CLASS 30 MEETING ASTM A-48.

7. INTERIOR AND EXTERIOR WALLS OF ALL MANHOLES SHALL HAVE A MINIMUM OF TWO (2) 8 MIL COATS OF AN APPROVED PROTECTIVE COAL TAR EPOXY.

8. ALL MAINS NOT LOCATED UNDER PAVEMENT SHALL BE MARKED BY A THREE (3) INCH WIDE METALLIC LOCATOR TYPE 18" ABOVE THE CENTERLINE OF PIPE. DROP MANHOLE IF INVERT DIFFERENCE IS GREATER THAN OR EQUAL TO TWO (2) FEET.

9. LINING IS REQUIRED OF ALL MANHOLES WITH AN INCOMING SLOPE GREATER THAN 5%.

10. NO DROP SHALL BE GREATER THAN 15 FEET.

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. SEE DETAILS FOR LOCATION.
3. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2"x2"x2" ABOVE GRADE WOODEN STAKE OR APPROVED MARKER AND CURB MARKED WITH A '5'.

FORCEMAINS

1. FORCEMAINS SHALL BE CLASS 350 EPOXY 401 LINED DIP. DIP 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. SUITABLE COUPLINGS COMPLYING WITH ASTM SPECIFICATIONS ARE REQUIRED FOR JOINING DISSIMILAR MATERIALS.

3. METALLIC MARKING TAPE 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.

5. ALL CONNECTIONS TO EXISTING SEWER FORCEMAINS SHALL BE ACCOMPLISHED WITH A WET TAP AND RESTRAINTS.

6. PROVIDE JOINT RESTRAINT AS SHOWN ON THE WATER DETAIL SHEET.

7. AIR RELEASE AND VACUUM VALVES MANUFACTURER SHALL BE APPROVED BY THE CITY.

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. AIR TESTS, AS A MINIMUM, SHALL CONFORM TO THE TEST PROCEEDURES DESRIBED IN ASTM SPECIFICATIONS, ASTM F1417 FOR PLASTIC PIPE.

   B. ALL SEWER MAINS AND LATERALS SHALL BE VIDEO INSPECTED BY A CITY APPROVED VENDOR.

   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 SHALL BE 150 PSI FOR TWO (2) HOURS.

   E. DEFLECTION TESTS ARE REQUIRED FOR ALL FLEXIBLE PIPE. TESTS SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

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 ACTIVE 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 DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED AND THE LINES ARE PLACED INTO SERVICE.

ADEQUATE RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED.

PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, 1992 EDITION. THE TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C651-92.

FLUSHING OF ALL WATER MAINS SAHLL BE DONE THROUGH THE TIE-IN VALVE UNDER CONTROLLED CONDITIONS BY THE CITY ONLY. FULL BORE FLUSH IS REQUIRED. THE FOLLOWING PROCEEDURES 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 WATERTIGHT 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.
   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. 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.

C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL THE FLUSHING BEGINS.

D. THE TIE-IN VALVE SHALL BE OPENED ONLY BY THE CITY FOR FLUSHING OF THE NEW MAIN. THE PROCEEDURE 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 CLOSE POSITION BY THE CITY. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE RPZ 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 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.

EXCEPT AS REQUIRED TO FLUSH LINES 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 NEW 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 BE NO LEAKAGE.

ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACK FLOW PREVENTION DEVICE, FITTINGS, VALVES, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

WATER METERS SHALL BE PAID FOR AT THE CITY HALL AND SHALL BE DELIVERED TO THE JOB SITE BY THE UTILITIES DEPARTMENT.

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 BREAKAWAY TYPE, WITH THE BREAKAWAY 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 CONNECTION 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. HYDRANT MUST BE PAINTED AT FACTORY BY THE MANUFACTURER AND SHALL BE PAINTED IN CONFORMANCE WITH CITY OF CLERMONT REQUIREMENTS (COLORS BASED ON DELIVERED FIRE FLOW). 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.

FIRE HYDRANTS CONT.

1. BLUE PAVEMENT REFLECTORS SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE CLOSEST TO AND DIRECTLY IN FRONT OF EACH FIRE HYDRANT.

2. A POST-CONSTRUCTION FIRE FLOW TEST SHALL BE CONDUCTED. HYDRANTS SHALL DELIVER THE REQUIRED GPM PER THE CITY OF CLERMONT LAND DEVELOPMENT REGULATIONS WITH A RESIDUAL PRESSURE OF 20 PSI. CONTRACTOR SHALL NOTIFY CITY OF CLERMONT ENGINEERING DEPARTMENT WHEN HYDRANTS ARE READY TO BE FLOW TESTED. FOR FIRE HYDRANTS LOCATED WITHIN THE CITY OF CLERMONT, CONNECTED TO THE CITY OF CLERMONT'S WATER SYSTEM, AND/OR LOCATED WITHIN CLERMONT FIRE DEPARTMENT'S PROTECTION AREA, THIS TEST SHALL BE CONDUCTED BY CITY OF CLERMONT PERSONNEL. THIS TEST SHALL BE PROVIDED BY THE CONTRACTOR FOR LOCATIONS NOT INCLUDED ABOVE. THIS TEST MAY BE WITNESSED BY THE OWNER/OPERATOR IF REQUESTED AT TIME OF NOTIFICATION THAT HYDRANTS ARE READY FOR FLOW TEST.

3. IF A PERMIT FOR THE WATER SYSTEM IS REQUIRED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP), THE SYSTEM SHALL BE ACCEPTED AND APPROVED BY DEP PRIOR TO BEING PRESSURIZED OFF OF THE CITY SYSTEM AND PRIOR TO ANY FLOW TESTS BEING CONDUCTED.

4. FIRE HYDRANTS AND FIRE PROTECTION APPLIANCES SHALL BE KEPT ACCESSIBLE TO THE FIRE DEPARTMENT AT ALL TIMES. THE FOLLOWING CLEARANCES SHALL BE MAINTAINED FOR ALL FIRE HYDRANTS AND FIRE PROTECTION APPLIANCES. CLEARANCE OF SEVEN AND ONE-HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF A FIRE HYDRANT, WITH A FOUR FOOT (4') CLEARANCE TO THE REAR OF THE HYDRANT. CLEARANCES OF SEVEN AND ONE-HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF THE APPLIANCES. NO PERSON SHALL PLACE OR KEEP ANY POST, FENCE, VEHICLE, GROWTH, VEGETATION, TRASH OR STORAGE OF OTHER MATERIALS THAT WOULD OBSTRUCT A FIRE HYDRANT OR FIRE PROTECTION APPLIANCE AND HINDER OR PREVENT ITS IMMEDIATE USE BY FIRE DEPARTMENT PERSONNEL. SUCH FIRE HYDRANT OR FIRE PROTECTION APPLIANCE SHALL BE KEPT READILY VISIBLE AT ALL TIMES.

5. FIRE HYDRANTS SHALL NOT BE LOCATED CLOSER THAN THREE (3) FEET TO OR MORE THAN TWENTY (20) FEET FROM THE EDGE OF A STREET, DRIVE OR OTHER ACCESSWAY. UNLESS OTHERWISE REQUESTED BY THE FIRE OFFICIAL, THE 4-1/2" CONNECTION SHALL FACE THE NEAREST ROADWAY, OR IF LOCATED WITHIN A COMPLEX PARKING AREA, SHALL FACE THE NEAREST TRAFFIC WAY. NO HYDRANT SHALL BE INSTALLED WHERE PEDESTRIAN OR VEHICULAR TRAFFIC WOULD INTERFERE WITH THE USE OF THE HYDRANT. THE STANDARD FIRE HYDRANT APPROVED FOR USE IN THE CITY IS MUELLER MODEL A-423. THE CITY'S STANDARD FIRE HYDRANT DETAIL AND NOTES ARE AVAILABLE FROM THE CITY ENGINEER'S OFFICE AND MUST BE INCLUDED IN THE SITE PLANS. ALL FIRE HYDRANTS AND MAINS, INCLUDING THOSE PRIVATELY OWNED, THAT ARE CONNECTED TO THE CITY'S POTABLE WATER SYSTEM, SHALL CONFORM TO CITY STANDARDS.

