

CONSTRUCTION DRAWINGS FOR CORNELIUS NEW OFFICE



THESE PLANS PREPARED USING THE N.A.V.D.88 DATUM
CONVERSION FROM N.A.V.D. 1988 DATUM TO N.G.V.D. 1929 DATUM
N.A.V.D. 1988 + 0.883 = N.G.V.D. 1929

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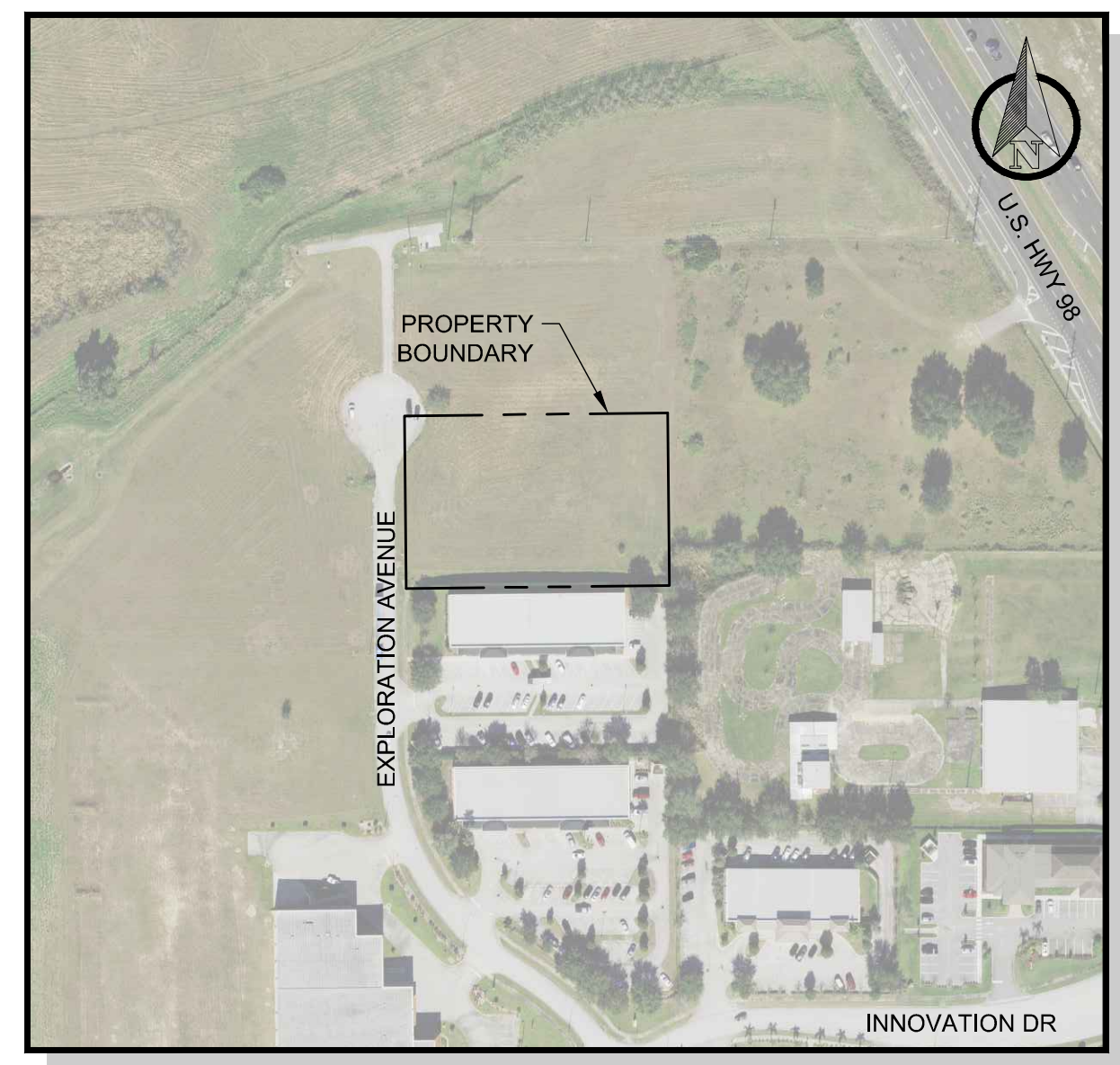
TABLE OF FDOT STANDARD PLAN INDEX REFERENCE	
SPI #	DESCRIPTION
425-053	DITCH BOTTOM INLETS - TYPES F & G
425-052	DITCH BOTTOM INLETS - TYPES C, D, E AND H
520-001	CURB AND GUTTER
522-001	CONCRETE SIDEWALK
522-002	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS
700-010	SINGLE COLUMN GROUND SIGNS
711-001	PAVEMENT MARKINGS

LEGAL DESCRIPTION
(BY SURVEYOR)

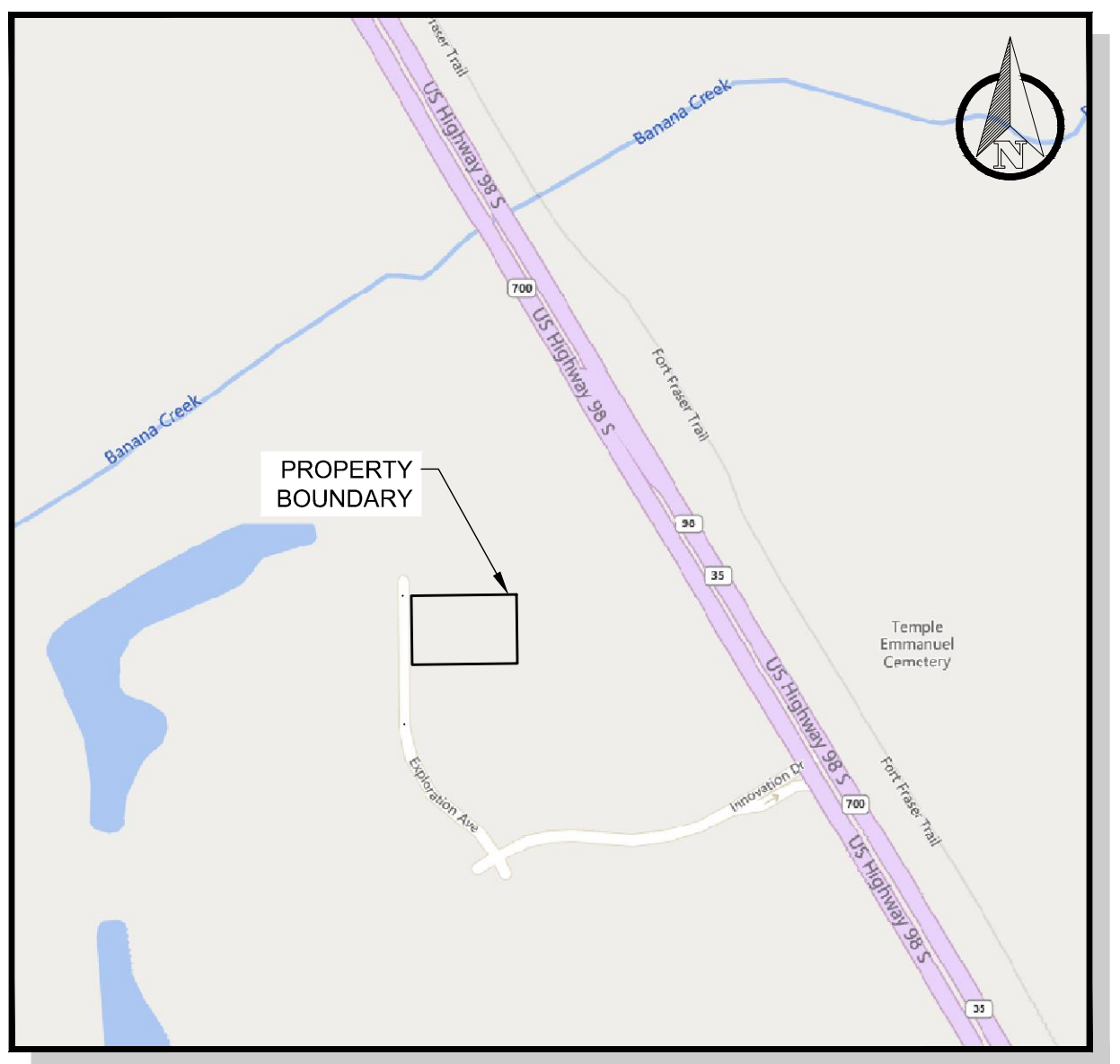
(ORB 1 0096, PG 473): LOT 5, PARKWAY /UNIVERSITY CENTER PHASE I, ACCORDING TO THE MOP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 120, PAGES 25 AND 26, PUBLIC RECORDS OF POLK COUNTY, FLORIDA.

BOND REQUIREMENTS
(TO BE PROVIDED BY CONTRACTOR)

CONTRACTOR SHALL PROVIDE AN ITEMIZED BID FOR ALL WORK IN R-O-W TO BE PROVIDED AND REVIEWED BY ENGINEER AND POLK COUNTY. FOR WORK EXCEEDING \$10,000, A PERFORMANCE BOND WILL BE REQUIRED PRIOR TO PRE-CONSTRUCTION MEETING AND A MAINTENANCE BOND ONCE COMPLETE MEETING POLK COUNTY REQUIREMENTS. COSTS FOR THESE BONDS SHALL BE INCLUDED IN CONTRACTOR'S BASE BID.



AERIAL MAP



VICINITY MAP

SITE CHARACTERISTICS

- PROJECT DESCRIPTION:**
CONSTRUCTION OF ±6,000 S.F. BUILDING WITH ASSOCIATED PARKING
- PROPERTY LOCATION & INFORMATION:**
PROPERTY LOCATION: 4650 EXPLORATION AVENUE, LAKELAND, FL 33812
PROPERTY TAX ID#: 24-29-10-280562-000050
PROPERTY ACREAGE: ±1.40 AC
ONSITE WETLANDS: ±0.00 AC
FEMA FLOOD ZONE(S): ZONE 'X'
MAP NUMBER: 12105C0485 G
EFFECTIVE DATE: DECEMBER 22, 2016
SECTION / TOWNSHIP / RANGE: 10 / 29 S / 24 E
- LAND USE:** ECX
- DEVELOPMENT CHARACTERISTICS**
PROJECT AREA: ±1.32AC
SETBACKS FRONT: 30 FT
SIDE: 15 FT
REAR: 15 FT
ISAR: (IMPERVIOUS SURFACE AREA RATIO) 0.46 AC / 1.32 AC = 34.8%
(70% MAX ALLOWED)
FAR: (FLOOR AREA RATIO) 0.14 AC / 1.32 AC = 10.6%
- PARKING**
PARKING REQUIREMENTS
OFFICE: 1 SPACE PER 300 SF. 1,250 SF / 300 SF = 4 SPACES
STORAGE / FLEX SPACE: 1 SPACE PER EMPLOYEE x 2 EMPLOYEES = 2 SPACES
HANDICAP REQUIRED = 1 SPACES
PARKING PROVIDED
REGULAR SPACES: 7(10X20)
HANDICAP SPACES: 1(12X20)
TOTAL SPACES: 8
- UTILITY CONTACTS:**
DANIEL LEILLO
FRONTIER COMMUNICATIONS
3712 W WALNUT ST
TAMPA, FL 33607
(841) 504-9662
KRIS HAYES
CITY OF LAKELAND - ELECTRIC
501 E LEMON ST. LE-ROW
LAKELAND, FL 33801
(863) 634-6486
JEAN ACCOMANDO
CITY OF LAKELAND
WATER/WASTEWATER
501 E LEMON ST
LAKELAND, FL 33811
(863)834-6766
GARY BLEVINS
CHARTER COMMUNICATIONS
1004 US HWY 92 W
AUBURNDALE, FL 33823
(813) 302-0800

PROVIDE SUBMITTALS TO
RODNEY A. GADD, PE
GADD & ASSOCIATES, LLC
4685 E COUNTY ROAD 540A
LAKELAND, FL 33813
PHONE: (863) 940-9979
EMAIL: RODNEY@GADDCCIVIL.COM

OWNER/CLIENT
DONALD CORNELIUS, PRESIDENT
CORNELIUS WELDING, INC
PO BOX 1104
FROSTPROOF FL, 33843
PHONE: (863) 528-1867
EMAIL: CWIDC2@GMAIL.COM

IT IS THE INTENTION OF THESE DOCUMENTS TO PROPOSE FIRE PROTECTION IN ACCORDANCE WITH THE FLORIDA FIRE PREVENTION CODE, (8TH EDITION, 2023). CONTRACTOR SHALL BE FAMILIAR WITH THESE DOCUMENTS AND ASSURE CONFORMANCE.

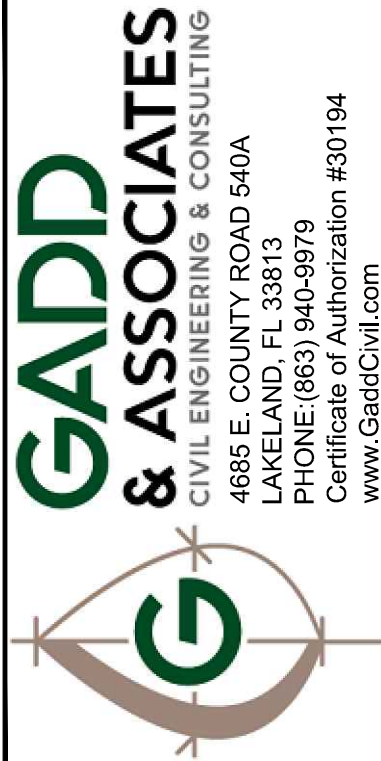
IT IS THE INTENTION OF THESE DOCUMENTS TO PROPOSE CONSTRUCTION IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND FLORIDA ACCESSIBILITY CODE (8TH EDITION, 2023). CONTRACTOR SHALL BE FAMILIAR WITH THESE DOCUMENTS AND ASSURE CONFORMANCE.

CONTRACTOR IS RESPONSIBLE FOR HIRING A QUALIFIED UNDERGROUND UTILITY LOCATOR. THE UNDERGROUND UTILITY LOCATOR SHALL LOCATE EXISTING UTILITIES IN PROJECT AREA PRIOR TO DEMOLITION AND CONSTRUCTION.

