## CITE DATA

<u>S</u>	SITE DATA:						
1	THIS PROJECT CONSISTS OF MASTER STORMWATER, SITE AND UTILITY INFRASTRUCTURE FOR THE PHASED CONSTRUCTION OF TWO SEPARATE 3,500 SF MEDICAL OFFICE BUILDINGS ON A 1.20 ACRE SITE. THE STORMWATER/RUN-OFF CREATED BY THE NEW IMPERVIOUS WITHIN THE PROJECT BOUNDARY IS PROPOSED TO BE TREATED BY A DRY RETENTION SYSTEM. THERE IS WATER AND SEWER ADJACENT TO THE SITE TO SUPPORT THE IMPROVEMENTS. PHASE I STORMWATER TREATMENT IMPROVEMENTS HAVE BEEN DESIGNED AND SPECIFIED SEPARATELY TO MEET ALL STATE AND LOCAL REQUIREMENTS.						
2.	NAVEEN KUMAR 5462 EMMA COURT, MELBOURNE FL 32934  ERIN L 2615 E MELBOURNE TEL:	RUCTION ENGINEERING GROUP  JACKSON, P.E. EAU GALLIE BLVD., SUITE A DURNE, FLORIDA 32935  (321) 253-1221					
	AAL LAND SURVEYING SERVICES, INC.  3970 MINTON ROAD WEST MELBOURNE, FL 32904 TEL: (321) 768-8110  E-MAIL TOWNS	SHIP 28					
3	FAX: (321) 952-9771 SECTION 03						
	ADDRESS: 1616 S. APOLLO BOULEVARD, MELBOURNE FI	£ 32901 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
	PHASE I CALCULATED LOT COVERAGES: BUILDING COVER:	SQ. FOOTAGE         ACREAGE         PERCENT         3,500         11					
	OTHER IMPERVIOUS:	10,373 0.24 33					
	TOTAL IMPERVIOUS AREA: PERVIOUS AREA:	13,873 0.32 44 12.802 0.29 40					
	DRY RETENTION POND:	5,124 0.12 16					
	TOTAL AREA:	31,799 0.73 100					
	PHASE II LOT COVERAGES: BUILDING COVER:	SQ. FOOTAGE         ACREAGE         PERCENT           7,000         0.16         13					
	OTHER IMPERVIOUS:	18,092 0.42 35					
	TOTAL IMPERVIOUS AREA: PERVIOUS AREA:	25,092 0.58 48 <b>{</b> 18,639 0.42 - 36					
	DRY RETENTION POND:	8,328 0.19 16					
	TOTAL AREA:	52,059 1.19 100 A					
	SETBACKS: REQUIRED PROPOSED PH FRONT: 25 FT 87.5 FT	87.5 FT					
	SIDE INTERIOR: 0 FT 174.4 FT SIDE CORNER: 20 FT 56.1 FT REAR: 20 FT 35.4 FT	39.4 FT - 35.4 FT					
	DIRECTION ZONING						
	NORTH C-1 SOUTH C-1A						
	EAST ROW WEST I—1	,					
	BUILDING HEIGHT MAX: 40'.  PROPOSED PHASE I BUILDING HEIGHT: SINGLE STORY	+20'					
	ACCORDING TO F.I.R.M. #12009C 0528 E, DATED APRI	1-					
_	PROPERTY IS LOCATED WITHIN FLOOD ZONE X.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
<b>\}</b>	PARKING SPACE CALCULATIONS:  PHASE 1:	}					
}	3,500 SF MEDICAL OFFICE 10% STORAGE REDUCTION (350 SF) = 3,150 SF	}					
<b>}</b>	MEDICAL OFFICE:  3,150 SF / 175 = 18 SPACES REQUIRED						
<b>}</b>	TOTAL REQUIRED PARKING SPACES = 18 PARKING SPACES INCLUDING 1 HANDICAP PARKING SPACE TOTAL PROVIDED PARKING SPACES = 19 PARKING SPACES INCLUDING 2 HANDICAP PARKING SPACES						
<b>}</b>	PHASE II (BUILD-OUT):	}					
<b>\\</b>	7,000 SF MEDICAL OFFICE 10% STORAGE REDUCTION (700 SF) = 6,300 SF	}					
}	MEDICAL OFFICE:  6,300 SF / 175 = 36 SPACES REQUIRED  TOTAL REQUIRED PARKING SPACES = 36 PARKING SPACE	ES INCLUDING 2 HANDICAD BARKING SPACES					
<u>{</u>	TOTAL REQUIRED PARKING SPACES = 36 PARKING SPACES INCLUDING 2 HANDICAP PARKING SPACES  TOTAL PROVIDED PARKING SPACES = 36 PARKING SPACES INCLUDING 3 HANDICAP PARKING SPACES  NOTE THAT THE NUMBER OF PARKING SPACES PROVIDED WILL SUPPORT TWO POSTORS IN EACH						
<b>}</b>	NOTE THAT THE NUMBER OF PARKING SPACES PROVIDED WILL SUPPORT TWO DOCTORS IN EACH BUILDING OR A TOTAL OF FOUR DOCTORS BETWEEN THE TWO BUILDINGS.						
<b>)</b> 5	FIRE FLOW CALCULATIONS:  PHASE 1:	}					
}	3,500 SF BUILDING; C=1.0	}					
{	EXPOSURE DISTANCE: WEST = 85 LF (10%)	}					
<b>\</b>	TOTAL FLOW: $(3,500 \text{ SF}^0.5)(18)(0.8) = 852 \text{ GPM} $ $10\% \times 852 = 86 + 852 = 938 \text{ GPM}$	}					
<b>}</b>	1 HYDRANTS REQUIRED 1 EXISTING FIRE HYDRANT (SEE DRAWING C-1 FOR DISTA	rance)					
{	PHASE II (BUILD-OUT):						
}	3,500 SF BUILDING; C=1.0  EXPOSURE DISTANCE: WEST = 85 LF (10%), NORTH = 63 LF (10%)						
<b>}</b>	TOTAL FLOW: $(3,500 \text{ SF}^{\circ}0.5)(18)(0.8) = 852 \text{ GPM}$ $20\% \times 852 = 170 + 852 = 1022 \text{ GPM}$ 1 HYDRANTS REQUIRED	1					
(	1 EXISTING FIRE HYDRANT (SEE DRAWING C-1 FOR DISTA	TANCE)					

# DR. KUMAR MEDICAL OFFICE

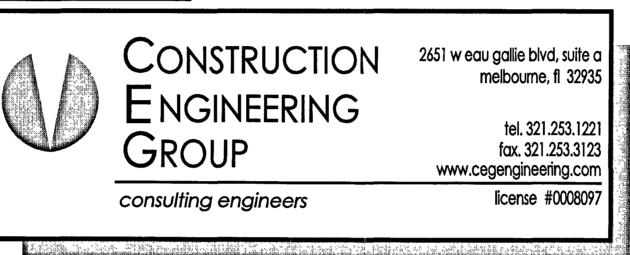
## MELBOURNE, FLORIDA

MARCH 17, 2011

PREPARED FOR:

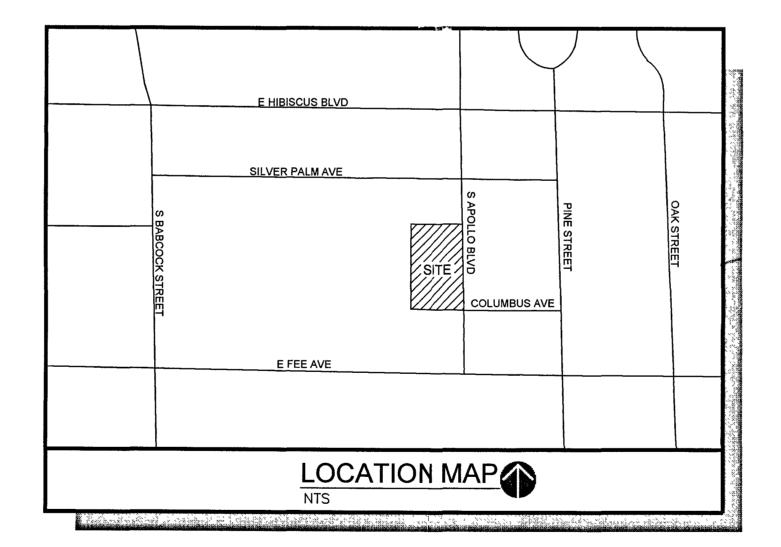
## DR. KUMAR

## PREPARED BY:



## **LEGAL DESCRIPTION:**

LOTS 1-6, ARMSTRONG SUBDIVISION, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 4, PAGE 20, AND LOT 5, MAPLE COURT, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 4, PAGE 22, ALL OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.



## **CONTRACTOR SIGN-OFF / ACKNOWLEDGEMENT:**

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE IDENTIFIED AS PART OF THIS CERTIFICATION.					
SIGNATURE	COMPANY NAME AND ADDRESS	RESPONSIBLE FOR			
SIGNATURE: NAME: DATE:	COMPANY: ADDRESS:	GENERAL CONTRACTOR			
SIGNATURE: NAME: DATE:		TEMPORARY AND PERMANENT STABILIZATION			
SIGNATURE: NAME: DATE:		STABILIZED CONSTRUCTION ENTRANCE, EARTH DIKES, SEDIMENT BASIN			

## Plans Approved as Noted:

The construction plans received June 23, 2011 for **Dr. Kumar Medical Office** – City project **#IF-11-05**, at 1616 S. Apollo Blvd., have been approved with the following stipulation:

If the sidewalk is constructed on private property a sidewalk easement shall be provided required prior to issuance of the Certificate of Occupancy.

Any changes to these plans must first be approved by the City Engineer.

set aside any of the provisions of city codes, nor shall such issuance of this approval prevent the City Engineer from thereafter requiring a correction of errors in plans or in construction or of violations of the city codes



## **CIVIL INDEX OF DRAWINGS:**

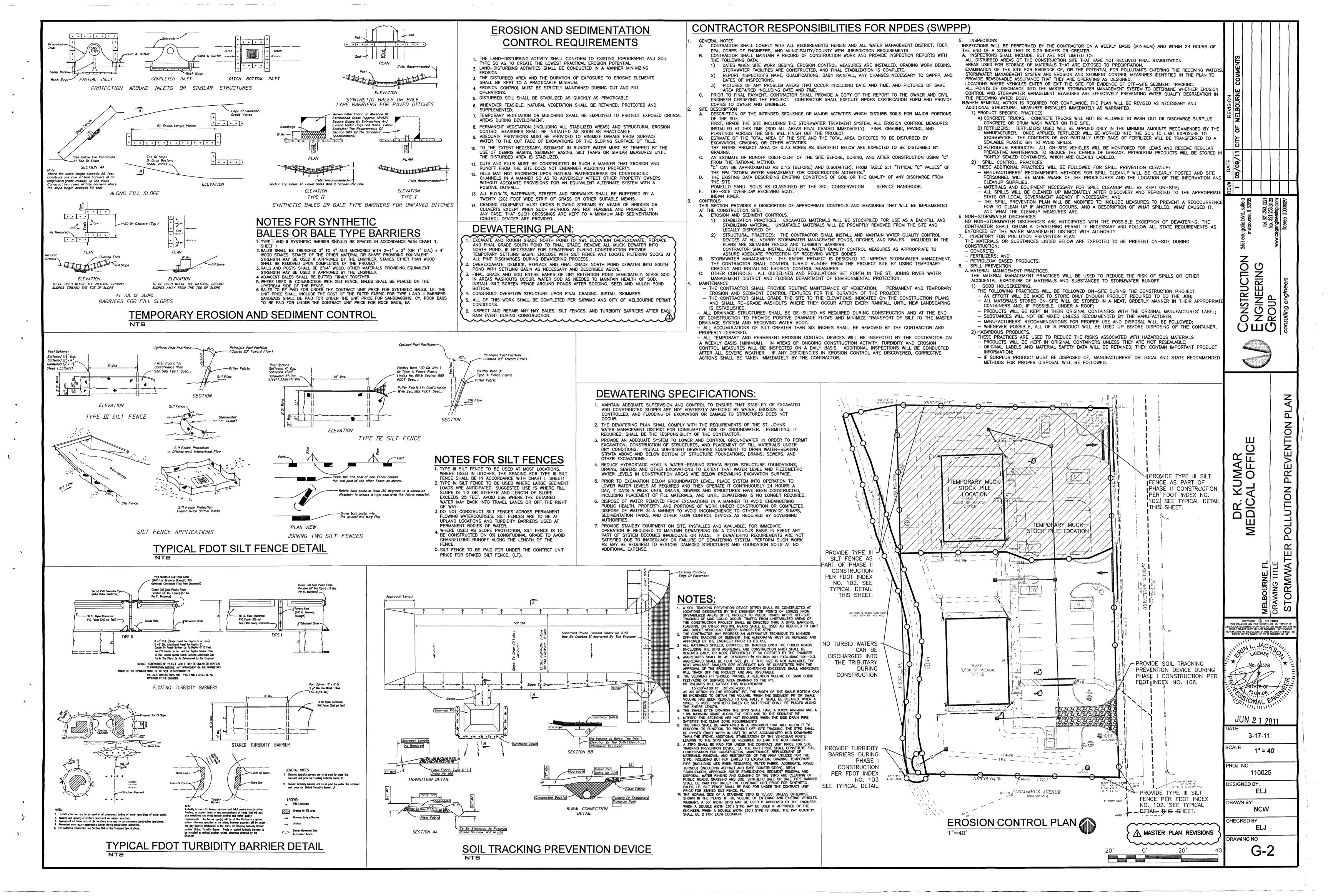
G-1	CIVIL COVER SHEET
G-2	STORMWATER POLLUTION PREVENTION PLAN
C-1	EXISTING CONDITIONS AND DEMOLITION PLAN
C-2	SITE AND UTILITY PLAN
C-3	GRADING AND DRAINAGE PLAN
C-4	DETAILS
C-5	DETAILS
C-6	DETAILS
C-7	DETAILS
C-8	SPECIFICATIONS
L-1	LANDSCAPE PLAN
_	SURVEY

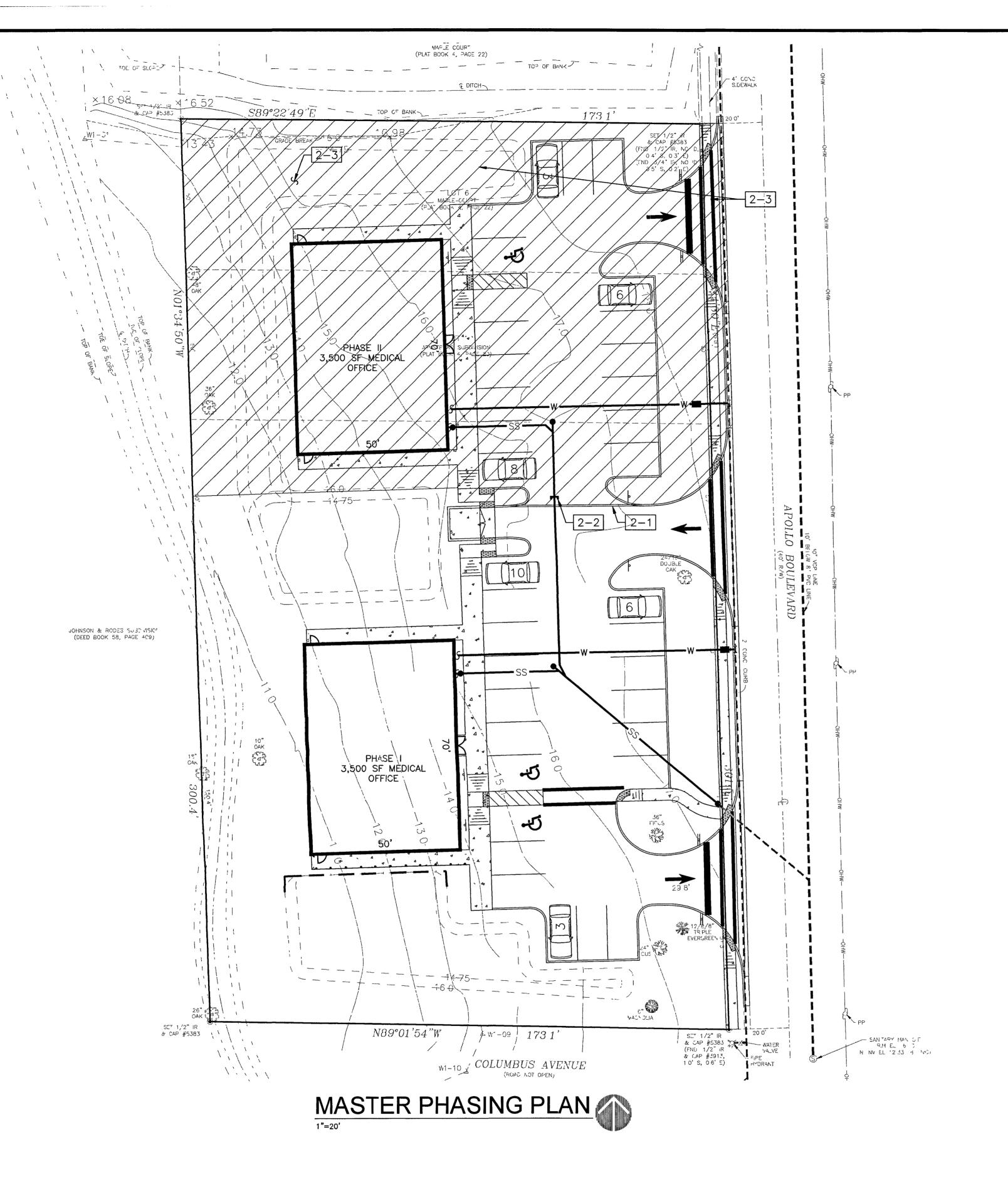
Dr. Kumar Medical Office - City project #IF-11-05

CIVIL LEGEND:		
DESCRIPTION		
BUILDING OR STRUCTURE		~
CONCRETE WALK OR PAD		4 4 4
ASPHALTIC DRIVE	, postante s	
DEMOLITION		
WETLAND IMPACT		
HANDICAP ACCESSIBLE RAMP WITH TRUNCATED DOME		-   0000
SILT FENCE		$\overline{}$
POND		
SANITARY SEWER		SS
WATERLINE		
STORM DRAIN W/ INLET		SD-
SPOT ELEVATION		9.00
SWALE OR FLOW DIRECTION		<b>-</b> ₩ <del>-</del>
EXISTING ELEVATION		X
EXISTING MANHOLE		
EXISTING WATERLINE		
LAISTING WAILINE		12"
TREE TO BE REMOVED		
TREE TO BE PRESERVED		12" RECEIVED
SOIL BORING		B-1 JN 23 ***
		ENGIN LETING DEFINE LINT

KUMAF AL OFF

DESIGNED BY DRAWN BY CHECKED BY DRAWING NO. G-1





PHASING LEGEND:

PHASE II IMPROVEMENTS

## NOTES:

- 2-1. PROVIDE FDOT TYPE 'D' CURB IN PHASE I CONSTRUCTION BE REMOVED DURING PHASE II IMPROVEMENTS. SEE DRAWING C-2 FOR SITE SPECIFICATIONS AND DETAILS.
- 2-2. PROVIDE SANITARY SEWER STUB OUT TO NORTH PROPERTY. PROVIDE A CAP AT THE END OF THE STUB OUT TO BE REMOVED FOR CONNECTION FOR THE FUTURE PHASE. SEE DRAWING
- C-2 FOR SITE SPECIFICATIONS.