6. A MINIMUM NUMBER OF FIRE HYDRANTS SHALL BE PROVIDED AND/OR AVAILABLE TO PROVIDE EQUAL TO OR GREATER THAN THE NEEDED FIRE FLOW FOR ALL BUILDINGS ON THE SITE BASED ON THE FOLLOWING CREDITS: HYDRANT(S) WITHIN 300 FEET OF THE BUILDING, 1,000 GPM CREDIT; HYDRANT(S) 301 TO 600 FEET, 670 GPM CREDIT; HYDRANT(S) 601 TO 1,000 FEET, 250 GPM CREDIT.

7. FIRE HYDRANTS THAT HAVE NOT BEEN TESTED AND PLACED INTO SERVICE MUST BE CLEARLY MARKED AS 'OUT OF SERVICE' USING INDUSTRY ACCEPTED METHODS (BAGGING, TAGGING, ETC).

CONNECTIONS TO CITY WATER MAINS

ALL DOUBLE DETECTOR CHECK VALVE ASSEMBLIES (DDCV) INSTALLED TO ISOLATE A PRIVATE FIRE SYSTEM SUPPLYING FIRE HYDRANTS FROM THE CITY'S POTABLE WATER SYSTEM SHALL HAVE TAMPER SWITCH DEVICES INSTALLED ON THE DDCV ASSEMBLY VALVES WHENEVER ANY AUTOMATIC FIRE SPRINKLER SYSTEM IS INSTALLED BEYOND THE DDCV. THESE TAMPER SWITCHES SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM FOR ALL INDIVIDUAL BUILDINGS PROTECTED BY A FIRE SPRINKLER SYSTEM.

FIRE DEPARTMENT CONNECTIONS

ANY FIRE DEPARTMENT CONNECTION SIAMESE (FDC) FOR FIRE SPRINKLER OR STANDPIPE SYSTEMS MUST BE WITHIN 100 FEET OF A FIRE HYDRANT. THE FDC MAY BE INSTALLED DIRECTLY ON THE DOUBLE DETECTOR CHECK VALVE BACK FLOW PREVENTOR AS LONG AS THE REQUIREMENT TO BE WITHIN 100 FEET OF A FIRE HYDRANT IS COMPLIED WITH. FIRE DEPARTMENT CONNECTIONS SHALL BE IDENTIFIED BY A SIGN THAT STATES, "NO PARKING FIRE DEPARTMENT CONNECTION" AND SHALL BE DESIGNED IN ACCORDANCE WITH FDOT STANDARDS FOR INFORMATION SIGNAGE. THE LOCATION OF ANY FDC MUST BE SHOWN ON THE SITE PLANS UTILITY SHEET.

DEDICATED FIRE MAINS

1. THE "POINT OF SERVICE" FOR ANY FIRE MAIN MUST BE CALLED OUT ON THE UTILITY SHEET OF THE SITE PLANS. THIS IS THE POINT WHERE A WATER LINE BECOMES DEDICATED TO ONLY FIRE PROTECTION, SUCH AS SUPPLYING ONLY A FIRE HYDRANT OR FIRE SPRINKLER SYSTEM, AND THERE IS NO POTABLE WATER SUPPLY COMING OFF OF THE WATER LINE BEYOND THIS POINT.
2. LABEL DEDICATED FIRE MAINS AT "FL" ON THE SUBMITTED PLANS.
3. FIRE MAINS WILL BE SEPARATELY PERMITTED AND INSPECTED BY THE CITY FIRE DEPARTMENT.

FIRE DEPARTMENT ACCESS

FIRE DEPARTMENT ACCESS ROADS SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE FLORIDA FIRE PREVENTION CODE AND RULES ESTABLISHED BY THE CITY OF CLERMONT FOR EVERY FACILITY, BUILDING, OR PORTION OF A BUILDING HEREAFTER CONSTRUCTED OR RELOCATED. A FIRE DEPARTMENT ACCESS ROAD SHALL EXTEND TO WITHIN 50 FEET (15 m) OF AN EXTERIOR DOOR PROVIDING ACCESS TO THE INTERIOR OF THE BUILDING. FIRE DEPARTMENT ACCESS ROADS SHALL BE PROVIDED SUCH THAT IN ANY PORTION OF THE FACILITY OR ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY OF A BUILDING IS LOCATED NOT MORE THAN 150 FEET (46 m) FROM FIRE DEPARTMENT ACCESS ROADS AS MEASURED BY A ROUTE APPROVED BY THE LOCAL FIRE OFFICIAL AROUND THE EXTERIOR OF THE BUILDING OR FACILITY (THE DISTANCE SHALL BE PERMITTED TO BE INCREASED TO 450 FEET WHEN BUILDINGS ARE PROTECTED WITH AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM THAT IS INSTALLED IN ACCORDANCE WITH NFPA STANDARDS).

FIRE DEPARTMENT ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET (6.1 m),

AN UNOBSTRUCTED VERTICAL CLEARANCE OF NOT LESS THAN 13 FEET 6 INCHES (4.1m), SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS (MINIMUM 32 TONS), AND SHALL BE PROVIDED WITH A SURFACE SUITABLE FOR ALL-WEATHER DRIVING CAPABILITIES. THE TURNING RADIUS OF A FIRE DEPARTMENT ACCESS ROAD SHALL BE AS APPROVED BY THE AHJ. DEAD-END FIRE DEPARTMENT ACCESS ROADS IN EXCESS OF 150 FEET (46 m) IN LENGTH SHALL BE PROVIDED WITH APPROVED PROVISIONS FOR THE TURNING AROUND OF FIRE APPARATUS. WHEN A BRIDGE IS REQUIRES TO BE USED AS PART OF FIRE DEPARTMENT ACCESS ROAD, IT SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH NATIONALLY RECOGNIZED STANDARDS. THE BRIDGE SHALL BE DESIGNED FOR A LIVE LOAD SUFFICIENT TO CARRY THE IMPOSED LOADS OF FIRE APPARATUS (MINIMUM 32 TONS). THE ANGLE OF APPROACH AND DEPARTURE FOR ANY MEANS OF FIRE DEPARTMENT ACCESS SHALL NOT EXCEED 1 FOOT DROP IN 20 FEET (0.3 m DROP IN 6 m), AND THE DESIGN LIMITATIONS OF THE FIRE APPARATUS OF THE FIRE DEPARTMENT SHALL BE SUBJECT TO APPROVAL BY THE AHJ. THE LOAD RATING OF FIRE DEPARTMENT ACCESS ROADS AND BRIDGES SERVING DETACHED ONE OR TWO-FAMILY OCCUPANSIES ONLY MAY BE DECREASED UPON APPROVAL BY THE LOCAL FIRE OFFICIAL.