CONSTRUCTION MATERIALS, QUALITY, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH POLK COUNTY AND FDOT SPECIFICATIONS AND STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

REVISIONS

DRAWN: JS
DESIGNED: JS/RLS
CHECKED: RG
PROJECT # 1237.01



CORNELIUS NEW OFFICE
4650 EXPLORATION AVENUE
LAKELAND, FL 33812

ISSUED FOR	
REVIEW	12.17.2025
PERMIT(WMD)	12.31.2025
PERMIT(CITY/COUNTY)	12.31.2025
BID	TBD
CONSTRUCTION	TBD

This item has been digitally signed and sealed by Rodney A. Gadd, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

RODNEY A. GADD, P.E.
FLA. P.E. No. 70875

DATE

COVER SHEET

C0.00

GENERAL NOTES

- 1. Information provided in these drawings by Engineer (Gadd & Associates, LLC) including elevations, dimensions and other features are according to the best information available at the time of preparation. The Contractor shall verify this information and notify the Engineer immediately if a discrepancy exists.
2. It is the Contractor's responsibility to become familiar with permit, construction, and inspection requirements applicable agencies. These drawings are not intended to completely specify all the requirements of the applicable agencies and their construction specifications. The Contractor is responsible for obtaining approved permits, permits, drawings, and specifications and adhering to the information requirements contained therein. These documents shall be kept onsite and readily accessible to Engineer, Owner, and applicable agencies.
3. The Contractor shall be responsible for gaining complete familiarity of the project and specifications. These drawings are intended to propose the final construction methods and methods of construction including but not limited to limitations of access, subsurface conditions, and sequence of activities shall be determined by Contractor.
4. The Contractor shall ensure they have all permitted drawings in advance of submitting final bids for the work proposed. No additional funds will be made available to Contractor due to bidding inaccuracies of preliminary drawings.
5. All work directly proposed or indirectly required in these drawings shall be included by the Contractor. No additional monies will be made available to Contractor due to an error by the Contractor during bidding or by work not directly specified but required by the proposed construction. This work shall be considered incidental to the contract and no addition compensation will be provided.
6. Quantities depicted in these drawings are for permitting purposes only. The Contractor shall be responsible for determining their own bid quantities.
7. The Contractor shall provide a qualified superintendent to be present onsite at all times. The superintendent's contact information must be provided to Owner/Engineer in advance of construction.
8. Material and workmanship shall conform to Florida Department of Transportation's Specifications (latest edition) along with all applicable municipal agencies and Owner specifications. Should a discrepancy occur, the most restrictive shall apply.
9. At least (3) days prior to construction, the Contractor shall notify the Engineer and all applicable agencies with anticipated start date, schedule, contact information, and other information as required. The Contractor is responsible scheduling any necessary pre-application meetings.
10. Field changes or deviations shall require approval by Contractor/Engineer.
11. The Contractor shall submit "shop drawings" of all pre-cast products to Engineer for cursory review prior to manufacturing. Contractor shall be responsible for all costs incurred from failure to submit shop drawings.
12. The locations and sizes of all existing utilities are approximate and depicted to the Engineer's best knowledge. Additional utilities may exist which are not depicted on the plans or their locations may differ than as depicted. The Contractor shall be responsible for the location of existing utilities utilizing electronic methods and hand excavation in coordination with all utility companies prior to commencing work. Any conflicts with the depicted utilities shall be coordinated with Owner/Engineer prior to beginning construction.
13. It shall be the responsibility of Contractor to protect existing utilities and infrastructure at all times during construction, including providing direct support and shoring as necessary. Contractor must coordinate any such work directly with utility company. If the utility company requires that only their employees may perform such work, then the Contractor shall coordinate the work and submit any payments directly to Utility. All existing valves, hydrants, meters, services, manhole rims, inlet tops or other appurtenances affected by the proposed construction shall be adjusted as required. This work is to be included within the base bid.
14. The Contractor shall coordinate installation of any under-ground conduits/piping required for services, power, telephone, cable, irrigation, security, etc. prior to beginning site work.
15. The Contractor shall be responsible for coordinating and/or paying for relocation of existing utilities with the applicable utility companies.
16. All clearing, grubbing, and disposal of material to an offsite location is the responsibility of the Contractor. None of this material may be left onsite without written approval of Owner or Engineer. Burning of material may be allowed only if the Contractor receives any required burn permits and receives written approval from Owner. The Contractor will assume all responsibility and liability associated with burning of material.
17. It is the Engineer's sole discretion as to whether electronic files of the drawings will be made available to the Contractor for bidding or construction. The Contractor shall not presume the files will be made available and bid accordingly. In the event the drawings are provided digitally to the Contractor, they are not to be considered covered under the Engineer's certification. The Contractor assumes all liability as a result of the digital files.

GENERAL CONSTRUCTION REQUIREMENTS

- 1. The Contractor is responsible for obtaining any permits required for work within public right-of-way.
2. The Contractor is responsible for all survey layout and required testing by applicable agencies.
3. Any existing features impact or damaged by the proposed construction including sidewalks, culverts, manholes, sidewalks, driveways, pavement, mailboxes, sod, landscaping, irrigation, etc. must be restored to Contractor to the full extent disturbed. Replacement materials must match existing condition or better. No disturbed areas are to be left unexcavated.
4. Concrete and asphalt pavement must be saw cut to provide clean edge. Concrete shall be removed to the first existing joint.
5. All underground utilities must be installed, inspected, tested and accepted in advance of base & pavement construction.
6. Dewatering may be required for excavation of stormwater facilities and installation of utilities. Dewatering includes the use of shallow well points or sump pumps. All water must be pumped to create sedimentation basins surrounded completely by a double row of silt fence. If the basin cannot contain all dewatering and dispose of through infiltration/percolation, the Contractor shall ensure any discharge meets state water quality requirements.
7. All gravity storm pipes are to receive a mitered end treatment in accordance with FDOT specifications unless otherwise stated.
8. The Contractor is responsible for establishing and maintaining all installed vegetation until the project is complete and accepted by Owner/Engineer.
9. The Contractor is responsible for providing construction water throughout the project and paying any associated fees.
10. Upon completion of construction, the stormwater systems shall be cleaned of all sills, debris, litter, etc.

WATER / RECLAIM CONSTRUCTION & SPECIFICATIONS

- 1. All watermain construction shall be installed, inspected, and tested in accordance with these plans and the minimum construction standards of the local and state guidelines. Should a discrepancy arise, the most restrictive shall apply.
2. All taps and connections must be coordinated by Contractor with the Utility provider in advance in accordance with their policy. The Engineer must be notified at least 2 days in advance.
3. All watermain mains must be constructed with a minimum of 3 feet of cover. Pressure testing with less cover is not permitted.
4. Water mains shall be mechanically restrained at elbows, fittings, tees, and dead ends in the minimum lengths as described in these Plans. All connections and taps shall be a minimum of 24 inches from a fitting or bell.
5. Water mains are to be flushed and bacteriologically disinfected in accordance with local Health Department standard specifications. The Contractor is responsible for all water used for flushing and disinfection of system, and shall dispose of chlorinated water per local, state, and federal guidelines. Bacteriological samples must be approved by Health Department and are only valid for 60 days.
6. A Water System Property Values shall be submitted to Engineer by Contractor for review and approval.
7. Ductile Iron Pipe: Except as otherwise stated, all pipe with an inside diameter greater than or equal to 20-in., shall be made of ductile iron. Ductile iron pipe for underground water mains shall be manufactured in accordance with AWWA C-151. Pipe shall be designed for thickness in accordance with AWWA C-150. Ductile iron pipe shall comply with ANSI Standard A21.10, with a 150 psi minimum pressure rating (200 psi for firelines). Ductile iron pipe installation shall conform to laying condition Type 2 (B) with a flat bottom trench and backfill tightly compacted to the centerline of the pipe. Minimum trench width shall be the diameter of the pipe plus 2 ft. for all pipe sizes 4-inch and larger. Laying length for ductile iron pipe shall be 18 ft., 20 ft., and shall conform to all applicable AWWA and ANSI specifications. Pressure Class shall be Class 350 for pipe sizes 4 through 20-inches and Class 250 for pipe sizes 24 through 36-inches. The pipe manufacturer shall determine additional wall thickness required where depth of cover exceeds the minimum requirements. Where ductile iron is threaded for a flange, the thickness shall be increased accordingly. In all cases the flanged pipe thickness shall not be less than Thickness Class 53. Ductile iron pipe and fittings shall receive an exterior bituminous coating as specified in ANSI specifications A21.4, A21.50, or A21.51 and shall be cement mortar lined and bituminous coated in accordance with ANSI standard A21.4. Joints shall be made by mechanical push-on type designed in accordance with AWWA C-110. Gasket lubricant for push-on joints shall be labeled with trade name and the pipe manufacturer's name. Per F.A.C. 62-555, all ductile iron pipe shall have a blue stripe applied by the manufacturer, or Contractor shall spray paint a blue stripe on all joints of pipe.
8. Ductile Iron Fittings: Fittings for ductile iron pipe shall be manufactured of ductile

iron or gray cast iron, and shall conform to the standards of AWWA C-110 or AWWA C-115 (compact fittings). Fittings shall be designed so as to be compatible with the pipe and so as to provide at least equal resistance to internal and external load on the pipe. Fitting joints shall be mechanical type for underground service. The joints, bolts, and nuts shall conform to AWWA C-111. All fittings shall be rated for not less than 150 psi working pressure (200 psi for firelines).

- 9. PVC Pipe and Fittings: Except as otherwise stated, PVC water distribution pipe size 4" through 12" shall meet the requirements of AWWA C-900. Pipe shall be cast iron Outside Diameters and shall be class 150 or greater (200 for firelines), and meet or exceed the requirements of DR 18 through 12" through 12". All fittings 4" and larger shall be made of cast iron or ductile iron, mechanical joint and shall conform to AWWA C-110 or AWWA C-153. Water distribution pipe sizes 18" and larger shall meet the requirements of AWWA C-905. All fittings shall be made of cast iron or ductile iron, mechanical joint and shall conform to AWWA C-110 or AWWA C-153. Maximum laying length for all PVC water pipe shall be 20 feet. All pipe shall conform to ASTM D-2241. All pipe shall have a minimum dimension ratio for SDR 21 and Class 200, Schedule 40 with glued joints is acceptable under 2" size. Pipe shall be manufactured from clean, virgin, unplasticized polyvinyl resin, cell classification 12454-A or 12454-B as defined as ASTM D-1784. All pipes shall bear the National Standard Foundation seal for potable water pipe. All PVC water pipe shall be blue in color or bear an acceptable indelible blue marking in three locations for the continuous length of each pipe joint. The required spacing for these markings is to be 120 degrees apart. All pipe shall bear the trade name, pipe manufacturer's name, and AWWA standard number.
10. Polyethylene water service tubing shall be copper tubing size (CTS), SDR 9, and rated for 200 psi in accordance with ASTM D2737 and AWWA C901. Couplings and fittings are to be grip-joint.
11. Gate Valves: Gate valves 4" and larger shall be in accordance with AWWA C-509 with (b) type stem seal and 2" square-opening nut for burying service. Valves shall be mechanical joint and open left (counter clockwise). The operating nut shall have an arrow cast in the nut indicating direction of opening. Gate valves shall be of resilient seat wedge and when fully open shall provide a clean waterway equal to the normal diameter of the pipe. Each valve shall have the manufacturer's distinctive marking, pressure rating, and year of manufacture cast on the body. Prior to shipment from the manufacturer, the valve shall be applying 14 to hydraulic pressure equal to twice the specified working pressure. Gate valves 2" and under shall conform with federal specification WW-V-54 type 2 solid wedge disc, rising stem, secure joints, and of bronze construction. Valves shall have a malleable iron hand with the following parameters:
12. Valve Boxes: Valve boxes shall be cast iron of standard design with adjustable drop section fit or cover over valve, interior diameter shall be not less than 5" with cast iron cover marked "water". Valve box extensions shall be of class 50 ductile iron pipe or C900 PVC and shall be installed on any valve flow (B, R, or more below finished grade. Valve box lids shall be of class A 2 prepared by 4" thick concrete slab shall be neatly poured around all valve box lids not installed in a paved area. After complete construction, valve boxes shall be in a vertical position above the valve and provide clear access and free operation with a key key.
13. Fire Hydrants: Hydrants shall be in accordance with AWWA Standard C-502-85 and the following requirements: A. Dry barrel compression type, "O" ring seal at operating nut stem and means for lubrication, T-type model with breakable safety clips, or flange and located below barrel break line. B. Hydrant shall have a clean preclude valve opening. Open left (counter clockwise). Two 1-1/2" hose nozzles and one 4-1/2" pump nozzle with National Standard threads. Main valve openings shall be not less than 5-1/4". Paint shall be two coats finished. C. Hydrant shall be per local municipal fire jurisdiction. Pipe outlet shall be 6" mechanical joint. Operating nut shall be perpendicular measuring 1-1/2" point to flat. All hydrant leads shall be valved and the hydrant installed with a minimum of 18" hose nozzle to ground clearance. All hydrants shall be installed plumb and in line alignment with the connection pipe to the water main. Gravel or crushed stone shall be used for the drain sump and shall be carefully placed and compacted.