  2-3. NO DEMOLITION TO OCCUR IN PHASE II AREA UNTIL OWNERS DESIRED COMMENCEMENT OF FUTURE CONSTRUCTION.

CONSTRUCTION ENGINEERING GROUP

A'R ECI DR. KUMAF MEDICAL OFF

DRAWING TITLE
MASTER PHASING PLAN

JUN 21 2011

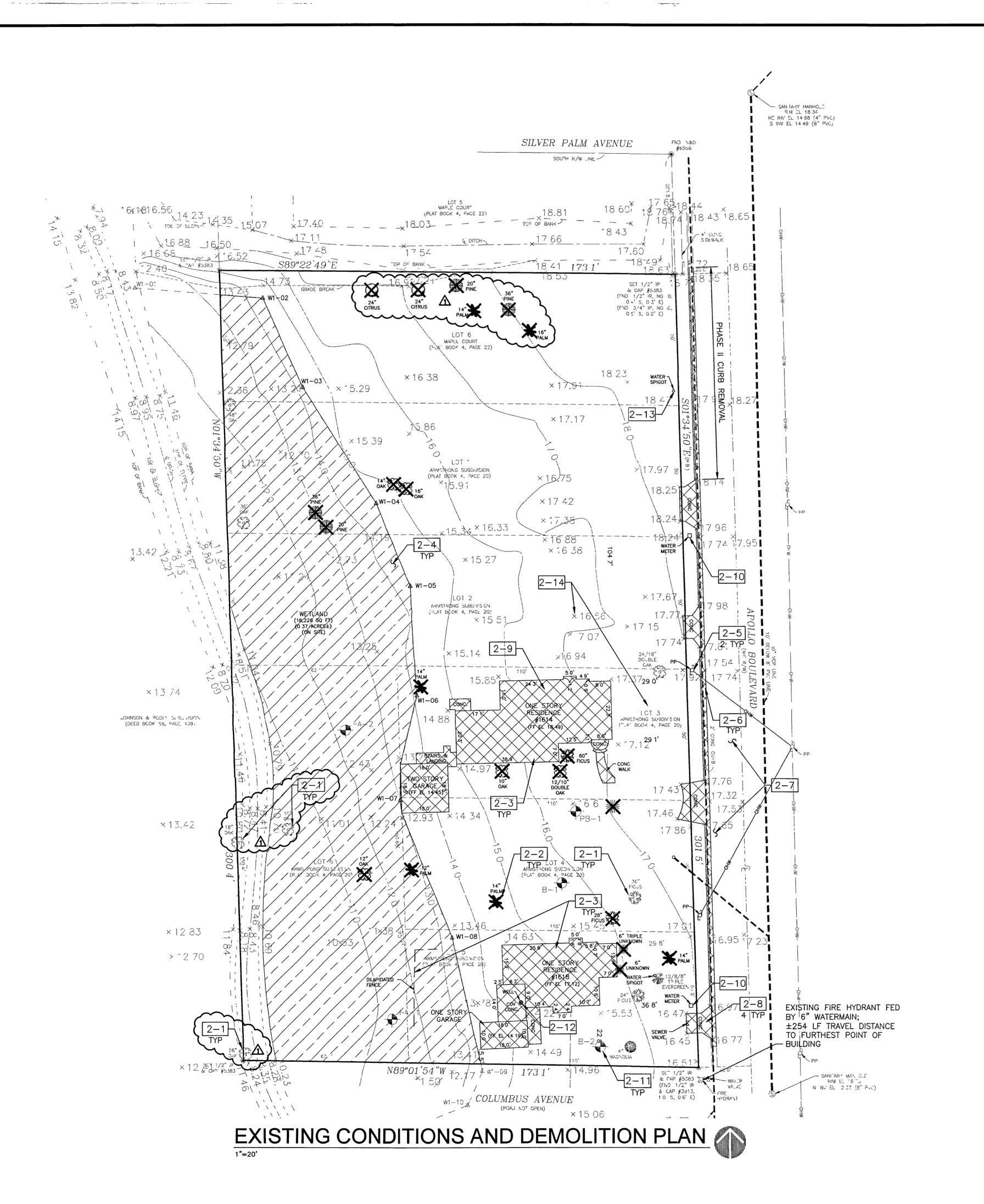
3-17-11 SCALE 1"=20'

PROJ NO 110025

DESIGNED BY. ELJ DRAWN BY

NCW CHECKED BY ELJ

DRAWING NO G-3



- 2-1. PRESERVE EXISTING TREE AND PROVIDE TREE PROTECTION PER TYPICAL DETAIL.
- REMOVE EXISTING TREE AND ROOT SYSTEM IN ITS ENTIRETY.

POLE, OVERHEAD WIRE AND GUY WIRE.

- 2-3. REMOVE ALL EXISTING ABOVE GROUND STRUCTURES ON-SITE. 2-4. ALL ON-SITE WETLANDS SHALL BE IMPACTED UP TO DITCH TOP OF BANK. DO NOT
- DISTURB DITCH. OVEREXCAVATE AND REMOVE ALL ORGANICS AND MUCK SITE WIDE. 2-5. CONTRACTOR SHALL COORDINATE WITH FPL AND OWNER THE REMOVAL OF POWER
- 2-6. REMOVE EXISTING CURB AND GUTTER FROM NEAREST JOINT TO NEAREST JOINT TO THE EXTENT THAT NO REMAINING SECTION SHALL BE LESS THAN 5' AS NECESSARY FOR THE PROPOSED IMPROVEMENTS, SAWCUT FOR SMOOTH STRAIGHT EDGE. DO NOT DISTURB MAINLINE BASE.
- 2-7. PROVIDE MAINTENANCE OF TRAFFIC FOR VEHICLES PER TYPICAL DETAILS FOR ALL WORK IN RIGHT OF WAY. SEE TYPICAL DETAIL.
- 2-8. REMOVE EXISTING DRIVEWAY. SAWCUT FOR SMOOTH STRAIGHT EDGE. DO NOT DISTURB MAINLINE BASE.
- 2-9. CUT AND CAP EXISTING SANITARY SEWER SERVICE TO THE EXISTING STRUCTURE AT PROPERTY LINE WITH WATER TIGHT CAP. REMOVE EXTENT OF SERVICE LINE LOCATED ON-SITE TO RESIDENCE. LOCATION WILL NEED TO BE EXPOSED FOR THE CITY INSPECTOR TO CHECK IF THEY HAVE WATER TIGHT CAPS.
- 2-10. CUT AND CAP ALL EXISTING WATER SERVICE AT CORPORATION STOP AT THE MAIN TO THE SITE AT PROPERTY LINE WITH WATER TIGHT CAP. TURN OFF VALVE TO LINE IF EXISTS. REMOVE EXTENT OF SERVICE LINE LOCATED ON-SITE. LOCATION WILL NEED TO BE EXPOSED FOR THE CITY INSPECTOR TO CHECK IF THEY HAVE WATER TIGHT CAPS. CONTRACTOR TO RETURN WATER METER TO CITY AND PROVIDE OWNER WITH ANY REFUND RECEIVED.
- 2-11. APPROXIMATE LOCATION OF SOIL BORINGS COMPLETED BY KELLER, SCHLEICHER & MACWILLIAMS ENGINEERING AND TESTING, INC. ON MARCH 15, 2011.
- 2-12. GROUT AND CAP EXISTING WELL PER FDEP REQUIREMENTS. CONTRACTOR TO COMPLETE WORK MUST BE A LICENSED CONTRACTOR AND MUST OBTAIN ALL PERMIT APPROVALS.
- 2-13. REMOVE OR RELOCATE EXISTING WATER SPIGOT PER OWNERS SPECIFICATIONS.

NOTIFY ENGINEERING IF CONTRACTOR WANTS TO USE FOR IRRIGATION.

2-14. SEE DRAWING G-3 FOR PHASING NOTES.

## SURVEYOR'S NOTES

SURVEYOR'S NOTES

MEASURED

CENTERLINE

R/W - RIGHT OF WAY

DRAINAGE

EASEMENT - FINISH FLOOR ELEVATION DELTA

PUBLIC UTILITY

RADIUS

(N.R.) - NON RADIAL N&D - NAIL AND DISK

P.O.L. - POINT ON LINE

CONC.- CONCRETE

ASPH. - ASPHALT

ARC LENGTH

(B.B.) - BASIS OF BEARING

PRM - PERMANENT REFERENCE MARKER

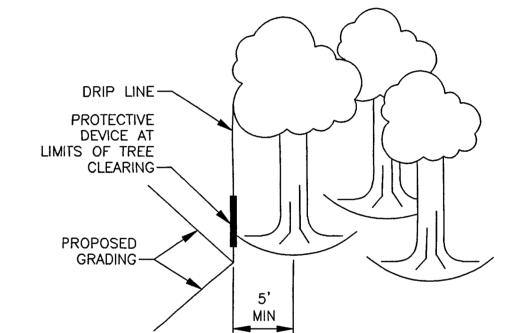
C.M. - CONCRETE MONUMENT

DEED

I.P. - IRON PIPE

FND. — FOUND I.R. - IRON ROD

- 1. THIS SURVEY AND DRAWING HAVE BEEN PREPARED TO CONFORM WITH APPLICABLE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN CHAPTER 61G17- 6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
- 2. THIS SURVEY IS FOR THE SOLE BENEFIT OF THE PARTIES NAMED HEREON AND FOR THE SPECIFIC PURPOSE NOTED, AND SHOULD NOT BE RELIED UPON BY ANY OTHER ENTITY, AND IS NOT TRANSFERABLE UNDER ANY CIRCUMSTANCES.
- 3. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR, AND REPRODUCTION OF THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE SURVEYOR IS HEREBY FORBIDDEN.
- 4. NO OPINION OF TITLE OR OWNERSHIP IS HEREBY EXPRESSED OR IMPLIED BY THE SURVEYOR.
- 5. THIS SURVEY WAS PREPARED FROM INFORMATION FURNISHED TO THE SURVEYOR BY THE CLIENT, AND MAY BE SUBJECT TO EASEMENTS OR LIMITATIONS EITHER RECORDED OR IMPLIED.
- 6. BEARINGS ARE BASED ON ASSUMED DATUM AND ON THE LINE SHOWN AS BEING THE BASIS OF BEARINGS.
- 7. NO UNDERGROUND IMPROVEMENTS HAVE BEEN LOCATED UNLESS OTHERWISE SHOWN.
- 8. ELEVATIONS, IF SHOWN, ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, UNLESS OTHERWISE NOTED.



PROVIDE PROTECTIVE DEVICES WHICH WILL EFFECTIVELY PROTECT THE ROOTS, TRUNK, AND TOPS OF TREES RETAINED ON-SITE. THIS DEVICE SHALL BE FIELD FENCE, BOARD FENCE, CORD FENCE OR EQUAL AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TYPICAL TREE PROTECTION DETAIL

ONSTRUCTION NGINEERING ROUP



KUMA AL OFF DR. MEDIC

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REPROJUCTIONS OF MODIFICATIONS OF THESE DOCUMENTS WITHOUT
EXPRESS WRITTEN CONSENT OF CEG IS PROHIBITED BY LAW JUN 2 1 201

3-17-11 SCALE

1"=20' PROJ NO 110025

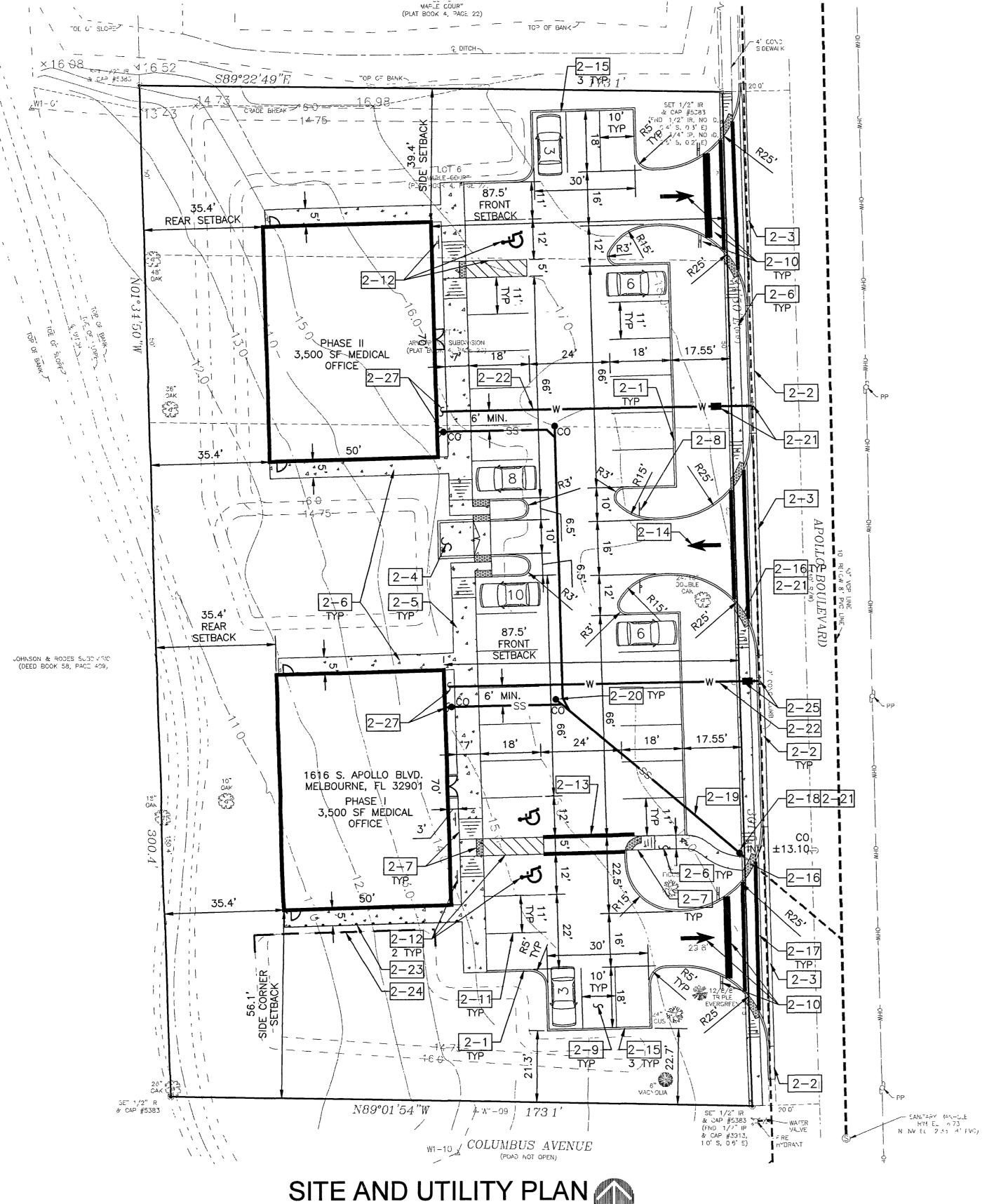
DESIGNED BY ELJ DRAWN BY

CHECKED BY ELJ

DRAWING NO

NCW

**U**-



## NOTES:

- 2-1. PROVIDE FDOT TYPE 'D' CURB PER FDOT INDEX NO. 300. SEE TYPICAL DETAIL. PROVIDE FDOT TYPE 'F' CURB PER FDOT INDEX NO. 300. SEE TYPICAL DETAIL.
- 2-3. PROVIDE VALLEY GUTTER. SEE TYPICAL DETAIL 2-4. PROVIDE FENCED DUMPSTER ENCLOSURE. SEE TYPICAL DETAIL.
- 2-5. PROVIDE RAISED CONCRETE SIDEWALK. SEE TYPICAL DETAIL.
- 2-6. PROVIDE CONCRETE SIDEWALK. SEE TYPICAL DETAIL. 2-7. PROVIDE 6' LONG MINIMUM 6" RISE HANDICAP ACCESSIBLE RAMP WITH BRICK RED TRUNCATED
- DOMES. SEE TYPICAL DETAIL.
- 2-8. PROVIDE 'DO NOT ENTER' SIGN PER MUTCD R5-1.
  2-9. PROVIDE ON-SITE CONCRETE PAVEMENT. SEE TYPICAL DETAIL.
  2-10. PROVIDE 30"x30" 'STOP' SIGN PER MUTCD R1-1 WITH 30"X30" 'DO NOT ENTER' SIGN PER MUTCD R5-1 ON BACK OF STOP SIGN ON EACH SIDE OF DRIVEWAY, WHITE THERMOPLASTIC 24" WIDE STOP BAR AND DIRECTIONAL ARROWS PER FDOT INDEX NO. 17346. SEE TYPICAL DETAIL.
- 2-11. PROVIDE 4" PAINTED WHITE STRIPE PER FDOT INDEX NO. 17346. 2-12. PROVIDE HANDICAP PARKING SPACE. SEE TYPICAL DETAIL.
- 2-13. PROVIDE PAINTED WHITE CROSSWALK ON-SITE WITH 12" WIDE PARALLEL STRIPES PER FDOT INDEX NO. 17346.
- 2-14. PROVIDE THERMOPLASTIC WHITE DIRECTIONAL ARROW PER FDOT INDEX NO. 17346. 2-15. PROVIDE EMPLOYEE PARKING ONLY PAINTED ON FACE OF CURB.
- 2-16. PROVIDE TRUNCATED DOMES BRICK RED IN COLOR. SEE TYPICAL DETAIL.