THE REQUIRED WIDTH OF A FIRE DEPARTMENT ACCESS ROAD SHALL NOT BE OBSTRUCTED IN ANY MANNER, INCLUDING BY THE PARKING OF VEHICLES. MINIMUM REQUIRED WIDTHS AND CLEARANCES SHALL BE MAINTAINED AT ALL TIMES. ENTRANCES TO ROADS, TRAILS, OR OTHER ACCESSWAYS THAT HAVE BEEN CLOSED WITH GATES AND BARRIERS SHALL NOT BE OBSTRUCTED BY PARKED VEHICLES. FIRE LANE MARKINGS MUST BE INSTALLED IN ANY LOCATIONS WHERE VEHICLES MAY PARK AND BLOCK TRAFFIC WAYS OR FREE AND CLEAR ACCESS FOR FIRE AND EMERGENCY APPARATUS.

FIRE LANE MARKINGS ON THE PAVEMENT MUST BE IN DOT YELLOW OR RED AND INCLUDE A CROSSHATCH AREA THAT EXTENDS A MINIMUM OF THREE FEET OUT FROM THE CURB. ANY CURBS MUST ALSO BE PAINTED DOT YELLOW OR RED. MARKED TRAFFIC SURFACES MUST HAVE THE WORDS, FIRE LANE – NO PARKING, PAINTED ON THE SURFACE. THIS WORDING MUST REPEAT THE ENTIRE LENGTH OF THE FIRE LANE, AND BE SPACED NO MORE THAN 50 FEET APART. WORDING ON PAVED SURFACES MUST BE A MINIMUM OF 10" TALL. ANY REQUIRED FIRE LANES SHALL BE MARKED WITH SIGNS WITH THE WORDING, "NO PARKING FIRE LANE BY ORDER OF THE FIRE DEPARTMENT." SUCH SIGNS SHALL BE 12 INCHES BY 18 INCHES WITH A WHITE BACKGROUND AND RED LETTERS AND SHALL BE A MAXIMUM OF 7 FEET IN HEIGHT FROM THE ROADWAY TO THE BOTTOM PART OF THE SIGN. THE SIGNS SHALL BE WITHIN SIGHT OF THE TRAFFIC FLOW AND BE A MAXIMUM OF 50 FEET APART.

A 20' x 20' CROSS-HATCH AREA MUST BE INDICATEDON THE PAVEMENT IN FRONT OF AND CENTERED ON HYDRANTS ANY FIRE DEPARTMENT CONNECTIONS FOR FIRE SPRINKLER OR STANDPIPE SYSTEMS THAT ARE LOCATED ON BUILDINGS OR IN PARKING LOTS WHERE VEHICLES MAY PARK AND BLOCK CLEAR ACCESS TO THE CONNECTION. THE CROSS-HATCH AREA MUST INCLUDE WORDING AS SPECIFIED ABOVE. A SIGN INDICATING "NO PARKING FIRE DEPARTMENT CONNECTION" MUST BE INSTALLED IN THIS AREA.

THE CURB MUST BE PAINTED DOT YELLOW OR RED, FOR A LENGTH OF 30 FEET CENTERED ON ANY FIRE OR FIRE DEPARTMENT SIAMESE CONNECTIONS THAT ARE INSTALLED ALONG A PARKING LOT, DRIVE OR STREET TO PREVENT VEHICLES FROM PARKING WITHIN 15 FEET OF THE HYDRANT OR CONNECTION. WORDING MUST BE PAINTED ON CURBS IN THESE AREAS INDICATING "NO PARKING FIRE LANE" AND MUST BE A MINIMUM OF 3" TALL.

BUILDING MARKINGS

ADDRESS NUMERALS SHALL NOT BE LESS THAN THREE INCHES IN HEIGHT FOR RESIDENTIAL BUILDINGS, STRUCTURES, OR PORTIONS THEREOF, AND AT LEAST SIX INCHES IN HEIGHT FOR ALL OTHER BUILDINGS, STRUCTURES OR PORTIONS THEREOF. ADDRESS NUMERALS SHALL BE ARABIC NUMERALS OR ALPHABET LETTERS, NO CURSIVE LETTERS.

COMMERCIAL BUILDINGS

"KEY LOCK BOX APPROVED BY A CITY FIRE OFFICIAL" WILL BE REQUIRED ON ALL COMMERCIAL BUILDINGS (NFPA 1, CODE CHAPTER 3-6 AS ADAPTED IN THE FLORIDA FIRE PREVENTION CODE THROUGH FLORIDA ADMINISTRATIRVE CHAPTER 4A-60.003, RULES OF THE STATE FIRE MARSHAL, AND AUTHORIZED BY FLORIDA STATUTES 633.0215, 633.025). THESE SHALL BE INSTALLED ON THE EXTERIOR WALL OF THE BUILDING WITHIN ONE FOOT OF THE LEFT SIDE OF THE MAIN PUBLIC ENTRANCE DOOR AT A HEIGHT OF SIX (6) FEET. IN THE CASE OF A MULTI-OCCUPANCY BUILDING, SUCH AS A ROW OF STORES, MULTI-OFFICE BUILDING, ETC., ONLY ONE KEY LOCK BOX PER BUILDING WILL BE REQUIRED UNLESS EXTENUATING CIRCUMSTANCES INDICATE THE NEED FOR ADDITIONAL LOCK BOXES. THIS BOX SHALL BE INSTALLED ON THE EXTERIOR WALL OF THE BUILDING WITHIN ONE FOOT OF THE LEFT END OF THE SIDE OF THE BUILDING CONTAINING THE MAIN PUBLIC ENTRANCE (AS YOU ARE FACING THE MAIN ENTRANCE) AT A HEIGHT OF SIX (6) FEET. IN THE CASE OF A MULTI-FAMILY COMPLEX, ONLY ONE KEY LOCK BOX WILL BE REQUIRED FOR THE COMPLEX UNLESS EXTENUATING CIRCUMSTANCES INDICATE THE NEED FOR ADDITIONAL KEY LOCK BOXES. THIS BOX SHALL BE LOCATED AT THE MAIN ENTRANCE TO THE CLUBHOUSE, INSTALLED AS INDICATED ABOVE FOR COMMERCIAL BUILDINGS. IF THERE IS NO CLUBHOUSE, THE BOX SHALL BE INSTALLED PER A CITY FIRE OFFICIAL. A CITY FIRE OFFICIAL MAY BE CONTACTED IF IT IS NOT POSSIBLE TO INSTALL THE BOX AT THE LOCATIONS INDICATED ABOVE. THE CITY FIRE OFFICIAL WILL MAKE A DETERMINATION AS TO THE LOCATION WHERE THE BOX WILL BE INSTALLED.

LOCK BOXES SHALL CONTAIN KEYS TO THE BUILDING (INCLUDING ENTRANCE DOORS AND ALL ELECTRICAL AND MECHANICAL ROOMS) AND ANY SYSTEMS IN THE BUILDING (SUCH AS FIRE ALARM PANELS, FIRE ALARM PULL STATIONS, SMOKE DETECTOR RESET, SPRINKLER SYSTEMS, ELEVATORS, ETC.). BOXES FOR MULTI-OCCUPANCY BUILDINGS AND MULTI-FAMILY COMPLEXES SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE KEYS FOR EACH INDIVIDUAL OCCUPANCY AND MASTER KEYS FOR EACH SEPARATE BUILDING, AS WELL AS ANY SYSTEMS IN ALL OCCUPANCIES AND BUILDINGS. ALL LOCK BOXES SHALL ALSO CONTAIN BUSINESS CARDS WITH AFTER-HOURS EMERGENCY CONTACT NUMBERS FOR EACH OCCUPANCY. THE CODE(S) FOR SILENCING AND RESETTING ANY FIRE ALARM SYSTEMS SHALL BE WRITTEN ON THE BACK OF THE BUSINESS CARD(S) FOR EACH OCCUPANCY.