WASTEWATER CONSTRUCTION & SPECIFICATIONS

- 1. All wastewater construction shall be installed, inspected, and tested in accordance with these plans and the minimum construction standards of the local and state guidelines. Should a discrepancy arise, the most restrictive shall apply.
2. All taps and connections must be coordinated by Contractor with the Utility provider in advance in accordance with their policy. The Engineer must be notified at least 2 days in advance.
3. All wastewater mains must be constructed with a minimum of 3 feet of cover. Pressure testing with less cover is not permitted.
4. Pressurized wastewater mains shall be mechanically restrained at elbows, fittings, tees, and dead ends in the minimum lengths as detailed in these Plans. All connections and taps shall be a minimum of 24 inches from a fitting or bell.
5. A Wastewater System Property Values shall be submitted to Engineer by Contractor for review and approval.
6. Ductile Iron Pipe/Fittings: Thickness class for ductile iron pipe for underground service shall be minimum class 53. Wall thickness requirements where depth of cover exceeds the minimum requirements may be different. Laying lengths for mechanical joint or push joint ductile iron pipe shall be 20 feet, as specified, and shall conform to all applicable ANSI/AWWA specifications. Joints for ductile iron pipe used for underground service shall be mechanical or push-on type design in accordance with AWWA C111. Mechanical or push joint pipe shall be labeled with trade name and the pipe manufacturer's name. Joints for ductile iron fittings used for underground service shall be mechanical joint or push joint type design, as specified. Thickness class for ductile iron pipe for aboveground service shall be minimum class 53.
7. PVC Pipe/Fittings (Pressurized): PVC pressure pipe sizes 4 inches through 12 inches for sanitary sewer force main shall be installed underground and shall meet the requirements of AWWA C900, and shall be class 100 or greater and meet or exceed the requirements of DR25. PVC pressure pipe sizes larger than 12 inches shall meet the requirements of AWWA C905, and shall be class 100 or greater and meet or exceed the requirements of DR18. PVC pressure pipe C900 and C905 shall be of ductile iron OD. Maximum laying length for all PVC pressure pipe shall be 20 feet. Color of PVC pressure pipe provided shall be as specified, consistent with the following (Sewer - Green, Reclaimed Water - Purple). Joints for PVC pressure pipe 4 inches and larger in diameter shall be integral bell and spigot, with a single gasket, compression ring. The bell shall consist of an integral wall section with a solid cross section elastomeric ring, factory installed, meeting the requirements of ASTM F447.
8. PVC Pipe/Fitting (Gravity): PVC gravity pipe and fittings, sizes 4 inches through 15 inches, for sanitary sewer gravity mains shall meet the requirements of ASTM D3034. PVC gravity pipe and fittings, sizes larger than 15 inches, shall meet the requirements of ASTM F21.1. Bore, top and base sections shall meet or exceed the requirements of SDR26 PVC. PVC gravity pipe intended for depth of burial having 10 feet or more of cover shall meet the ASTM D3034 specifications include of having the outside diameter stamped on the PVC pipe, but shall have the wall thickness rating of SDR26. Maximum laying lengths for all PVC gravity pipe sizes shall be as follows: (4 inches through 15 inches -- 13 feet, 18 inches - 12.5 feet, Larger than 18 inches - 12 feet). PVC gravity pipe shall be integral bell and spigot, with a single rubber gasket. The bell shall consist of an integral wall section with a solid cross section elastomeric ring, factory installed, and shall conform to ASTM F477 and meet the requirements of ASTM D3212. PVC fittings shall be made of cast iron with a cell classification of 12454-B, or 12454-C, or 13343-C as defined in ASTM D1784, joined with a rubber gasket joint.
9. Manholes: Manholes shall consist of pre-cast manholes and shall conform to specifications for ASTM C478 "Pre-cast Reinforced Concrete Manhole Sections"; except as otherwise specified below. The minimum wall thickness shall be five inches. Pre-cast manholes shall be constructed with a pre-cast monolithic base structure (minimum base thickness shall be eight inches). Concrete for manholes shall be Type II, 4000 psi. Bore, top and base sections shall meet or exceed tongue and groove joints. All jointing material shall be a cold adhesive preformed plastic gasket, conforming to ASTM C 443 "Manhole Section Connections". Manholes shall be leak-tight. Sections shall be cured by an approved method as per ASTM C 478 for at least 28 days prior to coating and shall not be shipped until at least two days after having been coated. Pre-cast concrete top slabs shall be used where cover over the top of the pipe is less than four feet. Lift rings and non-penetrating lift holes shall be provided for handling pre-cast manhole sections. With the exception of master manholes or manholes that have force mains directly discharging into them, the interior surfaces of all manholes shall have a protective bituminous epoxy coating formulated to resist corrosion from a wastewater environment. The interior surfaces of master manholes or manholes that have force mains directly discharging into them shall have a protective cementitious or polymer based coating or lining. All exterior surfaces of all manholes shall have a protective bituminous epoxy coating capable of sealing out moisture.

UTILITY PIPE INSTALLATION AND HANDLING

- 1. Additional fittings, appurtenances, and construction may be required other than those specified in detail within these Plans to construct the utilities as proposed. These additional items are assumed incidental to the construction and are to be included within the Contractor's base bid.
2. Installation of water, reclaim, and force mains shall be in accordance with the applicable provisions of ANSI/AWWA C900 for PVC pipe, and ANSI/AWWA C600 for ductile iron pipe.
3. Pipe, fittings, and accessories shall be carefully inspected before and after installation and those found defective shall be rejected. Pipe and fittings shall be free of frs and burrs. Under no circumstances shall be provided for lowering sections of pipe into trenches. Proper no circumstances should pipe or fittings be dropped or dumped into trenches.
4. All pipe shall be laid in trenches having a dry and uniform bottom supporting the pipe for its entire length. Backfill shall be free of debris and large boulders with no sharp or rocky material. Pipe shall be laid on line and at proposed grade.
5. All foreign material shall be cleaned from pipe prior to installation. Pressure

pipe(s), 4 inches or larger are to be flushed after installation using an approved compact proctor maximum dry density (ASTM D698). Compact

- 6. All water and force mains are to be installed with an insulated number (#) 12 gauge UF (Underground Feeder per National Electric Code Article 339) solid strand tracer wire (color code for the type of pipe used) and joint seal shall be installed along all pipe (using nylon wire ties) and services and must be taped below the spring line of the pipe and stubbed up at hydrants and valves. At each valve, the wire shall be installed along the outside of the valve box to the adjustable top section. Sections of wire shall be spliced together using connectors. Twisting the wire together is not acceptable. For directional boxes, two number (#) 4 gauge UF tracer wires shall be used. The tracer wire must provide full signal conductivity (including splices), for line locating equipment.
7. A 3 inch wide plastic or aluminum foil warning/identification tape shall be installed no deeper than 12 inches below grade, directly above pipes.
8. Pipe may be deflected as required as long as the deflection does not exceed 75% of manufacturer's recommended maximum deflection. Fittings shall be substituted for deflections once this threshold is exceeded.
9. Pipe Restraints: The installation of new bends, tees, fittings, or dead-ends will require the pipe to be restrained using retainer glands or tie-rod restraints to the minimum length as specified in the plans. This length specified may require restraints to be installed the specified length on existing pipe where new fittings are added.
10. Compaction: When a pipe or structure is placed under or within six feet of an improved or paved surface, fill or undisturbed soil from the bottom of the pipe trench to one foot above the pipe and then to the finished grade elevation shall be compacted to a minimum density of 100 percent of the maximum dry density as determined by AASHTO T-99. For areas not within six feet of an improved or paved surface, a minimum density of 95 percent of the maximum dry density based on AASHTO T-150 shall be obtained. Compaction tests shall be required every 300 feet of pipe and for every 100 square feet of backfill around structures at a minimum. Additional tests may be required based on field conditions. The locations and depths of compaction tests shall be done in accordance with the following schedule (Note: additional testing may be required by governing municipality at Contractor's option):
a. One test at spring line of pipe.
b. At least one test for each 12 inch layer of backfill within the pipe bedding zone for pipes 24 inches and larger.
c. One test at an elevation of one foot above the pipe.
d. One test for each two feet of backfill placed from one foot above top of pipe to finished grade.
e. Tests should be staggered around each manhole and lift station's well and valve vault within three feet of each structure's outside perimeter in accordance with the following schedule:
i. One test under center of lift station well base (minimum density of 100 percent maximum dry density as determined by AASHTO T-99).
ii. Second test shall be one foot above structure base.
iii. Next test shall be two feet above the first.
iv. Subsequent tests every two feet up to finished grade.
f. Additional compaction testing may be required prior to commencing further construction if reports and inspection indicate that the fill has been placed below specified density.
11. Cleaning and Testing (Pressure Pipe): All water, sewer, and reclaim shall be cleaned (flushed and poly pigged), disinfected, and pressure tested in accordance with applicable municipal, state, and federal specifications. All testing shall be performed in accordance with the Florida Health Department Standards and successfully demonstrate that installed features meet the appropriate requirements. An Owner, Engineer, Municipal, and Contractor representative shall be present unless authorization is given in writing otherwise. All test shall be at the Contractor's cost. Sufficient documentation of clearances shall be provided in a neatly organized package by Contractor to Engineer for review and approval.
12. Storm Installation and Handling:
1. All pipe shall be carefully laid, true to the lines and grades as shown on the plans and in the "City".
2. Concrete pipe: Concrete pipe shall be of first quality, conforming to ASTM C-7670 (Class III unless otherwise stated) for round pipe and ASTM C-507 (Class HE-III unless otherwise stated) for elliptical pipe and meet the requirements of ASTM F21.1. Bore, top and base sections shall be clean and free of debris. The pipe shall be sealed by the use of round rubber gaskets and shall conform to the applicable provisions of ASTM C-361 and be of sufficient volume to fill the pipe joint in which it is used. Joints for elliptical pipe must use gaskets in accordance with ASTM C-361. Filter fabric material shall extend a minimum of 12 inches on both sides of the joint and shall overlap a minimum of two feet at the top of the joint.
3. Alternate pipe: Alternate pipe material specified in the plans must meet applicable specifications within FDOT Standard Specification (Drainage Materials 642-84-9). Filter fabric material shall extend a minimum of 12 inches on both sides of the joint and shall overlap a minimum of two feet at the top of the joint.
4. Backfilling: Backfilling shall progress as rapidly as the construction and testing of the work will permit. All backfill material shall be suitable and free of deleterious material. Backfilling shall be done in layers and shall be compacted at the same time and uniformly compacted around the barrel of the pipe until enough has been placed to provide a cover of one foot above the crown of the pipe. In no case shall backfill material be placed in the trench in a manner that will cause shock to or unequal pressure on the pipe. The backfill shall be placed and compacted to 100 percent of maximum density as determined by ASTM D698 (T-99) to the bottom of the stabilized subgrade and 98 percent of T-180 for the remainder of the trench. The backfill shall be placed and compacted in layers and shall extend to the spring line of the pipe. All grades shall be secured and protected from erosion or other approved methods.
5. Storm Pipe Testing: Tests shall be performed in accordance with the following (Note: additional testing may be required by governing municipality at Contractor's cost):
a. Compaction tests shall be in accordance with Section 125-8 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition. The Engineer may determine that more compaction tests are required to certify the installation depending on field conditions. The locations of compaction tests within the trench shall be in conformance with the following schedule:
i. One test at 6" intervals from the bottom of the pipe to an elevation one foot above the crown of the pipe (Contractor may use 12" lifts if densities can be obtained at 12" lifts).
ii. One test for each one foot of backfill placed one foot above the crown of the pipe to subgrade elevation.
iii. Cross drain culverts shall have a minimum of two density tests per lift.
6. All pipe runs located within public or private right-of-way, draining public or private right-of-way, or as specified in the "site specific notes" on the grading & drainage sheet(s) shall be video recorded by a remote camera in the presence of the Engineer and local municipal representative/inspector. The video shall be provided to the Engineer and local municipality in DVD format with a narrative for each pipe run.

WATER/RECLAIM

- a. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, hydrants, casings, air release valves, back-flow preventers, restrictor lengths, pipe size & material of pipe. Vertical elevations at 50' min. intervals along mains. Detail elevations at crossing where water crosses storm or sewer.
b. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, casings, air release valves, manholes, clean-outs, and back-flow preventers. Vertical elevations of manhole inlets, manhole inlets, and clean-out inlets. Pump station elevations of top of slab, influent inlets, float switches, and bottom elevation. Length, size, pipe material, invert elevations & slope of installed gravity mains and services. Detail elevations at crossing where sewer crosses storm or water.

PAVING, GRADING, & DRAINAGE

- c. Elevations and locations on all paved surfaces with a 50' min interval or at each grade break. Additional typical spot elevations throughout the site, and at all grade breaks, to depict general conformance with Engineer's drawings. Finished floor elevation of all above ground structures. Detailed elevations of curb ramps and handicap ramp features.
d. All invert elevations, the rim/top of drainage and down flow line of pipe. Control structure elevations and details (grates, weirs, orifices, notches, skimmers, and effluent drains). Note one permanent benchmark shall be placed at each outfall structure and documented on the "Record Drawing."
e. Stormwater pond top and bottom dimensions (width and length). Ditch/swale bottom and top dimensions and flow elevations.
f. Length, size, pipe material, invert elevations and slopes of storm pipe and end treatments.

ASPHALT SURFACE COURSE

- 1. Stabilized Subgrade: All pavement subgrade, where applicable, shall be stabilized to the required depth and required Florida bearing value, six inches outside the edge of base on each side of the pavement, and shoulders shall be stabilized per Plan to a Florida bearing value of as specified. Where existing soils to be used in the road subgrade have the required bearing value, no additional stabilization material need be added. Mixing shall be done to ensure uniformity whether or not additional material is added. The stabilizing material, if required, shall be high bearing value soil, clay-sand, limerock, shell or other material permitted by FDOT Standard Specifications.
2. Base Course: The base course for flexible pavement are indicated in Plans and shall meet the requirements of FDOT Standard Specifications for Road and Bridge Construction, latest edition.
3. Asphalt Surface Course: Type-S or Friction Course (FC) as specified in Plans. Asphalt mix designs must meet the requirements of the local municipality and be approved by FDOT mix. Mixes must be prepared by a certified materials testing laboratory, or by a Construction Training Quality Assurance Program (CTQP) certified Asphalt Mix Designer. In either case all asphalt mix designs must be submitted to the Engineer and local municipality for approval and shall be signed and sealed by a Professional Engineer with the exception of Superpave Mixes).
4. Concrete Surface Course and Curbs: All concrete pavement shall have a minimum compressive strength of 3000 psi (unless specified otherwise) at 28 days in accordance with American Concrete Institute (ACI) 318, Sections 4.8.2.3 and 4.8.3. The mixture shall contain no more water than is necessary to produce concrete which is workable and plastic. The minimum slump necessary to place the concrete satisfactorily shall be used. Slumps should be maintained so as not to exceed four and one-half inches for nonvibrated placement and not to exceed six inches for vibrated placement. The design mix shall be submitted to the Engineer for approval prior to paving. All plants providing concrete must be certified by FDOT and be in accordance with FDOT Standard Specifications for concrete and as required by Engineer. Additional testing as required by Engineer. Final signed and sealed test packages shall be presented to Engineer and Owner at the terminus of project in a neat and orderly fashion.
5. Testing for concrete areas including but not limited to: density, slump, and cylinder breaks shall be in accordance with local municipal requirements for work within Right of Way, and within six feet of the traveled way and as required by Owner or at a minimum, as required for asphalt (above).