  2-17. PROVIDE THERMOPLASTIC WHITE CROSSWALK IN RIGHT-OF-WAY WITH 12" WIDE PARALLEL STRIPES

PER FDOT INDEX NO. 17346.
2-18. TIE INTO EXISTING SANITARY SEWER LINE. CONTRACTOR SHALL INSTALL NEW SANITARY SEWER CLEANOUT AT PROPERTY LINE. REPLACE EXISTING SANITARY SEWER LINE TO PROPERTY LINE. CONTRACTOR SHALL FIELD VERIFY SANITARY SEWER LINE LOCATION AND ELEVATIONS PRIOR TO

MATERIAL ORDER. CONTACT THE ENGINEER OF RECORD WITH ANY LOCATION OR ELEVATION CHANGES.

2-19. PROVIDE ± 229 LF OF 4" PVC SANITARY SEWER LINE AT MINIMUM 1% SLOPE.

ALL CLEANOUTS IN PAVEMENT. SEE TYPICAL DETAIL.

2-21. CITY OF MELBOURNE POINT OF ACCEPTANCE WILL BE THE CLEANOUT AT THE PROPERTY LINE

2-22. PROVIDE ±94 LF OF 2" PVC POTABLE WATER LINE PER CITY OF MELBOURNE REQUIREMENTS.

2-23. PROVIDE HANDRAIL. SEE TYPICAL DETAIL

·2-25. PROVIDE 6"X2" WET TAP, 2" GATE VALVE WITH 2" REDUCED PRESSURE BACKFLOW PREVENTER AND 1.5" WATER METER PER CITY OF MELBOURNE REQUIREMENTS. SEE TYPICAL DETAILS. PROVIDE 2"

COPPER WATER LINE FROM THE WET TAP AT THE CITY OF MELBOURNE WATER MAIN TO THE METER. 2-26. END OF PHASE I SIDEWALK. REMAINDER OF SIDEWALK TO THE NORTH TO BE CONSTRUCTED AT TIME

2-27. SEE PLUMBING DRAWINGS FOR CONTINUATION.

GENERAL NOTES: (ALL DRAWINGS)

1. SEE TYPICAL DETAILS ON FOLLOWING SHEETS FOR ADDITIONAL CONSTRUCTION DETAIL INFORMATION. 2. CONTRACTOR SHALL BECOME FAMILIAR AND COMPLY WITH ALL PERMITS AND PERMIT CONDITIONS. CONTRACTOR SHALL OBTAIN FROM CEG OR ALL PERMIT AGENCIES IDENTIFIED IN SPECIFICATIONS PRIOR TO COMMENCING SITE WORK.

3. ALL AREAS DISTURBED OFF-SITE SHALL BE RESTORED TO EQUAL OR BETTER CONDITION THAN PRE-CONSTRUCTION WITH SAME TYPE OF SOD AS EXISTING.

4. CONTRACTOR SHALL COMPLY WITH ALL RECOMMENDATIONS OF KSM EXPLORATION REPORT FOR THIS

SITE. CONTRACTOR SHALL OBTAIN FROM CEG OR THE GEOTECHNICAL COMPANY, SLOPE ALL SIDEWALKS TO FLOW AWAY FROM BUILDING WITH MAXIMUM 2% CROSS SLOPE.

6. PROVIDE CONSTANT SLOPE BETWEEN ALL SPOT ELEVATIONS.

7. UTILITY LENGTHS ARE APPROXIMATE BASED ON FIELD OBSERVATIONS AND AS-BUILT DRAWINGS. CONTRACTOR SHALL VERIFY EXACT LOCATION, SIZE, DEPTH, AND MATERIAL OF EXISTING UTILITIES. PROVIDE ADDITIONAL PIPING AND FITTINGS AS NECESSARY. NOTIFY ENGINEER OF SIGNIFICANT

8. NOTIFY ENGINEER MINIMUM 72 HOURS (WEEKDAYS) PRIOR TO MAKING UTILITY CONNECTIONS OR BACK FILLING UTILITY TRENCHES FOR INSPECTION. IF NOT NOTIFIED CONTRACTOR SHALL EXPOSE LINES PER ENGINEER'S REQUEST FOR INSPECTIONS.

9. ALL TRAFFIC SIGNS SHALL BE INSTALLED PER STANDARD FDOT INDEX NOS. 11865 AND 17302.

ALL RADII ARE 5' UNLESS IDENTIFIED OTHERWISE. 11. PROVIDE 36" LONG TRANSITION WITH CONSTANT SLOPE FROM TOP OF CURB TO GRADE AT

TERMINATION POINT OF CURBS 12. ALL DIMENSIONS ARE TO FACE OF CURB.

13. CONTRACTOR SHALL CLEAR AND GRUB ALL VEGETATION ON-SITE EXCEPT TREES SHOWN TO REMAIN ON 14. PROVIDE SILT FENCE PER FDOT INDEX NO. 102 ALONG ENTIRE PERIMETER OF PROJECT AREA

EXCLUDING ENTRANCE DRIVEWAYS. 15. ALL WASTE SHALL BE DISPOSED OF OFF-SITE IN A SAFE AND LEGAL MANNER UNLESS OWNER

SPECIFICALLY REQUESTS OTHERWISE. 16. FOR DEMOLITION OF ALL ASPHALT AND CONCRETE MATERIALS, SAWCUT EDGES FOR SMOOTH STRAIGHT EDGE. ALSO SAWCUT ALL EXISTING PAVEMENT EDGES FOR SMOOTH STRAIGHT EDGE AT ALL TIE-IN

POINTS WITH NEW PAVEMENT OR CONCRETE. 17. PROVIDE HANDICAP ACCESSIBLE CONNECTION WITH TRUNCATED DOMES AT TERMINATION POINT OF ALL

SIDEWALKS ADJACENT TO DRIVING LANES/PARKING PLACES PER FDOT STANDARD INDEX NO. 304. CONTRACTOR SHALL VERIFY ON-SITE PRIOR TO BIDDING WORK THE FULL EXTENT OF DEMOLITION REQUIRED BASED ON SITE PLAN CONSTRUCTION DRAWINGS. ALL ITEMS SHALL BE INCLUDED IN BASE

19. REMOVE ALL ABOVE GROUND IMPROVEMENTS IN AREAS SHOWN FOR DEMOLITION UNLESS SPECIFICALLY IDENTIFIED OTHERWISE.

20. SEE ARCHITECTURAL DRAWINGS FOR BUILDING LAYOUTS AND MECHANICAL/PLUMBING DWGS FOR EXACT UTILITY CONNECTION LOCATIONS.

21. ALL SLOPES 4H:1V OR STEEPER SHALL BE SODDED. ALL SLOPES STEEPER THEN 3H:1V SHALL BE SODDED AND STAKED.

22. CONTRACTOR SHALL PROVIDE ALL FITTINGS REQUIRED TO INSTALL UTILITIES PER PLAN. 23. CONTACT UNDERGROUND UTILITIES LOCATE BEFORE COMMENCING ANY DIGGING A MINIMUM OF 48

HOURS IN ADVANCE AT 1-800-432-4770. 24. VERIFY THAT THE LANDSCAPE WORK IS COORDINATED WITH ALL UTILITIES AND STORMWATER SYSTEMS. A MINIMUM OF FIVE (5) FOOT HORIZONTAL SEPARATION BETWEEN TREES AND BURIED, AERIAL, OR GRADE-MOUNTED UTILITY SYSTEMS IS REQUIRED.

25. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PUBLIC ROADWAYS, EASEMENTS, CURBS, SIDEWALKS, DRAINAGE SYSTEM, BENCHMARKS, OR UTILITIES AS A DIRECT RESULT OF CONSTRUCTION. A REGISTERED SURVEYOR SHALL RESTORE ANY DAMAGED BENCHMARKS.

26. ALL EXCAVATIONS OF GREATER DEPTH THAN 5' SHALL COMPLY WITH THE CURRENT OSHA TRENCH SAFETY STANDARDS 29 C.F.R. s. 1926.650 SUBPART P. ANY EXCAVATION WITHIN THE CLEARZONE SHALL ALSO COMPLY WITH ALL WARNING AND/OR BARRIER REQUIREMENTS OF FDOT INDEX NO. 600 (SEE TYPICAL DETAIL).

27. STORM DRAIN CLEAN OUT SHALL MATCH SANITARY SEWER CLEAN OUT DETAIL.

28. CONSTRUCTION ENGINEERING GROUP DOES NOT WARRANT THE ACCURACY OF THE RECORD SURVEY. 29. GRADING ADJACENT TO BUILDINGS SHALL BE 6" BELOW FINISHED FLOOR UNLESS IDENTIFIED

OTHERWISE BY ARCHITECT OR ON GRADING PLANS. 30. ALL STOP SIGNS SHALL BE 30"x30" HIGH INTENSITY OR DIAMOND GRADE PER MUTCD R1-1. SEE

STORMWATER PIPE JOINTS MUST BE WRAPPED WITH TYPAR WRAP WITH A MINIMUM OVERLAP OF 12" SEE TYPICAL DETAIL.

32. THERE WILL BE NO UTILITY LATERALS, METER BOXES, OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.

33. ALL WATER DISTRIBUTION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF MELBOURNE TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF WATER DISTRIBUTION SYSTEMS (1998). 34. ALL SEWER COLLECTION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF MELBOURNE

FEBRUARY 1998 SPECIFICATIONS. 35. CONTRACTOR TO PROVIDE STABILIZED ALL-WEATHER TURNAROUND AREA DURING CONSTRUCTION FOR

ALL SIGNS TO BE SHEETED WITH HIGH-INTENSITY OR BETTER REFLECTIVE SHEETING.

37. ALL 10-FOOT PARKING SPACES MUST BE SIGNED OR PAINTED "EMPLOYEE ONLY" ON FACE OF

38. ANY DEBRIS ENTERING THE CITY SEWER SYSTEM WILL NEED TO BE REMOVED AT THE CONTRACTORS

39. IF THE SEPARATION BETWEEN A STORM PIPE AND SEWER LINE WITH STORM ABOVE SEWER IS LESS THAN 18", THE SEWER PIPE MUST BE UPGRADED WITH A 20' STICK OF C-900 GREEN IN COLOR. CONCRETE SADDLES MUST SUPPORT THE STORM PIPE.

40. LANDSCAPING IS REQUIRED ON THREE SIDES OF THE DUMPSTERS.

41. MAXIMUM ELEVATION CHANGE AT THE ACCESSIBLE DOORS SHALL NOT EXCEED 1/4". 42. ANY AREAS OFF-SITE MUST BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN

PRE-CONSTRUCTION. MATCH EXISTING GRASS TYPE WITH NEW SOD FOR ALL DISTURBED AREAS. 43. ALL INVASIVE AND NON-NATIVE TREES MUST BE REMOVED

44. IF 3' OF COVER CANNOT BE MAINTAINED OVER THE SANITARY SEWER LINE, THE SEWER LINE MUST

BE UPGRADED TO C-900 GREEN IN COLOR. 45. THIS IS A PRIVATE SEWER SYSTEM. THE CITY'S POINT OF ACCEPTANCE IS THE CLEANOUT ON THE PROPERTY LINE.

46. ALL STREETS AND STORMWATER CONSTRUCTION SHALL BE ACCORDANCE WITH CITY OF MELBOURNE TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF STREETS, PAVING AND DRAINAGE SYSTEMS (1991).

47. ALL DRAINAGE SYSTEMS WILL BE PRIVATELY MAINTAINED ON-SITE.

48. PROVIDE TRUNCATED DOMES AND TACTILE SURFACE ON FULL LENGTH OF ALL RAMPS PER FLORIDA

BUILDING CODE REQUIREMENTS. SEE TYPICAL DETAILS.

49. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, MATERIALS, AND SIZES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

ONSTRUCTION NGINEERING ROUP



R II ₹ PA DR.

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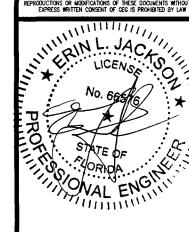
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IIIN 9 1 2011 3-17-11 SCALE

1"=20' PROJ NO . 110025

DESIGNED BY ELJ DRAWN BY

CHECKED BY. ~~~~~ MASTER PLAN REVISIONS DRAWING NO

NCW

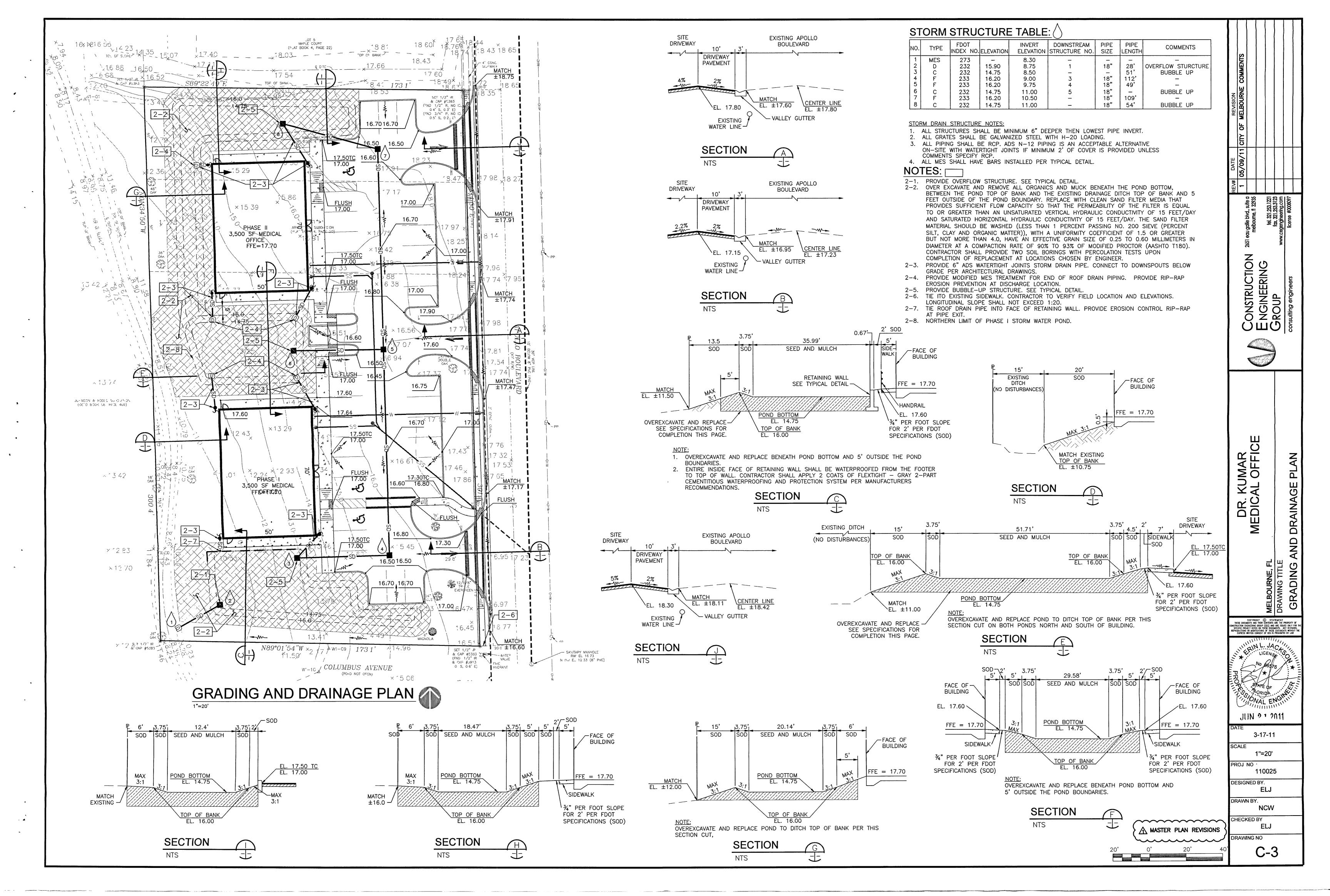
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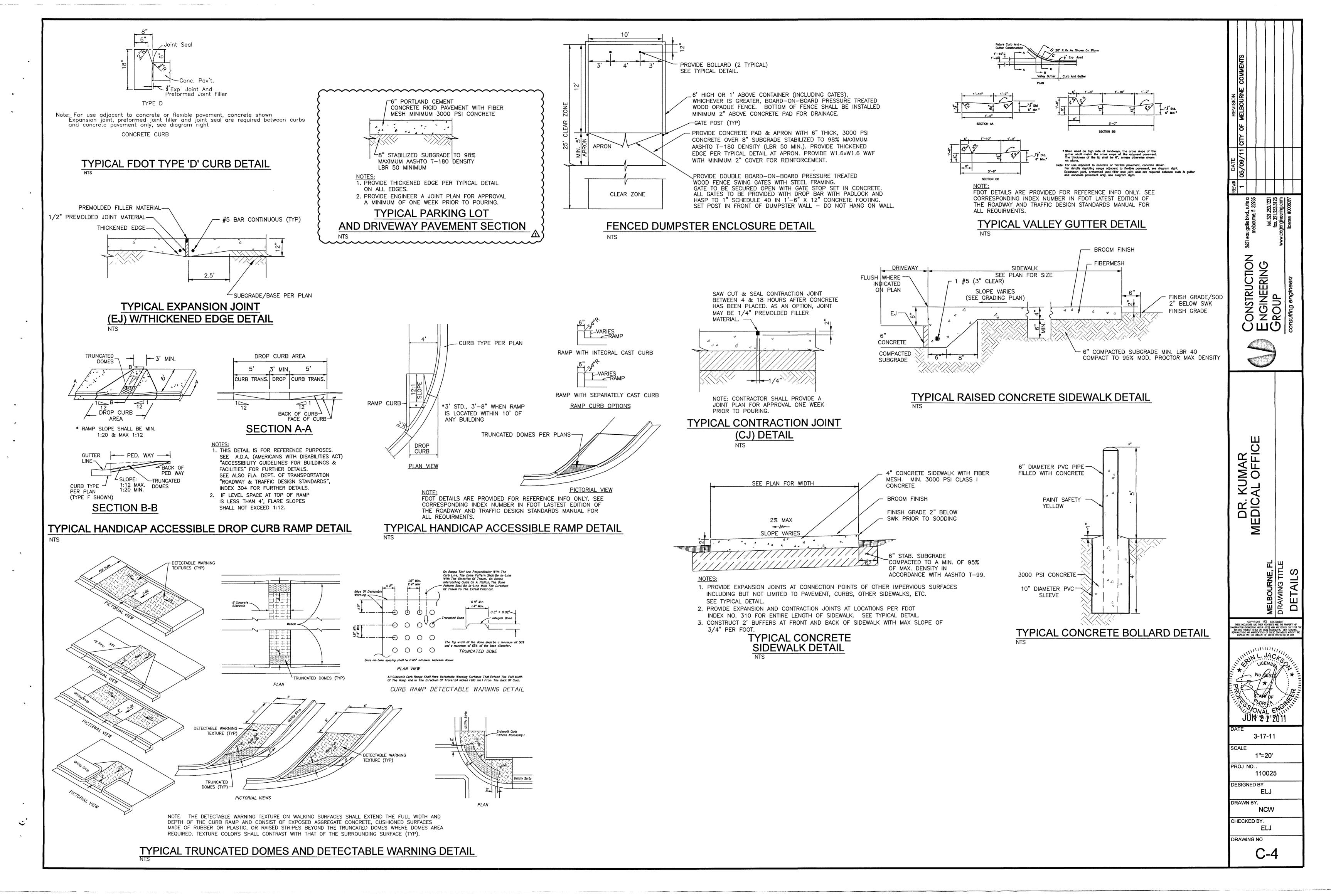
2-20. PROVIDE SANITARY SEWER CLEANOUTS AT A MAXIMUM 75' O.C. PROVIDE TRAFFIC BEARING COVER FOR