APPLICATIONS FOR THE PURCHASE OF "KEY LOCK BOX" EQUIPMENT ARE AVAILABLE FROM THE FIRE DEPARTMENT. EACH BOX TO BE INSTALLED WITHIN THE CITY OF CLERMONT WILL BE KEYED TO ACCOMMODATE CLERMONT FIRE DEPARTMENT'S LOCK BOX KEY. BUILDING OWNERS OR OCCUPANTS WILL NOT HAVE A KEY TO THE BOX. THE OWNER OR DEVELOPER SHALL NOTIFY THE FIRE DEPARTMENT (352-394-7662) AFTER THE BOX HAS BEEN INSTALLED AND ALL REQUIRED KEYS ARE AVAILABLE. A FIRE DEPARTMENT REPRESENTATIVE WILL MEET A REPRESENTATIVE OF THE BUILDING AT THE SITE TO LOCK THE KEYS IN THE BOX. WHENEVER ANY KEYS, CODES OR EMERGENCY CONTACT NUMBERS ARE CHANGED, THE FIRE DEPARTMENT SHALL BE NOTIFIED IMMEDIATELY SO A FIRE DEPARTMENT REPRESENTATIVE CAN UNLOCK THE BOX AND REPLACE THE CHANGED ITEMS.

BUILDING MATERIALS

NFPA 241 (STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS) AS ADAPTED IN THE FLORIDA ADMINISTRATIVE CODE (RULES OF THE STATE FIRE MARSHALL) AND THE FLORIDA FIRE PREVENTION CODE, AND AUTHORIZED BY FLORIDA STATE STATUTES, CHAPTER 633, REQUIRES THAT A WATER SUPPLY FOR FIRE PROTECTION SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ACCUMULATES ON THE SITE AND THAT THERE SHALL BE NO DELAY IN THE INSTALLATION OF FIRE PROTECTION EQUIPMENT. THIS SECTION ALSO STATES, "WHERE UNDERGROUND WATER MAINS AND HYDRANTS ARE TO BE PROVIDED, THEY SHALL BE INSTALLED, COMPLETED AND IN SERVICE PRIOR TO CONSTRUCTION WORK.

EMERGENCY VEHICLE ACCESS CONTROL (EVAC) SYSTEM

THE CITY OF CLERMONT LAND DEVELOPMENT REGULATIONS, SECTION 110-192 (1), REQUIRES THAT ALL GATED COMMUNITIES IN THE CITY OF CLERMONT INSTALL THE "EVAC" (EMERGENCY VEHICLE ACCESS CONTROL) REMOTE GATE OPENING EQUIPMENT ON ALL ENTRY GATES. tHE EVAC SYSTEM SHALL BE IN ADDITION, AND SEPARATE, FROM THE GATE OPENING SYSTEM THAT IS PROVIDED FOR THE RESIDENTS. A KEYPAD CODE ENTRY DEVICE SHALL ALSO BE INSTALLED AT EACH GATE, WITH THE ENTRY CODE SUPPLIED TO THE FIRE DEPARTMENT IN WRITING UPON INSTALLATION. THE DEVELOPER SHALL PROVIDE FIVE (5) CONTROLLERS FOR THE EVAC SYSTEM TO THE CLERMONT FIRE DEPARTMENT. FOR FURTHER REQUIREMENTS REFER TO THE CITY OF CLERMONT LAND DEVELOPMENT REGULATIONS, SECTION 110-192 (1). SECURITY ACCESS CONTROL, 800-637-5945, DISTRIBUTES THE EVAC SYSTEM. SECURITY ACCESS CONTROL MAY BE CONTACTED REGARDING ANY QUESTIONS ABOUT THE SYSTEM OR TO GET INFORMATION ON LOCAL VENDORS THAT CAN INSTALL THE SYSTEM.

NEEDED FIRE FLOW CALCULATIONS

NEEDED FIRE FLOW CALCULATIONS FOR ALL BUILDINGS ON THE SITE BASED ON THE ISO FIRE SUPPRESSION RATING SCHEDULE GUIDE FOR NEEDED FIRE FLOW CALCULATIONS SHALL BE SHOWN ON THE SITE PLANS. THE INSURANCE SERVICES OFFICE (ISO) GUIDE FOR CALCULATING THE NEEDED FIRE FLOW CAN BE FOUND ON THE ISO WEB SITE AT http://www.isomitigation.com/downloads/ppc3001.pdf. THE FIRE FLOW CALCULATIONS ARE BASED ON A NON-SPRINKLERED BUILDING. BUILDINGS PROTECTED BY AN AUTOMATIC FIRE SPRINKLER SYSTEM ARE THEN GIVEN CREDIT BASED ON 50% OF NEEDED FIRE FLOW PLUS SPRINKLER SYSTEM REQUIREMENTS. THIS CALCULATION IS USED AS ONE OF THE FACTORS IN DETERMINING THE NUMBER OF FIRE HYDRANTS REQUIRED ON THE SITE.

A NEEDED FIRE FLOW CALCULATION WORKSHEET IS AVAILABLE IN MS EXCEL FORMAT AT THE CITY OF CLERMONT WEB SITE: www.cityofclermontfl.com, CITY DEPARTMENTS, FIRE DEPARTMENT, INSPECTIONS/PREVENTION.

GENERAL NOTES AND DETAILS
REVISED
01-01-11

NOTE:
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THE DETAILS, DESIGNS, AND SPECIFICATIONS SHOWN ON THIS SHEET.

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design
City of Clermont General Notes

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
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Fax: 352.343.8495
Certificate of Authorization Number: 27029

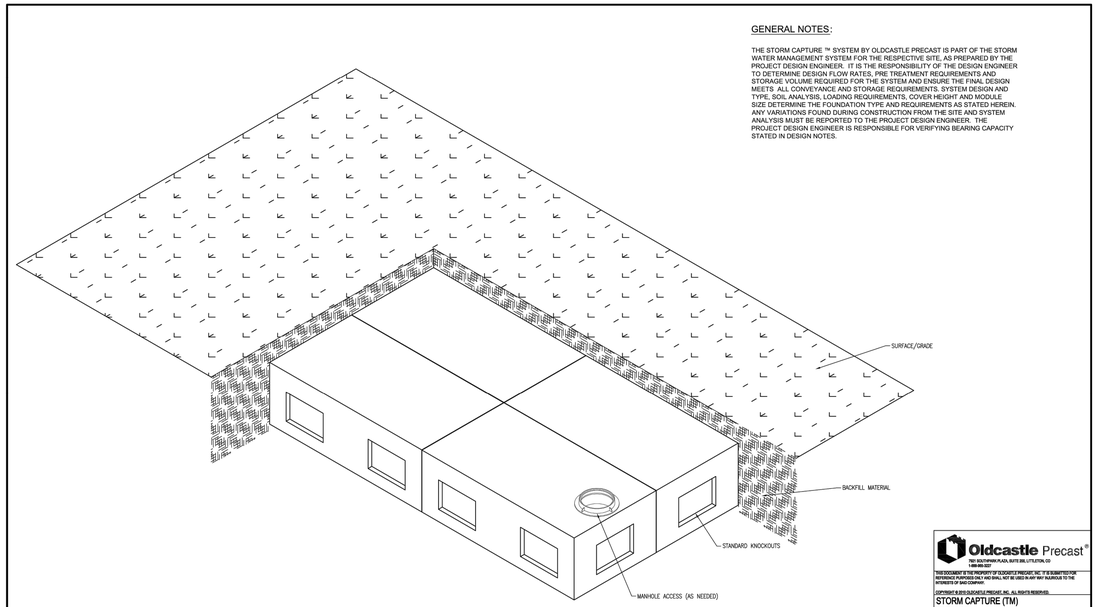
DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 13