STORM INSTALLATION AND HANDLING

- 1. The Contractor is responsible for providing a safe work force for the traveling public and personnel at all times.
2. Labor safety shall conform to provisions set forth by OSHA in the Federal Registry of the Department of Transportation.
3. All trench excavation shall be in accordance with the "Trench Safety Act" as incorporated into OSHA standards.
4. The Contractor shall adopt and implement maintenance of traffic for all work with right-of-way in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) and Florida Department of Transportation (FDOT) latest editions.
5. A minimum of 6 "Record Drawing" sets of plans, signed and sealed by a Registered Surveyor in the state of Florida, along with a CD of CAD files are to be submitted to the Engineer. The Owner may require additional copies.
6. The "Record Drawing" survey information shall be drafted onto the latest drawing obtained from the Engineer. A single digital CAD file must be provided with all Record information of each component (water, sewer, storm, etc.). Multiple drawing files of the same component (water, sewer, storm, etc.) will not be accepted by Engineer unless previously approved. All drawing text styles, line widths, scales, layers, and sheet layouts must be preserved. If profile or enlarged views are included, they must be updated with "Record Drawing" information.
7. The Engineer reserves the right to request additional information on the Record Drawings without responsibility for the cost. All costs associated with "Record Drawings" are the responsibility of the Contractor.
8. "Record Drawings" information shall include but not limited to:
a. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, hydrants, casings, air release valves, back-flow preventers, restrictor lengths, pipe size & material of pipe. Vertical elevations at 50' min. intervals along mains. Detail elevations at crossing where water crosses storm or sewer.
b. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, casings, air release valves, manholes, clean-outs, and back-flow preventers. Vertical elevations of manhole inlets, manhole inlets, and clean-out inlets. Pump station elevations of top of slab, influent inlets, float switches, and bottom elevation. Length, size, pipe material, invert elevations & slope of installed gravity mains and services. Detail elevations at crossing where sewer crosses storm or water.

PAVING, GRADING, & DRAINAGE

- c. Elevations and locations on all paved surfaces with a 50' min interval or at each grade break. Additional typical spot elevations throughout the site, and at all grade breaks, to depict general conformance with Engineer's drawings. Finished floor elevation of all above ground structures. Detailed elevations of curb ramps and handicap ramp features.
d. All invert elevations, the rim/top of drainage and down flow line of pipe. Control structure elevations and details (grates, weirs, orifices, notches, skimmers, and effluent drains). Note one permanent benchmark shall be placed at each outfall structure and documented on the "Record Drawing."
e. Stormwater pond top and bottom dimensions (width and length). Ditch/swale bottom and top dimensions and flow elevations.
f. Length, size, pipe material, invert elevations and slopes of storm pipe and end treatments.

ASPHALT SURFACE COURSE

- 1. Stabilized Subgrade: All pavement subgrade, where applicable, shall be stabilized to the required depth and required Florida bearing value, six inches outside the edge of base on each side of the pavement, and shoulders shall be stabilized per Plan to a Florida bearing value of as specified. Where existing soils to be used in the road subgrade have the required bearing value, no additional stabilization material need be added. Mixing shall be done to ensure uniformity whether or not additional material is added. The stabilizing material, if required, shall be high bearing value soil, clay-sand, limerock, shell or other material permitted by FDOT Standard Specifications.
2. Base Course: The base course for flexible pavement are indicated in Plans and shall meet the requirements of FDOT Standard Specifications for Road and Bridge Construction, latest edition.
3. Asphalt Surface Course: Type-S or Friction Course (FC) as specified in Plans. Asphalt mix designs must meet the requirements of the local municipality and be approved by FDOT mix. Mixes must be prepared by a certified materials testing laboratory, or by a Construction Training Quality Assurance Program (CTQP) certified Asphalt Mix Designer. In either case all asphalt mix designs must be submitted to the Engineer and local municipality for approval and shall be signed and sealed by a Professional Engineer with the exception of Superpave Mixes).
4. Concrete Surface Course and Curbs: All concrete pavement shall have a minimum compressive strength of 3000 psi (unless specified otherwise) at 28 days in accordance with American Concrete Institute (ACI) 318, Sections 4.8.2.3 and 4.8.3. The mixture shall contain no more water than is necessary to produce concrete which is workable and plastic. The minimum slump necessary to place the concrete satisfactorily shall be used. Slumps should be maintained so as not to exceed four and one-half inches for nonvibrated placement and not to exceed six inches for vibrated placement. The design mix shall be submitted to the Engineer for approval prior to paving. All plants providing concrete must be certified by FDOT and be in accordance with FDOT Standard Specifications for concrete and as required by Engineer. Additional testing as required by Engineer. Final signed and sealed test packages shall be presented to Engineer and Owner at the terminus of project in a neat and orderly fashion.
5. Testing for concrete areas including but not limited to: density, slump, and cylinder breaks shall be in accordance with local municipal requirements for work within Right of Way, and within six feet of the traveled way and as required by Owner or at a minimum, as required for asphalt (above).

STORM INSTALLATION AND HANDLING

- 1. All pipe shall be carefully laid, true to the lines and grades as shown on the plans and in the "City".
2. Concrete pipe: Concrete pipe shall be of first quality, conforming to ASTM C-7670 (Class III unless otherwise stated) for round pipe and ASTM C-507 (Class HE-III unless otherwise stated) for elliptical pipe and meet the requirements of ASTM F21.1. Bore, top and base sections shall be clean and free of debris. The pipe shall be sealed by the use of round rubber gaskets and shall conform to the applicable provisions of ASTM C-361 and be of sufficient volume to fill the pipe joint in which it is used. Joints for elliptical pipe must use gaskets in accordance with ASTM C-361. Filter fabric material shall extend a minimum of 12 inches on both sides of the joint and shall overlap a minimum of two feet at the top of the joint.
3. Alternate pipe: Alternate pipe material specified in the plans must meet applicable specifications within FDOT Standard Specification (Drainage Materials 642-84-9). Filter fabric material shall extend a minimum of 12 inches on both sides of the joint and shall overlap a minimum of two feet at the top of the joint.
4. Backfilling: Backfilling shall progress as rapidly as the construction and testing of the work will permit. All backfill material shall be suitable and free of deleterious material. Backfilling shall be done in layers and shall be compacted at the same time and uniformly compacted around the barrel of the pipe until enough has been placed to provide a cover of one foot above the crown of the pipe. In no case shall backfill material be placed in the trench in a manner that will cause shock to or unequal pressure on the pipe. The backfill shall be placed and compacted to 100 percent of maximum density as determined by ASTM D698 (T-99) to the bottom of the stabilized subgrade and 98 percent of T-180 for the remainder of the trench. The backfill shall be placed and compacted in layers and shall extend to the spring line of the pipe. All grades shall be secured and protected from erosion or other approved methods.
5. Storm Pipe Testing: Tests shall be performed in accordance with the following (Note: additional testing may be required by governing municipality at Contractor's cost):
a. Compaction tests shall be in accordance with Section 125-8 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition. The Engineer may determine that more compaction tests are required to certify the installation depending on field conditions. The locations of compaction tests within the trench shall be in conformance with the following schedule:
i. One test at 6" intervals from the bottom of the pipe to an elevation one foot above the crown of the pipe (Contractor may use 12" lifts if densities can be obtained at 12" lifts).
ii. One test for each one foot of backfill placed one foot above the crown of the pipe to subgrade elevation.
iii. Cross drain culverts shall have a minimum of two density tests per lift.
6. All pipe runs located within public or private right-of-way, draining public or private right-of-way, or as specified in the "site specific notes" on the grading & drainage sheet(s) shall be video recorded by a remote camera in the presence of the Engineer and local municipal representative/inspector. The video shall be provided to the Engineer and local municipality in DVD format with a narrative for each pipe run.

WATER/RECLAIM

- a. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, hydrants, casings, air release valves, back-flow preventers, restrictor lengths, pipe size & material of pipe. Vertical elevations at 50' min. intervals along mains. Detail elevations at crossing where water crosses storm or sewer.
b. Horizontal location of mains and appurtenances including, but not limited to: valves, bends, tees, casings, air release valves, manholes, clean-outs, and back-flow preventers. Vertical elevations of manhole inlets, manhole inlets, and clean-out inlets. Pump station elevations of top of slab, influent inlets, float switches, and bottom elevation. Length, size, pipe material, invert elevations & slope of installed gravity mains and services. Detail elevations at crossing where sewer crosses storm or water.

PAVING, GRADING, & DRAINAGE

- c. Elevations and locations on all paved surfaces with a 50' min interval or at each grade break. Additional typical spot elevations throughout the site, and at all grade breaks, to depict general conformance with Engineer's drawings. Finished floor elevation of all above ground structures. Detailed elevations of curb ramps and handicap ramp features.
d. All invert elevations, the rim/top of drainage and down flow line of pipe. Control structure elevations and details (grates, weirs, orifices, notches, skimmers, and effluent drains). Note one permanent benchmark shall be placed at each outfall structure and documented on the "Record Drawing."
e. Stormwater pond top and bottom dimensions (width and length). Ditch/swale bottom and top dimensions and flow elevations.
f. Length, size, pipe material, invert elevations and slopes of storm pipe and end treatments.

eliminating weakened planes within the new fills. The top lift shall be compacted to 100% of compact proctor maximum dry density (ASTM D698). Compact

- structural fill within building areas in accordance with Geotechnical Engineer report and structural plans and specifications. Should a discrepancy arise between these and local municipal codes or specifications, the most restrictive shall apply.
2. Utility Backfill: All underground utilities should be backfilled with the trench spoil, unless the spoils do not meet the structural fill requirements above. In which case, a suitable structural fill shall be imported and the unsuitable spoils disposed of off site.
3. Subgrade: The original subgrade and each successive fill of structural fill including the final lift shall be stable under the load of a loaded bi-axial dump truck. Stable is defined as a firm, unyielding surface, and allowing no jacking, rutting, flanging, pumping, or otherwise deflecting in excess of 0.5 inches. In addition, the final subgrade shall meet the following parameters:
a. Building and exterior slabs: Geotechnical report requirements, structural plans and specifications.
b. Flexible and rigid pavements: Plans and specifications requirements, local municipal requirements.
4. At all times, the direct input or runoff of fine materials including, but not limited to crushed concrete, clay, and limerock are prohibited from entering the pond area via berms, silt fence, or other methods. If noticed during construction, Contractor will be required to over excavate pond to remove and replace with clean material at their own expense.

POLK COUNTY LAND DEVELOPMENT DIVISION STANDARD NOTES

- 1. Traffic signs and pavement markings shall be installed prior to opening a new or modified road.
2. All construction shall conform to the requirements of Appendix A of the Polk County Land Development Code and the Polk County Utilities Code, as applicable.
3. Changes from plans or specifications substantially affecting conformance to standards or performance of systems must be submitted in a written request by the Engineer of Record and receive written approval by the County Engineer prior to the implementation of such changes, unless otherwise provided for in the Polk County Land Development Code or the Polk County Utilities Code. Major modifications may require an approval by the Development Review Committee. In such cases, the applicant shall submit the appropriate application and fees for a new review at the level of the original approval or Level 2, whichever is greater.
4. The Contractor shall notify Polk County Inspections Staff (863) 534-6449, at least five (5) working days prior to commencement of construction and prior to any activity requiring inspection, including site paving.
5. To schedule the required Pre-Construction Meeting, the Engineer of Record shall contact the Polk County Land Development Division, office of the County Engineer at (863) 534-6449.
6. At the completion of construction, and prior to beneficial use of any facility or system, as-built Record Drawings shall be submitted and approved in accordance with Polk County Utilities Code, Chapter 2, Part 3.01 and the Polk County Land Development Code, Appendix A, Section A406.6.
7. MOT for the project will be in accordance with the current FDOT Traffic Control Requirements Through Work Zones, Section 102-600 series, of the FDOT Standard Plans.
8. The asphalt pavement will extend 1/4 inch above the road side edge for all curb and gutter constructed on public or private roads.
9. Polk County is not responsible for Design and/or Plan errors. All construction within Polk County RSW shall be in accordance with Polk County and FDOT standards and specifications. All construction shall conform to the requirements of Appendix A of the Polk County Land Development Code and the Polk County Utilities Code, as applicable.

PAVEMENT & SIDEWALK CONSTRUCTION

- 1. Stabilized Subgrade: All pavement subgrade, where applicable, shall be stabilized to the required depth and required Florida bearing value, six inches outside the edge of base on each side of the pavement, and shoulders shall be stabilized per Plan to a Florida bearing value of as specified. Where existing soils to be used in the road subgrade have the required bearing value, no additional stabilization material need be added. Mixing shall be done to ensure uniformity whether or not additional material is added. The stabilizing material, if required, shall be high bearing value soil, clay-sand, limerock, shell or other material permitted by FDOT Standard Specifications.
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4. Concrete Surface Course and Curbs: All concrete pavement shall have a minimum compressive strength of 3000 psi (unless specified otherwise) at 28 days in accordance with American Concrete Institute (ACI) 318, Sections 4.8.2.3 and 4.8.3. The mixture shall contain no more water than is necessary to produce concrete which is workable and plastic. The minimum slump necessary to place

AS-BUILT REQUIREMENTS - ACCEPTANCE OF A CONTRACTOR TO COMPLETE THE WORK INCLUDED IN THESE DOCUMENTS AGREES TO THE REQUIREMENTS INCLUDED HEREIN FOR AS-BUILT SURVEYS