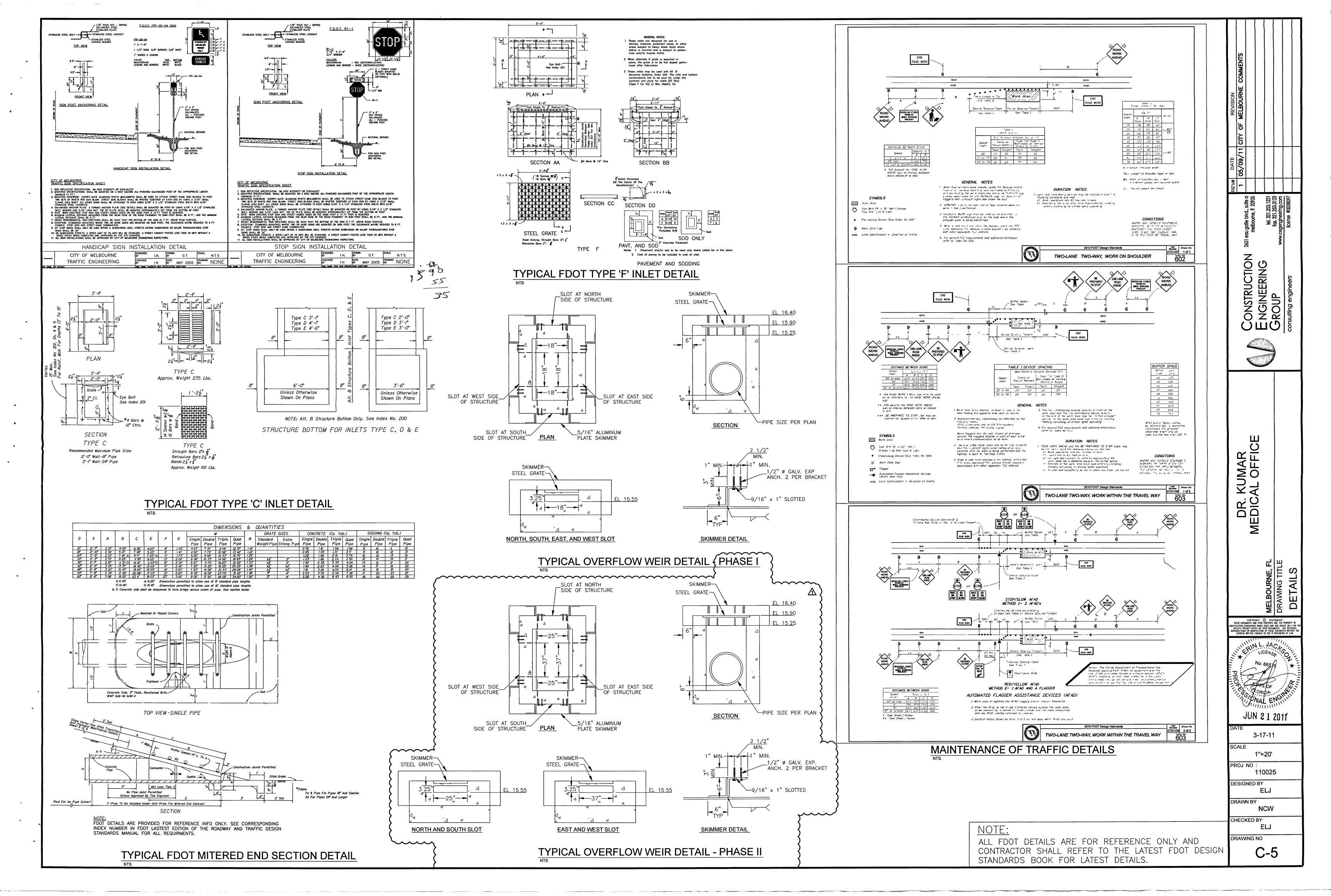
ON-SITE SANITARY SEWER SYSTEM IS PRIVATELY MAINTAINED.

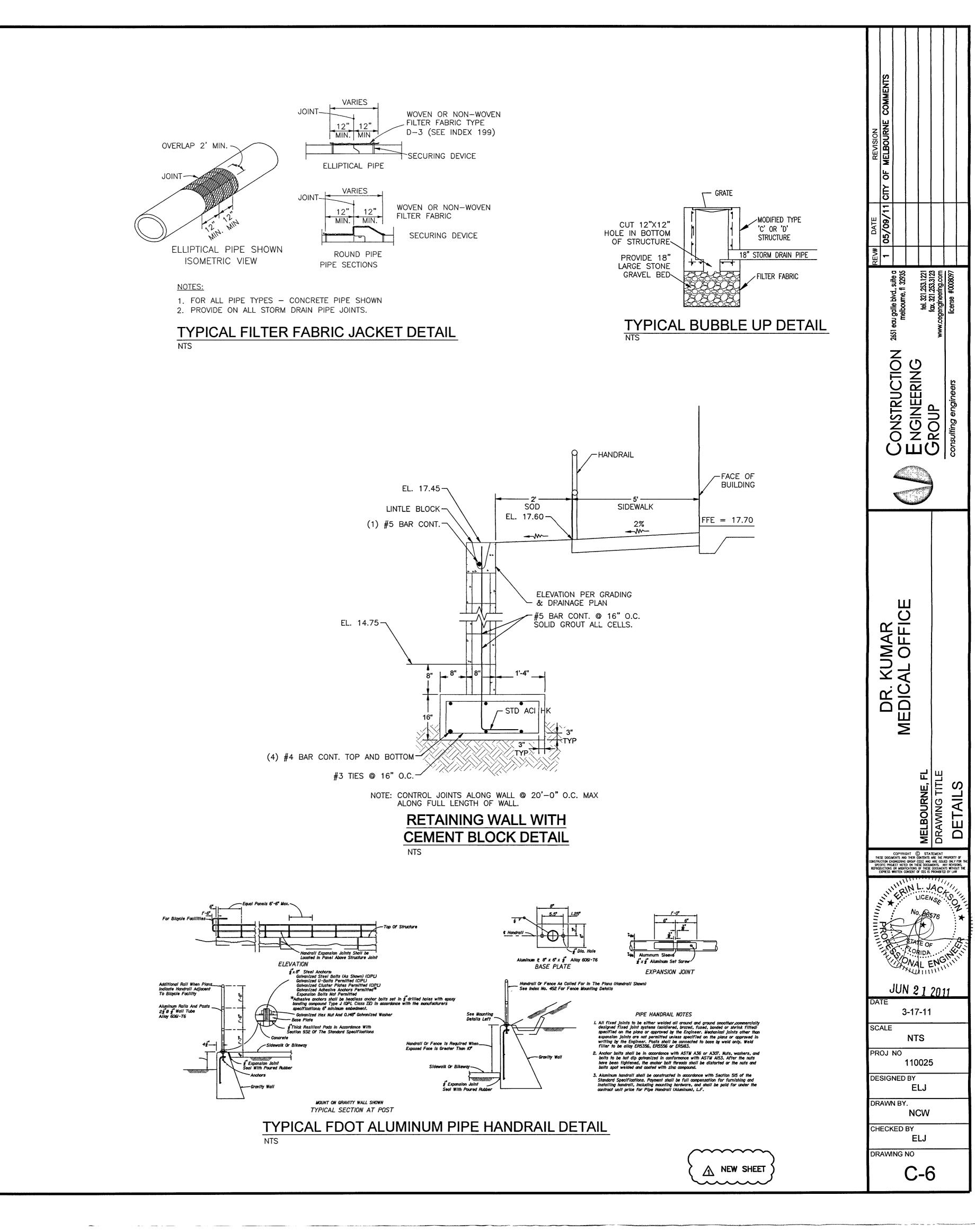
2-24. PROVIDE 65 LF OF RETAINING WALL. SEE TYPICAL DETAIL.

OF FUTURE PHASE.



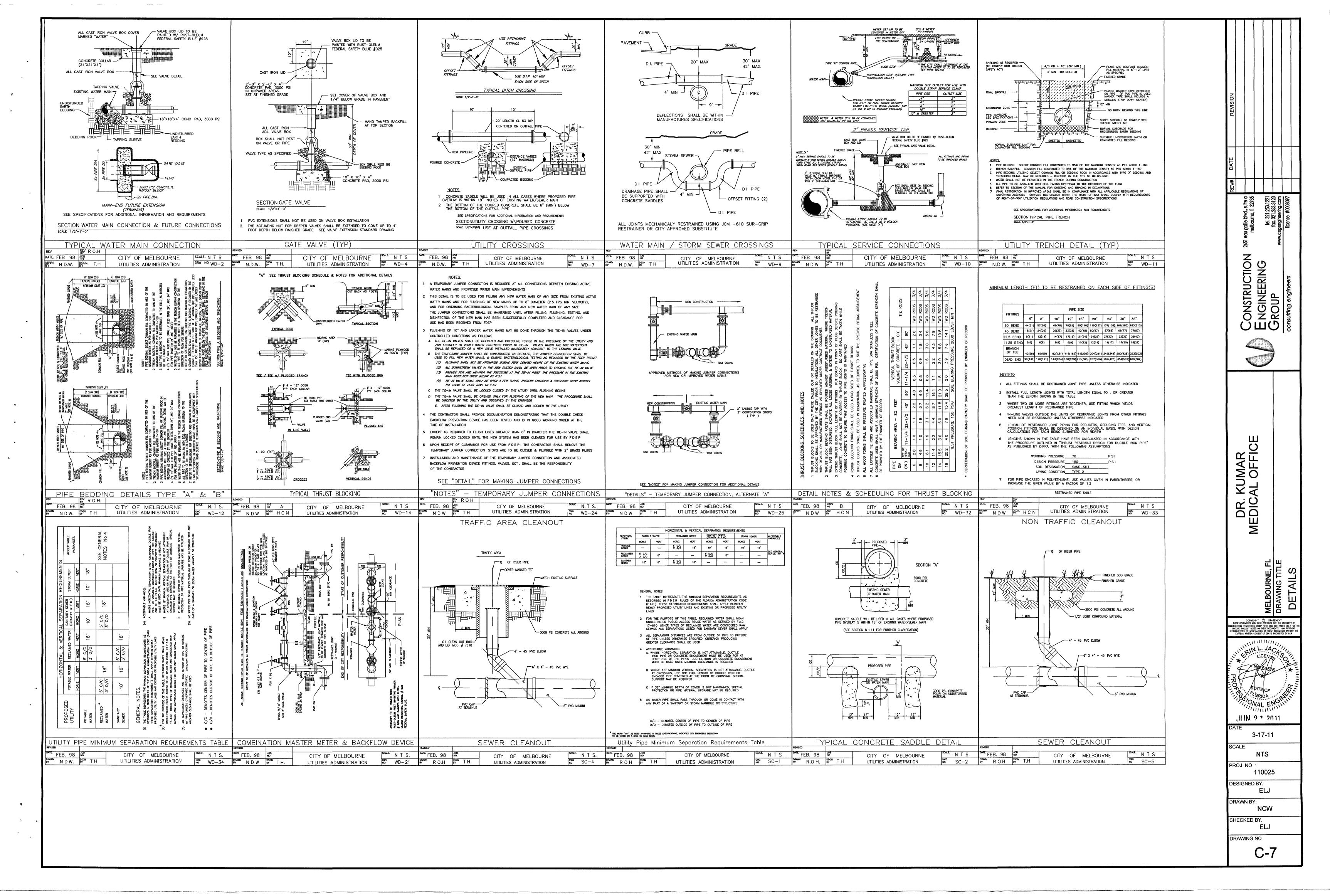






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### **GENERAL SPECIFICATION NOTES:** I, PROJECT REPRESENTATIVE REFERRED TO IN THE FOLLOWING SPECIFICATIONS INCLUDE OWNER OR DESIGNATED REPRESENTATIVE, ENGINEER OR MUNICIPALITY OF JURISDICTION CONTRACTOR SHALL BECOME FAMILIAR WITH AND ADHERE TO ALL PROJECT SITE PERMITS AND THEIR CONDITIONS AND POST ON-SITE DURING ENTIRE CONSTRUCTION PROJECT

UNTIL FINAL CLEARANCE PERMIT AGENCIES WITH JURISDICTION FOR THIS PROJECT

INCLUDE - CITY OF MELBOURNE

## SITE CLEARING

PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE PROVIDE TEMPORARY GUARDS AT THE DRIP LINE TO PROTECT TREES AND VEGETATION TO

BE LEFT STANDING REMOVE ALL TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS, OF OBSTRUCTIONS, AS REQUIRED, TO PERMIT INSTALLATION OF NEW CONSTRUCTION REMOVE SIMILAR ITEMS ELSEWHERE ON SITE OR PREMISES AS SPECIFICALLY INDICATED CUT MINOR ROOTS AND BRANCHES OF TREES INDICATED TO REMAIN IN A CLEAN AND CAREFUL MANNER WHERE SUCH ROOTS AND BRANCHES DO NOT OBSTRUCT INSTALLATION OF NEW CONSTRUCTION FTOPSOIL IS DEFINED AS FRIABLE CLAY LOAM SURFACE SOIL SATISFACTORY TOPSOIL IS

REASONABLY FREE OF SUBSOIL, CLAY LUMPS, STONES, AND OTHER OBJECTS OVER 2 INCHES IN DIAMETER, AND WEEDS, ROOTS, AND OTHER OBJECTIONABLE MATERIAL STRIP TOPSOIL TO WHATEVER DEPTHS ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER OBJECTIONABLE MATERIAL REMOVE HEAVY GROWTHS OF VEGETATION AND ROOTS FROM AREAS BEFORE STRIPPING S STOCKPILE TOPSOIL IN STORAGE PILES IN AREAS INDICATED OR DIRECTED CONSTRUCT STORAGE PILES TO PROVIDE FREE DRAINAGE OF SURFACE WATER COVER STORAGE PILES, IF REQUIRED, TO PREVENT WIND EROSION TRANSPORT WASTE MATERIALS AND UNSUITABLE TOPSOIL MATERIALS OFF OWNER'S PROPERTY AND DISPOSE OF LEGALLY TRAFFIC CONDUCT SITE CLEARING OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS AND OTHER ADJACENT FACILITIES DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES

PROTECTION OF EXISTING IMPROVEMENTS PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED TO REMAIN IN PLACE PROTECT IMPROVEMENTS ON ADJOINING PROPERTIES RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION 9. AS AN INITIAL EFFORT ON THE CONSTRUCTION SITE THE CONTRACTOR SHALL LOCATE AND FLAG ALL TREES INDICATED TO REMAIN CONTACT ENGINEER PRIOR TO CLEARING THE PROJECT SHALL ANTICIPATE THE REMOVAL OF UP TO 10% MORE TREES THAN INDICATED ON THE PLANS PER DIRECTION AS PART OF THIS INSPECTION, TREES REQUIRING SPECIAL PRUNING SHALL BE IDENTIFIED

WATER TREES AND OTHER VEGETATION TO REMAIN WITHIN LIMITS OF CONTRACT WORK AS REQUIRED TO MAINTAIN THEIR HEALTH DURING COURSE OF CONSTRUCTION OPERATIONS PROVIDE PROTECTION FOR ROOTS OVER 1" DIAMETER CUT DURING CONSTRUCTION OPERATIONS TEMPORARILY COVER EXPOSED ROOTS WITH WET BURLAP TO PREVENT ROOTS FROM DRYING OUT, COVER WITH EARTH AS SOON AS POSSIBLE 2. REPLACE TREES WHICH CANNOT BE REPAIRED AND RESTORED TO FULL-GROWTH STATUS,

IN A MANNER ACCEPTABLE TO THE PROJECT REPRESENTATIVE. COMPLETELY REMOVE STUMPS, ROOTS, AND OTHER DEBRIS UNLESS SPECIFICALLY IDENTIFIED TO REMAIN 14 USE ONLY HAND METHODS FOR GRUBBING INSIDE DRIP LINE OF TREES INDICATED TO BE

LEFT STANDING 15 PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING 6" LOOSE DEPTH, AND THOROUGHLY COMPACT TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND

SUBGRADE EXCAVATION, BACKFILL, AND PREPARATION SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT FOR THIS SITE AS IDENTIFIED ON DWG C-1, UNLESS NOTED OTHERWISE IN THE CONTRACT DRAWINGS PROVIDE APPROVED BORROW SOIL MATERIALS FROM OFF-SITE WHEN SUFFICIENT APPROVED SOIL MATERIALS ARE NOT AVAILABLE FROM ON-SITE EXCAVATIONS SATISFACTORY SOIL MATERIALS. ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM. SW. SP. AND SM. FREE OF ROCK OR GRAVEL LARGER THAN 2 INCHES IN ANY

DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION AND OTHER DELETERIOUS MATTER b UNSATISFACTORY SOIL MATERIALS ASTM D 2487 SOIL CLASSIFICATION GROUPS GC, SC, ML, MH, CL, CH, OL, OH, AND PT 3 BACKFILL AND FILL MATERIALS SATISFACTORY SOIL MATERIALS AS IDENTIFIED ABOVE SUBBASE AND BASE MATERIAL NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND, ASTM D 2940, MEETING THE REQUIREMENTS OF SECTION 911 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

5 DRAINAGE FILL MATERIAL WASHED EVENLY GRADED MIXTURE OF UNCRUSHED OR CRUSHED GRAVEL OR CRUSHED STONE, ASTM D 448, COARSE AGGREGATE GRADING SIZE 57. WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND 0 TO 5 PERCENT PASSING A NO 50 ENGINEERED FILL BASE MATERIALS AS IDENTIFIED ABOVE

BEDDING MATERIAL SUBBASE OR BASE MATERIALS AS IDENTIFIED ABOVE 3 FILTER FABRIC: MANUFACTURER'S STANDARD NONWOVEN PERVIOUS GEOTEXTILE FABRIC OF POLYPROPELENE, NYLON OR POLYESTER FIBERS, OR A COMBINATION IN ACCORDANCE WITH ASTM D 4759 GRAB TENSILE STRENGTH (ASTM D 4652). 100 LB b APPARENT OPENING SIZE (ASTM D 4751)· #100 U.S.STNADARD SIEVE

C PERMEABILITY ( ASTM D 4491 ) 150 GÁLLÖNS PER MINUTE PER SQ FT COMPLY WITH LOCAL CODES, ORDINANCES. AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION TO MAINTAIN STABLE EXCAVATIONS CONTRACTOR SHALL COMPLY WITH THE ION FOR STRUCTURES EXCAVATE TO INDICATED ELEVATIONS AND DIMENSIONS MITHIN A TOLERANCE OF PLUS OR MINUS 0 10 FOOT EXTEND EXCAVATIONS A SUFFICIENT DISTANCE FROM STRUCTURES FOR PLACING AND REMOVING CONCRETE FORMWORK,

INSTALLING SERVICES AND OTHER CONSTRUCTION, AND FOR INSPECTIONS EXCAVATIONS FOR FOOTINGS AND FOUNDATIONS DO NOT DISTURB BOTTOM OF EXCAVATION EXCAVATE BY HAND TO FINAL GRADE JUST BEFORE PLACING CONCRETE REINFORCEMENT TRIM BOTTOMS TO REQUIRED LINES AND GRADES TO LEAVE SOLID BASE TO RECEIVE OTHER WORK 2 EXCAVATION FOR UNDERGROUND STRUCTURES AND MECHANICAL OR ELECTRICAL APPURTENANCES. EXCAVATE TO ELEVATIONS AND DIMENSIONS INDICATED WITHIN A

TOLERANCE OF PLUS OR MINUS 0 10 FOOT DO NOT DISTURB BOTTOM OF EXCAVATIONS INTENDED FOR BEARING SURFACE EXCAVATE TRENCHES TO UNIFORM WIDTHS TO PROVIDE A WORKING CLEARANCE ON EACH SIDE OF PIPE OR CONDUIT EXCAVATE TRENCH WALLS VERTICALLY FROM TRENCH BOTTOM TO 12 INCHES HIGHER THAN TOP OF PIPE OR CONDUIT, UNLESS OTHERWISE 4. TRENCH BOTTOMS. EXCAVATE AND SHAPE TRENCH BOTTOMS TO PROVIDE UNIFORM

BEARING AND SUPPORT OF PIPES AND CONDUIT SHAPE SUBGRADE TO PROVIDE

CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES AND FOR JOINTS. FITTINGS. AND BODIES OF CONDUITS REMOVE STONES AND SHARP OBJECTS TO AVOID POINT LOADING a FOR PIPES OR CONDUIT LESS THAN 6 INCHES IN NOMINAL DIAMETER AND FLAT-BOTTOMED, MULTIPLE-DUCT CONDUIT UNITS, HAND-EXCAVATE TRENCH BOTTOMS AND SUPPORT PIPE AND CONDUIT ON AN UNDISTURBED SUBGRADE

b FOR PIPES AND CONDUIT 6 INCHES OR LARGER IN NOMINAL DIAMETER, SHAPE BOTTOM OF TRENCH TO SUPPORT BOTTOM 90 DEGREES OF PIPE CIRCUMFERENCE FILL DEPRESSIONS WITH TAMPED SAND BACKFILL c WHERE ENCOUNTERING ROCK OR ANOTHER UNYIELDING BEARING SURFACE. CARRY

TRENCH EXCAVATION 6 INCHES BELOW INVERT ELEVATION TO RECEIVE BEDDING RECONSTRUCT SUBGRADES DAMAGED BY RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES S STOCKPILE EXCAVATED MATERIALS ACCEPTABLE FOR BACKFILL AND FILL SOIL MATERIALS, INCLUDING ACCEPTABLE BORROW MATERIALS STOCKPILE SOIL MATERIALS WITHOUT

INTERMIXING PLACE, GRADE, AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WIND-BLOWN DUST IF DIRECTED BY PROJECT REPRESENTATIVE CONTRACTOR SHALL PROVIDE DETECTABLE WARNING TAPE MADE FROM ACID AND ALKALI RESISTANT POLYETHYLENE FILM TO MARK AND IDENTIFY UNDERGROUND UTILITIES TAPE SHALL BE 6 INCHES WIDE AND 4 MILS THICK, CONTINUOUSLY INSCRIBED WITH A DESCRIPTION OF THE UTILITY, WITH A METALLIC CORE ENCASED IN A PROTECTIVE JACKET FOR CORROSION PROTECTION, DETECTABLE BY METAL DETECTOR WHEN TAPE IS BURIED UP TO 2'-6" DEEP OVER NON FERROUS PIPE PROVIDE TAPE COLORS TO MATCH UTILITIES AS FOLLOWS

---- ELECTRIC YELLOW ———— GAS, OIL, STEAM AND DANGEROUS MATERIALS TELEPHONE AND OTHER COMMUNICATIONS ---- WATER SYSTEMS — SEWER SYSTEMS

8 UTILITY TRENCH BACKFILL PLACE AND COMPACT INITIAL BACKFILL OF SATISFACTORY SOIL MATERIAL OR SUBBASE MATERIAL, FREE OF PARTICLES LARGER THAN 1 INCH, TO A HEIGHT OF 12 INCHES OVER THE UTILITY PIPE OR CONDUIT. CAREFULLY COMPACT MATERIAL UNDER PIPE HAUNCHES AND BRING BACKFILL EVENLY UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF UTILITY PIPING OR CONDUIT TO AVOID DAMAGE OR DISPLACEMENT OF UTILITY SYSTEM

0 PLACE AND COMPACT FINAL BACKFILL OF SATISFACTORY SOIL MATERIAL TO FINAL SUBGRADE 1 REMOVE VEGETATION, TOPSOIL, DEBRIS, WET, AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE PRIOR TO PLACING WHEN SUBGRADE OR EXISTING GROUND SURFACE TO RECEIVE FILL HAS A DENSITY LESS THAN THAT REQUIRED FOR FILL, BREAK UP GROUND SURFACE TO DEPTH REQUIRED. PULVERIZE, MOISTURE—CONDITION OR AFRATE SOIL AND RECOMPACT TO REQUIRED DENSITY

3 PLACE FILL MATERIAL IN LAYERS TO REQUIRED ELEVATIONS FOR EACH LOCATION LISTED a. UNDER GRASS, USE SATISFACTORY EXCAVATED OR BORROW SOIL MATERIAL

b. UNDER WALKS AND PAVEMENTS, USE SUBBASE OR BASE MATERIAL, OR SATISFACTORY EXCAVATED OR BORROW SOIL MATERIAL c UNDER BUILDING SLABS, USE SATISFACTORY FILL MATERIAL

d UNDER FOOTINGS AND FOUNDATIONS, USE ENGINEERED FILL UNIFORMLY MOISTEN OR AERATE SUBGRADE AND EACH SUBSEQUENT FILL OR BACKFILL LAYER BEFORE COMPACTION TO WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT a DO NOT PLACE BACKFILL OR FILL MATERIAL ON SURFACES THAT ARE MUDDY OR CONTAIN

b REMOVE AND REPLACE, OR SCARIFY AND AIR-DRY SATISFACTORY SOIL MATERIAL THAT IS TOO WET TO COMPACT TO SPECIFIED DENSITY STOCKPILE OR SPREAD AND DRY REMOVED WET SATISFACTORY SOIL MATERIAL PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED

PERCENTAGE OF MAXIMUM DRY DENSITY REQUIREMENTS COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 1557 UNLESS PLAN SPECIFICALLY NOTE OTHERWISE O UNDER BUILDING SLABS AND PAVEMENTS, COMPACT THE TOP 12 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM

b UNDER WALKWAYS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 95 PERCENT MAXIMUM DRY DENSITY C. UNDER LAWN OR UNPAVED AREAS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 90 PERCENT MAXIMUM DRY DENSITY.

27 SITE GRADING SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDING AND TO PREVENT PONDING FINISH SUBGRADES TO REQUIRED ELEVATIONS WITHIN THE FOLLOWING a LAWN OR UNPAVED AREAS PLUS OR MINUS 0 10 FOOT WALKS. PLUS OR MINUS 0 10 FOOT PAVEMENTS. PLUS OR MINUS 1/2 INCH 28 UNDER PAVEMENTS AND WALKS, CONSTRUCT SUBBASE COURSE AND BASE COURSE

MATERIAL IN ACCORDANCE WITH SECTIONS 160 AND 200 OF THE FDOT STANDARD SPECIFICATIONS 29 COMPACT SUBBASE AND BASE COURSES AT OPTIMUM MOISTURE CONTENT TO REQUIRED GRADES, LINES, CROSS SECTIONS AND THICKNESS TO NOT LESS THAN 95 PERCENT OF ASTM D 4254 RELATIVE DENSITY SHAPE SUBBASE AND BASE TO REQUIRED CROWN ELEVATIONS AND CROSS-SLOPE GRADES.

a. WHEN THICKNESS OF COMPACTED SUBBASE OR BASE COURSE IS 6 INCHES OR LESS, PLACE MATERIALS IN A SINGLE LAYER 30. PAVEMENT SHOULDERS PLACE SHOULDERS ALONG EDGES OF SUBBASE AND BASE COURSE TO PREVENT LATERAL MOVEMENT CONSTRUCT SHOULDERS OF ACCEPTABLE MATERIALS AND COMPACT SIMULTANEOUSLY WITH EACH SUBBASE AND BASE LAYER 31. UNDER SLABS-ON-GRADE, PLACE ENGINEERED FILL ON PREPARED SUBGRADE

2 TESTING AGENCY SERVICES: ALLOW TESTING AGENCY TO INSPECT AND TEST FACH SUBGRADE AND EACH FILL OR BACKFILL LAYER. DO NOT PROCEED UNTIL TEST RESULTS FOR PREVIOUSLY COMPLETED WORK VERIEY COMPLIANCE WITH REQUIREMENTS. 33 PERFORM FIELD IN-PLACE DENSITY TESTS ACCORDING TO ASTM D 1556 (SAND CONE METHOD) FIELD IN-PLACE DENSITY TESTS MAY ALSO BE PERFORMED BY THE NUCLEAR METHOD ACCORDING TO ASTM D 2922. PROVIDED THAT CALIBRATION CURVES ARE PERIODICALLY CHECKED AND ADJUSTED TO CORRELATE TO TESTS PERFORMED USING ASTM D 1556 WITH EACH DENSITY CALIBRATION CHECK, CHECK THE CALIBRATION CURVES FURNISHED WITH THE MOISTURE GAGES ACCORDING TO ASTM D 3017 WHEN FIELD IN-PLACE DENSITY TESTS ARE PERFORMED USING NUCLEAR METHODS, MAKE CALIBRATION

CHECKS OF BOTH DENSITY AND MOISTURE GAGES AT BEGINNING OF WORK, ON EACH DIFFERENT TYPE OF MATERIAL ENCOUNTERED, AND AT INTERVALS AS DIRECTED BY THE PROJECT REPRESENTATIVE 34 FOOTING SUBGRADE AT FOOTING SUBGRADES, PERFORM AT LEAST ONE TEST OF EACH SOIL STRATUM TO VERIFY DESIGN BEARING CAPACITIES SUBSEQUENT VERIFICATION AND APPROVAL OF OTHER FOOTING SUBGRADES MAY BE BASED ON A VISUAL COMPARISON OF EACH SUBGRADE WITH RELATED TESTED STRATA WHEN ACCEPTABLE TO THE PROJECT REPRESENTATIVE 5 PAVED AND BUILDING SLAB AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND

BACKFILL LAYER, PERFORM AT LEAST ONE FIELD IN-PLACE DENSITY TEST FOR EVERY 2,000 SQ FT OR LESS OF PAVED AREA OR BUILDING SLAB, BUT IN NO CASE FEWER 36 TRENCH BACKFILL IN EACH COMPACTED INITIAL AND FINAL BACKFILL LAYER, PERFORM AT LEAST ONE FIELD IN-PLACE DENSITY TEST FOR EACH 300 FEET OR LESS OF UTILITY

TRENCH, BUT NO FEWER THAN TWO TESTS 37 WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS ARE BELOW SPECIFIED DENSITY, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO E DEPTH REQUIRED, RECOMPACT AND RETEST UNTIL REQUIRED DENSITY IS OBTAINED 38 EXISTING UTILITIES DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED IN WRITING BY PROJECT REPRESENTATIVE AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS

a NOTIFY ENGINEER NOT LESS THAN TWO DAYS IN ADVANCE OF PROPOSED UTILITY b DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT ENGINEER WRITTEN PERMISSION C CONTACT UTILTY-LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE

39 DEMOLISH AND COMPLETELY REMOVE FROM SITE EXISTING UNDERGROUND UTILITIES INDICATED TO BE REMOVED. COORDINATE WITH UTILITY COMPANIES TO SHUT OFF SERVICES IF LINES ARE ACTIVE 40 EXPLOSIVES DO NOT USE EXPLOSIVES

41. AREA OF BUILDINGS PLUS A MARGIN OF 10' ON ALL SIDES SHALL BE CLEARED AND GRUBBED TO REMOVE AND DISPOSE OF ANY SURFACE VEGETATION, ROOTS, AND DEBRIS UNLESS PLANS SPECIFICALLY NOTE OTHERWISE 42 RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURES, FROST, RAIN.

ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, AS DIRECTED BY ARCHITECT

## STORM SEWER SYSTEM

1 EXCEPT AS OTHERWISE PROVIDED, ALL STORM SEWER MATERIALS SHALL COMPLY WITH THE APPLICABLE SECTIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" CURRENT EDITION WHICH ARE HEREBY INCORPORATED INTO THESE SPECIFICATIONS BY REFERENCE FURTHER, ALL CONSTRUCTION DETAILS INCLUDED IN THE CURRENT EDITION OF FDOT'S "ROADWAY AND TRAFFIC DESIGN STANDARDS" ARE INCORPORATED INTO THESE SPECIFICATIONS BY REFERENCE

FOR PIPES SMALLER THAN 12". SELECTION OF MATERIALS SPECIFIED BELOW IS AT THE INSTALLER'S OPTION a POLYVINYL CHLORIDE (PVC), ASTM D-3034, SDR 35 PIPE AND FITTINGS FITTINGS SHALL BE WITH RUBBER GASKETED JOINTS b. CORRUGATED POLYETHYLENE PIPE (CPEP) IN ACCORDANCE WITH AASHTO M294 AND ASTM D-3350 CPEP SHALL HAVE A SMOOTH INTERIOR

3 FOR PIPES 12" AND LARGER. REINFORCED CONCRETE PIPE(RCP). FDOT SECTION 941, ROUND OR ELLIPTICAL PER DWG PLANS, STANDARD CLASS III CONCRETE CULVERT PIPE UNLESS CLASS IV PIPE IS CALLED FOR. FDOT SECTION 425 USE STEEL GRATES ON ALL INLETS, TRAFFIC BEARING 5 ADHERE TO MANUFACTURER'S RECOMMENDATIONS ON THE INSTALLATION OF PVC, CPEP,

## SEWAGE COLLECTION SYSTEM

AND RCP STORM SEWERS

1 ALL VERTICAL AND HORIZONTAL SPACING BETWEEN SEWAGE COLLECTION SYSTEMS AND WATER DISTRIBUTION SYSTEMS AND/OR STORM SEWER SYSTEMS ARE TO COMPLY WITH THE LATEST FDEP STANDARDS 2 GENERAL FURNISH ELLS, TEES, REDUCING TEES, WYES, COUPLINGS, INCREASERS CROSSES, TRANSITIONS, AND END CAPS OF SAME TYPE AND CLASS OF MATERIAL AS CONDUIT, OR OF MATERIAL HAVING EQUAL OR SUPERIOR PHYSICAL AND CHEMICAL PROPERTIES AS ACCEPTABLE TO THE ENGINEER GENERAL: ALL PVC SEWER SHALL BE INSTALLED IN ACCORDANCE WITH UNI-BELI

UNI-B-5
4. PIPE PREPARATION AND HANDLING INSPECT ALL PIPE AND FITTINGS PRIOR TO LOWERING INTO TRENCH TO ENSURE NOT CRACKED, BROKEN, OR OTHERWISE DEFECTIVE MATERIALS ARE BEING USED CLEAN ENDS OF PIPE THOROUGHLY REMOVE FOREIGN MATTER AND DIRT FROM INSIDE OF PIPE AND KEEP CLEAN DURING AND AFTER LAYING REMOVE ALL DAMAGED PIPE FROM THE JOB SITE 5. GRAVITY SEWER PIPE ALL SEWER LINES BETWEEN MANHOLES SHALL BE ABSOLUTELY STRAIGHT AND TRUE NO CURVATURE SHALL BE TOLERATED. DO NOT DEVIATE FROM LINE OR GRADE, AS ESTABLISHED BY THE ENGINEER, MORE THAN 1/2" FOR LINE AND 1/4" FOR GRADE, PROVIDED THAT SUCH VARIATION DOES NOT RESULT IN A LEVEL OR