CHARLES C. HIOTT, P.E.
Registered Eng 54813

GENERAL NOTES:

THE STORM CAPTURE ™ SYSTEM BY OLDCASTLE PRECAST IS PART OF THE STORM WATER MANAGEMENT SYSTEM FOR THE RESPECTIVE SITE, AS PREPARED BY THE PROJECT DESIGN ENGINEER. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO DETERMINE DESIGN FLOW RATES, PRE TREATMENT REQUIREMENTS AND STORAGE VOLUME REQUIRED FOR THE SYSTEM AND ENSURE THE FINAL DESIGN MEETS ALL CONVEYANCE AND STORAGE REQUIREMENTS. SYSTEM DESIGN AND TYPE, SOIL ANALYSIS, LOADING REQUIREMENTS, COVER HEIGHT AND MODULE SIZE DETERMINE THE FOUNDATION TYPE AND REQUIREMENTS AS STATED HEREIN. ANY VARIATIONS FOUND DURING CONSTRUCTION FROM THE SITE AND SYSTEM ANALYSIS MUST BE REPORTED TO THE PROJECT DESIGN ENGINEER. THE PROJECT DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING BEARING CAPACITY STATED IN DESIGN NOTES.



TYPICAL ISO VIEW
SCALE: 1/4" = 1'-0"

Oldcastle Precast®
7501 SOUTHPARK PLAZA, SUITE 200, LITTLETON, CO
1-888-988-5327

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STORM CAPTURE (TM)
GENERAL ISO
DISSTON AVE
CITY OF CLERMONT

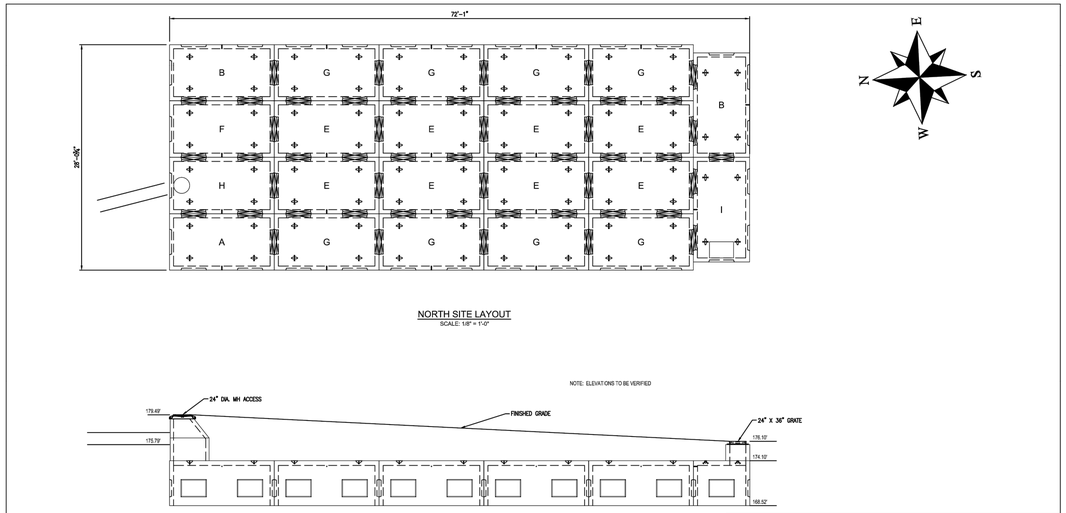
PATENT PENDING

STORM CAPTURE

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
2/12/11	BB	AB	AB		

DRAWING NUMBER: DISSTON AVE
REVISION: REV DATE
SHEET 1 OF 9



NORTH SITE LAYOUT
SCALE: 1/8" = 1'-0"

NOTE: ELEVATIONS TO BE VERIFIED

NORTH ELEVATION LAYOUT
SCALE: 1/8" = 1'-0"

MODULE NOTES

TYPE	QTY	PIPE INVERT ELEVATION	MH ACCESS	FRAME AND GRATE
A	1	NA	NA	NA
B	2	NA	NA	NA
E	8	NA	NA	NA
F	5	NA	NA	NA
G	8	NA	NA	NA
H	1	175.79'	24"	NA
I	1	NA	NA	24" X 36"
TOTAL	26			
VOL	7920	CUBIC FEET		

PATENT PENDING

STORM CAPTURE

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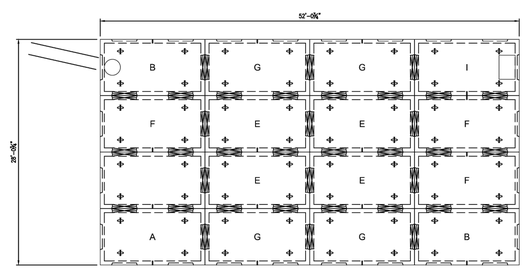
STORM CAPTURE (TM)
NORTH SITE LAYOUT
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

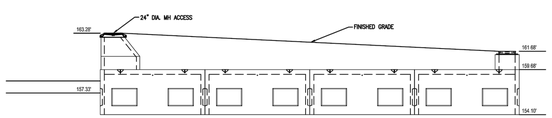
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
8/3/11	BB	AB	AB		

DRAWING NUMBER: DISSTON AVE
REVISION: REV DATE
SHEET 2 OF 9



MIDDLE SITE LAYOUT
SCALE: 1/8" = 1'-0"

NOTE: ELEVATIONS TO BE VERIFIED



MIDDLE ELEVATION LAYOUT
SCALE: 1/8" = 1'-0"

MODULE NOTES

TYPE	QTY	PIPE INVERT ELEVATION	MH ACCESS	FRAME AND GRATE
A	1	NA	NA	NA
B	2	NA	NA	NA
E	4	NA	NA	NA
F	3	NA	NA	NA
G	4	NA	NA	NA
H	1	157.33'	24"	NA
I	1	NA	NA	24" x 36"
TOTAL	16			
VOL	3780	CUBIC FEET		

PATENT PENDING

STORM CAPTURE

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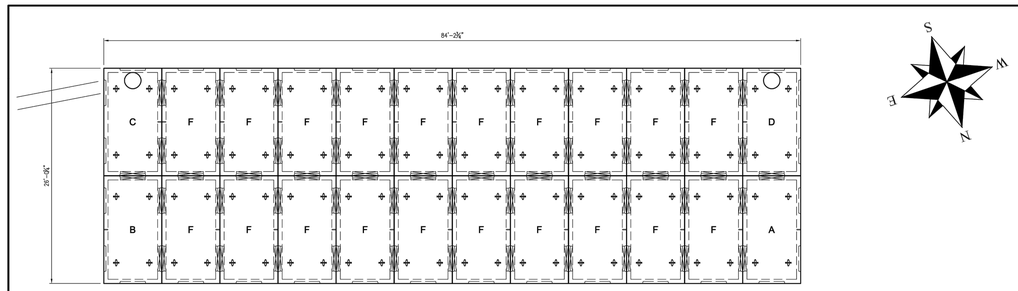
STORM CAPTURE (TM)
MIDDLE SITE LAYOUT
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

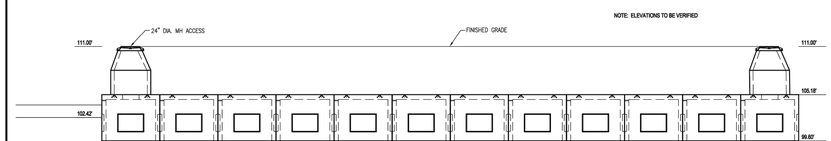
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
8/5/11	BB	AB	AB		