GENERAL AS - BUILT SURVEY REQUIREMENTS

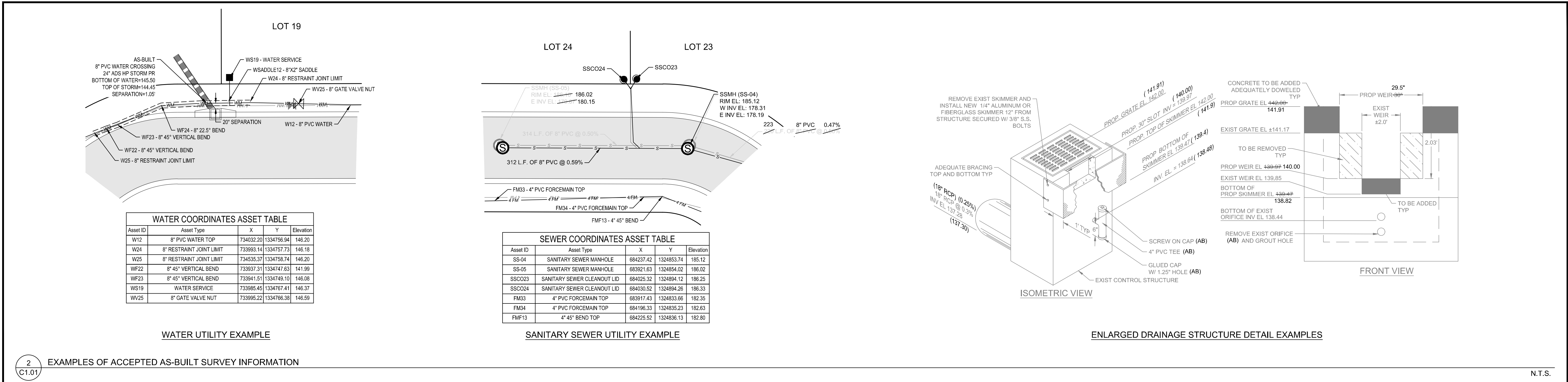
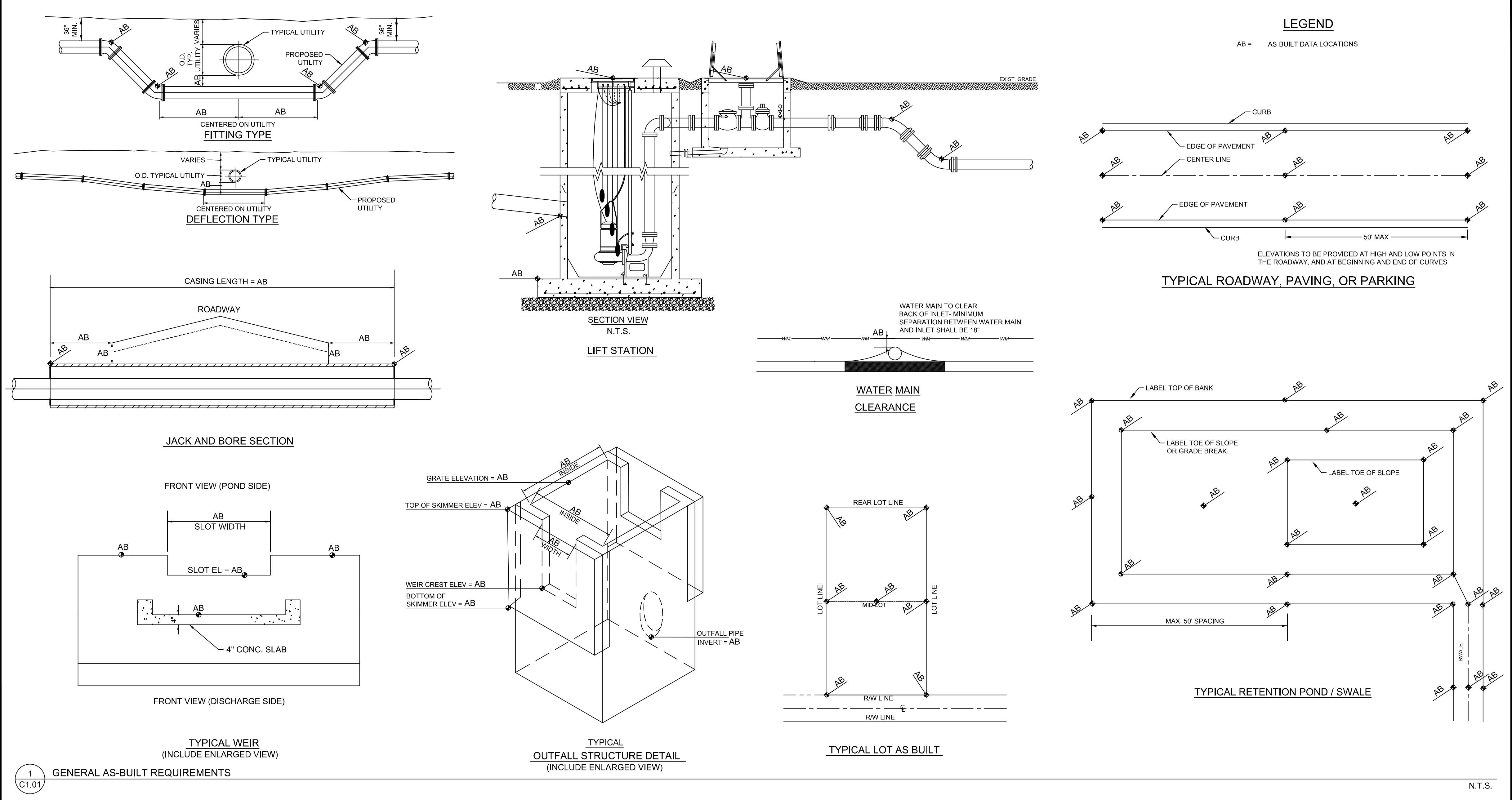
1. A Grading, Drainage, & Utility As-Built shall be provided by a state of Florida licensed surveyor and certified to Gadd & Associates, LLC (ENGINEER) in addition to the Developer, Bank and/or others as required. Unless approved in writing prior to bidding, this work shall be obtained, coordinated, and paid for by Contractor. Failure of Contractor to provide the information, as requested herein, may result in delays to the project by Contractor.
2. As-built data shall be on the same coordinate system and benchmark datum as the construction plans. The datum used must be identified on the As-Built Survey. The information provided shall be acceptable to the utility company, the water management district, and the reviewing government agency.
3. Information included on the As-Built Survey shall meet Florida Minimum Technical Standards in addition to including the information requested herein.
4. All provided As-Built Surveys shall be neat and legible. This may require separate drawing sheet to include as-built information of water, grading, drainage, etc. as required for legibility. In general, proposed information shall be lightened in the drawings) with As-Built information bolded so as to be prominent in the As-Built survey. Additional drawing modifications may be necessary to present the As-Built information in a legible manner.
5. ENGINEER will provide Contractor with a CAD file of drawings, on request. The As-Built Survey shall be drafted onto the latest drawings issued by ENGINEER utilizing the same horizontal and vertical datum without rotation at the same size and scale as the ENGINEER's drawings. The As-Built Survey shall be provided to ENGINEER in a single digital CAD file as required. Multiple CAD files of the same component (water, sewer, storm, etc.) will not be accepted. Any phasing of a project shall include layer management to separate information into phases.
6. When provided, point tables shall be organized in nature and in ascending order.
7. In addition to a CAD file, ENGINEER shall require As-Built surveys to be provided in pdf format, digitally signed and sealed pursuant to state requirements. When necessary to satisfy agency or developer requirements, up to 5 hard copies may be requested and provided that are physically signed and sealed.
8. Contractor shall become familiar with the requirements of agencies having jurisdiction to understand their As-Built information requirements. ENGINEER reserves the right to request additional information be added to or modified on the As-Built survey as needed to verify compliance of constructed components and/or satisfy agency requirements at no additional cost to ENGINEER or Developer.

UTILITY - WATER, SEWER, RECLAIM REQUIRED AS-BUILT INFORMATION

1. As-Built Survey shall accurately identify in plan view all installed pipes, fittings, valves, bores, taps, backflow preventors, meters, blow-offs, ARVs, FDCs, hydrants, manholes, lift stations, restrained lengths, jack and bores, casings, directional bores, or other installed and related appurtenances with size and material (for pipes).
2. Installed elevations and locations in state plane coordinates of these features shall be provided in plan view or point tables with accurate labeling of installed components (i.e. size, type, location of elevation, etc.). Any boxes for the project resulting in bore logs shall be included on As-Built survey. Finished grade elevations above feature may be required by utility provider.
3. Gravity sewer pipe is to be labeled with As-Built size, type, material, length, and slope. Manholes are to be labeled with inverts and final elevation of manhole rim utilizing proposed labeling from ENGINEER's drawings.
4. Lift station information shall include wet well size, depth, and inverts in addition to general station information to include, but not limited to: location of concrete, fence, generator, wash down, control panel, telemetry, valve vault, and access covers. Tract or property boundary is to be included. An enlarged view may be necessary to depict in a legible manner.
5. Where conflicts exist between proposed utilities and other existing or proposed underground features (other water, sewer, reclaim, gas, storm pipes, etc.), As-Built Survey shall include vertical and horizontal clearances as measured in the field.
6. Underground components shall be surveyed prior to being covered. Staked offsets, depths, and locations by Contractor for the Surveyor to utilize after appearance is buried may result in inaccurate information and require demolition and / or reconstruction to access these features at a later time for accurate As-Built Survey information.

GRADING AND DRAINAGE REQUIRED AS-BUILT INFORMATION

1. Grading As-Built Survey shall accurately depict in plan view As-Built topographic information of all constructed features, i.e. buildings (including finished floor elevation), paving, ponds, swales, storm sewer, curbing, sidewalks, poles, signs, ramps, electric/communication features, etc. with sufficient detail to determine compliance with proposed documents.
2. Where specific typical lot grading is required, contractor shall provide As-Built elevations as proposed herein.
3. Specific information required for ponds, swales, and slopes include establishing constructed locations and elevations of grade breaks, toe of slopes, and top of banks.
4. For sidewalk ramps & ADA parking, As-Built survey shall provide sufficient grade elevations to determine compliance with ENGINEER's drawing requirements and applicable code requirements.
5. The storm sewer system shall be accurately represented in plan view to include constructed information of dimensions, sizes, elevations, and inverts of inlet, slots, skimmers, orifices, and pipes. Pipes are to be labeled with constructed size, length, material, and slopes. Any outfall or inlet feature depicted with an enlarged detail on ENGINEER's drawings shall be included with As-Built information on the As-Built Survey.



REVISIONS

DRAWN: JS
DESIGNED: JS/RLS
CHECKED: RG
PROJECT # 1237.01

GADD & ASSOCIATES
CIVIL ENGINEERING & CONSULTING
4885 E. COUNTY ROAD 540A
LAKELAND, FL 33813
TEL: (888) 399-9919
Fax: (888) 399-9919
www.GaddCivil.com

CORNELIUS NEW OFFICE
4650 EXPLORATION AVENUE
LAKELAND, FL 33812

ISSUED FOR

REVIEW	12.17.2025
PERMIT(WMD)	12.31.2025
PERMIT(CITY/COUNTY)	12.31.2025
BID	TBD
CONSTRUCTION	TBD

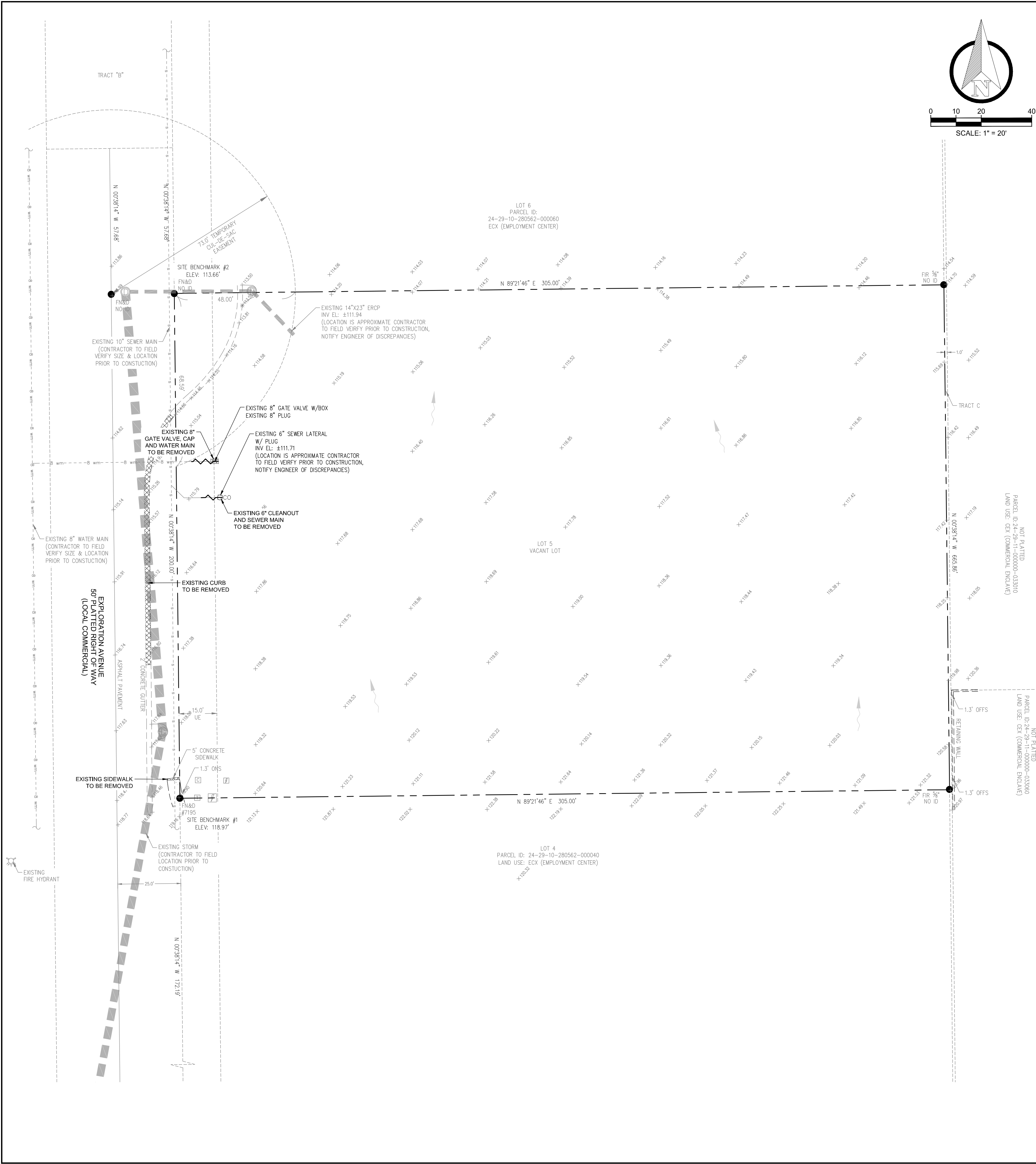
This item has been digitally signed and sealed by Rodney A. Gadd, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