REVERSE SLOPING INVERT. 6 LAYING AND JOINTING PIPE PIPE LAYING SHALL PROCEED UPGRADE WITH SPIGOT ENDS POINTING IN DIRECTION OF FLOW AFTER A SECTION OF PIPE HAS BEEN LOWERED INTO THE PREPARED TRENCH, CLEAN THE END OF THE PIPE TO BE JOINED, THE INSIDE OF THE JOINT, AND THE RUBBER RING IMMEDIATELY BEFORE JOINING THE PIPE MAKE ASSEMBLY OF THE JOINT IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE TYPE OF JOINT USED PROVIDE ALL SPECIAL TOOLS AND APPLIANCES REQUIRED FOR THE JOINTING ASSEMBLY

TAKE THE NECESSARY PRECAUTIONS REQUIRED TO PREVENT EXCAVATED OR OTHER FOREIGN MATERIAL FROM GETTING INTO THE PIPE DURING THE LAYING OPERATION AT ALL TIMES. WHEN LAYING OPERATIONS ARE NOT IN PROGRESS. AT THE CLOSE OF THE DAY'S WORK, OR WHENEVER THE WORKERS ARE ABSENT FROM THE JOB, CLOSE AND BLOCK THE OPEN END OF THE LAST LAID SECTION OF PIPE TO PREVENT ENTRY OF FOREIGN MATERIAL OR CREEP OF THE GASKETED JOINTS

B PLUG OR CLOSE OFF PIPES WHICH ARE STUBBED OFF FOR MANHOLE CONSTRUCTION OR FOR CONSTRUCTION BY OTHERS, WITH TEMPORARY PLUGS
9 WHERE NONREINFORCED PIPE IS CONNECTED TO MANHOLES OR CONCRETE STRUCTURES, MAKE CONNECTION SO THAT THE STANDARD PIPE JOINT IS LOCATED NOT MORE THAN 3 FROM THE OUTSIDE EDGE OF THE STRUCTURE

10 WHEN CUTTING AND/OR MACHINING THE PIPE IS NECESSARY, USE ONLY TOOLS AND METHODS RECOMMENDED BY THE PIPE MANUFACTURER. 1. UNDERGROUND STRUCTURES

a ROCK BASE. PRIOR TO SETTING PRECAST CONCRETE BASE SECTION, REMOVE WATER FROM THE EXCAVATION PLACE A MINIMUM OF 6" OF ROCK BASE AND THOROUGHLY COMPACT WITH A MECHANICAL VIBRATING OR POWER TAMPER b MANHOLE JOINT SEALS CAREFULLY INSPECT PRECAST MANHOLE SECTIONS TO BE JOINED SECTIONS WITH CHIPS OR CRACKS IN THE TONGUE SHALL NOT BE USED JOINT SEALS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ONLY PIPE PRIMER FURNISHED BY THE JOINT

SEAL MANUFACTURER WILL BE APPROVED c PRECAST CONCRETE MANHOLES PLACE PRECAST CONCRETE SECTIONS AS SHOWN ON THE DRAWINGS WHERE MANHOLES OCCUR IN PAVEMENTS, SET TIPS OF FRAMES AND COVERS FLUSH WITH FINISH SURFACE ELSEWHERE, SET TOPS 3" ABOVE FINISH SURFACE, UNLESS OTHERWISE INDICATED d MANHOLE INVERT: CONSTRUCT MANHOLE INVERTS IN CONFORMANCE WITH DETAILS SHOWN ON THE DRAWINGS, AND WITH SMOOTH TRANSITIONS TO ENSURE AN UNOBSTRUCTED FLOW THROUGH MANHOLE REMOVE ALL SHARP EDGES OR ROUGH SECTIONS WHICH TEND TO OBSTRUCT FLOW WHERE A FULL SECTIONS OF PIPE IS

LAID THROUGH A MANHOLE, BREAK OUT THE TOP SECTION AS INDICATED AND COVER

EXPOSED EDGE OF PIPE COMPLETELY WITH MORTAR. TROWEL ALL MORTAR SURFACES e. PROVIDE RUBBER JOINT GASKET COMPLYING WITH ASTM C-443 f APPLY BITUMINOUS MASTIC COATING AT JOINTS OF SECTIONS

PRIOR TO FINAL ACCEPTANCE, THE SEWER COLLECTION SYSTEM SHALL BE THOROUGHLY CLEANED AND VISUALLY INSPECTED IN THE PRESENCE OF THE ENGINEER AND LOCAL AUTHORITIES HAVING JURISDICTION 13 FOLLOWING VISUAL INSPECTION, THE SEWER SYSTEM INCLUDING SERVICE LINES SHALL

BE TESTED IN THE PRESENCE OF THE ENGINEER AND LOCAL AUTHORITIES HAVING ACCEPTABLE METHODS OF TESTING SHALL BE LOW PRESSURE AIR EXFILTRATION OR WATER EXFILTRATION IN ACCORDANCE WITH THE LOCAL AUTHORITY REQUIREMENTS 15. THE CONTRACTOR SHALL FURNISH ALL NECESSARY TOOLS, SUPPLIES, LABOR AND EQUIPMENT FOR TESTING

16 LOW PRESSURE AIR EXFILTRATION TESTING SHALL BE IN ACCORDANCE WITH UNI-BELL, 17. WATER EXFILTRATION TESTING SHALL BE IN ACCORDANCE WITH UNI-BELL, UNI-B-5 18 VISUAL INSPECTION AND TESTING SHALL BE PERFORMED ON THE SAME DAY. NOTIFY

ENGINEER AND PERMIT AGENCY OF JURISDICTION MINIMUM 72 HOURS OF WEEKDAYS

## WATER DISTRIBUTION AND SERVICE PIPING

SEAL COATED IN CONFORMANCE WITH ANSI A-21.4

. ALL VERTICAL AND HORIZONTAL SPACING BETWEEN WATER DISTRIBUTION SYSTEMS AND SEWAGE COLLECTION SYSTEMS AND/OR STORM SEWER SYSTEMS ARE TO COMPLY WITH 2 CODE COMPLIANCE: COMPLY WITH APPLICABLE PORTIONS OF NATIONAL STANDARD

PLUMBING CODE, LOCAL PLUMBING CODES LOCAL MUNICIPALITY WITH JURISDICTION CONSTRUCTION STANDARDS AND DETAILS, THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND NEPA 24 3 DUCTILE IRON PIPE DUCTILE IRON PIPE SHALL BE CEMENT-MORTAR LINED, CLASS 150, MECHANICAL OR PUSH-ON JOINT AND SHALL MEET ALL THE REQUIREMENTS OF THE FOLLOWING ANSI/AWWA C-104/A-21 4, ANSI/AWWA C-111/A-21 11 (FOR RUBBER

GASKET JOINTS), ANSI/AWWA C-150/A-21 50 (FOR THICKNESS DESIGN); AND ANSI/AWWA C-151/A-21 51 (FOR D.I.P. MOLDS). 4. LINING ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE CEMENT-MORTAR LINED AND

5 POLYVINYL CHLORIDE (PVC) PIPE AWWA C900; CLASSES 150 AND 200, WITH BELL END AND ELASTOMERIC GASKET, WITH PLAIN END FOR CAST-IRON OR DUCTILE-IRON FITTINGS a PIPE MARKING NSF 14. "NSF-PVC CTO ONLY" b GASKETS ASTM F 477, ELASTOMERIC SEAL

6 JOINTS PIPE JOINTS SHALL BE MECHANICAL OR PUSH-ON JOINTS, EXCEPT WHERE SPECIFICALLY SHOWN OR DETAILED OTHERWISE 7 PIPE FITTINGS ALL FITTINGS 4" IN DIAMETER AND LARGER SHALL BE DUCTILE IRON WITH MECHANICAL OR PUSH-ON JOINTS AND SHALL CONFORM TO ANSI A-21 10 (AWWA C-110) FOR SHORT BODY FITTINGS WITH A 250 PSI PRESSURE RATING FOR FITTINGS UP

TO 12" IN DIAMETER 8 MECHANICAL JOINT FITTINGS MECHANICAL JOINT DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C-110/A-21 10 AND ANSI/AWWA C-111/A-21 11 AND SHALL BE OF A CLASS AT LEAST EQUAL TO THAT OF THE ADJACENT PIPE MORTAR LINING AND SEAL COAT FOR FITTINGS SHALL BE SAME THICKNESS SPECIFIED FOR PIPE GASKETS. THE RUBBER-RING GASKETS SHALL BE SUITABLE FOR THE SPECIFIED PIP

SIZES AND PRESSURE AND SHALL CONFORM TO APPLICABLE PARTS OF THE LATEST FEDERAL SPECIFICATION WW-F-421, AND SHALL BE FURNISHED WITH THE PIPE 10 JOINT LUBRICANT THE JOINT LUBRICANT FOR PUSH-ON JOINT PIPE SHALL HAVE BEEN TESTED AND APPROVED FOR POTABLE WATER SERVICE NO LUBRICANT SHALL BE USED THAT WILL HARBOR BACTERIA OR DAMAGE THE GASKETS

11 POLYVINYL CHLORIDE(PVC) PRESSURE PIPE UNDER 4" SHALL BE MINIMUM PRESSURE CLASS OF 200 PSI SCHEDULE 40 CONFORMING TO ASTM D-1785 OR SDR 21 CONFORMING TO ASTM D-2241 WITH CEMENT-SOLVENT WELDED JOINTS OR PUSH ON ELASTOMERIC JOINTS MARK PIPE WITH "NSF-PW" ACCORDING TO NSF14 12 CONTROL VALVES PROVIDE VALVES AND FLOW CONTROL DEVICES AS INDICATED. ALL VALVES SHALL BE FURNISHED WITH MECHANICAL JOINT ENDS a MINIMUM WORKING PRESSURE, 200 PSI UNLESS OTHERWISE INDICATED

b GATE VALVES (4" AND LARGER) RESILIENT SEAT TYPE WITH NON-RISING STEM. CAST IRON BODY AND BRONZE FITTINGS CONFORMING TO AWWA C-500. GATE VALVES LOCATED ON FIRE PROTECTION MAINS MUST BE FM APPROVED. c VALVE BOXES SHALL BE OF CAST IRON WITH ADJUSTABLE TOP THE SIZE SHALL BE LARGE ENOUGH FOR OPERATION OF THE VALVE ON WHICH IT IS USED WITH A MINIMUM SHAFT DIAMETER OF 5-1/4". THE COVER SHALL HAVE THE WORD "WATER" CAST ON IT.

d GATE VALVES (SMALLER THAN 4") SHALL BE NON-RISING STEM, HANDWHEEL OPERATED, WEDGE DISCS, ALL BRONZE WITH FLANGED ENDS, CONFORMING TO FED. SPEC. WW-V-54, CLASS B, TYPE 1 FOR BELOW GROUND INSTALLATION, VALVES "SHALL BE FURNISHED WITH MECHANICAL JOINT ENDS OR IRON PIPE THREAD AND 2 SQUARE OPERATING NUT 13 WATER SERVICE PIPING EXTEND WATER SERVICE PIPING OF SIZE AND IN LOCATIONS

INDICATED TO WATER SERVICE ENTRANCE AT BUILDINGS PROVIDE SLEEVE IN FOUNDATION WALL FOR WATER SERVICE ENTRY; MAKE ENTRY WATERTIGHT POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS: INSTALL IN ACCORDANCE WITH UNI-BELL HANDBOOK OF PVC PIPE 15 DUCTILE IRON PIPE INSTALL IN ACCORDANCE WITH AWWA C-600.

16 CONTROL VALVES INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS 17 INTERIOR INSPECTION INSPECT CONDUIT TO DETERMINE WHETHER LINE PLACEMENT OR OTHER DAMAGE HAS OCCURRED 18 IF THE INSPECTION INDICATES POOR ALIGNMENT, DEBRIS, DISPLACED PIPE, INFILTRATION OR OTHER DEFECTS, CORRECT SUCH DEFECTS TO SATISFACTION OF ENGINEER AND PERMITTING AGENCIES HAVING JURISDICTION

21 DISINFECTION AT COMPLETION OF WATER SERVICE LINE INSTALLATION, FLUSH AND

DISINFECT IN CONFORMANCE WITH AWWA C-651, TO THE SATISFACTION OF LOCAL

19. CLEANING CONDUIT CLEAR INTERIOR OF CONDUIT OF DIRT AND OTHER SUPERFLUOUS MATERIAL AS WORK PROGRESSES. MAINTAIN SWAB OR DRAG IN LINE AND PULL PAST EACH JOINT AS IT IS COMPLETED 20. PLACE PLUGS IN END OF UNCOMPLETED CONDUIT AT END OF DAY OR WHENEVER WORK

22 HYDROSTATIC AND LEAKAGE TEST ALL SITE WATER DISTRIBUTION PIPING SHALL B TESTED AFTER INSTALLATION. DUCTILE IRON PIPE SHALL BE TESTED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF AWWA STANDARD C-600, AND PVC PIPE SHALL B TESTED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF AWWA STANDARD C-603 ACCEPTABLE LEAKAGE MUST BE LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FORMULAS IN AWWA C-600 AND C-605 23 THE POTABLE WATER LINES SHALL BE TESTED TO 150 PSI TEST PRESSURE AND THE FIRE LINE SHALL BE TESTED TO 200 PSI TEST PRESSURE, BOTH FOR TWO (2) HOURS DURATION ALL GAUGES AND APPURTENANCES NECESSARY SHALL BE FURNISHED BY THE CONTRACTOR ALL LEAKS SHALL BE REPAIRED BY REMOVING AND REPLACING DEFECTIVE

PIPE AND JOINTS WITH PIPE AND JOINTS FREE OF DEFECTS, AFTER WHICH THE LINES SHALL BE RETESTED SUCH REPAIR AND RETESTING SHALL BE DONE UNTIL THE LINES PASS THE SPECIFIED TEST 24 ALL VALVES SHALL BE HYDROSTATICALLY TESTED WITH THE LINE IN WHICH THEY ARE

25 PERFORM OPERATION TESTING OF HYDRANTS AND VALVES BY OPENING AND CLOSING UNDER WATER PRESSURE TO ENSURE PROPER OPERATION

## TERMITE CONTROL

AUTHORITIES HAVING JURISDICTION

1 ENGAGE A LICENSED PROFESSIONAL PEST CONTROL OPERATOR FOR APPLICATION OF SOIL DO NOT APPLY SOIL TREATMENT SOLUTION UNTIL EXCAVATING, FILLING AND GRADING OPERATIONS ARE COMPLETED, EXCEPT AS OTHERWISE REQUIRED IN CONSTRUCTION OPERATIONS TO INSURE PENETRATION, DO NOT APPLY SOIL TREATMENT TO FROZEN OR EXCESSIVELY WET SOILS OR DURING INCLEMENT WEATHER COMPLY WITH HANDLING AND APPLICATION INSTRUCTIONS OF TERMITICIDE MANUFACTURER
FURNISH WRITTEN WARRANTY CERTIFYING THAT APPLIED SOIL POISONING TREATMENT WILL PREVENT INFESTATION OF SUBTERRANEAN TERMITES AND, THAT IF SUBTERRANEAN TERMITE ACTIVITY IS DISCOVERED DURING WARRANTY PERIOD, THE CONTRACTOR WILL RE-TREAT SOIL AND REPAIR OR REPLACE DAMAGE CAUSED BY TERMITE INFESTATION

PROVIDE WARRANTY FOR A PERIOD OF FIVE (5) YEARS FROM DATE OF TREATMENT, SIGNED BY APPLICATOR AND CONTRACTOR USE EMULSIBLE CONCENTRATE INSECTICIDE FOR DILUTION WITH WATER, SPECIALLY FORMULATED TO PREVENT TERMITE INFESTATION PROVIDE A WORKING SOLUTION OF THE CHEMICAL ELEMENTS AND CONCENTRATIONS PER MANUFACTURER RECOMMENDATIONS PROVIDE ENGINEER WITH COPY OF SOLUTION, MANUFACTURER, AND ALL MANUFACTURER

DIRECTIONS
REMOVE FOREIGN MATTER WHICH COULD DECREASE EFFECTIVENESS OF TREATMENT ON AREAS TO BE TREATED, LOOSEN, RAKE, AND LEVEL SOIL TO BE TREATED, EXCEPT PREVIOUSLY COMPACTED AREAS UNDER SLABS AND FOUNDATIONS TERMITICIDE MAY BE APPLIED BEFORE PLACEMENT OF COMPACTED FILL UNDER SLABS, IF RECOMMENDED BY ERMITICIDE MANUFACTURER APPLY SOIL TREATMENT SOLUTION AT RATES SPECIFIED BY TERMITICIDE MANUFACTURER

ALLOW NOT LESS THAN 12 HOURS FOR DRYING AFTER APPLICATION, BEFORE BEGINNING CONCRETE PLACEMENT OR OTHER CONSTRUCTION ACTIVITIES POST SIGNS IN AREAS OF APPLICATION WARNING WORKERS THAT SOIL TREATMENT HAS BEEN APPLIED REMOVE SIGNS WHEN AREAS ARE COVERED BY OTHER CONSTRUCTION 9. REAPPLY SOIL TREATMENT SOLUTION TO AREAS DISTURBED BY SUBSEQUENT EXCAVATION, MODIFICATIONS, OR OTHER CONSTRUCTION ACTIVITIES FOLLOWING APPLICATION

## ASPHALT CONCRETE PAVEMENT

1 REFERENCE TO STANDARD SPECIFICATIONS REFERS TO FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 2 ASPHALT CONCRETE PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 330 OF THE STANDARD SPECIFICATIONS

3 THE JOB MIX FORMULA SHALL BE DETERMINED BY AND SHALL CONFORM TO REQUIREMENTS OF ASTM T-17 4. APPLY PRIME AND TACK COATS WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEG F (10 DEG C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEG F (1 DEG C) FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION DO NOT APPLY WHEN BASE IS WET OR CONTAINS AN EXCESS OF MOISTURE