DRAWING NUMBER: Storm Capture
REVISION: REV DATE
SHEET 3 OF 9



SOUTH SITE LAYOUT
SCALE: 1/8" = 1'-0"

NOTE: ELEVATIONS TO BE VERIFIED



SOUTH ELEVATION LAYOUT
SCALE: 1/8" = 1'-0"

MODULE NOTES

TYPE	QTY	PIPE INVERT ELEVATION	MH ACCESS	FRAME AND GRATE
A	1	NA	NA	NA
B	1	NA	NA	NA
C	1	102.42	24"	NA
D	1	NA	24"	NA
F	20	NA	NA	NA
		NA	NA	NA
		NA	NA	NA
TOTAL	24			
VOL	8640	CUBIC FEET		

PATENT PENDING

STORM CAPTURE

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STORM CAPTURE (TM)
SOUTH SITE LAYOUT
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
2/12/11	BB	AB	AB		

DRAWING NUMBER: DISSTON AVE
REVISION: REV DATE
SHEET 4 OF 9

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

Storm Capture
Detail Sheet

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
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Fax: 352.343.8495
Certificate of Authorization Number: 27029

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JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

Sheet 14

CHARLES C. HIOTT, P.E.
Registered Eng 54813

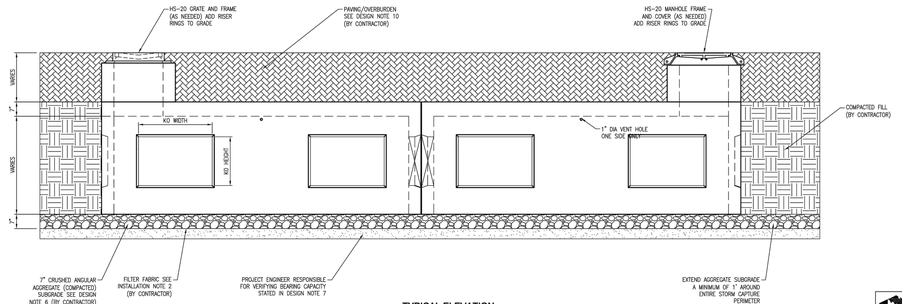
DESIGN NOTES

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 W/ IMPACT.
   B. DEPTH OF OVERBURDEN = 6" - 10'-0".
   C. ASSUMED WATER TABLE = BELOW BOTTTOM
   D. EQUIVILANT FLUID PRESSURE = 40 PCF.
   E. LATERAL LIVE LOAD SURCHARGE = 80 PSF.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE 6,000 PSI.
3. STEEL REINFORCEMENT: REBAR, ASTM A-615, GRADE 60.
4. CEMENT: ASTM C-150 SPECIFICATION.
5. STORM CAPTURE MODULE TYPE = INFILTRATION.
6. REQUIRED SUBGRADE DEPTH = 7" CRUSHED AGGREGATE.
7. REQUIRED NATIVE ALLOWABLE BEARING PRESSURE = 2,500 PSI.
8. REFERENCE STANDARDS
   A. ASTM C 890
   B. ASTM C 913
10. LESS THAN 6" OR GREATER THAN 10' OF FILL REQUIRES CUSTOM STRUCTURAL DESIGN AND MAY REQUIRE THICKER SUBGRADE

INSTALLATION NOTES:

THE STORM CAPTURE™ MODULE SYSTEM IS TO BE INSTALLED IN ACCORDANCE WITH ASTM C891-90, INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES. PROJECT PLAN AND SPECIFICATIONS MUST BE FOLLOWED ALONG WITH ANY APPLICABLE REGULATIONS.

1. PLAN LINE, GRADE AND ELEVATIONS MUST BE FOLLOWED.
2. WHERE SPECIFIED A NON - WOVEN GEOTEXTILE THAT MEETS AASHTO M288 CLASS 2 MUST BE USED.
3. ALL SUBGRADE MATERIALS IF SPECIFIED, MUST BE CLEAN, GRANULAR (SIZE 5,56,OR 57) COMPACTED OR ROLLED TO ACHIEVE 95% STANDARD PROCTOR DENSITY.
4. DESIGNATED EMBEDDED LIFTERS MUST BE USED. USE PROPER RIGGING TO ASSURE ALL LIFTERS ARE EQUALLY ENGAGED WITH A MINIMUM 60 DEGREE ANGLE ON SLINGS.
5. MODULES MUST BE PLACED AS CLOSE TOGETHER AS POSSIBLE, BUT GAPS SHALL NOT BE GREATER THAN 3/4". ALL EXTERIOR SYSTEM JOINTS SHALL BE COVERED WITH A 6" JOINT WRAP, PER APPROVAL OF ENGINEER OR OLDCASTLE
6. AUTHORIZATION SHOULD BE GIVEN BY THE PROJECT ENGINEER OR DESIGNATED PERSON PRIOR TO PLACEMENT ON BACKFILL FOR THE SYSTEM. CARE SHOULD BE TAKEN DURING PLACEMENT OF BACKFILL NOT TO DISPLACE MODULES OR JOINT WRAP. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR AS SPECIFIED.
7. CONSTRUCTION EQUIPMENT EXCEEDING DESIGN LOADING SHALL NOT BE ALLOWED ON STRUCTURE.



TYPICAL ELEVATION
SCALE: 3/8" = 1'-0"

WEIGHTS

SC HEIGHT	WEIGHT (LBS)
2'	14412 LBS
2'-6"	15812 LBS
3'	15812 LBS
4'	18462 LBS
5'	21212 LBS
6'	24162 LBS

KNOCK OUTS

SC HEIGHT	KO WIDTH (FT)	KO HEIGHT (FT)
2' STORM CAPTURE	3.00 FT	1.17 FT
2'-6" STORM CAPTURE	3.00 FT	1.50 FT
3' STORM CAPTURE	3.00 FT	2.00 FT
4' STORM CAPTURE	3.00 FT	2.00 FT
5' STORM CAPTURE	3.00 FT	2.00 FT
6' STORM CAPTURE	3.00 FT	2.00 FT

PATENT PENDING

STORM CAPTURE

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1-800-955-5227

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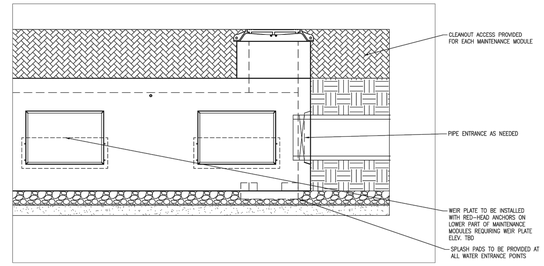
STORM CAPTURE (TM)
INSTALLED DETAILS
DISSTON AVE
CITY OF CLERMONT

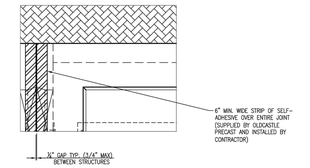
CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
2/17/11	BB	AB	AB	AB	

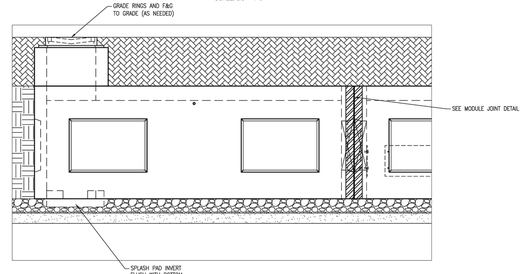
DRAWING NUMBER: DISSTON AVE
REVISION: REV DATE
SHEET 5 OF 9



MH ACCESS
SCALE: 3/8" = 1'-0"