RODNEY A. GADD, P.E.
FLA. P.E. No. 70875

DATE

AS-BUILT REQUIREMENTS

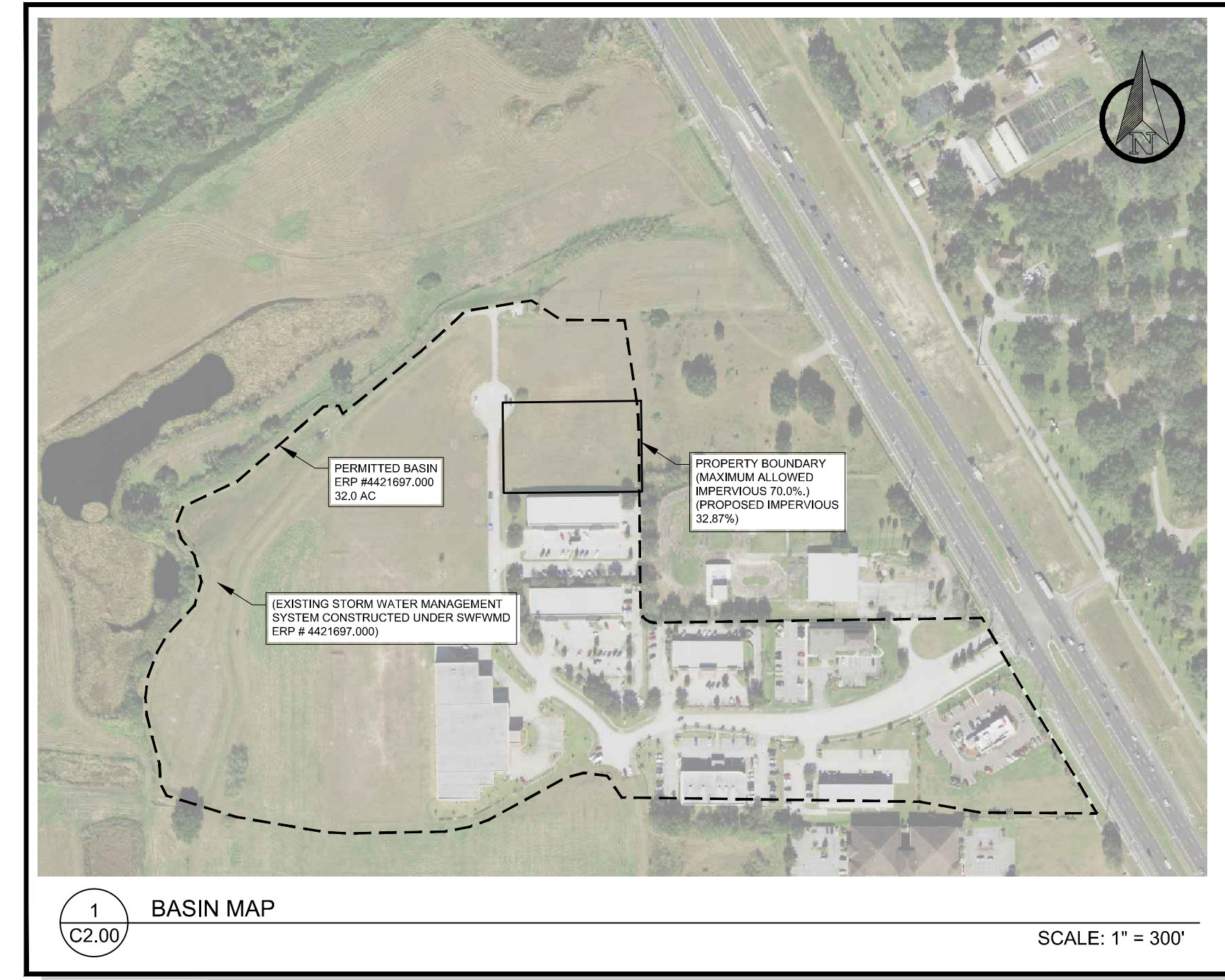
C1.01



BENCHMARK INFORMATION		
BENCHMARK REFERENCE: • ELEVATIONS ARE BASED ON THE N.A.V.D. 1988 DATUM • DATUM CONVERSION: N.A.V.D. 1988 + 0.883 = N.G.V.D. 1929		
BENCHMARK	ELEVATION	DESCRIPTION/LOCATION
BM #1	118.97	BENCHMARK SOUTHWEST PROPERTY CORNER
BM #2	113.66	BENCHMARK NORTHWEST PROPERTY CORNER

BENCHMARK AND EXISTING CONDITIONS
 SURVEY INFORMATION PROVIDED BY:
 4M SURVEYING & MAPPING SERVICES, INC.
 3630 STAR COURT
 MIMS, FL 32754
 PHONE: (321) 210-0446

DEMO LEGEND	
	EXISTING CONCRETE TO BE DEMOLISHED AND REMOVED
	EXISTING WATERLINE, SEWER MAIN TO BE REMOVED



REVISIONS	
DRAWN:	JS
DESIGNED:	JS/RLS
CHECKED:	RG
PROJECT #	1237.01

GADD & ASSOCIATES
 CIVIL ENGINEERING & CONSULTING
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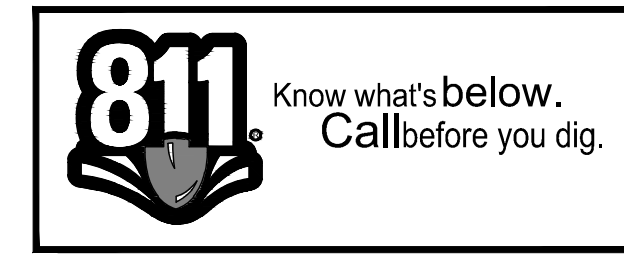
This item has been digitally signed and sealed by Rodney A. Gadd, P.E. on the date adjacent to the seal.
 Signature must be verified on any electronic copies.

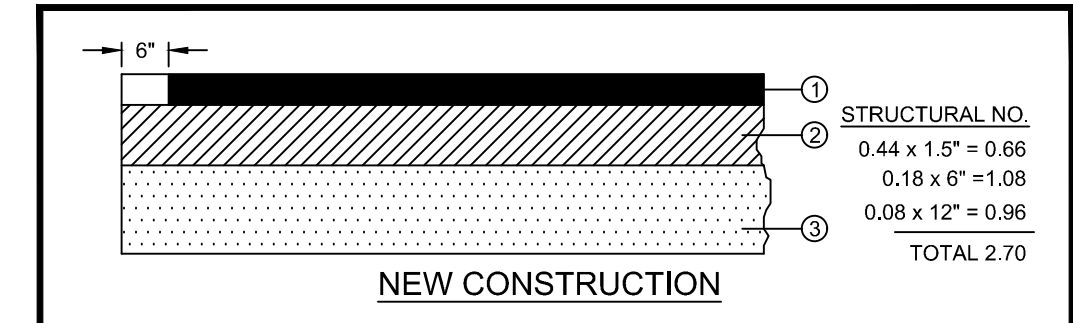
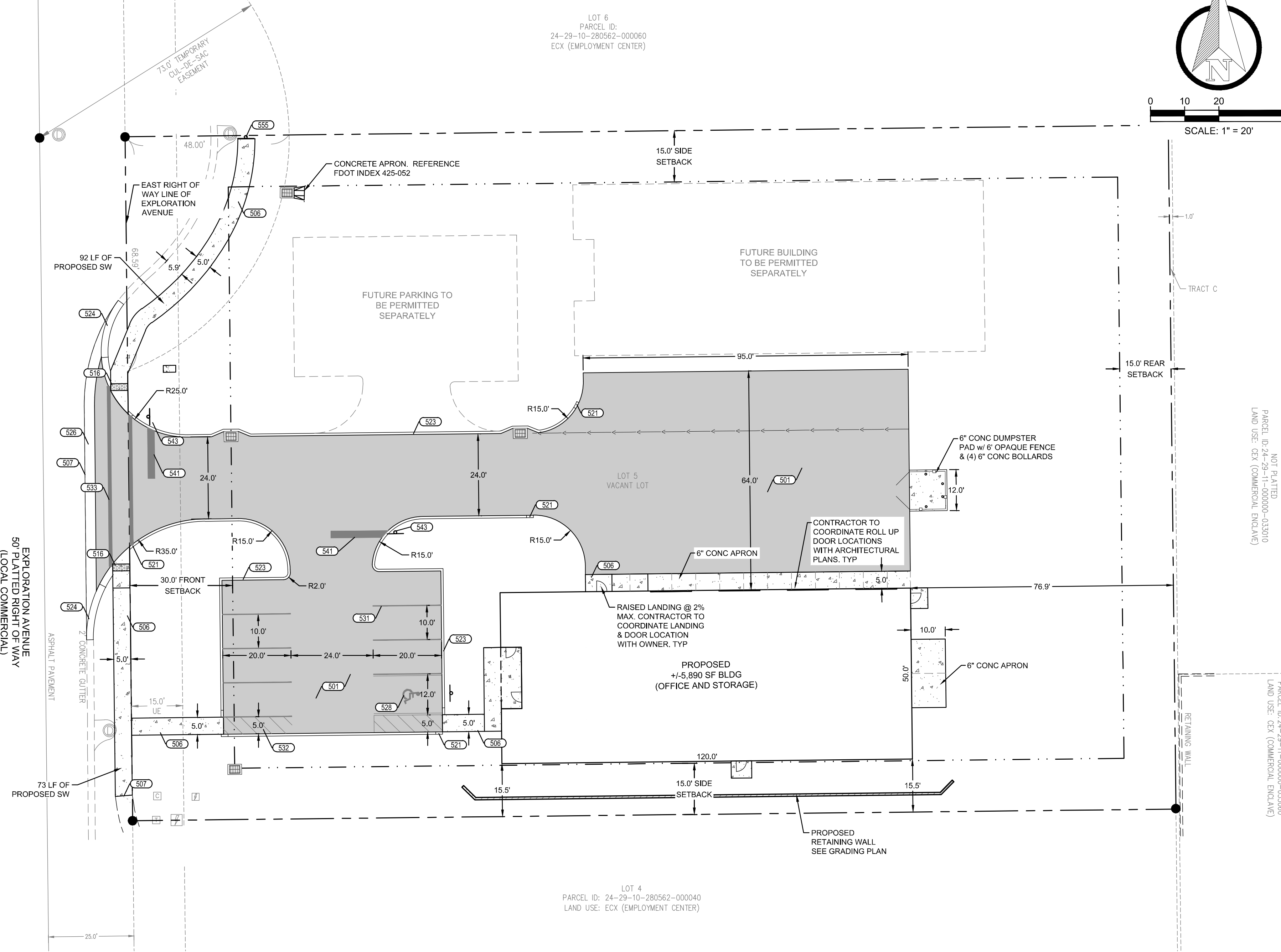
RODNEY A. GADD, P.E.
 FLA. P.E. No. 70875

DATE

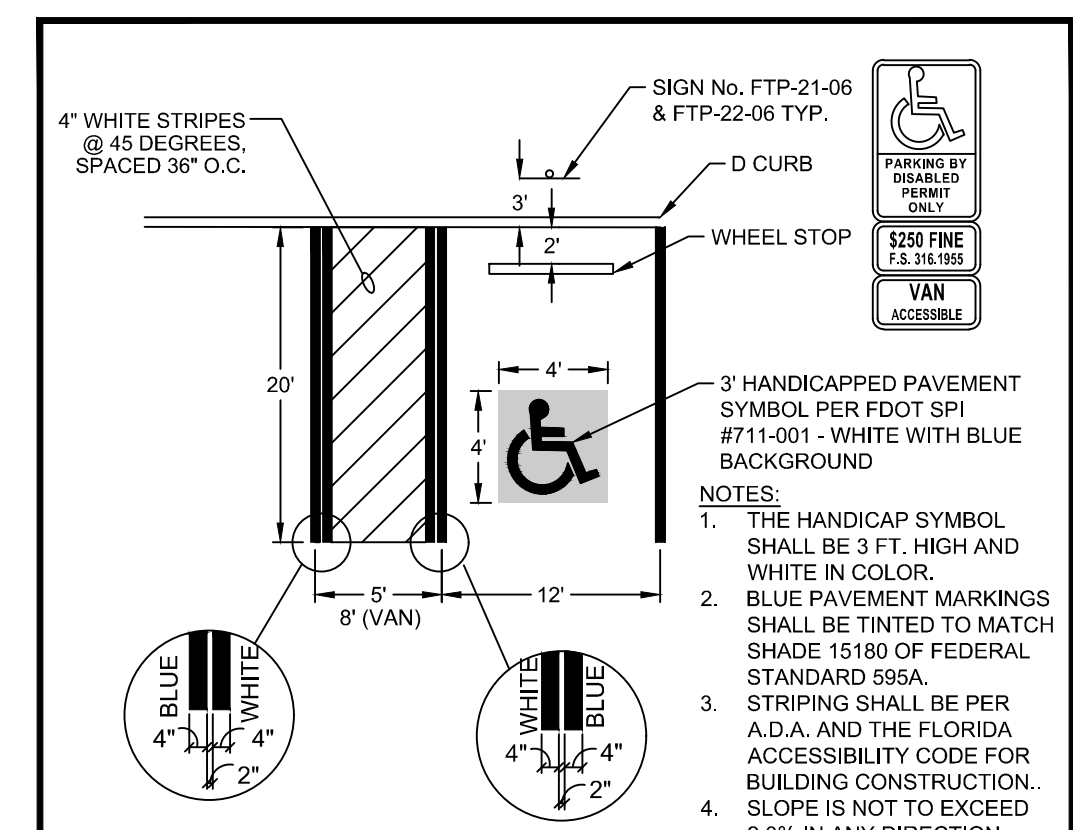
EXISTING CONDITIONS & DEMOLITION PLAN

C2.00

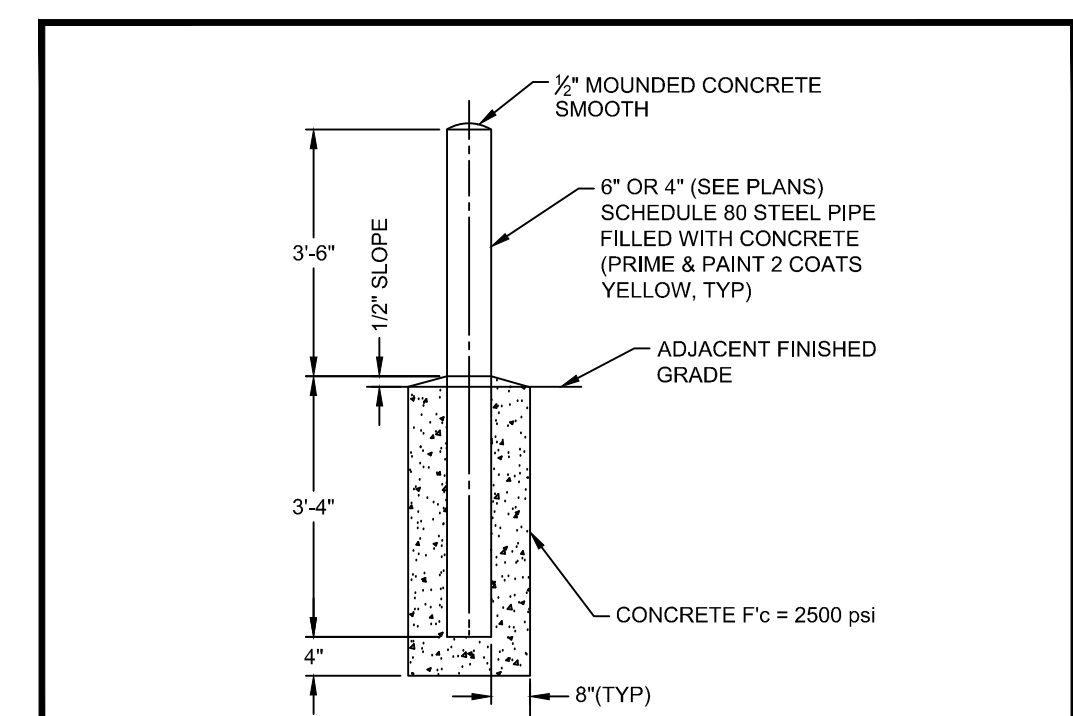




- NEW CONSTRUCTION**
- 1.5" TYPE SUPERPAVE 9.5 (FINE) ASPHALTIC CONCRETE, F.D.O.T. SPEC. #334, TRAFFIC LEVEL C.
 - 6" LIMEROCK BASE, COMPACTED TO 98% AASHTO - T180 (L.B.R. 100), F.D.O.T. SPEC. #230 OR 6" CRUSHED CONCRETE BASE, COMPACTED TO 98% AASHTO - T180 (L.B.R. 150), FDOT SPEC. #204; PRIME @ 0.10 GALS. PER SQ. YD., F.D.O.T. SPEC. #300.
 - 12" TYPE "B" STABILIZATION, LBR 40, F.D.O.T. SPEC. 160-2, COMPACTED TO 98% AASHTO T-180. CONTRACTOR MAY SUBSTITUTE 5" OF ADDITIONAL BASE MATERIAL IN LIEU OF TYPE "B" STABILIZATION OVER COMPACTED SUB-GRADE.