5 CONSTRUCT HOT-MIXED ASPHALT SURFACE COURSE WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40 DEG F (4 DEG C) AND WHEN BASE IS DRY BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEG F (MINUS 1 DEG C) AND RISING 6. PRIME COAT SHALL BE IN ACCORDANCE WITH SECTION 330 OF THE STANDARD SPECIFICATIONS APPLIED AT A RATE OF 0.35 TO 0.40 GALLONS PER SQUARE YARD 7 SUBGRADE STABILIZING MATERIAL: FDOT SECTION 914 8 BASE COURSE THE BASE COURSE SHALL BE CONSTRUCTED OF THE FOLLOWING

a. LIMEROCK BASE COURSE FDOT SECTION 911 LIMEROCK SHALL HAVE A MINIMUM LBR OF 100% AND SHALL BE MINED FROM AN FDOT APPROVED SOURCE 9 PRIME AND TACK COATS. FDOT SECTION 300 10 LANE MARKINGS. a PAINT FDOT SECTION 971, CODE T-1 OR T-2, COLOR AS INDICATED ON THE

THERMOPLASTIC FDOT SECTION 971, COLOR AS INDICATED ON THE DRAWINGS 11 CONSTRUCTION OF BASE COURSE FDOT SECTION 200, FOR LIMEROCK 12 PLACE LIMEROCK IN MAXIMUM 6" LIFTS AND COMPACT EACH LIFT TO A MINIMUM DRY DENSITY OF 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180) 13 PERFORM COMPACTION TESTING FOR LIMEROCK THE FULL DEPTH AT A FREQUENCY OF ONE TEST PER 10,000 SQUARE FOOT, OR AT A MINIMUM OF TWO TEST LOCATIONS, WHICHEVER IS GREATER

14 CONSTRUCTION OF WEARING COURSE. FDOT SECTION 330. 15 PAVEMENT MARKINGS FDOT SECTIONS 710 AND 711

## CONCRETE

1 ALL CONCRETE STRENGTHS SHALL BE AS FOLLOWS WITH BROOM FINISH UNLESS IDENTIFIED OTHERWISE FOUNDATIONS & SLABS ON GRADE\_

MASONRY GROUT AND UNREINFORCED CONCRETE 2 ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 (FY=60 KSI). 3 ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE LAPPED ONE FULL MESH PANEL PLUS 2 IN AT SIDES AND ENDS AND BE WIRED

REQUEST OF CONTRACTOR 4 CALCIUM CHLORIDE SHALL NOT BE USED IN ANY FORM 5. ADDITION OF WATER TO CONCRETE AT THE JOB SITE SHALL BE PROHIBITED. 6 ALL CONCRETE WORK SHALL COMPLY WITH PROVISIONS OF ACI 318, 315, AND 301, LATEST EDITIONS LINEESS OTHERWISE NOTED 7. REINFORCING FOR CONTINUOUS FOUNDATIONS AND BEAMS SHALL BE CONTINUOUS

AT CORNERS AND INTERSECTIONS. PROVIDE SPLICE BARS AND/OR HOOK ENDS FOR

TOGETHER FIBER MESH MAY BE SUBSTITUTED PER DIRECTION OF ENGINEER AT

CONTINUOUS REINFORCING 8 MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS STRUCTURAL ELEMENT MIN CLEAR COVER FOOTINGS, (CAST AGAINST & PERMANENTLY EXPOSED TO EARTH)\_ \_\_2 INCHES SLABS (IN CONTACT WITH EARTH)\_\_

## FDEP WATER SPECIFICATIONS

1. ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT WILL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS [FAC 62-555 320(21)(B) RSWW 8.0, AND AWWA STANDARDS AS INCORPORATED INTO FAC 62-555.330, EXCEPTIONS ALLOWED UNDER FAC 62-555.320(21)(C)]

2 ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER WILL CONFORM TO NSF INTERNATIONAL STANDARD 61 AS ADOPTED IN RULE 62-555 335, FAC, OR OTHER APPLICABLE STANDARDS, REGULATIONS, OR REQUIREMENTS REFERENCED IN PARAGRAPH 62-555 320(3)(B), FAC [FAC 62-555 320(3)(B), EXCEPTIONS ALLOWED UNDER FAC 62-555 320(3)(D)]

3 ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL CONTAIN NO MORE THAN 80% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0 2% LEAD [FAC 62-555 322] 4 ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555 320(21)(B)3, FAC, USING BLUE AS A PREDOMINANT COLOR (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE. WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN. OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL 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 WILL 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 WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE ) [FAC 62-555 320(21)(B)3]

5 ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNPLUGGED, UNDERGROUND DRAINS WILL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610. FAC. OR VACUUM-TYPE SANITARY SEWER, AT LEAST SIX 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 62-10, FAC, AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM " [FAC 62-555 314(4)] 6 NEW OR ALTERED CHAMBERS, PITS, OR MANHOLES THAT CONTAIN VALVES, BLOW-OFFS METERS OR OTHER SLICH WATER DISTRIBUTION SYSTEM APPURTENANCES AND THAT ARE INCLUDED IN THIS PROJECT WILL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER, AND BLOW-OFFS OR AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT WILL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER [FAC 62-555 320(21)(B) AND RSWW 8 4 3]

7 NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT WILL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES [FAC 62-555 320(21)(B), RSWW 8 5 1, AND AWWA STANDARDS AS INCORPORATED INTO FAC 62-555 330] 8 A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE, AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR

MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT [FAC 62-555 320(21)(B), RSWW 8.5 2] 9 NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BI CONSTRUCTED OF ASBESTOS-CEMENT OR POLYVINYL CHLORIDE PIPE WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C603 OR C605, RESPECTIVELY. AS INCORPORATED INTO RULE 62-555 330, F.A.C., AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600 AS INCORPORATED INTO RULE 62-555 330 [FAC 62-555 320(21)(B)1 AND AWWA STANDARDS AS INCORPORATED INTO FAC 62-555 3301 10 NEW OR ALTERED WATER MAINS, INCLUDING FIRE HYDRANT LEADS AND INCLUDING SERVICE

LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, WILL BE DISINFECTED AND BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH RULE 62-555 340, F A.C [FAC 62-555 320(21)(B)2 AND FAC 62-555 340] 11 NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE INSTALLED IN AREAS WHERE THERE ARE KNOWN AGGRESSIVE SOIL CONDITIONS WILL BE PROTECTED THROUGH USE OF CORROSION—RESISTANT WATER MAIN MATERIALS. THROUGH FNCASFMENT OF THE WATER MAINS IN POLYETHYLENE. OR THROUGH PROVISION OF

CATHODIC PROTECTION [FAC 62-555 320(21)(B) AND RSWW 8 5 7 D] 12 NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT WILL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610. FAC: A HORIZONTAL DISTANCE OF AT LEAST SIX FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER (OR A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER IF THE BOTTOM OF THE WATER MAIN WILL BE LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER), A HORIZONTAL DISTANCE OF AT LEAST SIX FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED PRESSURE-SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, FAC, AND A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM "[FAC 62-555 314(1); EXCEPTIONS ALLOWED UNDER FAC 62-555 314(5)]

13 NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW HE OTHER PIPELINE AND NEW OR RELOCATED LINDERGROUND WAT INCLLIDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE FAC

62-555 314(2). EXCEPTIONS ALLOWED UNDER FAC 62-555 314(5)] 14 AT THE UTILITY CROSSINGS DESCRIBED IN PART II C 1 W ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE OR THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST 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, FAC. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OF PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610. FAC FAC 62-555 314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555 314(5)]

15. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS UNDER SURFACE WATER COURSES GREATER THAN 15 FEET IN WIDTH WILL HAVI FLEXIBLE OR RESTRAINED, WATERTIGHT PIPE JOINTS AND WILL INCLUDE VALVES AT BOTH ENDS OF THE WATER CROSSING SO THE UNDERWATER MAIN CAN BE ISOLATED FOR TESTING AND REPAIR, THE AFOREMENTIONED ISOLATION VALVES WILL BE EASILY ACCESSIBLE AND WILL NOT BE SUBJECT TO FLOODING, THE ISOLATION VALVE CLOSEST TO THE WATER SUPPLY SOURCE WILL BE IN A MANHOLE, AND PERMANENT TAPS WILL BE PROVIDED ON EACH SIDE OF THE ISOLATION VALVE WITHIN THE MANHOLE TO ALLOW FOR INSERTION OF A SMALL METER TO DETERMINE LEAKAGE FROM THE UNDERWATER MAIN AND TO ALLOW FOR SAMPLING OF WATER FROM THE UNDERWATER MAIN. [FAC 62-555.320(21)(B) AND RSWW 8.7.2]

16. THIS PROJECT IS BEING DESIGNED TO INCLUDE PROPER BACKFLOW PROTECTION AT THOSE NEW OR ALTERED SERVICE CONNECTIONS WHERE BACKFLOW PROTECTION IS REQUIRED OR RECOMMENDED UNDER RULE 62-555 360, FAC, OR IN RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL, AWWA MANUAL M14, AS INCORPORATED INTO RULE 62-555 330, FAC; OR THE PUBLIC WATER SYSTEM THAT WILL OWN THIS PROJECT AFTER IT IS PLACED INTO OPERATION HAS A CROSS-CONNECTION CONTROL PROGRAM REQUIRING WATER CUSTOMERS TO INSTALL PROPER BACKFLOW PROTECTION AT THOSE SERVICE CONNECTIONS WHERE BACKFLOW PROTECTION IS REQUIRED OR RECOMMENDED UNDER RULE 62-555.360, FAC, OR IN AWWA MANUAL M14 [FAC 62-555 360 AND AWWA MANUAL M14 AS INCORPORATED INTO FAC 62-555 330] 17 NEITHER STEAM CONDENSATE, COOLING WATER FROM ENGINE JACKETS. NOR WATER LISED IN CONJUNCTION WITH HEAT EXCHANGERS WILL BE RETURNED TO THE NEW OR ALTERED

### WATER MAINS INCLUDED IN THIS PROJECT [FAC 62-555.320(21)(B) AND RSWW 8 8 2] FDEP WASTEWATER SPECIFICATIONS

1 APPROPRIATE DEFLECTION TESTS ARE SPECIFIED FOR ALL FLEXIBLE PIPE TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM TESTING REQUIREMENTS SPECIFY. 1) NO PIPE SHALL EXCEED A DEFLECTION OF 5%, 2) USING A RIGID BALL OR MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED; AND 3) PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES [RSWF 33 85] 2 LEAKAGE TESTS ARE SPECIFIED REQUIRING THAT: 1) THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM, 2) EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEFT, AND 3) AIR TESTS, AS A MINIMUM. CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE. ASTM C 924 FOR CONCRETE PIPE. ASTM F-1417 FOR PLASTIC PIPE. AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES [RSWF 33 93, 33 94, AND 33 95] 3 DESIGN REQUIRES DROP PIPES TO BE PROVIDED FOR SEWERS ENTERING MANHOLES AT LEVATIONS OF 24 INCHES OR MORE ABOVE THE MANHOLE INVERT WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE INCOMING SEWER AND THE MANHOLE INVERT IS LESS THAN 24 INCHES. THE INVERT IS DESIGNED WITH A FILLET TO PREVENT SOLIDS DEPOSITION INSIDE DROP CONNECTIONS (WHEN NECESSARY) ARE DESIGNED TO BE SECURED TO THE INTERIOR WALL OF THE MANHOLE AND PROVIDE ACCESS FOR CLEANING DESIGN REQUIRES THE ENTIRE OUTSIDE DROP CONNECTION BE ENCASED IN CONCRETE [RSWF 34.2]

4 DESIGN REQUIRES THAT A BENCH BE PROVIDED ON EACH SIDE OF ANY MANHOLE CHANNEL WHEN THE PIPE DIAMETER(S) ARE LESS THAN THE MANHOLE DIAMETER AND THAT NO LATERAL SEWER, SERVICE CONNECTION, OR DROP MANHOLE PIPE DISCHARGES ONTO THE SURFACE OF THE BENCH [RSWF 34 5] 5 DESIGN REQUIRES. 1) MANHOLE LIFT HOLES AND GRADE ADJUSTMENT RINGS BE SEALED WITH NON-SHRINKING MORTAR OR OTHER APPROPRIATE MATERIAL, 2) INLET AND OUTLET PIPES BE JOINED TO THE MANHOLE WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION OR ANOTHER WATERTIGHT CONNECTION ARRANGEMENT THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL, AND 3) WATERTIGHT MANHOLE COVERS BE USED WHEREVER THE MANHOLE TOPS MAY BE FLOODED BY STREET RUNOFF OR HIGH

WATER [RSWF 34 6] 6 MANHOLE INSPECTION AND TESTING FOR WATERTIGHTNESS OR DAMAGE PRIOR TO PLACING INTO SERVICE ARE SPECIFIED AIR TESTING, IF SPECIFIED FOR CONCRETE SEWER MANHOLES, CONFORMS TO THE TEST PROCEDURES DESCRIBED IN ASTM C-1244 [RSWF

7 THE DESIGN REQUIRES 1) ELECTRICAL SYSTEMS AND COMPONENTS (E.G., MOTORS, LIGHTS, CABLES, CONDUITS, SWITCH BOXES, CONTROL CIRCUITS, ETC.) IN RAW WASTEWATER WET WELLS, OR IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE HAZARDOUS CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS MAY BE PRESENT, COMPLY WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS FOR CLASS I GROUP D, DIVISION 1 LOCATIONS, 2) ELECTRICAL EQUIPMENT LOCATED IN WET WELLS BE SUITABLE FOR USE UNDER CORROSIVE CONDITIONS, 3) EACH FLEXIBLE CABLE BE PROVIDED WITH A WATERTIGHT SEAL AND SEPARATE STRAIN RELIEF, 4) A FUSED DISCONNECT SWITCH LOCATED ABOVE GROUND BE PROVIDED FOR THE MAIN POWER FEED FOR ALL PUMP STATIONS, 5) ELECTRICAL EQUIPMENT EXPOSED TO WEATHER TO MEET THE REQUIREMENTS OF WEATHERPROOF EQUIPMENT NEMA 3R OR 4, 6) A 110 VOLT POWER RECEPTACLE TO FACILITATE MAINTENANCE BE PROVIDED INSIDE THE CONTROL PANEL FOR PUMP STATIONS THAT HAVE CONTROL PANELS OUTDOORS, AND 7) GROUND FAULT INTERRUPTION PROTECTION BE PROVIDED FOR ALL OUTDOOR OUTLETS [RSWF 42 35]

8 THE DESIGN REQUIRES WET WELL FLOORS HAVE A MINIMUM SLOPE OF 1 TO 1 TO THE HOPPER BOTTOM AND THE HORIZONTAL AREA OF HOPPER BOTTOMS BE NO GREATER THAN NECESSARY FOR PROPER INSTALLATION AND FUNCTION OF THE INLET [RSWF 42 63] THE DESIGN REQUIRES PUMP STATIONS BE ENCLOSED WITH A FENCE OR OTHERWISE DESIGNED WITH APPROPRIATE FEATURES TO DISCOURAGE THE ENTRY OF ANIMALS AND UNAUTHORIZED PERSONS. POSTING OF AN UNOBSTRUCTED SIGN MADE OF DURABLE WEATHER RESISTANT MATERIAL AT A LOCATION VISIBLE TO THE PUBLIC WITH A TELEPHONE NUMBER FOR A POINT OF CONTACT IN CASE OF EMERGENCY IS SPECIFIED [62-604 400(2)(D), FAC]

10 IN SUBMERSIBLE PUMP STATIONS, THE DESIGN REQUIRES 1) PUMP MOTOR POWER CORDS BE FLEXIBLE AND SERVICEABLE UNDER CONDITIONS OF EXTRA HARD USAGE AND TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE STANDARDS FOR FLEXIBLE CORDS IN WASTEWATER PUMP STATIONS, 2) GROUND FAULT INTERRUPTION PROTECTION BE USED TO DE ENERGIZE THE CIRCUIT IN THE EVENT OF ANY FAILURE IN THE ELECTRICAL INTEGRITY OF THE CABLE, AND 3) POWER CORD TERMINAL FITTINGS BE CORROSION-RESISTANT AND CONSTRUCTED IN A MANNER TO PREVENT THE ENTRY OF MOISTURE INTO THE CABLE, PROVIDED WITH STRAIN RELIEF APPURTENANCES, AND DESIGNED TO FACILITATE FIELD CONNECTING [RSWF

11 THE DESIGN REQUIRES 1) EMERGENCY STANDBY SYSTEMS TO HAVE SUFFICIENT CAPACITY TO START UP AND MAINTAIN THE TOTAL RATED RUNNING CAPACITY OF THE STATION, INCLUDING LIGHTING, VENTILATION, AND OTHER AUXILIARY EQUIPMENT NECESSARY FOR SAFETY AND PROPER OPERATION, 2) SPECIAL SEQUENCING CONTROLS BE PROVIDED TO START PUMP MOTORS UNLESS THE GENERATING EQUIPMENT HAS CAPACITY TO START ALL PLIMPS SIMULTANEOUSLY WITH AUXILIARY EQUIPMENT OPERATING, 3) A RISER FROM THE FORCE MAIN WITH RAPID CONNECTION CAPABILITIES AND APPROPRIATE VALVING BE PROVIDED FOR ALL PUMP STATIONS TO HOOK UP PORTABLE PUMPS, AND 4) ALL PUMP STATION RELIABILITY DESIGN FEATURES BE COMPATIBLE WITH THE AVAILABLE TEMPORARY SERVICE POWER GENERATING AND PUMPING EQUIPMENT OF THE AUTHORITY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE COLLECTION/TRANSMISSION SYSTEM [62-604 400(2)(A)3, FAC, AND RSWF 46 431]

THE DESIGN PROVIDES FOR EMERGENCY EQUIPMENT TO BE PROTECTED FROM OPERATION CONDITIONS THAT WOULD RESULT IN DAMAGE TO THE EQUIPMENT AND FROM DAMAGE AT THE RESTORATION OF REGULAR ELECTRICAL POWER [RSWF 46 411, 46 417, AND 46 432] 13 FOR PERMANENTLY-INSTALLED OR PORTABLE ENGINE-DRIVEN PUMPS ARE USED, THE DESIGN INCLUDES PROVISIONS FOR MANUAL START-UP. [RSWF 46 422] 14 WHERE INDEPENDENT SUBSTATIONS ARE USED FOR EMERGENCY POWER, EACH SEPARATE

SUBSTATION AND ITS ASSOCIATED TRANSMISSION LINES IS DESIGNED TO BE CAPABLE OF STARTING AND OPERATING THE PUMP STATION AT ITS RATED CAPACITY. [RSWF 46 44] FDEP SEPARATION NOTES: 1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR

STORM SEWERS, WASTEWATER OR STORMWATER 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 HÓRIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, FAC (B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY 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 HORIZONTAL DISTANCE OF AT LEAST SIX FEET. AND PREFERABLY 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, FAC THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP 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), FS, AND RULE 64E-6 002. FAC(2) (2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SFWFRS. WASTEWATER OR STORMWATER 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 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

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE

A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE

(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 TH OTHER PIPELINE HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE (C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (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 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, FAC, AND AT LEAST 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, (3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES (A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART ÒF A SANITARY SEWER MANHOLE (B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES) BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION 1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE 2 A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT

3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A THROUGH D BELOW A EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE B WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (IE, HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0 25-INCH-THICK DUCTILE IRON PIPE) C EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE D GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM

ENTERING THE 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 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, FAC. AT LEAST THREE FEET, AND PREFERABLY TEN FEET. FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY 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, FAC, AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), FS, AND RULE 64E-6 002, FAC. HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF 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. (B) NEW OR RELOCATED. UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY 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 SIX FEET, AND PREFERABLY 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 LINDER PART III OF CHAPTER 62-610, FAC THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE

PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST 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), FS, AND RULE 64E-6 002, FAC(2) (5) THE CONTRACTOR IS TO CONTACT THE ENGINEER TO

RESOLVE ALL SEPARATION PROBLEMS ENCOUNTERED IN THE NOTE MOST STRINGENT LOCAL, STATE AND FEDERAL RULES TO

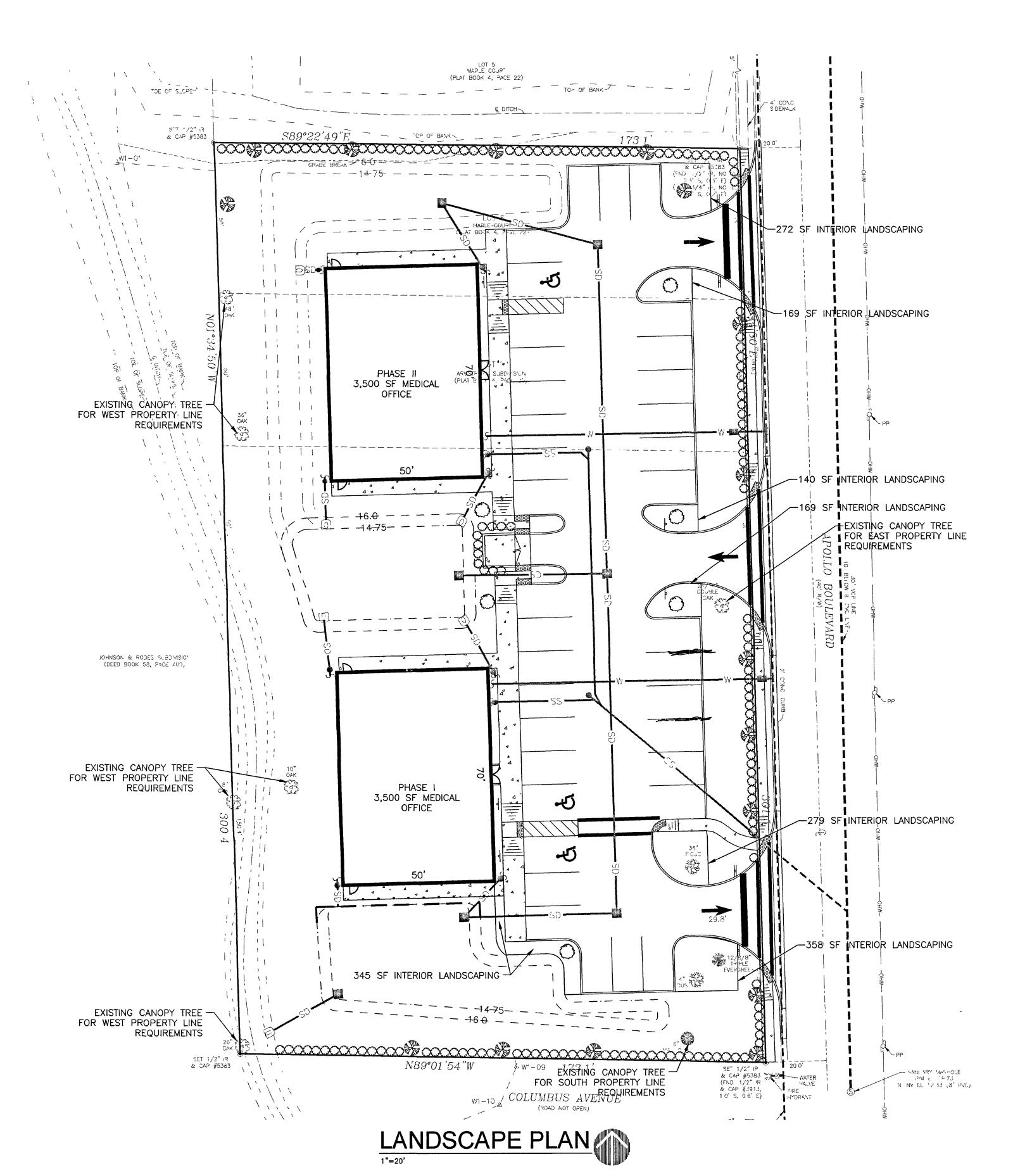
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LICEN LICEN JUN 21 2011 3-17-11 SCALE

NTS PROJ NO DESIGNED BY ELJ DRAWN BY:

CHECKED BY ELJ DRAWING NO.



PLANT SCHEDULE:

LEGEND QUANTITY SPECIFICATIONS COMMON NAME

16\* 35 GAL (10' HT, 2" DBH) LIVE OAK

6 35 GAL (10' HT, 2" DBH) HOLLY

1,368 SF 3 GAL (3' MIN. HT.) PODOCARPUS

\*TREES ALONG APOLLO BOULEVARD RIGHT-OF-WAY SHALL BE 65 GALLON - 4 TOTAL

## LANDSCAPING CALCULATIONS:

(152 PLANTS)

\*TREE REQUIREMENT ALONG PROPERTY LINES:

- 174 LF ALONG NORTH PROPERTY LINE, 174 FEET/50 FEET PER TREE = 4 TREES
- 174 LF ALONG SOUTH PROPERTY LINE, 174 FEET/50 FEET PER TREE = 4 TREES 300 LF ALONG WEST PROPERTY LINE, 300 FEET/50 FEET PER TREE = 6 TREES
- 200 LF (MINUS DRIVE) ALONG EAST PROPERTY LINE, 200 FEET /50 FEET PER TREE = 4 TREES
- SCENIC CORRIDOR (APOLLO BLVD) 200 LF ALONG EAST PROPERTY LINE, 200 FEET/60 FEET PER TREE = 4 TREES

PLANT 3' O.C.

- 18 PARKING SPACES = 50 SF PER SPACE = 900 SF REQUIRED INTERIOR LANDSCAPING
- PROVIDED INTERIOR LANDSCAPING = 1,732 SF
- TOTAL PERIMETER TREE CALCULATIONS = 18
  TOTAL INTERIOR TREE CALCULATIONS = 8
- TOTAL EXISTING TREES REMOVED = 24
- TOTAL EXISTING TREES SAVED ON—SITE = 10
- TOTAL NEW TREES REQUIRED ON—SITE = 20 CANOPY TREES

  TOTAL ON—SITE NEW TREES PROVIDED = 22 TREES (SEE PLANT
- TOTAL ON-SITE NEW TREES PROVIDED = 22 TREES (SEE PLANT SCHEDULE ABOVE)
  \*ALL TREES ON-SITE ARE ENTIRELY OF THE SPECIES LISTED IN SECTION 9.273(c)(2)a, THEREFORE 1 TREE/50 FEET IS USED.

LANDSCAPE BUFFERS

BUFFER ALONG APOLLO BOULEVARD AND COLUMBUS AVENUE = 15 LF AVERAGE

## LANDSCAPING NOTES:

- 1. SPACING FOR ALL LARGE TREES (MIN. 10' HEIGHT) SHALL BE MAX. 50' O.C. PER THIS PLAN.
- 2. ALL ON-SITE AREAS NOT IDENTIFIED FOR LANDSCAPING SHALL BE SODDED WITH ST. AUGUSTINE SOD.
- 3. LANDSCAPE PLANTS AND PLANTING METHODS SHALL MEET OR EXCEED ALL REQUIREMENTS HEREIN AND ALL CITY OF MELBOURNE LAND DEVELOPMENT CODE REQUIREMENTS.
- 4. AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY IRRIGATION CONTRACTOR FOR ALL PERVIOUS AREAS ON—SITE. IRRIGATION CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE AS NEEDED. PROVIDE A WELL FOR IRRIGATION SOURCE.
- 5. ALL SODDED AREAS OFF-SITE SHALL BE BAHIA TYPE.
- 6. SEE TREE PROTECTION DETAIL FOR TREES THAT SHALL REMAIN. GRADE AROUND TREES SO AS NOT TO DISTURB THEIR ROOT SYSTEMS.

## LANDSCAPE SPECIFICATIONS:

1. WHETHER PRESERVED OR NEWLY PLANTED, ALL PLANT MATERIALS UTILIZED TO SATISFY THE LANDSCAPING REQUIREMENTS HEREIN SHALL CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 PLANTS, AS SPECIFIED IN <u>GRADES AND STANDARDS FOR NURSERY PLANTS</u>, PARTS I AND II, 1973, PUBLISHED BY THE STATE OF FLORIDA DEPARTMENT OF

- AGRICULTURE AND CONSUMER SERVICES, OR THEIR EQUIVALENT.

  2. THE LOCATION OF VEGETATION OR TREE(S) SHALL NOT INTERFERE WITH UTILITY SERVICES OR CREATE AN UNSAFE VISUAL CLEARANCE OR OTHER SAFETY HAZARD TO THE EXTENT THAT CORRECTION CANNOT BE REMEDIED BY TRIMMING.

  3. UPON FINAL INSPECTION, ANY PLANT THAT APPEARS TO BE DAMAGED OR IN SHOCK SO THAT IT IS NO LONGER FLORIDA GRATE #1 WILL BE REMOVED AND REPLACED WITH A
- HEALTHY PLANT OF THE SAME SPECIFIED TYPE AND SIZE.

  4.NEW PLANTS AND NEW BEDS ARE TO HAVE A 3" LAYER OF GRADE A PINE BARK MULCH, UNLESS OTHERWISE SHOWN TO HAVE RIVER ROCK MULCH. ALL TREES IN SOD AREAS ARE TO HAVE A 4" DIAMETER RING OF PINE BARK MULCH. INSTALL PINE BARK MULCH IN ALL UTILITY/EQUIPMENT AREAS. INSTALL WEED CONTROL FABRIC UNDER ALL PINE BARK AND RIVER ROCK MULCH.
- 5 ALL PLANTS ARE TO BE INSTALLED IN HOLES WHICH ARE TWICE THE WIDTH OF THE ROOT BALL. REMOVE EXTRANEOUS DEBRIS AND BACKFILL PLANTS WITH LOOSE, EXCAVATED
- 6.INSTALL ALL PLANTS WITH PROPER SPACING AS INDICATED ON THE PLANT LIST. DO NOT INSTALL PLANTS IN LOCATIONS THAT ARE TOO CLOSE TO EQUIPMENT, PAVEMENT, CONCRETE, FENCES OVERHEAD WIRES, UTILITY STRUCTURES, LIGHTS, SPRINKLER HEADS OR VALVES. MAKE FIELD ADJUSTMENTS TO AVOID SUCH CONFLICTS CONSIDERING FUTURE GROWTH OF PLANTS. SPACING OF SHRUBS AND PLANTS FROM EDGE OF SOD OR EDGE OF CONCRETE IS TO BE A MINIMUM OF 2/3 OF THE SPECIFIED O.C. SPACING. INSTALL PLANTS LOCATED AT THE END OF PARKING SPACES 4' OFF BACK OF CURB OR WHEEL STOP.

  7. THE LANDSCAPE CONTRACTOR SHALL PROTECT ALL MATERIALS AND WORK AGAINST INJURY
- FROM ANY CAUSES, AND SHALL PROVIDE AND MAINTAIN ALL NECESSARY SAFEGUARDS FOR THE PROTECTION OF THE PUBLIC. HE SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY WHICH MAY OCCUR AS A RESULT OF HIS NEGLIGENCE IN THE PROTECTION OF THE WORK.
- 8. SHOULD ANY OBJECTIONABLE MATERIALS SUCH AS OLD CONCRETE, BRICKS, OR OTHER DEBRIS BE ENCOUNTERED DURING PLANTING OPERATIONS, THEY SHALL BE REMOVED
- FROM THE SITE BY THE CONTRACTOR.

  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH ALL OTHER PARTIES INVOLVED WITH THE JOB IN ORDER TO ELIMINATE UNNECESSARY COMPLICATION DURING THE INSTALLATION OF HIS WORK.
- 10 ALL NEW PLANT MATERIALS, EXCEPT SOD, SHALL BE GUARANTEED FOR ONE YEAR FROM THE TIME OF FINAL INSPECTION AND INTERIM ACCEPTANCE, AND SHALL BE ALIVE AND IN SATISFACTORY GROWTH FOR EACH SPECIFIC KIND OF PLANT AT THE END OF THE GUARANTEE PERIOD. SOD SHALL BE GUARANTEED FOR A PERIOD OF 60 DAYS AND SEED FOR A PERIOD OF 90 DAYS FROM THE DATE FINAL REVIEW AND INTERIM ACCEPTANCE.

- 11.DURING THE GUARANTEE PERIOD, ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR NOT IN SATISFACTORY GROWTH, AS DETERMINED BY THE PROJECT REPRESENTATIVE SHALL BE REMOVED. REPLACEMENTS SHALL BE MADE WITHIN TEN DAYS OF NOTICE TO THE LANDSCAPE CONTRACTOR.
- 12.SPECIFICALLY EXCLUDED FROM THE GUARANTEE ARE DAMAGES RESULTING FROM NATURAL CAUSES SUCH AS FLOOD, LIGHTNING STRIKES, FREEZING RAINS OR WINDS OVER 60 MPH, DAMAGES FROM ACTS OF NEGLIGENCE ON THE PART OF THE PART OF THE OWNER OR OTHERS OCCUPYING THE SITE, FIRES, VANDALISM AND HERBIVOROUS ANIMALS.

  13.THE SOD SHALL BE OF FIRM, TOUGH TEXTURE HAVING A COMPACT GROWTH OF GRASS WITH GOOD ROOT DEVELOPMENT. IT SHALL CONTAIN NO WEEDS, OR ANY OTHER
- OBJECTIONABLE VEGETATION. THE SOIL EMBEDDED IN THE SOD SHALL BE GOOD CLEAN EARTH, FREE FROM STONES AND DEBRIS. THE SOD SHALL BE FREE FROM FUNGUS, VERMIN AND OTHER DISEASES. SOD SHALL BE AS SPECIFIED ON PLANS.

  14.GRASS SEED SHALL BE ARGENTINE BAHIA WITH A MINIMUM PURITY OF 85%, MINIMUM GERMINATION OF 80% AND WEED CONTENT NOT TO EXCEED ONE—HALF PERCENT (1/2%). A COVER GRASS SHALL BE MIXED WITH THE BAHIA SEED AS FOLLOWS:
- 1.MARCH OCTOBER: 2/3 BAHIA AND 1/3 BROWN TOP MILLET.
  2.NOVEMBER FEBRUARY: 2/3 BAHIA AND 1/3 WINTER RYE
  15.STAKES AND GUYS: PROVIDE STAKES AND DEADMEN OF SOUND NEW HARDWOOD, TREATED SOFTWOOD, OR REDWOOD, FREE OF KNOT HOLES AND OTHER DEFECTS.
  PROVIDE WIRE TIRES AND GUYS OF 2—STRAND, TWISTED, PLIABLE GALVANIZED IRON WIRE NOT LIGHTER THAN 12 GA WITH ZINC COATED TURNBUCKLES. PROVIDE NOT LESS THAN

1/2" DIAMETER RUBBER OR PLASTIC HOSE, CUT TO REQUIRED LENGTHS AND OF

- UNIFORM COLOR, MATERIAL AND SIZE TO PROTECT TREE TRUNKS FROM DAMAGE BY WIRES.

  16.ALL PLANTS EXCEPT AS OTHERWISE SPECIFIED, SHALL BE CENTERED IN PITS AND SET ON COMPACTED TOP SOIL TO SUCH A DEPTH THAT THE FINISHED GRADE LEVEL AT THE PLANT AFTER SETTLEMENT WILL BE THE SAME AS THAT AT WHICH THE PLANT WAS GROWN. NO BURLAP SHALL BE PULLED OUT FROM UNDER BALLS. ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT
- OFF CLEANLY. SOIL SHALL BE PLACED AND COMPACTED THOROUGHLY, AVOIDING INJURY AND SHALL BE SETTLED BY WATERING. NO FILLING ROUND TRUNKS WILL BE PERMITTED.

  17.NEW PLANTING SHALL BE SO SET THAT THE FINAL LEVEL OF GROUND AROUND THE PLANTS SHALL CONFORM TO SURROUNDING GRADES, OR AS OTHERWISE SPECIFIED.

  18.SOLID SOD SHALL BE LAID WITH CLOSELY ABUTTING JOINTS WITH A TAMPERED OR
- ROLLED EVEN SURFACE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BRING THE SOD EDGE IN A NEAT-CLEAN MANNER TO THE EDGE OF ALL PAVING AND SHRUB AREAS. AFTER THE SOD IS LAID, A TOP DRESSING OF CLEAN SAND SHALL BE EVENLY APPLIED OVER THE ENTIRE SURFACE AND THOROUGHLY WASHED, (IF DETERMINED NECESSARY BY ENGINEER. NOTE: SAND WILL NOT BE REQUIRED ON PROPERLY LAID SOD.
- 19.SUBMIT TYPEWRITTEN INSTRUCTIONS RECOMMENDING PROCEDURES TO BE ESTABLISHED BY OWNER FOR MAINTENANCE OF LANDSCAPE WORK FOR ONE FULL YEAR. SUBMIT PRIOR TO EXPIRATION OF REQUIRED MAINTENANCE PERIOD.

CONTRACT THAT IS

DR. MEDIC,

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