MODULE JOINT DETAIL
SCALE: 1/2" = 1'-0"



GRATE INLET DETAIL
SCALE: 3/8" = 1'-0"

PATENT PENDING

STORM CAPTURE

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STORM CAPTURE (TM)
MODULE DETAILS
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

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2/17/11	BB	AB	AB	AB	

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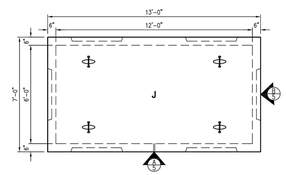
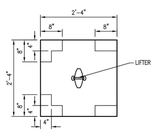
SHEET 6 OF 9

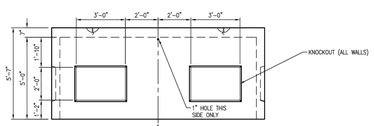


PLAN VIEW
SCALE: 1/4" = 1'-0"

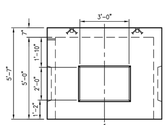


SPLASH PAD - PLAN
SCALE: 1/2" = 1'-0"

SPLASH PAD - SIDE
SCALE: 1/2" = 1'-0"



VIEW A (5' SECTION)
SCALE: 1/4" = 1'-0"



VIEW B (5' SECTION)
SCALE: 1/4" = 1'-0"

PATENT PENDING

STORM CAPTURE

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STORM CAPTURE (TM)
LAYOUT(S)
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
2/17/11	BB	AB	AB	AB	

DRAWING NUMBER: DISSTON AVE
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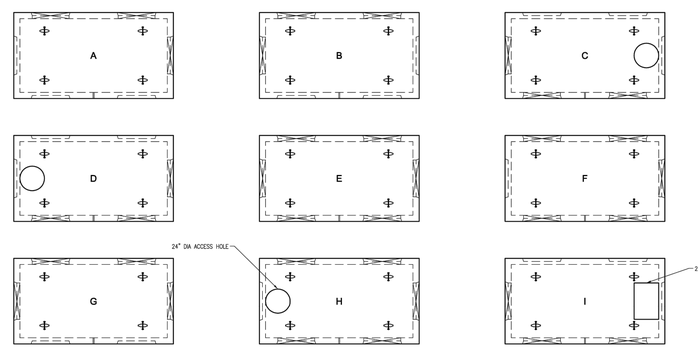
SHEET 7 OF 9



CONFIGURATIONS
SCALE: 3/16" = 1'-0"

SECTIONS SHOWN HERE ARE STANDARD SECTIONS WITH WINDOWS IN PLACE OF KNOCKOUTS AT LOCATIONS SHOWN WITH AN X

PATENT PENDING

STORM CAPTURE

Oldcastle Precast®
7501 SOUTHPARK PLAZA, SUITE 200, LITTLETON, CO
1-800-955-5227

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STORM CAPTURE (TM)
CONFIGURATIONS
DISSTON AVE
CITY OF CLERMONT

CUSTOMER

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
2/17/11	BB	AB	AB	AB	

DRAWING NUMBER: DISSTON AVE
REVISION: REV DATE
SHEET 8 OF 9

CITY OF CLERMONT

DATE	REVISION
	1
	2
	3
	4
	5
	6
	7
	8

CITY OF CLERMONT
Disston Ave. Drainage Design

Storm Capture
Detail Sheet

BOOTH ERN STRAUGHAN HIOTT, INC
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
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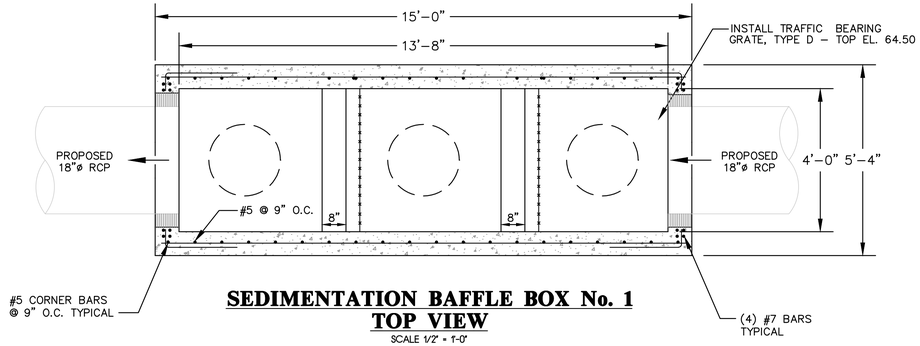
Certificate of Authorization Number: 27029

DATE:	MARCH 2011
DESIGNED BY:	SPH
DRAWN BY:	SPH
CHECKED BY.:	CCH
JOB NO.:	031004.0026
FILE NAME:	DISSTON AVE

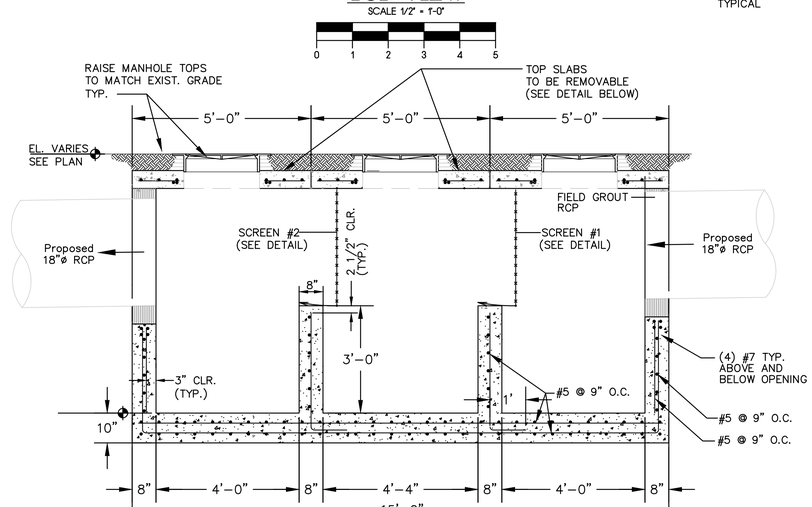
Sheet 15

CHARLES C. HIOTT, P.E.
Registered Eng 54813



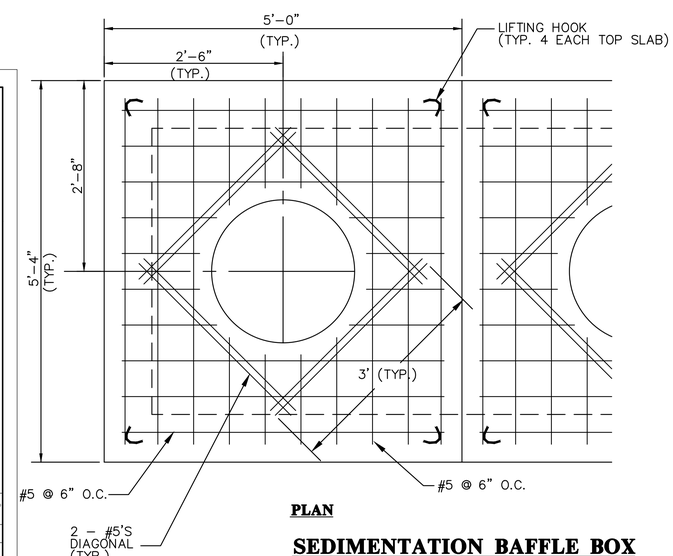
SEDIMENTATION BAFFLE BOX No. 1
TOP VIEW

SCALE 1/2" = 1'-0"