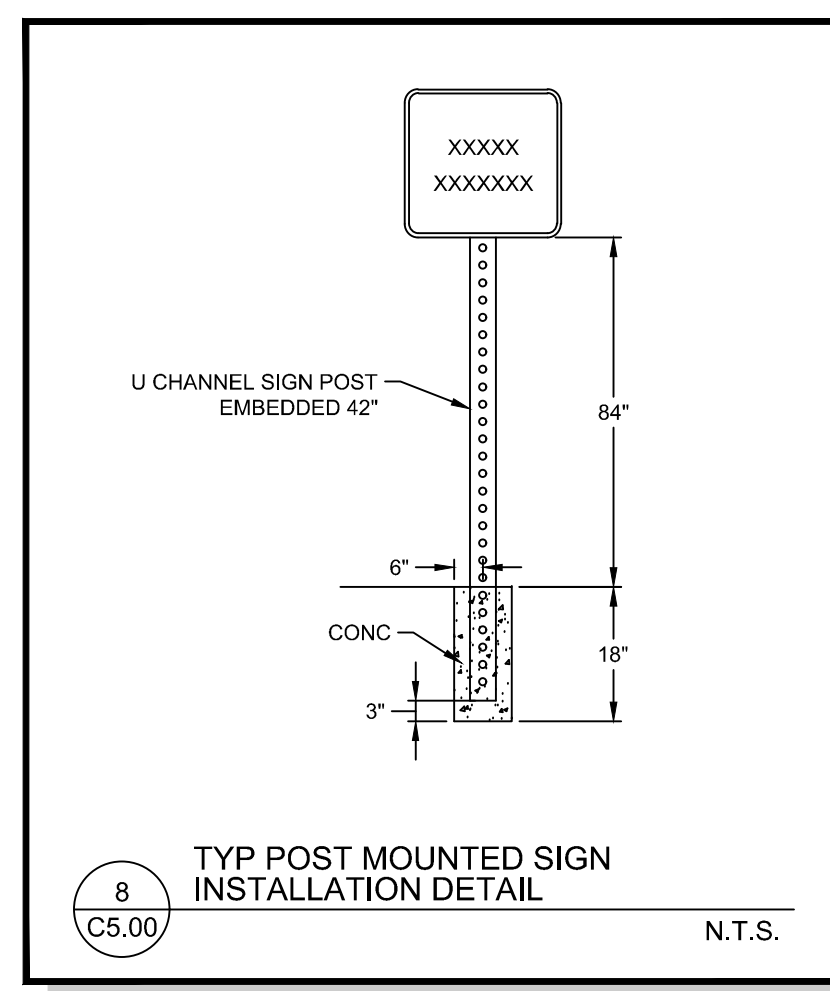
- HANDICAP PARKING STALL STRIPING DETAIL**
1. THE HANDICAP SYMBOL SHALL BE 3 FT. HIGH AND WHITE IN COLOR.
 2. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARD 655A.
 3. STRIPING SHALL BE PER A.D.A. AND THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION. SLOPE IS NOT TO EXCEED 2.0% IN ANY DIRECTION WITHIN HANDICAP STALL STRIPING.



- BOLLARD DETAIL**

- GENERAL SITE NOTES**
1. CONTRACTOR TO REFER TO ARCHITECTURAL DRAWINGS FOR DETAILED LAYOUT OF BUILDING AND FEATURES.
 2. CONTRACTOR SHALL NOTIFY ENGINEER AND/OR ARCHITECT WHEN PROTRUSIONS FROM BUILDINGS, SUCH AS ELECTRIC METERS, FIRE RISERS, AIR CONDITIONING EQUIPMENT, AND DESIGN ELEMENTS ARE BETWEEN GRADE AND A MINIMUM OF 7 FEET ABOVE GRADE THAT REDUCE WIDTH OF WALKING PATHS THAT ARE NOT SHOWN ON THESE PLANS.

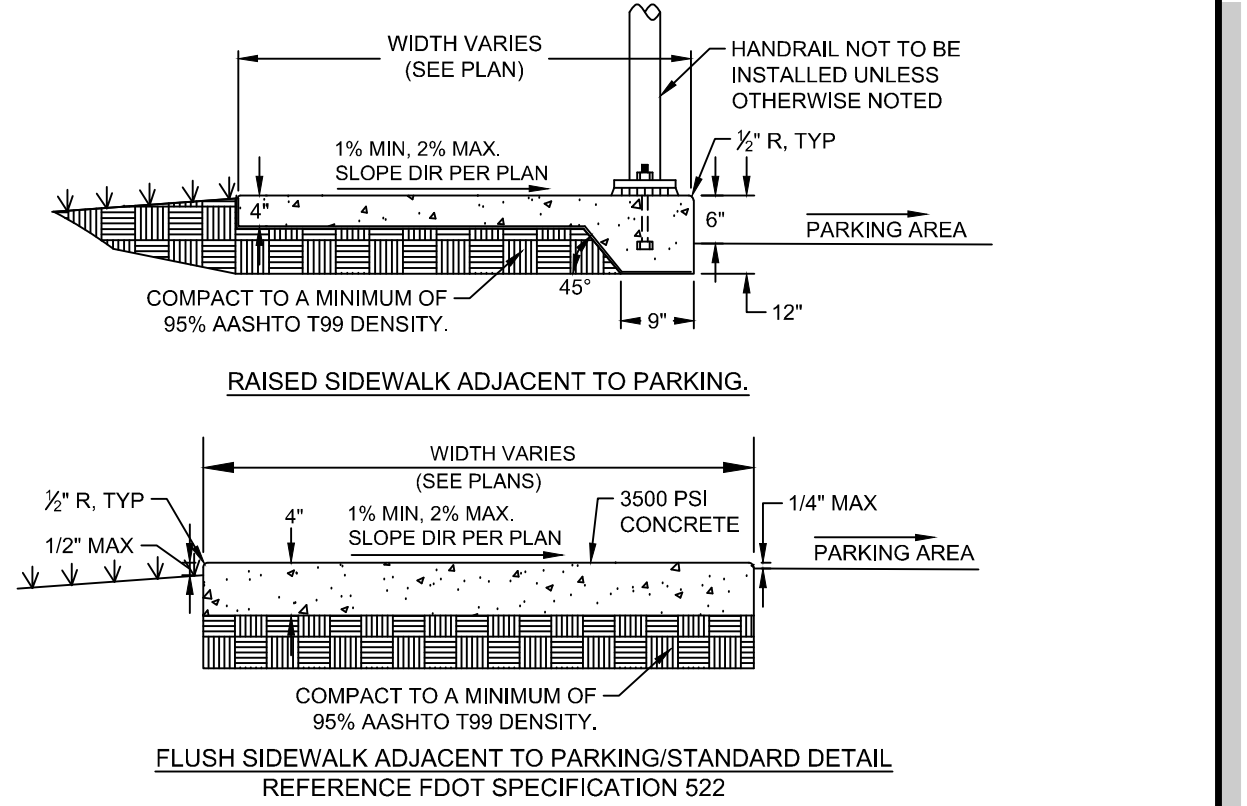
- SHEET NOTES:**
- 501 PROPOSED ASPHALT PAVEMENT, SEE TYPICAL SECTION
 - 506 CONSTRUCT 5' CONCRETE SIDEWALK TYP. SEE DETAIL
 - 507 PROVIDE SMOOTH TRANSITION TO EXISTING FEATURE TYP
 - 516 INSTALL CURB RAMP WITH DETECTABLE WARNING SURFACE PER FDOT SPI# 522-012
 - 521 2' CURB TRANSITION TYP
 - 523 FDOT TYPE 'D' CURB, REFERENCE FDOT SPI# 520-001
 - 524 FDOT TYPE 'F' CURB, REFERENCE FDOT SPI# 520-001
 - 526 FDOT VALLEY GUTTER, REFERENCE FDOT SPI# 520-001
 - 528 ADA PARKING, SEE DETAIL
 - 531 4" WHITE TRAFFIC MARKING PAINT TYP
 - 532 4" WHITE TRAFFIC MARKING PAINT, 36" O.C. TYP
 - 533 12" SOLID WHITE CROSS-WALK (PAINT) PER FDOT SPI# 711-001
 - 541 24" SOLID WHITE STOP BAR (PAINT), REFERENCE FDOT SPI# 711-001
 - 543 INSTALL R1-1 "STOP" SIGN (24")
 - 555 INSTALL "END SIDEWALK" (30"W X 12"T) SIGN ON AN ALUMINUM 2.5" ROUND POST



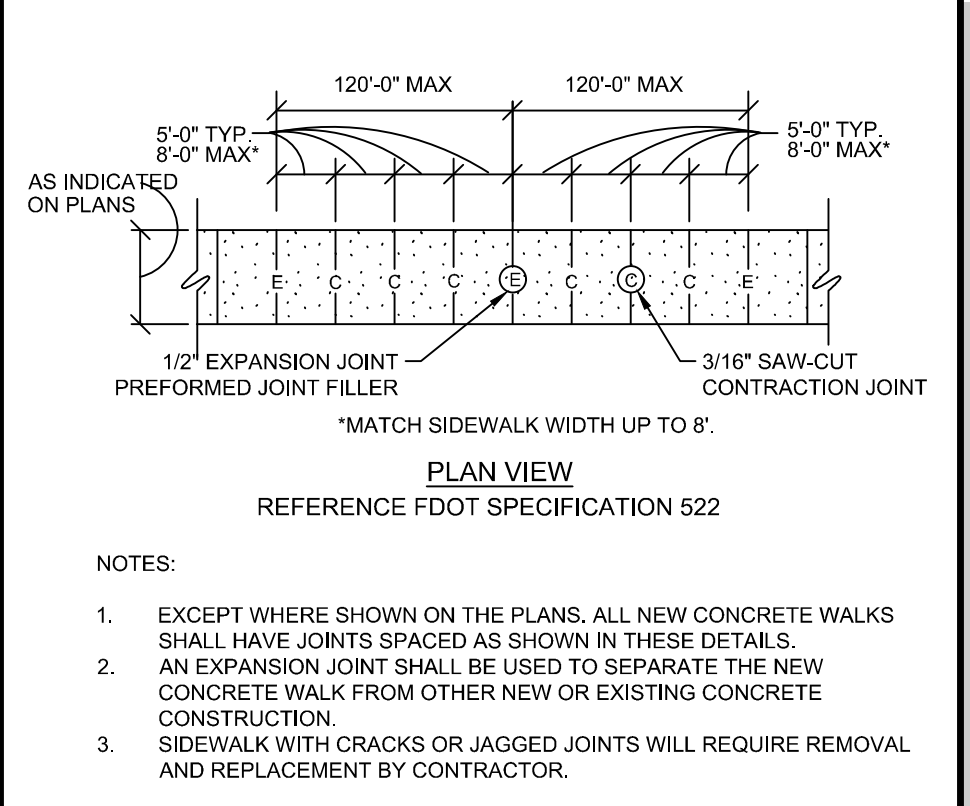
- TYP POST MOUNTED SIGN INSTALLATION DETAIL**

IMPERVIOUS SURFACE SUMMARY:

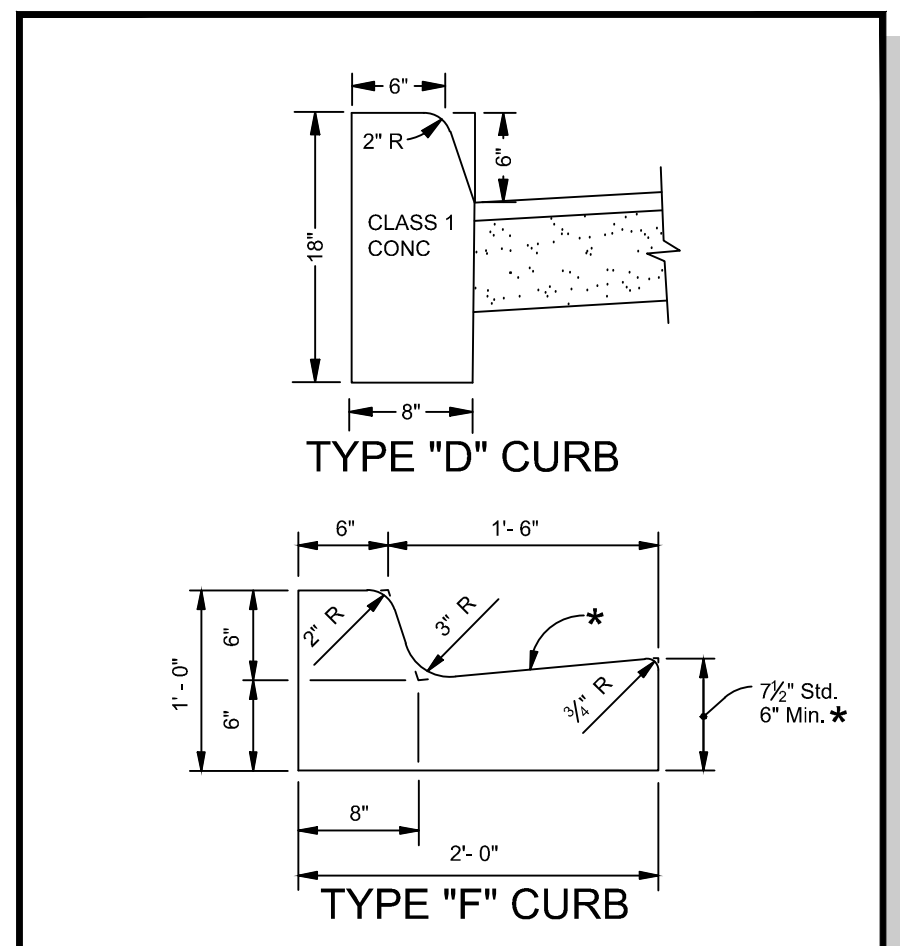
ALLOWABLE:	70% LOT 5 = 70% x 1.32 AC = 0.92 AC
PROPOSED:	BUILDING PAVEMENT / SW 0.14 AC
TOTAL:	0.32 AC
	0.46 AC



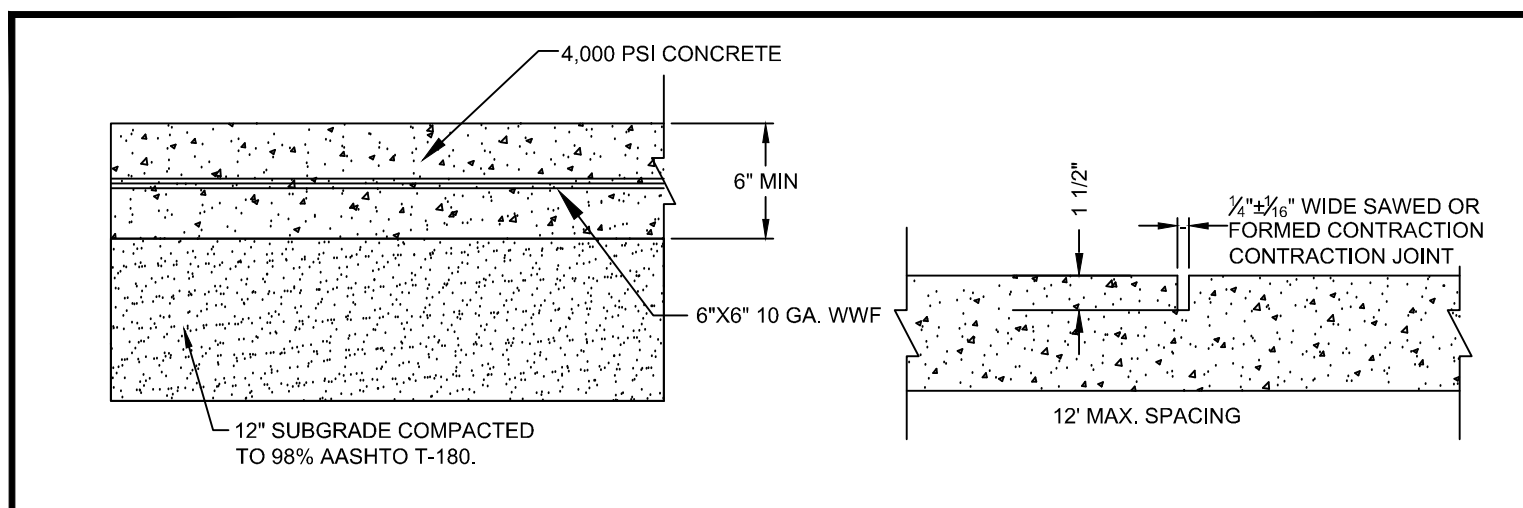
- 1 SIDEWALK DETAILS**
- NOTES:
- FOUNDATION: COMPACT FILL AREAS, INCLUDING CUT AREAS UNDER THE SIDEWALK THAT HAVE BEEN EXCAVATED MORE THAN 6 INCHES BELOW THE BOTTOM OF SIDEWALK, TO A MINIMUM OF 95% OF AASHTO T99 DENSITY. THE AREA TO BE COMPACTED IS DEFINED AS THAT AREA DIRECTLY UNDER THE SIDEWALK AND 1 FOOT BEYOND EACH SIDE WHERE PRACTICAL.
- FORM & PLACING CONCRETE: FORM & PLACE CONCRETE IN ACCORDANCE WITH FDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATION 520-3 & 520-5.
- SCREEDING: STRIKE-OFF THE CONCRETE BY MEANS OF A WOOD OR METAL SCREED, USED PERPENDICULAR TO THE FORMS, TO OBTAIN THE REQUIRED GRADE AND REMOVE SURPLUS WATER AND LAITANCE.
- SURFACE REQUIREMENT: PROVIDE A UNIFORM BROOM FINISH. ENSURE THAT THE SURFACE VARIATIONS ARE NOT MORE THAN 1/4 INCH UNDER A 10 FOOT STRAIGHTEDGE OR MORE THAN 1/8 INCH ON A 5 FOOT TRANSVERSE SECTION. FINISH THE EDGE OF THE SIDEWALK WITH AN EDGING TOOL HAVING A RADIUS OF 1/2 INCH. EXPOSED FIBER MESH (WHERE REQUIRED) SHALL BE RUBBED SMOOTH.
- CURING: CURE CONCRETE IN ACCORDANCE WITH FDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATION 520-8.
- GENERAL REQUIREMENT: UNSIGHTLY SIDEWALK, SIDEWALK NOT MEETING ADA STANDARDS, OR SIDEWALK NOT CONSTRUCTED AS PROPOSED WILL BE REMOVED AND REPLACED BY CONTRACTOR AT THEIR COST.



- 2 CONCRETE SIDEWALK JOINT DETAILS**
- NOTES:
- EXCEPT WHERE SHOWN ON THE PLANS, ALL NEW CONCRETE WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS.
 - AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONCRETE WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.
 - SIDEWALK WITH CRACKS OR JAGGED JOINTS WILL REQUIRE REMOVAL AND REPLACEMENT BY CONTRACTOR.
- EXPANSION JOINTS: FORM 1/2 INCH EXPANSION JOINTS BETWEEN THE SIDEWALK AND THE CURB OR DRIVEWAY OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS WITH A PREFORMED JOINT FILLER MEETING THE REQUIREMENTS SPECIFIED IN FDOT SPECIFICATION 932-1.1.
- CONTRACTION JOINTS: CONTRACTOR MAY USE OPEN TYPE JOINTS OR SAWED CONTRACTION JOINTS.
- OPEN TYPE JOINTS: FORM OPEN TYPE CONTRACTION JOINTS BY STAKING A METAL BULKHEAD IN PLACE AND DEPOSITING THE CONCRETE ON BOTH SIDES. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO PRESERVE THE WIDTH AND SHAPE OF THE JOINT, REMOVE THE BULKHEAD, AFTER FINISHING THE SIDEWALK OVER THE JOINT, EDGE THE SLOT WITH A TOOL HAVING A 1/2 INCH RADIUS.
- SAWED JOINTS: CUT A SLOT APPROXIMATELY 3/16 INCH WIDE AND NOT LESS THAN 1-1/2 INCHES DEEP WITH A CONCRETE SAW AFTER THE CONCRETE HAS SET PERPENDICULAR TO THE RUNNING LENGTH OF SIDEWALK AND WITHIN THE FOLLOWING PERIODS OF TIME: JOINTS AT NOT MORE THAN 30 FEET INTERVALS WITHIN 12 HOURS AFTER FINISHING. REMAINING JOINTS WITHIN 96 HOURS AFTER FINISHING.



- 3 CURB DETAIL (FDOT SPI #520-001)**
- NOTE:
- CONSTRUCTION JOINT SPACING IS 12 FT MAXIMUM. ALIGN CURB AND SIDEWALK JOINTS.



- 4 TYPICAL CONCRETE PAVEMENT CONSTRUCTION**
- CONCRETE DUMPSTER PAD NOTES:
- CONCRETE SHALL HAVE A 4,000 PSI 28-DAY COMPRESSIVE STRENGTH CONTAINING 6"x6" 10 GA. WWF ADEQUATELY SUPPORTED. (UNDER NO CIRCUMSTANCE SHOULD WWF BE INSTALLED LESS THAN 2" FROM TOP OR BOTTOM OF SLAB).
 - SUBGRADE SHALL BE UNIFORM IN SOIL TYPE, MOISTURE CONTENT, AND DENSITY AND SHOULD BE SMOOTH PRIOR TO INSTALLATION OF CONCRETE.
 - JOINTS SHOULD BE LAID OUT IN SQUARE PANELS. WHEN THIS IS NOT PRACTICAL, RECTANGULAR PANELS CAN BE USED IF THE LONG DIMENSION IS NO MORE THAN 1-1/2 TIMES THE SHORT.
 - CONTROL JOINTS SHOULD HAVE A DEPTH OF AT LEAST ONE-FORTH THE SLAB THICKNESS.
 - JOINTS SHALL BE FREE OF DEBRIS AND FILLED WITH AN APPROPRIATE FILLER.
 - WHERE SHEETS OF WELDED WIRE FABRIC ARE TO ADJOIN, THEY SHALL BE OVERLAPPED A MINIMUM OF 12 INCHES AND BE ADEQUATELY LASHED TOGETHER WITH TIE-WIRE.
 - CONCRETE SLAB SHALL BE PREPARED, FORMED, POURED AND CURED IN ACCORDANCE WITH ACI 330.
 - PROPOSED JOINT LAYOUT AND SPACING ARE INCLUDED AS AN AID TO CONTRACTOR FOR A POTENTIAL JOINT LAYOUT. CONTRACTOR MAY USE ALTERNATE JOINT LAYOUT BASED ON SITE CONDITIONS. IN EITHER CASE, CONTRACTOR SHALL SUBMIT A JOINT PLAN FOR APPROVAL TO OWNER PRIOR TO COMMENCEMENT OF WORK.

REVISIONS

DRAWN: JS
DESIGNED: JS/RLS
CHECKED: RG
PROJECT # 1237.01

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CORNELIUS NEW OFFICE
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LAKELAND, FL 33812

ISSUED FOR

REVIEW	12.17.2025
PERMIT (WMD)	12.31.2025
PERMIT (CITY/COUNTY)	12.31.2025
BID	TBD
CONSTRUCTION	TBD

This item has been digitally signed and sealed by Rodney A. Gadd, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

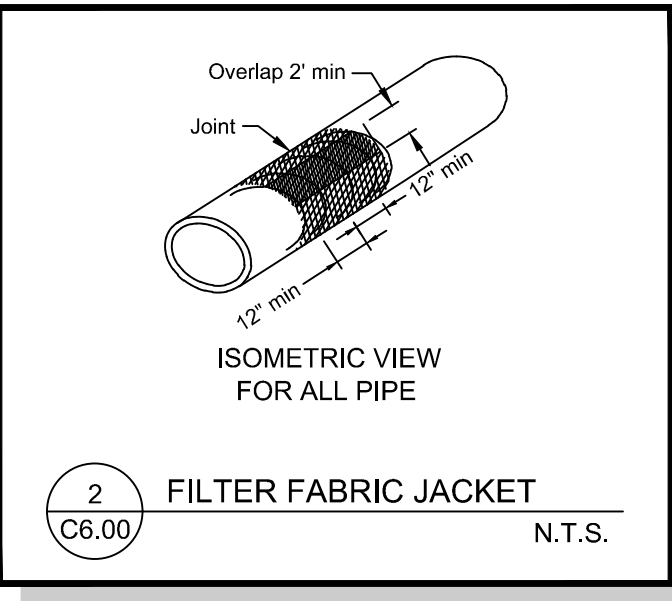
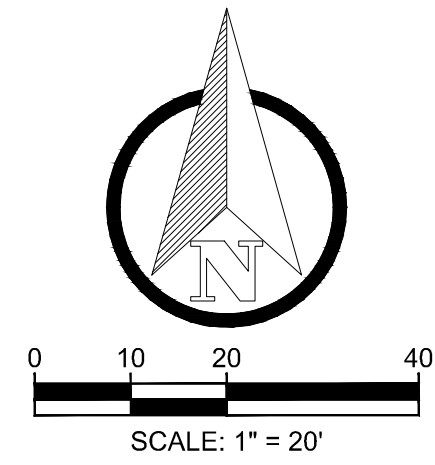
RODNEY A. GADD, P.E.
FLA. P.E. No. 70875

DATE

GEOMETRY PLAN

C5.00

FILENAME: X:\PROJECTS\1237.01 - CORNELIUS WELDING - New Office\DRAWINGS\ENGINEERING\1237.01-BASE.dwg
 PLOTTED: Wednesday, December 31, 2025 1:38:41 PM



- SITE SPECIFIC NOTES:**
- CONTRACTOR TO BECOME FAMILIAR WITH THE PROPOSED WORK SITE. ANY EXISTING FEATURES REMOVED OR DAMAGED BY CONSTRUCTION ACTIVITIES THAT IS NOT PART OF THIS CONTRACT SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
 - CONTRACTOR TO PROVIDE SMOOTH TRANSITIONS AT LOCATIONS WHERE PROPOSED FEATURES MEET EXISTING FEATURES. WHEN CONCRETE OR ASPHALT IS TO BE DEMOLISHED OR REPLACED, THE EXISTING CONCRETE OR ASPHALT IS TO BE SAW CUT.
 - ALL MEG ELEVATIONS, ROADWAY, AND UNDERGROUND STORM AND UTILITY PIPES SHOWN ARE APPROXIMATE. CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO ORDERING STRUCTURES.
 - CONTRACTOR TO SOD ALL DISTURBED AREAS UNLESS OTHERWISE NOTED ON PLANS WITH BAHIA SOD. IN SLOPED AREAS, THE SOD IS TO BE STAKED AS REQUIRED AND MONITORED FOR WASHOUTS. CONTRACTOR MAY REMOVE STAKES ONCE THE SOD IS ESTABLISHED.
 - CONTRACTOR TO CORRECT/REPAIR ANY DAMAGE CAUSED TO EXISTING UTILITIES (WATER, SEWER, COMMUNICATIONS, IRRIGATION, ETC.) CAUSED BY THEIR WORK.
 - THIS SITE IS INTENDED TO COMPLY WITH THE FLORIDA ACCESSIBILITY CODE AND ALL DOCUMENTS ADOPTED THEREIN. SHOULD THE CONTRACTOR DETERMINE THAT COMPLIANCE WITH THE STANDARDS IS NOT CONSISTENT WITH THE SITE PLAN OR ELEVATIONS, THEY SHALL NOTIFY ENGINEER IMMEDIATELY FOR A REMEDY. FEATURES CONSTRUCTED BY CONTRACTOR THAT ARE NOT IN COMPLIANCE WITH THE STANDARDS, SHALL BE RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE.

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: JS
 DESIGNED: JS/RLS
 CHECKED: RG
 PROJECT # 1237.01

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RODNEY A. GADD, P.E.
 FLA. P.E. No. 70875

DATE

GRADING & DRAINAGE PLAN

C6.00