SEDIMENTATION BAFFLE BOX No. 1
SECTION

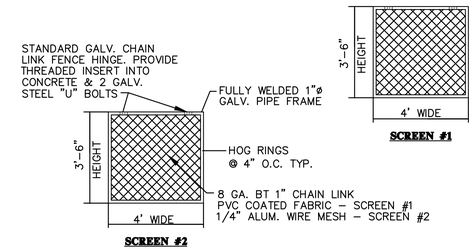
SCALE 1/2" = 1'-0"



PLAN

SEDIMENTATION BAFFLE BOX
TOP SLAB

SCALE 1" = 1'-0"

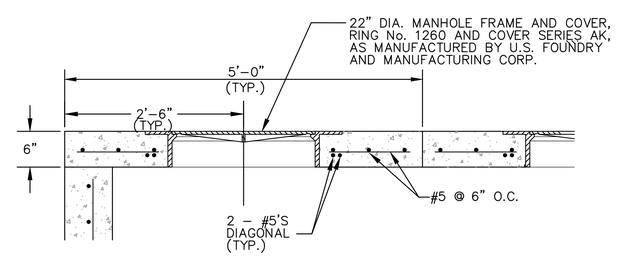


SEDIMENTATION BAFFLE BOX No. 1
SCREEN BAFFLE DETAIL

NOT TO SCALE

NOTES:

1. CONTRACTOR TO FIELD VERIFY PIPE LOCATION, SIZES AND DEPTHS PRIOR TO CONSTRUCTION OR FABRICATION OF BOXES. NO ALLOWANCE FOR ADDITIONAL CHARGES SHALL BE MADE FOR FIELD CHANGES TO PREFABRICATED BOXES.
2. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE SODDED WITH LIKE KIND.
3. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO EQUAL OR BETTER CONDITION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FLOW THROUGH STORM SYSTEM AT ALL TIMES.
5. A SILT FENCE SHALL BE PLACED IN AREAS AFFECTED BY CONSTRUCTION. A TURBIDITY BARRIER SHALL BE REQUIRED AT THE END OF THE EXISTING 36" RCP IN LAKE EUSTIS PRIOR TO CUTTING THE OUTFALL PIPE.
6. THE CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION UNTIL ACTIVITIES HAVE BEEN COORDINATED WITH ADJACENT PROPERTY OWNER.
7. EACH CONTAINMENT SECTION OF EACH BAFFLE BOX SHALL BE GROUTED TO PROVIDE POSITIVE FLOW TO THE MIDDLE OF THE BOX FOR THE PURPOSES OF CLEANING OUT THE BOX. THIS SUMP AREA SHALL BE A SQUARE, 1' X 1', WITH A TOTAL DEPTH OF ONE INCH.
8. EACH SECTION OF THE BAFFLE BOX TOP SHALL BE EQUIPPED WITH FOUR LIFTING HOOKS PER SLAB, FOR THE USE OF THE CITY IN MAINTENANCE. THESE HOOKS SHALL BE FLUSH WITH THE SLAB TOP SO AS NOT TO CAUSE A TRIPPING HAZARD. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT TO THE CITY FOR APPROVAL THE METHOD AND MATERIALS PROPOSED TO BE UTILIZED FOR THE LIFTING HOOKS.
9. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE TEN SORBENT PILLOWS FOR USE IN THE BAFFLE BOXES. EACH PILLOW SHALL BE 4' LONG X 4' WIDE X 4" THICK. ONE PILLOW SHALL BE INSTALLED IN EACH OF THE BAFFLE BOXES WITHIN THE MOST UPSTREAM CHAMBER AND SHALL BE MOUNTED IN A METHOD PROVIDED BY THE CONTRACTOR AND APPROVED BY THE CITY (I.E. EYE HOOKS MOUNTED IN THE UPSTREAM WALL OF THE BOX TO RESTRAIN THE PILLOW). FIVE OF THE PILLOWS SHALL BE CONVEYED TO THE CITY FOR THEIR USE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING THE NAME, ADDRESS, PHONE NUMBER, NAME OF A CONTACT PERSON AND THE PRICING OF THE COMPANY PICKED BY THE CONTRACTOR TO PROVIDE THE PILLOW, FOR THE CITY'S USE IN ORDERING FUTURE SORBENT MATERIALS.



SECTION

STORM CAPTURE MAINTENANCE

STORM CAPTURE MODULE - Infiltration System Inspection and Maintenance

The Storm Capture system excels where most other systems fail, incorporating features providing for maximum system performance and life cycle. The Storm Capture infiltration system is a major component of the Storm Water Management System. Design and function of the system is the responsibility of the Project Engineer. Maintenance of the Storm Capture is vital for satisfactory performance and life cycle of the Storm Water Management System. Permit requirements, local, state and federal regulations, along with Oldcastle and any incorporated device manufacturer recommendations must be followed for system compliance. Storm Capture design provides man - way access for ease of inspection and debris removal if required. Flushing, which can cause particle displacement, undermining and internal disturbance, is not recommended. Inlet controls, internal or external, are recommended for controlling, monitoring and maintaining the Storm Capture infiltration system.

External Inlets are typically devices that are separate from the Storm Capture Modules. These external devices receive site stormwater and are designed with man-way access for maintenance and typically include an internal sump for sediment capture. External Inlets may receive single or multiple pipes and incorporate an open grated top with an outfall pipe to the Storm Capture system. Grated inlets may incorporate protection devices or baffles to capture floatables or the "first flush". Scheduled inspections and maintenance should include the removal of any sedimentation build up. Debris or sedimentation build up should not exceed 3" below an outfall elevation. Internal components can be incorporated for pre treatment. Manufacturer recommendations should be followed. Scheduled maintenance and inspection will include removal of debris and sediments by manual or mechanical means.

Maintenance Modules (MM's) are optional internal control modules based on design preference. MM's are modules with roof man-way access openings and provide the primary means of access to the Storm Capture system for scheduled inspection and maintenance. In addition, MM's can incorporate weirs or baffles to enhance reduction or removal of TSS (total suspended solids) from the stormwater. Placement of internal components must be part of the system engineering and design. Grated inlets can be incorporated to accommodate surface stormwater flows into the Storm Capture and may include an inlet protection device. Scheduled inspection and manufacturer recommendations for maintenance should be followed.

Concrete dissipater pads are installed below inlet grate openings and pipe inlets to prevent base erosion. During scheduled inspection and maintenance activities, the concrete dissipaters must be inspected for proper function and any sediment should be removed. Standard Storm Capture Module design incorporates "windows" to accommodate internal stormwater conveyance between modules. Standard placement is 12" above the internal module invert. Any sediment and debris build up over 6" inside a module should be removed by manual or mechanical means. *Removal by vacuum is recommended. Internal module flushing, which can cause particle displacement, undermining, or internal disturbance, is not recommended.*

Oldcastle recommends that the Storm Capture system be inspected quarterly, and following any significant rain events, within the first 1 year of operation. Standard Operating Procedures should specify an annual inspection and maintenance plan as required thereafter or as stated in the permit or as required by other governing regulations. Only authorized and trained personnel should inspect and enter a storm capture system. It is important that personnel be properly trained and equipped before entering any underground or confined space structure. Training includes being familiar with and following any Local, State and Federal regulations governing the operation, inspection and maintenance of underground structures, as well as specific Storm Capture infiltration system requirements.

PATENT PENDING

STORM CAPTURE

Oldcastle Precast®
THE ENVIRONMENTAL WATER BELLS STORM CAPTURE (TM) SYSTEM
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STORM CAPTURE (TM)					
MAINTENANCE					
DISSTON AVE					
CITY OF CLERMONT					
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2/17/11	3/8	JG	JG		
DRAWING NAME				REVISION	SHEET
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